United States
Environmental Protection
Agency

Office of Research and
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Washington, DC 20460

SUB904299-003

July – September 1999

EPA

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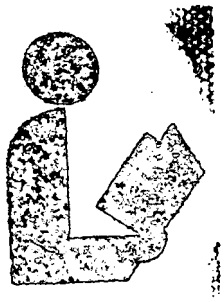
Quarterly Abstract Bulletin



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QUARTERLY ABSTRACT BULLETIN

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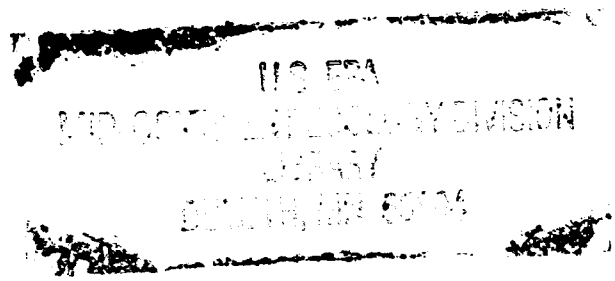

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SAMPLE ENTRY

NTIS Order Number/Media Code Price Codes	**PB94-100443/REB** **PC A10/MF A03**
Report Title	Engineering and Environmental Aspects of Recycled Materials for Highway Construction
Corporate Author	University of Wyoming Research Corp., Laramie
Personal Authors	D. Bloomquist, G. Diamond, M. Oden, B. Ruth, and M. Tia.
Date	Jul 93
Pages	222p
Report Number	EPA/530/R-93/013A
Contract Number	DTFH61-93-C-00060
Abstract	The report represents an assessment of environmental aspects and engineering factors related to the utilization of recycled materials in highway construction. A basic overview and assessment of different technologies, processes, and methods of recycling various material into highway appurtenances and for highway construction are presented with consideration of environmental and health risks.
Keywords (Descriptors & Identifiers)	*Recycled materials, *Road materials, *Environmental impact assessments, Waste recycling, Materials recovery, Highway construction, Environmental issues, Emission factors, Risk assessment, Asphalts, Plastics, Glass, Rubber, Public health, Engineering assessment.

EPA PUBLICATIONS BIBLIOGRAPHY
Quarterly Abstract Bulletin

PB98-963129REB PC A03/MF A01
Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
Mar 1999, 28p, EPA 541-R98-120.
Portions of this document are illegible. See also PB97-963717.
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No abstract available.

Keywords: *Superfund, *Hazardous materials, *Land pollution control, Air Force facilities, Landfills, Polychlorinated biphenyls, Soil contamination, Capping, Restrictions, Environmental monitoring, Installation restoration, Remedial action, Maine, *ESD(Explanation of Significant Difference), *Explanation of Significant Difference, Record of Decision, Loring Air Force Base, Limestone(Maine), Aroostook County(Maine), Volatile organic compounds, Cleanup operations.

PB98-963305REB PC A02/MF A01
Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
30 Jun 1999, 10p, EPA-540-F-98-033, OSWER-9355.0-71P.
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The purpose of this interim policy is to provide direction to EPA Regional decision makers on when to consider permanent relocation as part of a Superfund remedial action.

Keywords: *Superfund, *Population relocation, *Remedial action, Government policies, Pollution control, Waste management, Public relations, Community relations, Decision making, Cleanup operations.

PB98-964029REB PC A07/MF A02
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
May 1999, 108p, EPA 541-R98-190.
See also DE94015830/HDM.
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The F-Area Retention Basin (FRB) Operable Unit (OU) includes the retention basin (basin soils), the former process sewer line (pipeline sediment, and pipeline associated soils), and the groundwater associated with the unit. This decision document presents the selected remedial alternatives for the FRB OU located at the SRS south of Aiken, South Carolina.

Keywords: *Superfund, *Hazardous materials, *Waster disposal, *Land pollution control, *Water pollution control, Savannah River Plant, Pipelines, Sewer systems, Strontium 90, Cesium 137, Radioisotopes, Metals, Organic compounds, Soil contamination, Ground water, Runoff, Radioactive waste management, Remedial action, South Carolina, *Record of Decision, Aiken(South Carolina), Aiken County(South Carolina), Barnwell County(South Carolina), Cleanup operations.

PB98-964512REB PC A07/MF A02
Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
Environmental Protection Agency, Washington, DC. Office of Emergency and Remedial Response.
May 1999, 108p, EPA 541-R98-181.
See also PB97-964515.
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Air Force Plant 44 (AFP 44) is located within the Tuscon International Airport Area Superfund Site, Tuscon, Arizona, and is identified as such on the National Priorities List. The Air Force has decided that excavation and offsite disposal in a Resource Conservation and Recovery Act (RCRA) Class I landfill with solidification/stabilization (S/S) is the preferred remedy for excavated metals-contaminated materials under CERCLA for these three specific sites and sources.

Keywords: *Superfund, *Hazardous materials, *Land pollution control, *Waste disposal, Air force facilities, Metals, Soil contamination, Excavation, Solidification, Stabilization, Soil treatment, Remedial action, Installation restoration, Arizona, *Record of Decision, Tuscon International Airport, Tuscon(Arizona), Pima County(Arizona), Cleanup operations.

PB99-101719REB PC A08/MF A02
Journal of The Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 5.
Chinese Inst. of Engineers, Taipei (Taiwan).
C. T. Liou. Sep 1997, 132p.
See also PB98-104797 and PB99-101727.
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- and Integration of Spot and Sar Fractal Images for Terrain Cover Classification.

Keywords: *Research projects, *Engineering, *Taiwan, Computer systems, Systems engineering, Civil engineering, Remote sensing, Image processing, Complementary metal oxide semiconductors, Electrical engineering, *Foreign technology.

PB99-101727REB PC A08/MF A02
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 6.
Chinese Inst. of Engineers, Taipei (Taiwan).
C. T. Liou. Nov 1997, 132p.
See also PB99-101719 and PB99-101735.
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- and On The Stability of Discrete Takagi-Sugeno Fuzzy Dynamic Model.

Keywords: *Research projects, *Engineering, *Taiwan, Construction, Concretes, Nickel compounds, Aluminum compounds, Global positioning system, Copper organic compounds, Carbon, Adsorption, Motors, Fuzzy logic, Computer programming, *Foreign technology.

PB99-101735REB PC A08/MF A02
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 1.
Chinese Inst. of Engineers, Taipei (Taiwan).
C. T. Liou. Jan 1998, 128p.
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Keywords: *Research projects, *Engineering, *Taiwan, Chemical engineering, Systems engineering, Control systems, Pumps, Computer networks, Computer systems, *Foreign technology.

PB99-101743REB PC A07/MF A02
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 2.
Chinese Inst. of Engineers, Taipei (Taiwan).
C. T. Liou. Mar 1998, 124p.
See also PB99-101735 and PB99-101750.
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A New Sliding Model Position Controller for The Induction Motor Using Feedback Linearization;
and Prediction of Lateral Stiffness for Fully Slitted RC Shear Wall.

Keywords: *Research projects, *Engineering, *Taiwan, Computer aided manufacturing, Control systems, Chemical engineering, *Foreign technology.

PB99-101750REB PC A09/MF A02
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 3.
Chinese Inst. of Engineers, Taipei (Taiwan).
C. T. Liou. May 1998, 152p.
See also PB99-101743.
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Contents:
Multimedia Synchronization with User Interactions Using Interactive Extended Finite State Machines (IEFSMs);
Waveform Approximation Technique for CMOS Gates in The Switch-Level Timing Simulator Bts;
Exploring the Design Space of Cache Memories, Bus Width, and Burst Transfer Memory Systems;
Generalized Source Coding Theorems and Hypothesis Testing:
Part I-Information Measures;
Generalized Source Coding Theorems and Hypothesis Testing:
Part II-Operational Limits;
Interfermetric Fiber Sensors Based on Triangular Phase Modulation;
Reaction of Carbon Disulfide ando-Phenylene Diamine by Tertiary Amine in the Presence of Potassium Hydroxide;
A Tabu-Search Based Algorithm for Concave Cost Transportation Network Problems;
A Database Application Generator for the WWW;
Random Vibration of Multi-Span Mindlin Plate Due to Moving Load;
Effect of S/A Ratio on the Elastic Modulus of Cement-Based Materials;
and An Explanation of Distance-Dependent Dispersion of Mass Transport in Fractured Rock.

Keywords: *Research projects, *Engineering, *Taiwan, Chemical engineering, Computer systems, Detectors, Algorithms, Computer networks, Civil engineering.

PB99-101768REB PC A08/MF A02
Proceedings of the National Science Council, Republic of China: Part A: Physical Science and Engineering, Volume 22, No. 2, March 1998.
National Science Council, Taipei (Taiwan).
S. M. Peng. Mar 1998, 144p.
See also PB97-196638.
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Contents:
Variational Problem Related Optimal Control;
A Characterization for Surfaces of Constant Curvature by Eigenfunctions;
Thermal Behavior and Properties of Bismaleimide Containing Naphthalene;
Piezoreflectance Study of GaAs/A/GaAs Digital Alloy Compositional Graded Structures;
Diffraction of Acoustic Waves by Perfectly Soft Bodies;
Vehicle-Bridge Interactions and Applications to High Speed Rail Bridges (Invited Review Paper);
AIN Films Deposited by RF Magnetron Sputtering Techniques;
Preparation and Analysis of Silicon Negative Differential Resistance Diodes with Porous Superlattice Structure;
Fuzzy Neural Network for Satellite Data Processing-SAR Image Classification;
Relationship between the Pseudoinverse Formulation and the Compact Formulation for Obtaining the General Solutions of Redundant Robotic Systems;
Analysis of Overlay Accuracy Error Parameters;
Discussion of Spatial and Spectral Power Fading for Wireless Communication Channels;
Inundation Models for the Pa-chang Creek Basin in Taiwan;
and Two-dimensional Mixed-level Device and Circuit Simulation Using HSPICE.

Keywords: *Meetings, *Physical sciences, *Engineering, *Taiwan, Control systems, Acoustic waves, Semiconductors, Image processing, Robotics, Computerized simulation, Communication networks, National Science Council.

PB99-102899REB PC A99/MF E08
National Marine Fisheries Service, Silver Spring, MD.
Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences. Final rept.
Fish and Wildlife Service, Washington, DC.
Mar 1998, 860p.
Sponsored by National Marine Fisheries Service, Silver Spring, MD.
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The handbook was primarily developed to aid Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) biologists implementing the section 7 consultation process. The purpose of the handbook is to provide information and guidance on the various consultation processes outlined in the regulations. Additionally, the handbook will ensure consistent implementation of consultation procedures by those biologists responsible for carrying out sectin 7 activities. Chapters of the handbook deal with major consultation processes, including Informal, Formal, Emergency, and Special Consultations; and Conferences.

Keywords: *Endangered species, *Wildlife conservation, *Legislation, *Regulations, Environmental effects, Habitats, Ecology, Animal populations, Fishes, Birds, Mortality, National Environmental Policy Act.

PB99-103889REB PC A99/MF A06
Healthy People 2010 Objectives: Draft for Public Comment.
Department of Health and Human Services, Washington, DC. Office of Public Health and Science.
15 Sep 1998, 704p.
See also PB97-208565.
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Healthy People is the national prevention initiative that identifies opportunities to improve the health of all Americans. For two decades, the U.S. Department of Health and Human Services (HHS) has used health promotion and disease prevention objectives to improve the health of the American people. The first set of national health targets was published in 1979 in Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention. This set of five challenging goals, to reduce mortality among four different age groups--infants, children, adolescents and young adults, and adults--and increase independence among older adults, was supported by objectives with 1990 targets that were designed to drive action. Through the combined efforts of the Nation's public health agencies, the 1990 targets set for infants, children, and adults were achieved. Adolescent mortality did not decline sufficiently to reach the 1990 target, and data systems could not adequately track older adults' target.

Keywords: *Health, *Preventive medicine, Statistical analysis, United States, Objectives, Public health, Goals, Behaviors.

PB99-105504REB PC A04/MF A01
Department of Energy, Washington, DC.
Mechanical Properties and Energy Absorption Characteristics of a Polyurethane Foam.
Sandia National Labs., Livermore, CA. Polymer and Electrochemical Technologies Dept.
S. H. Goods, C. L. Neuschwanger, C. Henderson, and D. M. Skala. Mar 1997, 42p, SAND97-8490.
Contract DE-AC04-94AL85000
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Tension, compression and impact properties of a polyurethane encapsulant foam have been measured as a function of foam density. Significant differences in the behavior of the foam were observed depending on the mode of testing. Over the range of densities examined, both the modulus and the elastic collapse stress of the foam exhibited power-law dependencies with respect to density. The power-law relationship for the modulus was the same for both tension and compression testing and is explained in terms of the elastic compliance of the cellular structure of the foam using a simple geometric model. Euler buckling is used to rationalize the density dependence of the collapse stress.

Keywords: *Polyurethane foam, Mechanical properties, Energy absorption, Tension, Compression, Impact, CRETE foam system.

PB99-105520REB PC A99/MF A06
National Cancer Inst., Bethesda, MD.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
CCS Associates, Mountain View, CA.

C. C. Sigman, M. K. Doeltz, C. A. Holmes, R. Madarang, D. Faletto, A. Mittelman, D. Tran, K. Eisenhauer, and A. Lusska. Mar 1998, 664p.
Contract NCI-NO1-CB-50510
See also Survey for 1989-1990, PB92-143767 and Section 2, PB99-105538. Prepared in cooperation with Technical Resources, Inc., Rockville, MD. Sponsored by National Cancer Inst., Bethesda, MD.
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The survey presents carcinogenesis data extracted from literature published in 1995-1996. The volume is organized according to chemical structural categories (inorganic, aliphatic, monocyclic, etc). Each compound is assigned to its structure category, and, within each category, the test compounds are entered alphabetically by the preferred name of the compound. Preferred names are assigned according to the Chemical Abstracts Service (CAS) 9th Collective Index. Under each preferred name (primary entry) is a list of synonyms for the compound. Each preferred compound name is assigned a unique sequential compound accession number that reflects its location in the text. When an animal group is treated with more than one compound, the information is entered under the primary test compound. A cross reference is entered under each secondary compound, giving the primary compound's preferred name and accession number.

Keywords: *Carcinogenicity testing, Carcinogens, Surveys, Tables(Data), Laboratory anmals, Organic compounds, Inorganic compounds, Reference materials, Chemir.

PB99-105538REB PC A99/MF E08
National Cancer Inst., Bethesda, MD.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
CCS Associates, Mountain View, CA.
C. C. Sigman, M. K. Doeltz, C. A. Holmes, R. Madarang, A. Mittelman, D. Faletto, D. Tran, K. Eisenhauer, and A. Lusska. Mar 1998, 934p.
Contract NCI-NO1-CB-50510
See also Section 1, PB99-105520. Prepared in cooperation with Technical Resources, Inc., Rockville, MD. Sponsored by National Cancer Inst., Bethesda, MD.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The survey presents carcinogenesis data extracted from literature published in 1995-1996. The volume is organized according to chemical structural categories (inorganic, aliphatic, monocyclic, etc). Each compound is assigned to its structure category, and, within each category, the test compounds are entered alphabetically by the preferred name of the compound. Preferred names are assigned according to the Chemical Abstracts Service (CAS) 9th Collective Index. Under each preferred name (primary entry) is a list of synonyms for the compound. Each preferred compound name is assigned a unique sequential compound accession number that reflects its location in the text. When an animal group is treated with more than one compound, the information is entered under the primary test compound. A cross reference is entered under each secondary compound, giving the primary compound's preferred name and accession number.

Keywords: *Carcinogenicity testing, Carcinogens, Surveys, Tables(Data), Laboratory anmals, Organic compounds, Inorganic compounds, Reference materials, Chemical structures.

PB99-113904REB PC A06/MF A01
Answers to Questions about the National Flood Insurance Program.
Federal Emergency Management Agency, Washington, DC.
1999, 78p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The National Flood Insurance Program (NFIP) is a Federal program enabling property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. Participation in the NFIP is based on an agreement between local communities and the Federal Government that states if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas, the Federal Government will make flood insurance available within the community as a financial protection against flood losses.

Keywords: *Insurance, *Floods, *Regulations, Government policies, Disasters, Flood control, Communities, National government, Flooding, Law(Jurisprudence), Water resources, Costs, Hazards, Legislation, Damage assessment.

PB99-116501REB PC A06/MF A02
Department of Transportation, Washington, DC. Office of Research and Special Programs.
Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
Morgan State Univ., Baltimore, MD. National Transportation Center.
S. Bapna, J. Zaveri, and Z. A. Farkas. Nov 1998, 100p.
See also PB98-129968. Sponsored by Department of Transportation, Washington, DC. Office of Research and Special Programs. and Maryland Dept. of Transportation, Baltimore.
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The objective of the study is to anaser questions regarding the net benefits of CVISN deployment by the State of Maryland. The hypothesis is that the net benefits of CVISN deployment are positive and large but vary among system components and between the state and the motor carrier industry.

Keywords: *Commercial transportation, *Motor vehicles, *Information systems, *Cost, Traffic safety, Highway transportation, Economic models, State agencies, Regulations, Computer networks, Communication systems, Commercial Vehicle Information Systems and Networks(CVISN).

PB99-117053REB PC A03/MF A01
Federal Highway Administration, Washington, DC.
Road to Successful ITS Software Acquisition: Executive Summary.
Mitretek Systems, Inc., Washington, DC.
Jul 1998, 20p.
See also PB99-107427. Sponsored by Federal Highway Administration, Washington, DC.
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The report summarizes the themes upon which successful software acquisitions are built, collectively they represent a different way of doing business, the response to 'software is different.' The themes occur again and again throughout a software acquisition and guide the various acquisition activities: people themes; management themes; and system themes.

Keywords: *Information technology, *Computer software, *Acquisition, Federal agencies, Requirements, Management planning, Implementation, Competition, Government procurement, Contract administration, Systems engineering, Contractors.

PB99-117798REB PC A07/MF A02
Advice of the Italian CCTN on the Health Risk Assessment Relative to Exposure to Automobile Emissions.
Istituto Superiore di Sanita, Roma (Italy). Lab. di Tossicologia Applicata.
I. Camoni, N. Mucci, and V. Foa. c1998, 118p, SERIE RELAZIONI-98/3.
Prepared in cooperation with ISPESL, Rome (Italy). Dipt. di Medicina del Lavoro. and Milan Univ. (Italy). Clinica del Lavoro Luigi Devoto.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Three recommendations expressed by the Italian National Toxicological Committee (CCTN) in the period 1990-1995 are reported; they concern the health impact of exposure to benzene and polycyclic aromatic hydrocarbons (PAHs), resulting from automobile exhaust products, for Italian general and occupationally exposed populations. The first recommendation takes into consideration the possible long-term effects of the unleaded gasoline, recently introduced in Italy. The latter two recommendations concern the quantitiative evaluations of the risk of leukemia and of the risk of lung cancer from exposure to benezene and PAHs, resulting from automobile exhaust.

Keywords: *Automobile emissions, *Health risk assessment, Exhausts, Occupational exposure, Italy, Leukemia, Cancer, Exposure, Benzene, Polycyclic aromatic hydrocarbons, Italian National Toxicological Committee(CCTN).

PB99-120297REB PC A06/MF A01
Periodica Polytechnica, Chemical Engineering, Volume 42, No. 1, 1998.
Budapesti Mueszaki Egyetem (Hungary).
F. Wettl, and M. Tarjan-Fabry. 1998, 92p.
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Contents:
- Cooperation of the Department of Physics of the Technical Universities of Budapest and Berlin;
- Thermdynamics of Plastic Bodies:
- BEDA;
- Dynamic of Phase Transitions;
- Reciprocity Relations. Maxwell, Onsager A Thermokinetic Approach;
- Non-linear Dynamics of the Generalized Carnot Problem:
- maximum work received in a Finite Time for a System of Two Continua with Different Temperatures;
- Thermodynamics of Complex Systems:
- Special Problems of Coupled Thermal and Moisture Fields and Application to Tailoring of Composites;
- Some Non-linear Reciprocal Relations;
- Thermodynamics and Sustainability A New Approach by Extropy.

Keywords: *Thermodynamics, Phase transitions, Complex systems, *Foreign technology, Generalized Carnot Problem, Sustainability, Reciprocity relations.

PB99-120305REB PC A06/MF A01
Periodica Polytechnica, Mechanical Engineering, Volume 42, No. 1, 1998.
Budapesti Mueszaki Egyetem (Hungary).
F. Wettl, and M. Tarjan-Fabry. 1998, 96p.
See also PB98-136807.
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Contents:
- Calculations of the Asymetric Radiation in Dimensioning for Thermal Comfort;
- Jet-Induced Flow in Cylindrical Tanks, I. Visualization and Modelling;
- Large-eddy Simulation of Turbulent Plane Couette Flow;
- Jet-Induced Flow in Cylindrical Tanks, II. Numerical Solution;
- and Analysis and Synthesis of Open-ended Tendon Structures.

Keywords: *Research, *Mechanical engineering, Turbulent flow, Numerical analysis, Mathematical models, *Foreign technology.

PB99-120313REB PC A08/MF A02
Periodica Polytechnica, Civil Engineering, Volume 42, No. 2, 1998.
Budapesti Mueszaki Egyetem (Hungary).
F. Wettl, and M. Tarjan-Fabry. 1998, 134p.
See also Volume 42, No. 1, PB99-102303.
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Contents:
- Bending Theory of Shallow Shells Under Forced Deformation on their Edges;
- Transfer of Prestressing Force in Fiber Reinforced Concrete;
- Transmission Length Based on Measured Draw-in and Concrete Strains;
- Practical Design of Reinforced Concrete Columns;
- The Boundary Conditions of the Stress Functions of Triangular Polyhedron Grids Fitting Paraboloid Surfaces;
- Study on Simply Supported, Prismatic Folded Plate Structures by an Analytical Deducted Strip Method;
- Approximate Analysis of Tall Building Structures for Earthquake Using the Timoshenko-beam;
- On the Statistical Problems for Determination of the Shape of Prestressed Tents;
- The Influence of Pylons and Cable-stays on Aerodynamic Damping;
- and High-performance Concrete with Calcium Nitrite as Corrosion Protection.

Keywords: *Research projects, *Civil engineering, Concretes, Reinforced concrete, Construction materials, Buildings, Corrosion prevention, *Foreign technology.

PB99-120321REB PC A06/MF A01
Periodica Polytechnica, Transportation Engineering, Volume 24, No. 1, 1998.
Budapesti Mueszaki Egyetem (Hungary).
F. Wettl, and M. Tarjan-Fabry. 1996, 88p.
See also PB99-129462.
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Contents:
- Theory of Anomalies and its Application to Aircraft Control;
- Aerodynamic Parameter Estimation of the CG Controlled Airplanes;
- Changes in Gas Turbine Maps as Results of Divergence in Geometrical Parameters;
- From Non-Holonomic Constraint Equation to Exact Transport Algorithm for Rolling Contact;
- and Modern Control Theory Applied to Vehicle Dynamic.

Keywords: *Research projects, *Aircraft, Control systems, Gas turbines, Aerodynamics, Algorithms, *Foreign technology.

PB99-120339REB PC A06/MF A01
Department of Energy, Washington, DC. Div. of Chemical Sciences.
Molecular Quantum States at Dissociation.
University Coll., London (England).
R. Prosmiti, J. Tennyson, and D. C. Clary. c1998, 80p, ISBN-0-9522736-5-9.
Contract DE-AC03-76SF00098, Grant NSF-CHE9732758
Report on the CCP6 Workshop 'Molecular Quantum States at Dissociation', London, England, June 29-30, 1998. Sponsored by Department of Energy, Washington, DC. Div. of Chemical Sciences., National Energy Research Scientific Computing Center, Berkeley, CA. and National Science Foundation, Arlington, VA.
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This booklet was produced as a result of the CCP6 Workshop on 'Molecular Quantum States at Dissociation', which was held in the Chemistry Department of University College London on 29th and 30th June, 1998. Each speaker in the workshop was invited to prepare a brief review of work in their own area, with references to their own area, with references to their own and related work. The articles are designated to provide a good introduction to the field for workers outside it and an update for those more directly involved.

Keywords: *Molecular states, *Chemical dissociation, *Quantum chemistry, *Energy levels, Spectra, Molecular vibration, Molecular rotation, Photodissociation, Rotational states, Excited states, Coupling(Interaction), Quantum theory, *Foreign technology, Heavy particls, Particle dynamics, CCP6(Collaborative Computation Project 6).

PB99-120347REB PC A03/MF A01
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons. Technical rept.
Rutherford Appleton Lab., Chilton (England).
A. D. Martin, R. G. Roberts, W. J. Stirling, and R. S. Thorne. c14 Sep 1998, 20p, RAL-TR-1998-061, DTP-98-52.
Prepared in cooperation with Durham Univ. (England). and Oxford Univ. (England). Jesus Coll.
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No abstract available.

Keywords: *Partons, Deep inelastic scattering, Inelastic scattering, Coefficients, Nucleons, Quarks, *Foreign technology.

PB99-120362REB PC A06/MF A01
Six-Jet Production at Lepton Colliders. Technical rept.
Rutherford Appleton Lab., Chilton (England).
S. Moretti. c11 Sep 1998, 76p, RAL-TR-1998-035.
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No abstract available.

Keywords: *Quantum chromodynamics, *Leptons, Quarks, Colliders, Annihilations, Gluons, *Foreign technology.

PB99-120370REB PC A04/MF A01
Spin Correlations In e(sup +)e(sup -) Yields 4 Jets. Technical rept.
Rutherford Appleton Lab., Chilton (England).
S. Moretti, and W. J. Stirling. c11 Sep 1998, 42p, RAL-TR-1998-037, DTP-98-32.
Also pub. as Cambridge Univ. (England). Cavendish Lab. rept. no. HEP-97/12. Prepared in cooperation with Durham Univ. (England). and Cambridge Univ. (England). Cavendish Lab.
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No abstract available.

Keywords: *Angular distributions, Annihilation, Correlations, Monte Carlo method, Electrons, Positrons, Quantum chromodynamics, *Foreign technology.

PB99-122921REB PC A05/MF A01
Economic Development Administration, Washington, DC. Research and National Technical Assistance Div.
Ethanol Plant Feasibility Study for the Lower Kaskaskia River Valley Corn Wet Milling Facility.
Southwestern Illinois Resource Conservation and Development, Inc., Mascoutah.
29 Dec 1998, 72p.
Contract EDA-06-06-02808
This document contains tone-on-tone or color graphs, charts and/or pictures which have been reproduced in black and white. Prepared in cooperation with Stanley Consultants, Inc., Muscatine, IA. Sponsored by Economic Development Administration, Washington, DC. Research and National Technical Assistance Div.
For color originals of the tables and/or pictures contact Stanley Consultants, Inc., Stanley Bldg., 225 Iowa Avenue, Muscatine, IA. 52761-3764. Phone: (319) 264-6600. Product reproduced from digital image.

Thirteen local organizations joined EDA in funding the study--an investigation of the suitability of locating a corn wet milling facility in the lower Kaskaskia River Valley. The hypothetical plant would use 108,000 bushels of corn per day to produce fuel ethanol. A study plant configuration was established in order to estimate utility--especially electricity and natural gas--and infrastructure requirements. A typical site plan was also developed. Common site issues, such as interstate, rail, and river access, were examined for the target facility. Corn production and potential co-product markets were also identified. For a facility of this size, local corn will have to be supplemented with grain from other corn producing regions. New water supply and waste water treatment systems will be needed for any of the sites investigated. Twelve potential sites or site areas were identified in the two and one-half county area included in this study: Monroe, Randolph, and southern St. Clair counties. The study's site-rating process resulted in the selection of four representative sites: Baldwin West, Evansville, Mascoutah/New Baden, and Sparta.

Keywords: *Ethanol fuels, *Biomass conversion plants, *Feasibility studies, Corn, Agricultural products, Biomass plantations, Production, Electric power generation, Infrastructure, Design, Market analysis, *Southwestern Region(Illinois), Wet milling.

PB99-126450REB PC A02/MF A01
Environmental Protection Agency, Research Triangle Park, NC. Air Pollution Prevention and Control Div.
Small Scale Biomass Fueled Gas Turbine Power Plant. Rept. for Feb 92-Oct 97.
Cratech, Inc., Tahoka, TX.
C. R. Purvis, and J. D. Craig. 1998, 10p, EPA/600/A-98/143.
Presented at Bioenergy '98 Conference, Madison, WI., October 4-8, 1998. See also PB98-151467. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Air Pollution Prevention and Control Div.
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The paper discusses a new-generation, small-scale (<20 Mwe) biomass-fueled power plant that is being developed based on a gas turbine (Brayton cycle) prime mover. Such power plants are expected to increase the efficiency and lower the cost of generating power from fuels such as wood. The new power plants are also expected to economically utilize annual plant growth material (e.g., straw, grass, rice hulls, animal manure, cotton gin trash, and nut shells) that are not normally considered as fuel for power plants. The paper summarizes the new power generation concept with emphasis on the engineering challenges presented by the gas turbine component.

Keywords: *Gas turbines, *Biomass conversion plants, *Electric power generation, Wood wastes, Wood fuels, Brayton cycle, Air pollution abatement, Hot gas clean-up, Performance evaluation, Technology innovation, Plant wastes, Pollution prevention.

PB99-130932REB PC A08/MF A02
Disaster-Related Needs of Seniors and Persons with Disabilities. Student Manual.
Federal Emergency Management Agency, Washington, DC.
Mar 1997, 138p, FEMA/SM-250-3.
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Recent disasters have highlighted the importance of special planning to ensure the ability of local and state jurisdictions to meet the disaster-related needs of seniors or those with disabilities. Many states and jurisdictions are still not fully aware of the implications of legislation, especially the Americans with Disabilities Act, for emergency management programs. It is time to assess what the authors have learned about meeting the needs of these populations so that the nation as a whole is better prepared. The book prepared by the Emergency Management Institute of the Federal Emergency Management Agency, is designed to aid in the professional development of emergency managers and allied professions. Its primary purpose is to enable jurisdictions to better understand the needs of seniors and persons with disabilities in order to accurately project resource needs and develop strategies to address these needs throughout the four-phase emergency management process.

Keywords: *Disabled persons, *Elderly persons, *Emergency management programs, Planning, Local government, State government, *Disaster-related needs.

PB99-130940REB PC A13/MF A03
Hazardous Materials Operating Site Practices. Activities Manual.
National Fire Academy, Emmitsburg, MD.
Feb 1999, 272p.
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Contents:
- Physical Properties;
- Chemical Properties;
- Properties of Potential Terrorism Agents;
- Environmental Information;
- Hazardous Materials Table and Shipping Papers;
- Markings;
- Label;
- Placarding;
- Cargo Tanks;
- Bulk Containers;
- Final Container Activity;
- Damage Assessment.

Keywords: *Hazardous materials, *Training manuals, Physical properties, Chemical properties, Chemical agents, Terrorism, Hazardous material spills, Chemical spills, Hazardous materials transportation, Motor vehicle accidents, Labels, Labeling, Tanks(Containers), Containerization, Damage assessment, Scenarios, *Emergency response, Emergency management, Environmental data sheets, Placards.

PB99-142564REB PC A07/MF A02
Small Business Administration, Washington, DC. Office of Advocacy.
Impact of Firm Size on Dollar Amount of Penalties Assessed by Government Agencies.
Indiana Univ. at Bloomington. Dept. of Business Economics and Public Policy.
K. Lear-Nordby. Sep 1998, 112p, SBAHQ-95-C-0026.
Sponsored by Small Business Administration, Washington, DC. Office of Advocacy.
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Enforcement of federal environmental regulations typically results in administrative penalties against the firm found in violation. This project examines the effect of firm size-based penalty policies on regulatory compliance and EPA's enforcement resource allocation decisions. Analysis of results offers insights into optimal penalty theories and informational requirements needed to optimize EPA's enforcement policy. The empirical work also permits speculation on the causes of inefficient regulatory enforcement spending. Due to severe limitations on data quality, the project report best serves as a roadmap for future research on this subject.

Keywords: *Federal agencies, *Violations, *Penalties, *US EPA, Regulations, Environmental laws, Environment management, Environment regulations.

PB99-142572REB PC A04/MF A01
Small Business Administration, Washington, DC. Office of Advocacy.
Statistics of U.S. Businesses: Microdata and Tables. SBA/Census Data on Establishments by Firm Size.
Armington (Catherine), Washington, DC.
C. Armington. 4 Jun 1999, 36p, SBAHQ-97-M-0577.
Contract SBA-7.3112.0188
Sponsored by Small Business Administration, Washington, DC. Office of Advocacy.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document discusses the creation of the Statistics of U.S. Businesses (SUSB) from the Bureau of the Census, SUSB is an annual firm size database containing information on firms, establishments, employment, payroll, and estimated receipts, along with their industries and location (states and metropootan statistical areas). The office of Advocacy within the U.S. Small Business Administration funds the Bureau of the Census to construct SUSB. To construct SUSB, Census uses it's business registry or Standard Statistical Establishment List as a basis, utilizes edits from County Business Patterns (an establishment data source), and aggregates establishments owned by a parent company to create firm size data. In addition, Census has created the Longitudinal Establishment and Enterprise Microdata (LEEM). With the LEEM, researchers can track businesses over time and create dynamic data. The document also discusses the uses of static data (comparing snapshots of data for different time periods) and dynamic data (tracking data over time and comparing starting and end points). SUSB covers all U.S. business establishments with employees, except for farms, railroads and households.

Keywords: *Statistical data, *Businesses, *Data bases, *United States, Employment, Salaries, Industries, States(United States), Metropolitan Statistical Areas.

PB99-144487REB PC A08/MF A02
Falling through the Net: Defining the Digital Divide. A Report on the Telecommunications and Information Technology Gap in America.
National Telecommunications and Information Administration, Washington, DC.
Jul 1999, 130p.
Much of this report consists of color dependent charts and graphs. NTIS is offering this document as is and cannot be responsible for the legibility of these charts and graphs. Color illustrations reproduced in black and white. See also PB95-272084, PB99-156614 and PB99-150435.
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Part I of this report surveys household access to telephones, computers, and the Internet, updating the surveys in our previous two reports: Falling Through the Net: A Survey of the 'Have Nots' in Rural and Urban America (July 1995) and Falling Through the Net II: New Data on the Digital Divide (July 1998). Part II provides significant new information on individual Internet usage. Among other things, it looks at how people are connected to the Internet; where people access access the Internet outside the home (such as at work, school, library, or community center); how Americans choose to spend their time online; and why some people are not connected. Part III discusses the challenges ahead in solving the digital divide and highlights the significance of several key policies in promoting access.

Keywords: *Internet, *Computers, *Access, *Households, *Information technology, *Surveys, Online systems, Telephones, Electronic mail, Modems, Information resources, Telecommunications, Trends, Residential sector, Urban areas, Rural areas, Minority groups, Low income groups, Disadvantaged groups, *Connectivity, Electronic commerce.

PB99-145849REB PC A05/MF A01
Financial Services Institutions: Information for Assessing the Government's Potential Financial Exposure. Report to the Congress.
General Accounting Office, Washington, DC. General Government Div.
Jun 1998, 58p, GAO/GGD-98-125.
See also AD-A334 068 and AD-A339 015.
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The report responds to your October 15, 1997, request for information on selected financial services institutions. Specifically, you were interested in the potential financial exposure faced by the federal government as a result of financial services institutions sponsored, in whole or in part, by the federal government. These entities could be independent corporations, wholly or partially sponsored by the federal government, or corporations located within the executive branch.

Keywords: *Financial services, *Federal government, Auditing, Financial institutions, *Government corporations, Government-Sponsored Enterprises.

PB99-147092REB PC A08/MF A02
BusinessLINC: Learning, Information, Networking and Collaboration. Business-to-Business Relationships That Increase the Economic Competitiveness of Firms. A Report to Vice President Al Gore.
Small Business Administration, Washington, DC.
Dec 1998, 136p.
Presented at the White House Business and Entrepreneurial Roundtable (2nd): New Opportunity, A Stronger Economy, June 1998. Prepared in cooperation with Department of the Treasury, Washington, DC.
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At the first White House Business and Entrepreneurial Roundtable on Community Empowerment in June 1998, you called together business executives from across the country to highlight the untapped economic potential of our distressed urban and rural communities. You also announced the Clinton Administration's BusinessLINC initiative--Learning, Information, Networking and Collaboration--to encourage large businesses to link with and advise small businesses, particularly in distressed areas. The report documents how these business-to-business relationships can benefit not only small firms, but also the larger firms providing advice. Although the report focuses on how the private sector can expand BusinessLINCs, we also believe that government can play an important role in catalyzing these efforts.

Keywords: *Businesses, *Economic development, *Economically depressed areas, *Meetings, Case studies, Competitiveness, Urban areas, Rural areas, Small businesses, Government/industry relations, Economic growth, BusinessLINC.

PB99-147340REB PC A03/MF A01
Bid Opening Report. Federal-Aid Highway Construction Contracts, First Six Months, 1998.
Federal Highway Administration, Washington, DC.
1999, 28p, FHWA-PD-99-012.
See also PB98-163231.
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Published semi-annually, the Bid Opening Report summarizes data for Federal-Aid highway construction contracts awarded by the various State Highway Agencies during the First Half of 1998.

Keywords: *Contracts, *Federal aid, *Highway construction, Bids, Statistical data, Construction, Tables(Data), Legislation, Funds, United States, Roads and highways.

PB99-147639REB PC A03/MF A01
Different Perspectives on Economic Base. Forest Service research note.
Forest Service, Portland, OR. Pacific Northwest Research Station.
L. K. Crone, R. W. Haynes, and N. E. Reyna. Apr 1999, 28p, FSRN-PNW-538.
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Two general approaches for measuring an economic base are discussed. Each method was used to define the economic base for each of the counties included in the Interior Columbia Basin Ecosystem Management Project area. A more detailed look at four selected counties results in similar findings from both approaches. Limitations of economic base analyses are noted.

Keywords: *Columbia River Basin, *Economic conditions, Tables(Data), Employment, Counties, Natural resources.

PB99-148736REB PC A03/MF A01
Experimental Tests of Relativistic Gravity.
Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette (France).
T. Damour. Apr 1999, 16p, IHES/P/99/31.
Prepared in cooperation with Observatoire de Paris, Meudon (France).
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The confrontation between Einstein's gravitation theory and experimental results, notably binary pulsar data, is summarized and its significance discussed.

Keywords: *Gravitation theory, Postulates, Equivalence, Axioms, Gravitational fields, *Foreign technology, *Relativistic gravity.

PB99-148769REB PC A03/MF A01
k-Inflation.
Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette (France).
C. Armendariz-Picon, T. Damour, and V. Mukhanov. Apr 1999, 26p, IHES/P/99/26.
Prepared in cooperation with Munich Univ. (Germany, F.R.). Sektion Physik. and Stanford Univ., CA. Gravity Probe B. Hansen Experimental Physics Lab.
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It is shown that a large class of higher-order (i.e., non-quadratic) scalar kinetic terms can, without the help of potential terms, drive an inflationary evolution starting from rather generic initial conditions. In many models, this kinetically driven inflation (or 'k-inflation' for short) rolls slowly from a high-curvature initial phase, down to a low-curvature phase and can exit inflation to end up being radiation-dominated, in a naturally graceful manner. The authors hope that this novel inflation mechanism might be useful in suggesting new ways of reconciling the string dilation with inflation.

Keywords: *Inflation, Kinetic, Slow roll, String theory, Particle physics, *Foreign technology, k-Inflation.

PB99-148777REB PC A05/MF A01
Effective One-Body Approach to General Relativistic Two-Body Dynamics.
Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette (France).
A. Buonanno, and T. Damour. 26 Nov 1998, 60p, IHES/P/98/74.
Prepared in cooperation with Observatoire de Paris, Meudon (France).
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The authors map the general relativistic two-body problem onto that of a test particle moving in an effective external metric. This effective-one-body approach defines, in a non-perturbative manner, the late dynamical evolution of a coalescing binary system of compact objects. The transition from the adiabatic inspiral, driven by gravitational radiation damping, to an unstable plunge, induced by strong spacetime curvature, is predicted to occur for orbits more tightly bound tan the innermost stable circular orbit in a Schwarzchild metric mass M = m(sub 1) + m(sub 2). The binding energy, angular momentum and orbital frequency of the innermost stable circular orbit for the time-symmetric two-body problem are determined as a function of the mass ratio.

Keywords: *Two body problem, Transition, Binary systems, Digital systems, Coalescence, Gravity waves, Angular momentum, Orbits, Circular orbits, Gravitational waves, *Foreign technology, Gravitational wave signals, Radiation damping.

PB99-148793REB PC A03/MF A01
Polyhedral and Dihedral Caustics in the R(3).
Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette (France).
A. Joets, M. Monastyrsky, and R. Ribotta. Aug 1998, 16p, IHES/P/98/61.
Prepared in cooperation with Paris-11 Univ., Orsay (France). Lab. de Physique des Solides. and Akademiya Nauk SSSR, Moscow. Inst. of Theoretical and Experimental Physics.
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The role of the symmetries in the topology of sets of Lagrangian singularties is studied in a simple physical model; the envelope of the rays emanating from a convex wave front invariant under the action of discrete subgroups of O(3), New point-singularities of interger index are found. They are located at the vertices of the polyhedron or of its dual. For the dihedral subgroups, the authors have found a remarkable property of stability of umbilics. These properties result from the interplay between the symmetries of the singularities and the topology of the wave front. An application to fine-particle magnetic systems is given.

Keywords: *Lagrangian functions, Symmetry, Topography, Invariant, Dihedral effect, *Foreign technology.

PB99-148801REB PC A03/MF A01
Symmetry and Topology of Energy Bands in Crystals.
Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette (France).
L. Michel. Jan 1999, 22p, IHES/P/99/07.
Presented at the International School on Symmetry and Structural Properties of Condensed Matter, Zajaeczkowo (Poznan), Poland, August 27-September 2, 1998.
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No abstract available.

Keywords: *Energy bands, *Crystal symmetry, Symmetry, Topology, Crystals, Vectors, Crystal lattices, *Foreign technology.

PB99-149585REB PC A03/MF A01
William J. Hughes Technical Center, Atlantic City, NJ. Aviation Security Human Factors Program.
Validating the Computer-Based Training Process for Aviation Security Screeners. Draft rept.
Federal Data Corp., Egg Harbor, NJ. Science and Engineering Div.
J. L. Fobes, and E. C. Neiderman. Mar 1999, 30p, DOT/FAA/AR-99/40.
Sponsored by William J. Hughes Technical Center, Atlantic City, NJ. Aviation Security Human Factors Program.
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Test performance data from Safe Passage's Computer-Based Training (CBT) system for aviation security screeners were used to evaluate multiple choice content and X-ray image interpretation mastery test items to assess initial screener training. Data from 8,366 CBT tests were used from 691 screeners at 3 different sites. Test questions were evaluated for readability, item-to-test correlations, error rates, quality of response options, relevance to job requirements, training content reliability, adverse impact due to race and gender, and validity. Implication of these results for the design of the Screener Readiness Test and the evaluation of the new CBT systems is discussed.

Keywords: *Personnel development, *Computer based instruction, Validation, Computer assisted instruction, Airport security, Tests, X rays detectors, Performance, Training, *Aviation security screeners, Screener training.

PB99-149593REB PC A08/MF A02
Federal Highway Administration, Austin, TX. Texas Div.
Develop Maintenance Strategy Selection Procedures for Pavements Incorporating Semi-Rigid or Chemically Stabilized Layers. Research rept. Sep 96-Aug 98.
Texas Transportation Inst., College Station.
T. J. Freeman, and D. N. Little. Dec 1998, 128p, FHWA/TX-99/1722-2.
Also pub. as Texas Transportation Inst., College Station rept. nos. TTI-0-1722 and RR-1722-2. Sponsored by Federal Highway Administration, Austin, TX. Texas Div. and Texas Dept. of Transportation, Austin. Office of Research and Technology Transfer.
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TxDOT does not currently have a formal maintenance strategy selection procedure for pavements which have semi-rigid or chemically stabilized layers. The approach used was to interview experienced TxDOT personnel in each district and to determine the appropriate maintenance treatments and timing in that district for a variety of expected situations and conditions. The result of this research was a set of treatment assignments for each district and for airports, for a matrix of expected conditions including distress type, severity, and quantity; traffic level or importance; rate of development; and purpose of the treatment. A computer program and user's manual were developed to assist in treatment selection.

Keywords: *Pavements, *Cracking(Fracturing), Texas, Sealing, Surveys, Questionnaires, Counties.

PB99-149627REB PC A07/MF A02
Periodica Polytechnica Chemical Engineering, Volume 42, No. 2, 1998.
Budapesti Mueszaki Egyetem (Hungary).
F. Wettl, and M. Tarjan-Fabry. 1998, 118p.
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Contents:
- A Phenomenological Foundation of Non-Linear OC-Reciprocal Relations;
- Thermodynamic Stability of Dia- and Paramagentic Materials;
- Equipartition of Forces:
- A New Principle for Process Design and Optimization;
- Construction and use of Computer Controlled Laboratory Batch Reactor:
- Flame Retarded, Reinforced Polypropylene Technical Fibres;
- Chemical Reactors during the Processing of Stabilized PE;
- Discoloration and Stabilizer Consumption;

Chemical Reactions during the Processing of Stabilized PE;
Structure/Property Correlations;
Aggregation Tendency of Particulate Fillers;
Determination and Consequences.

Keywords: *Chemical engineering, Reciprocal relations, Thermodynamics, Batch reactors, Polypropylene, Chemical reactions, Particulate fillers, *Foreign technology.

PB99-149635REB PC A07/MF A02
Periodica Polytechnica Mechanical Engineering, Volume 42, No. 2, 1998.
Budapesti Mueszaki Egyetem (Hungary).
F. Wettl, and M. Tarjan-Fabry. 1998, 106p.
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Contents:
Pneumatic Conveying in the Vertical Pipeline of Air Lift;
Theoretical and Experimental Studies on Disks Centrifugal Separators;
The Rule of Martinsitic Transformation in the Phenomena of Shape Memory;
Neue Grundlagen zur Verbrennungsregelung in Wirbelschichtfeuerungen;
Energetic Optimization of Water Pumping in Distribution Systems;
An On-line Intelligent Adaptive Controller for Manufactoring Operations Based on an Open Architecture;
Dynamic modelling of friction clutches and application of this model in simulation of drive systems.

Keywords: *Mechanical engineering, Air lift, Centrifugal separators, Shape memory, Water pumping, Adaptive controllers, Drive systems, Friction clutches, *Foreign technology.

PB99-149650REB PC A03/MF A01
Method for Analyzing Piled Embankments. Research rept.
Sydney Univ. (Australia). Centre for Geotechnical Research.
H. G. Poulos. Jan 1999, 20p.
Also pub. as Sydney Univ. (Australia). Centre for Geotechnical Research rept. no. RR-R781.
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This paper discusses the various issues involved in the design of piled embankments, and then describes the application of computer analyses of piled strip and raft behavior to the piled embankment problem. These analyses are implemented via a program called GASP (Geotechnical Analysis of Strip with Piles.) Using this program, the effects of other key parameters are also studied, and the design of transition areas is discussed.

Keywords: *Embankments, *Pile foundations, Soil structure, Soil settlement, Mechanical properties, Roadbeds, Concrete slabs, Pavement bases, Highway construction, Geotechnical fabrics, Geotechnical engineering, *Foreign technology.

PB99-149684REB PC A03/MF A01
Federal Aviation Administration, Washington, DC. Associate Administrator of Civil Aviation Security.
Project Plan for the Baseline Measurment of Checkpoint Effectiveness and Efficiency.
Federal Data Corp., Egg Harbor, NJ. Science and Engineering Div.
B. A. Klock, and J. L. Fobes. May 1999, 20p, DOT/FAA/AR-99/43.
Sponsored by Federal Aviation Administration, Washington, DC. Associate Administrator of Civil Aviation Security.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A project plan for obtaining baseline measurements of operational effectiveness and efficiency of the Northwestern checkpoint at Detroit Wayne Metropolitan Airport is described. The project will consist of carefully structured observations of checkpoint tasks under operational conditions. The baseline report will provide information that can be used to evaluate changes in checkpoint design.

Keywords: *Airport security, *X ray inspection, Airports, Baggage, Detroit(Michigan).

PB99-149692REB PC A03/MF A01
Test and Evalution Plan for Determining Screener Training Effectiveness.
William J. Hughes Technical Center, Atlantic City, NJ. Aviation Security Human Factors Program.
B. A. Klock, and J. L. Fobes. Apr 1999, 20p, DOT/FAA/AR-99/42.
Prepared in cooperation with Federal Data Corp., Egg Harbor, NJ. Science and Engineering Div.
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The efficacy of Computer-Based Training (CBT) programs potentially useful for security checkpoint screener training will be evaluated at three different airports. Candidates will be trained with one of four CBT programs and the Screener Readiness Test, designed to assess screening-related knowledge, will then be used to evaluate the effectiveness of the CBT programs.

Keywords: *Airport security, *X ray inspection, *Selection, Protection, Tests, Performance evaluation, Detection, Explosives, Ground handling.

PB99-149700REB PC A09/MF A02
Maryland Power Plant Research Program, Annapolis.
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants. Final rept.
Versar, Inc., Columbia, MD.
S. P. Schreiner, T. A. Krebs, D. E. Strebel, A. Brindley, and C. G. McCall. 19 Apr 1999, 164p, PPRP-114.
See also PB91-216308. Sponsored by Maryland Power Plant Research Program, Annapolis.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this investigation was to test (validate in computer modeling terminology) the mixing zone model CORMIX (CORnell MIXing Zone Expert System) using measured thermal plume data from the four Maryland power plants (Calvert Cliffs, Chalk Point, Dickerson, and Wagner). These facilities were chosen to represent a range of discharge environments used by power plants in the state, including a large freshwater river (Potomac), a narrow tidal estuary (Baltimore Harbor). The availabililty of extensive historical thermal plume data provided an excellent source for validating the model and demonstrating its utility and limitations in a variety of circumstances. CORMIX also idealizes the physical configuration of the receiving water. This study concludes that users of CORMIX expert system need to be aware of these limitations in applying the model in complex situations, especially where validation data are not available to check model results.

Keywords: *Thermal effluents, *Plumes, *Temperature monitoring, Discharge(Water), Water temperture, Potomac River, Patuxent River, Chesapeake Bay, Estuaries, Tides, Environmental impacts, Calvert Cliffs-1 Reactor, Calvert Cliffs-2 Reactor, Expert systems, Maryland, *CORMIX model, *Mixing zones, Baltimore Harbor, Chalk Point Station, Dickerson Steam Electric Station, H A Wagner Generating Station, Power Plant Research Program.

PB99-149718REB PC A24/MF A04
Coordinating Research Council, Inc., Atlanta, GA.
Investigation of Emission Factors in the California EMFAC7G Model. Final rept.
ENVIRON International Corp., Novato, CA.
A. K. Pollack, P. Bhave, J. Heiken, C. Tran, G. Yarwood, R. F. Sawyer, B. A. Joy, K. Lee, and S. Shepard. Mar 1999, 526p.
See also PB92-113059, PB92-113067 and PB92-113075. Sponsored by Coordinating Research Council, Inc., Atlanta, GA.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The goals of this project required: (1) reviewing all California Air Resources Board (ARB) documentation on the development of EMFAC7G and its predecessors (principally EMFAC7F); (2) obtaining, where possible, data sets used to develop EMFAC7G emission factors; and (3) replicating, where possible, ARB analyses leading to the model formation. This report contains detailed information on the data and methods used to develop EMFAC7G emission factors. After describing the data used and the ARB methods, critical engineering and statistical reviews are provided which assess the adequacy and representativeness of the data sets used and the appropriateness of the analytical approaches employed. After assessing the data bases underlying the model development, significant data gaps are identified.

Keywords: *Emission factors, *Vehicle air pollution, *Air pollution monitoring, *Mathematical models, Exhaust emissions, Evaporative emissions, Particulates, Nitrogen oxides, Exhaust system inspection, Exhaust emission control device maintenance, Exhaust emission measurement, Driving style effect on air pollution, Vehicle usage, Air pollution abatement, Uncertainty analysis, Emission rates, Correction factors, California Air Resources Board, South Coast Air Quality Management Board, EMFAC7F model, EMFAC7G model, EMFAC99 model, MVEI7G model.

PB99-149726REB PC A03/MF A01
Beechcraft 1900C Vertical Impact Test. Technical note.
Federal Aviation Administration Technical Center, Atlantic City, NJ. Office of Aviation Research.
R. J. McGuire, and T. Vu. May 1999, 24p, DOT/FAA/AR-TN99/25.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In October 1995, a commuter category Beechcraft 1900C airliner was subjected to a vertical impact drop test at the William J. Hughes Technical Center, Atlantic City International Airport, New Jersey. The purpose of this test was to measure the impact response of the fuselage, cabin floor, cabin furnishings (including standard and modified seats), and anthropomorphic test dummies. The test was conducted to simulate the vertical velocity component of a severe but survivable crash impact. A low-wing, 19-passenger fuselage was dropped from a height of 11'2' resulting in a vertical impact velocity of 26'8' per second. The airframe was configured to simulate a typical flight condition, including seats (normal and experimental), simulated occupants, and cargo. For the test the wings and engines were removed; the vertical and horizontal stabilizers were removed; the landing gear was removed; and the pilot and copilot seats were not installed. The data collected in the test and future tests will supplement the existing basis for improved seat and restraint systems for commuter category of Code of Federal Regulation, 14 CFR Part 23, airplanes.

Keywords: *Fuselages, *Impact tests, *Beechcraft aircraft, Anthropomorphic test dummies, Cabins, Aircraft compartments, Seat belts, Crach landing, Impact resistance, Crashworthiness.

PB99-149734REB PC A03/MF A01
Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
Agency for Health Care Policy and Research, Rockville, MD.
S. B. Cohen, R. Gaetano, and H. Goksel. May 1999, 30p, AHCPR/PUB-99-0027.

See also PB97-212666.
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The Medical Expenditure Panel Survey (MEPS) is the third in a series of nationally representative surveys of medical care use and expenditures sponsored by the Agency for Health Care Policy and Research (AHCPR). MEPS comprises four component surveys. The Household Component (HC) produces national and regional estimates of the health care utilization, expenditures, sources of payment, and insurance coverage of the U.S. civilian noninstitutional population. The HC sample design is a stratified multistage area probability design with disproportionate sampling to facilitate the selection of an oversample of minorities. This report provides an overall summary of HC sample yields across the three rounds of data collection that cover calendar year 1996. It also provides an overview of the weighting strategies used to obtain national estimates of health care parameters for the population. Survey design complexities that require special consideration for variance estimation and analysis are discussed.

Keywords: *Households, *Health surveys, *Estimation procedures, Charges, Payments, Health care utilization, Health care costs, Health insurance, Income, Employment, Medical Expenditure Panel Survey(MEPS).

PB99-149775REB PC A04/MF A01
Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin. Final rept.
Environmental Protection Agency, Research Triangle Park, NC. Clean Air Technology Center.
May 1999, 40p, EPA/456/F-99/004.
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This paper will make you more familiar with the issues involved in choosing an adsorber system for your plant, company, or corporation. Carbon, zeolite, and polymer adsorbents have each been used to adsorb Volatile Organic Compounds (VOC) and other pollutants from relatively dilute concentrations in air (from tens to thousands of parts per million by volume) to control emissions. This paper discusses issues invovled in deciding which adsorbent to use, what type of adsorption system to use, and whether it is the right emission control technology for you.

Keywords: *Absorbers(Materials), *Carbon, *Zeolites, *Polymers, Adsorbents, Air pollution control equipment, Regeneration(Engineering), Vapor pressure, Mass transfer, Emissions, Incinerators, *Volatile organic compounds, Vapor concentrators, Vacuum regeneration, Pressure swing, Thermal swing.

PB99-149783REB PC A03/MF A01
Current Methods and Research Strategies for Modeling Atmospheric Mercury.
Environmental Protection Agency, Cincinnati, OH. National Exposure Research Lab.
O. R. Bullock. 1999, 18p, EPA/600/A-99/046.
See also PB96-114566.
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The atmospheric pathway of the global mercury cycle is known to be the primary source of mercury contamination to most threatened aquatic ecosystems. While much effort has been made to quantify the total mass flux of mercury to the atmosphere from various natural and anthropogenic sources, discrimination of the chemical and physical forms of these emissions is just beginning in response to early modeling exercises showing this discrimination to be critical for accurate modeling estimates of the sources responsible for observed mercury deposition. In this paper, current atmospheric mercury modeling techniques and the information obtained from them are described. A strategy for future field research and numerical model development is proposed which is designed to confidently identify the sources of atmospheric mercury responsible for observed contamination of aquatic ecosystems.

Keywords: *Mercury(Metal), *Mathematical models, *Air pollution monitoring, Cycles, Emissions, Atmospheric transport, Environmental transport, Ecological concentration, Air pollution sampling, Aquatic ecosystems, Air pollution sources, Air-biosphere interactions.

PB99-149791REB PC A03/MF A01
Overview of the Ozark Isoprene Experiment (OZIE). Technical rept.
Environmental Protection Agency, Research Triangle Park, NC. National Exposure Research Lab.
T. Pierce, M. Koerber, A. Guenther, J. Turner, S. King, and S. Lengerich. 1999, 16p, EPA/600/A-99/644.
See also PB97-155329. Prepared in cooperation with National Center for Atmospheric Research, Boulder, CO. Atmospheric Chemistry Div., Indiana Dept. of Environmental Management, Indianapolis., Illinois State Environmental Protection Agency, Springfield. Dept. of Air. and Washington Univ., St. Louis, MO. Environmental Engineering Program.
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Ozone modeling studies, such as those performed for the Ozone Transport Advisory Group (OTAG), have raised concerns about extremely high concentrations (> 50 ppbv) that have been predicted over the Ozark Plataeu in southern Missouri. The Ozark Isoprene Experiment (OZIE) took place during July 1998 and included measurements of isoprene from the surface and aloft at several locations stretching from northeastern Oklahoma to southern Indiana. Measurements were made along a balloon tethered to nearly 1000 m, surface footprint sites at five locations upwind of the balloon, surface sites in Illinois and Indiana, and from an aircraft flying at heights ranging from 300 to 1000 m over southern Illinois, southern Indiana, and southern Missouri. Preliminary analysis of the data indicates that daytime surface isoprene concentrations ranged from 1 to 36 ppbv, and isoprene concentrations measured at 600 m ranged from 0.4 to 6 ppbv. This paper provides an overview of the study design and describes measurements taken during the experiment.

Keywords: *Isoprene, *Air pollution sources, *Ecological concentration, *Air pollution sampling, Natural emissions, Spatial distribution, Temporal distribution, Atmospheric chemistry, Photochemistry, Weather conditions, Atmospheric temperature, *Ozark Plateau, Southern Region(Missouri), Volatile organic compounds.

PB99-149809REB PC A04/MF A01
Agency for Health Care Policy and Research, Rockville, MD.
Patient-Centered Outcomes in Neurologic Disease. Abstract, Executive Summary and Final Report. Rept. for 30 Sep 95-31 May 99.
Frontier Science and Technology Research Foundation, Inc., Chestnut Hill, MA.
C. E. Schwartz. 1 May 1999, 46p, AHCPR-99-44.
Grant AHCPR-HS-08582
Prepared in cooperation with Harvard Medical School, Boston, MA. Sponsored by Agency for Health Care Policy and Research, Rockville, MD.
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Patients can contribute important data about their quality of life (QOL), especially when it concerns the efficacy of new treatments and the quality of their health care. The purpose of this project was to develop a new patient-centered outcomes methodology for evaluating treatments in chronic neurologic diseases using multiple sclerosis (MS) as a model. This methodology, the Extended Q-TWIST integrates the perspective of the patient, the provider, and social cost in a single analysis. Two new measures of neurologic function and two approaches to patient preference assessment were psychometrically evaluated. Additionally, theoretical and methodological development focused on response shift phenomena, an emerging construct in QOL research which refers to the idea that when people experience changes in health state, they may change their internal standards, their values, or their conceptualization of QOL. It has important implications for clinical research. In response to difficulties experienced in implementing an Extended Q-TWIST evaluation of a clinical intervention, a qualitative study was implemented to identify barriers which prevent African Americans from participating in medical and health services research.

Keywords: *Patients, *Health care outcomes, Quality of life, Treatments, Neurologic diseases, Multiple sclerosis, Goals, Methods, Efficacy.

PB99-150062REB PC A08/MF A02
Proceedings of the National Joint Use Conference (5th). Held in Louisville, Kentucky on October 26-27, 1998.
Federal Highway Administration, Washington, DC. Federal-Aid and Design Div.
1998, 150p.
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The Fifth National Joint Use Conference was held in Louisville, Kentucky, on October 26-27, 1998, at the Galt House Hotel. The objective of the conference was to focus attention on highway/utility joint use issues. Speakers representing power, cable television, and telephone were invited to participate on the program. The record of their remarks is contained within these proceedings of the conference.

Keywords: *Utilities, *Highways, *Meetings, Highway planning, Cooperation, Highway construction, Safety, Industries.

PB99-150120REB PC A17/MF A03
Proceedings of the National Highway/Utility Conference (7th). Held in Louisville, Kentucky on October 28-30, 1998.
Federal Highway Administration, Washington, DC. Federal-Aid and Design Div.
1998, 354p, FHWA/IF-99/003.
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The Seventh National Highway/Utility Conference was held in Louisville, Kentucky, on October 28-30, 1998, at the Galt House Hotel. The objective of the conference was to focus attention on highway/utility issues. Speakers representing Federal, State, and local highway agencies, the utility industry, professional associations, the academic community, and the private sector were invited to attend the conference and participate on the program. The record of their remarks is contained within these proceedings of the conference.

Keywords: *Utilies, *Highways, *Meetings, Highway planning, Cooperation, Highway construction, Safety, Industries.

PB99-150260REB PC A07/MF A02
Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
National Air Pollutant Emission Trends Update, 1970-1997. Technical rept. 1970-97.
Pechan-Avanti Group, Durham, NC.
S. V. Nizich, and A. Pope. Dec 1998, 122p, EPA/454/C-98/007.
Contract EPA-68-D7-0067
See also PB98-153158 and PB98-159908. Sponsored by Environmental Protection Agency, Research Triangle Park, NC. Office of Air Quality Planning and Standards.
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This update is comprised of a discussion of new methodologies, a brief discussion of the greenhouse gas inventory, new toxics data, an appendix (A) listing summary tables that includes biogenic emissions, and an appendix (B) listing particulate matter and ammonia methods.

Keywords: *United States, *Air pollution monitoring, *Trends analysis, Air pollution sources, Mobile pollutant sources, Stationary pollutant sources, Air pollution sampling, Carbon monoxide, Nitrogen oxide, Sulfur dioxide, Ammonia, Ozone, Lead(Metal), Particulates, Combustion products, Greenhouse gases, Emission factors, Regional analysis, Sectoral analysis, Natural sources, Anthropogenic sources, Canada, Clean Air Act, Study estimates, Tables(Data), Graphs(Charts), *Emission inventories, Volatile organic compounds, Biogenics, NAAQS(National Ambient Air Quality Standards).

PB99-150989REB PC A08/MF A02
Tribal Environmental and Natural Resource Assistance Handbook.
Environmental Protection Agency, Washington, DC. American Indian Environmental Office.
Mar 1999, 148p.
Prepared in cooperation with Native American Fish and Wildlife Society, Broomfield, CO., Department of Agriculture, Washington, DC., Department of Commerce, Washington, DC. and Department of Defense, Washington, DC.
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The handbook is intended to provide a central location for federal sources of both technical and financial assistance available to Tribes for environmental management. This document is an effort to assist Tribal staff in their search and hopefully save them valuable time. The handbook can also assist federal, regional, State and Local government employees in becoming better informed about the sources of environmetal assistance available in order to improve customer service to the Tribes.

Keywords: *American Indians, *Government programs, *Technical assistance, *Financial assistance, *Natural resources management, *Environmental management, Federal agencies, Environmental protection, Environmental issues, Handbooks.

PB99-151219REB PC A06/MF A01
Plain English Handbook: How to Create Clear SEC Disclosure Documents.
Securities and Exchange Commission, Washington, DC. Office of Investor Education and Assistance.
Aug 1998, 88p.
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This handbook shows how you can use well-established techniques for writing in plain English to create clearer and more informative disclosure documents.

Keywords: *Writing, *English language, Disclosure documents.

PB99-151227REB PC A03/MF A01
Education of Children and Youth with Special Needs: What Do the Laws Say.
National Information Center for Children and Youth with Disabilities, Washington, DC.
Oct 1997, 28p.
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The National Information Center for Children and Youth with Disabilities (NCHCY) receives thousands of inquiries each year from families, educators, and others asking for information about federal laws regarding special education and related services, vocational education, and civil rights. The people who contact NICHY are interested in the laws and their intent, the regulations, and their state's implementation of these laws. 1991–focuses on the educational and civil rights of children and youth with disabilities through the age of 21. Thus, the primary focus of this issue is on the Individuals with Disabilities Education Act (IDEA). The IDEA is the latest amendment to the Education of the Handicapped Act (EHA), Public Law (P.L.) 94-142, which has guided to the delivery of special education and related services since its passage in 1975, Additional federal laws, including Section 504 of the Rehabilitation Act of 1973 (P.L. 93-112) and the Carl D. Perkins Vocational Education Act (P.L. 98-524).

Keywords: *Education, *Children, *Law(Jurisprudence), Students, Disabilities, Legislation, Amendments, Regulations, Court cases, *Special needs.

PB99-151235REB PC A04/MF A01
Bankruptcy Basics. Public information series.
Administrative Office of the United States Courts, Washington, DC. Bankruptcy Judges Div.
Aug 1998, 42p.
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The Bankruptcy Judges Division's Public Information series pamphlet provides basic information to debtors, creditors, court personnel, the media, and the genral public on different aspects of the federal bankruptcy with a basic explanation of the different chapters under which a bankruptcy case may be filed and to answer some of the most commonly asked questions about the bankruptcy process. This pamphlet provides general information only.

Keywords: *Bankruptcy, *Federal law, Public information, Terminology.

PB99-151243REB PC A05/MF A01
Electronic Case Files in the Federal Courts: A Preliminary Examination of Goals, Issues, and the Road Ahead. Discussion draft rept.
Administrative Office of the United States Courts, Washington, DC. Applications Management and Development Div.
Mar 1997, 66p.
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The federal courts can reduce their reliance on paper records by using new technology to file, maintain, and retrieve case file information in 'digitized' form. The transition towards electornic case file (ECF) in the federal courts is underway. The paper is intended to stimulate discussion, both inside and outside the judicial branch, and suggest possible approaches for resolving those basic questions as well as related policy issues that need to be addressed. It recommends a preliminary 'action plan' for implementing ECF, describes a hypothetical ECF system, anticipates its potential benefits and basic functional characteristics, identifies the principal issues to be addressed as courts move towards ECF, and discusses the proposed interim Technical Standards for ECF.

Keywords: *Federal courts, Telecommunications, Litigation, *ECF(Electronic case files), *Electronic case files, Electronic files.

PB99-151250REB PC A03/MF A01
Just Punishment: Public Perceptions and the Federal Sentencing Guidelines. Research bulletin.
Sentencing Commission, Washington, DC.
L. D. Maxfield, W. Martin, and C. Kitchens. 1999, 16p.
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The study identified links between the public's just punishment perceptions and elements of guideline calculations: the crime itself, relevant characteristics of the defendant circumstances surrounding the commission of the crime, specific crime features that may enhance or mitigate punishment, and the consequences of the criminal act. This study employed a 'vignette' approach for its survey design.

Keywords: *Punishment, *Public opinion, Guidelines, Surveys, Characteristics, Crimes, *Sentencing.

PB99-151268REB PC A04/MF A01
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
Sentencing Commission, Washington, DC.
M. E. Didier, K. R. Blackwell, P. J. Desio, S. D. Murray, S. L. Marley, and K. L. Murray. 28 Jan 1998, 44p.
See also TRI99-0004.
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Congress enacted, on September 14, 1994, a statutory enhancement providing additional five- and ten-year penalty increases for telemarketing fraud conduct. Congress is likely to address this area again, as indicated by a spate of related legislative initiatives directing the Commission to add various guideline enhancements for telemarketing fraud conduct. In light of these developments, a staff working group was constituted to conduct a detailed study of telemarketing fraud offenses in conjunction with the Commission's multi-year comprehensive assessment of the fraud and related guidelines.

Keywords: *Telecommunications, *Communication systems, *Fraud, *Statutes, Crime, Abuse, Telephone systems, Electronic mail, Prevention, Guidelines, Legislation, Solutions, Security, Reports, Computer networks, Congress, *Telemarketing.

PB99-151367REB PC A18/MF A04
Waterborne Commerce of the United States. Calendar Year 1997. Part 2. Waterways and Harbors Gulf Coast, Mississippi River System and Antilles.
Annual rept. 1 Jan- 31 Dec 97.
Waterborne Commerce Statistics Center, New Orleans, LA.
Dec 1998, 398p, WRSC-WCUS-97-2.
See also Part 1, PB99-147159 and Part 3, PB99-133761.
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Waterborne Commerce of the United States, WCUS, Part 2 is one of a series of publications which provide statistics on the foreign and domestic waterborne commerce moved on the United States waters. WCUS, Parts 1-4 present detailed data on the movements of vessels and commodities at the ports and harbors and on the waterways and canals of the United States, the Commonwealth of Puerto Rico, and the Virgin Islands.

Keywords: *Marine transportation, *Commerce, *Commodities, *International trade, United States, Imports, Exports, Waterways, Harbors, Terminals, Cargo, Statistical data, Tables(Data), Gulf Coast, Mississippi River, Less Antilles Islands, Puerto Rico, Virgin Islands.

PB99-151375REB PC A06/MF A01
Interagency Report on Orbital Debris, 1995.
National Science and Technology Council, Washington, DC. Committee on Transportation Research and Development.
Nov 1995, 94p.
This document contains tone-on-tone color graphs, charts and/or pictures which have been reproduced in black and white. Library of Congress catalog card no. LCCCN-95-72164. See also N95-28852. Prepared in

cooperation with Office of Science and Technology Policy, Washington, DC.
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This 995 report updates the findings and recommendations of the 1989 report and reflects the authors' progress in understanding and managing the orbital debris environment. It provides an up-to-date portrait of their measurement, modeling, and mitigation efforts; and a set of recommendations outlining specific steps they should pursue, both domestically and internationally, to minimize the potential hazard posed by orbital debris.

Keywords: *Space debris, *Low earth orbits, *Risk assessment, *Aerospace safety, Collision avoidance, Threat evaluation, Earth orbital environments, Tracking(Position), Space law, International space station, Legal aspects, International cooperation, Policies, Data management, Monitoring.

PB99-151383REB PC A05/MF A01
National Transportation Science and Technology Strategy.
National Science and Technology Council, Washington, DC. Subcommittee on Transportation Research and Development.
Apr 1999, 66p.
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The National Science and Technology Council (NSTC) Committee on Technology, Subcommittee on Transportation Research and Development (R&D), has created a National Transportation Science and Technology Strategy that builds on the earlier strategy published in 1997. Like its predecessor, the National Strategy is intended to help Congress and the Administration establish national transportation R&D priorities and coordinated research activities. The National Strategy articulates goals for transportation system safety, mobility and access, economic growth, the environmnent, and national security. It proposes the broader involvement of State, local, and tribal agencies; academic institutions; and private industry in national transportation R&D strategic planning and system assessment, private-public technology partnerships, enabling research, and transportation education and training.

Keywords: *Transportation research, *Strategic planning, *Air transportation, *Highway transportation, Demographics, Economic growth, Urban areas, Motor vehicles, Technology, Safety, Environmental impacts, National security, Human factors engineering, Education, Training, Government industry partnerships, Government policies, State government, Local government.

PB99-151391REB PC A05/MF A01
Transportation Strategic Research Plan.
National Science and Technology Council, Washington, DC. Subcommittee on Transportation Research and Development.
May 1999, 72p.
This document contains tone-on-tone color graphs, charts and/or pictures which have been reproduced in black and white. See also PB98-113657 and PB96-150438.
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Contents:
- Executive Summary;
- Introduction;
- Federal Transportation-Related Research and Development;
- Areas of Enabling Research;
- Future Direction and Priorities;
- Appendix A:
- Patnership Initiatives;
- Appendix B:
- List of Acronyms;
- and Selected Bibliography.

Keywords: *Transportation research, *Strategic planning, *United States government, Financing, Budgets, Human factors engineering, Construction materials, Computer systems, Communication networks, Information systems, Detectors, Measurement, Transportation models, Highways, Machinery, Tools, Traffic engineering.

PB99-151409REB PC A07/MF A02
Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century. A White House Roundtable Dialogue for President Clinton's Initiative on Race. Proceedings of Panel Discussion and Position Papers.
Office of Science and Technology Policy, Washington, DC.
May 1999, 106p.
Presented at Anniversary Meeting of the American Association for the Advancement of Science (150th), Philadelphia, PA., February 13, 1998. See also PB95-217048.
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The OSTP-AAAS One America panel sought to carry forward a discussion of the ideals that underlie a government-academe-industry partnership for creating a diverse scientific and technological community, and it was organized around the basic goals of the President's Initiative on Race. The discussion focused on three issues: the need to diversify the science and technology community; how to encourage minority students to choose technical careers; and how to deal with the challenges to recruitment programs in science and engineering that target minorities.

Keywords: *Human resources, *Personnel development, *Race, *Scientists, *Engineers, Economics, Socioeconomics, Ethnic groups, Education.

PB99-151433REB PC A04/MF A01
Federal Highway Administration, Bismarck, ND. North Dakota Div.
Tel8 Telecommnications Network: A Pooled Fund Study for Transportation Videoconferencing. Interim rept. Jan-Dec 98.
North Dakota State Univ., Fargo. Upper Great Plains Transportation Inst.
D. E. Benson. May 1999, 32p, FHWA/ND/SPR-0003(025).
See also PB99-128522. Sponsored by Federal Highway Administration, Bismarck, ND. North Dakota Div. and North Dakota Dept. of Transportation, Bismarck.
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The document reports the 1999 research efforts and results of a telecommunication network dedication to transportation. These efforts include a major system-wide reconfiguration of the network's telecommunication technology, and the re-establishment of the network's program director and its governing organizational structure. The research results include the programming, training, educational activities, and communication's activities developed by the network and an evaluation of the technological and organizational changes.

Keywords: *Telecommunication, *Transportation, Communication networks, Benefit cost analysis, Research, Organizational structure, TEL8, Videoconferences.

PB99-152035REB PC E04/MF E04
Reports of the Kyushu National Industrial Research Institute, No. 58, March 1997.
Government Industrial Research Inst., Kyushu, Tosu (Japan).
cMar 1997, 74p.
Text in Japanese with abstracts in English. Portions of this document are not fully legible. See also PB97-130330.
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Partial Contents:
- Composite Ion Exchangers of Redox Type for Cesium Separation - Improvement of Cesium Sorption Ability of Copper (II) - Hexacyanoferrate (II) - loaded Anion Exchange Resin Composite Beads;
- Basic Study on Dynamic Active Anenna;
- A New Homologous Series of Phenol Deravitives Exhibiting Liquid Crystalline Phase;
- The Problems of Identifications of Phillipsite and Gismondine;
- Crystal Structures and X-Ray Diffraction Patterns;
- AFM studies of amine surfactant hemimicelle structures at the mica-water interface;
- High-Temperature Strength of Melt-Infiltrated SiC-Mo (Al, Si) Composites;
- Al-Pd-Mn Icosahedral Quasicrystal Prepared by Floating Zone Melting Technique;
- Preparation and Microstructure of Graphite-encapsulated Iron Sphere.

Keywords: *Recharge projects, *Japan, Ion exchange, Cesium, Copper compounds, Antennas, Phenols, Amines, Surface active agents, Composite materials, Aluminum, Palldium, Manganese, Zone melting, Graphite, Iron, *Foreign technology, Hexacyonoferrates.

PB99-152043REB PC E13/MF E13
Bulletin of the Electrotechnical Laboratory, Vol. 60, No. 12, 1996. Special Issue: Lithium Secondary Batteries.
Electrotechnical Lab., Ibaraki (Japan).
c1996, 116p.
Text in Japanese with English abstracts. Portions of this document are not fully legible.
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Contents:
- Thermal Measurement of a Lithium Secondary Battery;
- Heat Generation Behavior of a Lithium-Ion Secondary Battery During Charge and Discharge;
- Shut-down Behavior of Separators of Batteries;
- Electrical and Thermal Behavior of a Lithium-ion Battery in an External Short Circuit;
- Behavior of Series connected Lithium-ion Batteries in Short Circuit Accident;
- Precision Coulometry of Lithium Secondary Batteries and Errors in Capacity Measurement;
- Coulogalvanometry of Lithium Ion Battery;
- Simulation of Electrical Characteristics;
- Thermal Behavior and Simulation of a Lithium Secondary Battery;
- and Joint research on Thermal Simulation.

Keywords: *Electric batteries, *Lithium batteries, Thermal measurement.

PB99-152050REB PC E13/MF E13
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 1, 1997. Special Issue: Solar Cells V.
Electrotechnical Lab., Ibaraki (Japan).
c1997, 110p.
Text in Japanese with English abstracts. Portions of this document are not fully legible.
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Contents:
- Review of Recent Progress in Solar Cell Research;
- Sub-5(microgram) Thin Film c-Si Solar Cell by Diffuse Reflective Substrate;

Surface Passivation of Thin Crystalline-Silicon Solar Cells;
Examination of the Possibility of the Defect Photovoltaic Effect;
In-situ Hydrogenated CVD a-Si:
H;
Recrystallization of Polycrystalline Silicon Films on Ceramics by Electron Beam;
Initial Buffer Layers on The Growth of InGaP on Si by MBE;
Deposition of Thin Film Silicon by Applied Bias Voltage Method;
Microspectroscopic Reflectance Measurements;
Evaluation of Minority Carrier Parameters;
and 3rd International Round Robin Measurement for the Establishment of WPVS and for the Comparison of NT series PV Samples.

Keywords: *Solar cells, Photovoltaic effect, Thin films, *Foreign technology.

PB99-152068REB PC E08/MF E08
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 2, 1997.
Electrotechnical Lab., Ibaraki (Japan).
c1997, 70p.
Text in Japanese with English abstracts. Portions of this document are not fully legible.
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Contents:
Performance Comparison between Binarization Methods by Likelihood Criteria Using Hand-written Character Database ETL1;
Conceptual Design of a 15T-Class Pulsed Conductor with Fiber-Reinforced Nb3Sn Superconductor;
Superconducting Properties of Fiber-Reinforced Superconductors Regarding Strain and Stress Tests;
Nb3Sn Thin Films and Microstructures Made by RF Magnetron Sputtering Process with a Reacted Nb3Sn Powder Target;
Abstracts of Published Papers.

Keywords: *Research projects, *Japan, Superconductors, Image processing, Fiber reinforced composites, Niobium alloys, Tin alloys, Strains, Tests, *Foreign technology.

PB99-152076REB PC E08/MF E08
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 3, 1997. Special Issue: KrF Laser.
Electrotechnical Lab., Ibaraki (Japan).
c1997, 98p.
Text in Japanese with English abstracts. Portions of this document are not fully legible.
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Contents:
Development of Main Amplifier of The 'Super ASHURA' KrF Laser;
Stokes Pulse Shortening Method by Using Mixed Gas Medium;
Forward Raman Pulse Compression Experiments by using ASHURA;
A Short Stokes Pulse Generation;
Beam Smoothing Technique for High-Power KrF Laser;
Conceptual Design of 1MJ KrF Laser System;
Observation of Laser Induced Shock-Wave by Face-on Interferometer;
Development of Time-Resolved X-ray Spectrometer;
Temperature and Density Measurement of 10ns KrF Laser-produce Plasma;
Data Processing of X-ray Crystal Spectrogram for Laser-produced Plasma;
and Automatic Control and Data Acquisition for High-power KrF Laser System.

Keywords: *Lasers, *Krypton fluoride lasers, Ultraviolet lasers, Amplifiers, Pulses, *Foreign technology.

PB99-152084REB PC E07/MF E07
Bulletin of the Electrotechnical Laboratory, Vol. 61, No.11, 1997.
Electrotechnical Lab., Ibaraki (Japan).
c1997, 48p.
Text in Japanese with English abstracts. Portions of this document are not fully legible.
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Contents:
Design of a Table-top Time-of-flight Mass Spectrometer with High Resolution;
Fabrication of Ultra-thin Nanocrystal Si Films and Their Properties;
CEMS of Rare-Earth/Fe Multilayers;
30-120MHz Range Standard Dipole Antenna Using FET Transistor;
and Abstracts of Published Papers.

Keywords: *Research projects, *Japan, *Electronics, Mass spectrometers, Silicon, Rare earth elements, Iron, Antennas, Abstracts, Field effect transistor.

PB99-152118REB PC E08/MF E08
Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
Hokkaido National Industrial Research Inst., Sapporo (Japan).
c1998, 64p.
Text in Japanese with English abstracts. Portions of this document are not fully legible.
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Contents:
Present Status and Problems of Shredder Waste Disposal;
Modern NMR Spectroscopy and X-ray Crystallography:
a different approach to study the structure and its function of a protein;
Application of 1H NMR to Quantitative Analysis - Determination of a small amount of ordinary water in heavy water and particular components in human urine;
A Mathematical Model for Fluidized Bed Combustion of Coal - On a Sub-model of CO/CO2 Product Ratio;
Pretreatment of Fermentation Feed for Lactic Acid Production;
Liquefaction of Potato Starch in Lactic Acid Solution;
Raman spectroscopic analysis on artificial methane hydrates;
Coatings of Si3N4 Fine Particles with AlN by Fluidized Bed-CVD;
and Vapor-Liquid Equilibria for the Difluoromethane (HCFC22) + Monofluoroethane (HCFC124b) System.

Keywords: *Research projects, *Solid waste disposal, *Biochemistry, *Chemical analysis, *Japan, Spectroscopy, Proteins, Lactic acid, X-ray diffraction, Heavy water, Fluidized combustion, Coal, Fermentation, Silicon nitrides, Aluminum nitrides, *Foreign technology, Difluoromethane, Monofluoromethane.

PB99-152126REB PC E08/MF E08
Reports of the Hokkaido National Industrial Research Institute, No. 69, 1997.
Hokkaido National Industrial Research Inst., Sapporo (Japan).
c1997, 70p.
Text in Japanese with portions in English. Portions of this document are not fully legible.
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Contents:
The Past, Present and Future Trends in Environmental Problems:
Toward Ecologically Conscious Society and Technology;
Characterization of Silicon Carbide-Silicon Nitride Composite Ultrafine Particles Synthesized Using a CO2 Laser by Silicon(-29) Magic Angle Spinning NMR and ESR;
Fabrication of Al/Ceramic Composites by Hot Pressing;
Separation and Purification of Lactic Acid:
Fundamental Studies on the Reverse Osmosis Down-Stream Process;
Raman Spectroscopic Analyses on the Growth Process of CO2 Hydrates;
Effects of Heating Rate on Yield of Levoglucosan in Wood Pyrolysis;
Refractive-Index Measurements of Natural Air-Hydrate Crystals in an Antarctic Ice Sheet;
and Determination of Silicon in Electrolyte Solutions by Electrothermal Atomic Absorption Spectrometry Using Platinum as a Chemical Modifier.

Keywords: *Research projects, *Japan, Pyrolysis, Environmental science, Ecology, Silicon carbides, Silicon nitrides, Composition materials, Fabrication, Lactic acid, Raman spectroscopy, Wood.

PB99-152134REB PC A04/MF A01
Virginia Dept. of Transportation, Richmond.
Assessment of Advanced Warning Signs for Flagging Operations. Final rept. Sep 98-May 99.
Virginia Transportation Research Council, Charlottesville.
S. L. Jones, and B. H. Cottrell. cMay 1999, 38p, VTRC99-R20.
See also PB98-131196. Sponsored by Virginia Dept. of Transportation, Richmond. and Federal Highway Administration, Richmond, VA. Virginia Div.
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The Virginia Department of Transportation (VDOT) and several other state departments of transportation have expressed interest in modifying the advanced warning sign for work zone flagging operations. The advanced warning sign is intended to alert drivers to the presence of flaggers and to prepare drivers to stop (if necessary) prior to reaching work zone operations. The current or existing flagger sign depicts a symbol of a worker holding a flag; the proposed sign depicts a worker holding a STOP/SLOW paddle. The purpose of this research project was to assess and compare the motoring public's understanding of the existing and proposed advanced warning signs for work zone flagging operations. The study consisted of a literature review and a survey of motorists. More than 4,500 multiple-choice surveys were mailed out to randomly selected Virginia residents. Open-ended questionnaires were also distributed to select groups to provide a comparison with the results of the multiple-choice responses. The survey results indicated that the proposed sign was for the most part understood by Virginia drivers and appeared to be effective at conveying its message.

Keywords: *Warning signs, *Traffic control, *Construction site traffic control, Traffic flow, Speed reduction, Changeable message signs, Construction sites, Highway safety, Traffic surveys, Virginia, Research project, *Flagging operations, Work zones.

PB99-152142REB PC A03/MF A01
Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
R. M. Hall, E. Page, D. Mattorano, and G. Kinnes. Jul 1998, 20p, HETA-98-0003-2698.
See also PB92-193952.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

On October 1, 1997, the National Institute for Occupational Safety and Health (NIOSH) received a request for a Health Hazard Evaluation (HHE) at the Potlach

Corporation - Minnesota Pulp and Paper Division (PCMPPD) plant in Cloquet, Minnesota. The request, from the Duluth Building and Construction Trades Council, concerned potential worker exposures during the construction of a new boiler. The primary concern was for emissions generated from three adjacent operating boilers. The reported health effects were headache and respiratory symptoms. Since April 1997, PCMPPD and company-contracted environmental consultants have sampled for more than 100 different chemical compounds at the construction site in an effort to identify the source of the worker's symptoms. However, PCMPPD and the environmental consultants did not sample for ozone. An industrial hygiene and medical evaluation was conducted on November 19-21, 1997. Sampling efforts during the evaluation were focused on potential worker exposures incurred from the nearby operating boilers and welding operations. Area air samples at the construction site were collected for ozone, chlorine, volatile organic compounds (VOCs), nitric oxide (NO), nitrogen dioxide (NO2), sulfur dioxide (SO2), and inorganic acids (hydrofluoric, hydrochloric, nitric, phosphoric, sulfuric, and hydrobromic acid).

Keywords: *Health hazard evalaution, *Boilers, *Welding, Headaches, Respiration, Construction, Industrial hygiene, Air sampling, Medical evaluation, Emissions.

PB99-152159REB PC A03/MF A01
Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
C. E. Moss, and K. Roegner. Jun 1998, 18p, HETA-97-0245-2696.
See also PB92-193952.
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The National Institute for Occupational Safety and Health (NIOSH) received a health hazard evaluation (HHE) request that was submitted jointly by the Safety Office and AFSCME Local 2910 at the Library of Congress, Washington, D.C. The request covered possible exposure to ultraviolet radiation from mercury vapor lights and electromagnetic field (EMF) exposure from both electrical vaults and anti-theft devices. EMF levels in the Readers' Registration and Genealogy rooms were below occupational guidelines but in some locations presented sufficient magnetic field strength to produce electromagnetic interference (EMI) issues.

Keywords: *Electromagentic fields, *Ultraviolet radiation, *Health hazards, *Occupational safety and health, Libraries, Vaults, Magnetic fields, Electric fields, Radiation doses, Occupational doses, Health surveys, *Library of Congress, Mercury vapor lamps, Anti-theft devices.

PB99-152167REB PC A04/MF A01
Health Hazard Evaluation Report HETA 96-0171-2692, Bureau of Alcohol, Tobacco, and Firearms, Washington, DC.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
G. M. Kinnes, and G. A. Hine. May 1998, 34p, HETA-96-0171-2692.
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In April 1996, the National Institute for Occupational Safety and Health (NIOSH) received a request for a health hazard evaluation (HHE) from the Bureau of Alcohol, Tobacco, and Firearms (ATF), in Falls Church, Virginia, regarding respiratory hazards associated with fire investigations. ATF trains a select number of special agents as fire investigators as part of the ATF arson enforcement program. These special agents work with counterparts in state and local fire departments to investigate the origin and cause of fires. ATF special agents and local fire investigators in the northern Virginia jurisdictions were concerned about the potential respiratory health effects from conducting fire scene examinations and the adequacy of their respiratory protection. In response to this request, environmental monitoring was performed during the investigation of two house fires on February 12 and 13, 1997, in metropolitan Washington, D.C., and Prince George's County, Maryland, and three staged fires on June 3, 1997, at the Fort Belvoir military base in Alexandria, Virginia. During these fire scene examinations, environmental samples were collected for total and respirable dust, metals, hydrogen cyanide, inorganic acids, aldehydes including formaldehyde, polycyclic aromatic hydrocarbons (PAHs), elemental carbon, and volatile organic compounds (VOCs).

Keywords: *Health hazard evaluation, *Fire investigators, Aldehydes, Inorganic acids, Fires, Protection, Respiration, Dust, Metals, Hydrogen cyanide, Volatile organic compounds, Bureau of Alcohol Tobacco and Firearms.

PB99-152175REB PC A03/MF A01
Health Hazard Evaluation Report HETA 96-0266-2702, Cooper Engineered Products, Bowling Green, Ohio.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
D. Mattorano, and D. Trout. Aug 1998, 24p, HETA-96-0266-2702.
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On September 13, 1996, the National Institute for Occupational Safety and Health (NIOSH) received a management request for a health hazard evaluation (HEE) at Cooper Engineered Products, in Bowling Green, Ohio. The request noted concerns about workers' exposure to a new, two-component, water-based polyurethane paint (water-based polyurethane paint with polytetrafluoroethylene and a polyfunctional aziridine cross-linker) that is applied to automotive/truck rubber seals (vehicle sealing) on the dual durometer (DD) extrusion lines. health effects described in the request included skin and upper respiratory problems. On October 16, 1996, NIOSH industrial hygienists conducted an initial site visit. Area air samples were collected on thermal desorption (TD) tube media to qualitatively identify volatile organic compounds (VOC). Bulk samples of the water-based polyurethane paint were also collected. A follow-up site visit was conducted on March 25-26, 1997, to collect additional air samples. On January 21, 1997, NIOSH medical officers conducted a site visit and questionnaire survey. In April and May 1997, skin patch testing was performed to identify employees with allergic-contact dermatitis.

Keywords: *Health hazard evaluation, *Polyurethane paint, Air sampling, Rubber seals, Exposure, Respiration, Skin irritations.

PB99-152183REB PC A03/MF A01
Geological Survey, La Crosse, WI. Upper Midwest Environmental Sciences Center.
Annual and Local Variation in Reproduction in the Red-Eared Slider 'Trachemys scripta elegans'.
Journal article.
Illinois Natural History Survey, Alton. Great Rivers Field Station.
J. K. Tucker, G. L. Paukstis, and F. J. Janzen. cApr 1999, 24p, LTRMP-99-R006.
Pub. in Jnl. of Herpetology, v32 n4 p515-526 1998.
See also PB99-140196. Prepared in cooperation with Iowa State Univ., Ames. Dept. of Zoology and Genetics. Sponsored by Geological Survey, La Crosse, WI. Upper Midwest Environmental Sciences Center.
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The authors studied variation in reproductive traits among 789 red-eared sliders (Trachemys scripta elegans) from three sites in west-central Illinois from 1994 to 1996. Maternal body size was the most important source of variation in all measures of reproduction because larger females laid larger eggs and larger clutches than smaller females. Reproductive output independent of body size was greater in 1995 than in 1994 or 1996. Clutch size and egg size varied similarly among year at each site. Overall, clutch mass in 1995 was 15.8% and 17.8% greater than clutch mass in 1994 and 1996, respectively. This variation in reproductive output was primarily due to changes in egg number rather than changes in egg size, consistent with theories of egg optimality. Turtles at one site produced relatively small but relatively more eggs per clutch than turtles from the other two sites. This pattern persisted despite varying amounts of energy devoted to reproduction from year to year. However, an egg size-clutch size trade-off could only be weakly demonstrated among nine site-year cohorts. Geographic variation was confirmed for clutch size, which decreased with decreasing latitude, but not for egg mass and plastron length.

Keywords: *Turtles, *Reproduction(Biology), *Animal behavior, Eggs, Life cycles, Surveys, Animal populations, Reprints, Red-eared sliders, Trachewys scripta elegans.

PB99-152191REB PC A04/MF A01
Health Hazard Evaluation Report HETA 96-0258-2673, Foss Manufacturing Company, Inc., Hampton, New Hampshire.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
T. Waters, and L. Piacitelli. Feb 1998, 50p, HETA-96-0258-2673.
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On March 3-5, 1997, representatives from the National Institute for Occupational Safety and Health (NIOSH) visited the Foss non-woven textile manufacturing plant in Hampton, New Hampshire, in response to a company request for a health hazard evaluation. the request was prompted by the company's concerns about potential hazards of repetitivie lifting, pushing, pulling, carrying, and other physical stressors for the manufacturing process workers. There were three objectives of this evaluation: (1) Document the presence of exposure to physical stressors associated with manual material handling (MMH) activities that are known to increase the risk of work-related musculoskeletal disorders (WRMSDs); (2) Determine the prevalance of WRMSDs associated with MMH activities of manufacturing process workers; (3) Develop recommendations for reducing the physical demands of the jobs, thereby reducing the risk of injury associated with MMH at the manufacturing facility.

Keywords: *Health hazard evalaution, *Textile manufacturing, *Physical stressors, Occupational safety and health, Material handling, Ergonomics, Musculoskeletal disorders, Injuries.

PB99-152217REB PC A03/MF A01
Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
M. Kiefer, and D. Trout. Jun 1998, 20p, HETA-98-0030-2697.
See also PB85-219954.
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ORORORORuer 24, 1997, the National Institute for Occupational Safety and Health received a union request for a health hazard evaluation (HHE) at the Pratt and Whitney Aircraft TAPC (P&W) facility in North Haven, Connecticut. The HHE request concerned reports of health problems possibly associated with exposure to metal working fluids (MWFs) in the Blohm grinding area. The reported health problems included flu-like symptoms, skin problems, and eye irritation. On March 31-April 2, 1998, 12 bulk samples of MWF were collected for microbiological and endotoxin analysis, and personal breathing zone (PZB) and area air sampling for MWFs was conducted on both the first and

second shift in the Blohm grinding area. PBZ samples were also collected from employees in a comparison area (Business Unit 264), where MWFs are not used. Area air samples for endotoxin analysis were collected in both the Blohm grind and comparison area on both shifts. A questionnaire that included questions about symptoms potentially related to MWF exposure was administered to employees in the Blohm and comparison area on all three shifts.

Keywords: *Health hazard evaluation, *Metal working fluids, *Occupational safety and health, Skin irritations, Eye irritations, Air sampling, Site visits, Industrial hygiene.

PB99-152233REB PC A04/MF A01
Health Hazard Evaluation Report HETA 95-0001-2679, Caterpillar Inc., York, Pennsylvania.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
A. Tepper, and L. M. Blade. Mar 1998, 46p, HETA-95-0001-2679.
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In October 1994, the National Institute for Occupational Safety and Health (NIOSH) received a request from the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) for a health hazard evaluation (HHE) at Caterpillar Inc., in York, Pennsylvania. The requestor noted concerns about the possible relationship between cadmium exposures in the brazing area of the oil cooler department (OCD) and sexual dysfunction among five long-term workers in the area. At the time of the HHE request, managers and newly hired workers continued production while most long-term employees were on strike. In May 1995, while the strike continued, NIOSH investigators met with a group of OCD workers at the local union hall. In May 1996, after the strike ended, NIOSH investigators visited the Caterpillar facility to review medical records and Caterpillar environmental and biological monitoring data, conduct a walk-through survey and interview employees, and perform air sampling for airborne metals and fluorides. A return visit was made in August 1996, to conduct biological monitoring for urine cadmium in current and former OCD workers.

Keywords: *Health hazard evaluation, *Brazing, *Cadmium, Exposure, Sexual dysfunction, Medical records, Air sampling, Metals, Fluorides.

PB99-152258REB PC A03/MF A01
Health Hazard Evaluation Report HETA 97-0153-2694, The Grand Experience Salon, Chicago, Illinois.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
D. Almaguer, and R. Malkin. Jun 1998, 24p, HETA-97-0153-2694.
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On March 28, 1997, the National Institute for Occupational Safety and Health (NIOSH) received a confidential employee request to evaluate employee exposures at The Grand Experience Salon, Chicago, Illinois. The requestors expressed concern that certain health effects (i.e., allergic reactions, asthma, cancer) experienced by employees of the salon may be associated with inadequate ventilation and exposures to chemical ingredients of products used in the salon. On June 11-13, 1997, NIOSH investigators conducted a site visit and collected general area air samples for total and respirable particulate during the application of artificial nails; measured temperature, relative humidity (RH), and carbon dioxide (CO2) concentrations at various location within the salon; traced the ventilation system ducting to determine the source of outside air; and conducted employee interview. Verbal recommendations were provided to the salon management at the closing conference on June 13, 1997.

Keywords: *Health hazard evaluation, *Salons, Hairdresses, Exposure, Air sampling, Site visits, Particulates, Ventilation, Interviews, Industrial hygiene, Silica.

PB99-152274REB PC A03/MF A01
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
D. J. Habes, and M. Schiefer. Mar 1998, 24p, HETA-97-0199-2680.
See also PB95-242541.
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The National Institute for Occupational Safety and Health (NIOSH) responded to a health hazard evaluaton (HHE) request from the U.S. Department of the Interior. The request pertained to cases of musculoskeletal disorders of the upper and lower extremeties and back among workers who build and maintain the back country trails of Yosemite National Park. NIOSH investigators reviewed available accident and injury records for the years 1995-97, interviewed workers, and evaluated the trail construction projects for ergonomic risk factors. The ergonomics evaluation included analyzing videotape and still photo records of workers performing their jobs, and applied forces required to maneuver rocks with a lever bar. NIOSH investigators concluded that the job tasks associated with building and maintaining hiking trails at Yosemite National Park include many ergonomic stress factors that can lead to musculoskeletal disorders of the back and upper and lower extremeties.

Keywords: *Ergonomics, *Health hazards, *Occupational safety and health, *Work capacity evaluation, National parks, Musculoskeletal disorders, Back pain, Stress(Physiology), Extremeties, Rock drilling, Biomechanics, Working conditions, Risk analysis, Health surveys, *Yosemite National Park, Trail maintenance, Sledge hammers, Overexertion, Wilderness medicine.

PB99-152282REB PC A06/MF A01
Agency for Toxic Substances and Disease Registry, Atlanta, GA.
Public Health Assessment for Agriculture Street Landfill, New Orleans, Orleans Parish, Louisiana, Region 6. CERCLIS No. LAD981056997. Final rept.
Louisiana State Office of Public Health, Baton Rouge.
2 Jun 1999, 88p.
See also PB97-964207. Sponsored by Agency for Toxic Substances and Disease Registry, Atlanta, GA.
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Agriculture Street Landfill (ASL) is a former landfill that has been developed in part for residential use. Site contaminants have been detected in soil, dust, air, and garden produce. Residents may be exposed to site contaminants through ingestion, skin contact, or breathing. The primary contaminants are metals, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds, and pesticides. The undeveloped area of the site has been classified as a public health hazard. The highest levels pf contaminants have been detected in the undeveloped area. The majority of the residential area and the Press Park Community Center have been classified as no apparent public health hazard since the levels of contaminants in the soil are generally below levels of health concern. Based on the data reviewed, it is recommended that measures be taken to limit residents' exposure to areas where soil is contaminated at levels of health concern.

Keywords: *Public health, *Risk assessment, *Health hazards, *Environmental surveys, Environmental exposure pathway, Landfills, Metals, Lead(Metal), Arsenic, Polycyclic aromatic hydrocarbons, Pesticides, Soil contamination, Dusts, Land pollution, Food chains, Ambient air quality, Louisiana, New Orleans(Louisiana), Orleans Parish(Louisiana), Volatile organic compounds.

PB99-152290REB PC A05/MF A01
Advanced Engineering Environments; Achieving the Vision. Phase 1. Final rept.
National Research Council, Washington, DC. Aeronautics and Space Engineering Board.
c1999, 64p, ISBN-0-309-06541-0.
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This report describes the benefits and feasibility of ongoing efforts to develop and apply advanced engineering environments (AEEs), which are defined in this report as particular implementations of computational and communcations systems that create integrated virtual and/or distributed environments linking researchers, technologists, designers, manufacturers, suppliers, and customers.

Keywords: *Aerospace industry, *Computer-aided manufacturing, Project management, Project planning, Virtual reality, Computer networks, Software tools, Information technology, Information management, Government/industry relations, *Advanced Engineering Environments.

PB99-152308REB PC A03/MF A01
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
National Inst. for Occupational Safety and Health, Cincinnati, CH. Div. of Surveillance, Hazard Evaluations and Field Studies.
J. C. Morley, D. Trout, and K. Hanley. Jun 1998, 24p, HETA-97-0154-2693.
See also PB93-214203.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In March 1997, the National Institute for Occupational Safety and Health (NIOSH) received a request for a Health Hazard Evaluation (HHE) from the International Brotherhood of Electric Workers (IBEW) Local 1740. The request identified mouth sores, nose bleeds, blisters in the eyes, rashes, and throat irritation as potentially being associated with the manufacturing of circuit breaker cases in the plastic department at Siemens Energy and Automation plant in Urbana, Ohio. The material of concern was identified as a bulk molding compound containing styrene and vinyl toluene-based plastic resin. This request was followed by a similar management request in May 1997. NIOSH investigators performed an initial site visit at the Siemens facility on August 20-22, 1997. During the initial site visit, employee interviews were conducted, a questionnaire was administered to plastics department employees, the manufacturing process and work practices were observed, company records were reviewed, and air samples were collected for vinyl toluene, styrene, metals, particle characterization, and volatile organic compounds. Subsequent head space analysis of heated raw process materials revealed the presence of formaldehyde. A follow-up site visit was performed on January 15-16, 1998, to collect air samples for formaldehyde vapor, formaldehyde on dust, and inhalable dust.

Keywords: *Health hazard evaluation, *Circuit breakers, *Molding compounds, Styrene, Air sampling, Formaldehyde, Dust, Skin irritation, Vinyl toluene, Volatile organic compounds, Glass fibers.

PB99-152316REB PC A04/MF A01
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
R. E. McCleery, K. F. Martinez, and D. A. Mattorano.
Aug 1998, 34p, HETA-97-0161-2706.
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On April 4, 1997, the National Institute for Occupational Safety and Health (NIOSH) received a request for a health hazard evaluation (HHE) at the Bananas. Gifts, Inc. facility in Clarkdale, Arizona. The confident request expressed concern over possible exposure to lacquer solvents, abrasive-blasting materials, and a patina solution (brown or green layer on copper as a result of oxidation). Concern was also expressed over 'homemade' heavy machinery, ventilation, and protective clothing. The employees reported symptoms of rashes, nose sores, and hyperventilation. On November 5 and 6, 1997, NIOSH conducted a site visit at the Bananas Gifts, Inc. facility. Area and short-term personal breathing zone (PBZ) air samples were collected on November 6, 1997. NIOSH investigators collected 6 PBZ and 6 area air samples for metals, 4 PBZ and 3 area air samples for 2-butoxyethanol, 2 PBZ and 2 area air samples for inorganic acids, 3 area air samples for respirable dust, and 2 area air samples for methylene chloride. During the sampling period, employees switched from operation to operation with a working duration ranging from a few minutes to 2-3 hours. The length of time at a specific operation with a working duration ranging from a few minutes to 2-3 hours. The length of time at a specific operation depends mainly upon the customer orders received for a particular item. Therefore, full-shift PBZ air samples were not collected.

Keywords: *Health hazard evaluation, *Manufacturing, *Occupational safety and health, Exposure, Solvents, Abrasive-blasting materials, Patina solution, Work practices.

PB99-152324REB PC A04/MF A01
Health Hazard Evaluation Report HETA 98-0017-2699, United States Postal Service, Mail Processing and Distribution Center, Omaha, Nebraska.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Surveillance, Hazard Evaluations and Field Studies.
D. Hewett, and G. Buono. Jul 1998, 34p, HETA-98-0017-2699.
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In October 1997, the National Institute for Occupational Safety and Health (NIOSH) received a health hazard evaluation (HHE) request from the National States Post Office Mail Processing and Distribution Center, Omaha, Nebraska. A NPMU representative requested an evaluation of worker exposure to paper dust, mold spores, and ink mist/dust in the first and second floors of the mail processing plant and the basement of a warehouse annex. In the request, the NPMU listed concerns regarding inhalation and skin exposure resulting in adult-onset cases, recurrent sinus and respiratory infections, allergy treatments for paper dust and mold, lung infections, and recurrent dermatitis. On December 9-12, 1997, NIOSH investigators performed a walkthrough survey of the worksite and met with NPMU and US Postal Service representatives to discuss health issues related to worker exposure to paper dust, mold spores, and ink dust/mist. Material safety data sheets (MSDSs) of products used in the mail processing and warehouse areas were reviewed.

Keywords: *Health hazard evaluation, *Mail processing, *Occupational safety and health, Air samling, Inhalation, Skin irritations, Respiratory, Dermatitis, Paper dust, Contaminants.

PB99-152332REB PC A08/MF A02
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
National Inst. for Occupational Safety and Health, Cincinnati, OH.
M. M. Kawamoto, E. J. Esswein, K. M. Wallingford, and K. A. Worthington. Sep 1997, 126p, HETA-96-0012-2652.
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In 1995, the Massachusetts Nurses Association (MNA) asked the National Institute for Occupational Safety and Health (NIOSH) to conduct a health hazard evaluation at Brigham and Women's Hospital (BWH), a large teaching hospital in Boston, Massachusetts, MNA, which represents BWH staff nurses, reported that many BWH nurses had developed health problems such as skin and respiratory irritation, asthma, latex allergy, and sensitivity to chemicals. the nurses were concerned that these health problems were related to poor indoor air quality (IAQ) in the Patient Tower and in the Center for Women and Newborns (CWN, a new BWH building adjacent and connected to the Patient Tower). Some of the nurses hypothesized that, around March 1993, an event (e.g., a chemical spill or leak) happended within the Patient Tower, contaminating the indoor environment.

Keywords: *Health hazard evaluation, *Hospitals, *Occupational safety and health, Skin irritations, Indoor air pollution, Interviews, Health records, Chemical sensitivity, Ventilation, Worker's compensation.

PB99-152357REB PC A06/MF A01
Health Hazard Evaluation Report HETA 96-0093-2685, Microfibres, Inc. Pawtucket, RI.
National Inst. for Occupational Safety and Health, Cincinnati, OH.
R. Washko, J. Burkhart, and C. Piacitelli. Apr 1998, 92p, HETA-96-0093-2685.
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On February 28, 1996, the National Institute for Occupational Safety and Health (NIOSH) received a request from the management of Micrifibres, Inc. to investigate the occurrence of two cases of what was initially thought to be hypersensitivity pneumonitis (HP)-a type of interstitial lung disease (ILD)-among employees as its plant in Pawtucket, Rhode Island. This request was made at the urging of a local occupational medicine physician, who had clinically evaluated the patients and suggested a connection between this lung disease and exposure to air contaminants at the plant. This plant dyes, finishes, and cuts nylon (and some polyester) continuous fiber to produce flock and also applies the nylon flock to a backing fabric to produce flock-coating upholstery fabric, some of which is screen printed, embossed, or otherwise finished. The plant employs approximately 170 individuals, many of whom work substantial overtime. Following a walkthrough inspection, NIOSH industrial hygienists conducted initial qualitative air sampling in the plant, followed by more comprehensive work area air sampling throughout the plant to characterize potential exposures to dust, bioaerosols, and gases. Bulk samples were also collected for microbial analysis.

Keywords: *Health hazard evaluation, *Textile paints, Industrial hygienes, Air sampling, Dust, Bioaerosols, Gases, Exposure, Medical evaluations.

PB99-152365REB PC A10/MF A02
Water Resources Data for New Hampshire and Vermont, Water Year 1998. Water-data rept. (Annual) 1 Oct 97-30 Sep 98.
Geological Survey, Pembroke, NH. Water Resources Div.
M. F. Coakley, R. G. Kiah, C. Keirstead, and R. O. Brown. Jun 1999, 190p, USGS/WDR/NH/VT-98/1.
See also PB98-148877.
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This paper contains discharge records for 75 gaging stations, stage records for 5 lakes, monthend contents for 2 lakes and reservoirs, water levels for 27 observation wells. Also included are data for 14 crest-stage partial-record stations. Additional water data were collected at various sites, which are not part of the systematic data-collection program and are published as miscellaneous measurements or under Supplemental National Water-Quality Assessment Data for Gaging Stations in New Hampshire and Vermont. A few pertinent stations in bordering states are also included in this report.

Keywords: *New Hampshire, *Vermont, *Surface waters, *Ground Water, *Hydrology, Hydrologic data, Discharge(Water), Gaging stations, Water quality, Flow rates, Water levels, Stage discharge relations, Lakes, River, River basins, Saint Lawrence River, Connecticut River, Hudson River, Reservoirs, Water temperature, Water chemistry, Tables(Data).

PB99-152373REB PC A04/MF A01
Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
National Inst. of Standards and Technology (BFRL), Gaithersburg, MD. Building Environment Div.
W. Vance Payne, P. A. Domanski, and J. Muller. May 1999, 46p, NISTIR-6330.
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This investigation compared the performance of R22 to the performance of propane (R290) and zeotropic mixtures of HFC's and hydrocarbons in a water-to-water heat pump. Baseline testing began with R22 and proceeded to R290, R32/290, R32/152a, and R290/600a. The use of brazed plate heat exchangers arranged in counterflow for both heating and cooling allowed glide matching using the zeotropic refrigerant mixtures. The performance of the system was characterized by air-side capacity, air-side Coefficient of Performance (COP), compressor RPM, and refrigerant conditions.

Keywords: *Heat pumps, *Hydrofluorocarbons, *Hydrocarbons, *Refrigerants, Mixtures, Zeotropes, Propane, Compressors, Heat exchangers, Coefficient of performance, Performance evaluation, Comparative evaluation, Heating, Cooling, Flammability tests, R-22, R-290.

PB99-152381REB PC A04/MF A01
Federal Highway Administration, Harrisburg, PA. Pennsylvania Div.
Evaluation of Rubber-Modified Asphaltic Concrete. Final rept. Oct 91-Sep 98.
Pennsylvania Dept. of Transportation, Harrisburg.
M. J. Lucas, and D. Brehm. Sep 1998, 38p, PA-98-010-90-63.
This document contains tone-on-tone color graphs, charts and/or pictures which have been reproduced in black and white. Sponsored by Federal Highway Administration, Harrisburg, PA. Pennsylvania Div.
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The effective disposal of waste tires has become an increasing problem that will grow if something is not done to alleviate this problem. With this concern in mind, legislation has been passed to encourage the public and private sector to find ways to reuse tires. Other States DOT's have been incorporating waste tire rubber into many different materials, primarily as a crack sealant. Some have experimented with adding ground tire rubber to asphaltic mixes in hope that it will solve the dilemma of growing waste tires and produce improved road surfaces. This report evaluated rubber-modified asphaltic concrete mix using the wet process in comparison to the Department's standard ID-2 bituminous wearing mix. The wet process pre-blends the ground rubber into the liquid asphalt and then adds the rubber-modified asphalt to the aggregate. The control mix and the rubber-modified asphalt mix were compared over a modified asphaltic mix showed enhanced signs of wear and cracking, while the standard ID-2 mix showed normal wear and minor cracking. Therefore at this time, utilizaing waste tires in rubber-modified asphalt concrete using the wet process is not recommended for use by the Department as an alternate roadway mix.

Keywords: *Elastomer modified asphalts, *Waste product utilization, *Bituminous concrete, Tires, Solid waste disposal, Sealing, Crack sealers, Asphalt concretes, Pennsylvania.

PB99-152399REB PC A03/MF A01
Use of Waste Glass as Aggregate for Pipe Backfill and Embankment Material. Final rept. Jul 92-Jul 98.
Pennsylvania Dept. of Transportation, Harrisburg.

R. Gargiulo, and C. Howrylak. Aug 1998, 26p, PA-98-008-91-072.
Also pub. as Pennsylvania Dept. of Transportation, Harrisburg rept. nos. RP-91-072 and RP-92-058. PB96-139431.
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The purpose of this final report is to evaluate the use of waste glass as a construction material for use on PennDOT projects. The two research projects involved were, 'The Use of Waste Glass as Aggregate go Pipe Backfill,' and 'Waste Glass as Embankment materials.' While clear glass can be easily recycled back into the glass maufacturing process, colored glass cannot and is usually stockpiled or shipped to landfills. PennDOT is currently researching ways in which to utilize this waste and substitute it for aggregate used in the projects.

Keywords: *Backfills, *Glass, *Waste product utilization, *Aggregates, Pipelines, Soil compacting, Pennsylvania, Highway construction.

PB99-152407REB PC A06
Pennsylvania Dept. of Transportation, Harrisburg. Bureau of Construction and Materials.
Verification of Effectiveness of Epoxy-Coated Rebars. Final draft rept.
Concorr, Inc., Ashburn, VA.
A. A. Sohanghpurwala, and W. T. Scannell. 24 Nov 1998, 90p, PA-99-0001-94-05.
Available in original stock only. See also PB98-122856. Sponsored by Pennsylvania Dept. of Transportation, Harrisburg. Bureau of Construction and Materials.
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The objectives of this project were (1) to investigate the field performance of epoxy coated reinforcing steel in select bridge decks in Pennsylvania and New York State, (2) determine if ongoing or progressive corrosion and/or a reduction in coating adhesion were occurring, with a 95-percent confidence level, in more than 3-percent of the deck area in either State, and (3) define variables associated with exposure conditions, concrete properties, and epoxy coated rebar properties which predict the presence or absence of corrosion and/or adhesion reduction.

Keywords: *Bridge decks, *Reinforcing steels, *Epoxy coatings, *Field tests, Corrosion prevention, Damage assessment, Pennsylvania, New York, Sampling, Bridge inspection.

PB99-152415REB PC A08/MF A02
Networked Computing for the 21st Century; Supplement to the President's FY 1999 Budget: Computing, Information, and Communications.
National Science and Technology Council, Washington, DC. Subcommittee on Computing, Information, and Communications Research and Development.
1999, 140p.
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Federally-funded R&D in these technologies is coordinated within the Computing, Information, and Communications (CIC) R&D programs, which are successors to the High Performance Computing and Communications (HPCC) Program. Over the past two years, these programs have redefined themselves and are in the process of reorganizing their coordinated activities into five Program Component Areas (PCAs): HECC (High End Computing and Computation); LSN (Large Scale Networking, including the Next Generation Internet Initiative); HCS (High Confidence Systems); HuCS (Human Centered Systems); ETHR (Education, Training, and Human Resources); plus the Federal Information Services and Applications Council (FISAC). This document describes the HECC and LSN FY 1998 anticipated accomplishments and FY 1999 plans in substantial detail I. It also includes descriptions of some representative HCS, HuCS, and ETHER activities and plans, primarily focusing on work by organizations that have been in the CIC programs.

Keywords: *Internet, *World Wide Web, *Computer networks, *Research and development, *Federal programs, Federal government, Research projects, High performance computing, Computer programming, Computer communications, Information management, Large scale integration, Human computer interface, Computer assisted instruction, Knowledge based systems, Distributed computer systems, High confidence systems.

PB99-152431REB PC A08/MF A02
Report to the President on the Use of Technology to Strengthen K-12 Education in the United States.
President's Committee of Advisors on Science and Technology, Washington, DC. Panel on Educational Technology.
Mar 1997, 142p.
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The Panel on Educational Technology was organized in April 1995 under the auspices of the President's Committee of Advisors on Science and Technology (PCAST) to provide independent advice to the President on matters related to the application of various technologies (and in particular, interactive computer- and network-based technologies) to K-12 education in the United States. Its findings and recommendations are based on a (non-exchaustive) review of the research literature and on written submissions and private White House briefings from a number of academic and industrial researchers, practicing educators, software developers, governmental agencies, and professional and industry organizations involved in various ways with the application of technology to education.

Keywords: *Technology, *Education, United States, Hardware, Infrastructure, Software, Teachers, Economics, Research, Evaluation, *K-12 education.

PB99-152449REB PC A05/MF A01
Program Guide to Federally Funded Environment and Natural Resources R and D.
National Science and Technology Council, Washington, DC. Committee on Environment and Natural Resources.
Jun 1996, 60p.
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This Program Guide is meant to provide the reader with an understanding of the scope of federally funded environment and natural resources research. It describes the general competitive process of merit review and evaluation for federally funded R&D, and the types of environment and natural resources research that are supported by federal agencies. It also includes potential opportunities for funding and provides individual contacts in the agencies for additional information.

Keywords: *Natural resources management, *Federal agencies, *Research and development, *Research management, *Funding, *Guides, Pollution control, Pollution monitoring, Environment monitoring, Pollution abatement, Environment management, Disasters, Climate change, Program management, Program administration, Financial assistance, Education.

PB99-152456REB PC A05/MF A01
Ground-Water Flow Paths and Traveltime to Three Small Embayments within the Peconic Estuary, Eastern Suffolk County, New York. Water-resources investigations.
Geological Survey, Coram, NY. Water Resources Div.
C. E. Schubert. 1999, 54p, USGS/WRI-98-4181.
Prepared in cooperation with Suffolk County Dept. of Health Services, Hauppauge, NY. and Peconic Estuary Program, Long Island, NY.
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The report describes the simulated distribution of ground-water levels and flow rates, and presents the calculated flow paths and traveltime of ground water, along a vertical section through the uplands of each of the three embayments. The report also (1) describes the hydrogeology of the local study areas, including the geologic framework, hydraulic properties of water-bearing units, and hydrologic system, which includes the hydrologic boundaries (precipitation and recharge, ground-water discharge, and freshwater/saltwater interface) and directions of ground-water flow; and (2) presents the ground-water flow paths and travel-time to the three embayments as indicated by the particle-tracking analysis.

Keywords: *Groundwater movement, *Flow paths, *Travel time, Base flow, Boundary conditions, Water table, Water levels, Groundwater recharge, Precipitation(Meteorology), Saline water-freshwater interfaces, Bays, Hydraulic properties, Hydrogeology, Estuaries, Hydrologic models, Particle tracks, *Peconic Estuary, Suffolk County(New York).

PB99-152464REB PC A03/MF A01
Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998. Water-resources investigations.
Geological Survey, Montgomery, AL. Water Resources Div.
A. K. McPherson, and W. S. Mooty. 1999, 28p.
Prepared in cooperation with City of Huntsville, AL.
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This report presents the results of a synoptic survey of septic indicators in streams and springs on Monte Sano Mountain. Water samples were collected at 18 locations during high baseflow conditions in a synoptic sampling event during January 29-31, 1998. The samples were analyzed for fecal bacteria, including fecal-coliform bacteria and the more human-specific bacteria. E. coli, as well as for chemical compounds that are indicative of septic effluent including caffiene, detergents, and nutrients.

Keywords: *Environmental surveys, *Water pollution sources, *Monte Saro Mountain, *Streams, *Springs(Water), Bacteria, Feces, Escherichia coli, Nitrites, Nitrates, Chlorides, Nutrients, Detergents, Caffeine, Ground water, Base flow, Water pollution sampling, Septic tanks, Effluents, Land use, Madison County(Alabama).

PB99-152530REB PC A17/MF A03
Yellow Book: Guide to Environmental Enforcement and Compliance at Federal Facilities.
Environmental Protection Agency, Washington, DC. Office of Enforcement and Compliance Assurance.
Feb 1999, 362p, EPA/315/B-98/011.
See also PB97-131890.
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The Yellow Book's primary purpose is to provide individuals with Federal facility environmental responsibilities with an informational tool to help comply with environmental requirements and to clearly explain the compliance and enforcement processes used by EPA and States at Federal facilities. Topics covered in the Yellow Book include: Identifying Federal Facilities and Tracking Federal Facility Compliance; Environmental Statutes and Executive Orders; Crosscutting Environmental Issues; Monitoring Federal Facility Compliance; Enforcement Response to Federal Facility Violations; Compliance Assistance, Training, and Outreach; and EPA Offices With Major Federal Facility Responsibilities.

Keywords: *Environmental law, *Regulatory requirements, *Standards compliance, *Pollution regulations,

Federal agencies, Statutes, Executive orders, Reporting requirements, Record keeping, Inspection, Violations, Responsibility, Monitoring, Environmental issues, *Federal facilities, Yellow book.

PB99-152613REB PC A05/MF A01
Reclaimed Manufacturer Asphalt Roofing Shingles in Asphalt Mixtures. Final research rept.
Pennsylvania Dept. of Transportation, Harrisburg. Engineering and Information Technology Div.
A. B. Reed. 23 Apr 1999, 64p, PA-99-005-91-77.
Also pub. as Pennsylvania Dept. of Transportation, Harrisburg. Engineering and Information Technology Div. rept. no. REPT-91-77. This document contains tone-on-tone or color graphs, charts and/or pictures which have been reproduced in black and white.
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The purpose of this project was a pave a test section using hot mix asphalt with roofing shingle peices in the wearing and binder courses and to evaluate of the test project near Allentown plus two other test projects in 1998 provide evidence of very good pavement performance. The bituminous concrete mix was modified with shredded shingles with a maximum size of 1/2 inch which added 1% of the asphalt content. The Department issued a statewide Provisional Specification titled 'Reclaimed Manufacturer Asphalt Roofing Shingles in Plant-Mixed Bituminous Concrete Courses' on March 15, 1999. New manufacturer asphalt roofing shingle scrap including tab punch-outs can be successfully incorporated in bituminous concrete pavements if the shingles are shredded to 100% passing the 3/4 inch sieve. To fully take advantage of the potential to replace a portion of the asphalt and therefore, reduce mix costs, shingles should be shredded to 100% passing minus 1/2 inch sieve.

Keywords: *Roofing, *Recycling, *Asphalt pavements, Bituminous concretes, Erie County(Pennsylvania), Asphalt shingles.

PB99-152621REB PC A14
Forest Road Effects on Flood Flows in the Deschutes River Basin, Washington. Technical rept.
Washington Univ., Seattle. Dept. of Civil Engineering, Environmental Engineering and Science.
J. La Marche, and D. P. Lettenmaier. Nov 1998, 294p, WATER RESOURCES SER/TR-158.
Available in original stock only. See also PB99-110223.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

To assess connectivity of the road drainage and stream network, the locations of 2171 forest road culverts were identified during summer, 1997 in the extensively logged 150 sq km Deschutes River Basin, WA. Road characteristics, including cutslope height, culvert connectivities to the natural stream network, and hillslope position were identified for 140 culvert locations with 38 road segments. A logistic regression model based on topographic and vegetation attributes at these locations indicated that hillslope curvature and distance to the natural stream could be used to predict connectivity resulting from gullies below culverts extending to the stream channel. The model was applied to culverts classified in a previous study in Hard and Ware Creeks, two headwater subcatchments in the Deschutes Basin, and was found to accurately predict channel connectivity below 81 percent of the ditch relief culverts. The algorithm was then used to predict connectivity for all ditch relief culverts within the Deschutes Basin. The Distributed Hydrology-Soil-Vegetation Model (DHVM) was used to evaluate road effects on peak flows, using the field data and algorithm predictions of culvert connectivity to the natural channel. The influence of topographic slope, road connectivity, vegetation, and road location on peak flows were investigated by comparing simulated discharge in nine sub-basins (2.2 to 21 sq km in area), as well as the Deschutes basin outlet.

Keywords: *Deschutes River, *Flood flow, *Deforestation, Soil-water-plant relationships, Rainfall-runoff relationships, Precipitation(Meteorology), Evapotranspiration, Subsurface flow, Peak flow, Culverts, Stream gages, Forest watersheds, Harvesting, Lumbering, Vegetation, Algorithms, North Central Region(Oregon).

PB99-152647REB PC A03/MF A01
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management. Forest Service general technical rept.
Forest Service, Portland, OR. Pacific Northwest Research Station.
D. L. Schmoldt, D. L. Peterson, R. E. Keane, D. R. Weise, D. V. Sandberg, J. M. Lenihan, and D. McKenzie. May 1999, 14p, FSGTR-PNW-455.
See also PB96-158357.
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A team of fire scientists and resource managers convened 17-19 April 1996 in Seattle, Washington, to assess the effects of fire disturbance on ecosystems. Objectives of this workshop were to develop scientific recommendations for future fire research and management activities. These recommendations included a series of numerically ranked scientific and managerial questions and responses focusing on (1) links among fire effects, fuels, and climate; (2) fire as a large-scale disturbance; (3) fire-effects modeling structures; and (4) managerial concerns, applications, and decision support. At the present time, understanding of fire effects and the ability to extrapolate fire-effects knowledge to large spatial scales are limited, because most data have been collected at small spatial scales for specific applications. The priority issues and approaches described in this report provide a template for fire science and fire management programs in the next decade and beyond.

Keywords: *Forest fires, *Ecosystems, *Environmental effects, *Damage assessment, Forest ecology, Fuel consumption, Forest management, Fire prevention, Decision making, Natural resources management, Mathematical models, Meetings, *Analytic hierarchy process.

PB99-152654REB PC A21/MF A04
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island. Water-data rept. (Annual) 1 Oct 97-30 Sep 98.
Geological Survey, Troy, NY. Water Resources Div.
G. K. Butch, P. M. Murray, R. Lumia, and J. F. Weigel. 1999, 456p, USGS/WDR/NY-98/1.
See also rept. for 1997, PB98-154602.
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This volume contains records for water discharge at 127 gaging stations; stage only at 10 gaging stations; stage and contents at 4 gaging stations, and 18 other lakes and reservoirs; water quality at 32 gaging stations; and water levels at 4 observation wells. Also included are data for 36 crest-stage partial-record stations. Additional water data were collected at various sites not involved in the systematic data-collection program, and are published as miscellaneous measurements and analyses.

Keywords: *New York, *Surface waters, *Ground Water, *Hydrology, Hydrologic data, Discharge(Water), Gaging stations, Water quality, Flow rates, Water levels, Stage discharge relations, Great Lakes, Lake Ontario, Rivers, River basins, Hudson River, Delaware River, Passaic River, Reservoirs, Coastal areas, North Atlantic Ocean, Water temperature, Water chemistry, Tables(Data), *Eastern Region(New York).

PB99-152662REB PC A25/MF A04
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins. Water-data rept. (Annual) 1 Oct 97-30 Sep 98.
Geological Survey, Austin, TX. Water Resources Div.
S. C. Gandara, W. J. Gibbons, F. L. Andrews, and D. L. Barbie. Apr 1999, 554p, USGS/WDR/TX-98/1.
See also PB98-140825 and PB99-140790.
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Volume 1 contains records for water discharge at 112 gaging stations; stage only at 5 gaging stations; stage and contents at 33 lakes and reservoirs; water quality at 65 gaging stations; and data for 12 partial-record stations comprised of 7 flood-hydrograph, 2 low-flow, and 3 crest-stage stations. Also included are lists of discontinued surface-water discharge or stage-only stations and discontinued surface-water-quality stations. Additional water data were collected at various sites, not part of the systematic data-collection program, and are published as miscellaneous measurements.

Keywords: *Texas, *Surface waters, *Hydrology, Hydrologic data, Discharge(Water), Gaging stations, Water quality, Flow rates, Water levels, Stage discharge relations, Lakes, Rivers, River basins, Arkansas River, Red River, Neches River, Sabine River, Trinity River, Coastal areas, Bayous, Mexico Gulf, Reservoirs, Water temperature, Water chemistry, Tables(Data), *Northeastern Region(Texas).

PB99-152670REB PC A16/MF A03
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins. Water-data rept. (Annual) 1 Oct 97-30 Sep 98.
Geological Survey, Austin, TX. Water Resources Div.
S. C. Gandara, W. J. Gibbons, F. L. Andrews, and D. L. Barbie. Apr 1999, 344p, USGS/WDR/TX-98/2.
See also PB98-140841 and PB99-140790.
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Volume 2 contains records for water discharge at 74 gaging stations; stage only at 9 gaging stations; stage and contents at 21 lakes and reservoirs; water quality at 32 gaging stations; and data for 73 partial-record stations comprised of 43 flood-hydrograph, 9 low-flow, and 16 crest-stage, and 5 miscellaneous stations. Also included are lists of discontinued surface-water discharge or state-only stations and discontinued surface-water-quality stations. Additional water data were collected at various sites,not part of the systematic data-collection program, and are published as miscellaneous measurements.

Keywords: *Texas, *Surface waters, *Hydrology, Hydrologic data, Discharge(Water), Gaging stations, Water quality, Flow rates, Water levels, Stage discharge relations, Lakes, Rivers, River basins, San Jacinto River, Brazos River, San Bernard River, Coastal areas, Mexico Gulf, Bayous, Reservoirs, Water temperature, Water chemistry, Tables(Data), *Central Region(Texas).

PB99-152688REB PC A23/MF A04
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins. Water-data rept. (Annual) 1 Oct 97-30 Sep 98.
Geological Survey, Austin, TX. Water Resources Div.
S. C. Gandara, W. J. Gibbons, F. L. Andrews, and D. L. Barbie. Apr 1999, 520p, USGS/WDR/TX-98/3.
See also report for 1997, PB98-140817.
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Volume 3 contains records for water discharge at 126 gaging stations; stage only at 3 gaging stations; stage and contents at 15 lakes and reservoirs; water quality at 62 gaging stations; and data for 35 partial-record stations comprised of 8 flood-hydrograph, 14 low-flow,

and 18 crest-stage, and 5 miscellaneous stations. Also included are lists of discontinued surface-water discharge or stage-only stations and discontinued surface-water-quality stations. Additional water data were collected at various sites, not part of the systematic data-collection program, and are published as miscellaneous measurements.

Keywords: *Texas, *Surface waters, *Hydrology, Hydrologic data, Discharge(Water), Gaging stations, Water quality, Flow rates, Water levels, Stage discharge relations, Lakes, Rivers, River basins, Colorado River, Lavaca River, Guadalupe River, Neuces River, Rio Grande River, Bayous, Coastal areas, Mexico Gulf, Reservoirs, Water temperature, Water chemistry, Tables(Data), *Southwestern Region(Texas).

PB99-152696REB PC A06/MF A01
Systems Integration for Manufacturing Applications, 1998 Annual Report.
National Inst. of Standards and Technology (MEL), Gaithersburg, MD. Manufacturing Systems Integration Div.
J. E. Fowler. Apr 1999, 96p, NISTIR-6339.
See also PB94-213758 and PB97-184113.
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The Systems Integration for Manufacturing Applications (SIMA) Program is an intramural effort being undertaken at the National Institute of Standards and technology (NIST) to support the application of information technologies to the manufacturing domain. Initiated in 1994, the Program works with industry to develop technology solutions enabling integration of the systems used in the engineering and manufacturing of various kinds of products. The purpose of this document is to report on two fiscal years of the Program's technical activities; 1997 and 1998 (FY97-FY98). The intended audience for this document includes private sector organizations and federal agencies collaborating with NIST, other agencies participating in the federal Computing, Information, and Communications (CIC) effort, and the general public. This report is available via the SIMA web page (http://www.nist.gov/sima/) or by electronic mail request to the SIMA Program Office secretary. This report is comprised of three major sections: the SIMA Overview, the Project Accomplishments, and the Appendices. The SIMA Overview section provides a high-level description of the Program's goals, technical efforts, results, and progress. The Project Accomplishments section provides individual descriptions for each of the projects funded by SIMA in FY97 and FY98. Each project description includes a summary of the project's technical accomplishments along with a list of the project's collaborators. The Appendices to the report include a description of the organization of the Program (Appendix A), tables summarizng all collaborators enumerated in each of the project descriptions (Appendix B), a list of publications completed by the projects (Appendix C), and a list of products available from the projects (Appendix D).

Keywords: *Computer aided design, *Systems integration, *Computer aided manufacturing, Requirements, Computer software, Standards, Information exchange, Interfaces, Product development.

PB99-152712REB PC A04/MF A01
Implementing a Standards-Based Distributed Measurement and Control Application on the Internet.
National Inst. of Standards and Technology (MEL), Gaithersburg, MD. Sensor Integration Group.
R. D. Schneeman. Jun 1999, 46p, NISTIR-6338.
See also PB99-134355.
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The distributed measurement and control (DMC) industry is migrating away from proprietary hardware and software platforms in favor of open and standardized approaches. This paper describes a framework for standarized DMC integration and a demonsration implementation developed at the National Institute of Standards and Technology (NIST). The framework details three key areas where standards will play critical roles in next generation DMC, development, including (1) standardized transducer interfacing, (2) open network communications, (3) distributed control applications. The demonstration implementation merges defacto networking standards from the Internet community with newly emerging smart transducer interface standards from the Institute of Electrical and Electronics Engineers (IHEE). Throughout the paper, design and implementation information using state-of-the-art hardware and software technologies for DMC deployment is described in terms of a real world Internet-based application environment.

Keywords: *High level programming, *Object-oriented programming, *Standardization, *Internet, Software engineering, Computer networks, Transducers, Implementation, Platforms, Computer gateways, Interfaces, *Distributed measurement and control, *Distributed control, Java programming language, US NIST.

PB99-152720REB PC A09/MF A02
New England Transportation Consortium.
Full-Scale Crash Evaluation of the NETC 4-Bar Sidewalk-Mounted Steel Bridge Railing. Final rept. Sep 96-Dec 99.
Southwest Research Inst., San Antonio, TX.
C. E. Kimball, and J. B. Mayer. Mar 1999, 172p, SRI-18-8518, NETCR-14.
Contract DTFH61-96-C-00088
See also PB99-137515, PB99-137523 and PB99-137531. Sponsored by New England Transportation Consortium. and Federal Highway Administration, Washington, DC.
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This report presents the results of three (3) NCHRP Report 350, Test Level 4 (TL-4) crash tests conducted on a sidewalk-mounted steel bridge railing designed by the New England Transportation Consortium (NETC). The test vehicles included an 820-kg small car, a 2000-kg pickup truck, and an 8000-kg single-unit van truck. Barrier performance was determined to be acceptable for the Test Level 4 (TL-4) Longitudinal Barrier category outlined in NCHRP Report 350.

Keywords: *Impact tests, *Bridge parapets, Pickup trucks, Automobiles, Trucks, New England, Highway safety, Guardrails.

PB99-152761REB PC A07/MF A02
Department of Transportation, Washington, DC. Technology Sharing Program.
Intermodal Cargo Transportation: Industry Best Security Practices.
John A. Volpe National Transportation Systems Center, Cambridge, MA. Research and Special Programs Administration.
May 1999, 116p, DOT-T-99-19.
See also PB80-177298. Sponsored by Department of Transportation, Washington, DC. Technology Sharing Program.
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The report provides the results of research, interviews and on-site evaluations conducted to identify issues related to security of cargo terminals to theft, smuggling, and other illegal activity. The report also provides industry best security practices for eliminating, mitigating, and controlling identified concerns within the security framework of cargo transportation. In keeping with the transportation infrastructure assurance philosophy, the report is not organized by mode (truck, rail, maritime, and pipeline), but rather provides and integrated discussion of all modes using cargo terminals with a special focus on intermodalism.

Keywords: *Intermodal transportation systems, *Terminal facilities, *Transfer facilities, *Area security, Theft, Smuggling, Cargo transportation, Freight transportation, Railroads, Rail transportation, Pipelines, Trucks, Highway transportation, Water transportation.

PB99-152779REB PC A04/MF A01
Defense Advanced Research Projects Agency, Arlington, VA.
Triangulation-Based L1-Fitting of Terrain Surfaces.
National Inst. of Standards and Technology (ITL), Gaithersburg, MD. Mathematical and Computational Sciences Div.
J. Bernal, and C. Witzgall. Jun 1999, 36p, NISTIR-6346, DARPA/TEC MIPR-97-5039.
Sponsored by Defense Advanced Research Projects Agency, Arlington, VA.
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Given a planar triangulation, the goal is to select elevations at its vertices so that resulting piecewise-linear triangulated surface approximates specified elevations using the L(sub 1)-norm as the primary measure-of-fit. Several suboptimal algorithms relating to that problem have been devised and implemented, and are described here, as part of TIN prototype software for terrain modeling in the context of distributed simulation as well as elevation data editing. L(sub 1)-approximation acts as a median filter and thus provides advantages for 'bare earth' representation. For added flexibility, a 'sign-oriented scaling' scheme has been developed, which generalizes standard norm-based measures-of-fit. L(sub 1)-approximation is either tackled directly or by iterating suitably weighted L(sub 2)-approximations. Numerical experiments are reported.

Keywords: *Terrain models, *Triangulation, *Surfaces, Vertices, Contours, Elevation, Linear programming, Mathematical filters, Mathematical models, Algorithms, Distributed simulation, TIN(Triangulation Irregular Networks).

PB99-152795REB PC A04/MF A01
Bibliography of Surface-Mine Reclamation Research: 1976-1993. Forest Service general technical rept.
Northeastern Forest Experiment Station, Radnor, PA.
J. T. Crews. Jun 1999, 34p, FSGTR-NE-262, NEFES/99-5.
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The report contains citations for 177 articles and publications that describe research on or related to the reclamation of surface-mined lands conducted from 1976 through 1993 by scientists with the Northeastern Research Station and cooperating organizations. A subject index is included.

Keywords: *Surface mining, *Land reclamation, *Research projects, *Bibliographies, Coal mines, Spoil, Strip mining, Mine wastes, Acid mine drainage, Revegetation, Water reclamation, Environmental impacts, Ecosystems, Hydrology, Water quality, Surface waters, Ground water, Soil erosion, Forests, Biological communities.

PB99-152803REB PC A05/MF A01
ROMI-RIP 2.0 User's Guide: a ROugh Mill RIP-First Simulator. Forest Service general technical rept.
Northeastern Forest Experiment Station, Radnor, PA.
R. E. Thomas. May 1999, 72p, FSGTR-NE-259, NEFES/99-4.
See also PB95-240982, PB95-262663 and PB97-143994.
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The ROugh Mill RIP-first simulator (ROMI-RIP Version 2.0) is a computer software package for IBM-compatible personal computers that simulates current industrial practices for rip-first lumber processing. This guide sows the user how to set up and examine the results of rip-first simulations of current or proposed mill practices. ROMI-RIP accepts cutting bills with as many as 600 combined solid and/or panel part sizes. Plots of

processed boards are easily viewed or printed, as are detailed summaries of processing data (number of rips and crosscuts) and yields for each grade.

Keywords: *Lumber, *Computerized simulation, *User manuals(Computer programs), Ripping, Cutting, Sawmills, Computer software, Installing, Editing, Data files, Operating systems(Computers), Output, Rough-Mill practices, Gang-ripping lumber, ROMI-RIP computer software.

PB99-152829REB PC A05/MF A01
Coordinating Research Council, Inc., Atlanta, GA.
Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models. Final rept.
California Inst. of Tech., Pasadena.
J. H. Seinfeld, and R. C. Flagan. 7 Jun 1999, 60p, CRC-A-18B.
See also PB99-128738. Sponsored by Coordinating Research Council, Inc., Atlanta, GA. and National Renewable Energy Lab., Golden, CO.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

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and Representation of Secondary Organic Aerosol Formation in Atmospheric Models.

Keywords: *Organic compounds, *Aerosols, *Air pollution sampling, *Atmosphere models, *Chemical reactivity, Hydrocarbons, Smog, Atmospheric chemistry, Chemical reaction kinetics, Particulates, Gases, Oxidatin, Urban areas, Semivolatile organic compounds, Biogenic emissions.

PB99-152837REB PC A04/MF A01
U.S. Pacific Marine Mammal Stock Assessments: 1998. Technical memo.
National Marine Fisheries Service, La Jolla, CA. Southwest Fisheries Science Center.
J. Barlow, P. S. Hill, K. A. Forney, and D. P. DeMaster. Dec 1998, 50p, NOAA-TM-NMFS-SWFSC-258.
See also report for 1996, PB98-137557.
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The National Marine Fisheries Services (NMFS) is required to publish Stock Assessment Reports for all stocks of marine mammals within U.S. waters, to review new information every year for strategic stocks and every 3 years for non-strategic stock, and to update the stock assessment reports when significant new information becomes available. This report presents an update of information presented in the previous Stock Assessment Reports for the Pacific Region (barlow et al. 1997), including the U.S. EEZ waters adjacent to Washington, Oregon, California, and Hawaii. Marine mammal stocks in this region include those studied by the Southwest Fisheries Science Center (La Jolla, California) and the National Marine Mammal Laboratory (Seattle, Washington) and individual reports were revised separately by personnel at those two NMFS laboratories.

Keywords: *Marine mammals, *Pacific Ocean, *Populations, *United States, Biological surveys, Seals(Mammals), Porpoises, Whales, Cetacea, Reproduction(Biology), Marine biology, Mortality, California, Oregon, Washington States, Hawaii, Harbor seals, Phoca vitulina richardsi, Pinne peds, Stock assessment.

PB99-152845REB PC A08/MF A02
Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997. Forest Service resource bulletin.
Forest Service, Portland, OR. Pacific Northwest Research Station.
D. D. Warren. Apr 1999, 146p, FSRB-PNW-230.
See also PB99-123440.
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This document provides current information on lumber and plywood production and prices; employment in the forest industries; international trade in logs, lumber, and plywood; volume and average prices of stumpage sold by public agencies; and other related items.

Keywords: *Wood products, *Forest industry, *Economic development, Lumber, International trade, Marketing, Imports, Exports, Plywood, Volume, Industries, Employment, Tables(Data), Agricultural economics, Prices, Sales, Production, Softwoods, Wooden logs, *Northwest Region(United States).

PB99-152860REB PC A04/MF A01
Maryland Public Service Commission, Baltimore.
Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields. Rept. for Nov 95-Aug 98.
Maryland Power Plant Research Program, Annapolis.
S. S. Patty. Dec 1998, 44p, PPSE-T-42.
See also PB96-181201. Sponsored by Maryland Public Service Commission, Baltimore.
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This report is the most recent of a continuing series produced by the Power Plant Research Progam reviewing recently published research on health effects associated with exposure to power frequency electric and magnetic fields (EMF). This report focuses on epidemiology and mechanisms that may identify how EMF could cause adverse health effects. The purpose of these reports is to provide the Maryland Public Service Commission with the latest information regarding the human health effects of exposure to EMF as part of its on-going assessment of the need for regulations to ensure the safety of Maryland citizens.

Keywords: *Electromagnetic fields, *Biological radiation effects, *Health effects, *Risk assessment, *Maryland, Electric fields, Magnetic fields, Frequencies, Power transmission lines, Public health, Humans, Animals, Epidemiology, Radiation doses, Genetic effects, Exposure, Reproduction(Biology), Nervous system, Physiology, Behavior, Etiogy, Malignant neoplasms, Carcinogenesis, Cell damage, Power Plant Research Program.

PB99-152878REB PC A10/MF A02
NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
National Toxicology Program, Research Triangle Park, NC.
Apr 1999, 190p, NTP-TR-483, NIH/PUB-99-3973.
See also PB91-191544.
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Pentachlorophenol has been used as an herbicide, algicide, defoliant, wood preservative, germicide, fungicide, and molluscicide. Pentachlorphenol was nominated by the National Cancer Institute for carcinogenicity testing based on its widespread use as a wood preservative, potential for entering the environment (pentachlorophenol residues have been found worldwide in soil, water, and air samples; in food products; and in human and animal tissues and body fluids), and likelihood of bioaccumulation in the environment (pentachlorphenol is persistent in soil, having a half-life of up to 5 years). Technicl Report No. 349 contains the results of the 2-year studies of pentachlorphenol performed by the NTP with B6C3F1 mice.

Keywords: *Toxicology, *Carcinogenesis, Rats, Feed, Ingestion, Laboratory animals, *Pentachlorophenol, CAS No. 87-86-5.

PB99-152886REB PC A10/MF A02
NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
National Toxicology Program, Research Triangle Park, NC.
Apr 1999, 176p, NTP-TR-488, NIH/PUB-99-3978.
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Electric and magnetic fields are associated with the production, transmission, and use of electricity; thus, the potential for human exposure is high. These electric and magnetic fields are predominantly of low frequency (60 Hz in the United States and 50 Hz in Europe) and generally of low intensity. Epidemiology studies have suggested a potential for increased breast cancer, brain cancer, and leukemia rates with increasing magnetic field exposure. However, these results are controversial and a National Research Council found no compelling evidence for an EMF effect on cancer. Because of the controversy and given the widespread exposure to low-intensity, 60-Hz magnetic fields in industrialized societies, standard toxicology studies and long-term carcinogenesis studies were conducted using traditional rodent models. Male and female F344/N rats and B6C3F1 mice were exposed to 60-Hz magnetic fields by whole-body exposure for 2 years.

Keywords: *Toxicology, *Carcinogenesis, *Magnetic fields, Lesions, Low-intensity, Rats, Mice, Laboratory animals, Whole-body, Whole-body exposures.

PB99-152902REB PC A03/MF A01
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe. Forest Service research paper.
Forest Service, Portland, OR. Pacific Northwest Research Station.
C. G. Parks, D. A. Conklin, L. Bednar, and H. Maffei. May 1999, 20p, FSRP-PNW-515.
See also PB97-199939.
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Ponderosa pine (Pinus ponderosa Dougl. ex Laws.) killed as part of a forest management project to reduce dwarf mistletoe (Arcuthobium sp.) in the Gila National Forest, New Mexico, were evaluated for wildlife value. One hundred and two dwarf mistletoe-infected trees were killed by basal burning, basil girdling or by a combination of both burning and girdling. Trees began to fall within 2 years. Most killed trees (96 percent) served as forage substrate for woodpeckers. Twenty percent of the trees contained woodpecker nest cavities 7 or 9 years after treatment. Larger diameter trees of all treatments contained more cavities and stood longer than smaller diamter trees. The probability of cavity presence was best predicted by regression that included diameter and decay class. Standing life of the snag was not a significant predictor of cavity presence. The use of predictive models for analyzing the utility of snag-creation treatments is discussed.

Keywords: *Forest fires, *Birds, *Snags, *Natural resources management, *Land management, Wildlife management, Forest trees, Fire damage, Habitats, Pine trees, Nesting(Anmials), Cavities, New Mexico, *Girdling.

PB99-152910REB PC A05/MF A01
Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment. Forest Service general technical rept.
Forest Service, Portland, OR. Pacific Northwest Research Station.
A. L. Horne, R. W. Haynes, and T. M. Quigley. Apr 1999, 52p, FSGTR-PNW-453.
See also PB97-133144.
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Measures of socioeconomic resiliency were developed for the 100 countries studied in the Interior Columbia Basin Ecosystem Project. These measures can be used for understanding the extent to which changes in policies for management of Federal lands may affect socioeconomic systems coincident with those lands. The authors found that most of the basin's residents (67 percent) live in countries with a high degree of socioeconomic resiliency; however, these countries represent only 20 percent of the land base. Whereas 68 percent of the basin is categorized as having low socioeconomic resiliency, only 18 percent of the people live in these areas. These findings allow land managers to better gauge the impacts of land management actions and to focus social and economic mitigation strategies on places of greatest need.

Keywords: *Socioeconomic conditions, *Columbia River Basin, *Ecosystems, *Natural resources management, Rangelands, Land management, Environment management, Resource exploitation, Resource assessment, Man environment interactions, Land use, Economic impact, Social impact, Federal lands, Pacific Northwest(United States).

PB99-152928REB PC A17/MF A03
Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins. Water-data rept. (Annual) 1 Oct 97-30 Sep 98.
Geological Survey, Lemoyne, PA. Water Resources Div.
M. B. Coll, and R. W. Siwicki. Jun 1999, 372p, USGS/WRD/PA-98/3.
See also report for 1997, PB98-143902.
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This report, Volume 3, includes records from the Ohio and St. Lawrence River Basins. Specifically, it contains: (1) discharge records for 62 continuous record streamflow-gaging stations and 18 partial-record and miscellaneous streamflow stations; (2) elevation and contents records for 11 lakes and reservoirs; (3) water-quality records for 10 streamflow-gaging stations; and (4) water-level records for 15 network observation wells. Additionsl water data were collected at various sites not involved in the systemic data-collection program and are published as miscellaneous measurements and analyses.

Keywords: *Pennsylvania, *Surface waters, *Ground Water, *Hydrology, Hydrologic data, Discharge(Water), Gaging stations, Water quality, Flow rates, Water levels, Stage discharge relations, Great Lakes, Lake Erie, Rivers, River basins, Allegheny River, Monogahela River, Ohio River, Beaver River, Youghiogheny River, Reservoirs, Water temperature, Water chemistry, Tables(Data), *Wastern Region(Pennsylvania).

PB99-152936REB PC A12/MF A03
Agency for Health Care Policy and Research, Rockville, MD.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
Duke Univ., Durham, NC.
D. V. McCrory, D. B. Matchar, L. Bastian, J. Hickey, E. Myers, K. Nanda, S. Datta, and V. Hasselblad. Feb 1999, 228p, AHCPR/PUB-99/E010.
Contract AHCPR-290-97-0014
See also AD-A267 894 and PB95-243325. Sponsored by Agency for Health Care Policy and Research, Rockville, MD.
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Published literature on the accuracy of cervical cytological screening, costs of screening and treatment, and cost-effectiveness were identified in MEDLINE, CINAHL, CancerLit, EconLit, HealthSTAR, and EMBASE databases. Diagnosis test studies were included if they compared cervical cytology diagnosis with concurrent colposcopy or biopsy and provided estimates of sensitivity and specificity. For the new technologies, studies were also included that used a cytology reference standard and allowed estimation of either sensitivity or specificity. Articles on costs and health outcomes were selected if they assessed the effect of screening of life expectancy or quality of life, number of cases of cervical cancer, or total health care costs. The report concludes that estimates of the sensitivity of the conventional Pap test are biased in most studies; based on the least biased studies, sensitivity is near 50 percent, much lower than generally believed. Newer technologies improve sensitivity compared with conventional Pap screening; however, there are no precise estimates for their effect on specificity.

Keywords: *Cytology, *Health screening, Reproductive diseases, Sexually transmitted diseases, Evaluation, Literature reviews, Costs, Accuracy, Cost effectiveness, Cervical cancer, Pap tests.

PB99-152944REB PC A11/MF A03
Illinois Transportation Research Center, Edwardsville.
Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets. Final rept. 1 Aug 96-28 Feb 98.
Illinois Univ. at Chicago Circle. Urban Transportation Center.
S. Soeoet, A. Sen, D. Yang, P. Frank, P. Metaxatos, J. Bornstein, L. Dirks, and T. Sternberg. Mar 1999, 218p, ITRC-FR-95/96-3.
Sponsored by Illinois Transportation Research Center, Edwardsville.
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The study identifies the characteristics of neighborhoods that contribute to off-peak transit, walk or bike use. The emphasis is on off-peak and nonwork trips and how to promote modes other than the automobile. By producing thirty maps illustrating socioeconomic and travel behavior patterns in the Chicago area, the potential for stabilizing and then increasing the utilization of these modes is examined. Substantial amounts of data were processed and reported. For example, off-peak trips, accounting for 48% of daily travel, are shorter than trips during the peak (in miles and minutes) for travel by both public transit and by private vehicle. Regionally, walking trips vary from 42% of all trips made by Chicago CBD residents (mainly to shop and work), 17% in the rest of the city and less than 5% in suburban Chicago. Bicycle ownership is related to the number of vehicles in the household, household income, household size and distance from the Chicago CBD. These data and field observations of three case-study neighborhoods revealed that differences in modes used are related to the land-use patterns and the socioeconomic characteristics of the resident population. While areas with low automobile ownership rates might suggest walking and bicycling, these nonmotorized modes are more common in affluent neighborhoods with a large number of nearby commercial and recreational destinations.

Keywords: *Travel patterns, *Passenger transportation, *Public transportation, *Modal choices, Commuting patterns, Households, Off peak hours, Transit systems, Case studies, Socioeconomic factors, Illinois, Research project, Trip frequencies, Bicycles, Pedestrians, Urban transportation.

PB99-152951REB PC A10/MF A03
Illinois Transportation Research Center, Edwardsville.
Evaluation of Reflective Crack Control Policy. Final rept. Jan 97-Sep 98.
Illinois Univ. at Urbana-Champaign. Dept. of Civil Engineering.
W. G. Buttlar, B. J. Dempsey, and D. Bozkurt. Apr 1999, 194p, ITRC-FR-95/96-4.
Contract ITRC-IA-H1
See also PB86-121449. Sponsored by Illinois Transportation Research Center, Edwardsville.
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The Illinois Department of Transportation (IDOT) spends two million dollars annually on reflective crack control treatments: however, their cost-effectiveness has never before been reliably determined. The study evaluated the cost-effectiveness of IDOT reflective crack control system 'A', which consists of a nonwoven, polypropylene paving fabric, placed wither in strips longitudinally over lane-widening joints or over the entire pavement ('area' treatment).

Keywords: *Cost effectiveness, *Cracking(Fracturing), *Bituminous concretes, Illinois, Waterproofing, Pavement overlays, Reflective cracking.

PB99-152977REB PC A08/MF A02
Virginia Dept. of Transportation, Richmond.
Estimating Intersection Turning Movements. Technical assistance rept. Aug 98-May 99.
Virginia Transportation Research Council, Charlottesville.
S. L. Jones, and E. D. Arnold. cMay 1999, 138p, VTRC-99-TAR8.
Sponsored by Virginia Dept. of Transportation, Richmond.
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Turning movement (TM) counts are used for a variety of intersection analyses, including traffic operations analyses, intersection design, and transportation planning applications. For many planning and design applications, especially in the case of proposed future improvements to an intersection or even proposed new intersections, future year TM counts are needed for the analysis. Accordingly, there is a need to forecast turning movements at the intersections. The purpose of the research was to inventory and review the methods used to forecast intersection turning movements. The effort was limited to a literature review and a limited survey of practitioners to determine methods currently being used to make such forecasts.

Keywords: *Intersections, *Highway design, *Traffic surveys, Traffic simulation, Traffic control, Traffic management, Traffic engineering, Forecasting, System engineering, Transportation planning, Research project, *Turning movements, *Traffic counters.

PB99-152985REB PC A06/MF A01
OWCP (Office of Workers' Compensation Programs) Annual Report to Congress: FY 1997. Final rept. 1 Oct 96-30 Sep 97.
Employment Standards Administration, Washington, DC. Office of Workers' Compensation Programs.
1 Apr 1999, 78p, ESA/OWCP/AR-97/6.
See also AD/A278 279.
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The Secretary of Labor's FY 1997 annual report to Congress on administration of the Office of Workers' Compensation Programs (OWCP) contains the administrative and oversight activities of the three programs managed by OWCP: Black Lung Benefits Act, Federal Employees' Compensation Act. Included is information on program operations related to claims processing, wage loss, medical, and vocational rehabilitation benefits provided, program managment activities underway such as strategic planning, quality case management, nurse intervention, significant litigation, and charts and appendix tables containing historic and current programs statistics.

Keywords: *Workmen's compensation, *Program evaluation, *Financial statements, Workers compensation, Government employees, Coal mining, Personnel, Longshore, Vocational rehabilitation, Tables(Data), FECA(Federal Employees Compensation Act), Black Lung Benefits Act, LHWCA(Longshore and Harbor Workers Compensation Act).

PB99-152993REB PC A10/MF A02
Federal Highway Administration, Indianapolis, IN. Indiana Div.

Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements. Final rept.
Purdue Univ., West Lafayette, IN. Joint Transportation Research Program.
S. W. Loh, and J. Olek. May 1999, 192p, FHWA/IN/JTRP-96/22.
Contract IDOT-SPR-2130
See also PB95-221495. Sponsored by Federal Highway Administration, Indianapolis, IN. Indiana Div. and Indiana Dept. of Transportation, Indianapolis.
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The purpose of this research was to study and evaluate the role that asphalt cracking. As part of the Strategic Highway Research Program (SHRP) new specifications for asphalt binders were developed that are based on the performance of the material. The asphalt binder graded and specified according to these new performance-based specifications is called PG binder. These new specifications are commonly referred to as Superpave (Superior Performing Asphalt Pavement) binder specifications. A section of Interstate 64 in southern Indiana was experiencing severe low temperature cracking before it was reconstructed over the summers of 1995 and 1996. The binder used in the new pavement mixes was PG material. Dynamic Shear Rheometer (DSR) tests, Bending Beam Rheometer (BBR) tests, and viscosity tests were performed on this binder. Comparisons were made between test results obtained from the binders in the old pavement and the new pavement. All tests and comparisons were based on the Superpave binder specifications.

Keywords: *Cracking(Fracturing), *Low temperature tests, *Asphalt pavements, *Binders(Materials), Indiana, Rheology, Bituminous concretes, Tests, Aggregates, Hot mix paving mixtures, Specifications, Extraction, Interstate highway 64, Superpave.

PB99-153009REB PC A05/MF A01
Minnesota Dept. of Transportation, St. Paul. Minnesota Local Road Research Board.
Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules. Final rept.
Braun Intertec Corp., Minneapolis, MN.
V. Davis, S. Gross, and M. J. Lockbaum. Oct 1998, 62p, MN/RC-1999-06.
Contract LRRB-75194
See also PB97-160105 and PB92-235951. Sponsored by Minnesota Dept. of Transportation, St. Paul. Minnesota Local Road Research Board.
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This report provides a summary of the current Storm Water rules and proposed rules as they may effect the construction and operation of the streets and highways of Minnesota Cities and Counties. This report also summarizes The Quantity and Quality of Runoff from Selected Guttered and Unguttered Roadways in Northeast Ramsey County, Minnesota (PB97-160105). The rules summarized include the Federal Phase II Storm Water Rules, the Minnesota Pollution Control Agency's response to the proposed rules, and the process of obtaining industrial and Municipal Storm Water Permits and Construction Storm Water Permits.

Keywords: *Storm water runoff, *Water quality, *Rainfall-runoff relationships, *Highways, Surface runoff, Permits, Storm drains, Drainage, Snowmelt, Water yield, Traffic volume, Regulations, National Pollutant Discharge Elimination System.

PB99-153132REB PC E08/MF E08
Hitachi Review, Volume 46, No. 5, October 1997. Hitachi's Multimedia Solutions. Bimonthly rept.
Hitachi Ltd., Tokyo (Japan).
Y. Sayama. cOct 1997, 58p.
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- Hitachi's Multimedia Solutions for the Coming Age;
- Digital Contents Service for a New World of Electronic Publishing and Digital Media;
- Digital Image System and Its Applications;
- Cyber Bunraku-Traditional Japanese Art with the Latest Computer Graphics Technology;
- PC Data-Compatible MPEG Camera;
- Multimedia PCs with New Technologies;
- DVD-ROM/DVD-RAM Drives and Their Applications;
- SVGA High-Brightness Portable LCD Projector CP-L750;
- Sublimable Dye Thermal Transfer Full-Color Printers;
- and Digital Satellite Receiver and D-VHS Recorder for Multi-Channel Broadcasting.

Keywords: *Multimedia, *Technology innovation, *Trends, Communication systems, Computer graphics, Digital systems, Imaging techniques, Data recording, Data storage devices, Printers(Data processing), Electronic publishing, Computer hardware, *Foreign technology, MPEG(Moving Pictures Experts Group), DVD(Digital Video Disk), SVGA(Super Video Graphics Array), LCD(Liquid Crystal Diode).

PB99-153140REB PC E08/MF E08
Hitachi Review, Volume 46, No. 4, August 1997. Electronic Commerce for a New Social Infrastructure. Bimonthly rept.
Hitachi Ltd., Tokyo (Japan).
Y. Sayama. cAug 1997, 64p.
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- Evolution of an Electronic Commerce System for the Distribution Industry;
- Business Evolution Through CALS;
- Unfolding of Electronic Commerce and a New Banking System;
- New Trends in the Digital Money System 'Mondex';
- New Concept IC Card as a Component of Social Infrastructure;
- Hitachi Commerce Solution;
- Total Solution for Electronic Commerce;
- Hitachi Commerce Solution;
- Total Solution for Electronic Commerce;
- Hitachi Commerce Solution Products;
- Security Technology for Open Networks;
- and Software Platform for Electronic Commerce Systems.

Keywords: *Computer networks, *Information systems, *Infrastructure, Information technology, Software tools, Cards, Integrated circuits, Information management, Banking business, Electronic security, Trends, *Foreign technology, *Electronic commerce, Open systems, CALS(Commerce at Light Speed/Continuous Acquisition and Life Cycle Support).

PB99-153199REB PC E07/MF E07
Fuji Electric Review, Volume 44, No. 2, 1998. Instrumentation and Control Technology.
Fuji Electric Co. Ltd., Tokyo (Japan).
c1999, 44p.
Details in illustrations may not be fully legible in microfiche.
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Contents:
- The Trend of Instrumentation and Control Technology;
- Development of Optical Fieldbus Systems;
- Open Integrated Instrumentation and Control System 'FOCUS';
- New Technologies for Measuring Instruments;
- An Instrumentation and Control system for Incineration Plants and a Plant Simulator;
- and Super-High Resolution Vision System 'FAY-1000'.

Keywords: *Measuring instruments, *Industrial plants, Distributed systems, Control systems, Instrumentation, Industrial production, Automation, Simulator, Computer aided manufacturing, Facilities management, Optical measurement, Air pollution monitors, Air pollution control equipment, Computer vision, Technology innovation, *Foreign technology.

PB99-153249REB PC E08/MF E08
NKK Technical Report No. 158, June 1997.
Nippon Kokan K.K., Tokyo.
cJun 1997, 96p.
Text in Japanese with English abstracts. This document contains tone-on-tone color graphs, charts and/or pictures which have been reproduced in black and white.
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Contents:
- Development of High Power Laser Pipe Welding Process;
- Corrosion Resistant Steel Sheet with Excellent Lubrication-UZ-SL;
- Steel-framed House;
- Corrosion resistance of Joists and Studs in Steel-framed House;
- Roof Structure History of Cryogenic Inground Storage Tanks;
- Computerized Auction System by Radio Terminals;
- Design and Construction of Refuse Bunker Using Pneumatic Caisson Method;
- A City Planning Method of Tsurumi Area Redevelopment;
- A New Type of Contra-rotating Propellers (CRP) System;
- Parallelization of Direct Linear Equation Solver on Shared Memory Computer;
- and New Achievements.

Keywords: *Research projects, Welding, Corrosion resistant steels, Lubricants, Residential buildings, Storage tanks, Waste disposal, Coastal engineering, Computer systems, *Foreign technology.

PB99-154478REB PC A09/MF A02
Federal Aviation Administration, Washington, DC. Office of Aviation Research.
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2. Final rept.
Aerotech Engineering and Research, Lawrence, KS.
S. Farokhi, S. Mirsafian, T. Sherwood, and M. Ewing.
May 1999, 154p, DOT/FAA/AR-99/27.
Contract DTRS-57-95-C-00091
See also AD-A307 698. Prepared in cooperation with Kansas Univ., Lawrence. Sponsored by Federal Aviation Administration, Washington, DC. Office of Aviation Research.
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The Federal Aviation Administration (FAA) has a continuing program to collect data and develop predictive methods for aircraft flight loads. Some of the most severe and potentially catastrophic flight loads are produced by separated flows. Structural response to the aerodynamic excitation produced by separated flow is defined as buffeting.

Keywords: *Buffeting, *Horizontal stabilizers, *Separated flow, *Flight loads, *Predictions, T tail surfaces, Wind tunnel models, Aircraft configurations, Structural response, Aeroelasticity, Aerodynamic properties, Angle of attack, Rolling moments, Power spectra, Wind tunnel tests, Subsonic wind tunnels, *Antisymmetric loads.

PB99-154486REB PC A03/MF A01
Nebraska Univ.-Lincoln. Mid-America Transportation Center.
Aerial Video of Smoke-Marked Wind Shifts Caused by Ocean Internal Waves. Technical memo.
National Oceanic and Atmospheric Administration, Boulder, CO. Environmental Technology Lab.
J. Palmer. May 1999, 22p, NOAA-TM-ERL-ETL-296.
Sponsored by Nebraska Univ.-Lincoln. Mid-America Transportation Center.
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On August 25, 1998, an experiment was conducted off the coast of Oregon for the purpose of corroborating previously measured wind shifts at the ocean surface caused by the passage of solitary, ocean internal waves (IWs) in the same general area (Otto, et.al., 1998). In the 1998 experiment, smoke floats were dropped onto the surface in the field of the internal waves from a low flying, Coast Guard Helicopter based at Astoria, OR. Video was simultaneously taken through a belly window of a Cessna 177 flying at 3000 m above the surface. A total of four smoke floats were dropped and approximately 10 minutes of useful video was obtained. During the video, an offshore rock remains within the video field of view. This allowed absolute positions and surface velocities of the floats to be established from the video. This, in turn, allowed us to estimate the absolute phase speeds and surface currents of the internal waves. As a result we were able to confirm that the observed directional shifts of the smoke were not due to apparent wind shifts caused by the surface motion of the floats. The smoke trails revealed relative wind shifts ranging up to 30 degrees, consistent with the earlier 1995 observations.

Keywords: *Smoke, *Wind direction, *Internal waves, *Ocean waves, Video recording, Air water interactions, Coastal waters, Wind velocity, Ocean surface, Pacific Coasta(Oregon), COPE(Coastal Ocean Probe Experiment), Wind shift.

PB99-154551REB PC A06/MF A01
YMCA Earth Service Corps Club Handbook.
Peace Corps, Washington, DC. Information Collection and Exchange.
Sep 1998, 76p, PC/ICE/M-0058.
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Earth Service Corps is a YMCA, teen and community partnership program that supports the development of youth-led clubs and provides; environmental eduation opportunities, leadership training, service-learning, international/cross-cultural experiences, and exposure to a multitude of ways to take effective action.

Keywords: *Environmental education, *Youths, *Leadership training, *Learning activities, Personnel develoment, Cross culture studies, Community service, Information exchange, Diversity, Research projects, Curriculum development, Problem solving, Decision making, Skills, Information collection, Resource mapping, International exchange, Volunteerism, *YMCA Earth Service Corps, Action projects.

PB99-154569REB PC A06/MF A02
Federal Aviation Administration, Washington, DC. Office of Aviation Research.
Large Engine Uncontained Debris Analysis. Final rept.
Naval Air Warfare Center, China Lake, CA. Weapons Div.
C. E. Franeknberger. May 1999, 100p, DOT/FAA/AR-99/11.
Contract DTFA03-95-X-90019
See also PB99-143976 and PB98-159965. Sponsored by Federal Aviation Administration, Washington, DC. Office of Aviation Research.
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The Naval Air Warfare Center has conducted an analysis to define the characteristics of large commercial transport turbine engine uncontained debris. The objective of the analysis was to define the debris size, weight, exit velocity, and trajectory that can be used to update Advisory Circular (AC) 20-128A. The effort was conducted by gathering historical data from unctontained engine failures. This data included, when available, phase of flight, engine operating condition, the failed engine component, aircraft damage location, and damage size. With this basic information, debris size was correlated to damage size. A methodology was developed to estimate debris exit velocity. Representative engine cases and cowls were defined and existing ballistic penetration equations used to calculate debris exit velocity. This analysis was conducted for disk and blade failures on fan, compressor, and turbine components. Looking at the debris trajectories, the analysis shows that the trajectories defined in AC20-128A are too narrow and should be expanded significantly. Also, the analysis highlights the fact that during an uncontained event the aircraft is subjected to multiple 'small' fragment impacts, not just a single impact. It is the combined effects from the small fragments that pose the highest hazard potential to the aircraft.

Keywords: *Debris, *Fragments, *Aircraft engines, *Turbine engines, Fan blades, Turbine blades, Disks, Engine failure, Engine components, Failure mode analysis, Impact damage, Damage assessment, Penetration, Trajectories, Characterization, Transport aircraft, Commercial aircraft, *Uncontained failure.

PB99-154676REB PC A09/MF A02
Solar-Geophysical Data Number 657, May 1999. Part 1 (Prompt Reports). Data for March, April 1999 and Late Data.
National Geophysical Data Center, Boulder, CO.
H. E. Coffey. May 1999, 158p, SGD-657-PT-1.
See also Part 2, PB99-154684.
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Contents:
Data for April 1999;
Solar-Terrestrial Environment;
ISES Alert Periods (Advance and Worldwide);
Solar Activity Indices;
Solar Flares;
Solar Radio Emission;
Stanford Mean Solar Magnetic Field;
GOES-8 Daily Electron Fluence;
Data for March 1999;
;
Solar Active Regions;
Sudden Ionospheric Disturbances;
Solar Radio Spectral Observations;
Solar Radioheliograph - 164 and 327 MHz-Nancay;
Cosmic Ray Measurements by Neutron Monitor;
and Geomagnetic Indices.

Keywords: *Solar activity, Sunspots, Solar flares, Solar radio emission, GOES 8, Solar terrestrial interactions, Solar x-rays, Solar flux, Solar magnetic field, Solar electrons, Sudden ionospheric disturbances, Sudden storm commencements, Magnetic storms, Neutron monitors, Geomagnetism, Solar spectra, Spectroheliographs, Solar cosmic rays, Tables(Data), Graphs(Charts), Alert periods.

PB99-154684REB PC A05/MF A01
Solar-Geophysical Data Number 657, May 1999. Part 2. (Comprehensive Reports). Data for November 1998 and Miscellaneous.
National Geophysical Data Center, Boulder, CO.
H. E. Coffey. May 1999, 72p, SGD-657-PT-2.
See also Part 1, PB99-154676.
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Contents:
Data for November 1998:
Solar Flares;
Solar Radio Bursts at Fixed Frequencies;
Solar X-ray Radiation from GOES Satellite;
Active Prominences and Filaments;
IMP-8 Solar Wind Plot;
IMP-8 Interplanetary Magnetic Field Plot;
Miscellaneous or Late Data:
Solar Radio Spectral Observations February 1999-RSTN Data Included;
Geomagnetic Indices;
and IMP-8 Interplanetary Magnetic Field Plot.

Keywords: *Solar activity, Solar flares, Solar radio bursts, Solar x-rays, GOES 8, Solar prominences, Filaments, Solar wind, Interplanetary magnetic fields, Explorer 50 satellite, Geomagnetism, Magnetic storms, Solar spectra, Spectroheliographs, Radio spectra, Solar radio emission, Graphs(Charts), Tables(Data).

PB99-154692REB PC A04/MF A01
Nursing Home Trends, 1987 and 1996. MEPS Chartbook No. 3. Executive Summary.
Agency for Health Care Policy and Research, Rockville, MD.
J. A. Rhoades, and N. A. Krauss. May 1999, 38p, AHCPR/PUB-99-0032.
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The report from the Medical Expenditure Panel Survey (MEPS) presents estimates on the nursing home market and characteristics of the nursing home population. Nursing home facilities and residents in 1987 and 1996 are compared. Information on special care units is given for 1996 only. The number of nursing homes and the number of nursing home beds both increased almost 20 percent from 1987 to 1996. Seventy-three percent were certified by both medicare and medicaid in 1996, up from 28 percent in 1987. Passage of the Omnibus Budget Reconciliation Act of 1987 reduced the incentive to remain certified by Medicaid only. Growth in the elderly population outpaced growth in the supply of nursing home beds. Nursing homes were caring for an older population in 1996 than in 1987. Moreover, functional disability among nursing home residents increased: 83 percent of residents in 1996 needed help with three or more activities of daily living, compared with 72 percent in 1987. As for special care units, a relatively new phenomenon, the most common type in 1996 was for Alzheimer's and related dementias.

Keywords: *Nursing homes, *Health care facilities, Trends, Markets, Characteristics, Facilities, Residents, Comparison, Medical Expenditure Panel Survey(MEPS).

PB99-154791REB PC A06/MF A02
National Marine Fisheries Service, La Jolla, CA. Southwest Fisheries Science Center.
Marine Mammal Auditory Systems: A Summary of Audiometric and Anatomical Data and Its Implications for Underwater Acoustic Impacts. Technical memo.
Woods Hole Oceanographic Institution, MA. Dept. of Biology.
D. R. Ketten. Sep 1998, 100p, NOAA-TM-NMFS-SWFSC-256.
Contract NOAA-40JGNF600312
Errata sheets inserted. See also PB99-123564. Prepared in cooperation with Harvard Medical School, Boston, MA. Dept. of Otology and Laryngology. Sponsored by National Marine Fisheries Service, La Jolla, CA. Southwest Fisheries Science Center., Office of Naval Research, Arlington, VA. and National Inst. on Deafness and Other Communications Disorders, Bethesda, MD.
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The report summarizes and critiques existing auditory data for marine mammals. it was compiled primarily as a background or reference document for assessing probable impacts of long-range detection devices that may be employed in tuna fisheries. To that end, it has the following emphases: a description of currently available data on marine mammal hearing and ear anatomy, a discussion and critique of the methods used to obtain these data, a summary and critique of data based on hearing models for untested marine

species, and a discussion of data available on acoustic parameters that induce auditory trauma in both marine and land mammals. In order to place these data in an appropriate context, summaries and incorporated also of basic concepts involved in underwater vs. air-borne sound propagation, fundamental hearing mechanisms, and mechanisms of auditory trauma in land mammals. Although the primary purpose of this report is to provide a reference document on the state of knowledge of marine mammal hearing, it is expected that the material will be used as a resource for assisting with the design and assessment of the safety and efficacy of acoustic detection and censusing devices used in fisheries, particulary for the Eastern Tropical Pacific region.

Keywords: *Marine mammals, *Auditory acuity, *Ear, Acoustic signals, Underwater acoustics, Cetaces, Seals(Mammals), Sirenia, Modeling, Fisheries, Bioacoustics, Sampling, Acoustic detection, Fissipeds.

PB99-154833REB PC A08/MF A02
Journal of Research of the National Institute of Standards and Technology, January/February 1999. Volume 104, Number 1.
National Inst. of Standards and Technology, Gaithersburg, MD.
1999, 150p.
See also PB99-154841 through PB99-154874. Also available from Supt. of Docs. as SN-703-027-00086-5. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Contents:
- Tests of a Two-Photon Technique for Measuring Polarization Mode Dispersion with Subfemtosecond Precision;
- Thermodynamic Temperatures of the Tiple Points of Mercury and Gallium and in the Interval 217 K to 303 K;
- Trilateral Intercomparison of Photometric Units Maintained at NIST (USA), NPL (UK), and PTB (Germany);
- The NIST Quantitative Infrared Database.

Keywords: *Thermodynamic temperature, *Polarization interferometer, *Calibration standards, *Infrared database.

PB99-154882REB PC A07/MF A02
Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
National Inst. of Standards and Technology, Gaithersburg, MD.
1999, 106p.
See also PB99-154890 through PB99-154957. Also available from Supt. of Docs. as SN-703-027-00087-3. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Contents:
- Comparison of the NIST and BIPM Air-Kerma Standards for Measurements in the Low-Energy X-Ray Range;
- Validation of New Instrumentation for Isotope Dilution Mass Spectrometric Determination of Organic Serum Analytes;
- Crystal Structures and Reference Powder Patterns of BaR2ZnO5 (R=La, Nd, Sm, Eu, Gd, Dy, Ho, Y, Er, and Tm);
- Estimation of Concentration and Bonding Environment of Water Dissolved in Common Solvents Using Near Infrared Absorptivity;
- Near Infrared 45 Deg/0 Deg Reflectance Factor of Pressed Polytetrafluoroethylene (PTFE) Powder;
- A Fast Method of Transforming Relaxation Functions Into the Frequency Domain;
- Manufacturer's CORBA Interface Testing Toolkit: Overview.

Keywords: *Air kerma, *Isotope dilution, *Crystal structures, *Infrared spectroscopy, *Diffuse reflectance, *Relaxation functions, *Code generation.

PB99-155012REB PC A04/MF A01
National Park Service, Washington, DC. Natural Resource Protection and Preservation Program.
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park. Biological science rept. (Final).
Biological Resources Div., Fort Collins, CO. Midcontinent Ecological Science Center.
L. C. Zeigenfuss, F. J. Singer, and D. Bowden. May 1999, 34p, USGS/BRD/BSR-1999-0003.
Contract NPS-3302-2020E
See also PB97-166037. Sponsored by National Park Service, Washington, DC. Natural Resource Protection and Preservation Program.
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A quasi-experimental situation exists in Rocky Mountain National Park, where elk (Cervus elaphus) populations have increased about 3-fold since 1968, following their release from artificial controls within the park boundaries. We reviewed data collected on vegetation transects established and monitored over the 25-year period from 1968 through 1992. Data were subjected to rigorous statistical analysis to detect trends following the release of elk from artificial controls. Increases in elk habitat use and decreases in deer habitat use were observed on all transects over the 25-year period.

Keywords: *Animal populations, *Vegetation, *Grazing, *National parks, Ungulata, Forages, Carrying capacity, Food habits, Rangelands, Shrubs, Environmental effects, Monitoring, Animal behavior, Statistical analysis, Range management, Wildlife management, *Yellowstone National Park, *Elk, *Natural regulation, Overgrazing, Cervus elaphus, North Central Region(Colorado).

PB99-155418REB PC A03/MF A01
Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Mar 1999, 20p, EPA/903/R-99/002, CBP/TRS-220/99.
See also PB95-226973.
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Research has shown that riparian forests provide a wealth of beneficial ecological functions which, in the Bay watershed, translate downstream into a healthier Bay. Conserved and managed as buffers, riparian vegetation can dramatically reduce the impacts of land use activities. Lowering harmful concentrations of nitrogen, phosphorus and sediments from agricultural and urban areas is a primary focus of the Chesapeake Bay Program. Finding ways to reduce the amount of these nutritients that enter the Bay and its rivers while enhancing habitat critical to the Bay's living resources is essential. Streamside forest buffers provide one common sense solution.

Keywords: *Riparian land, *Forests, *Buffers, *Water quality management, Riparian waters, Watersheds, Streams, Coastal areas, Environmental management, Natural resource conservation, Water pollution abatement, Environmental protection, Recommendations, Chesapeake Bay Program, Public-private partnerships.

PB99-155426REB PC A04/MF A01
Recent Developments in Population Viability Analysis, with Specific Reference to Pacific Salmon. Technical memo.
National Marine Fisheries Service, Tiburon, CA. Southwest Fisheries Science Center.
P. D. Spencer. May 1999, 38p, NOAA-TM-NMFS-SWFSC-261.
Also pub. as National Marine Fisheries Service, Tiburon, CA. Southwest Fisheries Science Center rept. no. CONTRIB-106. See also PB96-106554.
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Many populations of Pacific salmon have been listed under the Endangered Species Act (ESA) in recent years, and a formidable task for population ecologists will be application of the rapidly growing field of quantitative conservation biology to specific situations. This review organizes some recent research application to this task, including results pertaining to the definition of population structure, the genetic risks posed by reduced population sizes and hatchery stocks, and innovations in population modeling. Where possible, information pertaining to coho salmon is presented as specific examples. The definition of population structure now commonly involves analysis of DNA (mitochrondrial and microsatellite). Genetic risks may be cuased by either low population sizes (inbreeding) or hatchery introgression (outbreeding). Analytical population models are increasingly applied to specific populations, and have evolved from random-walk models to include density dependence. Current population viability analysis (PVA) models applied to Pacific salmon vary with respect to data requirements and level of biological detail, and direct application of most existing models to California coho is hindered by a lack of rigorous abundance estimates. A recommended approach is development of matrix population models, and a rudimentary model developed for coho salmon reveals the importance of survival in various habitats (both freshwater and marine) to population growth; such models can be expanded to include relevant biological details. Application to data-poor situations (such as the California coho) will depend upon life history parameters studied in other locations, and Bayesian analysis is a logical approach for assessing parameter uncertainty and incorporating information from other environments. Assessment of population recovery will require effective monitoring of population abundance.

Keywords: *Salmon, *Population dynamics, *Numerical analysis, Endangered species, DNA, Genetics, Mortality, Fisheries management, Reproduction(Biology), Ecology, Pacific Ocean, Coho salmon.

PB99-155434REB PC A05/MF A01
Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
Environmental Protection Agency, Annapolis, MD. Chesapeake Bay Program.
Jul 1999, 70p, EPA/903/R-99/012, CBP/TRS-222/105.
See also PB90-247479, PB93-116572, PB95-137915, PB95-237020 and PB97-116404.
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The Fish Passage Workgroup of the Chesapeake Bay Program's Living Resources Subcommittee (LRSC) is charged with reopening the Bay's blocked tributary waters to provide access to spawning habitat for anadromous fish. This is accomplished by constructing fish passage facilities, breaching, notching or removing dams; and reconstructing highway culverts. The workgroup includes representatives from the District of Columbia, Maryland, Pennsylvania, Virginia, the U.S. Environmental Protection Agency (US EPA), the USFWS, the National Marine Fisheries Service (NMFS) and the Chesapeake Bay Foundation.

Keywords: *Chesapeake Bay, *Fish migration, *Fishways, Fish passages, Spawning, Ladders, Tables(Data), Weirs, Design, Cnstruction, Habitats, Aquatic ecosystems, Washington DC, Maryland, Pennsylvania, Virginia, Removal, Barriers, Surveys, *Fish populations.

PB99-155590REB PC A05/MF A01
Agency for Toxic Substances and Disease Registry, Atlanta, GA.
Public Health Assessment for Sherwin Williams, Emeryville, Alameda County, California, Region 9. CERCLIS No. CAD03934601. Final rept.
California Dept. of Health Services, Sacramento.
17 Jun 1999, 62p.
Sponsored by Agency for Toxic Substances and Disease Registry, Atlanta, GA.
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customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Sherwin-Williams facility is located on Sherwin Avenue in Emeryville, California. Emeryville is located on the eastern side of the San Francisco Bay between Berkely to the north, and Oakland to the east and south. Several site investigations have determined that the primary contaminants on the site include volatile organic chemicals, semi-volatile organic chemicals, petroleum hydrocarbons, and metals (primarily arsenic and lead). Currently, the areas with contaminated soils have been covered with an asphalt cap, and the area with the most heavily contaminated groundwater has been enclosed with a slurry wall to reduce or prevent the migration of contaminated groundwater. A groundwater extraction and treatment system is operating with the goal of creating an inward hydraulic gradient across the slurry wall, thereby preventing arsenic and lead contaminated groundwater from migrating off site. CDHS has concluded, assuming a worst-case scenario of daily exposure to the most contaminated soils for a period of greater than one year, that past levels of arsenic and lead and near the Artists' cooperative property posed a public health hazard for both noncancer and cancer health effects. However, with the cleanup of the Garden Area on the Coop property and the flower beds along Horton Street adjacent to the 45th Street building and the Coop Annex/Horton Street Lofts, there is no longer a public health threat due to exposure to contaminants from these areas.

Keywords: *Public health, *Risk assessment, *Health hazards, *Environmental surveys, Environmental exposure pathway, Lead(Metal), Arsenic, Heavy metals, Paints, Hydrocarbons, Soil contamination, Ground water, Land pollution, Water pollution, Ingestion(Biology), California, Emeryville(California), Alameda County(California), Volatile organic compounds, Semivolatile organic compounds.

PB99-155616REB PC A04/MF A01
Agency for Toxic Substances and Disease Registry, Atlanta, GA.
Public Health Assessment for Sandoval Zinc Company, Sandoval, Marion County, Illinois, Region 5. CERCLIS No. ILD053980454. Final rept.
Illinois State Dept. of Public Health, Springfield.
10 Jun 1999, 44p.
Sponsored by Agency for Toxic Substances and Disease Registry, Atlanta, GA.
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The Sandoval Zinc site occupies about 13 acres southeast of Sandoval in Marion County, Illinois. It is an abandoned primary and secondary zinc smelter that was next to a coal mining operation. Smelting waste may have been transported off the site and used as fill in Sandoval and other nearby communities. Airborne emissions occurred during regular operations and accidental fires. Surface water runoff transported wastes from the site into adjacent ditches, creeks, ponds, and farm properties. Overall, the Sandoval Zinc site poses no apparent public health hazard to most of the population in Sandoval. The site may be a public health hazard to preschool children with exessive hand-to-mouth activity exposed to residential surface soils with high levels of lead. However, blood sample results from children in a day care near the site did not show elevated levels of lead.

Keywords: *Public health, *Risk assessment, *Health hazards, *Environmental surveys, Environmental exposure pathway, Smelters, Lead(Metal), Zinc, Heavy metals, Surface waters, Soil contamination, Water pollution, Land pollution, Ambient air quality, Illinois, Sandoval(Illinois), Marion County(Illinois).

PB99-155624REB PC A03/MF A01
Fatality Assessment and Control Evaluation (FACE) Report: Temporary Laborer Crushed by Dump Truck at Landfill, South Carolina.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Safety Research.
28 Aug 1998, 12p, FACE-98-10.
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On March 9, 1998, a 38-year-old temporary laborer (the victim) was run over and crushed by an off-road dump truck while he was working at a santiary landfill. The victim had been assigned to pick up litter which fell from refuse collection vehicles traveling the landfill access road. He performed this task for about 2 1/2 hours and was then assigned to act as a traffic guide, directing trucks to the proper dumping location along the landfill working face. Approximately 45 minutes after the victim began this assignment, co-workers noticed he was no longer in visual or audible contact with them and began a search. A loader operator saw the victim lying near a stockpile of cover-dirt and notified the foreman, who contacted the local emergency services.

Keywords: *Landfill worker, *Occupational safety and health, *Industrial safety, Dump trucks, Laborers, Recommendations, Investigation, Causes, Accident prevention.

PB99-155632REB PC A03/MF A01
Fatality Assessment and Control Evaluation (FACE) Report: Electrical Mechanic Dies After 45-Foot Fall through Unguarded Floor Opening, North Carolina.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Safety Research.
24 Jul 1998, 12p, FACE-98-11.
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A 57-year-old male electrical mechanic (the victim) died after falling through an unguarded floor opening. The victim was measuring, cutting, and color coding electrical cable with two coworkers on the unfinished fourth floor of the building at the time of the incident. The floor measured 108 feet wide by 300 feet long and contained 1 unguarded opening which measured 54 inches wide by 43 inches long. Just prior to the incident, the victim and a coworker were rewinding electrical cable. One coworker was positioned at the spool manually turning it; the victim was holding onto the end of the cable, walking backwards and pulling the cable straight so it would rewind evenly. The coworker felt the spool jerk out of his hands and saw the spool fall through the floor opening.

Keywords: *Electrical mechanic, *Occupational safety and health, *Industrial safety, Falls, Floor openings, Recommendations, Investigation, Causes, Accident prevention.

PB99-155640REB PC A03/MF A01
Fatality Assessment and Control Evaluation (FACE) Report: Tree Feller Killed When Struck by Chain Saw, West Virginia.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Safety Research.
16 Jun 1998, 14p, FACE-98-09.
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A 52-year-old male tree feller (the victim) was fatally injured after being struck in the right thigh with a chain saw. Prior to the incident, the victim and his son had been harvesting hardwood trees for saw timber, over a period of approximately 5 months, on a 49-acre site. At the time of the incident, the victim's son was away from the cutting area, skidding logs to the landing. No one witnessed the incident, but evidence suggests the following scenario: The victim cut a forked hickory tree that fell and lodged in a yellow polar. He then positioned himself between the lodged tree and a sycamore tree and notched the sycamore to fall into the lodged hickory. Before he had time to cut the sycamore, the top of the poplar snapped, freeing the hickory.

Keywords: *Logging worker, *Occupational safety and health, *Industrial safety, Chain saws, Recommendations, Investigation, Causes, Accident prevention.

PB99-155657REB PC A02/MF A01
Fatality Assessment and Control Evaluation (FACE) Report: Mechanic Fatally Injured during Dismantling of Crane Boom at Scrap Metal Yard, Pennsylvania.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Safety Research.
10 Jun 1997, 10p, FACE-97-03.
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On March 17, 1997, a 42-year-old master mechanic (the victim) was fatally injured while dismantling a crane boom at a scrap metal yard. The victim and two co-workers were dismantling the crawler-mounted lattice boom crane in preparation for transport. The crane boom had been lowered to 8 1/2 feet off the ground, and was supported by the boom pendants. The victim positioned himself under the pinned connections between the inner (heel or base) section and the center section of the boom. While one coworker observed, the victim removed the pins from the bottom connections. When the victim removed the last of the two pins, the boom sections fell, striking and pinning the victim underneath. The co-worker immediately contacted the yard manager by radio who then notified 911.

Keywords: *Mechanics, *Industrial safety, *Occupational safety and helath, Crane booms, Investigation, Causes, Residential buildings, Accident prevention, Scrap metal yards.

PB99-155665REB PC A03/MF A01
Fatality Assessment and Control Evaluation (FACE) Report: Floor Collapse in a Single Family Dwelling Fire Claims the Life of One Fire Fighter and Injures Another, Kentucky.
National Inst. for Occupational Safety and Health, Cincinnati, OH. Div. of Safety Research.
9 May 1997, 12p, FACE-97-04.
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On February 17, 1997, two male fire fighters (the victim and injured) were part of a fire company that responded to a single family dwelling fire. When the fire company arrived at the fire scene, the District Major reported heavy smoke emitting from the roof area of the dwelling. The victim and injured pulled two water hoses from their assigned engine and proceeded toward the dwelling. After knocking down a ceiling fire, they entered the dwelling through the front door and both immediately fell through the floor into the basement area. One fire fighter was seriously injured while the victim died from asphyxiation.

Keywords: *Fire fighters, *Occupational safety and health, *Industrial safety, Recommendations, Investigation, Causes, Residential buildings, Accident prevention, Floor collapse.

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Keywords: *Data file, *Explosives, *Encyclopedias, Explosive materials, Explosive charges, Propellants, Ammunition, Projectiles, Bombs, Fuzes(Ordnance), Pyrotechnics, Grenades, Combustion, Detonators, Projectors(Ordnance), Weapons, Detonations, Explosion effects, Chemical composition, Chemical properties, Physical properties.

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Contains search and retrieval software. Adobe Acrobat reader 3.1 software is provided to view and search the data. System requirements: PC compatibles: Windows 3.1, Windows NT, or Windows 95; Macintosh: System 7. Hard disk space 4.5 MB required. CD-ROM drive. Y2K - compliant.
Available for (A) Single concurrent network user: $125, outside U.S., Canada, and Mexico, $160, (B) up to 5 concurrent users: $210/$275, (C) up to 10 concurrent users: $350/$455, and (D) 11 plus concurrent users: $585/760. The datafile is on one disc.

This CD-ROM presents commercial and export opportunities in seven business sectors. It contains important information that can help U.S. businesses make decisions about entering these key market sectors. Each sector in the CD-ROM provides: - country-by-country market briefings - contact and networking information, eg. phone numbers, e-mail addresses, mailing addresses - listing of trade shows - commercial specialists in the Commercial Service to assist you Additionally the CD-ROM: - Provides easy-to-use links to navigate through the sectors - Links you to an updates page on the Commercial Service Web site - Searches across all sectors through the use of descriptive phrases, or keywords to find topics of interest. - Allows viewing or printing of a page or the entire entry. - Lets you copy and paste text and diagrams into word processing documents. The Showcase CD-ROM focuses its attention on seven market sectors that appear to offer the best prospects for U.S. companies doing business in Europe: - Automotive parts and equipment - Energy and power generation - Environmental technologies - Franchising - Information technologies - Satellite communications - Travel and tourism The Commercial Service (US and FCS) of the U.S. Department of Commerce, International Trade Administration, has adjusted its organizational structure in Europe and attuned its business support services to meet the needs of both U.S. exporters and American firms already operating within the Single European Market. The Showcase Europe initiative has been designed to help U.S. firms more effectively exploit commercial opportunities presented by the immense EU regional market, and the emerging markets of Eastern Europe, Russia and the Newly independent States (NIS). Showcase Europe recognizes that Europe is and will remain for some time our largest commercial partner. The initiative has three main objectives: 1. Explore ways to further open transatlantic trade and investment through reductions in tariffs and standards barriers, mutual recognition of product testing and certification, full access to government procurement opportunities, and national treatment for investors. 2. Accelerate the integration of the economies of Central Europe, Russia, and the NIS into the world economy as full and open partners. 3. Implement a new commercial strategy for exports to Europe that approaches the market on a regional basis and moves U.S. firms already exporting to one or more European markets into additional European markets.

Keywords: *Data file, *Commercial sector, *Exports, Services, CD-ROM, Marketing research, United States, Europe, Businesses, International trade, Automotive parts, Franchising, Listings, Trade shows, Satellite communications.

PB99-501629REB CP D02
ACTG 240: Randomized Comparative Trial of Stavudine (d4T) versus Zidovudine (ZDV, AZT) in Children with Human Immunodeficiency Virus Infection (on Diskette). Data file.
National Inst. of Allergy and Infectious Diseases, Bethesda, MD. Div. of Acquired Immunodeficiency Syndrome.
Jun 1999, diskette.
This product contains text only. Customers must provide their own search and retrieval software. Product requires SAS 6.08 or greater.
The datafile is on one 3 1/2 inch DOS diskette, 1.44M high density. file format: ASCII. Documentation included; may be ordered separately as PB99-151847.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This data is the analysis data set for ACTG 240. The study was to compare the safety and tolerance of stavudine (d4T) versus zidovudine (ZDV, AZT) is symptomatic human immunodeficiency virus infected children 3 months to 6 years of age. Methods: In an initially double-blind trial, 212 evaluable human immunnodeficiency virus-infected children who had received no more than 6 weeks of previous antiretroviral therapy were randomized to receive either d4T (1mg/kg orally every 12 hours. maximum 40 mg orally every 12 hours) ot zidovudine (180 mg/m2 oralty every 6 hours, maximum 200 mg orally every 6 nours). The study was unblinded after a median follow-up period of 6.3 months; median follow-up at study closure was 17.3 months. Tolerance, safety, disease progression, and immunologic responses were evaluated. Results: The patient population was young (median age, 1.2 years; range, 0.3 to 6.4 years), with a median baseline CD4+lymphocyte count of 965 cells/microL occurred significantly more commonly among zidovudine recipients (1-year event rates of 20% both up to the time of unblinding and throughout the entire study) than among children receiving d4T (1-year event rates of 5% up to the time of unblinding and 6% throughout the entire study). In exploratory activity analyses using all data collected until study closure, children treated with d4T showed consistenty greater positive changes from baseline in weight-for-age-and-gender z scores. As expected in this population of young children, median absolute CD4+ lymphocyte counts decreased in both treatment groups. Smaller changes from baseline were noted among d4T recipients. Conclusions: In children between the ages of 3 months and 6 years, d4T and zidovudine are largely comparable in terms of safety and tolerance. Neutropenia occurs significantly less commonly among children treated with d4T. There was evidence that weight gain and absolute CD4+ lymphocyte counts were better maintained in children receiving d4T.

Keywords: *Datafile, *Human immunodeficiency virus, Safety, Tolerance, Children, Infectious diseases, Clinical trails, Diskettes, Stavudine, Versus zidovudine, ZDV, AZT.

PB99-928002REB PC A08
Studies in Intelligence, Winter 1998-1999. Intelligence monograph.
Central Intelligence Agency, Washington, DC.
Apr 1999, 128p.
See also PB98-928002.
Paper copy available as an ongoing subscription, credit card payment accepted. This series offers a reduction in price as an ongoing subscription, PB99-928000.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

On 17 September 1998, CIA's Center for the Study of Intelligence (CSI) held a public simposium at the National Defense University, Fort McNair, Washington, DC. The symposium, attended by hundreds of people, had two purposes: (1) to examine the development, operations, and policy impact of the legendary U-2 (Utility-2) reconnaissance aircraft, one of America's most remarkable intelligence achievements, and (2) to honor and commemorate the men and women who participated in this pioneering program--often at great personal risk--either in its early years (the 1950s) or more recently.

Keywords: *History, *US CIA, *Meetings, *U-2 aircraft, Military intelligence, Intelligence, Reconnaissance aircraft, Military operations, CIA(Central Intelligence Agency).

ADA286991REB PC A08/MF A02
Air Force Research Laboratory Success Stories: A Review of 1997/1998. Final rept.
Air Force Research Lab., Wright-Patterson AFB, OH.
Mar 1999, 130p, AFRL-WS-WP-TR-1999-9002.
Included with AD-M000 882.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Success stories from 1997/98 that recognize the accomplishments and combined efforts of the Air Force Research Laboratory Scientists and Engineers. Stories have been selected from the following categories: (1) Support to the Warfighter: Technology that has potential for or has achieved application on a Department of Defense system in development or operation or that has provided quick-reaction response to problems or needs of field organizations; (2) Emerging Technologies: Major innovative technological advancements that offer significant potential for existing and future Air Force systems; (3) Technology Transfer: Technology that has transferred from the laboratory to the private sector, to include: industry, academia, and state and local governments; (4) Awards/Recognition: External awards or recognitions by the scientific community at large, concerning technology advancements in the areas of Technology Transition, Technology Transfer or Technical Achievement.

Keywords: *Air force research, *Laboratories, *Project management, Technology transfer, Operational readiness, Ejection seats, Awards, Recognition, Scientists, Engineers, Air force research laboratories, F-22 aircraft, C-17 aircraft, B-2 aircraft, C-141 aircraft, K-36d aircraft, Hazardous agent detection systems, Emerging technologies, Warfighter technology.

ADA286992REB PC A11/MF A03
Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa. Final rept. 20 Jun 95-23 Dec 97.
Cornell Univ., Ithaca, NY. Inst. for the Study of the Continents.
M. Barazangi, D. Seber, E. Sandoval, D. Steer, and M. Vallve. 24 Feb 1998, 207p, AFRL-VS-HA-TR-98-0041.
Contract F19628-95-C-0092
Included with AD-M000 886.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

We collected and organized available seismological, geophysical, and geological data sets for the Middle East and North Africa into a comprehensive Geographic Information System (GIS). In addition, we produced original results, such as crustal structure beneath available broadband seismic stations in the Middle East and North Africa region, and basement depth values in the northern Arabian plate. In addition to the GIS databases and tools, we developed a special World Wide Web (WWW) site to allow restricted access to our databases. All the data sets in our GIS system were documented with a standard metadata format in order to explain the source and nature of the data, their resolution, and their accuracy. The developed system and its efficiency in using and analyzing information will help CTBT researchers and decision makers to fuse and integrate the results of the four es-

tablished monitoring technologies to reach a conclusion in a very short time. The system also significantly contributes to the better location and calibration of suspect events for any given region.

Keywords: *Data bases, *Digital systems, *Seismic data, *Middle east, *North africa, *Geographical information systems, Calibration, Earth crust, Data acquisition, Geology, Geophysics, CTBT(Comprehensive Test Ban Treaty).

ADA362590REB PC A03/MF A01
Use of Perspective View Displays for Operational Tasks. Final rept. May-Dec 98.
Pacific Sciences and Engineering Group, Inc., San Diego, CA.
M. St John, and M. B. Cowen. Mar 1999, 25p, TR-1795.
Contract N66001-96-D-0048
Prepared in collaboration with SSC San Diego, San Diego CA.
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Research on when and how to use three-dimensional (3-D) perspective views on flat screens for military operational tasks such as air traffic control is confusing and contradictory. This report considers the basic qualities and capabilities of two-dimensional (2-D) and 3-D views. Two experiments were conducted. Because perspective views integrate all the dimensions, it was hypothesized that 3-D views are better for object understanding. In contrast, it was hypothesized that 2-D views are better for judging the relative position of objects because each dimension can be isolated. Participants viewed simple block shapes in 2-D or 3-D and either performed an object understanding task (e.g., identification, mental rotation) or a relative position task (e.g., directions and distances between objects). This report concludes that a 3-D perspective view was far superior to 2-D views for understanding the shape of the simple blocks, but 2-D views were better than 3-D views for comprehending the relative position of two objects.

Keywords: *Man machine systems, *Decision aids, Command control communications, Position(Location), Decision making, Two dimensional, Cognition, Shape, Air traffic control systems, Three dimensional, Rotation, Mental ability, Perception.

ADA362600REB PC A03/MF A01
Problem of Radiological Protection, Poland.
Joint Publications Research Service, Arlington, VA.
W. Zawadowski. 17 Jun 1960, 14p, JPRS-3418.
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No abstract available.

Keywords: *Radiation protection, *Medical services, Damage, Medicine, Data acquisition, Nuclear power plants, Radioactive materials, Race(Anthropology), Ionizing radiation, Irreversible processes, Sex glands, Foreign reports.

ADA362633REB PC A03/MF A01
Residual Dust and Radiation Model (REDRAM), Model Description.
Air Force Center for Studies and Analyses, Washington, DC.
A. T. Hopkins, D. L. Palmer, and J. R. Brown. Mar 1988, 26p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

REDRAM is a FORTRAN computer code that stimulates the transport and dispersion of particles from an atmospheric nuclear burst. The code was developed to estimate the dust particle sizes, mass concentrations and radioactivity levels that are airborne long after the burst. Model development was motivated by a requirement to estimate the dust and radiation burden to advanced strategic aircraft instrumentation and crew. In the event of a nuclear war, aircraft may have to operate in environments containing the radioactive debris lofted by weapons from intercontinental and submarine-launched ballistic missiles. Escaping bombers and tankers, national command authority aircraft, and command, control and communication aircraft are examples of systems that may potentially be affected by the nuclear clouds.

Keywords: *Computerized simulation, *Fortran, *Nuclear clouds, *Nuclear weapon debris, Particle size, Military requirements, Radioactivity, Radiation monitors, Redram(Residual dust and radiation model).

ADA362634REB PC A18/MF A04
Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998. Final rept.
Office of the Director of Defense Research and Engineering, Washington, DC.
J. Tangney, L. Williams, and A. Darby. 30 Sep 1998, 387p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The DoD In-House RDT&E Activities Report and Database Project is the DDR&E's central source of information on laboratory status, and serves four essential purposes: (1) Since inception, it has been the only compilation of statistics organized by location on DoD RDT&E activities; (2) It provides the basis for prompt responses to many general queries about DoD RDT&E activities without recourse to special surveys, etc.; (3) It provides a historical database which can be used for tracing consolidations and organizational changes, and for special analyses and trend studies; and, (4) It provides insight into the technical and organizational environment of the DoD laboratories and the financial manpower and facility investments made in them.

Keywords: *Department of defense, *Facilities, *Military research, *Laboratories, Data bases, Environments, Organizations, Reports, Manpower, Surveys, History, Finance, Aq u99-02-0211.

ADA362635REB PC A09/MF A02
Problem of Intervention. Master's thesis.
Massachusetts Univ., Amherst.
D. M. Barnes. May 1999, 160p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

As evidence in Bosnia, Iraq, and now more vividly in Kosovo, the threat of force or sanctions, or even promised aid is not sufficient for resolving conflict or ending genocide. A military humanitarian intervention might be the only means of ending the suffering. Yet, we must ask ourselves, 'is any intervention ever justified'. Historically, there are many different examples of intervention: some include outright invasion, while others involve covert support of one group, or state, over another. However, intervention does not always require direct application of force, for solely political motives - agencies often conduct interventions for humanitarian reasons. If such a humanitarian intervention is justified, then what about it makes it justified. Part of the difficulty of attempting to justify international intervention is that there is a vague and unusable definition of 'intervention'. Without a workable definition, there can be no basis for agreement on international laws covering interventions. Furthermore, contradicting legal precedents, different moral and prudential views, and a general lack of political will exacerbates the problem of intervention. Nevertheless, I believe there is a workable definition for 'intervention' and there are specific conditions for identifying an intervention as humanitarian. There also already exists a legal precedent for justified intervention under international law. Furthermore, there are ample moral grounds to argue for intervention - whether one believes an act morally right based on moral maxims or purely as a result of their consequences, one can make a moral argument for intervention. The question left to be answered is, 'Is the intervention justified'. Using the Just War tenets, modified for intervention, provides the necessary conditions to answer the justification question. We can no longer stand idle while others suffer their inhuman fates.

Keywords: *Intervention, *International law, Warfare, Nations, Threats, Covert operations, Ethics, International, Agreements, Just war, Humanitarian assistance, Human rights.

ADA362636REB PC A05/MF A01
Upscaled Self-Propagating High-Temperature Synthesis (SHS)/Dynamic Compaction Processing. Final rept. Apr 91-Jan 92.
Xform, Inc., Cohoes, NY.
R. M. Cooper. Apr 1999, 59p, ARL-CR-439.
Contract DAAA15-91-C-0071
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Titanium carbide (TiC) and titanium diboride (TiB2) ceramics were formed from elemental powders using a Gleeble 1500 dynamic thermomechanical process simulator. In the first step of a two-step process, a self-propagating high-temperature synthesis (SHS) reaction was initiated by the passage of an electric current through the powdered green body. The temperature of the body was maintained at about 800 deg C, and the reaction rate was controlled by the application of a pressure of about 35 MPa. As verified by x-ray diffraction analysis, this procedure resulted in complete conversion from reactants into products having a range of densities from 72 to 75% of theoretical. In the second step, the current was increased to raise the temperature of the material, thereby sintering and densifying the product. TiC with 3 wt.% nickel (Ni) was sintered to 95 to 98% of theoretical density, while TiC without Ni was sintered to 90% theoretical density. Although TiB2 was successfully converted, efforts to fully densify the product were hindered by the limitations of the Gleeble 1500. The effects of the current and pressure levels on the product density and microstructure were examined. The advantages and limitations of this process are also discussed.

Keywords: *Ceramic materials, Powders, X ray diffraction, Electric current, Titanium boride, Sintering, *High temperature synthesis, Consolidation, Titanium carbides, Titanium diboride, Gleeble 1500, Shs(Self propagating high temperature synthesis).

ADA362637REB PC A05/MF A01
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module. Final rept. 13 Aug 92-30 Jun 96.
Honeywell Technology Center, Minneapolis, MN.
J. Bristow, Y. Liu, and K. Johnson. Jan 1998, 53p, C-98057, AFRL-SN-WP-TR-1998-1055.
Contract F33615-92-C-1034
PE63739E.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

We have successfully demonstrated the first MCM-to-board-to-MCM optical interconnect based on VCSELs, polymer waveguide, and MCM-C packaging technologies. We demonstrated low-cost component fabrication and passive assembling techniques that are compatible with existing electronic manufacturing processes. We believe these approaches are critical to optical insertion into real system applications. We fabricated flexible polymer waveguide ribbons, board-integrated optical waveguides, and passively aligned flex-to-board waveguide connectors. We also demonstrated optical links based on conventional MCM-C packages with multiple data channels at data rates up to 1 Gbps per channel.

Keywords: *Multichip modules, *Optical interconnections, Polymers, Optical waveguides, Data links, Vertical cavity surface emitting lasers, *Electronic packaging.

ADA362638REB PC A06/MF A01
Getting the Most Out of Integrated Product Teams (IPTs). Final rept.
Center for Naval Analyses, Alexandria, VA.

Oct 1996, 90p, CRM-96-49-10.
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An Integrated Product Team (IPT) is a multi-functional team formed for the specific purpose of delivering a product or developing a process or policy. IPTs are set up to foster parallel rather than sequential decisions and to guarantee that all aspects of the product, process, or policy are considered throughout the development process. To most organizations, IPTs represent a fundamental departure from past practice, one that requires changes to structures, policies, processes, and even philosophy Consequently, IPTs need strong high-level and middle-management support and continual reinforcement to succeed. In 1995, secretary of Defense Perry directed the use of IPTs for defense acquisition. In this paper, we examine government, industry, and academia's experience with IPTs. Based on our research, we recommend ways to better implement this new management approach.

Keywords: *Integrated systems, *Teams(Personnel), *Management personnel, *Leadership training, Department of defense, Industries, Policies, Decision making, Acquisition, Defense systems, Management, Structures, Sequences, Procurement, Guidance, Philosophy, Multiple operation, Ipt(Integrated product team).

ADA362639REB PC A04/MF A01
Soviet Scientific and Engineering Personnel.
Joint Publications Research Service, Arlington, VA.
3 Jun 1960, 37p, JPRS-3368-OTS 60-31.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Engineering, *Scientific organizations, *Scientists, Ussr, Global, Schools, Theory, Geometry, Catalysts, Engineers, Personnel, Enrichment, Foreign reports.

ADA362640REB PC A03/MF A01
Interaction of Weak Shock Waves With a Flame Front, USSR.
Joint Publications Research Service, Arlington, VA.
G. D. Salmandra, and I. K. Sevast'yanova. 2 Jun 1960, 11p, JPRS-3308-OTS 60-31.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Shock waves, Explosives, Flames, Low strength, Foreign reports.

ADA362641REB PC A01/MF A01
Bioacoustics of Monterey Bay Pinnipeds: Auditory Fatigue and Masking. Final rept. 1 Oct 95-30 Sep 98.
California Univ., Santa Cruz. Long Marine Lab.
R. J. Schusterman. 30 Sep 1998, 5p.
Contract N00014-95-1-0936
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Auditory thresholds were obtained for one northern elephant seal (Mirounga angustirostris), one harbor seal (Phoca vitulina) and two California sea lions (Zalophus californianus) under unmasked conditions, masked conditions, and following exposure to noise. Thresholds were determined using a 50% correct detection criterion in a signal detection task using trained behavioral responses to brief pure tones. Results indicate that 1) Mirounga is most sensitive to low frequency sounds in water and is relatively hard of hearing in air; 2) Phoca has comparable auditory sensitivity to sounds of low frequency in air and under water; 3) Zalophus is more sensitive to aerial sounds than underwater sounds; 4) Zalophus is susceptible to age related hearing loss, especially at higher frequencies; 5) all three species, and Mirounga in particular, are quite good at detecting low frequency signals from noise; and 6) moderately loud underwater sounds have the potential to induce short-term residual hearing loss in all species tested.

Keywords: *Animals, *Underwater sound, *Bioacoustics, *Seals(Mammals), *Auditory defects, Detection, Airborne, Sensitivity, Short range(Time), Residuals, Fatigue, California, Response(Biology), Low frequency, Harbors, Hearing, Audio tones, Bays, Elephant seal, Mirounga angustirostris, One harbor seal, Phoca vitulina, California sea lions.zalophus californianus.

ADA362642REB PC A03/MF A01
Practical Method for Aircraft Life Enhancement. Final rept.
APR Consultants, Inc., Medway, OH.
May 1998, 26p.
Contract F33615-97-C-3214
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this Phase I effort was to prove the feasibility of reducing dynamic loads induced into aircraft structure by increasing landing gear strut precharge pressure. Reducing dynamic loads will reduce fatigue damage to aircraft structure resulting in life extension and reduced maintenance and inspections. An additional purpose of this effort was to determine the 'degree' of life enhancement that can be achieved. Finally, commercial aircraft operations and maintenance organizations were contacted to determine the level of ground loads related problems that occur in day to day operations. A NASA langley instrumented A-6 main landing gear strut was used to experimentally validate the concept. Computer simulations were used to predict dynamic load reductions for a large matrix of conditions for a variety of aircraft. The computer predictions were used to assess the potential life enhancement that could be achieved. Questionnaires were sent to a variety of commercial airline organizations requesting information regarding maintenance, inspection and structural failure data that relate to this effort. Phase I of this effort proved conclusively (both analytically and experimentally) that ground loads can be reduced by 40% or more by increasing strut precharge pressure. Estimated improvements in life of up to 15% were calculated for a randomly selected structure. A 'hot spot' would show much greater improvement. The results of Phase I were better than anticipated. The application of this technology will include military and civilian aircraft. The aircraft that will benefit the most will be large flexible aircraft such as commercial jets and military bomber and cargo aircraft that operate heavy and on rough runways.

Keywords: *Commerce, *Structural integrity, Computerized simulation, Commercial aircraft, Military aircraft, Aircraft maintenance, Structural properties, Mathematical prediction, Dynamic loads, Fatigue(Mechanics), Failure(Mechanics), Runways, Flexible structures, Landing gear, Sttr(Small business technology transfer), Sttr-97-142.

ADA362643REB PC A06/MF A01
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases. Final rept. Nov 98-Jan 99.
EAI Corp., Abingdon, MD.
K. Morrissey, T. R. Connell, J. R. Stuff, H. D. Durst, and R. J. O'Connor. Apr 1999, 78p, ECBC-TR-010, ECBC-TR-010.
Contract DAAM01-97-D-005
Prepared in cooperation with Edgewood Chemical Biological Center, Aberdeen Proving Ground, Md.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report summarizes the methods development and validation efforts for the quantitation of the nerve agent O-ethyl-S-(2- (diisopropylamino)ethyl methylphosphonothioate)(VX) in caustic neutralization solutions. This method uses C2 solid phase extraction to trap VX from the caustic hydrolysate onto a solid sorbent. A solvent wash step is used to remove interferents from the solid sorbent bed. The VX is selectively eluted with dichloromethane, and the extract is analyzed by gas chromatography with mass spectral detection. The overall method limit of detection was 4 ng/g (ppb) VX for the unseparated hydrolysate. The overall precision (as percent relative standard deviation) was 13% for the unseparated hydrolysate. The overall accuracy (as percent recovery) was 85% for the unseparated hydrolysate. The results of the precision and accuracy experiments demonstrate that this method is suitable for certifying the unseparated caustic hydrolysate to the required reporting limit of 20 ng/g (ppb) VX.

Keywords: *Decontamination, *Chemical agent detectors, *Vx agent, Quantitative analysis, Neutralization, Accuracy, Solutions(General), Limitations, Extraction, Hydrolysis, Standard deviation, Gas chromatography, Adsorbents, Solid phases, Caustics, Mass spectra, Chloromethanes, Chemical ag.

ADA362644REB PC A06/MF A01
THAAD Radar: Examination of a Cost Saving Initiative. Master's thesis.
Naval Postgraduate School, Monterey, CA.
J. W. Lewis. Mar 1999, 96p.
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This thesis analyzes two acquisition reform initiatives that made Theater High Altitude Area Defense (THAAD) Radar Product Office's Best of Breed Transmit/Receive Module study a success and examines the risk involved in the pursuit of this study. The initiatives are 'Cost As an Independent Variable' (CAIV) and commercial items in the form of dual-use technology. Analysis of the radar subsystem of THAAD reveals a major cost driver to be the transmit/receive (T/R) module in the antenna equipment. The Best of Breed study examined techniques in the design, engineering, and manufacturing of these modules and its components in order to aggressively reduce the unit cost. Using tenets of CAIV, THAAD Radar Product Office was able to define a study such that the contractor would recommend a low risk solution to achieve cost reductions of almost 50% for the module. Additionally, the Product Office was able to accomplish this without sacrificing performance or schedule. The commercial application of the T/R module was an important factor in motivating the contractor to seek aggressive cost reductions. Lessons from this case may be applicable to other programs seeking to reduce cost.

Keywords: *Costs, *Military procurement, *Radar duplexers, Risk, Theses, Reduction, Radar antennas, Multipurpose, *Thaad(Theater high altitude area defense), *Theater high altitude area defense, Caiv(Cost as an independent variable).

ADA362645REB PC A08/MF A02
CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women. Annual rept.
Macro International, Inc., Calverton, MD.
N. L. Atkinson. Oct 1998, 129p.
Contract DAMD17-96-C-6091
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this report is to report the results of the second year of a four-year study to investigate and address enlisted Army and Navy women's needs for basic gynecological and reproductive health education in order to enhance military readiness and general well-being. In the first phase of the study, a needs assessment was begun in which the methods included: 1) a mail survey of knowledge, attitudes, and practices (KAP) from a random sample of Army and Navy clinicians and chiefs of military medical departments; and

2) focus groups with enlisted Army and Navy women and with their health care providers. This second year focused on developing the focus group guides, updating literature review, beginning a secondary analysis of a national survey of military personnel health related behaviors, and' obtaining approval for a cross service survey from the Defense Manpower Data Center. Based on the results of the needs assessment, a culturally sensitive, multimedia CD-ROM and accompanying materials will be developed with the help of an advisory panel of military health care providers and with periodic reviews by the target audience. This intervention will then be tested in Army and Navy medical clinics in conjunction with annual Pap test screening.

Keywords: *Military personnel, *Operational readiness, *Health, *Medical services, *Women, *Reproduction(Physiology), Military operations, Defense systems, Education, Army personnel, Combat readiness, Literature surveys, Naval personnel, Secondary, Enlisted personnel, Clinical medicine, Manpower, Surveys, Military medicine, Information centers, Behavior, Medical personnel, Prevention.

ADA362646REB PC A05/MF A01
JPRS Report, East Asia Southeast Asia.
Joint Publications Research Service, Arlington, VA.
30 Apr 1990, 55p, JPRS-SEA-90-012.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *International politics, *Southeast asia, Government(Foreign), Military budgets, International relations, Far east, Fbis collection, Foreign reports.

ADA362647REB PC A06/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
4 Jan 1990, 81p, JPRS-NEA-90-001.
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No abstract available.

Keywords: *International politics, *South asia, Government(Foreign), International relations, Asia, Far east, Fbis collection, Foreign reports.

ADA362648REB PC A03/MF A01
USAFA Discovery, Jan-Mar 99.
Air Force Academy, CO.
Mar 1999, 12p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

CONTENTS: Cadets Begin Fabrication of Satellite for Launch; Designing-High-Speed Vehicles for the U.S. Air Force; and, Department Research News.

Keywords: *Air force research, *Military publications, *Periodicals, Fabrication, Artificial satellites, Cadets.

ADA362649REB PC A04/MF A01
JPRS Report, East Asia Southeast Asia.
Joint Publications Research Service, Arlington, VA.
14 Jun 1990, 50p, JPRS-SEA-90-017.
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No abstract available.

Keywords: *International politics, *Southeast asia, Government(Foreign), Budgets, International relations, Far east, Fbis collection, Foreign reports.

ADA362650REB PC A03/MF A01
Technological Development for Interfacing Parallel Access Memories to Parallel Computers. Final rept. 1 Jun 94-31 May 98.
California Univ., San Diego, La Jolla. Dept. of Electrical and Computer Engineering.
S. C. Esener. 15 Mar 1999, 13p, AFRL-SR-BL-TR-99-0116.
Contract F49620-94-1-0340
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

During this AASERT program, we have carried out the fabrication and evaluation of high speed receiver circuits implemented with this technology. To demonstrate the providing a bandwidth of 9GHz and an 8x8 III-V active-pixel sensor array with 285 MHz operation, In this report, we present a complete characterization of this smart pixel technology, including the S- and Y-parameters extraction for the typical devices implemented by this technology.

Keywords: *Parallel processors, *Circuit interconnections, Fabrication, Receivers, *Receiver circuits, AASERT(Augmentation Award for Science and Engineering Research Training).

ADA362651REB PC A05/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
23 Feb 1990, 60p, JPRS-NEA-90-012.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Foreign policy, *International relations, *South asia, Magazines(Ordnance), Communism, Far east, Revenue sharing, Fbis collection, Foreign reports.

ADA362652REB PC A06/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
9 Jan 1990, 77p, JPRS-NEA-90-002.
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No abstract available.

Keywords: *Military forces(Foreign), *International relations, Guided missiles, Industries, Economics, Costs, Treaties, Cooperation, South asia, Fbis collection, Foreign reports.

ADA362653REB PC A06/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
21 Feb 1990, 78p, JPRS-NEA-90-011.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Military forces(Foreign), *International relations, Emergencies, Water pollution, Far east, South asia, Fbis collection, Foreign reports.

ADA362654REB PC A06/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
13 Feb 1990, 76p, JPRS-NEA-90-010.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *International relations, *South asia, Foreign policy, Health, Facilities, Youth, Refugees, Fbis collection, Foreign reports.

ADA362655REB PC A04/MF A01
JPRS Report, East Asia Southeast Asia.
Joint Publications Research Service, Arlington, VA.
11 Dec 1990, 34p, JPRS-SEA-90-033.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *International relations, *Southeast asia, Foreign policy, Foreign, Costs, Boundaries, Electric power, Wounds and injuries, Dams, Cereals, Fbis collection, Foreign reports.

ADA362656REB PC A11/MF A03
Tacit Knowledge in the Workplace. Final rept. Sep 92-Dec 98.
Yale Univ., New Haven, CT. Dept. of Psychology.
R. J. Sternberg, G. B. Forsythe, J. Hedlund, J. A. Horvath, and T. Tremble. Mar 1999, 220p, ARI-TR-1093.
Contract MDA903-92-K-0125
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This is the final product of a six year effort to define, assess and measure tacit knowledge for leadership among U.S. Army officers. Tacit knowledge is defined as knowledge grounded in experience, intimately related to action, and not well supported by formal training and doctrine. Tacit knowledge for leadership was researched at three different levels of command and developed into assessment inventories for each level. The assessment inventories have been construct validated and proven to predict certain leadership effectiveness ratings at each level and to do so better than measures of verbal reasoning ability, tacit knowledge for business managers, or experience. The report describes the constructs of 'practical intelligence' and 'tacit knowledge', other research related to them, the general methods used in assessing tacit knowledge, and the development of the Tacit Knowledge for Military Leaders inventories. There is also a chapter on the practical implications for leadership development and training. An expanded version of this report will appear as a commercially available book entitled, Practical Intelligence in Everyday Life by the same authors.

Keywords: *Army personnel, *Reasoning, *Leadership training, Leadership, Personnel management, Ratings, Officer personnel, Verbal behavior, *Tacit knowledge, Leadership effectiveness.

ADA362657REB PC A07/MF A02
East Europe Report, Political, Sociological and Military Affairs, No. 2090.
Joint Publications Research Service, Arlington, VA.
30 Dec 1982, 116p, JPRS-82564.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Political science, *Sociology, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, Eastern europe, Youth, Military affairs, Fbis collection, Foreign reports, Translations.

ADA362658REB PC A03/MF A01
Involvement of Nuclear Receptor Co-Repressors in the Development of Human Breast Cancer. Annual rept. 1 Sep 97-31 Aug 98.
Massachusetts Univ. Medical Center, Worcester.

J. D. Chen. Sep 1998, 21p.
Contract DAMD17-97-1-7039
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Retinoic acids (RA) inhibit proliferation of many breast cancer cells. Retinoic acid receptors are present in many different breast cancer cells, presumably to mediate such anti proliferation effects of RA. In the absence of RA, the receptor represses transcription through physical interaction with nuclear receptor corepressors SMRT and N-CoR, which form multi-protein complexes containing histone deacetylation activity. In this project, we planned to investigate the expression and regulation of SMRT in breast cancer cells and its role in the cross talk between retinoids and steroids. So far, we have established several breast carcinoma cell lines in the laboratory. We have determined SMRT level in these cells by using Northern and Western blot techniques. We found that most breast cancer cells express SMRT and, interestingly, the cancerous cells contain higher levels of SMRT than the normal breast epithelial cells. These results suggest that SMRT may be involved in regulation of breast carcinoma cell growth and proliferation. Work is currently in progress to understand the role of SMRT in the development of breast cancers and in the cross interaction between retinoids and steroids in this disease.

Keywords: *Neoplasms, *Receptor sites(Physiology), *Breast cancer, *Retinoic acids, Epithelium, Humans, Interactions, Physical properties, Cells(Biology), Crosstalk, Mammary glands, Steroids, Vitamin a.

ADA362659REB PC A04/MF A01
Regulation of the Multidrug Resistance-Associated Protein Gene by Estrogen. Annual rept. 1 Sep 97-31 Aug 98.
Minnesota Univ., Minneapolis.
M. M. Sanders. Sep 1998, 48p.
Contract DAMD17-97-1-7270
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

An observation was made that the mRNAs for two clones, Number 41 and Number 44, were rapidly repressed by estrogen. Clone Number 44 shared sequence homology with members of the multidrug resistance-associated protein (NRP) gene family. This raised the question of whether the MDR phenotype in breast cancer may in part be due to the loss of repression of MRP by estrogen when TAM is administered. The goals of this past year were to complete the identification of Number 41 and Number 44, to ascertain whether they are homologues of MRP, to verify their regulation by estrogen, and to begin testing whether the human MRP gene may also be regulated by estrogen. Significant progress has been made on most of these goals and a manuscript is in preparation on this work. In particular, we have shown that Number 44 is the chick orthologue of the human MRP1 gene, we have cloned an additional 1363 bp of Number 41 but data bases show no significant homologies with other cloned genes, the half lives of repression of the mRNAs for the two clones have been determined, and preliminary data suggest that the regulation of the chick MRP gene is probably post-transcriptiona.

Keywords: *Genes, *Drugs, *Estrogens, *Breast cancer, Data bases, Clones, Chickens, Resistance(Biology), *Multidrug resistance.

ADA362660REB PC A04/MF A01
Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications. Annual rept. 1 Oct 97-30 Sep 98.
University of Southern California, Los Angeles.
M. F. Press, and F. M. Muggia. Sep 1998, 37p.
Contract DAMD17-94-J-4321
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Although clinical development of drug resistance during treatment of breast cancer has been apparent for at least two decades, little is known about the mechanisms involved. Multidrug resistance (mdr) mediated by MDRI gene expression is one of multiple factors identified which may be associated with declining therapeutic efficacy of anticancer drugs after failure of an initial therapy. This research program evaluated MDR 1 expression in clinical specimens and demonstrated its lack of a relationship to age, menopausal status, stage, hormone receptors, site of disease, and prior treatment. Through use of clearly defined laboratory methods and specimens from women in defined clinical treatment protocols, MDRI expression was shown to be unrelated to a history of chemotherapy drug treatment in either the neoadjuvant or adjuvant setting. Although MDRI expression was identified in breast tumors using reverse transcriptase PCR techniques, this expression was found to be restricted to lymphoid cells in the breast tumor stroma and was not present in the breast carcinoma cells. As tumor tissue quantity permitted, other molecular alterations were also assessed in the same breast cancer specimens for correlations with responsiveness to treatment. Expression of p53 tumor suppressor gene, HER-2/neu oncogene and an mdr-associated protein, p7, were evaluated. Overexpression of HER-2/neu was correlated with responsiveness to Taxol chemotherapy but expression of p53 was not correlated to responsiveness to Taxol chemotherapy.

Keywords: *Clinical medicine, *Chemotherapy, *Antibiotics, *Drug tolerance, *Breast cancer, Hormones, Tissues(Biology), Quantity, Diseases, Neoplasms, Laboratory procedures, Genes, Response(Biology), Drugs, Cells(Biology), Women, Receptor sites(Physiology), Mammary glands, Resistance(Biology), Lymphatic system, *Multidrug resistance.

ADA362661REB PC A04/MF A01
Fidelity of DNA Replication in Normal and Malignant Human Breast Cells.
Maryland Univ., Baltimore. School of Medicine.
J. W. Sekowski. Jul 1998, 44p.
Contract DAMD17-94-J-4151
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In order to determine the degree to which the accumulation of mutations in breast cancer cells is due to a change in the fidelity of the cellular DNA replication machinery we have completed a series of experiments utilizing the multiprotein DNA synthesome isolated from malignant (cell culture and human tumors) and non-malignant (cell culture, benign human breast disease tissue, and disease-free human breast tissue) breast cells. The DNA synthesome has been extensively demonstrated to carry out full length DNA replication in vitro, and to accurately depict the DNA replication process as it occurs in the intact cell. By examining the fidelity of the DNA replication process carried out by the DNA synthesome from a number of breast cell types, we have demonstrated for the first time, that the cellular DNA replication machinery of malignant human breast cells is significantly more error-prone than that of non- malignant human breast cells.

Keywords: *Deoxyribonucleic acids, *Breast cancer, Tissues(Biology), Proteins, Mutations, Cells(Biology), Cultures(Biology), Mammary glands, Germ free animals, *Malignant, Fidelity, Multiprotein complex, Cell proliferation, Dna replication.

ADA362662REB PC A06/MF A01
High Resolution Computerized Ionospheric Tomography Systems. Final rept. May 95-Sep 98.
Iowa Univ., Iowa City.
H. Na. 22 Apr 1999, 87p.
Contracts N00014-95-1-0850 , N00014-97-1-0419
Prepared in cooperation with California Univ., Los Angeles, CA.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Research has focused on the development, characterization and implementation of algorithms for time varying ionospheric imaging. Several techniques were used including neural network based approaches for imaging localized time varying events, an iterative volumetric approach for three- dimensional imaging that enables localized incorporation of a priori information, and a technique that utilizes both TEC data as well as information from the WSBI system. Considerable effort was made to analyze the strengths and weaknesses of the various approaches and their inherent limitations. Tests were made using both real and simulated data.

Keywords: *Neural nets, *Ionospheric models, *Computerized tomography, Image processing, Ionosphere, Electron density, High resolution, Ray tracing, Satellite imagery, Cit(Computerized ionospheric tomography), Image reconstruction.

ADA362663REB PC A06/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
28 Feb 1990, 82p, JPRS-NEA-90-013.
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Keywords: *Middle east, *South asia, Sources, Commerce, Foreign, Documents, International relations, Periodicals, Far east, English language, Fbis collection.

ADA362664REB PC A04/MF A01
JPRS Report, East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
27 Nov 1990, 46p, JPRS-SEA-90-031.
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Keywords: *Military operations, *Political science, *Economics, *Southeast asia, *Far east, Sources, Policies, Commerce, Foreign, Government(Foreign), Documents, Periodicals, Foreign languages, English language, Fbis collection.

ADA362665REB PC A06/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
7 Mar 1990, 79p, JPRS-NEA-90-014.
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customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

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Keywords: *Economics, *Middle east, *Government(Foreign), *International relations, *Far east, *South asia, Sources, Political science, Foreign, Joint military activities, Documents, Periodicals, Asia, Foreign languages, English language, Fbis collection.

ADA362666REB PC A04/MF A01
JPRS Report, East Asia Southeast Asia.
Joint Publications Research Service, Arlington, VA.
29 Nov 1990, 31p, JPRS-SEA-90-032.
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Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, military, economic, environmental, and sociological news. commentary, and other information. as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available sources. It should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated; those from English-language sources are tran- scribed. Except for excluding certain diacritics, FBIS renders personal and place-names in accordance with the romanization systems approved for U.S. Government publications by the U.S. Board of Geographic Names. This report contains articles on East Asia and Southeast Asia.

Keywords: *Military operations, *Political science, *Economics, *Southeast asia, *Far east, Sources, Foreign, Joint military activities, Documents, Periodicals, Foreign languages, English language, Fbis collection.

ADA362667REB PC A09/MF A02
Software Acquisition Capability Maturity Model (SA-CMM) Version 1.02. Final technical rept.
Carnegie-Mellon Univ., Pittsburgh, PA. Software Engineering Inst.
J. Cooper, M. Fisher, and S. W. Sherer. Apr 1999, 167p, CMU/SEI-99-TR-002, ESC-TR-99-002.
Contract F19628-95-C-0003
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Government and industry have the need to improve the maturity of their internal software acquisition processes. In order for organizations to make improvements, they must know the ultimate goal and what is required to achieve that goal. Additionally, progress toward achieving the goal must be measurable. A capability maturity model provides the framework needed to facilitate the desired improvement. The Software Acquisition Capability Maturity Model (SA-CMM) has been developed to provide such a framework. This new version incorporates change requests that have been received, as well as the results of lessons learned from conducting appraisals and from the use of Version 1.01.

Keywords: *Software engineering, Management planning and control, Performance(Engineering), Quality assurance, Computer program verification, Computer program reliability, Software development, Cmm(Capability maturity model), Software acquisition.

ADA362668REB PC A06/MF A02
Successful Management Practices.
Army Materiel Systems Analysis Activity, Aberdeen Proving Ground, MD.
Feb 1999, 100p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this report is to document the successful management practices developed by the U.S. Army Program, Project, and Product Managers in implementing the Integrated Product and Process Management (IPPM) concept for primarily small systems. The information was gathered from surveys and interviews with PMs from 24 Army systems in various phases of the acquisition process. The intent of this report is to furnish the information accumulated during the survey and provide examples of successful management practices and/or benefits resulting from implementing the IPPM concept.

Keywords: *Management personnel, *Army, *Project management, Integrated systems, Policies, Decision making, Acquisition, Performance(Human), Surveys, Interviewing, Ippm(Integrated product and process management).

ADA362669REB PC A03/MF A01
JPRS Report, East Asia Southeast Asia.
Joint Publications Research Service, Arlington, VA.
25 Oct 1990, 27p, JPRS-SEA-90-030.
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Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, military, economic, environmental, and sociological news, commentary, and other information. as well as scientific and technical data and reports. This document contains articles concerning East Asia.

Keywords: *Military operations, *Political science, *Southeast asia, *Far east, Foreign, Joint military activities, Documents, Political parties, Fbis collection.

ADA362670REB PC A03/MF A01
Department of Energy: Key Factors Underlying Security Problems at DOE facilities.
General Accounting Office, Washington, DC. Resources, Community and Economic Development Div.
V. S. Rezendes. 20 Apr 1999, 21p, GAO/T-RCED-99-159.
Testimony, Before the Subcommittee on Oversight and Investigations, Committee on Commerce, House of Representatives.
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We are pleased to be here today to discuss our past work involving security at the Department of Energy's (DOE) facilities. These facilities, particularly its nuclear weapons design laboratories and its nuclear material and weapons production facilities, have long been viewed by DOE and the FBI as targets of espionage and other threats. Recent revelations of the possible loss of nuclear weapons design and other classified information to foreign countries have focused renewed attention on the effectiveness of security at DOE'S facilities and have prompted concerns at high levels in the government, including the Administration and the Congress. To protect its facilities from security threats, DOE created a multifaceted, defense-in-depth security strategy. Under such a strategy, various lines of defense are used to protect classified and sensitive information, nuclear materials, and equipment. Over the last 20 years, we have performed numerous reviews of security that, unfortunately, Mr. Charmain, show series weaknesses in many of the lines of defense that have lead to loss of classified or sensitive information and technology.

Keywords: *National security, *Defense in depth, Nuclear weapons, Congress, Espionage, Threats, Targets, Fissionable materials, Ordnance laboratories, Nuclear physics laboratories, Gao reports, Department of energy.

ADA362671REB PC A07/MF A02
USSR Report, Military Affairs, No. 1733.
Joint Publications Research Service, Arlington, VA.
3 Jan 1983, 123p, JPRS-82573.
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No abstract available.

Keywords: *International politics, *Military forces(Foreign), Ussr, Military personnel, Military facilities, Civil defense, Military doctrine, Military exercises, Military budgets, Military organizations, Fbis collection, Foreign reports.

ADA362672REB PC A07/MF A02
China Report, Political, Sociological and Military Affairs.
Joint Publications Research Service, Arlington, VA.
14 Jan 1985, 117p, JPRS-CPS-85-006.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *International politics, *Sociology, *China, Economics, International trade, International relations, Fbis collection, Foreign reports.

ADA362673REB PC A02/MF A01
Human Adrenal Androgens: Regulation of Biosynthesis and Role in Estrogen-Responsive Breast Cancer in a Mouse Model. Annual rept. 1 Sep 97-31 Aug 98.
Baylor Coll. of Medicine, Houston, TX.
P. J. Hornsby. Sep 1998, 10p.
Contract DAMD17-94-J-4252
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

These experiments investigate a mouse model for the biosynthesis of the human adrenal androgens (dehydroepiandrosterone, DHEA, and its sulfate, DHEAS) and the role of these steroids in human breast cancer growth. An androgen-dependent human breast cancer model was established in immunodeficient (scid) mice. Zona reticularis cells in the human adrenal cortex are responsible for adrenal androgen biosynthesis because of the suppressed expression of 3 beta-hydroxysteroid dehydrogenase (3beta-HSD) in these cells. A protein present in the non-DHEA-secreting zones of the cortex and absent from the zona reticularis which binds to a regulatory region of the type II 3 beta-HSD gene was partially purified. Human adrenocortical cells were transplanted into scid mice and were shown to replace the animals own adrenal function. Although zona reticularis cells were transplanted, DHEAS was not detected in mouse plasma. As an alternative to the use of human zona reticularis cells, clonal bovine adrenocortical cells were shown to be capable of forming tissue in scid mice that replaces the animals adrenal glands. This was shown both with normal clonal cells and with cells genetically modified by the insertion of marker genes. The ability to genetically modify the cells provides a means to test whether suppression of 3 beta-HSD by an antisense strategy can create a tissue with a very high rate of DHEA biosynthesis in the mouse transplant model.

Keywords: *Biosynthesis, *Adrenal cortex, *Androgens, *Estrogens, *Breast cancer, Hormones, High rate, Humans, Plasmas(Physics), Proteins, Response(Biology), Sulfates, Mice, Cells(Biology), Bovines, Suppression, Anatomical models, Growth(Physiology), Adrenal glands, Steroids, Dhea(Dehydroepiandrosterone), Scid(Steroids in immunodeficient), Zona reticularis cells.

ADA362674REB PC A12/MF A03
Department of Defense Nuclear/Biological/Chemical (NBC) Defense Annual Report to Congress March 1999. Annual rept.
Department of Defense, Washington, DC.
Mar 1999, 248p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The objective of the Department of Defense (DoD) Chemical and Biological Defense Program (CBDP) is to enable our forces to survive, fight, and win in a chemically or biologically contaminated warfare environment. The DoD CBDP provides development and procurement of systems to enhance the ability of U.S. forces to deter and defend against CB agents during regional contingencies. The probability of U.S. forces encountering CB agents during worldwide conflicts remains high. An effective defense reduces the probability of a CB attack, and if an attack occurs, it enables U.S. forces to survive, continue operations, and win. Scientific, technological, and resource limitations remain in preventing U. S. forces from having complete full dimensional protection and meeting all requirements for two nearly simultaneous Major Theater Wars.

Keywords: *Biological warfare, *Chemical warfare, Warfare, Congress, Department of defense, Environments, Defense systems, Contamination, Biological warfare agents, Chemical warfare agents, Aq u99-06-1354, Cbdp(Chemical and biological defense program).

ADA362675REB PC A06/MF A02
Improved Methodology For Screening Military Pilot Applicants. Master's thesis Aug 65-May 66.
Army Command and General Staff Coll., Fort Leavenworth, KS.
D. V. Wilson. 23 May 1966, 97p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This thesis concentrates on the process of selecting men for military pilot training. Past, present, and possible future selection techniques &re explored and analyzed. The objective is to determine how the present selection method can be improved so that the number of elimination from pilot training, and consequently, the cost of military pilot training can be reduced. Four conclusions are evolved: (1) The written aptitude test should be retained. (2) Flight Instruction Program screening should be expanded to include applicants from the USAF Officer Training School and U.S. Navy Aviation Officer Candidate sources. (3) A modern apparatus test should be developed and included in selection testing to evaluate pilot potential. (3) A valid motivation test should be developed and implemented for inclusion in the battery of selection tests.

Keywords: *Air force personnel, *Selection, Flight training, Pilots, Theses, Costs, Motivation, Personnel selection, Officer personnel, Aptitude tests, Selection tests.

ADA362676REB PC A08/MF A02
Latin America Report, No. 2704.
Joint Publications Research Service, Arlington, VA.
8 Jul 1983, 146p, JPRS-83846.
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No abstract available.

Keywords: *Economics, *International relations, Organizations, Energy, Conservation, Latin america, Carbinols, Fbis collection, Foreign reports.

ADA362677REB PC A08/MF A02
USSR Report, Military Affairs, No. 1732.
Joint Publications Research Service, Arlington, VA.
29 Dec 1982, 131p, JPRS-82560.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Military forces(United states), *Political science, *International relations, Ussr, Infantry, Reports, Books, Regiment level organizations, Fbis collection, Foreign reports, Military affairs.

ADA362678REB PC A07/MF A02
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1982.
Joint Publications Research Service, Arlington, VA.
28 Dec 1982, 101p, JPRS-82551.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Political science, *Economics, *International relations, Lebanon, Ussr, Space sciences, Psychology, Cooperation, Fbis collection, Foreign reports, Ideology.

ADA362679REB PC A06/MF A01
China Report, Political, Sociological and Military Affairs, No. 377.
Joint Publications Research Service, Arlington, VA.
29 Dec 1982, 81p, JPRS-82556.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Foreign policy, *International relations, *Political parties, *China, Policies, Sociology, Fbis collection, Foreign reports, Military affairs.

ADA362680REB PC A08/MF A02
Latin America Report, No. 2710. Fighting in Nicaragua: Battles Along Two Borders.
Joint Publications Research Service, Arlington, VA.
20 Jul 1983, 127p, JPRS-83938.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Military forces(Foreign), *Battles, *International relations, *Latin america, Travel, Nicaragua, Foreign reports, Fbis collection.

ADA362681REB PC A01/MF A01
Quantum Chaos in Rydberg Atoms. Annual rept. 1 Jan-31 Dec 98.
Massachusetts Inst. of Tech., Cambridge. Research Lab. of Electronics.
D. Kleppner. 30 Apr 1999, 4p.
Contract N00014-96-1-0484
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

We have carried out a study of physics in the semiclassical regime. Recently we extended the technique of recurrence spectroscopy to the time domain. In separate experiment we investigated extending the semiclassical closed orbit theory to a process whose origin is entirely quantum mechanical: tunneling. We studied the continuum photoexcitation spectrum of Ryberg states of lithium in an electric field under conditions for which the escaping electron must tunnel through the potential barrier, and also for which it could escape over the barrier. We applied scaled energy spectroscopy to the system, making it possible to relate the spectrum to the classical orbits. When tunneling is important,new classical orbits can originate by an entirely non-classical process. It has turned out to be possible to understand the system theoretically and reproduce the spectrum in great detail, including both sharp tunneling resonances and broad above-barrier structures.

Keywords: *Tunneling(Electronics), *Quantum electronics, Chaos, Lithium, Rydberg constant.

ADA362682REB PC A04/MF A01
Ceramic Coated Piston Rods for Civil Works. Final rept.
Construction Engineering Research Lab. (Army), Champaign, IL. Engineering and Materials Div.
R. A. Weber, and R. Zatorski. Apr 1999, 48p, USACERL-TR-99/36.
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The U.S. Army Corps of Engineers uses many hydraulic pistons on its Civil Works structures. Recent failures of ceramic coated piston rods in the Jacksonville District indicate that specifications for these rods need to be updated and enhanced. This report discusses results of tests performed on carbon steel rods with varying bond coats applied with one of several methods. Top coats were also varied, and sealers were used only on some of the specimens. Testing was to determine hardness and corrosion/impact resistance. Conclusions drawn in this study will be used to recommend modifications to Corps of Engineers Guide Specification 15010.

Keywords: *Pistons, *Ceramic coatings, Test and evaluation, Resistance, Impact strength, Corrosion resistance, Army corps of engineers, Rods, Hydraulic equipment, Carbon steels, Hydraulic pistons, Civil works, Thermal spray.

ADA362683REB PC A11/MF A03
Acquisition Positions in the Department of Defense Update. Final rept.
Logistics Management Inst., McLean, VA.
T. Urman, P. A. Lussier, and A. H. Schroetel. Apr 1999, 223p, LMI-AQ804T1.
Contract DASW01-95-C-0019
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The Defense Acquisition Improvement Act requires that positions in the DoD workforce that perform acquisition functions be designated as acquisition positions and that, to the maximum extent practicable, the designations be implemented uniformly throughout DoD. Uniformity of position designations is important because it supports the effective management of accessions, career development, education, and training of the acquisition workforce. The Under Secretary of Defense (Acquisition Reform) commissioned the Logistics Management Institute to study acquisition designation in the DoD components to determine if they identify positions consistently and, if inconsistency exists, to identify the causes of the inconsistencies and suggest corrective actions, as appropriate. Overall, the results show a high degree of uniformity and compliance with policy guidance. However, the components should review their current acquisition-position designations for some specific occupational series to increase consistency in designation practices. The analysis has also suggested a number of policy issues that the Under Secretary of Defense for Acquisition and Technology and the DoD functional boards should consider.

Keywords: *Acquisition, Functions, Department of defense, Policies, Defense systems, Logistics manage-

ment, Careers, Work, Personnel development, Dawia(Defense acquisition workforce improvement act).

ADA362684REB PC A04/MF A01
East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
13 Sep 1990, 47p, JPRS-SEA-90-025.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains foreign media information from East Asia and Southeast Asia concerning political, military and economic issues.

Keywords: *Political science, *Economics, *Military forces(Foreign), International trade, Civil affairs, Southeast asia, Crimes, East asia, Fbis collection, Foreign reports, Military affairs, Socioeconomics.

ADA362685REB PC A05/MF A01
By Example: The Impact of Recent Argentine Naval Activities on Southern Cone Naval Strategies. Final rept.
Center for Naval Analyses, Alexandria, VA.
M. D. Hayes. Feb 1995, 65p, CRM-94-111.10.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Office of the Chief of Naval Operations, Plans, Policy and Operations asked the Center for Naval Analyses to evaluate Argentine naval strategy, its political and economic sustainability, its impact on other key nations in South America, and the implications for U.S. naval relations with countries of the Southern Cone. Thus, we examined in-depth the political- military environment in Argentina, Brazil, and Chile--the three naval powers of the Southern Cone. The study considers the impact of civilian leadership on the Southern Cone armed forces, and navies in particular. It documents the themes of defense policies evolving within the region, examines broad political support for the armed forces in general, and gives special attention to navy roles and missions. The study also recommends approaches for the U.S. Navy in developing a long-term strategy toward the Southern Cone and Latin America.

Keywords: *Military strategy, *Naval operations, *Naval planning, *Argentina, Foreign policy, United states, Political science, Defense systems, Leadership, Economics, Navy, International relations, Brazil, Chile.

ADA362686REB PC A06/MF A01
East Europe Report, Political, Sociological and Military Affairs, No. 2154.
Joint Publications Research Service, Arlington, VA.
17 Jun 1983, 93p, JPRS-83709.
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No abstract available.

Keywords: *Political science, *Sociology, Government(Foreign), Military forces(Foreign), Civil affairs, Political parties, Eastern europe, Fbis collection, Foreign reports, Military affairs, Translations.

ADA362687REB PC A07/MF A02
China Report, Political, Sociological and Military Affairs.
Joint Publications Research Service, Arlington, VA.
16 Jan 1985, 119p, JPRS-CPS-85-007.
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No abstract available.

Keywords: *Political science, *Sociology, Government(Foreign), Military forces(Foreign), Security, Civil affairs, International relations, China, Military affairs, Fbis collection, Foreign reports, Translations.

ADA362688REB PC A03/MF A01
Initial Assessment of the Air Combat Environment Test and Evaluation Facility To Support Operational Test and Evaluation. Final rept.
Center for Naval Analyses, Alexandria, VA.
J. A. Bentrup, D. Greaser, and R. L. Bainbridge. Nov 1996, 26p.
Contract N00014-96-D-0001
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper briefly describes the Navy's Operational Test and Evaluation Force 5 (OPTEVFOR's) assessment regarding the suitability of selected laboratories at the Air Combat Environment Test and Evaluation Facility (ACETEF) to support the operational test and evaluation of electronic warfare systems - Radar Warning Receivers (RWR) and, in particular, the Navy's next-generation RWR, the AN/ALR-67(V)3.

Keywords: *Electronic warfare, *Naval research laboratories, *Naval shore facilities, Test and evaluation, Warfare, Navy, Electronic equipment, Operational effectiveness, Aerial warfare, Radar receivers, Warning systems.

ADA362689REB PC A06/MF A01
China Report, Political, Sociological and Military Affairs.
Joint Publications Research Service, Arlington, VA.
19 Jan 1985, 89p, JPRS-CPS-85-008.
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No abstract available.

Keywords: *Political science, *Sociology, *China, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, Crimes, Military affairs, Fbis collection, Foreign reports, Translations.

ADA362690REB PC A11/MF A03
China Report, Political, Sociological and Military Affairs.
Joint Publications Research Service, Arlington, VA.
29 Jan 1985, 215p, JPRS-CPS-85-009.
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No abstract available.

Keywords: *Political science, *Sociology, *China, Military operations, Government(Foreign), Military forces(Foreign), Security, Civil affairs, International relations, Propaganda, Geneva talks, Military affaire, Fbis collection, Foreign reports, Public security, Translations.

ADA362691REB PC A04/MF A01
China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 17, 10 August 1984.
Joint Publications Research Service, Arlington, VA.
10 Jan 1985, 31p, JPRS-CPS-85-004.
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No abstract available.

Keywords: *Political science, *Economics, *Sociology, Commerce, Government(Foreign), Military forces(Foreign), International relations, China, Fbis collection, Foreign reports, Translations.

ADA362692REB PC A06/MF A02
CVX Damage Control Information Technology Evolutionary Model. Master's thesis.
Naval Postgraduate School, Monterey, CA.
F. R. Steinbach. Mar 1999, 100p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Tightening of the U.S. defense budget has been closing in around the twelve aircraft carrier navy throughout the 1990's. In spite of this budget decline, the quantity and quality of our most expensive weapons, the aircraft carriers (CVX), have remained stable over the same period. The next generation of carriers promises to be just as large and more diverse in mission than the current design. Without an infusion of sound technological advancements, the quantity of manpower required to protect these new carriers threatens to reduce the twelve-carrier navy to a more affordable number. The goal of this thesis is to establish a 'technology roadmap' by which CVX can avoid where possible and negotiate where necessary, the changes in state of the art damage control technology. A deliberate and technologically sound process for improving the damage control capabilities aboard future and existing aircraft carriers is possible. A strong investment in information technology planning will play a major part in optimizing capabilities and manpower requirements of CVX.

Keywords: *Software engineering, *Aircraft carriers, *Decision support systems, Military requirements, Integrated systems, Automation, Manpower utilization, Theses, Naval planning, Decision aids, Damage control, Distance learning.

ADA362693REB PC A07/MF A02
Technical Operations Division - Heritage Remembered. Rept. for 1950-1999.
Air Force Technical Applications Center, Patrick AFB, FL.
9 Apr 1999, 124p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Technical Operations Division (TOD) at McClellan Air Force Base will be inactivated on 30 September 1999 after nearly 50 years of vigilance over the nuclear world. TOD was the largest subordinate unit of the Air Force Technical Applications Center, (AFTAC), headquartered at Patrick Air Force Base, Florida. AFTAC is responsible for monitoring several nuclear testing treaties by detecting and identifying nuclear explosions, anywhere on or in the planet. As an integral component of this mission, TOD contributed to the operation of the United States Atomic Energy Detection System (USAEDS), a worldwide network of sensors and environmental samplers, nuclear debris sampling aircraft, and an analytical laboratory system which collect and identify indicators of foreign nuclear activities. This commemorative document chronicles the five decades of TOD's existence.

Keywords: *Military history, *Nuclear explosion detection, Nuclear explosion testing, Military publications, Nuclear weapon debris.

ADA362694REB PC A17/MF A03
Environmental Analysis of U.S. Navy Shipboard Solid Waste Discharges: Addendum to the Report of Findings. Final rept.
Space and Naval Warfare Systems Command, San Diego, CA.
S. L. Curtis, C. N. Katz, and D. B. Chadwick. Feb 1999, 363p, TR-1716-ADD.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This Addendum provides follow-on findings to a report published by SSC San Diego (TR 1716) in January

1996 detailing a study of the fate and effects of U.S. Navy shipboard solid waste discharges. The study was requested as part of the Navy's effort to evaluate solid waste discharge compliance alternatives. The objective of the study was to determine to what extent, if any, Navy solid waste discharges lead to adverse marine environmental effects. Along with the original findings, the final results presented in this Addendum suggest that there will be no significant adverse environmental impact from the discharges studied.

Keywords: *Shipboard sewage treatment systems, Environmental impact, Environmental management, Waste management, Environmental protection, Solid wastes, Ocean environments, Ecology, Toxicology, Addendum.

ADA362695REB PC A05/MF A01
Translations on Eastern Europe. Political, Sociological, and Military Affairs, No. 1406.
Joint Publications Research Service, Arlington, VA.
27 Jun 1977, 73p, JPRS-69315.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Political science, *Sociology, Military forces(Foreign), Czechoslovakia, Military organizations, Eastern europe, Poland, Bulgaria, East germany, Propaganda, Fbis collection, Foreign reports, Military affairs, Translations.

ADA362696REB PC A07/MF A02
Soviet Union, Military Affairs.
Joint Publications Research Service, Arlington, VA.
3 Sep 1987, 122p, JPRS-UMA-87-041.
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No abstract available.

Keywords: *Political science, *Military forces(Foreign), *Ussr, Military operations, Government(Foreign), Military doctrine, Military tactics, Military affairs, Fbis collection, Foreign reports, Translations.

ADA362697REB PC A04/MF A01
Workshop on 'New Engineering Technology Transfer in Orthopaedic Surgery'. Final Proceedings rept. 30 Sep 98-31 Mar 99.
Johns Hopkins Univ., Baltimore, MD. School of Medicine.
E. Chao. Apr 1999, 36p.
Contract DAMD17-98-1-8648
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This workshop was sponsored primarily by the National Institutes of Health (NIH) and the American Academy of Orthopaedic Surgeon (AAOS) to discuss the emerging technology of digital image graphics, robotics, and computer information and their potential impact on orthopaedic surgery in research, education and patient care. Because of the current pressure of health care reform and drastically reduced rates of medical reimbursement in both the private and public sectors, the relative merits and costs of these technologies were carefully assessed by all speakers and discussed by the participants. The objective of this workshop was to learn about current state-of the art developments and potential applications of these emerging technologies in orthopaedics from leaders in the field through careful assessment, rational prioritization and exploration. Break-out sessions were held in a rigorous format that successfully stimulated exchange of knowledge and future collaborative opportunities for research and development among the participants. Innovative ideas and application possibilities generated from the brain-storming exercises will be disseminated throughout this report and in a web site on the internet.

Keywords: *Technology transfer, *Health care facilities, *Surgery, *Orthopedics, *Health care reform, Digital systems, Stimulation(General), Robotics, Computers, Costs, Engineering, Images, Graphics, Speech, Patients, Physicians, Exchange, Internet.

ADA362698REB PC A05/MF A01
East Europe Report, Political, Sociological and Military Affairs, No. 2169.
Joint Publications Research Service, Arlington, VA.
20 Jul 1983, 53p, JPRS-83937.
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No abstract available.

Keywords: *International relations, *Political parties, *Sociology, Eastern europe, Poland, Fbis collection, Foreign reports, Military affairs.

ADA362699REB PC A05/MF A01
USSR Report, Military Affairs, No. 1781.
Joint Publications Research Service, Arlington, VA.
21 Jul 1983, 73p, JPRS-83943.
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No abstract available.

Keywords: *Military forces(Foreign), *Military training, *International relations, Ussr, Officer personnel, Tactical warfare, Refueling, Accidents, Fbis collection, Foreign reports, Military affairs.

ADA362700REB PC A06/MF A01
USSR Report, Military Affairs, No. 1775.
Joint Publications Research Service, Arlington, VA.
15 Jun 1983, 89p, JPRS-83692.
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No abstract available.

Keywords: *Military forces(Foreign), *International relations, *Political parties, Ussr, Leadership, Robots, Careers, Tables(Data), Officer personnel, Books, Fbis collection, Foreign reports, Military affairs.

ADA362701REB PC A10/MF A02
China Report, Political, Sociological and Military Affairs.
Joint Publications Research Service, Arlington, VA.
8 Jan 1985, 188p, JPRS-CPS-85-002.
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No abstract available.

Keywords: *International relations, *Political parties, *Sociology, Southeast asia, China, Disarmament, Fbis collection, Foreign reports, Military affairs.

ADA362702REB PC A06/MF A01
Soviet Union, Military Affairs.
Joint Publications Research Service, Arlington, VA.
17 Jun 1987, 77p, JPRS-UMA-87-035.
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No abstract available.

Keywords: *Military forces(Foreign), *International relations, Ussr, War potential, Foreign reports, Fbis collection, Military affairs.

ADA362703REB PC A03/MF A01
China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 16, 30 July 1984.
Joint Publications Research Service, Arlington, VA.
2 Jan 1985, 15p, JPRS-CPS-85-001.
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No abstract available.

Keywords: *International relations, *Sociology, Economics, Political parties, China, Criminology, Fbis collection, Foreign reports, Military affairs, Translations.

ADA362704REB PC A07/MF A02
Soviet Union, Military Affairs.
Joint Publications Research Service, Arlington, VA.
14 Sep 1987, 123p, JPRS-UMA-87-042.
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No abstract available.

Keywords: *International relations, *Law enforcement, *Political parties, Ussr, Aircraft, Leadership, Enlisted personnel, Fbis collection, Foreign reports, Military affairs.

ADA362705REB PC A06/MF A01
Soviet Union, Military Affairs.
Joint Publications Research Service, Arlington, VA.
5 Jun 1987, 78p, JPRS-UMA-87-034.
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No abstract available.

Keywords: *Military forces(Foreign), *International relations, Foreign policy, Ussr, Warsaw pact countries, Fbis collection, Foreign reports, Military affairs.

ADA362706REB PC A10/MF A02
For Want of a Home - A Study of Wherry and Capehan Military Family Housing. Final rept.
Army Environmental Center, Aberdeen Proving Ground, MD.
V. J. Temme. Jan 1998, 180p, SFIM-AEC-EC-TR-98034.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

For Want of a Home... A Study of Wherry and Capehart Military Family Housing is an analysis of the legislative, architectural and planning issues that influenced two of the larger and more influential military family housing programs in DoD history: Wherry and Capehart housing. These programs spanned from 1949-1955 and from 1955-1962, respectively, and provided nearly a quarter million military family housing units. The Army owned a total of 19,347 Wherry housing units and 34,562 Capehart units. The U.S.Army Environmental Center recognized the need to study Wherry and Capehart housing in order to evaluate historical significance and to share lessons learned from these programs with the Army housing office. Since the end of the Cold War, the DoD has required all installations to determine potential significance of Cold War buildings and structures in accordance with responsibilities under the National Historic Preservation Act of 1966, as amended. This study provides a much needed body of knowledge in reference to Cold War era family housing units. The results of the study determined that individual buildings from these two programs are not historically significant; rather, the history of the programs as documented in this study and in existing plans and drawings is important. Installations will be able to utilize this study for compliance actions as appropriate.

Keywords: *Military history, *Family members, *Army facilities, *Buildings, *Housing(Dwellings), Military operations, Lessons learned, Planning, Installation, Cold war, Historic sites, Military organizations, Capehart housing, Wherry housing.

ADA362707REB PC A09/MF A02
Study Of The Aerial Interdiction of Railways During The Korean War. Master's thesis Aug 64-May 65.
Army Command and General Staff Coll., Fort Leavenworth, KS.
F. J. Merrill. 20 May 1965, 167p.
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This study undertakes to examine the aerial interdiction activities conducted against the enemy railway system by United Nations' forces during the Korean War, June 1950-July 1953. It has three major goals: (1) to compile a concise history of these interdiction activities; (2) to evaluate the effectiveness of these efforts as it might relate to the conduct of the total war effort; and (3) to make recommendations pertaining to the future conduct of aerial interdiction.

Keywords: *Railroads, *Interdiction, *Korean war, Military history, Warfare, Airborne, Enemy, Tactical warfare, Air power, Operation strangle.

ADA362708REB PC A05/MF A01
East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
5 Sep 1990, 58p, JPRS-SEA-90-024.
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This report contains foreign media information from East and Southeast Asia concerning economic, military and political issues.

Keywords: *Political science, *Economics, Military operations, Investments, Government(Foreign), Military forces(Foreign), International trade, Civil affairs, Southeast asia, Crimes, Foreign aid, Military affairs, Fbis collection, Foreign reports, Socioeconomics, East asia, Translations.

ADA362709REB PC A03/MF A01
East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
25 Jul 1990, 24p, JPRS-SEA-90-022.
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This report contains foreign media information from East Asia and Southeast Asia concerning social, military and economic issues.

Keywords: *Economics, *Military forces(Foreign), *Sociology, International trade, Civil affairs, Southeast asia, Crimes, Smuggling, East asia, Fbis collection, Foreign reports, Military affairs.

ADA362710REB PC A08/MF A02
Rear Area Security In The Field Army Service Area. Master's thesis Aug 64-May 65.
Army Command and General Staff Coll., Fort Leavenworth, KS.
G. K. Otis. 19 May 1965, 143p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This study evaluates the adequacy of current U.S. Army doctrine for security in the field army service area. The evaluation is based on historical experience modified by modern capabilities. A detailed analysis of the Russian Partisan movement in the rear areas of the German armies during World War II develops certain constants and parameters that remain valid independent of time. An investigation of current Soviet Army tactical doctrine identifies that country's capabilities for employing regular forces and partisans against the rear area of a future invader.

Keywords: *Military doctrine, *Area security, *Field army, *Guerrilla warfare, Time dependence, Theses, Military capabilities, History, Army, Germany(East and west), Rear areas, Second world war.

ADA362711REB PC A04/MF A01
JPRS Report, East Asia Southeast Asia.
Joint Publications Research Service, Arlington, VA.
15 Jun 1990, 46p, JPRS-SEA-90-018.
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This report contains foreign media information from East and Southeast Asia concerning economic, military and political issues.

Keywords: *Political science, *Economics, Government(Foreign), Military forces(Foreign), Civil affairs, Political parties, Southeast asia, Elections, Privatization, Military affairs, Fbis collection, Foreign reports, East asia.

ADA362712REB PC A03/MF A01
Genomic Instability at Premalignant and Early Stages of Breast Cancer Development. Annual rept. 1 Aug 97-31 Jul 98.
M.D. Anderson Cancer Center, Houston, TX.
C. M. Aldaz. Sep 1998, 12p.
Contract DAMD17-94-J-4078
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Allelic imbalances and losses affecting the chromosome 16q arm appear to be early abnormalities in breast carcinogenesis since they were observed in a significant number of preinvasive lesions. The most common region of overlapping allelic losses spans the region 16q23.3 - q24.1, observed affected in 60 - 70% of in situ breast lesions. Positional cloning strategies are currently being employed to clone the putative tumor suppressor gene. We have defined approximately 300 kb of a homozygous deletion within the region q23.3 - q24. 1 of chromosome 16 in a breast cancer cell line. A total of 29 previously reported ESTs were mapped to this region. Five new cDNA clones were isolated and mapped. The analysis of 150 kb of the genomic sequence from this deletion showed 22 putative exons. The identification of this gene as well as the use of molecular markers from this chromosome region will provide tools of potential diagnostic- prognostic significance.

Keywords: *Chromosomes, *Genes, *Growth(Physiology), *Carcinogenesis, *Breast cancer, Position(Location), Strategy, Molecules, Neoplasms, Clones, Genetic engineering, Cells(Biology), Abnormalities, Lesions, Mammary glands, Suppressors, *Early stages(Physiology).

ADA362713REB PC A16/MF A03
Dynamic Failure of Materials. Volume 1 - Experiments and Analyses. Technical rept. 20 May 93-20 Sep 96.
SRI International, Menlo Park, CA.
T. H. Antoun, L. Seaman, and D. R. Curran. Nov 1998, 342p, SRI-PYU-4727-VOL-1, DSWA-TR-96-77-V1.
Contract DNA001-93-C-0104
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Over the past three decades, scientist in the Former Soviet Union (FSU) and in the West have developed innovative experimental techniques, measurement diagnostics, and constitutive models of the Spall Process. Extensive literature has been built up over the years in Western publications. However, much of the FSU work was not available in English and was largely inaccessible to Western readers. Improved communication between Western and FSU scientists since the end of the Cold War now allows the parallel FSU and Western work to be collected, compared, cross-correlated, and examined for new insights and ideas for future directions. The goal of this project was to make formerly inaccessible FSU results available to Western readers and to create a handy reference source for fracture kinetics data, experimental techniques, measurement diagnostics, interpretation methods, constitutive modeling approaches, and numerical computation approaches and results. We hope this work will be useful to investigators and engineers dealing with fast load and fracture as well as to investigators working in the field of physics of strength.

Keywords: *Fracture(Mechanics), Computerized simulation, Ussr, Experimental data, Shock waves, Nucleation, Crack propagation, Constitutive properties, *Dynamic fracture, *Spall fracture, Fsu(Former soviet union)Dh00002, Dh00012.

ADA362714REB PC A09/MF A02
Increasing the Resolution of Simulated Combat Trauma Injuries in a High Level Architecture (HLA) Environment. Master's thesis.
University of Central Florida, Orlando.
G. S. Creech. 1999, 161p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This research develops a technique that leverages Operational Requirements-based Casualty Assessment (ORCA) generated patient conditions for use in the Combat Trauma Patient Simulation (CTPS). The research paves the way for enhancing the resolution of combat trauma injuries in a High Level Architecture (HLA) environment. ORCA is U.S. Government-owned software developed by the Crew Casualty Working Group (CCWG). The ORCA methodology calls for the initial creation of a 'medical casualty' in order to determine the affects on the body's ability to perform certain military tasks. The Alpha + version upon which this paper is based had working modules for only five of seven planned injury-inducing insult types. These are Penetrators (fragments), Blast overpressure, Thermal fluence, Toxic gases (military agents), and Directed Energy. The CTPS research team is prototyping and evaluating a training and analysis HLA federation that realistically simulates the emergency medical treatment process from the time of injury through initial treatment at a field hospital. The goals of the project are to decrease the deaths due to combat wounds by having better trained medical staffs and to provide a mechanism for analysis and for test and evaluation (T&E) of issues in casualty medical treatment. In addition to ORCA, a central component of this system is a physical simulation of a casualty (an instrumented mannequin), the Human Patient Simulator (HPS). Products of this research include a methodology and techniques for generating ORCA injuries and storing the injury profiles offline in a database. This database can later be read by CTPS to enhance the injury data available on a given casualty. Future work can automate this process. This research also discusses a prototype injury Simulation Object Model (SOM), that objectifies the ORCA output data. Additionally, a prototype Federation Object Model (FOM) is presented.

Keywords: *Data bases, *Medical services, *Military planning, *Trauma, *Combat simulation, Computer programs, Military facilities, Emergencies, Toxicity, Teams(Personnel), Patients, Hospitals, Heat flux, Combat forces, Blast, Thermal radiation.

ADA362715REB PC A04/MF A01
East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
3 Aug 1990, 31p, JPRS-SEA-90-023.
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This report contains foreign media information from East and Southeast Asia concerning economic, military and political issues.

Keywords: *Political science, *Economics, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, Political parties, Southeast asia, Military affairs, Fbis collection, Foreign reports, East asia.

ADA362716REB PC A06/MF A01
Terrain Backscattering Coefficient Generator. Master's thesis.
Air Force Inst. of Tech., Wright-Patterson AFB, OH. School of Engineering.
R. Mediavilla. Mar 1999, 88p, AFIT/GE/ENG-99M-18.
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Using already available data, a backscattering coefficient generator (BCG) for several types of terrain and measurement conditions is developed. The types of terrain are: (1) soils and rocks, (2) trees, (3) grasses, (4) shrubs, (5) short vegetation, (6) roads, (7) urban areas, (8) dry snow, and (9) wet snow. These data sets typically cover incidence angles ranging between 0 and 80 degrees where 0 is normal to the terrain. Measurement conditions are defined by: (1) incidence angle, (2) wave polarizations configuration (HH, HV, or VV), and (3) radar band (L, C, S, X, Ku, Ka, or W). The BCG output matches very closely the first and second moments of the published data. A modified chi-square goodness of fit test at a 0.05 significance level is introduced to automatically validate the generated output with measured data histograms. The BCG reproduces 100% of measured mean backscattering coefficient (BC) and standard deviation values. The modified validation test failed to reject the BCG output as representative of the measured data for 72% of simulated distributions having a database-source-point number (N) greater than 100. Noted discrepancies can be attributed to sparse BC data histograms and BCG limitations at incidence angles less than 20 degrees for certain terrain types.

Keywords: *Backscattering, *Ground clutter, Polarization, Theses, Terrain, Angle of incidence, Chi square test, Goodness of fit tests, Radar scattering.

ADA362717REB PC A10/MF A02
Development of the Air Force-Army Military Skill Linkage System (MISL). Final technical rept. Sep 96-Dec 97.
Booz-Allen and Hamilton, Inc., McLean, VA.
J. Wprst, Bayer, and D. Lawson. Apr 1999, 183p, AFRL-HE-BR-TR-1998-0129.
Contract F41624-95-D-5030
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Based on a need identified by Headquarters, Air Force Deputy Chief of Staff; Personnel, this effort developed and implemented a methodology for identifying comparable Army and Air Force military specialties. An extensive review, comparison, and documentation of current Air Force and Army jobs, identifying equivalent data elements and existing data bases was completed to provide candidate data elements for the linkage system. A methodology for linking Air Force and Army jobs was developed and validated by contractor and service representatives. The expert team job rating approach, results, and subsequent linkage system are described in the report.

Keywords: *Jobs, *Army personnel, *Air force personnel, *Military occupational specialties, Data bases, Air force, Validation, Contractors, Specialists, Linkages.

ADA362718REB PC A06/MF A02
Information Technology Innovation in the U.S. Army: The Case of the Adoption, Adaptation, and Utilization of the Strategic Crisis Exercise Intranet. Master's thesis.
Michigan State Univ., East Lansing.
L. C. Jantzen. 1999, 99p.
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The U.S. Army has undergone dramatic changes in its structure and operating procedures in recent years as a result of the introduction of new information technologies. This study examines the adoption and adaptation of an information technology innovation in a U.S. Army organization. While previous studies have focused on the technologies themselves, this study investigates the process of innovation adoption, with special attention paid to how the technology and the organization influence each other.

Keywords: *Army, *Information sciences, *Technology assessment, Organizations, Theses, Operation, Research management, Adaptation, Utilization.

ADA362719REB PC A05/MF A01
Sealift Transportation in a Working Capital Fund Environment: Rate Stability When Workload Declines. Master's thesis.
Naval Postgraduate School, Monterey, CA.
A. H. Hively. Mar 1999, 64p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This research presents statistical analysis of rates and volume for Military Sealift Command point-to-point ocean transportation billing rates, with conclusions about the stability and flexibility of the Working Capital Fund system in the ocean transportation context. The analysis tests the statistical validity of the assumption that rates increase when volume declines.

Keywords: *Rates, *Marine transportation, *Shipping, Stability, Transportation, Validation, Theses, Statistical analysis, Oceans.

ADA362720REB PC A06/MF A02
Security Planning for Wireless Networks: DOD Concerns. Master's thesis.
Naval Postgraduate School, Monterey, CA.
J. D. Fowler. Mar 1999, 98p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Wireless transmission techniques, topologies, and vendor offerings were surveyed from a security perspective. Three rating systems were developed to analyze aspects of these survey areas. These areas were then rated using these systems and graphically displayed on Kiviat drawings to show symmetric comparisons of each analysis category. Frequency hopping spread spectrum (FHSS) transmission technology, cellular topology, and the Jaguar product emerge as the best current approaches available. These results are applied to a case study that examines network wired segment replacement options, wireless segment attacks, and methods to detect an attacker. Our study and rating system results provide guidance for creating a network topology. The case study demonstrated that care must be taken in choosing wireless network segments. This work should help system Administrators by providing examples of good and bad choices.

Keywords: *Department of defense, *Local area networks, *Security, *Radiotelephones, Networks, Theses, Case studies, Surveys, Planning, Communications networks, Standards, Radio links, Spread spectrum, Frequency shift, Lans(Local area networks), Intranetworks.

ADA362721REB PC A04/MF A01
Characterization of a Hard-Switching Motor Controller for EMC considerations. Technical document May 97-Sep 98.
Space and Naval Warfare Systems Command, San Diego, CA.
S. T. Li, J. B. McGee, and J. H. Schukantz. Mar 1999, 32p, SSC-TD-3068.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The overall objective of this research is to characterize Power Electronic Building Blocks (PEBBs) for application of electromagnetic compatibility (EMC) in existing and advanced shipboard electric power systems. Both emissions and susceptibility levels will be studied, first for radiated EMI and later for conducted EMI. The EMI suppression techniques in large and small high-density power electronic modules will be developed. This document presents the results of the initial efforts toward the overall research objective. These initial efforts include setting up the EMI measurement facilities, developing EMI measurement techniques, and performing radiated emission tests on a motor controller, which is a hard-switching device.

Keywords: *Thyristors, *Electromagnetic compatibility, *Electric power distribution, Metal oxide semiconductors, Electromagnetic interference, Shipboard, Smart technology, Pebb(Power electronic building block).

ADA362722REB PC A01/MF A01
Stratified Coastal Trapped Waves and Mean Flows.
Washington Univ., Seattle. School of Oceanography.
L. Thompson. 1998, 4p.
Contract N00014-98-C-0007
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Our long term goals are to identify the roles that rectified subinertial waves and mesoscale motions play in the mean-flow transport of fluid properties in the coastal ocean and to apply these ideas to cross-margin transport of physical, chemical, and biological properties. In addition, we are interested in the interaction and relative effect of wave-driven transport verses frictionally driven boundary layer transport. Coastal waves and wave- generated mean flows are studied in a stratified, rotating model ocean. Waves trapped to the coast are generated by time-dependent flow over a sloping and irregular bottom. In this study, we will study the rectified flow resulting from oscillatory forcing over a sloping bottom, both with and without additional ridges, and with and without stratification. Short-term goals of this study include quantifying the evolution of the vertical structure of the along-slope mean flow driven by non-linear interactions of the coastal trapped wave and damped by friction. The effects of stratification on the cross-slope overturning circulation will be examined to evaluate the strength of wave-driven mean flow verses frictionally driven flow.

Keywords: *Ocean models, *Ocean waves, Ocean currents, Continental shelves, Stratification, Fluid flow, *Mean flows.

ADA362724REB PC A04/MF A01
Worldwide Report, Nuclear Development and Proliferation, No. 173.
Joint Publications Research Service, Arlington, VA.
3 Jan 1983, 39p, JPRS-82575.
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agreements for nuclear cooperation; transfer of technology; personalities, organizations, equipment and facilities.

Keywords: *Nuclear proliferation, *Nuclear weapons, *Uranium, Sources, Global, Foreign, Production, Technology transfer, Facilities, Ammunition, Nuclear power plants, Procurement, Supplies, Indicators, International relations, Periodicals, Newspapers, Nuclear properties, Foreign languages, English language, Thorium, Fbis collection.

ADA362725REB PC A04/MF A01
Why Reengineering Projects Fail. Technical rept.
Carnegie-Mellon Univ., Pittsburgh, PA. Software Engineering Inst.
J. Bergey, D. Smith, S. Tilley, N. Weiderman, and S. Woods. Apr 1999, 37p, CMU/SEI-99-TR-010, ESC-TR-99-010.
Contract F19628-95-C-0003
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this report is to highlight some of the most important reasons for failures in reengineering efforts despite the best of intentions. We support our observations with examples from a variety of experiences over many years. Readers may recognize some of the situations presented here and be tempted to conclude that the examples are taken from their own organizations, but similar missteps occur quite frequently.

Keywords: *Software engineering, *Organizations, *Management, Training, Failure, Manpower, Engineering.

ADA362726REB PC A08/MF A02
Psychophysical Comparisons in Image Compression Algorithms. Master's thesis.
Naval Postgraduate School, Monterey, CA.
C. J. Bodine. Mar 1999, 127p.
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Battlefield commanders are now requesting real-time visual battlefield information. These requests place an enormous strain on current transmission resources due to the file size of the images. As more and more visual information is sent, the ability to compress images efficiently becomes a significant issue. This thesis investigates whether any of the new image compression algorithms (Radiant TIN, Titan ICE, or Low Bit Rate) achieve higher compression ratios than the National Imagery Transmission Format Standard currently used by the Department of Defense. Titan ICE was found to perform better then Radiant TIN; however, the difference is not statistically significant. The Navy already has the proprietary rights to Radiant TIN. Therefore, in the absence of statistical significance, Radiant TIN is the recommended image compression algorithm for future use by the Department of Defense.

Keywords: *Algorithms, *Real time, *Battlefields, *Image compression, Command control communications, Theses, Transmittance, Resources, Military commanders, Compression ratio, Radiant tin, Titan ice.

ADA362727REB PC A05/MF A01
Coso Monitoring Program, October 1997 through September 1998.
Naval Air Weapons Station, China Lake, CA.
S. D. Lager, and B. R. Johnson. Jan 1999, 61p, NAWS-CL-TP-011.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Coso Monitoring Program is a continuing effort in support of the Navy's geothermal resources within the Coso Known Geothermal Resource Area (Coso KGRA). A substantial body of reports has been established on this project (15 technical publications) and the project is essentially the same year to year, therefore much of the text of each report reiterates previously published information. This year's report concentrates on data presentation and interpretation; the reader is referred to the 1993/1994 summary report (NAWS-CL TP 006) for detailed descriptions of the overall project and the individual sites monitored.

Keywords: *Temperature, *Monitoring, *Geothermy, *Springs(Water), Environments, Reports, Hydrology, Resources, Barometric pressure, Humidity, Water analysis, Coso kgra(Geothermal resource area).

ADA362728REB PC A06/MF A02
Analytical Transmission Electron Microscopy Studies on Copper-Alumina Interfaces. Master's thesis.
Naval Postgraduate School, Monterey, CA.
R. Y. Hashimoto. Jun 1999, 100p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A diffusion bonded copper-alumina interface had been studied using energy dispersive x-ray spectroscopy (EDX) and electron energy loss spectroscopy (EELS). Investigations of polycrystalline alumina showed that silica, a common commercial impurity, was present at the triple junctions in the form of fine mullite crystals in a glassy, silicon rich phase. Silicon was also detected along the alumina grain boundaries near triple junctions. There was no observed diffusion of Cu into alumina or alumina into copper. TEM results indicated no interface phase in the these vacuum formed samples. EDX studies of the interfaces revealed that silicon was present in varying concentrations from 1.O at.% to 10.0 at.%. Using spatial difference, PEELS at the interface showed two distinct residuals: a coordination similar to an aluminosilicate for silicon rich areas and a coordination similar to a metal to metal coordination for low silicon regions. Comparison of the Si rich interface residual PEELS spectra to that of the alumina triple junction PEELS spectra showed that the interface had atomic environments similar to that of as aluminosilicate, such as mullite. The interface results suggest that Si segregation may contribute to the observed higher strength of the metal-ceramic composite by void filling and modified bond character.

Keywords: *Interfaces, *Electron microscopy, *Aluminum oxides, *Copper, Metals, Commerce, Silicon dioxide, Energy, Vacuum, Theses, Impurities, Voids, Regions, Ceramic materials, Electron energy, Silicon, Bonding, Losses, Junctions, X ray spectroscopy, Electron spectroscopy, Filling, Dispersions, Polycrystalline.

ADA362729REB PC A03/MF A01
Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module. Dredging research technical note.
Army Engineer Waterways Experiment Station, Vicksburg, MS.
N. M. Aziz, and P. R. Schroeder. Jan 1999, 16p, EEDP-06-20.
Prepared in collaboration with Clemson, Univ., SC.
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This technical note documents the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) computer program, which facilitates the design of confined disposal facilities (CDFs) for contaminated dredged material by estimating leachate production rates and leachate quality. HELPQ is part of the Automated Dredging and Disposal Alternatives Modeling System (ADDAMS).

Keywords: *Environmental impact, *Contamination, *Dredged materials, *Leaching, Computer programs, Simulation, Laboratory tests, Test methods, Hydrology, Ground water, Soils, Drainage, Disposal, Hydraulics, Dredging, Environmental engineering, Seepage.

ADA362730REB PC A02/MF A01
ADDAMS Application: Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module in CDFs. Final rept.
Army Engineer Waterways Experiment Station, Vicksburg, MS.
Jan 1999, 10p, EEDP-06-21.
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PURPOSE: This technical note describes the application of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) computer program, which facilitates the design of confined disposal facilities (CDFs) for contaminated dredged material by estimating leachate production rates and leachate quality. HELPQ is part of the Automated Dredging and Disposal Alternatives Modeling System (ADDAMS).

Keywords: *Environmental impact, *Dredged materials, *Dredging, *Soil settlement, *Leaching, Computer programs, Maintenance, Automation, Production, Facilities, Flow rate, Quality, Rivers, Storage, Contamination, Disposal, Design criteria, Production rate, Sediments, Harbors.

ADA362731REB PC A02/MF A01
Biomorphic Networks for ATR and Higher-Level Processing. Quarterly rept. 1 Jan-1 Apr 99.
Pennsylvania Univ., Philadelphia. Dept. of Electrical Engineering.
N. H. Farhat. 20 Apr 1999, 7p.
Contract N00014-94-1-0931
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During the period of this report, work progressed on the design and implementation in analog hardware of a parametrically modulated logistic processing element for use in the construction of fast analog Parametrically Coupled Logistic Map Networks. The design is based on a periodically driven spiking neuron circuit. In preceding work, we put forth the hypothesis that the basic functional unit in the cortex is not the single neuron but is the neuronal assembly or netlet and that the behavior of a netlet can be mathematically modeled by a parametrically modulated logistic map, a nonlinear iterative mapping on the unit interval. We also presented evidence of the utility of such processing elements in the modeling of cortical networks and introduced a new family of networks which we named Parametrically Coupled Logistic Map Networks (abbreviated PCLMNs) that are increasingly appearing to be key to efficient simulation and study of higher-level functions performed by the cortex which is the seat of all higher level brain functions.

Keywords: *Neural nets, *Target recognition, *Biomorphic networks, Pclmn(Parametrically coupled logistic map network), ATC(Automatic target recognition).

ADA362733REB PC A04/MF A01
Evaluation of Precise Absolute Navigation (PAN) Performance Under Dynamic Conditions. Final rept.
Naval Surface Warfare Center, Dahlgren, VA. Dahlgren Div.
B. R. Hermann. Jan 1999, 39p, NSWCDD/TR-98/113.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report describes a method where the Global Positioning System (GPS) Precise Positioning Service (PPS) solutions recorded in the field can be reprocessed at a later time with the precise ephemerides, without requiring that the observations be saved. The reprocessing with the precise ephemerides improves the quality of the navigation solutions compared with the solutions obtained when the real-time broadcast ephemerides are used. This report continues the investigation of the Precise Absolute Navigation (PAN)

technique by exploring its accuracy under two particular conditions. The first condition is operation with single-frequency observations and use of the broadcast ionospheric model; the second is when the user experiences appreciable height variations due to his motion, as in an aircraft. Also demonstrated are the accuracy of PAN solutions to simulated observations from a high-altitude, low- speed platform, such as an Unmanned Aerial Vehicle (UAV).

Keywords: *Air navigation, *Global positioning system, Real time, High altitude, Ionospheric models, Space navigation, Satellite attitude, Ephemerides, Pan(Precise absolute navigation), Pps(Precise positioning service), Unmanned aerial vehicles.

ADA362734REB PC A06/MF A01
Worldwide Report, Epidemiology, No. 303.
Joint Publications Research Service, Arlington, VA.
26 Nov 1982, 80p, JPRS-82332.
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No abstract available.

Keywords: *Epidemiology, Malaria, Chickens, Vaccines, Tuberculosis, Malnutrition, Measles viruses, Pox viruses, Fbis collection, Foreign reports.

ADA362735REB PC A03/MF A01
Condensation of Quasi-Two-Dimensional Biexcitons in a Single Heterojunction Quantum Well. Final rept. Oct 96-Jan 99.
Army Research Lab., Adelphi, MD.
P. A. Folkes. Apr 1999, 19p, ARL-TR-1934.
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Excitons that coexist with a degenerate two-dimensional electron gas in the same quantum well subband have been observed in the photoluminescence from the recombination of electrons with localized photoexcited holes. At a critical electron density, an abrupt decrease in the exciton radiative recombination rate is observed, along with the formation of biexcitons. With increased excitation intensity, photoluminescence spectra are observed that verify theory on the radiative renormalization of biexcitons and strongly indicate the occurrence of a Bose-Einstein condensation of biexcitons.

Keywords: *Quantum wells, *Semiconductors, Electron density, Photoluminescence, Heterojunctions, Intensity, Electron gas, Excitons, Biexcitons, Bose einstein condensation.

ADA362736REB PC A03/MF A01
Polish Long-Range Plan (1961-1975) and Five-Year Plan (1961-1965) for Scientific Research in Agricultural Technology.
Joint Publications Research Service, Arlington, VA.
W. Zaremba. 14 Sep 1960, 29p, JPRS-3864-OTS 60-31.
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No abstract available.

Keywords: *Poland, *Agriculture, *Scientific research, Education, *Foreign technology, Translations.

ADA362737REB PC A03/MF A01
Forward Air Controllers, 1985 - 1995.
Department of the Air Force, Washington, DC.
20 Feb 1985, 21p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper reviews the historical use of Forward Air Controllers (FACs), and examines the air and ground FAC's abilities to function in the threat environments of today and 1995. Two major assumptions were made: Close Air Support (CAS) will continue to be an integral part of tactical air support. The requirement for closely coordinated joint Army/Air Force operations will increase as the Army comes on-line with lighter combat units, greater numbers of sophisticated attack helicopters, and moves toward a doctrine which places increased emphasis on maneuver.

Keywords: *Attack helicopters, *Aircraft, *Close support, Functions, Forward areas, Environments, Skills, Threats, Tactical air support, History, Maneuvers, Facs(Forward air controllers).

ADA362738REB PC A04/MF A01
USSR Report, Energy, No. 131.
Joint Publications Research Service, Arlington, VA.
30 Dec 1982, 50p, JPRS-82568.
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No abstract available.

Keywords: *USSR, *Energy consumption, Natural gas, Fuels, Nuclear energy, Petroleum industry.

ADA362739REB PC A02/MF A01
Geophysical Prospecting in the People's Republic of China.
Joint Publications Research Service, Arlington, VA.
A. G. Ivanov. 24 May 1960, 8p, JPRS-3298-OTS 60-31.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Geophysical prospecting, Ussr, Electrical properties, Physics, Earth(Planet), China, Foreign reports.

ADA362740REB PC A06/MF A01
USSR Report, Energy, No. 154.
Joint Publications Research Service, Arlington, VA.
21 Jul 1983, 82p, JPRS-83954.
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No abstract available.

Keywords: *USSR, *Energy consumption, Natural gas, Fuels, Quality control, Nuclear energy, Offshore drilling.

ADA362741REB PC A05/MF A01
USSR Report, Energy, No. 130.
Joint Publications Research Service, Arlington, VA.
29 Dec 1982, 53p, JPRS-82552.
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No abstract available.

Keywords: *USSR, *Pipelines, *Energy consumption, Natural gas, Construction, Compressors.

ADA362742REB PC A03/MF A01
Cruise Missile Defense: Progress Made But Significant Challenges Remain.
General Accounting Office, Washington, DC. National Security and International Affairs Div.
31 Mar 1999, 26p, GAO/NSIAD-99-68.
Rept. to the Chairman, Committee on Armed Services, U.S. Senate.
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Because of the Committee's concerns that the Department of Defense (DOD) might not be giving sufficient emphasis to cruise missile defenses, Committee on Armed Services asked GAO to review DOD's progress in establishing adequate mechanisms for coordinating cruise missile defense programs. Our objectives were to (1) identify the organizational structure and mechanisms for coordinating cruise missile defense efforts, (2) determine potential measures of the progress of coordination efforts, (3) assess the progress of coordination using these measures, and (4) identify the challenges that DOD officials believe still must be overcome. Because of interest, this report focuses on defense against land attack cruise missiles. Committee also asked GAO to identify the systems that have or will have cruise missile defense capabilities and the amount of funding being requested or planned for these programs. We agreed to provide the system and funding information in a separate briefing.

Keywords: *Antimissile defense systems, *Cruise missiles, Department of defense, Military strategy, Cost effectiveness, Interoperability, Military capabilities, Joint military activities, Military planning, Military budgets, Measures of effectiveness, Gao reports.

ADA362743REB PC A04/MF A01
Long-Range International Civil Reserve Air Fleet (CRAF) Capability. Final rept. Jan 85-Jan 86.
Air Force Center for Studies and Analyses, Washington, DC.
R. Lawrence, and C. Sullivan. Jan 1986, 43p.
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Takes a comprehensive look at Stage III Long Range International CRAF to include alternatives for increasing lift capability. Examines the reasons for a drop-off approximately 45% in cargo airlift capability within the last 24 months. Examines the approaches presently underway to counteract the drop in cargo lift. Explores other alternatives which could increase lift capability while retaining those features that over 30 years experience with CRAF have shown to work well.

Keywords: *Airlift operations, *Cargo handling, Military capabilities, Cargo, Lift, Transport aircraft, Craf(Civil reserve air fleet).

ADA362744REB PC A05/MF A01
Tricare Baseline Analysis of Access and Satisfaction. Final rept.
Center for Naval Analyses, Alexandria, VA.
P. H. Stoloff. Dec 1995, 66p, CRM-94-57.10.
Contract N00014-91-C-0002
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The U.S. Navy Surgeon General tasked the Center for Naval Analyses to evaluate the TRICARE demonstration project. This demonstration is an attempt to coordinate health care for the medical-eligible military population of 300,000 in the Tidewater area of Virginia. When TRICARE matures, it will integrate a series of military treatment facilities, a preferred provider network, and a health maintenance organization, under joint service management. The evaluation consists of a comparison of several measures of effectiveness, before and after TRICARE implementation. We will be comparing Tidewater with two other regions: southern California, which is under CRI (a managed care program), and North Carolina, which is under standard CHAMPUS. The evaluation will take about three years to complete. In the meantime, we have collected baseline data for Tidewater and the comparison sites. The purpose of this paper is to present the findings of the baseline analysis of access to, and satisfaction with,

health care during the pre-implementation period. This is not an evaluation of TRICARE. The results will be helpful in interpreting subsequent changes in the components of the program after TRICARE implementation.

Keywords: *Medical services, Virginia, Military personnel, Military facilities, Demonstrations, Comparison, Physicians, Surgery, Health maintenance organizations.

ADA362745REB PC A99/MF E08
Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
Texas Univ. at Austin.
H. L. Marcus, J. J. Beaman, D. L. Bourell, J. W. Barlow, and R. H. Crawford. Aug 1998, 778p.
Contract N00014-96-1-0441
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The Ninth Solid Freeform Fabrication (SFF) Symposium, held at The University of Texas in Austin on August 10-12, 1998, was attended by over 150 national and international researchers. Papers addressed SFF issues in computer software, machine design, materials synthesis and processing, and integrated manufacturing. New sessions on ceramic materials and multiple materials SFF were added to this year's program. The diverse domestic and foreign attendees included industrial users, SFF machine manufacturers, university researchers and representatives from the government. We are pleased once again with the strong showing of university students. The excitement generated at the Symposium reflects the participants' total involvement in SFF and the future technical health of this growing technology. The Symposium organizers look forward to its being a continuing forum for technical exchange among the expanding body of researchers involved in SFF. The Symposium was again organized in a manner to allow the multi-disciplinary nature of the SFF research to be presented coherently, with various sessions emphasizing computer issues, machine topics, and the variety of materials aspects of SFF. We believe that documenting the changing state of SFF art as represented by these Proceedings will serve both the people presently involved in this fruitful technical area as well as new researchers and users entering the field.

Keywords: *Ceramic materials, Computer programs, Integrated systems, Symposia, Composite materials, Fabrication, Laser applications, Machines, *Solid freeform fabrication.

ADA362746REB PC A03/MF A01
High-Resolution Ozone Imager (HIROIG). Final rept.
Aerospace Corp., El Segundo, CA. Technology Operations.
D. L. McKenzie, K. B. Crawford, D. J. Gutierrez, J. H. Hecht, and N. Katz. 10 Jan 1998, 30p, TR-98(1306)-2, SMC-TR-99-13.
Contract F04701-93-C-0094
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The High-Resolution Ozone Imager (HIROIG) is a hyperspectral UV imaging spectrograph/polarimeter designed for space flight with the specific purpose of searching for direct evidence of stratospheric ozone depletion caused by launch-vehicle exhaust. Solid-rocket motors deposit several tons of chlorine, primarily in the form of HCl, per kilometer in the stratosphere. Theoretical analysis and simulations have suggested that a significant amount of HCl may be converted into active chlorine, which can destroy ozone. HIROIG looks for stratospheric ozone depletion by measuring the spectrum of solar UV radiation backscattered by the atmosphere. HIROIG's primary mission places several unique demands on the instrument; it has 2 km spatial resolution, continuous spectral coverage of the 270-370 nm wavelength band, and, in order to distinguish scattering by launch-plume aerosols from atmospheric Rayleigh scattering, it can completely characterize the polarization of the incident light. A measurement sequence over a launch site requires collection of approximately 40 Mbytes of data in about 2 min. A prototype instrument has been built and deployed for ground-based field operations, and an engineering model of the full instrument, including flight-quality optics, has been designed and partially assembled.

Keywords: *Environmental impact, *Space missions, *Ozone depletion, Polarimetry, Ultraviolet spectroscopy, Rayleigh scattering, Solid propellant rocket engines, Launch vehicles, Stratosphere, Hiroig(High resolution ozone imager).

ADA362747REB PC A07/MF A02
Soviet Union, Military Affairs.
Joint Publications Research Service, Arlington, VA.
18 Aug 1987, 124p, JPRS-UMA087-040.
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No abstract available.

Keywords: *International relations, *Political parties, *Ussr, Military forces(Foreign), Fbis collection, Foreign reports, Military affairs.

ADA362748REB PC A05/MF A01
Soviet Union, Military Affairs. Data, Diagrams of Ground Forces Weaponry.
Joint Publications Research Service, Arlington, VA.
16 Jul 1987, 61p, JPRS-UMA-87-038.
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No abstract available.

Keywords: *Weapons, *Military forces(Foreign), *Military training, Ussr, Snipers, Machine guns, Small arms, Semiautomatic, Rifles, Platoon level organizations, Antitank guns, Fbis collection, Foreign reports, Military affairs.

ADA362749REB PC A06/MF A01
USSR Report, Military Affairs, No. 1731. Military History Journal, No. 8, August 1982.
Joint Publications Research Service, Arlington, VA.
28 Dec 1982, 91p, JPRS-82549.
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No abstract available.

Keywords: *Military history, *Journalism, Air defense, Military operations, Ussr, Military forces(Foreign), Second world war, Fbis collection, Foreign reports.

ADA362750REB PC A10/MF A03
USSR Report, Construction and Equipment, No. 78.
Joint Publications Research Service, Arlington, VA.
26 Nov 1982, 193p, JPRS-82325.
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No abstract available.

Keywords: *Construction, *Construction equipment, Ussr, Industries, Management planning and control, Economics, Urban areas, Fbis collection, Foreign reports.

ADA362751REB PC A02/MF A01
Weapon Indexing and Weapon Ratios in Arms Control.
Department of the Air Force, Washington, DC.
7 Mar 1984, 6p.
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A problem of recent concern in US-USSR strategic arms control negotiations is that of how to relate US advantages in bombers to Soviet advantages in missiles. One solution method suggests the use of an index factor, a weapon ratio, that would specify an allowable ratio between bomber and missile weapons. Theoretically, this ratio would be derived as a function of the characteristics of these weapons: time of flight, size, number, yield, equivalent megatonage, ability to penetrate defensive systems, etc. The current question is How many American ALCMs equal how many Soviet missiles. Another question, asked by proponent and opponent alike, is whether or not the derivation of such a ratio is possible. While an analytical proof may not avail itself to either side, arms negotiation experiences of the 192Os and 193Os can provide some useful insights and historical precedents for addressing the question of ratios.

Keywords: *Weapons, *Ratios, *Arms control, Guided missiles, Ussr, Military history, United states, Defense systems, Flight, Strategic weapons, Bomber aircraft.

ADA362752REB PC A03/MF A01
CVD Diamond Grown by Microwave Plasmas in Mixtures of Acetone/Oxygen and Acetone/Carbon Dioxide. Final rept. 1 May 98-30 Apr 99.
Auburn Univ., AL. Dept. of Electrical Engineering.
Y. Tzeng, and T. Chein. 30 Apr 1999, 28p.
Contract N00014-98-1-0571
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Diamond was deposited on silicon and molybdenum by microwave plasma enhanced chemical vapor deposition technique in acetone/oxygen and acetone/ carbon dioxide mixtures. Diamond of good quality was deposited at rates exceeding 25 microns/hr. By the use of high-power-density microwave plasmas, diamond deposition using these two mixtures has been achieved at substrate temperatures up to 1300 deg C.

Keywords: *Chemical vapor deposition, *Diamond films, Plasmas(Physics), Molybdenum, Microwaves, Oxygen, Carbon dioxide, Acetones, *Microwave plasmas.

ADA362753REB PC A12/MF A03
Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the New Orleans District for 1994.
Army Engineer District, New Orleans, LA.
1994, 227p.
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This pamphlet contains the results of stage and discharge observations made on the Mississippi River, its outlets and tributaries, and other streams and water ways in the U.S. Army Engineer District, New Orleans, during the 1994 calendar year. In addition to the records of this district, there are contained herein gage and discharge data furnished by the U.S. Geological Survey, and gage records furnished by the National Oceanic and Atmospheric Administration.

Keywords: *Drainage, *Geological surveys, *Rivers, *Mississippi river, Water, Watersheds, Records, Gages, Streams, Water distribution.

ADA362754REB PC A04/MF A01
Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
Final rept. 21 Apr-1 Oct 98.
AVXM Partnership, Kettering, OH.
A. G. Jackson, and M. Benedict. Feb 1999, 35p, AVXM-99-1, AFRL-ML-WP-TR-1999-4028.

Contract F33615-98-C-5138
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The objective of this research was to demonstrate simulation of multi-species thin film growth that is fast, displays on a desktop computer, and utilizes a unique combination of cellular automata, state space, and neural nets. Software to accomplish this objective was refined by developing computer code that implements a physical model of film growth. Neural nets were into rated into the software to reduce the time needed for computing the atom positions, and generation of exemplars needed or training and testing the neural nets was accomplished via visual basic code. Display of the simulation using a desktop computer (Macintosh Power PC) was achieved. Functionalities for live rotation and modification the film are included, as well as the capability to record the simulation as a computer movie. Study of vacancy behavior using the simulation of about 30, believed to be a result of scaling issues in used model. This software can be used to simulate film growth for molecular beam epitaxy and pulsed laser deposition processes. Physical and chemical model studies and process refinement studies can be accomplished using this software.

Keywords: *Neural nets, *Thin films, *Automata, Computerized simulation, Software engineering, Crystal structure, Computer graphics, Data displays, Molecular beam epitaxy.

ADA362755REB PC A08/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences, No. 38.
Joint Publications Research Service, Arlington, VA.
22 Jul 1983, 142p, JPRS-83958.
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Partial Contents: Agrotechnology, Biochemistry, Biophysics, Biotechnology, Environment, Genetics, Immunology, Laser Effects, Medicine, Microbiology, Nutrition, Pharmacology and Toxicology, Public Health, Radiation Biology, Parapsychology.

Keywords: *Biochemistry, *Biomedicine, Ussr, Laser beams, Medicine, Life sciences, Immunology, Biotechnology, Public health, Nutrition, Genetics, Pharmacology, Microbiology, Radiation effects, Toxicology, Behavioral sciences, Biophysics, Radiobiology, Parapsychology, Fbis collection, Foreign reports.

ADA362756REB PC A03/MF A01
Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials. Final rept.
Army Armament Research, Development and Engineering Center, Watervliet, NY. Benet Weapons Lab.
A. P. Hynes, S. L. Lee, S. L. Schujman, and G. A. Slack. Apr 1999, 26p, ARCCB-TR-99005.
Prepared in cooperation with Rensselaer Polytechnic Institute, Troy, NY.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Thermoelectric devices and materials have potential applications in refrigeration and power generation. An X-ray diffraction study was made documenting the phase and the lattice parameter of both some new thermoelectric compounds and some previously known compositions. The materials contained primarily Ir, Rh, Sb, Sn, and Pt. Improvements in the measurement procedures resulted in improved accuracy in lattice parameter measurements and in peak intensity measurements.

Keywords: *Composite materials, *Thermoelectricity, X ray diffraction, Thermal conductivity, Platinum, Tin, Antimony, Thermoelectric power generation, Refrigeration systems, Iridium, Rhodium, *Thermoelectric materials, Skutterud, Lattice parameters, Low thermal conductivity.

ADA362757REB PC A03/MF A01
Modified T-37 Instead of T-46: Impact on Undergraduate Pilot Training. Final rept. 10 Jan-11 Jul 86.
Air Force Center for Studies and Analyses, Washington, DC.
C. D. Moore. Jul 1986, 13p.
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This paper examines the repercussions on Undergraduate Pilot Training of using a truly modified T-37 instead ot the T-46 as Air Training Command's next generation trainer. The performance deficiencies of the modified T-37 as compared to the T-46 are based on both aircraft attempting to fulfill the requirements outlined in the system operational concept for the next generation trainer.

Keywords: *Pilots, *Air force training, *Jet training aircraft, Performance(Engineering), Modification, Military capabilities, Deficiencies, T-37 aircraft, T-46 aircraft.

ADA362758REB PC A03/MF A01
WIND-HAARP-HIPAS Interferometer Experiment. Interim rept.
Naval Research Lab., Washington, DC. Plasma Physics Div.
P. Rodriguez, M. J. Keskinen, E. J. Kennedy, M. McCarrick, and J. Preston. 22 Apr 1999, 12p, NRL/MR/6750--99-8349.
Prepared in collaboration with Advanced Power Technologies Inc., Washington, DC, California Univ., Los Angeles, CA, Minnesota Univ., Minneapolis, MN and DESPA, Observatoire de Paris, Meudon, France.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

We report on the first experiment using two high power, high frequency transmitting facilities in a bistatic, interferometer mode. The HAARP and HIPAS facilities in Alaska radiated at 4525 kHz with total combined power of about 700 kW, in the direction of the WIND spacecraft. The WAVES experiment aboard WIND received the transmissions at a distance of about 25 earth radii. The experimental setup thus resembled Young's two-slit experiment. The expected interference pattern was observed, and at the distance of WIND, the fringes sizes were about 30 km peak to peak.

Keywords: *Plasmas(Physics), *Radio waves, Ionosphere, Electron density, High altitude, Aurorae, Magnetosphere, Interferometers, High frequency radar, Haarp(High frequency active auroral research program), Hipas(High power auroral simulation).

ADA362759REB PC A09/MF A02
Dynamic Failure of Materials. Volume 2 - Compilation of Russian Spall Data. Technical rept. 20 May 93-20 Sep 96.
SRI International, Menlo Park, CA.
T. H. Antoun, L. Seaman, and D. R. Curran. 1 Nov 1998, 162p, SRI-PYU-4727, DSWA-TR-96-77-V2.
Contract DNA001-93-C-0104
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Over the past three decades, scientist in the Former Soviet Union (FSU) and in the West have developed innovative experimental techniques, measurement diagnostics, and constitutive models of the Spall Process. Extensive literature has been built up over the years in Western publications. However, much of the FSU work was not available in English and was largely inaccessible to Western readers. Improved communication between Western and FSU scientists since the end of the Cold War now allows the parallel FSU and Western work to be collected, compared, cross-correlated, and examined for new insights and ideas for future directions. The goal of this project was to make formerly inaccessible FSU results available to Western readers and to create a handy reference source for fracture kinetics data, experimental techniques, measurement diagnostics, interpretation methods, constitutive modeling approaches, and numerical computation approaches and results. We hope this work will be useful to investigators and engineers dealing with fast load and fracture as well as to investigators working in the field of physics of strength.

Keywords: *Fracture(Mechanics), Aluminum alloys, Deformation, Single crystals, Molybdenum, Nucleation, Steel, Crack propagation, Copper, Aluminum, Niobium, Tin, Titanium, Failure(Mechanics), Titanium alloys, Molybdenum alloys, Lead(Metal).

ADA362760REB PC A03/MF A01
Boundary Conditions for Magnetic Field Gradients Inside a Source-Free Volume. Final technical rept.
Naval Surface Warfare Center Carderock Div., Bethesda, MD.
J. J. Holmes. 1 Apr 1999, 15p, NSWCCD-TR-1999/007.
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Magnetic potentials, potential gradients, and combinations of the two serve as boundary conditions for solutions to Laplace's equation. From these boundary conditions unique solutions for magnetic potential and field are obtained inside the volume of space that is enclosed by the boundary. In this paper, sufficiency boundary conditions are derived that ensure unique solutions for gradients in magnetic field inside the bounded volume. The derived general boundary conditions are expressed in terms of directional derivatives of magnetic field.

Keywords: *Magnetic fields, *Finite element analysis, *Boundary value problems, Laplace transformation, Field theory.

ADA362761REB PC A05/MF A01
Primer of CORBA: A Framework for Distributed Applications in Defence. General doc.
Surveillance Research Lab., Salisbury (Australia).
T. A. Au. Mar 1999, 58p, DSTO-GD-0192, DODA-AR-01-622.
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Based on object technology, the OMG defines an Object Management Architecture (OMA) for the support of interoperable applications across heterogeneous computing platforms. The communication core of this underlying model is the Common Object Request Broker Architecture (CORBA) that provides a framework for flexible and transparent communication between distributed objects. The adoption of this approach eases software development by allowing interaction between reusable components through well-defined interfaces. In particular, applying CORBA technology to C4I problems in the military environment provides simple integration of legacy software and COTS software. This report provides an overview of the OMA, and describes in detail each component of CORBA.

Keywords: *Computer communications, *Object oriented programming, Software engineering, Integrated systems, Data management, Distributed data processing, Interoperability, Computer architecture, Australia, Client server systems, Network architecture, *Foreign technology, Corba(Common object request broker architecture), OMG(Object Management Group), C4I(Command Control Communications Computer Intelligence).

ADA362762REB PC A99/MF A06
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 5.
Department of the Navy, Washington, DC.
Feb 1999, 644p.
ADA362763 ADA362764 ADA362765 ADA362766.
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(703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains fiscal year 2000/2001 biennial budgets for the Navy. It includes appropriations for Research, Development, Test and Evaluation.

Keywords: *Naval research, *Naval budgets, *Budget estimates, Requirements, Acquisition, Defense systems, Cost analysis, Weapon systems, Navy, Naval aircraft, Fleets(Ships), Research management, Ordnance, Military budgets.

ADA362763REB PC A22/MF A04
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 4.
Department of the Navy, Washington, DC.
Feb 1999, 490p.
ADA362762 ADA362764 ADA362765 ADA362766.
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This report contains fiscal year 2000/2001 biennial budgets for the Navy. It includes appropriations for Research, Development, Test and Evaluation.

Keywords: *Naval research, *Naval budgets, *Budget estimates, Requirements, Acquisition, Defense systems, Cost analysis, Weapon systems, Navy, Naval aircraft, Fleets(Ships), Research management, Ordnance, Military budgets.

ADA362764REB PC A20/MF A04
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activities 1-3.
Department of the Navy, Washington, DC.
Feb 1999, 450p.
ADA362762 ADA362763 ADA362765 ADA362766.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains fiscal year 2000/2001 biennial budgets for the Navy. It includes appropriations for Research, Development, Test and Evaluation.

Keywords: *Naval research, *Naval budgets, *Budget estimates, Requirements, Acquisition, Defense systems, Cost analysis, Weapon systems, Navy, Naval aircraft, Fleets(Ships), Research management, Ordnance, Military budgets.

ADA362765REB PC A10/MF A03
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 6.
Department of the Navy, Washington, DC.
Feb 1999, 198p.
ADA362762 ADA362763 ADA362764 ADA362766.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains fiscal year 2000/2001 biennial budgets for the Navy. It includes appropriations for Research, Development, Test and Evaluation.

Keywords: *Naval research, *Naval budgets, *Budget estimates, Requirements, Acquisition, Defense systems, Cost analysis, Weapon systems, Navy, Naval aircraft, Fleets(Ships), Research management, Ordnance, Military budgets.

ADA362766REB PC A99/MF A06
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 7.
Department of the Navy, Washington, DC.
Feb 1999, 584p.
ADA362762 ADA362763 ADA362764 ADA362765.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains fiscal year 2000/2001 biennial budgets for the Navy. It includes appropriations for Research, Development, Test and Evaluation.

Keywords: *Naval research, *Naval budgets, *Budget estimates, Requirements, Acquisition, Defense systems, Cost analysis, Weapon systems, Navy, Naval aircraft, Fleets(Ships), Research management, Ordnance, Military budgets.

ADA362767REB PC A06/MF A01
China Report: Political, Sociological and Military Affairs, No. 469.
Joint Publications Research Service, Arlington, VA.
2 Nov 1983, 79p, JPRS-84670.
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No abstract available.

Keywords: *International politics, *Sociology, *China, Economic analysis, International relations, *Foreign technology, Fbis collection, Foreign reports.

ADA362768REB PC A03/MF A01
Recent Geographical Conferences in the Soviet Union, USSR.
Joint Publications Research Service, Arlington, VA.
D. A. Liliyonberg, V. P. Chichagov, and A. P. Gol'tsov.
6 Apr 1960, 23p, JPRS-2428.
Trans. of Izvestiya Akademii Naus SSSR - Seriya Geograficheskaya (News of the Academy of Sciences USSR – Geographic Series) (USSR), n5 p134-136, p136-139, p130-134 Sep-Oct 58.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The following is a translation of three articles written by the authors identified below in Izvestiya Akademii Naus SSSR - Seriya Geograficheskaya (News of the Academy of Sciences USSR –Geographic Series). This report concerns recent geographical conferences in the Soviet Union.

Keywords: *Ussr, *Symposia, *Geography, Sources, Russian language, Periodicals, Fbis collection, Translations.

ADA362769REB PC A04/MF A01
Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures. Final rept. 1 May 98-30 Apr 99.
Auburn Univ., AL. Dept. of Electrical Engineering.
T. Chein, J. Wei, and Y. Tzeng. 30 Apr 1999, 33p.
Contract N00014-98-1-0571
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Effects of elevated substrate temperatures and oxygen additive on the chemical vapor deposition of diamond are presented. High power-density microwave plasmas in a high concentration of methane diluted by hydrogen led to high diamond growth rates at elevated substrate temperatures up to around 1450 deg C. With the addition of a small amount of oxygen (less than 2%), diamond films deposited at substrate temperatures higher than 1450 deg C at 30 microns/hr were achieved. At substrate temperatures higher than 1600 deg C, diamond nucleation density is low. However, diamond; grows well and forms high quality diamond crystallites.

Keywords: *Chemical vapor deposition, *Crystal growth, *Diamond films, Nucleation, Hydrogen, Oxygen, Methane, *Microwave plasmas, Oxygen additives, Power density.

ADA362770REB PC A03/MF A01
Electron Assisted Deposition of Cubic Boron Nitride by RF Magnetron Sputtering. Final rept. 1 May 98-30 Apr 99.
Auburn Univ., AL. Dept. of Electrical Engineering.
Y. Tzeng, and H. Zhu. 30 Apr 1999, 16p.
Contract N00014-98-1-0571
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Cubic boron nitride (cBN) is deposited on silicon by means of radio- frequency (RF) magnetron sputtering in nitrogen using a hexagonal boron nitride target with the assistance of a simultaneous electron bombardment of the growing surface. Unlike most thin-film deposition processes for cBN, intentional bombardment of the growing surface by ion beams within specific ranges in energy and flux is not required for this process to achieve high purity cBN films. With electrons bombarding the growing surface at a current density of 140 mA/sq cm or higher, pure (according to FTIR spectra) cBN films are deposited on silicon substrates at temperatures above 750 deg C. Effects of electron current density and nitrogen gas pressure on the synthesis of cBN films will be discussed.

Keywords: *Thin films, *Sputtering, *Boron nitrides, Fourier transformation, Infrared spectroscopy, Silicon, Radiofrequency, Crystal growth, Magnetrons, Magnetron sputtering, Cubic boron nitride, Ftir(Fourier transform infrared).

ADA362771REB PC A12/MF A03
Central Asia, Physical Geography Handbook.
Joint Publications Research Service, Arlington, VA.
V. M. Sinitsyn. 20 Jun 1960, 244p, JPRS-3420.
Trans. of Tsentral'naya Aziya (Central Asia) (USSR) Stae Publishing House of Geographical Literature, p3-11, 43-122, 151-254, 276-309, 368-425, 448-449, 1959.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In preparing the present book, which offers the reader a short physicogeographical and geological study of Central Asia, all the major source materials, both Russian and foreign, were utilized. A considerable proportion of the material presented consists of information obtained through the personal investigations of the author, who has visited all the major regions of Central Asia.

Keywords: *Geology, *Geography, *Asia, *Physical sciences, Ussr, Hydrology, Regions, Soils, Russian language, Resources, Handbooks, Minerals, *Central asia, Fbis collection, Translations.

ADA362772REB PC A02/MF A01
Development of the Civil Air Fleet, Peoples Republic of China.
Joint Publications Research Service, Arlington, VA.
8 Jun 1960, 6p, JPRS-3381.
Trans. of Grazhdanskaya Aviatsiya (Civil Aviation) (China) n10, p4-5 Oct 59.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Following is a translation of an article by V. Kurakin and V. Shlyakov in Grazhjidanskaya Aviatsiya (Civil Avia-

tion). The report concerns the development of a civil air fleet in the People's Republic of China.

Keywords: *Aircraft, *Civil aviation, *China, Resources, Periodicals, Chinese language, Fbis collection, Translations.

ADA362773REB PC A05/MF A01
Near East and South Asia.
Joint Publications Research Service, Arlington, VA.
27 Dec 1988, 60p.
Contract JPRS-NEA-88-087
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This report contains articles from foreign periodicals translated into English concerning issues in the Near East and South Asia.

Keywords: *Political science, *Middle east, *International relations, *Political parties, *South asia, Military operations, Defense systems, Foreign, Economics, Agriculture, Periodicals, Far east, Fbis collection.

ADA362774REB PC A05/MF A01
East Europe Report: Political, Sociological and Military Affairs, No. 2225.
Joint Publications Research Service, Arlington, VA.
2 Nov 1983, 72p, JPRS-84668.
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JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained. This report concerns political, sociological and military affairs in Eastern Europe.

Keywords: *Military operations, *Political science, *Political parties, *Sociology, *Eastern europe, Sources, Foreign, International relations, Periodicals, Foreign languages, English language, Fbis collection.

ADA362775REB PC A07/MF A02
Technical Achievements in Communist China's Electrical Equipment Industry.
Joint Publications Research Service, Arlington, VA.
15 Sep 1960, 125p, JPRS-3909.
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No abstract available.

Keywords: *Electrical industry, Industries, Industrial production, Electrical equipment, China, *Foreign technology, Foreign reports, Translations.

ADA362776REB PC A01/MF A01
Optical Frequency Standard in Trapped Atomic Hydrogen. Annual technical rept. 1 Apr 98-31 Mar 99.
Massachusetts Inst. of Tech., Cambridge. Research Lab. of Electronics.
D. Kleppner. 30 Apr 1999, 3p.
Contract N00014-96-1-0634
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Our goal to improve the effectiveness of atom cooling by using radio- frequency evaporation was met early in the grant period, and we obtained temperatures and densities close to those needed for Bose-Einstein condensation. Consequently, we deferred our work on high resolution optical spectroscopy of hydrogen while we pursued BEC. We obtained BEC last June, using new spectroscopic methods to identify the onset of the transition and to characterize the condensate. Briefly, we found that the mean field interaction at high densities measurably shifts the 1S-2S spectral line, and that the frequency shift can be used to measure the density in situ. From the point of creating an optical frequency standard, it is essential to know this frequency shift, since the density must be kept sufficiently low that the shift is not a source of error.

Keywords: *Optical properties, *Hydrogen, *Frequency standards, Density, Trapping(Charged particles), Atomic properties, Condensation, Frequency shift, In situ analysis, *Atom cooling, *Optical frequency, *Atomic hydrogen, Radiofrequency evaporation, Bose einstein condensation.

ADA362777REB PC A06/MF A01
East Europe Report: Political, Sociological and Military Affairs, No. 2088.
Joint Publications Research Service, Arlington, VA.
21 Dec 1982, 92p, JPRS-82507.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *International politics, *Sociology, Economic analysis, Military forces(Foreign), Eastern europe, Fbis collection, Foreign reports.

ADA362778REB PC A10/MF A02
East Europe Report: Political, Sociological and Military Affairs, No. 2193.
Joint Publications Research Service, Arlington, VA.
6 Sep 1983, 189p, JPRS-84259.
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No abstract available.

Keywords: *International politics, *Sociology, Economic analysis, Military forces(Foreign), Eastern europe, Fbis collection, Foreign reports.

ADA362779REB PC A07/MF A02
East Europe Report: Political, Sociological and Military Affairs, No. 2194.
Joint Publications Research Service, Arlington, VA.
7 Sep 1983, 117p, JPRS-84265.
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No abstract available.

Keywords: *International politics, *Sociology, Economic analysis, Military forces(Foreign), Eastern europe, Fbis collection, Foreign reports.

ADA362780REB PC A10/MF A02
China Report, Political, Sociological and Military Affairs No. 436.
Joint Publications Research Service, Arlington, VA.
8 Jul 1983, 180p, JPRS-83854.
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JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained. This report contains articles about political, sociological and military affairs in China.

Keywords: *Military operations, *Political science, *Political parties, *Sociology, *China, Sources, Foreign, Security, Periodicals, Foreign languages, English language, Fbis collection.

ADA362781REB PC A07/MF A02
Soviet Union, Military Affairs.
Joint Publications Research Service, Arlington, VA.
4 Aug 1987, 124p, JPRS-UMA-87-039.
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Partial Contents: Military Political Issues, Warsaw Pact, Armed Forces, Ground Forces, Air, Air Defense Forces, Civil Defense, Rear Services, Defense Industries, Foreign Military Affairs.

Keywords: *Military forces(Foreign), *International relations, *USSR, Air defense, Defense industry, Civil defense, Defense systems, Infantry, Warsaw pact countries, Military force levels, Military affairs.

ADA362782REB PC A07/MF A02
Soviet Union, Military Affairs.
Joint Publications Research Service, Arlington, VA.
8 Jul 1987, 111p, JPRS-UMA-87-036.
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Partial Contents: Military Political Issues, Warsaw Pact, Armed Forces, Ground Forces, Air, Air Defense Forces, Naval Forces, Civil Defense, Rear Services, Defense Industries, Military History, Foreign Military Affairs.

Keywords: *Military forces(Foreign), *International relations, *USSR, Air defense, Defense industry, Military history, Civil defense, Defense systems, Infantry, Warsaw pact countries, Military force levels, Military affairs.

ADA362783REB PC A06/MF A01
USSR Report, Military Affairs.
Joint Publications Research Service, Arlington, VA.
4 Mar 1987, 90p, JPRS-UMA-87-012.
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Partial Contents: Military Political Issues, Warsaw Pact, Armed Forces, Air/Air Defense Forces, Strategic Rocket Forces, Special Troops, Military Educational Facilities, Foreign Military Affairs.

Keywords: *Military forces(Foreign), *International relations, Air defense, Ussr, Military personnel, Foreign, Warsaw pact countries, Strategic warfare, Military force levels, Rockets, Air to air, Fbis collection, Foreign reports, Military affairs.

ADA362784REB PC A02/MF A01
Ways to Solve Fuel Problems in North Korea.
Joint Publications Research Service, Arlington, VA.
13 Jun 1960, 8p, JPRS-3403.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Economics, *International relations, North korea, Metals, Symposia, Industries, Gases, Fuels, Volatility, Anthracite, Foreign reports.

ADA362785REB PC A04/MF A01
Selected Translations of Abstracts in Referativnyy Zhurnal - Biologiya, No. 6, 1959.
Joint Publications Research Service, Arlington, VA.

1959, 36p, JPRS-2435.
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Partial Contentst: Bacterial Virus, Virology, Phage, Scientific Research, Plants, Microbiology, Animals, Transmittable Infections, Hepatitis.

Keywords: *Meetings, *Symposia, *Biology, Bacteria, Abstracts, Animals, Infectious diseases, Viruses, Hepatitis, Microbiology, Bacteriophages, Virology, Foreign reports, Translations.

ADA362786REB PC A01/MF A01
Conference on the Control of the Colorado Beetle, USSR.
Joint Publications Research Service, Arlington, VA.
V. V. Abramenko. 25 Mar 1960, 5p, JPRS-2438, OTS-60-11-441.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Agriculture, *Pest control, *USSR, Foreign policy, Insect control, Inspection, Poland, Meetings, Rumania, Coleoptera.

ADA362787REB PC A12/MF A03
Central Asia, Physical Geography Handbook.
Joint Publications Research Service, Arlington, VA.
V. Sinitsyn. 20 Jun 1960, 245p, JPRS-3420.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Handbooks, *Geography, Water, Asia, Physical sciences, Foreign reports.

ADA362788REB PC A05/MF A01
High-Power Laser Source Evaluation. Final rept.
Lawrence Livermore National Lab., CA.
C. A. Back, C. D. Decker, J. F. Davis, S. Dixit, and J. Grun. Jul 1998, 64p, UCRL-ID-129096-98, QDV-99-0001.
Contract W-7405-ENG-48
Annual rept.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Robust Nuclear-Weapons-Effects Testing (NWET) capability will be needed for the foreseeable future to ensure the performance and reliability, in nuclear environments, of the evolving U.S. stockpile of weapons and other assets. Ongoing research on the use of high-energy lasers to generate environments of utility in nuclear weapon radiation effects simulations is addressed in the work described in this report. Laser-driven hohlraums and a variety of other targets have been considered in an effort to develop NWET capability of the highest possible fidelity in above-ground experiments. The envelope of large-system test needs is shown as the gray region in fig. I. It does not represent the spectrum of any device; it is just the envelope of the spectral region of outputs from a number of possible devices. It is a goal of our laser-only and ignition-capsule source development work to generate x rays that fall somewhere in this envelope.

Keywords: *X rays, *Laser applications, *High energy lasers, Laser beams, Nuclear radiation, Xenon lasers, X ray lasers, Bremsstrahlung, Nwet(Nuclear weapons effects tests), Aq i99-08-1472.

ADA362789REB PC A04/MF A01
Selected Soviet Military Translations (Air Force and Civil Defense Materials).
Joint Publications Research Service, Arlington, VA.
I. Bondarenko. 24 Jun 1960, 48p, JPRS-3439.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The following report is a translation of articles from Soviet periodicals written by various authors primarily concerning air force and civil defense topics but include other topics as well.

Keywords: *Ussr, *Civil defense, *Aeronautics, Military operations, Sources, Air force, Aircraft, Education, Flight control systems, Aircraft equipment, Periodicals, Fbis collection, Translations.

ADA362790REB PC A03/MF A01
Growth of the Physics of Metals and Physical Metallography in the Chinese People's Republics for 10 years --USSR--.
Joint Publications Research Service, Arlington, VA.
C. Chih-Hung, K. Tsung, and C. Ling-Chao. 31 Mar 1960, 14p, JPRS-2425, CSO-3660-N.
Trans. of Fizika Metallov i Metallovedeniye (Physics of Metals and Metallography) (USSR), v8 n6 p820-828 1959.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Metals, *Metallography, Ussr, Physical properties, Russian language, China, Fbis collection, Foreign reports, Translations.

ADA362791REB PC A02/MF A01
Main Source of Solar Corpuscular Streams -- USSR--.
Joint Publications Research Service, Arlington, VA.
E. R. Mustel. 25 Mar 1960, 8p, JPRS-2437, CSO-3351-N.
Trans. of Doklady Akademii Nauk SSSR (Reports of the Academy of Sciences USSR), Moscow, v128 n2 p265-268 1959.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Solar observatories, *Corpuscular radiation, Ussr, Russian language, Solar flares, Fbis collection, Foreign reports, Translations.

ADA362792REB PC A03/MF A01
Certain Problems on the Theory of Heat Resistance and the Development of New High-Strength Titanium Alloys -- USSR --.
Joint Publications Research Service, Arlington, VA.
I. I. Kornilov. 22 Jun 1960, 22p, JPRS-3423, CSO-3449-D.
Trans. of Izvestiya Akademiya Nauk SSSR, OTN, Metallurgiya i Toplivo (Notices of the Academy of Sciences USSR, Division of Technical Sciences, Metallurgy and Fuel), Moscow, n4 p190-199 1959.
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No abstract available.

Keywords: *Titanium alloys, *Thermal resistance, Ussr, High strength alloys, Russian language, Fbis collection, Foreign reports, Translations.

ADA362793REB PC A06/MF A01
When Is a Simple Model Adequate for Use in Scheduling in MSHN. Master's thesis.
Naval Postgraduate School, Monterey, CA.
P. F. Carff. Mar 1999, 95p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Current resource management systems do not provide a way to use measurements taken from an application's execution on one computer to predict that application's performance on another computer. This thesis proposes a model that balances the level of detail, and therefore the quality of their predictions of resource usage, against the cost of computing schedules. To assess the quality of the proposed model, an application emulator was designed, built, and used. The results from running the application emulator demonstrated that the proposed model is able to predict the relative resource usage of an asynchronous application that has substantially more computation requirements than communication requirements. However, an even more detailed model is needed to successfully predict resource requirements of both synchronous and communication-intensive applications.

Keywords: *Distributed data processing, *Resource management, Computer communications, Local area networks, Theses, Scheduling, Operating systems(Computers), Systems analysis, Message processing, Asynchronous computers, Graphical user interface, MSHN(Management System for Heterogeneous Networks).

ADA362794REB PC A02/MF A01
Reorganization of Industrial Hygiene on a Scientific Basis, Ussr.
Joint Publications Research Service, Arlington, VA.
I. Rysakov. 7 Jun 1960, 6p, JPRS-3382.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Industrial hygiene, *Scientific research, *USSR, Problem solving, Inspection, Safety, Pressing(Forming), Occupational safety and health, Translations.

ADA362795REB PC A03/MF A01
Attitudes on Physical and Mental Labor in Communist China.
Joint Publications Research Service, Arlington, VA.
4 Jan 1961, 23p, JPRS-4303, SS-3033.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *China, *Labor, *Mental ability, Communism, Translations.

ADA362796REB PC A06/MF A01
Communist China Digest, No. 16.
Joint Publications Research Service, Arlington, VA.
21 Jun 1960, 87p, JPRS-3421.
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No abstract available.

Keywords: *China, *International relations, *Communists, Decision making, Translations.

ADA362797REB PC A05/MF A01
Worldwide Report: Telecommunications Policy, Research and Development, No. 285.
Joint Publications Research Service, Arlington, VA.
2 Sep 1983, 70p, JPRS-84247.
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customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Keywords: *Policies, *Telecommunications, Sources, Global, Foreign, Television systems, Media, Radio transmission, Periodicals, Foreign languages, English language, Fbis collection.

ADA362798REB PC A03/MF A01
Selected Articles on Machine Industry in Communist China in 1959.
Joint Publications Research Service, Arlington, VA.
24 Jun 1960, 21p, JPRS-3436, CSO-3566-D.
Trans. of selected articles from various issues of the Chinese language periodical Chi-hsieh Kung-yeh Chou-pao (Machine Industry Weekly), Peiping.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Machine tool industry, China, Chemical industry, Chinese language, Electrical industry, Rolling mills, Fbis collection, Foreign reports, Translations.

ADA362799REB PC A09/MF A02
China Report: Political, Sociological and Military Affairs, No. 470.
Joint Publications Research Service, Arlington, VA.
7 Nov 1983, 156p, JPRS-84693.
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This report contains articles concerning political, sociological and military affairs in China.

Keywords: *Military operations, *Political science, *Political parties, *Sociology, *China, Security, *Military affairs, Translations.

ADA362800REB PC A03/MF A01
Training Spatial Knowledge Acquisition Using Virtual Environments. Annual Technical rept 1 Feb 97-31 Jan 98.
Massachusetts Inst. of Tech., Cambridge. Research Lab. of Electronics.
N. I. Durlach. 26 Apr 1999, 14p.
Contract N00014-96-1-0379
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this study is to explore the potential benefits of using current VE technology for training spatial orientation and navigation skills.

Keywords: *Data acquisition, *Computer aided instruction, *Virtual reality, Spatial distribution, Skills, Orientation(Direction), Three dimensional, Navigation, Benefits, *Virtual environments.

ADA362801REB PC A03/MF A01
Possibility of Using as a Photogrammetric Base the 1:25,000 Map for Photogrammetric Mapping at Scales of 1:10,000 and 1:5,000 -- Czechoslovakia --
.
Joint Publications Research Service, Arlington, VA.
V. Pichlik. 21 Jun 1960, 16p, JPRS-3410, CSO-3664-D.
Trans. of Geodeticky a Kartograficky Obzor (Geodetic and Cartographic Review), Prague, n12 p221-224, Dec 59.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Photogrammetry, *Topographic maps, Czechoslovakia, Fbis collection, Foreign reports, Czech language, Translations.

ADA362802REB PC A05/MF A01
USSR Report, Energy, No. 152.
Joint Publications Research Service, Arlington, VA.
17 Jun 1983, 51p, JPRS-83708.
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This report contains articles on energy in the USSR. Topics include oils and gases, non-nuclear power, pipeline construction, and electric power.

Keywords: *Ussr, *Energy, *Fuels, *Electric power, Natural gas, Construction, Pipelines, Oil fields.

ADA362803REB PC A03/MF A01
Survey of Soviet Heavy Industry (7).
Joint Publications Research Service, Arlington, VA.
7 Jan 1961, 23p, JPRS-4384, CSO-1300-S/7.
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No abstract available.

Keywords: *Machine tools, *Ussr, Gas turbines, Electrical equipment, Metallurgical laboratories, Chemical industry, Self propelled, Fbis collection, Foreign reports, Self propelled machinery.

ADA362804REB PC A06/MF A01
Soviet Union, Military Affairs.
Joint Publications Research Service, Arlington, VA.
1 Jun 1987, 76p, JPRS-UMA-87-033.
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This report contains articles from foreign periodicals translated into English that concern military affairs in the Soviet Union. Topics include political science, armed forces, ground forces, defense forces, civil defense, military education, and foreign military affairs.

Keywords: *Ussr, *Civil defense, *Education, *Military forces(Foreign), *International relations, Political science, Foreign, Periodicals, Fbis collection.

ADA362805REB PC A05/MF A01
USSR Report, Military Affairs, No. 1764.
Joint Publications Research Service, Arlington, VA.
27 Apr 1983, 74p, JPRS-83346.
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JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained. This report contains articles on military affairs in the USSR. Topics include armed forces, civil defense, and role of the United States and NATO in armed sales.

Keywords: *Military operations, *Ussr, *Civil defense, *Military forces(Foreign), Nato, Sources, United states, Defense systems, Foreign, Periodicals, Foreign languages, English language, Fbis collection.

ADA362806REB PC A04/MF A01
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires. Rept. for Oct 96-Oct 98.
Navy Technology Center for Safety and Survivability, Washington, DC.
C. C. Ndubizu, R. Ananth, P. A. Tatem, K. Prasad, and C. Li. 30 Apr 1999, 32p, NRL/MR/6180-99-8372.
Prepared in collaboration with GEO Centers, Inc., Rockville, MD, and Science Applications International Corp., Arlington, VA.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report presents the results of an experimental and numerical parametric study of water mist suppression of liquid pool fires. The numerical part was conducted with small 2-D methanol pool fire, while the experiments were conducted with a 50 cm diameter pan heptane and JP8 pool fires. Analyses of results of the experimental and numerical parts lead to similar conclusions. First, the results show that base injection of droplets enhanced their suppression effectiveness by as much as two times compared to top injection. This is because the droplets evaporated within the lower region of the fire where a greater effect of oxygen dilution and water vapor higher heat capacity is fully realized. Secondly, the experimental results show that smaller droplets are more effective than larger droplets in both top and base injections. The similarity between the model predictions and the experimental data indicates that the results of the parametric study conducted with a small scale laminar pool fire can be useful in the design of water mist suppression systems for large scale fires. Finally, the experimental results show that water mist is more effective in suppressing JP8 fires than heptane fires. It is concluded that the difference in effectiveness is largely due to the additional effects of surface cooling.

Keywords: *Water, *Fire suppression, *Fire extinguishing agents, *Mist, Experimental data, Numerical analysis, Combustion, Design criteria, Heptanes, *Water mist suppression, *Liquid pool fires, Methanol pool fire, Jp-8 fuel.

ADA362807REB PC A06/MF A01
East Europe Report, Political, Sociological and Military Affairs, No. 2133.
Joint Publications Research Service, Arlington, VA.
25 Apr 1983, 82p, JPRS-83332.
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JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained. This report contains articles on political, sociological and military affairs in Eastern Europe.

Keywords: *Military operations, *Political science, *Political parties, *Sociology, *Eastern europe, Sources, Foreign, Periodicals, Foreign languages, English language, Fbis collection.

ADA362808REB PC A99/MF A06
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report. Technical note.
Federal Aviation Administration Technical Center, Atlantic City, NJ.
D. Groot, H. Vuong, E. Schlain, and J. Stratton. Dec 1998, 721p, DOT/FAA/CT-TN98/23.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at

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The Federal Aviation Administration (FAA) Automated Weather Observation System (AWOS) Data Acquisition System (ADAS)/Automated Lightning Detection and Reporting System (ALDARS) Operation Test and Evaluation (OT&E) final Test Report is prepared by the ADAS/ALDARS Test Director. This report provides the procedures. results, analysis, significant problems, and Problem Trouble Reports (PTR) for each test. The report also provides overall conclusions and recommendations that flow from the OT&E. The purpose of the ADAS/ALDARS project is to incorporate lightning data into the National Airspace System (NAS) via the Automated Surface Observation System (ASOS) AWOS One-Minute Observations (OMO) and the Aviation Routine Weather Report (METAR) and Aviation Selected Special Weather Report (SPECI) weather messages. This project also incorporated the capability for ADAS to generate METAR format weather messages and interface with the Integrated Terminal Weather System (ITWS). ADAS/ALDARS OT&E was performed to verify that all of the NAS level requirements associated with this project were correctly implemented. All testing was performed by the ACT-320 Weather Branch at the FAA William J. Hughes Technical Center.

Keywords: *Detection, *Lightning, *Data acquisition, Test and evaluation, Requirements, Integrated systems, Automation, Weather, Observation, Operational effectiveness, Aeronautics, Surfaces, Operation, *Lightning detection, Awos(Automated weather observation system), Adas(Awos data acquisition system), Aldars(Automated lightning detection and reporting system).

ADA362809REB PC A03/MF A01
Volatile Losses from Aged Field Sediments. Technical note.
Army Engineer Waterways Experiment Station, Vicksburg, MS. Environmental Lab.
Jan 1999, 11p, EEDP-02-26.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this technical note is to describes laboratory investigations conducted to obtain flux data from contaminated aged field sediments and a laboratory spiked sediment for the emission of volatile organic chemicals (VOCs) from sediment exposed to the atmosphere. These data are being used to develop and validate predictive volatile emissions models. Laboratory experimental techniques and results obtained are presented.

Keywords: *Dredged materials, *Sediments, *Emission control, Mathematical models, Laboratory tests, Waste disposal, Voc(Volatile organic chemicals), Confined disposal facilities.

ADA362810REB PC A03/MF A01
Some Perspectives of the Development of Television Broadcasting Technology -- USSR --.
Joint Publications Research Service, Arlington, VA.
S. I. Katayev. 14 Sep 1960, 14p, JPRS-3912, CSO-4249-D.
Trans. of Tekhnika Kino i Televideniya (Television and Cinema Technology), Moscow, n6 p1-8, Jun 60.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Television systems, *Radio broadcasting, Ussr, Russian language, Fbis collection, Foreign reports, Translations.

ADA362811REB PC A03/MF A01
Quasigeoid and the Standard Elevations -- East Germany --.
Joint Publications Research Service, Arlington, VA.
K. Mueller. 14 Sep 1960, 12p, JPRS-3913, CSO-4207-D.
Trans. of Vermessungstechnik (Geodesy), East Berlin, n3 p63- 65, Mar 60.
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No abstract available.

Keywords: *Geodesics, German language, East germany, Fbis collection, Foreign reports, Translations.

ADA362812REB PC A02/MF A01
Conference on the Problem of Sun-Troposphere -- USSR --.
Joint Publications Research Service, Arlington, VA.
Y. V. Spiridonova. 15 Sep 1960, 6p, JPRS-3917, CSO-4233-D.
Trans. of Izvestia Akademii Nauk SSSR, Seria Geograficheskaya (Bulletin of the Academy of sciences of the USSR, Geophysical Series) (USSR), n3 p157-159 1960.
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No abstract available.

Keywords: *Solar activity, *Troposphere, Ussr, Russian language, Corpuscular radiation, Foreign reports, Fbis collection, Heliogeophical relationships, Translations.

ADA362813REB PC A03/MF A01
Draft for Two Bridges in the People's Republic of Korea.
Joint Publications Research Service, Arlington, VA.
R. Naeser. 15 Sep 1960, 13p, JPRS-3919, CSO-4171-D.
Trans. of Bauplanung-Bautechnik (Construction Planning -- Construction Technology), Leipzip, v10 n7 p280-286, Jul 56.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Bridges, Germany, German language, South korea, Construction materials, Fbis collection, Foreign reports, Translations.

ADA362815REB PC A05/MF A01
China Report, Political, Sociological and Military Affairs, No. 431.
Joint Publications Research Service, Arlington, VA.
16 Jun 1983, 61p, JPRS-83697.
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This report contains articles about political, sociological and military affairs in China. Some topics include international affairs, political parties, education, sociology, and culture.

Keywords: *Military operations, *Political parties, *Sociology, *China, International affairs, Education, International relations, Culture(Social sciences), Military affairs, Translations.

ADA362816REB PC A03/MF A01
Conversion of Laser Phase Noise to Amplitude Noise in a Resonant Atomic Vapor: The Role of Laser Linewidth.
Aerospace Corp., El Segundo, CA. Engineering and Technology Group.
J. C. Camparo, and J. G. Coffer. 15 Apr 1999, 12p, TR-98(8555)-14, SMC-TR-99-11.
Contract F04701-93-C-0094
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When laser light propagates through a resonant medium, the transmitted beam can exhibit excess intensity noise AMPLITUDE MODULATION (AM). In a semiclassical description of the phenomenon, laser phase noise (PM) induces fluctuations in the medium's electric susceptibility, which in turn cause fluctuations in the transmitted intensity. The process provides an efficient means for PM-to-AM conversion, and intuition suggests that large linewidth lasers should exhibit much greater PM-to-AM conversion than narrow linewidth lasers. Here we measure the relative intensity noise (RIN) for two diode lasers whose linewidth delta-v sub L differ by more than 10(exp 2), after the lasers have propagated through a resonant rubidium vapor. Though the RIN of the narrow linewidth laser is only reduced by a factor of about 6 compared to the broad linewidth laser, our results are nonetheless consistent with numerical simulations of the PM-to-AM conversion process. In particular, both computation and analytical theory indicate that RIN is a nonlinear function of delta-v sub L. For single-mode laser linewidth less than the atomic dephasing rate, RIN increases like square roots of delta-v sub L, while for linewidth greater than the atomic dephasing rate RIN is a decreasing function of delta-v sub L.

Keywords: *Laser pumping, *Atomic clocks, Laser beams, Phase modulation, Amplitude modulation, Noise modulation, Diode lasers, Phase noise.

ADA362817REB PC A03/MF A01
East Asia: Southeast Asia, Autobiography of Chamlong.
Joint Publications Research Service, Arlington, VA.
18 May 1990, 16p, JPRS-SEA-90-015.
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This report contains an article from a Thai periodical and has been translated into English. It is an autobiography of Major General Chamlong Simuang.

Keywords: *General officers, *Biographies, *Thailand, Military history, Leadership, Officer personnel, Southeast asia, Fbis collection, Chamlong simuang.

ADA362818REB PC A03/MF A01
Transfer of Training Effectiveness in Flight Simulation: 1986 to 1997. Final rept. Jan-Dec 97.
Air Force Research Lab., Brooks AFB, TX. Human Effectiveness Directorate.
T. R. Carretta, and R. D. Dunlap. Sep 1998, 16p, AFRL-HE-AZ-TR-1998-0078.
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The purpose of this report was to review recent studies regarding the effectiveness of flight simulators as augmentation for 'hands-on' flying training. Simulation-based training has been proposed to reduce costs, extend aircraft life, maintain flying proficiency, and provide more effective training, especially in areas difficult to train in operational aircraft. A review of the literature from 1986 to 1997 identified 67 articles, conference papers, and technical reports regarding simulator flying training and transfer. Of these, only 13 were related directly to transfer of training from the simulator to the aircraft. Studies of simulator effectiveness for training landing skills constituted a majority of the transfer studies, although a few examined other flying skills such as radial bombing accuracy and instrument and flight control. Results indicate that simulators are useful for training landing skills, bombing accuracy, and instrument and flight control. Generally, as the number of simulated sorties increases, performance improves, but this gain levels off after approximately 25 missions. Further, several studies indicate that successful transfer may not require high-fidelity simulators or whole-task training, thus reducing simulator development costs. Evaluation of this literature is difficult for many reasons. Typically, researchers fail to report sufficient detail re-

garding research methods, training characteristics, and simulator fidelity. In addition to these methodological concerns, there is a lack of true simulator-to-aircraft transfer studies involving complex pilot skills. This may be due to problems such as inadequate simulator design, cost, and availability, and access to simulators in operational flying units. Future directions in simulator transfer of training are discussed.

Keywords: *Flight simulators, *Transfer of training, Simulation, Symposia, Aircraft, Skills, Flight control systems, Flight training, Pilots, Costs, Gain, Access, Proficiency, Aircraft landings.

ADA362819REB PC A04/MF A01
USSR Report, Energy, No. 126.
Joint Publications Research Service, Arlington, VA.
1 Dec 1982, 43p, JPRS-82361.
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This report contains articles on energy in the USSR. Some topics include non-nuclear power, electric power, pipeline construction, power equipment, and compressor stations.

Keywords: *Ussr, *Energy, *Pipelines, *Electric power, Stations, Construction, Power equipment, Compressors.

ADA362820REB PC A05/MF A01
Worldwide Report, Telecommunications Policy, Research and Development, No. 250.
Joint Publications Research Service, Arlington, VA.
1 Dec 1982, 56p, JPRS-82357.
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JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained. This report contains articles on telecommunications policy, research and development throughout the world.

Keywords: *Policies, *Telecommunications, Sources, Global, Foreign, Research management, International relations, Periodicals, Foreign languages, English language, Fbis collection.

ADA362821REB PC A06/MF A01
China Report, Political, Sociological and Military Affairs, No. 412.
Joint Publications Research Service, Arlington, VA.
18 Apr 1983, 91p, JPRS-83285.
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This report contains articles from foreign periodicals translated into English that concern political, sociological and military affairs in China.

Keywords: *Military operations, *Political science, *Political parties, *Sociology, *China, International relations, Translations, Military affairs.

ADA362822REB PC A03/MF A01
Forward Flow at the Boundary of the Zone of Deformation -- USSR --.
Joint Publications Research Service, Arlington, VA.
M. N. Potoskuyev. 22 Sep 1960, 13p, JPRS-3925, CSO-4192-D.
Trans. of Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya (News of the Higher Educational Institutions, Ferrous Metallurgy), moscow, n5 p61-67, May 60.
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No abstract available.

Keywords: *Forging, Ussr, Russian language, Flow, Fbis collection, Foreign reports, Forward flow, Translations.

ADA362823REB PC A03/MF A01
Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation -- USSR --.
Joint Publications Research Service, Arlington, VA.
B. S. Bokshteyn, and T. I. Gubkova. 22 Sep 1960, 14p, JPRS-3927, CSO-4192-D.
Trans. of Izvestiya Vysshikh Uchebnykh Zavedeniy, Cheraaya Metallurgiya (News of the Higher Educational Institutions, Ferrous Metallurgy), Moscow, n5 p108-114, May 60.
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No abstract available.

Keywords: *Plastic deformation, *Grain boundaries, Ussr, Russian language, Diffusion, Fbis collection, Foreign reports, Translations.

ADA362824REB PC A05/MF A01
East Asia: Korea.
Joint Publications Research Service, Arlington, VA.
18 Jul 1988, 69p, JPRS-KAR-88-015.
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Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, economic, military, and sociological news, commentary, and other information, as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available source; it should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated. Those from English-language sources are transcribed, with the original phrasing and other characteristics retained. This report contains articles on Korea.

Keywords: *North korea, *Economics, *Korea, *Political parties, *Sociology, Sources, Foreign, Military forces(Foreign), Joint military activities, Documents, International trade, International relations, Periodicals, Far east, Foreign languages, English language, Fbis collection.

ADA362825REB PC A06/MF A01
Southeast Asia Report, No. 1371.
Joint Publications Research Service, Arlington, VA.
18 Nov 1983, 89p, JPRS-84787.
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This report contains articles on Southeast Asia.

Keywords: *Military operations, *Political science, *Government(Foreign), *Political parties, *Southeast asia, Agriculture, Population, International relations, Culture.

ADA362826REB PC A02/MF A01
Twinning Mechanisms in Complex High Tm Intermetallic Compounds. Final technical rept. 1 Jan 90-30 Jun 97.
Pennsylvania Univ., Philadelphia. Dept. of Materials Science and Engineering.
D. P. Pope, and D. E. Luzzi. 5 May 1999, 6p.
Contract N00014-91-J-1165
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This program was divided into two sections involving two separate kinds of experiments: The first involved an investigation into the possibility of twinning in complex structures by inhomogeneous shears (without shuffles) possibly involving synchroshear, as we found to be important in HfV2. The second was an experimental investigation into the (low) temperature-stress regime within which twins nucleate. We were able to show using high resolution TEM, that the shear is inhomogeneous, since the plane of mirror symmetry is a particular set of planes in the structure. Second we were able to show that shuffles are not involved since shuffling should be a diffusion-like process and should become very sluggish at low temperatures. We did flow stress measurements down to 4K and found that the twinning process is active all the way down to at least 77K, strongly suggesting that shuffles are not part of the process. As a result, we were able to demonstrate for the first time that the synchroshear process actually appears to be the mechanism by which twinning occurs in this material.

Keywords: *Twinning(Crystallography), *Intermetallic compounds, Plastic deformation, Shear properties, Thermodynamics, Electron microscopy, *Mechanical twinning.

ADA362827REB PC A06/MF A01
USSR Report: Political and Sociological Affairs, No. 1478.
Joint Publications Research Service, Arlington, VA.
18 Nov 1983, 81p, JPRS-84784.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains articles on political and sociological affairs in the USSR.

Keywords: *Ussr, *Political science, *Sociology, International relations.

ADA362828REB PC A07/MF A02
Near East/South Asia Report, No. 2780.
Joint Publications Research Service, Arlington, VA.
8 Jul 1983, 117p, JPRS-83845.
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This report contains articles on the Middle East and South Asia.

Keywords: *Political science, *Middle east, *Government(Foreign), *South asia, North Africa, Economics, Agriculture, Translations.

ADA362829REB PC A04/MF A01
Development and Application of an Advanced Optical Based Pressure Instrument for Low-Speed Flows. Final rept. 7 Aug 97-7 Feb 98.
Innovative Scientific Solutions, Inc., Beavercreek, OH.
J. D. Jordan, and L. P. Goss. 7 Feb 1998, 47p.
Contract F33615-97-C-3005
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The STTR Phase I program targeted the development and application of advanced optical based systems the determination of surface-pressure distributions on test models in the Subsonic Aerodynamic Research Laboratory (SARL) at Wright Laboratory. The low-speed flows (0.1 less than or equal M less than or equal 0.5) encountered in the SARL facility effect relatively small

changes in surface pressure, typically 1-2 psi about ambient (14.7 psia). As a result, quantitative surface-pressure determination in this environment remained contingent on the development of innovative pressure-sensitive paint (PSP)- coating and optical-measurement technology possessing the requisite sensitivity characteristics. The technical effort encompasses three primary objectives-the development of advanced PSP systems, data-acquisition instrumentation and measurement techniques, and post-processing software. In the Phase I effort, we have coupled the tools of sol-gel-processing technology and inorganic synthetic chemistry for the development of stable PSP's exhibiting tunable performance characteristics. Phase I research has produced sol-gel-based PSP's exhibiting significant improvements in sensitivity about ambient pressure, reduced temperature sensitivity (80%), and fast (>1 kHz) temporal response. Non- intrusive, optical-based measurement techniques capable of accurate pressure measurements in low-speed wind tunnels will find immediate application in commercial- and military-aircraft, automotive, and architectural industries in the United States.

Keywords: *Pressure measurement, *Low velocity, Optics, Paints, Reflectance, Fluid dynamics, Wind tunnels, Aerodynamics, Monomolecular films, Sol gel processes, *Surface pressure films, *Opticql measurement, Sbir(Small business innovation research), Sbir program, Pressure sensitive paints, Temperature sensitive paints, Low speed flow.

ADA362830REB PC A10/MF A02
East Europe Report, Political, Sociological and Military Affairs, No. 2079.
Joint Publications Research Service, Arlington, VA.
24 Nov 1982, 180p, JPRS-82320.
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No abstract available.

Keywords: *Eastern Europe, *International relations, *Political parties, *Sociology, Students, Translations, Military affairs.

ADA362831REB PC A08/MF A02
China Report, Political, Sociological and Military Affairs, No. 438.
Joint Publications Research Service, Arlington, VA.
21 Jul 1983, 145p, JPRS-83946.
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No abstract available.

Keywords: *International relations, *Political parties, *Sociology, *China, Military budgets, Translations, Military affairs.

ADA362832REB PC A05/MF A01
JPRS Report, Latin America.
Joint Publications Research Service, Arlington, VA.
16 Feb 1988, 73p, JPRS-LAM-88-007.
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No abstract available.

Keywords: *Political science, *Economics, Government(Foreign), Civil affairs, International relations, Political parties, Latin america, Elections, Fbis collection, Foreign reports, Translations.

ADA362833REB PC A04/MF A01
Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center.
Army Armor School, Fort Knox, KY.
J. D. Rosenberger. Feb 1987, 44p.
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The majority of brigades and task forces training at the National Training Center (NIC) have demonstrated an inability to perform reconnaissance and counterrecomaissance operations, which are fundamental warfighting tasks that establish the conditions for of offensive and defensive success. This report is a sumary of the significant observations/conclusions obtained during the study.

Keywords: *Reconnaissance, Land warfare, Brigade level organizations, Task forces, Military training, Army operations, Cavalry, Ntc(National training center), Cavalry operations, Counterreconnaissance.

ADA362834REB PC A05/MF A01
JPRS Report, Latin America.
Joint Publications Research Service, Arlington, VA.
28 Apr 1988, 55p, JPRS-LAM-88-016.
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No abstract available.

Keywords: *Political science, *Economics, *Sociology, Industries, Government(Foreign), Civil affairs, International relations, Latin america, Democracy, Elections, Fbis collection, Foreign reports, Translations.

ADA362835REB PC A07/MF A02
USSR Report: Life Sciences, Biomedical and Behavioral Sciences, No. 40.
Joint Publications Research Service, Arlington, VA.
2 Sep 1983, 121p, JPRS-84246.
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No abstract available.

Keywords: *Biomedicine, *Behavioral sciences, Ussr, Government(Foreign), Biochemistry, Life sciences, Public health, Pollution, Genetics, Biophysics, Fbis collection, Foreign reports, Translations.

ADA362836REB PC A05/MF A01
JPRS Report, Latin America.
Joint Publications Research Service, Arlington, VA.
29 Mar 1988, 58p, JPRS-LAM-88-012.
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No abstract available.

Keywords: *Political science, *Economics, *Sociology, Foreign policy, Government(Foreign), Budgets, Civil affairs, Political parties, Latin america, Fbis collection, Foreign reports, Translations.

ADA362837REB PC A05/MF A01
JPRS Report, Latin America.
Joint Publications Research Service, Arlington, VA.
11 Jul 1988, 69p, JPRS-LAM-88-025.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Economics, *Civil affairs, Foreign policy, Government(Foreign), Budgets, Communism, Latin america, Public opinion, Crimes, Fbis collection, Foreign reports, Translations.

ADA362838REB PC A04/MF A01
Deterrence Effects of Operation Frontier Shield.
Rept. for Sep 98-Mar 99.
Institute for Defense Analyses, Alexandria, VA.
B. D. Crane. Mar 1999, 36p, ID/HQ-P-3460.
Contract DASW01-98-C-0067
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This paper examines the effects of the Operation Frontier Shield pulse operation to defend Puerto Rico from non commercial drug trafficking. The operation clearly forced air and surface smuggling away from Puerto Rico and indirectly lessened the positive testing rates of armed forces inductees there. The concept of pulse operations appears to be successful for several years after the initial pulse. New research is reported about the thresholds for deterrence at different rates of interdiction for lethal apprehension (less than 1%), personal apprehension (2 to 4%) apprehension of associates (4 to 13%), losses of equipment plus drugs (13 to 30%), and drugs only (greater than 30%). These thresholds were derived from interviews with smugglers and verified by analysis of three successful operations. Interdiction rates that are below the thresholds have little impact on deterring drug smugglers and those that are substantially above the thresholds have risk levels so high that the traffickers abandon smuggling. A preliminary model showing the effect of interdiction on smuggling deterrence is documented. The research indicates that it is important for commanders to understand the minimum thresholds for interdiction deterrence so that proper employment of scarce interdiction forces are made.

Keywords: *Coast guard operations, *Drug smuggling, *Deterrence, Drug interdiction, Puerto rico, *Operation frontier shield, Drug traffic.

ADA362839REB PC A02/MF A01
Durability Testing for Fouling Release Coatings.
Final rept. 1 Jan 96-31 Dec 97.
Virginia Polytechnic Inst. and State Univ., Blacksburg. Dept. of Mechanical Engineering.
N. S. Eiss. 31 Dec 1997, 6p.
Contract N00014-96-1-0457
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A brushing apparatus was designed and built to simulate the cleaning processes of ship hulls. Wear was measured with a profile meter. The proposed methodology is valuable to study the processes of wear of the coatings, to screen various materials and to identify parameters, either functional or material, which would directly affect their durability. Two groups of coatings were tested: the EXS series and the NRL series. The EXS samples showed better wear resistance than the NRL samples and showed no dependence on the rotational speed of the brushes. The NRL samples showed that increasing the sliding speed resulted in a decrease in wear. An increase in the applied load resulted in increased wear for both sample series. The bond coat had a higher wear resistance than either of the top coats. One possible cause of the better wear resistance of the EXS coating is the fused silica filler in the coating. The NRL coatings had calcium carbonate filler particles. The wear rates of the top coats was independent of the coating thickness. Therefore, thicker coatings will have longer lives than thinner ones.

Keywords: *Protective coatings, Fused silica, Cleaning, Ship hulls, Wear resistance, Brushes, *Fouling release coatings, *Durability, Exs coatings, Nrl coatings, Calcium carbonate.

ADA362840REB PC A07/MF A02
Occupational Survey Report, Survival Equipment, AFSC 2A7X4.
Air Force Occupational Measurement Squadron, Randolph AFB, TX.
Apr 1999, 110p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at

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This report presents the results of an Air Force Occupational Survey of the Survival Equipment career ladder, Air Force Specialty Code (AFSC) 2A7X4. Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products used in this report are available for use by operations and training officials. Captain Ian Jackson, Canadian Aimed Forces, developed the survey instrument. Ms. Karen Tilghman provided computer-programming support. Lieutenant David W. May analyzed the data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Roger W. Barnes, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS).

Keywords: *Personnel management, *Careers, *Personnel development, Military personnel, Military requirements, Jobs, Data management, Information systems, Military forces(Foreign), Air force personnel, Surveys, Military training, Aviation personnel, Survival equipment, *Information, Occupational survey reports.

ADA362841REB PC A07/MF A02
East Europe Report, Political, Sociological and Military Affairs, No. 2153.
Joint Publications Research Service, Arlington, VA.
16 Jun 1983, 114p, JPRS-83700.
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No abstract available.

Keywords: *Eastern Europe, *Political science, *International relations, *Sociology, Peacetime, Demography, Translations, Military affairs.

ADA362842REB PC A05/MF A01
Southeast Asia Report, No. 1310.
Joint Publications Research Service, Arlington, VA.
12 Jul 1983, 75p, JPRS-83867.
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No abstract available.

Keywords: *Military forces(Foreign), *International relations, *Southeast asia, Army personnel, Pilots, Travel.

ADA362843REB PC A02/MF A01
Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
Joint Publications Research Service, Arlington, VA.
F. M. Alizade, G. A. Guseynov, and G. S. Aleskerov. 21 Jun 1960, 7p, JPRS-3411.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Pregnancy, *Fetus, *Vitamin e, Diseases, Long range(Time), Blood, Birth, Foreign reports.

ADA362844REB PC A06/MF A01
Southeast Asia Report, No. 1373.
Joint Publications Research Service, Arlington, VA.
22 Nov 1983, 92p, JPRS-84794.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Economics, *Civil affairs, Foreign policy, Industries, Exports, Government(Foreign), Southeast asia, Socialism, Fbis collection, Foreign reports, Translations.

ADA362845REB PC A04/MF A01
USSR Report, Political, and Sociological Affairs, No. 1390.
Joint Publications Research Service, Arlington, VA.
25 Mar 1983, 47p, JPRS-83136.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Political science, *Sociology, *USSR, Military doctrine, Civil affairs, International relations, Propaganda.

ADA362846REB PC A04/MF A01
Near East and South Asia.
Joint Publications Research Service, Arlington, VA.
14 Apr 1988, 45p, JPRS-NEA-88-026.
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No abstract available.

Keywords: *Economics, *Civil affairs, Security, International relations, Political revolution, South asia, Near east, Fbis collection, Foreign reports.

ADA362847REB PC A01/MF A01
Spectroscopic Observations of the Planets. Annual progress rept. 1 Jul 98-30 Jun 99.
Hawaii Univ. at Manoa, Honolulu. Inst. for Astronomy.
T. C. Owen. 4 May 1999, 4p.
Contract NAG5-6561
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The research supported by this grant has focused on isotopic ratios in comets and in the atmosphere of Titan, and the determinations of surface compositions of outer solar system bodies.

Keywords: *Comets, Infrared spectroscopy, Isotopes, Planets, *Titan, *Isotopic ratios.

ADA362848REB PC A04/MF A01
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
State Univ. of New York at Albany.
S. S. Dawes, P. A. Bloniarz, K. L. Kelly, and P. D. Fletcher. Mar 1999, 40p.
Contract NSF-99-181
Prepared in cooperation with University of Maryland, Baltimore County.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Government remains essential in the Information Age society. Although there is debate over structure and operation, government's objectives are indisputable: maintaining collective security, administering justice, providing the institutional infrastructure of the economy, ensuring that vital social capital is enhanced through improvements in health and education and through strong families and communities. In its role as a service provider, government needs to be fully capable of delivering high quality, effective, affordable services. However, in cases where government itself is not the best delivery vehicle, it must engage or allow others in the voluntary and profit-making sectors to carry out this role. Information technology, already an essential part of government operations, will continue to be vitally important to administration, decision making, and direct service delivery. It will also be critical in the evolving relationships between government and other kinds of organizations, and between government and citizens.

Keywords: *United states government, *Information systems, *Records management, *Meetings, *State government, *Local government, Digital systems, Political science, Decision making, Communities, Security, Access, Technology assessment, Online systems, Computer networks.

ADA362849REB PC A05/MF A01
West Europe Report, No. 2170.
Joint Publications Research Service, Arlington, VA.
8 Jul 1983, 67p, JPRS-83847.
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No abstract available.

Keywords: *International politics, *Western Europe, Government(Foreign), Protective equipment, Terrorism.

ADA362850REB PC A05/MF A01
Synthesis and Characterization of Diamond-Like Carbon Coatings Deposited by Plasma Source Ion Implantation and Conventional Ion Beam Assisted Deposition Processes. Master's thesis.
Wisconsin Univ.-Madison. Dept. of Nuclear Engineering.
B. M. Stout. 1999, 52p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Diamond-like carbon coatings produced by Plasma Source Ion Implantation (PSII) and beamline Ion Beam Assisted Deposition (IBAD) were synthesized and studied. Gas pressure and electrical current were used as variables to design four independent PSII test sets. Beamline IBAD samples were produced with a pre-optimized set of parameters. Profilometry measurements showed the films to have thicknesses between 1.44 +/- .09 and 1.64 +/- .04 microns and to possess very low roughness averages, ranging from 14 +/- 3 to 28 +/- 3 nm, which correlate with substrate surface roughness. Atomic Force Microscopy revealed that diamond-like carbon crystal sizes varied significantly with chamber pressure. Crystals were generally spherical in shape suggesting that films were highly amorphous. Microhardness and nanohardness test results showed the hardest films to be greater than 3 times the hardness of untreated steel. The elastic modulus of the films, measured during the nanohardness test, was directly related to film hardness. Fretting wear and Pin-on-Disk tests were performed to quantitatively assess the ability of films to resist wear. Fretting wear tests showed a dramatic decrease in friction for diamond-like carbon films with friction levels ranging from 10% to 30% of that of untreated steel. Pin-on- Disk tests revealed a significant improvement in wear resistance prior to stylus penetration into the substrate.

Keywords: *Ion beams, *Ion implantation, *Coatings, *Diamond films, Plasmas(Physics), Modulus of elasticity, Theses, Profilometers, Wear resistance, Microhardness, Fretting, Psii(Plasma source ion implantation), Ibad(Ion beam assisted deposition), Atomic force microscopy, Dlc(Diamond like carbon).

ADA362851REB PC A12/MF A03
Evaluation of Passive Systems for the Treatment of Mine Drainage. Master's thesis.
Pennsylvania State Univ., University Park. Dept. of Civil Engineering.
H. C. Roscoe. May 1999, 234p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Acid Mine Drainage (AMD) is a serious environmental problem and the focus of a great deal of research. Passive treatment systems associated with wetlands and Anoxic Limestone Drains (ALDs) provide a low-cost, low-maintenance treatment in contrast to continuous chemical metering. The ALD adds alkalinity to the water allowing for a more rapid formation of iron precipitates. The abiotic oxidation ponds associated with these systems are expected to precipitate about 10-20 g/sq m-day of iron. The focus of this research is to evaluate two different ALD passive treatment systems in order to find ways to improve the efficiency of the abiotic oxidation of ferrous, thereby reducing the amount of land area required to treat the discharge. The two systems evaluated differed in that one system is a channel system, while the other is a series of ponds. The channel system has a large excess of alkalinity while the pond system has net mineral acidity. The study of the systems was conducted over a one-year period starting in January 1998 and ended in January 1999. The evaluation of each system included monitoring the chemistry and using MINTEQA2, a chemical equilibrium computer program to assist in the analysis. Of all the major cations in solution, ferrous is the only one that is removed in the system.

Keywords: *Drainage, *Coal mines, Test and evaluation, Cations, Passive systems, Theses, Iron, Water treatment, Water pollution, Oxidation, Limestone, Wetlands, Chemical equilibrium, Ponds, Environmental engineering, Abiotic processes, Alkalinity, Amd(Acid mine drainage), Minteqa2 computer program, Ald(Anoxic limestone drains).

ADA362852REB PC A05/MF A01
East Europe Report: Scientific Affairs, No. 772.
Joint Publications Research Service, Arlington, VA.
25 Mar 1983, 68p, JPRS-83135.
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No abstract available.

Keywords: *Eastern Europe, *Scientific research, Computers, Lasers, Silicon compounds, Electronics industry.

ADA362853REB PC A01/MF A01
Award of Lenin Prizes in Science and Technology, USSR.
Joint Publications Research Service, Arlington, VA.
19 May 1960, 5p, JPRS-3282, OTS-60-31-175.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *USSR, *Scientists, *Scientific research, Magnetic fields, Nuclear energy, Nuclear reactors, Radio waves, Arid land, *Science and technology, Translations.

ADA362854REB PC A06/MF A01
Southeast Asia Report, No. 1372.
Joint Publications Research Service, Arlington, VA.
21 Nov 1983, 87p, JPRS-84789.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Military forces(Foreign), *International relations, *Southeast Asia, Production, Students, Battalion level organizations, Military commanders, Refugees.

ADA362855REB PC A02/MF A01
Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
Joint Publications Research Service, Arlington, VA.
A. L. Leonovich. 6 Jan 1961, 10p, JPRS-4311.
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No abstract available.

Keywords: *Clinical medicine, *Etiology, *Pathogenesis, Alternating current, Nervous system, Patients, Physicians, *Multiple sclerosis, Foreign reports.

ADA362856REB PC A01/MF A01
Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-, (K metodike issledovaniya gazoobmena pri vdykhanii bol' shikh kontsentratsiy kisloroda).
Joint Publications Research Service, Arlington, VA.
V. P. Bezugliy. 6 Feb 1961, 5p, JPRS-4381.
Trans. of Laboratornoye Delo (Laboratory Work) (Moscow), v6 n5 p22-24, 1960.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Clinical medicine, *Metabolism, *Gases, *Oxygen consumption, Laboratory procedures, Concentration(Chemistry), Foreign reports, Translations.

ADA362857REB PC A05/MF A01
Worldwide Report, Epidemiology, No. 316.
Joint Publications Research Service, Arlington, VA.
26 Apr 1983, 61p, JPRS-83333.
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No abstract available.

Keywords: *Epidemiology, Humans, Diseases, Language, Hepatitis, Poliomyelitis, Foreign reports, Fbis collection.

ADA362858REB PC A05/MF A01
Worldwide Report, Epidemiology, No. 322.
Joint Publications Research Service, Arlington, VA.
17 Jun 1983, 54p, JPRS-83702.
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No abstract available.

Keywords: *Epidemiology, Humans, Diseases, Diarrhea, Immunization, Children, Cholera, Vaccines, Acquired immune deficiency syndrome, Skin diseases, Rubella, Fbis collection, Foreign reports.

ADA362859REB PC A02/MF A01
Problem of Early Diagnosis of Cancer of the Uterine Cervix.
Joint Publications Research Service, Arlington, VA.
N. V. Fedorova. 14 Sep 1960, 6p, JPRS-3911, OTS-60-31-765.
Trans. of Laboratornoye Delo (Laboratory Work) (Moscow), v6 n3, p4-6, May-June 1960.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Diagnosis(Medicine), *Cancer, Ussr, Epithelium, Neoplasms, Classification, Laboratory procedures, *Uterine cervix, Foreign reports, Cervical cancer, Translations.

ADA362860REB PC A05/MF A01
USSR Report, Earth Sciences, No. 27.
Joint Publications Research Service, Arlington, VA.
6 Jul 1983, 72p, JPRS-83829.
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No abstract available.

Keywords: *Earth sciences, Mathematical models, Ussr, Meteorology, Earth(Planet), Fbis collection, Foreign reports.

ADA362861REB PC A03/MF A01
Dealing With Data: Seminar Summary. Using Information in Government Program Information Sharing Seminar Series, Seminar No. 1.
State Univ. of New York at Albany.
4 Feb 1999, 19p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Center for Technology in Government, through the Using Information in Government (UIG) program, has worked during the past year with NYS agency project teams and partners from the public, private, and academic sectors to identify benefits of and strategies for integrating and using data for program planning, evaluation, and decision making. The policy, management, and technology issues identified through our work with the agency teams will be shared in a series of seminars focused on increasing the value of existing information to government programs. This report summarizes the presentations given at the first of the Using Information in Government seminar series, 'Dealing with Data' conducted on February 4, 1999.

Keywords: *United states government, *Management, *Information systems, *State government, *Local government, Symposia, Policies, Decision making, Strategy, Planning, Benefits, Technology assessment, Aq i99-08-1491.

ADA362862REB PC A06/MF A01
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
Project rept.
State Univ. of New York at Albany.
K. L. Kelly, A. Kowlowitz, T. A. Pardo, and D. E. Green.
Jul 1998, 86p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The project described in this report was an attempt to develop a practical way to incorporate essential electronic records requirements into the design of new information systems. Funded in large part by a research grant from the National Historical Publications and Records Commission (NHPRC), the project was conducted from 1996 to 1998 through a partnership between the New York State Archives and Records Administration (SARA) and the Center for Technology in Government (CTG). The project team included staff of the NYS Adirondack Park Agency, eight corporate partners led by Intergraph Corporation, and University at Albany faculty and graduate students. In recent years, significant theoretical work has been done in the area of electronic records management; however, little has been translated into practical implementable solutions. This project was designed to bridge the gap between theory and practice by producing generalizeable tools that link business objectives to sound records management practices. This connection can be understood most readily at the business process level where workflow information flow and service delivery come together. The project integrated and built upon several existing bodies of knowledge: electronic recordkeeping and archival theory and practice, business process im-

provement and reengineering (BPI/BPR) methodologies, and system development methodologies.

Keywords: *Information systems, *Documents, *Records management, *Records, *Preservation, Requirements, Electronics, Methodology, Commerce, Theory, History, Archives, Aq i99-08-1489.

ADA362863REB PC A03/MF A01
Practical Tools for Electronic Records Management and Preservation.
State Univ. of New York at Albany.
Jan 1999, 17p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper presents an easy to understand foundation for electronic records management considerations. It also presents practical tools that seamlessly integrate into the system design process and result in the identification of technical specifications and opportunities for improving performance through improved access to records. The tools also identify critical management and policy factors that must be in place to support a full system implementation. These tools can be used by any organization to: (1) Bring the record to the forefront of system design activities. (2) Identify electronic records functionality as part of system design. (3) Create electronic records that support legal and evidentiary needs. (4) Create electronic records that are accessible and usable over time. (5) Integrate diverse document forms and formats into records. (6) Identify need for internal and external primary and secondary access to records.

Keywords: *Electronics, *Records management, *Preservation, Policies, Information systems, Specifications, Identification, Documents, Formats, Access, Records, Aq i99-08-1493.

ADA362864REB PC A03/MF A01
Survey of Key Concepts and Issues for Electronic Recordkeeping.
State Univ. of New York at Albany.
B. Maio. Aug 1997, 19p, CTG-MFA-001.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Models for Action project seeks to find practical solutions to electronic recordkeeping in networked computing environments. The project incorporates principles from business process analysis, information systems development, electronic records management and archival preservation in order to find solutions that address recordkeeping at all stages of the records life cycle and – more importantly – within the context of the business process which the records support. The first step in this project was to identify the necessary requirements for creating, managing, and preserving access to records that support an organization's business needs including its legal and evidentiary requirements. Today, more than ever, this depends on compliance with various technology standards and legal and professional guidelines. Such standards allow for communication of records across different computing platforms. They also help to define a 'secure' environment, authentication procedures, and terms and conditions for transacting business electronically, and for documenting and attesting to these transactions. In order to test the project's tools for identifying record keeping requirements in a practical business application, the Models for Action project is developing a prototype for the New York State Adirondack Park Agency. APA's Permitting Process currently uses a mix of Geographic Information System information, paper documents, and a small desktop database. The prototype will apply electronic document management and workflow to the agency's Minor Permitting Process. A review of technology standards, government policies, legal principals and best practices was conducted in April, 1997 addressing key issues the project expected to encounter during the design and development of the APA prototype.

Keywords: *Information systems, *Networks, *Computer applications, *Records management, Policies, Commerce, Data processing security, Tools, Surveys, Standards, Access, Communication and radio systems, Records, Archives.

ADA362865REB PC A01/MF A01
News from AFAR, March/April 1998.
Assistant Secretary of the Air Force (Acquisition), Washington, DC.
Apr 1998, 5p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report represents the Air Force Acquisition Reform newsletter. This issue deals with such topics as the acquisition process in several Air Force organizations, commercial item acquisition, system performance, commercial technology, global broadcasting systems, international purchases, databases and acquisition reform, computer software, internet, performance specifications and hazardous materials.

Keywords: *Air force, *Acquisition, Computer programs, Data bases, Global, Commerce, Specifications, Performance(Engineering), Radio broadcasting, Procurement, Commercial equipment, International, Military organizations, Hazardous materials.

ADA362866REB PC A04/MF A01
JPRS Report, East Asia Korea.
Joint Publications Research Service, Arlington, VA.
7 Sep 1988, 48p, JPRS-KAR-88-017.
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This document contains articles translated from foreign periodicals into English that concern North and South Korea.

Keywords: *North korea, *Military operations, *Political science, *Economics, *South korea, Sources, Commerce, Foreign, International relations, Periodicals, Fbis collection.

ADA362867REB PC A04/MF A01
JPRS Report, East Asia: Korea.
Joint Publications Research Service, Arlington, VA.
5 Aug 1988, 50p, JPRS-KAR-88-016.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document contains articles translated from foreign periodicals into English that concern North and South Korea.

Keywords: *North korea, *Military operations, *Political science, *Economics, *South korea, Sources, Commerce, Foreign, International relations, Periodicals, Far east, Fbis collection.

ADA362868REB PC A07/MF A02
Worldwide Report: Telecommunications Policy, Research and Development, No. 294.
Joint Publications Research Service, Arlington, VA.
18 Nov 1983, 104p, JPRS-84778.
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JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Keywords: *Global, *Policies, *Telecommunications, *Research management, Sources, Foreign, Television systems, Media, Periodicals, Foreign languages, English language, Fbis collection.

ADA362869REB PC A04/MF A01
ARL Intranet Analysis and Development Study. Final rept. 18 Sep-18 Dec 98.
Georgia Inst. of Tech., Atlanta.
D. L. Ulery. Apr 1999, 42p, ARL-CR-441.
Contract DAKF11-97-D-0001
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

We analyze the concept and practice of Intranets used in midsize and large enterprises, focusing on their use and impact within research and development (R&D) organizations. We examine the shift from the old concept of business computing to the modern concept of enterprise computing, and consider Intranets-a class of enterprise computing-relative to enterprise computing trends. By analyzing in detail some case studies selected from the literature, on-site visits, and workshop discussions, we then offer three tools to frame the critical issues and provide structure for systematically constructing strategic Intranets specific to a given organization's mission and culture. Arguing that creation of an Intranet that projects an image of a world-class organization demands no less than a world-class enterprise that is strategically enabled through information technology, we then analyze the current U.S. Army Research Laboratory (ARL) Intranet and present a three-step action plan to expedite ARL's movement toward creation of such an Intranet.

Keywords: *Local area networks, *Research management, Organizations, Information systems, Operational effectiveness, Case studies, Missions, Army research laboratories, *Intranet, Arl(Army research laboratory).

ADA362870REB PC A04/MF A01
Female Gender and Other Potential Predictors of Functional Health Status Among Persian Gulf War Veterans (Revised). Final rept. 11 Sep 95-10 Sep 98.
Tufts Univ., Boston, MA.
J. Wolfe. Oct 1998, 41p.
Contract DAMD17-95-1-5047
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Large numbers of Gulf War veterans have expressed concerns about their physical health. The current project sought to identify and examine the role of a number of potential predictors on two health outcomes reported health symptoms and health functioning. Specifically, the extent to which female gender, psychiatric status (most notably PTSD), and perceived environmental exposure affect physical health were examined. Mailed questionnaires were sent to a previously assessed cohort of 2949 Gulf War veterans. A total of 1280 (1158 men, 122 women; 43.4% response rate) returned completed questionnaires. Attempts to assess and control for bias due to non response are underway. Preliminary results show that although female veterans report more health symptoms than their male counterparts, few if any differences are found for physical health functioning. PTSD and increased levels of perceived environmental exposure, however, predict both an increase in reported health symptoms and decreased health functioning. Furthermore, effects for PTSD and environmental exposure do not appear to differ across gender. These results suggest that Gulf War veterans may be experiencing decrements in functional health, and these decrements are associated with psychological as well as environmental variables.

Keywords: *Health, *Stress(Psychology), Chemicals, Signs and symptoms, Toxic agents, Physical fitness, Exposure(Physiology), Perception, Psychiatry, Mental disorders, Persian gulf war, Defense women's health research program, Mcs(Multiple chemical sensitivity)syndromes, Ptsd(Post traumatic stress disorder), Gulf war veterans.

ADA362871REB PC A01/MF A01
Hand Tool Manipulation and Self-Presence in VR. Final rept. 1 Apr 97-30 Sep 98.
Moore School of Electrical Engineering, Philadelphia, PA. Dept. of Computer and Information Sciences.
N. I. Badler. May 1999, 5p.
Contract N00014-97-1-0396
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The objective was to purchase Virtual Reality (VR) and associated computing equipment to enable the investigation of full body avatar control and self-presence using both fine motion hand manipulation plus force feedback as well as whole body posture and motion sensors.

Keywords: *Virtual reality, *Tools, *Manipulators, Computerized simulation, Motion, Computer applications, Human body, Anatomical models.

ADA362872REB PC A09/MF A02
Advanced Radiation Theory, Support Annual Report 1998. Final rept.
Naval Research Lab., Washington, DC. Radiation Hydrodynamics Branch.
27 Apr 1999, 151p, NRL/MR/6720--99-8341.
Contracts MIPR-98-2051 , MIPR-98-2174-923
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This report describes the work of the Radiation Hydrodynamics Branch during FY 98 in support of the DTRA PRS program. Critical issues covered are: (1) Large initial radius Z-pinch load behavior on Saturn, Double Eagle, DECADE QUAD, and Z pulsed power machines, (2) Analyzing temperature and density radial temperature gradients in Z-pinch plasmas, (3) Analysis of time resolved and time integrated Z-pinch data, (4) Spectroscopic PRS analysis, (5) Radiation magnetohydrodynamic code development and assessment, (6) Analysis of nested wire array loads, and (7) Basic tradeoffs of L-shell versus K-shell radiators.

Keywords: *Magnetohydrodynamics, *Z pinch plasmas, Plasma generators, Implosions, Rayleigh taylor instability, Decade quad machines, Diagnostic line ratios, Transport coefficients.

ADA362873REB PC A03/MF A01
Heat Treatment of Al 7075 for Ejection Seat Shear Wire. Research and development rept.
Naval Surface Warfare Center Carderock Div., Bethesda, MD. Survivability Structures and Materials Directorate.
C. R. Wong, and L. S. Mastroianni. Mar 1999, 15p, NSWCCD-61-TR-1999/04.
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Shear pins in ejection seats are required to have double shear breaking load values in the range of 46-51 lbs. over the life of the equipment. Aluminum 6061-T6 that was cold worked to increase the shear strength was initially used and performed well for many years. Current lots of Al 6061 could not duplicate the double shear breaking load values and so it was attempted to achieve the required double shear breaking load in the Al 7075 alloy with a stable microstructure. A variety of heat treatments were performed and tested for hardness and double shear breaking load. This report presents the resulting heat treatment curves and the correlation between hardness and double shear breaking load. The proper heat treatment for this application is identified as a solution treatment between 870 and 900 deg F for 32 hours, aging at 225 deg F for 8 hours and then further aging at 350 deg F for 144 hours. This heat treatment was found to produce a double shear breaking load in the required range that is stable over time.

Keywords: *Aluminum alloys, *Ejection seats, *Shear strength, Heat treatment, Hardness, Shear pins, Aluminum alloy 6061-t6, Aluminum alloy 7075, Double shear breaking load, Aging curves.

ADA362874REB PC A03/MF A01
R/V Seward Johnson Cruise Report (SJ-9807) ACCE S-PALACE Float Deployments. Technical rept.
Woods Hole Oceanographic Institution, MA.
E. T. Montgomery, and B. J. Guest. 24 Feb 1999, 29p, WHOI-99-03.
Contract NSF-OCE-831869
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

R/V Seward Johnson cruise 98-07 occurred between October 12 and November 5, 1998. The goal of the cruise was to deploy 30 Salinity Profiling Autonomous Lagrangian Current Explorer (S-PALACE) floats in the tropical Atlantic as part of the Atlantic Circulation and Climate Experiment (ACCE). These floats are neutrally buoyant and drift with the water in which they are deployed. They are programmed to obtain temperature and salinity profiles of the top 1000 meters of the ocean every ten days. To ascertain the validity of the float data, a CTD profile was made at the site and time of the deployment of each float. The data from these floats augments data already being obtained from ten floats deployed in July of 1997. Given 40 floats in the tropical North Atlantic, reporting every 10 or 14 days with an expected operational life of 3-5 years, we hope to gather 5000 to 7000 temperature and conductivity profiles in the coming years. The temperature and salinity profiles, along with derived properties will aid in examining the mechanisms of upper ocean heat and freshwater storage. This data, combined with satellite sea surface data should provide useful input to climate and weather prediction models.

Keywords: *Ocean currents, *Tropical regions, *Salinity, Ocean surface, Atmospheric temperature, Weather forecasting, Oceanographic data, Marine climatology, North atlantic ocean, Alace(Autonomous lagrangian current explorer), Acce(Atlantic circulation and climate experiment).

ADA362875REB PC A05/MF A01
STWAVE: Steady-State Spectral Wave Model. Report 1: User's Manual for STWAVE Version 2.0. Final rept.
Army Engineer Waterways Experiment Station, Vicksburg, MS. Coastal Hydraulics Lab.
J. M. Smith, D. T. Resio, and A. K. Zundel. Apr 1999, 59p.
Prepared in cooperation with Brigham Yong Univ., Provo, UT.
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This report describes application of the steady-state spectra wave model STWAVE. The purpose of STWAVE is to provide an easy-to-apply, flexible, and robust model for nearshore wind-wave growth and propagation. Recent upgrades to the model include wave-current interaction and steepness-induced wave breaking. STWAVE has also been incorporated into the Surface-Water Modeling System, which provides a user interface and supporting software for grid generation, interpolation of current fields, generation of input spectra, and visualization of model output.

Keywords: *Ocean waves, *Ocean currents, Computerized simulation, User manuals, Steady state, Ocean surface, Inshore areas, Finite difference theory, Bathymetry, Wind velocity, Coastal engineering, Ocean models, Stwave computer program, Stwave(Steady-state spectral wave model).

ADA362876REB PC A03/MF A01
Technique for Measuring the Gain of HF Antennas.
Defence Science and Technology Organisation, Canberra (Australia).
J. K. Ayliffe, C. J. Coleman, K. W. Gooley, J. Lane, and E. Sweetman. Sep 1998, 30p, DSTO-TR-0654, DODA-AR-010-510.
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A technique for characterizing large HF antennas is considered. The approach achieves this by comparing radar returns from a target illuminated by the unknown antenna with returns from the same target illuminated by a well characterised antenna. Results from a trial confirm that the method is effective.

Keywords: *Measurement, *High frequency, *Gain, *Radar antennas, *Foreign technology.

ADA362877REB PC A08/MF A02
Flow Visualisation About the Helicopter Deck of the Hydrographic Ship. Technical rept.
Defence Science and Technology Organization, Melbourne (Australia).
C. D. Edwards. Mar 1999, 135p, DSTO-TR-0762, DODA-AR-010-842.
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Flow visualisation tests were performed about the helicopter deck of a 1/35 scale model of the Hydrographic Ship in the Low Speed Wind Tunnel at the Aeronautical and Maritime Research Laboratory. The model was tested over a range of relative wind angles using tuft, smoke and surface flow visualisation techniques to determine regions of adverse airflow that may have a detrimental effect on helicopter-ship operations in order to meet certification requirements. In particular, turbulent flow in the vicinity of the flight deck, vertical replenishment area and the ship's anemometer installation were identified, photographed and recorded on video. Effects of two fixed ship roll angles on the flow were also investigated. This document contains extensive results for all model configurations tested and describes in detail the flow features observed.

Keywords: *Flow visualization, *Landing craft, Scale models, Turbulent flow, Vortices, Helicopters, Australia, Wind tunnels, Flight decks, *Hydrographic ships, Foreign reports, Flow patterns.

ADA362878REB PC A07/MF A02
Enhancement of Boiling in Highly Wetting Fluids. Master's thesis.
Naval Postgraduate School, Monterey, CA. Dept. of Mechanical Engineering.
J. M. Tuite. Mar 1999, 118p.
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The boiling of a highly wetting dielectric fluid, in an oscillating environment, has been investigated. Because of low surface tension, these liquids require very high superheat to initiate nucleate boiling. This high degree of superheat required can be reduced by oscillation of the fluid. This oscillation removes the bubbles, which are forming in the nucleation sites on the wire, which allows new bubbles to form. The amplitude and frequency of the oscillation has been varied in an attempt to find optimum values. All attempted oscillation amplitudes and frequencies reduced the required superheat necessary to initiate nucleate boiling. Some oscillation amplitudes and frequencies were more effective than others. No global optimum amplitude or frequency was specifically located. Several local optimum values were found. Once oscillation amplitude was found to produce equal required superheat values at various frequencies, thus appearing to be independent of frequency.

Keywords: *Nucleate boiling, *Liquid cooling, Dielectrics, Electronic equipment, Theses, Bubbles, Oscillation, *Dielectric fluids, Temperature overshoot, Fluid oscillation.

ADA362879REB PC A06/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.

9 Mar 1990, 78p, JPRS-NEA-90-015.
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This report contains foreign media information from the Near East and South Asia on issues related to politics, economics and social concerns.

Keywords: *Political science, *Economics, *Sociology, Civil affairs, International relations, Political parties, South asia, Elections, Fbis collection, Foreign reports, Political reforms, Near east.

ADA362880REB PC A03/MF A01
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser. Interim rept.
Naval Research Lab., Washington, DC. Beam Physics Branch.
T. G. Jones, J. Grun, H. R. Burris, and C. Manka. 22 Apr 1999, 25p, NRL/MR/6790--99-8317.
Prepared in collaboration with ICARUS Research, Inc., Bethesda, MD and Research Support Instruments, Inc., Lanham, MD.
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High energy laser pulses (up to 150 joules at 527 nm) were directed onto underwater targets to produce a heated volume which, upon expansion, created underwater shocks and bubbles. These experiments were a feasibility study for a laboratory experimental program studying two phenomena: (1) bubble collapse dynamics in close proximity to a solid interface, and (2) shock propagation dynamics in aerated sand/water mixtures. The laser was focused both onto a point in the water and onto the surface of a solid thin foil target immersed in the water. For both types of targets, the focal volume of the laser beam was in water. Solid laser targets were observed to effectively localize laser energy deposition, providing a point shock source and producing spherical shocks. Shock pressures were inferred from shock propagation speeds to be 30 Kbar at 2 mm, and measured by carbon piezoresistive gauges to be 200 bar at 13 mm. Bubbles were formed with maximum radii of 15 mm and oscillation times of 3 ms. Key features of a design for a permanent experimental chamber are given in the report.

Keywords: *High energy lasers, *Thermal shock, Laser beams, Bubbles, Aeration, Underwater targets, *Underwater laser shock, Underwater shock, Bubble generation.

ADA362881REB PC A06/MF A01
Strehl Ratio Probabilities for Phase-Only Adaptive Optics. Master's thesis.
Naval Postgraduate School, Monterey, CA.
C. R. Ambrose. Mar 1999, 80p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Atmospheric turbulence will induce phase and amplitude fluctuations in propagating electromagnetic waves, such as a laser beam. Adaptive optical systems attempt to compensate for these distortions. The Strehl ratio is a measure of the peak, on-axis intensity after propagation through turbulence divided by the peak irradiance for vacuum propagation. This thesis investigated the probability distribution of the Strehl ratio of a perfect, phase-only, adaptive optical system as a function of the atmospheric coherence length Ro divided by the actuator spacing, d. Using an efficient Fourier algorithm and 28 workstations running in parallel, over 850 million computer simulations were performed for 25 different Ro/d ratios in order to produce a histogram of the irradiance probability distribution. The results show that the Strehl ratio follows a log-normal probability distribution even for very small probabilities. A second set of computer simulations introduced intensity scintillation by including the log-amplitude variance parameter, cu. sigma sub l. Much faster, state-of-the-art computer workstations enabled over two billion realizations on 18 machines running in parallel for comparable time periods. The trends of these results are more complex and will require further research and deeper investigation.

Keywords: *Computerized simulation, *Atmospheric motion, *Adaptive optics, Probability distribution functions, Theses, Turbulence, Electromagnetic wave propagation, Laser beams, *Strehl ratio.

ADA362882REB PC A06/MF A01
Effects of Texture on Distance Estimation in Synthetic Environments. Master's thesis.
Naval Postgraduate School, Monterey, CA.
J. H. Rowland. Mar 1999, 76p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

To determine whether egocentric distance judgments are accurate in a virtual environment with different ground surface textures, observers were immersed within a virtual environment consisting of a large L-shaped room with a column located down one corridor and a flagpole located down the other. The observer's task was to view the column, then turn 90 degrees to view the other corridor where the flag was positioned. The observer then moved the flag's position (by using the joystick) until the distance between the observer and the flag was the same as the distance between the observer and the column. A within-subject design with column size (2 levels), column distance (4 levels), and surface texture (9 levels) was used. The texture beneath the column and the flag was varied from a high-density texture (grass), to medium-density (brick), to a low-density texture pattern (carpet). A within-subject design with column size (2 levels), column distance (4 levels), and surface texture (9 levels) was used. Subjects' distance estimates were significantly better when the brick texture was used underneath the column, than when the grass or carpet texture was used.

Keywords: *Visual perception, *Virtual reality, Computerized simulation, Performance(Human), Theses, Man computer interface, Range(Distance), Texture, Space perception, Position(Location).

ADA362883REB PC A08/MF A02
AMPL: An Exclusive Technology for DecisionNet. Master's thesis.
Naval Postgraduate School, Monterey, CA.
M. P. Casey. Mar 1999, 139p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This thesis describes the design and implementation of an exclusive technology agent for DecisionNet – a distributed decision support technology marketplace for the World Wide Web. Unlike the independent technologies presently supported by DecisionNet, exclusive technologies require software agents to facilitate interactions between their providers and consumers. The exclusive technology agent described in this report would allow use of the AMPL mathematical modeling language through the DecisionNet environment and provide database support for AMPL objects. An AMPL agent for DecisionNet provides a searchable repository to facilitate sharing and reuse of AMPL objects. It also provides a means for clients to formulate and execute AMPL problems without having to purchase AMPL software or learn the AMPL language. The data structure described in this thesis has three distinct types of exclusive objects: model schema, dataset, and solver. A complete AMPL problem contains one object of each type. An AMPL agent assists DecisionNet technology providers in the registration, modification, and withdrawal of AMPL objects, and assists DecisionNet consumers in the selection and execution of AMPL problems.

Keywords: *Software engineering, *Internet, *Decision support systems, Data bases, Distributed data processing, Computer gateways, Computer communications, Theses, Object oriented programming, Client server systems, Decisionnet computer program.

ADA362884REB PC A07/MF A02
Frequency-Based Load Sharing in Current-Mode-Controlled Buck Converters. Master's thesis.
Naval Postgraduate School, Monterey, CA.
J. E. Moore. Mar 1999, 116p.
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Modular DC Zonal Electrical Distribution (DC ZEDS) offers advantages in both cost and weight over traditional radial shipboard distribution. In order to equip the next class of surface combatant with DC ZEDS, preparative research includes the design of autonomous dc-to-dc power converter modules having robust load sharing capability. This thesis examines the combined utility of current-mode switch control and frequency-based load sharing to promote equal load sharing among parallel dc-to-dc converter modules. Current-mode control with frequency-based load sharing is analyzed primarily with digital simulation. To that end, a state-space representation for a system of two converters and an Advanced Continuous Simulation Language (ACSL) simulation for a system of three converters are developed. Various studies were conducted to evaluate the performance of a proposed system for load sharing performance between dissimilar converters, for step changes in load, and for bringing a converter off-line. Additionally, a sub-circuit of frequency-based control-the rms frequency estimation circuit-was built, and its static performance evaluated. Finally, recommendations are made for further simulations which will better test the dynamic performance of this rms estimation circuit and the system of parallel converters employing frequency-based load sharing as a whole.

Keywords: *Electric power distribution, *Dc to dc converters, *Electrical loads, Performance(Engineering), Theses, Voltage, Shipboard, Direct current, Digital simulation, Zonal electrical distribution.

ADA362885REB PC A06/MF A01
JPRS Report, East Asia, Mongolia, Biographic Information on Officials.
Joint Publications Research Service, Arlington, VA.
24 Jun 1988, 94p, JPRS-MON-88-002.
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No abstract available.

Keywords: *East Asia, *Mongolia, *Biographies, Nations, Finance, Northeast asia, *Government officials, Translations.

ADA362886REB PC A06/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
16 Mar 1990, 81p, JPRS-NEA-90-016.
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No abstract available.

Keywords: *Middle East, *South Asia, *International relations, International politics, Economics, Government(Foreign), Civil affairs, Translations.

ADA362887REB PC A06/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
21 Mar 1990, 78p, JPRS-NEA-90-017.
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No abstract available.

Keywords: *Economics, *Civil affairs, *International relations, Investments, International politics, Govern-

ment(Foreign), Political parties, South asia, Elections, Near east, Fbis collection, Foreign reports, Translations.

ADA362888REB PC A06/MF A01
Scientific Coordination and Adaptive Management and Experimental Restoration of Longleaf Pine Community Structure, Function, and Composition.
Annual rept. 31 Mar 98-30 Mar 99.
Nature Conservancy, Arlington, VA.
J. L. Hardesty. Mar 1999, 88p.
Contract DAMD17-98-2-8006
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This report addresses aspects of sandhill restoration in fire- suppressed, longleaf pine-dominated sandhills on Eglin Air Force Base, Florida. Responses of selected variables to three hardwood reduction techniques (growing season fire, application of hexazinone herbicide, and chainsaw felling/girdling) were compared to control on two measures of community similarity between restoration and reference plots. The selected response variables included densities of longleaf pine (Pinus palustris) and oaks (Quercus spp.) of different diameter classes, and variables for soil chemistry, tree species, groundcover vegetation, soil/litter arthropod density, herb-layer arthropod density, and breeding bird species. We detected significant effects of restoration treatments on the similarity between restoration and reference plots for 7 fall variables and 6 spring variables. In a separate study, we measured the effects of Choctawhatchee sand pine (Pinus clausa var. immuginata) removal in sand pine-invaded sandhills. We documented the impact of sand pine removal on groundcover plant species, contrasted results from removal plots to reference sites, tested colonization of sand pine seedlings, and measured longleaf pine seedling survival. Plant species and life form densities increased post harvest; regeneration of sand pine seedlings decreased with distance from plot corners; and survival of planted longleaf pine seedlings was approximately 80%.

Keywords: *Trees, *Ecology, *Hardwoods, Adaptive systems, Air force facilities, Fires, Environmental management, Soil chemistry, Vegetation, Birds, Plants(Botany), Arthropoda, *Longleaf pine trees, Ecological restoration, Pinus palustris.

ADA362889REB PC A06/MF A01
USSR Report: Military Affairs, No. 1810.
Joint Publications Research Service, Arlington, VA.
4 Nov 1983, 91p, JPRS-84685.
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No abstract available.

Keywords: *Military forces(Foreign), *USSR, Air defense, Military operations, Political science, Military training, Military planning, Military affairs.

ADA362890REB PC A08/MF A02
China Report: Political, Sociological and Military Affairs, No. 452.
Joint Publications Research Service, Arlington, VA.
2 Sep 1983, 142p, JPRS-84245.
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No abstract available.

Keywords: *Political science, *Sociology, *China, International politics, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, Political revolution, Socialism, Military affairs, Translations.

ADA362891REB PC A05/MF A01
Worldwide Report: Nuclear Development and Proliferation, No. 201.
Joint Publications Research Service, Arlington, VA.
2 Sep 1983, 51p, JPRS-84254.
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No abstract available.

Keywords: *Nuclear proliferation, Global, Government(Foreign), Nuclear power plants, International, Nuclear energy, Nuclear reactors, Nuclear physics, *Foreign technology, Nuclear development, Fbis colection, Foreign reports, Translations.

ADA362892REB PC A02/MF A01
Estimating Dredging Sediment Resuspension Sources. Final rept.
Army Engineer Waterways Experiment Station, Vicksburg, MS.
B. H. Johnson, and T. M. Pachure. Mar 1999, 9p, DOER-E6.
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The purpose of this technical note is to herein presents an approach for estimating the suspended-sediment source from cutterhead, hopper, and clamshell dredges. The approach involves modification of an existing method developed from limited field data. These estimates are needed to provide input to a numerical model called SSFATE (Suspended Sediment FATE) that is being developed under the Dredging Operations and Environmental Research (DOER) program.

Keywords: *Mathematical models, *Suspended sediments, *Waste disposal, *Dredged materials, Environments, Estimates, Dredging, Resuspension sources, Ssfat(Suspended sediment fate), Doer(Dredgining operations and environmental research).

ADA362893REB PC A05/MF A01
China Report: Political, Sociological and Military Affairs, No. 453.
Joint Publications Research Service, Arlington, VA.
7 Sep 1983, 75p, JPRS-84264.
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No abstract available.

Keywords: *China, *International relations, *Political parties, *Sociology, Warfare, Economics, Travel, Labor, Exchange, Fleet exercises, Translations, Military affairs.

ADA362894REB PC A05/MF A01
East Europe Report: Political, Sociological and Military Affairs, No. 2226.
Joint Publications Research Service, Arlington, VA.
3 Nov 1983, 66p, JPRS-84677.
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No abstract available.

Keywords: *USSR, *International trade, *Political parties, *Sociology, Contracts, Reception, Eastern europe, Translations, Military affairs.

ADA362895REB PC A07/MF A02
East Europe Report, Economic and Industrial Affairs, No. 2475.
Joint Publications Research Service, Arlington, VA.
17 Nov 1983, 107p, JPRS-84771.
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No abstract available.

Keywords: *Economics, *Industrial plants, Industries, Modification, Efficiency, Agriculture, Forestry, Eastern europe, Cargo handling, Taxes, Fbis collection, Foreign reports.

ADA362896REB PC A05/MF A01
Performance Criteria for Concrete Repair Materials, Phase II Summary Report. Final rept.
Army Engineer Waterways Experiment Station, Vicksburg, MS.
J. E. McDonald, A. M. Vaysburd, P. H. Emmons, R. W. Poston, and K. E. Kesner. Mar 1999, 74p, REMR-CS-62.
Prepared in collaboration with the Structural Preservation Systems, Inc., Baltimore, MD and Whitlock, Dalrymple, Poston and Associates, Inc., Manassas, VA.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The results of a study to develop performance criteria for cement- based repair materials are summarized herein. Results of laboratory tests and field performance studies were correlated and guidance for selection of repair materials that would reduce the risk of premature failures was developed. This guidance includes a standard protocol for repair material data sheets and proposed performance criteria. Results of this study illustrate the significant effect of drying shrinkage on the performance of restrained repair materials. While there was a general correlation between the results of laboratory tests on unrestrained shrinkage specimens and field performance, there is a need for restrained shrinkage tests to evaluate the cracking resistance of repair materials. Although there was a general lack of significant correlation between individual material properties and field performance, results of this study indicate that it is possible to predict the field performance of repair materials based on a combination of material properties determined in laboratory tests. Results of this study emphasize the need for a comprehensive analytical model to predict the cracking resistance of repair materials that considers the interrelationship of pertinent material properties, the relative importance of individual properties, and the effect of environmental conditions on time- dependent material properties.

Keywords: *Concrete, *Repair, Exposure(General), High temperature, Resistance, Cracks, Field tests, Cements, Restraint, Drying, Construction materials, Shrinkage, Cement-based repair materials, Drying shrinkage, Performance criteris.

ADA362897REB PC A05/MF A01
Ponce de Leon Inlet, Florida, Site Investigation. Report 2: Inlet Hydrodynamics: Monitoring and Interpretation of Physical Processes.
Army Engineer Waterways Experiment Station, Vicksburg, MS. Coastal Hydraulics Lab.
G. A. Zarillo, and A. Militello. Mar 1999, 51p.
Coastal Inlets Research Program. Prepared in collaboration with the Division of Marine and Environmental Systems, Florida Institute of Technology, Melbourne, FL.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Field-data collection was conducted at Ponce de Leon Inlet, Florida, from 21 August 1997 through 1 November 1997 to measure wind waves, water level, and current. Six monitoring stations were deployed, one on the ebb shoal, three within the inlet, and two in the back bay north and south of the inlet. Wave data were collected in the inlet and on the ebb shoal, while water level and current were measured at all stations. During the measurement interval, waves approached pre-

dominantly from the northeast. Significant wave heights were greatest over the ebb shoal (average 0.9 m) and were reduced at the inlet stations (average of 0.6 m). Average wave period was between 8 and 9 sec, and maximum period was 14 sec. The tide at all inlet and bay stations exhibited flood dominance and exhibited net landward-directed flow. Flood dominance was strongly exhibited in the back bay and at one interior station south of the inlet; the flow rarely changed from flood to ebb. Tidal attenuation was greatest at measurement locations far from the inlet. Comparison of M2 amplitudes of water level suggests that the Coronado Beach Bridge, located south of the inlet, may be responsible for strong dissipation of tidal energy.

Keywords: *Hydrodynamics, *Inlets(Waterways), Monitoring, Tidal currents, Attenuation, Wind velocity, Floods, Site investigations, Beaches, Waves, Florida, Bays, Ponce de leon inlet, Wind waves, Coastal inlets research program.

ADA362898REB PC A04/MF A01
Latin America.
Joint Publications Research Service, Arlington, VA.
27 Jun 1988, 40p, JPRS-LAM-88-024.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Political science, *International relations, *Latin America, Exports, Cements, Base lines, Industrial plants, Gastrointestinal diseases, Vaccines, Convulsive disorders.

ADA362899REB PC A04/MF A01
Latin America.
Joint Publications Research Service, Arlington, VA.
17 Jun 1988, 38p, JPRS-LAM-88-023.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Foreign policy, *International relations, *Latin America, Electronic warfare, Investments, Army personnel, Electronic equipment, Housing(Dwellings), Refugees, Insurgency, Real estate.

ADA362900REB PC A11/MF A03
Electromagnetic Effects of Advanced Packaging. Final rept. Nov 94-Oct 98.
Boeing Defense and Space Group, Seattle, WA. Research and Technology Div.
G. Erickson, and S. Badger. Mar 1999, 216p, AFRL-IF-RS-TR-1999-50.
Contract F30602-94-C-0085
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Advanced packaged technology devices are providing improved performance characteristics in airborne, spaceborne, and land-based tactical military operations. Modern packaging technologies are also contributing to improved commercial systems performance. With the proliferation of these systems, their densely populated electromagnetic environments can result in electromagnetic susceptibility threats from within the packaging as well as from external sources. As a consequence, it is important that susceptibilities to electromagnetic environments be addressed early in the design and that these considerations include packaging design as well as circuit design. This document is the final scientific and technical report submitted under the Electromagnetic Effects on Advanced Packaging Contract F30602-94-C-0085. The purse of this contract is to assist the US Air Force Research Laboratory, Rome Research Site in determining electromagnetic effects on advanced packaged devices and in determining evaluation models to identity, predict, and minimize electromagnetic effects on the reliability of devices and systems. The work was performed at the Boeing Space Center in Kent, Washington.

Keywords: *Electromagnetic compatibility, *Electromagnetic susceptibility, Test and evaluation, Threats, Electronic equipment, Electromagnetic interference, Electromagnetic environments.

ADA362901REB PC A05/MF A01
User's Guide for the Naval Communications Assessment Tool (NCAT) software Version 2.0. Final rept.
Space and Naval Warfare Systems Command, San Diego, CA.
T. A. Hepner. Apr 1999, 64p, SPAWAR/CA-TD-3070.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This User's Guide provides instructions sufficient to execute the Naval Communications Assessment Tool (NCAT) Software Version 2.0 of the Coverage Prediction Improvement Program.

Keywords: *Computer program documentation, *Radio transmission, Software engineering, User manuals, High frequency, Signal to noise ratio, Data displays, Instructions, Naval equipment, Low frequency, Very low frequency, Graphical user interface, *Ncat(Naval communications assessment tool), *Naval communications assessment tool, Ncat computer program.

ADA362902REB PC A04/MF A01
China Report, Science and Technology No. 213.
Joint Publications Research Service, Arlington, VA.
7 Nov 1983, 31p, JPRS-84695.
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JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained. This report contains articles on science and technology in China.

Keywords: *Physics, *Life sciences, *China, Sources, Industries, Foreign, Education, Geology, Medicine, Periodicals, Foreign languages, English language, *Foreign technology, Fbis collection.

ADA362903REB PC A11/MF A03
Innovative Control Effectors (Configuration 101) Dynamic Wind Tunnel Test Report. Rotary Balance and Forced Oscillation Tests. Final rept. 11 Mar-24 Apr 98.
Air Force Research Lab., Wright-Patterson AFB, OH. Air Vehicles Directorate.
W. J. Gillard. Jul 1998, 205p, AFRL-VA-WP-TR-1998-3043.
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This report describes the technical effort investigating the dynamic characteristics of the Innovative Control Effectors Configuration 101 tailless aircraft concept. A series of static, rotary balance, and forced oscillation tests were conducted to acquire more information on the aerodynamic properties associated with this 65 degree, delta wing concept. Results show the vehicle to be well damped in pitch and roll motions and neutrally damped in yaw motions. Significant oscillating frequency effects were identified during forced oscillation testing with the impact most notable in the 15 < AOA < 45 degree region.

Keywords: *Wind tunnel tests, *Tailless aircraft, Roll, Yaw, Motion, Aerodynamic characteristics, Oscillation, Statics, Rotation, Delta wings, Dynamic tests, Configuration 101, Innovative control effectors.

ADA362904REB PC A06/MF A01
Evaluation of the Impact of the Target Force Planning Model (TFPM) on the Manpower Process at Headquarters, U.S. Marine Corps. Master's thesis.
Naval Postgraduate School, Monterey, CA.
F. J. Blankemeyer. Mar 1999, 87p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This thesis examines the Target Force Planning Model (TFPM). The Marine Corps has been using different generations of this model since 1971 to determine the target force by grade and primary military occupational specialty (MOS) while taking personnel overhead and billets not requiring a primary skill into consideration. Interviews were conducted with the contractor, model manager, and primary users. This thesis identifies and makes recommendations for improvements centered around four key themes that emerged from the analysis. They are the need for better integration of the model and processes within the manpower system, development of concrete measures of effectiveness, improved documentation, and an effective education program. The study suggests that while the results of the TFPM are satisfactory for the users, organizational refinements could possibly increase its effectiveness.

Keywords: *Manpower, *Marine corps personnel, Management planning and control, Manpower utilization, Enlisted personnel, Theses, Marine corps planning, Officer personnel, Military occupational specialties, Measures of effectiveness, Tfpm(Target force planning model).

ADA362905REB PC A06/MF A02
Impact of Nuclear Proliferation: Final Report.
Center for Naval Analyses, Alexandria, VA.
T. J. Hirschfeld. Jul 1995, 99p, CRM-94-69.20.
Contract N00014-91-C-0002
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This CNA-sponsored study identifies implications of nuclear possession between 1994 and 2003 in distant Third World areas. It identifies policies and programs affecting the design, organization, location, and employment of future U.S. forces. After exploring potential paths for the acquisition of nuclear weapons, we examined how five notional political crises (North Korea, Syria/Libya, India/Pakistan, and Algeria) evolved into nuclear confrontations. Then we analyzed what U.S. interests were relevant for each case, what political and military instruments were available, and how well they worked. Also highlighted are what the successes and failures in these cases imply for policy, strategy, and force development.

Keywords: *Nuclear proliferation, *Developing nations, *Policies, Libya, Nuclear weapons, Syria, Algeria, North korea, India, Pakistan, Political science, Emergencies, Acquisition, *Political aspects.

ADA362906REB PC A99/MF E08
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K. Summary rept. Mar 98-Feb 99.
Radian International LLC, Oak Ridge, TN.
J. Carson, W. McCarter, R. J. Black, and T. Clark. Mar 1999, 839p, SFIM-AEC-ET-CR-99013-V2, DPG-WDTC-TR-99-015.
See also AD-A362 907.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Under the direction of the U.S. Army Environmental Center (USAEC), Dugway Proving Ground's, West Desert Test Center was tasked to conduct a series of tests to quantify the emission products produced when training ordinance are used in their tactical configurations. This Summary report, as part of a larger effort, evaluates eight training ordnance commonly in use.

The L594 Simulator Ground Burst, the L601 Simulator Hand Grenade, the L596 M110 Simulator Flash Artillery, The D505 155MM Illumination Round, the L305 Green Parachute Signal Flare, the L312 White Parachute Signal Flare and the L314 Green Star Cluster Signal Flare. These items were detonated in DPG's Thermal treatment characterization facility known as the BangBox(TM). The BangBox(TM) is a 50-foot diameter hemisphere made from plasticized fabric, which is kept rigid by a constant injection of fresh air and a semi-rigid airlock. Within the test chamber are samplers, a steel-lined detonation pit, an automatically regulated inflation blower, environment control equipment, and a sampling tube, which extends into the airlock. This attached airlock admits personnel and allows for the movement of large equipment into the chamber. Real-time analyzers were electronically connected to a data recorder. EPA approved laboratories provided sampling and analysis data regarding total suspended particulates (TSP), particulate matter less than 10 microns in diameter (PM10), toxic metals, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), hydrogen chloride (HCl), carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO2), and dioxins/furans.

Keywords: *Pyrotechnics, Military reserves, Toxic hazards, Air pollution, Firing tests(Ordnance), Test facilities, *Emission factors, *Training ordnance, Bangbox test facilities, Voc(Volatile organic compound), Svoc(Semivolatile organic compound), Tsp(Total suspended particulates), Lpn-usatecom-8-co-160-000-030.

ADA362907REB PC A07/MF A02
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D. Summary rept. Mar 98-Feb 99.
Radian International LLC, Oak Ridge, TN.
J. Carson, W. McCarter, R. J. Black, and T. Clark. Mar 1999, 110p, SFIM-AEC-ET-CR-99013-V1, DPG-WDTC-TR-99-015.
Contract F98061-81-MW97
See also AD-A362 906.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Under the direction of the U.S. Army Environmental Center (USAEC), Dugway Proving Ground's, West Desert Test Center was tasked to conduct a series of tests to quantify the emission products produced when training ordinance are used in their tactical configurations. This Summary report, as part of a larger effort, evaluates eight training ordnance commonly in use. The L594 Simulator Ground Burst, the L601 Simulator Hand Grenade, the L596 M110 Simulator Flash Artillery, The D505 155MM Illumination Round, the L305 Green Parachute Signal Flare, the L312 White Parachute Signal Flare and the L314 Green Star Cluster Signal Flare. These items were detonated in DPG's Thermal treatment characterization facility known as the BangBox(TM). The BangBox(TM) is a 50-foot diameter hemisphere made from plasticized fabric, which is kept rigid by a constant injection of fresh air and a semi-rigid airlock. Within the test chamber are samplers, a steel-lined detonation pit, an automatically regulated inflation blower, environment control equipment, and a sampling tube, which extends into the airlock. This attached airlock admits personnel and allows for the movement of large equipment into the chamber. Real-time analyzers were electronically connected to a data recorder. EPA approved laboratories provided sampling and analysis data regarding total suspended particulates (TSP), particulate matter less than 10 microns in diameter (PM10), toxic metals, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), hydrogen chloride (HCl), carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO2), and dioxins/furans.

Keywords: *Pyrotechnics, Military reserves, Toxic hazards, Air pollution, Firing tests(Ordnance), Test facilities, *Emission factors, *Training ordnance, Bangbox test facilities, Voc(Volatile organic compound), Svoc(Semivolatile organic compound), Tsp(Total suspended particulates), Lpn-usatecom-8-co-160-000-030.

ADA362908REB PC A02/MF A01
Doped PMN-PT Single Crystals. Monthly progress rept. 18 Mar-17 Apr 99.
Sensarray Corp., Burlington, MA.
D. R. Gabbe, and M. F. Cabanas-Holmen. 17 Apr 1999, 8p, M0109-04.
Contract N66604-99-C-0226
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The subject of this work is optimization and eventual scale-up of top-seeded solution growth (TSSG) of the title single crystals, leading to commercialization of the growth of device quality piezoelectric and electrostrictive materials for Naval as well as civilian applications. Over the reporting period, three crystal growth runs have been completed. The effect of high purity feed chemicals, and crystal growth parameters on crystal quality is under investigation. An improvement in quality compared to the Phase I crystals has been obtained. A commercial laboratory capable of performing chemical analysis of 0.1 g samples has been selected. Fabrication specimens for in-house evaluation, chemical analysis and characterization under subcontract at MIT is in progress. Commercial stepping motor software running four independent motors has been extensively modified to meet the requirements of a crystal growth process. Two new crystal pullers are undergoing final testing.

Keywords: *Single crystals, *Piezoelectric materials, *Lead compounds, Computer programs, Magnesium, Optical materials, Doping, Titanates, Electrostriction, Crystal growth, Niobates, Pmn-pt(Lead magnesium niobate-lead titanate), Pmn-pt single crystals, Tssg(Top seeded solution growth), Stepping motor software.

ADA362909REB PC A04/MF A01
West Europe Report, Science and Technology, No. 182.
Joint Publications Research Service, Arlington, VA.
2 Nov 1983, 44p, JPRS-84672.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains articles on science and technology in Western Europe.

Keywords: *Western europe, Industries, Automation, Computers, Microelectronics, Biotechnology, *Foreign technology, *Science and technology.

ADA362910REB PC A05/MF A01
Iterative Algorithms for Two-Person Zero-Sum Games. Master's thesis.
Naval Postgraduate School, Monterey, CA.
P. Limsakul. Mar 1999, 58p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In 1951, G.W. Brown proposed an iterative algorithm called fictitious play for solving two-person zero-sum games. Although it is an effective method, the fictitious play algorithm converges slowly to the value of the game. Recently, Gass, Zafra, and Qiu proposed a modification that applies to symmetric games, i.e., games with skew-symmetric payoff matrices. To solve non-symmetric games via their modification, the games must be made symmetric via a transformation. Gass, Zafra, and Qiu reported that their modified algorithm converges faster than the original fictitious play on a collection of randomly generated games. However, their results on non-symmetric games only apply to games whose values are near zero. When game values are far away from zero, this thesis empirically shows that the original fictitious play algorithm can outperform the modified one. Gass, Zafra, and Qiu's method is static, in that the symmetric transformation is done once prior to the start of their modified algorithm. However, they suggested the exploration of dynamic methods where the transformation is periodically revised. This thesis proposes and investigates the convergence behavior of one dynamic transformation technique for solving general two-person zero-sum games.

Keywords: *Game theory, Algorithms, Optimization, Matrices(Mathematics), Linear programming, Theses, Convergence, Dynamic programming.

ADA362911REB PC A06/MF A01
Efficient Computation of Nonlinear Transient Structural Synthesis for Seismic Isolation. Master's thesis.
Naval Postgraduate School, Monterey, CA.
C. P. Pearce. Mar 1999, 76p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A method of structural synthesis is presented using a recursive computational process. A structure can be modeled entirely linearly, with localized nonlinearities included as synthesized forces. The method allows retention of only the degrees of freedom (DOF) of interest, including, at a minimum, the DOF at which nonlinearities are applied. The method is illustrated using an n-degree of freedom finite element model of a simple structure. The method is shown to adjust the response of the system based on addition of a nonlinear base isolator. Finally, the method is compared to MATLAB's ODE45 function as a measure of accuracy and efficiency. The method is theoretically exact, and results in order of magnitude decreases in computational time for modification analysis.

Keywords: *Structural analysis, *Shock(Mechanics), *Structural response, Vibration, Equations of motion, Finite element analysis, Damping, Theses, Degrees of freedom, Nonlinear systems, Nonlinear analysis, Earthquakes, Force(Mechanics), Shock isolation.

ADA362912REB PC A10/MF A03
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service. Final technical rept. Sep 95-Feb 98.
Columbia Univ., New York. Center for Telecommunications Research.
A. L. Lazar, R. Stadler, C. Adam, C. Aurrecoechea, and M. Borla. Mar 1999, 199p, AFRL-IF-RS-TR-1999-54.
Contract F30602-95-C-0015
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The goal of this work was to define generic application programming interfaces (APIs) for the control and management of an ATM-based telecom environment. In our approach, the APIs are defined, based on an object-level interaction paradigm, as object interfaces. We define a broadband kernel as a CORBA-based distributed programming environment that facilitates the easy creation of network services and provides mechanisms for resource allocation. The primary service provided by the broadband kernel is one-to-N one-way and-to-end connectivity with quality of service. More complex services are generated as aggregations of this and other primary services. A virtual workshop service was designed and implemented to experiment with the control and management APIs. This report puts together the building blocks of a telecom architecture: the Binding Interface Base models the resources, and the set of broadband kernel algorithms are modeled as a set of interacting objects offering their APIs to higher level services and applications. This report also presents our view on management. A model for management was developed that explains how this set of interacting objects and the services provided are managed in a consistent manner.

Keywords: *Distributed data processing, *Man computer interface, *Object oriented programming, Software engineering, Computer communications, Communications traffic, Communications networks, Routing, Resource management, Virtual reality, Asynchronous transfer mode, Api(Application program interface), Corba(Common object request broker architecture).

ADA362913REB PC A03/MF A01
East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
29 Jun 1990, 20p, JPRS-SEA-90-020.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *International politics, *East Asia, *Far East, *South Asia, Manufacturing, Economics, Government(Foreign), Industrial production, Hospitals, Industrial medicine.

ADA362914REB PC A04/MF A01
East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
25 Jun 1990, 31p, JPRS-SEA-90-019.
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No abstract available.

Keywords: *International politics, *East Asia, *South Asia, *Far East, Economics, Government(Foreign), Labor, Agricultural economics.

ADA362915REB PC A04/MF A01
JPRS Report, Near East & South Asia.
Joint Publications Research Service, Arlington, VA.
22 Jun 1988, 44p, JPRS-NEA-88-043.
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No abstract available.

Keywords: *International politics, *Middle East, *North Africa, *South Asia, Manufacturing, Government(Foreign), Industrial production, Oil products, Translations.

ADA362916REB PC A05/MF A01
Near East and South Asia.
Joint Publications Research Service, Arlington, VA.
14 Dec 1988, 59p, JPRS-NEA-88-085.
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No abstract available.

Keywords: *International relations, Economics, Government(Foreign), Military forces(Foreign), International trade, Civil affairs, South asia, Near east, Fbis collection, Foreign reports, Translations.

ADA362917REB PC A10/MF A02
JPRS Report, Latin America.
Joint Publications Research Service, Arlington, VA.
15 Jun 1988, 191p, JPRS-LAM-88-022-I.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains documents that have been translated from foreign periodicals into English and concern various topics in Latin America.

Keywords: *Political science, *International relations, *Political parties, *Latin america, Military operations, Sources, Foreign, Economics, Periodicals, Fbis collection.

ADA362918REB PC A07/MF A02
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
Final technical rept. Jun 95-Mar 98.
Syracuse Univ., NY. Dept. of Electrical and Computer Engineering.
P. K. Varshney, D. D. Weiner, S. H. Nawab, I. Demirkiran, and V. N. Samarasooriya. Mar 1999, 102p, AFRL-IF-RS-TR-1999-53.
Contract F30602-95-C-0204
Prepared in cooperation with Boston Univ., Dept. of Electrical and Computer Engineering, Boston, MA.
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Spread-spectrum signals are used widely in military and commercial communication systems due to their interference rejection capability and their lower probability of interception. In military applications, the effects of intentional interference (jamming) are mitigated by the processing gain of the spread-spectrum system. We have presented a novel knowledge-based interference cancellation scheme for direct sequence spread-spectrum systems. This innovative approach utilizes: (1) IPUS, an expert system for the Integrated Processing and Understanding of Signals, to monitor the communication signal environment in order to determine the parameters of interfering signals within a pre-specified accuracy, and (2) expert system rules to select from a library of preselected techniques, suitable interference rejection schemes based upon the knowledge obtained from monitoring the signal environment. The effectiveness of this novel interference rejection capability is demonstrated by considering a number of interference scenarios and using the software package SPW(copyright), a time-domain Signal Processing Worksystem.

Keywords: *Signal processing, *Knowledge based systems, *Spread spectrum, Integrated systems, Performance(Engineering), Adaptive filters, Antijamming, Interception probabilities, Phase locked communications, *Interference rejection, *Dsss(Direct sequence spread spectrum), *Direct sequence spread spectrum, Interference suppression, Ipus(Integrated processing and understanding of signals), Code division multiple access.

ADA362919REB PC A05/MF A01
JPRS Report, Latin America.
Joint Publications Research Service, Arlington, VA.
26 Jan 1988, 54p, JPRS-LAM-88-005.
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This report contains articles that have been translated into English from foreign periodicals. They concern various Latin American topics.

Keywords: *Foreign policy, *Political science, *Agriculture, *Political parties, *Latin america, Sources, Foreign, Economics, International relations, Periodicals, Fbis collection.

ADA362920REB PC A04/MF A01
JPRS Report, Latin America.
Joint Publications Research Service, Arlington, VA.
9 Jun 1988, 37p, JPRS-LAM-88-021.
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This report contains articles that have been translated form foreign periodicals into English and concern various Latin American topics.

Keywords: *Political science, *Economics, *Latin america, Military operations, Sources, Industries, Manufacturing, Foreign, International relations, Political parties, Periodicals, Fbis collection.

ADA362921REB PC A03/MF A01
JPRS Report, East Asia: Korea.
Joint Publications Research Service, Arlington, VA.
3 Nov 1988, 26p, JPRS-KAR-88-020.
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This report contains articles translated from foreign periodicals into English and concern various topics on North and South Korea.

Keywords: *North korea, *South korea, Military operations, Sources, Political science, Foreign, Economics, International relations, Political parties, Periodicals, Far east, Fbis collection.

ADA362922REB PC A04/MF A01
JPRS Report, East Asia: Korea.
Joint Publications Research Service, Arlington, VA.
26 Sep 1988, 39p, JPRS-KAR-88-019.
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This report contains articles that have been translated from foreign periodicals into English and concern North and South Korea.

Keywords: *North korea, *Political science, *Economics, *Political parties, *South korea, Military operations, Foreign, Periodicals, Far east, Fbis collection.

ADA362923REB PC A03/MF A01
Data Quality Tools for Data Warehousing - A Small Sample Survey.
State Univ. of New York at Albany.
M. P. Neely. 1998, 13p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Data quality tools are used in data warehousing to ready the data and ensure that clean data populates the warehouse, thus enhancing usability of the warehouse. This research focuses on the problems in the data that are addressed by data quality tools. Specific questions of the data can elicit information that will determine which features of the data quality tools are appropriate in which circumstances. The objective of the effort is to develop a tool to support the identification of data quality issues and the selection of tools for addressing those issues. A secondary objective is to provide information on specific tools regarding price, platform, and unique features of the tool.

Keywords: *Data management, *Quality assurance, Data bases, User friendly, Data storage, Data quality.

ADA362924REB PC A08/MF A02
Mapping Coastal Surface Winds in Monterey Bay Using High Frequency Radar. Master's thesis.
Naval Postgraduate School, Monterey, CA.
R. R. Delgado. Mar 1999, 134p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Over-water wind directions derived from high frequency (HF) radar - the new Multi-frequency Coastal Radar (MCR) - are compared to in-situ observations to determine the skill of the radar measurements. Conventional beam processing of data collected from two MCR sites located around Monterey Bay during summer 1907 is used to create wind directions based on the relative strength of the positive and negative Bragg-resonant peaks, which correspond to the wind-driven waves approaching and receding from the radar, respectively. Based on a selected functional relationship that converts the radar signal to wind direc-

tion, radar-derived wind directions are created using a new wind- retrieval algorithm and are compared to mooring observations under a variety of wind conditions. Analysis indicates that the signal not only follows wind direction, but also strongly correlates to the wind speed measured at the mooring. Results show that many of the Bragg peaks are close to the noise level, and consequently, low signal-to-noise ratios restrict the statistical confidence of the measurements. Nonetheless, maps of radar-derived wind directions show good agreement with in situ observations, especially when the wind speed is relatively strong and is sustained for long duration.

Keywords: *Radar, *Meteorological data, Ground level, High frequency, Coastal regions, Ocean currents, Signal to noise ratio, Wind, Statistics, Wind direction, Wind velocity, Mapping, Radar signals, Low rate, Circulation, Confidence level, Waves, Mooring, Bragg angle.

ADA362925REB PC A03/MF A01
Introduction to Workflow Management Systems.
State Univ. of New York at Albany.
A. DiCaterino, K. Larsen, M. Tang, and W. Wang. Nov 1997, 18p, CTG.MFA-002.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document provides an introduction to Workflow Management Systems. The first section concentrates on a functional review of these systems: definitions, typical features, benefits, tradeoffs, process selection, and success factors for implementation. The second section provides a technical overview: a method for categorizing workflow products, the state of the market, and emerging standards. With over 70 vendors offering significant workflow products, a variety of approaches to workflow management can be expected. The ideas presented in this paper, therefore, do not apply across the board to all products but rather represent a framework for understanding workflow management concepts. Heavy reliance was placed on James Kobielus' book Workflow Strategies and on the Workflow Management Coalition's Workflow Reference Model to provide sense and structure to this broad topic.

Keywords: *Network analysis(Management), Management information systems, Decision support systems, Workflow management systems.

ADA362926REB PC A12/MF A03
Ceramic Armor Material Database. Interim rept.
Tacom Research, Development and Engineering Center, Warren, MI.
T. J. Holmquist, M. Rajendran, D. W. Templeton, and K. D. Bishnoi. Jan 1999, 240p, TARDEC-TR-13754.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report compiles and documents a Ceramic Armor Material Database. Experimental data obtained from numerous journals and conference proceedings, by researchers of various disciplines, covering over thirty years are documented in this report. The data include nine different ceramic materials. The ceramics are Silicon Carbide, Boron Carbide, Titanium Diboride, Aluminum Nitride, Silicon Nitride, Aluminum Oxide (85% pure), Aluminum Oxide (high purity), Tungsten Carbide and Glass. For each ceramic material, experimental data are tabulated for the following experiment types; (1) mechanical tests, (2) hydrostatic tests, (3) plate impact tests, (4) semi-infinite penetration tests, (5) depth of penetration (DOP) tests, (6) perforation tests and (7) other tests. The data are documented in tabular form in metric units. A schematic of the experimental configuration, and graphs of the data, are also provided when appropriate. Information about each of the materials tested is also provided including such information as elastic wave velocities, density, grain size, porosity, material processing, elastic modulus, Hugoniot Elastic Limit (HEL) and chemical composition. Although this report was not intended to be an exhaustive search of the literature, an attempt has been made to compile as much data as possible.

Keywords: *Data bases, *Armor, *Ceramic materials, Test and evaluation, Velocity, Mechanical properties, Experimental data, High rate, Literature surveys, Graphs, Modulus of elasticity, Test methods, Production engineering, Grain size, Depth, Porosity, Chemical composition, Purity, Penetration, Aluminum oxides, Configurations, Hydrostatics, Boron carbides, Silicon carbides, Titanium boride, Elastic waves, Silicon nitrides, Perforation, Tungsten carbides, Aluminum nitrides.

ADA362927REB PC A05/MF A01
JPRS Report, East Asia: Korea.
Joint Publications Research Service, Arlington, VA.
14 Sep 1988, 65p, JPRS-KAR-88-018.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains articles translated from foreign periodicals into English and concern various topics on Korea.

Keywords: *Military operations, *Political science, *Korea, *Political parties, Commerce, International relations, Far east, Translations.

ADA362928REB PC A05/MF A01
USSR Report, Military Affairs, No. 1814.
Joint Publications Research Service, Arlington, VA.
17 Nov 1983, 69p, JPRS-84768.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Military forces(Foreign), *International relations, *Political parties, *USSR, Stresses, Reliability, Surface to air missiles, Officer personnel, Translations, Military affairs.

ADA362929REB PC A05/MF A01
Near East and South Asia.
Joint Publications Research Service, Arlington, VA.
6 Dec 1988, 56p, JPRS-NEA-88-083.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Foreign policy, *Middle East, *South Asia, *International relations, Marketing, Deterioration, North Africa, Balance of power, Military affairs, Translations.

ADA362930REB PC A04/MF A01
Near East and South Asia.
Joint Publications Research Service, Arlington, VA.
21 Nov 1988, 43p, JPRS-NEA-88-082.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Middle East, *South Asia, *Foreign policy, *International relations, Industries, Emergencies, Agreements, Finance, North Africa, Translations.

ADA362931REB PC A05/MF A01
East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
28 Mar 1990, 57p, JPRS-SEA-90-011.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Foreign policy, *International relations, *Southeast Asia, *Political parties, Education, Casualties, Agreements, Taxes, Economic development.

ADA362932REB PC A03/MF A01
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database. Dredging research technical note.
Army Engineer Waterways Experiment Station, Vicksburg, MS.
T. S. Bridges, and C. H. Lutz. Jan 1999, 12p, EEDP-04-30.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this technical note is to provide information regarding the use of the Environmental Residue-Effects Database (ERED) to interpret bioaccumulation data collected during environmental assessments of dredged material or contaminated sediments.

Keywords: *Contamination, *Dredged materials, *Sediments, *Environmental impact statements, Chemical properties, Physical properties, Toxicity, Adverse conditions, *Bioaccumulation.

ADA362933REB PC A05/MF A01
East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
16 Jul 1990, 62p, JPRS-SEA-90-021.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Southeast Asia, *Political science, *International relations, Economics, Distribution, Ethnic groups, Drugs, Security personnel, Taxes.

ADA362934REB PC A07/MF A02
USSR Report, Science and Technology Policy, No. 14.
Joint Publications Research Service, Arlington, VA.
22 Jun 1983, 104p, JPRS-83744.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report contains articles on science and technology in the USSR.

Keywords: *Ussr, *Policies, *Scientists, Production, Education, Training, Engineering, Research management, *Foreign technology, *Science and technology.

ADA362935REB PC A08/MF A02
Medium Extended Air Defense System: A Renaissance in Trans-Atlantic Armaments Cooperation. Master's thesis.
Naval Postgraduate School, Monterey, CA.
R. J. Engelhardt. Mar 1999, 131p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Medium Extended Air Defense System (MEADS) is the only theater missile defense system being developed within NATO to defend forward-deployed maneuver forces and NATO territory from theater ballistic missile attack. To gain the extra funding needed to keep this expensive TMD system alive, and to improve its reputation for reliability in Alliance weapon programs, the United States convinced NATO Europe that MEADS would be the model for triggering a 'renaissance in armaments cooperation.' To NATO Europe, however, MEADS became a litmus test of America's

credibility as a future armaments partner. MEADS' european partners threatened to end armaments cooperation and pursue a policy of European self-sufficiency, which might undermine NATO's cohesion, if MEADS should fail because of U.S. political and bureaucratic interests. This thesis examines U.S. and European decision-making concerning whether MEADS becomes the model for future trans-Atlantic armaments cooperation or the impetus for fragmenting NATO cohesion. It concludes that the West's common strategic interest in maintaining stability on the European continent and in countering the increasing menace from the proliferation of WMD and ballistic missiles will prevent a failed MEADS from threatening the near-term viability of the fifty year old trans-Atlantic alliance.

Keywords: *Antimissile defense systems, Air defense, Guided missiles, Nato, Europe, Theater level operations, Decision making, Theses, Reliability, Mass destruction weapons, Cooperation, Meads(Medium extended air defense system), Bmd(Ballistic missile defense).

ADA362936REB PC A03/MF A01
Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms. Technical rept.
Brigham Young Univ., Provo, UT. Dept. of Chemistry and Biochemistry.
N. Su, J. S. Bradshaw, G. Xue, N. K. Dalley, and P. B. Savage. 7 May 1999, 13p.
Contract N00014-98-1-0485
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The Mannich aminomethylation reaction of aromatic thiols has been used to produce diaza-18-crown-6 ligands containing thiol-derived side arms. Thiophenols were attached to the azacrown through N-CH2-S linkages even in the presence of hydroxy or acetamido groups. Heteroaromatic thiols containing N=C-SH (or NH-C=S) structural fragments were attached to diaza-18-crown-6 by N-CH2-N linkages with the thiol becoming a thione function. X-ray crystal structures provide proof of the N-CH2-S and N-CH2-N linkages for the products of reactions with thiophenols and heteroaromatic thiols, respectively.

Keywords: *Crystal structure, *Ligands, *Thiols, *Crown ethers, Synthesis, X rays, Amines, Organic nitrogen compounds, Aromatic compounds, Sulfur compounds, Diaza-18-crown-6 ligands, Side arms, Mannich reactions, Aminomethylation reaction, Thiophenols, Azacrown, Acetamido groups, Heteroaromatic compounds.

ADA362937REB PC A05/MF A01
East Asia: Korea.
Joint Publications Research Service, Arlington, VA.
12 Feb 1988, 67p, JPRS-KAR-88-004.
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No abstract available.

Keywords: *Political science, *Economics, Government(Foreign), International trade, Korea, Civil affairs, International relations, Police, Elections, East asia, Fbis collection, Foreign reports, Olympics, Translations.

ADA362938REB PC A01/MF A01
General Meeting of the Siberian Affiliate of the Academy of Sciences USSR.
Joint Publications Research Service, Arlington, VA.
27 May 1960, 4p, JPRS-3320.
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This report is a translation of an article by A. K. Ghernenko in Izvestiya Sibirskogo Otdeleniya AN SSSR. It concerns the proceedings of a meeting of the Siberian Affliate of the Academy of Sciences USSR. The scientists discussed and approved the draft of a task force plan to be fulfilled by the Affiliate, as well as the plan calling for the experimental- industrial check and introduction into the national economy of the completed scientifc studies.

Keywords: *Ussr, *Workshops, *Siberia, *Scientists, Sources, Industries, Education, Economics, Task forces, Russian language, *Foreign technology, Fbis collection, Translations.

ADA362940REB PC A03/MF A01
Laser Doppler Velocimeter and High Speed Imaging System for Fluid Dynamics, Combustion and Chemical Kinetics Research. Final rept. 15 Mar 97-28 Feb 99.
Clark Atlanta Univ., GA.
Y. D. Yeboah. Apr 1999, 24p.
Contract N00014-97-1-0511
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A Laser Doppler Velocimetry (LDV) system and a high speed imaging system were acquired for the Department of Defense (DoD) Grant N00014-97-1-0511 and setup in the Combustion and Emission Control Laboratory at Clark Atlanta University. These instruments have provided an integrated diagnostic system in the areas of combustion, propulsion, emission control, chemical kinetics and fluid dynamics for time resolved flow visualization and detailed quantitative measurements of flow velocities in complex reacting and non-reacting flows. Research projects supported with the acquired instruments included: turbulent premixed combustion, optimization of non-thermal plasma discharge for pollution control, droplet behavior under supercritical conditions, interaction between acoustic waves and fuel droplets and sprays, and combustion instabilities in ramjet combustors. The instruments will also be used on the precombustion pyrolytic degradation of hydrocarbon fuels under normal and microgravity conditions. Seven (7) undergraduate and graduate students from the Department of Engineering and Department of Chemistry at Clark Atlanta University have, so far, been trained and educated on the instruments. The acquired instrumentation has significantly strengthened the University's research infrastructure, and enhanced CAU's capabilities to undertake research that is relevant to the critical technology areas of DoD. These include the chemical kinetics, combustion and propulsion, and fluid dynamics programs of the Army Research Lab (ARL); the aerodynamics, turbulence and internal flows, air-breathing combustion, space power and propulsion, and physical mathematics and applied analysis programs of the Air Force Office of Scientific Research (AFOSR); and the turbulence, propulsion and flow structure interactions, and propulsion programs of the Office of Naval Research (ONR).

Keywords: *Image processing, *High velocity, *Kinetics, *Doppler systems, *Fluid dynamics, *Laser velocimeters, Acoustic waves, Flow visualization, Combustion, Fuels, Propulsion systems, Ramjet engines, Chemical reactions, Measuring instruments, Emission control, Ldv(Laser doppler velocimetry), Flow velocity, Turbulent premixed combustion, Nonthermal plasma discharge, Supercritical flow, Microgravity.

ADA362941REB PC A04/MF A01
JPRS Report, East Asia Southeast Asia.
Joint Publications Research Service, Arlington, VA.
26 Dec 1990, 44p, JPRS-SEA-90-034.
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This report contains foreign media information from East and Southeast Asia concerning political, sociological and economic issues.

Keywords: *Political science, *Economics, *Sociology, Foreign policy, Government(Foreign), Military forces(Foreign), Civil affairs, Police, Southeast asia, Smuggling, Foreign aid, East asia. fbis collection, Foreign reports, Translations.

ADA362942REB PC A05/MF A01
Opportunities to Improve Diagnostics Performance Using Computer-Based Product Definition Models and Simulations. Final rept.
Institute for Defense Analyses, Alexandria, VA.
H. R. Brown, R. P. Morton, W. R. Simpson, and R. M. Rolfe. Aug 1998, 58p, IDA-P-3416, IDA/HQ-98-002015.
Contracts DASW01-94-C-0054 , DASW01-97-C-0056
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This paper reports on analysis of opportunities for applying defense product definition models and simulations (M&S) that are based on computer-aided design, manufacturing, engineering, and test (CAx, representing CAD, CAM, CAE and CAT) capabilities to enhance diagnostics performance and lifecycle support affordability of defense systems. Opportunities for applying CAx-based product M&S were reviewed from four diagnostic domain perspectives: Development and use of diagnostic capabilities during design, application of integrated rated diagnostics in maintenance processes for fault detection and isolation, engineering analyses of critical problems and faults, and development and use of fault prediction and prognostic capabilities. Viable concepts for applying CAx-based M&S capabilities to improve integrated diagnostic element capabilities for each of these diagnostic domains were identified. During the analysis, the study team noted the application of CAx-based models and simulations to integrated diagnostics is an essential component of effective integrated rated product and process development (IPPD) strategies and DoD's simulation based acquisition (SBA) initiative.

Keywords: *Defense systems, *Computer aided design, *Life cycles, *Computer aided diagnosis, Maintenance, Simulation, Integrated systems, Detection, Acquisition, Engineering, Viability, Computer applications.

ADA362943REB PC A08/MF A02
China Report, Political, Sociological and Military Affairs.
Joint Publications Research Service, Arlington, VA.
9 Jan 1985, 128p, JPRS-CPS-85-003.
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No abstract available.

Keywords: *Political science, *Sociology, *China, Economics, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, Socialism, Military affairs, Translations.

ADA362944REB PC A03/MF A01
Fort Bliss, Texas 1998: Acute Gastroenteritis Outbreak. Final rept.
Army Center for Health Promotion and Preventive Medicine, (Provisional) Aberdeen Proving Ground, MD.
B. H. Feighner. Aug 1998, 15p, USACHPPM-29-HE-8092-99.
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An outbreak of gastroenteritis hospitalized 99 U.S. Army trainees at Fort Bliss, TX, between 27 AUG - 01 SEP 98. Case mapping demonstrated geographic clustering inconsistent with contamination of the general water supply. The nature of the outbreak and the presenting symptoms of the soldiers were most consistent with a naturally occurring viral gastroenteritis outbreak. Analysis of questionnaire data revealed a strong association between illness and one dining facility. A strong association between dining facility soft drink dispensers was also found. interviews with dining facility personnel revealed that one worker, a baker, had been ill while working in the early morning hours of 26 AUG 98. No single source (food, beverage, or indi-

vidual) was identified as causing all disease. On 18 SEP 98, the Viral Gastroenteritis Branch, Centers for Disease Control and Prevention reported identification of a calicivirus in 15 of 20 stool samples from ill trainees. Stringent enforcement of safe food handling practices, particularly the immediate removal of ill food workers from food preparation areas, was recommended.

Keywords: *Army personnel, *Food poisoning, *Gastroenteritis, Signs and symptoms, Clustering, Contamination, Viruses, Food processing, Food service personnel.

ADA362945REB PC A10/MF A02
East Europe Report, Political, Sociological and Military Affairs, No. 2130.
Joint Publications Research Service, Arlington, VA.
18 Apr 1983, 184p, JPRS-83282.
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No abstract available.

Keywords: *Eastern Europe, *Political science, *Sociology, Military forces(Foreign), Civil affairs, Political parties, National defense, Socialism, Military affairs, Translations.

ADA362946REB PC A06/MF A01
Feasibility Study of Liquid Phase Sinter Forming of a Model Ceramic System. Master's thesis.
Naval Postgraduate School, Monterey, CA.
R. C. Roeder. Mar 1999, 85p.
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The feasibility of a new manufacturing process of ceramic materials in which net shaped products are produced via sintering and simultaneously deforming is studied. A suitable model system of SiO2-B2O3 is chosen due to its desirable properties for liquid phase sintering and its ability to be tested under atmospheric conditions. Samples of compacted powder are prepared and characterized via x-ray diffraction and scanning electron microscopy. Tests to determine the ability of the system to undergo Liquid Phase Sintering are studied. Deformation of samples in compression with concomitant Liquid Phase Sintering at nominally constant true strain rates is performed, and the effects of the amount of liquid phase are investigated. Problems associated with the Liquid Phase Sinter Forming process are identified, and recommendations are suggested for future studies.

Keywords: *Ceramic materials, *Liquid phases, *Sintering, Manufacturing, Silicon dioxide, Powders, Deformation, X ray diffraction, Theses, Strain rate, Electron microscopy, Feasibility studies, Oxides, Boron compounds, Near net shape forming.

ADA362947REB PC A06/MF A01
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER). Rept. for 1-18 Sep 98.
Air Force Flight Test Center, Edwards AFB, CA.
M. Chapa, E. Flick, D. Kraabel, M. Letourneau, and T. Parker. Mar 1999, 76p, AFFTC-TR-98-26.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The objective of this effort was to evaluate the effects of software rate limiting the pilot command with and without a software pre-filter on a highly-augmented fighter aircraft flight control system. The software rate limiter and software pre-filter were designed to provide protection from departure and/or pilot-induced oscillation (PIO). In statically unstable aircraft stabilized with feedback, elevator/stabilator actuator rate limiting may lead to PIOs and/or departure during aggressive maneuvers. This project examined the use of a software rate limiter (SWRL) on the pilot command and compared the results with those for the unprotected airframe. Additionally, a nonlinear rate limiter pre-filter (RLPF) was used in conjunction with the SWRL. Previous attempts to suppress PIO and/or departure tendencies using similar technologies have encountered difficulty with noise-in-the-loop and out-of-trim bias development during filter operation. This project attempted to improve previous designs using a different algorithm for the RLPF. The SWRL was found to help prevent PIO and/or departure. The RLPF plus SWRL was generally found to be more helpful than the SWRL alone at preventing PIO and/or departure. However, handling qualities deficiencies arose when using low SWRL settings and worsened with low SWRL settings used in conjunction with the RLPF.

Keywords: *Aerodynamic stability, *Jet fighters, *Limiters, *Fly by wire control, Stabilization, Computer programs, Algorithms, Pilots, Rates, Quality, Deficiencies, Actuators, Handling, Flight maneuvers, Oscillation, Have filter project.

ADA362948REB PC A06/MF A01
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia. Final rept.
Army Center for Health Promotion and Preventive Medicine, (Provisional) Aberdeen Proving Ground, MD.
S. Craig, J. Knapik, J. Brundage, H. Cushner, and M. Sawka. Aug 1997, 87p, USACHPPM-29-HE-6781-98.
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Martin Army Community Hospital (MACH), Ft. Benning, Georgia requested an epidemiological consultation (EPICON) in July 1997 to investigate 5 cases (1 fatal) of hyponatremia in basic trainees. The EPICON team was tasked to examine the nature, magnitude, causes, and risk factors related to this problem, and to provide recommendations to prevent further cases. Ft. Benning hospital databases and medical surveillance sources were searched to define problem. Hospital databases were searched for cases of low serum sodium in association with physical activity seen in the emergency rooms and cases of hyponatremia at Ft. Benning for 1996-1997 were reviewed. Surveillance sources included Army Medical Surveillance Activity (AMSS) database and the Total Army Injury and Health Outcomes Database (TAIHOD) which were examined for heat injury and hyponatremia. Nine cases of hyponatremia and 2 cases of pneumonia with secondary hyponatremia were found in previously healthy individuals at Ft. Benning during 199697. All cases were associated with heat stress and many were associated with moderate to heavy physical activity. Where water consumption data were obtained, all were associated with large oral intake of water. The AMSS data revealed that between 1989-1996 there were an average of 16 cases of hyponatremia/yr. Forty percent of the hyponatremia cases were at Ft. Benning. The TAIHOD data demonstrated hyponatremia rates of 1/100,000 soldier-yrs from 1980-1988 with a gradual rise over the next four years to 12/100,000 soldier-yrs which has remained stable since 1990. Evidence gathered at Ft. Benning suggested that the hyponatremia cases may have been due to hypervolemic hyponatremia (overhydration). The team concluded that: (1) overhydration with secondary hyponatremia is a problem at Ft. Benning and in the Army, and (2) overhydration and hyponatremia resulted from success in enforcing fluid consumption policy to prevent heat injuries.

Keywords: *Wounds and injuries, *Trainees, *Hypothermia, *Heat stress(Physiology), Data bases, Marine corps, Risk, Water, Medical services, Epidemiology, Oral intake, Georgia, Dehydration, *Hyponatremia, Epidemiological consultation (Epicon).

ADA362949REB PC A06/MF A01
East Europe Report, Scientific Affairs, No. 782.
Joint Publications Research Service, Arlington, VA.
24 Jun 1983, 96p, JPRS-83760.
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No abstract available.

Keywords: *Microprocessors, *Microelectronics, Computers, Eastern europe, Gas compressors, Scientific affairs, Fbis collection, Foreign reports.

ADA362950REB PC A01/MF A01
Development of Biotrickling Filters to Treat Sulfur and VOC Emissions. Final rept. 30 Sep 96-29 Sep 98.
Envirogen, Inc., Lawrenceville, NJ.
A. P. Togna, T. S. Webster, J. Revak, and Y. Yang. 12 May 1999, 5p, N00014-96-C-0370.
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The objective of this Phase II Small Business Innovation Research project was to develop an efficient and cost-effective biological process to treat air emissions of significance to the Navy. During Phase I, the feasibility of treating these emissions using a biotrickling filter was tested. Biotrickling filters are similar to chemical scrubbers, but rely on microorganisms on the packing surface to remove and oxidize contaminants rather than chemicals. A 7- month field-pilot demonstration was conducted at North Island Naval Air Station near San Diego, California to demonstrate the effectiveness of the process for treatment of hazardous air pollutants (HAPs) from spray paint booths. Target HAP removals exceeded 88 percent for vapor contact times (packing volume divided by air flowrate) greater than 16 seconds. Carbon dioxide measurements indicated that the dominant removal mechanisms were absorption and biodegradation in the morning hours and biodegradation only in the afternoon hours. Performance was not affected by the intermittent operation in the paint booth. A cost analysis showed that for treatment of the entire air stream, over a 10-year project life, biotrickling filters designed for a 16 or 11 second contact time were less expensive than carbon adsorption or thermal systems.

Keywords: *Air pollution control equipment, *Contaminants, *Sulfur, Cost analysis, Emissions, Vapors, Air flow, Efficiency, Flow rate, Filtration, Carbon dioxide, Biodegradation, Thermodynamic properties, Odors, *Volatile organic compounds, *VOC(Volatile organic compounds), Biotrickling filters, HAPS(Hazardous air pollutants).

ADA362951REB PC A02/MF A01
Overview of the Modular Effectiveness/Vulnerability Assessment (MEVA) Architecture.
Air Force Research Lab., Eglin AFB, FL. Munitions Directorate.
D. B. Watts. 1999, 6p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Modular Effectiveness Vulnerability Assessment - Ground Fixed (MEVA-GF) is an engineering tool for assessing the vulnerability of fixed ground targets to conventional weapon attack. MEVA-GF is a graphical user interface (GUI) based program that provides an architecture for assembling an assessment model or simulation in modular fashion. Individual modules representing the weapon, target, weapon delivery, penetration, blast, fragmentation, etc. are linked together using a data flow paradigm that creates the assessment network. The modularity inherent in the architecture provides the user flexibility in the design of networks by offering modules with varying levels of fidelity. MEVA-GF may be used to configure a fast running stochastic model for Monte-Carlo type calculations that require hundreds of runs for statistical accuracy. Higher fidelity models may be constructed for more deterministic type studies where longer run times are not a consideration and more precision is desired. Critical components within targets may be modeled and assigned to fault trees providing a means for assessing functional damage to a target. The targets response (i.e., damage) to the weapon effects (i.e., penetration, blast, fragmentation) is output into data files and can

be visualized using a three dimensional graphical representation.

Keywords: *Targets, *Surface targets, *Weapon delivery, *Graphical user interface, *Vulnerability, Data bases, Mathematical models, Data processing, Simulation, Computations, Stochastic processes, Damage assessment, Accuracy, Computer architecture, Monte carlo method, Three dimensional, Response, Conventional warfare, Fault trees, Weapons effects, Statistical analysis.

ADA362952REB PC A03/MF A01
EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Eectric Vehicle Program. Technical doc.
Naval Undersea Warfare Center Div., Newport, RI.
T. Rydzaj, A. B. Bruno, and O. R. Zelaya. 1 Mar 1999, 24p, NUWC-NPT-TD-11082.
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In this study, various electric vehicles were tested to evaluate their potential electromagnetic interference (EMI) emissions when used in today's hostile commercial electromagnetic environment. The risks associated with particular emissions were assessed, including the possibility of the electric vehicle creating undesirable EMI emissions that could affect other systems. EMI emissions were measured on both military and civilian vehicles in an effort to build a database that can be used to identify EMI issues that affect electric vehicle performance.

Keywords: *Electromagnetic interference, *Trucks, *Electric propulsion, *Vans, Magnetic fields, Performance(Engineering), Military vehicles, Electric fields, Electromagnetic environments, Risk analysis, Electric vehicles.

ADA362953REB PC A02/MF A01
Electromagnetic Cold-Test Characterization of the Quad-Driven Stripline Kicker.
Lawrence Livermore National Lab., CA.
S. D. Nelson, and J. E. Dunlap. 24 Aug 1998, 6p, UCRL-JC-130415-REV-1.
Contract W-7405-ENG-48
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The first kicker concept design for beam deflection was constructed to allow stripline plates to be driven; thus directing, or kicking, the electron beam into two subsequent beam lines. This quad-driven stripline kicker is an eight port electromagnetic network and consists of two actively driven plates and two terminated plates. Electromagnetic measurements performed on the bi-kicker and quad-kicker were designed to determine: (1) the quality of the fabrication of the kicker, including component alignments; (2) quantification of the input feed transition regions from the input coax to the driven kicker plates; (3) identification of properties of the kicker itself without involving the effects of the electron beam; (4) coupling between a line current source and the plates of the kicker; and (5) the effects on the driven current to simulate an electron beam through the body of the kicker. Included in this are the angular variations inside the kicker to examine modal distributions. The goal of the simulated beam was to allow curved path and changing radius studies to be performed electromagnetically. The cold test results produced were then incorporated into beam models.

Keywords: *Beam splitting, *Electron beams, Electromagnetic properties, Deflection, *Quad kickers, Electromagnetic cold tests, Azimuthal variations, Aq i99-08-1505.

ADA362954REB PC A03/MF A01
DURIP 97 Vacuum Equipment for Ultra High Power Microwave Experiments. Final rept. 1 Mar 97-28 Feb 99.
Cornell Univ., Ithaca, NY.
J. A. Nation. 22 Apr 1999, 13p, AFRL-SR-BL-TR-99-0118.
Contract F49620-97-1-0112
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The high vacuum insulator system we obtained did not eliminate the pulse shortening previously observed. However we did eliminate the pulse shortening, albeit with serendipity leading the way. In this case we found no pulse shortening even at 85 MW with poor vacuum. It is worth special note that the 85 MW was achieved at an rf conversion efficiency of 55%. we will now push this limit until we do get shortening and then try again.

Keywords: *Microwave tubes, *Ultrahigh vacuum, High power, Pulse duration modulation, Ceramic insulators.

ADA362955REB PC A02/MF A01
Decarburization of Uranium Via Electron Beam Processing.
Lawrence Livermore National Lab., CA.
R. H. McKoon. 23 Oct 1998, 10p, UCRL-JC-131866.
Contract W-7405-ENG-48
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For many commercial and military applications, the successive Vacuum Induction Melting of uranium metal in graphite crucibles results in a product which is out of specification in carbon. The current recovery method involves dissolution of the metal in acid and chemical purification. This is both expensive and generates mixed waste. A study was undertaken at Lawrence Livermore National Laboratory to investigate the feasibility of reducing the carbon content of uranium metal using electron beam techniques. Results will be presented on the rate and extent of carbon removal as a function of various operating parameters.

Keywords: *Uranium, *Electron beam melting, Thermodynamics, Carbon, *Decarburization, Aq i99-08-1503, Carbon removal, Vacuum induction melting.

ADA362956REB PC A02/MF A01
News from AFAR, Volume 2, Number 1 March/April 1996.
Assistant Secretary of the Air Force (Acquisition), Washington, DC.
Apr 1996, 10p.
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This newsletter contains articles on various topics in Air Force acquisition reform.

Keywords: *Air force, *Acquisition, *Management, *Air force personnel, Strategy, Contracts, Education, Models, Training, Military capabilities, Acquisition reform.

ADA362957REB PC A03/MF A01
Progress In Fast Ignitor Research with the Nova Petawatt Laser Facility.
Lawrence Livermore National Lab., CA.
M. H. Key, T. E. Cowan, B. A. Hammel, S. P. Hatchett, and E. A. Henry. 10 Nov 1998, 12p, UCRL-JC-132178.
Contract W-7405-ENG-48
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The physics of fast ignition is being studied using a petawatt laser facility at the Lawrence Livermore National Laboratory. Performance of the PW laser with deformable mirror wavefront control giving intensities up to 3x10(exp 20) W/cm2 is described. Measurements of the efficiency of conversion of laser energy to relativistic electrons and of their energy spectrum and angular distribution including an observed narrow beam angle of +/- 15 deg, are reported. Heating by the electrons to near 1keV in solid density CD2 is inferred from the thermo-nuclear neutron yield. Estimates suggest an optimized gain of 300x if the National Ignition Facility were to be adapted for fast ignition.

Keywords: *Plasmas(Physics), *Ignition, Neodymium lasers, Relativistic electrons, Thermonuclear energy, *Fast ignition, Aq i99-08-1504, Fusion energy, Petawatt lasers, Ife(Inertial fusion energy).

ADA362958REB PC A03/MF A01
Vibration Damping by a Nearly Continuous Distribution of Nearly Undamped Oscillators. Research and development rept. 1 Mar-30 Apr 99.
Naval Surface Warfare Center Carderock Div., Bethesda, MD. Signatures Directorate.
G. Maidanik. 30 Apr 1999, 30p, NSWCCD-70-TR-1999-120.
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It has been claimed that vibration damping can be derived from the coupling of a continuous distribution of undamped oscillators. This claim stems from the fact that the contribution to the damping of a master oscillator by a coupled set of continuously distributed satellite oscillators, is independent of the loss factors of the oscillators in this set (The distribution is with respect to the frequency of resonance of the satellite oscillators in the set.) The transition from a discrete-to-a continuous distribution, however, cannot be achieved without the imposition of modal overlap on the distribution of the satellite oscillators. It is this imposition that ensures that the contribution to the damping by these satellite oscillators is intuitively real. The imposition forbids equating the loss factors of the satellite oscillators to zero just because their contribution, to the surrogate damping of the host master oscillator to which they are coupled, is independent of these loss factors. Notwithstanding that the quantification of this contributed damping in terms of a dimensionless ratio of dynamic quantities does not uniquely qualify it as a loss factor. Moreover, the analysis of nearly continuous distribution of nearly undamped satellite oscillators brings insights into the manner by which they contribute damping to the mechanical system of which they are an integral part. In part, these insights are obscured in an analysis that is based on the a priori introduction of extreme limits. Indeed, these insights may be the overwhelming justification for the present paper.

Keywords: *Vibration, Oscillators, Statistical analysis, *Undamped oscillators, *Vibration damping, Statistical energy analysis.

ADA362959REB PC A03/MF A01
Aerospace Acquisition 2000, Volume 2, Number 1.
Assistant Secretary of the Air Force (Acquisition), Washington, DC.
Apr 1999, 16p.
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This newsletter deals with topics on Air Force Acquisition Reform throughout the United States.

Keywords: *Air force, *Acquisition, *Management, Sources, Policies, Commerce, Marketing, Contracts, Air force personnel, Military organizations, Periodicals, Awards, Acquisition reform.

ADA362960REB PC A02/MF A01
News from AFAR, Volume 2 Number 2 May/June 1996.
Assistant Secretary of the Air Force (Acquisition), Washington, DC.
Jun 1996, 10p.
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This newsletter contains articles on Air Force Acquisition Reform throughout the United States.

Keywords: *Air force, *Acquisition, *Management, *Air force personnel, Sources, Commerce, Education, Training, Performance(Human), Logistics, Periodicals, Acquisition reform.

ADA362961REB PC A04/MF A01
USSR Report, Agriculture, No. 1409.
Joint Publications Research Service, Arlington, VA.
18 Nov 1983, 43p, JPRS-84780.
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No abstract available.

Keywords: *Agriculture, *International relations, Ussr, Productivity, Bovines, Farms, Livestock, Ukraine, Beef, Fbis collection, Foreign reports.

ADA362962REB PC A14/MF A03
Identification and Evaluation of Interfaces of IL Support Operations with the Army Logistics System. Final rept.
Army Logistics Management Center, Fort Lee, VA.
H. W. Tyler, and P. J. Higgins. Dec 1976, 283p, RIA-81-U147.
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This report identifies and evaluates the functional interfaces determined necessary in the performance of each function/subfunction of the U.S. Army Materiel Development and Readiness Command portion of the Army International Logistics Program. The report discusses the interfaces in terms of those identified as valid and performing, interface duplications and voids, and those considered critical.

Keywords: *Logistics management, Military requirements, Operational readiness, Interfaces, International, Army operations, Logistics planning, International logistics program.

ADA362963REB PC A99/MF A06
Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
Annual rept. 1 Oct 97-30 Sep 98.
Madigan Army Medical Center, Tacoma, WA. Dept. of Clinical Investigation.
N. Whitten, T. Patience, B. Jones, and G. Hough. 30 Sep 1998, 582p.
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This report covers all research protocols that were administratively or technically supported by the Department of Clinical Investigation, Madigan Army Medical Center, during FY 1998. Included in the individual reports are title, investigators, funding, objective, technical approach, and progress for FY 1998. Also included in the report are personnel rosters for the Department, funding information, and presentations and publications emanating from Madigan Army Medical Center during FY 1998.

Keywords: *Army facilities, *Clinical medicine, *Medical services, Methodology, Site investigations, Health care facilities, Preventive medicine, Madigan army medical center, Clinical investigation.

ADA362964REB PC A04/MF A01
Survey of Work and Sleep Hours of U.S. Army Aviation Personnel. Final rept.
Army Aeromedical Research Lab., Fort Rucker, AL.
J. L. Caldwell, S. R. Gilreath, and D. N. Norman. Apr 1999, 35p, USAARL-99-16.
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The purpose of this survey was to determine when Army aviation personnel work and sleep while on reverse cycle. A total of 157 aviation personnel from 3 Army posts were sampled. The one-page questionnaire indicated that the majority of aviation personnel had experience working night shift/ reverse cycle at some point in their careers; however, over one third had not dealt with this shift for more than 3 years. Usually the night shift occurred from early in the afternoon to early in the morning, with aviators arriving home after 0800. However, a large group of responders returned home from the night shift by 0400. Although most of the responders indicated they were able to sleep after a night shift for at least 7 hours, many of them indicated they did not feel they received adequate daytime sleep most or some of the time. Although many aviators reported returning home by 0400, there is a large percentage who indicated they did not return home until after 0800, making it difficult to obtain adequate sleep. These results indicate that research is needed to address the issue of helping aviation personnel sleep during the daylight hours, both for training exercises and for deployment. Techniques for adjusting to night shift should emphasize enhanced alertness during the night with high performance and improved safety, as well as restful sleep during the day. Once the work/rest schedule for a unit is known, countermeasures to address adjustment to reversed sleep/wake cycles can be tailored to the specific needs of the individual or unit.

Keywords: *Work, *Sleep deprivation, *Aviation personnel, Army personnel, Health, Stress(Physiology), Pilots, Surveys, Rest, Manhours, Work hours.

ADA362965REB PC A01/MF A01
Concussive Effects of Low Frequency Sound Exposure. Final rept. 1 Jul 97-31 Mar 99.
Hospital of the Univ. of Pennsylvania, Philadelphia. Dept. of Neurosurgery.
T. K. McIntosh, A. N. Ritting, K. E. Saatman, S. Hoshino, and A. B. Russ. 31 Mar 1999, 5p.
Contract N00014-97-1-0954
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

We evaluated the threshold for concussive effects of low frequency underwater sound (LFS) exposure. In study 1, anesthetized (sodium pentobarbital 25mg/kg) male Sprague Dawley rats (n=96) were cannulated, ventilated (1.5% isoflurane), submerged, and exposed to 5 min. of LFS using a G40 calibrator. No alteration in cardiovascular function (arterial blood pH, p02, PC02, HR, or MABP) was observed during submersion. In study 2, animals were evaluated for two weeks following LFS exposure (150 Hz 180 dB, n=12; 250 Hz 194 dB, n=12), submersion only (n=11), or no submersion (n=11) using a battery of neurological motor tests. Cognitive function was assessed at one week using the Morris water maze (MWM). All animals were sacrificed at 15 days following for histological analysis. No effects of LFS on cardiovascular or neurological motor function were observed.

Keywords: *Exposure(Physiology), *Underwater sound, *Concussion, Cognition, Head(Anatomy), Underwater acoustics, Cardiovascular system, Thresholds(Physiology), Low frequency, Trauma, Neurophysiology, Blood chemistry, Sprague dawley rats, Acoustic trauma, Lfs(Low frequency underwater sound), Mwm(Morris water maze).

ADA362966REB PC A06/MF A01
USSR Report: Energy, No. 164.
Joint Publications Research Service, Arlington, VA.
4 Nov 1983, 81p, JPRS-84684.
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No abstract available.

Keywords: *Energy consumption, *USSR, Forecasting, Natural gas, Deposits, Biotechnology, Oil fields, Coal.

ADA362967REB PC A06/MF A01
Worldwide Report: Environmental Quality, No. 379.
Joint Publications Research Service, Arlington, VA.
26 Nov 1982, 89p, JPRS-82324.
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No abstract available.

Keywords: *International relations, *Environmental law, Global, Industries, Quality, Radioactivity, Surface to air missiles, Cleaning, Forestry.

ADA362968REB PC A04/MF A01
Analysis of First-Term Army Attrition. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.
R. E. Allison. 21 Apr 1999, 45p.
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This study examines personnel attrition in the United States Army. It seeks to determine why soldiers leave the Army before they complete their contractual obligations. It assesses the impact of attrition on readiness. It describes historic trends, estimates costs associated with early departures, compares attrition in the Army with that in other services, and notes factors that contribute to attrition. It examines these contributing factors in detail. The study then concludes with recommendations to help reduce the unacceptably high attrition rates in the Army and to help retain high quality soldiers to serve in our fighting force.

Keywords: *Impact, *Army personnel, *Combat readiness, *Attrition, Military forces(United states), Warfare, High rate, Estimates, Costs, History, Patterns.

ADA362969REB PC A04/MF A01
Future of the Combat Training Centers to Meet the National Military Strategy. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.
R. L. Bertha. 31 Mar 1999, 39p.
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The U.S. Army Combat Training Centers (CTCs) have been a great success story since their inception nearly 20 years ago. The National Training Center, Joint Readiness Training Center, Battle Command Training Program, and the Combat Maneuver Training Center all have been essential in maintaining the combat readiness of both leaders and units throughout our Army. These programs not only help to train our forces, but just as important, they are instrumental in the overall force development process. In view of this importance, many critics (to include senior Army officials) argue that our CTCs must change to not only accommodate the reality of increased unit OPTEMPO/PERSTEMPO and decreased training budgets, but also to be more relevant to our current National Military Strategy (NMS) . This paper argues that an evolutionary change of our CTCs with the times is most appropriate. However, the various revolutionary changes suggested by such critics are contrary to the basic purpose and fundamentals of our CTCs, detrimental to the readiness of the U.S. Army, and in actuality do not support our NMS.

Keywords: *Army training, *Combat readiness, *Army facilities, *Army operations, Military reserves, Warfare, Military strategy, Army personnel, Operational readiness, Maneuvers, Budgets, Battles, Operations other than war, *Ctcs(Combat training centers), National joint training center, Joint readiness training center, Battle command training program, Combat maneuver training center.

ADA362971REB PC A04/MF A01
Officer Candidate School (OCS): Relevance into the 21st Century. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.

S. L. Armbrister. 1 Mar 1999, 35p.
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This paper will explore the relevance and continued usefulness of the Army's Officer Candidate training and commissioning program as we move into the next century. I will take a critical look at the demographics of the OCS graduate, and how they 'stack up', against officers from other pre-commissioning sources. Are these officers (OCS Grads) needed in the world of Army After Next (AAN), and can they compete on the same playing field with officers from USMA and ROTC. I will look at the U.S. Army's commissioning sources, and compare and contrast the different commissioning programs. USMA, ROTC, and OCS (both AC and National Guard). I will look at promotion trends (thru General Officer) and command opportunities with respect to each commissioning-source. The project will outline what a 21st century leader looks like, and the qualities he or she must possess. Bottom line: are young men and women, with some prior experience in the enlisted ranks, needed in our Army as we change and evolve over the next 20 years. I think so...OCS, and the officers it produces, are relevant in our Army's future. What kind of officer do we need in the next 20 years. Does OCS produce that officer. Can OCS adjust its course to ensure relevance of its product. These are the key questions I will attempt to answer.

Keywords: *National guard, *Army training, *Officer personnel, *Promotion(Advancement), *Reserve officer training corps, Contrast, Leadership, Schools, Army personnel, Comparison, Army, General officers.

ADA362972REB PC A03/MF A01
Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment. Final rept.
Army Aeromedical Research Lab., Fort Rucker, AL.
J. A. Caldwell, K. A. Roberts, and H. D. Jones. Apr 1999, 20p, USAARL-99-15.
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A quasi-experimental approach assessed the pilot performance comparability of simulator versus in-flight results. Flight data from three sleep-deprivation studies were pooled. Twenty aviators were included, 10 who flew a UH-60 helicopter simulator and 10 who flew a UH-60A aircraft under the influence of Dexedrine or placebo during 40 hours of continuous wakefulness. Performance on straight and levels, right and left turns, climbs and descents, and a left-descending turn (assessed at 0100, 0500, 0900, 1300, and 1700) tended to correspond in the simulator and aircraft. Generally, performance under Dexedrine was better than under placebo. However, only half of the maneuvers showed consistent, statistically significant stimulant/fatigue effects in both flight platforms. Measurement sensitivity was lower in the aircraft, likely because of error variance due to environmental influences (weather, temperature, and turbulence) and other factors (radio traffic and anxieties about safety). Thus, actual in-flight studies, while desirable in terms of face-validity, underestimate the impact of stressors such as fatigue on pilots.

Keywords: *Performance(Human), *Pilots, *Sleep deprivation, *Flight simulation, Measurement, Aircraft, Errors, Inflight, Fatigue, Placebos, Army aviation.

ADA362973REB PC A03/MF A01
News from AFAR, Volume 1, Number 3 July/August 1998.
Assistant Secretary of the Air Force (Acquisition), Washington, DC.
Aug 1998, 12p.
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This newsletter is under the supervision of the Office of the Assistant Secretary of the Air Force (Acquisition) and contains articles pertaining to Air Force acquisition reform.

Keywords: *Acquisition, *Contracts, *Management, *Logistics, *Air force procurement, Sources, Air force, Policies, Costs, Missions, Resources, Supplies, Air force operations, Supervision, *Acquisition reform.

ADA362974REB PC A05/MF A01
Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants. Final rept.
Army Engineer Waterways Experiment Station, Vicksburg, MS. Environmental Lab.
E. P. Best, J. L. Miller, H. L. Fredrickson, S. L. Larson, and M. E. Zappi. Dec 1998, 60p, WES/TR/EL-98-13.
Prepared in collaboration with Mississippi State Univ.
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A 49-day, continuous-flow, laboratory study was performed to evaluate the ability of two submersed and one emergent plant species to phytoremediate explosives-contaminated groundwater from the Iowa Army Ammunition Plant (IAAP), Middletown, IA. Species evaluated were the submersed Ceralophyllum demersum L. (coontail), Potamogeton nodosus Poir. (American pondweed), and the emergent Sagittaria latifolia Willd. (common arrowhead). Plants were rooted in local, IAAP, sediment under continuous-flow conditions at 25 deg C. Unplanted sediment served as control. 2,4,6-trinitrotoluene (TNT), and hexahydro-1,3,5-trinitro-1, 3,5-triazine (RDX) levels in groundwater were 0.8 and 10.7 mg L(exp -1), respectively. The hydraulic retention time (HRT) was 30 days. TNT decrease rates in groundwater did not differ significantly between implanted and planted sediment treatments. Aqueous TNT concentrations decreased exponentially (first- order kinetics). TNT removal constants decreased in the order of arrowhead>pondweed> sediment>coontail, ranging from 0.533 to 0.375 d(exp -1). Using these removal constants, periods to reach a cleanup level of 0.002 mg L(exp -1) of 45 to 1,015 days were calculated for treatments under fully mixed conditions. Cleanup periods were greatly reduced under plug-flow conditions, ranging from 1 to 16 days. Final aqueous TNT and TNT degradation product levels were extremely low or below detection, while they were below detection in plants and sediments. RDX decrease rates in groundwater were significantly higher by planted than by unplanted sediment treatments. RDX decrease was significantly enhanced by amendment with microbes. Aqueous RDX concentrations decreased linearly (zero-order kinetics). RDX removal rates ranged from 0.28 to 0.13 mg L(exp -1) d(exp -1). RDX cleanup levels were not reached under fully mixed conditions. Cleanup periods under plug-flow conditions ranged from 79 to 200 days for submersed species and implanted sediment treatments.

Keywords: *Removal, *Chemical contamination, *Explosives, *Ground water, *Iowa, *Aquatic plants, Detection, Army facilities, Kinetics, Rdx, Tnt, Implantation, Microorganisms, Hydraulic retention time(Hrt).

ADA362975REB PC A05/MF A01
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Determination of the Median Lethal Dose of Two Anticholinesterase Agents and Efficacy of Current Therapy. Final rept.
Battelle Memorial Inst., Columbus, OH.
C. T. Olson. Apr 1999, 67p.
Contract DAMD17-89-C-9050
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Compounds which inhibit cholinesterases (ChE) may have vastly different characteristics, which affect toxicity as well as response to therapy following intoxication. Intoxication with the nerve agent VX is relatively easily ameliorated with pyridostigmine bromide/atropine/pralidoxime chloride (PYR/ATR/2-PAM) if treatment is instituted at the appropriate time, but intoxication with soman (GD) is difficult to treat. The objectives of this study were to: (1) estimate the median lethal dose (MLD) of two ChE-inhibiting compounds, provided by the U.S. Army Medical Research Institute of Chemical Defense (USAMRICD), when injected intramuscularly (i.m.) into male rhesus monkeys; and (2) estimate the therapeutic efficacy of PYR injected prior to challenge in conjunction with ATR, 2-PAM, and diazepam (DIAZ) injected sequentially 1 min following challenge with 5 X MLD of these compounds. Experiments were conducted in phases to utilize the fewest animals necessary to obtain statistically valid results.

Keywords: *Defense systems, *Males, *Medical research, *Lethal dosage, *Preventive medicine, Army research, Toxicity, Chemical warfare, Cholinesterase inhibitors, Cholinesterase, Nerve agents, Gd agent, Rhesus monkeys, Intoxication.

ADA362976REB PC A06/MF A01
Hispanic Youth and Military Enlistment Propensity.
Security Research Center, Monterey, CA.
J. O'Connor Boes, M. F. Wiskoff, and M. Flacks. Jan 1999, 79p, SRC-TR-99-001.
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The purpose of this report is to explore the issue of Hispanic propensity in more depth than has previously been available, and to identify possible causes of Hispanic youths' declining interest in military service. It is meant to complement other DoD efforts to understand declining propensity among young males in general, and among African-American males in particular. No single satisfactory explanation for declining propensity has yet been found. Rather, many factors involving both cultural forces affecting youth (e.g., changing attitudes, changing values, family transformations, etc.) and economic factors (e.g., employment rates, advertising expenditures, recruiting resources) may be contributing to declining interest in military service. This report addresses socio-economic forces that may be having specific effects on the Hispanic community. It also looks at how cultural aspects of the lives of Hispanic youth may be influencing their propensity to enlist in the Armed Forces.

Keywords: *Attitudes(Psychology), *Recruiting, *Hispanics, Military personnel, Employment, Ethnic groups, Males, Youth.

ADA362977REB PC A17/MF A03
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model. Final rept.
Battelle Medical Research and Evaluation Facility, West Jefferson, OH.
C. T. Olson, T. R. Gelzeichter, M. A. Myers, R. G. Menton, and N. A. Niemuth. Jul 1998, 358p.
Contract DAMD17-89-C-9050
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Pentavalent (ABCDE) botulinum toxoid vaccine is intended for use as a prophylactic measure to protect combat troops against the lethal effects of botulinum toxins A-E, a group of toxins considered to be a serious biological warfare threat. To adequately assess the level of protection afforded by this vaccine, efficacy against an inhalation challenge must be established for all five toxin serotypes. Due to the inherent dangers of these toxins and the exceedingly rare incidence of botulism, efficacy cannot be established in traditional phase 3 clinical trials. This study proposes to indirectly measure efficacy by establishing a serological correlate that is indicative of efficacy. An FDA Advisory Panel, in addressing efficacy issues for bacterial vaccines and toxoids, made the following statement (Federal Register 1985): 'For diseases in which immunity depends upon specific antibodies which either neutralize toxin or which opsonize bacteria and lead to their prompt destruction within phagocytes, induction of such antibodies correlates well with protection, and

the measurement of such antibodies may reflect efficacy quite faithfully.' Humoral immunity can effectively be assessed by measuring neutralizing botulinum antibodies in serum using a mouse bioassay. The objective of this study is to establish toxin-neutralizing antibody levels as a serological correlate for efficacy.

Keywords: *Biological warfare, *Medical research, *Combat forces, Neutralization, Passive systems, Toxins and antitoxins, Vaccines, Preventive medicine, Bacterial toxins, Bioassay, Clostridium botulinum, Guinea pigs.

ADA362978REB PC A04/MF A01
Department of Defense, Inc. Are We Ready To Become An Extension of Corporate America. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.
W. D. Beatty. 7 Apr 1999, 48p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Americans are always looking for ways to improve government services and lower costs. Therefore, it is imperative to examine the boundary between the government and private industry conveyance of goods and services. Privatization, or the selling of government assets, separates the service functions from the government and transfers it to a private entity without further government assistance. Outsourcing, or simply contracting out, allows the government to enter into contracts with private firms to provide goods and services used by the government at a substantial cost saving. Privatization and outsourcing may enable the Department of Defense (DoD) to effectively modernize and sustain support for the warfighter at a reduced cost to the taxpayer. From the policy guidance depicted in the OMB Circular A-76 to the influence from the current Administration and Congress, the DoD must consider a multitude of issues and develop strategies to transfer functions to the private sector. This paper investigates and summarizes the positive impacts of these options on the DoD as they proceed to the 21st century.

Keywords: *Department of defense, *Policies, *Outsourcing, *Privatization, Functions, Congress, Transfer functions, Industries, Commerce, Strategy, Contracts, Impact, Reduction, Costs, Savings.

ADA362979REB PC A05/MF A01
Worldwide Report: Epidemiology, No. 330.
Joint Publications Research Service, Arlington, VA.
2 Sep 1983, 58p, JPRS-84253.
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No abstract available.

Keywords: *Epidemiology, *Cholera, Test and evaluation, Humans, Diseases, Blood, Hepatitis, Influenza, Acquired immune deficiency syndrome, Herpes simplex virus, Fbis collection, Foreign reports.

ADA362980REB PC A05/MF A01
Worldwide Report: Epidemiology, No. 337.
Joint Publications Research Service, Arlington, VA.
3 Nov 1983, 66p, JPRS-84679.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Epidemiology, Diarrhea, Infectious diseases, Hospitals, Death, Cholera, Fbis collection, Foreign reports.

ADA362981REB PC A06/MF A01
Thrust Augmentation for a Small Turbojet Engine. Master's thesis.
Naval Postgraduate School, Monterey, CA.
G. L. Hackaday. Mar 1999, 90p.
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A Sophia J450 (nine pounds of thrust) gas turbine engine was used first to examine the thrust augmentation generated using an ejector shroud. Experimental results obtained with and without the ejector were compared with performance predicted using an engine code and a one-dimensional ejector analysis. The engine code was revised to incorporate a radial turbine and the correct compressor map. Thrust augmentation of 3-10% was measured and the trends were correctly predicted. Second, an engine shroud was designed and installed around the engine and flow measurements were conducted to determine the entrainment rate in the shroud. The engine shroud was the initial step toward designing a turboramjet.

Keywords: *Aircraft engines, *Performance(Engineering), *Entrainment, *Thrust augmentation, Theses, Gas turbines, Data acquisition, Turbines, Turbojet engines, Ejectors, Turboramjet engines.

ADA362982REB PC A03/MF A01
Limit Cycle Oscillations (LCO) and Nonlinear Aeroelastic Wing Response: Reduced Order Aerodynamic Models. Final technical rept. 1 Jul 95-30 Jun 98.
Duke Univ., Durham, NC. School of Engineering.
E. H. Dowell. Apr 1999, 15p, AFRL-SR-BL-TR-99-0125.
Contract F49620-95-1-0417
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A nonlinear, aeroelastic analysis of a low aspect, delta wing modeled as a plate of constant thickness demonstrates that limit cycle oscillations (LCO) of the order of the plate thickness are possible. The structural nonlinearity arises from double bending in both the chordwise and spanwise directions. The present results using a vortex lattice aerodynamic model for a low Mach number flow complement earlier studies for rectangular wing platforms that showed similar qualitative results. The theoretical results for the flutter boundary (beyond which LCO occurs) have been validated by comparison to the experimental data reported by other investigators for the low aspect ratio delta wings. Also the limit cycle oscillations found experimentally by previous investigators (but not previously quantified prior to the present work) are consistent with the theoretical results reported here. Reduced order aerodynamic and structural models are used to substantially decrease computational cost with no loss in accuracy. Without the use of reduced order models, calculations of the LCO would be impractical. A wind tunnel model is tested to provide a quantitative experimental correlation with the theoretical results for the LCO response itself.

Keywords: *Aeroelasticity, *Delta wings, Structural properties, Boundary value problems, Aerodynamic forces, Oscillation, Aspect ratio, *Limit cycle oscillation.

ADA362983REB PC A06/MF A01
Degradation of Haloaromatic Compounds by Indigenous Sediment Microflora: Biochemistry and Molecular Ecology. Rept. for 15 Jan 96-31 Mar 99.
South Carolina Univ., Columbia. Dept. of Biological Sciences.
C. R. Lovell. 31 Mar 1999, 94p.
Contract N00014-96-1-0403
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This study examined microbial communities in biofilms lining marine infaunal burrows with particular focus on marine bacteria able to degrade chlorinated aromatic compounds. These biofilms contain a diverse and abundant microbiota, occurring as single cells and in microcolonial formations. The majority of these organisms are potentially active. The burrow biofilm microbiota includes bacteria able to remove halogen atoms from the aromatic ring of haloaromatic compounds. At least some of these bacteria are amenable to isolation and can be cultivated in the laboratory. Reductively dechlorinating bacteria were enriched from burrows produced by both haloaromatic producing and non-producing marine infauna. It is clear from these results that marine dechlorinating bacteria are common in infaunal burrow structures relative to bulk sediments. Two isolates able to debrominate bromophenols were characterized and identified as novel strains of Propionigenium maris. Microscopic examination also revealed the potential for interspecific interactions among dehalogenating bacteria and other types of organisms. These interactions may include consortial metabolism of chloroaromatics. The study revealed and characterized an important and previously unrecognized niche for reductively dehalogenating bacteria in marine sediments. Infaunal burrow structures provide a source for new organisms with potential application in bioremediation processes.

Keywords: *Organic materials, *Molecular biology, *Ecology, *Microorganisms, Degradation, Bacteria, Biochemistry, Films, Microscopy, Aromatic compounds, Cells(Biology), Chlorination, Sea water, Sediments, Ocean bottom, Halogens, Medical examination, *Microflora.

ADA362984REB PC A05/MF A01
Democracy in Kuwait. Strategic research paper.
Army War Coll. Strategic Studies Inst., Carlisle Barracks, PA.
H. N. Al-Sewaji. 7 Apr 1999, 70p.
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Kuwait, unlike most of its neighbors, has a well-established national identity and a long history as a democratic nation. In this paper, I have focused on two recurring themes in Kuwaiti history. One, the preservation of a sense of community in the face of radical economic, social and political transformations; the second, internal rivalry over the conventions governing relations among members of the community. I have gone through the Kuwaiti history and pointed out the various stages of democracy. It is worth mentioning that democracy can be traced to the eighteenth century when the Kuwaiti people unanimously chose their own leader from among the Al-Sabah family. Kuwait remains an example to follow for her sisterly Arab countries in this part of the world. However, much work is still ahead and the Kuwaiti people are expected to go on building a more modern democratic country in the Arabian Peninsula.

Keywords: *Political science, *Government(Foreign), *History, *Democracy, Foreign policy, Kuwait, Economic analysis.

ADA362985REB PC A04/MF A01
Assessment of the REmote Minefield Detection System (REMIDS). Final rept. Aug 97-Jun 98.
Institute for Defense Analyses, Alexandria, VA.
L. J. Porter, F. S. Rotondo, and H. H. Bennett. Jun 1998, 39p, IDA-D-2158, IDA/HQ-98-001571.
Contracts DASW01-94-C-0054 , DASW01-94-C-0056
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This report describes the REmote Minefield Detection System (REMIDS) developed by the U.S. Army Engineer Waterways Experiment Station to detect surface UXO. REMIDS collects three channels of optically aligned image data consisting of two active laser channels, one polarized reflectance and the other total reflectance, and one passive thermal infrared channel. The system also incorporates onboard sensor data recording and post-processing insertion of differential Global Positioning System (GPS) coordinates. The principle behind REMIDS is to enhance the discrimination of surface UXO by relying on multiple signatures: surface UXO may exhibit a unique combination of reflectance, polarization, temperature, and footprint (shape), compared to natural objects in the UXO's sur-

roundings. In addition to a description of the phenomenology of REMIDS, an evaluation of the performance of the system at the Yuma Proving Ground (Arizona) and at Ft. Rucker (Alabama) is presented. Items used at those sites included mines, rockets, mortars, projectiles, and bombs. Performance curves (P sub d vs. P sub fa) are presented for both test sites. Furthermore, measurements at several ordnance-free sites were obtained at Yuma to assess the potential use of REMIDS as a large area search tool.

Keywords: *Mine detection, Infrared detection, Polarization, Electrooptics, Tools, Projectiles, Minefields, Lasers, Surfaces, Global positioning system, Images, Signatures, Recording systems, Reflectance, Discrimination, Onboard, Bombs, Test facilities, Remote detection, Channels, Dual channel, Rockets, Mortars, Area scanning, Remids(Remote minefield detection system).

ADA362986REB PC A04/MF A01
Near East and South Asia.
Joint Publications Research Service, Arlington, VA.
20 Dec 1988, 50p, JPRS-NEA-88-086.
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No abstract available.

Keywords: *South Asia, *Middle East, *North Africa, *International relations, Developing nations, Algeria, Industries, Organizations, Exports, Statistics, Artificial satellites, Crude oil, Translations.

ADA362987REB PC A06/MF A01
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
26 Feb 1985, 93p, JPRS-UBB-85-011.
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No abstract available.

Keywords: *Life sciences, *Biomedicine, *Behavioral sciences, Ussr, Polysaccharides, Enzymes, Synthesis(Chemistry), Retina, Bovines, Ribonucleic acids, Amino acids, Biosynthesis, Coriolis effect, Fbis collection, Foreign reports.

ADA362988REB PC A06/MF A01
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
25 Feb 1985, 95p, JPRS-UBB-85-010.
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No abstract available.

Keywords: *Life sciences, *Biomedicine, *Behavioral sciences, Ussr, Soils, Biotechnology, Farms, Genetics, Cytology, Breeding, Fbis collection, Foreign reports.

ADA362989REB PC A04/MF A01
Strategic Creep: From Power Projection Back to Forward Presence. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.
C. R. Alexander. 11 Mar 1999, 50p.
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The U.S. Army has transformed from a Cold War era forward based force to a power projection Army, capable of rapid deployment. While permanent overseas presence has decreased dramatically, operational deployments have increased exponentially. The frequency and duration of deployments raise the question of whether the Army's forward based strategy has truly changed. This study contends that the Army remains a force still very centered on overseas presence. The 'Strategic Creep' posed by long-term global commitments demanding continuous presence has forced the Army to adopt an execution strategy of forward presence. With signs of strained readiness, what are the Army and our nation willing to pay to maintain the U.S. role as a global leader. Will over- commitment jeopardize our capability to respond to real national security threats. A greater commitment by the global community to solve global problems is needed.

Keywords: *Military strategy, *National security, *Army, *Overseas, Deployment, Forward areas, Global, Strategy, Leadership, Communities, Threats, Cold war, Power.

ADA362990REB PC A03/MF A01
Political Information on Indonesia.
Joint Publications Research Service, Arlington, VA.
9 Feb 1961, 13p, JPRS-4389.
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No abstract available.

Keywords: *Political science, *Indonesia, Government(Foreign), Political parties, Freedom of the press, Translations.

ADA362991REB PC A02/MF A01
For the Welfare of Man Development of Medical Science in the USSR.
Joint Publications Research Service, Arlington, VA.
V. V. Parin. 6 Apr 1960, 8p, JPRS-2421.
Trans. of Priroda (Nature) (Moscow), n10 p51-54, 1959.
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No abstract available.

Keywords: *Medicine, *Ussr, Government(Foreign), Humans, Social welfare, Fbis collection, Foreign reports, Translations.

ADA362992REB PC A02/MF A01
Military News Items From Chinese Communist Press.
Joint Publications Research Service, Arlington, VA.
13 Jun 1961, 7p, JPRS-4693.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Military forces(Foreign), *Pharmacology, Government(Foreign), Drugs, Communism, China, Plants(Botany), Chinese language, *Medicinal herbs, Fbis collection, Foreign reports, Military affairs, Translations.

ADA362993REB PC A08/MF A02
Sub-Saharan Africa Report, No. 2873.
Joint Publications Research Service, Arlington, VA.
17 Nov 1983, 135p, JPRS-84773.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Economics, *International relations, Subsaharan africa, International politics, Government(Foreign), International trade, Budgets, Civil affairs, Police, Political revolution, Fbis collection, Foreign reports, Translations.

ADA362994REB PC A05/MF A01
East Europe Report, Political, Sociological and Military Affairs, No. 2235.
Joint Publications Research Service, Arlington, VA.
29 Nov 1983, 67p, JPRS-84841.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Eastern Europe, *Political science, *Sociology, Government(Foreign), Military forces(Foreign), Civil affairs, Elections, Military affairs, Translations.

ADA362995REB PC A06/MF A01
China Report, Political, Sociological and Military Affairs, No. 475.
Joint Publications Research Service, Arlington, VA.
30 Nov 1983, 95p, JPRS-84844.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Political science, *Sociology, *China, Economics, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, Religion, Military affairs, Translations.

ADA362996REB PC A05/MF A01
From Carter to Reagan: Formulation of American Foreign Policy during a Time of Transition. An Explanation of Foreign Policy Decisions Based on the Initial Presidential Transition Period. Strategy research project.
Army War Coll., Carlisle Barracks, PA.
G. M. Beshenich. 4 Jan 1999, 63p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Domestic and foreign policies are made, not born. Some policies are reworked and redefined. Some policies stagnate due to a lack of interest. In more unfortunate circumstances, policies are adapted from deteriorating policy situations. During the transition between the Carter and Reagan administrations, the Reagan administration established a navigational course 180 degrees from that of the Carter administration. This was especially evident in the area of foreign policy and the use of the National Security Council. This essay will explore the foreign policy of the Carter and Reagan Administrations, examine the presidential management styles of each president, discuss the transition between the different administrations, and attempt to draw some conclusions for developing an effective presidential transition period.

Keywords: *Foreign policy, *National security, United states government, Decision making, Management, Transitions, President(United states), Domestic.

ADA362997REB PC A05/MF A01
Worldwide Report, Epidemiology, No. 324.
Joint Publications Research Service, Arlington, VA.
8 Jul 1983, 66p, JPRS-83848.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Epidemiology, *Acquired immune deficiency syndrome, Malaria, Infectious diseases, Death, Sex, Animal diseases, Fbis collection, Foreign reports.

ADA362998REB PC A08/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
28 Jun 1985, 142p, JPRS-UBB-85-018.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Life sciences, *Biomedicine, *Behavioral sciences, Ussr, Nutrients, Chromosomes, Media, Cytoplasm, Immunity, Larvae, Sterilization, Fbis collection, Foreign reports.

ADA362999REB PC A09/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
8 Jul 1985, 175p, JPRS-UBB-85-019.
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No abstract available.

Keywords: *Life sciences, *Biomedicine, *Behavioral sciences, Ussr, Chemicals, Fungicides, Agriculture, Minerals, Herbicides, Fertilizers, Growth substances, Fbis collection, Foreign reports.

ADA363000REB PC A06/MF A01
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
20 Aug 1985, 89p, JPRS-UBB-85-021.
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No abstract available.

Keywords: *Life sciences, *Biomedicine, *Behavioral sciences, Ussr, Fluorescence, Biochemistry, Retina, Rods, Muscles, Bovines, Aerospace medicine, Biophysics, Histidine, Eye pigments, Lipid metabolism, Fbis collection, Foreign reports.

ADA363001REB PC A06/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
21 Aug 1985, 97p, JPRS-UBB-85-022.
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No abstract available.

Keywords: *Life sciences, *Biomedicine, *Behavioral sciences, Ussr, Membranes(Biology), Biochemistry, Proteins, Sodium, Suspension devices, Biotechnology, Toxins and antitoxins, Biophysics, Photosynthesis, Chlorella, Fbis collection, Foreign reports.

ADA363002REB PC A08/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
19 Apr 1985, 134p, JPRS-UBB-85-013.
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No abstract available.

Keywords: *Ussr, *Behavioral sciences, Life sciences, Epidemiology, Biomedicine, Fbis collection.

ADA363003REB PC A10/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
7 May 1985, 190p, JPRS-UBB-85-015.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Ussr, *Biomedicine, *Behavioral sciences, Life sciences, Agriculture, Technology assessment, Fbis collections.

ADA363004REB PC A08/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
23 Apr 1985, 135p, JPRS-UBB-85-014.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Biomedicine, *Aerospace medicine, *Behavioral sciences, Ussr, Life sciences, Agriculture, Fbis collections.

ADA363007REB PC A03/MF A01
Numerical Computation of the Radar Cross Section of the ZSU-23-4. Interim rept. Jul-Sep 98.
Army Research Lab., Adelphi, MD. Sensors and Electron Devices Directorate.
R. Chase, H. B. Wallace, and T. Blalock. Apr 1999, 27p, ARL-MR-430.
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A computer geometry model of the ZSU-23-4 (a quad 23-mm self-propelled antiaircraft gun) was obtained in Ballistic Research Laboratory-Computer Aided Design (BRL-CAD), a combinatorial solid geometry-based modeling system. The BRL-CAD file served as input to a software package (ECLECTIC) that generated a flat, triangular, all-metal facet representation of the ZSU exterior structure, containing approximately 78,000 facets. The facet model served as input to Xpatch, a high-frequency signature prediction code based on the shooting and bouncing ray (SBR) technique. The configuration parameters for the ZSU model, both with and without a perfect metal ground plane, included two depression angles (12 deg and 30 deg), both polarizations, 256 frequencies (about each center frequency), and azimuth steps of 0.05 deg (for X-band) and 0. 015 deg (for Ka-band). The configuration parameters were selected based on measurement data taken on a ZSU vehicle at the U.S. Army Research Laboratory Aberdeen Proving Ground test facility. The model predictions will include radar cross-section data as a function of polarization and angle and synthetic aperture radar images. This report details the preliminary results from the computer modeling.

Keywords: *Radar cross sections, *Antiaircraft guns, Computerized simulation, Computer aided design, Synthetic aperture radar, Radar images, Radar signatures, Self propelled guns, Cross polarization, Zsu-23-4 guns.

ADA363008REB PC A07/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
25 Jul 1985, 117p, JPRS-UBB-85-020.
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No abstract available.

Keywords: *Aerospace medicine, *Behavioral sciences, Ussr, Life sciences, Agriculture, *Foreign technology, Fbis collections.

ADA363009REB PC A04/MF A01
JPRS Report, East Asia, Korea.
Joint Publications Research Service, Arlington, VA.
5 Feb 1988, 38p, JPRS-KAR-88-003.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Political science, *Government(Foreign), *Korea, Economic analysis, International trade, Social sciences, Far east, Translations.

ADA363010REB PC A06/MF A01
Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide. Final rept. Sep 96-Nov 98.
Dayton Univ., OH. Research Inst.
P. W. Hovey, A. P. Berens, and J. S. Loomis. Nov 1998, 92p, UDR-TR-1998-00154-VOL-1, AFRL-VA-WP-TR-1999-3030.
Contract F09603-95-D-0175
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The computer program, PRobability Of Fracture (PROF) was written to facilitate the Air Force implementation of structural risk analyses. The fracture probabilities from a PROF run directly complement the deterministic damage tolerance analyses that form the bases for structural maintenance actions. However, there are many structural scenarios that cannot be modeled directly by a single PROF run, but can be analyzed through the combination of multiple PROF runs. These include the scenarios introduced by widespread fatigue damage and corrosive thinning. While these more complex applications of PROF have been demonstrated, they were difficult to implement because of the post processing required of the individual PROF runs. Further, to accommodate the calculation of failure due to discrete source damage in the presence of widespread fatigue damage, a different failure criterion was needed. Therefore, PROF was updated to accommodate these calculations and to incorporate more robust computational algorithms. This report describes the modifications made to PROF and serves as a users guide for the program. Volume 2 is a programmers guide to the PROF software.

Keywords: *Aging(Materials), *Aircraft maintenance, *Fracture(Mechanics), *Risk analysis, User manuals, Structural properties, Structural analysis, Cracking(Fracturing), Damage assessment, Fatigue(Mechanics), Failure(Mechanics), Damage tolerance, Prof(Probability of fracture), Prof computer programWuafrtfaaf9200.

ADA363012REB PC A04/MF A01
Air Force Journal of Logistics, Volume XXIII, Number 1. Spring 1999.
Air Force Logistics Management Center, Gunter AFB, AL.
1999, 44p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Partial Contents: Transforming Enabling Processes: The Next Step in Logistics Reform, View Towards Change: The United States-Republic of Korea Arms Trade Relationship Through the Post-Cold War, A Comparison of Air Force Organic Airlift and Commercial Air Express Distribution Performance, Logistics for the Joint Strike Fighter- It Ain't Business as Usual, Space-Based Infrared System- Supportability Engineering and Acquisition Reform in an Existing Acquisition Environment, Competitive Sourcing and Privatization: An Essential USAF Strategy.

Keywords: *Air force, *Political alliances, *Cold war, *Officer personnel, Policies, Commerce, Acquisition, Distribution, Air force personnel, Logistics, Korea, Airlift operations.

ADA363013REB PC A10/MF A02
JPRS Report, Near East & South Asia, Table of Contents, JPRS-NEA-87-001, 2 January 1987-JPRS-NEA-87-041, 6 Apr 1987 Part 1.
Joint Publications Research Service, Arlington, VA.
21 Jun 1988, 191p, JPRS-NEA-87-001.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *East Asia, *South Asia, *Middle East, *Political science, *Government(Foreign), Economic analysis, Tables(Data), Korea, North Africa, Social sciences, Energy management, Translations.

ADA363014REB PC A11/MF A03
China Report: Political, Sociological and Military Affairs, No. 437.
Joint Publications Research Service, Arlington, VA.
11 Jul 1983, 208p, JPRS-83866.
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No abstract available.

Keywords: *Political science, *International politics, *Government(Foreign), Ussr, Economic analysis, Sociology, China, Social sciences, Fbis collections.

ADA363015REB PC A04/MF A01
East Asia: Southeast Asia.
Joint Publications Research Service, Arlington, VA.
7 May 1990, 34p, JPRS-SEA-90-013.
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No abstract available.

Keywords: *Political science, *Government(Foreign), Economic analysis, Southeast asia, Social sciences, Far east, Fbis collections.

ADA363016REB PC A08/MF A02
Extending the State-of-the-Art for the COMAN/ATCAL Methodology. Master's thesis.
Naval Postgraduate School, Monterey, CA.
U. Z. Yildirim. Mar 1999, 142p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This thesis reviews currently existing attrition methodologies and critically examines the (ATtrition CALibration) ATCAL approach for heterogeneous force mixes. Lanchester attrition-rate coefficients must be calibrated for use in ATCAL. When the aggregated combat results from a Lanchester-type attrition model agree with the results of a high-resolution simulation, for a particular mix of weapons on either side, the equation is said to be calibrated. Combat scenario runs are made in the high-resolution JANUS combat model. A maximum likelihood estimation approach (COMAN), which incorporates target priority and availability information, is used to estimate the Lanchester attrition rates in the ATCAL model. A continuous-time, three-state Markov chain model of target acquisition in JANUS is used to obtain the target availability parameters required in the COMAN approach. Bootstrap confidence intervals are developed for the attrition-rate estimates and the target availability parameters. The ability of the ATCAL methodology to replay JANUS results in an aggregated, heterogeneous-force replay model is investigated. These developments have the potential for allowing high-resolution simulation results to be extrapolated to a wider spectrum of conditions (e.g., force mixes) than currently possible by virtue of the more detailed nature of the aggregated-replay model involved.

Keywords: *Land warfare, *Attrition, *Combat simulation, Theater level operations, Maximum likelihood estimation, Theses, Availability, Aerial warfare, Joint military activities, Markov processes, Atcal(Attrition calibration).

ADA363017REB PC A03/MF A01
Pantjasila, the Five Basic Principles of the Republic of Indonesia.
Joint Publications Research Service, Arlington, VA.
S. Situmoran. 2 Feb 1961, 17p, JPRS-4372.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *International politics, *Sociology, Foreign policy, Philosophy, Civil affairs, International relations, Sociometrics, Democracy, Indonesia, Social democracy, Fbis collection, Foreign reports.

ADA363019REB PC A04/MF A01
Analysis of a Pyroceram Radome Subjected to Aerodynamic Heating.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
G. R. Negaard. Jun 1979, 37p, ASIAC-679-1A.
Contract F33615-77-C-3046
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report summarizes the analysis conducted to determine the thermal stress induced in a Pyroceram radome by aerodynamic heating. It describes the modeling and analysis of an axisymmetric radome subjected to an axisymmetric thermal distribution and the variations in the stresses produced by two different axisymmetric elements in NASTRAN. Additional analysis was conducted in which the variation was traced to the geometry of the elements. The one NASTRAN axisymmetric element supposedly capable of handling asymmetric loading cases was found to give inaccurate results as the geometry varied from a rectangular cross-section. The cyclic symmetry option in NASTRAN was investigated and appears to offer an excellent alternative for the solution of axisymmetric structures subjected to asymmetric heating such as was required in the radome analysis.

Keywords: *Radomes, *Aerodynamic heating, *Thermal stresses, Finite element analysis, Structural analysis, Nastran computer program, Pyroceram 9606.

ADA363020REB PC A06/MF A01
Visual Analysis of a Radio Frequency Tracking System for Virtual Environments. Master's thesis.
Naval Postgraduate School, Monterey, CA.
P. E. Campbell. Jun 1999, 96p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A variety of position tracking technologies have been utilized for virtual environments. This thesis develops a methodology for the creation of 3D visualization tools to analyze position tracking technologies and their effectiveness under specific conditions. The methodology includes developing the questions, the models, the simulations, the visualization, and the rendering. This thesis applies the methodology to Advanced Position Systems, Inc.'s RF tracking system which can be easily configured for large volume spaces, unlike any of the other technologies. The analysis asks 'How does the positioning of the receivers affect the relative accuracy throughout the target volume.' The model uses the solution to the Time Difference of Arrival (TDOA) equations used by the system and the simulation evaluates the position error throughout the volume with a constant error in the TDOA measurements. Point icons represent the data and the Virtual Reality Modeling Language renders the visualization. The asymmetric error profile revealed by this 3D visual analysis arises from the asymmetric arrangement of the TDOA measurements and is not readily apparent with other analytical techniques.

Keywords: *Computerized simulation, *Virtual reality, *Radio tracking, Radio frequency, Signal processing, Theses, Three dimensional, Position finding, Automatic tracking, Feature extraction, Scene generation, Virtual environments, Tdoa(Time difference of arrival).

ADA363021REB PC A13/MF A03
Worldwide Report, Environmental Quality, No. 403, China Addresses Environmental Issues -- V.
Joint Publications Research Service, Arlington, VA.
27 Jun 1983, 261p, JPRS-83766.
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No abstract available.

Keywords: *Environmental management, *Environmental protection, Quality, International, Pollution abatement, China, Ecology, Environmental quality, Fbis collection, Foreign reports, Worldwide report.

ADA363022REB PC A08/MF A02
Component Based Simulation of the Space Operations Vehicle and the Common Aero Vehicle. Master's thesis.
Naval Postgraduate School, Monterey, CA.
P. E. Pournelle. Mar 1999, 135p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The desire of modern military and political leaders to conduct accurate and effective strike missions on enemy military targets using limited resources, with a minimal risk to U.S. resources and personnel, in a timely manner is in direct competition with an adversary's goal of defending his territory and assets. New technologies may enable the United States to strike potential opponents in a timely fashion. The Space Operations Vehicle (SOV) is a low earth orbit capable space vehicle being developed by Phillips Laboratories at Kirtland AFB, New Mexico. The SOV will be a cross between the space shuttle and an F-14 fighter, a rugged low earth orbit capable vehicle designed to conduct multiple sorties for military purposes. This thesis develops a software component architecture and component library for building simulations for analysis of current and proposed military systems such as the SOV. This software package will support the Simulation Based Acquisition (SBA) process through all the phases and milestones of a program and help ensure the United States obtains the best equipment to maintain its edge on the battlefield.

Keywords: *Air defense, *Strike warfare, *Combat simulation, Computer aided design, Theses, Space warfare, Manned spacecraft, *Sov(Space operations vehicle), *Space operations vehicle, Iads(Integrated air defense systems).

ADA363023REB PC A05/MF A01
Analysis of a Ceramic Radome.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
G. R. Negaard. Feb 1979, 67p, ASIAC-978-1C.
Contract F33615-77-C-3046
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report summarizes the analysis conducted to determine the thermal stresses in a ceramic radome sub-

jected to laser irradiation. It describes the thermal analysis conducted to determine the thermal loading in laboratory test discs and in a full-size radome model based on a 'Sparrow' scribes the structural analysis of both structures based on the thermal loading derived and compares these results to a one-dimensional thermal and thermal stress analysis.

Keywords: *Radomes, *Thermal stresses, Finite element analysis, Structural analysis, Laser beams, Ceramic materials, *Laser irradiation, *Ceramic radomes, Nastran computer program.

ADA363024REB PC A07/MF A02
Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
Institute for Defense Analyses, Alexandria, VA.
S. J. Balut, V. Gordon, R. Bishop, D. Cann, and R. Collins. Apr 1999, 102p, IDA-D-2300, IDA/HQ-99-000842, X0SA-XD.
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Suppose you are the cost analyst responsible for estimating the cost of a weapon system in preparation for a major milestone review (e.g., Milestone H, Engineering and Manufacturing Development). Do you have the data, methods (e. g., cost-estimating relationships), and tools (e.g., automated models) you need. Representatives from each of the Military Departments answered these questions for all major commodity types at the Annual DoD Cost Analysis Symposium held on February 3-5, 1999. The Air Force representative addressed space systems and fixed-wing aircraft; the Navy representative discussed ships, electronics, and automated information systems; and the Army representative addressed missiles, rotary-wing aircraft, and surface vehicle systems. A representative from the OSD Cost Analysis Improvement Group (CAIG) summarized the findings and added the OSD perspective. He also provided highlights of the upcoming Defense Acquisition Board schedule where these estimates will be needed. The findings of this panel will he used to revise the DoD Six-Year Cost Research Plan that will guide future investments in DoD cost research.

Keywords: *Weapon systems, *Cost estimates, Electronics, Air force, Department of defense, Automation, Manufacturing, Information systems, Space systems, Models, Cost analysis, Costs, Scheduling, Ground vehicles, Fixed wing aircraft, Rotary wing aircraft, Analysts.

ADA363025REB PC A07/MF A02
USSR Report, Engineering and Equipment, No. 95.
Joint Publications Research Service, Arlington, VA.
8 Jul 1983, 106p, JPRS-83844.
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No abstract available.

Keywords: *Engineering, *Ussr, Electromagnetic fields, Optics, Government(Foreign), Navigation, Russian language, Turbines, Nuclear energy, Fluid mechanics, Non-nuclear energy, Fbis collection, Foreign reports, Translations.

ADA363026REB PC A02/MF A01
Instrumentation for Research on High-Speed Optical Transmultiplexing and Coding for Optoelectronic Computer Networking. Final rept. 1 Jun 97-31 May 98.
Purdue Univ., West Lafayette, IN. School of Electrical Engineering.
A. M. Weiner. 29 Apr 1999, 7p, AFRL-SR-BL-TR-99-0122.
Contract F49620-97-1-0400
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Equipment purchased under this contract has been used by approximately twelve researchers (two postdocs, eight graduate students, two undergraduates) for several research activities, as summarized briefly below.

Keywords: *Electrooptics, *Optical processing, Optical communications, Computer networks, Research management, Pixels.

ADA363027REB PC A02/MF A01
Hungarian Symposium of Radiation Damage and Protection.
Joint Publications Research Service, Arlington, VA.
A. Ujhelyi. 6 Feb 1961, 8p, JPRS-4378.
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This is a translation of an article written by Dr. Adorjan Ujhelyi entitled 'Sugarartalon, sugarvedelem symposium' 1959. November 5-7-ig Budapesten' (English version above), in Magyar Radiologia (Hungarian Radiology), Vol. XII, No 2, Budapest, June 1960, pages 124-126.

Keywords: *Meetings, *Symposia, *Radiation damage, X ray absorption analysis, Radiology, *Foreign technology, Fbis collections, Hungary.

ADA363028REB PC A06/MF A01
West Europe Report: Science and Technology, No. 166.
Joint Publications Research Service, Arlington, VA.
30 Nov 1983, 77p, JPRS-84845.
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No abstract available.

Keywords: Automation, Computers, Composite materials, Microelectronics, Biotechnology, Metallurgy, Western europe, *Foreign technology, Science and technology, Fbis collection, Foreign reports.

ADA363030REB PC A04/MF A01
Awakening China: Rabbit or Tiger. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.
G. M. Dallas. 7 Apr 1999, 45p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

China is in the process of modernizing and expanding across the spectrum of national power (i.e., economic, diplomatic, information and militarily). This awakening is causing concern amongst the nations of the region. Most regional nations see China as the most likely threat to regional stability in the future and certainly will cause a shift in the regional balance of power. How she acts as she emerges will be determined by what she sees. The United States, as the only super power, is seen as the primary country that can influence the environment that surrounds China's metamorphosis. Accordingly, the United States needs to develop strategies that encourage China to emerge as a cooperative nation following the internationally accepted norms that govern actions vice the next evil empire.

Keywords: *Strategy, *Power, *China, Stability, Nations, United states, Political science, National security, Threats, Forecasting, Regions, History.

ADA363031REB PC A06/MF A01
Misguided Intentions: U.S. Policy in World War II and Chinese Intervention in Korea. Master's thesis.
Michigan Univ., Ann Arbor.
S. J. Schlesinger. 1996, 78p.
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In 1950, merely a year after the Communist Chinese victory over the Nationalist government in China, 600,000 Chinese soldiers began crossing the Yalu River into Korea to oppose the world's most powerful nation. Popular opinion accepts this war as a forgone conclusion, a natural consequence of the geopolitical domino game, a logical outcome of ensuing cold war polarity. Let's face it: China had gone Red, and like the Soviet Union in Europe, would naturally oppress its Asian neighbors into Communism, dropping its own iron curtain and opposing the 'running dogs' of Western imperialism. Whiting, in China Crosses the Yalu, asserts that the Chinese decision to intervene had its foundations in xenophobia and expansionism (Whiting, 5). Traditional Chinese distaste for westerners, combined with the more contemporary Communist view of the west as an antagonist, substantiated this first position. Expansionism, moreover, grew out of historical Chinese security concerns over the northern frontier.

Keywords: *Foreign policy, *United states, *Korea, *Intervention, *China, *Second world war, Ussr, Europe, Warfare, National security, Decision making, Security, Cold war, History, Polarity, Communism.

ADA363032REB PC A03/MF A01
Parallel Workstation Cluster for Algorithm Development, Parameter Scoping, and Data Analysis. Final rept. 1 Feb 98-31 Jan 99.
Washington Univ., Seattle. Aerospace and Energetics Research Program.
U. Shumlak. 26 Apr 1999, 12p, AFRL-SR-BL-TR-99-0124.
Contract F49620-98-1-0244
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A cluster of workstations is connected with a fast network and used as a local parallel computer. This approach mimics the interprocessor communication and scalability of the large machines at a fraction of the cost. This system uses off-the-shelf hardware and public domain software, which makes the system simple to assemble and maintain. The cluster accelerates the algorithm development process because it eliminates the delays associated with remote computing on shared resources. The parallel workstation cluster performs simulations to scope a parameter space for optimization and design. A parallel supercomputer is then used for the detailed scoping using fewer runs. This approach has helped to alleviate the over-subscription of the shared resources and has allowed us to obtain the computational results in less time.

Keywords: *Parallel processing, *Computer networks, Magnetohydrodynamics, Algorithms, Computerized simulation, Software engineering, Computer communications, Performance(Engineering), Plasmas(Physics), Off the shelf equipment, Parallel processors, Clustering, Supercomputers, AFOSR(Air Force Office of Scientific Research).

ADA363033REB PC A04/MF A01
Army After Next: A Cashless Army. Strategy research project.
Army War Coll., Carlisle Barracks, PA.
D. L. Berard. 7 Apr 1999, 42p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Some individuals believe the dollar bill will soon be a memory. Indeed smart cards (sometimes called stored value cards), debit cards, Echeck, and digital money are replacing cash. The future most likely will include other unforeseen ways of conducting fiscal affairs. This paper discusses each of these concepts and how the U.S. Army uses currency today-in most Special Forces activities, as well as tactical, peacekeeping and day-to-day operations. This paper argues that while future technologies may replace the use of some currency in the United States it will not replace the use of all currency. The Army After Next (AAN), the Army of 2010-

2025, will continue to require currency to support most Special Forces, tactical, and peacekeeping operations. Most likely the AAN will not need currency in day-to-day operations.

Keywords: *Military strategy, *Military modernization, *Money, Digital systems, Decision making, Peacetime, Military capabilities, Army operations, Defense industry, Army planning, Cards, Smart technology, Cashless army, Army after next, Strategy research project.

ADA363034REB PC A04/MF A01
Center of Gravity: Justification for Assassination. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.
J. M. Bolchoz. 9 Apr 1999, 34p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper will examine whether identifying a foreign leader who poses a threat to United States national interests and therefore is a center of gravity is sufficient justification for political assassination. In spite of written directions and historical precedent against political assassination, the United Nations Charter provides a legal basis for the U.S. to target political leaders that would not constitute a violation of the law and, therefore, would not be characterized legally as political assassination. However, the political ramifications, the risk, the difficulty, and the moral questions generated by political assassination are far too great and far outweigh the legal justification. The U.S. should never adopt political assassination as one of its elements of power. In fact, in order to fully clarify this issue, the U.S. Congress should adopt formal legislation making political assassination illegal.

Keywords: *Political science, *Threats, *Political parties, *Assassination, Foreign policy, Congress, United states, National security, Risk, Foreign, Leadership, United nations, Law enforcement.

ADA363035REB PC A03/MF A01
News from AFAR, Volume 1 Number 7 January/February 1996.
Assistant Secretary of the Air Force (Acquisition), Washington, DC.
Feb 1996, 12p.
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This newsletter is sponsored by the Assistant Secretary of the Air Force (Acquisition) and contains articles about Air Force acquisition reform.

Keywords: *Acquisition, *Logistics, *Air force procurement, *Air force operations, Sources, Industries, Commerce, Contracts, Training, Air force personnel, Joint military activities, Periodicals, *Acquisition reform.

ADA363036REB PC A08/MF A02
Evaluation of Operator Performance Using True Color and Artificial Color in Natural Scene Perception. Master's thesis.
Naval Postgraduate School, Monterey, CA.
J. T. Vargo. Mar 1999, 137p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Currently, the two most commonly used night optical devices employed in military operations are the long-wave infra-red sensor and the image intensified sensor. Recent advances in technology have permitted the fusion of the output of these two devices into a single color display that potentially combines the capabilities of both sensors while overcoming their limitations. Although the concept is appealing, previous sensor fusion studies have been inconclusive on the benefits of an artificially colored target. Perhaps, an artificially colored target disrupts an operator's visual processing thereby hindering the detection of a target. The purpose of this thesis is to compare the effects of artificial color, natural color, and monochrome formats in visual scene perception. It is hypothesized that participant response times and error rates would be greater at detecting an artificially colored target compared to a natural colored or a target presented achromatically. Two experiments were conducted. Experiment 1 used non-degraded imagery and Experiment 2 used degraded imagery to compare these effects. It was found that reaction time and error rates for naturally colored and achromatic images were similar and substantially less when compared to artificially colored images. For degraded scenes, natural color was more beneficial when compared to achromatic and artificially colored scenes. Additionally, artificially colored scenes caused extremely large error rates and reaction times. These results will provide algorithm developers insight into the importance of color constancy.

Keywords: *Optical equipment, *Detection, *Color displays, *Infrared detectors, *Night vision devices, *Visual perception, Algorithms, Military operations, Performance(Human), Rates, Theses, Colors, Images, Formats, Data fusion, Long wavelengths, Monochromatic light.

ADA363038REB PC A06/MF A01
Defense of Naval Task Forces from Anti-Ship Missile Attack. Master's thesis.
Naval Postgraduate School, Monterey, CA.
J. R. Townsend. Mar 1999, 80p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The quantity, capability, and availability of Anti-ship Missiles (ASMs) pose a significant threat to the safe operation of United States Naval Forces in the waters off of potentially hostile shores. Potential adversaries continue to improve their ability to attack our ships, requiring that we constantly analyze our defenses against such attacks. Existing computer models and simulations, do not provide force commanders or naval analysts with an adequate tool to properly evaluate the threat and the best ways to minimize it This thesis has developed such an analysis tool, called the Anti-Ship Missile Defense (ASMD) model. It allows for analysis to be performed from an entire task force perspective, modeling the entire process by which ASMs select their targets and the methods by which the defending escorts assign defensive fire. Effective Screen Design and Defensive Firing Policy is a large and complex problem, but exploratory analysis using ASMD has yielded useful insights. In ASMD, moving objects are more fully rendered, featuring smooth acceleration, turning and altitude change features. In support of these complicated moving entities, a highly capable mathematical library was created to solve the resulting equations of motion. The software components and architecture developed for ASMD provide significant flexibility and reuse potential for future analysts.

Keywords: *Antiship missiles, *Naval warfare, Computerized simulation, Defense systems, Attack, Moving targets, Theses, Threat evaluation, Antiship warfare, Asmd(Antiship missile defense model).

ADA363039REB PC A07/MF A02
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes. Final rept. 1 Oct 94-31 Dec 98.
Massachusetts Inst. of Tech., Cambridge. Gas Turbine Lab.
C. S. Tan, E. E. Covert, T. Wilson, B. Ramer, and H. S. Wijesinghe. 3 Jan 1999, 110p, AFRL-SR-BL-TR-99-0121.
Contract F49620-98-1-0272
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The aim of the current research has been to contribute to the 'aerodynamic forcing function' aspect of the high cycle fatigue problem. In this regard density wakes were identified as a potential new source of turbomachinery blade vibration. In order to characterize the density wake induced force and moment fluctuations a two-dimensional computational study was conducted to simulate the passage of density wakes through a cascade blade row. Both inviscid incompressible flows and viscous compressible flows M sub infinity=0.15 to M sub infinity=0.87 and Reynolds number Re(c,U sub infinity) (approximately equal 700, 000) were considered. The inviscid flow simulations show a pair of counterrotating vortices in the blade passage and a flux of density wake fluid to the blade suction/pressure surface as low/high density wakes convect through the blade row. This fluid flux is found to be the key mechanism which affects the blade static pressure distribution and hence the blade force and moment response. The viscous flow simulations have uncovered additional mechanisms for blade force and moment fluctuations: (1) periodic vortex shedding at the blade trailing edge, (2) convecting separation bubbles on the blade suction surface (due to the density wake - blade boundary layer interaction) and (3) axial deflection of the blade passage shock wave position (due to the density wake - shock wave interaction). Simple functional relationships have been derived to quantify the force and moment fluctuations for each flow simulation. A simple cascade flow model has also been developed to determine parametric trends in the blade force and moment fluctuations with varying density wake properties and compressor geometries.

Keywords: *Density, *Convection, *Blades, *Aerodynamic characteristics, *Wake, *Fatigue(Mechanics), *Turbomachinery, Vibration, Deflection, Turbulence, Moments, Vortices, Computational fluid dynamics, Viscosity, Reynolds number, Incompressible flow, Force(Mechanics), Fluid flow, Counterrotation, Axial flow, *Density wave, Turbomachinery forced response, High cycle fatigue, Density wakes, Cascade blade row, Cascade flow model, Thrust to weight ratio.

ADA363041REB PC A03/MF A01
Cross Flow Over Double Delta Wings. Final rept. 11 Apr 93-31 Jan 94.
CSA Engineering, Inc., Palo Alto, CA.
H. Russell, and R. G. Williams. Feb 1994, 26p, ASIAC-TR-94-23.
Contract F33615-90-C-3211
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This aerodynamic flow field investigation of a double delta wing is the third part of an overall fluid-structure interaction investigation. It was preceded by an investigation of a vortex breakdown on a simple delta wing and on the Onera M-6 wing. Vortex flow at high angles of attack cause problems with stability and control as well as premature structural fatigue. An improved understanding of the vortex breakdown process could allow a more effective method of transferring the aerodynamic loads from a computational fluid dynamic model to a corresponding structural response model. The results obtained are the final steps in the development of an aerodynamic model for use in determining the structural response of a double-delta wing.

Keywords: *Vortices, *Computational fluid dynamics, *Structural response, *Delta wings, Aerodynamic stability, Angle of attack, Flow fields, Aerodynamic loading, Fatigue(Mechanics), Cross flow.

ADA363042REB PC A04/MF A01
Preliminary Study of Sensitivity Analysis and Its Applications to Structural Control Problems.
Florida Atlantic Univ., Boca Raton. Dept. of Ocean Engineering.
Y. Young. Jan 1991, 35p, ASIAC-1090-1N.
Contract F33615-87-C-3228
Prepared in collaboration with Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
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This report presents a preliminary study of the sensitivity analysis for dynamic systems with emphasis on its applications to structural control. Definitions are first given for different sensitivity functions in the time and the frequency domains. Since most physical quantities

of dynamic systems cannot be expressed in analytical forms, we introduce an indirect approach to determine their sensitivity derivatives from the sensitivity equations derived from governing equations. A direct application of the sensitivity analysis can be found in the integrated control and optimization in which design variables and control variables are treated equally as the system parameters active in optimization. An extensive review and evaluation of the existing techniques in this area are given to identify a feasible algorithm for future improvements. Finally, a new control algorithm, called optimization based instant control, is proposed for those systems subjected to general deterministic or random excitations. Unlike the conventional algorithm, the optimal control is designed and implemented according to instant information of the excitations. The important feature of this approach is that the original optimal control becomes a problem of static parameter optimization. The formulation layout makes it possible to apply the newly developed compound scaling algorithm in optimal structural control.

Keywords: *Control theory, Algorithms, Optimization, Parameters, Sensitivity, Analytic functions, *Structural response, Sensitivity analysis, Instant optimal control.

ADA363043REB PC A03/MF A01
Monte Carlo Simulation for Appliction to Aerospace Vehicle Structures. Final rept. 25 Jun-27 Jul 90.
Columbia Univ., New York. Dept. of Civil Engineering and Engineering Mechanics.
R. Vaicaitis. 8 Aug 1990, 19p, TR-890.1A.
Contract F33615-87-C-3228
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The basic concepts on simulation of multidimensional and multivariate random processes are presented. The time domain Monte Carlo approach for solution of nonlinear dynamic problems is illustrated by an example. A preliminary fatigue life prediction model based on time domain stress response and fatigue data from constant amplitude coupon tests is developed.

Keywords: *Fatigue life, *Thermal stresses, *Sonic fatigue, Computerized simulation, Stress analysis, Multivariate analysis, Dynamic response, Monte carlo method, Nonlinear systems, Thermal analysis, Structural response, Aerospace craft, Aerothermodynamics, Hypersonic vehicles, Supersonic aircraft.

ADA363044REB PC A01/MF A01
Computer for Ab Initio Molecular Dynamics Simulations. Final rept. 1 Feb-31 Dec 98.
Utah Univ., Salt Lake City. Dept. of Chemistry.
G. A. Voth. 29 Apr 1999, 2p.
Contract N00014-98-1-0323
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This DURIP funding was used to contribute to the expansion of an IBM SP parallel computer and its support hardware. This computer resource is being utilized for the computationally demanding ab initio molecular dynamics simulations that are part of the P.I.'s ONR funded research program. The goal of this program is to compute realistic rates for electrochemical reactions. The simulations are extraordinarily demanding in CPU time and memory requirements and have begun to yield very important new results for the water/metal electrode interface.

Keywords: *Electrochemistry, *Molecular dynamics, Computerized simulation, Reaction kinetics, Ab initio calculations.

ADA363045REB PC A09/MF A02
Shock Survivability of Dynamical Systems. Final rept.
Boston Univ., MA. Dept. of Aerospace and Mechanical Engineering.
P. E. Barbone. 5 May 1999, 159p, AM-99-006.
Contract N00014-95-1-0283
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We have studied the dynamic response of very complicated structures to transient shock-related excitation. We have defined a notion of complexity of dynamical substructures. We found that in the limit of infinite complexity, substructures can be accurately represented as very low order dynamical subsystems. We have obtained error bounds and estimates for these approximate representations, and derived older pre-existing approximations as special cases of ours.

Keywords: *Dynamic response, *Shock(Mechanics), Time domain, Dynamic reduction, Dynamic condensation, Modal density, Modal overlap, Fuzzy structures.

ADA363046REB PC A14/MF A03
Hybrid Asymptotic-Numerical Methods in Scattering. Final rept.
Boston Univ., MA. Dept. of Aerospace and Mechanical Engineering.
P. E. Barbone. 5 May 1999, 299p, AM-99-005.
Contract N00014-95-1-0719
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

We have developed and studied hybrid asymptotic-numerical methods to compute the acoustic field scattered by a large object. The asymptotic approximation is based on a short wavelength expansion of the scattered field in the form of uniformly valid geometrical theory of diffraction. These were combined with two numerical methods: finite elements and boundary spectral strip methods. The coupling to finite elements was achieved with the introduction of a new variational principle to couple two incompatible approximations. The boundary spectral strip method is a spectral approximation applied to a boundary integral formulation of the boundary value problem. With this method, we have successfully evaluated diffraction coefficients, surface wave excitation coefficients, and solved large scattering problems with several diffraction points. We have also studied the error introduced by joining the numerical and asymptotic approximations, and determined its properties and scalings.

Keywords: *Acoustic scattering, *Acoustic fields, Finite element analysis, Approximation(Mathematics), Boundary value problems, Asymptotic series, Short wavelengths, Variational principles, Surface acoustic waves, Galerkin method.

ADA363047REB PC A01/MF A01
Deep Water Formation and Circulation in the Arctic Ocean Studies by Natural and Anthropogenic Tracers. Final rept. 31 Mar 94-30 Sep 96.
Lamont-Doherty Earth Observatory, Palisades, NY.
P. Schlosser. 1 Mar 1999, 5p.
Contract N00014-94-1-0507
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Funds were requested for completion of measurements of tracer samples (tritium, helium isotopes, oxygen isotopes, C14) from the ARCTIC 91 expedition, as well as for the interpretation of these data. Additionally, funds were requested for participation in an icebreaker expedition to the Arctic Ocean originally planned for 1995. This cruise could not be organized. Therefore, the funds were used for sample collection in the framework of the 1994 joint U.S./ Canada Arctic ocean section (AOS 94).

Keywords: *Ocean currents, *Deep water, *Tracer studies, Carbon, Oxygen, Isotopes, Helium, Tritium, Arctic ocean.

ADA363048REB PC A02/MF A01
Stratification Mixing and Circulation of the Indonesian Seas.
Lamont-Doherty Earth Observatory, Palisades, NY.
A. L. Gordon. 1997, 6p.
Contract N00014-96-1-0253
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The Arlindo Project is an ongoing joint oceanographic research endeavor of Indonesia and the United States. The field phase of Arlindo began in 1993 with Arlindo Mixing. Phase II of the program, Arlindo Circulation, is jointly funded by NSF and ONR. The ONR contribution to Phase II of Arlindo contributed to the collection and analysis of CTD data collected during the Arlindo Circulation mooring deployment cruise which was carried out in November- December 1996.

Keywords: *Ocean currents, Oceanographic data, Pacific ocean, Air water interactions, Stratification, Indian ocean, Indonesia, *Indonesian seas, Arlindo project.

ADA363049REB PC A01/MF A01
Red Sea Studies. Final rept. 1 Mar 95-31 Dec 98.
Woods Hole Oceanographic Institution, MA.
L. Pratt. 5 May 1999, 4p, WHOI-13045600.
Contract N00014-95-1-0456
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This work was focused on the dynamics of stratified flow in sea straits, primarily the Bab al Mandab (BAM). Possible hydraulic control of the exchange flow in the BAM was investigated by analyzing data collected by Drs. Steve Murray and Bill Johns as part of a recent 2-year field program The analysis centered on the calculation of long wave speeds for the first and second baroclinic modes of the stratified shear flows at the sill and narrowest section of the Strait. Doing so required advancements in the theory of internal long waves in straits with nonuniform cross-channel topography. The hydraulic character of the flow is vital in the understanding of the stratification in the BAM and in the neighboring Red Sea and Gulf of Aden. Theoretical studies of the effects of rotation on hydraulically controlled flows in straits were also carried out. The results reveal some remarkable structural features such as transverse hydraulic jumps, recirculations and splitting of the flow.

Keywords: *Fluid flow, *Red sea, Time dependence, Hydraulics, Stratification, Internal waves, Straits, Aden gulf, Bab al mandab, Hydraulic control, Normal modes, Critical flow, Stratified flow.

ADA363050REB PC A05/MF A01
Buylt Prototype Software Requirements Analysis: A C-BASS Component. Final rept. Jan-Mar 97.
Army Research Lab., Aberdeen Proving Ground, MD.
B. R. Schallhorn, W. S. Jernigan, and D. L. Ulery. May 1999, 58p, ARL-MR-444.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document contains the software requirements analysis for a prototype of Buylt. As a component of the Corporate Business Application Software System (C-BASS), this application automates small purchase requests (under $2,500). The document follows the process of structured analysis, or stepwise refinement of requirements, as applied to the development of Buylt. The environmental model includes a high level system description, followed by a context diagram and a list of events to which the system must respond. The behavioral model includes a data flow diagram (DFD) for each of the seven Buylt subsystems. From this representation, the basic functional specifications are derived and represented in structured English (or program design language). The final segment of the document includes a data dictionary.

Keywords: *Computer applications, *Online systems, *Electronic commerce, Software engineering, Management information systems, Computer communications, Prototypes, Internet, Buyit computer program, Cbass(Corporate business application software system).

ADA363051REB PC A03/MF A01
Buyit Software Development Plan: A C-BASS Component.
Army Research Lab., Aberdeen Proving Ground, MD.
D. L. Ulery, B. R. Schallhorn, and W. S. Jernigan. May 1999, 29p, ARL-MR-443.
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A critical factor in the U.S. Army Research Laboratory's (ARL) strategy to do more with less resources is the automation of a single, ARL wide purchasing process. This report describes the initial plan for developing the Buyit Prototype, a software prototype for an automated purchasing system that provides an electronic workflow for ARL purchasing processes and interfaces with standard Department of Defense (DoD) systems required by those processes. The Buyit Prototype is the first component of the Corporate Business Application Software System (C-BASS), a suite of integrated online transaction process software products that will provide Corporate business functions electronically throughout the ARL enterprise. This report also provides a statement of the problem to be solved by the Buyit Software, the technical and management approaches to be used, and a detailed project schedule.

Keywords: *Computer applications, *Online systems, *Electronic commerce, Software engineering, Management information systems, Computer communications, Prototypes, Internet, Cbass(Corporate business application software system), Buyit computer program.

ADA363052REB PC A09/MF A02
General Framework to Provide for the Optimal Dispatch of Hybrid Renewable Power Systems. Dissertation.
Colorado School of Mines, Golden.
R. N. Gilchrist. 7 May 1999, 157p, AFIT-FY99-95.
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A significant number of people worldwide live in rural villages with only part time electrical power or no power at all. In an effort to address this deficiency, the U.S. National Renewable Energy Laboratory (NREL) is developing hybrid renewable power systems composed of photovoltaic panels, wind turbines, battery banks, and diesel generators to deliver 24 hour power. In keeping life cycle costs of these systems to a minimum, an appropriate dispatch strategy can contribute as much to reducing cost as the proper choice of system architecture. Current dispatch strategies consider only current net load and current state of charge of batteries. The framework developed in this report considers future net load realizations in determining optimal dispatch strategies. The model is a Markov Decision Process solved using a Policy Iteration algorithm. The algorithm produces a policy that maps each state that the hybrid renewable power system can occupy to an optimal action. The dispatch policies consider immediate and long run ramifications of an action on life cycle cost. The results show that over different values of diesel fuel cost, battery wear cost, and loss of service penalties the optimal strategies minimize the long run average cost. Furthermore, minimal implementation costs make the optimal strategies an attractive alternative to heuristic strategies that are currently used to dispatch hybrid renewable power systems.

Keywords: *Electric power production, *Electric power distribution, *Energy management, *Renewable energy sources, Rural areas, Theses, Power supplies, Life cycle costs, Electric generators, Energy conservation, Energy consumption, Markov processes.

ADA363053REB PC A03/MF A01
Completing the Sensor Grid: A Revolution in Imagery Management. Final rept.
Naval War Coll., Newport, RI.
M. W. Spivey. 5 Feb 1999, 27p.
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Operation Desert Storm, Desert Fox and Deliberate Force (Serbia) all demonstrate that the military is in the process of a paradigm shift related to targeting. The improved accuracy of weapons is leading Operational Commanders to use almost exclusively Precision Guided Munitions (PGMs) that cannot function without a large volume of highly accurate target coordinates. In response to a Defense Science Board recommendation, the National Imagery and Mapping Agency (NIMA) has begun the development of a global set of geospatial information using satellite imagery as the base. If we are to respond decisively and maintain the initiative in evolving conflicts, we need both a large volume of precise points complemented by quick access to targeting imagery. Such an imagery database (Sensor Grid) does not currently exist, but investigations internal to NIMA indicate that modifications to imagery management and triangulation have the potential to revolutionize the availability of Mapping, Charting, and Geodesy (MC&G) imagery. This paper examines the imagery management practices that must change in order to make it feasible to develop a world wide database of satellite imagery so that the PGMs of the future may be as responsive as they are accurate.

Keywords: *Target acquisition, *Guided weapons, *Satellite imagery, Data bases, Image processing, Geographical information systems.

ADA363054REB PC A03/MF A01
Compromising the Principles of War: Technological Advancements Impact Multinational Military Operations. Final rept.
Naval War Coll., Newport, RI.
T. R. Spierto. 5 Feb 1999, 22p.
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Coalition and multinational military operations are inherently complicated from a command and control (C2) perspective. As the United States endeavors to conduct future military operations in the form of a coalition, Unity of Command, a traditional Principle of War, is receiving less emphasis in joint doctrine. The short term nature of a coalition is not conducive to establishing a long term solution to chain of command relationships. Current U. S. joint doctrine directs military commanders to abandon unity of command in favor of focusing on a more robust unity of effort and, on at least one occasion, issues conflicting guidance. By placing greater emphasis on unity of effort and subverting vital chain of command issues, a future multinational military force is liable to experience more problems with interoperability due to rapidly advancing technology. Network Centric warfare and the Digitized Battlefield concept are two revolutions in military affairs (RMA) systems that threaten future coalition C2 through isolation. The U.S. military must take the lead on standardizing C2 system development to ensure compatibility and interoperability issues are addressed. The inability of coalition forces to share vital intelligence information, tactical locating data, and coordinate maneuver is damaging to achieving unity of effort and does not promote consensus planning.

Keywords: *Military doctrine, *Joint military activities, *Military planning, Military intelligence, Military strategy, Interoperability, Command and control systems, Military tactics, Military art.

ADA363055REB PC A03/MF A01
Some Principles of Network-Centric Warfare: A Look at How Network- Centric Warfare Applies to the Principles of War. Final rept.
Naval War Coll., Newport, RI.
T. A. Slais. 5 Feb 1999, 27p.
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The principles of war are one of the most important and enduring facets of operational art. Network centric warfare, enabled by technology of the information age, is a new concept the U.S. is adopting in order to fight faster, cheaper and better in the 21st century. This analysis shows that network centric warfare applies to the principles of war specifically, the principles of mass, offensive, unity of command and security. With regard to mass, the information, sensor and engagement grids of network centric warfare, will enable dispersed forces to mass effects by coordinating location, identification and targeting information from sensors to rapidly employ long range, precision fires, using shared information from a common operational picture. With respect to offensive, network centric warfare will effectively allow us to dominate factor time and operate inside the enemy's decision cycle. Thus, it will enhance our ability to seize and retain the initiative and preserve our freedom of action. As it applies to unity of command, network centric warfare will aid tactical commanders, armed with a clearly defined commander's intent from the operational level, to maintain the situational awareness required to self synchronize and act on opportunities while maintaining unity of effort toward achieving the operational commander's objective. Finally, with regard to security, network centric warfare will increase our ability to achieve battle space dominance through information superiority. However, we will be increasingly dependent on protecting our C4I systems to ensure that we can achieve our military objectives. The tie that binds network centric warfare to the principles of war is that it will enable enhanced situational awareness, which will improve our ability to abide by the principles in a more sufficient manner.

Keywords: *Military strategy, *Military doctrine, *Military art, Combat readiness, Command and control systems, Military tactics, Battle management.

ADA363056REB PC A04/MF A01
NonLethal Weapons, NonLethal Policy, and Complex Contingencies. Final rept.
Naval War Coll., Newport, RI.
R. D. Sheldon. 5 Feb 1999, 32p.
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Advocates promote NonLethal Weapons (NLWs) use in a complex contingency as a way to enforce U.S. with an absolute minimum of violence and destruction. They believe that NLWs will offer the operational commander a rheostatic means of applying force that will exactly and precisely and benignly compel the opponents to either cooperate or face incapacitation. However, the environment of a complex contingency is a nonlinear, chaotic, and highly interactive place. The commander will find the operational landscape inhabited by noncombatants and fighters, women and children, and friend and foe alike, all of whom will repeatedly engage with his forces at different times, levels, and ways. NLWs will introduce another element of uncertainty into this environment, malting the outcome even less predictable. A robust NonLethal Policy incorporates and integrates all the assets available to the operational commander, including nonlethal and lethal force. Instead of relying mainly on technologies, a policy of minimal casualties (or a NonLethal Policy) will more likely capture the commander's intent, as well as offer an operational level tool to achieve the political goals. One way to appropriately devise a NonLethal Policy lies with reviewing NLWs in light of the Six Principles of Military Operations Other Than War (MOOTW), and then proceeding to answer the Four Questions of the operational commander's mission analysis.

Keywords: *Battle management, *Operations other than war, *Nonlethal weapons, Military strategy, Military doctrine, Combat readiness, Command and control systems, Military tactics, Military art.

ADA363057REB PC A03/MF A01
Uncertain Superiority: Information Technology and Operational-Level Decision Making. Final rept.
Naval War Coll., Newport, RI.
M. T. Plehn. 5 Feb 1999, 22p.
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As the world transitions into the information age, commanders at every level will possess enormous amounts of information about their battlespace. This information superiority will improve their ability to com-

mand, but will not alter the way they command. Even with near perfect knowledge, they will still face uncertainty in their decision making processes. To effectively cope with the rising tide of data, commanders must effectively develop and communicate their mental image of a situation to their subordinates so they can efficiently and effectively orient any new observations with the commander's intent.

Keywords: *Decision making, *Battle management, *Military art, Military strategy, Military doctrine, Combat readiness, Joint military activities, Military tactics, Information warfare.

ADA363058REB PC A04/MF A01
Risk Management: An Integral Part of Operational Planning. Final rept.
Naval War Coll., Newport, RI.
F. Latrash. 5 Feb 1999, 36p.
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Clausewitz' premise that War is politics by another means, dictates that the success of any military operation requires that both military and political objectives be achieved. Joint Planning provides the optimum course of action to the war fighting Commander in Chief (CINC) and Joint Task Force (JTF) Commander to achieve military objectives. Risk Management (RM) is a five step process that identifies hazards, assesses risks and implements controls to reduce risks to an acceptable level. While RM methodology is being merged into joint doctrine publications, how RM should be applied in the Joint Planning and Execution System (JOPES) has not been adequately articulated. Infusing RM methodology in the JOPES and the Commander's Estimate of the Situation (CES) results in risk based planning that refines Courses of Action (COAs) to achieve military objectives while minimizing losses of combat power. This paper illustrates how RM fits into the JOPES and the CES process and shows staff planners how to maximize force protection in every COA presented to the CINC or JTF Commander within the existing planning process. The paper recommends (1) updating RM terminology in the Joint Doctrine Encyclopedia, (2) addressing RM in joint history publications, (3) conducting RM analyses on all tasks in the Universal Joint Task List (UJTL), (4) incorporating RM in the User's Guide for the JOPES, (5) capturing and controlling risks during the planning process, and (6) ensuring operational schemes and campaign plans do not overshadow hazards within the COAs. RM rules derived from historical cases include: (1) Risk is present in all military operations. (2) Accept no unnecessary risks. (3) Risk can be reduced, accepted, avoided, distributed, and/or transferred. (4) Risk associated with the COA should be communicated up the chain of command so that a proper risk decision can be made at the appropriate level. (5) Successful RM achieves its objective.

Keywords: *Joint military activities, *Military planning, *Risk analysis, Combat effectiveness, Military strategy, Decision making, Military doctrine, Combat readiness, Military tactics, Battle management, Military art, Information warfare.

ADA363059REB PC A03/MF A01
Operational Fires on the Urban Battlefield: An Underdeveloped Concept. Final rept.
Naval War Coll., Newport, RI.
M. E. Langley. 5 Feb 1999, 23p.
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Now and into the future the U.S. military will be confronted in asymmetric warfare with adversaries who establish their power centers in urban terrain. Recent history has shown that U.S. forces can defeat adversaries on the conventional battlefield through overwhelming tactical and operational fires. Specifically, the employment of operational fires in conventional warfare have enabled the operational commander to accomplish operational and strategic objectives. However, when battles shift to urban terrain, the complexity of employing decisive operational fires goes up exponentially. The urban environment's characteristics of structured terrain and noncombatant inhabitants restrict the ability to employ lethal operational fires in the traditional fashion. As a result, Joint Doctrine generally views urban warfare as a tactical fight that should be tasked to the tactical commander to achieve operational objectives. The future operational commander needs a fully developed concept to employ operational fires. This study will examine the challenges facing the operational commander in the urban battlespace. Furthermore, an analysis of the evolving Joint MOUT concept will identify the limited integration and considerations for operational fires. This study concludes with recommendations for integrating a full scale employment of operational fires into the conceptual framework of Joint MOUT.

Keywords: *Military strategy, *Urban warfare, *Military art, Combat effectiveness, Military doctrine, Combat readiness, Joint military activities, Military planning, Military tactics, Battle management.

ADA363060REB PC A03/MF A01
Effects-Based Targeting and Operational Art in the 21st Century. Final rept.
Naval War Coll., Newport, RI.
E. M. Knouse. 5 Feb 1999, 25p.
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Network Centric Warfare, Joint Vision 2010, Precision Engagement, Information Warfare, a veritable plethora of operational buzz words for the 21st century. No one can argue in these days of force reduction, the purpling of the military, limited defense budgets and metamorphosing threats, that continuous reviews of operational concepts are essential or the U.S. to remain dominant in the new millennium. One concept which has reemerged that has value for current and future operational planning is effects based targeting or EBT. This article addresses operational scenarios and time space force factors which the operational commander currently faces, or may face in the future, and develops a doctrinal template that will support the integration of EBT in operational planning and employment. Additionally, the proposed codification of this EBT template into joint doctrine ensures operational commanders have general guidance when employing EBT in operational art.

Keywords: *Military strategy, *Military planning, *Military art, Combat effectiveness, Military doctrine, Combat readiness, Joint military activities, Military tactics, Battle management, Information warfare.

ADA363061REB PC A03/MF A01
Operational Level of War: Radical Change Needed to Support the American RMA. Final rept.
Naval War Coll., Newport, RI.
S. T. Koehler. 5 Feb 1999, 27p.
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Information technology continues to grow at an enormous pace all over the world, increasing the speed of information exchange and subsequent availability of knowledge. The industrial age has given way to the information age, and the truth of the adage, knowledge is power will yield a vast array of wielders that will require strong leadership to contain. For operational commanders to maintain an advantage over other emerging information savvy opponents, they must fundamentally alter the way operations are conducted and must do so now. The fundamental factors of time, space and force will still apply in a futuristic world where arguably instantaneous information will allow a completely clear battlefield. Regardless of how it is done the operational commander must still dictate all three. The lessons learned in the past will provide future foes the necessary tools to exploit an American weakness; the speed of maneuver has not kept pace with the speed of strike, let alone the speed of information. The technology is presently here to alter the way that the United States fights in a CONUS to Objective Maneuver that increases the speed of maneuver to one that matches both the speed of strike and the speed of interaction in a globally connected society. The U.S. military must start changing its concepts to drive technology to meet them, thereby dictating a huge space with a mandated smaller force and shorter time. To not adjust now will leave the United States with a weakness that they helped foster.

Keywords: *Military strategy, *Military planning, *Military art, Combat effectiveness, Military doctrine, Combat readiness, Joint military activities, Military tactics, Battle management, Information warfare.

ADA363062REB PC A03/MF A01
Countermeasure: Army Ground Risk-Management Publication, Volume 20, Number 5, May 1999.
Army Safety Center, Fort Rucker, AL.
May 1999, 12p.
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Countermeasure is published monthly by the U.S. Army Safety Center, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Topics in this issue include jet lag, industrial truck operator training standards, asbestos advisory, munition safety, risk management, and motorcycle accidents and safety.

Keywords: *Military publications, *Safing and arming(Ordnance), *Motor vehicle accidents, Risk, Army personnel, Standardization, Asbestos, Army operations, Motorcycles, Jet lag.

ADA363063REB PC A05/MF A01
RAND Forum on Cuba.
RAND Corp., Santa Monica, CA.
E. Gonzalez, and R. A. Nuccio. 1999, 74p, RAND/CF-146.
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In February, April, and May 1998, members of the policy community gathered together to participate in 'The RAND Forum on Cuba'. The participants consisted of Congressional staff members, State Department and NSC officials, members of the intelligence community, former Ambassadors and other former government officials, non-government foreign policy generalists, academic specialists on Cuba, and representatives of non-governmental organizations dealing with Cuba. The purpose of the Forum was to: (1) increase the awareness of participants concerning recent Cuban developments and trends; (2) convince generalists in particular that Cuba is a serious foreign--and not just a domestic--policy problem for the United States; and (3) advance the policy debate over Cuba and, if possible, work toward a policy consensus among the participants.

Keywords: *Meetings, *Foreign policy, *Symposia, *Cuba, Stability, United states, Political science, National security, Leadership, Communities, Economics, Transitions, International relations, Political parties, Communism, Awareness.

ADA363064REB PC A03/MF A01
Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art. Final rept.
Naval War Coll., Newport, RI.
M. F. Myer. 5 Feb 1999, 24p.
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With the recent approval by the International Maritime Organization of Indonesia's proposal for partial archipelagic sea lane designation, operational planners must now consider what impact designated sea lane routes will have on employment of forces in the region. Furthermore, operational commanders must strive to obtain a firm understanding of the rights and

responsibilities of transit regime through archipelagic waters. If Indonesia, or a future archipelago, fails to provide sufficient routes or otherwise impedes the use of all normal routes through archipelagic waters, the operational commander must be able to weigh the relative flexibility of utilizing or bypassing archipelagic sea lanes. Course of action development must take into account the operational impact of factors as diverse as operational protection, security, surprise, deception and logistics, in addition to the restrictions imposed on the scheme of maneuver and synchronization of forces into a crisis region. The United States must continue to be engaged both at the operational and strategic levels concerning maritime and, more specifically, archipelagic transit regimes. Policy makers must include the operational commander's perspective in any future dialogue. If the United States becomes lax or steps back from the process, the consequences may adversely affect the United States capacity to provide global reach through sea power.

Keywords: *Routing, *Naval planning, *Indonesia, *Archipelagoes, *Military art, United states, Policies, Security, Protection, Logistics, Maneuvers, Power, Military commanders, Deception, *Sea lanes, *Sea power.

ADA363065REB PC A03/MF A01
Theater Missile Defense in World War II - Some Operational Art Considerations. Final rept.
Naval War Coll., Newport, RI.
A. R. Wall. 5 Feb 1999, 22p.
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The World War II V-1 and V-2 attacks by Germany were the first effective use of theater missiles, and the first instance of a requirement for theater missile defense (TMD). The Allied response to German cruise (V-1) and ballistic (V-2) missile attacks incorporated all the elements of modern TMD concepts--Active Defense; Passive Defense; Attack Operations; and Command, Control, Communications, Computers, and Intelligence (C4I)--with varying success. Examining this historical case from the perspective of the three basic operational art factors--Space, Time, and Force-and their interrelationships provides some considerations for the operational commander planning and conducting TMD today. Theater missiles will remain a desirable weapon system from an enemy's perspective. Unlike the Second World War, modern conflicts are likely to be short and both sides will essentially 'come as they are'. The various improvements in theater missile capabilities, coupled with their wider proliferation, will challenge the operational commander even more than before. Nevertheless, improving TMD capabilities will help the operational commander counter the threat. At the same time, coalition partners and host nations will continue to place additional demands on the operational commander. The continued development of TMD doctrine, coupled with improving capabilities and realistic training, should permit an effective TMD response in future conflicts.

Keywords: *Guided missiles, *Theater level operations, *Theater missile defense, *Second world war, Military history, Weapon systems, Attack, Response, Germany(East and west), Passive defense, Military art, V-1 missiles, V-2 missiles.

ADA363066REB PC A03/MF A01
Precision Naval Fires in the Age of Information Superiority: Is The Day Of The Carrier Over. Final rept.
Naval War Coll., Newport, RI.
D. E. Waters. 5 Feb 1999, 22p.
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In the coming age of Information Superiority, there are those who question the United States Navy's continued focus on the big-deck aircraft carrier. Advanced cruise missiles, strategic bombers, Air Expeditionary Forces (AEFs), and distributing aviation onto smaller, more numerous carriers have all been proposed as options to the expensive and presumably ever more vulnerable big-deck carrier in the future. However, there are problems with each of these proposed alternatives to the aircraft carrier. There are continued weaknesses in the ability of even advanced cruise missiles to attack several types of targets. Cruise missiles will continue to be a complement to, not a replacement for, air power. Relying solely on land-based air power has proven to be too risky, as access denial, overflight restrictions and other constraints have seriously limited the capability of land-based air to respond in many crises in the past. The size of the big-deck carrier gives her both independent operating capability and improved survivability over smaller carrier designs. Future carriers will need to be the same size or larger than the current Nimitz class or risk reduced capability and effectiveness. Joint Vision 2010 outlines the requirements for future force capability. In order to attain the vision as described in all scenarios, the Navy will need to maintain the capability of the big-deck carrier, and continue to operate a minimum of 12 carrier battle groups in 2010 and beyond.

Keywords: *Military capabilities, *Aircraft carriers, Scenarios, United states, Risk, Survivability, Navy, Reduction, Cruise missiles, Jet bombers, Precision, Naval warfare, Naval planning, Air power, Advanced weapons, Overflight, Strategic bombing.

ADA363067REB PC A03/MF A01
Fleet Air Defense in the Falkland Islands Conflict: A Failure in Operational Protection. Final rept.
Naval War Coll., Newport, RI.
M. A. Wilcox. 5 Feb 1999, 26p.
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When the hastily composed British task force was dispatched to liberate the Falkland Islands in the spring of 1982 the difficult challenge of operational protection began. Not only was the task force not equipped for this type of operation but the capabilities and intent of the enemy was unknown. Upon reaching the South Atlantic the British task force commander faced a variety of decisions on courses of action and faced the dilemma of protecting an unprepared fleet and hastily concocted amphibious landing against a superior number of opposing aircraft. The task force commander's operational scheme has been questioned and the grievous cost of recapturing the islands is still controversial. In this paper I will examine what effect the operational factors of time, force and space had on the task force commanders available courses of action. I will also look at how the task force commander dealt with the dilemma of protecting a shifting operational center of gravity. I will look at the missing components of operational protection and how the operational scheme was developed in hopes of minimizing this critical vulnerability.

Keywords: *Air defense, *Military forces(Foreign), *Amphibious operations, *Protection, *Falkland islands, Aircraft, Decision making, Defense systems, Task forces, Vulnerability, Failure, Costs, Fleets(Ships), Conflict, Military commanders, Landing, United kingdom.

ADA363068REB PC A12/MF A03
Augmented Selection Criteria for Enlisted Personnel. Final rept. Sep 90-Apr 94.
Human Resources Research Organization, Alexandria, VA.
P. F. Ramsberger, J. H. Laurence, R. A. McCloy, and A. S. DiFazio. Apr 1999, 248p, HUMRRO-FR-PRD-94-07, ARI-RN-99-23.
Contract MDA903-90-C-0229
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The Armed Forces Qualification Test (AFQT), a composite of math and verbal scores, is used to determine eligibility for entry into the Armed Services. The goal of this project was to identify characteristics of individuals scoring below average on this test which differentiated those who can or cannot perform successfully in various jobs in the Army. The AFQT is part of a test battery known as the Armed Services Vocational Aptitude Battery (ASVAB). When the ASVAB was put into place in 1976, there were undetected flaws in the method used to determine appropriate percentile scores in reference to the normative population. Because of this 'misnorming,' many recruits were accessed who, if the misnorming had not taken place, would have been identified as belonging in below average AFQT categories. This misnorming continued until it was discovered and corrected in 1980. This project examined data on over 150, 000 soldiers who were accessed during the misnorming period. Predictor variables examined included ASVAB subtest scores, interest measure scores, educational background, and demographic variables. These were linked to the following outcome measures: attrition, reenlistment eligibility, performance on a written job knowledge test, the Skill Qualification Test (SQT), and junior grade (to E- 4) promotion rate. Analyses focused on the relationship between predictors and outcome for those identified as below average scorers on the AFQT. Major findings included these: diploma status was best at predicting attrition and also tended to be the best predictor of promotion. A group of cognitive ASVAB subtests were superior predictors of performance on the job knowledge test.

Keywords: *Performance tests, *Performance(Human), *Personnel selection, Test and evaluation, Acceptance tests, Education, Predictions, Enlisted personnel, Demography, Variables, Qualifications, Recruits, Promotion(Advancement), Scoring, Reenlistment, Verbal behavior, *Misnorming, Armed forces qualification test (Afqt), Armed services vocational aptitude battery (Asvab).

ADA363069REB PC A03/MF A01
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens. Final rept.
Naval Surface Warfare Center Carderock Div., Bethesda, MD.
C. P. Ratcliffe, R. M. Crane, D. Capone, and K. Koudela. Dec 1998, 26p, NSWCCD-65-TR-1998/21.
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The experimental determination of structural or material damping as a function of frequency can be a complicated task. The observed values can apparently change between experiments. This report includes a proposed standardized test procedure which aims to reduce these variations in modal damping. The standard focuses on the four main areas where variations in test procedure can introduce differences: a) preparation and support of the structure; b) selection, preparation and use of transducers and equipment; c) setting up the analyzer, and d) data analysis and reduction.

Keywords: *Naval vessels, *Structural analysis, *Damping, Data processing, Vibration, Test methods, Supports, Transducers, Range(Distance), Ship hulls.

ADA363070REB PC A01/MF A01
Enhancing a CAVE with Eye Tracking System for Human-Computer Interaction Research in 3D Visualization. Final rept. 1 Mar 97-1 May 99.
Virginia Polytechnic Inst. and State Univ., Blacksburg. Dept. of Computer Science.
D. Hix. 3 May 1999, 4p.
Contract N00014-97-1-0395
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The objective of this award was to purchase and install two ISCAN inc. Eye Tracking Systems and associated equipment to create a unique set-up for research in fully immersive virtual environments (VEs), specifically a CAVE. The Eye Tracking Systems collect three-dimensional measurements of a user's eye inside the CAVE. These measurements are performed by calculating the direction of a line called the line-of-sight, which originates from a user's eye and extends into the environment in the direction of the pupil's gaze. Intersections between the line-of-sight and visible objects in the VE are computed, and the results are stored to a log file on disk. This work has the potential to lead to

strong analytical assessment methodologies for VEs that can reduce the effort and costs of usability evaluations of VEs.

Keywords: *Virtual reality, *Graphical user interface, Image processing, Line of sight, Three dimensional, Visibility, Visual perception, Video signals, Helmet mounted displays, Eye tracking, CAVE(Cave Automatic Virtual Environments), Virtual environments.

ADA363071REB PC A06/MF A01
SERDP Scientific Advisory Board Annual Report to Congress, Fiscal Year 1998. Annual rept.
Deputy Director of Defense Research and Engineering, Arlington, VA. Strategic Environmental Research and Development.
Mar 1999, 76p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Environmental management, *Research management, Management planning and control, Ecosystems, Conservation, Pollution abatement, Serdp collection, Serdp(Strategic environmental research and development program), Environmental compliance.

ADA363072REB PC A09/MF A02
Implementation of Successful Practices Using an Iterative Development Methodology for an AEGIS Configuration Management Software Application. Final rept.
Naval Surface Warfare Center, Dahlgren, VA. Dahlgren Div.
S. N. Colston. Sep 1998, 155p, NSWCDD/MP-98/118.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper documents a two-and-a-half year software development project of the Combat Systems Configuration Management Branch of the Combat Systems Department at Naval Surface Warfare Center, Dahlgren Division (NSWCDD), at Dahlgren, Virginia. The author simultaneously managed two AEGIS Configuration Control Engineering Status System (ACCESS) software development projects and pursued a master's degree in Software Engineering Technical Management through the National Technological University sponsored by NSWCDD. The paper describes lessons learned and practical experience gained by the author in managing a software development project to successful completion. The narrative includes methods that worked and ones that did not work. Critical success factors that the author considers most important to satisfactory software development are: (1) structured and documented iterative life cycle development methodology; (2) implementation of software engineering repeatable processes; (3) highly- motivated, technically experienced dedicated team; (4) continuous and substantial customer involvement; (5) self-directed, empowered management style; and (6) experienced and committed project leader.

Keywords: *Software engineering, *Life cycle management, Computer program documentation, Management planning and control, Off the shelf equipment, Quality assurance, Client server systems, Project management, Relational data bases, Software development.

ADA363073REB PC A04/MF A01
Perspective Splatting.
Naval Research Lab., Washington, DC. Advanced Information Technology Branch.
J. E. Swann, K. Mueller, T. Moller, N. Shareef, and R. Crawfis. 10 May 1999, 41p, NRL/MR/5580--99-8355.
Prepared in cooperation with Ohio State Univ., Columbus, OH.
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Splatting is a popular direct volume rendering algorithm that was originally conceived and implemented to render orthographic projections. This paper describes an anti-aliasing extension to the basic splatting algorithm, as well as an error analysis, that make it practical to use for perspective projections. To date, splatting has not correctly rendered cases where the volume sampling rate is higher than the image sampling rate (e.g., more than one voxel maps into a pixel). This situation arises with perspective projections of volumes, as well as with orthographic projections of high-resolution volumes. The result is potentially severe spatial and temporal aliasing artifacts. Some volume ray-casting algorithms avoid these artifacts by employing reconstruction kernels which vary in width as the rays diverge. In this paper, we propose such a mechanism, which delivers high quality splatted images and has the potential for a very efficient hardware implementation. In addition, we analyze two numerical errors that arise with splatted perspective projections of volumes, and describe the rending-time versus image-quality tradeoffs of addressing these errors.

Keywords: *Image processing, Algorithms, High resolution, Image intensification, Error analysis, Computer graphics, Pixels, Object oriented programming, *Volume rendering, *Splatting, Voxels.

ADA363074REB PC A03/MF A01
Hybrid Version of Method of Moments Computer Code: IBC3D.
Naval Research Lab., Washington, DC. Radar Analysis Branch.
D. Taylor. 20 May 1999, 21p, NRL/MR/5310--99-8378.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

IBC3D is a computer program used to calculate the electromagnetic scattering cross section and electric/magnetic surface currents for arbitrary 3- dimensional bodies coated with anisotropic lossy materials. An enhanced version of this code, developed by the Radar Division of the Naval Research Laboratory (NRL), is described here that allows one to generate a hybrid scattering solution by incorporating surface currents generated external to the IBC3D. The benefit derived from using the hybrid approach is gained by reducing the number of surface current unknowns required to produce a scattering cross section using numerically intensive computer codes such as IBC3D. When compared to the unmodified IBC3D solution for a 5-sided prism shaped object, a 20 percent reduction in the number of electric surface current unknowns was obtained using the hybrid version of the code with minimal sacrifice in accuracy.

Keywords: *Electromagnetic scattering, *Radar cross sections, Electromagnetic fields, Electric current, Maxwells equations, Method of moments, Electrical impedance, Ibc3d computer program.

ADA363075REB PC A10/MF A02
S2 Automated Agent (S2A2): A Training Aid for Commanders and Intelligence Officers. Master's thesis.
University of Central Florida, Orlando.
J. T. Janiszewski. 1999, 191p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Although most leaders have a very solid background on the decision making process, training is still required to maintain and perfect their skills. While decision makers and their staff can collectively train using computer simulations, there currently is no tool that allows the decision maker to train in isolation on the decision making process. This research models some of the functions of one of the most critical staff officers in the United States Army, the military intelligence officer (S2). This research begins the creation of an S2 automated agent (S2A2) that allows the commander to implement war plans and see the results of those plans. Systems model for both the learning environment and the S2A2 are developed. The S2A2 enables the commander to fight a simulated battle and receive intelligence reports and analysis so that he can modify his plan according to the enemy's course of action. Further a S2A2 created in the research would not require that the actual human S2 be present if the S2A2 is set up by the S2 prior to the use by the commander. The S2A2 is an expert system shell designed to operate in a Janus battlefield simulation and replicate the cognitive processes used by an S2 when making an intelligence assessment. The fundamental principle of the S2A2 is the decomposing of a complex problem, such as determining an enemy course of action, into smaller, more manageable situational indicators.

Keywords: *Military intelligence, *Artificial intelligence, *Military training, *Combat simulation, Military requirements, Decision making, Theses, War games.

ADA363076REB PC A03/MF A01
Non-Lethal Weapons: Applications in Maritime Interdiction Operations. Final rept.
Naval War Coll., Newport, RI.
M. D. Henderson. 5 Feb 1999, 23p.
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Economic sanctions and embargo are long accepted means of coercion used to guide the actions of nation states. Numerous historical examples with varying degrees of success indicate that Maritime Interception Operations (MIO) are a necessary part of sanction and embargo enforcement. With the line between war and peace becoming increasingly vague, U.S. forces face a growing number of operations which require the controlled application of force, and among these are MIO. Restraint, born of moral and ethical considerations, coupled with the need to maintain public support for military action, has brought a growing emphasis on the development and employment of non-lethal weapons (NLW). These weapons bridge the gap between presence with the threat of force and the application of deadly force. Non-lethal weapons offer key advantages to the Operational Commander which warrant their consideration in the planning and execution of any military mission. As a measure between force and no force, NLW are ideally suited to missions between peace and war. When applied with rules of engagement which are clear, concise, and mission appropriate, NLW provide increased flexibility and enhanced mission effectiveness to forces conducting MIO.

Keywords: *Interdiction, *Coast guard operations, *Nonlethal weapons, Military operations, Mootw(Military operations other than war), Maritime interdiction operations, Mio(Maritime interception operations), Embargo, Sanctions.

ADA363077REB PC A05/MF A01
Unclassified Publications of Lincoln Laboratory. Bibliography 1 Jan-31 Dec 98.
Massachusetts Inst. of Tech., Lexington. Lincoln Lab.
P. A. Means, and R. C. Seidel. 31 Dec 1998, 57p, AFMC-ESC-TR-98-049.
Contract F19628-95-C-0002
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Volume 24 of Unclassified Publications of Lincoln Laboratory lists reports published from 1 January to 31 December 1998, as well as updated information on earlier publications. Documents listed herein are generally no longer available from Lincoln Laboratory. Qualified Defense Technical Information Center (DTIC) users may purchase copies through normal DTIC channels. Others may purchase photocopies or microfiche from the U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia 22161. When ordering, the six digit AD number should be cited. Subscriptions of the MIT Lincoln Laboratory Journal are free of charge, but provided only to qualified recipients (government employees and contractors, libraries, university faculty, and R&D laboratories).

Keywords: *Electrooptics, *Bibliographies, Signal processing, Neural nets, Target recognition, Radar tracking, Photonics, Time division multiplexing, Complementary metal oxide semiconductors, Phased arrays, Photolithography.

ADA363078REB PC A12/MF A03
RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
NATO Research and Technology Organization, Neuilly-sur-Seine (France).
Apr 1999, 241p, RTO-MP-16, AC/323(SCI)TP/8.
Text in English; summary in French and English.
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Weaponry is a central factor in any kind of military activity. The incorporation of weapon systems into aircraft and their integration and satisfactory operation is a topic of major importance to armed forces and manufacturers of weapons and aircraft alike. The scope of this symposium was to critically review the overall state-of-the-art in aircraft weapon system compatibility and integration and to illuminate possible paths for future development and provide beneficial ideas and experience. Sessions dealt with the following topics: Theoretical methods and modelling techniques, Experimental and flight test techniques, Integration processes and programmes, Addressing future challenges. This symposium produced many excellent papers providing broad coverage of the weapons integration issues. There were many common threads with regard to the analysis, wind tunnel testing, and flight testing. Computational fluid dynamics (CFD) is proving to be a useful technique; wind tunnel testing is very important in the weapons integration process; but, flight testing has to be the final phase of the weapons integration process. This symposium produced a level of cohesiveness between the analysts and testers; however, full agreement as to the mix of analysis and testing did not evolve. In order to reduce the cost of weapon integration, certification, clearance, and flight testing, weapon integration analytical techniques, including CFD and wind tunnel testing, and flight testing need to become more of an integrated process. The knowledge gained and information shared at this symposium should assist the participants in developing a more integrated process in order to provide NATO nations with fully integrated weapon systems at an affordable price.

Keywords: *Symposia, *Military aircraft, *Weapon systems, *Computational fluid dynamics, Nato, Flight testing, Integrated systems, Compatibility, France, Wind tunnel tests, Nato furnished, Aq f99-08-1530, Foreign reports.

ADA363079REB PC A12/MF A03
Unique Polymeric Fiber and Fiber Delivery Systems for the Economic Preparation of High-Fiber Content Concrete with Superior Physical Properties. Final rept.
Army Engineer Waterways Experiment Station, Vicksburg, MS. Structures Lab.
B. D. Neeley, D. C. Day, and J. E. Shoenberger. Sep 1998, 242p, WES/TR/CPAR-SL-98-5.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report documents the results from an investigation of a new polymer fiber and unique delivery system for charging fibers into concrete mixtures. The straight Polyolefin fibers are available in two sizes: (1) 0.63 mm in diameter and 50 mm long, and (2) 0.38 mm in diameter and 25 mm long. Each of the two sizes of fibers is packaged in bundles approximately 50 mm in diameter. Each bundle is encased with paper tape bound with a water-soluble glue. The fibers are charged into the concrete mixture in mass. Approximately 3 to 10 min of mixing time is necessary to uniformly distribute the fibers throughout the concrete mixture, depending upon the fiber content, consistency of the concrete mixture, and the type of mixer being used. Fresh and hardened properties were evaluated in mixtures containing up to 15 kg/cu m. The results indicate that concrete mixtures with the Polyolefin fibers can be produced having adequate workability and finishability if proportioned properly. Addition of the Polyolefin fibers does not significantly influence the compressive nor first- crack flexural strength, freezing-and-thawing resistance, drying shrinkage, nor the chloride permeability of concrete mixtures. However, the presence of the Polyolefin fibers does influence the post-crack behavior of concrete mixtures. Impact resistance and flexural toughness are improved as the fiber loading increases. A 6,100-m whitetopping demonstration project was constructed on a heavily traveled interstate in Mississippi. The whitetopping was 100 mm thick. Details of the specifications, construction, and early-time performance are given.

Keywords: *Reinforced concrete, *Fiber reinforcement, Toughness, Flexural strength, Polyethylene plastics, *Polyolefin fibers, Impact resistance, Whitetopping, Polymeric fibers, Flexural toughness, Cpar(Construction productivity advancement research).

ADA363080REB PC A03/MF A01
USAF Manufacturing Technology; Program Status Report, Spring 1999. Program status rept.
Air Force Research Lab., Wright-Patterson AFB, OH. Materials and Manufacturing Directorate.
1999, 16p.
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No abstract available.

Keywords: *Manufacturing, *Air force procurement, Computer aided design, Composite materials, Fabrication, Aerospace systems, Laser applications, Artificial intelligence, Military publications, Castings, Mantech(Manufacturing technology), Pressure infiltration casting, Flair(Flexible laser automated intelligent research), Dmc(Defense manufacturing conference), Awacs synchronizer, Abc(Activity based costing), Awacs(Airborne warning and control system).

ADA363081REB PC A12/MF A03
Prediction of Crack Initiation and Growth in Solid Propellants. Final rept.
Demokritos Univ. of Thrace, Komotini (Greece).
E. E. Gdoutos. Apr 1999, 229p, EOARD-SPC 98-4003.
Contract F61708-98-W-0033
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This report results from a contract tasking Democritus University of Thrace as follows: The contractor will investigate crack initiation and growth in solid propellant grains. Solid propellants are critical to missile, launch vehicle and satellite upper stage performance. Cracks in solid propellant can cause catastrophic failures leading to loss of valuable USAF assets and even lives. Understanding these phenomena is important to their future applications.

Keywords: *Predictions, *Crack propagation, *Solid propellants, Guided missiles, Air force research, Artificial satellites, Launch vehicles, Propellant grains, Greece, Foreign reports, Crack initiation.

ADA363083REB PC A08/MF A02
Adaptive Inventory Control for Non-Stationary Demand with Partial Information. Dissertation.
Auburn Univ., AL.
J. T. Treharne. 11 Jun 1999, 145p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This dissertation presents optimal and suboptimal procedures to solve inventory control problems that have non-stationary demand and partial information. In each period, the underlying demand distribution may change according to a known Markov process. The problem is characterized as partial information because some parameter of the demand probability distribution is not known with certainty; however, there is a known prior distribution for the unknown parameter. In one case, there is a probability density function for the demand that has at least one unknown parameter, but this parameter has a known probability distribution. In another case, there is a set of candidate demand probability distributions. The parameter which indicates which demand is in effect at any given time is unknown, but has a known probability mass function. The control strategies are adaptive because the controllers learn information about these unknown parameters over time and adapt accordingly. Because of the complexity of these problems, managers often estimate the unknown parameters and make decisions assuming the estimate is correct. The computational results presented in this dissertation demonstrate that there exist efficient and effective optimal and sub optimal procedures to solve these problems that potentially provide large cost savings compared with this current practice. The control strategies include open loop feedback and limited look ahead control for a finite horizon problem, which are compared to optimal and certainty equivalence control policies. A grid approximation and upper and lower bounds for an infinite horizon problem are also developed.

Keywords: *Adaptive control systems, *Inventory control, Probability distribution functions, Theses, Probability density functions, Open loop systems, Markov processes, Inventory analysis.

ADA363084REB PC A03/MF A01
Innovative Thin Film Fluorescence Sensor Providing Greatly Enhanced Signal-to-Noise and Integrated Solid State Detection. Suitable for Incorporation in Microchip Sensor Systems. Phase 1.
Final rept. 27 Jul 98-13 May 99.
Systems and Processing Engineering Corp., Austin, TX.
M. Durrett. 13 May 1999, 19p.
Contract DAAH01-98-C-R166
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A unique corrugated-thin-metal-film structure suitable for integration with semiconductor photodetectors, is investigated. For fluorescent spectral monitoring, this structure provides a number of important detection features including fluorescence enhancement for molecules located near the surface of the sensor, excitation wavelength shielding and narrow bandpass filtering of detected wavelengths. Surface dielectrics with chemical or biological-specific properties may also be incorporated into the sensor for additional selectivity.

Keywords: *Thin films, *Chemical agent detectors, Fluorescence, Semiconductors, Photodetectors, Bandpass filters, Sbir(Small business innovation research), Microchip sensors.

ADA363085REB PC A03/MF A01
U.S. Navy Heavy Weather Mooring Criteria. Technical rept.
Naval Facilities Engineering Service Center, Port Hueneme, CA.
W. N. Seelig. Mar 1999, 25p, NFESC-TR-6012-OCN.
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It is standard procedure for U.S. Navy ships to go to sea prior to forecasted heavy weather, such as an approaching hurricane or major storm. However, some ships, such as ships under repair, ships under construction, harbor craft and other vessels may not be able to go to sea. These ships must be securely moored during heavy weather to piers, wharves or Fleet Moorings to ensure safety of the ships and surrounding structures and to prevent loss of life. Therefore, this report: (1) Proposes U.S. Navy heavy weather (Mooring Service Type 3) requirements by region. (Inactive, MSC and MARAD ships are not included in this report). (2) Recommends Navy wide heavy weather environmental design criteria applied to key Navy regions. (3) Provides technical guidance for the analysis, design, construction, and use of heavy weather mooring facilities.

Keywords: *Weather forecasting, *Naval operations, *Naval shore facilities, Naval vessels, Boat and ship safety, Mooring, Weather communications.

ADA363086REB PC A04/MF A01
Transmission Availability Forecast Service for Internet Protocol Networks. Research rept.
Electronics Research Lab., Adelaide (Australia).
W. D. Blair, and R. Jana. Feb 1999, 39p, DSTO-RR-0146, DSTO-RR-0146, X5SA-X5.
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The quality of available network connections, especially the bandwidth available to clients using the connections, has a large impact on the performance of distributed applications. This paper recognizes the explosion of interest in the use of Internet Protocol (IP) networks within the Australian Defense Organization and describes the development of a software tool for estimating the available bandwidth between a server and client in a distributed computing environment. We discuss the design and implementation details of the Transmission Availability Forecaster (TAF) probe and present validation studies demonstrating its reliability and accuracy in the context of actual Internet conditions.

Keywords: *Data management, *Computer communications, *Internet, Information exchange, Distributed data processing, Australia, Network architecture, *Foreign technology, Bandwidth, Data transfer(Computers).

ADA363087REB PC A04/MF A01
Christianity's Contribution to Just War Tradition.
Army War Coll., Carlisle Barracks, PA.
D. A. Ahrens. 30 Mar 1999, 37p.
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Just war, the Western tradition of war, much like its people, is a product of a diverse cultural backdrop. While strong religious roots can be identified, it is not purely or uniquely a religious phenomenon. It cannot be reduced to a single source or interest of a particular class or institution or even to a particular time frame. Rather, a variety of ideas and institutions have played a role in shaping the Western approach to war. The donors include political, religious, legal, military, economic, philosophical and historical sources. While not discounting the broad variety of contributors, Christianity has played a major, if not the pivotal role, in the development of just war tradition.

Keywords: *Warfare, *Religion, History, Conflict, Ethics, Philosophy, Strategy research project, Christianity, Just war tradition, Morality.

ADA363088REB PC A07/MF A02
Analysis of Delayed Entry Program (DEP) Attrition by High School Seniors. Master's thesis.
Naval Postgraduate School, Monterey, CA.
B. I. Henderson. Mar 1999, 121p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In fiscal year 1998, the Navy missed its recruiting goal by about 7, 000 people and the Army fell short by 800. The Delayed Entry Program (DEP) allows new recruits to delay their entry into active military service; and, when individuals already recruited drop out of the DEP, the manpower planning process becomes even more difficult. High school seniors account for a relatively large proportion of individuals who leave the DEP. The primary purpose of this research was to identify factors that explain why high school seniors drop out of the DEP in such large numbers. Multivariate data analysis was used on archival data files from the Defense Manpower Data Center for fiscal years 1990 through 1996 to identify factors that explain the high attrition rate of high school seniors. A data set from Commander, Navy Recruiting Command was also used to conduct multivariate analysis. Additionally, descriptive data analysis examined high school seniors who left the DEP by their race, gender, service, and other characteristics. The results show that high school seniors who are older, female, and in the lower enlistment test categories have a comparatively high probability of dropping out of the DEP. Recommendations are offered for further research in this area.

Keywords: *Enlisted personnel, *Attrition, *Recruits, Data bases, Military forces(United states), Military personnel, Navy, Multivariate analysis, Recruiting, Theses, Manpower, Military planning, *Dep(Delayed enlistment program).

ADA363089REB PC A01/MF A01
Air Force Research Laboratory Research Highlights, Mar/Apr 1999.
Air Force Office of Scientific Research, Bolling AFB, DC.
J. Knowlton, and J. Schaefer. Apr 1999, 4p.
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This report contains the following sections: (1) NU professor crosses line to faster computer circuits, (2) Air Force to benefit with smaller, lighter, less costly systems, and (3) AFOSR-funded university researchers receive Presidential award.

Keywords: *Air force research, *Microcircuits, Military modernization, Research management, Circuit analysis.

ADA363090REB PC A04/MF A01
Final Data Usability Summary and Resampling Proposal for Fort Sheridan.
Army Environmental Center, Aberdeen Proving Ground, MD.
22 Mar 1996, 40p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Fort Sheridan performed validation of data which had been collected during the Remedial Investigation (RI) in 1990-1991. As required by the Ft. Sheridan Overall Quality Assurance Project Plan (OQAPP), this validation was performed in accordance with the U.S. Environmental Protection Agency (EPA) contract Laboratory Program National Functional Guidelines (NFG). The validation results were presented in a draft data validation report, which was reviewed by the EPA and Illinois EPA. Comments on the draft report are being addressed in a final version of the report expected to be completed in early 1996. Sufficient information exists in the draft report, and the regulatory comments, to now determine the extent of resampling that should provide assurance that the 1990- 1991 dataset may be used with confidence in the future versions of the RI report. This plan describes the resampling to be performed. The basic approach discussed here was determined in discussions between Fort Sheridan, the EPA, Illinois EPA, the Army Environmental Center, and its RI consultant, Environmental Science and Engineering, Inc.

Keywords: *Ground water, *Installation restoration, *Soil remediation, Quality assurance, Environmental management, Site investigations, Illinois, Aq u98-12-2413, Fort sheridan(Illinois).

ADA363091REB PC A04/MF A01
Challenges of Command and Control in 2010 Counterdrug Operations. Final rept.
Naval War Coll., Newport, RI.
S. D. Fleming. 5 Feb 1999, 36p.
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Robust information operations through successful detection and monitoring of production, trafficking from production source to user, and infrastructure support for illegal drug supply activities must be sustained in order to achieve effective interdiction operations. This paper introduces many new technologies on the horizon of the 21st Century that will vastly improve information and interdiction operations. From these, future operational commanders will be provided an extensive set of options in order to rapidly attack or interdict key nodes of the drug cartels' operations. In order to accommodate the speed of illegal drug supply operations that will be realized in the new millennium, the current C2 structure. should be immediately reviewed and subsequently changed. This paper recommends that the leadership, organizational staffing, missions, and rules of engagement are four critical areas that should receive primary re-structuring.

Keywords: *Covert operations, *Drug smuggling, Interdiction, Command and control systems, *Counterdrug operations, 21st century, Year 2010.

ADA363092REB PC A03/MF A01
Organizational Implications of Network-Centric Warfare. Final rept.
Naval War Coll., Newport, RI.
R. J. Finnegan. 5 Feb 1999, 25p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

One of the many proposed responses to the rapidly changing global environment and significant fiscal constraints at the onset of the information age has been the concept of network centric warfare. The proponents of the concept draw support from successes achieved by high tech segments of the business world that have embraced advances in information technology. At issue is not whether or not the Navy (and other services) will seek to exploit information technology to the fullest extent possible. Indeed examples of the Navy's quest to distribute information in a graphic network format actually predate the end of the Cold War by decades. What is controversial is the extent to which the introduction of advanced information technology will change the hierarchical system of human interaction that has dominated successful military organizations for thousands of years. Before we decide our course we must examine the likely political realities of tomorrow's conflicts, the characteristics of current versus proposed force profiles and most importantly the influence of todays business practices on military affairs.

Keywords: *Military strategy, *Combat readiness, *Information warfare, Military capabilities, Military planning, Military art.

ADA363093REB PC A04/MF A01
Shoring Up the Homeland Defense: The Joint Medical Task Force and Weapons of Mass Destruction. Final rept.
Naval War Coll., Newport, RI.
B. G. Feril. 5 Feb 1999, 31p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

America is no longer safe within her borders. At any time, a determined group of foreign or domestic terrorists will target American citizens and institutions with Weapons of Mass Destruction (WMD) composed primarily of lethal biological or chemical agents. Presently, many of our nation's military and civilian hospitals are not prepared to respond to WMD threats, as the United States Public Health Service (USPHS) is the only line of medical defense against these threats. A layered defensive strategy must be considered as a back-up capability to address gaps in the 'WMD medical defense shield.' This capability should be created from our armed forces' reserve medical personnel to form Joint Medical Task Forces (JMTF) to augment USPHS capabilities and to assist local community hospitals in the event of a WMD incident.

Keywords: *Military operations, *Military medicine, *Mass destruction weapons, Military facilities, Military strategy, Biological agents, Task forces, Destruction, Joint military activities, Chemical agents, Civilian population, Public health, Interagency support.

ADA363094REB PC A03/MF A01
Planning Factors for Non Lethal Weapons in Counter Narcotic Operations. Final rept.
Naval War Coll., Newport, RI.
W. R. Meese. 5 Feb 1999, 25p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Coast Guard is investigating avenues to leverage technology to improve interdiction effectiveness. This is necessary since there is little likelihood for increased funding for additional interdiction resources to stem the flow of drugs via the maritime routes. One alternative, currently under development by the U.S. Marine Corps, is the deployment of non lethal weapons technology aboard Coast Guard helicopters and cutters to compel unwilling suspect vessels to stop. The introduction of non lethal weapons into the Coast Guard inventory will prompt the operational commander to plan for their use. The operational commander should become knowledgeable about non lethal weapons capabilities, limitations, and legal issues (including rules of engagement), will have to adjust operational command and control, and will probably redesign the task organization to improve effectiveness. Non lethal weapons will safely improve interdiction rates by adding more alternatives for tactical units to stop vessels at sea without having to resort to deadly force.

Keywords: *Interdiction, *Coast guard operations, *Narcotics, *Nonlethal weapons, Operational effectiveness, Helicopters, Countermeasures, Cutters(Vessels), Maritime routes.

ADA363095REB PC A03/MF A01
How Can Operational Maneuver be Used by the Naval or Joint Task Force Commander to Enhance Operational Protection in the Littoral. Final rept.
Naval War Coll., Newport, RI.
S. C. Sullivan. 5 Feb 1999, 25p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Operational maneuver provides operational protection to maritime forces when maneuver is used to expand the area, factor space, vulnerable to attack by the maritime force. Operational maneuver forces the enemy to respond to threats throughout its territory and littoral. The response will degrade the enemy's ability to concentrate forces against the maritime force. The enemy's ability to conduct and sustain offensive operations against the maritime force is reduced and the security of lines of operation and logistic sustainment is increased. This allows the maritime force to concentrate its forces against the enemy when conditions are favorable. The commander's ability to sustain the initiative and control the littoral provides the freedom of action to conduct follow on and support operations against the enemy. Through the utilization of maneuver and the resulting effects maneuver places on the enemy, operational protection is effectively provided to the maritime force.

Keywords: *Joint military activities, *Littoral zones, *Battle management, Combat effectiveness, Military strategy, Military doctrine, Combat readiness, Military planning, Military tactics, Military art, Information warfare.

ADA363096REB PC A03/MF A01
Denying Access to Commercial Communications Satellites. Final rept.
Naval War Coll., Newport, RI.
T. M. Washington. 5 Feb 1999, 23p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The commercialization of space has considerably changed the playing field within satellite communications. No longer is space owned and used solely by nation states. Many satellites, particularly communications satellites, are privately owned and operated and are used by both the private and military sectors. Commercial systems such as Orion, Panamsat, Iridium and Globalstar will provide the U.S. military and its potential adversaries with a relatively inexpensive and highly effective means to increase the command, control and communications (C3) capabilities of their respective forces. Because of this dual use of commercial communication satellites, what was once just a commercial satellite has the potential to become a military target. The Joint Task Force (JTF) Commander may want to deny or impede an adversary's access to commercial satellite communications in order to disrupt his C3 capabilities. In this paper, I will examine the application of force against commercial communication satellites applying the implications of the diverse ownership of communication satellites and the current treaties and laws.

Keywords: *Command control communications, *Communication satellites, *Commercial communications, Military strategy, Military capabilities, Satellite communications, Military planning.

ADA363097REB PC A03/MF A01
Is a Fundamental Revolution in Military Medicine Required to Support Joint Vision 2010 and the Joint Forces Commander in the 21st Century. Final rept.
Naval War Coll., Newport, RI.
M. E. Eby. 5 Feb 1999, 23p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The twentieth century has seen dramatic changes in the art of war. In the past, the development of the tank, the introduction of the air arm and the rise in the supremacy of the aircraft carrier changed the nature of military planning and engagement. Today, the advent of new forms of communications and imaging technology, incorporated into battlefield networks have led to a rethinking of strategy conceptualization and has spawned great debate over the Revolution in Military Affairs. In drafting Joint Vision 2010 (JV 2010), the former Chairman of the Joint Chiefs of Staff, General J.M. Shalikashvili, envisioned a revolutionary bridge to the uncertain and challenging future through–channeling the vitality of our people and leverage technological opportunities to achieve new levels of effectiveness in joint warfighting... achieving dominance across a range of military operations...the application of new operational concepts...within a joint framework of doctrine and programs. What does JV 2010 mean to military medicine. How will the military medical department leverage technology, doctrine and training programs in the new millennium. Can technology alone get us there or is technology simply the fulcrum on which we springboard forward. This paper will focus on the evolution of military medicine toward JV 2010 and will assess the relative importance of emerging technology, doctrine, and training in order to support the Joint Force Commander in the 21st century.

Keywords: *Military operations, *Military medicine, Military doctrine, Battlefields, Joint military activities, Military training, Military planning, Joint vision 2010.

ADA363098REB PC A03/MF A01
Sea-Based Logistics: Does It Satisfy the Operational Commander's Need. Final rept.
Naval War Coll., Newport, RI.
J. Lara. 5 Feb 1999, 20p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Naval logistics leaders of today have proposed sea-based logistics as the operational concept for supporting the future commanders in the battlespace environment. This concept eliminates the traditional need for Ground Combat Support Service (GCSS) element and bases all logistical operations at sea. This new concept espouses the same precepts as put forth in JV2010 within its focused logistics premise. For this concept to work as stated, the Navy must work together with the other services to eliminate the current stovepipe logistics support doctrine of today. Even with modifying current logistics doctrine, there are several conditions that make the 100% conversion to sea-based logistics impracticable. The current limitations of technology in throughput capability, lack of defense against asymmetric threats, and the inability to provide flexible maneuver options for the joint commander questions whether this concept is the ultimate solution. In light of past history and the uncertain nature of future warfare, the United States Naval Service must not abandon its GCSS capabilities. Instead, the ability to use GCSS elements along with sea-based logistics will provide the Joint Commander the flexibility to counter the full spectrum of conflict from military operations other war to war.

Keywords: *Joint military activities, *Naval logistics, *Sea based, Logistics support, Military doctrine, Combat support, Naval operations, Military commanders, Ground support, Logistics planning, Operations other than war, Gcss(Ground combat support service), Logcap(Logistics civil augmentation program).

ADA363099REB PC A03/MF A01
Denial and Deception–Network-Centric Challenge. Final rept.
Naval War Coll., Newport, RI.
K. N. Kearney. 5 Feb 1999, 24p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Adversarial denial and deception (D&D) poses a serious challenge to future operational concepts based on perceived informational superiority. An analysis of how D&D may interact in a future network centric environment demonstrates some inherent vulnerabilities of information technology (IT) based warfighting theory. Operational D&D has continued to keep pace with sensor development and through physical, technical and administrative means will be able to influence sensor derived information. Once our information is tainted, network centric's reliance on information dominance will become a vulnerability. Deception will travel at high speeds and effect multiple operational levels due to the networked operational picture provided by network centric theory. Our dependence on reliable and timely information, if affected by D&D, may lead to ambiguity, misdirection, and/or false security. Network centric's speed of command will further exasperate D&D's effect by increasing the speed of deception while simultaneously reducing the likely identification of deception through analysis. Our speed and networked precision may also finely hone our operational art to the point of making us predictable and therefore more susceptible to adversarial D&D. The additional network centric attributes of self synchronization, platform reduction, and adversarial lock out will also contribute to our vulnerability to D&D by creating an environment of enemy underestimation and increasing the severity of consequences of friendly action taken under the influence of adversarial D&D. The D&D challenge that network centric warfighting faces can be addressed through an increased emphasis on the importance of networked analysis. Additionally, future doctrine must reflect a clear understanding of anti-D&D methodologies so that operational commanders of the future are aware of and can plan how to counter D&D when they face it.

Keywords: *Joint military activities, *Military planning, *Information warfare, Military strategy, Military doctrine, Military tactics, Military art.

ADA363100REB PC A05/MF A01
Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising. Technical rept.
Naval Postgraduate School, Monterey, CA.
R. D. Hippenstiel, T. T. Ha, and U. Aktas. May 1999, 67p, NPS-EC-99-006.
Contract N41756-98-WR-87397
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The localization of mobile wireless communication units using time difference of arrival (TDOA) is studied. The wavelet transform is used to increase the accuracy of TDOA estimation. Several denoising techniques based on the wavelet transform are presented. These

techniques are applied to different types of test signals and to a simulated baseband GSM signal. The results of the denoising techniques are compared to the ones employing no denoising in terms of the mean square error. The denoising techniques allow a 28 to 81 percent improvement in the TDOA estimation.

Keywords: *Signal processing, *Noise reduction, *Radiotelephones, Noise(Electrical and electromagnetic), Noise modulation, Wavelet transforms, Cellular communications, Tdoa(Time difference of arrival).

ADA363101REB PC A04/MF A01
Data Transfer Report - 30-mm Enhanced Alternate High-Energy Propellant Program (EAHEP): Evaluation of the Performance of an RDX-Based ARDEC-7994 Propellant and the Effect of Two Different Slug Projectile Designs. Final rept.
Army Research Lab., Aberdeen Proving Ground, MD.
M. B. Ridley, and J. W. Colburn. May 1999, 45p, ARL-TN-114.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The main test objectives were: (1) to promote the evaluation of novel high-energy gun propellants that hold the promise of enhanced performance from existing tank and artillery systems and (2) to provide a facility that can assess the interior ballistic performance characteristics of small quantities of these propellants. Test No. 61 was an instrumentation checkout round, using M30 propellant and a 300-g projectile. Test Nos. 62-65 each utilized a 250-g projectile and 100 g of ARDBC-7994 propellant. Test Nos. 62 and 64 utilized the 'Type-1' projectile. This projectile type has a depressed obturator that snaps on to the rear of the projectile. This design creates an additional 3 cu cm of initial chamber volume and allows for more of a balspoon seal effect. Test Nos. 63 and 65 utilized the 'Type-2' projectile. This projectile type has a flat- based obturator with a groove cut in the base to allow a slight balspoon seal effect. The Type-2 projectile is much less expensive than the Type-1 projectile, but a head-to-head test was desired to assess any ballistic differences resulting from the design change.

Keywords: *Gun propellants, *Interior ballistics, High energy propellants, Obturation(Ballistics), Eahep(Enhanced alternate high energy propellant), M30 propellants, Ardec-7994 propellants.

ADA363102REB PC A03/MF A01
E Pluribus Unum: Enhancing Intelligence Support in the Network Centric Environment. Final rept.
Naval War Coll., Newport, RI.
M. D. Greenwood. 5 Feb 1999, 23p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Network Centric Warfare's emphasis on timeliness and targeting challenges the Intelligence Community to concurrently support tactical combat operations and operational planning and execution while maintaining strategic situational awareness. To successfully accomplish each requirement obligates the Intelligence Community to make fundamental changes in the authority of the Supported Theater Intelligence Officer relative to the other members of the Intelligence Community. Additionally, a renewed emphasis must be placed on the collection of human intelligence, the development of regional expertise, and utilization of imagery analysts. Lastly, the Network Centric Warfare's requirement to concurrently support the Strategic, Operational, and Tactical levels places a premium on accessing archived intelligence via the Information Grid. As a consequence, the Intelligence Community must use available technology to filter information and better allocate analytical resources to achieve real time intelligence support.

Keywords: *Joint military activities, *Military planning, *Communications intelligence, Command control communications, Military strategy, Theater level operations, Military doctrine, Military tactics, Military art.

ADA363103REB PC A07/MF A02
Independent Research and Development. Summary rept.
Aerospace Corp., El Segundo, CA.
Apr 1999, 124p.
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No abstract available.

Keywords: *Space systems, *Satellite communications, *Launch vehicles, Fiber optics, Computer communications, Photonics, Microelectronics, Infrared detectors, Data fusion, Research management, Remote detection, Secure communications.

ADA363104REB PC A13/MF A03
Framework for Effective Algorithm Visualization Using Animation-Embedded Hypermedia. Doctoral thesis.
Air Force Inst. of Tech., Wright-Patterson AFB, OH. School of Engineering.
S. R. Hansen. 7 Apr 1999, 274p, FY99-96.
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This dissertation reports on research based on the premise that a rethinking of algorithm animation design is required in order to harness its power to enhance learning. The research in this report explores the integration of previous work in algorithm animation systems with recent developments in the cognitive and educational domains to produce a new model for using software visualizations to improve student comprehension. The model is based on focused learning objectives that drive a top-down design that carefully divides abstract concepts into discrete chunks for learning. The model takes a user-centered ('what do we need to show') view rather than a designer-centered ('what can we show') view, and employs hypermedia and multimodal presentation techniques to improve learning effectiveness. The key insights are that for algorithm animations to be effective, they should be introduced using interactive analogies and real-world examples that serve a priming role for subsequent learning.

Keywords: *Algorithms, *Computer graphics, Software engineering, Computer aided design, Cognition, Theses, Interactive graphics, Computer aided instruction, Object oriented programming, Graphical user interface, *Animation, Hypermedia.

ADA363105REB PC A04/MF A01
Analysis of an Aircraft Tire.
Anamet Labs., Inc., San Carlos, CA.
30 Jan 1979, 32p, ANAMET-ASIAC-978.1B.
Contract F33615-77-C-3046
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report summarizes the analysis conducted to determine the stresses in an isotropic cast carcass tire and in a bias-ply tire using the MARC computer code. A non-linear analysis was conducted using 'Mooney' and 'Herrman' constitutive theory. The models were subjected to incremental inflation pressures. Stresses and displacements were compared to experimental data available. The cast carcass tire displacements correlated very well with actual displacements as a function of inflation pressure. The bias-ply tire results were not as satisfactory.

Keywords: *Aircraft tires, Stresses, Computer programs, Nonlinear analysis, Air pressure, Mooney constitutive theory, Herrman constitutive theory, Inflation pressure, Flight dynamics.

ADA363107REB PC A05/MF A01
China Report, Science and Technology, No. 192.
Joint Publications Research Service, Arlington, VA.
28 Mar 1983, 75p, JPRS-83145.
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No abstract available.

Keywords: *Lasers, *Mechanics, *Metallurgy, Government(Foreign), Machine tools, Life sciences, Earthquakes, China, Chinese language, *Foreign technology, Science and technology, Fbis collection, Foreign reports, Translations.

ADA363108REB PC A08/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
20 May 1985, 145p, JPRS-UBB-85-016.
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No abstract available.

Keywords: *Biomedicine, *Behavioral sciences, Ussr, Government(Foreign), Polymers, Biochemistry, Russian language, Life sciences, Immunology, Biotechnology, Public health, Genetics, Ecology, Biophysics, Fbis collection, Foreign reports, Translations.

ADA363109REB PC A08/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
7 Jun 1985, 133p, JPRS-UBB-85-017.
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No abstract available.

Keywords: *Biomedicine, *Behavioral sciences, Ussr, Government(Foreign), Polymers, Biochemistry, Russian language, Life sciences, Immunology, Biotechnology, Public health, Genetics, Ecology, Biophysics, Fbis collection, Foreign reports, Translations.

ADA363110REB PC A07/MF A02
USSR Report, USA: Economics, Politics, Ideology No. 12, December 1984.
Joint Publications Research Service, Arlington, VA.
27 Mar 1985, 106p, JPRS-USA-85-003.
Trans. of Ekonomika, Politika, Ideologiya (Economics, Politics, Ideology) (Moscow), n12, Dec 84.
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No abstract available.

Keywords: *Political science, *Economics, Ussr, Government(Foreign), Russian language, Intervention, Civil affairs, International relations, Elections, Ideology, Fbis collection, Foreign reports, Translations.

ADA363111REB PC A06/MF A01
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
22 Oct 1985, 82p, JPRS-UBB-85-024.
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No abstract available.

Keywords: *Biomedicine, *Behavioral sciences, Ussr, Biochemistry, Russian language, Life sciences, Bio-

technology, Public health, Psychology, Genetics, Aerospace medicine, Biophysics, Fbis collection, Foreign reports, Translations.

ADA363112REB PC A06/MF A01
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
10 Dec 1985, 78p, JPRS-UBB-85-025.
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No abstract available.

Keywords: *Biomedicine, *Behavioral sciences, Ussr, Biochemistry, Russian language, Life sciences, Biotechnology, Public health, Genetics, Pharmacology, Toxicology, Psychiatry, Fbis collection, Foreign reports, Translations.

ADA363113REB PC A06/MF A01
USSR Report, USA, Economics, Politics, Ideology, NO. 3, March 1985.
Joint Publications Research Service, Arlington, VA.
29 May 1985, 84p, JPRS-USA-85-006.
Trans. of Ekonomika, Politika, Ideologiya (Economics, Politics, Ideology) (Moscow), n3, Mar 85.
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No abstract available.

Keywords: *Political science, *Economics, Ussr, Government(Foreign), Military forces(Foreign), Political alliances, Russian language, International trade, Intervention, Civil affairs, International relations, Ideology, Fbis collection, Foreign reports, Translations.

ADA363114REB PC A04/MF A01
USSR Report, USA: Economics, Politics, Ideology No. 2, February 1985.
Joint Publications Research Service, Arlington, VA.
20 May 1985, 49p, JPRS-USA-85-005.
Trans. of Ekonomika, Politika, Ideologiya (Economics, Politics, Ideology) (Moscow), n2, Feb 85.
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No abstract available.

Keywords: *Political science, *Economics, Ussr, Policies, Government(Foreign), Military forces(Foreign), Russian language, International trade, Intervention, International relations, Elections, Ideology, Fbis collection, Foreign reports, Translations.

ADA363115REB PC A03/MF A01
IRON BIRD Model for Agile Program Part 2.
Anamet Labs., Inc., San Carlos, CA.
W. H. Kuntz. Jul 1984, 22p, ANAMET-ASIAC-884.1F.
Contract F33615-81-C-3201
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This is a feasibility study of full scale dynamic simulation of aircraft structures for the Agile Program. The purpose is to generate practical designs and provide cost estimates for the F-4, F-15, and F-16 simulations (IRON BIRDS) in response to a request from FIBR.

Keywords: *Fighter aircraft, *Aircraft models, Computerized simulation, Dynamics, Dynamic response, Cost estimates, Feasibility studies, Airframes, Agile(Aircraft ground induced loads excitation), Iron bird.

ADA363116REB PC A05/MF A01
In the Crucible of Battle: An Analysis of the Split Air Operations Center and the Principles of War.
Final rept.
Naval War Coll., Newport, RI.
L. R. Medler. 5 Feb 1999, 57p.
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Netcentric Warfare, 'Information Superiority,' 'Battlespace Dominance,' call it what you will, regardless of the color uniform you wear it's impossible not to recognize the impact technology is having on all aspects of war, but most visibly on the operational level. Within the Air Force, one of the most contrvrsial initiatives to enhance warfighting at the operational level is the 'split Air Operations Center' (split AOC) concept being explored through Expeditionary Force Experiments (EFx) and Blue Flag exercises. But, EFX-98 and past Blue Flag exercises attempting to implement the split AOC have fallen far short of seamlessly integrating physically separated AOC elements. Furthermore, how does the split AOC concept hold up when compared against the enduring principles of war. Additionally, before the split AOC becomes a reality, its impact on human interaction, future bandwidth issues, and stated operational requirements should also be considered. At best, when analyzed against the principles of war and these other factors, the split AOC does not appear to be the most effective way to enhance air operations. Yet, there is a real requirement to improve the AOC's deployability and sustainability. However, a better solution is a three part approach to (1) redefine some of the functions of the Numbered Air Forces, (2) forward preposition additional AOC assets, and (3) modernize the AOC communications and computer equipment. Instituting these recommendations insures the AOCs are organized and equipped to meet the requirement for improved response time, reduced deployed footprint, and increased security.

Keywords: *Military operations, *Warfare, Military requirements, Impact, Operational readiness, Interactions, Reaction time, Military exercises, Military planning, Split air operations center, Efx(Expeditionary force experiments), Blue flag exercises, Principles of war.

ADA363117REB PC A04/MF A01
National Guard State Partnership Program: Is It Still Relevant.
Army War Coll., Carlisle Barracks, PA.
N. E. Arflack. 1 Apr 1999, 37p.
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Now more than ever the National Guard has an opportunity to take an active part in shaping the U.S. National Security Strategy. The State Partnership Program provides a mechanism by which Guard members can hone there Major Occupational Skills (MOS) related skills and demonstrate to foreign citizens what democracy really means. The National Guard State Partnership has paired 24 states with foreign partners in Europe, Central, and South America. Through this effort the countries involved receive humanitarian assistance to improve living conditions in their respective countries. The Guard members involved gain the experience of an overseas deployment and learn to overcome the hardships of accomplishing their missions under the most austere conditions. In this paper I examine the Kentucky - Ecuadorian partnership in hopes of highlighting the successes and making recommendations for improvement of future operations.

Keywords: *National guard, *National security, Military operations, Europe, Deployment, Military strategy, Military assistance, Kentucky, South america, Democracy, Foreign aid, Strategy research project, National guard state partnership program, Mos(Major occupational skills).

ADA363118REB PC A04/MF A01
Challenge of Manning the Post-Cold War Army.
Army War Coll., Carlisle Barracks, PA.
J. P. Mikula. 15 Apr 1999, 37p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Following the end of the Cold War, the Army embarked on a significant force reduction program that spanned nearly an entire decade. As the Army approached the end of that drawdown period, the All-Volunteer Force was beginning to show signs of buckling. High attrition, a declining propensity to serve, and a significant gap between civilian and military pay had the Army struggling to bring young men and women into its ranks. Rumblings of a 'hollow Army,' reminiscent of the post Vietnam days, were again being heard in discussions among Army leaders. This paper will examine the Army's manning crisis and the factors that have contributed to the challenges it faces today. Are the Army's current personnel policies contributing to the problem. This paper contends they are and will offer solutions to help the Army overcome the current manning crisis.

Keywords: *Army personnel, Military forces(United states), Policies, Leadership, Personnel management, Attrition, Reduction, Manpower, Cold war, All volunteer, Strategy research project.

ADA363119REB PC A07/MF A02
Celtic Warfare in Ireland: A Logistical Perspective.
Master's thesis.
Pennsylvania State Univ., University Park.
D. B. Beougher. May 1999, 110p.
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The study of warfare in Pre-Norman Ireland has focused almost to exclusion on the political ramifications of campaigns and violent actions. Scholars have avoided detailed studies of the mechanics of violence in this Celtic society due to a paucity of the documentation commonly used by military historians. By combining the study of literary and ecclesiastical sources as well as archaeological evidence with modern United States Army logistical doctrine, the general logistical practices employed by the pre-Norman Irish kings emerges. The study continues on by examining certain critical elements of this practice: specifically the assembly of armies, methods of movement, and the provisioning of the force. After developing a model for Irish logistical practices, this thesis examines Latin and European influences on the Irish from the seventh through the eleventh centuries and their impact in Ire land. This methodology sheds new light on the incredible success of the kingdom of Dal Cais in the late tenth and early eleventh centuries. By refusing to conform to traditional logistical practices, and instead adapting the methods that had proven successful in Wessex and West Francia, Brian Borumha revolutionized warfare in The land.

Keywords: *Warfare, *Military forces(Foreign), Methodology, Military history, Military strategy, Theses, Assembly, Army, Military tactics, Ireland, Historians, Celtic society, Pre-norman ireland.

ADA363120REB PC A03/MF A01
Navy F/A-18 Crash Survivable Flight Incident Recorder (CSFIR).
Smiths Industries Aerospace and Defense Systems, Inc., Grand Rapids, MI. Grand Rapids Div.
6 May 1999, 26p.
Contracts N00019-99-F-0680 , GS-24F-3027G
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On 28 April, 1999 representatives from the Navy, Boeing and Smiths Industries (SI) met at the Naval Air Weapons Development Center, China Lake, CA for a Coordination I Kick Off Meeting in support of the F/A-18 Crash Survivable Flight Incident Recorder System (CSFIR) integration program. Smiths Industries is enhancing the software currently under development for its Voice and Data Recorder (VADR) under this contract. This enhancement will allow the uploading of

software updates and version verifications of the F/A-18 flight software via a MIL-STD-1553 multiplex data bus. This will be accomplished using the Memory Loader I Verifier Set (MLVS).

Keywords: *Attack aircraft, *Flight recorders, Computer programs, Software engineering, Symposia, Survivability, Integration, Flight instruments, Recording systems, California, Csfirs(Crash survivable flight incident recorder system), F/a-18 aircraft, Dfir(Deployable flight incident recorder), Vadr(Voice and data recorder).

ADA363121REB PC A08/MF A02
OCCUPATIONAL SURVEY REPORT: Surgical Services, AFSC 4N1X1B/C/D, OSSN 2331.
Air Force Occupational Measurement Squadron, Randolph AFB, TX.
Mar 1999, 126p.
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The Surgical Services career ladder was surveyed to obtain current task and equipment data for use in evaluating current training programs. Survey results are based on responses from 764 respondents (69 percent of total number surveyed). The survey sample satisfactorily represents the overall career ladder population.

Keywords: *Personnel management, *Careers, *Personnel development, Military personnel, Military requirements, Data management, Information systems, Job training, Medicine, Military training, Surgery, Occupational survey reports.

ADA363122REB PC A04/MF A01
Navy AV-8B Crash Survivable Flight Incident Recorder (CSFIR).
Smiths Industries Aerospace and Defense Systems, Inc., Grand Rapids, MI. Grand Rapids Div.
3 May 1999, 33p.
Contracts N00019-98-F-0016 , GS-24F-3027G
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Navy AV-8B Crash Survivable Flight Incident Recorder (CSFIR) meeting minutes of the program on April 28, 1999 are presented.

Keywords: *Flight recorders, Computer programs, Software engineering, Symposia, Survivability, Flight instruments, Recording systems, Csfirs(Crash survivable flight incident recorder system), Av-8b, Vadr(Voice and data recorder).

ADA363123REB PC A04/MF A01
Shaping of Policy in Support of National and Environmental Security for the Remediation of Cold War Related Ecosystem Degradation in the Commonwealth of Independent States.
Army War Coll., Carlisle Barracks, PA.
T. W. Saltsman. 2 Dec 1998, 35p.
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This paper will focus on the linkage between the national security interests of the United States, and ecosystem degradation caused by the Cold War, paying particular attention to the shaping of preventive defense policy in the Commonwealth of Independent States. The paper reviews the issue of preventative defense by linking Robert Blackwell's framework of time, geographic priority and connectivity to the end, ways and means of national strategic planning. It will then assess the relationship between these two 'testing criteria' and apply them to two environmental case studies - specifically the contamination of the Aral Sea basin coupled with the destruction of the basin's historical economic sustainability and the environmentally induced conflict in Tajikistan. The paper will then conclude by advocating a more aggressive approach, by the United States military, in pursuing environmental remediation efforts through the use of a combination of brigade level engineers units and the United States Army Corps of Engineers.

Keywords: *Ecosystems, *Environmental management, Policies, National security, Degradation, Strategic analysis, Case studies, Cold war, International, Contamination, Military planning, Geography, Strategy research project, Environmental remediation, Environmental politics, Environmental security.

ADA363124REB PC A03/MF A01
Operational Design: The Impact of Nuclear, Biological, and Chemical Attack on U.S. Forces During Power Projection and Sustainment Operations. Final rept.
Naval War Coll., Newport, RI.
H. D. Johnson. Feb 1999, 26p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The potential for an adversary's use of weapons of mass destruction (WMD) against U.S. forces during the power projection and sustainment phases of a major operation has been recognized but there has been little attention paid to what we could do to mitigate the threat in terms of our operational design. Planners have largely assumed that deterrence will work or failing that, NBC protective measures will allow us to 'muddle through' This essay will argue that there are six specific elements the combatant commander must incorporate into his operational design to mitigate the impact of enemy use of WMD in delaying, disruption, deterrence, and denial operations against U.S. forces in initial power projection and sustainment phases of a major operation. They are: (1) use of intelligence to identify the enemy WMD system; (2) use of operational fires to degrade that system; (3) adjustment of the operational timeline to account for WMD effects; (4) dispersion of U.S. forces during deployment and employment; (5) early deployment of NBC decontamination units and port/airfield management agencies; and (6) operational deception to induce the enemy to expend his weapons against irrelevant targets. It concludes that we must incorporate these elements into our war games and refine our joint doctrine to enhance our understanding and gain a thorough appreciation for what it will take to be successful against and adversary who would attempt to deny our access to a region with WMD.

Keywords: *Nuclear warfare, *Military forces(United states), *Attack, *Biological warfare, *Chemical warfare, *Mass destruction weapons, Military intelligence, Military operations, Military planning, Power projection, Sustainment operations, Operational design.

ADA363125REB PC A03/MF A01
Contractors in the Joint Theater: The Need for a Joint Doctrine. Final rept.
Naval War Coll., Newport, RI.
M. S. Hogan. 5 Feb 1999, 22p.
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Current Joint Doctrine does not adequately address the complex issues of Contractors In a Joint Theater (CIJT). Force reductions, increasingly complex weapon systems, and political considerations have combined to create a much greater reliance on CIJT. The Joint Commander and his staff do not have sufficient guidance to plan for or to control contractors in the joint theater. Contractors in the joint theater are currently controlled by Service doctrine and staffs. When the Services control contractors, the Joint Commander cannot ensure unity of effort. Joint commanders must also plan for the deployment, training, and support of contractor personnel. Since these contractors are a key element of the joint commander's combat power, the commander must be aware of issues affecting their readiness. Additionally, joint commanders must conduct risk assessment and risk management to insure contractors can execute their assigned missions. A comprehensive joint doctrine must be developed that addresses these issues. Specifically, joint doctrine should include a permanent contingency contracting staff for each CINC. Joint doctrine must also assign responsibility for training, deploying, and supporting contractor personnel.

Keywords: *Theater level operations, *Contractors, *Joint military activities, Military doctrine, Cijt(Contractors in a joint theater).

ADA363126REB PC A03/MF A01
Non-Lethal Operational Fires in Military Operations Other Than War. Final rept.
Naval War Coll., Newport, RI.
M. J. Gould. 5 Feb 1999, 20p.
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Operational planing today must further develop the use of fires in military operations other than war (MOOTW). Factors such as emerging technologies in information operations and the difficulties of MOOTW planning make non-lethal operational fires the weapons of choice to achieve the operational objectives in an environment restrained by ROE, purpose and scope. The capabilities of non-lethal fires are manifested through PSYOPS, Information Warfare (IW), Military deception, and Electronic Warfare (EW).

Keywords: *Fires, *Operations other than war, *Nonlethal weapons, Electronic warfare, Operational readiness, Information warfare, Mootw(Military operations other than war), Operational fires, Roe(Rules of engagement), Psyops(Psychological operations), Joint fires.

ADA363128REB PC A05/MF A01
Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
Los Alamos National Lab., NM.
L. A. Rosocha, and R. A. Korzekwa. 1998, 53p, LA-UR-98-968.
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In the past several years interest in gas-phase pollution control has increased, arising from a larger body of regulations and greater respect for the environment. Advanced oxidation technologies (AOTs), historically used to treat recalcitrant water pollutants via hydroxyl-radicals (OH), are now being applied to gas-phase pollutants using non-thermal plasmas (NTPs). These plasmas are useful for generating highly reactive species (e.g., free radicals) which readily decompose entrained pollutants in atmospheric-pressure gas streams. Such plasmas can generate both oxidative and reductive radicals - showing promise for treating a wide variety of pollutants, in some cases simultaneously decomposing multiple species. In this paper, we will discuss NTPs views as an AOT; that is, a technique for free-radical-initiated pollutant decomposition. Our primary discussion topics are example applications of the technology, representative plasma reactors, reactive species generation, basic decomposition chemistry, simple analytical removal-scaling models, and the results of laboratory experiments and field trials on representative compounds.

Keywords: *Phase transformations, *Gases, *Reduction, *Oxidation, Plasmas(Physics), Water treatment, Pollutants, Free radicals, Environmental protection, *Nonthermal plasmas, Serdp(Strategic environmental research and development program), Serdp collection, Aot(Advanced oxidation technology).

ADA363133REB PC A06/MF A01
Field Demonstration of NRL Environmental Flow Immunosensor for Environmental Monitoring. Technical rept. Sep 97.
Naval Research Lab., Washington, DC. Center for Biomolecular Science and Engineering.
Feb 1998, 77p.
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An NRL continuous flow immunosensor, known as the FAST 2000, has been developed that is adaptable for use in a variety of environmental monitoring platforms. During the past year, the FAST 2000 instrument was tested in initial field trials at numerous military bases identified by the EPA as priority Superfund cleanup sites. The field study objective was to measure the effectiveness and efficiency of the Flow Immunosensor in performing on-site field analysis for two selective explosives, TNT and RDX. Samples containing unknown concentrations of explosives were collected from groundwater and monitoring wells at various locations and analyzed in NRL sensor with no sample pretreatment or concentration. For data validation and in conjunction with the tests performed on-site by the Flow Immunosensor, independent laboratory analyses of lab splits from the field samples and explosives standards were performed by High Performance Liquid Chromatography using the EPA SW846 Method 8330 for explosives. In addition to the contaminated field samples, appropriate controls, blanks and interferents were tested in the lab for certification and validation data requirements. Results were evaluated based on accuracy, precision, rate of false positives/negatives, cost, time, and waste generation.

Keywords: *Immunoassay, *Environmental engineering, Military facilities, Monitoring, Field tests, Explosives, Ground water, Liquid chromatography, Wastes, Contamination, Rdx, Tnt, Serdp collection, Serdp(Strategic environmental research and development program), Environmental monitoring, Fast 2000, Flow immunosensor.

ADA363134REB PC A03/MF A01
Research and Development Needs in Finite Element Analysis of Viscoelasticity Damped Structures.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
D. A. Kienholz. Dec 1980, 24p, ASIAC-1280-1A.
Contract F33615-77-C-3046
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Vibration control in structures by means of viscoelastic damping material has gained wide acceptance, particularly in the aerospace industry. Significant weight, cost, performance, and reliability payoffs are possible in situations where resonant vibration cannot be avoided. Numerous examples of damping by constrained or unconstrained layers of viscoelastic material have appeared in the literature. However, the analysis of general structures to predict the damping due to an integral or add-on layered treatment or lumped viscoelastic elements is by no means a routine activity. The key to effective use of the well-developed technology of damping materials will be a parallel improvement in analytical capability. It will be necessary to make reliable and timely predictions of the system damping which can be expected when a given viscoelastic material is incorporated into a given structural configuration. It must also be possible for working engineers to produce these answers in a project environment using widely available analysis tools such as computer codes. It is natural to look to finite element methods for damping predictions of general damped structures, just as they are used for routine calculation of the dynamic properties of undamped systems. Considerable work has already been done in this area, primarily aimed at prediction of damped response of simple structural elements such as sandwich beams, plates, etc. As participants in this work, it has been the authors' experience that current finite element tools show much promise for analysis of structures which include viscoelastic damping material. However as with any emerging technology, there are specific questions, both theoretical and practical, which must be investigated and resolved in order to produce a reliable and useful design tool. The purpose of this paper is to describe the problem areas which, in the authors' view, must be addressed in the near term.

Keywords: *Vibration, Software engineering, Finite element analysis, Viscoelasticity, Damping, Structural components, *Vibration damping.

ADA363135REB PC A08/MF A02
Development of a Biaxial Test Fixture.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
N. Holt, and W. Gibson. Jan 1980, 150p, ASIAC-180-1A.
Contract F33615-77-C-3046
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Aerospace Structures Information and Analysis Center has designed and fabricated a specimen load system for conducting biaxial material characterizations of composite materials. In particular, the system is useful for determining a major portion of the biaxial failure envelopes for composite materials. Portions of the triaxial failure surface where at least two of the principal stresses are negative may also be explored with the system. In addition, with proper control, the system may be used to evaluate the multiaxial fatigue properties of composites. Materials with high Poisson 15 ratios, which cannot usually be evaluated with ring burst tests, may be easily tested in the ASIAC system. Theoretical aspects of the system have been described in Anamet Laboratories, Inc. Report No. 277.502, 'Technical Proposal for Test System for Conducting Biaxial Tests of Composite Laminates.' Design of the test system is such that it is best used with any standard compression or universal testing machine with a minimum capacity of 100,000 lbs. This report describes the development of the system to date and some of the problems encountered. It also presents the results of biaxial testing of specially made and strain gaged composite specimens. The test results are quite encouraging, and they show that further refinement and use of the system is warranted.

Keywords: *Composite materials, *Biaxial stresses, Fatigue(Mechanics), Test fixtures.

ADA363136REB PC A07/MF A02
Structural Analysis of the Lamars Assembly.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
M. R. James, and G. R. Negaard. Nov 1981, 116p, ASIAC-1181-1A.
Contract F33615-81-C-3201
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This report presents the results of a transient response analysis of the LAMARS primary structure using NASTRAN, level 17.0 (rigid format 9). LAMARS (Large Amplitude Multimode Aerospace Research Simulator) is a five degree-of- freedom motion system composed of a single-place aircraft type cockpit and a display screen at the end of a 30 foot beam. The simulator is used for engineering simulation in order to evaluate flying qualities, flight control system designs and vehicle performance.

Keywords: *Flight simulators, Flight control systems, Computer aided design, Structural analysis, Dynamic response, Degrees of freedom, Lamars(Large amplitude multimode aerospace research simulator), Nastran computer program.

ADA363137REB PC A03/MF A01
Interim Report on the Development and Fabrication of a Biaxial Test Fixture. Interim rept.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
Dec 1978, 18p, ASIAC-1278-1A.
Contract F33615-77-C-3046
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This interim report describes the development, fabrication and initial testing of fixturing designed to determine the biaxial properties of materials. The fixturing was designed to be particularly compatible with composite materials although it is not limited to use with those materials. This work is being performed under ASIAC Problem No. 112. The work was done by the Aerospace Structures Information and Analysis Center, which is operated for the Air Force Flight Dynamics Laboratory by Anamet Laboratories, under Contract Number F33615-77-C-3046.

Keywords: *Composite materials, *Biaxial stresses, Test fixtures.

ADA363138REB PC A07/MF A02
Static Structural Analysis of the Loreors Electronic Console Support Frame.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
L. P. Bills. Jul 1979, 101p, ASIAC-779-1A.
Contract F33615-77-C-3046
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This report describes the static structural analysis used to verify the structural adequacy of the LOREORS Electronic Console Support Frame under crash loadings of a C-141 aircraft. The results of the analysis confirm that the support frame will satisfactorily withstand the loading conditions.

Keywords: *Stress analysis, *Frames, *Control panels, Finite element analysis, Structural analysis, Static tests, Nastran computer program, C-141 aircraft, Loreors electronic console support frame.

ADA363139REB PC A09/MF A02
Load Time Dependent Relaxation of Residual Stresses in an Aluminum Test Specimen.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
R. R. Arnold. Jun 1977, 159p, ASIAC-677-1C.
Contract F33615-75-C-3089
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The analysis presented in this report is concerned with the effect of residual stresses on the life-lengthening of structural members. In particular, it has been observed that in specimens subjected to compressive residual stresses, which occur as a result of plastic deformation at a stress concentration, the life of the specimen is extended. However, in some later tests involving both load and time effects, the residual compressive stresses have been shown to shorten the specimen lifetime. This apparent contradiction is no doubt due to the complex phenomenological behavior of the material which is not very well understood at the present time. To better understand the material behavior as discussed briefly above (and referred to as load-time dependent relaxation of residual stresses) an analytical approach has been developed to complement the existing experimental approaches. The techniques involved and the results of this analysis are presented in Section II. The conclusions and recommendations are presented in Section III. The supporting documentation for this analysis is included in the Appendices.

Keywords: *Aluminum alloys, *Residual stress, Plastic deformation, Structural components, Creep strength, Aluminum alloy 7075-t651.

ADA363140REB PC A04/MF A01
USSR Report, Machine Tools and Metalworking Equipment, No. 7.
Joint Publications Research Service, Arlington, VA.
15 Jun 1983, 45p, JPRS-83691.
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No abstract available.

Keywords: *Ussr, *Machine tools, *Metalworking, Robotics, Fbis collection, Foreign reports.

ADA363141REB PC A05/MF A01
USSR Report, Construction and Related Industries, No. 93.
Joint Publications Research Service, Arlington, VA.
8 Jul 1983, 55p, JPRS-83851.
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No abstract available.

Keywords: *Ussr, Construction materials, Construction equipment, Fbis collection, Foreign reports.

ADA363143REB PC A06/MF A01
USSR Report, Chemistry, No. 110.
Joint Publications Research Service, Arlington, VA.
18 Nov 1983, 88p, JPRS-84777.
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No abstract available.

Keywords: *Ussr, Biochemistry, Electrochemistry, Chemistry, Catalysis, Analytical chemistry, Foreign reports, Fbis collection.

ADA363144REB PC A08/MF A02
Resource for Piezoelectric Single Crystals. Annual rept. 1 Apr 98-30 Mar 99.
Pennsylvania State Univ., University Park. Materials Research Lab.
T. R. Shrout. 30 Apr 1999, 133p.
Contract N00014-98-1-0527
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This report documents work performed over the period of 01 April 1998 through 30 March, 1999 under the Office of Naval Research Contract N00014-98-1- 0527. The program titled 'Resource for Piezoelectric Single Crystals' combines a critical number of interdisciplinary faculty to address the areas of innovative crystal growth, novel piezoelectric materials, crystallographic and domain engineering, while investigating new application opportunities in the area of MEMs and electrooptics. Accomplishments in the above areas include the following: Crystal growth of Pb(Zn(1/3)Nb(2/3))O3-PbTiO3 (PZN-PT) and Pb(Mg(1/3) Nb(2/3))O3-PbTiO3 (PMN-PT) relaxor-based ferroelectrics continues to utilize high temperature flux growth to synthesize high quality crystals with less than 1 mole% variance of PbTiO3 across 1-2 inch size crystals. Alternatively, the Bridgman growth technique has been implemented for growth of nearly congruently melting PMN-PT materials. The underlying phenomena of crystallographic and domain engineering of high piezoelectric activity in Relaxor-PT crystals was applied to non-PbO perovskites, including BaTiO3 and Zr-modified BaTiO3 crystals, the latter grown by solid state techniques. Crystallographic engineering of non-PbO systems resulted in piezoelectric d(33) coefficients ranging from 350-600 pC/N and electromechanical coupling coefficients k(33) approx. 75-85%, comparable to superior of present day polycrystalline PZT ceramics. Novel compositions being investigated in this program include (Pb(Yb(1/2)Nb(1/2))O3-PbTiO3 Na, BiTiO3-BaTiO3 and Bi(A)O3-PbTiO3 (A Sc, Fe) systems, for the ultimate realization of high Tc piezoelectrics with enhanced acoustic power. Domain investigations under various E-field conditions have revealed that polarization fatigue may be crystallographic dependent with no fatigue for 001 oriented crystals.

Keywords: *Piezoelectric crystals, *Crystal growth, Electrooptics, Thin films, Single crystals, Lead titanates, Crystallography, Microelectromechanical systems, Pzn(Lead zinc niobate), Pmn(Lead magnesium niobate).

ADA363145REB PC A05/MF A01
Modification and Analysis of the 40MM Selective Feed System. Final rept. Nov 72-Nov 74.
Rock Island Arsenal, IL. General Thomas J. Rodman Lab.
M. L. Coppock, and T. J. Donahue. Jan 1977, 70p, RIA-81-U1035, RIA-R-TR-77-023.
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This report describes one approach to the problem of feeding several (more than two) types of ammunition of the same caliber into a single weapon. This system was designed primarily for use with an aircraft armament subsystem, however, there is no real reason for limiting its application to an aircraft. A feasibility prototype using the M129, 40mm Grenade Launcher was designed and fabricated by a contractor. This report describes the design and how it was changed to give it added reliability of operation. It was concluded that considerably more work is required to obtain acceptable reliability for demonstration. in comparison to existing helicopter armament subsystems, this system will be limited to a relatively low rate of fire.

Keywords: *Grenade launchers, *Ammunition feed mechanisms, Firing tests(Ordnance), Helicopters, Aircraft guns, M-129 grenade launchers, 40-mm ammunition.

ADA363146REB PC A03/MF A01
Can We Get There From Here. RMAs, Network-Centric Warfare and the Process of Transformation. Final rept.
Naval War Coll., Newport, RI.
T. W. Quinn. 5 Feb 1999, 25p.
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Among the hot buzzwords in U.S. military circles at present are the Revolution in Military Affairs (RMA) and Network Centric Warfare (NCW). RMA enthusiasts and technocrats argue that by harnessing emerging information technologies the U.S. can achieve Information Dominance in the battlespace of tomorrow, and fundamentally change the nature of warfare. The RMA is comprised of three elements: technology, doctrine, and organizational adaptation encompassed in the perceived strategic context. Network Centric Warfare envisions the combination of advanced sensors, weapons, and C4I systems from geographically dispersed units networked together into a continuously evolving ecosystem to create a whole greater than the sum of its parts. The results are forces achieving the massing of effects versus the massing of forces, operating with increased speed and synchronized from the bottom up to lock out enemy options while locking in success. Although the means of conducting war will change, the nature of it will not. The key to successfully formulating, implementing, and realizing any RMA will be the investment of our intellectual capital along the path. There is no such thing as the foreseeable future and we must not lock ourselves into a course with no allowable deviation but rather critically assess the who, what when, why, where and how as we move into the 21th century. We cannot wait for someone else to solve the problems for us rather we must all be involved to get there from here.

Keywords: *Strategic warfare, *Military tactics, *Information warfare, Military strategy, Military doctrine, Military planning, Military art.

ADA363148REB PC A03/MF A01
Not to Foresee, But to Enable: The Promise and Pitfalls of Computer Simulations in Operational Planning. Final rept.
Naval War Coll., Newport, RI.
J. C. Bell. 5 Feb 1999, 22p.
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While warfare's philosophers and theorists have long asserted the value of planning for war, practitioners have inevitably found military planning a devilishly difficult task. The advent of the communication age has made operational planning more, rather than less, difficult. The complexity of the world situation is increasing while the time available for planning is compressing. Fortunately for U.S. military planners, the forthcoming generation of computer simulation technology promises to provide powerful new planning tools. My analysis shows that systematic use and integration of computer simulations in the operational planning process will decrease planning time while simultaneously improving the quality of the plans produced. Operational commanders and staffs will be free to focus their brain power and precious time on the art of warfare while delegating much of the science to advanced computer simulation systems. Computer simulations are no panacea. They provide only partial solutions to some of planning's current shortfalls and in other, more intractable areas, may be of no help at all. Additionally, to reap the full benefits of what computer simulations have to offer we will need to more thoroughly network them with other automated planning systems. In the end we may even need to redesign our planning processes and products to realize all the benefits that computer simulations can offer.

Keywords: *Computerized simulation, *Combat readiness, *Military planning, Military requirements, Military strategy, Joint military activities, War games, Military art.

ADA363149REB PC A03/MF A01
Space as an Area of Responsibility (AOR), Is It the Right Solution. Final rept.
Naval War Coll., Newport, RI.
A. L. Cudnohufsky. 5 Feb 1999, 23p.
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United States Commander in Chief Space (USCINCSPACE) has advocated the need to designate space as an Area of Responsibility (AOR) in order for him to have the authority to fulfill his assigned responsibilities. However, upon examining the Unified Command Plan it becomes evident that designating space as an AOR provides USCINCSPACE no additional authority or ability to accomplish his assigned missions of space control, force protection, or conduct space operations. Designating space as an AOR would likely result in undesirable consequences. If space were designated an AOR it could be perceived by other countries as the U.S. intention of militarizing space, constituting a departure from decades old policy of using space for peaceful purposes. This action in turn could then instigate a space based weapons race or complicate the proliferation of weapons of mass destruction (WMD) to space. U.S. Space Command (USSPACECOM) can best ensure space control by non-space based weapons. Use of these types of weapons would ensure space protection and access for the U.S. and be capable of denying space access to enemies when needed, while avoiding the perception of militarizing space. To enhance USCINCSPACE's ability to meet his responsibilities, he needs the authority to better manage space personnel and space assets. U.S. Special Operations Command (USSOCOM) provides an ideal model that USSPACECOM should implement to achieve this. If implemented, it would give USSPACECOM the unique authority to manage space orientated personnel careers. It would also give him the authority to execute his own budget, providing increased authority to shape space forces, insure interoperability and provide the best possible space support to the war fighters.

Keywords: *Strategic analysis, *Space warfare, Military requirements, Military strategy, Military doctrine, Military capabilities, Joint military activities, Military planning.

ADA363150REB PC A03/MF A01
Use of Commercial Space Assets by the Joint Force Commander. Final rept.
Naval War Coll., Newport, RI.
E. L. Dawson. 5 Feb 1999, 18p.
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The commercial space industry has surpassed the military with more satellites on orbit. In the coming decade, it is projected that 1000 more commercial satellites will be launched. The United States Government is relaxing trade restrictions to stimulate private sector investment in commercial space systems. With more capital being funded into the commercial sector, the industry is at the start of a new evolution of space technologies available to private citizens and foreign governments alike. The evolution of technologies will bring smaller, lighter and more capable satellites for less money. The launch cost involved will also decrease and allow more entities to place systems in space. The United States military is already augmented to varying degrees with commercial systems. The commercialization of space will change the way the military is enhanced by space systems. As these new technologies become available to the market, the Joint Force Commander will need to continually assess their military utility in order to prevent the enemy from gaining an edge.

Keywords: *Space systems, *Military planning, *Military satellites, Military doctrine, Joint military activities, Commercial equipment, Communication satellites, Space communications.

ADA363151REB PC A06/MF A01
Improving Dredged Material Management Decisions with Uncertainty Analysis. Final rept.
Army Engineer Waterways Experiment Station, Vicksburg, MS.
D. J. Vorhees, S. B. Kane Driscoll, K. Von Stackelberg, and T. S. Bridges. Dec 1998, 79p, WES/TR/DOER-3.
Prepared in collaboration with Menzie-Cura Associates, Chelmsford, MA.
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Uncertainty regarding the ecological and human health risks associated with dredged material disposal alternatives can lead to delayed, costly and unwise decisions. Uncertainty about the likelihood for unacceptable impacts can result from the lack of knowledge about critical elements or processes contributing to risk or natural variability in the same elements or processes. The objectives of this effort were to (a) describe in detail the uncertainty sources within the tiered evaluation process, (b) rank sources of uncertainty within the tiered evaluation process by degree of contribution, and (c) make preliminary recommendations for further refinement of the ranking. The most significant sources of uncertainty within the tiered evaluation process included identification of the contaminants of concern, the selection and use of reference sediments, trophic transfer of sediment-associated contaminants, the potential for chronic toxicity and the use of chronic sublethal bioassays, defining assessment and measurement end points during the conduct of an environmental risk assessment, the use of contaminant fate and transport models, tissue-based measures of toxicity, dose-response models for human receptors, and the toxicity of complex mixtures. Specific recommendations for the need for more extensive field validation for many of the components in the tiered evaluation process were made.

Keywords: *Waste disposal, *Dredged materials, Uncertainty, Waste management, Sediments, Risk analysis, Contaminated sediments.

ADA363152REB PC A03/MF A01
Network Centric Warfare and the Joint Forces Air Component Commander. Final rept.
Naval War Coll., Newport, RI.
N. B. Day. 5 Feb 1999, 20p.
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The JFACC concept rests on the belief that aircraft possess a unique ability to reach the deep battle and need to be centrally controlled and coordinated. Today, however, the JFACC controls more than just aircraft. The JFACC staff continues to grow to accommodate controlling and coordinating new technologies. In reality, the ability of aircraft to reach and influence the deep battle is no longer unique. It applies to a myriad of weapons, sensors, and information. A network centric automated system is better suited to control and coordinate these assets. Such a system would be able to absorb the functions of JFACC as a subset of functions performed. The system would be far streamlined and much more efficient than the JFACC. This system is interactive and fuses all information, weapons, and sensors into a common situational picture for all users. This system is a battlespace system.

Keywords: *Command and control systems, *Strategic warfare, *Military tactics, Military strategy, Military doctrine, Military planning, Military art.

ADA363153REB PC A03/MF A01
Moving Targets and Joint Theater Missile Defense Doctrine: Does it Apply to Locating and Engaging the Needle in the Haystack. Final rept.
Naval War Coll., Newport, RI.
R. T. Thompson. 5 Feb 1999, 27p.
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Moving targets are those characterized by substantial mobility. Due to this mobility, targeting information is transient in nature lasting only hours or even minutes. This makes moving targets hard to engage. In the recent past, by the time the target was acquired, identified and targeted, it had relocated making engagement unproductive. Information technologies (network centric and sensor to shooter concepts) are making this sequence of actions faster and making it viable now to target these time critical, moving targets.

Keywords: *Military doctrine, *Moving targets, *Joint military activities, Combat effectiveness, Military strategy, Combat readiness, Military planning, Military tactics, Battle management, Military art.

ADA363154REB PC A03/MF A01
Operational Commander, the Media, and MOOTW: A New Paradigm. Final rept.
Naval War Coll., Newport, RI.
T. D. Reynolds. 5 Feb 1999, 25p.
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While there will always be a degree of tension in military-media relations, the nature of MOOTW offers the operational commander a new paradigm defined by unprecedented levels of openness and cooperation. In the past, fears of compromising the mission and the operational security (OPSEC) of the forces were the overriding concerns that drove the military-media relationship; today's mission accomplishment and OPSEC may actually be enhanced by disclosing information to the media. With the help of U.S. Somalia Operations from 1992- 1995, we will examine the nature of these operations other than war and their implications for the operational commander-media relationship. Specifically, we will examine four defining characteristics of MOOTW that portend this new paradigm of openness and cooperation.

Keywords: *Military operations, *Security, *Operations other than war, Military personnel, Warfare, Tension, Media, Somalia, Military commanders.

ADA363155REB PC A04/MF A01
Reevaluating Doctrine for Joint Theater Air and Missile Defense. Final rept.
Naval War Coll., Newport, RI.
J. C. Peterschmidt. 5 Feb 1999, 36p.
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The Joint Theater Air and Missile Defense (JTAMD) threat is evolving rapidly. Such threats include not only Theater Ballistic Missiles, but also cruise missiles and eventually stealth attack aircraft. The U.S. is developing new active defense systems to help meet the challenges of these threats. However, the joint doctrine, which is necessary to integrate these forces, is not keeping pace. Specifically, the doctrine must change in order to take advantage of the overlapping sensor and engagement envelopes that will become more common once these advanced defenses are fielded. This paper explores three proposals that will enable a JFC to better optimize and integrate a JTAMD network of sensors and weapons. First, the JFC should have the option of making the Area Air Defense Commander (AADC) a coequal with the Joint Force Air Component Commander. This option would improve interservice coordination and allocation of active defense units, especially during the deployment and lodgment phase of a campaign. Second, the Joint Information Control Officer (JICO) must be defined and empowered in order to overcome interservice interoperability problems and establish a theater wide JTAMD picture. Third, in order to deconflict multiple engagements and maintain overlapping sensor coverage as the battle unfolds, the AADC may have to conduct both centralized planning and centralized execution.

Keywords: *Military doctrine, *Joint military activities, *Theater missile defense, Combat effectiveness, Military strategy, Active defense, Combat readiness, Military planning, Military tactics, Battle management, Military art.

ADA363156REB PC A03/MF A01
Groundwater Remediation Field Laboratory (GRFL). Interim rept.
Armstrong Lab., Tyndall AFB, FL. Environics Directorate.
Jun 1997, 17p.
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The Groundwater Remediation Field Laboratory (ORFL) at Dover AFB, DE is part of SERDP National Environmental Technology Test Sites program (NETTS), a tri-service and EPA network of sites for field testing innovative cleanup technologies. The GRFL is the Armstrong Laboratory contribution to the NETTS program. It is specifically focused on technologies to deal with subsurface fuels and solvents contamination, especially contamination by what are termed dense nonaqueous phase liquids (DNAPLs). The GRFL represents the only place within the U.S. where carefully planned experiments involving contained releases of DNAPLs can be carried out in the subsurface of an existing water table aquifer. Demonstrations conducted at the ORFL must be of interest to the DoD, have sufficient peer review, and advance our understanding of DNAPL behavior in the subsurface or our ability to locate and cleanup these materials. Additionally, many of the demonstrations test technologies that can subsequently be utilized at Dover AFB on existing base contamination.

Keywords: *Ground water, *Environmental management, Portable equipment, Sites, Field tests, Fuels, Water treatment, Aquifers, Solvents, Cleaning, Contamination, Subsurface, Groundwater remediation, Netts(National environmental technology test sites program), Grfl(Groundwater remediation field laboratory), Dnapl(Dense non aqueous phase liquids).

ADA363157REB PC A03/MF A01
Information-Based RMA and the Principles of War. Final rept.
Naval War Coll., Newport, RI.
L. G. Litton. 5 Feb 1999, 25p.
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The U.S. military is currently experiencing a Revolution in Military Affairs (RMA) which has the potential to increase its combat capability orders of magnitude over any potential adversary. The essence of this revolutionary affair is that the character and conduct of warfare is undergoing a significant change driven primarily by the ability to acquire, collect, disseminate, and em-

ploy information in a very rapid manner. Conversely, there are many reason to believe that warfare is more evolutionary than revolutionary. There is a body of thought that suggests that there has always been in existence certain principles of war that are immutable, timeless, and independent of place or situation. If the information based RMA really has the potential to deliver on its promises, we must begin to embrace it by reexamining the underlying elements of our doctrine, the principles of war, and insure they lay the proper foundation for the military of the 21st century. We should challenge the current paradigms we hold and begin to think of these principles in new ways, some being radical departures from the old school solution. We must choose our words and definitions in our publications carefully, for they serve to convey to our soldiers what we hold to be true about the ways in which we wage war.

Keywords: *Military doctrine, *Combat readiness, *Military capabilities, Combat effectiveness, Military strategy, Military planning, Military art, Information warfare.

ADA363158REB PC A04/MF A01
Decision Aids and Wargaming for Information Operations.
Army War Coll., Carlisle Barracks, PA.
C. R. Ball. 7 Apr 1999, 47p.
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Information operations are an essential component of our current and future warfighting strategy as outlined in the latest National Military Strategy and Joint Vision 2010. Simulations such as WARSIM 200 are an important enabler that will permit us to train for and execute this strategy. However, information operations are not included in any current simulation nor are they addressed in any automated decision aids supporting these simulations. The Defense Advanced Research Projects Agency developed a constraint based decision aid to support Course of Action Analysis (COAA) for simulation support at the School of Advanced Military Studies. This decision aid can be extended to represent information operations courses of action. This SRP recommends changes to the decision aid to support the Electronic Warfare (EW) component of Information Operations. It also describes example constraints that can be used to represent the EW component of a division attack scenario. Finally, it recommends a strategy for adding information operations components to joint and army warfighting simulations and for extending the COAA program to address campaign level planning.

Keywords: *War games, *Decision aids, *Information warfare, Electronic warfare, Military requirements, Military strategy, Strategic analysis, Army operations, Army planning, Combat simulation.

ADA363159REB PC A04/MF A01
Effects of Information Operations on Nonlinear Force Structures.
Army War Coll., Carlisle Barracks, PA.
S. S. Lawrence. 20 Mar 1999, 41p.
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This paper will address the advent of information operations and its effect on how the military will operate in the future. The goal is to highlight the need to aggressively pursue the execution of information operations' strategy and doctrine. Wrapped in this is the requirement to fix responsibility, clarify terms and understanding of 10, and find creative ways of responding to this new order of business. This may mean a whole new way of thinking that may alter our force structure to be more responsive to a threat. This paper also introduces the theory of nonlinearity and its effect on information operations. Leadership, innovation, and flexibility of task organization are essential to the success in Army operations. Future force designers must look at each mission uniquely and apply the right size and type of forces to meet the threat. This means units deploying in non-traditional ways; thus, the challenge of providing smooth, reliable information operations.

Keywords: *Military doctrine, *Army operations, *Information warfare, Military requirements, Military strategy, Strategic analysis, Threat evaluation, Army planning.

ADA363160REB PC A04/MF A01
Information Operations in Iraq. Strategy research project.
Army War Coll., Carlisle Barracks, PA.
R. M. Bouchard. 7 Apr 1999, 48p.
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The United States effectively used information operations prior and during the Gulf War. In the wake of the U.S. led coalition victory, Iraq developed an asymmetrical approach to defeating any future coalition effort. Iraq's pattern of behavior demonstrated a growing mastery in perception management. Iraq's effective use of the media squashed U.S. efforts to establish a coalition response to Iraq's non-compliance with the UNSCOM inspections in early 1998. The successful use of information operations by Iraq in early 1998 shows how a small and unsophisticated desert country mastered the use of information operations. Taking from the lessons of trial and error an inexperienced Iraq effectively used asymmetric actions by using the media to influence international opinion and U.S. policy. This paper addresses the media, public opinion and policy prior to, during, and after the Gulf War.

Keywords: *Military psychology, *Information warfare, *Persian gulf war, Iraq, Military strategy, Government(Foreign), Strategic analysis, Perception(Psychology), Public opinion.

ADA363161REB PC A03/MF A01
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal In Jet-Engine Exhaust: White Paper for SERDP Project CP-1038. Project rept.
Los Alamos National Lab., NM.
L. A. Rosocha, J. Chang, K. Urashima, S. J. Kim, and A. W. Miziolek. 29 Oct 1998, 30p, LA-UR-98-4926.
Prepared in collaboration with McMaster Univ., Hamilton (Ontario), Canada and Army Research Lab., Washington, DC.
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Incentives for implementing new pollution-control technologies are both regulatory and economic. Given considerable regulatory pressure, new de-NOx technologies are being explored. One major reason for this is that conventional de-NOx methods will not work effectively for the low NO concentrations (e.g., < 50 ppm), high exhaust gas flow rates, and low gas temperatures characteristic of Jet Engines Test Cells (JETCs). This project is currently evaluating non-thermal plasma (NTP) technologies for treating jet-engine exhaust. In the past, economic analysis for NTP de-NOx has shown that it is not cost effective, compared to other techniques. One might accept a high-cost system, if it can provide a function or functions that other (conventional) technologies cannot. However, it would certainly be better if a new technology could function as well or better than a conventional technology and do so at competitive costs. In this White Paper, we have analyzed the costs of some NTP technologies for jet-engine emissions control. In some cases, these analyses have shown lower exhaust-gas treatment costs for NTP systems compared to a baseline standard de-NOx technology like SCR combined with wet scrubbing. Therefore, the main conclusion of this White Paper is that completing this project's work through the small field-pilot demonstration phase should proceed to provide further data and operating experience to more fully evaluate economic and performance projections for NTP de-NOx technology.

Keywords: *Nitrogen oxides, *Emission control, *Jet engine exhaust, Cost analysis, Pollution abatement, Regulations, *Nonthermal plasma technology, Serdp collection, Serdp(Strategic environmental research and development program), Jet engines test cells, Jetc(Jet engine test cell).

ADA363162REB PC A03/MF A01
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998). Project rept.
Los Alamos National Lab., NM.
L. A. Rosocha, A. W. Miziolek, R. E. Huie, J. Change, and J. T. Herron. 1 Dec 1998, 11p, LA-UR-98-5553.
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Incentives for implementing new pollution-control technologies for oxides of nitrogen (NO) and hazardous air pollutants (HAPs), including volatile organic compounds (VOCs), are both regulatory and economic. Of immediate concern, given considerable regulatory pressure, e.g., the promulgation of a NESHAPS for NOx emissions in CY 2000, new de-NOx technologies are necessarily being explored. This project is currently emphasizing evaluations of non-thermal plasma (NTP) technologies for treating jet-engine exhaust and other HAPs. This report will summarize our technical progress for calendar year 1998; considerable further details of our work are contained in the reports and papers cited in the appendix. The literature on NTP de-NOx has been reviewed, laboratory measurements and modeling studies on NTP-initiated NOx removal have been carried out, adsorber performance for NOx removal aimed at hybrid systems have also been done, and scaling and optimization relationships and algorithms have been developed. We have completed cost analyses and economic assessments for various NTP reactor systems compared to conventional selective catalytic reduction (SCR) - wet scrubber technology and find that NTP technology is cost- competitive for jet-engine exhaust de-NOx. We are now at the point where initial design options for NTP reactor systems for a field-pilot demo on CMTC exhaust at Tinker AFB (currently scheduled for September, 1999) have been completed.

Keywords: *Nitrogen oxides, *Emission control, Air pollution, Plasmas(Physics), Regulations, Jet engine exhaust, *Nonthermal plasma reactors, Serdp collection, Serdp(Strategic environmental research and development program), Hap(Hazardous air pollutant), Voc(Volatile organic compound), Jet engine test cells, Cruise missile test cells, Tinker air force base(Oklahoma).

ADA363163REB PC A09/MF A02
Countering the New Terrorism.
RAND Corp., Santa Monica, CA.
I. O. Lesser, B. Hoffman, J. Arquilla, D. Ronfeldt, and M. Zaninl. 1999, 175p, RAND/MR-989-AF.
Contract F49642-96-C-0001
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RAND's research on terrorism formally began in 1972. Two bloody terrorist incidents that year-the Japanese Red Army attack on passengers at the Lod Airport in Israel and the seizure of Israeli athletes by Black September terrorists at the Olympics in Munich-signaled dramatically to the world that a new mode of warfare had begun. Reacting to this new threat, then President Nixon created the Cabinet Committee to Combat Terrorism, a high level group to coordinate all U.S. counterterrorist efforts. The committee in turn commissioned RAND to examine the phenomenon and how it might affect American security interests. Terrorism was not a new concern for the government, at least in its particular forms-the hijacking of airliners, the kidnapping of diplomats, protest bombings. However, as is so often the case, dramatic events focused interest and mobilized resources. Nor was this entirely new territory for RAND, which previously had studied the use of terrorism in revolutionary and guerrilla warfare, already had identified the new phenomenon of urban guerrilla warfare and its inherent tendency toward the employment of terrorist tactics, and had examined the problem

of airline hijackings and assassinations. Having been present at the initiation of RAND's research on terrorism, and now 27 years later being called upon to review this latest RAND volume, Countering the New Terrorism, by Ian Lesser and his colleagues, provides me an opportunity for review and reflection, as well as for pointing out some of the unanticipated consequences of our endeavor.

Keywords: *Terrorists, *Terrorism, Warfare, Global, Threats, Security, Military tactics, Bombing, Guerrilla warfare, Urban warfare.

ADA363165REB PC A08/MF A02
Consolidating Active and Reserve Component Training Infrastructure.
Rand Arroyo Center, Santa Monica, CA.
J. F. Schank, J. D. Winkler, M. G. Mattock, M. G. Shanley, and J. C. Crowley. 1999, 145p, RAND/MR-1012-A.
Contract DASW01-96-C-0004
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This report presents the results of a research project entitled 'Evolution of the Total Army School System.' The project examines ways to consolidate training infrastructure and augment capabilities across Army components to gain efficiency and achieve economies of scale in conducting individual training of Active Component (AC) and Reserve Component (RC) soldiers. It provides a quantitative approach for determining how the Army might benefit from such changes as offering reclassification training and noncommissioned officer (NCO) education to AC soldiers at RC schools and additional training courses to RC soldiers at AC schools, using the area of maintenance training as an example. If the Army found these benefits worth pursuing, this approach could be adapted and extended to support policy decisions to further integrate its training infrastructure in additional functional areas.

Keywords: *Job training, *Army training, *Efficiency, *Army operations, *Infrastructure, Military reserves, Policies, Decision making, Schools, Education, Army personnel, Classification, Courses(Education), Noncommissioned officers.

ADA363166REB PC A10/MF A02
Shifting Ambiguity U.S. Foreign Policy Toward China and Taiwan. Master's thesis.
Air Force Inst. of Tech., Wright-Patterson AFB, OH.
P. H. Donley. 16 Apr 1999, 181p.
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Since 1949, US foreign policy regarding the dispute between the People's Republic of China (PRC) and the Republic of China (ROC) on Taiwan has been complex at best and contradictory at worst. While the conflict between the Chinese Nationalists or Kuomintang (KMT) and the Chinese Communists (CCP) had been underway at various levels of intensity since the CCP's origination in 1921, the US did not become actively involved in the dispute until the US declared war on the Japanese in 1941. Since that time, major events have occurred in the region and across the globe which have not only cemented US interest and involvement in the dispute, but have led to dramatic shifts in US policy as well. Throughout all of these changes, US officials have regularly claimed that the Republic of China has enjoyed, and would continue to enjoy, the firmest US support possible. At the same time, since the late 1960s, the US has continually pursued closer relations with the PRC.

Keywords: *Foreign policy, *United states, *China, *Taiwan, Warfare, Global, Political science, Intensity, Theses, Japan, History, International relations, Political parties, Communists.

ADA363167REB PC A03/MF A01
Operational Level Intelligence Preparation of the Battlefield for Special Operations Forces. Final rept.
Naval War Coll., Newport, RI.
E. L. Scofield. 5 Feb 1999, 30p.
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Although each of the services Special Operations Forces (SOF) have established procedures for some type of Intelligence Preparation of the Battlefield (IPB) process at the tactical level, there is currently no product which addresses joint SOF operational level IPB requirements. Additionally, it is not uncommon to observe a duality of effort in the IPB process with the Joint Task Force (JTF) commander and Joint Special Operations Task Force (JSOTF) commander each receiving separately developed IPB products. This duality can and does often result in a loss of synergy and reflects a lack of unity of effort. Lastly, there appears to be some question as to how the IPB process can aid the JTF commander in the selection of appropriate SOF targets. Operational level IPB for the JSOTF commander requires a degree of detail normally considered to be at the tactical level by conventional forces. As a result, the JSOTF commander's IPB requirements will not be satisfied by traditional operational level IPB analysis provided to the JTF commander. In the interest of unity of effort and economy of force, IPB support for the JSOTF commander is best accomplished by utilizing the IPB analysis provided to the JTF commander as a baseline, and developing supplemental SOF mission specific IPB analysis.

Keywords: *Military intelligence, *Battle management, *Special operations forces, Military requirements, Military strategy, Joint military activities, Military planning, Military tactics.

ADA363168REB PC A03/MF A01
Operational Commander and the Trident SSGN. Final rept.
Naval War Coll., Newport, RI.
P. E. Savage. 5 Feb 1999, 23p.
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The first four Trident SSBN submarines have been proposed for conversion into conventional missile platforms, or SSGNs, and may arrive in the fleet as soon as 2005. As a formidable theater asset, the SSGN operational strengths and limitations must be addressed by the Department of Defense. Further, the operational concept for this asset must be developed and practiced in order to realize the SSGN's full potential. From the operational commander's perspective, the SSGN will provide operational functions unlike any previous submarine. This paper will prove that the operational commander will be able to overcome command, control and communications difficulties to truly integrate the SSGN within the joint warfighting arena. The commander will surmount these difficulties through revisions to organizational structure and current doctrine, and the expanded use of current communications technology.

Keywords: *Command control communications, *Attack submarines, *Ballistic missile submarines, Military requirements, Theater level operations, Combat readiness, Joint military activities, Naval planning.

ADA363169REB PC A07/MF A02
Archeological and Architectural Investigations at Brown's Sheep Camp (5LA5824), a Multicomponent District in the U.S. Army Pinon Canyon Maneuver Site, Las Animas County, Colorado. Final rept.
National Park Service, Lincoln, NE. Midwest Archeological Center.
W. J. Hunt, J. Schneck, and K. M. Roberts. Apr 1999, 116p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A 1992 remote sensing survey by the Interagency Archeological Services Division at the Brown's Sheep Camp site (5LA5824) located three anomalies which were interpreted to have potential as cultural features. Following up on this survey, archeologists and an architectural historian from the NPS Midwest Archeological Center (MWAC) returned to the Site in 1995. The purposes of the study were threefold: (1) determine whether the anomalies were of cultural derivation; (2) further document the standing structures to aid the U.S. Army in future preservation efforts at the site: and (3) determine whether evidence existed to allow an association of site structures with the 1870s era Hogback Stage Station. Results of this work proved two of three remote sensing anomalies to he associated with structures the third being of unknown origin. The architectural survey however, did locate structural and construction features which identified an adobe structure as constructed circa 1884 to the late 1890s. This temporal affiliation allows the building to be associated at a minimum with the early ranching era at Brown's Sheep Camp. Archeological investigations were unable to provide evidence for the site being utilized as a stage Station.

Keywords: *Anomalies, *Historic sites, *Archeology, *Culture, Stations, Structural properties, Facilities, Structures, Construction, Surveys, Remote detectors, Maneuvers, Preservation, Architecture, Site investigations, Colorado, Archeologists, Canyons, Las animas county(Colorado).

ADA363170REB PC A09/MF A02
Bird Strike Risk Assessment for United States Air Force Airfields and Aircraft. Master's thesis.
Air Force Inst. of Tech., Wright-Patterson AFB, OH.
C. A. Tedrow. 21 Apr 1999, 165p.
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Analysis of strike data is critical to determine the true economic costs of bird strikes, determine the magnitude of safety issues, and develop preventive measures. Analysis of USAF bird-strike data identified trends and indicated suggested relationships among factors contributing to damaging strikes. From FY 1988 through FY 1997, the annual mean was 2,668 bird strikes with peaks evident in fall and spring. Daylight and dusk were hazardous for bird strikes. More bird strikes occurred during airfield operations - aircraft are at low altitudes and soaring birds are more numerous. Aircraft speed, phase of flight, taxonomic group, bird mass and aircraft group were the strongest predictors of damaging bird strikes. Bird strike rates were calculated for USAF aircraft and selected USAF airfields. Bomber aircraft had the highest strike rate; these aircraft frequently fly long missions at low altitudes where they are likely to encounter birds. Logistic regression analyses estimated odds of occurrence for damaging bird strikes during airfield operations General statistics, odds for a damaging airfield strike, and airfield strike rates, were used to identify USAF airfields with higher bird strike risks. Howard AFB, Panama, had a higher number and rate of bird strikes, and greater odds for a damaging bird strike than other airfields analyzed.

Keywords: *Bird strikes, Aircraft, Damage, Predictions, Statistics, Rates, Theses, Costs, Flight, Airspeed, Logistics, Landing fields, Birds, Bomber aircraft, Low altitude, Risk analysis.

ADA363171REB PC A05/MF A01
Performance Budgeting: Initial Experiences Under the Results Act In Linking Plans With Budgets.
General Accounting Office, Washington, DC. Accounting and Information Management Div.
Apr 1999, 59p, GAO/AIMD-GGD-99-67.
Report to the Chairman, Committee on Governmental Affairs, U.S. Senate.
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The Government Performance and Results Act of 1993 (the Results Act) seeks to strengthen federal decision-making and accountability by focusing on the results of federal activities and spending. A key expectation is that the Congress will gain a clearer understanding of what is being achieved in relation to what is being

spent To accomplish this, the act requires that, beginning for fiscal year 1999, agencies prepare annual performance plans containing annual performance goals covering the program activities in agencies' budget requests. In addition, Office of Management and Budget (OMB) guidance states that agency performance plans should display, by program activity the funding level being applied to achieve performance goals. Plans that meet these expectations can provide the Congress with useful information on the performance consequences of budget decisions. Our assessment of fiscal year 1999 performance plans found that agencies generally covered the program activities in their budgets, but most plans did not identify how the funding for those program activities would be 2 allocated to performance goals. To enhance the Congress' understanding of issues that may affect agencies' abilities to relate budgetary resources and results, you requested that we review selected fiscal year 1999 performance plans to (1) describe agencies' approaches to linking performance goals and budgetary resources, (2) examine characteristics that might be associated with different approaches to linking performance goals and budgetary resources, and (3) identify implications for future efforts to clarify the relationship between budgetary resources and results. More clearly describing and analyzing the approaches agencies developed to link funding requests with performance expectations can be an important foundation as the Congress reviews agencies' fiscal year 2000 performance plans.

Keywords: *Performance(Human), *Federal budgets, *Accountability, Congress, United states government, Decision making, Planning, Resources, Gao reports, Government performance and results act of 1993, Goals.

ADA363172REB PC A04/MF A01
Within the Context of JV2010, Is There a Requirement for a Theater-Level Joint Forces Logistics Commander (JKLOGC) and a Joint Theater Logistics Command (JTLC). Final rept.
Naval War Coll., Newport, RI.
M. A. Salvi. 5 Feb 1999, 31p.
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As current Joint Vision 2010 (JV2010) concepts become reality, their affects on joint theater (operational) logistics will have significant consequences on traditional Service logistics functions and organizations. Redundant Service logistics functions and personnel must be eliminated to reduce the logistics footprint. These smaller logistics forces will have to provide precise support in a high speed, fluid environment dominated by maneuver, lethality and information. Joint theater logisticians will have to support not only U.S. personnel but those of its multinational coalition partners and civilian organizations. These logisticians must provide this support over a wide spectrum of contingencies. The efficiency and effectiveness required by future CINCs cannot be provided by the current ad hoc method of organizing U.S. logistical efforts. The CINC must have a single commander he can turn to for providing all the logistics support required. That commander, a senior logistician, must have the authority commensurate with the responsibility and must also have a joint theater logistics organization manned by highly trained logisticians armed with sophisticated logistics C2 and information systems and available to meet the combat force's needs. That individual is the Joint Force Logistics Commander (JFLOGC) and that organization is the Joint Theater Logistics Command (JTLC). Currently, neither exists, however, the Army's proposed Theater Support Command (TSC) could provide them. With minimal augmentation, the TSC becomes the ideal organization to manage theater level common logistics support for all U.S. forces and coalition partners (IAW applicable agreements).

Keywords: *Theater level operations, *Logistics management, *Joint military activities, Logistics support, Military requirements, Combat readiness, Military capabilities, Tactical data systems.

ADA363173REB PC A03/MF A01
General Aviation Airports: Unauthorized Land Use Highlights Need for Improved Oversight and Enforcement.
General Accounting Office, Washington, DC. Resources, Community and Economic Development Div.
May 1999, 30p, GAO/RCED-99-109.
Report to Congressional Requesters.
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To increase the capacity of the nation's airport facilities and maintain the aviation infrastructure, the federal government has made financial grants or transferred federal land to about 2,000 of the almost 18,000 general aviation airports in the United States Since 1982, the Federal Aviation Administration (FAA) has provided about $4.7 billion in financial grants to general aviation airports. About 350 such airports have received land that is surplus to federal needs, while about 100 have received land that was not considered surplus but was transferred to support the airports' needs. To receive this federal assistance, airports must agree to abide by a number of requirements designed to ensure that the public interest is served. Among other things, airports must obtain approval from FAA before altering the use or ownership of airport land and must use airport revenues only for their operation, maintenance, or development FAA is responsible for monitoring airports' compliance with these requirements and, when requirements are not met, for enforcement. As requested in the House Transportation and Infrastructure Committee Report on the Airport Improvement Program Reauthorization Act of 1998 this report evaluates (1) FAA'S monitoring of general aviation airports' compliance with federal land-use requirements and (2) FAA's use of enforcement tools to resolve cases of noncompliance. To obtain information on FAA'S oversight of land at general aviation airports, we visited 14 and surveyed the remaining 9 FAA field offices responsible for overseeing airports' compliance.

Keywords: *Terminal flight facilities, *Land use, *Airports, Requirements, United states government, Monitoring, Facilities, Aeronautics, Transfer, Finance, Land areas, Grants, Infrastructure, Gao reports, Airport improvement program reauthorization act of 1998.

ADA363174REB PC A05/MF A01
Air Traffic Control: FAA's Modernization Investment Management Approach Could Be Strengthened.
General Accounting Office, Washington, DC. Resources, Community and Economic Development Div.
Apr 1999, 54p, GAO/RCED/AIMD-99-88.
Report to Congressional Requesters.
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The Federal Aviation Administration (FAA) has undertaken an ambitious and costly program to modernize its air traffic control system. Under this program, FAA is acquiring new surveillance, data-processing, navigation, and communications equipment in addition to new facilities and support equipment. Totaling 126 active projects, the modernization effort is estimated to cost $26. 5 billion from fiscal year 1982 through fiscal 2004.' Of this total, FAA estimates that it will need $12.9 billion for 59 information technology projects-the software/intensive and complex information and communications systems supporting the air traffic control system. Given the large expenditures required to carry out FAA'S modernization effort, the past problems, and the continuing concerns about key projects funded under the program, the Chairmen and Ranking Members of the Senate Committee on Commerce, Science, and Transportation's Subcommittee on Aviation and the House Committee on Transportation and Infrastructure's Subcommittee on Aviation asked GAO to review FAA'S investment management approach as carried out through the Acquisition Management System (AMS), which was implemented in April 1996. GAO evaluated the processes, data, and decisions that FAA uses to select, control, and evaluate its investments. This report addresses the extent to which FAA, through AMS, (1) has established a structured approach for selecting and controlling its investments; (2) incorporates all investments, including those currently in operation, in the agency's portfolio; and (3) selects, controls, and evaluates its investments with complete and reliable information.

Keywords: *Management planning and control, *Acquisition, *Investments, *Air traffic control systems, Transportation, Detectors, Facilities, Communication equipment, Reliability, Navigation, Communication and radio systems, Surveillance, House of representatives, Panel(Committee), Infrastructure, Gao reports.

ADA363175REB PC A03/MF A01
Arabian Gulf Maritime Interception Operations: Balancing the Ends, Ways, Means and Risks. Final rept.
Naval War Coll., Newport, RI.
T. P. Shaw. 5 Feb 1999, 24p.
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Commander-in-Chief, U.S. Central Command (USCINCCENT) is tasked by the National Command Authorities with producing a military condition that will lead to the strategic goal of Iraq complying with U.N. Security Council Resolutions. Through the application of joint doctrine and operational art, USCINCCENT has determined that the military condition that will produce this strategic goal is an effective maritime interception operation in Support of economic sanctions imposed on Iraq by the Security Council. However, USCINCCENT cannot produce this condition because the ends, ways, means, and risks of the operation cannot be balanced. Further, given the prevailing and ever changing political and social environment in Iraq, there is no military condition that can be produced that can effectively enforce economic sanctions designed to compel Iraq to comply with U.N. Security Council resolutions. However, the primacy of politics in military operations other than war and the credibility of the U.N. Security Council dictate that the NCA task USCINCCENT to continue sanctions enforcement efforts in spite of the shortcomings. Successful operations are those where the ends, ways, means, and risks of the use of military force can be balanced. The NCA must acknowledge that this balance includes both political and social dimensions, and that military force alone rarely achieves the strategic goal. In all operations, and particularly in military operations other than war, operational commanders must acknowledge the primacy of political objectives at every level of war and the balance between military operations and political objectives. An analysis of Arabian Gulf Maritime Interception Operations demonstrates that unless balance is achieved across the broad spectrum of military, political, and social conditions, the operational commander will not be able to produce a military condition that allows the NCA to achieve its strategic goal.

Keywords: *Military strategy, *Interception, *Security, *Naval operations, Military operations, Warfare, Iraq, Political science, Military commanders, Doctrine.

ADA363176REB PC A03/MF A01
Regional Civil-Military Operations Center: A Force Multiplier in Military Operations Other Than War. Final rept.
Naval War Coll., Newport, RI.
K. E. Bruno. 5 Feb 1999, 24p.
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America's National Security Strategy requires civil and military agencies to work together during complex contingency operations other than war. However, there are significant challenges in conducting these interagency dependent operations. Interagency bickering, mistrust between civil and military leaders and organizational shortfalls, are just a few. These challenges can be overcome through leadership and organizational understanding provided by a regionally centered, civil-military operations center (RCMOC) . The ROMOC will provide the impetus needed toward improving civil-military responses to contingency operations short of war and facilitate as a link between the NCA/JCS and the

country team. The RCMOC will lay the foundation for efficient problem solving and consensus building among the various agencies when responding tc a crisis and foster unity of effort among the various players involved in military operations other than war. finally, through the establishment of a permanent RCMOC, that is tasked to conduct long term deliberate and crisis action planning, the NCA, CINO, JTF commander and the various NGOs and PVOs can anticipate, shape, and respond to a crisis better than current ad hoc responses have permitted. The RCMOC is a force multiplier; it is the one organization that can meld all the capabilities of the military, and the US governmental agencies, as well as NGOs and PVOs in this new era of complex contingency operations known as MOOTW.

Keywords: *Military operations, *Civil affairs, *Operations other than war, Military personnel, Warfare, National security, Crisis management, Organizations, Emergencies, Strategy, Leadership, Efficiency, Regions, Problem solving, Civilian personnel, Military commanders, Shortages, Rcmoc(Regionally centered civil-military operations center).

ADA363177REB PC A03/MF A01
Operational Art and the Human Dimension of Warfare in the 21st Century. Final rept.
Naval War Coll., Newport, RI.
D. W. Coffman. 5 Feb 1999, 26p.
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The end of the Cold War and the transition to the information age have combined to foster a climate of radical change within the American military. This paper examines the relationship between the physical and moral elements of military power as information technology is adapted to military use. Power is a function of will and means. 'Will' represents the incalculable and essentially unchanging moral factors that permeate the conduct of war and make it unpredictable. This human dimension of warfare is its central, defining characteristic. Because war is based on human interaction it is more art than science. 'Means,' the physical factors of war, are in a period of revolutionary change. New technology and related new models for organizational behavior portend a 'revolution in military affairs' that enthusiasts suggest is changing even the very nature of war. But while new technology may exponentially improve the tools of war, it will not eliminate the fog of war or quantify the moral factors. A survey of emerging service specific and joint warfighting concepts highlights the danger of an over-reliance on technological superiority and 'the American way of war' against 21st century foes. We must adapt the new technology of the information age to the operational art so as to obtain its benefits without losing sight of the human dimension.

Keywords: *Warfare, *Ethics, *Power, *Military art, Organizations, Information systems, Models, Humans, Interactions, Physical properties, Fog, Cold war, Technology assessment.

ADA363178REB PC A04/MF A01
America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure. Final rept.
Naval War Coll., Newport, RI.
C. J. Cwildinski. 5 Feb 1999, 32p.
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The United States participated in a little known episode, at the end of World War I, in which the Allies intervened in the Russian Civil War. American forces, though sent to perform garrison duties, became embroiled in conflict with the Red Army. The Situation then in Northern Russia and Siberia, and Allied operations conducting in response, closely resembled contemporary Military Operations Other Than War (MOOTW), such as those conducted in Somalia and Bosnia. This paper provides lessons learned from case studies of the Allied intervention, particularly those in which 'mission creep,' disunity of effort, and lack of coordination between allies, governmental departments, and non- governmental agencies was prevalent.

Keywords: *Military forces(United states), *Military operations, *Military history, *Missions, *Russia, *Siberia, *Operations other than war, Ussr, Warfare, Global, United states, Lessons learned, Case studies, Somalia, Army, Intervention, Bosnia herzegovina, Communist countries, Communists, Bolsheviks, Czech legion.

ADA363179REB PC A03/MF A01
Future Insurgencies in Latin America and the Caribbean: Implications for U.S. Operations. Final rept.
Naval War Coll., Newport, RI.
G. W. Dodson. 5 Feb 1999, 22p.
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Although the Marxist sponsors of insurgencies and the appeal of their ideology suffered a severe blow with their defeat in the Cold War, Latin America and the Caribbean still face the potential of insurgencies arising in the next 15 years. With new twists on old grievances, new catalysts to replace communist agitators, and sponsors with access to immense resources, the evolving nature of insurgencies in the region will have marked implications for U.S. foreign internal defense operations in the coming decades. The alarming amalgam of narcotics and insurgency has become the prime adversary for U.S. officials into the foreseeable future. The ramifications of insurgents making symbiotic alliances with narcotics traffickers include diverting governments and the United States from focusing on a single objective. In addition, a host of economic, ethnic, and sectional issues could furnish the spark for an insurgency. Legitimacy remains the most important element in combating insurgency, but the move away from communist inspired movements will make legitimacy harder rather than easier. Meanwhile, a number of potential allied militaries are unsuited for effective internal defense.

Keywords: *Political revolution, *Latin america, *Central america, *Insurgency, *Operations other than war, United states, Defense systems, Economics, Narcotics, *Fid(Foreign internal defense).

ADA363180REB PC A13/MF A03
Maritime Preposition Force Ship 2010. Technical rept.
Naval Postgraduate School, Monterey, CA.
C. N. Calvano, R. C. Harney, R. Weekly, G. McKerrow, and T. Anderson. 19 Apr 1999, 258p, NPS-ME-99-002.
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A systems engineering approach to the design of a ship which will satisfy the requirements for a Maritime Prepositioning Force (MPF) for the year 2010 and beyond is presented. This ship, the MPF 2010, will provide the means by which the United States Marine Corps will be able to successfully employ the tenets of Operational Maneuver From the Sea (OMFTS) and the Ship-to-Objective Maneuver (STOM) against an objective. The current Maritime Prepositioning Ship (MPS) squadrons are used to preposition supplies, vehicles, and equipment throughout the world for use by a Marine Air-Ground Task Force (MAGTF) of Marine Expeditionary Force - Forward, MEF (FWD) size, in times of crisis. However, these squadrons presently require that a secure airfield and port (or beachhead) be available so that the prepositioned MPS assets can be offloaded and married with arriving MAGTF personnel ashore. As such, the current MPS squadrons do not support the concepts of OMFTS and STOM. The MPF 2010 will provide the capability to embark a MEF (FWD), marry the MEF (FWD) with its prepositioned equipment while en route to the objective, and then act as sea base from which it will be able to employ air, ground, and amphibious assets to project power ashore.

Keywords: *Naval operations, *Logistics planning, Computerized simulation, Marine corps, Systems engineering, Task forces, Security, Landing fields, Maneuvers, Marine engineering, Prepositioning(Logistics), Squadrons, Mpf(Maritime prepositioning force), Mpf 2010.

ADA363181REB PC A03/MF A01
Force Protection and Strategic Air Mobility: The MANPAD Challenge. Final rept.
Naval War Coll., Newport, RI.
T. A. Freese. 5 Feb 1999, 29p.
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The U.S. military's reliance on strategic mobility has increased tremendously in the past decade. Strategic airlift's versatility and speed place it at the forefront of strategic mobility assets to meet the demands of Strategic Agility, Power Projection, and Dominant Maneuver. The threat from manportable or shoulder launched surface-to-air missiles (MANPADs) is beginning to degrade the U.S. military's strategic capacity and flexibility. To counter the threat Security Forces are operating under wartime constraints, which are personnel intensive. Aircraft Defense Systems (ADSs) are incomplete and vulnerable in the military strategic fleet and non-existent in the civilian air carrier fleet. Two proposals would help meet the MANPAD challenge. Emphasis on technology improvements in Security Force detection equipment and ADSs will alleviate personnel pressures. Assigning Mobility Air Force Commanders to regional Commanders-in-Chief during contingency or wartime operations will improve the present decentralized force protection effort.

Keywords: *Mobility, *Military strategy, *Aircraft defense systems, Detectors, Aircraft, Threats, Air force personnel, Pressure, Protection, Surface to air missiles, Personnel, Maneuvers, Power, Military commanders, Manportable equipment, Air transportation, Security personnel, Decentralization, Airmobile operations, Shoulder launched weapons, Manpads(Man portable air defense systems), Ads(Air defense systems), Strategic air mobility.

ADA363182REB PC A03/MF A01
Axis Offensive Military Operations Against the Continental United States: Opportunity Lost. Final rept.
Naval War Coll., Newport, RI.
D. Micillo. 5 Feb 1999, 22p.
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Research and analysis revealed the Axis offensive against the United States during World War II failed due to the lack of a campaign plan to guide it. The Axis leadership correctly identified U.S. centers of gravity and had the capability to strike them, yet they failed to unify their effort or allocate adequate resources to the offensive. Finally, they failed to act while the opportunity existed in early 1942. The study of this offensive yields many implications for the United States today. These concern contemporary Anti- Submarine Warfare, Mine Countermeasures, terrorism, industrial sabotage, U.S. military focus on the Caribbean and the assignment of responsibility for the homeland defense mission to a regional CINC.

Keywords: *Military operations, *Military history, *Military strategy, *Antisubmarine warfare, *Second world war, United states, Industries, National security, Defense systems, Leadership, Mine countermeasures, Attack, Japan, Missions, Resources, Terrorism, Germany(East and west), Sabotage.

ADA363183REB PC A03/MF A01
Reexamination of the Joint Force Air Component Commander (JFACC) concept for the 21st Century. Final rept.
Naval War Coll., Newport, RI.
D. J. Morgan. 5 Feb 1999, 19p.
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The U.S. military's Joint Force Air Component Commander (JFACC) construct is the current method of theater level air power employment. JFACC doctrine largely reflects U.S. Air Force history and procedures. Despite its successes, the JFACC concept has a number of problems. These include doctrinal mismatches among the services, additional layers in the chain of command, lack of responsiveness, and large manpower requirements. This paper examines those issues and proposes technological and organizational changes to the JFACC. These changes would result in a flatter, more networked organization that would give the Joint Force Commander (JFC) increased flexibility and effectiveness in theater air power employment.

Keywords: *Theater level operations, *Organizations, *Joint military activities, *Air power, Requirements, Military history, Air force, Policies, Employment, Military doctrine, Manpower, Jfacc(Joint force air component commander).

ADA363184REB PC A02/MF A01
Design of a Switched-Reluctance Motor Drive for Electric Propulsion. First annual rept. 1 May 98-30 Apr 99.
Arkansas Univ., Fayetteville. Dept. of Electrical Engineering.
J. Carlos, and T. W. Martin. May 1999, 8p.
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This First Annual Report summarizes the activities performed on this grant from August 1, 1998, until April 30, 1999. Detailed technical reports will be written once that a specific topic or task has been completed. We were informed by late March 1998 that the Office of Naval Research decided to fund our grant with a starting date of May 1, 1998. We assembled the research team by August 1998 since we were able to hire all graduate students by the fall 1998 semester. Graduate students normally start their graduate studies in the fall semester (that normally begins around mid August) or in the spring semester (that normally begins around mid January). Also, it normally takes 2 to 3 months to find graduate students qualified for a specific research project. We are expecting to speed up our efforts so we can finish this research project by its ending date (i.e., April 30, 2001). The remainder of this report addresses the assembled research team, the main activities performed during the period covered by this report, the activities in progress, and the expenses incurred from August 1, 1998, to May 15, 1999.

Keywords: *Electric propulsion, *Electric motors, *Variable speed drives, Rotors, Electromechanical converters, Phase measurement.

ADA363185REB PC A03/MF A01
Special Forces: The Peacetime Regional Engagement Force of Choice ... and More. Final rept.
Naval War Coll., Newport, RI.
S. P. Mulholland. 5 Feb 1999, 24p.
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Regional engagement is a strategy that has no back door. Once a nation commits to that strategy and begins to energize it, there is no easy way out. Regional engagement has three levels of engagement: engagement in peacetime, engagement in conflict and engagement in war. Combatant Commanders utilize these different levels of regional engagement to foster development in their Area of Responsibility (AOR). As long as the United States demonstrates global leadership and promotes global cooperation, the U.S. military will be committed to this strategy for a long period of time. In regional engagement, U. S. Army Special Forces are the common denominator. Special Forces enter the engagement process on the ground floor during the peacetime engagement process and stay in theater throughout the continuum of conflict. The purpose of this paper is to demonstrate the 'uniqueness' of Special Forces in terms of application in CINCs' engagement strategies. The second purpose is to familiarize other branches of the Army and other services on the versatility and applicability of Special Forces. Commanders need to understand the capabilities of Special Forces in order to increase their chances for success in an uncertain future.

Keywords: *Military forces(United states), *Military strategy, *Peacetime, *Conflict, *Special forces, Warfare, Global, United states, Leadership, Army personnel, Regions, Military commanders, Operations other than war.

ADA363186REB PC A03/MF A01
Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
Energy and Environmental Research Corp., Irvine, CA.
J. A. Cole, D. W. Hansell, N. L. Widmer, W. R. Seeker, and K. J. Wilson. 14 Apr 1997, 20p, N00014-95-C-0310.
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Waste thermal treatment is a preferred method for waste handling on board Naval platforms. It can accomplish several goals of at-sea treatment of shipboard wastes, including volume reduction, sterilization, and detoxification. It is also considered to be the most cost-effective approach available and among the safest, requiring little specialized personnel training. Unfortunately neither land-based nor existing seaworthy incinerator designs can meet the Naval requirements of compactness and light weight. This has led to the exploration of novel approaches, such as the use of forced acoustics to improve heat transfer, turbulent mixing, and firing density in order to reduce the size and increase the throughput of incineration systems. EER has designed and constructed two experimental facilities to study the application of forced acoustics for the improvement of waste thermal treatment as it might be applied to the next generation of Naval platforms that are now only in the conceptual phase of development. The status of these research efforts, preliminary experimental results, and plans for future development are discussed.

Keywords: *Waste disposal, *Incinerators, *Acoustic fields, *Shipboard sewage treatment systems, Thermal properties, Heat transfer, Cost effectiveness, Turbulent flow, Lightweight, Environmental management, Waste treatment, Serdp(Strategic environmental research and development program), Serdp collection, Volume reduction, Sterilization, Detoxification, Firing density, Forced acoustics.

ADA363187REB PC A03/MF A01
Airborne Forces of the United States Army: Cornerstone of Force Projection. Final rept.
Naval War Coll., Newport, RI.
R. C. White. 5 Feb 1999, 22p.
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United States Army Airborne units will become increasingly important now that this country has transitioned to a national military strategy based on crisis response and force projection. The forced entry capability of an airborne force is unequaled and airborne units will play a major role in all contingency planning for the forseeable future. The capabilities of airborne units are understood in the army at large. However, contingency planning and execution necessitate that the joint service planner be clearly informed as to the unique capabilities and options that airborne units can provide in support of national objectives at the strategic and operational levels of war. This paper looks at the unique advantages that an airborne force can provide to the strategic and operational level planner and commander. Additionally, the limitations of the airborne force are examined in the spirit of keeping potential joint planners fully informed. Finally, the principle Mission Essential Task of the airborne force, the airfield seizure, is discussed using the elements of combat power as a guide.

Keywords: *Combat effectiveness, *Military strategy, *Airborne, *Joint military activities, *Army, Military forces(United states), Warfare, Crisis management, Emergencies, Strategy, Response, Planning, Military capabilities, Power.

ADA363188REB PC A05/MF A01
Demonstration of Lead-Based Paint Removal From an Historic Wood Structure Using Laser Technology.
Construction Engineering Research Lab. (Army), Champaign, IL.
2 Aug 1996, 73p.
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The U.S. Army maintains thousands of family housing units which were constructed before 1978 and are likely to contain lead-based paint. Chemical paint stripping is often the most appropriate and accepted method for removing lead-based paint from wood surfaces in historic structures. However, chemical stripping is expensive due to containment requirements, the volume of hazardous waste produced and worker protection requirements. Historically significant wood surfaces can be damaged by the chemicals. The objective of the work performed was to demonstrate the effectiveness of laser stripping technology for the removal of lead-based paint from historic wood surfaces. The test site at Kelly Air Force Base was Building 139, an historic structure eligible for the National Register of Historic Places. Both the efficacy of the method and its economic viability were investigated. The lessons learned from this test may allow Kelly AFB and other military activities to increase the efficiency and cost effectiveness of lead-based paint removal technologies appropriate for use on historic structures.

Keywords: *Laser applications, *Lead compounds, *Wood, *Paint removers, Army facilities, Buildings, Hazardous wastes, Preservation, Housing(Dwellings), Serdp(Strategic environmental research and development program), Serdp collection, Historic wood structure, Family housing.

ADA363189REB PC A03/MF A01
Area Air Defense Commander: Can JFACC Do It All. Final rept.
Naval War Coll., Newport, RI.
V. S. Wright. 5 Feb 1999, 24p.
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The last half of the 20 century has witnessed the evolution of air power into a warfare area that is indispensable to the success of the operational and tactical commander. The relationship of the air forces to the naval and ground maneuver forces has often been a point of contention between the armed services and in recent years the offensive aspects of air power have overshadowed the force protection mission. The introduction of new technologies and the proliferation of theater ballistic missiles and cruise missiles requires the armed services to review the role of air power in relation to the overall mission of the Joint Force Commander. As the size of the armed forces shrinks it will become more important to maximize the synergy between available forces. Joint doctrine needs to evolve with the threat and incorporate technological advances in weaponry and command and control systems. Examining the evolution of air power's role to the joint mission provides insight as to how tomorrow's doctrine can be developed to meet the emerging threat.

Keywords: *Air defense, *Theater level operations, *Military doctrine, *Joint military activities, Weapons, Guided missiles, Warfare, Air force, Infantry, Navy, Cruise missiles, Command and control systems, Missions, Protection, Maneuvers, Military commanders, Tactical warfare, Air power, Technology assessment, Jfacc(Joint force air component commander).

ADA363190REB PC A03/MF A01
Operational Counter Deception Cell: Is It The Answer. Final rept.
Naval War Coll., Newport, RI.

K. A. Young. 5 Feb 1999, 28p.
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Operational deception can be utilized by both strong and weak adversaries with, as history shows, a high chance for success. As the U.S. finds itself engaged in dealing with new and more varied threats, the operational commander and his analysts must be aware of the importance of counter deception operations. While the concept of a dedicated counter deception cell sounds like an effective way to avoid being deceived, a separate, independent cell within the Joint Task Force Intelligence Staff(JTF J2) or Joint Intelligence Center (JIC) has little likelihood of being properly staffed and resourced under current fiscal manpower constraints. Nor does a counter deception cell address the root causes of effective deception operations, namely, the misperceptions, preconceptions, and biases of commanders and analysts exploited by deception. The key is to ensure that intelligence analysts are properly educated in the techniques of counter deception operations and detailed operational level analysis. Analysts must be properly educated, managed, and assigned in order to become experts in the theater to which they will be assigned as valued members of the JTF J2/JIC.

Keywords: *Military intelligence, *Joint military activities, *Deception, *Counterintelligence, Military operations, Facilities, Operation, Analysts.

ADA363191REB PC A03/MF A01
Creeping Jurisdiction, Are International Straits In Jeopardy. Final rept.
Naval War Coll., Newport, RI.
W. E. Tower. 5 Feb 1999, 19p.
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A view of the international laws concerning both transit and innocent passage. A critical overview of factors which have the potential to create changes in those laws and a review of the importance of the straits affected by those laws from an operational perspective. The law of the sea has been with us for centuries, the concepts of mare liberum and mare clausum have been hammered into coexistence by international treaties. The 1982 Law of the Sea was crafted during both the Cold War and the environmental movement. The laws within the treaty concerning international straits were influenced by the maritime superpowers. The current international mindset focuses mainly upon the environment. International straits are of great strategic and operational importance due to the oil trade and the ability to trade space for time in a strait. The Operational Commander should be concerned with the potential for change in international straits. The environmental movement is ingrained within all Nations, and the move towards increasing jurisdictional control over vast sea areas via the EEZ foreshadows increasing control over international straits by Littorals.

Keywords: *Military strategy, *Treaties, *International law, Nations, Commerce, Environments, Cold war, International, Oceans, Military commanders, Straits.

ADA363192REB PC A03/MF A01
DOD FINANCIAL MANAGEMENT: More Reliable Information Key to Assuring Accountability and Managing Defense Operations More Efficiently.
General Accounting Office, Washington, DC. Accounting and Information Management Div.
14 Apr 1999, 27p, GAO/T-AIMD/NSIAD-99-145.
Testimony before the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate.
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Recent audits of the fiscal year 1998 financial statements for DOD and the individual military services, performed by the DOD Inspector General (IG) and the service audit agencies, and our report on the U.S. government's financial statements have highlighted many critical DOD financial management problems. These problems not only hamper the department's ability to produce timely and accurate financial management information, but also significantly impair efforts to improve the economy and efficiency of its operations. Key areas of concern relate to ineffective asset control and accountability, which affects DOD's visibility over weapons systems and inventory, and unreliable cost and budget information, which affects DOD's ability to effectively measure performance, reduce costs, and maintain adequate funds control.

Keywords: *Financial management, Department of defense, Operational effectiveness, Accountability, Gao reports.

ADA363193REB PC A03/MF A01
Naval Force Protection in the Littorals. Final rept.
Naval War Coll., Newport, RI.
M. A. Stone. 5 Feb 1999, 22p.
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The U.S. Navy relies heavily upon its ability to operate forward in the littoral regions of the world. Forward-deployed naval forces provide the critical operational connection between peacetime operations and the initial requirements of a developing crisis or major regional contingency. As advanced military technologies become available to existing and potential adversaries, the Navy's ability to maintain freedom of action in these coastal regions will likely become challenged. A force protection scheme for naval operations in the littorals that supports the 'full-dimensional protection' concept discussed in Joint Vision 2010 has yet to be developed. Naval force protection must consider the challenges associated with naval operations in confined waters. Increased risk must be managed as maneuver space is restricted and time to react to an adversary's actions is significantly reduced. Forms of power projection need to be developed that match force protection capabilities with the threats and reduce the risk to forces operating forward. Any force protection scheme must remain realistic, flexible, and operationally executable. It necessitates achieving information superiority over the enemy, establishing an extended reach capability for delivering fires, and the operational dispersion of naval forces. The next few years are a critical period for the U.S. Navy as potential adversaries seek to exploit an ever increasing number of military options offered by technological developments. Technology is accelerating the need for JV 2010 doctrine development. It must be designed so that force protection and the manner in which forces are organized achieve a good fit with technology.

Keywords: *Protection, *Naval operations, *Littoral zones, *Confined environments, *Technology assessment, Coastal regions, Crisis management, Emergencies, Risk, Peacetime, Navy, Time, Limitations.

ADA363194REB PC A03/MF A01
Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy. Final rept.
Naval War Coll., Newport, RI.
D. S. Vaught. 5 Feb 1999, 27p.
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Mercenaries have been vital players in warfare throughout history. Until the growth of modern nations with standing forces and conscription they were an essential component of any conflict. The United States has employed mercenaries in its own short history. For example, one such mercenary, a German, hired by the Union Army during the Civil War was awarded the Congressional Medal of Honor. Prior to the United States entering War II, American mercenaries joined the ranks of the Canadian Air Force and yet another group of pilots voluntarily formed a group in China known as the Flying Tigers What purpose could a mercenary force serve today in conflict, operations other than war, peace and sanctions enforcement. What impact could the presence of a private military consultant have on a joint task force operation. Is there a place in the diplomatic toolbox for the private military consultant as a tool of foreign policy. Mercenaries of the 21st century already little resemble the warriors hired by the ancient Romans in technology and weaponry. The image may remain unchanged, but today the opportunity exists for highly trained military members to join a private military corporation and put their years of experience to profitable. What must occur is a shift in the perception of what a mercenary is and can do.

Keywords: *Foreign policy, *Military history, *Military personnel, *Advisory activities, Weapons, Military operations, Warfare, Air force, United states, Task forces, Military training, Army, Perception, *Mercenaries.

ADA363195REB PC A03/MF A01
High Profile Special Operations Missions and Timing: Identifying the Culminating Point of Execution. Final rept.
Naval War Coll., Newport, RI.
E. A. Nordberg. 5 Feb 1999, 23p.
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In deciding a course of action for a high-profile special operation, such as a hostage rescue, one assumes that the principles of operational warfare are the most important planning factors. However, a thorough analysis of the operational factors-time, space, and forces (friendly and enemy)-will determine whether to execute the rescue immediately, with little information, or wait until more information is available. The best time to execute a high-profile special operations mission is later in the crisis. A later execution allows for critical mission preparation and planning which presents the best moment to execute a rescue, offering the most opportunity for success. The concept of the culminating point of execution proposes that there is a period in time when a special operation is most likely to succeed. This period presents itself after analyzing time and the following factors; force (the JTF), force (the terrorists), intelligence, and political resolve. The resultant analysis provides the CTJTF commander with the best time to execute the rescue mission with the highest probability of success. This analysis should be instituted into the program of instruction at each services' in-extremis operations courses, providing commanders with the knowledge to best determine when a hostage rescue operation should be executed.

Keywords: *Hostages, *Rescues, *Army planning, *Military art, *Special operations forces, Terrorists, Warfare, Preparation, Probability, Missions, Instructions, Special forces.

ADA363196REB PC A03/MF A01
Next Convoy War: The American Campaign Against Enemy Shipping in the Twenty-First Century. Final rept.
Naval War Coll., Newport, RI.
J. M. Poyer. 5 Feb 1999, 22p.
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In the coming century, the United States may find herself at war with a determined and capable opponent. A campaign against Orange commercial shipping will be a facet of the strategic warfare waged against this opponent. The Orange nation may attempt to protect her open-ocean trade routes by convoying her merchant vessels, but will find that American naval power in the age of Network Centric Warfare is too powerful to compete with outside the range of land-based support. The Orange nation will be able to exercise a degree of area denial near her shores, using barrier minefield and land-based air and sea defenses. The American forces will have great difficulty in shutting down the littoral trade routes, due partially to the limitations of weapons technology and partially to the shortage of delivery platforms capable of operation in the Orange denial area. Advanced weapons technology could help improve the success rate, as could a greater attention to offensive naval mining capability. To maximize the impact of the anti-shipping campaign, American forces

should attack Orange ports directly. The Orange nation will respond to American successes by shifting her domestic transport mechanisms to air- or land-based vehicles where practical. This shifting will reduce the impact of the American anti-shipping efforts, unless the American forces also take steps to eliminate the alternate transport methods. If escalation concerns prevent strikes against the Orange homeland, the war against Orange domestic commerce may not be 'winnable' at all.

Keywords: *Routing, *Strategic warfare, *Area denial, *Shipping, Weapons, Military forces(United states), Warfare, Delivery, United states, Commerce, Navy, Minefields, Forecasting, Mining engineering, Transport properties, Platforms, Limitations, Barriers, Transport, Enemy, Power, Oceans, Merchant vessels, Advanced weapons.

ADA363197REB PC A03/MF A01
Improved U.S. Pacific Command Theater Design for the Future. Final rept.
Naval War Coll., Newport, RI.
R.V. James. 5 Feb 1999, 25p.
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United States Pacific Command has based its deterrent and response capabilities on the forces concentrated in bases in South Korea and Japan. While these bases are certainly essential to deter aggressive action on the part of North Korea, they are positioned poorly to shape or respond to other portions of PACOM's theater, in particular the Indian Ocean and Southeast Asia. Potential crises in these regions are evident when one considers recent events such as the Indian nuclear bomb tests, instability in Indonesia due to the economic crisis, and conflicting territorial claims for the Spratly Islands. The National Security Strategy for the United States emphasizes engagement, shaping, responding, and preparing now. To execute this strategy and better prepare for an uncertain future, PACOM should pursue the establishment of a naval base in Singapore. Singapore appears open to a U.S. presence and this location would be ideal for shaping and responding to events along the Indian and Pacific Ocean littoral. Singapore would also be an excellent location to ensure the security of the Straits of Malacca. PACOM should also consider the effects of a reunification of North and South Korea or a demand by the Japanese government that U.S. forces in Japan be reduced. In this eventuality, a naval base in Singapore would provide a balanced U.S. presence in the Pacific theater and give PACOM enhanced flexibility for the future.

Keywords: *Military forces(United states), *Military strategy, *Theater level operations, *National security, *Pacific ocean, North Korea, United states, Emergencies, Navy, Japan, Response, Southeast asia, South korea, Indian ocean, Indonesia, Singapore.

ADA363198REB PC A05/MF A01
Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.
D.L. Via. 5 Apr 1999, 54p.
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No longer facing a single global military threat, the U.S. Army is undergoing profound change as it evolves towards a full-dimension strategic land force for the 21st Century. In the process, the Army is reviewing its organizational structures to adapt to the envisioned global environment and regional battlefields of the Army After Next (AAN). This new Army will leverage the exponential growth in digital information and information systems technologies to successfully execute future missions. Central to this restructuring is the Army's premier warfighting organization-the Division. How should divisions be structured to face unprecedented challenges in the future. This study discusses the role of a new principal staff officer-the Division G6- as a strategic planner and integrator of command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) systems in the AAN. It concludes that establishment of a principal staff element at the division level for all matters of C4ISR systems integration is essential to leveraging information age technologies for the warfighter and providing the necessary strategic signal leadership to achieve information superiority in the AAN.

Keywords: *Command control communications, *Digital systems, *Strategy, *Information systems, *Division level organizations, *Army planning, Military intelligence, Global, Environments, Threats, Battlefields, Military applications, Exponential functions, Reconnaissance, Aan(Army after next).

ADA363199REB PC A04/MF A01
Economic Sanctions: Viable Instruments of Power or Economic Chaos. Strategy research project.
Army War Coll., Carlisle Barracks, PA.
M. J. McKinley. 7 Apr 1999, 47p.
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Economic sanctions are but one of the many tools of diplomacy utilized as part of the overall U.S. policy response to objectionable actions of foreign governments. This research 7 paper explores and assesses the effectiveness and appropriateness of economic sanctions as an instrument of national power with specific emphasis on the imposition of economic sanctions on Cuba and Iran. This paper will examine - four main aspects of economic sanctions. The first is to define and identify what economic sanctions are. The second is to examine the relevancy of economic sanctions. The third is to determine if economic sanctions are viable instruments of -national power. And the fourth aspect is to determine if - economic sanctions are useful in achieving our national security - objectives. Utilizing our current policy on economic sanctions and examining its relevancy, this paper will make recommendations that clearly show that the U.S. government needs to reform its sanctions policy.

Keywords: *Foreign policy, *National security, *Economics, *Cuba, *Iran, United states, Policies, Government(Foreign), Chaos, Response, Viability, History, Power, International relations, Economic sanctions.

ADA363200REB PC A03/MF A01
Emissions from DOD Fuel Storage and Painting Operations. Technical memo.
Naval Facilities Engineering Service Center, Port Hueneme, CA.
N. Stencel, S. Iodice, and C. Kodres. Oct 1996, 14p, NFESC-TM-2226-ENV.
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The USEPA's National Risk Management Research Laboratory (NRMRL), under the direction and support of the Strategic Environmental Research and Development Program (SERDP), was funded to develop a process for controlling volatile organic compounds (VOCs) from fuel storage and transfer operations. The Naval Facilities Engineering Service Center (NFESC) was tasked to quantify DoD emissions from these operations. It was determined that Navy fueling operations are in compliance with Clean Air Act requirements and that by switching to JP-8 as a primary aircraft fuel, the Air Force and Army fueling operations will also be compliant. DoD painting operations were examined as another VOC source appropriate for control with the NRMRL developed process. Compliance with regulatory requirements may involve using low solvent content coatings, installation of 'end of the stack' air pollution control equipment, emissions averaging, or changes in paint application techniques. One disadvantage of the DoD trend to switch to low VOC coatings is the difficulty of application and their performance in harsh environs.

Keywords: *Fuel tanks, *Paints, *Aviation fuels, *Emission control, *Air pollution control equipment, Organic compounds, Solvents, Compliance, Risk analysis, *Voc(Volatile organic compounds), *Volatile organic compounds, Paint booths, Risk management, Clean air act.

ADA363201REB PC A03/MF A01
WEAPONS OF MASS DESTRUCTION: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned.
General Accounting Office, Washington, DC. National Security and International Affairs Div.
Apr 1999, 29p, GAO/NSIAD-99-76.
Report to the Chairman and Ranking Minority Member, Committee on Armed Services, House of Representatives.
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Since the early 1990s, the Department of Defense (DOD) has supported Russia's design and construction of two facilities intended to promote U.S. national security by helping to reduce Russian arsenals of nuclear and chemical weapons. The first, a storage facility now under construction at Russia's Mayak nuclear complex, is intended to facilitate Russia's elimination of nuclear weapons by providing safe and secure storage for nuclear materials (such as plutonium) removed from such weapons. The second, a pilot chemical weapons destruction facility to be built near Russia's Shchuch'ye chemical weapons storage depot, is intended to destroy that depot's nerve agent weapons, accelerate destruction of such weapons at other depots by providing a proven destruction technology% and help Russia comply with the Chemical Weapons Convention.1 DOD has supported these facilities through its Cooperative Threat Reduction (CTR) program.2.

Keywords: *Mass destruction weapons, *Demilitarization, Nuclear weapons, Ussr, National security, Threats, Cost analysis, Army facilities, Radioactive materials, Russia, Strategic defense initiative, Storage, Elimination, Gao report.

ADA363202REB PC A14/MF A03
Maintaining Budgetary Discipline: Spending and Revenue Options.
Congressional Budget Office, Washington, DC.
S. Davis, S. Lieberman, and B. Anderson. Apr 1999, 298p.
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Until recently, large and persistent deficits dominated the federal budget. For most of the past two decades, lawmakers struggled to find common ground on new policies that would eliminate those deficits. In the 1980s, their efforts met with little success; but in the 1990s, a strong economy and the end of the Cold War combined with a series of three multi-year budget agreements in 1990, 1993, and 1997- to produce a dramatic reversal in the federal budgetary outlook. The reversal happened with stunning speed, well in advance of predictions. Fiscal year 1998 ended with a sizable surplus of about $70 billion in the total budget (that is, including Social Security and the Postal Service, which are off-budget). The Congressional Budget Office (CBO) projects that under current policies and current assumptions about the economy, surpluses in the total budget will continue and will grow substantially. Over the 1999-2009 period, they are expected to total about $2.7 trillion. Excluding off-budget spending and revenues, small on-budget deficits continue through 2000 but give way thereafter to growing on-budget surpluses that are projected to total about $800 billion through 2009.1.

Keywords: *Economic analysis, *Financial management, *Planning programming budgeting, *Federal budgets, Policies, Agreements, Congressional budget office(Cbo), Budget enforcement act(Bea).

ADA363203REB PC A03/MF A01
Cruising CVBGs and Horizon MAGs: An Alternative Approach to Naval Forward Presence for the 21st Century. Final rept.
Naval War Coll., Newport, RI.

J. T. Griffin. 5 Feb 1999, 25p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Since the end of World War II, aircraft carrier battle groups (CVBGs) have formed the core component of naval power, forward deployed to regions of the world vital to U.S. interests. These formations have become the standard 'building blocks' of naval forward presence, rotated overseas to provide the CINCs with balanced capabilities to deal with a variety of present and future threats. Faced with the dangers and challenges envisioned for the 21st Century, should the rotational deployment of CVBGs continue to be the modus operandi of naval forward presence. Existing policy calls for the continued pre-eminence of the CVBG into the next century in support of Forward. . .from the Sea. An alternate method combines two innovative proposals into a single concept of forward presence. The carrier continues to play a leading role, but would be deployed and operated under the concept of cruising proposed by Admiral Paul Reason. Maritime Action Groups would be created and would remain permanently deployed to key regions of the world, with crews rotated to the ships under the CNO SSG's Horizon concept. Naval forces packaged, deployed, and operated under these two concepts would provide the CINCs with the naval forward presence to execute the National Military Strategy of 'Shape, Respond, and Prepare Now'.

Keywords: *Military strategy, *Aircraft carriers, *Naval operations, *Situational awareness, Deployment, Modular construction, Battle group level organizations, Overseas, Second world war, Carrier battle groups (Cvbgs).

ADA363204REB PC A04/MF A01
GENDER ISSUES: Perceptions of Readiness in Selected Units.
General Accounting Office, Washington, DC. National Security and International Affairs Div.
May 1999, 41p, GAO/NSIAD-99-120.
Report to the Ranking Minority Member Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate.
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Opportunities for women in the military have increased in the last several decades. About 14 percent of the total force is women.1 In 1993 and 1994, significant legislative and policy changes were made that allowed women to serve in many combat-oriented positions previously closed to them.2 Following these changes, the Army, the Navy, and the Marine Corps opened over 550 additional units to women. More than 13,000 women have joined these units.3 Among the units that have opened to women are Army smoke and chemical companies, forward support battalions, air defense artillery headquarters' units, military police units, and engineer companies; Navy combat ships, including aircraft carriers and amphibious assault ships; and Marine Corps air wings and many of its units that deploy on ships.

Keywords: *Job training, *Operational readiness, *Women, *Equal employment opportunity, Military personnel, Policies, Surveys, Military training, Personnel selection, Legislation, Gao report.

ADA363205REB PC A05/MF A01
U.S. - JAPAN TRADE: The Japanese Insurance Market.
Naval War Coll., Newport, RI.
Mar 1999, 51p, GAO/NSIAD-99-108BR.
Report to the Chairman, Subcommittee on Trade, Committee on Ways and Means, House of Representatives.
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U.S. insurers have raised concerns about Japan's implementation of bilateral insurance agreements entered into with the United States in 1994 and 1996. In recent years, Japan has taken some actions to deregulate its insurance market, both in accordance with these agreements and as part of its overall efforts at financial deregulatory reform. However, some U.S. insurance industry representatives have stated that the measures taken to date are insufficient The U.S. and Japanese governments differ regarding the extent to which the agreements have been implemented. The insurance market in Japan is divided into three sectors. The first sector consists of standard life insurance products; the second sector consists of standard non-life insurance products (mostly automobile and fire policies). These two sectors combined are called the 'primary' sector. In addition to the primary sector, a 'third' sector of the Japanese insurance market includes certain life and non-life niche products such as cancer insurance and personal accident insurance.

Keywords: *Government(Foreign), *Japan, *Insurance, Foreign policy, Economic analysis, Commerce, Marketing, Agreements, *Financial deregulatory reform, Gao report.

ADA363206REB PC A06/MF A01
DEFENSE REFORM INITIATIVE: Organization, Status, and Challenges.
General Accounting Office, Washington, DC. National Security and International Affairs Div.
B. W. Holman. Apr 1999, 77p, GAO/NSIAD-99-87.
Report to the Chairman, Subcommittee on Military Readiness, Committee on Armed Services, House of Representatives.
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For the past several years, the Department of Defense (DOD) has been working to reduce its infrastructure and support costs. The Defense Reform initiative (DRI), announced in November 1997, is DOD's latest effort to further this goal. DOD is looking to the DRI to make its current organization and business practices more agile and responsive. DOD also hopes that this initiative will provide a major source of savings that can be used to help fund DOD's planned $20 billion annual Increase in weapon systems modernization. The Chairman, Subcommittee on Military Readiness, Committee on Armed Services, House of Representatives, requested that GAO evaluate DOD's efforts to implement the DRI by assessing (1) actions taken through the DRI management structure to facilitate achieving the programs's objectives and (2) progress DOD has made in implementing individual reform initiatives.

Keywords: *Defense planning, Department of defense, Military strategy, Decision making, Operational readiness, Strategic defense initiative, Savings, Planning programming budgeting, Military downsizing, Cost benefit analysis, *Defense reform initiative(Dri), Gao reports.

ADA363207REB PC A03/MF A01
Technology and Intervention: The Negative Impact on Future Leader Development. Final rept.
Naval War Coll., Newport, RI.
J. R. Stephens. 5 Feb 1999, 22p.
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Technology provides exciting changes to the many systems we use in the military. It has eased communicating to any part of the commanders' span of control immensely. One negative aspect that this has produced is its effect on developing future leaders. Since communications have been eased, they are used to intervene into subordinates' affairs. This practice has and will become even more of a practice. The result is a shift in the real or perceived tenet of 'decentralized control.' Another possible ramification of this practice is that it limits the chance for junior military officers to make independent decisions, and builds dependence. Through education this problem can be solved. A strong foundation based on a wide variety of subjects should be promoted throughout the military in order to give the individual the tools to make the right decision, no matter what the situation brings. Most of the problems of the future will be the same as in the past, requiring moral courage, broad intellect, and flexibility that is not always learned through a technologically based education and training background. If the military becomes overly infatuated with technology and its promises, the changes in culture and the weakening of leadership development could happen slowly, without warning. With an eye on the past, the future development of leaders depends on discouraging widespread intervention, while promoting the ideas of responsibility, ethical values, and moral courage.

Keywords: *Lessons learned, *Management planning and control, *Decision making, *Technology assessment, Military history, Officer personnel, Intervention, Decentralization, Adaptive training.

ADA363208REB PC A03/MF A01
Managing the Dynamics of Change. Final rept.
Naval War Coll., Newport, RI.
K. M. Sorbello. 5 Feb 1999, 22p.
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Policies and direction issued by Staffs to their operational commanders often lack supporting rationale and solicitation for comment/ information. Lack of understanding on policies affecting funding and manning are often viewed as adversarial and lead to self-fulfilling prophecies of ineffectiveness. Two case studies are used to exemplify typical problems associated with unilateral decision making and implementation of directives. Purpose of paper is to show how to avoid or mitigate the negative impact associated with plans that have a poor objective/strategy match by using case studies of how 'not' to promulgate changes. Background information is provided on organizational behavior patterns to better explain the natural tendencies and dynamics involved with organizational changes. Author conducted survey of MSC fleet CO's and MSC Headquarters and Area Command staffs to obtain relevant source of perceptual differences on the two case studies examined. Author uses combination of Military Sealift Command (MSC) Fleet survey responses, related reference material and 20 years personal experience with the Military Sealift Command (afloat and ashore) to provide unique insight into the differences in perception experienced between MSC civilians, Navy personnel and Commercial merchant mariners. Paper stresses importance of open communication and willingness to listen without preconceptions or filtering, while recommending the application of inverse reasoning to determine proper objectives and courses of action when considering policy changes.

Keywords: *Policies, *Management planning and control, *Decision making, *Manpower utilization, Naval personnel, Reasoning, Case studies, Surveys, Communication and radio systems, Military commanders.

ADA363209REB PC A03/MF A01
USAF Aerospace Expeditionary Force: Flying into the 21st Century. Final rept.
Naval War Coll., Newport, RI.
J. R. Reid. 5 Feb 1999, 22p.
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The DoD-wide drawdown over the last decade has eliminated or relocated two-thirds of forward-based USAF force structure back to the United States. During this time, however, the Air Force has been repeatedly called upon to respond to all levels of crises throughout the world. These sporadic, unpredictable, and demanding crises have taken a toll on Air Force personnel who have been overextended by the challenging OPTEMPO. To meet the needs of present and future military strategy and to provide personnel stability, the Air Force has developed the Aerospace Expeditionary Force (AEF). The AEF is a force restructure providing tailorable, mobile, and responsive airpower to the combatant CINC within 48 - 72 hours. The AEF evolved from a small combat- oriented force package into a complete airpower package incorporating the full spectrum of combat and support assets. Two significant AEF shortfalls need to be remedied. Current

Joint Chiefs of Staff Operational Plans (OPLANs) do not incorporate the AEF employment concepts, and AEF structure does not yet include strategic airlift or other 'high demand, low density' assets. Failure to address these shortfalls could negate anticipated AEF benefits.

Keywords: *Military strategy, *Air power, *Airlift operations, Stability, United states, Air force personnel, Utilization, Defense planning, Operations other than war, Aerospace expeditionary force (Aef).

ADA363210REB PC A04/MF A01
Shaping the Regional Stability Environment with Reserves. Final rept.
Naval War Coll., Newport, RI.
D. C. Anderson. 5 Feb 1999, 31p.
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Given that shaping is one of the three pillars of the National Military Strategy and indeed the type of mission in which the United States military most often engages these days, we in the military should feel compelled to consider venues that most strengthen our capability in this regard. The purpose of this paper, then, is to explore the utility and practicality of just such a over-exposing reservists in the shaping role. This idea eminates from the National Defense Panel's 1997 report 'Transforming Defense', which proffered that part-time reservists, by virtue of their civilian employment, can bring much needed skills, not commonly found in the active duty military force, to CINCs' shaping missions. Shaping, in this work, is defined as military operations other than war (MOOTW), Internal Defense and Development (IDAD) and non-combat military operations listed in Theater Engagement Plan guidance but not assuming the characteristics of MOOTW or, in many cases, IDAD. When measuring the potential for part-time reservist involvement in the many types of operations listed under the headings above, we find that these reservist are most adept for primary roles in IDAD; most specifically for direct support in political, social and economic development. As a secondary role, part-time reservists can innovatively impart their civilian skills in support of many active duty shaping missions such as counterterrorism, counterdrugs, humanitarian assistance, exchanges and conferences. Although utility is bright, practicality is troublesome. No data base system exists which universally captures the information CINCs need in order to identify and access part-time reservists with unique and desirable shaping skills. High operations tempo in today's reserves makes voluntary commitments difficult. Part-time reservists may find it hard to tell full-time employers and unit commanders that they want to perform missions for which they were not recruited and trained.

Keywords: *Military reserves, *Military strategy, *Operations other than war, Data bases, Military operations, Stability, Defense systems, Active duty, Military commanders, Counterterrorism, Military operations other than war(Mootw), Internal defense and development(Idad).

ADA363211REB PC A03/MF A01
Closing the Book: The Role of the Aircraft Carrier in the Twenty-First Century. Final rept.
Naval War Coll., Newport, RI.
C. S. Cummins. 5 Feb 1999, 24p.
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The aircraft carrier and its embarked air wing have been a potent symbol of American resolve for most of the 20th century. As the Navy moved its focus toward the littoral regions, the aircraft carrier maintained a position of prominence in the roles of peacetime engagement, forward presence, and deterrence. Other naval platforms have proven just as capable, if not more so, of performing those missions. In the littoral regions, the aircraft carrier and its crew face multiple threats. Additionally, the cost of procuring and operating a carrier and its air wing are prohibitively expensive. Funding should be channeled away from carriers toward new technologies and weapons systems that are equally capable of performing to the combatant commander's expectations.

Keywords: *Costs, *Aircraft carriers, *Littoral zones, *Peacekeeping, Weapon systems, Platforms, Casualties, Ballistic missile intercept systems, Military commanders, Naval equipment, Wing level organizations, Risk analysis.

ADA363212REB PC A03/MF A01
Winning MOOTW's in 2010: The Future Relationship Between the U.S. Military and Nongovernmental Organizations (NGO's). Final rept.
Naval War Coll., Newport, RI.
C. A. Dour. 5 Feb 1999, 26p.
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Military operations other than war (MOOTW) have gained prominence since the end of the Cold War and are taking their toll on the military services. Cooperation with nongovernmental organizations (NGO's) will become essential in order for the U.S. military to achieve their objectives during these operations. Joint Vision 2010 (JV 2010) attempts to set the stage for how the military should be conducting business in the next decade. Presidential decision directive 56 (PDD 56) was passed in 1997 in an attempt to steer an interagency process of cooperation across U.S. governmental institutions but does not include NGO's in the formal process. This paper offers three recommendations on how the U.S. military should engage, cooperate and interact with NGO's now in order to fulfill JV 2010 as well as carry out the direction given in PDD 56 - (1) use a compatible communication system during these operations, preferably a cell phone satellite network, (2) begin an orientation program for NGO's so that they may become familiar with military structure, hardware and operations and (3) establish an NGO joint task force which can train with NGO's and deploy to a particular region without the ambiguity currently encountered by military forces.

Keywords: *Foreign policy, *Decision making, *Operations other than war, Military operations, Warfare, Orientation(Direction), Communications networks, Cold war, Directives, International relations, Joint vision 2010(Jv 2010), Presidential decision directive 56(Pdd 56), Military operations other than war(Mootw).

ADA363213REB PC A03/MF A01
Planning for Future Humanitarian Assistance Operations: Using the SAO to Establish the NGO Working Relationship. Final rept.
Naval War Coll., Newport, RI.
S. A. Banks. 5 Feb 1999, 23p.
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This paper was initiated in response to the Joint Warfighting Center's request for a paper discussing the subject, 2010 C2 of NGOs and PVOs. This paper addresses the concern that in the future (as now), the Joint Force Commander (JFC), will still not be able to command or control nongovernmental organizations (NGOs) and private volunteer organizations (PVOs) and elaborates on how the JFC can most effectively consult and coordinate with NGOs and PVOs. Presenting the recent operations PROVIDE COMFORT, RESORE HOPE, and UPHOLD DEMOCRACY as examples, this paper attempts to review the criteria which allows for successful completion of humanitarian assistance (HA) operations by the JFC working with NGOs. Using this criteria, as well as, the guiding Joint Doctrine, the paper presents an option for planning for future RA operations now by establishing liaison and developing a rapport between the U.S. Military and NGOs in the developing world. The paper proposes that liaison by Security Assistance Officers (SAOs) working for the various unified (combatant commander) commanders in chief (CINCs) will develop a rapport which allows the U.S. military to review operating procedures with NGOs and provide for success in future HA operations. Also, these NGOs will be force multipliers for the future JFC in HA operations. The paper further proposes that due to the international nature of NGOs, the relationship established in one country will assist operations in another country which may or may not have an SAO.

Keywords: *Organizations, *Personnel management, *Operations other than war, Global, Military doctrine, Security, Volunteers, Command and control systems, Joint military activities, Officer personnel, Joint force commander(Jfc), Nongovernmental organizations(Ngos), Private volunteer organizations(Pvos), Humanitarian assistance(Ha).

ADA363214REB PC A03/MF A01
Losing Anti-Personnel Landmines: An Economy of Force. Final rept.
Naval War Coll., Newport, RI.
D. A. Ottignon. 5 Feb 1999, 21p.
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The 1997 Ottawa Conference recently banned antipersonnel landmines (APLM) and created international pressure for non-signatories such as the United States, to abide by its mandate. This paper will address the operational need for landmines. It examines the role of landmines as an economy of force in operational maneuver and flexibility, as well as their affects on the operational factors of war. It will explore the impact of eliminating landmines on the Korean peninsula and offer alternatives to the Operational Commander. The paper will argue that the elimination of landmines, without a proven and cost efficient alternative to APLM, creates a substantial capability gap and ignores the increased risk to U.S. Forces. Finally, it will briefly examine future systems under exploration to replace APLM that might offer the Operational Commander an alternative capability.

Keywords: *International politics, *Land mines, *Antipersonnel ammunition, *Economic warfare, Military strategy, United states, Costs, Korea, Elimination, Antipersonnel landmines(Aplm).

ADA363215REB PC A04/MF A01
Operational Design of Hurricane Relief Operations. Final rept.
Naval War Coll., Newport, RI.
W. G. Hishon. 5 Feb 1999, 34p.
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Disaster relief operations have, for many years, been a traditional mission for the United States armed forces when crises occur either at home or abroad. Hurricane relief operations, in particular, have been a significant mission for the military over the past ten years. Yet, given the time-critical nature of hurricane relief operations, military commanders often have little time to plan for the participation of their forces. This paper discusses the applicability of operational design to hurricane relief operations and draws data from the military's participation in four domestic operations (Hugo, Andrew, Iniki and Georges) and two foreign operations (Operation Sea Angel and Hurricane Mitch) over the past ten years. The paper explores the elements of operational design most applicable to hurricane relief operations and discusses how military commanders can best incorporate elements of operational design in executing these operations. Moreover, the paper explores the various relief tasks a military commander must design an operation to accomplish in order to achieve the mission objective.

Keywords: *Crisis management, *Decision making, *Hurricanes, *Natural disasters, Military forces(United states), Military assistance, Emergencies, Joint military activities, Military planning, Disaster relief operations.

ADA363216REB PC A03/MF A01
Naval Operational Concept and Operational Maneuver from the Sea: Analysis in Operational Design. Final rept.
Naval War Coll., Newport, RI.
R. M. Heidenreich. 5 Feb 1999, 25p.

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The Navy and Marine Corps have developed operational concepts to meet the anticipated requirements of future amphibious operations. Are these two operational concepts merely separate Service concepts, or are they capable of merging to form a single Naval Operational Concept. This paper addresses that question by analyzing the two operational concepts using selected elements of operational design.

Keywords: *Military requirements, *Amphibious operations, Marine corps, Military strategy, National security, Military doctrine, Naval planning.

ADA363217REB PC A03/MF A01
American Military's Discomfort with Peace Operations. Final rept.
Naval War Coll., Newport, RI.
D. K. Ziemer. 4 Feb 1999, 19p.
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Peace operations are a growing market for the employment of military forces around the world. The increasing number of peace operations, however, has not been accompanied by a commensurate increase in America's comfort level with these operations. As the sole remaining global super power the American military can expect to participate in a significant number of UN sanctioned peace operations. Considering this forecast it is imperative that the U.S. military come to grips with the discomfort it has with peace operations. This paper is intended as a step in that direction. UN mandates and joint doctrine are highlighting to provide new insight and prompt additional thought. With a greater level of understanding we can further the development of joint doctrine and become better prepared for the missions derived from UN mandates.

Keywords: *Peacetime, *International politics, *Military doctrine, *Political negotiations, Military operations, Global, Employment, Political alliances, Joint military activities.

ADA363219REB PC A03/MF A01
Water Injection Into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
Naval Surface Warfare Center Carderock Div., Bethesda, MD. Ship Materials Engineering Dept.
H. B. Urbach, D. T. Knauss, B. L. Wallace, J. Emory, and J. Frese. 1997, 13p.
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Land-based water injection into the combustor of gas turbines is a state-of-the-art technology, which is a low-risk, low-cost option for reduction of gas-turbine emissions. A controller for a water-injected combustor (WIC) system was designed for automatic control of water injection. Steady-state tests of the WIC system in an LM2500 propulsion-engine facility yielded basic engine- interactive data for the WIC's unique automatic software logic. The steady-state tests demonstrated anticipated NOx reductions in conformity with proposed (but not implemented) California Air Resources Board (CARB) mandates. The controller automatically compensates for the effects of humidity, temperature and engine load. This automatic response was expressly designed to deliver acceptable water rates even during the abrupt power excursions encountered in emergencies, including collision-avoidance crashback maneuvers. The transient test data indicated unacceptable flameout in the engine during engine deceleration to idle speed. Detailed analyses of the flameouts show that the controller can reduce water flow within two deciseconds of a change in power demand. However, the residence time of water in the manifolds can be about a second for some operating conditions. Several fixes for this problem are described.

Keywords: *Combustors, *Gas turbines, *Nitrogen oxides, *Water injection, Computer programs, Emission, Air pollution, Engine components, Computer logic, Reduction, Collision avoidance, Naval equipment, Deceleration, Serdp(Strategic environmental research and development program), Serdp collection, Wic(Water injected combustor), Lm2500 engine.

ADA363220REB PC A03/MF A01
Mobility Traid and Challenges for the Operational Commander. Final rept.
Naval War Coll., Newport, RI. Joint Military Operations Dept.
B. H. Anderson. 5 Feb 1999, 18p.
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The Mobility Triad of airlift, sealift, and prepositioning is a successful strategic concept, but lacks depth in its structure to accomplish the mobility mission down to the operational level. The structure is designed for strategic employment, but does not integrate well into theater requirements, without operational trade-off. This paper will discuss the significant advantages and disadvantages the operational commander must address in order to fulfill their deployment requirements.

Keywords: *Deployment, *Marine transportation, *Airlift operations, *Prepositioning(Logistics), Mobility, Military requirements, Theater level operations, Strategic analysis, Operational readiness, C-17 aircraft.

ADA363221REB PC A03/MF A01
Prospects for a Naval Service Operational Concept. Final rept.
Naval War Coll., Newport, RI.
R. G. Schwass. 5 Feb 1999, 19p.
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While complementary in nature, Forward...from the Sea, The Navy Operational Concept and Operational Maneuver from the Sea are different enough to warrant separate concept statements vice being melded into a single Naval Service Operational Concept. Additionally, both of these concepts are complementary with and supportive of the tenets of Joint Vision 2010. However, the Navy and Marine Corps concepts do exhibit vulnerabilities in that they are highly leveraged by anticipated advances in weapons and information technologies. Additionally, they fail to provide a proper emphasis on the development of force employment concepts for military operations other than war.

Keywords: *Marine corps, *Navy, *Joint military activities, *Naval operations, Weapons, Military operations, Warfare, Maneuvers, Utilization.

ADA363222REB PC A03/MF A01
Reduction of NOx Emissions from Marine Power Plants.
Naval Surface Warfare Center, Annapolis, MD.
H. B. Urbach, D. T. Knauss, B. L. Wallace, J. H. Wasser, and M. R. Sexton. Jun 1997, 20p.
For presentation at the Air and Waste Management Association's 90th Annual Meeting and Exhibition, June 8-13, 1997, Ontario, Canada, Paper 97-A1399.
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The EPA has proposed a 9.2 g/kWh NOx limit for maritime diesel engines. Gas turbines, which are always cleaner burning, have escaped maritime NOx mandates at this time. However, in Europe, increasingly stricter exhaust emission limits for shipboard turbines near high-pollution ports undergo periodic review. Anticipating these proposed mandates, the Navy has been directed by OPNAVINST 5090 1A to comply therewith. EPA studies show that two- cycle marine diesel configurations combining exhaust-gas recirculation, retardation of the timing of injection, intercooling, and an oxidation catalyst for combustion of particulates lower NOx-emission levels to 8.5 g/kWh. Water injection appears ineffective below water-fuel ratios of 0.4, and is not cost effective for achieving the required NOx emission objective, at least in two- cycle engines. The proposed diesel configuration eliminates any negative ship impact on the engine-room spaces from water-management systems and water logistics. Contrastingly, water injection into the combustor of gas turbines is a state-of-the-art development, which may be a low-risk, low-cost option for reduction of gas-turbine emissions. It is anticipated that the required pure water would be obtained from water purification plants and stored supplies.

Keywords: *Emission, *Nitrogen oxides, *Auxiliary power plants, *Marine propulsion, Diesel engines, Air pollution, Reduction, Combustors, Gas turbines, Environmental protection, Naval equipment, Water injection, Exhaust gases, Serdp(Strategic environmental research and development program), Serdp collection, Epa(Environmental protection agency), Intercooling.

ADA363224REB PC A03/MF A01
U.S. Military, NGO's and CMOC: Staying Connected and Achieving Unity of Effort During MOOTW. Final rept.
Naval War Coll., Newport, RI.
E. A. Swindle. 5 Feb 1999, 25p.
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The U. S. military and nongovernmental organizations (NGO's) have found themselves increasingly committed to working together during complex humanitarian emergencies. This humanitarian intervention will no doubt continue and will necessitate increased cooperation. Harnessing the efforts of NGO's can be thought of as a force multiplier in that it accommodates organic shortfalls in the military and creates a synergistic effect of the total resources available in theater. The Civil Military Operations Center (CMOC) is the fulcrum of this civil-military relationship. It is not so much a designated place as it is a function of personnel. To achieve unity of effort with NGO's during MOOTW, we must strive to improve the coordination processes and outputs of the CMOC. With this understanding, NGO and military policymakers can draw upon their unique strengths to develop and implement policies, procedures, and coordinating mechanisms that improve the effectiveness of their joint efforts. This paper examines two MOOTW operations involving a - - CMOC; Operation Restore Hope, Somalia; and Operation Uphold Democracy. Derived from these studies are recommendations to improve the effectiveness of the CMOC.

Keywords: *Military operations, *Democracy, *Operations other than war, Foreign policy, Somalia, Civil affairs, Synergism, Haiti, *Civil military operations center(Cmoc).

ADA363225REB PC A03/MF A01
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal In Jet-Engine Exhaust: White Paper for SERDP Project CP-1038. Project rept.
Los Alamos National Lab., NM.
L. A. Rosocha, J. Chang, K. Urashima, S. J. Kim, and A. W. Miziolek. 5 Jan 1999, 26p, LA-UR-99-101.
Prepared in collaboration with McMaster Univ., Hamilton (Ontario), Canada and Army Research Lab., Washington, DC.
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This project is currently evaluating non-thermal plasma (NTP) technologies for treating jet-engine exhaust arising from DoD test facilities. In the past, some economic analyses for NTP de-NOx have shown that it is not economical, compared to other techniques. The main reasons for this conclusion was that the previous analyses examined stand-alone, or less mature electrical-discharge reactors, or electron-beam based systems that incorporated both chemical additives and quite ex-

pensive (both in terms of capital and maintenance costs) electron accelerators. Also, in contrast to more recent developments, both the discharge and electron-beam techniques of the past did not extensively incorporate methods to increase the yields (energy efficiency) of active NOx- decomposing species. In an earlier White Paper and a Project Report, we have analyzed the costs of more mature NTP systems incorporating chemical additives and new-concept NTP technologies (namely, hybrid systems) jet-engine emissions control and have shown lower exhaust-gas treatment costs for NTP systems compared to baseline standard de-NOx technologies like Selective Catalytic Reduction (SCR) combined with a wet scrubber or SCR combined with an electrostatic precipitator (ESP). In this paper, we will examine our most- promising candidate NTP reactor systems for a field-pilot demonstration on jet- engine exhaust and discuss the economic analyses for these hybrid units, which show that the economics of the proposed candidate systems are more favorable than earlier NTP reactor economic-assessment conclusions for NOx removal.

Keywords: *Nitrogen oxides, *Emission control, *Jet engine exhaust, Air pollution, Plasmas(Physics), Electric discharges, *Nonthermal plasma reactors, Serdp collection, Serdp(Strategic environmental research and development program), Jetc(Jet engine test cell), Jet engine test cells, Cruise missile test cells.

ADA363226REB PC A03/MF A01
Commander's Estimate of the Situation: Kosovo & The Southern Balkans. Final rept.
Naval War Coll., Newport, RI.
T. A. Vuono. 5 Feb 1999, 23p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

There is a continuing possibility that another Balkan War could erupt in the near future. A massive flood of ethnic Albanian refugees flowing from the Serbian province of Kosovo into Macedonia and the surrounding countries could ignite a violent regional conflict. This nightmare scenario could lead to direct clashes between NATO members Greece and Turkey, as well as Serbia, Macedonia, Albania, and Bulgaria. Thus, the containment of an expanded Balkan War is of paramount concern to NATO and the United States. The current commitment of forces to Bosnia was made in part to ensure the long-term credibility of the Alliance. The prevention of a military confrontation between two member states is even more critical. In addition, the potential humanitarian crisis that could result from continued Serbian aggression in and of itself calls for some sort of international involvement.

Keywords: *Military strategy, *International politics, *Refugees, *Mission area analysis, Military operations, Nato, Resolution, Conflict, Strategic defense initiative, Turkey, Bulgaria, Albania, Greece, Confrontation.

ADA363227REB PC A03/MF A01
Operational Effects of Mine Warfare. Final rept.
Naval War Coll., Newport, RI.
S. B. Morien. 5 Feb 1999, 28p.
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This paper demonstrates that naval mines are a threat to the operational commander and that there are actions he can take to reduce the operational effects of mine warfare. The first section demonstrates that mine warfare is a pertinent problem for the operational commander by examining three principle relationships. It examines the history of mine warfare from an operational perspective, warfare in the context of operational art and mine warfare in the context of the U.S. Navy and U.S. Marine Corps service visions. The second part of the paper explores the Mine Countermeasures (MCM) concept of operations, the difficulties countering the mine problem with recommendations to minimize the operational effects and lastly, the future of mine warfare in the context of 'Joint Vision 2010' and beyond. This paper shows that the operational commander can minimize the operational effects of mine warfare by preventing mining, maintaining surveillance, minimizing maneuver space requirements, requesting MCM forces early in crisis, using creative schemes of maneuver and exploiting the miner's resource and environmental limitations.

Keywords: *Mine countermeasures, *Mines(Ordnance), *Mine warfare, Military history, Amphibious operations, Limitations, Maneuvers, Defense planning, Creativity, Naval mines.

ADA363228REB PC A03/MF A01
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
Los Alamos National Lab., NM.
L. A. Rosocha, J. J. Coogan, R. A. Korzekwa, D. A. Secker, and R. F. Reimers. 28 Feb 1996, 15p, LA-UR-96-1846.
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Silent electrical discharge plasma reactors can decompose gas-phase pollutants by free-radical attack or electron-induced fragmentation. The radicals or electrons are produced by the large average volume nonthermal plasmas generated in the reactor. In the past decade, the barrier configuration has attracted attention for destroying toxic chemical agents for military, removing harmful greenhouse gases, and treating other environmentally-hazardous chemical compounds. At the Los Alamos National Laboratory, we have been studying the silent discharge plasma (SDP) for processing gaseous-based hazardous chemicals for approximately five years. The key objective is to convert hazardous or toxic chemicals into non-hazardous compounds or into materials which are more easily managed. The main applications have been for treating offgases from thermal treatment units, and for abating hazardous air pollutant emissions. In this paper we will summarize the basic principles of SDP processing, discuss illustrative applications of the technology, and present results from small-scale field tests that are relevant to our commercialization effort.

Keywords: *Nitrogen oxides, *Emission control, *Sulfur oxides, Plasmas(Physics), Electric discharges, Pollution abatement, *Silent discharge plasmas, Serdp collection, Serdp(Strategic environmental research and development program), Hap(Hazardous air pollutant), Voc(Volatile organic compound).

ADA363229REB PC A03/MF A01
Self-Synchronization: What Is It, How Is It Created, and Is It Needed. Final rept.
Naval War Coll., Newport, RI. Joint Military Operations Dept.
L. M. Araki. 5 Feb 1999, 22p.
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In the coming years the decline of nation-states has been predicted and the likelihood of facing enemies without borders will increase dramatically. Technology will shrink the world to a size where anyone with a computer and a modem can retrieve information from the other side of the world through a local phone line. Technology will also tie the world so closely together that national economic boundaries will dissolve and create a global economy. Technology also promises to change the face of warfare. Vice Admiral Cebrowski, in his thought- provoking article on network-centric warfare, introduces a new term to warfare - self-synchronization. Is self-synchronization the answer to mission impossible. To answer this question the term must first be defined. Next a brief glimpse at self-synchronization in other mediums must be examined. Then the steps to create self-synchronization must be delineated. Following that the current military examples of self-synchronization must be presented. It should then be possible to determine if self-synchronization is the solution. If it is the solution every attempt must be made to create this 'self-synchronization.' The creation of self-synchronization through unity of effort, commander's intent, rules of engagement, and battlespace knowledge is discussed as a starting point to create self-synchronization. The next steps in achieving self-synchronization are to empower individuals by releasing them from the multitude of requirements currently in place and the expectation and acceptance of the military as an adaptive learning organization.

Keywords: *Crisis management, *Military planning, Combat effectiveness, Deployment, Military strategy, Combat readiness, Military capabilities, Strategic warfare, Adaptive training, Battle management, Self synchronization, Rules of engagement.

ADA363230REB PC A03/MF A01
Real Cost of 'Engagement'. Final rept.
Naval War Coll., Newport, RI.
G. M. Grosso. 5 Feb 1999, 21p.
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This paper analyzes the terrorist bombings in Beirut, Lebanon in 1983 and Dhahran, Saudi Arabia in 1996, and draws some universal lessons learned on how the Chain-of-command. Lessons learned include: (1) Tactical warning on where, when and how big a bomb was going strike was not available in either of the bombings. Given the complex nature of terrorist organizations a warning order this specific will most likely never be available; therefore, the chain- of-command must figure out how to protect their forces without it. (2) Particular attention must be paid to where forces are bedded-down initially. In both bombings United States forces were located in urban areas which are much more vulnerable to terrorist attack. Given the disruption to the mission and the cost of moving forces it is much wiser to place forces in more isolated locations that are less susceptible to standoff bombs even if the security environment at the time seems benign. (3) The chain-of-command must be ever vigilant if the security environment in their theatre declines because this is when their forces will be most vulnerable to terrorist attack. As the security situation declines, the chain-of-command must err on the side of asking for too much rather than too little. While it is the responsibility of the chain-of- command to ensure United States forces are protected while forward deployed, it simply is not possible to eliminate the terrorist threat. The military and civilian leadership in the United States must understand that its forward deployed forces will always face an asymmetric threats like terrorism and when these threats are acted upon, some will be successful, despite the best efforts of the chain-of-command.

Keywords: *Terrorists, *Military forces(United states), *Deployment, *National security, *Lessons learned, Lebanon, International politics, Threats, Attack, Vulnerability, Terrorism, Political revolution, Saudi arabia, Warning systems, Bombing, Tactical warning.

ADA363231REB PC A06/MF A01
NATO: From Creation to Golden Anniversary. Insights for the Czech Republic. Master's thesis.
Naval Postgraduate School, Monterey, CA.
R. Gryc. Jun 1999, 96p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This thesis examines developments in NATO from 1949 to 1999 and discusses NATO's future role in the European security system. The thesis further discusses how particular groups of the Czech society perceive NATO. Since 1949 NATO has developed into the most powerful and the most successful collective defense organization in the world. With the collapse of the communism, NATO had to adapt to the new situation to justify its existence. Since 1990 NATO has significantly changed and is quite different from the 1990 NATO. Today's NATO is actively conducting out-of-area missions, cooperating with former adversaries through the EAPC and the PfP-program, and supporting democracy throughout Europe; however, NATO is also looking for its future form, and for its place and role in the system of European security. The most likely form will be a collective defense organization within the framework of cooperative security system. There was only a lukewarm support to accession of the Czech Republic to NATO within Czech public. This was caused by the Czech historical experience

and by the approach of Czechoslovak and later Czech governments to the national security matters since 1989, which resulted in insufficient public discussion on NATO issue in the 1997-99 period.

Keywords: *Nato, *Military history, *International politics, *Political alliances, National security, Organizations, Defense systems, Theses, Communism, Cooperation, European communities, Collapse, Democracy.

ADA363232REB PC A06/MF A01
Continuation of a Postdoctoral Research Associateship Program. Annual rept. 4 Sep 96-3 Sep 97.
National Academy of Sciences, Washington, DC.
J. K. Nyquist. Dec 1998, 81p.
Contract DAMD17-95-2-5012
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No abstract available.

Keywords: *Data acquisition, *Instructors, Military forces(United states), Scientists, *Tenure, National research council.

ADA363233REB PC A04/MF A01
UNITED NATIONS: Progress of Procurement Reforms.
Naval War Coll., Newport, RI.
Apr 1999, 35p, GAO/NSIAD-99-71.
Report to the Chairman, Committee on International Relations, House of Representatives.
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The U.N. Board of Auditors, the U.N. Office of Internal Oversight Services, and the High Level Group of Experts have pointed out numerous problems in the operations of the U.N. Secretariat's procurement system. These problems involved issues concerning all elements of an effective procurement system, such as lack of competition, with over 50 percent of contracts not competed in the past, and accountability, with confusion over responsibility and authority leading to inconsistent application of rules. Many of these findings refer to the period prior to 1996, but some findings have been more recent. To correct these and other problems, the Secretariat established a High Level Expert Group on Procurement. In 1995, the Secretariat adopted the Expert Group's recommendations as the framework for procurement reform and since then has made considerable progress in implementing the recommendations and taken other action to improve its procurement system. For example, evidence developed by U.N. audit and inspection organizations indicates that the Secretariat has strengthened accountability by designating clear lines of authority, improved competitive practices by increasing the percentage of contracts that are awarded through competitive bid, and strengthened the fairness of the process by publishing common specifications for goods procured by the U.N. system.

Keywords: *Procurement, Competition, Organizations, Strength(General), Inspection, United nations, Auditing, Accountability, Gao report.

ADA363234REB PC A03/MF A01
Forward Amphibious Maneuver from the Sea. Final rept.
Naval War Coll., Newport, RI.
J. C. Shaub. 5 Feb 1999, 26p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Navy operational concept, 'Forward...From The Sea,' and the United States Marine Corps (USMC) concept, 'Operational Maneuver From The Sea (OMFTS),' are intended to provide the Navy Expeditionary Force (NEF) with Innovative operational capabilities for exploiting emerging Technologies of the future. Ship-To-Objective Maneuver (STOM) is the key element of OMFTS, which will take advantage of the rapid maneuver of a combined force by air and surface means directly against inland objectives. OMFTS is the white paper that states what the Naval forces of the near future should be able to do. 'Forward...From The Sea,' however, does not answer the question from the Navy perspective, 'How do we get there from here.' 'Forward...Amphibious Maneuver from the Sea (FAMS),' when written, could be the combined concept, written by the Navy, which would begin to close the gap. It will provide the 'ways and means' to support the 'ends' that the USMC has proposed. The author will analyze potential challenges with doctrine, and with both current and advanced technologies as they appear in four key areas: command and control; fires; mobility; and logistics. It is these challenges which need to be addressed before these advanced concepts can come into fruition.

Keywords: *Navy, *Amphibious operations, *Naval operations, *Maneuvers, Military forces(United states), Marine corps, Military doctrine, Command and control systems, Military capabilities, Logistics, Nef(Navy expeditionary force), Omfts(Operational maneuver from the sea), Stom(Ship-to- objective-maneuver).

ADA363236REB PC A03/MF A01
Hide Your Shape Sun Tzu: ROE Considerations for Negating High-Resolution Commercial Imagery Satellites. Final rept.
Naval War Coll., Newport, RI. Joint Military Operations Dept.
R. J. Babski. 5 Feb 1999, 29p.
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During 1999, the first commercial satellite capable of producing imagery with 1-meter resolution will be launched. This event is significant because 1-meter resolution is considered as the baseline for military grade imagery. To counter this threat, the commander may ultimately have to take action against the space assets of a corporation that resides in a belligerent or a neutral nation. The Rules of Engagement (ROE) that would guide this attack are developed based on U.S. policy, international and domestic law, and operational considerations. An analysis of these factors indicates that there are few impediments to the execution of 'Offensive Counter-Space' operations against the commercial imaging threat. A proposal is also made for the addition of three General Supplemental Measures regarding the engagement of commercial space systems to the Chairman of the Joint Chiefs of Staff Instruction 3121.01, Standing Rules of Engagement.

Keywords: *Military strategy, *Military art, *Satellite imagery, Deployment, Space systems, High resolution, Military capabilities, Threat evaluation, Concealment, *Rules of engagement.

ADA363237REB PC A06/MF A01
Worldwide Report, Nuclear Development and Proliferation No. 209.
Joint Publications Research Service, Arlington, VA.
17 Nov 1982, 76p, JPRS-84767.
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No abstract available.

Keywords: *Nuclear proliferation, Government(Foreign), Nuclear power plants, International, Nuclear energy, Argentina, Nuclear development, Worlwide, Fbis collection, Foreign reports, Argentine nuclear program, Translations.

ADA363238REB PC A05/MF A01
Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues. Master's thesis.
Naval Postgraduate School, Monterey, CA.
M. Kaya. Jun 1999, 71p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This thesis is a study of the Turkish officers at the Naval Postgraduate School (NPS). The study examines the Turkish officer experiences before and during their postgraduate education at NPS. Focused interviews were conducted with 20 Turkish officers. All interviews were taped and then transcribed. Analysis of the transcripts revealed ten critical themes. These themes covered many topics, including problems related to the postgraduate education process beginning in Turkey and ending at NPS in USA. The major findings drawn from the interviews included the lack of adequate information on postgraduate education prior to attending NPS, a general dissatisfaction among the Army and Navy officers with the way in which their curriculum subspecialties were chosen, the lack of information about credit requirements for graduation from NPS, the uncovered expenses of the married officers' dependents, and the high value that the Turkish officers place on NPS education. The thesis concludes with recommended courses of action that may help the Departments of the Turkish Army and Navy.

Keywords: *Cross culture(Sociology), *Military forces(Foreign), *Personnel selection, *Officer personnel, *Turkey, Group dynamics, Education, Navy, Family members, Theses, Social sciences, Graduates, Interviewing.

ADA363239REB PC A06/MF A01
Worldwide Report, Environmental Quality No. 381.
Joint Publications Research Service, Arlington, VA.
20 Dec 1982, 78p, JPRS-82500.
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No abstract available.

Keywords: *Pollution, Air pollution, Water pollution, International, Radioactive wastes, Conservation, Wastes(Industrial), *Environmental quality.

ADA363240REB PC A03/MF A01
Elimination of Toxic Materials and Solvents from Solid Propellant Components (PP1058). Annual technical rept. for FY 1998.
Army Aviation and Missile Command, Redstone Arsenal, AL.
R. Stanley, and D. Hagler. 17 Dec 1998, 11p.
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Solid rocket motor (srm) propellant used in military tactical and strategic missile weapon systems contain hazardous and toxic materials. Lead is used as a ballistic catalyst in minimum signature propellants. It's use results in approximately 161,000 pounds of lead compound usage per year. In some 'smoky' propellant formulations, hydrogen chloride (HCl) is a combustion product which contributes to stratospheric ozone depletion. It is estimated that seven million pounds of HCL is emitted from military rocket motors per year. Lastly, processing of energetic oxidizer materials used in SRMs requires the use of solvents which are toxic, considered ozone depleting substances and also release volatile organic compounds (VOCs). Approximately four million pounds of oxidizer solvents are utilized in propellant production per year. Due to the human health hazards associated with these toxic compounds, several regulations have been and are being promulgated to curtail or eliminate the use of these substances and their associated emissions. Therefore, alternatives are required to permit future propellant production and maintain weapon system readiness.

Keywords: *Solvents, *Elimination, *Solid propellant rocket engines, *Hazardous materials, Toxic hazards, Strategic weapons, Organic compounds, Signatures, Catalysts, Guided missile defense systems, Environmental protection, Energetic properties, Lead(Metal), Hydrogen chloride, Combustion products, Solid rocket

oxidizers, Ozone depletion, Serdp(Strategic environmental research and development program), Serdp collection, Srm(Solid rocket motor), Volatile organic compounds.

ADA363241REB PC A03/MF A01
Satellite Control Systems: Opportunity for DOD to Implement Space Policy and Integrate Capabilities.
General Accounting Office, Washington, DC. National Security and International Affairs Div.
H. H. Thompson, and J. A. Elgas. May 1999, 29p, GAO/NSIAD-99-81.
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As requested, we (1) reviewed the Department of Defense's (DOD) progress in integrating and improving its satellite control capabilities and in fostering integrated and interoperable satellite control within the government, as directed by the 1996 national space policy and (2) determined whether opportunities exist for DOD to standardize its satellite control capabilities by using commercial products and practices.

Keywords: *Military satellites, *Satellite networks, *Satellite tracking systems, Department of defense, Navigation satellites, Communication satellites, Space warfare, National defense, Space defense, Gao reports.

ADA363242REB PC A03/MF A01
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
Virginia Military Inst., Lexington.
M. R. Sexton, H. B. Urbach, and D. T. Knauss. 1997, 11p.
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The present paper presents a new concept, in naval propulsion plants, to decrease NOx production and increase specific power with a water fog (droplet spray) injected (WFI) directly into the inlet of the engine compressor. The simulated performance of a simple-cycle gas turbine engine using WFI is reported. The paper describes the computer model developed to predict compressor performance resulting from the evaporation of water passing through the stages of an axial flow compressor. The resulting effects are similar to those of an intercooled compressor, without the complications due to the addition of piping, heat exchangers, and the requirement for a dual spool compressor. The effects of evaporative cooling on compressor characteristics are presented. These results include compressor maps modified for various water flow rates as well as estimates of the reductions in compression work and compressor discharge temperature. These modified compressor performance characteristics are used in the engine simulation to predict how a WFI engine would perform under various water injection flow rates. Estimates of increased output power and decreased air flow rates are presented.

Keywords: *Engine components, *Cooling, *Gas turbines, *Compressors, *Marine propulsion, Emission, Naval vessels, Evaporation, Nitrogen oxides, Suppression, Water injection, *Gas turbine engines, Serdp(Strategic environmental research and development program), Serdp collection, Wfi(Water fog injected), Intercooled.

ADA363243REB PC A04/MF A01
NBC Report, Spring - Summer 1999. Survivability of Army Personnel and Materiel.
Army Nuclear and Chemical Agency, Springfield, VA.
1999, 32p.
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SUBSTANTIAL PORTION OF THIS ISSUE OF NBC Report is devoted to efforts that enhance survivability of Force XXI assets in NBC environments. On page 6, Captain Marc Umeno addresses low-level radiation hazards that personnel could encounter in peace support operations. Major Brent Bredehoft highlights specific examples of achieving equipment survivability to high-altitude electromagnetic pulse (HEMP) beginning on page 16, and also reports on recent results of testing commercial off- the-shelf (COTS) computers to HEMP. Mr. Warren Dixon of TRADOC Head quarters on page 20 takes us through the thought processes necessary to establish meaningful requirement statements for NBC contamination survivability in the ORD. And Mr. Steve English of SBCCOM lays out guidelines and points of contact on page 25 that will help achieve those requirements.

Keywords: *Survivability, *Army personnel, *Electromagnetic pulses, Peacetime, Computers, Probability, High altitude, Low level, Contamination, Radiation hazards, *High altitude electromagnetic pulse(Hemp).

ADA363244REB PC A09/MF A02
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts. Final rept.
Army Engineer Waterways Experiment Station, Vicksburg, MS. Environmental Lab.
T. J. Olin, J. M. Rosado, S. Bailey, and R. M. Bricka. 1996, 175p.
Prepared for USEPA and the Strategic Environmental Research and Development Program in support of SERDP 96-387.
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Heavy metals contamination is an environmental problem at Army installations engaged in firearms training and munitions production. Weathering and corrosion of expended munitions and leaching from wastewater lagoons, landfills and bum pits, has resulted in heavy metals contamination of the soil at these facilities. Transport of metals to the groundwater has been confirmed in some locations, requiring treatment of the groundwater at the site. Certain treatment processes for contaminated soil produce metals laden extracts, which also require treatment before reuse or disposal. Low cost sorbents with a high affinity for metals that can be disposed after use may provide an economic alternative to ion exchange and activated carbon. Metals sorption capacity is reported in the literature for a variety of natural materials and industrial byproducts. This information is useful in identifying potentially useful sorbents, but is limited to the specific conditions studied. Of primary interest are those sorbents with a demonstrated affinity for the metals of interest, that are inexpensive and readily available, and that require no modification prior to use. A field ready sorption technology for treatment of metals-contaminated water and waste streams was the principal objective of this work unit.

Keywords: *Water treatment, *Water pollution, *Soil pollution, *Heavy metals, *Zeolites, Corrosion, Waste water, Low costs, Army facilities, Environmental impact, Ground water, Absorbers(Materials), Munitions industry, Contamination, Landfills, Sorption, Leaching, Weathering, Lagoons(Landforms), *Sorbents, Serdp(Strategic environmental research and development program), Serdp collection, Firearms.

ADA363245REB PC A09/MF A02
Integrated Approach for Security on Demand in High Speed, Shared Use Networks. Dissertation.
Arizona State Univ., Tempe.
H. J. Schumacher. May 1999, 156p.
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This dissertation presents a user level security on demand system, resulting from an integration of a fundamental framework for network security with the fundamental and unique characteristics of Asynchronous Transfer Mode (ATM) networks. The framework offers a conceptual structure encapsulating the fundamental knowledge and set of relationships in network security, permitting systematic and scientific reasoning about network security. The framework, developed as a part of this dissertation, provides the ability for all user groups, such as the military, government, industry and academia, to define their security requirements within its context and enable the framework, when integrated into an ATM network, to provide a template for matching network security resources to individual user requirements. The user level aspect of the security system is unique and is enabled by the ATM network's call setup process. In this approach, during the call setup phase, the security posture of every node and link is computed, utilizing the security framework. When the system configures a virtual path from source to destination, every node and link is verified to meet the user specified security, in addition to bandwidth and other quality of service (QoS) requirements. Traffic is launched when the call setup succeeds, otherwise, the call fails. Thus, the approach is consistent with the basic characteristics of ATM networks, offering comprehensive security while viewing security as a distributed network resource, allocating it to each user efficiently, based on demand and dictated by the need.

Keywords: *Computer networks, *Electronic security, *Asynchronous transfer mode, Computer communications, Theses, Bandwidth, Network architecture.

ADA363246REB PC A02/MF A01
Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
Los Alamos National Lab., NM.
R. A. Korzekwa, L. A. Rosocha, and Z. Falkenstein. 29 Jun 1997, 8p, LA-UR-972308.
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Nonthermal Plasmas efficiently produce highly reactive chemical species for the destruction of pollutants in gaseous effluents. Two devices commonly used to produce a nonthermal plasma in atmospheric pressure gases are the pulsed corona reactor (PCR) and the dielectric barrier discharge reactor, also referred to as a 'silent discharge plasma' (SDP) reactor. The PCR produces a nonthermal plasma by applying a fast-rising, short duration, high-voltage pulse to a coaxial wire/tube geometry which initiates multiple streamers (electron avalanches) along the length of the tube. The high-energy electrons produced in the streamers create the desired active species while maintaining near ambient neutral gas temperatures. The streamers are extinguished as the energy is depleted in the storage capacitance. The SDP reactor is constructed using either a coaxial or flat-plate electrode geometry with at least one dielectric barrier placed between the high-voltage electrodes, leaving a few mm gap in which the nonthermal plasma is generated. When the breakdown voltage is reached in the gas gap, microdischarge streamers are produced throughout the gap volume which self-terminate when the build up of surface charge on the dielectric reduces the electric field in the gap. A comparison of the results obtained in these devices is presented for various operating conditions and gas pollutants. Our primary interest is to explore whether the added complexity of fast risetime circuits has a payoff in terms of overall chemical-processing efficiency.

Keywords: *Emission control, Plasmas(Physics), Electric discharges, Pollution abatement, *Nonthermal plasma reactors, Serdp collection, Serdp(Strategic environmental research and development program), Pulsed corona reactors, Silent discharge plasmas, Hap(Hazardous air pollutant), Voc(Volatile organic compound).

ADA363247REB PC A02/MF A01
Non-Thermal Plasmas as Gas-Phase Advance Oxidation Processes.
Los Alamos National Lab., NM.
L. A. Rosocha. 11 Aug 1997, 8p, LA-UR-97-2124.
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Non-thermal plasmas are useful for generating reactive species (free radicals) in a gas stream. Because radical-attack reaction rate constants are very large for many chemical species, entrained pollutants are readily decomposed by radicals. Such plasmas can generate both oxidative and reductive radicals; therefore, they show promise for treating a wide variety of pollutants.

Keywords: *Plasmas(Physics), *Emission control, Oxidation, Free radicals, Pollution abatement, *Nonthermal plasma reactors, Serdp collection, Serdp(Strategic environmental research and development program).

ADA363248REB PC A05/MF A01
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
Pacific Northwest National Lab., Richland, WA.
W. P. Hess, B. A. Bushaw, M. I. McCarthy, J. A. Campbell, and S. D. Colson. Apr 1998, 53p.
Contract DE-AC06-76RLO1830
Prepared in cooperation with Washington State Univ., Pullman, WA.
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The Department of Energy has undertaken the enormous task of remediating defense wastes and environmental insults which have occurred over 50 years of nuclear weapons production. It is abundantly clear that significant technology advances are needed to characterize, process, and store highly radioactive waste and to remediate contaminated zones. In addition to the processing and waste form issues, analytical technologies needed for the characterization of solids, and for monitoring storage tanks and contaminated sites do not exist or are currently expensive labor-intensive tasks. This report describes progress in developing sensitive, rapid, and widely applicable laser- based mass spectrometry techniques for analysis of mixed chemical wastes and contaminated soils. The remediation of defense waste and the long-term disposal of high-level mixed wastes requires chemical analysis of the waste streams. Efficient analytic methods are needed to characterize the chemical classes and concentrations of a wide variety of waste materials. Tank and crib waste sites contain broad distributions of radioisotopes, chelating agents, chromates, and ferrocyanides.

Keywords: *Mass spectroscopy, *Waste disposal, *Radioactive wastes, Ablation, Laser beams, Ionization, Chemical analysis, Soil remediation, *Laser ablation, Serdp collection, Serdp(Strategic environmental research and development program), Lams(Laser ablation mass spectroscopy), Rempi(Resonance enhanced multiple photon ionization), Maldi(Matrix assisted laser desorption ionization).

ADA363250REB PC A03/MF A01
Positive Aspects of Network Centric Command. The Ties Between Behavioral Doctrine and Technology. Final rept.
Naval War Coll., Newport, RI. Joint Military Operations Dept.
S. W. Baldree. 5 Feb 1999, 23p.
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The current command and control doctrine must maintain its' centralized planning and decentralized execution focus. Centralizing execution at the operational level due to 'informational' superiority will be a step back in terms of war-fighting effectiveness and will be detrimental to commanders participating in military operations other than war where interagency coordination is vital to success. Operational commanders who attempt to control tactical decisions on perfect battlefield data will cause greater uncertainty at the tactical level and leave tactical commanders second-guessing themselves. The operational commander, by definition, is ultimately responsible for mission success however; subordinate, tactical commanders may be given authority to execute tasks relieving some of the burden on the operational commander. The Naval Composite Warfare Commander's Manual provides a model for doctrinal structure and organizational behavior that has proven successful on the tactical level. This platform-centric approach to command and coordination should become the model for operational level commanders in the network-centric future.

Keywords: *Military doctrine, *Military planning, Combat effectiveness, Military strategy, Battlefields, Command and control systems, Organization theory, Battle management, Military art, Operations other than war, Rules of engagement.

ADA363251REB PC A03/MF A01
Theater Ballistic Missile Defense, an Achilles Heel for the United States. Final rept.
Naval War Coll., Newport, RI. Joint Military Operations Dept.
B. K. Corey. 5 Feb 1999, 25p.
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Theater ballistic missiles are a real and growing threat for US forces. The US is approaching the problem in its traditional manner of developing new high-technology systems to counter the weapons. For at least the next ten years there will likely be a shortage of active defense systems available to the theater commander. First the commander must recognize the potential seriousness of the problem. Ballistic missile defense considerations must be incorporated into operational plans from the outset. Some specific recommendations are given for the commander to be considered as methods to mitigate the shortage of active defense systems.

Keywords: *Active defense, *Theater missile defense, Theater level operations, Threat evaluation, Joint military activities, Military planning, Area defense, Tbmd(Theater ballistic missile defense), Desert storm operation, Scud missiles.

ADA363252REB PC A03/MF A01
Combustion Control Using a Multiplexed Diode-Laser Sensor System.
Stanford Univ., CA. High Temperature Gasdynamics Lab.
E. R. Furlong, D. S. Baer, and R. K. Hanson. 1996, 25p.
Presented at the 1996 Combustion Symposium, Italy.
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A multiplexed diode-laser sensor system, comprised of two InGaAsP diode lasers and fiber-optic components, has been developed to non-intrusively measure temperature and species concentration over a single path for closed-loop process control using laser absorption spectroscopy techniques. The system was applied to measure and control the gas temperature in the post-flame gases 6 mm above the surface of a Hencken burner. The wavelengths of the lasers were independently current-tuned H2O Transitions near 1343 nm and 1392 nm. Temperature was determined from the ratio of measured peak absorption coefficients. H2O concentration was determined from the measured absorption coefficient of one transition set at the measured temperature. The mean temperatures recorded compared well with those measured by a thermocouple. Temperature fluctuations up to 250 Hz were accurately measured with the sensor system, demonstrating the high bandwidth of the measurement technique.

Keywords: *Combustion, *Diode lasers, Fiber optics, Nondestructive testing, Absorption spectra, Emission control, In situ analysis, Serdp collection, Multiplexed diode lasers, Combustion control, Serdp(Strategic environmental research and development program).

ADA363253REB PC A03/MF A01
Background Biological Aerosol Properties. Interim rept. Oct 98-Jan 99.
National Univ. of Ireland, Galway.
C. C. White, and S. G. Jennings. 8 Apr 1999, 22p.
Contract N68171-98-M-5805
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Six 12 hourly bioaerosol samples were collected at Mace Head on the west coast of Ireland from 12/09/98 to 01/20/99. Total fluorescence was measured for each sample using a Perkin Elmer LS 50B fluorimeter. In addition, methods are being developed at the National University of Ireland, Galway to utilizing fluorescent, which aid the visualization of bacteria using fluorescent microscopy. Preliminary results for this study are presented.

Keywords: *Fluorescence, *Chemical contamination, *Biological aerosols, Coastal regions, Microscopy, Background, Universities, Ireland.

ADA363254REB PC A02/MF A01
Separation of RDX from Composition B Via a Supercritical Fluid Extraction Process. Technical rept.
Army Research Lab., Aberdeen Proving Ground, MD.
J. B. Morris. Mar 1997, 10p.
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Supercritical fluid extraction is used, on the laboratory scale, to successfully separate and recover RDX from Composition B high explosive using neat carbon dioxide as the extraction solvent. The nitramine is recovered from Composition B with a purity in excess of 99%. TNT is readily extracted from Composition B, along with most of the wax, leaving the majority of RDX as an unextracted crystalline solid in the extraction vessel. Processing conditions for this separation process are discussed, including, temperature, pressure, and solvent-to-feed ratio.

Keywords: *Separation, *Supercritical flow, *Rdx, *Fluid flow, Chemical composition, Environmental impact, Solvents, Extraction, Demilitarization, Ordnance, Carbon dioxide, Energetic properties, Tnt, High explosives, Nitramines, Serdp(Strategic environmental research and development program), Serdp collection, Composition b, Sfe(Supercritical fluid extraction).

ADA363255REB PC A04/MF A01
General Creighton Abrams: Ethical Leadership at the Strategic Level. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.
F. B. Weaver. 14 Mar 1999, 40p.
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According to the Department of the Army FM 100-1, the professional Army ethic is a shared set of values, the guiding beliefs, standards, and ideals that characterize and motivate the Army. Ethical leaders internalize and practice the professional Army ethics elements or values of integrity, duty, loyalty, and selfless service outlined in the Department of the Army FM 22-100. Furthermore, ethical leaders model the professional soldier's core qualities of commitment, competence, candor, and courage discussed in FM 100-1. This paper examines the values and soldierly core qualities that comprise the Army ethos. Furthermore, it provides examples of these values and qualities that made General Creighton Abrams an ethical leader. General Creighton Abrams demonstrated ethical leader competencies throughout his career.

Keywords: *Leadership, *Ethics, *Army, *General officers, *Biographies, Military strategy, Policies, Value, Officer personnel, *Creighton abrams.

ADA363256REB PC A05/MF A01
Nondestructive Evaluation and Self-Monitoring Materials.
MITRE Corp., McLean, VA. Jason Program Office.
E. Williams, N. Lewis, H. Abarbanel, D. Eardley, and W. Happer. Apr 1999, 55p, JSR-98-145.

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This report is a response to a request from DARPA for a JASON study to evaluate existing and novel approaches to condition-based maintenance. Our guidance was to avoid the area of 'smart materials', which is by itself an active area of research with which DARPA is quite familiar. In addition, the JASON study was narrowed to exclude the research area devoted to developing self-healing materials, i.e., materials that not only detect a change and produce a signal when the change occurs, but which also deform or reorganize structurally at either the macroscopic or microscopic level to counteract any harmful operational effects due to such changes. Instead, the JASON study focused primarily on methods through which condition-based maintenance could be facilitated, improved, and/or enhanced.

Keywords: *Aircraft maintenance, *Helicopter rotors, Nondestructive testing, Cracking(Fracturing), *Crack detection, Condition based maintenance, Hums(Health and usage monitoring system).

ADA363257REB PC A10/MF A03
Waste Forms Based on Separations Media (DOE 360-94). The Strategic Environmental Research and Development Program. Final technical rept.
Pacific Northwest National Lab., Richland, WA.
M. L. Balmer, B. Bunker, and D. E. Day. 30 Jan 1997, 196p.
Prepared in cooperation with Missouri Univ-Rolla., Rolla, MO.
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Millions of gallons of radioactive wastes contained in tanks at U.S. Department of Energy's (DOE's) Hanford site require immobilization in stable waste forms. Unfortunately, many waste feeds produced during tank waste processing are either insoluble or incompatible with the baseline borosilicate glass host that is currently proposed for containment of Hanford waste. Two feeds that represent significant challenges to borosilicate glass are phosphate- rich tank sludges and silicotitanate ion exchangers (< 1 wt% of each insoluble component is allowed in the baseline glass). If high levels of waste dilution are required to stabilize these wastes, the resulting volume of high level borosilicate waste glass can be up to 100 times greater than that of the waste feed, thus increasing disposal costs by tens of billions of dollars. Researchers at PNNL examined the feasibility of alternative glass or ceramic waste forms for containment of TiO2-rich and phosphate-rich wastes. Tailoring of waste form compositions to specific waste feeds rather than attempting to tailor waste feeds for accommodation by a single waste form will minimize the volume of expensive HLW. For TiO2-rich ion exchanger waste, the high temperature phase selection and properties for three key constituents of silicotitanate ion exchangers: Cs2O, SiO2, and TiO2 was determined. This work has mapped out large portions of the phase diagram and has shown that several glass and ceramic compositions have durabilities comparable to borosilicate glass. While TiO2 may have limited solubility in borosilicate glass, silicate glasses that do not contain boron can incorporate up to 30 wt% TiO2. Two new Cs-silicotitanate zeolites with unique crystal structures that encapsulate the Cs in covalently bonded molecular cages have been discovered.

Keywords: *Waste disposal, *Radioactive wastes, Site investigations, Silicates, Ion exchange, Zeolites, Serdp(Strategic environmental research and development program), Serdp collection, Silicotitanate ion exchangers, Tank wastes, Cesium titanium silicates.

ADA363258REB PC A03/MF A01
Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers. Technical rept.
Army Research Lab., Aberdeen Proving Ground, MD.
J. E. Cocchiaro, T. P. DiNoia, M. A. McHugh, and J. B. Morris. Mar 1997, 16p.
Published in Proceedings of 1997 JANNAF Safety and Environment Protection Subcommittee Meeting, CPIA Pub 647, Vol. 1, March 1977. pp257-270.
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In recent years, supercritical (SC) CO2 has been examined as an environmentally acceptable solvent for many processing applications. CO2 has modest critical properties and is non-toxic, non-corrosive, and inexpensive. SC CO2 has proven to be a very good solvent for a variety of polymers and copolymers. A collaborative effort between Johns Hopkins (JHU) Dept. of Chemical Engineering, JHU/Chemical Propulsion Information Agency (CPIA), and Army Research Lab (ARL) is examining the phase behavior and extraction of various binder polymers used in propellant, explosives, and pyrotechnic (PEP) formulations in SC CO2 and other supercritical fluids for the purpose of developing environmentally acceptable processing and demilitarization methods for some current PEP materials, and for designing new PEP formulations that employ modified binder polymers amenable to SC CO2 processing for enhanced life cycle pollution prevention. The polymers investigated include polyethylene, oxidized polyethylene, poly(vinylidene fluoride-co-hexafluoropropylene) with trade names Viton-A and Fluorel, poly(urethane) with trade name Estane, poly(chlorotrifluoroet hylene-co-vinylidene fluoride) with trade name Kel-F, and cellulose acetate butyrate.

Keywords: *Polymers, *Supercritical flow, *Carbon dioxide, *Binders, Explosives, Propellants, Solvents, Demilitarization, Pollution abatement, Environmental protection, Polyurethane resins, Energetic properties, Rdx, Pyrotechnics, Polyethylene, Vinyl plastics, Polyvinylidenes, Hmx, Cellulose acetates, Butyrates, Serdp(Strategic environmental research and development program), Serdp collection, Pep(Propellant explosives pyrotechnics), Supercritical fluids, Polyvinylidene fluoride-co-hexafluoropropylene, Viton-a, Fluorel, Estane, Polychlorotrifluoroet hylene-co-vinylidene fluoride.

ADA363259REB PC A03/MF A01
C2 in the Information Age: Will Operational Command Echelons Become Unnecessary. Final rept.
Naval War Coll., Newport, RI. Joint Military Operations Dept.
K. J. Dolan. 5 Feb 1999, 28p.
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C2 is at the very heart of debates about the U.S. military's future. The current wide-ranging dialogue has brought a number of compelling issues to the fore. Amid discussions of the 'way forward', advocates of Network-Centric Warfare have suggested that U.S. military forces must adapt to a business-based 'flat' organizational model because the traditional hierarchical structure will not keep pace with the tempo of future warfare. The utility of this concept in the military context remains to be seen. Current discussions of the benefits of a networked system are decidedly oriented toward the tactical level where the emphasis is on action and rapid decision-making. This does not do justice to the responsibilities of an operational commander. Even more disconcerting, the desire to export network-based organizational concepts beyond the tactical level may prompt decision-makers to consider flattening the U.S. military C2 structure by eliminating operational command echelons. This option is untenable. Preserving these intermediate echelons is vital to maintaining the organizational balance and flexible command style needed to deal with the complexity of future challenges.

Keywords: *Command and control systems, *Military art, *Information warfare, Combat effectiveness, Decision making, Strategic analysis, Interoperability, Joint military activities, Military planning, Organization theory.

ADA363260REB PC A03/MF A01
Command and Control in Joint Vision 2010: Flexible, Adaptive and Networked. Final rept.
Naval War Coll., Newport, RI. Joint Military Operations Dept.
F. J. Olmo. 5 Feb 1999, 25p.
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One of the most daunting tasks the U.S. military will face in the 21 century is the issue of implementing effective command and control (C2) of joint and coalition military operations. As new technologies are implemented to support Joint Vision 2010 (JV2010), successful C2 must give the commander the flexibility to use faster and more accurate information technologies in order to increase battlespace knowledge and situational awareness. The dynamics of new technologies is linked to the Information Age and is commonly referred to as a Revolution in Military Affairs (RMA), which is leveraged through the enabling concepts of 'Information Superiority' and 'Network-Centric Warfare'. The challenge for the future commander is to exploit the RMA by applying a flexible C2 process to control the battlespace. Thus, as networked forces bring faster and more accurate information across all levels of war, the operational commander will exert his influence by maintaining a flexible networked architecture through a continuum based on his intent and the tempo of operations. A more focused understanding of networked C2 is the key to the evolution of new and existing joint architectures in order to keep pace with information technologies. The military must embrace an aggressive transition to a more flexible organization that is linked to a networked hierarchy to meet the challenges of the 21st Century.

Keywords: *Command and control systems, *Joint military activities, Information exchange, Hierarchies, Military planning, Battle management, Information warfare, Situational awareness, Network centric warfare.

ADA363261REB PC A03/MF A01
Nondestructive Evaluation (NDE) Techniques Assessment for Graphite/Epoxy (Gr/Ep) Composite Overwrapped Pressure Vessels.
Aerospace Corp., El Segundo, CA. Technology Operations.
E. C. Johnson, and J. P. Nokes. 30 Oct 1998, 27p, TR-98(8504)-3, SMC-TR-99-16.
Contract F04701-93-C-0094
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NDE methods evaluated included eddy current measurements, ultrasonics, radiography, acoustic emission monitoring, acoustic-ultrasonics, and interferometric (e.g., shearography) methods. The major interest was in the detection of damage to COPVs caused by impacts at energy levels that would leave no visible scar on the COPV surface. Each of the above-mentioned NDE methods was assessed with regards to its utility for the detection of impact damage to COPVs and its applicability in the field. Three COPVs were impacted at various energies and then inspected using each of the NDE methods. The results for each method are presented, followed by a summary comparing the advantages and disadvantages. Several NDE techniques were shown to be effective for detecting impact damage sites on graphite/epoxy overwrapped pressure vessels even if the impact energy was below the threshold for creating visible surface damage. These techniques (ultrasound, radiography, thermography, shearography, and eddy current testing) are sensitive because a small dent is left in the liner following the impact. The impact damage detection thresholds for the various NDE techniques employed depend on the size and shape of the vessel. The tup characteristics and the internal pressure of the vessel during impact also affect the degree of damage and, hence, the detectability of the impact site. The size of the indication associated with a flaw is also dependent on the technique used. Visual inspection can lead to an underestimate or lack of detection of the damage. For both thermography and shearography, consistent sizing could be accomplished through the use of calibration standards and a consistent test set-up. The ultrasonic

and eddy current results are most likely accurate measures of how much of the liner was debonded.

Keywords: *Graphite epoxy composites, Nondestructive testing, Pressure vessels, Visual inspection, Acoustic emissions, Thermography, Ultrasonic tests, Eddy currents, Impact damage, Copv(Composite overwrapped pressure vessels), Shearography, Flaw detection.

ADA363262REB PC A08/MF A02
Automotive Parts Acquisition Guide.
Air Force Logistics Management Center, Gunter AFB, AL.
J. R. Medina. Nov 1998, 135p, AFLMA-LC-199719000.
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Preliminary analysis showed some bases are using COPARS to purchase vehicle parts, others are using IMPAC. Also many bases are performing economic analysis (EA) to identify which course of action gives the best value to the Government. For these reasons we have also included vast information about the IMPAC and Economic Analysis processes in the guide. Hence, the name of the guide has been changed to Automotive Parts Acquisition Guide. The Automotive Parts Acquisition Guide is comprised of three chapters, Chapter I covers the COPARS process, Chapter II talks about the Economic Analysis and Chapter III is dedicated to the Government Purchase Card. The guide addresses the background of the COPARS program, contracting and transportation processes, lessons learned, things to look for, suggested remedies, a template Statement of Work for COPARS, and a sample economic analysis. The document will inform transportation personnel about the contracting process while also supplying contracting personnel with basic information about the transportation process. It will also address issues pertaining to the Economic Analysis process. The guide will serve as a training tool for both contracting and transportation personnel. This product will be placed in AFLMA's web site where it may be accessed by contracting and transportation personnel.

Keywords: *Parts, *Handbooks, *Automotive vehicles, Economic analysis, Lessons learned, Training devices, Data acquisition, Procurement, *Government purchase card.

ADA363264REB PC A04/MF A01
Quantum Modeling. Final rept. Aug 96-Jul 97.
Massachusetts Univ. at Boston.
G. Sun. Apr 1999, 33p, AFRL-SN-RS-TR-1999-76.
Contract F30602-96-2-0199
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This project analyzed the novel idea of constructing intersubband lasers on Si-based material systems, which could potential offer the great opportunity for monolithic integration of Si-based photonic devices with advanced Si electronics. The materials systems under investigation include quantum structures of SiGe/Si for mid- to far-infrared laser applications and of Si/ZnS for the near -infrared. The quantum-mechanical results have been published in referred journals.

Keywords: *Quantum wells, *Semiconductor lasers, Light scattering, Superlattices, Zinc sulfides, Silicon, Monolithic structures(Electronics), *Intersubband lasers, Silicon germanates, Phonon scattering.

ADA363265REB PC A03/MF A01
Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
Stanford Univ., CA. High Temperature Gasdynamics Lab.
R. M. Mihalcea, D. S. Baer, and R. K. Hanson. Jul 1997, 13p, HGTL-3172-10.
Presented at SPIE Conference held at San Diego, CA on 27 Jul-1 Aug 97.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A diode-laser sensor system has been applied to measure the concentrations of NO, N2O, CO, and CO2 in combustion gases using absorption spectroscopy and fast extraction-sampling techniques. Measured survey spectra of the NO 3v band (R branch) and H2O lines from the v2 + v3 band in the spectral region from 5556/cm to 5562/cm were recorded and compared to calculated spectra to select optimum transitions for NO detection. Similarly, measured survey spectra of the N2O 3v3 band from 6535/cm to 6600/cm were used to identify optimum transitions for N2O detection. High resolution NO absorption measurements were recorded in a fast-flow multipass cell containing probe-sampled combustion gases to determine NO concentrations in a laminar, premixed CH4/air flame, seeded with NH3. For fuel-rich conditions, the fraction of NH3 converted to NO decreased with increasing equivalence ratio. In additional experiments, CO and CO2 absorption measurements were used to determine species concentrations above a laminar, premixed CH4/air flame. Good agreement was found between measured CO and CO2 concentrations and calculated chemical equilibrium values.

Keywords: *Emission control, *Diode lasers, Absorption spectra, Pollution abatement, Combustion products, *Combustion pollutants, Serdp collection, Serdp(Strategic environmental research and development program), External cavity semiconductor lasers.

ADA363266REB PC A04/MF A01
Innovative Approaches to Watershed Characterization: Winters Run Watershed Pilot Project - A Case Study. Technical rept.
National Inst. for Environmental Renewal, Mayfield, PA.
25 Sep 1996, 37p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Winters Run serves as a primary drinking water source for the town of Belair and for the Edgeweed section of Aberdeen Proving Ground (APG). The purpose of this study was to apply and assess the capabilities of the prototype EMMS at a military facility designated by Waterways Experiment Station. The Department of the Army owns Atkisson Reservoir and the VanBibber Water Treatment Plant, both of which reside in the southern portion of this watershed. Atkisson dam was built by the Army in 1942 to ensure an adequate flow of potable water to the Edgewood portion of APG by supplementing low flows in Winters Run. The APG Environmental Installation staff selected Winters Run watershed as candidate site for this pilot project. The objectives of the pilot project were to: (1) understand subcatchment soil loss and sediment transport dynamics; (2) quantify impacts to water quality from subcatchment loadings; (3) determine impacts from wet-weather events during the Spring '96 runoff period; (4) investigate watershed landuse changes and their relative impact upon hydrology; and (5) provide the necessary technical analysis to support an upcoming NEPA EIS concerning possible remedial actions at Atkisson dam. The project also bad the objectives of advancing the integration methodology of GIS technology with water-quality modeling software and demonstrating the value of the EMMS' architecture and functionality.

Keywords: *Drinking water, *Water quality, Military facilities, Hydrology, Sediment transport, Case studies, Watersheds, Installation restoration, *Winters run watershed, Serdp collection, Serdp(Strategic environmental research and development program), Emms(Environmental monitoring and management system), Gis computer program.

ADA363267REB PC A04/MF A01
Revolution in Military Logistics: Surviving the Budget Process. Strategy research project.
Army War Coll., Carlisle Barracks, PA.
J. R. Angevine. 8 Apr 1999, 43p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Revolution in Military Logistics (RML) is a high priority for both the Army and its Logisticians. The RML is well organized and can meet the needs of the Army After Next (AAN), however we now face the most difficult part of any revolution the orchestration of its implementation and its funding. If the Army fails to reap the benefits of RML in the short term, it will not bode well for our ability to accomplish the programs and goals outlined for the AAN. In order to be successful RML must compete and survive the budgeting process. This is not an easy task, and the Army has traditionally had difficulty in disciplining itself to invest dollars today for the future. If the DOSLOG is to fulfill the vision of RML, he must be given the responsibility to program and budget for its enablers. failure to do so will result in a system that is not optimized and may not meet the expectations of the Army.

Keywords: *Logistics planning, *Military budgets, Military operations, Decision making, Strategic analysis, Vision, Revolution in military logistics(Rml).

ADA363268REB PC A06/MF A01
Theodore Roosevelt: Activated Vision Through the Bully Pulpit. Strategy research report.
Army War Coll., Carlisle Barracks, PA.
J. L. Bradshaw. 7 Apr 1999, 93p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In 1901, at the age of 42, Theodore Roosevelt became the twenty-sixth President of the United States. He had the vision to see America as a great world power. His leadership transformed America from isolationism to a strong nation with an influential international role. Roosevelt's family background gave him his foundational values upon which he built his Strenuous Life: translating thought into action, words into deeds. As President, Roosevelt pursued domestic progressive reform to provide all Americans a Square Deal. He based his foreign policy on international involvement using diplomacy and power. He skillfully used the Bully Pulpit to activate his vision of America as a great world power. Roosevelt's powerful rhetoric, stories, and symbols communicated his objectives. Theodore Roosevelt's vision and actions launched America into the 20th Century as a world power.

Keywords: *Foreign policy, *Political science, *History, *President(United states), United states, Activation, Leadership, International politics, Power, Vision, Theodore roosevelt.

ADA363269REB PC A06/MF A02
Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
W. J. Craft, E. H. Park, S. Owusu-Ofori, S. H. Lai, and C. A. Ntuen. Aug 1987, 99p, ASIAC-RN-187.1A-VOL-2.
Contract F33615-84-C-3216
See also Volume 1, AD-A363 270.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The need for an efficient economic production sequencing and scheduling (PSS) method for the flexible manufacturing system (FMS) has never been greater than it is today, due to the rapid increase in the complexity of the FMS. In the real life scheduling problem, minimizing the costs is the first objective and the most considerable factor through as the multiple criteria (objectives) in measuring scheduling performance of a FMS. This research proposes a new heuristic approach that adapts the above objective to PSS in an FMS environment by considering the following cost factors: (1) Overtime costs. (2) Lateness costs. (3) Inventory costs. (4) M/C idle time costs. This heuristic approach will operate under an adjusted manufac-

turing lead time environment and scheduling flexibility (What-If conditions) which incorporates adaptive look-back and look-ahead rules. When compared with some existing methods, the proposed method consistently shows lower total variable costs.

Keywords: *Manufacturing, *Industrial production, *Heuristic methods, *Artificial intelligence, Integrated systems, Optimization, Economics, Efficiency, Time, Variables, Costs, Scheduling, Inventory, Lead time.

ADA363270REB PC A05/MF A01
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
W. J. Craft, E. H. Park, S. Owusu-Ofori, S. H. Lai, and C. A. Ntuen. Aug 1987, 70p, ASIAC-RN-187.1A-VOL-1.
Contract F33615-84-C-3216
See also Volume 2, AD-A363 269.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Spline geometries representing airfoil shapes have been found to present difficulties in manufacturing compatibility with design. This work highlights these problems and seeks to find a solution to the problem of profile matching. A spline geometry system has been developed to simulate the design iteration process with manufacturability as the criterion. The computational algorithm and design procedures are documented. The report provides a study of the effect of design knots on the manufactured profile and also a procedure to integrate design and manufacturing data for the production of spline profiles such as the turbine blade section.

Keywords: *Airfoils, *Heuristic methods, *Computer aided manufacturing, Integrated systems, Computations, Industrial production, Compatibility, Turbine blades, Profiles, Geometry, Artificial intelligence, Iterations, Splines, Aircraft design.

ADA363271REB PC A05/MF A01
Worldwide Report Telecommunications Policy, Research and Development No. 293.
Joint Publications Research Service, Arlington, VA.
17 Dec 1982, 55p, JPRS-82488.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Telecommunications, *International relations, Global, Policies, Radio stations, *Foreign technology, Fbis collections.

ADA363272REB PC A04/MF A01
East Europe Report, Scientific Affairs No. 762.
Joint Publications Research Service, Arlington, VA.
17 Dec 1982, 45p.
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No abstract available.

Keywords: *Management planning and control, *Postal service, International relations, Eastern europe, *Foreign technology, Fbis collection.

ADA363273REB PC A05/MF A01
Worldwide Report, Telecommunications Policy, Research and Development, No. 293.
Joint Publications Research Service, Arlington, VA.
15 Nov 1983, 52p, JPRS-84749.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Radio broadcasting, Policies, Communication and radio systems, Telecommunications, Federal budgets, *Foreign technology, Fbis collection.

ADA363275REB PC A04/MF A01
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436. Final rept. Mar-May 98.
Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD.
R. S. Lindsay, T. L. Longworth, and M. A. Johnson. Apr 1999, 31p, ECBC-TR-025.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A Kappler CPF3 Coverall, Model 3T436 (Kappler Safety Group, Guntersville, AL) had swatches taken from six sample positions. These swatches were tested against sulfur mustard (HD) and sarin (GB) in accordance with the U. S. Army Edgewood Research, Development and Engineering Center's (ERDEC) modified static diffusion procedure, which was derived from Test Operations Procedure (TOP) 8-2-501.

Keywords: *Protective clothing, *Gb agent, *Hd agent, Test and evaluation, Permeability, Chemical contamination, Liquids, Vapors, Safety, Diffusion, Mustard agents, Sulfur, Cpf3 coverall, 3t436, Permeation testing.

ADA363276REB PC A04/MF A01
Evaluation of Prototype Electrically Heated Handwear. Technical rept.
Army Research Inst. of Environmental Medicine, Natick, MA.
W. R. Santee, S. P. Mullen, B. S. Laprise, and L. A. Blanchard. 1999, 35p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This study compared the responses of eight subjects wearing prototype electrically heated gloves and unheated handwear at 0 deg C, -9 deg C and - 18 deg C. The premise of the study was that the electrically heated gloves would maintain hand warmth at least equal to bulkier issue gloves, thus enhancing performance by reducing handwear bulk. Finger temperatures and endurance time were measured while the subjects wore either a battery-powered electrically heated glove or an issue Intermediate Cold-Wet Glove (ICWG). The test plan was to test in 2 day blocks for each temperature, with half the subjects wearing the prototype glove and the other half the control ICWG glove on each day. Additional testing was done with the unheated prototype glove and a combination of the heated liner with the ICWG shell. The heated prototype glove was better than the control glove at 0 deg C and provided as much or slightly more thermal protection than the control glove at -9 deg C. It was not a viable option at -18 deg C. The combination of the heated liners with the insulated ICWG shells was also better relative to the unheated ICWG.

Keywords: *Gloves, *Endurance(Physiology), *Electric heaters, Test and evaluation, Low temperature, Prototypes, Linings, Heat, Moisture, Electric batteries, *Handwear.

ADA363278REB PC A07/MF A02
Physical and Chemical Environmental Factors Associated with the Temporal and Spatial Distribution of Cyanobacteria in Lake George, New York.
Master of Science Thesis.
Rensselaer Polytechnic Inst., Troy, NY.
L. E. Richardson. Apr 1999, 122p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Cyanobacteria and environmental factors were studied in Lake George, New York from May 1998 to August 1998. Lake George, New York is a (meso) oligotrophic freshwater lake located in the southeast corner of the Adirondack State Park. An island filled channel known as The Narrows separates it into two distinct basins. The water in the lake flows from south to north where it empties into Lake Champlain near Ticonderoga, New York. The lake is dimictic, mixing in the spring and the fall, and stratification of the water column into a distinct epilimnion and hypolimnion occurs each summer. The lake undergoes a clear water phase in late May/early June. The goal of the study was to determine the temporal and spatial development of the cyanobacteria population in the north and south basins of the lake and their association to physical and chemical factors in the water column. Various nitrogen and phosphorus species were measured along with physical factors such as temperature, pH, dissolved oxygen, specific conductance, and illumination. These factors were then used to search for trends and associations with cyanobacteria enumerated by epifluorescent microscopy. One morphological genus, Synechococcus, was found to dominate the cyanobacteria population throughout the water column and throughout the period of the study. Abundance of Synechococcus increased after the clear water phase ended, reaching its maximum in both basins in early August. Other general trends showed the greatest initial abundance of Synechococcus at 20 and 25 meters in depth in the late spring and this moved up in the water column to an average of 15 meters after the clear water phase of the lake ended in mid- June. Slight temporal and spatial differences were found between the two sites, however linear regression found no strong associations between Synechococcus and any single chemical or physical factor.

Keywords: *Chemical properties, *Bacteria, *Environmental impact, *Environmental protection, Environments, Conductivity, Chemicals, Physical properties, Morphology, New york, Illumination, Population, Nitrogen, Microscopy, Oxygen, Linear regression analysis, Phosphorus, Stratification, Lakes, Channels, Dissolving, Islands, Cyanogen, *Cyanobacteria.

ADA363279REB PC A19/MF A04
Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures. Final rept.
Army Center for Health Promotion and Preventive Medicine, (Provisional) Aberdeen Proving Ground, MD.
J. W. Gardner, R. M. Popovich, V. Ovchinnikov, and M. Tolman. Dec 1997, 405p.
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This report describes a database collected on men and woman attending basic combat training at Ft. Jackson, SC in 1988. Included is a description of the database and descriptive information on questionnaire responses, anthropometric measures, physical fitness scores and clinic visits for injuries.

Keywords: *Data bases, *Physical fitness, *Anthropometry, Risk, Military training, Response(Biology), Combat forces, Questionnaires, Scoring.

ADA363280REB PC A10/MF A02
China Report, Political, Sociological and Military Affairs.
Joint Publications Research Service, Arlington, VA.
11 Jan 1985, 187p, JPRS-CPS-85-005.
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No abstract available.

Keywords: *International relations, *Political parties, *Sociology, Underground explosions, Nuclear explo-

sion testing, Planning, Space shuttles, Space missions, China, Fbis collection, Foreign reports, Military affairs.

ADA363281REB PC A08/MF A02
Regulations for the Technical Operation of Interurban Telephone- Telegraph Cable Lines, USSR.
Joint Publications Research Service, Arlington, VA.
30 Jun 1960, 137p, JPRS-3441.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Communication and radio systems, *Telephone systems, *Telegraph systems, Ussr, Requirements, Operation, Parts, Foreign reports.

ADA363282REB PC A05/MF A01
Worldwide Report: Nuclear Development and Proliferation, No. 172.
Joint Publications Research Service, Arlington, VA.
21 Dec 1982, 51p, JPRS-82509.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Nuclear proliferation, *Nuclear power plants, Ussr, Stations, Global, Marketing, Mining engineering, Guided missile targets, Uranium, Enrichment, Fbis collection, Foreign reports.

ADA363283REB PC A04/MF A01
Worldwide Report Nuclear Development and Proliferation No. 182.
Joint Publications Research Service, Arlington, VA.
25 Mar 1983, 45p, JPRS-89143.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Nuclear proliferation, *Nuclear energy, Global, Domestic, Waste disposal, Radioactive wastes, Underground, Fbis collection, Foreign reports.

ADA363284REB PC A04/MF A01
USSR Report, Electronics and Electrical Engineering, No. 118.
Joint Publications Research Service, Arlington, VA.
28 Nov 1983, 36p, JPRS-84839.
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No abstract available.

Keywords: *Electronics, *Electrical engineering, Ussr, Ionosphere, Propagation, Optical properties, Electronic equipment, Passive systems, Turbulence, Atmospheric motion, Electromagnetic radiation, Attenuation, Horizontal orientation, Radio waves, Fbis collection, Foreign reports.

ADA363285REB PC A06/MF A01
China Report, Agriculture, No. 279.
Joint Publications Research Service, Arlington, VA.
17 Nov 1983, 90p, JPRS-84770.
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No abstract available.

Keywords: *Agriculture, Symposia, Chemicals, Procurement, Feeding, China, Fertilizers, Livestock, Fbis collection, Foreign reports.

ADA363286REB PC A08/MF A02
East Asia: Korea.
Joint Publications Research Service, Arlington, VA.
1 Feb 1988, 145p, JPRS-KAR-88-002.
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No abstract available.

Keywords: *Foreign policy, *International relations, Symposia, Television systems, Response, Media, Korea, Fbis collection, Foreign reports.

ADA363287REB PC A09/MF A02
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
Joint Publications Research Service, Arlington, VA.
25 Mar 1985, 172p, JPRS-UBB-86-012.
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No abstract available.

Keywords: *Life sciences, *Biomedicine, *Behavioral sciences, Ussr, Reports, Fungi, Parasites, Biosynthesis, Aerospace medicine, Flour, Wheat, Fbis collection, Foreign reports.

ADA363288REB PC A09/MF A02
China Report, Economic Affairs No. 323 Energy: Status and Development– XV.
Joint Publications Research Service, Arlington, VA.
30 Mar 1983, 155p, JPRS-83162.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *China, *Energy management, Economic analysis, Exports, Nuclear power plants, Hydroelectricity, *Foreign technology.

ADA363289REB PC A07/MF A02
Southeast Asia Report, No. 1304.
Joint Publications Research Service, Arlington, VA.
27 Jun 1983, 118p, JPRS-83764.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Foreign policy, *International relations, Security, Procurement, Biographies, Special forces, Southeast asia, Indonesia, Fbis collection, Foreign reports.

ADA363290REB PC A08/MF A02
East Europe Report, Political, Sociological and Military Affairs, No. 2158.
Joint Publications Research Service, Arlington, VA.
27 Jun 1983, 150p, JPRS-83765.
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No abstract available.

Keywords: *International relations, *Political parties, *Sociology, Maintenance, Organizations, Peacetime, Education, Naval personnel, Universities, Officer personnel, Army, Motors, Eastern europe, Fbis collection, Foreign reports, Military affairs.

ADA363291REB PC A07/MF A02
USSR Report, Military Affairs, No. 1817.
Joint Publications Research Service, Arlington, VA.
1 Dec 1983, 109p, JPRS-84853.
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No abstract available.

Keywords: *Political science, *Military forces(Foreign), Stresses, Ussr, Officer personnel, International relations, Fbis collection, Foreign reports, Military affairs.

ADA363292REB PC A07/MF A02
Korean Affairs Report, No. 326 Kulloja No. 3, March 1983.
Joint Publications Research Service, Arlington, VA.
1 Dec 1983, 106p, JPRS-84854.
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No abstract available.

Keywords: *Government(Foreign), *Documents, *International relations, Economics, Military forces(Foreign), Humans, History, Korea, Fbis collection, Foreign reports.

ADA363293REB PC A07/MF A02
China Report, Political, Sociological and Military Affairs, No. 476.
Joint Publications Research Service, Arlington, VA.
1 Dec 1983, 117p, JPRS-84857.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *International relations, *Political parties, *Sociology, Nuclear warfare, Organizations, Engineering, President(United states), China, Democracy, Fbis collection, Foreign reports, Military affairs.

ADA363294REB PC A08/MF A02
East Europe Report, Political, Sociological and Military Affairs, No. 2121.
Joint Publications Research Service, Arlington, VA.
24 Mar 1983, 146p, JPRS-83129.
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No abstract available.

Keywords: *International relations, *Political parties, *Sociology, Infantry, Postal service, Eastern europe, Fbis collection, Foreign reports, Military affairs.

ADA363295REB PC A05/MF A01
USSR Report, USA: Economics, Politics, Ideology.
Joint Publications Research Service, Arlington, VA.
13 Mar 1985, 65p, JPRS-USA-85-002.
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No abstract available.

Keywords: *Political science, *Economics, *International relations, Ussr, Symposia, Iron alloys,

Metallurgy, Disarmament, Second world war, Fbis collection, Foreign reports, Ideology, Translations.

ADA363296REB PC A06/MF A01
USSR Report, USA: Economics, Politics, Ideology, No. 1, January 1985.
Joint Publications Research Service, Arlington, VA.
6 May 1985, 89p, JPRS-USA-85-004.
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No abstract available.

Keywords: *Foreign policy, *Political science, *Economics, Guided missiles, Ussr, Warfare, Manufacturing, Security, Fbis collection, Foreign reports, Ideology, Translations.

ADA363297REB PC A05/MF A01
USSR Report, USA, Economics, Politics, Ideology, No. 6, June 1985.
Joint Publications Research Service, Arlington, VA.
29 Aug 1985, 74p, JPRS-USA-85-009.
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No abstract available.

Keywords: *Foreign policy, *Political science, *Economics, Ussr, Control, Isolation, Spectra, Urban areas, Central america, Fbis collection, Foreign reports, Ideology.

ADA363298REB PC A05/MF A01
USSR Report, USA, Economics, Politics, Ideology, NO. 5, May 1985.
Joint Publications Research Service, Arlington, VA.
7 Aug 1985, 66p, JPRS-USA-85-008.
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No abstract available.

Keywords: *Foreign policy, *Political science, *Economics, Nuclear warfare, Ussr, Warfare, Military strategy, Organizations, Population, Shifting, Pressing(Forming), Fbis collection, Foreign reports, Ideology.

ADA363299REB PC A05/MF A01
USSR Report, USA, Economics, Politics, Ideology, No. 4, April 1985.
Joint Publications Research Service, Arlington, VA.
12 Jul 1985, 68p, JPRS-USA-85-007.
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No abstract available.

Keywords: *Economics, *International relations, *Political parties, Ussr, Political science, Population, Communism, Fbis collection, Foreign reports, Ideology.

ADA363300REB PC A05/MF A01
USSR Report, USA: Economics, Politics, Ideology, No. 10, October 1985.
Joint Publications Research Service, Arlington, VA.
30 Dec 1985, 69p, JPRS-USA-85-013.
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No abstract available.

Keywords: *Political science, *Economics, *International relations, Ussr, Warfare, Congress, Commerce, Psychology, Reclamation, Fbis collection, Foreign reports, Ideology.

ADA363301REB PC A07/MF A02
JPRS Report, West Europe Reference Aid Portuguese Military Terms.
Joint Publications Research Service, Arlington, VA.
28 Sep 1988, 113p, JPRS-WER-88-054.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Military forces(Foreign), *Vocabulary, *International relations, Military organizations, Portugal, Fbis collection, Foreign reports.

ADA363302REB PC A05/MF A01
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1985.
Joint Publications Research Service, Arlington, VA.
29 Oct 1985, 74p, JPRS-USA-85-012.
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No abstract available.

Keywords: *Political science, *Economics, *International relations, *United States, Ussr, Global, Ideology.

ADA363303REB PC A05/MF A01
USSR Report, USA: Economics, Politics, Ideology, No. 8, August 1985.
Joint Publications Research Service, Arlington, VA.
28 Oct 1985, 66p, JPRS-USA-85-011.
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No abstract available.

Keywords: *United States, *Foreign policy, *Political science, *Economics, *International relations, Ussr, Solutions(General), Ideology.

ADA363304REB PC A06/MF A01
USSR Report, USA: Economics, Politics, Ideology, No. 7, July 1985.
Joint Publications Research Service, Arlington, VA.
20 Sep 1985, 95p, JPRS-USA-85-010.
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No abstract available.

Keywords: *United States, *Political science, *Economics, *International relations, Ussr, Metals, Computers, Food, Crimes, Youth, Ideology.

ADA363305REB PC A02/MF A01
Japan Opposes US-Japanese Security Pact.
Joint Publications Research Service, Arlington, VA.
13 Jun 1961, 6p, JPRS-4677.
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No abstract available.

Keywords: *Military operations, *Government(Foreign), *Military forces(Foreign), Warfare, National security, Population, Japan, Treaties, Supplies, Laos, Foreign reports.

ADA363306REB PC A03/MF A01
Selected Soviet Military Translations (Recent Events in the Soviet Navy) No. 61.
Joint Publications Research Service, Arlington, VA.
13 Jun 1961, 30p, JPRS-4696.
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No abstract available.

Keywords: *Government(Foreign), *Military forces(Foreign), *Military government, Ussr, Navy, Foreign reports, Translations.

ADA363307REB PC A05/MF A01
East Europe Report, Political, Sociological and Military Affairs No. 2157.
Joint Publications Research Service, Arlington, VA.
24 Jun 1983, 58p, JPRS-83762.
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No abstract available.

Keywords: *Political science, *International relations, *Sociology, Nato, Organizations, Eastern europe, Youth, Fbis collection, Foreign reports, Military affairs.

ADA363308REB PC A10/MF A02
East Europe Report, Political, Sociological and Military Affairs No. 2234.
Joint Publications Research Service, Arlington, VA.
28 Nov 1983, 189p, JPRS-84830.
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No abstract available.

Keywords: *Government(Foreign), *International relations, *Political parties, *Sociology, Congress, Economics, Domestic, Message processing, Eastern europe, Fbis collection, Foreign reports, Military affairs.

ADA363309REB PC A09/MF A02
China Report, Political, Sociological and Military Affairs No. 474.
Joint Publications Research Service, Arlington, VA.
28 Nov 1983, 172p, JPRS-84831.
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No abstract available.

Keywords: *Government(Foreign), *International relations, *Political parties, *Sociology, Warfare, China, Bombing, Fbis collection, Foreign reports, Military affairs.

ADA363310REB PC A03/MF A01
Soviet Abstracts Biology, Section O, Plant Diseases, Book No. 23, 1958, Abstracts 104958 thru 105054.
Joint Publications Research Service, Arlington, VA.
25 Mar 1960, 27p, JPRS-2441, OTS-60-11-439.
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No abstract available.

Keywords: *Diseases, *Plants(Botany), Ussr, Biology, Abstracts, Russian language, Classification, Yugoslavia, *Plant diseases, Foreign reports, Translations.

ADA363311REB PC A03/MF A01
Brief Report on a Scientific Mission to the United States, USSR.
Joint Publications Research Service, Arlington, VA.
O. H. Ivakhnenko. 24 Oct 1960, 18p, JPRS-3934, OTS-60-31-779.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Scientific research, Ussr, United states, Missions, Physicians, Foreign reports.

ADA363312REB PC A08/MF A02
China Report, Economic Affairs, No. 296. Energy: Status and Development XII.
Joint Publications Research Service, Arlington, VA.
21 Dec 1982, 135p, JPRS-82512.
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No abstract available.

Keywords: *Economics, *Nuclear energy, *Electric power, *China, Transportation, Networks, Thermoelectric power generation, Hydroelectricity.

ADA363313REB PC A03/MF A01
Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
Joint Publications Research Service, Arlington, VA.
I. Kenesbayev, L. K. Klyshev, T. D. Nominkhanov, and N. S. Kalachev. 28 Jun 1960, 17p, JPRS-3429, OTS-60-31-295.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *International relations, *Scientists, Ussr, China, Physiologists, Foreign reports.

ADA363314REB PC A03/MF A01
Survey of Soviet Heavy Industry (4).
Joint Publications Research Service, Arlington, VA.
4 Jan 1961, 21p, JPRS-4301.
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No abstract available.

Keywords: *Industrial plants, *Ussr, Reports, International relations, Foreign reports.

ADA363315REB PC A02/MF A01
Activities of Scientific Societies of the Tatar ASSR.
Joint Publications Research Service, Arlington, VA.
2 Feb 1961, 7p, JPRS-4377.
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No abstract available.

Keywords: *Scientific organizations, Ussr, Position(Location), Congress, Reports, Clinical medicine, Instructors, Hospitals, Physicians, Atherosclerosis, Foreign reports, Tatar assar.

ADA363316REB PC A07/MF A02
Research and Development in Soviet Nonferrous Metallurgy.
Joint Publications Research Service, Arlington, VA.
14 Jun 1960, 111p, JPRS-3390, OTS-60-31-158.
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No abstract available.

Keywords: *Iron alloys, *Metallurgy, Ussr, Industries, Accuracy, Mining engineering, Gold, Physicians, P type semiconductors, Hands, Foreign reports, Translations.

ADA363317REB PC A02/MF A01
Two Concepts and Two Tendencies of Statism, Yugoslavic.
Joint Publications Research Service, Arlington, VA.
N. Pasic. 8 Jun 1960, 7p, JPRS-3383.
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No abstract available.

Keywords: *Foreign policy, *International relations, Political science, Release mechanisms, Croatia, Scientific organizations, Serbocroatian language, Scientific research, Foreign reports.

ADA363318REB PC A03/MF A01
Selected Articles on Armed Forces in North Vietnam.
Joint Publications Research Service, Arlington, VA.
T. V. Tra. 4 Jun 1960, 17p, JPRS-3384.
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No abstract available.

Keywords: *Military forces(Foreign), *International relations, *Socialism, Warfare, Global, Blood, North vietnam, Foreign reports.

ADA363319REB PC A02/MF A01
Third Congress of the All-Union Astronomic-Geodetic Society, USSR.
Joint Publications Research Service, Arlington, VA.
15 Sep 1960, 8p, JPRS-3918, OTS-60-31-773.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Geodetic astronomy, Ussr, Congress, Visibility, Artificial satellites, Sides, Geodesy, Earth(Planet), Foreign reports.

ADA363320REB PC A04/MF A01
Radiation Injury and Autolysis, USSR.
Joint Publications Research Service, Arlington, VA.
V. N. Benevolenskiy. 8 Feb 1961, 34p, JPRS-4387.
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No abstract available.

Keywords: *Cytology, *Radiation injuries, Pathogenic microorganisms, Ussr, Cells(Biology), Necrosis, Asepsis, *Autolysis, Translations.

ADA363321REB PC A01/MF A01
Steel 'Mouse' and Automations, USSR.
Joint Publications Research Service, Arlington, VA.
N. Il'inskaya. 6 Feb 1961, 5p, JPRS-4380.
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No abstract available.

Keywords: *International relations, Electronics, Robots, Steel, Boxes, Iron, Machines, Food, Learning, Game theory, Children, Reading, Foreign reports.

ADA363322REB PC A01/MF A01
Third All-Union Conference on the Electrophysiology of the Nervous System, USSR.
Joint Publications Research Service, Arlington, VA.
A. Sorokina, and Y. P. Limanskiy. 6 Feb 1961, 4p, JPRS-4378.
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No abstract available.

Keywords: *Central nervous system, *Electrophysiology, Ussr, Symposia, Reports, Abstracts, Nervous system, Animals, Electroencephalography, Foreign reports.

ADA363323REB PC A03/MF A01
Role of Persuasion and Coercion in the Soviet State USSR.
Joint Publications Research Service, Arlington, VA.
P. S. Romashkin. 27 May 1960, 19p, JPRS-3326.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

No abstract available.

Keywords: *Government(Foreign), *International relations, *Communism, Foreign policy, Ussr, Foreign reports, Persuasion, Coerciion.

ADA363324REB PC A08/MF A02
East Europe Report, Political, Sociological and Military Affairs, No. 2164.
Joint Publications Research Service, Arlington, VA.
11 Jul 1983, 144p, JPRS-83860.
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No abstract available.

Keywords: *Political science, *Sociology, Policies, Government(Foreign), Military forces(Foreign), International relations, Eastern europe, Decentralization, Propaganda, Military affairs, Fbis collection, Foreign reports, Translations.

ADA363325REB PC A09/MF A02
East Europe Report, Political, Sociological and Military Affairs, No. 2123.
Joint Publications Research Service, Arlington, VA.
29 Mar 1983, 167p, JPRS-83157.
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No abstract available.

Keywords: *Political science, *Sociology, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, Political parties, Eastern eu-

rope, Military affairs, Fbis collection, Foreign reports, Translations.

ADA363326REB PC A07/MF A02
China Report, Political, Sociological and Military Affairs, No. 404.
Joint Publications Research Service, Arlington, VA.
28 Mar 1983, 101p, JPRS-83151.
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No abstract available.

Keywords: *Political science, *Sociology, Education, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, Political parties, Communism, China, Chinese language, Military affairs, Fbis collection, Foreign reports, Translations.

ADA363327REB PC A04/MF A01
USSR Report, Energy No. 129.
Joint Publications Research Service, Arlington, VA.
17 Dec 1982, 46p, JPRS-82491.
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No abstract available.

Keywords: *Energy, *Pipelines, *USSR, Natural gas, Oil fields, Coal.

ADA363328REB PC A05/MF A01
Worldwide Report, Nuclear Development and Proliferation No. 210.
Joint Publications Research Service, Arlington, VA.
18 Nov 1983, 57p, JPRS-84783.
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No abstract available.

Keywords: *Nuclear proliferation, Nuclear power plants, Nuclear energy, Nuclear reactors, Foreign reports, Fbis collection.

ADA363329REB PC A05/MF A01
Worldwide Report: Nuclear Development and Proliferation, No. 170.
Joint Publications Research Service, Arlington, VA.
29 Nov 1982, 61p, JPRS-82336.
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No abstract available.

Keywords: *Nuclear proliferation, Nuclear energy, Nuclear reactors, Radioactive wastes, Uranium, Foreign reports, Fbis collection.

ADA363330REB PC A04/MF A01
Structural Optimization Technique. Final rept.
Rock Island Arsenal, IL.
V. Komkov, E. Haug, and N. Coleman. Jun 1975, 37p, RIA-76-U565, AC-TR-75001.
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Sensitivity analysis is performed for general structures. Gradual improvement in the design of a vibrating structure is attempted by an iterative process, where the frequency of vibration depends upon the design. Abstract Frechet differentiation is used to establish necessary criteria for optimization. Particular attention is given to the problem of optimization of gun tube.

Keywords: *Vibration, *Structural mechanics, Algorithms, Gun barrels, Structural analysis.

ADA363331REB PC A03/MF A01
GPS User-Interface Design Problems. Final rept.
Civil Aeromedical Inst., Oklahoma City, OK.
K. W. Williams. Apr 1999, 11p, DOT/FAA/AM-99/13.
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This paper is a review of human factors problems associated with the user-interface design of a set of Global Positioning System (GPS) receivers, certified for use in aircraft for instrument non-precision approaches. The paper focuses on design problems associated with the interfaces and specific inconsistencies across the set of interfaces that could cause confusion or errors during operation. Some specific problems addressed involve the layout and design of knobs and buttons; control labeling inconsistencies across units; the placement and use of warnings; feedback, or the lack thereof; and the integration of specific flying tasks while using the receivers. Recommendations for solving some of the problems are provided, as well as suggestions to the FAA, GPS manufacturers, and pilots regarding the future development and use of these products.

Keywords: *Global positioning system, *Flight instruments, *Man computer interface, Computer aided design, Human factors engineering, Display systems, Aircraft equipment, Design criteria, Instrument landings.

ADA363332REB PC A06/MF A01
Results of the Field Study of the Paleontological Resources of the Fort Carson Military Reservation, Colorado.
Paleontological Investigations, Denver, CO.
R. Raynolds, D. Nelson, and F. Olsen. Mar 1999, 88p.
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The sedimentary rocks at Fort Carson Military Reservation contain various outcrops of paleontologic significance. Outcrops with significant paleontologic resources range from the Jurassic Kimmeridgian, Morrison Formation to various undifferentiated Pleistocene alluviums. The paleontology survey reported in this manuscript is an important part of the Fort Carson Cultural Resources Management Program whose goal is to maintain the largest possible area for military training while protecting significant cultural and environmental resources. The current study is a demonstration project funded by a grant awarded to Fort Carson by the Legacy Resource Management Program. Congress established Legacy in 1991 to provide the Department of Defense (DoD) with an opportunity to enhance the management of resources on lands under DoD jurisdiction.

Keywords: *Paleontology, Congress, Department of defense, Military facilities, Environments, Resource management, Cultural resources, Colorado, Fossils, Jurassic period.

ADA363334REB PC A05/MF A01
Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility. Thesis rept.
Uniformed Services Univ. of the Health Sciences, Bethesda, MD.
P. L. Pengilly. 7 May 1999, 70p, AFIT-99-99.
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Clinical practice guidelines are developed to minimize variations in treatment patterns while assisting healthcare providers in clinical decision making. The United States Agency for Health Care Policy and Research published the Otitis Media with Effusion (OME) in Young Children Clinical Practice Guideline Number 12 widely disseminated by 1996. The guideline provides information on diagnostic criteria, hearing evaluations, environmental risk factors, therapeutic interventions, and a treatment algorithm. Initial treatment for OME does not require antibiotic therapy lessening microbial drug resistance. Little documentation exists reporting the application of this guideline. This study used a descriptive quantitative design to examine adherence to this guideline by healthcare providers in a United States Air Force Medical Treatment Facility. A total of 196 medical records of children diagnosed with otitis media were audited using a checklist developed from the treatment algorithm. Twenty- three of these children had OME. Using summary statistics, the audit showed antibiotics, decongestants, antihistamines, steroids and surgery were not used as per guideline recommendations. Areas of low compliance were use of the six- week follow-up interval, documentation of environmental risk factor control counseling, and documentation of the use of pneumatic otoscopy and/or tympanometry to evaluate the tympanic membrane for OME and acute otitis media.

Keywords: *Decision making, *Clinical medicine, *Diagnosis(Medicine), *Medical services, *Health care facilities, Test and evaluation, Algorithms, United states, Therapy, Infectious diseases, Drugs, Surgery, Children, Ear, Antibiotics, Microorganisms, Resistance(Biology), Steroids, Antihistaminics.

ADA363335REB PC A02/MF A01
Year End Progress Report for ONR Young Investigator Grant N00014-97-1-0774. Interim rept. Jun 98-May 99.
Lehigh Univ., Bethlehem, PA. Dept. of Computer Science and Electrical Engineering.
R. S. Blum. 17 May 1999, 7p.
Contract N00014-97-1-0774
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This research attempts to develop a fundamental understanding of the issues involved in the design and performance analysis of distributed signal detection schemes. Such knowledge is currently lacking. This is especially true for cases with statistically dependent observations from sensor to sensor, a practical case on which this research focuses. Some emphasis is being devoted to developing design algorithms, applications, and algorithms for image fusion. The goal of these studies is to produce tools and techniques for pressing practical problems. This report describes the progress made in the last year. The investigation produced several significant results that illustrate how little is really known about the underlying theory of distributed signal detection. For example, given a distributed scheme which uses a given number of bits for the decisions at all but the last sensor, we can show that the last sensor should not use more than a certain number of bits in its decision. If more bits are used at the last sensor, then the same performance can be obtained by using less bits, which implies lower speed communications.

Keywords: *Signal processing, *Data fusion, Algorithms, Image processing, Optimization, Distributed data processing, Multisensors, ONR(Office of Naval Research), Signal detection, Image fusion.

ADA363336REB PC A06/MF A02
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results. Annual rept. 1998.
Construction Engineering Research Lab. (Army), Champaign, IL.
L. L. Pater, D. K. Delaney, T. J. Hayden, B. Lohr, and R. Dooling. 1998, 97p, SERDP-CS-1083.
Prepared in collaboration with the University of Maryland, College PArk, MD.
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This report is submitted as partial fulfillment of the terms of SERDP funded project CS-1083. The purpose of this research is to assess the effects of military training noise on the endangered Red-Cockaded Woodpecker (RCW) and to develop assessment methodology. The results of this research will provide scientific basis for RCW management protocols, and will partially satisfy requirements of a 1996 USFWS biological opinion that requires the Army to assess effects of implementing the 1996 'Management Guidelines for the RCW on Army Installations.' Implementing these new guidelines will significantly reduce restrictions on training for military installations on which RCWs are present. During the first year, we observed and documented several hundred training noise events and resulting RCW responses under realistic conditions. We measured both proximate response behavior and nesting success. We also observed RCW behavior and nesting success without noise stimuli, to provide a baseline against which to judge response and impact. Very few overt proximate responses to noise occurred. No significant difference in breeding success was found between disturbed and relatively undisturbed nest sites. It is important to note that the first year data are not of sufficient statistical power to make strong conclusions or to establish reliable noise dose-response relations or thresholds. They are sufficient to confirm that the project technical approach is appropriate.

Keywords: *Endangered species, *Birds, *Noise(Sound), Impact, Biology, Sites, Army facilities, Statistics, Military training, Nesting(Animals), *Red-cockaded woodpecker, Serdp collection, Serdp(Strategic environmental research and development program), Military training noise.

ADA363337REB PC A06/MF A01
Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives. Final technical rept. 26 Mar 97-30 Jun 98.
Alabama Univ. in Huntsville. Research Inst.
S. S. Aldijaili, and G. Maddux. Jul 1998, 81p, UAHRITR--5-34734.
Contract DAAH01-92-D-R006
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The Value Engineering (VE)/Operating and Support Cost Reduction (OSCR) Office of the Industrial Operations Division (IOD), Systems Engineering and Production Directorate (SEPD), Missile Research, Development, and Engineering Center (MRDEC), US Army Aviation and Missile Command (AMCOM) is responsible for performing system engineering cost analyses for weapon systems from design through full scale production. This effort includes evaluating reported cost analyses and performing appropriate modifications to information systems. This information is transferred monthly to the US Army Materiel Command (AMC) Headquarters. Reporting requirement changes have resulted in the modification of the operational information system, and the development and integration of an upgraded information system for tracking VE and OSCR cost analyses. Data validation between the operational information system and the upgraded information system was required during development of the upgraded information system software package. The objective of this task was to provide engineering support in evaluating cost analyses for weapon systems and to develop, validate, and implement cost analyses report formats for required value engineering directives. The University of Alabama in Huntsville (UAH) Research Institute was tasked to: (1) analyze and document VE and OSCR information system operations; (2) verify and validate database formats for maintaining and reporting cost analyses information; (3) provide VE and OSCR system logic for the modification, development, and integration of a consolidated VE/OSCR information system; (4) make recommendations for computer hardware and software required to utilize the VE/OSCR information system; (5) provide training on the VE/OSCR information system; (6) support Technical Loop reporting activities.

Keywords: *Management information systems, *Cost analysis, *Weapon systems, *Value engineering, Data bases, Logistics support, Integrated systems, Systems engineering, Data management, Computer aided design, Oscr(Operating and support cost reduction), Vems(Value engineering management system).

ADA363338REB PC A08/MF A02
Values Identified in Different Groups of Air Force Nurses. Thesis rept.
Oklahoma Univ. Health Sciences Center, Oklahoma City.
1999, 135p, AFIT-99/97.
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Transition is a process of change that occurs throughout a person's lifetime in self-identity, life activities, and occupational choice and development. Fundamental personal values are reflected in the choices and decisions made in every aspect of our lives. The conceptual framework of transition by Schumacher and Meleis included recognition of personal values as an integral piece of the transition process. This descriptive study's purpose was to identify values held by Air Force nurses. Participants were a convenience sample of 224 active duty Air Force nurses stationed at four Air Force medical facilities in the United States. The values of the Air Force nurses were identified using Nevill and Super's Values Scale survey. Study results supported the values identified in the literature as important elements of transition. The study participants identified various combinations of these values in the categories of important or very important. Seven of the eight values were identified as important or very important across demographics of age, gender, educational level, military rank, marital status and classifications of years of Air Force or civilian nursing experience. The study results have potential for education of military managers, administrators and recruiters. Personnel using this education may ease the transition process from civilian to military nursing, facilitate job placement to positions reflecting personally held values, and provide valuable insight for Air Force nurse recruiters who have limited knowledge of the nursing profession. In all, this would promote job satisfaction and provide incentives for retention of military nurses in the Air Force.

Keywords: *Air force personnel, *Military medicine, *Job satisfaction, *Nurses, Military personnel, United states, Jobs, Education, Surveys, Emplacement, Level(Quantity), Supervisors, Transitions, Administrative personnel, Life span(Biology), Retention(Psychology), Recruiters, Nursing, Rank order statistics.

ADA363339REB PC A02/MF A01
Parallel Simulations of Waste Incineration in a Dump Combustor.
Georgia Inst. of Tech., Atlanta. School of Aerospace Engineering.
S. Arunajatesan, and S. Menon. Apr 1997, 8p.
Contract N00014-95-1-0163
Appeared in Proceedings of High Performance Computing 1997, Grand Challenges in Computer Simulation, Atlanta, Ga, p151-156, 6-10 Apr 97.
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A parallel code has been developed and used to study the waste incineration in a dump combustor. Results from some timing tests to characterize the performance of the code on massively parallel machines like the Intel- Paragon, IBM-SP2 and the Cray-T3D and workstation class machines like the SGI power Challenge are presented. It is shown that the performance of the code can be significantly enhanced by increasing the computation to communication work load ratio per processor. Some results from the waste incineration studies are presented which demonstrate the possibility of increasing waste consumption in the dump combustor by acoustically and mechanically forcing the inlet and fuel streams.

Keywords: *Computerized simulation, *Parallel processing, *Waste treatment, *Combustors, Performance(Engineering), Turbulent flow, Computational fluid dynamics, Combustion efficiency, Incinerators, Reprints, Serdp(Strategic environmental research and development program).

ADA363340REB PC A13/MF A03
Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach. Dissertation rept.
Johns Hopkins Univ., Baltimore, MD.
B. A. Ruscio. 22 Apr 1999, 266p, AFIT-99-100.
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Risk management decisions are a military decision-maker's primary responsibility and are based on risk assessments characterizing the probability and severity of the potential mission effect. Military deployment environmental hazard tolerances are presently based on point estimates of exposure risks using regulatory standards. The goal of this research is the evaluation of deterministic and probabilistic techniques in assessing and characterizing deployment exposure risks. This research estimated noncarcinogenic health risk from inhalation exposure to benzene during a military deployment, based on air monitoring conducted at 16 locations using U.S. Environmental Protection Agency (EPA) methods and guidelines. Ambient benzene concentrations -3.86 microngram/m3 (Tuzla), 8.27 microngram/m3 (1st Brigade), and 1.1 microngram/m3 (2nd Brigade) - were similar to U.S. urban areas. Hazard quotients derived using EPA's Reasonable Maximum Exposure (RME) procedures and Monte Carlo simulations for deployed occupational cohorts are compared. An RfDi calculated by time-weighting EPA's reference concentration and the American Conference of Government Industrial Hygienists' Threshold Limit Value is proposed for military deployment risk assessment.

Keywords: *Military operations, *Deployment, *Management information systems, *Decision making, *Carcinogens, *Cardiac arrest, *Risk analysis, Test and evaluation, Simulation, Benzene, Monitoring, Probability, Monte carlo method, Estimates, Missions, Threat evaluation, Exposure(Physiology), Determinants(Mathematics), Heart, Urban areas, Inhalation.

ADA363341REB PC A02/MF A01
Engineering Model for Prediction of Waste Incineration in a Dump Combustor.
Georgia Inst. of Tech., Atlanta. School of Aerospace Engineering.
S. Arunajatesan, and S. Menon. Jan 1997, 10p, AIAA-97-0260.
Presented at Aerospace Sciences Meeting and Exhibit (35th), Reno, NV, 6-10 Jan 97.
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An engineering model that can be used to obtain predictions of axial distributions of temperature and species concentrations in complex flows has been formulated and applied to waste incineration in a dump combustor. The model incorporates mean convection and molecular diffusion in a quasi-one dimensional sense and uses a stochastic model to approximate the effects of turbulent convection. The inputs to the model are extracted from experimental data and results of Large Eddy Simulations (LES). Comparisons of waste consumption rates and pollutant formation in the dump combustor with experimental data show that the model can capture the correct trends and achieve fairly good quantitative agreement. Further, the model does not use any ad-hoc constants that need to be calibrated or tuned.

Keywords: *Computerized simulation, *Waste treatment, Turbulence, Turbulent flow, Eddies(Fluid mechanics), Computational fluid dynamics, Combustors, Flow fields, Convection(Heat transfer), Incinerators, Serdp collection, Les(Large eddy simulation), Serdp(Strategic environmental research and development program).

ADA363343REB PC A10/MF A02
Integrated Diagnostics. Performance rept. 1 Jun 98-31 May 99.
Georgia Inst. of Tech., Atlanta.
R. S. Cowan, and W. O. Winer. 31 May 1999, 192p.
Contract N00014-95-1-0539

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This document summarizes activity concerning the performance of basic research being conducted in the area of Integrated Diagnostics, a term associated with the technologies and methodologies used to determine how mechanical failures occur, and how they can be detected, predicted, and diagnosed in real time. Objectives, set forth through a Department of Defense Multidisciplinary Research Program of the University Research Initiative (M-URI) , are being addressed by faculty and staff from the Georgia Institute of Technology, Northwestern University, and the University of Minnesota. Fourth year accomplishments and plans are reported upon. During this reporting period, experiments based on material, load, and vibration information from critical rotorcraft components continued so as to collect data of relevance in understanding the mechanisms of small crack growth for use in developing fatigue failure models. Such models serve as a guide in the selection and development of sensors to detect faults and pending failures. Effort has been placed on sensor development, and achieving the means to analyze and correlate reliable sensor output for operator use. Organizationally, this activity is being accomplished through (11) projects, categorized by the thrust areas of (1) Mechanical System Health Monitoring, including microsensor development and the condition monitoring of rotordynamic elements; (2) Nondestructive Examination Technology; and (3) Material Failure Characterization and Prediction Methodology.

Keywords: *Fatigue(Mechanics), *Computer aided diagnosis, *Failure(Mechanics), *Rotary wing aircraft, Nondestructive testing, Preventive maintenance, Real time, Crack propagation.

ADA363345REB PC A03/MF A01
BALLISTIC MISSILE DEFENSE: More Common Systems and Components Could Result in Cost Savings.
General Accounting Office, Washington, DC. National Security and International Affairs Div.
May 1999, 16p, GAO/NSIAD-99-101.
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We reviewed the Department of Defense's (DOD) efforts to incorporate common subsystems and components in its ballistic missile defense acquisition programs. Specifically, we (1) identified the key benefits that BMDO and service officials believe could be achieved through commonality, (2) determined what BMDO and the services have done to incorporate commonality into their programs, and (3) identified BMDO's plans for instilling commonality in the future.

Keywords: *Cost effectiveness, *Antimissile defense systems, *Military procurement, Interoperability, Life cycle costs, Savings, Planning programming budgeting, *Ballistic Missile Defense, *Cost savings, BMDO(Ballistic Missile Defense Organization).

ADA363346REB PC A11/MF A03
Anxiety Sensitivity and Psychological Vulnerability. Dissertation rept.
Uniformed Services Univ. of the Health Sciences, Bethesda, MD.
D. R. Lerew. 5 May 1999, 223p, AFIT-99/98.
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To date, primary research in the area of panic disorder and similar anxiety, pathology has been laboratory-based. A wealth of primary research in panic disorder in particular has been gleaned from laboratory research using biological challenge paradigms by which panic is experimentally provoked. The present work reviews the knowledge based gleaned from the biological challenge paradigm and the competing (and often agreeing) models of panic and anxiety, narrowing to a focus on Reiss' (1991) expectancy theory. Within expectancy theory, emphasis is placed upon the role of anxiety sensitivity. Expectancy theory proposes that anxiety sensitivity may serve as a premorbid risk factor for the development of anxiety pathology (Reiss, 1991). Next, this work presents a series of five reports investigating the role of anxiety sensitivity and psychological vulnerability in a number of areas. In addition, the concept of psychological vulnerability factors in general is explored, and other possible risk factors for anxiety, pathology, depression, disability, and impairment are examined. The first three reports presented here stem from a large sample of data collected at the U.S. Air Force Academy (USAFA) during Basic Cadet Training (BCT) in the summer of 1995. The remaining two studies examine the theoretical position of anxiety sensitivity in terms of pathology, specificity, and other more distal effects of elevated anxiety and sensitivity such as decreased cardiovascular fitness.

Keywords: *Physical fitness, *Psychology, *Cardiovascular system, *Clinical psychology, *Anxiety, *Mental disorders, Laboratory tests, Risk, Models, Vulnerability, Sensitivity, Military training, Pathology, United states air force academy, Cadets, *Panic disorder.

ADA363347REB PC A13/MF A03
Behavioral Ecology of Coral Reef Fishes at Spawning Aggregation Sites. Doctoral thesis.
Massachusetts Inst. of Tech., Cambridge.
G. Sancho. Jun 1998, 258p, MIT/WHOI-98-23.
Contracts N00014-91-J-1591 , N00014-92-J-1969
Prepared in cooperation with Woods Hole Oceanographic Institute, MA.
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This thesis is an extensive investigation of the behavioral and ecological relationships between spawning reef fishes, their predators, and various environmental parameters at spawning aggregation sites. Underwater observations of spawning activities by eleven reef fish species and the hunting behaviors of both piscivorous and planktivorous predators were made at Johnston Atoll (Central Pacific). The spawning of reef fishes was typically correlated with local changes in current direction and predatory risks in daytime-spawning species, showing responses designed to reduce the mortality of propagules and adults. Dusk-spawning species generally did not respond to changes in flow direction or predator abundance. Piscivores were most active at spawning sites during the daytime hours, when spawning prey fish were most abundant, but showed low activity at dusk, the period of highest prey diversity. Alternate hunting behaviors (midwater or ambush attacks) were used by piscivores when feeding on spawning fishes, and resulted in different capture success rates. The difference in heights of spawning ascents by two trunkfish species was interpreted to be the result of intraspecific competition among males, and could not be explained by interspecific differences in susceptibility to predation, estimated as a function' of the specific toxicity of both species.

Keywords: *Fishes, *Ecology, Propagation, Toxicity, Theses, Behavior, Pacific ocean, Underwater, Coral reefs, Reproduction(Physiology), Atolls, Reefs, Nesting(Animals), Piscivorous, Planktivorous, Johnston atoll, Predators, Spawning, Behavioral ecology.

ADA363348REB PC A03/MF A01
Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components. Technical rept.
Defence Science and Technology Organisation, Canberra (Australia).
G. T. Egglestone, and J. Costa. Mar 1999, 23p, DSTO-TR-0788, DODA-ARM-98-119, X5SA-X5.
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The function of a Chemical, Biological (CB) protective garment is to provide protection to the wearer against the ingress of toxic agent in either a liquid or vapor form. The garment currently in-service with the Australian Defense Forces (ADF) is the UK MK IV suit, which is worn over the Disruptive Printed Combat Uniform (DPCU). It has been found that in hot humid conditions troops wearing this type of CB overgarment could operate effectively for only short periods of time before succumbing to heat stress. The most effective method for reducing the incidence of heat stress is to reduce the thermal burden created by the CB overgarment. This can be achieved by simply removing the air trapped between the clothing layers.

Keywords: *Biological warfare agents, *Protective clothing, *Chemical warfare agents, Military forces(Foreign), Toxicity, Fabrics, Australia, Uniforms, Thermal insulation, Heat stress(Physiology), Australian defence forces, Disruptive printed combat uniform.

ADA363349REB PC A03/MF A01
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B. Final rept. May-Jul 98.
Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD.
R. S. Lindsay, J. M. Baranoski, and J. B. Hannigan. Apr 1999, 28p, ECBC-TR-026.
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A Blue Max Hazmat suit (Mine Safety Appliances Co., Pittsburgh, PA) had swatches taken from five sample positions. These swatches were tested against sulfur mustard (HD) and sarin (GB) in accordance with the U.S. Army Edgewood Research, Development and Engineering Center's (ERDEC) modified static diffusion procedure, which was derived from Test Operations Procedure (TOP) 8-2-501.

Keywords: *Protective clothing, *Gb agent, *Hd agent, Permeability, Models, Liquids, Test methods, Diffusion, Mustard agents, Sulfur, Statics, Chemical protective clothing, Swatch testing, Permeation testing.

ADA363350REB PC A08/MF A02
Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758). Annual rept. 1997.
Oak Ridge National Lab., TN. Environmental Sciences Div.
V. H. Dale, A. W. King, L. K. Mann, T. L. Ashwood, and R. N. Kickert. 1997, 138p.
Prepared in cooperation with the Pacific Northwest National Laboratory.
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The objective of this project is to provide DoD and DOE with ecological models that address issues in management of large land areas. During FY 1997, work was completed on evaluation of our habitat models for limestone glades/cedar barrens, Henslow's sparrow, and cerulean warbler. The territorial migrant bird model was modified to interface with the Integrated Dynamic Landscape Analysis and Modeling System at Fort Riley, Kansas. Work was begun on regional population dynamics models of red-cockaded woodpecker across the southern United States and of Karner blue butterfly at Fort McCoy, Wisconsin. One paper is in press and two have been submitted to open literature journals. Our SERDP work was presented at four national and international scientific meetings and at two national DoD conferences.

Keywords: *Land use, *Ecology, Integrated systems, Decision making, Models, Dynamics, Terrain, Limestone, Environmental management, Habitats, Birds, Internet, Land areas, Wisconsin, Kansas, Integrated dynamic landscape analysis and modeling system, Serdp collection, Serdp(Strategic environmental research and development program), Doe(Departmnet of energy), Ecological models, Conservation thrust area (Cs-758).

ADA363351REB PC A02/MF A01
Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
National Oceanic and Atmospheric Administration, Research Triangle Park, NC. Atmospheric Sciences Modeling Div.
G. H. Crescenti, and B. D. Templeman. Feb 1997, 7p.
Appeared in Symposium on Integrated Observing Systems (1st), American Meteorological Society, Long Beach, CA, p145-149, 2-7 Feb 97. Prepared in cooperation with Colorado Univ., Cooperative Inst. for Research in Environmental Science, Boulder, CO.
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No abstract available.

Keywords: *Air pollution, *Waste treatment, Meteorological data, Remote detectors, Pollutants, Waste disposal, Solid wastes, Explosive ordnance disposal, Air pollution control equipment, *Open detonation, *Open burning, Serdp collection, Serdp(Strategic environmental research and development program).

ADA363352REB PC A04/MF A01
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management. Final rept.
Oak Ridge National Lab., TN. Environmental Sciences Div.
V. H. Dale, A. W. King, L. K. Mann, T. L. Ashwood, and R. N. Kickert. 23 Dec 1998, 46p, SERDP-CS-758.
Contract DE-AC05-96OR22464
Prepared in cooperation with the Pacific Northwest National Laboratory and the University of Wisconsin.
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Land management decisions need to balance the social, political, economic, ecological goals for the use of land. Often, however, the ecological goals for the land are not clearly stated, nor are the means of obtaining these goals specified. Therefore, this project has developed an approach for establishing ecological goals through the use of procedures to use ecological models that support land-use decisions: these models show how ecological goals for land use and management can be established and met. This approach is designed to be incorporated into a decision process that includes the other three goals for land use and management. This report describes the ecological models that were developed under SERDP project 758-62, Ecological Modeling in Support of Military Land-Use Decisions. First, the general approach is set forth, and then example models and their applications are described.

Keywords: *Land use, *Ecology, Military facilities, Decision making, Models, Dynamics, Environmental management, Vegetation, Habitats, Wildlife, Land areas, Serdp collection, Serdp(Strategic environmental research and development program), Ecological models, Land management, Landscape ecology.

ADA363353REB PC A03/MF A01
Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567). Interim rept.
Oak Ridge National Lab., TN. Environmental Sciences Div.
V. H. Dale, A. W. King, T. L. Ashwood, R. N. Kickert, and W. W. Hargrove. Sep 1996, 20p, SERDP-CS-758-4567.
Prepared in cooperation with the Pacific Northwest National Laboratory and the University of Tennessee, Knoxville.
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The principle objective of this project is the identification and development of ecological models that can be used in support of military land use decisions, especially those associated with the DoD training mission. The ecological models implemented as part of this project are components of the Conservation Thrust's 'DoD Land Management Toolbox' and are compatible with the Integrated Dynamic Landscape Analysis and Modeling System (IDLAMS) that serves as the integrating framework for the Toolbox.

Keywords: *Land use, *Ecology, Military facilities, Decision making, Models, Dynamics, Terrain, Environmental management, Conservation, Vegetation, Habitats, Endangered species, Wildlife, Thrust, Land areas, Serdp collection, Serdp(Strategic environmental research and development program), Ecological models, Land management, Landscape ecology, Idlams(Integrated dynamic landscape analysis and modeling system).

ADA363354REB PC A02/MF A01
Project CS-1082, Information and Technology Tools for Assessment and Prediction of the Potential Effects of Military Noise on Marine Mammals. Annual rept. 1998.
Space and Naval Warfare Systems Command, San Diego, CA.
D. A. Helweg. 1998, 9p, SERDP-CS-1082.
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CS-1082 was a FY98 New Start. Our broad objective is to transition information about effects of DoD sound types on marine mammal auditory anatomy and acoustic ecology to predictive models and mitigation tools. Currently, the DoD lacks scientifically defensible information concerning the safe operation of many of their training and testing systems in the presence of marine mammals. There is only very little direct information about what sound frequency- intensity combinations may damage the hearing of marine mammals. This effort responds directly to the DoD capability to comply with the National Environmental Policy Act requirements and will contribute directly to answering the National Research Council's Research Needs related to the effect of low- frequency sound on marine mammals (1994). This project consists of three inter- related tasks. Task 1 consists of otopathological analyses of marine mammal ears. Task 2 consists of otopathological analyses of baleen whale ears, the results of which will motivate development of a biomimetic model of baleen whale hearing and responsiveness to DoD sound types. Task 3 utilizes predictions about sensitivity generated in Task 2, plus statistical sampling models and acoustical classification algorithms, to develop a capability to automate the use of the U. S. Navy's Integrated Undersea Surveillance System (IUSS) for mapping the distribution of whales.

Keywords: *Mammals, *Acoustics, *Ecology, Mathematical models, Algorithms, Low frequency, Hearing, Ear, Noise(Sound), Aquatic animals, Whales, Biomimetics, Acoustic ecology, Marine mammals, National environmental policy act, Iuss(Integrated undersea surveillance system), Serdp collection, Serdp(Strategic environmental research and development program).

ADA363355REB PC A03/MF A01
Background Fluorescence in an Aerosol Biodetector Based on 266-nm Excitation. Technical rept.
Massachusetts Inst. of Tech., Lexington. Lincoln Lab.
R. L. Aggarwal. 17 May 1999, 22p, ESC-TR-98-045.
Contract F19628-95-C-0002
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Background fluorescence in an aerosol biodetector based on 266-nm excitation has been investigated, using a gas cell which could be evacuated and then filled with a gas (of interest) at a known pressure. A frequency- quadrupled, Q-switched Nd:YAG microchip laser with a pulse width of less than I ns and a pulse repetition rate of (caret)10(4) pps was used to measure both fluorescence and Rayleigh scattering in a direction at 900 to the 266-nm excitation beam, as a function of the gas pressure for nitrogen, oxygen, and room air. Rayleigh scattering was also measured for helium and xenon gases. The relative Rayleigh scattering cross sections measured in this work are consistent with their previously reported values, ensuring that the observed fluorescence was originating from a region of the gas in the direct path of the 266-nm excitation beam. Fluorescence signal observed in the spectral range of interest 300-650 nm under nominal vacuum conditions ((caret)1 x 10(-5) torr) exhibited strong quenching upon filling the gas cell with oxygen, but not with nitrogen. Strong oxygen-induced quenching leads us to believe that the background fluorescence is due, at least in part, to the presence of residual hydrocarbons in the atmospheric air.

Keywords: *Fluorescence, *Diode lasers, Radiation, Aerosols, Excitation, Chips(Electronics), Nitrogen, Quenching, Oxygen, Spectra, Rayleigh scattering, Hydrocarbons, Microelectronics, Helium, Gas cells, Aerosol biodetector, Yag microchip laser, Fluorescence biodetector, Fluorescence quenching.

ADA363356REB PC A04/MF A01
Dental Readiness of the Army War College Students Class of 1999, A Comparison study to the class of 1985.
Army War Coll., Carlisle Barracks, PA.
S. A. Brooks. 1 Apr 1999, 47p.
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This research project provides a comparison of the dental readiness status between two resident Army War College classes, 1985 and 1999 This paper also examines the categories of dental services provided to these students during their careers and identifies unmet dental requirements. The final phase of this study provides a summary of a patient questionnaire evaluating the performance of the Department of Defense (DOD) dental readiness program from a customer perspective. Dental conditions have a strategic impact on unit readiness. This study, through a select sample reflects the state of dental readiness and future senior leader attitudes toward these services. Dental readiness throughout DOD has improved significantly in recent years.

Keywords: *Military research, *Dentistry, *Oral health, Requirements, Leadership, Students, Operational readiness, Attitudes(Psychology), Comparison, Careers, Patients, Medical services, Medical research, Questionnaires, Strategy research project, Dental readiness, Dental health care.

ADA363357REB PC A04/MF A01
Reserve Component Officer Professional Development. Strategy research rept.
Army War Coll. Strategic Studies Inst., Carlisle Barracks, PA.
M. W. Beaman. 22 Apr 1999, 44p.
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The current professional development program in the Army is not preparing enough reserve component officers to be able to perform as strategic leaders in the year 2010 and beyond. This paper will review two sources of learning: formal military education and experience learned on the job. This paper will focus on experiences of officers at the rank of Major, Lieutenant Colonel and Colonel. The formal education evaluated is the United States Command and General Staff Officer Course and the United States Army War College.

Keywords: *Military reserves, *Officer personnel, *Learning, *Personnel development, United states, Education, Job training, Performance(Human), Leadership training.

ADA363358REB PC A04/MF A01
Transformation of the Hungarian Home Defense Forces or a New Role in a New Environment. Strategy research rept.
Army War Coll., Carlisle Barracks, PA.

I. Bekes. 1999, 48p.
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Research will include the historical experiences of other armed forces about this kind of transformation (from a drafted armed force to a professional one, from a mass army to a smaller, but more effective one) . Discussion of suggested land component of Armed Forces, their mission, influence of NATO membership, and way of restructuring will set the stage for discussion of a Hungarian 'Highly Lethal Mobile Forces (HLMF)' under the concept of Hungary's Light Force Option (Force 2015) by the RAND CORPORATION.

Keywords: *Military history, *International politics, *Military forces(Foreign), Nato, Political science, National security, Environments, Threats, Army, *Highly lethal mobile forces(Hlmf).

ADA363359REB PC A05/MF A01
Characterization of Underground Facilities.
MITRE Corp., McLean, VA. Jason Program Office.
J. Cornwall, A. Despain, D. Eardley, R. Garwin, and D. Hammer. Apr 1999, 69p, JSR-97-155.
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JASON undertook a study at DARPA's request to look for new opportunities for progress in the detection and characterization of UGFs. Part of our charge was to identify the most promising technology areas for investment, emphasizing standoff and covert sensor techniques. The study therefore surveyed a wide range of approaches, and we received numerous briefings. These included summaries of the technology programs of various agencies and briefings from organizations and companies on specific technology approaches. In addition various new ideas were suggested by JASON contributors.

Keywords: *Underground facilities, Standoff, Damage assessment, Synthetic aperture radar, Seismic detection, Infrared images, Remote detection, Chemical detection, Concealment, Acoustic detectors, Underground structures, Change detection, Vibration detectors.

ADA363360REB PC A03/MF A01
Semiclassical Random Electrodynamics: Spontaneous Emission and the Lamb Shift.
Aerospace Corp., El Segundo, CA. Technology Operations.
J. C. Camparo. 15 Apr 1999, 13p, TR-98(8555)-2, SMC-TR-99-12.
Contract F04701-93-C-0094
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It is often remarked that an explanation of spontaneous emission and the Lamb shift requires quantization of the electromagnetic field. Here, these two quantities are derived in a semiclassical formalism by use of second-order perturbation theory. The purpose of this report is not to argue the validity of QED but rather to develop a semiclassical approximation to QED that may nonetheless have certain computational advantages over QED. To this end, the vacuum of QED is simulated with a classical zero-point field (ZPF), and as a consequence, the resulting theory is entitled semiclassical random electrodynamics (SRED). In the theory, the atom is coupled to the ZPF and to its own radiation-reaction field through an electric dipole interaction. These two interactions add to produce exponential decay of excited states while they cancel each other to prevent spontaneous excitation of the ground state; the Lamb shift appears in the theory as an ac Stark shift induced by the ZPF. The spontaneous decay rate of an excited-state derived in SRED is equal to the Einstein A coefficient for that state, and the Lamb shift agrees with that of nonrelativistic QED. Moreover, SRED is shown to be useful for the numerical simulation of spontaneous decay.

Keywords: *Quantum electrodynamics, *Lamb shift, Electromagnetic fields, Excitation, Perturbation theory, Wave functions, Maxwells equations, Stark effect, Schrodinger equation, Magnetic dipoles.

ADA363361REB PC A10/MF A02
Analysis of Damped Plates.
Aerospace Structures Information and Analysis Center, Wright-Patterson AFB, OH.
D. A. Kienholz, C. D. Johnson, and J. Parekh. Nov 1982, 190p, ASIAC-1182-1C.
Contract F33615-81-C-3201
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This report presents three design-oriented methods for the dynamic analysis of sandwich plates, i.e., laminated plates incorporating a core layer of viscoelastic material for vibration damping. The methods are complementary in that each represents a different trade-off between generality, accuracy, and cost of use. This work was performed by the Aerospace Structures Information and Analysis Center, which is operated for the Flight Dynamics Laboratory by Anamet Laboratories, Inc., under Contract F33615-81-C-3201. The work was performed in support of the Advanced Radiation Technology (ART) Program Office at the Air Force Weapons Laboratory.

Keywords: *Structural analysis, *Sandwich panels, Vibration, Finite element analysis, Viscoelasticity, Damping, *Vibration damping.

ADA363362REB PC A03/MF A01
Modeling of Silicon Quantum Structures. Final rept. Aug 97-Aug 98.
Massachusetts Univ. at Boston.
G. Sun. Apr 1999, 24p, AFRL-SN-RS-TR-1999-65.
Contract F30602-97-2-0151
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The proposed research was to investigate the carrier optical-phonon interaction in a mixed polar-nonpolar material system of Si/ZnS superlattices, where not only carriers are confined, but also the optical phonons. The heavy- hole subbands and associated wave functions were calculated for Si/ZnS superlattices. Optical phonon confinement were modeled successfully using a continuum model with proper mechanical and electrostatic boundary conditions satisfied at the heterointerface. The established model for the confined optical phonons is used in calculating the intersubband heavy-hole scattering rate by optical phonons in the Si/ZnS superlattice. This work establishes the theoretical foundation to determine subband lifetimes in the design of Si/ZnS quantum well intersubband lasers.

Keywords: *Quantum wells, *Semiconductor lasers, Superlattices, Zinc sulfides, Silicon, Phonons, Heavy hole subbands.

ADA363363REB PC A03/MF A01
Medical Information Technology In Support of the Operational Commander. Final rept.
Naval War Coll., Newport, RI. Joint Military Operations Dept.
J. W. Mitchell. 5 Feb 1999, 25p.
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There are numerous factors that have driven the. need for medical information technology in the operational setting. Two of the primary driving forces are the Presidential mandate, PL 105-85, and Presidential directive of November 1997. Other driving forces are the NMS, JV2010, Lessons learned from Desert Storm, changes in law and NCA direction, and most of all, the current changes in medicine and advancing technologies. DoD is aggressively pursuing a unified force health protection strategy to protect service members from medical hazards associated with their military service from accession through retirement. The FHP strategy thrusts preventive medicine and information technology into the forefront of operational health support. Initiatives since Desert Storm to decrease risks are as follows: (a) Standardized methods for identification of medical threats and applications of appropriate countermeasures prior to deployment; (b) Integrated and coordinated preventive medicine and continued medical and environmental surveillance throughout the operation, and; (c) Medical screening and analyses, both pre and post- deployment. This program relies on the exploitation of advanced technologies, including the electronic medical record, bio-sensing and NBC detection capabilities, and advanced clinical concepts for medical treatment. This paper will deal with the medical information technology portion of the Force Health Protection program. This paper will discuss the pros and cons of the medical information technology that currently supports the Force Health Protection Program and projects planned for the future.

Keywords: *Military operations, *Clinical medicine, *Retirement, *Medical services, *Protective treatments, Military forces(United states), Setting(Adjusting), Methodology, Military personnel, Lessons learned, Detection, Hazards, Threats, Health, Environmental protection, Surveillance, Countermeasures, Preventive medicine, *Medical information technology.

ADA363364REB PC A04/MF A01
Army's B-2 Bomber - Field Artillery Modernization.
Army War Coll., Carlisle Barracks, PA.
J. P. Weinzettle. 1 Apr 1999, 49p.
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In the case of field artillery we continue down the path of the past by justifying the need for expensive artillery systems based on the need to destroy massed tank and infantry formations. With the changing nature of warfare in the 21st Century we must have the courage to question whether the requirement for a new field artillery gun that provides high rates of generally inaccurate fire is valid. Here we fail. Rather than doing a fundamental assessment of our key 21st Century warfighting needs precision strike and rapid mobility we continue to justify old Cold War type ideas. We are following the Air Force model of continuing to justify buying a system, the B-2 bomber, long after the world changed and its requirement disappeared. The Army needs to consider that given the changed conditions in the world is it maybe not time to retire cannon artillery to the museum just as we did with the cavalry horse and the air defense gun system Sgt. York.

Keywords: *Military modernization, *Artillery, *Bomber aircraft, Air defense, Military requirements, Infantry, Guns, Army, Field equipment, Artillery units, Field army, Cavalry, Strategy research project, B-2 aircraft.

ADA363365REB PC A02/MF A01
Terrestrial Turtle Habitats Potentially Impacted.
Corps of Engineers, Washington, DC.
D. D. Dickerson, K. J. Reine, and K. L. Hermann. Apr 1999, 10p, TN-EMRRP-SI-08.
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Changing water levels or other operations at U.S. Army Corps of Engineers (USACE) reservoirs may impact critical habitat parameters for terrestrial turtle species. This technical note identifies terrestrial turtle species and habitats potentially impacted by USACE reservoir or other water- control projects as reported by resource managers. Current state and/or Federal legal protection status as well as the distribution of USACE Districts and reservoir projects potentially impacted by terrestrial turtle conservation issues are summarized. Life-history summaries and habitat requirement descriptions are given for each terrestrial turtle species identified as potentially impacted at reservoir operations. This group includes the tortoises and box turtles with two species Federally threatened and three spe-

cies having protection in at least one state. Three of these protected species are associated with environmental issues at 21 USACE projects from 5 USACE districts.

Keywords: *Resource management, *Habitats, *Endangered species, *Turtles, United states government, Parameters, Water, Boxes, Environmental impact, Level(Quantity), Supervisors, Army corps of engineers, Conservation, Environmental protection, Earth(Planet), Law enforcement, Reservoirs, Reptiles.

ADA363366REB PC A02/MF A01
Mud and Musk Turtle Habitats Potentially Impacted. Final rept.
Corps of Engineers, Washington, DC.
D. D. Dickerson, K. J. Reine, and K. L. Hermann. Apr 1999, 9p, TN-EMRRP-SI-07.
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Changing water levels or other operations at U.S. Army Corps of Engineers (USACE) reservoirs may impact critical habitat parameters for mud and musk turtle species. This technical note identifies mud and musk turtle species and habitats potentially impacted by USACE reservoir or other water-control projects as reported by resource managers. Current state and/or Federal legal protection status is summarized, as is the distribution of USACE Districts and reservoir projects potentially impacted by mud and musk turtle conservation issues. Life-history summaries and habitat requirement descriptions are given for each mud and musk turtle species identified as potentially impacted at reservoir operations. This group includes 10 species with legal protection in at least one state and one Federally threatened species. Three of these species are associated with environmental issues at 23 USACE projects from 1 US ACE district.

Keywords: *Resource management, *Environmental protection, *Habitats, *Endangered species, *Turtles, United states government, Impact, Parameters, Water, Level(Quantity), Protection, Supervisors, Army corps of engineers, Law enforcement, Reservoirs, Mud, Mud turtles, Musk turtles.

ADA363367REB PC A07/MF A02
East Europe Report Political, Sociological and Military Affairs No. 2122.
Joint Publications Research Service, Arlington, VA.
28 Mar 1983, 114p, JPRS-83152.
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No abstract available.

Keywords: *Political science, *Sociology, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, Political parties, Eastern europe, Military affairs, Fbis collection, Foreign reports, Translations.

ADA363368REB PC A05/MF A01
East Europe Report, Scinetific Affairs, No. 783.
Joint Publications Research Service, Arlington, VA.
7 Jul 1983, 52p, JPRS-83839.
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No abstract available.

Keywords: *Computers, *Lasers, Government(Foreign), Technology transfer, Geology, Eastern europe, Minicomputers, Nuclear physics, *Foreign technology, Scientific affairs, Fbis collection, Foreign reports, Translations.

ADA363369REB PC A05/MF A01
East Europe Report, Political, Sociological and Military Affairs, No. 2232.
Joint Publications Research Service, Arlington, VA.
18 Nov 1983, 70p, JPRS-84785.
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No abstract available.

Keywords: *Political science, *Sociology, Government(Foreign), Military forces(Foreign), Maneuvers, Civil affairs, Political parties, Eastern europe, Military affairs, Fbis collection, Foreign reports, Translations.

ADA363370REB PC A15/MF A03
Annual Report to Congress. Fiscal Year 1998.
Deputy Director of Defense Research and Engineering, Arlington, VA. Strategic Environmental Research and Development.
Mar 1999, 310p.
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This report fulfills the requirement that the SERDP Council provide an annual Report to Congress that summarizes SERDP's activities and most significant accomplishments during FY 1998, plans for FY 1999, and new research initiatives that will be addressed in FY 2000. This section, Section 1, is the Executive Summary of the SERDP Program, including an overview of the SERDP mission and goals, an explanation of how the SERDP Program is managed, and highlights of SERDP activities in FY 1998. Section II summarizes significant accomplishments in each of the four thrust areas. Section III provides a description of each thrust area, including driving requirements, a list of completed, ongoing, and new start projects; and a brief summary of FY 2000 research initiatives. Detailed project descriptions for each of the SERDP thrust areas are provided in Appendices A through D. Appendix E contains Statements of Need for research proposals that will be funded in FY 2000.

Keywords: *Congress, *Department of defense, *Environmental protection, Requirements, Defense systems, Thrust, *Annual report to congress, Serdp(Strategic environmental research and development program).

ADA363371REB PC A02/MF A01
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
Corps of Engineers, Kansas City, MO. Kansas City District.
D. Dickerson, C. O. Martin, and H. H. Allen. Apr 1999, 6p.
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The U.S. Army Corps of Engineers manages natural resources in more than 2,000 watersheds in the United States (Juhle 1997). These include approximately 460 water resource development projects (primarily reservoirs) where nearly 12 million acres of land and water are owned in public trust. Corps reservoirs and their associated aquatic and riparian habitats represent important systems that may influence natural resources both within and outside of a project's boundaries. Water-level manipulation and other operations at these projects have potential adverse impacts to various ecosystems and their associated plant and animal species. Recently, Corps Districts, the U.S. Fish and Wildlife Service, and state regulatory agencies have reported impacts to certain threatened, endangered, and otherwise protected species resulting from project operations (Figure 1). The impact of Corps projects on environmentally sensitive species needs to be evaluated from a watershed perspective and a habitat perspective to provide better guidelines that will lessen impacts and improve watershed conditions.

Keywords: *Management information systems, *Natural resources, *Water pollution, *Ecosystems, *Water quality, *Endangered species, United states, Sensitivity, Boundaries, Protection, Army corps of engineers, Watersheds, Banks(Waterways), Habitats, Wildlife, Reservoirs, Aquatic animals.

ADA363372REB PC A06/MF A01
China Report, Political, Sociological and Military Affairs, No. 472.
Joint Publications Research Service, Arlington, VA.
16 Nov 1983, 78p, JPRS-84765.
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No abstract available.

Keywords: *Political science, *Sociology, Government(Foreign), Military forces(Foreign), Civil affairs, International relations, China, Chinese language, Military affairs, Fbis collection, Foreign reports, Translations.

ADA363373REB PC A06/MF A02
USSR Report, Life Sciences Biomedical and Behavioral Sciences, No. 45.
Joint Publications Research Service, Arlington, VA.
16 Nov 1983, 97p, JPRS-84758.
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No abstract available.

Keywords: *Biomedicine, *Behavioral sciences, Ussr, Government(Foreign), Biochemistry, Russian language, Life sciences, Public health, Psychology, Genetics, Microbiology, Laser effects, Fbis collection, Foreign reports, Translations.

ADA363375REB PC A04/MF A01
Awards to Soviet Women Medical Workers-USSR.
Joint Publications Research Service, Arlington, VA.
18 Jul 1960, 38p, JPRS-3553, OTS-60-31-404.
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No abstract available.

Keywords: *Medical services, *Physicians, *International relations, Ussr, Symposia, Government(Foreign), Public health, Women, Agriculture, Organs(Anatomy), Eye diseases, Foreign reports, Medical workers.

ADA363376REB PC A04/MF A01
Conserving Assets: An Alternative Paradigm for Peace Operations.
Army War Coll., Carlisle Barracks, PA.
S. P. Bucci. 12 Apr 1999, 40p.
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The U.S. is in a paradox. It has 'won' the Cold War, and is the sole Super Power. While it has no peer competitors, as the sole Super Power it has greatly increased responsibilities. At the same time there has been an inverse effect on America's means to respond. This is the dilemma. How can the U.S. execute all its duties (ends), without exceeding its resources (means). Innovative methods (ways) must be found. This study will propose a new paradigm for responding to one of the most complex and contentious of those duties, Peace Operations. It will do this by looking at utility of Special Operations Forces (SOF) in Peace Operations, then studying the African Crisis Response Initiative to seek intellectual underpinnings for a new approach. Next it looks specifically at Exercise Natural Fire 98 as model of a successful Peace Operation. Finally, it synthesizes the approach with the specifics to develop the paradigm. This paradigm will posit a Regional Partner lead

/ SOP support approach vice the traditional U.S. lead / U.S. asset heavy way of executing Peace Operations.

Keywords: *Military operations, *Peacekeeping, Peacetime, Cold war, Military planning, Special operations forces, Operations other than war, Strategy research project, Peace operations, African crisis.

ADA363377REB PC A07/MF A02
Southeast Asia Report No. 1308.
Joint Publications Research Service, Arlington, VA.
7 Jul 1983, 111p, JPRS-SEA-83-834.
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This report contains foreign media information from Southeast Asia concerning political, Sociological and Economic issues.

Keywords: *Foreign policy, Political science, Economics, Military forces(Foreign), Agriculture, International relations, Southeast asia, Fbis collection, Foreign reports.

ADA363378REB PC A03/MF A01
General Harold K. Johnson and the Ambiguities of Strategic Leadership.
Army War Coll., Carlisle Barracks, PA.
C. A. Brown. 31 Mar 1999, 30p.
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The environment of the strategic leader is one marked by volatility, uncertainty, complexity, and ambiguity. General Harold K. Johnson found himself in this unpredictable milieu when he was selected over forty three three-and four-star generals with greater seniority to become Army Chief of Staff in July 1964. This study explores his tenure as CSA and the ambiguities of senior level command during four long and difficult years.

Keywords: *Military history, *Leadership, Military strategy, Skills, Strategic analysis, Officer personnel, Military commanders, Military tactics, Personality, Military art, Strategy research project, Strategic leadership, Harold k. johnson.

ADA363379REB PC A08/MF A02
East Europe Report, Political, Sociological and Military Affairs No. 2087.
Joint Publications Research Service, Arlington, VA.
17 Dec 1982, 132p, JPRS-82490.
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This East Europe Report contains articles on Politics, Sociology and Military Affairs.

Keywords: *Political science, *Sociology, Foreign policy, Economic analysis, Military forces(Foreign), International relations, Eastern europe, Fbis collection, Foreign reports.

ADA363380REB PC A06/MF A01
Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques. Annual rept. 15 Apr 98-14 Apr 99.
Texas Univ. at Austin. Dept. of Electrical and Computer Engineering.
H. Ling, Y. Wang, J. Li, and H. Deng. 1 May 1999, 79p, UT-ECE-1.
Contract N00014-98-1-0615
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This Report summarizes the scientific progress on the research grant during the period 15 April 1998-14 April 1999. Progress on removal of interferences due to rotating parts, image formation of measured data, and clutter rejection based on wavelet packets is presented.

Keywords: *Synthetic aperture radar, *Radar images, Image processing, Radar clutter, Target classification, Wavelet transforms, Feature extraction, Joint time frequency.

ADA363381REB PC A06/MF A01
Growing Imperative to Adopt 'Flexibility' as an American Principle of War.
Army War Coll., Carlisle Barracks, PA.
R. S. Frost. 7 Apr 1999, 86p.
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The nine, American-adopted 'principles of war' have been codified in US military doctrine for most of the 20th century. They are the principles of objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise, and simplicity. Given this institutionalized practice whereby warfighting strategy is distilled into to a list of basic principles, the author asserts the 'principle of flexibility' has been missing from that framework. Further, he argues the impetus to include flexibility as a principle will only grow. The majority of the paper is devoted to justifying the power of flexibility as both a principle of war and as a synthesizer of the other principles. Most importantly, the author argues, adopting flexibility as a principle of war establishes the vital frame of reference American military leaders and units need to confront the profoundly uncertain and challenging environment of the 21st Century across the spectrum of military activities.

Keywords: *Military strategy, Military operations, Warfare, Combat effectiveness, Military doctrine, Maneuvers, Military commanders, Strategy research project, Principles of war, Principle of flexibility.

ADA363382REB PC A08/MF A02
China Report, Political, Sociological and Military Affairs No. 374.
Joint Publications Research Service, Arlington, VA.
16 Dec 1982, 129p, JPRS-82483.
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This China report contains articles on Political, Sociological and Military Affairs.

Keywords: *International relations, Foreign policy, International politics, Government(Foreign), Military forces(Foreign), Sociology, China, Fbis collection, Foreign reports.

ADA363383REB PC A10/MF A02
Results of a Cultural Resource Inventory of Portions of Fort Carson Military Reservation and Test Excavation of Site 5EP2524, El Paso County, Colorado, 1996. Final rept.
Fort Lewis Coll., Durango, CO. Dept. of Anthropology.
M. Charles, R. Nathan, P. Duke, N. Salazar, and S. Larmore. Apr 1999, 192p.
Contract CA 6115-4-8024
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Field work for this project consisted of a cultural resource inventory of 842 acres reevaluation of four previously recorded sites, and evaluative testing of site 5EP2524. The cultural resource inventory resulted in the location and recording of 16 archeological sites and 11 isolated finds, dating from the Late Archaic (1000 BC) to the Historic Period. The archeological site tested included a sparse surface artifact scatter, a historic road, and 21 boulder features. Test excavations showed that the boulder features, with three exceptions are of military origin. Two boulder alignments are historic and predate the military period, while a third feature may be of prehistoric origin. The earliest military artifacts found within the features suggest early 1960s use.

Keywords: *Archeology, Military facilities, Sites, History, Inventory, Historic sites, Cultural resources, Artifacts, Excavation, Colorado, Cultural resource inventory, Fort carson, Pueblo county(Colorado).

ADA363384REB PC A10/MF A03
Results of the 1997 Cultural Resource Reevaluation Project, Fort Carson Military Reservation: El Paso, Fremont, and Pueblo Counties, Colorado. Final rept.
Fort Lewis Coll., Durango, CO. Dept. of Anthropology.
M. Charles, R. Nathan, P. Duke, and S. Larmore. Mar 1999, 193p.
Contract CA 6115-4-8024
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Eighty-nine cultural resources within the Fort Carson Military Reservation were reevaluated by Fort Lewis College during the summer and fall of 1997. These 89 cultural resources comprise historic and prehistoric archeological sites within three counties: El Paso, Fremont, and Pueblo. Attempts to locate the 89 cultural resources succeeded in accurately locating and identifying 76 (85%) of the total. The project resulted in 50 sites (56% of the resources evaluated) as having the potential to yield information significant to the prehistory of Fort Carson as identified in the Cultural Resource Management Plan for Fort Carson.

Keywords: *Archeology, Military facilities, Sites, History, Inventory, Historic sites, Cultural resources, Artifacts, Excavation, Colorado, Cultural resource inventory, Fort carson, Pueblo county(Colorado).

ADA363385REB PC A06/MF A01
Portfolio Optimization for Multiple Group Credit Unions. Master's thesis.
Virginia Univ., Charlottesville. School of Engineering and Applied Science.
J. B. Willis. May 1999, 82p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Recently passed legislation (H.R. 1151 Credit Union Membership Access Act) permits credit unions to add new select employee groups (SEGs) to their fields of membership. The field of membership defines the members served by a credit union. Given this new ability, along with guidance from the National Credit Union Administration (NCUA) to diversify, credit unions now have the opportunity to market their services to specific employee groups or industries which can reduce the overall risk to the credit unions' health or solvency. This thesis explores the use of Modern Portfolio Theory applied to a credit union's portfolio of assets (in this case SEGs or industries) using a mean-variance optimization technique (quadratic programming). Altman's Z-Score, a thoroughly tested and broadly accepted predictor of corporate failure, is used as an asset's 'return' or 'health' measure in the mean-variance algorithm and the variance of the Z-Score over a time interval is used as the 'risk' measure. The algorithm can be constrained as necessary and used to develop an efficient frontier showing optimal portfolios for each viable level of health and risk. Credit union management can use the results of the optimization as a tool to assist in their decision making process regarding the addition of new SEGs. The thesis examines two credit union case studies in which the technique is applied.

Keywords: *Banking, *Finance, Commerce, Organizations, Risk, Decision making, Financial management, Economics, Theses, Resources, Legislation, *Credit unions, *Portfolios, *Optimization, Seg(Select employee groups), Solvency.

ADA363386REB PC A03/MF A01
SPACE STATION: Status of Russian Involvement and Cost Control Efforts.
General Accounting Office, Washington, DC. National Security and International Affairs Div.
29 Apr 1999, 11p, GAO/T-NSIAD-99-117.
Testimony before the Subcommittee on Science, Technology, and Space, Committee on Commerce, Science, and Transportation, U.S. Senate.
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Because of Russia's continuing funding problems, NASA developed a multi-faceted contingency plan to mitigate the risk of further delay of the Service Module and the possibility that a reboost capability cannot be provided by the Russians. Payments to Russia for the completion of the Service Module have also been made. Although NASA has developed a strategy to deal with Russian nonperformance, it has not completed an overall contingency plan to address a broader range of potential problems.

Keywords: *United States, *Russia, *Budgets, *Space stations, Data bases, Uncertainty, Emergencies, Debris, Cost estimates, Cargo, Standards, Quality assurance, Cost overruns, Nasa(National aeronautics and space administration).

ADA363387REB PC A06/MF A01
Analysis of the Operating Costs for Light Armored Vehicles in the United States Marine Corps. Master's Thesis rept.
Naval Postgraduate School, Monterey, CA.
S. R. Nickless. Dec 1998, 81p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

With continued erosion of the DoD budgetary strength, it is imperative that commanders become knowledgeable about the cost to operate major weapon systems. This thesis examines the cost to operate the Light Armored Vehicle (LAV) per mile driven. The central objective of this study was to establish a framework for analyzing the applicable LAV cost drivers so as to derive a total operational cost per mile driven. To address this issue, research of relevant cost data as well as field research and interviews were conducted. The research and interviews obtained information about major cost categories associated with LAV operations, whether those cost categories should be estimated as direct or indirect costs and the proper allocation method for indirect costs. The major findings resulted in two alternative costing models which estimate the operational cost for the LAV family of vehicles as well as for the individual LAV variants based on a full costing approach and a material costing approach. Once defined, direct cost categories were allocated based on miles driven and indirect costs categories were allocated based on the percentage of vehicles by variant as compared to the LAV totals.

Keywords: *Military forces(United states), *Marine corps, *Costs, *Armored vehicles, Weapon systems, Theses, Variations, Erosion, Surveys, Lightweight, Allocations, Finance, Indirect costs, Lav(Light armored vehicles).

ADA363388REB PC A03/MF A01
EAF Transition Workshop: After Action Report, Lessons Learned and Recommendations. Final rept.
Air Force Studies and Analyses Agency, Washington, DC.
J. J. Tomick, and R. A. Morris. 23 Apr 1999, 14p.
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The Air Force Studies and Analyses Agency (AFSAA) in coordination with the Directorate of Expeditionary Aerospace Force Implementation (HQ USAF/ IXOP) sponsored and hosted the first EAF Transition Workshop during the week 8- 12 March 1999. Over 220 participants representing the first four Lead Wings, Numbered Air Forces, Major Commands (MAICOM), Air Force Reserve, Air National Guard, and the Air Staff explored the transition from current Air Force operations in support of on-going contingencies to EAF operations. The focus of the workshop was on the preparation of Aerospace Expeditionary Forces (AEF) through the first scheduled rotation of AEFs. Participants provided Air Staff and MAJCOM planners much needed feedback to fisrther refine the EAF concept while validating the essentials of the concept.

Keywords: *Air force research, Lessons learned, Aerospace systems, War games, Transitions, Military modernization, Air force operations, Workshops, Airmobile operations, *Expeditionary aerospace force, Eaf(Expeditionary aerospace force), Aef(Aerospace expeditionary force).

ADA363389REB PC A12/MF A03
Deep-Sea Corals: A New Oceanic Archive. Doctoral thesis.
Massachusetts Inst. of Tech., Cambridge.
J. F. Adkins. Feb 1998, 236p, MIT/WHOI-98-07.
Prepared in cooperation with Woods Hole Oceanographic Institution, Woods Hole, MA.
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Deep-sea corals are an extraordinary new archive of deep ocean behavior. The species Desmophyllum cristagalli is a solitary coral composed of uranium rich, density banded aragonite that I have calibrated for several paleoclimate tracers. Using a newly developed ICP-MS age screening method, large numbers of samples can be processed relatively quickly and inexpensively to uncover interesting fossil corals for further analysis.

Keywords: *Oceans, *Coral, Ocean surface, Theses, Sampling, Aragonite, North atlantic ocean, Geochemistry, Uranium, Deep oceans, Oceanography, Fossils, Paleoclimatology, Desmophyllum cristagalli.

ADA363390REB PC A04/MF A01
Building and Maintaining Public Acceptance of and Political Support for the Military of the Future.
Army War Coll., Carlisle Barracks, PA.
J. E. Kent. 7 Apr 1999, 35p.
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The United States' position as a leader in world affairs today is dependent on its military strength. This may be true to an even greater degree in the future. The military relies on the United States Congress for all its resources and is, therefore, dependent upon the Support of the American people. Based upon the current status of the acceptance of and support for today's American military establishment and using different interpretations of future military missions, this research analyzes what actions will be required to at least maintain, if not improve upon, current levels of acceptance and support. It also examines actions required to obtain adequate levels of funding from Congress to fund the future military.

Keywords: *Logistics support, *Military tactics, Military forces(United states), Military operations, Congress, Combat support, Missions, Military capabilities, Strength(General), Acceptability, Strategy research project, Military strength, Political support.

ADA363391REB PC A03/MF A01
Defense Depot Maintenance Council Study of DoD Management of Industrial Plant Equipment.
Department of Defense, Washington, DC.
1 Feb 1991, 23p.
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The primary purpose of this Military Services Majority Report is to identify cost savings that can be achieved by analyzing those IPE functions now performed, determining if those functions are essential and making recommendations to improve and streamline IPE management. A secondary purpose is to ensure that the position of the Services is known and forwarded to the DoD decision makers. This study covers the full scope of IPE management within DoD, including mobilization planning, inventory management, general reserve, cataloging, engineering, standardization, specifications preparation, acquisition, storage, and maintenance. The functions of both DIPEC and the Military Services were thoroughly examined. This study indicated each Service effectively manage IPE like any other capital asset within their existing organizations. Several recommendations were made to improve the management of IPE. DLA and the Services agreed only to reduce the general reserve by limiting retention of IPE to FSG 34 and raise the dollar threshold to $15,000, eliminate reporting of in-use IPE and adopt the NSN as the single identification system for IPE.

Keywords: *Decision making, *Cost effectiveness, *Operational readiness, *Industrial plants, Military facilities, Supply depots, Defense systems, Logistics management, Identification systems, Inventory control, Military modernization, Savings, Ipe(Industrial plant equipment), DIPEC(Defense Industrial Plant Equipment Center), DLA(Defense Logistics Agency), FSG(Federal Supply Group), NSN(National Stock Number).

ADA363392REB PC A02/MF A01
Automated System for Determining Applicability of Regulations.
Argonne National Lab., IL.
M. F. Rhodes, and D. M. Maloney. Jun 1997, 9p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Environmental personnel at both federal facilities and in the private sector face the daunting task of tracking regulations at the federal, state, and local levels. Determining which regulations may apply to sources at a facility, whether these sources are in compliance with applicable regulations, and what to do should a source by found to be out of compliance are all time intensive tasks which require a significant level of technical expertise. As part of the development of the Air Compliance Advisor (ACA) software program, a regulations data engine was developed using EXL, the special purpose programming language developed for the ACA. The EXL programming language is well suited to the construction of a means for testing the potential applicability of a set of regulations. This paper provides an overview of the various type of regulations that environmental personnel must consider, the software programs currently available for regulations, and the development of an alternative method for treating regulations.

Keywords: *Software engineering, *Environmental management, *Regulations, Data management, Air pollution, Information retrieval, Graphical user interface, Environmental law, Serdp(Strategic environmental research and development program), Exl programming language.

ADA363393REB PC A04/MF A01
Integrated of the National Guard into the Total Force. Strategic research project.
Army War Coll., Carlisle Barracks, PA.
H. T. Broomall. 18 Mar 1999, 47p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This project addressed the evolution of the Total Force and compared the United States Air Force's and the United States Army's approach to the integration of the Air and Army National Guard. Defense strategy, budget and force structure were reviewed in consonance of cultural and structural barriers to integration. Research concluded that the cultural barriers that have emerged over time between the Army and the Army National Guard still hamper effective integration. Although simi-

lar barriers originally retarded the Air Force and Air National Guard integration, major barriers were mitigated by a combination of urgency, strong AF leadership, and political acumen. Structural barriers are a result of the cultural schism that permeated the Army and Army Guard's history. The dual status of the National Guard based on the Air Guard and Air Force experience is dismissed as a structural fatal flaw. Failure to assuage cultural and structural barriers could leave the nation with a military force that cannot execute a national defense strategy, and a military isolated from the people it serves.

Keywords: *National guard, *Integration, Military strategy, Defense systems, Leadership, Cost effectiveness, Mobilization, Barriers, Military force levels, Culture, National defense, Air force operations, *Total force.

ADA363395REB PC A05/MF A01
National Sovereignty and the International Criminal Court. Strategy research project.
Army War Coll., Carlisle Barracks, PA.
D. J. Boland. 12 Feb 1999, 52p.
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The International Criminal Court (ICC) is intended to be a permanent institution with the power to exercise jurisdiction over individuals for the most serious crimes of international concern: genocide, war crimes, and crimes against humanity. However, as written, the statute creating the court reduces the sovereignty of nations in its pursuit of protecting international human rights. This paper looks at the history leading to the formation of the ICC and the rise in stature of non-governmental organizations (NGOs) in protecting the humanitarian rights of victims of armed conflict. Their importance is significant given their success at the Rome Conference that established the ICC. The effects and impact of the ICC statute on the sovereignty of the United States is reviewed. The paper concludes with options and recommendations on how the United States should proceed concerning the ICC.

Keywords: *Crimes, Warfare, United states, Conflict, Law enforcement, International law, Human relations, Litigation, Criminal justice system, *International criminal court, Icc(International criminal court).

ADA363396REB PC A11/MF A03
Verzeichnis der Im Faachinformationswesen der bundesswehr laufend gehaltenen Zeitschriften (Zeitschriftenverzeichnis FIWBw). Listing of the Magazines Held Constantly in the Specialized Information System of the German Federal Armed Forces (magazine listing FIWBw).
Dokumentations-und Fachinformationszentrum der Bundeswehr, Bonn (Germany, F.R.).
1998, 219p.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The listing of the magazines held constantly in the German Federal Armed Forces (magazine listing FTWBw) is an aid for the daily service enterprise in the specialized information system of the German Federal Armed Forces, for a cooperative magazine acquisition within the German Federal Armed Forces. It simplifies and accelerates German Federal Armed Forces-internal borrowing traffic. (Machine assisted translation).

Keywords: *Military forces(Foreign), *Magazines(Ordnance), Acquisition, Information systems, Germany, Computer applications, German language, Machine translation, Aq f99-08-1544, Foreign reports, German federal armed forces, Translations.

ADA363397REB PC A04/MF A01
Agricultural Trade Changes Made to Market Access Program, but Questions Remain on Economic Impact.
General Accounting Office, Washington, DC. National Security and International Affairs Div.
5 Apr 1999, 35p, GAO/NSIAD-99-38.
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This report responds to your request that we examine the U.S. Department of Agriculture's (USDA) implementation of legislative reforms to the Market Access Program (MAP) and their impact on program participation. Since 1986, MAP has provided funds to nonprofit organizations and commercial firms to help support their promotions of U.S. agricultural products in overseas markets. The Foreign Agricultural Service (FAS), an agency of USDA, administers this program and estimates that there are substantial economic benefits associated with MAP.

Keywords: *Economic impact, *International trade, *Agriculture, Congress, Commerce, Marketing, Economics, Access, Benefits, Legislation, Map(Market access program), Fas(Foreign agricultural service).

ADA363398REB PC A03/MF A01
Defense Transportation Efforts to Improve DOD's Personal Property Program.
General Accounting Office, Washington, DC. National Security and International Affairs Div.
18 Mar 1999, 19p, GAO/T-NSIAD-99-106.
Testimony before the Subcommittee on Military Readiness Committee on Armed Services, House of Representatives.
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DOD has long been concerned about the quality service members receive from its nearly $3 billion annual program to transport, store, and manage the household goods and unaccompanied baggage of its personnel. Past problems include poor service from its movers, excessive incidence of loss or damage to service members' property, and high claims costs to the government. All of these problems contribute to a poor quality of service for persons using the system. DOD first proposed reengineering its personal property program 5 years ago.

Keywords: *Logistics management, *Household goods, Military personnel, Department of defense, High costs, Quality, Losses, Storage, Military transportation.

ADA363399REB PC A03/MF A01
Role of Mutant p53 Protein in Breast Cancer. Final rept. 1 Aug 94-31 Jul 98.
Columbia Univ., New York.
C. L. Prives. Aug 1998, 16p.
Contract DAMD17-94-J-4275
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Mutation of the p53 gene is very frequent in breast cancer. In normal cells induction of wild-type p53 function leads to either cell cycle arrest or cell death. Loss of this function can contribute to oncogenic cell transformation. Additionally the presence of mutant forms of p53 in breast tumor cells may actually facilitate the process of tumorigenesis. The properties of mutant p53 proteins in vitro and in breast tumor cell lines will be studied, experiments will focus on analysis of the structure and modification of mutant p53 proteins as well as the effect of cellular signaling on p53 function. Additionally it is planned to establish breast cell lines expressing inducible mutant p53 to determine the effect of such mutants on parameters of cell cycle, growth and death. We have discovered that all mutant forms of p53 tested are capable of binding specifically to p53 response elements present in p53 target genes at lower but not at physiological temperatures. Furthermore, we have identified a means by which such binding is stabilized at the higher temperature.

Keywords: *Mutations, *Mammary glands, *Breast cancer, Molecules, Proteins, Neoplasms, Cycles, Yeasts, Genes, Cells(Biology), Growth(Physiology), Tumor cells, Oncogenic cells, Tumorigenesis, P53 proteins.

ADA363400REB PC A04/MF A01
Right Force for the Future: Who Pays the Bill. Strategy research project.
Army War Coll., Carlisle Barracks, PA.
G. R. Addison. 9 Apr 1998, 40p.
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This research project expresses concerns of the ability for the US army to continue involvement in smaller-scale contingencies operations and support Army After Next. Our current force structure is not designed to support our continued involvement in operations less than war around the world. Military leadership must design a force structure that meets these challenges. We cannot continue to subordinate operations less than war to the less likely scenario of a two-theater war. Logisticians must take the opportunity to lead the way into the next century and at the same time reduce requirements. A Revolution in Military Affairs is underway and a Revolution in Military Logistics will be critical to this program. It is time to redesign the logistics structure and doctrine to support the projected requirements on the US military. Our structure must be a highly mobile, agile force to support our power projection doctrine.

Keywords: *Military operations, *Leadership, *Operations other than war, Mobility, Logistics management, Military doctrine, Military capabilities, Military modernization, Army, Military downsizing, *Force structure, Military logistics.

AVA20539-VNB7REB AV$599.00
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In the past you were considered a successful salesperson if you got the prospect to sign on the dotted line. Today, a salesperson is successful only if the prospect or customer remains satisfied long after the contract is signed, the sale is made, or the account confirmed. That means providing a combination of quality, service, and value that makes your product stand out from the competition. And it means using a consultative approach to selling, where the salesperson and the customer function as allies, working toward a common goal. The Sales Connection provides viewers first-hand experience related by salespeople 'in the trenches,' and compelling interviews with some of the most respected experts in the field.

Keywords: *Sales management, *Sales workers, Marketing, Financial management, Sales, Quality, Clients, Retail trade, Training, Video tapes, Competition, Education.

AVA20540-VNB1REB AV$99.00
Sales Engine (Episode No. 1). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20541VNB1 and AVA20565VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Sales Engine addresses the ways in which personal selling stimulates economic growth in a market driven economy, and traces its evolution from the early days of the Production Era to the present day.

Keywords: *Sales, *Marketing, Market research, Production, Economic growth, Historical aspects, Sales management, Video tape.

AVA20541-VNB1REB AV$99.00
Seller's World (Episode No. 2). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20540VNB1 and AVA20542VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A Seller's World examines the opportunities and potential rewards of a career in personal selling.

Keywords: *Marketing, *Career development, Personnel development, Careers, Sales management, Training, Video tape.

AVA20542-VNB1REB AV$99.00
Big Picture (Episode No. 3). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20541VNB1 and AVA20543VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Big Picture provides an overview of the broad range of career opportunities in personal selling, with positions ranging from entry level trainees to high paid supervisors and managers.

Keywords: *Careers, *Personnel development, *Marketing, Career development, Training, Management, Supervision, Salesmanship, Video tape.

AVA20543-VNB1REB AV$99.00
Personal Touch (Episode No. 4). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20542VNB1 and AVA20544VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Personal Touch outlines the qualities needed for success, including the manner in which salespeople establish, build and maintain relationships and a positive self image.

Keywords: *Personnel development, *Sales workers, *Salesmanship, Marketing, Relationships, Customer satisfaction, Quality, Human performance, Training, Video tape.

AVA20544-VNB1REB AV$99.00
First Impressions (Episode No. 5). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20543VNB1 and AVA20545VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

First Impressions emphasizes the importance of the image that a salesperson projects in shaping how the customer responds.

Keywords: *Sales workers, *Human factors, *Customers, Marketing, Attitudes, Salesmanship, Clients, Training, Video tape, Satisfaction, Quality, Businesses.

AVA20545-VNB1REB AV$99.00
Sales Talk (Episode No. 6). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20544VNB1 and AVA20546VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Sales Talk examines communication style bias-often a barrier to selling success and how this occurs when sales people contact customers whose communication styles are different.

Keywords: *Marketing, *Sales persons, *Communicating, Skills, Customers, Training, Businesses, Video tape, Personnel development, Sales management, Salesmanship.

AVA20546-VNB1REB AV$99.00
In the Know (Episode No. 7). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20545VNB1 and AVA20547VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In the Know reveals why it is important to provide the prospective buyer with specific knowledge needed to make the best possible buying decision.

Keywords: *Consumers, *Marketing, Decision making, Personnel development, Purchasing, Sales, Businesses, Video tape, Training, Projection.

AVA20547-VNB1REB AV$99.00
Good Match (Episode No. 8). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20546VNB1 and AVA20548VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A Good Match shows how the key to successful selling is being able to convert 'product features' into 'buyer benefits.'

Keywords: *Marketing, *Consumers, Product development, Benefits, Sales management, Businesses, Sales, Video tape, Training.

AVA20548-VNB1REB AV$99.00
In Position (Episode No. 9). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20547VNB1 and AVA20549VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In Position focuses on those decisions, activities, and communication techniques that form selling strategies for new and old products.

Keywords: *Marketing, *Communication, Market research, Commodities, Strategies, Businesses, Decision making, Video tape, Training.

AVA20549-VNB1REB AV$99.00
Beneath the Surface (Episode No. 10). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20548VNB1 and AVA20550VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Beneath the Surface highlights the factors which influence buyers' decisions and make them buy.

Keywords: *Consumers, *Marketing, Purchasing, Clients, Sales, Decision making, Training, Businesses, Video tape.

AVA20550-VNB1REB AV$99.00
Step by Step (Episode No. 11). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20549VNB1 and AVA20551VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Step by Step focuses on two influences for buying--'emotional' and 'rational.'

Keywords: *Purchasing, *Marketing, Purchasers, Consumers, Ethical aspects, Sales, Salesmanship, Businesses, Training, Video tape.

AVA20551-VNB1REB AV$99.00
Making Connections (Episode No. 12). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20550VNB1 and AVA20552VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Making Connections discusses how prospecting is the method by which salespeople can identify potential customers, a process which requires planning.

Keywords: *Sales persons, *Marketing, Projection, Clients, Planning, Sales, Purchasing, Customers, Training, Businesses, Video tape, *Prospect.

AVA20552-VNB1REB AV$99.00
Plan of Action (Episode No. 13). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20551VNB1 and AVA20553VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Plan of Action explains the importance of pre-planning for a sales presentaton and outlines the work involved prior to the actual meeting with the prospect.

Keywords: *Sales, *Marketing, Projection, Sales management, Planning, Meeting, Training, Businesses, Video tape.

AVA20553-VNB1REB AV$99.00
Going the Distance (Episode No. 14). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20552VNB1 and AVA20554VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers);

(703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Going the Distance goes over the four major parts of a consultative-style sales presentation, a popular approach to the sale of retail and wholesale goods and services.

Keywords: *Sales, *Marketing, Retail trade, Sales management, Advisory services, Training, Video tape, Commodities, Purchasing.

AVA20554-VNB1REB AV$99.00
Show and Tell (Episode No. 15). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20553VNB1 and AVA20555VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Show and Tell stresses the importance of the sales demonstration as a proven way to strengthen a consultative sales presentation.

Keywords: *Sales management, *Marketing, Advisory services, Sales, Training, Businesses, Video tape.

AVA20555-VNB1REB AV$99.00
Breaking Through (Episode No. 16). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20554VNB1 and AVA20556VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Breaking Through provides strategies for dealing with and overcoming buyer resistance.

Keywords: *Sales management, *Marketing, *Consumers, Strategies, Purchasing, Sales, Training, Video tape.

AVA20556-VNB1REB AV$99.00
Dotted Line (Episode No. 17). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20555VNB1 and AVA20557VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

On the Dotted Line offers guidelines for 'closing the sale' as an outcome of a well-planned presentation.

Keywords: *Sales management, *Marketing, Guidelines, Planning, Sales, Training, Video tape, Businesses.

AVA20557-VNB1REB AV$99.00
Full Service (Episode No. 18). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20556VNB1 and AVA20558VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Full Service focuses on the two main processes of personal selling--making the sale and servicing the sale--and emphasizes the importance of customer service in increasing sales.

Keywords: *Customer services, *Sales, *Marketing, Personnel development, Satisfaction, Businesses, Training, Video tape, Sales management.

AVA20558-VNB1REB AV$99.00
Extra Mile (Episode No. 19). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20557VNB1 and AVA20559VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Extra Mile discusses customer concerns and the need for each salesperson to become familiar with them s they relate to their customers.

Keywords: *Sales persons, *Customers, *Marketing, Sales management, Satisfaction, Customer services, Training, Video tape, Clients.

AVA20559-VNB1REB AV$99.00
Setting the Pace (Episode No. 20). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20558VNB1 and AVA20560VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Setting the Pace sets forth the responsibilities of sales managers and the things they need to do for success.

Keywords: *Sales management, *Marketing, Sales, Salesmanship, Career development, Businesses, Training, Video tape.

AVA20560-VNB1REB AV$99.00
Peak Performance (Episode No. 21). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20559VNB1 and AVA20561VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Peak Performance focuses on the responsibility sales managers have for orientating, training and motivating new salespersons.

Keywords: *Sales management, Orientation(Training), Training, Sales persons, Businesses, Sales, Motivation, Video tape, Performance, Career development.

AVA20561-VNB1REB AV$99.00
Personal Best (Episode No. 22). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20560VNB1 and AVA20562VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Personal Best positions self-management as a four dimensional process that involves management of time, territory, records and stress.

Keywords: *Personnel management, *Marketing, Sales, Sales management, Records management, Stress, Businesses, Training, Video tape.

AVA20562-VNB1REB AV$99.00
Line (Episode No. 23). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20561VNB1 and AVA20563VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

On Line demonstrates the role of computers for speedy prospect identification and information organization which leaves more time available for sales.

Keywords: *Computer assisted instruction, *Sales management, Microcomputer, Information services, Identification, Organization, Marketing, Businesses, Training, Video tape, Prediction.

AVA20563-VNB1REB AV$99.00
Open Line (Episode No. 24). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20562VNB1 and AVA20564VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Open Line looks at some of the advantages and strategies of telemarketing which can increase the efficiency and effectiveness of salespeople.

Keywords: *Telemarketing, *Businesses, Efficiency, Benefits, Strategies, Sales persons, Marketing, Video tape, Training.

AVA20564-VNB1REB AV$99.00
Right Choice (Episode No. 25). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20563VNB1 and AVA20565VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Right Choice explores various legal and ethical guidelines for salespeople and the rights and wrongs of selling.

Keywords: *Legal aspects, *Ethics, *Sales persons, Sales management, Marketing, Businesses, Guidelines, Training, Viedo tape, Sales.

AVA20565-VNB1REB AV$99.00
One World (Episode No. 26). (VHS video).
INTELECOM, Pasadena, CA.
1992, audiovisual.
See also AVA20564VNB1 and AVA20540VNB1.
Also available in a kit of 26 components PC A00, AVA20539VNB7. This VHS video is 1/2 inch, color with playing time of 30 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

One World considers the impact of international business and the economic interdependency of nations on sales and selling.

Keywords: *Businesses, *International trade, *Marketing, Sales, Nations, Economic impact, Economic factors, International relations, Video tapes.

DE00001726REB PC A01/MF A01
Department of Energy, Washington, DC.

Short Contact Time Direct Coal Liquefactionn Using a Novel Batch Reactor. Quarterly Report. May 16 - August 15, 1996.
Federal Energy Technology Center (FETC), Morgantown, WV, and Pittsburgh, PA (United States).
He Huang, Michael T. Klein, and William H. Calkins. 30 Aug 1996, 1p, DE-FG22-93PC93205-12.
Contract FG22-93PC93205
Sponsored by Department of Energy, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The objective of this research is to optimize the design and operation of the bench scale batch reactor (SCTBR) for studying direct coal liquefaction at short contact times (.01 to 10 minutes or longer). Additional objectives are to study the kinetics of direct coal liquefaction particularly at short reaction times and to investigate the role of organic oxygen components of coal and their reaction pathways during coal liquefaction. Many of those objectives have already been achieved. This quarterly report discusses further kinetic studies of the liquefaction of Illinois number 6 bituminous coal, Wyodak-Anderson subbituminous coal, and Pittsburgh number 8 bituminous coal. The thermodynamic characteristics of the extraction stage at the start of the liquefaction process in the liquefaction of Illinois number 6 coal is also discussed. Further work has also been done to attempt to clarify the role of the liquefaction solvent in the direct liquefaction process.

Keywords: *Coal Liquefaction, Chemical Reactors, Bench-scale Experiments, Progress Report, EDB/010000.

DE00002622REB PC A12/MF A03
Department of Energy, Washington, DC.
Sandia National Laboratories Institutional Plan: FY 1999-2004.
Sandia National Laboratories, Albuquerque, NM, and Livermore, CA (United States).
D. P. Garber. 6 Jan 1999, 250p, SAND98-2257.
Contract AC04-94AL85000
Sponsored by Department of Energy, Washington, DC.
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This Institutional Plan is the most comprehensive yearly 'snapshot' available of Sandia National Laboratories' major programs, facilities, human resources, and budget. The document also includes overviews of our missions, organization, capabilities, planning functions, milestones, and accomplishments. The document's purpose is to provide the above information to the US Department of Energy, key congressional committees, Sandia management, and other present and potential customers. Chapter 2 presents information about Sandia's mission and summarizes our recent revision of Sandia's Strategic Plan. Chapter 3 presents an overview of Sandia's strategic objectives, chapter 4 lists laboratory goals and milestones for FY 1999, and chapter 5 presents our accomplishments during FY 1998. Chapters 3 through 5 are organized around our eight strategic objectives. The four primary objectives cover nuclear weapons responsibilities, nonproliferation and materials control, energy and critical infrastructures, and emerging national security threats. The major programmatic initiatives are presented in chapter 7. However, the programmatic descriptions in chapter 6 and the Associated funding tables in chapter 9 continue to be presented by DOE Budget and Reporting Code, as in previous Sandia institutional plans. As an aid to the reader, the four primary strategic objectives in chapter 3 are cross-referenced to the program information in chapter 6.

Keywords: *Planning, *Sandia National Laboratories, *Nuclear Weapons, Non-proliferation Policy, Nuclear Materials Management, Energy Systems, National Security, National Defense, EDB/990000, EDB/450000, EDB/350000, EDB/320000, EDB/290000.

DE00002697REB PC A01/MF A01
Department of Energy, Washington, DC.
Enabling field spectroscopies.
Bechtel Nevada Corporation (BNC).
Stephan J. Weeks. 1 Jan 1999, 1p, DOE/NV/11718-261.
Contract AC08-96NV11718
Spie's Photonics East, Environmental Monitoring and Remediation Technologies in Boston, MA on November 2, 1998. Sponsored by Department of Energy, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Environmental measurements are significantly enhanced by a complement of field-worthy spectrosopic instrumentation. These improvements can result in rapid turn around time, more representative sampling of larger areas, and lower overall costs. The qualities that make instrumentation field-worthy include real-time analysis, ruggedness, size/portability, analyte selectivity or specificity, detectability and, of course, sufficient accuracy and precision. The Characterization, Monitoring & Sensor Technology Cross-cutting Program (CMST-CP) within the U.S. Department of Energy Environmental Management supports a wiede range of spectroscopic applications directly related to accelerating their cleanup efforts. Examples include tunable near infrared diode laser, laser-induced breakdown, imaging, beta, and mass spectroscopic technologies. Awarness of new technologies is crucial. An overview of these technologies will be presented.

Keywords: Meetings, Spectroscopy, Technology Assessment, Environment, EDB/540000.

DE00002698REB PC A01/MF A01
Department of Energy, Washington, DC.
X-Ray Shawdowgraph Camera Design.
Bechtel Nevada Corporation (BNC).
Edward J. McCrea, Michael J. Doman, and Randy A. Rohde. 1 Jan 1999, 1p, DOE/NV/11718-279.
Contract AC08-96NV11718
IS&T/SPIE's Symposium on Electronic Imaging'99 High Speed Imaging (ei127), in Sacramento, CA, on January 23-29, 1999. Sponsored by Department of Energy, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

An imagining camera that is used with X-Ray radiography systems in high explosive experiments has been built and fielded. The camera uses a 40mm diameter Micro-Channel Plate Itensifier (MCPI) for optical gain and photographic film for image recording. In the normal location of the X-ray film pack, a scintillating screen is placed instead. The camera system views the screen and records the image. The sensitivity of the MCPI to light makes the camera design sensitive to small details that a film pack does not need to consider. The X-ray image recording system was designed and bulit for situations where the film pack of the X-ray shadowgraph is not retrievable after the experiment. The system has been used in a number of experiments.

Keywords: *X-ray Radiography, Meetings, Microchannel Electron Multipliers, Cameras, Design, Chemical Explosives, EDB/440000, EDB/450000.

DE00003027REB PC A01/MF A01
Department of Energy, Washington, DC.
Multiphase Flow Modeling - Validation and Application CRADA MC94-019, Final Report.
Federal Energy Technology Center, Morgantown, WV, and Pittsburgh, PA (United States).
Madhava Syamlal, and Philip A. Nicoletti. 31 Aug 1995, 1p, DOE/FETC-99/1081.
Sponsored by Department of Energy, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

For the development and validation of multiphase flow modeling capability, a cooperative research and development agreement (CRADA) is in effect between Morgantown Energy Technology Center (METC) and Fluent Inc. To validate the Fluent multiphase model, several simulations were conducted at METC and the results were compared with the results of MFIX, a multiphase flow code developed at METC, and with experimental data. The results of these validation studies will be presented. In addition, the application of multiphase flow modeling will be illustrated by presenting the results of simulations of a filter back- flushing and a fluidized bed coal gasifier. These simulations were conducted only with MFIX, since certain features needed in these simulations will be available only in the next release of Fluent.

Keywords: *Fluidized Beds, *Coal Gasification, Multiphase Flow, Computerized Simulation, M Codes, EDB/420000, EDB/010000.

DE00003034REB PC A01/MF A01
Department of Energy, Washington, DC.
Summary of Experiments in Converting Copper Oxide Process Regenerator Off-Gases to Elemental Sulfur, CRADA 97-F006, Final Report.
Federal Energy Technology Center, Morgantown, WV, and Pittsburgh, PA (United States).
Brian C. Cianciolo, Richard J. Oehlberg, and Sidney G. Nelson. 22 Jan 1999, 1p, DOE/FETC-99/1085.
Sponsored by Department of Energy, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Sorbent Technologies Corporation (Sorbtech) of Twinsburg, Ohio has developed a new technology for converting SO(sub 2)-rich gas streams directly to elemental sulfur. Key to the technology is a special catalyst that promotes the reaction of SO(sub 2) with reformed natural gas. The technology evolved from earlier flue-gas desulfurization (FGD) work that Sorbtech engineers performed in the late 1980's. In 1995, with U.S. Department of Energy (DOE) support, Sorbtech designed and constructed a larger, skid-mounted pilot-test unit suitable for demonstrating the new technology in field tests. This Report summarizes months of preparation work and eight days of testing that were performed at FETC'S facilities during late September and early October, 1997. On the basis of the results of this phase of the project, the following conclusions were made: (1) The chemistry of the new technology was well proven and demonstrated at FETC. The overall S0(sub 2)-to-elemental sulfur yields were typically in the range of 93 to 98 percent. (The project goal was 95 percent, so the goal was exceeded). (2) Sulfur selectivity values, indicating the tendency of S0(sub 2) to be converted to elemental sulfur in preference to H(sub 2)S or COS, were typically in the range of 98 to 100 percent. (3) Bright yellow sulfur of high quality was produced at FETC. (4) The FETC regenerator exhaust gas presented no processing difficulties. Swings in the level of methane in the exhaust gas were handled with relative ease. (5) With the exception of the water condenser, all system components performed well. (6) Condensing of the sulfur after its production was a serious problem at FETC. Solid sulfur deposits built up in the process-gas lines at several locations in the system. Clogging of the lines necessitated terminating runs typically after 2 to 4 hours of operation. Clogging problems were most severe in the water condenser. Many planned parametric tests were not run because of the sulfur plugging problems. (7) Several suggestions were made by BP Oil Company for solving the sulfur pl ugging problems. Among the suggestions were to never allow the temperature of the process gas to fall below 118(degree)C, to increase the temperature of the sulfur condenser to 148(degree)C, and to eliminate the water condenser from the system entirely.

Keywords: *Flue Gas, Sulfur, Materials Recovery, Sulfur Dioxide, Desulfurization, EDB/540000, EDB/200000.

DE00003202REB PC A01/MF A01
Department of Energy, Washington, DC.
New 1999 National Electrical Code Coupled with New Standards Clarify Requirements for Installations of Photovoltaic Systems in the U.S.;Progress in Photovoltaics - Research and Applications.
Sandia National Laboratories, Albuquerque, NM, and Livermore, CA (United States).
W. Bower. 8 Jan 1999, 1p, SAND99-0054J.
Contract AC04-94AL85000
Sponsored by Department of Energy, Washington, DC.
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The National Electrical Code (NEC) focuses primarily on electrical system installation requirements in the U.S. The NEC addresses both fire and personnel safety. This paper will describe recent efforts of the PV industry in the U.S. and the resulting requirements in the 1999 National Electrical Code– Article 690 –Solar Photovoltaic Systems. The Article 690 requirements spell out the PV- unique requirements for safe installations of PV systems in the U.S.A. This paper provides an overview of the most significant changes that appear in Article 690 of the 1999 edition of the NEC. The related and coordinated efforts of the other standards-making groups will also be briefly reviewed.

Keywords: *Building Codes, *Photovoltaic Power Supplies, *Installation, EDB/140000.

DE00006694REB PC A01/MF A01
Department of Energy, Washington, DC.
New Technology Demonstration Program, Kennedy Space Center,.
National Renewable Energy Laboratory (NREL), Golden, CO (United States).
C.E. Hancock, and Paul Reeves. 29 Mar 1999, 1p, NREL/SR-710-24738.
Sponsored by Department of Energy, Washington, DC. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In December of 1996, heat pipe heat exchangers were installed on three air handlers at Hangar L at the Cape Canaveral Air Station, Kennedy Space Center, Cape Canaveral, Florida. These retrofits were implemented with the intent to improve the dehumidification performance of the cooling systems, reduce the electric and steam energy required for reheating air, and reduce electric energy used by the chillers. Audits were conducted before and after the heat pipes were installed and a detailed monitoring system was set up to record hourly operating conditions of each of the three air-handling units. The audit information and monitored data were used to create a simulation model of the three air-handling systems and annual energy savings were predicted. Energy savings for air handling unit 1 (AHU-1) were found to be negligible. Heat pipe installation in AHU-1 may have been inappropriate because of the design of the original cooling coils. Annual savings for AHU-2 are small, primarily because the required reheat for the system was already small. AHU-3 was the best application for the heat pipes and showed savings of 70,000 kWh per year. Interior humidity conditions improved after installation of the heat pipes for AHU-2 and AHU-3.

Keywords: *Heat Exchangers, *Humidity, *Dehumidification, *Heat Pipes, Space Hvac Systems, Energy Efficiency, Performance, EDB/320000.

DE98004697REB PC A18/MF A04
Department of Energy, Washington, DC.
Fusion materials semiannual progress report for the period ending December 31, 1997.
Oak Ridge National Lab., TN.
G. Burn. 31 Mar 1998, 390p, DOE/ER-0313/23.
Contract AC05-96OR22464
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This is the twenty-third in a series of semiannual technical progress reports on fusion materials. This report combines the full spectrum of research and development activities on both metallic and non-metallic materials with primary emphasis on the effects of the neutronic and chemical environment on the properties and performance of materials for in-vessel components. This effort forms one element of the materials program being conducted in support of the Fusion Energy Sciences Program of the US Department of Energy. The other major element of the program is concerned with the interactions between reactor materials and the plasma and is reported separately. The Fusion Materials Program is a national effort involving several national laboratories, universities, and industries. A large fraction of this work, particularly in relation to fission reactor experiments, is carried out collaboratively with their partners in Japan, Russia, and the European Union. The purpose of this series of reports is to provide a working technical record for the use of the program participants, and to provide a means of communicating the efforts of materials scientists to the rest of the fusion community, both nationally and worldwide. Selected papers have been indexed separately for inclusion in the Energy Science and Technology Database.

Keywords: *Thermonuclear reactor materials, Progress Report, Research Programs, Physical Radiation Effects, Vanadium Base Alloys, Composite Materials, Ceramics, Stainless Steels, Mechanical Properties, Microstructure, Physical Properties, Corrosion, Leading Abstract, EDB/360000, EDB/700480.

DE98053023REB PC A99/MF A06
Department of Energy, Washington, DC.
FY 1996 solid waste integrated life-cycle forecast characteristics summary. Volumes 1 and 2.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
K. J. Templeton. 23 May 1996, 762p, WHC-EP-0906.
Contract AC06-96RL13200
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For the past six years, a waste volume forecast has been collected annually from onsite and offsite generators that currently ship or are planning to ship solid waste to the Westinghouse Hanford Company's Central Waste Complex (CWC). This document provides a description of the physical waste forms, hazardous waste constituents, and radionuclides of the waste expected to be shipped to the CWC from 1996 through the remaining life cycle of the Hanford Site (assumed to extend to 2070). In previous years, forecast data has been reported for a 30- year time period; however, the life-cycle approach was adopted this year to maintain consistency with FY 1996 Multi-Year Program Plans. This document is a companion report to two previous reports: the more detailed report on waste volumes, WHC-EP-0900, FY1996 Solid Waste Integrated Life-Cycle Forecast Volume Summary and the report on expected containers, WHC-EP-0903, FY1996 Solid Waste Integrated Life-Cycle Forecast Container Summary. All three documents are based on data gathered during the FY 1995 data call and verified as of January, 1996. These documents are intended to be used in conjunction with other solid waste planning documents as references for short and long-term planning of the WHC Solid Waste Disposal Division's treatment, storage, and disposal activities over the next several decades. This document focuses on two main characteristics: the physical waste forms and hazardous waste constituents of low-level mixed waste (LLMW).

Keywords: *Hanford Reservation, *Radioactive Waste Management, Forecasting, Inventories, Low-level Radioactive Wastes, Waste Forms, Hazardous Materials, Alpha-bearing Wastes, EDB/052000.

DE98054292REB PC A05/MF A01
Department of Energy, Washington, DC.
Farinon microwave end of life cycle.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
R. C. Poe. 24 Jun 1996, 59p, WHC-SD-GN-ER-20007.
Contract AC06-96RL13200
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This engineering report evaluates alternatives for the replacement of the Farinon microwave radio system. The system is beyond its expected life cycle and has decreasing maintainability. Principal applications supported by the Farinon system are two electrical utility monitor and control systems, the Integrated Transfer Trip System (ITTS), and the Supervisory Control and Data Acquisition (SCADA) system.

Keywords: *Microwave Equipment, *Communications, Service Life, Hanford Reservation, Power Systems, Power Distribution Systems, Bonneville Power Administration, Data Transmission Systems, Equipment Protection Devices, Electric Utilities, EDB/320603, EDB/240400, EDB/240200.

DE98054293REB PC A05/MF A01
Department of Energy, Washington, DC.
Catch tank inhibitor addition 200-East and 200-West Areas.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
A. N. Palit. 21 Jun 1996, 74p, WHC-SD-WM-ER-573.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Reported is the study of 11 catch tanks in the 200-East Area and the 7 catch tanks in the 200-West Area listed as active. The location, capacity, material of construction, annual total accumulation, annual rain intrusion, waste transfer rate, and access for chemical injection in these tanks are documented. The present and future utilization and isolation plans for the catch tanks are established.

Keywords: Hanford Reservation, Radioactive Waste Facilities, Tanks, Radioactive Waste Storage, Capacity, Building Materials, Water Influx, Openings, Uses, Containment, Planning, EDB/052002.

DE98054295REB PC A17/MF A03
Department of Energy, Washington, DC.
Summary of radioactive solid waste received in the 200 Areas during calendar year 1995.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
K. L. Hladek. 6 Jun 1996, 362p, WHC-EP-0125-08.
Contract AC06-96RL13200
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Westinghouse Hanford Company manages and operates the Hanford Site 200 Area radioactive solid waste storage and disposal facilities for the US Department of Energy, Richland Operations Office. These facilities include radioactive solid waste disposal sites and radioactive solid waste storage areas. This document summarizes the amount of radioactive materials that have been buried and stored in the 200 Area radioactive solid waste storage and disposal facilities since startup in 1944 through calendar year 1995. This report does not include backlog waste, solid radioactive wastes in storage or disposed of in other areas, or facilities such as the underground tank farms. Unless packaged within the scope of WHC-EP-0063, Hanford Site Solid Waste Acceptance Criteria, liquid waste data are not included in this document. This annual report provides a summary of the radioactive solid waste received in the both the 200-East and 200-West Areas during the calendar year 1995.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, Radioactive Waste Disposal, Inventories, Solid Wastes, EDB/052002.

DE98054296REB PC A05/MF A01
Department of Energy, Washington, DC.
Listed waste history at Hanford facility TSD units.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
A. G. Miskho. 14 Jun 1996, 64p, WHC-MR-0517.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document was prepared to close out an occurrence report that Westinghouse Hanford Company

issued on December 29, 1994. Occurrence Report RL-WHC-GENERAL-1994-0020 was issued because knowledge became available that could have impacted start up of a Hanford Site facility. The knowledge pertained to how certain wastes on the Hanford Site were treated, stored, or disposed of. This document consolidates the research performed by Westinghouse Hanford Company regarding listed waste management at onsite laboratories that transfer waste to the Double-Shell Tank System. Liquid and solid (non-liquid) dangerous wastes and mixed wastes at the Hanford Site are generated from various Site operations. These wastes may be sampled and characterized at onsite laboratories to meet waste management requirements. In some cases, the wastes that are generated in the field or in the laboratory from the analysis of samples require further management on the Hanford Site and are aggregated together in centralized tank storage facilities. The process knowledge presented herein documents the basis for designation and management of 242-A Evaporator Process Condensate, a waste stream derived from the treatment of the centralized tank storage facility waste (the Double-Shell Tank System). This document will not be updated as clean up of the Hanford Site progresses.

Keywords: *Hanford Reservation, *Radioactive Waste Facilities, Evaporators, Condensates, Radioactive Waste Management, Safety Engineering, EDB/052000, EDB/054000.

DE98054328REB PC A02/MF A01
Department of Energy, Washington, DC.
CO(sub 2) Huff-n-Puff process in a light oil shallow shelf carbonate reservoir.
Texaco Exploration and Production, Inc., Hobbs, NM (United States).
31 Dec 1998, 10p, DOE/BC/14986-15.
Contract FC22-94BC14986
Sponsored by Department of Energy, Washington, DC.
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The application of cyclic CO(sub 2), often referred to as the CO(sub 2) Huff-n-Puff process, may find its niche in the maturing waterfloods of the Permian Basin. Coupling the CO(sub 2) H-n-P process to miscible flooding applications could provide the needed revenue to sufficiently mitigate near- term negative cash flow concerns in the capital intensive miscible projects. Texaco Exploration and Production Inc. and the US Department of Energy have teamed up in an attempt to develop the CO(sub 2) Huff-n-Puff process in the Grayburg and San Andres formations, a light oil, shallow shelf carbonate reservoir that exists throughout the Permian Basin. This cost-shared effort is intended to demonstrate the viability of this underutilized technology in a specific class of domestic reservoir. The selected site for this demonstration project is the Central Vacuum Unit waterflood in Lea County, New Mexico. The goals of the project are the development of guidelines for cost-effective selection of candidate reservoirs and wells, along with estimating recovery potential. This project has two defined budget periods. The first budget period primarily involves tasks associated with reservoir analysis and characterization, characterizing existing producibility problems, and reservoir simulation of the proposed technology. The final budget period covers the actual field demonstration of the proposed technology. Technology transfer spans the entire course of the project. This report covers the concluding tasks performed under the second budget period.

Keywords: *Fluid Injection Processes, *Carbon Dioxide Injection, Field Tests, Oil Fields, New Mexico, Enhanced Recovery, Petroleum, EDB/020300.

DE98054572REB PC A02/MF A01
Department of Energy, Washington, DC.
Microstructure and Physical Metallurgy in Melt-Dilute Treatment Technology for Al-Based Spent Nuclear Fuel.
Westinghouse Savannah River Company, Aiken, SC (United States).
T. M. Adams, and H. B. Peacock. 30 Sep 1998, 8p, WSRC-MS-98-00465.
Contract AC09-96SR18500
American Nuclear Society (ANS) topical meeting on DOE spent nuclear fuel and fissile materials management (3rd). Sponsored by Department of Energy, Washington, DC.
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Major challenges associated with the direct disposal of research reactor fuel in a repository include non-proliferation and criticality control, both of which may be a concern for HEU Al-SNF. Consideration must be given to the potential desirability and/or regulatory necessity of diluting the HEU SNF to below 20 percent enrichment. The probability for a criticality event as well as the issue of proliferation are greatly decreased by reducing the enrichment. The melt-dilute technology development program is focused on the development and implementation of a treatment technology for diluting HEU Al-SNF to LEU levels and qualifying this LEU Al-SNF form for geologic repository storage. An attribute of the melt-dilute process is its applicability to various types of FRR and DRR SNF.

Keywords: *Spent fuel elements, Radioactive Waste Processing, Microstructure, Physical Metallurgy, Melting, Dilution, Meetings, EDB/052001.

DE98054573REB PC A02/MF A01
Department of Energy, Washington, DC.
Evaluation of Test Methodologies for Dissolution and Corrosion of Al-SNF.
Westinghouse Savannah River Company, Aiken, SC (United States).
B. J. Wiersma, J. I. Mickalonis, and M. R. Louthan. 30 Sep 1998, 10p, WSRC-MS-98-00460.
Contract AC09-96SR18500
American Nuclear Society (ANS) topical meeting on DOE spent nuclear fuel and fissile materials management (3rd). Sponsored by Department of Energy, Washington, DC.
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The performance of aluminum-based spent nuclear fuel (Al-SNF) in the repository will differ from that of the commercial nuclear fuels and the high level waste glasses. The program consists of evaluating three test methods.

Keywords: *Dissolution, *Corrosion, Spent Fuel Elements, Testing, Meetings, EDB/052002.

DE98054748REB PC A02/MF A01
Department of Energy, Washington, DC.
Parametric Thermal Analysis for Codisposal Waste Package Canister.
Westinghouse Savannah River Company, Aiken, SC (United States).
S. Y. Lee, and R. L. Sindelar. 30 Sep 1998, 8p, WSRC-MS-98-00336.
Contract AC09-96SR18500
American Nuclear Society (ANS) topical meeting on DOE spent nuclear fuel and fissile materials management (3rd). Sponsored by Department of Energy, Washington, DC.
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The engineering viability of disposal of aluminum-clad, aluminum-based spent nuclear fuel (Al-SNF) in a geologic repository requires a thermal analysis to provide the temperature history of the waste form. Calculated temperatures are used to demonstrate compliance with criteria for waste acceptance into the Mined Geologic Disposal System and as input to assess the chemical and physical behavior of the waste form within the waste package (WP). A thermal analysis methodology was developed to calculate peak temperatures and temperature profiles of Al-SNF in the DOE spent nuclear fuel canister within a codisposal WP. A two-dimensional baseline model with conduction and radiation coupled heat transport was developed to evaluate the thermal performance of Al-SNF directly stored in a canister in a codisposal WP over the range of possible heat loads and boundary conditions. In addition, a conduction model and a detailed model which includes convection were developed to identify the dominant cooling mechanism under the present WP configuration, to investigate physical cooling mechanism in detail, and to estimate the conservatism imbedded in the baseline model.The results of the baseline model showed that the direct disposal configuration with a helium-filled WP satisfied the present waste acceptance criteria (WAC) for the WP design in terms of the peak temperature criterion, Tmax (lt) 350 degrees C, under the reference boundary conditions. A period of 10 years' cooling time for the decay heat loads of the SNF and the High-level Waste Glass Log (HWGL) regions was used as one of the reference design conditions.

Keywords: *Thermal analysis, *Containers, Aluminum, Radioactive waste disposal, Meetings, EDB/052002.

DE98054750REB PC A01/MF A01
Department of Energy, Washington, DC.
SRS TRU Criticality Safety Analysis Waste Characterization.
Westinghouse Savannah River Company, Aiken, SC (United States).
A. Blanchard, and K. Hammer. 30 Sep 1998, 4p, WSRC-MS-98-00449.
Contract AC09-96SR18500
SPECTRUM '98: nuclear and hazardous waste management international topical meeting. Sponsored by Department of Energy, Washington, DC.
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This paper discusses the waste characterizations, the bases of the characterizations, and the characterization impact on criticality safety anaysis results.

Keywords: *Criticality, *Safety analysis, Characterization, Alpha-bearing Wastes, Meetings, EDB/052000, EDB/420203.

DE98054756REB PC A02/MF A01
Department of Energy, Washington, DC.
Development of the Melt-Dilute Treatment Technology for Al-Based DOE Spent Nuclear Fuel.
Westinghouse Savannah River Company, Aiken, SC (United States).
H. B. Peacock, T. M. Adams, and N. C. Iyer. 30 Sep 1998, 6p, WSRC-MS-98-00466.
Contract AC09-96SR18500
American Nuclear Society (ANS) topical meeting on DOE spent nuclear fuel and fissile materials management (3rd). Sponsored by Department of Energy, Washington, DC.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Spent foreign and domestic research reactor fuel assemblies will be sent to Savannah River Site and prepared for interim and eventual geologic storage. Many of the fuel plates have been made with high enriched uranium, and during long term storage, the integrity of the fuel maybe effected if the canister is breached. To reduce the potential for criticality, proliferation, and reduce storage volume, a new treatment technology called melt-dilute is being developed at SRS. The technique will melt the spent fuel assemblies and will dilute the isotopic content to below 20%. The process is simple and versatile.

Keywords: *Spent fuel elements, Uranium, Radioactive Waste Processing, Melting, Dilution, Meetings, EDB/052001.

DE98057841REB PC A03/MF A01
Department of Energy, Washington, DC.
Roles of Historical Photography in Waste Site Characterization, Closure, and Remediation.
Westinghouse Savannah River Company, Aiken, SC (United States).
H. Mackey. 31 Jul 1998, 14p, WSRC-MS-98-00096.
Contract AC09-89SR18035

1998 Environmental Systems Research Institute conference. Sponsored by Department of Energy, Washington, DC.
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Over 40,000 frames of vertical historical photography from 1938 to 1996 and over 10,000 frames of oblique photography from 1981 to 1991 of the 777-square kilometer Savannah River Site in south central South Carolina were reviewed, cataloged, and referenced utilizing ARCView and associated ArcInfo tools. This allows environmental reviews of over 400 potential waste units on the SRS to be conducted in a rapid fashion to support preparation of work plans, characterization, risk assessments, and closure of the waste units in a more cost effective manner.

Keywords: *Photography, *Site characterization, South Carolina, Historical Aspects, Savannah River Plant, Risk assessments, Remedial Action, Shutdown, Meetings, EDB/053001.

DE98057842REB PC A02/MF A01
Department of Energy, Washington, DC.
Inspection and Analysis of Aluminum Storage Racks in Spent Fuel Storage Basins.
Westinghouse Savannah River Company, Aiken, SC (United States).
J. P. Howell, and D. Z. Nelson. 31 Jul 1998, 6p, WSRC-MS-98-00354.
Contract AC09-89SR18035
International Metallographic Society (IMS) annual convention (31st). Sponsored by Department of Energy, Washington, DC.
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Aluminum-clad spent nuclear fuel is stored in water filled basins at the Savannah River Site awaiting processing or other disposition. After more than 35 years of service underwater, the aluminum storage racks that position the fuel bundles in the basin were replaced. During the removal of the racks from the basin, a failure occurred in one of the racks and the Savannah River Technology Center was asked to investigate. This paper presents results of the failure analysis and provides a discussion of the effects of corrosion on the structural integrity of the storage racks.

Keywords: *Spent fuel storage, *Inspection, Fuel Racks, Aluminium, Failures, Corrosion, Meetings, EDB/052002, EDB/360105.

DE98057850REB PC A02/MF A01
Department of Energy, Washington, DC.
Volumetric Radioactivity Viewed as Surface Radioactivity for Free Release Assessment Purposes.
Westinghouse Savannah River Company, Aiken, SC (United States).
W. L. Boettinger. 8 Jul 1998, 6p, WSRC-MS-98-00527.
Contract AC09-96SR18500
Beneficial reuse 1998. Sponsored by Department of Energy, Washington, DC.
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As a part of the SRS Beneficial Reuse Program, stainless steel radioactive scrap metal is melted, pour into ingots, and roll into sheets. The sheets are then fabricated into boxes and barrels for beneficial reuse. The melting activity is a partial decontamination process. Certain isotopes separate from the melted steel, while others stay in solution. Cobalt-60 is the primary constituent, which remains in solution, and becomes the major contributor to the volumetric radioactivity of the finished products (boxes and barrels). There is currently no "de minimis" free release level for volumetrically radioactive material. However, under certain circumstances, pathway analysis can be used (and have been used) to free release volumetrically radioactive material. This paper presents an analysis using empirical data derived from over sixty "melts", to demonstrate that the implied surface radioactivity for specific beneficial reuse products is within free release limit. The approach can be applied to other recycled metal products.

Keywords: *Radioactivity, Stainless Steels, Recycling, Assessments, Release Limits, Meetings, EDB/052000, EDB/560190.

DE98057851REB PC A01/MF A01
Department of Energy, Washington, DC.
Local Area Network Material Accounting System (LANMAS) Functions and Features Overview.
Westinghouse Savannah River Company, Aiken, SC (United States).
J. J. Robichaux. 31 Jul 1998, 5p, WSRC-MS-98-00204.
Contract AC09-96SR18500
Institute of Nuclear Materials Management (INMM) annual meeting (39th). Sponsored by Department of Energy, Washington, DC.
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The Local Area Network Material Accounting System (LANMAS) application is a standardized approach to comply with the DOE Order 5633.3B, control and Accountability of Nuclear Material, material accounting requirements. This paper provides a general overview of the functions and features included in the LANMAS application.

Keywords: *Nuclear materials management, Accounting, Standards, Local Area Networks, Meetings, EDB/055001.

DE98057852REB PC A03/MF A01
Department of Energy, Washington, DC.
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
Westinghouse Savannah River Company, Aiken, SC (United States).
L. B. Baker, D. M. Faison, D. G. Langner, M. R. Sweet, and S. D. Salazar. 31 Jul 1998, 16p, WSRC-MS-98-00537.
Contract AC09-96SR18500
Institute of Nuclear Materials Management (INMM) annual meeting (39th). Sponsored by Department of Energy, Washington, DC.
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A new neutron multiplicity counter has been designed, fabricated, characterized, and installed for use in the assay of impure plutonium metal buttons from the FB-Line at the Westinghouse Savannah River Site (WSRS). This instrument incorporates the performance characteristics of the Pyrochemical or In-plant Multiplicity Counter with the package size of the Plutonium Scrap Multiplicity Counter. In addition, state-of-the art features such as the de- randomizer circuit and separate ring outputs have been added. The counter consists of 113, 71 cm active length 3He tubes in a polyethylene moderator. Its efficiency for 252Cf is 57.8 percent, the highest of any multiplicity counter to date. Its die-away time is 50.4 ns and its deadtime is 50 ns. In this paper we will present the characterization data for the counter and the results of preliminary metal measurements at WSRS. We will also discuss the new challenges the impure metal buttons from FB-Line are presenting to the multiplicity counting technique.

Keywords: *Neutron detectors, *Plutonium, *Multiplicity, Measurements, Characterization, Counting methods, Savannah River Plant, Meetings, EDB/440101, EDB/055001.

DE99000778REB PC A15/MF A03
Department of Energy, Washington, DC.
Proceedings of the 5. Joint Russian-American computational mathematics conference.
Sandia National Labs., Albuquerque, NM (United States).
31 Dec 1997, 312p, SAND-98-1591.
Contract AC04-94AL85000
Joint Russian-American computational mathematics conference (5th). Sponsored by Department of Energy, Washington, DC.
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These proceedings contain a record of the talks presented and papers submitted by participants. The conference participants represented three institutions from the United States, Sandia National Laboratories (SNL), Los Alamos National Laboratory (LANL), Lawrence Livermore National Laboratory (LLNL) , and two from Russia, Russian Federal Nuclear Center--All Russian Research Institute of Experimental Physics (RFNC-VNIIEF/Arzamas-16), and Russian Federal Nuclear Center--All Russian Research Institute of Technical Physics (RFNC- VNIITF/Chelyabinsk-70). The presentations and papers cover a wide range of applications from radiation transport to materials. Selected papers have been indexed separately for inclusion in the Energy Science and Technology Database.

Keywords: *Meetings, *Mathematics, Physics, Research, Radiation Transport, Energy Transfer, Calculation Methods, Materials, Thermonuclear Reactors, Mechanics, Computerized Simulation, Leading Abstract, EDB/990200.

DE99001004REB PC A05/MF A01
Department of Energy, Washington, DC.
Proceedings of the workshop on nonlinear MHD and extended MHD.
Univ. of Wisconsin, Center for Plasma Theory and Computation, Madison, WI (United States).
31 Dec 1998, 75p.
Contract FG02-86ER53218
Workshop on nonlinear MHD and extended MHD. Sponsored by Department of Energy, Washington, DC.
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Nonlinear MHD simulations have proven their value in interpreting experimental results over the years. As magnetic fusion experiments reach higher performance regimes, more sophisticated experimental diagnostics coupled with ever expanding computer capabilities have increased both the need for and the feasibility of nonlinear global simulations using models more realistic than regular ideal and resistive MHD. Such extended-MHD nonlinear simulations have already begun to produce useful results. These studies are expected to lead to ever more comprehensive simulation models in the future and to play a vital role in fully understanding fusion plasmas. Topics include the following: (1) current state of nonlinear MHD and extended-MHD simulations; (2) comparisons to experimental data; (3) discussions between experimentalists and theorists; (4) /equations for extended-MHD models, kinetic-based closures; and (5) paths toward more comprehensive simulation models, etc. Selected papers have been indexed separately for inclusion in the Energy Science and Technology Database.

Keywords: Magnetohydrodynamics, Nonlinear Problems, Meetings, Plasma Simulation, Numerical Analysis, Analytical Solution, Thermonuclear Reactors, Leading Abstract, EDB/700370.

DE99001921REB PC A07/MF A02
Department of Energy, Washington, DC.
1995 Annual epidemiologic surveillance report for Brookhaven National Laboratory. PROGRESS REPT.
Dept. of Energy Office of Epidemiologic Studies, Germantown, MD (United States).
31 Dec 1995, 113p, DOE/EH-99001291.
Contract AC05-76OR00033
Sponsored by Department of Energy, Washington, DC.
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The US Department of Energy's (DOE) conduct of epidemiologic surveillance provides an early warning system for health problems among workers. This program monitors illnesses and health conditions that result in an absence of five or more consecutive workdays, occupational injuries and illnesses, and disabilities and deaths among current workers. This report summarizes epidemiologic surveillance data collected from Brookhaven National Laboratory (BNL) from January 1, 1995 through December 31, 1995. The data were collected by a coordinator at BNL and submitted to the Epidemiologic Surveillance Data Center, located at Oak Ridge Institute for Science and Education, where quality control procedures and data analyses were carried out.

Keywords: *Epidemiology, Progress Report, Brookhaven National Laboratory, Data collection, Diseases, Health Hazards, Numerical Data, Occupational Exposure, Tables(data), EDB/290300.

DE99002096REB PC A03/MF A01
Department of Energy, Washington, DC.
Dynamic and static error analyses of neutron radiography testing.
Bettis Atomic Power Lab., West Mifflin, PA (United States).
H. Joo, and S. S. Glickstein. 31 Dec 1999, 13p, WAPD-T-3231.
Contract AC11-93PN38195
World conference on neutron radiography (6th). Sponsored by Department of Energy, Washington, DC.
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Neutron radiography systems are being used for real-time visualization of the dynamic behavior as well as time-averaged measurements of spatial vapor fraction distributions for two phase fluids. The data in the form of video images are typically recorded on videotape at 30 frames per second. Image analysis of he video pictures is used to extract time-dependent or time- averaged data. The determination of the average vapor fraction requires averaging of the logarithm of time-dependent intensity measurements of the neutron beam (gray scale distribution of the image) that passes through the fluid. This could be significantly different than averaging the intensity of the transmitted beam and then taking the logarithm of that term. This difference is termed the dynamic error (error in the time-averaged vapor fractions due to the inherent time-dependence of the measured data) and is separate from the static error (statistical sampling uncertainty). Detailed analyses of both sources of errors are discussed.

Keywords: *Neutron radiography, Beams, Flow Visualization, Two-phase Flow, Void Fraction, Image Processing, Data Covariances, Video Tapes, Meetings, EDB/420400, EDB/070204.

DE99002110REB PC A07/MF A02
Department of Energy, Washington, DC.
Sixth national stakeholder workshop summary report.
Dept. of Energy, Office of Worker and Community Transition, Washington, DC (United States).
31 Mar 1999, 101p, DOE/WT-0007.
National stakeholder workshop (6th). Sponsored by Department of Energy, Washington, DC.
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On June 17-18, 1998, the Department of Energy's (DOE) Office of Worker and Community Transition convened its sixth National Stakeholder Workshop at the Ramada Plaza Hotel Old Town in Alexandria, Virginia. Approximately 325 stakeholders attended representing DOE headquarters and field offices, contractors, labor organizations, state and local government, education and community interest groups. The meeting addressed the progress made on the issues and challenges identified at the last stakeholder's meeting in Oakland, California on April 9-11, 1997. Also discussed were the full range of the Department's work force issues and creative solutions to the inherent challenges of simultaneously implementing the Department's post Cold-War mission, work force restructuring guidance, contract reform objectives, asset disposition, performance-based management requirements, and business process improvement policies. The format of the Workshop included several plenary sessions and a number of small group discussion sessions. The small group sessions focused on topics related to labor issues, work force restructuring, work force planning, community transition, and employee concerns. The sessions provided a wide range of views on worker and community transition issues. The plenary sessions of the Workshop included presentations on the following topics: welcome and introductions; opening remarks; building a better labor- management relationship; keynote speech from Secretary of Energy Federico Pena; meeting tomorrow's challenges (early site closures); harnessing the contracting process to encourage local growth; and, the British experience in economic conversion.

Keywords: *Meetings, *US DOE, Program Management, Contracts, Labor force, Solutions, Businesses, Personnel Management, Economic development, Public Opinion, EDB/990100.

DE99002146REB PC A12/MF A03
Department of Energy, Washington, DC.
Performance confirmation data acquisition system.
TRW Environmental Safety Systems, Inc., Las Vegas, NV (United States).
D. A. McAffee, and N. T. Raczka. 31 Dec 1997, 250p, DOE/RW-99002146, TPM-847.
Contract AC08-91RW00134
Sponsored by Department of Energy, Washington, DC.
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As part of the Viability Assessment (VA) work, this QAP-3-9 document presents and evaluates a comprehensive set of viable concepts for collecting Performance Confirmation (PC) related data. The concepts include: monitoring subsurface repository air temperatures, humidity levels and gaseous emissions via the subsurface ventilation systems, and monitoring the repository geo- technical parameters and rock mass from bore-holes located along the perimeter main drifts and throughout a series of human-rated Observation Drifts to be located in a plane 25 meters above the plane of the emplacement drifts. A key element of this document is the development and analysis of a purposed multi- purpose Remote Inspection Gantry that would provide direct, real-time visual, thermal, and radiological monitoring of conditions inside operational emplacement drifts and close-up observations of in-situ Waste Packages. Preliminary finite-element analyses are presented that indicate the technological feasibility of operating an inspection gantry inside the operational emplacement drifts for short inspection missions lasting 2--3 hours. Overall reliability, availability, and maintainability of the PC data collection concepts are discussed. Preliminary concepts for PC data collection network are also provided.

Keywords: *Yucca Mountain, *Radioactive Waste Facilities, Performance, Data Acquisition Systems, Design, Radiation Monitoring, Temperature Measurement, Humidity, Measuring Instruments, Finite Element Method, Feasibility Studies, EDB/052002.

DE99002148REB PC A02/MF A01
Department of Energy, Washington, DC.
Environmental management policy analysis using complex system simulation.
Los Alamos National Lab., NM.
E. Van Eeckhout, D. Roberts, R. Oakes, A. Shieh, and W. Hardie. 31 Dec 1999, 7p, LA-UR-99-686.
Contract W-7405-ENG-36
Sponsored by Department of Energy, Washington, DC.
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The two primary modules of Envirosim (the model of Los Alamos TA-55 and the WIPP transport/storage model) have been combined into one application, with the simulated waste generated by TA-55 operations being fed to storage, packaging, and transport simulation entities. Three simulation scenarios were executed which demonstrate the usefulness of Envirosim as a policy analysis tool for use in planning shipments to WIPP. A graphical user interface (GUI) has been implemented using IDL (Interactive Data Language) which allows the analyst to easily view simulation results. While IDL is not necessarily the graphics interface that would be selected for a production version of Envirosim, it does provide some powerful data manipulation capabilities, and it runs on a variety of platforms.

Keywords: *Environmental policy, Wipp, High-level Radioactive Wastes, Radioactive Waste Management, Waste Transportation, Numerical Data, E Codes, Packaging, Tables(data), EDB/052000, EDB/050900, EDB/990200.

DE99002150REB PC A02/MF A01
Department of Energy, Washington, DC.
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
Los Alamos National Lab., NM.
S. Brown, J. McFee, C. Broom, H. Dugger, and E. Stallings. 31 Dec 1999, 9p, LA-UR-99-605.
Contract W-7405-ENG-36
Waste management '99 symposium. Sponsored by Department of Energy, Washington, DC.
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Established by the US Department of Energy (DOE) Environmental Management program through its Office of Science and Technology, the Deactivation and Decommissioning Focus Area is developing answers to the technological problems that hinder Environmental Management's extensive cleanup efforts. The optimized application of technologies to ongoing nuclear facility decontamination and dismantlement is critical in meeting the challenge of decommissioning approximately 9,000 buildings and structures within the DOE complex. The significant technical and economic concerns in this area underscore a national imperative for the qualification and timely delivery of cost-reduction technologies and management approaches to meet federal and private needs. At Los Alamos National Laboratory (LANL), a Large-Scale Demonstration and Deployment Project (LSDDP) has been established to facilitate demonstration and deployment of technologies for the characterization, decontamination, and volume reduction of oversized metallic waste, mostly in the form of gloveboxes contaminated with transuranic radionuclides. The LANL LSDDP is being managed by an integrated contractor team (ICT) consisting of IT Corporation, ICF Incorporated, and Florida International University and includes representation from LANL's Environmental Management Program Office. The ICT published in the Commerce Business Daily a solicitation for interest for innovative technologies capable of improving cost and performance of the baseline process. Each expression of interest response was evaluated and demonstration contract negotiations are under way for those technologies expected to be capable of meeting the project objectives. This paper discusses management organization and approach, the results of the technology search, the technology selection methodology, the results of the selection process, and future plans for the program.

Keywords: *Nuclear facilities, *Decontamination, *Decommissioning, *Meetings, Transuranic wastes, Radionuclides, Radioactive wastes, Lanl, Remedial Action, Numerical Data, Demonstration Programs, Program Management, Technology Assessment, Tables(data), EDB/054000.

DE99002167REB PC A03/MF A01
Department of Energy, Washington, DC.
Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
Univ. of Florida, Dept. of Nuclear and Radiological Engineering, Gainesville, FL (United States).
W. E. Bolch. 31 Dec 1998, 13p, DOE/ER/62006-T1, DOE/ER/61846-T2.
Contracts FG02-95ER62006 , FG03-94ER61846
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This research focused on the following major tasks: improved dosimetric models of the head and brain; development of improved skeletal dosimetry models; development of dosimetric techniques for nonuniform activity distributions; pediatric dosimetry phantoms and radionuclide S values; microdosimetry of beta emitters in radioimmunotherapy; and mechanisms of molecular radiation damage.

Keywords: *Dosimetry, *Radiation Doses, Nuclear medicine, Progress Report, Radiation Dose Distributions, Phantoms, Radioimmunotherapy, Radiation Injuries, Electron Transfer, Beta Particles, Calculation Methods, EDB/560101, EDB/550604.

DE99002177REB PC A18/MF A04
Department of Energy, Washington, DC.
Nontraditional Inheritance: Genetics and the nature of science, now titled, The puzzle of inheritance: Genetics and the methods of science. Final report. PROGRESS REPT.
Biological Sciences Curriculum Study, Colorado Springs, CO (United States).
J. D. McInerney. 31 Aug 1998, 400p, DOE/ER/61989-T1.
Contract FG03-95ER61989
Sponsored by Department of Energy, Washington, DC.
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This project led to the development of an instructional module designed for use in high school biology classes. The module contains two major components. The first is an overview for teachers, which introduces the module, describes the Human Genome Project, and addresses issues in the philosophy of science and some of the ethical, legal, and social implications of research in genetics. It provides a survey of fundamental genetics concepts and of new, nontraditional concepts of inheritance. The second component provides six instructional activities appropriate for high school or introductory college students.

Keywords: *High schools, *Genetics, *Education, Progress Report, Learning, Man, Genetic Mapping, Ethical Aspects, Legal Aspects, Social Impact, EDB/550400.

DE99002182REB PC A02/MF A01
Department of Energy, Washington, DC.
Bayesian analysis of MEG visual evoked responses.
Los Alamos National Lab., NM.
D. M. Schmidt, J. S. George, and C. C. Wood. 31 Dec 1999, 9p, LA-UR-99-630.
Contract W-7405-ENG-36
SPIE medical imaging conference. Sponsored by Department of Energy, Washington, DC.
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The authors developed a method for analyzing neural electromagnetic data that allows probabilistic inferences to be drawn about regions of activation. The method involves the generation of a large number of possible solutions which both fit the data and prior expectations about the nature of probable solutions made explicit by a Bayesian formalism. In addition, they have introduced a model for the current distributions that produce MEG and (EEG) data that allows extended regions of activity, and can easily incorporate prior information such as anatomical constraints from MRI. To evaluate the feasibility and utility of the Bayesian approach with actual data, they analyzed MEG data from a visual evoked response experiment. They compared Bayesian analyses of MEG responses to visual stimuli in the left and right visual fields, in order to examine the sensitivity of the method to detect known features of human visual cortex organization. They also examined the changing pattern of cortical activation as a function of time.

Keywords: *Magnetoencephalogram, *Electromagnetic Radiation, *Meetings, Brain, Electroencephalography, Experimental Data, Mathematical Models, Probability, Data Analysis, Tables(data), EDB/550600, EDB/990200.

DE99002183REB PC A02/MF A01
Department of Energy, Washington, DC.
Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
Los Alamos National Lab., NM.
R. J. McQueeney, and J. L. Sarrao. 31 Dec 1999, 7p, LA-UR-99-644.
Contract W-7405-ENG-36
High temperature superconductivity conference. Sponsored by Department of Energy, Washington, DC.
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The inelastic neutron scattering spectra were measured for several Sr concentrations of polycrystalline La(sub 2(minus)x)Sr(sub x)NiO(sub 4). The authors find that the generalized phonon density-of-states is identical for x = 0 and x = 1/8. For x = 1/3 and x = 1/2, the band of phonons corresponding to the in-plane oxygen vibrations (> 65 meV) splits into two subbands centered at 75 meV and 85 meV. The lower frequency band increases in amplitude for the x = 1/2 sample, indicating that it is directly related to the hole concentration. These changes are associated with the coupling of oxygen vibrations to doped holes which reside in the NiO(sub 2) planes and are a signature of strong electron-lattice coupling. Comparison of La(sub 1.9)Sr(sub 0.1)CuO(sub 4) and La(sub 1.875)Sr(sub 0.125)NiO(sub 4) demonstrates that much stronger electron-lattice coupling occurs for particular modes in the cuprate for modest doping and is likely related to the metallic nature of the cuprate.

Keywords: *Electronic Structure, *Inelastic Scattering, *Neutrons, *Meetings, Lanthanum Oxides, Strontium Oxides, Nickel Oxides, Stoichiometry, Phonons, Holes, Experimental Data, Tables(data), EDB/360202.

DE99002184REB PC A02/MF A01
Department of Energy, Washington, DC.
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
Los Alamos National Lab., TN.
T. Egami, Y. Petrov, R. J. McQueeney, M. Yethiraj, and G. Shirane. 31 Dec 1999, 7p, LA-UR-99-646.
Contract W-7405-ENG-36
High temperature superconductivity conference. Sponsored by Department of Energy, Washington, DC.
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Inelastic neutron scattering measurements of La(sub 1.85)Sr(sub 0.15) CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7) show that the dispersion of the high energy LO phonon mode along the (1,0,0) direction is strongly temperature dependent, and at low temperatures develops an anomalous feature indicative of dynamic cell-doubling. The anomaly does not change through superconducting transition and gradually disappears between 50 and 250 K in LSCO. Possible implications are discussed.

Keywords: *Inelastic Scattering, *Neutrons, *Phonons, *Meetings, Electronic Structure, Superconductivity, Lanthanum Oxides, Strontium Oxides, Copper Oxides, Yttrium Oxides, Barium Oxides, Experimental Data, Tables(data), EDB/360202, EDB/360204.

DE99002186REB PC A02/MF A01
Department of Energy, Washington, DC.
Low-level radioactive waste management at the Nevada Test Site -- Current status.
Los Alamos National Lab., NM.
B. D. Becker, B. M. Crowe, C. P. Gertz, and W. A. Clayton. 31 Dec 1999, 6p, LA-UR-99-638.
Contract W-7405-ENG-36
Waste management '99 symposium. Sponsored by Department of Energy, Washington, DC.
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The performance objectives of the Department of Energy's Low-Level Radioactive Waste (LLW) disposal facilities located at the Nevada Test Site transcend those of any other radioactive waste disposal site in the US. Situated at the southern end of the Great Basin, 800 feet above the water table, the Area 5 Radioactive Waste Management Site (RWMS) has utilized a combination of engineered shallow land disposal cells and deep augured shafts to dispose a variety of waste streams. These include high volume low-activity wastes, classified materials, and high-specific-activity special case wastes. Twenty miles north of Area 5 is the Area 3 RWMS. Here bulk LLW disposal takes place in subsidence craters formed from underground testing of nuclear weapons. Earliest records indicate that documented LLW disposal activities have occurred at the Area 5 and Area 3 RWMS's since 1961 and 1968, respectively. However, these activities have only been managed under a formal program since 1978. This paper describes the technical attributes of the facilities, present and future capacities and capabilities, and provides a description of the process from waste approval to final disposition. The paper also summarizes the current status of the waste disposal operations.

Keywords: *Radioactive waste management, *Nevada Test Site, *Low-level Radioactive Wastes, *Meetings, Radioactive Waste Disposal, Underground Disposal, Radioactive Waste Facilities, Performance, EDB/052002.

DE99002187REB PC A03/MF A01
Department of Energy, Washington, DC.
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
Amarillo National Resource Center for Plutonium, TX (United States).
P. Fulmer, J. Kim, A. Manthiram, and J. M. Sanchez. 30 Apr 1999, 23p, ANRCP-1999-15.
Contract FC04-95AL85832
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With an objective to develop magnetic materials with high saturation magnetization for the Magnetically Assisted Chemical Separation (MACS) process the chemical synthesis of Fe-B and Fe-Co-B alloys by reducing iron and cobalt chloride solutions with potassium borohydride has been investigated systematically. The influence of the concentration of the reactants, applied magnetic field, reaction atmosphere, and method of mixing the reactants on the microstructure, particle size, composition and magnetic properties has been studied. Both M-B (M = Fe and Co) particles and elongated chains composed of nanometer size M-B particles have been obtained depending on the reaction conditions. The Fe-B samples exhibit saturation magnetization of M(sub S) of 120–190 emu/g, remanent magnetization M(sub r) of 10–22 emu/g, and coercive field H(sub c) of 400–900 Oe. A high M(sub S) value of 190 emu/g, which is close to the theoretical value of 218 emu/g for pure Fe, has been achieved particularly for samples with well-defined chain structures. Increasing the Co content in the Fe-Co-B alloys increases the boron content and thereby decreases the crystallinity and M(sub S) values although marginal increase in H(sub c) (1, 250 Oe) and M(sub r) (36 emu/g) values could be made in some Fe-Co-B compositions. The chain structure with high M(sub S) may be attractive for other magnetic separation processes as well.

Keywords: *Chemical synthesis, *Radioactive Waste Processing, *Magnetic Fields, Synthesis, Iron Borides, Cobalt Borides, Chlorides, Reduction, Particle Size, X-ray Diffraction, Experimental Data, Tables(data), EDB/360201, EDB/052001.

DE99002192REB PC A03/MF A01
Department of Energy, Washington, DC.
Intermediate depth burial of classified transuranic wastes in arid alluvium.
Los Alamos National Lab., NM.

J. R. Cochran, B. M. Crowe, and F. Di Sanza. 31 Dec 1999, 11p, LA-UR-99-639.
Contract W-7405-ENG-36
Waste management '99 symposium. Sponsored by Department of Energy, Washington, DC.
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Intermediate depth disposal operations were conducted by the US Department of Energy (DOE) at the DOE's Nevada Test Site (NTS) from 1984 through 1989. These operations emplaced high-specific activity low-level wastes (LLW) and limited quantities of classified transuranic (TRU) wastes in 37 m (120-ft) deep, Greater Confinement Disposal (GCD) boreholes. The GCD boreholes are 3 m (10 ft) in diameter and founded in a thick sequence of arid alluvium. The bottom 15 m (50 ft) of each borehole was used for waste emplacement and the upper 21 m (70 ft) was backfilled with native alluvium. The bottom of each GCD borehole is almost 200 m (650 ft) above the water table. The GCD boreholes are located in one of the most arid portions of the US, with an average precipitation of 13 cm (5 inches) per year. The limited precipitation, coupled with generally warm temperatures and low humidities results in a hydrologic system dominated by evapotranspiration. The US Environmental Protection Agency's (EPA's) 40 CFR 191 defines the requirements for protection of human health from disposed TRU wastes. This EPA standard sets a number of requirements, including probabilistic limits on the cumulative releases of radionuclides to the accessible environment for 10,000 years. The DOE Nevada Operations Office (DOE/NV) has contracted with Sandia National Laboratories (Sandia) to conduct a performance assessment (PA) to determine if the TRU wastes emplaced in the GCD boreholes complies with the EPA's 40 CFR 191 requirements. This paper describes DOE's actions undertaken to evaluate whether the TRU wastes in the GCD boreholes will, or will not, endanger human health. Based on preliminary modeling, the TRU wastes in the GCD boreholes meet the EPA's requirements, and are, therefore, protective of human health.

Keywords: *Transuranic wastes, *Alluvium, *Radioactive Waste Disposal, *Low-level Radioactive Wastes, *Underground Disposal, *Meetings, Nevada Test Site, Alpha-bearing Wastes, Arid Lands, Boreholes, Radiation Hazards, EDB/052002, EDB/054000.

DE99002193REB PC A03/MF A01
Department of Energy, Washington, DC.
Structure and dynamics of interactive documents.
Los Alamos National Lab., NM.
J. T. Rocha. 31 Dec 1999, 16p, LA-UR-99-654.
Contract W-7405-ENG-36
Charlotte '99: graphics/digital media. Sponsored by Department of Energy, Washington, DC.
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Advances in information technology continue to accelerate as the new millennium approaches. With these advances, electronic information management is becoming increasingly important and is now supported by a seemingly bewildering array of hardware and software whose sole purpose is the design and implementation of interactive documents employing multimedia applications. Multimedia memory and storage applications such as Compact Disk-Read Only Memory (CD-ROMs) are already a familiar interactive tool in both the entertainment and business sectors. Even home enthusiasts now have the means at their disposal to design and produce CD-ROMs. More recently, Digital Video Disk (DVD) technology is carving its own niche in these markets and may (once application bugs are corrected and prices are lowered) eventually supplant CD-ROM technology. CD-ROM and DVD are not the only memory and storage applications capable of supporting interactive media. External, high-capacity drives and disks such as the Iomega(copyright) zip(reg-sign) and jaz(reg-sign) are also useful platforms for launching interactive documents without the need for additional hardware such as CD-ROM burners and copiers. The main drawback here, however, is the relatively high unit price per disk when compared to the unit cost of CD-ROMs. Regardless of the application chosen, there are fundamental structural characteristics that must be considered before effective interactive documents can be created. Additionally, the dynamics of interactive documents employing hypertext links are unique and bear only slight resemblance to those of their traditional hard-copy counterparts. These two considerations form the essential content of this paper.

Keywords: *Documents, *Interactive Display Devices, *Meetings, Memory Devices, Digital Systems, Information, Information Retrieval, Uses, Information Dissemination, EDB/990302.

DE99002195REB PC A02/MF A01
Department of Energy, Washington, DC.
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
Los Alamos National Lab., NM.
P. D. Peterson, D. J. Idar, R. Rabie, C. S. Fugard, and W. King. 1 Feb 1999, 10p, LA-UR-99-684.
Contract W-7405-ENG-36
Aging, compatability and stockpile stewardship conference (22nd). Sponsored by Department of Energy, Washington, DC.
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High explosives (HE) can be subjected to low level loading due to weapon design. As with other materials, loads well below the elastic limit may still lead to material property changes over time. PBX 9501, a conventional high explosive, has been used in several system designs. To evaluate potential environmental aging effects on HE, it is necessary to characterize material-flow and mechanical-property changes occurring in PBX 9501. Low-level loads may bring about material changes if creep related phenomena, such as polymer disentanglement or uncrosslinking, occur in the material. Recently, several studies on HE have increased understanding of the effects of density and the relative percentage of constituents on materials properties, e.g. elastic modulus, ultimate strength, and strain at ultimate strength, at low strain rates approx 10(sup -3) to 10(sup -1) s(sup -1). However, the authors are only beginning to understand the effects of quasi-static multiaxial loading on PBX 9501 and Estane molecular weight (MW) changes. The results of these experiments are presented in this report.

Keywords: *Materials testing, *High explosives, *Aging, *Creep, *Molecular Weight, *Meetings, Explosives, Chemical Explosives, Polyurethanes, Thermoplastics, Experimental Data, Static Loads, Binders, Tables(data), EDB/450100.

DE99002197REB PC A03/MF A01
Department of Energy, Washington, DC.
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
Los Alamos National Lab., NM.
P. A. Leonard, B. A. Strietelmeier, M. E. Pansoy-Hjelvik, and R. Villarreal. 31 Dec 1999, 15p, LA-UR-99-709.
Contract W-7405-ENG-36
Waste management '99 symposium. Sponsored by Department of Energy, Washington, DC.
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The effects of microbial activity on the performance of the proposed underground nuclear waste repository, the Waste Isolation Pilot Plant (WIPP) at Carlsbad, New Mexico are being studied at Los Alamos National Laboratory (LANL) as part of an ex situ large-scale experiment. Actual actinide-containing waste is being used to predict the effect of potential brine inundation in the repository in the distant future. The study conditions are meant to simulate what might exist should the underground repository be flooded hundreds of years after closure as a result of inadvertent drilling into brine pockets below the repository. The Department of Energy (DOE) selected LANL to conduct the Actinide Source-Term Waste Test Program (STTP) to confirm the predictive capability of computer models being developed at Sandia National Laboratory.

Keywords: *Radioactive Waste Disposal, *Actinides, *Biodegradation, *Meetings, Nuclear wastes, Wipp, Alpha-bearing Wastes, Numerical Data, Performance Testing, Microorganisms, Water Influx, Tables(data), EDB/052002.

DE99002199REB PC A02/MF A01
Department of Energy, Washington, DC.
Need and options available for permanent CO(sub 2) disposal.
Los Alamos National Lab., NM.
H. J. Ziock, D. P. Butt, K. S. Lackner, and C. H. Wendt. 31 Dec 1999, 8p, LA-UR-99-706.
Contract W-7405-ENG-36
1998 topical conference on pollution prevention and environmental risk reduction. Sponsored by Department of Energy, Washington, DC.
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Inexpensive, readily available energy is the cornerstone of modern society and the basis of a decent standard of living. The high probability of future restrictions on CO(sub 2) emissions has put in question the use of fossil fuels, the largest, most convenient, and most cost-effective energy resource available. The rapidly growing world population, the need for an improved standard of living worldwide, and the nearly linear dependence of the standard of living on energy consumption, all coupled with the magnitude of today's CO(sub 2) emissions point to an impending crisis. The authors briefly review the problem and look at the available options. They conclude that for the foreseeable future, fossil fuels will continue to dominate the world energy market, but that CO(sub 2) disposal will be required. Of the possible disposal options, mineral sequestration of CO(sub 2) appears as an extremely promising, permanent, and environmentally benign disposal option.

Keywords: *Air Pollution Abatement, *Waste Disposal, *Fossil-fuel Power Plants, *Meetings, Carbon Dioxide, Emission, Ecological Concentration, Numerical Data, Waste Forms, Tables(data), EDB/200202.

DE99002200REB PC A02/MF A01
Department of Energy, Washington, DC.
First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
Los Alamos National Lab., NM.
A. Ormeci, S. P. Chen, J. M. Wills, and R. C. Albers. 31 Dec 1999, 9p, LA-UR-99-759.
Contract W-7405-ENG-36
Fall meeting of the Materials Research Society. Sponsored by Department of Energy, Washington, DC.
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The C15 NbCr(sub 2) + V Laves phase ternary system is studied by using a first-principles, self-consistent, full-potential total energy method. Equilibrium lattice parameters, cohesive energies, density of states and formation energies of substitutional defects are calculated. Results of all these calculations show that in the C15 NbCr(sub 2) + V compounds, V atoms substitute Cr atoms only.

Keywords: *Laves Phases, *Meetings, Ternary systems, Niobium Alloys, Chromium Alloys, Vanadium Alloys, Lattice Parameters, Crystal Defects, Electronic Structure, Metallurgical Effects, Calculation Methods, Theoretical Data, Tables(data), EDB/360102.

DE99002201REB PC A04/MF A01
Department of Energy, Washington, DC.
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
Los Alamos National Lab., NM.
P. Paviet-Hartmann, M. R. Lin, and W. H. Runde. 1 Feb 1999, 38p, LA-UR-99-708.
Contract W-7405-ENG-36
Fall meeting of the Materials Research Society. Sponsored by Department of Energy, Washington, DC.

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The option of a nuclear waste disposal in deep salt formations such as Gorleben in Germany, and the WIPP (Waste Isolation Pilot Plant) in southeastern New Mexico, US has generated, over the last ten years, interests in thermodynamic data of radioactive trace elements in concentrated electrolyte solutions. Furthermore, post closure radioactive release scenarios from geologic salt formation, such as the WIPP include hydrologic transport of radionuclides through a chloride saturated aquifer. Consequently, the understanding of actinide solution chemistry in brines is essential for modeling requiring accurate knowledge of the interaction between AnO(sub 2)(sup 2+) and chloride ions. The goal is to develop models capable of predicting their behavior in natural multicomponent brines of high concentration. Complexation constants of two U(VI) chloride species, UO(sub 2)Cl(sup +) and UO(sub 2)Cl(sub 2)(sup 0), have been intensively studied for about 40 years using different methods. However, large uncertainties reflect the general difficulty in determining accurate stability constants of weak complexes. In order to model the behavior of U(VI) in brines, the authors studied the formation of its chloride complexes by UV-Vis spectroscopy as a function of the NaCl concentration at 25 C.

Keywords: *Complexometry, *Uranium Chlorides, *Radioactive Waste Disposal, *Spectrophotometry, *Electrolytes, *Meetings, Sodium Chlorides, Sodium Perchlorates, Concentration Ratio, Experimental Data, Tables(data), EDB/400702, EDB/052002.

DE99002202REB PC A02/MF A01
Department of Energy, Washington, DC.
Electron cyclotron resonance (ECR) plasma film deposition.
Los Alamos National Lab., NM.
31 Dec 1999, 7p, LA-SUB-99-6.
Contract W-7405-ENG-36
Sponsored by Department of Energy, Washington, DC.
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During the third quarter of 1995, an electron cyclotron resonance (ECR) plasma film deposition facility was constructed at the University of New Mexico. This work was conducted in support of the Los Alamos/Tycom CRADA agreement to pursue methods of improving drill bit lifetime. Work in the fourth quarter will center on the coating of drill bits and the treating and testing of various test samples. New material systems as well as treatment techniques will be attempted during this period. The following is a brief description of the various subsystems of the film deposition facility. Particular emphasis is placed on the slotted waveguide system as requested.

Keywords: *Drill Bits, *Electron Cyclotron-resonance, Waveguides, Coating, Deposition, Energy Beam Deposition, Diamonds, Thin Films, Plasma, Parametric Analysis, Adhesion, EDB/360601.

DE99002205REB PC A01/MF A01
Department of Energy, Washington, DC.
R and D 100 market assessment.
Los Alamos National Lab., NM.
31 Dec 1998, 3p, LA-SUB-98-36.
Contract W-7405-ENG-36
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The microwave solidification system can be used for treating a variety of waste materials. The principal application is for treating solid and liquid nuclear waste in the form of residue oxides and salts, sludges, contaminated materials used in processing or handling nuclear materials and combustion residues.

Keywords: *Microwave Heating, *Solidification, *Radioactive Wastes, Solids, Liquids, Comparative Evaluations, Safety, Cost Benefit Analysis, EDB/052001.

DE99002209REB PC A21/MF A04
Department of Energy, Washington, DC.
ARTI refrigerant database.
Air-Conditioning and Refrigeration Technology Inst., Arlington, VA.
J. M. Calm. 31 Jan 1999, 463p, DOE/CE/23810-100.
Contract FG02-91CE23810
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The Refrigerant Database is an information system on alternative refrigerants, associated lubricants, and their use in air conditioning and refrigeration. It consolidates and facilities access to property, compatibility, environmental, safety, application and other information. It provides corresponding information on older refrigerants, to assist manufacturers and those using alternative refrigerants, to make comparisons and determine differences. The underlying purpose is to accelerate phase out of chemical compounds of environmental concern.

Keywords: *Refrigerants, *Material Substitution, *Lubricants, Performance, Environmental Impacts, Safety, Physical Properties, Air Conditioning, Refrigeration, EDB/320302, EDB/320106, EDB/540120.

DE99002218REB PC A03/MF A01
Department of Energy, Washington, DC.
Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
Los Alamos National Lab., NM.
T. F. Bott, S. W. Eisenhawer, and S. F. Agnew. 31 Dec 1999, 16p, LA-UR-99-522.
Contract W-7405-ENG-36
Waste management '99 symposium. Sponsored by Department of Energy, Washington, DC.
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The development of an approximate-reasoning (AR)-based model to analyze pretreatment options for high-level waste is presented. AR methods are used to emulate the processes used by experts in arriving at a judgment. In this paper, the authors first consider two specific issues in applying AR to the analysis of pretreatment options. They examine how to combine quantitative and qualitative evidence to infer the acceptability of a process result using the example of cesium content in low-level waste. They then demonstrate the use of simple physical models to structure expert elicitation and to produce inferences consistent with a problem involving waste particle size effects.

Keywords: *High-level Radioactive Wastes, *Mathematical Models, Radioactive Waste Processing, Technology Assessment, Experimental Data, Particle Size, Meetings, Tables(data), EDB/052001, EDB/990200.

DE99002219REB PC A03/MF A01
Department of Energy, Washington, DC.
Performance analysis of wavefront algorithms on very-large scale distributed systems.
Los Alamos National Lab., NM.
A. Hoisie, O. Lubeck, and H. Wasserman. 31 Dec 1999, 11p, LA-UR-99-527.
Contract W-7405-ENG-36
Workshop on distributed high performance computing and gigabit area network. Sponsored by Department of Energy, Washington, DC.
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The authors present a model for the parallel performance of algorithms that consist of concurrent, two-dimensional wavefronts implemented in a message passing environment. The model combines the separate contributions of computation and communication wavefronts. They validate the model on three important supercomputer systems, on up to 500 processors. They use data from a deterministic particle transport application taken from the ASCI workload, although the model is general to any wavefront algorithm implemented on a 2-D processor domain. They also use the validated model to make estimates of performance and scalability of wavefront algorithms on 100-TFLOPS computer systems expected to be in existence within the next decade as part of the ASCI program and elsewhere. On such machines the analysis shows that, contrary to conventional wisdom, interprocessor communication performance is not the bottleneck. Single-node efficiency is the dominant factor.

Keywords: *Distributed Data Processing, *Algorithms, Parallel Processing, Data Transmission, Supercomputers, Neutron Transport, Discrete Ordinate Method, Performance, Array Processors, Meetings, EDB/990200.

DE99002224REB PC A03/MF A01
Department of Energy, Washington, DC.
Explicit model of expanding cylindrical shells subjected to high explosive detonations.
Los Alamos National Lab., NM.
R. L. Martineau, M. B. Prime, C. A. Anderson, and F. W. Smith. 31 Dec 1999, 15p, LA-UR-99-564.
Contract W-7405-ENG-36
ABAQUS users' conference. Sponsored by Department of Energy, Washington, DC.
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A viscoplastic constitutive model was formulated to model the high strain- rate expansion of thin cylindrical shells subjected to internal explosive detonations. This model provides insight into the development of plastic instabilities, which occur on the surface of the shells prior to failure. The effects of shock heating and damage in the form of microvoid nucleation, growth, and coalescence were incorporated using the Johnson-Cook strength model with the Mie-Grueneisen equation of state and a modified Gurson yield surface. This model was implemented into ABAQUS/Explicit as a user material subroutine. A cylindrical copper shell was modeled using both axisymmetric and plane strain elements. The high explosive material inside of the cylinder was simulated using the high explosive burn model in ABAQUS/Explicit. Two experiments were conducted involving explosive-filled, copper cylinders and good agreement was obtained between the numerical results and experimental data.

Keywords: *Chemical Explosions, *Mathematical Models, Expansion, Shells, Plasticity, A Codes, Copper, Theoretical Data, Experimental Data, Fracture Mechanics, Meetings, Tables(data), EDB/450100.

DE99002225REB PC A03/MF A01
Department of Energy, Washington, DC.
Ab initio calculations of As-vacancy interactions in silicon.
Los Alamos National Lab., NM.
J. Xie, and S. P. Chen. 31 Dec 1999, 11p, LA-UR-99-572.
Contract W-7405-ENG-36
International symposium on process physics and modeling in semiconductor technology (5th). Sponsored by Department of Energy, Washington, DC.
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Atomistic simulation of a vacancy-assisted dopant diffusion in silicon needs details of the dopant-vacancy interaction, i.e., the potential as a functional of dopant-vacancy separations. In this paper, the authors present a detailed study on the energetics of As-vacancy reaction in silicon and the lattice distortions surrounding the As-vacancy defect by using an ab initio plane wave pseudopotential method and the density functional theory (DFT). A potential-energy diagram as a function of As-vacancy separation is provided, which can be used

in the atomistic diffusion simulations. The authors also calculate the binding energy and the formation energy of different complexes such as AsV, As(sub 2)V and AsV(sub 2) (V represents vacancy). They find that the stable configuration of As(sub 2)V is As-V-As, while the stable configuration of AsV(sub 2) is As-V-V. The nature of the binding between As and vacancy is explained from the lattice distortions and the change of chemical bond configuration introduced by the As-vacancy complex.

Keywords: *Electronic Structure, *Silicon, *Doped Materials, Arsenic, Quantum Mechanics, Vacancies, Ground States, Atomic Models, Diffusion, Theoretical Data, Meetings, Tables(data), EDB/360602.

DE99002226REB PC A02/MF A01
Department of Energy, Washington, DC.
Plasma and ion barrier for electron beam spot stability.
Los Alamos National Lab., NM.
T. J. T. Kwan, and C. M. Snell. 31 Dec 1999, 8p, LA-UR-99-582.
Contract W-7405-ENG-36
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The concept of a self-biased target to spatially confine the ions generated by the bombardment of intense electron beams on bremsstrahlung conversion targets has been predicted by computer simulation and further verified by experiments at the Integrated Test Stand for DARHT at Los Alamos National Laboratory. This technical article reports an alternative method of containing the plasmas and ions from the bremsstrahlung conversion target if the energy density of the electron beam is below a certain threshold. With the proposed changes of the electron beam parameters of the second axis of DARHT, the authors are able to show that a thin (0.5 mm) metallic barrier such as pure beryllium, or boron carbide with desirable thermal properties, is sufficiently transparent to the 20 MeV DARHT beam and at the same time able to confine the ions between the target and the barrier foil. The temperature rise in the foil due to energy deposited by the electron beam is expected to be below the melting point of the materials for the first three pulses. More important, they have shown in their time dependent particle-in-cell simulations that the deployment of a barrier situated 1 to 2 cm away from the converter target can achieve the ion confinement needed for the stability of the electron beam spot.

Keywords: *Test Facilities, *X-ray Radiography, *Targets, *Electron Beams, *Plasma Confinement, Ions, Energy Absorption, Stability, Design, Theoretical Data, Foils, Tables(data), EDB/420500, EDB/070201, EDB/070204.

DE99002227REB PC A03/MF A01
Department of Energy, Washington, DC.
Fatigue crack nucleation in metallic materials.
Los Alamos National Lab., NM.
P. Peralta, C. Laird, U. Ramamurty, S. Suresh, and G. H. Campbell. 31 Dec 1999, 13p, LA-UR-99-594.
Contract W-7405-ENG-36
Small fatigue cracks: mechanics of mechanisms. Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The process of fatigue crack nucleation in metallic materials is reviewed placing emphasis in results derived for pure FCC metals with wavy slip behavior. The relationship between Persistent Slip Bands (PSB's) and crack initiation will be examined for both single crystals and polycrystals, including the conditions for inter- and transgranular crack nucleation and their connection to type of loading, crystallography and slip geometry. The latter has been found to be an important parameter in the nucleation of intergranular cracks in polycrystals subjected to high strain fatigue, whereby primary slip bands with long slip lengths impinging on a grain boundary produce intergranular crack nucleation under the right conditions. Recent results related to intergranular crack nucleation in copper bicrystals and crack nucleation in Cu/Sapphire interfaces indicate that this mechanism controls crack nucleation in those simpler systems as well. Furthermore, it is found that under multiple slip conditions the crack nucleation location is controlled by the presence of local single slip conditions and long slip lengths for a particular Burgers vector that does not have to be in the primary slip system.

Keywords: *Fatigue, *Fracture Properties, *Copper, *Sapphire, *Composite Materials, Cracks, Nucleation, Slip, Strains, Experimental Data, Meetings, Tables(data), EDB/360103, EDB/360603.

DE99002231REB PC A01/MF A01
Department of Energy, Washington, DC.
Advanced algorithms for information science.
Los Alamos National Lab., NM.
P. Argo, C. Brislawn, T. J. Fitzgerald, B. Kelley, and W. H. Kim. 31 Dec 1998, 4p, LA-UR-98-3247.
Contract W-7405-ENG-36
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This is the final report of a one-year, Laboratory Directed Research and Development (LDRD) project at Los Alamos National Laboratory (LANL). In a modern information-controlled society the importance of fast computational algorithms facilitating data compression and image analysis cannot be overemphasized. Feature extraction and pattern recognition are key to many LANL projects and the same types of dimensionality reduction and compression used in source coding are also applicable to image understanding. The authors have begun developing wavelet coding which decomposes data into different length- scale and frequency bands. New transform-based source-coding techniques offer potential for achieving better, combined source-channel coding performance by using joint-optimization techniques. They initiated work on a system that compresses the video stream in real time, and which also takes the additional step of analyzing the video stream concurrently. By using object-based compression schemes (where an object is an identifiable feature of the video signal, repeatable in time or space), they believe that the analysis is directly related to the efficiency of the compression.

Keywords: *Algorithms, *Data Processing, *Image Processing, Pattern Recognition, Programming, Artificial Intelligence, Safeguards, Security, EDB/990200, EDB/055001.

DE99002232REB PC A02/MF A01
Department of Energy, Washington, DC.
Application of new techniques for EOS data.
Los Alamos National Lab., NM.
W. Hsing. 31 Dec 1998, 7p, LA-UR-98-3257.
Contract W-7405-ENG-36
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This is the final report of a one-year, Laboratory Directed Research and Development (LDRD) project at Los Alamos National Laboratory (LANL). One area of great uncertainty as well as high physics leverage is that of the material properties of plutonium and other materials including zirconium, uranium- niobium, deuterium-tritium, tantalum, beryllium, and oralloy. These properties include plutonium Hugoniot and melt-curve data to 10 Mbars and the plutonium off-Hugoniot data. Their goal is a proof-of-principle experiment on the Los Alamos Trident laser that will determine the technical and logistical issues involved with performing an accurate equation-of-state (EOS) and melt-curve experiment with plutonium, as well as performing initial measurements on the plutonium Hugoniot. This method can also be used to gather data at relatively low cost for other materials as well. Such a capability would complement existing gas-gun facilities and laser-driven miniflyers.

Keywords: *Plutonium, *Melting, *Equations Of State, Test Facilities, Materials Testing, Nuclear Weapons, EDB/450200.

DE99002233REB PC A02/MF A01
Department of Energy, Washington, DC.
Data mining.
Los Alamos National Lab., NM.
K. Lee, H. Kargupta, B. G. Stafford, K. L. Buescher, and B. Ravindran. 31 Dec 1998, 10p, LA-UR-98-3261.
Contract W-7405-ENG-36
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This is the final report of a one-year, Laboratory Directed Research and Development (LDRD) project at the Los Alamos National Laboratory (LANL). The objective of this project was to develop and implement data mining technology suited to the analysis of large collections of unstructured data. This has taken the form of a software tool, PADMA (Parallel Data Mining Agents), which incorporates parallel data accessing, parallel scalable hierarchical clustering algorithms, and a web-based user interface for submitting Structured Query Language (SQL) queries and interactive data visualization. The authors have demonstrated the viability and scalability of PADMA by applying it to an unstructured text database of 25,000 documents running on an IBM SP2 at Argonne National Laboratory. The utility of PADMA for discovering patterns in data has also been demonstrated by applying it to laboratory test data for Hepatitis C patients and autopsy reports in collaboration with the University of New Mexico School of Medicine.

Keywords: *Data Analysis, *P Codes, *Interactive Display Devices, Parallel Processing, Algorithms, Uses, Medicine, EDB/990200, EDB/550600.

DE99002234REB PC A01/MF A01
Department of Energy, Washington, DC.
Development of a gamma ray spectroscopy capability at LANSCE.
Los Alamos National Lab., NM.
R. O. Nelson, D. D. Strottman, and S. M. Sterbenz. 31 Dec 1998, 4p, LA-UR-98-3262.
Contract W-7405-ENG-36
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This is the final report of a one-year, Laboratory Directed Research and Development (LDRD) project at the Los Alamos National Laboratory (LANL). The goal of this project was to explore an upgrade to the GEANIE high-resolution gamma-ray spectrometer at the Los Alamos Neutron Science Center (LANSCE) to help build additional experimental capabilities. The improvements identified have significantly added to the capabilities of GEANIE and made the facility more attractive for studies supporting the core national security mission as well as for use by outside collaborators. These benefits apply to both basic and applied studies.

Keywords: *Accelerator Facilities, *Modifications, Gamma Spectrometers, Neutron Sources, Data Acquisition Systems, EDB/440103, EDB/430303.

DE99002235REB PC A03/MF A01
Department of Energy, Washington, DC.
Dynamic fracture of heterogeneous materials.
Los Alamos National Lab., NM.
M. G. Stout, C. Liu, F. L. Addessio, T. O. Williams, and J. G. Bennett. 31 Dec 1998, 15p, LA-UR-98-3266.
Contract W-7405-ENG-36
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This is the final report of a one-year, Laboratory Directed Research and Development (LDRD) project at the Los Alamos National Laboratory (LANL). The objective of this project was to investigate the fundamental aspects of the process of dynamic fracture propagation in heterogeneous materials. The work fo-

cused on three important, but poorly understood, aspects of dynamic fracture for materials with a heterogeneous microstructure. These were: the appropriateness of using a single-parameter asymptotic analysis to describe dynamic crack-tip deformation fields, the temperature rises at the tip and on the flanks of a running crack, and the constitutive modeling of damage initiation and accumulation.

Keywords: *Crack Propagation, *Fracture Mechanics, *Microstructure, Chemical Explosives, Nuclear Weapons, Dynamic Loads, Fracture Properties, Experimental Data, Tables(data), EDB/450100, EDB/450200.

DE99002236REB PC A01/MF A01
Department of Energy, Washington, DC.
Advanced telemedicine development.
Los Alamos National Lab., NM.
D. W. Forslund, J. E. George, and E. M. Gavrilov. 31 Dec 1998, 5p, LA-UR-98-3272.
Contract W-7405-ENG-36
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This is the final report of a one-year, Laboratory Directed Research and Development (LDRD) project at the Los Alamos National Laboratory (LANL). The objective of this project was to develop a Java-based, electronic, medical- record system that can handle multimedia data and work over a wide-area network based on open standards, and that can utilize an existing database back end. The physician is to be totally unaware that there is a database behind the scenes and is only aware that he/she can access and manage the relevant information to treat the patient.

Keywords: *Medicine, *Data Base Management, Records Management, Information, Patients, EDB/550600.

DE99002237REB PC A01/MF A01
Department of Energy, Washington, DC.
Hydrogen gas getters: Susceptibility to poisoning.
Los Alamos National Lab., NM.
E. J. Mroz, R. C. Dye, J. R. Duke, and J. Weinrach. 31 Dec 1998, 4p, LA-UR-98-3273.
Contract W-7405-ENG-36
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

About 40% ((approximately)9,000) of the (approximately)23,000 transuranic (TRU) waste drums at Los Alamos National Laboratory (LANL) are presently unshippable because conservative calculations suggest that the hydrogen concentration may exceed the lower explosive limit for hydrogen. This situation extends across nearly all DOE sites holding and generating TRU waste. The incorporation of a hydrogen getter such as DEB into the waste drums (or the TRUPACT II shipping containers) could substantially mitigate the explosion risk. The result would be to increase the number of drums that qualify for transportation to the Waste Isolation Pilot Plant (WIPP) without having to resort to expensive re-packaging or waste treatment technologies. However, before this approach can be implemented, key technical questions must be answered. Foremost among these is the question of whether the presence of other chemical vapors and gases in the drum might poison the catalytic reaction between hydrogen and DEB. This is the final report of a one-year, Laboratory Directed Research and Development (LDRD) project at the Los Alamos National Laboratory (LANL). The objective of this project was to obtain fundamental information on the chemical mechanism of the catalytic reaction of hydrogen with one commonly used hydrogen getter, DEB. Experiments with these materials showed that the method of exposure affects the nature of the reaction products. The results of this work contributed to the development of a mechanistic model of the reaction.

Keywords: *Chemical Reaction Kinetics, *Hydrogen, *Getters, *Alpha-bearing Wastes, Containers, Transport, Storage, Mitigation, Catalysis, Alkynes, EDB/050900, EDB/052000.

DE99002238REB PC A01/MF A01
Department of Energy, Washington, DC.
Technologies for the oil and gas industry.
Los Alamos National Lab., NM.
S. J. Goff, G. W. Swift, and D. L. Gardner. 31 Dec 1998, 4p, LA-UR-98-3275.
Contract W-7405-ENG-36
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This is the final report of a five-month, Laboratory Directed Research and Development (LDRD) project at Los Alamos National Laboratory (LANL). The authors performed a preliminary design study to explore the plausibility of using pulse-tube refrigeration to cool instruments in a hot down-hole environment for the oil and gas industry or geothermal industry. They prepared and distributed a report showing that this appears to be a viable technology.

Keywords: Mwd Systems, Design, Drilling Equipment, High-tc Superconductors, Cooling Systems, Cryogenics, Geothermal Wells, Natural Gas Wells, Oil Wells, EDB/440400, EDB/020200, EDB/030200, EDB/150303.

DE99002240REB PC A02/MF A01
Department of Energy, Washington, DC.
Data/model integration for vertical mixing in the stable Arctic boundary layer.
Los Alamos National Lab., NM.
S. Barr, D. O. ReVelle, C. Y. J. Kao, and E. K. Bigg. 31 Dec 1998, 10p, LA-UR-98-3301.
Contract W-7405-ENG-36
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Data on atmospheric trace constituents and the vertical structure of stratus clouds from a 1996 expedition to the central Arctic reveal mechanisms of vertical mixing that have not been observed in mid-latitudes. Time series of the altitude and thickness of summer arctic stratus have been observed using an elastic backscatter lidar aboard an icebreaker. With the ship moored to the pack ice during 14 data collection stations and the lidar staring vertically, the time series represent advected cloud fields. The lidar data reveal a significant amount of vertical undulation in the clouds, strongly suggestive of traveling waves in the buoyantly damped atmosphere that predominates in the high Arctic. Concurrent observations of trace gases associated with the natural sulfur cycle (dimethyl sulfide, SO2, NH3, H2O2) and aerosols show evidence of vertical mixing events that coincide with a characteristic signature in the cloud field that may be called dropout or lift out. A segment of a cloud deck appears to be relocated from the otherwise quasicontinuous layer to another altitude a few hundred meters lower or higher. Atmospheric models have been applied to identify the mechanism that cause the dropout phenomenon and connect it dynamically to the surface layer mixing.

Keywords: *Air pollution, *Arctic regions, *Clouds, *Atmospheric Circulation, Mathematical Models, Sulfur Dioxide, Hydrogen Peroxide, Ammonia, Dimethyl Sulfide, Time-Series Analysis, Aerosols, Environmental Transport, EDB/540120.

DE99002242REB PC A04/MF A01
Department of Energy, Washington, DC.
Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
Los Alamos National Lab., NM.
S. DeMuth, and D. Kurath. 30 Jul 1998, 39p, LA-UR-98-3339.
Contract W-7405-ENG-36
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The potential cost savings due to the use of caustic recycle used in conjunction with remediation of radioactive underground storage tank waste, is shown in a figure for the Hanford and Savannah River sites. Two cost savings estimates for each case have been made for Hanford, and one cost savings estimate for each case has been made for the Savannah River site. This is due to the Hanford site remediation effort being less mature than that of Savannah River; and consequently, a range of cost savings being more appropriate for Hanford. This range of cost savings (rather than a single value) for each case at Hanford is due to cost uncertainties related to the LAW immobilization operation. Caustic recycle Case-1 has been defined as the sodium required to meet al identified caustic needs for the entire Site. Case-2 has been defined as the maximum sodium which can be separated from the low activity waste without precipitation of Al(OH)3. A discussion of the uncertainty associated with these cost savings estimates can be found in the Discussion and Conclusions section.

Keywords: *Cost benefit analysis, *Radioactive Waste Storage, *Recycling, Hanford Reservation, Savannah River Plant, Remedial Action, Tanks, Washington, South Carolina, Hydroxides, Tables(data), LAW(Low Activity Waste), EDB/052002, EDB/054000.

DE99002244REB PC A07/MF A02
Department of Energy, Washington, DC.
Influence of surface topography on the forming friction of automotive aluminum sheet. THESIS.
Lawrence Berkeley National Lab., CA (United States).
P. A. Kramer. 31 May 1998, 120p, LBNL-41975.
Contract AC03-76SF00098
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While aluminum alloy use in cast parts has increased, outer body panel applications are still being investigated. The industry is interested in improving the formability of these sheet alloys by a combination of alloy design and processing. A different avenue of improving the formability of these alloys may be through patterning of the sheet surface. Surface patterns hold the lubricant during the forming process, with a resulting decrease in the sheet-die surface contact. A series of discrete patterns were investigated to determine the dependence of the forming friction of automotive aluminum alloys on pattern lubricant carrying capacity and on material strength. Automotive aluminum alloys used in outer body panel applications were rolled on experimental rolls that had been prepared with a variety of discrete patterns. All patterns for each alloy were characterized before and after testing both optically and, to determine pattern lubricant capacity, using three dimensional laser profilometry. A draw bead simulation (DBS) friction tester was designed and fabricated to determine the forming friction of the patterned sheets. Tensile testing and frictionless DBS testing were performed to ascertain the material properties of each sheet. The most striking result of this work was the inversely linear dependence of forming friction on the lubricant carrying capacity of the discrete patterns.

Keywords: *Aluminum, *Friction, *Surface properties, Automobiles, Materials Working, Mechanical properties, EDB/330604, EDB/360101, Theses.

DE99002254REB PC A03/MF A01
Department of Energy, Washington, DC.
Error studies for SNS Linac. Part 1: Transverse errors.
Los Alamos National Lab., NM.
K. R. Crandall. 31 Dec 1998, 30p, LA-UR-98-3372.
Contract W-7405-ENG-36
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The SNS linac consist of a radio-frequency quadrupole (RFQ), a drift-tube linac (DTL), a coupled-cavity drift-tube linac (CCDTL) and a coupled-cavity linac (CCL). The RFQ and DTL are operated at 402.5 MHz; the CCDTL and CCL are operated at 805 MHz. Between the RFQ and DTL is a medium-energy beam-transport system (MEBT). This error study is concerned with the DTL, CCDTL and CCL, and each are analyzed separately. In fact, the CCL is divided into two sections, and each of these are analyzed separately. The types of errors considered are those that affect the transverse characteristics of the beam. The errors that cause the beam center to be displaced from the linac axis are quad displacements and quad tilts. The errors that cause mismatches are quad gradient errors and quad rotations (roll).

Keywords: *Linear Accelerators, *Errors, Beam Injection, Beam Optics, Quadrupoles, Alignment, Neutron Sources, Storage Rings, EDB/430200, EDB/430302, EDB/430400.

DE99002256REB PC A02/MF A01
Department of Energy, Washington, DC.
Diagnostic enhancements for plasma processing.
Los Alamos National Lab., NM.
G. S. Selwyn, and I. Henins. 31 Dec 1998, 7p, LA-UR-98-3431.
Contract W-7405-ENG-36
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Funds obtained under this project were used to enhance the diagnostic capabilities of the plasma-processing program in the Physics Division at LANL and include successful development and implementation of in-situ Raman spectroscopy and infrared emission spectroscopy. These methods were used to detect the presence and nature of ground-state and electronically excited molecular oxygen formed in an atmospheric-pressure, nonthermal plasma source used for environmental, industrial and decontamination applications.

Keywords: *Plasma Diagnostics, *Plasma Production, Raman Spectroscopy, Emission Spectroscopy, Uses, Plasma Jets, Oxygen, Industry, EDB/320303.

DE99002257REB PC A05/MF A01
Department of Energy, Washington, DC.
Report on the testing of Raschig Rings.
Los Alamos National Lab., NM.
L. Jacobson, D. Sandoval, and D. Rodella. 31 May 1998, 60p, LA-UR-98-3450.
Contract W-7405-ENG-36
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Raschig Rings are hollow glass cylinders made from Pyrex glass. They are used in containers for the storage of liquid radioactive waste, and perform two useful functions. The boron content of the glass helps to absorb neutrons from the waste. The volume of the glass rings helps to reduce the local density of the liquid waste and avoid potential criticality problems. This work was performed in order to compare the strength of fresh, unexposed rings with rings that had been used in various waste storage containers. In all, ten batches of rings were tested, one batch of unexposed rings and nine batches of exposed rings. Sections describe the test procedures and the results that were obtained. An appendix contains a series of photographs of the different test methods, and sample failure appearances.

Keywords: *Pyrex, *Radioactive Waste Storage, *Containers, *Physical Radiation Effects, Liquid Wastes, Mechanical Tests, Fracture Properties, Experimental Data, Comparative Evaluations, Tables(data), *Raschig rings, EDB/052002, EDB/360605, EDB/360603.

DE99002258REB PC A03/MF A01
Department of Energy, Washington, DC.
Analysis of thermal issues associated with the pre-amplifier modules in the National Ignition Facility.
Los Alamos National Lab., NM.
K. L. Lam. 31 Dec 1998, 28p, LA-UR-98-3460.
Contract W-7405-ENG-36
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The design of the National Ignition Facility (NIF) calls for a desired temperature field of 20.00 (+-) 0.28 C throughout the facility. This design requirement is needed to prevent degradation of the operating performance and net yield of the NIF by heat loads generated within the facility. In particular, the potential interference of waste heat from the lighting fixtures and equipment such as the electronics racks, and pre-amplifier modules (PAMs), and its impact on the operational performance of the laser beam transport tubes and optical alignment components must be evaluated. This report describes the thermal analyses associated with the PAMs.

Keywords: *Us National Ignition Facility, *Temperature Control, *Thermal Analysis, Specifications, Waste Heat, Lasers, Beam Transport, Optical Systems, Design criteria, Preamplifiers, Theoretical Data, Tables(data), EDB/700411.

DE99002259REB PC A02/MF A01
Department of Energy, Washington, DC.
Numerical simulation of explosive volcanism and its effects on the atmosphere.
Los Alamos National Lab., NM.
G. A. Valentine, and J. E. Bossert. 31 Dec 1998, 6p, LA-UR-98-3469.
Contract W-7405-ENG-36
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The objective of this project was to begin work on combining two modeling approaches in order to advance the state-of-the-art in simulating and predicting explosive volcanic eruption dynamics and their effects. The authors began applying the CFDLIB family of codes for the near field (high temperature, velocity, and particle concentration) region of an explosive eruption. The authors also applied the RAMS meteorological code to model the far-field dynamics of eruption clouds and ash fallout. Initial test runs were conducted in preparation for full-scale simulations that would eventually couple the two models for the most comprehensive volcano simulation tool to date. Eventual applications include aviation hazards, risk assessment, and extension to atmospheric collateral effects of conventional and nuclear weapons.

Keywords: *Atmospheric transport, *Volcanoes, *Environmental impacts, Air Pollution, Mathematical Models, C Codes, R Codes, Ashes, Volcanic Gases, Forecasting, CFDLIB(Computational Fluid Dynamics Library), RAMS(Regional Atmospheric Modeling System), EDB/540120.

DE99002260REB PC A01/MF A01
Department of Energy, Washington, DC.
Production and storage of ultra cold neutrons in superfluid helium.
Los Alamos National Lab., NM.
G. L. Greene, and S. Lamoreaux. 31 Dec 1998, 4p, LA-UR-98-3577.
Contract W-7405-ENG-36
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This final report concerns the investigation of a new method for the experimental exploitation of ultra-cold neutrons. The production and storage of ultra cold neutrons in superfluid helium has been suggested as a tool for the production of high densities of ultra cold neutrons for fundamental nuclear physics as well as for sensitive measurements for condensed matter. A particular application of this technique has been suggested by Doyle and Lamoreaux that involves the trapping of neutrons in a magnetic field within the superfluid helium volume. Neutron decays within the trap volume are detected by the scintillation light produced in the liquid helium. A cryostat and magnetic trap have been constructed as well as a prototype light detection system. This system was installed on a cold neutron beam line at the NIST Cold Neutron Research Facility in the summer of 1997. Preliminary results indicate the detection of helium scintillation light from the detection vessel.

Keywords: *Ultracold Neutrons, *Helium 4, *Production, *Storage, Neutron Sources, Traps, Scintillation Counters, Beta Decay, Lifetime, EDB/070201, EDB/440101, EDB/662360.

DE99002261REB PC A02/MF A01
Department of Energy, Washington, DC.
SNS Linac: Revised configuration.
Los Alamos National Lab., NM.
T. S. Bhatia, J. H. Billen, N. K. Bultman, A. Jason, and H. Takeda. 31 Dec 1998, 8p, LA-UR-98-3595.
Contract W-7405-ENG-36
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The SNS Linac is required to provide a pulsed 1-GeV 1-mA-average beam of H(-) ions to a storage/compressor ring which then delivers it to a neutron production target with high reliability and availability. Nominal rep rate is 60 Hz with a linac pulse length of 1 ms. The entire Linac is required to support a 2-mA operation; thus a facility upgrade to 2 MW merely requires doubling the injected beam current and providing the additional needed rf power. In order to permit hands-on maintenance, the beam losses in the Linac must be less than 1 nA/m at 1 GeV. Based primarily on value engineering considerations relating to Linac support stands, ease of the placement, alignment, and possible replacements of the quadrupole magnets and diagnostic components, and other constraints such as adequate gaps between the accelerating segments for electromagnetic quadrupoles and diagnostics, the authors propose a revised Linac configuration. The basic Linac architecture consisting of the three types of accelerating structures has not changed. In this brief note, the authors present the overall physics and engineering design considerations and the revised linac configuration.

Keywords: *Linear Accelerators, *Design analysis, *Modifications, Hydrogen Ions 1 Minus, Storage Rings, Beam Injection, Neutron Sources, Power Range 01-10 Mw, EDB/430302, EDB/430400.

DE99002262REB PC A03/MF A01
Department of Energy, Washington, DC.
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
Los Alamos National Lab., NM.
L. A. Rosocha, A. W. Miziolek, M. J. Nusca, J. S. Chang, and J. T. Herron. 17 Aug 1998, 20p, LA-UR-98-3598.
Contract W-7405-ENG-36
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SERDP Compliance Project CP-1038 has been commissioned to evaluate and develop non-thermal plasma (NTP) reactor technology, a form of low-temperature plasma chemical processing, for Department of Defense (DoD) applications. The primary emphasis is on the control of emissions of oxides of nitrogen (NOx), with a secondary emphasis on hazardous air pollutant

(HAP) emission control (primarily volatile organic compounds–VOCs). In this white paper, the authors verify the NOx removal reactions in NTPs, especially those converging on nitric acid (HNO3) as a primary reaction product. The benefit of making HNO3 as a primary terminal de-NOx product is that it can be easily neutralized by relatively simple caustic (base) scrubbers–although the economics of scrubber systems needs to be compared with the conversion to particles that can be filtered or precipitated.

Keywords: *Air Pollution Abatement, *Nitrogen Oxides, *Plasma Furnaces, *Nitric Acid, Jet Engine Fuels, Synthesis, Scrubbers, Sulfur Oxides, Chemical reactors, Tables(data), Volatile organic compounds, EDB/020800.

DE99002263REB PC A02/MF A01
Department of Energy, Washington, DC.
Quick-look eye-safety assessment for the short range lidar.
Los Alamos National Lab., NM.
T. R. Wehner. 2 Jul 1998, 10p, LA-UR-98-3400.
Contract W-7405-ENG-36
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This report describes a quick-look eye-safety assessment for the Short Range (SR) lidar, a system under development for standoff biological aerosol detection in the outdoor environment. The ground-vehicle-mounted SR lidar system will scan a sector of the nearby atmosphere with a repetitively pulsed, multiple-wavelength, UV/IR laser beam. This laser is not intrinsically eye-safe, and hence the SR lidar system requires a protection system to minimize the risk of eye exposures above the ANSI-standard maximum permissible exposure within a nominal hazard zone. The nominal ocular hazard distance for the UV/IR laser itself was calculated to be 6 km. The protection system, which will include a scan-stop detector and a laser beam path interrogator, currently is conceptual only. Until the complete protection system is designed, evaluated, and tested, and a more detailed safety assessment has been performed, the eye-safety issue for the SR lidar system cannot be resolved.

Keywords: *Optical radar, *Occupational Safety, *Eyes, Biological Warfare Agents, Detection, Military Equipment, Lasers, Aerosol Monitoring, EDB/450600.

DE99002269REB PC A02/MF A01
Department of Energy, Washington, DC.
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
Los Alamos National Lab., NM.
T. A. Parish, R. D. Mosteller, D. J. Diamond, and J. C. Gehin. 31 Dec 1998, 9p, LA-UR-98-3253.
Contract W-7405-ENG-36
International conference on the physics of nuclear science and technology. Sponsored by Department of Energy, Washington, DC.
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This paper presents a summary of the results obtained by all of the contributors to the Uranium Benchmark Problem of the ANS Ad hoc Committee on Reactor Physics Benchmarks. The benchmark problem was based on critical experiments which mocked-up lattices typical of PWRs. Three separate cases constituted the benchmark problem. These included a uniform lattice, an assembly-type lattice with water holes and an assembly-type lattice with pyrex rods. Calculated results were obtained from eighteen separate organizations from all over the world. Some organizations submitted more than one set of results based on different calculational methods and cross section data. Many of the most widely used assembly physics and core analysis computer codes and neutron cross section data libraries were applied by the contributors.

Keywords: *Benchmarks, *Reactor Kinetics, *Uranium, Pwr Type Reactors, Reactor Lattices, Criticality, Multiplication Factors, EDB/210200.

DE99002271REB PC A03/MF A01
Department of Energy, Washington, DC.
Pressure induced metallization of the perovskite Sr3Fe2O7.
Los Alamos National Lab., NM.
G. K. Rozenberg, G. Y. Machavariani, M. P. Pasternak, A. P. Milner, and G. R. Hearne. 31 Dec 1998, 13p, LA-UR-98-3264.
Contract W-7405-ENG-36
Physica status solid and meeting of high pressure semiconductors. Sponsored by Department of Energy, Washington, DC.
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Electrical, magnetic and structural properties of the antiferromagnetic semiconductor Sr3Fe2O7 (Fe(4+), d(sup 4)) were probed by resistance, Moessbauer spectroscopy (MS) and X-ray diffraction (XRD) measurements to P equal to approximately 40 GPa using diamond-anvil cells. A sluggish pressure-induced insulator-metal transition is observed with a clear incipient metallic state at P > 20 GPa. The Fe(IV) 3d magnetic moments remain unaltered across the transition as deduced from MS, and XRD studies show no structural symmetry change to 40 GPa. The results are consistent with carrier delocalization due to p-p gap closure e.g., ligand-to-ligand charge transfer that does not involve the d-states and structural symmetry changes.

Keywords: *Perovskites, *Very High Pressure, Crystal Structure, Electric Conductivity, Magnetic Properties, Strontium Oxides, Iron Oxides, Temperature Dependence, Spectroscopy, X-ray Diffraction, Tables(data), *Metallization, EDB/360202, EDB/360204.

DE99002277REB PC A03/MF A01
Department of Energy, Washington, DC.
Optimal neural computations require analog processors.
Los Alamos National Lab., Div. of Space and Atmospheric Sciences, NM (United States).
V. Beiu. 31 Dec 1998, 30p, LA-UR-98-3325.
Contract W-7405-ENG-36
International conference on parallel computing in electrical engineering. Sponsored by Department of Energy, Washington, DC.
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This paper discusses some of the limitations of hardware implementations of neural networks. The authors start by presenting neural structures and their biological inspirations, while mentioning the simplifications leading to artificial neural networks. Further, the focus is on hardware imposed constraints. They present recent results for three different alternatives of parallel implementations of neural networks: digital circuits, threshold gate circuits, and analog circuits. The area and the delay are related to the neurons' fan-in and to the precision of their synaptic weights. The main conclusion is that hardware-efficient solutions require analog computations, and suggests the following two alternatives: (i) cope with the limitations imposed by silicon, by speeding up the computation of the elementary silicon neurons; (2) investigate solutions which would allow the use of the third dimension (e.g. using optical interconnections).

Keywords: *Neural Networks, *Optimization, *Analog Systems, Implementation, Digital Circuits, Gating Circuits, EDB/990200.

DE99002279REB PC A03/MF A01
Department of Energy, Washington, DC.
Introduction to radiation transport.
Los Alamos National Lab., Applied Theoretical and Computational Physics Div., NM (United States).
G. L. Olson. 31 Dec 1998, 19p, LA-UR-98-3353.
Contract W-7405-ENG-36
Workshop on MHD and radiation methods for pulsed power. Sponsored by Department of Energy, Washington, DC.
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This lecture presents time-dependent radiation transport where the radiation is coupled to a static medium, i.e., the material is not in motion.

Keywords: *Radiation Transport, *Transport Theory, Radiation Pressure, Time Dependence, Diffusion, Boundary Conditions, EDB/663600.

DE99002280REB PC A02/MF A01
Department of Energy, Washington, DC.
Implementation of model predictive control on a hydrothermal oxidation reactor.
Los Alamos National Lab., High Explosives Science and Technology Group, NM (United States).
K. R. Muske, P. C. Dell'Orco, L. A. Le, and R. L. Flesner. 31 Dec 1998, 6p, LA-UR-98-3367.
Contract W-7405-ENG-36
1998 American controls conference. Sponsored by Department of Energy, Washington, DC.
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This paper describes the model-based control algorithm developed for a hydrothermal oxidation reactor at the Pantex Department of Energy facility in Amarillo, Texas. The combination of base hydrolysis and hydrothermal oxidation is used for the disposal of PBX 9404 high explosive at Pantex. The reactor oxidizes the organic compounds in the hydrolysate solutions obtained from the base hydrolysis process. The objective of the model predictive controller is to minimize the total aqueous nitrogen compounds in the effluent of the reactor. The controller also maintains a desired excess oxygen concentration in the reactor effluent to ensure the complete destruction of the organic carbon compounds in the hydrolysate.

Keywords: *Chemical Explosives, *Algorithms, Computerized Control Systems, Oxidation, Chemical Reactors, Decomposition, Liquid Wastes, Process Control, Nitrogen Compounds, Waste Disposal, Meetings, EDB/450100.

DE99002282REB PC A02/MF A01
Department of Energy, Washington, DC.
Vector meson production and nuclear effects in FNAL E866.
Los Alamos National Lab., NM.
M. J. Leitch. 31 Dec 1998, 10p, LA-UR-98-3370.
Contract W-7405-ENG-36
Workshop on quarkonium production in relativistic nuclear collisons. Sponsored by Department of Energy, Washington, DC.
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Fermilab E866/NUSEA is a fixed-target experiment which has made a number of measurements of the production of vector mesons by 800 GeV protons. The nuclear dependence results include measurements for J/(psi), (psi)(prime) and (phi) production over very broad ranges in (chi)(sub F) and p(sub T), and the J/(psi) decay angular distribution at very large (chi)(sub F). Preliminary results from measurements on Be, Fe and W targets are presented and discussed in the context of nuclear effects such as energy loss and multiple scattering of the partons, absorption of the produced c(bar c) pairs, and shadowing. Production mechanisms involving color-singlet or color-octet states for the c(bar c) pair which eventually forms a J/(psi) or (psi)(prime), have implications on the strength of absorption in the nucleus and on the angular distribution of the decay muons. Their preliminary results on the angular distributions versus (chi)(sub F) and p(sub T) indicate some transverse polarization of the J/(psi) as predicted by models of production through the color octet state. The measurements of dimuons in the 1 to 3 GeV region explore the nuclear dependence of the (phi) meson and also the composition of the continuum between the (phi) and the J/(psi). These studies of vector meson production and it's nuclear dependence are critical in furthering the understanding of these processes

towards future measurements at RHIC and new results from NA50 at CERN, where J/(psi) suppression is predicted to be an important signature of the creation of quark-gluon plasma in heavy-ion collisions.

Keywords: *Proton Reactions, *Vector Mesons, J Psi-3097 Mesons, Particle Production, Relativistic Range, Shadow Effect, Energy Losses, Nuclear Reaction Kinetics, Quark Matter, Meetings, EDB/662340, EDB/662230.

DE99002283REB PC A03/MF A01
Department of Energy, Washington, DC.
Nutritional supplements as radioprotectors -- A review and proposal.
Los Alamos National Lab., NM.
A. C. Muscatello. 31 Dec 1998, 16p, LA-UR-98-3405.
Contract W-7405-ENG-36
Founding convention of the Mars Society. Sponsored by Department of Energy, Washington, DC.
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The scientific literature contains several reports that show nutritional substances, such as vitamins, minerals, and phytochemicals (plant chemicals), provide substantial radioprotective effects in animal studies. Incorporating these substances to the human diet, already voluntarily practiced by a large segment of the population, in addition to providing other favorable health effects, may also provide a radioprotective effect. This potential radioprotective effect would be very useful in mitigating the effects of occupational radiation exposure to astronauts (especially future Mars explorers) , airline crews, nuclear workers, both commercial and government, and populations exposed to nuclear accidents, e.g. Chernobyl. This paper reviews the existing evidence of radioprotective effects by nutritional supplements and proposes that their efficacy be evaluated, first with animal studies, followed by human tests with astronauts and cosmonauts on long-term missions, such as to the Mir space station and the International Space Station (ISS).

Keywords: *Radioprotective Substances, *Nutrients, Radiosensitivity Effects, Response Modifying Factors, Radiation Protection, Meetings, EDB/560151, EDB/550603.

DE99002284REB PC A03/MF A01
Department of Energy, Washington, DC.
Creative PDB's (parts databases).
Los Alamos National Lab., NM.
T. J. Cote. 31 Dec 1998, 30p, LA-UR-98-3408.
Contract W-7405-ENG-36
VeriBest Users Group symposium. Sponsored by Department of Energy, Washington, DC.
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PDB component property entries and creative picklists can make the schematic entry process and downstream tools such as BOM generation more useful. This presentation will show how creative PDB's can enhance the design process. Examples of PDB entries developed at Los Alamos National Laboratory will be discussed.

Keywords: *Data Base Management, *Computer-aided Design, *Meetings, Equipment, Information Systems, Computer Graphics, EDB/990301.

DE99002285REB PC A04/MF A01
Department of Energy, Washington, DC.
Reaction of preshocked explosives.
Los Alamos National Lab., NM.
R. N. Mulford. 31 Jul 1998, 50p, LA-UR-98-3414.
Contract W-7405-ENG-36
Biennial international conference on shock waves in condensed matter (3rd). Sponsored by Department of Energy, Washington, DC.
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In experiments in which an explosive is subjected to two successive shocks ((approximately)2.5 and (approximately)6.0 GPa), detonation of the explosive is delayed. High compaction resulting from shock compression of an explosive probably results in the removal of voids from the material. To the extent that these voids comprise the hotspots in the material, the shock-compressed explosive might be expected to behave as a homogeneous material, and initiate more like a liquid explosive than like a normal solid PBX. While some evidence is available from the data record to support this idea that detonation develops in a homogeneous manner, predominant aspects of the data indicate heterogeneous development of detonation in the preshocked material.

Keywords: *Chemical Explosives, *Sensitivity, *Shock Waves, Chemical Explosions, Compacting, Meetings, EDB/450100.

DE99002286REB PC A03/MF A01
Department of Energy, Washington, DC.
Micro fuel cell.
Los Alamos National Lab., NM.
L. A. Zook, N. E. Vanderborgh, and R. Hockaday. 31 Dec 1998, 30p, LA-UR-98-3415.
Contract W-7405-ENG-36
Meeting of the Electrochemical Society (194th). Sponsored by Department of Energy, Washington, DC.
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An ambient temperature, liquid feed, direct methanol fuel cell device is under development. A metal barrier layer was used to block methanol crossover from the anode to the cathode side while still allowing for the transport of protons from the anode to the cathode. A direct methanol fuel cell (DMFC) is an electrochemical engine that converts chemical energy into clean electrical power by the direct oxidation of methanol at the fuel cell anode. This direct use of a liquid fuel eliminates the need for a reformer to convert the fuel to hydrogen before it is fed into the fuel cell.

Keywords: *Design, *Alcohol Fuel Cells, *Methanol, Battery Separators, Electrocatalysts, Diffusion, Current Density, Experimental Data, Meetings, Tables(data), EDB/300501.

DE99002289REB PC A02/MF A01
Department of Energy, Washington, DC.
Thermodynamics and sound speeds at the Chapman-Jouguet state.
Los Alamos National Lab., NM.
J. N. Fritz, and C. A. Forest. 31 Dec 1998, 8p, LA-UR-98-3423.
Contract W-7405-ENG-36
Detonation symposium (11th). Sponsored by Department of Energy, Washington, DC.
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Some thermodynamic relations about an equilibrium Chapman-Jouguet (CJ) state are obtained. Relations for sound speeds in the wave velocity-particle velocity plane are derived. A relation between the slope of the sound speed in this plane and the asymptotic slope of the Hugoniot is suggested.

Keywords: *Chemical Explosives, *Thermodynamics, Shock Waves, Chemical Explosions, Equations Of State, Sound Waves, Velocity, Meetings, EDB/450100.

DE99002291REB PC A02/MF A01
Department of Energy, Washington, DC.
Damage evolution and clustering in shock loaded tantalum.
Los Alamos National Lab., NM.
W. R. Thissell, A. K. Zurek, J. M. Rivas, D. L. Tonks, and R. S. Hixson. 31 Dec 1998, 10p, LA-UR-98-3441.
Contract W-7405-ENG-36
International Metallographic Society (IMS) annual convention (31st). Sponsored by Department of Energy, Washington, DC.
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Two grades of tantalum were shock loaded by plate impact and recovered. The loading conditions were varied to study the damage evolution in te materials from incipient to full spallation. The authors performed quantitative image analysis and optical profilometry on the recovered specimens. Statistical analyses are shown of the void sizes, void clustering, and void linking in the two material grades.

Keywords: *Impact Shock, *Tantalum, *Damage, Nucleation, Voids, Fractures, Metallography, Porosity, Experimental Data, Meetings, Tables(data), EDB/360103.

DE99002292REB PC A01/MF A01
Department of Energy, Washington, DC.
SI-Combiner: Making sense of results from multiple trained programs.
Los Alamos National Lab., NM.
B. K. Den Hartog, J. W. Elling, and R. Kieckhafer. 31 Dec 1998, 5p, LA-UR-98-3453.
Contract W-7405-ENG-36
Joint conference on information sciences (4th). Sponsored by Department of Energy, Washington, DC.
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Many problems, such as Aroclor Interpretation, are ill-conditioned problems in which trained programs, or methods, must operate in scenarios outside their training ranges because it is intractable to train them completely. Consequently, they fail in ways related to the scenarios. Importantly, when multiple trained methods fail divergently, their patterns of failures provide insights into the true results. The SI-Combiner solves this problem of Integrating Multiple learned Models (IMLM) by automatically learning and using these insights to produce a solution more accurate than any single trained program. In application, the Aroclor Interpretation SI-Combiner improved on the accuracy of the most accurate individual trained program in the suite. This paper presents a new fuzzy IMLM method called the SI-Combiner and its application to Aroclor Interpretation. Additionally, this paper shows the improvement in accuracy that the SI-Combiner's components show against Multicategory Classification (MCC), Dempster-Shafer (DS), and the best individual trained program in the Aroclor Interpretation suite (iMLR).

Keywords: *Carcinogens, Expert Systems, Learning, Fuzzy Logic, Weighting Functions, Chromatography, Data Analysis, Pattern Recognition, Meetings, EDB/990200, EDB/400102.

DE99002293REB PC A02/MF A01
Department of Energy, Washington, DC.
Reliability of the nervous (Nv) nets.
Los Alamos National Lab., NM.
V. Beiu, J. R. Frigo, and K. R. Moore. 31 Dec 1998, 6p, LA-UR-98-3461.
Contract W-7405-ENG-36
Computational intelligence for modelling control and automation. Sponsored by Department of Energy, Washington, DC.
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This paper investigates the reliability of a particular class of neural networks, the Nervous Nets (Nv). This is the class of nonsymmetric ring oscillator networks of inverters coupled through variable delays. They have been successfully applied to controlling walking robots, while many other applications will shortly be mentioned. The authors will then explain the robustness of Nv nets in the sense of their highly reliable functioning--which has been observed through many experiments. For doing that the authors will show that although the Nv net has an exponential number of periodic points, only a small (still exponential) part are stable, while all

the others are saddle points. The ratio between the number of stable and periodic points quickly vanishes to zero as the number of nodes is increased, as opposed to classical finite state machines–where this ratio is relatively constant. These show that the Nv net will always converge quickly to a stable oscillatory state- -a fact not true in general for finite state machines.

Keywords: *Neural Networks, *Reliability, Robots, Computerized Control Systems, Meetings, EDB/990200.

DE99002294REB PC A02/MF A01
Department of Energy, Washington, DC.
Larger bases and mixed analog/digital neural nets.
Los Alamos National Lab., NM.
V. Beiu. 31 Dec 1998, 7p, LA-UR-98-3462.
Contract W-7405-ENG-36
Artificial neural networks in engineering '98 conference. Sponsored by Department of Energy, Washington, DC.
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The paper overviews results dealing with the approximation capabilities of neural networks, and bounds on the size of threshold gate circuits. Based on an explicit numerical algorithm for Kolmogorov's superpositions the authors show that minimum size neural networks–for implementing any Boolean function–have the identity function as the activation function. Conclusions and several comments on the required precision are ending the paper.

Keywords: *Neural Networks, *Digital Circuits, Analog Systems, Size, Gating Circuits, Functions, Implementation, Meetings, EDB/990200.

DE99002295REB PC A01/MF A01
Department of Energy, Washington, DC.
Automatic synthesis of analog/digital circuits.
Los Alamos National Lab., NM.
V. Beiu. 31 Dec 1998, 5p, LA-UR-98-3463.
Contract W-7405-ENG-36
International symposium on nonlinear theory and its applications. Sponsored by Department of Energy, Washington, DC.
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The paper builds on a recent explicit numerical algorithm for Kolmogorov's superpositions, and will show that in order to synthesize minimum size (i.e., size-optimal) circuits for implementing any Boolean function, the nonlinear activation function of the gates has to be the identity function. Because classical and–or implementations, as well as threshold gate implementations require exponential size, it follows that size-optimal solutions for implementing arbitrary Boolean functions can be obtained using analog (or mixed analog/digital) circuits. Conclusions and several comments are ending the paper.

Keywords: *Digital Circuits, Functions, Implementation, Analog Systems, Weighting Functions, Neural Networks, Optimization, Gating Circuits, Meetings, EDB/990200.

DE99002297REB PC A01/MF A01
Department of Energy, Washington, DC.
Information barrier functional requirements.
Los Alamos National Lab., NM.
D. MacArthur, and R. Whiteson. 31 Dec 1998, 5p, LA-UR-98-3525.
Contract W-7405-ENG-36
U.S./Russian/IAEA trilateral technical workshop. Sponsored by Department of Energy, Washington, DC.
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for the purpose of this paper, the authors have used the term functional requirement to indicate a required task rather than the recommended method for accomplishing this task. The creation of effective information barrier technology will proceed as a series of steps: (1) IB conceptual Description; (2) IB Functional Requirements (this document–ongoing); (3) IB hardware and software specification; (4) IB hardware and software construction; and (5) IB implementation. This functional requirements document is not intended to supplant or supersede the conceptual description; rather, these functional requirements are intended to be used along with the earlier description to help generate hardware and software requirements.

Keywords: *Nuclear Materials Management, *Classified Information, *Computers, Computer Codes, Secrecy Protection, Data Processing, Physical Protection, Security, Inspection, Iaea, Usa, Russian Federation, Meetings, EDB/055001.

DE99002299REB PC A02/MF A01
Department of Energy, Washington, DC.
Rural telemedicine project in northern New Mexico.
Los Alamos National Lab., NM.
S. Zink, H. Hahn, J. Rudnick, J. Snell, and D. Forslund. 31 Dec 1998, 7p, LA-UR-98-3535.
Contract W-7405-ENG-36
Pacific medical network meeting. Sponsored by Department of Energy, Washington, DC.
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A virtual electronic medical record system is being deployed over the Internet with security in northern New Mexico using TeleMed, a multimedia medical records management system that uses CORBA-based client-server technology and distributed database architecture. The goal of the NNM Rural Telemedicine Project is to implement TeleMed into fifteen rural clinics and two hospitals within a 25,000 square mile area of northern New Mexico. Evaluation of the project consists of three components: job task analysis, audit of immunized children, and time motion studies. Preliminary results of the evaluation components are presented.

Keywords: *Medicine, *Records Management, Data Base Management, Patients, Information, Meetings, EDB/550600.

DE99002353REB PC A18/MF A04
Department of Energy, Washington, DC.
Decade of DIII-D research. Final report for the period of work, October 1, 1989–September 30, 1998. PROGRESS REPT.
General Atomics, San Diego, CA.
31 Mar 1999, 400p, GA-A23028.
Contracts AC03-89ER51114 , W-7405-ENG-48
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During the ten-year DIII-D tokamak operating period of 1989 through 1998, major scientific advances and discoveries were made and facility upgrades and improvements were implemented. Each year, annual reports as well as journal and international conference proceedings document the year-by-year advances (summarized in Section 7). This final contract report, provides a summary of these historical accomplishments. Section 2 encapsulates the 1998 status of DIII-D Fusion Science research. Section 3 summarizes the DIII-D facility operations. Section 4 describes the major upgrades to the DIII-D facility during this period. During the ten-year period, DIII-D has grown from predominantly a General Atomics program to a national center for fusion science with participants from over 50 collaborating institutions and 300 users who spend more than one week annually at DIII-D to carry out experiments or data analysis. In varying degrees, these collaborators participate in formulating the research program directions. The major collaborating institution programs are described in Section 6.

Keywords: *Doublet-3 Device, *Research Programs, Progress Report, Modifications, Plasma Confinement, Transport Theory, Plasma Instability, Plasma Disruption, Divertors, Non-inductive Current Drive, Plasma Heating, EDB/700300, EDB/700400.

DE99002354REB PC A03/MF A01
Department of Energy, Washington, DC.
Yields of ten and eleven year-old hybrid poplars in the north central United States. Final report. PROGRESS REPT.
North Central Research Station, Forestry Sciences Lab., Rhinelander, WI (United States).
D. Netzer, and D. Tolsted. 31 Dec 1998, 15p, DOE/OR/21871-T1.
Contract AI05-89OR21871
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The objective of this research is to determine commercially attainable biomass yields given the best site tending possible under the constraints of this extensive network. Biomass yields are reported from the best clones planted in one acre blocks on 8 sites over the four states. Biomass yields are presented of short rotation intensively cultured poplar plantations established in Wisconsin, Minnesota, North and South Dakota during 1987–88. It was reported at that time that the mean annual increment had not peaked in the plantations. Growth measurements were continued through the 1997 growing season when the plantations had completed their 10th and 11th growing season.

Keywords: *Biomass Plantations, *Productivity, Progress Report, Poplars, Plant Growth, Wisconsin, Minnesota, North Dakota, South Dakota, Numerical Data, Tables(data), EDB/090800.

DE99002358REB PC A05/MF A01
Department of Energy, Washington, DC.
LLE review, Volume 77. Quarterly report, October--December 1998. PROGRESS REPT.
Univ. of Rochester, Lab. for Laser Energetics, NY (United States).
S. P. Regan. 31 Dec 1998, 62p, DOE/SF/19460-284.
Contract FC03-92SF19460
Sponsored by Department of Energy, Washington, DC.
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This volume of the LLE Review, covering the period October–December 1998, includes two articles addressing issues applicable to direct-drive ICF on the National Ignition Facility (NIF): laser-plasma interactions and laser- irradiation uniformity. Additional highlights of the research presented in this issue are: (1) P.B. Radha and S. Skupsky present a novel charged-particle diagnostic that performs simultaneous (rho)R measurements of the fuel, shell, and ablator regions of a compressed ICF target, consisting of an inner DT fuel region, a plastic (CH) shell, and an ablator (CD), by measuring the knock-on deuteron spectrum. (2) F. Dahmani, S. Burns, J. Lambropoulos, S. Papernov, and A. Schmid report results from stress-inhibited laser-driven crack propagation and stress-delayed damage-initiation experiments in fused silica at 351 nm. Research is underway presently to determine the ramifications of these findings for large-aperture systems, such as OMEGA. (3) V. Goncharov presents an analytic theory of the ablative Richtmyer-Meshkov instability, which shows that the main stabilizing mechanism of the ablation-front perturbations is the dynamic overpressure of the blowoff plasma with respect to the target material. The perturbation evolution during the shock transit time is studied to determine the initial conditions for the Rayleigh-Taylor phase of the instability and to analyze the level of laser imprint on ICF direct-drive targets. (4) J.M. Larkin, W.R. Donaldson, T.H. Foster, and R.S. Knox examine the triplet state of rose bengal, a dye used in photodynamic therapy, that is produced by 1,064-nm excitation of T(sub 1). (5) R. Adam, M. Currie, R. Sobolewski, O. Harnack, and M. Darula report measurements of the picosecond photoresponse of a current-biased YBCO microbridge coupled to a bicrystal YBCO Josephson junction.

Keywords: *Lasers, *Plasma Diagnostics, Progress Report, Direct Drive Laser Implosion, Inertial Fusion

Drivers, Laser Targets, Omega Facility, Us National Ignition Facility, Rayleigh-Taylor Instability, Therapy, Josephson Junctions, High-tc Superconductors, Research Programs, EDB/700411, EDB/700300, EDB/550600, EDB/665412.

DE99002359REB PC A04/MF A01
Department of Energy, Washington, DC.
Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
Geological Survey, Denver, CO.
F. A. D'Agnese, G. M. O'Brien, C. C. Faunt, and C. A. San Juan. 31 Dec 1999, 44p, USGS/WRIR-98-4041.
Contract AI08-97NV12033
Sponsored by Department of Energy, Washington, DC.
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The US Geological Survey, in cooperation with the US Department of Energy, is evaluating the geologic and hydrologic characteristics of the Death Valley regional flow system as part of the Yucca Mountain Project. As part of the hydrologic investigation, regional, three-dimensional conceptual and numerical ground-water-flow models have been developed to assess the potential effects of past and future climates on the regional flow system. A simulation that is based on climatic conditions 21,000 years ago was evaluated by comparing the simulated results to observation of paleodischarge sites. Following acceptable simulation of a past climate, a possible future ground-water-flow system, with climatic conditions that represent a doubling of atmospheric carbon dioxide, was simulated. The steady-state simulations were based on the present-day, steady-state, regional ground-water-flow model. The finite-difference model consisted of 163 rows, 153 columns, and 3 layers and was simulated using MODFLOWP. Climate changes were implemented in the regional ground-water-flow model by changing the distribution of ground-water recharge. Global-scale, average-annual, simulated precipitation for both past- and future-climate conditions developed elsewhere were resampled to the model-grid resolution. A polynomial function that represents the Maxey-Eakin method for estimating recharge from precipitation was used to develop recharge distributions for simulation.

Keywords: *Climatic Change, *Ground Water, Yucca Mountain, Hydrology, Numerical Data, M Codes, Regional Analysis, Flow Models, Tables(data), EDB/053001, EDB/052002.

DE99002368REB PC A03/MF A01
Department of Energy, Washington, DC.
Disability rights in dialogue with clinical genetics conference, May 31 to June 2, 1996.
Project on Women and Disability, Boston, MA (United States).
31 Dec 1996, 12p.
Contract FG02-94ER61826
Disability rights in dialogue with clinical genetics. Sponsored by Department of Energy, Washington, DC.
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The issue of prenatal diagnosis and selective abortion has been hotly debated in the medical, genetic counselling, feminist, parents, disability rights and bio-ethics literature, each of the various positions critiquing each other. People from the disability rights community in particular have began to articulate a critical view of the practice of widespread prenatal diagnosis with intent to abort because the pregnancy might result in a child with a disability. Unfortunately, people from the various disciplines and perspectives, such as bioethics, disability rights, feminism and so forth, by and large, have tended only to write for themselves and their colleagues. Few people have crossed disciplines to try to talk to people with other views. The rapid advances of genome research have continued to produce new prenatal tests, raising many complex ethical questions regarding the applications of prenatal testing. But the widely disparate positions of the various factions has made it difficult to move toward formulation of public policy change necessary to encompass these new genetic technologies. Genetic counselling is in the front lines of the controversial social and ethical issues arising from prenatal diagnosis, in its interface between medical science and the consumer of services. The primary intent of the conference was to invite and facilitate productive dialogue between individuals and groups of people who have traditionally not interacted as a result of their disparate views on these issues and to learn from this process, emphasizing the involvement of people with disabilities and people who work in clinical genetics.

Keywords: *Genetics, *Hereditary Diseases, Gene Mutations, Legal Aspects, Attitudes, Meetings, EDB/550400, EDB/550600.

DE99002382REB PC A03/MF A01
Department of Energy, Washington, DC.
Enhancement of photoassimilate utilization by manipulation of ADP-glucose pyrophosphorylase gene. Final progress report.
Washington State Univ., Inst. of Biological Chemistry, Pullman, WA (United States).
T. W. Okita. 31 Dec 1999, 11p, DOE/ER/13699-T1.
Contract FG06-87ER13699
Sponsored by Department of Energy, Washington, DC.
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Part 1 of this research focuses on patterns of gene expression of ADPG- pyrophosphorylase in native and transgenic potato plants. To elucidate the mechanism controlling AGP expression during plant development, the expression of the potato tuber AGP small subunit (sAGP) gene was analyzed in transgenic potato plants using a promoter-(beta)-glucuronidase expression system. Part II evaluated the structure-function relationships of AGP.

Keywords: *Gene Regulation, *Phosphotransferases, Progress Report, Solanum Tuberosum, Molecular Structure, Adp, Glucose, EDB/550200.

DE99002385REB PC A09/MF A02
Department of Energy, Washington, DC.
Synthesis, characterization and reactivity of high oxidation state nickel fluorides. THESIS.
Lawrence Berkeley National Lab., Chemical Sciences Div., CA (United States).
L. C. Chacon. 31 Dec 1997, 153p, LBNL-41247.
Contract AC03-76SF00098
Sponsored by Department of Energy, Washington, DC.
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The research described in this thesis has mainly addressed the challenge of the synthesis of thermodynamically unstable nickel fluorides, which cannot be made by traditional thermal methods. A low-temperature approach towards the synthesis of such transition metal fluorides exploits the greater thermodynamic stability of high oxidation states in anions and involves the use of anhydrous hydrogen fluoride (aHF) as a solvent. The general method consists of combining an aHF soluble starting material (e.g., K(sub 2)NiF(sub 6)) with a Lewis fluoroacid (e.g., BF(sub 3)), which precipitates a neutral polymeric solid state fluoride: 2 K(sup +) + NiF(sub 6)(sup 2(minus)) + BF(sub 3) (r-arrow) NiF(sub 4) + 2 BF(sub 4)(sup (minus)) + 2 K(sup +). At room temperature, this reaction yields a different structural phase, with composition K(sub x)NiF(sub 3) (x (approx) 0.18). This material has a pseudo-hexagonal tungsten bronze structure (H(sub 0)-K(sub x)NiF(sub 3)), and is an ionic conductor, probably due to K(sup +) ions hosted in the lattice channels. R-NiF(sub 3) is capable of fluorinating a wide range of inorganic and organic substrates. These reactions have probably shed light on the mechanism of the Simons Electrochemical Fluorination (ECF) Process, an important industrial method of fluorinating organic compounds. It has long been speculated that NiF(sub 3) plays a role in the ECF process, which uses nickel electrodes in aHF solvent. K(sub 2)NiF(sub 6) also fluorinates organic compounds in aHF, but interestingly, yields different fluorinated products. The reduction of R-NiF(sub 3) and K(sub 2)NiF(sub 6) during fluorination reactions yields NiF(sub 2). A method has been developed to regenerate NiF(sub 6)(sup 2(minus)) from NiF(sub 2).

Keywords: *Nickel Fluorides, *Synthesis, Potassium Fluorides, Crystal Structure, Ionic Conductivity, Organic Compounds, Fluorination, Regeneration, Experimental Data, Tables(data), EDB/400201, Theses.

DE99002386REB PC A01/MF A01
Department of Energy, Washington, DC.
Effective temperatures and electron spin polarization in storage rings.
Lawrence Berkeley National Lab., Physics Div., CA (United States).
J. D. Jackson. 31 May 1998, 5p, LBNL-41750.
Contract AC03-76SF00098
Advanced ICFA beam dynamics workshop on quantum aspects of beam physics. Sponsored by Department of Energy, Washington, DC.
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This note is a summary of the author's views on the subject of effective temperatures (and the Unruh temperature in particular) in accelerators. Unruh analyzes the response to vacuum fluctuations of a linearly accelerated two- level atom serving as a detector and shows that the relative populations of the two states are given by a boltzmann factor with kT = (h-bar)a/2(pi)c, where a is the acceleration. The inference is that the detector is immersed in a black- body spectrum of Unruh radiation at the Unruh temperature. He refers to these ideas as the Unruh effect.

Keywords: *Storage Rings, *Electron Beams, Beam Dynamics, Orbits, Spin Orientation, Meetings, EDB/430200, EDB/430400.

DE99002387REB PC A08/MF A02
Department of Energy, Washington, DC.
High-resolution structural studies of ultra-thin magnetic, transition metal overlayers and two-dimensional transition metal oxides using synchrotron radiation. THESIS.
Lawrence Berkeley National Lab., Advanced Light Source Div., CA (United States).
S. A. Kellar. 31 May 1997, 132p, LBNL-41797.
Contract AC03-76SF00098
Sponsored by Department of Energy, Washington, DC.
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This thesis report the surface-structure determination of three, ultra-thin magnetic transition-metal films, Fe/Au(100), Mn/Ni(100), and Mn/Cu(100) using Angle-Resolved Photoemission Extended Fine Structure (ARPEFS) and photoelectron holography. These structural studies are the first to use non-s initial states in the ARPEFS procedure. This thesis also reports an ARPEFS surface-structure determination of a two-dimensional transition-metal oxide, ((1 x 1)O/W(110)) x 12. The authors have analyzed the ARPFES signal from the Au 4f(sub 7/5) core level of the Au(1 ML)/Fe(15 ML)/Au(100) system. The analysis shows that the Fe grows layer by layer with one monolayer of gold, acting as a surfactant, remaining on top of the growing Fe layers. These surface gold atoms sit in the four-fold hollow site, 1.67 (+-) 0.02 A above the iron surface. The grown Fe layer is very much like the bulk, bcc iron, with an interlayer spacing of 1.43 (+-) 0.03 A. Analysis of the Mn 3p ARPEFS signals from c(2 x 2)Mn/Ni(100) and c(2 x 2)Mn/Cu(100) shows that the Mn forms highly corrugated surface alloys. The corrugation of the Mn/Ni(100) and Mn/Cu(100) systems are 0.24 (+-) 0.02 A and 0.30 (+-) 0.04 A respectively. In both cases the Mn is sticking above the plane of the surface substrate atoms. For the Mn/Ni(100) system the first layer Ni is contracted 4% from the bulk value. The Mn/Cu(100) system shows bulk spacing for the substrate Cu. Photoelectron holography shows that the Mn/Ni interface is very abrupt with very little Mn leaking into the second layer, while the Mn/Cu(100) case has a significant amount of Mn leaking into the second layer. A new, five-element electrostatic electron lens was developed for hemispherical electron-energy analyzers.

This lens system can be operated at constant transverse or constants angular magnification, and has been optimized for use with the very small photon-spot sizes. Improvements to the hemispherical electron-energy analyzer are also discussed.

Keywords: *Manganese, *Synchrotron Radiation, Iron, Gold, Nickel, Copper, Layers, Tungsten Oxides, Electronic Structure, Magnetic Materials, Experimental Data, Electron Diffraction, Crystal Structure, Tables(data), EDB/360102, EDB/360202, EDB/665100, Theses.

DE99002390REB PC A02/MF A01
Department of Energy, Washington, DC.
Role of statistics and thermodynamics in nuclear multifragmentation.
Lawrence Berkeley National Lab., Nuclear Science Div., CA (United States).
L. G. Moretto, L. Beaulieu, L. Phair, and G. J. Wozniak.
31 Mar 1998, 10p, LBNL-41936.
Contract AC03-76SF00098
International workshop on nuclear matter in different phases and transitions. Sponsored by Department of Energy, Washington, DC.
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The natural limit of binomial reducibility in nuclear multifragmentation is observed in excitation functions for intermediate mass fragments (IMF) of a given element Z. The multiplicity distributions for each window of transverse energy are Poissonian. Thermal scaling is observed in the linear Arrhenius plots constructed from the average multiplicity of each element. Emission barriers are extracted from the slopes of the Arrhenius plots and their possible origin is discussed.

Keywords: *Nuclear Fragmentation, *Thermodynamics, Statistics, Excitation Functions, Nuclear Fragments, Intermediate Mass Nuclei, Multiplicity, Transverse Energy, Nuclear Potential, Heavy Ion Reactions, Meetings, EDB/663450.

DE99002391REB PC A03/MF A01
Department of Energy, Washington, DC.
Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
Lawrence Berkeley National Lab., Nuclear Science Div., CA (United States).
L. G. Moretto, L. Beaulieu, L. Phair, and G. J. Wozniak.
31 Jan 1998, 11p, LBNL-41939.
Contract AC03-76SF00098
International winter meeting on nuclear physics (36th). Sponsored by Department of Energy, Washington, DC.
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The authors explore the natural limit of binomial reducibility in nuclear multifragmentation by constructing excitation functions for intermediate mass fragments (IMF) of a given element Z. The resulting multiplicity distributions for each window of transverse energy are Poissonian. Thermal scaling is observed in the linear Arrhenius plots made from the average multiplicity of each element. Emission barriers are extracted from the slopes of the Arrhenius plots and their possible origin is discussed.

Keywords: *Heavy Ion Reactions, *Nuclear Fragmentation, Atomic Number, Nuclear Fragments, Excitation Functions, Multiplicity, Arrhenius Equation, Mev Range 10- 100, Statistics, Nuclear Potential, Meetings, EDB/663450.

DE99002392REB PC A05/MF A01
Department of Energy, Washington, DC.
Exploratory technology research program for electrochemical energy storage, annual report for 1997. PROGRESS REPT.
Lawrence Berkeley National Lab., Environmental Energy Technologies Div., CA (United States).
K. Kinoshita. 30 Jun 1998, 52p, LBNL-41950.
Contract AC03-76SF00098
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The US Department of Energy's (DOE) Office of Transportation Technologies provides support for an Electrochemical Energy Storage Program, that includes research and development on advanced rechargeable batteries. A major goal of this program is to develop electrochemical power sources suitable for application in electric vehicles (EVs) and hybrid systems. The program centers on advanced electrochemical systems that offer the potential for high performance and low life-cycle costs, both of which are necessary to permit significant penetration into commercial markets. The DOE Electric Vehicle Technology Program is divided into two project areas: the US Advanced Battery Consortium (USABC) and Advanced Battery R and D which includes the Exploratory Technology Research (ETR) Program managed by the Lawrence Berkeley National Laboratory (LBNL). The specific goal of the ETR Program is to identify the most promising electrochemical technologies and transfer them to the USABC, the battery industry and/or other Government agencies for further development and scale-up. This report summarizes the research, financial and management activities relevant to the ETR Program in CY 1997. This is a continuing program, and reports for prior years have been published; they are listed at the end of this Executive Summary. The general R and D areas addressed by the program include identification of new electrochemical couples for advanced batteries, determination of technical feasibility of the new couples, improvements in battery components and materials, and establishment of engineering principles applicable to electrochemical energy storage. Major emphasis is given to applied research which will lead to superior performance and lower life-cycle costs.

Keywords: *Energy storage, *Electric Batteries, Progress Report, Research Programs, Lawrence Berkeley Laboratory, Program Management, Financial Data, Tables(data), EDB/290500, EDB/250900.

DE99002399REB PC A01/MF A01
Department of Energy, Washington, DC.
Tracer modeling in an urban environment.
Los Alamos National Lab., NM.
J. M. Reisner, W. S. Smith, J. E. Bossert, and J. L. Winterkamp. 31 Dec 1998, 5p, LA-UR-98-3563.
Contract W-7405-ENG-36
Urban environment symposium (2nd). Sponsored by Department of Energy, Washington, DC.
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The accurate simulation of the transport of a tracer released into an urban area requires sufficiently high model resolution to resolve buildings and urban street canyons. Within the authors' group a modeling effort has been underway to develop a model – termed HIGRAD – capable of simulating flow at the high spatial resolution required within the urban environment. HIGRAD uses state-of- the-art numerical techniques to accurately simulate the regions of strong shear found near edges of buildings. HIGRAD also employs a newly developed radiation package which in addition to standard shortwave and longwave heating/cooling effects can account for the shadowing effects of building complexes on the urban flow field. Idealized simulations have been conducted which clearly illustrate the role radiation plays in transport and dispersion in an urban setting. The authors have also modeled the flow of an inert tracer in a realistic, complex urban environment. Complex flow/building interactions were produced during the simulation and these interactions had a significant impact on the transport of the tracer.

Keywords: *Environmental Transport, *Urban Areas, Pollutants, Air Pollution, Tracer Techniques, Mathematical Models, H Codes, Solar Radiation, Experimental Data, Meetings, Tables(data), EDB/540120, EDB/990200.

DE99002404REB PC A03/MF A01
Department of Energy, Washington, DC.
Performance and scalability analysis of teraflop-scale parallel architectures using multidimensional wavefront applications.
Los Alamos National Lab., NM.
A. Hoisie, O. Lubeck, and H. Wasserman. 31 Dec 1998, 13p, LA-UR-98-3538.
Contract W-7405-ENG-36
Supercomputing 1998. Sponsored by Department of Energy, Washington, DC.
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The authors develop a model for the parallel performance of algorithms that consist of concurrent, two-dimensional wavefronts implemented in a message passing environment. The model, based on a LogGP machine parameterization, combines the separate contributions of computation and communication wavefronts. They validate the model on three important supercomputer systems, on up to 500 processors. They use data from a deterministic particle transport application taken from the ASCI workload, although the model is general to any wavefront algorithm implemented on a 2-D processor domain. They also use the validated model to make estimates of performance and scalability of wavefront algorithms on 100-TFLOPS computer systems expected to be in existence within the next decade as part of the ASCI program and elsewhere. In this context, they analyze two problem sizes. The model shows that on the largest such problem (1 billion cells), inter-processor communication performance is not the bottleneck. Single-node efficiency is the dominant factor.

Keywords: *Parallel Processing, *Algorithms, Performance, Mathematical Models, Data Transmission, Supercomputers, Computer Architecture, Neutron Transport, Discrete Ordinate Method, Array Processors, Meetings, EDB/990200, EDB/663610.

DE99002405REB PC A02/MF A01
Department of Energy, Washington, DC.
Evolution of microstructural changes in pressed HMX explosives.
Los Alamos National Lab., NM.
C. B. Skidmore, D. S. Phillips, P. M. Howe, J. T. Mang, and J. A. Romero. 31 Dec 1998, 9p, LA-UR-98-3473.
Contract W-7405-ENG-36
Detonation symposium (11th). Sponsored by Department of Energy, Washington, DC.
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Recently developed techniques for investigating the microstructure of plastic-bonded explosives have been applied to HMX explosives pressed to various levels of porosity. Microstructural changes in PBX 9501 area followed from the early stages of prill consolidation through typical density to very low porosity (0.6%). As porosity is reduced, the following sequence is observed. Large inter- and intra-prill voids are eliminated with first damage to HMX crystals occurring at prill boundaries. This is followed by increased incidence of crystal twinning and cracking. At the lowest porosities, spall pullout artifacts are observed, cracks associated with particle contact points are more obvious, and the results of intercrystalline indentation or intergrowth migration processes are apparent. A comparison is made, at lowest porosities achieved, with PX 9404 and X-0242 (a formulation like PBX 9501 with higher binder volume). Possible implications on porosity trends in shock sensitivity data are discussed.

Keywords: *Chemical Explosives, *Microstructure, Porosity, Twinning, Crack Propagation, Experimental Data, Binders, Shock Waves, Pressing, Meetings, Tables(data), EDB/450100.

DE99002406REB PC A05/MF A01
Department of Energy, Washington, DC.
Detonation and combustion of explosives: A selected bibliography. BIBLIOGRAPHY.
Los Alamos National Lab., NM.
B. Dobratz. 31 Aug 1998, 71p, LA-UR-98-3434.
Contract W-7405-ENG-36
Detonation symposium (11th). Sponsored by Department of Energy, Washington, DC.

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This bibliography consists of citations pertinent to the subjects of combustion and detonation of energetic materials, especially, but not exclusively, of secondary solid high explosives. These references were selected from abstracting sources, conference proceedings, reviews, and also individual works. The entries are arranged alphabetically by first author and numbered sequentially. A keyword index is appended.

Keywords: *Chemical Explosives, *Bibliographies, Chemical Explosions, Combustion, Meetings, EDB/450100.

DE99002407REB PC A02/MF A01
Department of Energy, Washington, DC.
Study of the overdriven behaviors of PBX 9501 and PBX 9502.
Los Alamos National Lab., NM.
P. K. Tang. 31 Dec 1998, 9p, LA-UR-98-3365.
Contract W-7405-ENG-36
Detonation symposium (11th). Sponsored by Department of Energy, Washington, DC.
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The author presents the Hugoniot pressure and sound speed data in the overdriven regime for both PBX 9501 and PBX 9502. The overdriven release experiments are also given. The failure of the standard Jones-Wilkins-Lee equation of state in modeling both the Hugoniot data and the overdriven release experiments for both high explosives are identified and remedy is made by including additional terms to steepen the slope of the Hugoniot in the high pressure regime. However, an anomaly presented itself as a kink in the release wave of PBX 9502 is observed. A careful examination of the Hugoniot data indicates similar behavior. A possible explanation is suggested for this peculiarity to the phase transition of carbon in the products.

Keywords: *Chemical Explosives, *Detonation Waves, Equations Of State, Chemical Explosions, Hydrodynamics, Mathematical Models, Combustion Products, Meetings, EDB/450100.

DE99002408REB PC A02/MF A01
Department of Energy, Washington, DC.
Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
Los Alamos National Lab., NM.
B. W. Asay, P. M. Dickson, B. Henson, C. Fugard, and D. J. Funk. 31 Dec 1998, 9p, LA-UR-98-2706.
Contract W-7405-ENG-36
Detonation symposium (11th). Sponsored by Department of Energy, Washington, DC.
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A new technique for measuring the dynamic displacement fields during deformation has been developed. The method uses high speed laser-induced fluorescence speckle photography. The authors report the effect of projectile velocity and radius on the strain fields in a quasi-two dimensional confined sample of PBX 9501.

Keywords: Chemical Explosives, Impact Tests, Deformation, Strains, Dynamic Loads, Photography, Diagnostic Techniques, Laser Radiation, Experimental Data, Data Analysis, Meetings, Tables(data), EDB/450100.

DE99002410REB PC A02/MF A01
Department of Energy, Washington, DC.
Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946--1997.
Los Alamos National Lab., NM.
J. B. Ramsay, and R. H. Goldie. 31 Dec 1998, 9p, LA-UR-98-3342.
Contract W-7405-ENG-36
Detonation symposium (11th). Sponsored by Department of Energy, Washington, DC.
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At the inception of the Laboratory hectic and intense work was the norm during the development of the atomic bombs. After the war the development of other weapons for the Cold War again contributed to an intense work environment. Formal Standard Operating Procedures (SOPs) were not required at that time. However, the occurrence of six fatalities in 1959 during the development of a new high-energy plastic bonded explosive (94% HMX) forced the introduction SOPs. After an accident at the Department of Energy (DOE) plant at Amarillo, TX in 1977, the DOE promulgated the Department wide DOE Explosives Safety Manual. Table 1 outlines the history of the introduction of SOPs and the DOE Explosives Safety Manual. Many of the rules and guidelines presented in these documents were developed and introduced as the result of an incident or accident. However, many of the current staff are not familiar with the background of the development. To preserve as much of this knowledge as possible, they are collecting documentation on incidents and accidents involving energetic materials at Los Alamos. Formal investigations of serious accidents elucidate the multiple causes that contributed to accidents. These reports are generally buried in a file and, and are not read by more recent workers. Reports involving fatalities at Los Alamos before 1974 were withheld from the general employee. Also, these documents contain much detail and analysis that is not of interest to the field worker. The authors have collected the documents describing 116 incidents and have analyzed the contributing factors as viewed from the standpoint of the individual operator. All the incidents occurred at the Los Alamos National Laboratory and involved energetic materials in some manner, though not all occurred within the explosive handling groups. Most accidents are caused by multiple contributing factors. They have attempted to select the one or two factors that they consider as the most important relative to the individual doing the work. The value of SOPs was an obvious conclusion apriori. The introduction and use of SOPs reduced the probability of serious accidents. The second conclusion was less obvious in that it appears that the SOP did not adequately provide all the controls necessary for 16% of the events. Violations of SOPs, always considered as a potential contributor, was assigned as the major contributor in only 10 incidents.

Keywords: *Los Alamos National Laboratory, *Chemical Explosives, *Accidents, *Historical Aspects, Lanl, Occupational Safety, Data Analysis, EDB/450100.

DE99002411REB PC A02/MF A01
Department of Energy, Washington, DC.
Application of nonlinear wave modulation spectroscopy to discern material damage.
Los Alamos National Lab., NM.
P. A. Johnson, A. Sutin, and K. E. A. Abeele. 31 Dec 1999, 9p, LA-UR-99-753.
Contract W-7405-ENG-36
International conference on emerging technologies in NDT (2nd). Sponsored by Department of Energy, Washington, DC.
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Materials containing structural damage have a far greater nonlinear elastic response than materials with no structural damage. This is the basis for nonlinear wave diagnostics of damage, methods which are remarkably sensitive to the detection and progression of damage in materials. Here the authors describe one nonlinear method, the application of harmonics and sum and difference frequency to discern damage in materials. The method is termed Nonlinear Wave Modulation Spectroscopy (NWMS). It consists of exciting a sample with continuous waves of two separate frequencies simultaneously, and inspecting the harmonics of the two waves, and their sum and difference frequencies (sidebands) . Undamaged materials are essentially linear in their response to the two waves, while the same material, when damaged, becomes highly nonlinear, manifested by harmonics and sideband generation. The authors illustrate the method by experiments on uncracked and cracked plexiglass and sandstone samples, and by applying it to intact and damaged engine components.

Keywords: *Materials Testing, *Damage, *Spectroscopy, Nonlinear Problems, Frequency Analysis, Cracks, Harmonic Generation, Experimental Data, Tables(data), EDB/420500.

DE99002412REB PC A04/MF A01
Department of Energy, Washington, DC.
Dislocation accumulation at large plastic strains -- An approach to the theoretical strength of materials.
Los Alamos National Lab., NM.
J. D. Embury, and K. Han. 31 Dec 1999, 32p, LA-UR-99-750.
Contract W-7405-ENG-36
Mechanical behaviors of materials. Sponsored by Department of Energy, Washington, DC.
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The usual method of introducing engineers to the concept of dislocations and their role in plastic flow is to compare an estimate of the theoretical strength of solid (of order (micro)/30 where (micro) is the shear modulus) and the observed strength of either single crystals ((mu)/10(sup 4)) or practical engineering material such as structural steels where the yield stress in shear is of order (mu)/10(sup 3). However, if one considers the problem in reverse, one can consider the accumulation of dislocations as an important mechanism by which one can produce engineering materials in which the strength level approaches the theoretical strength. If one assumes that the flow stress can be expressed in terms of te mean free path between stored dislocations or as the square root of the global dislocation density, then one can see the influence of dislocation density in a diagrammatic form. It is clear that the strengthening by dislocation accumulation due to large imposed plastic strains represents an important approach both to the development of new, potentially valuable, engineering materials and an important area of basic understanding in terms of the mechanical response of materials close to their theoretical strength. Thus, this article will survey some of the factors which influence dislocation accumulation at large strains and the consequences of such accumulation processes.

Keywords: *Plasticity, *Tensile Properties, *Materials, Strains, Dislocations, Twinning, Crystal-phase Transformations, Compiled Data, Tables(data), EDB/360103, EDB/360203, EDB/360603.

DE99002422REB PC A04/MF A01
Department of Energy, Washington, DC.
New 3D parallel GILD electromagnetic modeling and nonlinear inversion using global magnetic integral and local differential equation.
Lawrence Berkeley National Lab., Earth Sciences Div., CA (United States).
G. Xie, J. Li, E. Majer, and D. Zuo. 31 Jul 1998, 49p, LBNL-42105.
Contract AC03-76SF00098
Annual meeting and expo of the Society of Exploration Geophysicists (SEG) (67th). Sponsored by Department of Energy, Washington, DC.
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This paper describes a new 3D parallel GILD electromagnetic (EM) modeling and nonlinear inversion algorithm. The algorithm consists of: (a) a new magnetic integral equation instead of the electric integral equation to solve the electromagnetic forward modeling and inverse problem; (b) a collocation finite element method for solving the magnetic integral and a Galerkin finite element method for the magnetic differential equations; (c) a nonlinear regularizing optimization method to make the inversion stable and of high resolution; and

(d) a new parallel 3D modeling and inversion using a global integral and local differential domain decomposition technique (GILD). The new 3D nonlinear electromagnetic inversion has been tested with synthetic data and field data. The authors obtained very good imaging for the synthetic data and reasonable subsurface EM imaging for the field data. The parallel algorithm has high parallel efficiency over 90% and can be a parallel solver for elliptic, parabolic, and hyperbolic modeling and inversion. The parallel GILD algorithm can be extended to develop a high resolution and large scale seismic and hydrology modeling and inversion in the massively parallel computer.

Keywords: *Electromagnetic Surveys, Three-dimensional Calculations, G Codes, Integral Equations, Finite Element Method, Differential Equations, Parallel Processing, Performance, Hydrology, Seismic Surveys, Uses, EDB/990200, EDB/580000.

DE99002423REB PC A03/MF A01
Department of Energy, Washington, DC.
Electron transport uniformity characterization of CdZnTe using alpha particles.
Lawrence Berkeley National Lab., CA (United States).
M. Amman, J. S. Lee, and P. N. Luke. 30 Apr 1998, 13p, LBNL-42188.
Contract AC03-76SF00098
Hard X-ray and gamma-ray detector physics and applications conference. Sponsored by Department of Energy, Washington, DC.
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Novel electrode configurations, such as coplanar grids, have been successful in mitigating the effects of poor hole transport in CdZnTe gamma-ray detectors. However, poor material uniformity remains a major problem preventing the widespread application of such detectors in gamma-ray spectroscopy. Uniform electron transport is critical for achieving good gamma-ray detection performance in the coplanar-grid configuration. The authors have investigated the use of alpha-particle response as a quick and simple electron transport uniformity screening technique for material selection, and as a method to study other spectral broadening mechanisms in coplanar-grid detectors. The method consists of uniformly illuminating, with an alpha-particle source, the cathode side of the CdZnTe crystal in either a planar or a coplanar-grid detector configuration. In the planar geometry, the variation in the measured pulse heights is dictated in large part by the uniformity of the electron transport. An alpha-particle spectrum that has a single sharp peak with little background indicates uniform electron transport and, consequently, that the CdZnTe crystal should result in a coplanar-grid detector with good gamma-ray detection performance. In the coplanar geometry, the measured pulse-height variation provides information on additional sources of spectral broadening. In this paper the authors present the results of their study to measure the correlation between these simple alpha-particle measurements and the coplanar-grid gamma- ray detector response.

Keywords: *Charge Transport, *Cadmium Tellurides, *Zinc Tellurides, Semiconductor Detectors, Gamma Spectrometers, Alpha Particles, Response Functions, Experimental Data, Tables(data), EDB/440103.

DE99002425REB PC A09/MF A02
Department of Energy, Washington, DC.
Hanford Site National Environmental Policy Act (NEPA) characterization. Revision 10.
Pacific Northwest National Lab., Richland, WA (United States).
D. A. Neitzel, C. J. Fosmire, and R. A. Fowler. 30 Sep 1998, 171p, PNNL-6415-REV.10.
Contract AC06-76RL01830
Sponsored by Department of Energy, Washington, DC.
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This document describes the US Department of Energy's (DOE) Hanford Site environment and is numbered to correspond to the chapters where such information is presented in Hanford Site NEPA related documents. The document is intended to provide a consistent description of the Hanford Site environment for the many NEPA documents that are being prepared by contractors. The two chapters in this document (Chapters 4 and 6) are numbered this way to correspond to the chapters where such information is presented in environmental impact statements (EISs) and other Site-related NEPA or CERCLA documentation. Chapter 4.0 (Affected Environment) describes the Hanford Site environment, and includes information on climate and meteorology, geology, hydrology, ecology, cultural, archaeological and historical resources, socioeconomics, and noise. Chapter 6.0 (Statutory and Regulatory Requirements) describes applicable federal and state laws and regulations, DOE directives and permits, and environmental standards directly applicable to the NEPA documents on the Hanford Site.

Keywords: *Hanford Reservation, *Us National Environmental Policy Act, Site Characterization, Numerical Data, Tables(data), EDB/290300.

DE99002426REB PC A12/MF A03
Department of Energy, Washington, DC.
Environmental report 1996, Lawrence Livermore National Laboratory.
Lawrence Livermore National Lab., CA (United States).
H. L. Lentzner, M. M. Napolitano, and R. J. Harrach. 1 Sep 1997, 250p, UCRL-50027-96.
Contract W-7405-ENG-48
Sponsored by Department of Energy, Washington, DC.
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This report summarizes the environmental program activities at the Lawrence Livermore National Laboratory (LLNL) for 1996. This report accurately summarizes the results of environmental monitoring, compliance, impacts assessment, and the restoration program at LLNL. It features individual chapters on monitoring of air, sewage, surface water, ground water, soil and sediment, vegetation and foodstuff, and environmental radiation. It also contains chapters on site overview, environmental program information, radiological dose assessment, and quality assurance.

Keywords: *Lawrence Livermore National Laboratory, *Environmental Impacts, *Monitoring, *Remedial Action, Quality Assurance, Radioactive Effluents, Chemical Effluents, Numerical Data, Site Characterization, Tables(data), EDB/053000, EDB/054000.

DE99002427REB PC A12/MF A03
Department of Energy, Washington, DC.
Environmental report 1997, Lawrence Livermore National Laboratory.
Lawrence Livermore National Lab., CA (United States).
H. L. Lentzner, J. C. Morris, and R. J. Harrach. 1 Sep 1998, 250p, UCRL-50027-97.
Contract W-7405-ENG-48
Sponsored by Department of Energy, Washington, DC.
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This report summarizes the environmental program activities at the Lawrence Livermore National Laboratory (LLNL) for 1997. This report accurately summarizes the results of environmental monitoring, compliance, impacts assessment, and the restoration program at LLNL. It features individual chapters on monitoring of air, sewage, surface water, ground water, soil and sediment, vegetation and foodstuff, and environmental radiation. It also contains chapters on site overview, environmental program information, radiological dose assessment, and quality assurance.

Keywords: *Lawrence Livermore National Laboratory, *Environmental Impacts, *Monitoring, *Remedial Action, Quality Assurance, Radioactive Effluents, Chemical Effluents, Numerical Data, Site Characterization, Tables(data), EDB/053000, EDB/054000.

DE99002432REB PC A12/MF A03
Department of Energy, Washington, DC.
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
Environmental Science and Research Foundation, Inc., Idaho Falls, ID (United States).
R. B. Evans, R. W. Brooks, D. Roush, D. B. Martin, and B. S. Lantz. 31 Aug 1998, 250p, ESRF-030.
Contract AC07-94ID13268
Sponsored by Department of Energy, Washington, DC.
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To verify that exposures resulting from operations at Department of Energy (DOE) nuclear facilities remain very small, each site at which nuclear activities are conducted operates an environmental surveillance program to monitor the air, water and any other pathway whereby radionuclides from operations might conceivably reach workers and members of the public. Environmental surveillance and monitoring results are reported annually to the DOE-Headquarters. This report presents a compilation of data collected in 1997 for the routine environmental surveillance programs conducted on and around the Idaho National Engineering and Environmental Laboratory (INEEL). The results of the various monitoring programs for 1997 indicated that radioactivity from the INEEL operations could generally not be distinguished from worldwide fallout and natural radioactivity in the region surrounding the INEEL. Although some radioactive materials were discharged during INEEL operations, concentrations in the offsite environment and doses to the surrounding population were far less than state of Idaho and federal health protection guidelines.

Keywords: *Idaho National Engineering Laboratory, *Monitoring, *Environmental Impacts, *Site Characterization, Numerical Data, Radioactive Effluents, Chemical Effluents, Tables(data), EDB/053002, EDB/053003.

DE99002433REB PC A03/MF A01
Department of Energy, Washington, DC.
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
Environmental Science and Research Foundation, Inc., Idaho Falls, ID (United States).
R. G. Mitchell, D. E. Roush, and R. B. Evans. 31 Oct 1998, 22p, ESRF-031.
Contract AC07-94ID13268
Sponsored by Department of Energy, Washington, DC.
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Every human is exposed to natural radiation. This exposure comes from many sources, including cosmic radiation from outer space, naturally-occurring radon, and radioactivity from substances in the body. In addition to natural sources of radiation, humans can also be exposed to human-generated sources of radiation. Some examples of these sources include nuclear medicine, X-rays, nuclear weapons testing, and accidents at nuclear power plants. The Idaho National Engineering and Environmental Laboratory (INEEL) is a US Department of Energy (DOE) research facility that deals, in part, with studying nuclear reactors and the storage and cleanup of radioactive materials. Careful handling and rigorous procedures do not completely eliminate the risk of releasing radioactivity. So, there is a possibility for a member of the public near the INEEL to be exposed to radioactivity from the INEEL. Extensive monitoring of the environment takes place one and around the INEEL. These programs search for radionuclides and other contaminants. The results of these programs are presented each year in a site environmental report. This document summarizes the INEEL site environmental report for 1997.

Keywords: *Idaho National Engineering Laboratory, *Environmental Impacts, *Site Characterization, *Monitoring, Chemical Effluents, Radioactive Effluents, Safety, EDB/053000.

DE99002438REB PC A02/MF A01
Department of Energy, Washington, DC.

Investigation of pin-post monochromators for a wiggler beamline.
Argonne National Lab., IL.
S. Krasnicki, J. Maj, W. Schildkamp, and T. Tonnessen. 31 Dec 1998, 8p, ANL/XFD/CP-96040.
Contract W-31109-ENG-38
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Three water-cooled pin-post monochromators, to be used on a wiggler beamline at the Advanced Photon Source (APS), were built with the heat exchanger engineered to provide very high heat transfer. The geometry of the heat exchanger as well as calculated data on the heat transfer will be presented. Before using the monochromators on the beamline, they were checked by x-ray diffraction topography. Reflections (333) and (220) in Bragg case were utilized. In all crystals, similar patterns of strain in the diffracting silicon layers were revealed, which can be attributed to the geometry of the heat exchangers, the bonding technology, and the thickness of the top layer. Conclusions about construction of future pin-post monochromators have been drawn.

Keywords: *Monochromators, *Accelerator Facilities, *Wiggler Magnets, *Advanced Photon Source, Heat Exchangers, Heat Transfer, Design, Deformation, EDB/430303, EDB/430400.

DE99002439REB PC A05/MF A01
Department of Energy, Washington, DC.
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
New Brunswick Lab., Argonne, IL.
P. V. Croatto, I. W. Frank, K. D. Johnson, P. B. Mason, and M. M. Smith. 31 Dec 1997, 52p, NBL-345.
Contract W-31109-ENG-38
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In the past, New Brunswick Laboratory (NBL) has used a fluorometric method for the determination of submicrogram quantities of uranium. In its continuing effort to upgrade and improve measurement technology, NBL has evaluated the commercially-available KPA-11 kinetic phosphorescence analyzer (Chemchek, Richland, WA). The Chemchek KPA-11 is a bench-top instrument which performs single-measurement, quench-corrected analyses for trace uranium. It incorporates patented kinetic phosphorimetry techniques to measure and analyze sample phosphorescence as a function of time. With laser excitation and time- corrected photon counting, the KPA-11 has a lower detection limit than conventional fluorometric methods. Operated with a personal computer, the state- of-the-art KPA-11 offers extensive time resolution and phosphorescence lifetime capabilities for additional specificity. Interferences are thereby avoided while obtaining precise measurements. Routine analyses can be easily and effectively accomplished, with the accuracy and precision equivalent to the pulsed-laser fluorometric method presently performed at NBL, without the need for internal standards. Applications of kinetic phosphorimetry at NBL include the measurement of trace level uranium in retention tank, waste samples, and low-level samples. It has also been used to support other experimental activities at NBL by the measuring of nanogram amounts of uranium contamination (in blanks) in isotopic sample preparations, and the determining of elution curves of different ion exchange resins used for uranium purification. In many cases, no pretreatment of samples was necessary except to fume them with nitric acid, and then to redissolve and dilute them to an appropriate concentration with 1 M HNO(sub 3) before measurement. Concentrations were determined on a mass basis (micro g U/g of solution), but no density corrections were needed since all the samples (including the samples used for calibration) were in the same density matrix 1 M HNO(sub 3). A statistical evaluation of the determination of uranium using kinetic phosphorimetry is described in this report, along with a discussion of the method, and an evaluation of the use of plastic versus quartz cuvettes. Measurement with a precision of (+-) 3--4% relative standard deviation (RSD) and an accuracy of better than (+-) 2% relative difference (RD) are obtained in the 0.0006 to 5 (micro)g U/g-solution range. The instrument detection limit is 0.04 ppb 4 x 10(sup -5) (micro) g U/g solution using quartz cells, and 0.11 ppb 11 x 10(sup -5) (micro) g U/g solution using disposable methacrylate cuvettes.

Keywords: *Uranium, *Phosphorescence, *Trace Amounts, Chemical analysis, Sample Preparation, Uses, Sample Holders, Accuracy, Limiting Values, EDB/400102.

DE99002442REB PC A06/MF A01
Department of Energy, Washington, DC.
BCLDP site environmental report for calendar year 1997 on radiological and nonradiological parameters.
Battelle, Columbus, OH.
J. Fry. 30 Sep 1998, 84p, BCLDP-093098.
Contract W-7405-ENG-92
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Battelle Memorial Institute currently maintains its retired nuclear research facilities in a surveillance and maintenance (S and M) mode and continues decontamination and decommissioning (D and D) activities. The activities are referred to as the Battelle Columbus Laboratories Decommissioning Project (BCLDP). Operations reference in this report are performed in support of S and M and D and D activities. The majority of this report is devoted to discussion of the West Jefferson facility, because the source term at this facility is larger than the source term at Battelle's King Avenue site. The contamination found at the King Avenue site consists of small amounts of residual radioactive material in solid form, which has become embedded or captured in nearby surfaces such as walls, floors, ceilings, drains, laboratory equipment, and soils. By the end of calendar year (CY) 1997, most remediation activities were completed at the King Avenue site. The contamination found at the West Jefferson site is the result of research and development activities with irradiated materials. During CY 1997, multiple tests at the West Jefferson Nuclear Sciences Area found no isotopes present above the minimum detectable activity (MDA) for air releases or for liquid discharges to Big Darby Creek. Data obtained from downstream sampling locations were statistically indistinguishable from background levels.

Keywords: *Nuclear Facilities, *Remedial Action, *Ohio, *Radioactive Wastes, Numerical Data, Decontamination, Decommissioning, Tables(data), EDB/053000.

DE99002444REB PC A02/MF A01
Department of Energy, Washington, DC.
Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
Southwest Research Inst., San Antonio, TX (United States).
M. J. Sablik, G. L. Burkhardt, and H. Kwun. 31 Dec 1993, 9p.
Contract FG05-91ER14180
Symposium on energy engineering sciences (11th). Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A probe, consisting of two excitation coils and a detection coil wrapped around a core with a Hall probe between the pole pieces, has been used to measure indirectly the influence of biaxial stress on the magnetic properties of a ferromagnetic specimen, in this case annealed SAE-4130 steel. Properties measured indirectly included remanence, coercivity, and first, third and fifth harmonic amplitudes. The properties were extracted from the voltage measured across the detection coil and incorporate the magnetic influence of the soft iron core, but with the effect of air gap variation between pole piece and sample kept to a controlled range. Results were compared to a micromagnetic model for the effect of biaxial stress on hysteresis and on magnetic properties. The micromagnetic model is a modified version of a model previously employed by Schneider et al. The experimental remanence variation due to biaxial stress compared very well to the predictions of the model. Furthermore, the model predict,s and experiment bears out, that the remanence with the field along one stress axis minus the remanence with the field along the other stress axis falls in a straight-line band of values when plotted against the difference of the two stresses. This suggests a possible NDE technique for detecting differences in biaxial stresses at a given location in a steel specimen.

Keywords: *Magnetic Properties, *Steels, *Pipelines, Magnetic Test, Stresses, Experimental Data, Mathematical Models, Theoretical Data, Tables(data), EDB/420500, EDB/360103, EDB/360104.

DE99002446REB PC A03/MF A01
Department of Energy, Washington, DC.
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July--September 1996.
General Atomics, San Diego, CA.
31 Oct 1996, 20p, GA-C22131(3Q/96).
Contract FC07-95ID13352
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General Atomics (GA) leads a team of industrial, academic, and government organizations to develop the Environmental Systems Management, Analysis and Reporting neTwork (E-SMART) for the Defense Advanced Research Project Agency (DARPA), by way of this Technology Reinvestment Project (TRP). E-SMART defines a standard by which networks of smart sensing, sampling, and control devices can interoperate. E-SMART is intended to be an open standard, available to any equipment manufacturer. The user will be provided a standard platform on which a site-specific monitoring plan can be implemented using sensors and actuators from various manufacturers and upgraded as new monitoring devices become commercially available. This project will further develop and advance the E- SMART standardized network protocol to include new sensors, sampling systems, and graphical user interfaces.

Keywords: *Monitoring, *Environmental Impacts, *Organic Compounds, *Volatile Matter, *Standards, Progress Report, Monitors, Site Characterization, Data Analysis, Experimental Data, Tables(data), EDB/540220, EDB/290300.

DE99002447REB PC A04/MF A01
Department of Energy, Washington, DC.
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October--December 1996.
General Atomics, San Diego, CA.
31 Jan 1997, 42p, GA-C22131(4Q/96).
Contract FC07-95ID13352
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Keywords: *Monitoring, *Environmental Impacts, *Organic Compounds, *Volatile Matter, *Standards,

Progress Report, Monitors, Site Characterization, Data Analysis, Experimental Data, Tables(data), EDB/540220, EDB/290300.

DE99002454REB PC A03/MF A01
Department of Energy, Washington, DC.
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October-December 1997.
General Atomics, San Diego, CA.
30 Mar 1998, 29p, GA-C22131(4Q/97).
Contract FC07-95ID13352
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

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Keywords: *Environmental Impacts, *Monitors, Progress Report, Monitoring, Organic Compounds, Volatile Matter, Standards, Site Characterization, Data Analysis, EDB/540220, EDB/290300.

DE99002705REB PC A10/MF A03
Department of Energy, Washington, DC.
Natural gas imports and exports. Fourth quarter report, 1998. PROGRESS REPT.
Dept. of Energy, Office of Natural Gas and Petroleum Import and Export Activities, Washington, DC (United States).
31 Dec 1998, 195p, DOE/FE-0388.
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Office of Natural Gas and Petroleum Import and Export Activities prepares quarterly reports summarizing the data provided by companies authorized to import or export natural gas. Companies are required, as a condition of their authorizations, to file quarterly reports. This report is for the fourth quarter of 1998 (October through December). Attachment A shows the percentage of takes to maximum firm contract levels and the weighted average per unit price for each of the long-term importers during the five most recent reporting quarters. Attachment B shows volumes and prices of gas purchased by long-term importers and exporters during the past 12 months. Attachment C shows volume and price information pertaining to gas imported on a short-term or spot market basis. Attachment D shows the gas exported on a short- term or spot market basis to Canada and Mexico.

Keywords: *Natural Gas, *Imports, *Exports, *Statistical Data, Progress Report, Prices, Compiled Data, Spot Market, Tables(data), EDB/030600, EDB/292000, EDB/294003.

DE99050111REB PC A03/MF A01
Department of Energy, Washington, DC.
International Atomic Energy Agency/Hanford Site shared use of calorimeters.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
T. L. Welsh. 21 Jul 1997, 12p, HNF-SA-3170-FP.
Contract AC06-96RL13200
Annual meeting of the Institute of Nuclear Materials management (38th). Sponsored by Department of Energy, Washington, DC.
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Hanford Site operators combine gamma ray isotopic and calorimetry measurements for nondestructive plutonium assay. Such measurements offer lower variability (particularly for heterogeneous materials) and decreased radiation exposure, cost, waste, intrusiveness, and material handling compared to destructive analysis. Until now, the International Atomic Energy Agency (IAEA) has relied on destructive analysis to perform the most accurate verification requirements for plutonium stored under safeguards at the Hanford Site. It was recognized that using calorimetry could significantly reduce the need for the IAEA to perform destructive analysis. To authorize the operator's calorimeters for routine IAEA use, however, it was necessary to develop authentication features and perform independent 1558 testing. Authentication features include IAEA control of the hardware and calorimeter operating system software, measurement of certified IAEA standards, sealing of calorimeter chambers, and limited destructive analysis of IAEA selected items. A field test of these authentication features was performed at the Hanford Site in June 1997. The field test also was meant to enhance the credibility the IAEA imputes to calorimetry prior to its implementation. Progress in shared use of the Hanford Site calorimeters is reported.

Keywords: *Hanford Reservation, *Iaea Safeguards, Nondestructive Analysis, Plutonium, Field Tests, Calorimeters, Nuclear Materials Management, Meetings, EDB/055001.

DE99050133REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-BX-103 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 33p, HNF-SD-WM-RPT-265.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Vapor Issue Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-BX-103. This document presents In Situ Vapor Sampling System (ISVS) data resulting from the August 1, 1996 sampling of SST 241-BX-103. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Samplers, Radioactive Wastes, Adsorbents, EDB/052002.

DE99050134REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-C-204 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 32p, HNF-SD-WM-RPT-250.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Vapor Issue Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241- C-204. This document presents In Situ Vapor Sampling System (ISVS) data resulting from the July 2, 1996 sampling of SST 241-C-204. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Samplers, Adsorbents, EDB/052002.

DE99050135REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-TY-102 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 39p, HNF-SD-WM-RPT-233.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Vapor Issue Resolution Program tasked the Vapor Team (the team) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-TY-102. This document presents sampling data resulting from the April 12, 1996 sampling of SST 241-TY-102. Analytical results will be presented in separate reports issued by the laboratories that supplied and analyzed the sampling media. The team, consisting of Sampling and Mobile Laboratories (SML) and Special Analytical Studies (SAS) personnel, used the vapor sampling system (VSS) to collect representative samples of the air, gases, and vapors from the headspace of SST 241-TY-102 with sorbent traps and SUMMA canisters.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Samplers, Radioactive Wastes, Adsorbents, EDB/052002.

DE99050136REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-B-105 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 33p, HNF-SD-WM-RPT-255.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241- B-105. This document presents In Situ Vapor Sampling System (ISVS) data resulting from the July 30, 1996 sampling of SST 241-B-105. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Samplers, Adsorbents, EDB/052002.

DE99050137REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-C-107 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 33p, HNF-SD-WM-RPT-289.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (the team) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-C-107. This document presents sampling data resulting from the February 7, 1997 sampling of SST 241-C-107. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory which supplied and analyzed the sample media. This is the last in a series of temporal sampling events on SST 241-C-107. The strategy of temporal sampling is to measure the compositional changes of the waste tank headspace as related to seasonal effects and gradual changes of waste chemistry.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Samplers, Chemical Composition, Seasonal Variations, EDB/052002.

DE99050138REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-BX-104 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 31p, HNF-SD-WM-RPT-259.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-BX-104. This document presents In Situ Vapor Sampling System (ISVS) data resulting from the August 22, 1996 sampling of SST 241-BX-104. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media. This is the first in a series of temporal sampling events on SST 241-BX-104. The strategy of temporal sampling is to measure the compositional changes of the waste tank headspace as related to seasonal effects and gradual changes of waste chemistry.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Samplers, Chemical Composition, Radioactive Wastes, Seasonal Variations, EDB/052002.

DE99050140REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-C-107 using the vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 35p, HNF-SD-WM-RPT-230.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (the team) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-C-107. This document presents sampling data resulting from the March 26, 1996 sampling of SST 241-C-107. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory which supplied and analyzed the sample media. The team collected representative headspace samples using the In Situ Vapor Sampling System (ISVS).

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Samplers, Radioactive Wastes, Adsorbents, EDB/052002.

DE99050141REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-BX-110 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 35p, HNF-SD-WM-RPT-236.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (the team) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-BX-110. This document presents sampling data resulting from the April 30, 1996 sampling of SST 241-BX-110. Analytical results will be presented in a separate report issued by Pacific Northwest National Laboratory (PNNL), which supplied and analyzed the sampling media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Samplers, Radioactive Wastes, Adsorbents, EDB/052002.

DE99050142REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-B-102 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 36p, HNF-SD-WM-RPT-234.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (the team) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-B-102. This document presents sampling data resulting from the April 18, 1996 sampling of SST 241-B-102. Analytical results will be presented in a separate report issued by Pacific Northwest National Laboratory (PNNL), which supplied and analyzed the sampling media. The team, consisting of Sampling and Mobile Laboratories (SML) and Special Analytical Studies (SAS) personnel, used the vapor sampling system (VSS) to collect representative samples of the air, gases, and vapors from the headspace of SST 241-B-102 with sorbent traps and SUMMA canisters.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Samplers, Radioactive Wastes, Adsorbents, EDB/052002.

DE99050143REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-B-202 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
G. S. Caprio. 5 Aug 1997, 32p, HNF-SD-WM-RPT-256.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241- B-202. This document presents In Situ Vapor Sampling System (ISVS) data resulting from the July 18, 1996 sampling of SST 241-B-202. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Samplers, Adsorbents, EDB/052002.

DE99050144REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-BX-102 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 33p, HNF-SD-WM-RPT-264.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-BX-102. This document presents In Situ vapor Sampling System (ISVS) data resulting from the July 31, 1996 sampling of SST 241-BX-102. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Samplers, Adsorbents, EDB/052002.

DE99050145REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-U-104 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 36p, HNF-SD-WM-RPT-262.
Contract AC06-96RL13200
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The Vapor Issue.Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241- U-104. This document presents In Situ Vapor Sampling System (ISVS) data resulting from the July 16, 1996 sampling of SST 241-U-104. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Samplers, Adsorbents, EDB/052002.

DE99050146REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-S-103 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 32p, HNF-SD-WM-RPT-245.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241- S-103. This document presents In Situ Vapor Sampling System (ISVS) data resulting from the June 12, 1996 sampling of SST 241-S-103. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Samplers, Adsorbents, EDB/052002.

DE99050147REB PC A03/MF A01
Department of Energy, Washington, DC.
Technical information for the relocation and treatment of Argonne National Laboratory drums.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
R. Clinton. 7 Aug 1997, 13p, HNF-SD-WM-TI-814.
Contract AC06-96RL13200
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The technical information in this document is to evaluate waste drums stored in Solid Waste Project Management facilities that contain organic and potentially flammable gases. The document provides an evaluation of the planned venting of potentially flammable gases and the potential risks associated with the task.

Keywords: *Radioactive Waste Storage, *Containers, Air, Degassing, Flammability, Safety Analysis, Organic Compounds, Gases, EDB/052002, EDB/054000.

DE99050148REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-C-201 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 33p, HNF-SD-WM-RPT-248.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241- C-201. This document presents In Situ Vapor Sampling System (ISVS) data resulting from the June 19, 1996 sampling of SST 241-C-201. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media.

Keywords: *Vapor analysis, *Radioactive Waste Storage, *Gas Analysis, Hanford Reservation, Storage Facilities, Radioactive Wastes, Samplers, Adsorbents, EDB/052002.

DE99050149REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-S-102 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 5 Aug 1997, 33p, HNF-SD-WM-RPT-291.
Contract AC06-96RL13200
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The Vapor Issue Resolution Program tasked the Vapor Team (the team) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-S-102. This document presents sampling data resulting from the February 11, 1997 sampling of SST 241-S-102. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory which supplied and analyzed the sample media. This is the last in a series of temporal sapling events on SST 241-S-102. The strategy of temporal sampling is to measure the compositional changes of the waste tank headspace as related to seasonal effects and gradual changes of waste chemistry.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Samplers, Adsorbents, Chemical Composition, Seasonal Variations, EDB/052002.

DE99050150REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-C-202 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 8 Aug 1997, 32p, HNF-SD-WM-RPT-249.
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The Vapor Issue Resolution Program tasked the Vapor Team (VT) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241- C-202. This document presents In Situ Vapor Sampling System (ISVS) data resulting from the June 25, 1996 sampling of SST 241-C-202. Analytical results will be presented in separate reports issued by the Pacific Northwest National Laboratory (PNNL) which supplied and analyzed the sample media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Samplers, Adsorbents, EDB/052002.

DE99050151REB PC A04/MF A01
Department of Energy, Washington, DC.
Vapor and gas sampling of single-shell tank 241-T-104 using the in situ vapor sampling system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. L. Lockrem. 8 Aug 1997, 37p, HNF-SD-WM-RPT-215.
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The Vapor Issue Resolution Program tasked the Vapor Team (the team) to collect representative headspace samples from Hanford Site single-shell tank (SST) 241-T-104. This document presents sampling data resulting from the February 7, 1996 sampling of SST 241-T-104. Analytical results will be presented in separate reports issued by the laboratories that supplied and analyzed the sampling media.

Keywords: *Vapor analysis, *Gas Analysis, Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Samplers, Radioactive Wastes, Adsorbents, EDB/052002.

DE99050152REB PC A06/MF A01
Department of Energy, Washington, DC.
TWRS technical baseline database manager definition document.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
C. D. Acree. 13 Aug 1997, 86p, HNF-SD-TWR-CSUD-001.
Contract AC06-96RL13200
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This document serves as a guide for using the TWRS Technical Baseline Database Management Systems Engineering (SE) support tool in performing SE activities for the Tank Waste Remediation System (TWRS). This document provides a consistent interpretation of the relationships between the TWRS Technical Baseline Database Management software and the present TWRS SE practices. The Database Manager currently utilized is the RDD-1000 System manufactured by the Ascent Logic Corporation.

Keywords: *Hanford Reservation, *Radioactive waste storage, *Data base management, Remedial Action, Storage tanks, Washington, Storage Facilities, Information Systems, EDB/054000, EDB/052002, EDB/990301.

DE99050153REB PC A16/MF A03
Department of Energy, Washington, DC.
Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
R. A. Esch. 13 Aug 1997, 337p, HNF-SD-WM-DP-251.
Contract AC06-96RL13200
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This document is the final report for the double-contained receiver tank (DCRT) 244-TX grab samples. Three grabs samples were collected from riser 8 on May 29, 1997. Analyses were performed in accordance with the Compatibility Grab Sampling and Analysis Plan (TSAP) and the Data Quality Objectives (DQO) for Tank Farms Waste Compatibility Program.

Keywords: *Radioactive wastes, *Sampling, *Radiochemical analysis, *Hanford Reservation, Washington, Radioactive Waste Storage, Storage Facilities, Waste Retrieval, Remedial Action, EDB/052002, EDB/054000.

DE99050154REB PC A05/MF A01
Department of Energy, Washington, DC.
Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
B. G. Berglin. 15 Aug 1997, 52p, HNF-SD-FF-EV-003.
Contract AC06-96RL13200
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This report provides the findings of the demonstration test conducted on the Double-Shell Tank (DST) 241-SY-101 HMR Pump-3 in accordance with WHC-SDWM-TP- 434 'Test plan for run-in acceptance testing of hydrogen mitigation/retrieval (HMR) pump-3' at the 400 Area Maintenance and Storage Facility (MASF) building from 7 June 1996 through 30 July 1996 per work package 4A-96- 92/W. The DST 241-SY-101 hydrogen mitigation retrieval Pump-3 is a 200-HP submersible electric driven pump that has been modified for use in the DST 241- SY-101 containing mixed waste located in the 200W area. Prior to operation, pre-operational checks were performed which included loop calibration grooming and alignment of instruments, learning how plumb HMR-3 assembly hung in a vertical position and bump test of the motor to determine rotation direction. The pump was tested in the MASF Large Diameter Cleaning Vessel (LDCV) with process water at controlled temperatures and levels. In addition, the water temperature of the cooling water to the motor oil heat exchanger was recorded during testing. A 480-volt source powered a Variable Frequency Drive (VFD). A Mini Acquisition and Control System (Mini-DACS) controls pump functions and monitoring of the pump parameters. The Mini-DACS consists of three computers, software and some Programmable Logic Controllers (PLC). Startup and shutdown of either the pump motor or the oil cooling pump can be accomplished by the Mini-DACS. When the pump was in operation, the Mini-DACS monitors automatically collects data electronically.

Keywords: *Pumps, *Performance Testing, *Safety Engineering, *Hydrogen, *Degassing, Storage Facilities, Radioactive Waste Storage, Hanford Reservation, Washington, DACS(Data Acquisition and Control System), EDB/052002, EDB/054000.

DE99050155REB PC A04/MF A01
Department of Energy, Washington, DC.
Sampling and analysis plan for sampling of liquid waste streams generated by 222-S Laboratory Complex operations.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
A. B. Benalty. 14 Aug 1997, 35p, HNF-SD-WM-ER-731.
Contract AC06-96RL13200
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This Sampling and Analysis Plan (SAP) establishes the requirements and guidelines to be used by the Waste Management Federal Services of Hanford, Inc. personnel in characterizing liquid waste generated at the 222-S Laboratory Complex. The characterization process to verify the accuracy of process knowledge used for designation and subsequent management of wastes consists of three steps: to prepare the technical rationale and the appendix in accordance with the steps outlined in this SAP; to implement the SAP by sampling and analyzing the requested waste streams; and to compile the report and evaluate the findings to the objectives of this SAP. This SAP applies to portions of the 222-S Laboratory Complex defined as Generator under the Resource Conservation and Recovery Act (RCRA). This SAP applies to the liquid waste generated in the 222-S Laboratory Complex. Because the analytical data obtained will be used to manage waste property, including waste compatibility and waste designation, this SAP provides directions for obtaining and maintaining the information as required by WAC173-303.

Keywords: *Hanford Reservation, *Liquid Wastes, *Chemical Analysis, *Sampling, Radioactive Waste Management, Washington, Radioactive Wastes, Resource Recovery Acts, Compliance, EDB/052000.

DE99050156REB PC A13/MF A03
Department of Energy, Washington, DC.
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. L. Nuzum. 14 Aug 1997, 270p, HNF-SD-WM-DP-227.
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Three grab samples (2SY-96-1, 2SY-96-2, and 2SY-96-3) were taken from Riser 1A of Tank 241-SY 102 on January 14, 1997, and received by 222-S Laboratory on January 14, 1997. These samples were analyzed in accordance with Compatibility Grab Sampling and Analysis Plan (TSAP) and Data Quality Objectives for Tank Farm Waste Compatibility Program (DQO) in support of the Waste Compatibility Program. No notifications were required based on sample results.

Keywords: *Hanford Reservation, *Sampling, *Radioactive wastes, *Chemical analysis, *Compatibility, Radioactive Waste Storage, Storage Facilities, Safety, Mixing, Storage tanks, Washington, EDB/052002, EDB/054000.

DE99050158REB PC A24/MF A04
Department of Energy, Washington, DC.
Waste management project technical baseline description.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. P. Sederburg. 13 Aug 1997, 532p, HNF-SD-WM-RPT-288.
Contract AC06-96RL13200
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A systems engineering approach has been taken to describe the technical baseline under which the Waste Management Project is currently operating. The document contains a mission analysis, function analysis, requirement analysis, interface definitions, alternative analysis, system definition, documentation requirements, implementation definitions, and discussion of uncertainties facing the Project.

Keywords: *Hanford Reservation, *Radioactive Waste Management, Systems Analysis, Washington, Implementation, EDB/052000.

DE99050159REB PC A99/MF E08
Department of Energy, Washington, DC.
Hazard Analysis Database report.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
B. J. Niemi. 12 Aug 1997, 918p, HNF-SD-WM-TI-764-REV.1.
Contract AC06-96RL13200
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This document describes and defines the Hazard Analysis Database for the Tank Waste Remediation System Final Safety Analysis Report.

Keywords: *Safety Analysis, *Radioactive Waste Storage, *Hanford Reservation, *Data bases, *Hazards, Accidents, Remedial Action, Risk assessment, Storage Facilities, Washington, Information Systems, Tanks, EDB/054000, EDB/052002, EDB/990301.

DE99050161REB PC A03/MF A01
Department of Energy, Washington, DC.
Data quality objective to support resolution of the organic solvent safety issue.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. E. Meacham. 19 Aug 1997, 30p, HNF-SD-WM-DQO-026.
Contract AC06-96RL13200
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The Tank Waste Remediation System (TWRS) has adopted a data quality objective (DQO) process to define informational needs required to address waste tank safety issues. This document provides a process to resolve the Organic Solvent Safety Issue. Organic solvents in the presence of air (a source of oxidizer) in a waste tank headspace can combust when heated to the flash point of the solvent. Separable phase organic liquids can form a combustible situation by being present as a pool on the waste surface, or by collecting in sufficient concentration entrained in the waste solids to form a combustible mixture at the waste surface by capillary or wicking behavior. The Organic Solvent DQO is based on several technical documents, summarized and referenced throughout, that provide the technical bases for threshold values (decision limits) used to develop decision rules that address the problem statement. Likewise, this DQO supports characterization documents, such as the tank sampling analysis plan (TSAP) and tank characterization plan (TCP). The threshold values are based upon approved technical documents. This DQO applies to static organic waste as presently stored in single-shell tanks (SSTs) and double-shell tanks (DSTs).

Keywords: *Radioactive Waste Storage, *Organic Solvents, *Safety Analysis, *Data quality, Hanford Reservation, Storage tanks, Storage Facilities, Washington, Flammability, Quality Assurance, Data Acquisition, EDB/052002, EDB/054000.

DE99050164REB PC A03/MF A01
Department of Energy, Washington, DC.
Deployment of pollution prevention during design – a case study.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
R. A. Del Mar. 15 Aug 1997, 15p, HNF-SA-3231-FP.
Contract AC06-96RL13200
Pollution prevention conference (13th). Sponsored by Department of Energy, Washington, DC.
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Traditionally, pollution prevention (P2) assessments have been performed on existing facilities and ongoing operations, well after the completion of design and construction. It has been theorized that more success can be achieved by moving P2 upstream into the design process, where an estimated 70% of a project's total life cycle costs are initially fixed. This paper presents the results of a P2 assessment performed on a design project at Hanford which identified close to $500,000 in construction savings while minimizing low-level and mixed radioactive waste generation. This paper describes the process used to per-form the assessment, discusses its results, and provides lessons-learned for future P2 design assessments.

Keywords: *Hanford Reservation, *Design, Pollution Abatement, Radioactive Waste Facilities, Design, Economics, Radioactive Wastes, Washington, *Pollution prevention, EDB/053000.

DE99050165REB PC A03/MF A01
Department of Energy, Washington, DC.
Deactivating a major nuclear fuels reprocessing facility cost effectively.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
G. J. LeBaron. 15 Aug 1997, 11p, HNF-SA-3229-FP.
Contract AC06-96RL13200
Exchange 1997. Sponsored by Department of Energy, Washington, DC.
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This paper describes three key processes used in deactivating the Plutonium Uranium Extraction (PUREX) Facility, a large, complex nuclear reprocessing facility, 15 months ahead of schedule and $77 million under budget. The organization was reengineered to refine its business processes and more effectively organize around the deactivation work scope. Multi-disciplined work teams were formed to be self-sufficient and empowered to make decisions and perform work. A comprehensive process to develop end points which clearly identified specific results and the post-project facility configuration was developed so all areas of a facility were addressed. Clear and specific end points allowed teams to focus on completing deactivation activities and helped ensure there were no unfulfilled end-of-project expectations. A more cost effective approach for closure was adopted which significantly reduced risk to human health and the environment by taking the facility to a passive, safe, inexpensive-to-maintain surveillance and maintenance condition (deactivation) prior to disposition. PUREX thus became the first large reprocessing facility with active TSD (treatment, storage, and disposal) units to be deactivated under the RCRA regulations.

Keywords: *Hanford Reservation, *Fuel Reprocessing Plants, *Decommissioning, *Cost effectiveness, *Purex Process, Decontamination, Radioactive waste facilities, Washington, Schedules, Radiation monitoring, Resource Recovery Acts, EDB/054000.

DE99050167REB PC A03/MF A01
Department of Energy, Washington, DC.
Application of environmental accounting to pollution prevention.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
R. A. Del Mar. 19 Aug 1997, 18p, HNF-SA-3230-FP.
Contract AC06-96RL13200
Pollution prevention conference (13th). Sponsored by Department of Energy, Washington, DC.
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Environmental accounting represents a major paradigm shift in the way most companies account for costs and benefits. However, it is a change that must be made if pollution prevention is to become institutionalized into the corporate and government mainstream. Pollution prevention investments must be justified on an economic basis. This is because traditional accounting methods only track billable costs, thus ignoring some of the major benefits of pollution prevention investments, which are indirect savings resulting from a lessening of a company's regulatory compliance burden and present and future liabilities. This paper discusses how to apply environmental accounting principles to pollution prevention assessments to improve the outcome of profitability analyses.

Keywords: *Accounting, *Cost Benefit Analysis, Pollution Abatement, Environmental Impacts, Investment, Profits, *Pollution prevention, EDB/540000, EDB/290300.

DE99050181REB PC A04/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-TX-112: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
D. E. Place. 26 Aug 1997, 32p, HNF-SD-WM-ER-715.
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-TX-112 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task. The best-basis inventory is based on an engineering assessment of waste type, process flowsheet data, early sample data, and other available information. This preliminary TCR will be updated using this same methodology when additional data on tank contents become available.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, *Inventories, *Storage tanks, Washington, Storage Facilities, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050182REB PC A03/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-TX-106: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
M. J. Kupfer. 26 Aug 1997, 26p, HNF-SD-WM-ER-656.
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-TX-106 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task. The best-basis inventory is based on an engineering assessment of waste type, process flowsheet data, early sample data, and/or other available information. This preliminary TCR will be updated using this same methodology when additional data on tank contents become available.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, *Inventories, *Storage tanks, Washington, Storage Facilities, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050183REB PC A04/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-TX-114: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
D. E. Place. 26 Aug 1997, 38p, HNF-SD-WM-ER-708.
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-TX-114 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task. The best-basis inventory is based on an engineering assessment of waste type, process flowsheet data, early sample data, and other available information. This preliminary TCR will be updated using this same methodology when additional data on tank contents become available.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, *Inventories, *Storage tanks, Washington, Storage Facilities, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050184REB PC A04/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-TX-103: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
D. W. Hendrickson. 26 Aug 1997, 34p, HNF-SD-WM-ER-704.
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-TX-103 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task. The best-basis inventory is based on an engineering assessment of waste type, process flowsheet data, early sample data, and/or other available information. This preliminary TCR will be updated using this same methodology when additional data on tank contents become available.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, *Inventories, *Storage tanks, Washington, Storage Facilities, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050185REB PC A03/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-TX-111: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
D. E. Place. 26 Aug 1997, 30p, HNF-SD-WM-ER-659.
Contract AC06-96RL13200
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-TX-111 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task. The best-basis inventory is based on an engineering assessment of waste type, process flowsheet data, early sample data, and/or other available information. This preliminary TCR will be updated using this same methodology when additional data on tank contents become available.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, *Inventories, *Storage tanks, Washington, Storage Facilities, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050186REB PC A03/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-TX-110: Best-basis inventory.
Westinghouse Hanford Co., Richland, WA (United States).
D. E. Place. 26 Aug 1997, 30p, HNF-SD-WM-ER-658.
Contract AC06-96RL13200
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-TX-110 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, *Inventories, *Storage tanks, Washington, Storage Facilities, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050187REB PC A06/MF A01
Department of Energy, Washington, DC.
Safety evaluation for packaging (onsite) depleted uranium waste boxes.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
W. A. McCormick. 27 Aug 1997, 95p, HNF-SD-TP-SEP-066.
Contract AC06-96RL13200
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This safety evaluation for packaging (SEP) allows the one-time shipment of ten metal boxes and one wooden box containing depleted uranium material from the Fast Flux Test Facility to the burial grounds in the 200 West Area for disposal. This SEP provides the analyses and operational controls necessary to demonstrate that the shipment will be safe for the onsite worker and the public.

Keywords: *Safety Analysis, *Depleted Uranium, *Waste Transportation, Transportation of hazardous materials, Washington, Radioactive Wastes, Loading, Casks, EDB/054000, EDB/050900.

DE99050188REB PC A03/MF A01
Department of Energy, Washington, DC.
Definition and means of maintaining the criticality detectors and alarms portion of the PFP safety envelope.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
W. F. White. 25 Aug 1997, 29p, HNF-SD-CP-SDD-003-REV.5.
Contract AC06-96RL13200
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The Criticality Alarm System (CAS) provides continuous detection for high radiation (criticality) events and

automatically initiates an evacuation signal to affected personnel. The Safety Envelope (SE) for PFP includes the necessary equipment and the required procedures to ensure the CAS is capable of performing its intended function. This document provides the definition and means of maintaining the SE for PFP related to the CAS. This document also identifies and provides a justification for those portions of the CAS excluded from the PFP Safety Envelope.

Keywords: *Criticality, Alarm Systems, Radiation Accidents, Radiation Detectors, Fuel Reprocessing Plants, Evacuation, EDB/054000, EDB/050800.

DE99050194REB PC A03/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-SX-105: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
M. J. Kupfer. 29 Aug 1997, 26p, HNF-SD-WM-ER-644.
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-SX-105 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task.

Keywords: Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Inventories, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050195REB PC A03/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-SX-106: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
M. J. Kupfer. 29 Aug 1997, 28p, HNF-SD-WM-ER-645.
Contract AC06-96RL13200
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-SX-106 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, Storage Facilities, Inventories, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050196REB PC A03/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-SX-107: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
M. J. Kupfer. 29 Aug 1997, 30p, HNF-SD-WM-ER-671.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-SX-107 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task.

Keywords: Hanford Reservation, Radioactive Waste Storage, Storage Facilities, Inventories, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050197REB PC A04/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-SX-111: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
M. J. Kupfer. 29 Aug 1997, 36p, HNF-SD-WM-ER-682.
Contract AC06-96RL13200
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort,.an evaluation of available information for single-shell tank 241-SX-111 was performed, and a best-basis inventory was established. This work follows the methodology that was established by the standard inventory task.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, Storage Facilities, Inventories, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050198REB PC A04/MF A01
Department of Energy, Washington, DC.
Preliminary tank characterization report for single-shell tank 241-SX-112: Best-basis inventory.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
M. J. Kupfer. 29 Aug 1997, 32p, HNF-SD-WM-ER-683.
Contract AC06-96RL13200
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An effort is underway to provide waste inventory estimates that will serve as standard characterization source terms for the various waste management activities. As part of this effort, an evaluation of available information for single-shell tank 241-SX-112 was performed, and a best-basis, inventory was established. This work follows the methodology that was established by the standard inventory task.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, Storage Facilities, Inventories, Forecasting, Liquid Wastes, Source Terms, EDB/052002.

DE99050199REB PC A10/MF A03
Department of Energy, Washington, DC.
Tank characterization report for single-shell tank 241-BY-112.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. H. Baldwin. 22 Aug 1997, 194p, HNF-SD-WM-ER-701.
Contract AC06-96RL13200
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This document summarizes the information on the historical uses, present status, and the sampling and analysis results of waste stored in Tank 241-BY- 112. This report supports the requirements of the Tri-Party Agreement Milestone M-44-10. (This tank has been designated a Ferrocyanide Watch List tank.)

Keywords: *Hanford Reservation, *Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Sampling, Chemical Analysis, Historical Aspects, Safety, EDB/052002, EDB/054000.

DE99050200REB PC A15/MF A03
Department of Energy, Washington, DC.
Tank characterization report for double-shell tank 241-AN-103.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
N. E. Wilkins. 22 Aug 1997, 324p, HNF-SD-WM-ER-702.
Contract AC06-96RL13200
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This document summarizes the information on the historical uses, present status, and the sampling and analysis results of waste stored in Tank 241-AN- 103. This report supports the requirements of the Tri-Party Agreement Milestone M-44-10. (This tank has been designated an Hydrogen Watch List tank.)

Keywords: *Hanford Reservation, *Radioactive Waste Storage, Storage Facilities, Radioactive Wastes, Sampling, Chemical Analysis, Historical Aspects, Safety, EDB/052002, EDB/054000.

DE99050201REB PC A03/MF A01
Department of Energy, Washington, DC.
Project W-314 241-AN-A valve pit upgrade acceptance for beneficial use.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
T. L. Warnick. 29 Aug 1997, 14p, HNF-SD-W314-ABU-002.
Contract AC06-96RL13200
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This report consists of 11 tables.

Keywords: *Hanford Reservation, *Radioactive Waste Storage, Storage Facilities, Valves, Modifications, EDB/052002.

DE99050202REB PC A05/MF A01
Department of Energy, Washington, DC.
Hanford Site Emergency Alerting System siren testing report.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. B. Weidner. 13 Aug 1997, 70p, HNF-SD-PRP-TRP-001.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of the test was to determine the effective coverage of the proposed upgrades to the existing Hanford Site Emergency Alerting System (HSEAS) . The upgrades are to enhance the existing HSEAS along the Columbia River from the Vernita Bridge to the White Bluffs Boat Launch as well as install a new alerting system in the 400 Area on the Hanford Site. Five siren sites along the Columbia River and two sites in the 400 Area were tested to determine the site locations that will provide the desired coverage.

Keywords: Alarm Systems, Performance Testing, Modifications, Hanford Reservation, Emergency Plans, EDB/054000.

DE99050203REB PC A23/MF A04
Department of Energy, Washington, DC.
Waste management project fiscal year 1998 multi-year work plan WBS 1.2.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
R. R. Slaybaugh. 29 Aug 1997, 520p, HNF-SP-1229.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC.

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The MYWP technical baseline describes the work to be accomplished by the Project and the technical standards which govern that work. The Waste Management Project manages and integrates (non-TWRS) waste management activities at the site. Activities include management of Hanford wastes as well as waste transferred to Hanford from other DOE, Department of Defense, or other facilities. This work includes handling, treatment, storage, and disposition of radioactive, nonradioactive, hazardous, and mixed solid and liquid wastes. Major Waste Management Projects are the Solid Waste Project (SW), Liquid Effluents Project (LEP), and Analytical Services. Existing facilities (e.g., grout vaults and canyons) shall be evaluated for reuse for these purposes to the maximum extent possible. The paper tabulates the major facilities that interface with this Project, identifying the major facilities that generate waste, materials, or infrastructure for this Project and the major facilities that will receive waste and materials from this Project.

Keywords: *Hanford Reservation, *Radioactive Waste Management, Nonradioactive Waste Management, Hazardous Materials, Radioactive Wastes, Mixtures, Solid Wastes, Liquid Wastes, Equipment, EDB/052000.

DE99050205REB PC A05/MF A01
Department of Energy, Washington, DC.
222-S Laboratory maintenance implementation plan.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. L. Heinemann. 13 Aug 1997, 58p, HNF-SP-0842-REV.2.
Contract AC06-96RL13200
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This Maintenance Improvement Plan has been developed for maintenance functions associated with the 222-S Laboratory. This plan is developed from the guidelines presented by Department of Energy (DOE) Order 4330.4B, Maintenance Management Program (DOE 1994), Chapter 11. The objective of this plan is to provide information for establishing and identifying WMH conformance programs and policies applicable to implementation of DOE Order 4330.4B guidelines. In addition, this maintenance plan identifies the actions necessary to develop a cost effective and efficient maintenance program at 222-S Laboratory. Maintenance activities are mainly going to be performed by existing maintenance organizations within Waste Management Federal Services of Hanford (WMH). Most maintenance performed at 222-S Laboratory is performed by the 222-S Laboratory maintenance organization. This 222-S Laboratory Maintenance Implementation Plan provides the interface requirements and responsibilities as they apply specifically to 222-S Laboratory. This document provides an implementation schedule which has been developed for items considered to be deficient or in need of improvement. The discussion section as applied to 222-S Laboratory implementation has been developed from a review of programs and practices utilizing the graded approach. Biennial review and additional reviews are conducted as significant programmatic and mission changes are made. This document is revised as necessary to keep this document current and in compliance with DOE requirements.

Keywords: *Hanford Reservation, *Maintenance, Laboratories, Program Management, Planning, Recommendations, Schedules, EDB/990100.

DE99050206REB PC A05/MF A01
Department of Energy, Washington, DC.
Waste sampling and characterization facility (WSCF) maintenance implementation plan.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. L. Heinemann. 13 Aug 1997, 58p, HNF-SP-1009-REV.2.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This Maintenance Implementation Plan (MIP) is written to satisfy the requirements of the US Department of Energy (DOE) Order 4330.4B, Maintenance Management Program that specifies the general policy and objectives for the establishment of the DOE controlled maintenance programs. These programs provide for the management and performance of cost effective maintenance and repair of the DOE property, which includes facilities. This document outlines maintenance activities associated with the facilities operated by Waste Management Hanford, Inc. (WMH). The objective of this MIP is to provide baseline information for the control and execution of WMH Facility Maintenance activities relative to the requirements of Order 4330.4B, assessment of the WMH maintenance programs, and actions necessary to maintain compliance with the Order. Section 2.0 summarizes the history, mission and description of the WMH facilities. Section 3.0 describes maintenance scope and requirements, and outlines the overall strategy for implementing the maintenance program. Specific elements of DOE Order 4330.4B are addressed in Section 4.0, listing the objective of each element, a discussion of the WMH compliance methodology, and current implementation requirements with references to WMH and HNF policies and procedures. Section 5.0 addresses deviations from policy requirements, and Section 6.0 is a schedule for specific improvements in support of this MIP.

Keywords: *Hanford Reservation, *Radioactive Waste Facilities, Maintenance, Program Management, Orders, Us Doe, EDB/052000, EDB/990100.

DE99050207REB PC A03/MF A01
Department of Energy, Washington, DC.
Hanford spent nuclear fuel project update.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
N. H. Williams. 19 Aug 1997, 20p, HNF-SA-3205-FP.
Contract AC06-96RL13200
International decontamination and decommissioning symposium. Sponsored by Department of Energy, Washington, DC.
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Twenty one hundred metric tons of spent nuclear fuel (SNF) are currently stored in the Hanford Site K Basins near the Columbia River. The deteriorating conditions of the fuel and the basins provide engineering and management challenges to assure safe current and future storage. DE and S Hanford, Inc., part of the Fluor Daniel Hanford, Inc. lead team on the Project Hanford Management Contract, is constructing facilities and systems to move the fuel from current pool storage to a dry interim storage facility away from the Columbia River, and to treat and dispose of K Basins sludge, debris and water. The process starts in K Basins where fuel elements will be removed from existing canisters, washed, and separated from sludge and scrap fuel pieces. Fuel elements will be placed in baskets and loaded into Multi-Canister Overpacks (MCOs) and into transportation casks. The MCO and cask will be transported to the Cold Vacuum Drying Facility, where free water within the MCO will be removed under vacuum at slightly elevated temperatures. The MCOs will be sealed and transported via the transport cask to the Canister Storage Building.

Keywords: *Hanford Reservation, *Spent Fuel Storage, Fuel Storage Pools, Dry Storage, Materials Handling, Monitored Retrievable Storage, Remedial Action, Spent Fuel Casks, Decommissioning, Meetings, EDB/050900, EDB/054000.

DE99050230REB PC A06/MF A01
Department of Energy, Washington, DC.
Permitting plan for the immobilized low-activity waste project.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
M. L. Deffenbaugh. 4 Sep 1997, 80p, HNF-SD-ENV-EE-003.
Contract AC06-96RL13200
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This document addresses the environmental permitting requirements for the transportation and interim storage of the Immobilized Low-Activity Waste (ILAW) produced during Phase 1 of the Hanford Site privatization effort. Tri-Party Agreement (TPA) Milestone M-90 establishes a new major milestone, and associated interim milestones and target dates, governing acquisition and/or modification of facilities necessary for: (1) interim storage and disposal of Tank Waste Remediation Systems (TWRS) immobilized low-activity tank waste (ILAW) and (2) interim storage of TWRS immobilized HLW (IHLW) and other canistered high-level waste forms. Low-activity waste (LAW), low-level waste (LLW), and high-level waste (HLW) are defined by the TWRS, Hanford Site, Richland, Washington, Final Environmental Impact Statement (EIS) DOE/EIS-0189, August 1996 (TWRS, Final EIS). By definition, HLW requires permanent isolation in a deep geologic repository. Also by definition, LAW is 'the waste that remains after separating from high-level waste as much of the radioactivity as is practicable that when solidified may be disposed of as LLW in a near-surface facility according to the NRC regulations.' It is planned to store/dispose of (ILAW) inside four empty vaults of the five that were originally constructed for the Group Program. Additional disposal facilities will be constructed to accommodate immobilized LLW packages produced after the Grout Vaults are filled. The specifications for performance of the low-activity vitrified waste form have been established with strong consideration of risk to the public. The specifications for glass waste form performance are being closely coordinated with analysis of risk. RL has pursued discussions with the NRC for a determination of the classification of the Hanford Site's low-activity tank waste fraction. There is no known RL action to change law with respect to onsite disposal of waste.

Keywords: *Hanford Reservation, *Radioactive Waste Management, Remedial Action, Storage Facilities, Low-level Radioactive Wastes, Solidification, Radioactive Waste Disposal, License Applications, Waste Transportation, Radioactive Waste Storage, Waste Forms, EDB/052000, EDB/054000, EDB/056000.

DE99050231REB PC A04/MF A01
Department of Energy, Washington, DC.
Addendum 1 to CSER 97-025: PFP storage of 9.25/9.5 inch tall, 4.4 kg Pu cans on existing Vault 4 pedestals.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
K. E. Hillesland. 4 Sep 1997, 48p, HNF-SD-SQA-CSA-528.
Contract AC06-96RL13200
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A nuclear criticality safety analysis has been performed to increase the approved plutonium mass limit for cans stored in Vault (number-sign)4 cubicles at PFP. The original CSER 96-025 accommodated the storage of 4.4 kg of plutonium in PuO, (5.0 kg PuO,) in Vault (number-sign)4 by requiring that half the cubicles be left vacant. This addendum allows for all the cubicles to be used, but with a fissile plutonium mass limit of 58 kg per cubicle. A mass limit for each cubical allows for storage of a larger number of cans if some have less than the 4.4 kg Pu limit per can. The highest k., calculated is 0.932 + 0.003 when an overbatched can is present in every fourth cubicle. This is below the criticality safety limit of kff 0.935, and consequently, an increase of plutonium mass to 4.4 kg per can is within acceptable safety limits for the given mass limit.

Keywords: *Safety Analysis, *Plutonium, Mass, Storage Facilities, Fuel Reprocessing Plants, Criticality, Modifications, Safety Reports, Limiting Values, EDB/420203, EDB/054000, EDB/050900.

DE99050232REB PC A04/MF A01
Department of Energy, Washington, DC.
Portable exhausters POR-004 SKID B, POR-005 SKID C, POR-006 SKID D storage plan.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
O. D. Nelson. 4 Sep 1997, 42p, HNF-SD-WM-RPT-302.
Contract AC06-96RL13200
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This document provides a storage plan for portable exhausters POR-004 SKID B, POR-005 SKID C, AND POR-006 SKID D. The exhausters will be stored until they are needed by the TWRS (Tank Waste Remediation Systems) Saltwell Pumping Program. The storage plan provides criteria for portable exhauster storage, periodic inspections during storage, and retrieval from storage.

Keywords: *Exhaust Systems, *Blowers, *Radioactive Waste Storage, Storage, Portable Equipment, Planning, Remedial Action, Waste Retrieval, EDB/054000, EDB/052002.

DE99050233REB PC A07/MF A02
Department of Energy, Washington, DC.
CSER 97-004: PFP production denitration calciner system.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
K. E. Hillesland. 11 Sep 1997, 102p, HNF-SD-SQA-CSA-529.
Contract AC06-96RL13200
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The plutonium stabilization program at the Plutonium Finishing Plant (PFP) includes conversion of acidic plutonium nitrate solution into plutonium oxide. Conversion is facilitated through use of a vertical calciner installed in Glovebox HC-23OC-2, which is located in RM 230C of this facility. This evaluation supports the Criticality Prevention Specification for the calcining process inside this glovebox. As the product of the calciner is a high density plutonium oxide, a number of limits are required to insure criticality safety. The containers allowed are product receiver vessels and 0.5 C slip lid cans and polyjars. The limits allow for two 'unit masses' of 2 V total volume each, separated by a distance of at least 25.4 cm (10 in.). This evaluation allows for operation of the calciner for product densities not in excess of 5.5 g Pu/cm(sup 3).

Keywords: *Gloveboxes, *Criticality, *Safety Analysis, Plutonium Nitrates, Calcination, Plutonium Oxides, Scrap Metals, Materials Recovery, Radioactive Waste Facilities, EDB/420203, EDB/054000, EDB/052000.

DE99050234REB PC A08/MF A02
Department of Energy, Washington, DC.
Safety evaluation for packaging (onsite) for cesium chloride capsules with type W overpacks.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. C. McCoy. 15 Sep 1997, 132p, HNF-SD-TP-SEP-065.
Contract AC06-96RL13200
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This Safety Evaluation for Packaging (SEP) documents the evaluation of a new basket design and overpacked cesium chloride capsule payload for the Beneficial Uses Shipping System (BUSS) Cask in accordance with the onsite transportation requirements of the Hazardous Material Packaging and Shipping manual, WHC-CM-2-14. This design supports the one-time onsite shipment of 16 cesium chloride capsules with Type W overpacks from the 324 Building to the 224T Building at the Waste Encapsulation and Storage Facility (WESF). The SEP is valid for a one-time onsite shipment or until August 1, 1998, whichever occurs first.

Keywords: *Safety Analysis, *Casks, *Waste Transportation, Packaging, Loading, Design, Cesium Chlorides, EDB/054000, EDB/050900.

DE99050392REB PC A99/MF E11
Department of Energy, Washington, DC.
Radioisotope thermoelectric generator transportation system safety analysis report for packaging. Volumes 1 and 2.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
P. C. Ferrell. 18 Apr 1996, 983p, WHC-SD-RTG-SARP-001.
Contract AC06-96RL13200
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This SARP describes the RTG Transportation System Package, a Type B(U) packaging system that is used to transport an RTG or similar payload. The payload, which is included in this SARP, is a generic, enveloping payload that specifically encompasses the General Purpose Heat Source (GPHS) RTG payload. The package consists of two independent containment systems mounted on a shock isolation transport skid and transported within an exclusive-use trailer.

Keywords: *Radioisotope Heat Sources, *Thermoelectric Generators, *Containment Systems, Containers, Land Transport, Vehicles, Shock Absorbers, EDB/420204, EDB/070300.

DE99050394REB PC A06/MF A01
Department of Energy, Washington, DC.
105-DR Large Sodium Fire Facility closure activities evaluation report.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. G. Adler. 22 Apr 1996, 84p, WHC-SD-EN-EV-034-REV.1.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC. Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report evaluates the closure activities at the 105-DR Large Sodium Fire Facility. The closure activities discussed include: the closure activities for the structures, equipment, soil, and gravel scrubber; decontamination methods; materials made available for recycling or reuse; and waste management. The evaluation compares these activities to the regulatory requirements and closure plan requirements. The report concludes that the areas identified in the closure plan can be clean closed.

Keywords: *Hanford Reservation, *Decommissioning, *Decontamination, Radioactive Waste Facilities, Sodium, Materials Handling, Sampling, Soils, Remedial Action, EDB/054000, EDB/052002.

DE99050395REB PC A06/MF A01
Department of Energy, Washington, DC.
Waste Receiving and Processing Facility Module 1 Data Management System software requirements specification.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
C. K. Rosnick. 19 Apr 1996, 85p, WHC-SD-W026-CSRS-001-REV.1.
Contract AC06-96RL13200
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This document provides the software requirements for Waste Receiving and Processing (WRAP) Module 1 Data Management System (DMS). The DMS is one of the plant computer systems for the new WRAP 1 facility (Project W-0126). The DMS will collect, store and report data required to certify the low level waste (LLW) and transuranic (TRU) waste items processed at WRAP 1 as acceptable for shipment, storage, or disposal.

Keywords: *Radioactive Waste Facilities, *Data Base Management, *Radioactive Waste Management, *Software, Specifications, Programming, Low-level Radioactive Wastes, Alpha-bearing Wastes, Data Acquisition Systems, EDB/052000, EDB/990301.

DE99050396REB PC A05/MF A01
Department of Energy, Washington, DC.
Unit radiological doses for fuel retrieval preliminary safety evaluation.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
C. H. Huang. 23 Apr 1996, 58p, WHC-SD-WM-CN-018.
Contract AC06-96RL13200
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This document provides the atmospheric dispersion and the unit dose calculations for K West liquid, a fuel element, and gaseous release from a fuel canister.

Keywords: *Radiation Doses, *Fuel Elements, Dispersion, Occupational Safety, Fuel Storage Pools, Safety Analysis, Materials Handling, EDB/560101, EDB/054000, EDB/050900.

DE99050397REB PC A08/MF A02
Department of Energy, Washington, DC.
Development of radiological concentrations and unit liter doses for TWRS FSAR radiological consequence calculations.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
W. L. Cowley. 25 Apr 1996, 133p, WHC-SD-WM-SARR-037.
Contract AC06-96RL13200
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The analysis described in this report develops the Unit Liter Doses for use in the TWRS FSAR. The Unit Liter Doses provide a practical way to calculate conservative radiological consequences for a variety of potential accidents for the tank farms.

Keywords: *Radiation Doses, *Accidents, Biological Radiation Effects, Storage Facilities, Radioactive Waste Storage, Hanford Reservation, EDB/560101, EDB/054000.

DE99050402REB PC A04/MF A01
Department of Energy, Washington, DC.
Technical work plan for the privatization waste characterization data quality objective process.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
R. A. Kirkbride. 24 Apr 1996, 46p, WHC-SD-WM-WP-324.
Contract AC06-96RL13200
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This work plan addresses the activities necessary to complete the data quality objectives process for the purpose of providing sufficient characterization information to successfully stage, pretreat, and immobilize low-activity waste per the requirements and specifica-

tions identified in the Tank Waste Remediation System Privatization Request for Proposal. The scope of this task is to complete the data quality objectives process, the results of which will provide a technical basis for sampling and characterization needs related to privatization of pretreatment and low-activity waste immobilization.

Keywords: *Low-level Radioactive Wastes, *Remedial Action, *Quality Assurance, Hanford Reservation, Storage Facilities, Radioactive Waste Processing, Data Acquisition, Sampling, Chemical Analysis, EDB/052000, EDB/054000.

DE99050410REB PC A99/MF A06
Department of Energy, Washington, DC.
Solid waste integrated forecast technical (SWIFT) report: FY1997 to FY 2070.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
O. J. Valero. 1 Aug 1997, 580p, HNF-EP-0918-REV.1.
Contract AC06-96RL13200
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This web site provides an up-to-date report on the radioactive solid waste expected to be managed by Hanford's Waste Management (WM) Project from onsite and offsite generators. It includes: an overview of Hanford-wide solid waste to be managed by the WM Project; program-level and waste class-specific estimates; background information on waste sources; and comparisons with previous forecasts and with other national data sources. This web site does not include: liquid waste (current or future generation); waste to be managed by the Environmental Restoration (EM-40) contractor (i.e., waste that will be disposed of at the Environmental Restoration Disposal Facility (ERDF)); or waste that has been received by the WM Project to date (i.e., inventory waste). The focus of this web site is on low-level mixed waste (LLMW), and transuranic waste (both non-mixed and mixed) (TRU(M)). Some details on low-level waste and hazardous waste are also provided. Currently, this web site is reporting data that was requested on 10/14/96 and submitted on 10/25/96. The data represent a life cycle forecast covering all reported activities from FY97 through the end of each program's life cycle. Therefore, these data represent revisions from the previous FY97.0 Data Version, due primarily to revised estimates from PNNL. There is some useful information about the structure of this report in the SWIFT Report Web Site Overview.

Keywords: *Hanford Reservation, *Radioactive Waste Management, *Solid Wastes, Inventories, Low-level Radioactive Wastes, Alpha-bearing Wastes, Hazardous Materials, Mixtures, EDB/052000.

DE99050411REB PC A04/MF A01
Department of Energy, Washington, DC.
Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
D. W. Lloyd. 1 Aug 1997, 46p, DOE/RL-96-77.
Contract AC06-96RL13200
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This Programmatic Agreement (PA) addresses the built environment (i.e., buildings and structures) constructed during the Manhattan Project and Cold War Era periods of Hanford's operational history. As such it encompasses the years 1943 through 1990. The identification, evaluation, and treatment of buildings and historic archeological remains on the Hanford Site predating 1943 will be accomplished through Sections 800.4 through 800.6 of the Council's regulations. This PA will be in effect from the date of signature until September 30, 2000. Completion of the Sitewide Treatment Plan established under this PA satisfies all Section 106 requirements for identification, evaluation, and treatment necessary for all undertakings, up to and including demolition which may affect Manhattan Project and Cold War Era properties. This PA may be extended if the Sitewide Treatment Plan has not been completed by the end of FY 2000. Identification, evaluation, and treatment of properties constructed on the Hanford Site after 1990 will be handled pursuant to the regulations in effect at the time such properties are eligible for review.

Keywords: *Hanford Reservation, *Decontamination, *Decommissioning, *Demolition, Surplus Nuclear Facilities, Planning, Maintenance, Archaeological Specimens, EDB/054000.

DE99050414REB PC A03/MF A01
Department of Energy, Washington, DC.
Scoping assessment on medical isotope production at the Fast Flux Test Facility.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
S. W. Scott. 29 Aug 1997, 29p, HNF-SD-FF-RPT-010.
Contract AC06-96RL13200
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The Scoping Assessment addresses the need for medical isotope production and the capability of the Fast Flux Test Facility to provide such isotopes. Included in the discussion are types of isotopes used in radiopharmaceuticals, which types of cancers are targets, and in what way isotopes provide treatment and/or pain relief for patients.

Keywords: *Radiopharmaceuticals, Isotope Production, Neoplasms, Radiotherapy, Fftf Reactor, EDB/220600, EDB/550604.

DE99050488REB PC A04/MF A01
Department of Energy, Washington, DC.
Safety evaluation for packaging (onsite) 221 T sodium tanks.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
W. A. McCormick. 4 Feb 1998, 41p, HNF-2072.
Contract AC06-96RL13200
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This safety evaluation for packaging (SEP) allows the transport of approximately 820 kg (1800 lb) of solid sodium between the 200 W Area and the 337 Building in the 300 Area of Hanford to be processed for disposal. This SEP authorizes a one-time shipment.

Keywords: *Sodium, *Safety Analysis, *Packaging, Road Transport, Waste Management, Hanford Reservation, EDB/054000, EDB/052000.

DE99050497REB PC A04/MF A01
Department of Energy, Washington, DC.
Summary of FY 1997 related to JAPC-U.S. DOE contract study on improvement of core safety – study on GEM (III).
Fluor Daniel Hanford, Inc., Richland, WA (United States).
T. M. Burke. 3 Feb 1998, 32p, HNF-2195-VA.
Contract AC06-96RL13200
DOE technical exchange. Sponsored by Department of Energy, Washington, DC.
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FFTF was originally designed/constructed/operated to develop LMFBR fuels and materials. Inherent safety became a major focus of the US nuclear industry in the mid 1980's. The inherent safety characteristics of LMFBRs were recognized but additional enhancement was desired. The presentation contents are: Fast Flux Test Facility history and status; Overview of contract activities; Summary of loss of flow without scram with GEMs testing; and Summary of pump start with GEMs testing.

Keywords: *Lmfbr Type Reactors, *Reactor Safety, *Fftf Reactor, *Meetings, International Cooperation, Reactor Cores, Nuclear Fuels, Loss Of Flow, EDB/220900, EDB/220600, EDB/210500.

DE99050498REB PC A05/MF A01
Department of Energy, Washington, DC.
Responses to additional JAPC questions.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
T. M. Burke. 3 Feb 1998, 52p, HNF-2208-VA.
Contract AC06-96RL13200
DOE technical exchange. Sponsored by Department of Energy, Washington, DC.
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The goals are to improve performance and reduce costs; the variables tested are fuel fabrication and assembly tolerances and cladding materials. Significant results are: goal lifetimes achieved; D9/HT9 alloys superior– reduced swelling potential duct mechanical attachment methods viable; test performance per design predictions.

Keywords: *Lmfbr Type Reactors, *Meetings, Costs, Cladding, Alloys, Performance, Nuclear Fuels, International Cooperation, Fabrication, Fuel Cans, Fftf Reactor, Reactor Materials, EDB/220900, EDB/220600, EDB/210500.

DE99050499REB PC A03/MF A01
Department of Energy, Washington, DC.
Indexing contamination surveys.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
R. L. Brown. 6 Feb 1998, 12p, HNF-2194-FP.
Contract AC06-96RL13200
1998 Health Physics Society midyear topical meeting.
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The responsibility for safely managing the Tank Farms at Hanford belongs to Lockheed Martin Hanford Corporation which is part of the six company Project Hanford Management Team led by Fluor Daniel Hanford, Inc.. These Tank Farm Facilities contain numerous outdoor contamination areas which are surveyed at a periodicity consistent with the potential radiological conditions, occupancy, and risk of changes in radiological conditions. This document describes the survey documentation and data tracking method devised to track the results of contamination surveys this process is referred to as indexing. The indexing process takes a representative data set as an indicator for the contamination status of the facility. The data are further manipulated into a single value that can be tracked and trended using standard statistical methodology. To report meaningful data, the routine contamination surveys must be performed in a manner that allows the survey method and the data collection process to be recreated. Three key criteria are necessary to accomplish this goal: Accurate maps, consistent documentation, and consistent consolidation of data meeting these criteria provides data of sufficient quality to be tracked. Tracking of survey data is accomplished by converting the individual survey results into a weighted value, corrected for the actual number of survey points. This information can be compared over time using standard statistical analysis to identify trends. At the Tank Farms, the need to track and trend the facility's radiological status presents unique challenges. Many of these Tank Farm facilities date back to the second world war. The Tank Farm Facilities are exposed to weather extremes, plant and animal intrusion, as well as all of the normal challenges associated with handling radiological waste streams. Routine radiological surveys did not provide a radiological status adequate for continuing comparisons.

Keywords: *Storage Facilities, *Hanford Reservation, *Contamination, *Meetings, Radioactive Waste Storage, Radiation Monitoring, Documentation, EDB/052000.

DE99050550REB PC A04/MF A01
Department of Energy, Washington, DC.
Nonradioactive Air Emissions Notice of Construction use on a portable exhauster on 241-A-101 tank during salt well pumping.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
C. B. Hays. 17 Apr 1996, 40p, DOE/RL-96-28.
Contract AC06-96RL13200
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The 241-A-101 tank, a 22.9 meter 3,785,400 liter capacity SST, was constructed from the fourth generation of tank designs, which were capable of holding boiling or self-concentrating waste. Construction features a reinforced concrete shell, dome, and base with a mild steel liner covering the bottom and sidewalls. The tank has a flat bottom with a usable waste depth of approximately 9.4 meters. The tank was put into service in 1956 to store plutonium-uranium extraction (PUREX) high-level waste and organic wash waste. The waste was allowed to self-concentrate up until 1968. Tank sluicing was performed in 1969 and again in 1976 to reduce the amount of strontium and cesium, the two isotopes found to be the main heat generating sources in the tank. In 1978, the tank was reassigned for saltcake storage. The tank was taken out of service in November 1980 and partially isolated in 1982. Salt well pumping is a method used to interim stabilize SSTS. Interim stabilization is commenced once all the liquid above the solids has been removed (primary stabilization). Interim stabilization removes the gravity drainable liquid and the interstitial liquid between the solids from the SST and transfers the liquid to a double-shell tank (DST) or to a staging double-contained receiver tank (DCRT), which is subsequently transferred to a DST. Pumping is accomplished at very low flow rates, 15.1 liters per minute or less. Normally, salt well pumping is performed without the need of an exhauster. However, recent safety evaluations concluded that a minimum exhaust flow rate of 7.1 cubic meters per minute would be required to enhance the safety of the tank. Therefore, active ventilation will be part of this process for the 241-A-101 tank. This document details the Nonradioactive Air Emissions Notice of Construction for the use of a portable exhauster on Tank 241-A-101 during salt well pumping and other routine activities.

Keywords: *Tanks, *Radioactive Waste Storage, Flammability, Gases, Safety, Portable Equipment, Exhaust Systems, Hanford Reservation, EDB/052002, EDB/054000.

DE99050558REB PC A04/MF A01
Department of Energy, Washington, DC.
Estimated dose to in-tank equipment: Phase 1 waste feed delivery.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
R. D. Claghorn. 24 Feb 1998, 35p, HNF-2004.
Contract AC06-96RL13200
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This analysis estimates the radiation dose to the equipment that will be submerged in double-shell tank waste. The results of this analysis are intended to be the basis for specifications for in-tank equipment. The scope of this analysis is limited to the new equipment required for the delivery of waste feed to Phase 1 private contractors. Phase 1 refers to the first of a two-phase plan to privatize the remediation of Hanford's tank waste. The focus of this analysis is on waste feed delivery because of the extraordinarily high cost of any failure that would lead to the interruption of a steady flow of feed to the private contractors.

Keywords: *Radiation Doses, *Radioactive Waste Storage, *Waste Retrieval, Materials Handling Equipment, Storage Facilities, Remedial Action, Hanford Reservation, EDB/052002, EDB/054000.

DE99050560REB PC A04/MF A01
Department of Energy, Washington, DC.
283-E, 283-W, and 315 (water treatment plant) hazards assessment.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. N. Sutton. 25 Feb 1998, 38p, HNF-1564.
Contract AC06-96RL13200
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This document establishes the technical basis in support of Emergency Planning activities for the 283E and 283W and 315 Chlorine Facilities on the Hanford Site. Through this document, the technical basis for the development of facility specific Emergency Action Levels and the Emergency Planning Zone is demonstrated.

Keywords: *Hanford Reservation, *Water Treatment Plants, *Emergency Plans, Chlorine, Materials Handling, Hazards, Safety Analysis, EDB/054000, EDB/052001.

DE99050561REB PC A04/MF A01
Department of Energy, Washington, DC.
Radioactive Air Emissions Notice of Construction for the 105-KW Basin integrated water treatment system filter vessel sparging vent.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. D. Kamberg. 23 Feb 1998, 43p, DOE/RL-98-02.
Contract AC06-96RL13200
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This document serves as a notice of construction (NOC), pursuant to the requirements of Washington Administrative Code (WAC) 246-247-060, and as a request for approval to construct, pursuant to 40 Code of Federal Regulations (CFR) 61.07, for the Integrated Water Treatment System (IWTS) Filter Vessel Sparging Vent at 105-KW Basin. Additionally, the following description, and references are provided as the notices of startup, pursuant to 40 CFR 61.09(a) (1) and (2) in accordance with Title 40 Code of Federal Regulations, Part 61, National Emission Standards for Hazardous Air Pollutants. The 105-K West Reactor and its associated spent nuclear fuel (SNF) storage basin were constructed in the early 1950s and are located on the Hanford Site in the 100-K Area about 1,400 feet from the Columbia River. The 105-KW Basin contains 964 Metric Tons of SNF stored under water in approximately 3,800 closed canisters. This SNF has been stored for varying periods of time ranging from 8 to 17 years. The 105-KW Basin is constructed of concrete with an epoxy coating and contains approximately 1.3 million gallons of water with an asphaltic membrane beneath the pool. The IWTS, which has been described in the Radioactive Air Emissions NOC for Fuel Removal for 105-KW Basin (DOE/RL-97-28 and page changes per US Department of Energy, Richland Operations Office letter 97-EAP-814) will be used to remove radionuclides from the basin water during fuel removal operations. The purpose of the modification described herein is to provide operational flexibility for the IWTS at the 105-KW basin. The proposed modification is scheduled to begin in calendar year 1998.

Keywords: Hanford Reservation, Radioactive Effluents, Ventilation, Water Treatment, Spent Fuel Storage, Radioactive Waste Processing, EDB/050900, EDB/052000.

DE99050565REB PC A11/MF A03
Department of Energy, Washington, DC.
Immobilized low-activity waste interim storage facility, Project W-465 conceptual design report.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
W. W. Pickett. 2 Mar 1998, 210p, HNF-1975-REV.1.
Contract AC06-96RL13200
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This report outlines the design and total estimated cost to modify the four unused grout vaults for the remote handling and interim storage of immobilized low-activity waste (ILAW).

Keywords: *Storage facilities, *Low-level radioactive wastes, Design, Cost Estimation, Modifications, Radioactive Waste Storage, Hanford Reservation, Remote Handling, EDB/050900.

DE99050568REB PC A04/MF A01
Department of Energy, Washington, DC.
Retrieved waste properties and high-level waste critical component ratios for privatization waste feed delivery.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
B. B. Peters. 4 Mar 1998, 34p, TWR-2244.
Contract AC06-96RL13200
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The purpose for this document is to provide the basis for the retrieved waste properties and high-level waste critical component ratios specified in the System Specification for the Double-Shell Tank System.

Keywords: *High-level radioactive wastes, Physical Properties, Chemical Properties, Waste Retrieval, Storage Facilities, Remedial Action, Hanford Reservation, Radioactive Waste Processing, EDB/052002, EDB/054000.

DE99050584REB PC A04/MF A01
Department of Energy, Washington, DC.
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
P. J. Certa. 11 Mar 1998, 33p, HNF-1796.
Contract AC06-96RL13200
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This document is one of a series of problem-specific data quality objectives prepared to help identify information needs of tank waste disposal in support of the Phase 1 privatization of the Tank Waste Remediation System (TWRS).

Keywords: *Low-level radioactive wastes, *Waste disposal, *Tanks, Storage Facilities, Remedial Action, Information Needs, Waste Retrieval, Data Acquisition, Quality Assurance, Hanford Reservation, Radioactive Waste Storage, EDB/052002, EDB/054000.

DE99050588REB PC A13/MF A03
Department of Energy, Washington, DC.
Project W-320 high vacuum 241-AY-102 annulus ventilation system operability test report.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. W. Bailey. 12 Mar 1998, 259p, HNF-2317.
Contract AC06-96RL13200
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This report documents the test results of OTP-320-001, Tank 241-AY-102 Annulus Ventilation System

Testing. Included in the appendices are: (1) Supporting documentation prepared to demonstrate the structural integrity of the tank at high annulus vacuum, and (2) a report that identifies potential cross connections between the primary and annulus ventilation systems. These cross connections were verified to be eliminated prior to the start of testing.

Keywords: *Storage facilities, *Ventilation systems, Performance Testing, Vacuum Systems, Annular Space, Hanford Reservation, Radioactive Waste Storage, EDB/052002.

DE99050592REB PC A02/MF A01
Department of Energy, Washington, DC.
324 Facility B-Cell quality process plan.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
J. L. Carlson. 12 Mar 1998, 7p, HNF-2286.
Contract AC06-96RL13200
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This report documents the quality process plan for the restart of a hot cell in the B Plant, originally a bismuth phosphate processing facility, but later converted to a waste fractionation plant. B-Cell is currently being cleaned out and deactivated. TPA Milestone M-89-02 dictates that all mixed waste and equipment be removed from B-Cell by 5/31/1999. This report describes the major activities that remain for completion of the TPA milestone.

Keywords: *Hot cells, *Radioactive waste facilities, Decommissioning, Schedules, Low-level radioactive wastes, Remedial Action, Radioactive Waste Management, EDB/054000, EDB/052000.

DE99050595REB PC A17/MF A03
Department of Energy, Washington, DC.
1998 FFTF annual system assessment reports.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
S. Guttenberg. 19 Mar 1998, 356p, HNF-2380.
Contract AC06-96RL13200
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The health of FFTF systems was assessed assuming a continued facility standby condition. The review was accomplished in accordance with the guidelines of FFTF-EI-083, Plant Evaluation Program. The attached document includes an executive summary of the significant conclusions and assessment reports for each system evaluated.

Keywords: *FFTF Reactor, Reactor Shutdown, Reactor Components, Evaluation, EDB/220600.

DE99050597REB PC A08/MF A02
Department of Energy, Washington, DC.
Characterization of the 309 building fuel transfer pit and storage basin.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
N. S. Hale. 19 Mar 1998, 131p, HNF-2371.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC.
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This document identifies radiological, chemical and physical conditions inside the Fuel Transfer Pit and Fuel Storage Basins. These spaces are located inside the Plutonium Recycle Test Reactor structure (309 Building.) The fuel handling and storage feature of the PRTR were primarily located in these spaces. The conditions were assessed as part of overall 309 Building transition.

Keywords: *Fuel storage pools, Fuel Storage Pools, Prtr Reactor, Materials Handling, Evaluation, Radiation Monitoring, Decommissioning, EDB/054000, EDB/050900.

DE99050622REB PC A04/MF A01
Department of Energy, Washington, DC.
Packaging and transportation system for K-Basin spent fuel.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
A. T. Kee. 3 Mar 1998, 34p.
Contract AC06-96RL13200
Waste management '98. Sponsored by Department of Energy, Washington, DC.
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This paper describes the cask/transportation system that was designed, procured and delivered to the Hanford K-Basin site at Richland, Washington. The performance requirements and design of the various components -- cask, trailer with cask tie-down system, and the cask operation equipment for the load-out pit -- will be discussed. The presentation will include the details of the factory acceptance testing and its results. The performance requirements for the cask/transportation system was dictated by the constraints imposed by the large number of high priority shipments and the spent fuel pool environment, and the complex interface requirements with other equipment and facility designs. The results of the testing form the basis for the conclusion that the system satisfies the site performance requirements. The cask/transportation system design was driven by the existing facility constraints and the limitations imposed by the large number of shipments over a short two-year period. This system may be useful information for other DOE facilities that may be or will be in a similar situation.

Keywords: *Spent fuel casks, Performance Testing, Vehicles, Design, Anchors, Land Transport, Meetings, EDB/420204, EDB/050900.

DE99050623REB PC A09/MF A02
Department of Energy, Washington, DC.
ALARA Center of Technology -- resource guide.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. O. Waggoner. 5 Feb 1998, 151p, HNF-2207.
Contract AC06-96RL13200
1998 Health Physics Society midyear topical meeting. Sponsored by Department of Energy, Washington, DC.
Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose is to provide a source of information that can be used to assist personnel in the planning, training, and execution of radiological work using the principles of ALARA. This document is not intended to replace HNF or WHC Control Manual requirements. The ALARA Tools-List provides detailed information on the use and procurement of engineered controls, mockup training guidelines, and good radiological work practices that have been proven to be ALARA.

Keywords: *Alara, Radiation doses, Radiation Hazards, Working Conditions, Radiation Protection, Safety, Recommendations, Meetings, EDB/560101, EDB/560190.

DE99050625REB PC A03/MF A01
Department of Energy, Washington, DC.
Applied ALARA techniques.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. O. Waggoner. 5 Feb 1998, 19p, HNF-2206-FP.
Contract AC06-96RL13200
1998 Health Physics Society midyear topical meeting. Sponsored by Department of Energy, Washington, DC.
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The presentation focuses on some of the time-proven and new technologies being used to accomplish radiological work. These techniques can be applied at nuclear facilities to reduce radiation doses and protect the environment. The last reactor plants and processing facilities were shutdown and Hanford was given a new mission to put the facilities in a safe condition, decontaminate, and prepare them for decommissioning. The skills that were necessary to operate these facilities were different than the skills needed today to clean up Hanford. Workers were not familiar with many of the tools, equipment, and materials needed to accomplish: the new mission which includes clean up of contaminated areas in and around all the facilities, recovery of reactor fuel from spent fuel pools, and the removal of millions of gallons of highly radioactive waste from 177 underground tanks. In addition, this work has to be done with a reduced number of workers and a smaller budget. At Hanford, facilities contain a myriad of radioactive isotopes that are 2048 located inside plant systems, underground tanks, and the soil. As cleanup work at Hanford began, it became obvious early that in order to get workers to apply ALARA and use hew tools and equipment to accomplish the radiological work it was necessary to plan the work in advance and get radiological control and/or ALARA committee personnel involved early in the planning process. Emphasis was placed on applying, ALARA techniques to reduce dose, limit contamination spread and minimize the amount of radioactive waste generated. Progress on the cleanup has been steady and Hanford workers have learned to use different type of engineered controls and ALARA techniques to perform radiological work. The purpose of this presentation is to share the lessons learned on how Hanford is accomplishing radiological work.

Keywords: *Alara, *Radiation protection, Radiation Doses, Safety, Working Conditions, Meetings, EDB/560101, EDB/560190.

DE99050668REB PC A05/MF A01
Department of Energy, Washington, DC.
Conceptual design statement of work for the immobilized low-activity waste disposal facility, project W-520.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
W. W. Pickett. 30 Apr 1998, 53p, HNF-2153.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC.
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This Statement of Work outlines the deliverables and schedule for preparation of the Project W-520 Conceptual Design Report, including, work plans, site development plan, preliminary safety evaluation, and conceptual design.

Keywords: *Radioactive waste facilities, *Low-level radioactive wastes, Radioactive Waste Disposal, Design, Safety Analysis, Planning, EDB/052002.

DE99050699REB PC A04/MF A01
Department of Energy, Washington, DC.
Organic ion exchange resin separation methods evaluation.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
K. S. Witwer. 27 May 1998, 31p, HNF-2729.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC.
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This document describes testing to find effective methods to separate Organic Ion Exchange Resin (OIER) from a sludge simulant. This task supports a comprehensive strategy for treatment and processing of K-Basin sludge. The simulant to be used resembles sludge that has accumulated in the 105KE and 105KW Basins in the 1OOK area of the Hanford Site. The sludge is an accumulation of fuel element corrosion products, organic and inorganic ion exchange materials, canister gasket materials, iron and aluminum cor-

rosion products, sand, dirt, and other minor amounts of organic matter.

Keywords: *Organic ion exchangers, *Separation processes, Sludges, Fuel Storage Pools, Radioactive Waste Processing, Performance Testing, EDB/052001.

DE99050708REB PC A02/MF A01
Department of Energy, Washington, DC.
Resolution of Hanford tanks organic complexant safety issue.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
N. W. Kirch. 14 May 1998, 8p, HNF-1930-FP.
Contract AC06-96RL13200
SPECTRUM '98: nuclear and hazardous waste management international topical meeting. Sponsored by Department of Energy, Washington, DC.
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The Hanford Site tanks have been assessed for organic complexant reaction hazards. The results have shown that most tanks contain insufficient concentrations of TOC to support a propagating reaction. It has also been shown that those tanks where the TOC concentration approaches levels of concern, degradation of the organic complexants to less energetic compounds has occurred. The results of the investigations have been documented. The residual organic complexants in the Hanford Site waste tanks do not present a safety concern for long-term storage.

Keywords: *Hanford Reservation, *Tanks, *Safety analysis, Radioactive Waste Storage, Organic Compounds, Complexes, Chelating Agents, Meetings, EDB/052002, EDB/054000.

DE99050750REB PC A02/MF A01
Department of Energy, Washington, DC.
Kt – jets and jet structure and fragmentation at the Tevatron.
Fermi National Accelerator Lab., Batavia, IL (United States).
A. Beretvas. 31 Dec 1997, 10p, FNAL/C-97/203-E.
Contract AC02-76CH03000
International workshop on deep inelastic scattering and QCD (5th). Sponsored by Department of Energy, Washington, DC.
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Kt algorithms are now used by both D0 and CDF to study jets. A preliminary study of jet structure for data taken by D0 and CDF during run 1 (92-95) is presented. D0 has measured the jet mass as a function of jet p(sub T). The CDF measurement of inclusive charged particle momentum distributions is in agreement with the Modified Leading Log Approximation (MLLA).

Keywords: *Hadrons, *Particle production, Fermilab Collider Detector, Mass, Transverse Momentum, Comparative Evaluations, Fermilab Tevatron, Algorithms, Inclusive Interactions, Distribution, Meetings, EDB/662340.

DE99050751REB PC A03/MF A01
Department of Energy, Washington, DC.
Light duty utility arm startup plan.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
G. A. Barnes. 1 Sep 1998, 19p, HNF-2300-REV.1.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC.
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This plan details the methods and procedures necessary to ensure a safe transition in the operation of the Light Duty Utility Arm (LDUA) System. The steps identified here outline the work scope and identify responsibilities to complete startup, and turnover of the LDUA to Characterization Project Operations (CPO).

Keywords: *Robots, *Startup, Planning, Radioactive Waste Storage, Storage Facilities, In-service Inspection, Tanks, EDB/052002.

DE99050823REB PC A06/MF A01
Department of Energy, Washington, DC.
1998 Interim 242-A Evaporator tank system integrity assessment report.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
C. E. Jensen. 2 Jul 1998, 92p, HNF-2905.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC.
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This Integrity Assessment Report (IAR) is prepared by Fluor Daniel Northwest (FDNW) under contract to Lockheed-Martin Hanford Company (LMHC) for Waste Management Hanford (WMH), the 242-A Evaporator (facility) operations contractor for Fluor Daniel Hanford, and the US Department of Energy, the system owner. The contract specifies that FDNW perform an interim (5 year) integrity assessment of the facility and prepare a written IAR in accordance with Washington Administrative Code (WAC) 173-303-640. The WAC 173-303 defines a treatment, storage, or disposal (TSD) facility tank system as the 'dangerous waste storage or treatment tank and its ancillary equipment and containment.' This integrity assessment evaluates the two tank systems at the facility: the evaporator vessel, C-A-1 (also called the vapor-liquid separator), and the condensate collection tank, TK-C-100. This IAR evaluates the 242-A facility tank systems up to, but not including, the last valve or flanged connection inside the facility perimeter. The initial integrity assessment performed on the facility evaluated certain subsystems not directly in contact with dangerous waste, such as the steam condensate and used raw water subsystems, to provide technical information. These subsystems were not evaluated in this IAR. The last major upgrade to the facility was project B-534. The facility modifications, as a result of project B-534, were evaluated in the 1993 facility interim integrity assessment. Since that time, the following upgrades have occurred in the facility: installation of a process condensate recycle system, and installation of a package steam boiler to provide steam for the facility. The package boiler is not within the scope of the facility TSD.

Keywords: *Evaporators, *Radioactive waste facilities, Hanford Reservation, Reliability, Evaluation, Radioactive Waste Processing, Tanks, Safety, EDB/052001, EDB/054000.

DE99050824REB PC A04/MF A01
Department of Energy, Washington, DC.
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
P. J. Certa. 2 Jul 1998, 33p, HNF-1796-REV.1.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC.
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The Phase 1 privatization contracts require that the Project Hanford Management Contract (PHMC) contractors, on behalf of the US Department of Energy, Richland Operations Office (RL), deliver the appropriate quantities of the proper composition of feed on schedule to the Privatization contractors (DOE-RL 1996). The type of feed needed, the amount of feed needed, and the overall timing of when feed is to be delivered to the Privatization contractor are specified by the contract. Additional requirements are imposed by the interface control document (ICD) for low-activity waste (LAW) feed (PHMC 1997a) . The Tank Waste Remediation System Operation and Utilization Plan (TWRSO/UP) as updated by the Readiness-to-Proceed (RTP) deliverable establishes the baseline operating scenario for the delivery of feed to two Privatization contractors for the first twelve LAW batches. The project master baseline schedule (PMBS) and corresponding logic diagrams that will be used to implement the operating scenario have been developed and are currently being refined. The baseline operating scenario in the TWRSO/UP/RTP specifies which tanks will be used to provide feed for each specific feed batch, the operational activities needed to prepare and deliver each feed batch, and the timing of these activities. This operating scenario has considered such factors as the privatization contracts and ICD requirements, waste composition and chemistry, equipment availability, project schedules and funding, tank farm logistics and the availability of tank space. The PMBS includes activities to reduce programmatic risk.

Keywords: *Radioactive waste storage, Hanford Reservation, Storage Facilities, Waste Retrieval, Contracts, Remedial Action, Planning, Schedules, EDB/052002, EDB/054000.

DE99050825REB PC A07/MF A02
Department of Energy, Washington, DC.
Waste feed delivery environmental permits and approvals plan.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
I. G. Papp. 6 Jul 1998, 104p, HNF-2401.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC.
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This document describes the range of environmental actions, including required permits and other agency approvals, that may affect waste feed delivery (WFD) activities in the Hanford Site's Tank Waste Remediation System (TWRS). This plan expands on the summary level information in the Tank Waste Remediation System Environmental Program Plan (HNF 1773) to address requirements that are most pertinent to WFD. This plan outlines alternative approaches to satisfying applicable environmental standards, and describes selected strategies for acquiring permits and other approvals needed for WFD to proceed. Appendices at the end of this plan provide preliminary cost and schedule estimates for implementing the selected strategies. The rest of this section summarizes the scope of WFD activities, including important TWRS operating information, and describes in more detail the objectives, structure, and content of this plan.

Keywords: *Radioactive waste storage, *Environmental impacts, Hanford Reservation, Remedial Action, Storage Facilities, License Applications, Waste Retrieval, Cost Estimation, Planning, EDB/052002, EDB/054000, EDB/056000.

DE99050826REB PC A99/MF A06
Department of Energy, Washington, DC.
Tank 241-TX-104, cores 230 and 231 analytical results for the final report.
Fluor Daniel Hanford, Inc., Richland, WA (United States).
L. A. Diaz. 7 Jul 1998, 647p, HNF-SD-WM-DP-305.
Contract AC06-96RL13200
Sponsored by Department of Energy, Washington, DC.
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This document is the analytical laboratory report for tank 241-TX-104 push mode core segments collected between February 18, 1998 and February 23, 1998. The segments were subsampled and analyzed in accordance with the Tank 241-TX- 104 Push Mode Core Sampling and Analysis Plan (TSAP) (McCain, 1997), the Data Quality Objective to Support Resolution of the Organic Complexant Safety Issue (Organic DQO) (Turner, et al., 1995) and the Safety Screening Data Quality Objective (DQO) (Dukelow, et.al., 1995). The analytical results are included in the data summary table. None of the samples submitted for Differential Scanning Calorimetry (DSC) and Total Alpha Activity

(AT) exceeded notification limits as stated in the TSAP. The statistical results of the 95% confidence interval on the mean calculations are provided by the Tank Waste Remediation Systems Technical Basis Group in accordance with the Memorandum of Understanding (Schreiber, 1997) and are not considered in this report. Appearance and Sample Handling Attachment 1 is a cross reference to relate the tank farm identification numbers to the 222-S Laboratory LabCore/LIMS sample numbers. The subsamples generated in the laboratory for analyses are identified in these diagrams with their sources shown. Core 230: Three push mode core segments were removed from tank 241-TX-104 riser 9A on February 18, 1998. Segments were received by the 222-S Laboratory on February 19, 1998. Two segments were expected for this core. However, due to poor sample recovery, an additional segment was taken and identified as 2A. Core 231: Four push mode core segments were removed from tank 241-TX-104 riser 13A between February 19, 1998 and February 23, 1998. Segments were received by the 222-S Laboratory on February 24, 1998. Two segments were expected for this core. However, due to poor sample recovery, additional segments were taken and identified as 2A and 2B. The TSAP states the core samples should be transported to the laboratory within three calendar days from the time each segment is removed from the tank; this requirement was not met for the segments from Core 231.

Keywords: *Tanks, *Radioactive wastes, Chemical Analysis, Drill Cores, Storage Facilities, Remedial Action, Waste Retrieval, Planning, Radioactive Waste Storage, EDB/054000, EDB/052002.

ELI-0060REB PC$89.95
TSCA Deskbook.
Environmental Law Inst., Washington, DC.
E. C. Brown, J. A. Hatcher, C. R. Hathaway, W. K. Rawson, and R. M. Sussman. c1999, 665p, ISBN 0-911937-83-8.
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The complete text of every major environmental law and its amendments is now available in one source, updated with the latest changes for 1999. Find the exact environmental laws you need quickly and easily. Both the softcover book and new CD ROM contain the complete text for: Clean Air Act and Amendments of 1990; CERCLA/Superfund; Pollution Prevention Act of 1990; Emergency Planning and Community Right to Know Act; Resource Conservation and Recovery Act; Federal Insecticide, Fungicide, and Rodenticide Act; Federal Water Pollution Control Act; Oil Pollution Act of 1990; Safe Drinking Water Act; National Environmental Policy Act; Occupational Safety and Health Act.

Keywords: *Environmental law, Amendments, Legislation, Statutes, Pollution, Federal laws.

ERS-AER-779REB PC$14.00/MF A01
Moving Toward the Food Guide Pyramid: Implications for U.S. Agriculture. Agriculture economic rept.
Economic Research Service, Washington, DC. Food and Rural Economics Div.
C. E. Young, and L. Kantor. May 1999, 36p.
See also ERS-AER-772.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Recent studies show that average diets differ considerably from Food Guide Pyramid recommendations. The gap between current consumption and recommendations is particularly large for caloric sweeteners, fats and oils, fruits, and certain vegetables--notably dark-green leafy and deep-yellow vegetables, and dry beans, peas, and lentils. The change in food consumption needed to meet Food Guide Pyramid serving recommendations will result in adjustments in U.S. agricultural production, trade, nonfood uses, and prices. The net adjustment in crop acreage is projected to be relatively small, about 2 percent of total cropland in 1991-95. However, this small net adjustment masks larger anticipated changes for some sectors, particularly sweeteners, fats and oils, and citrus fruits.

Keywords: *Nutrition, *Diets, Food consumption, United States, Crop production, Trade, Commodity prices, Dietary recommendations, *Food guide pyramid, 1996 Farm Act.

ERS-AER-780REB PC$16.00/MF A01
Food Cost Review, 1950-97. Agriculture economic rept.
Economic Research Service, Washington, DC. Food and Rural Economics Div.
H. Elitzak. Jun 1999, 58p.
See also ERS-AER-729 and ERS-AER-761.
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Food prices, as measured by the Consumer Price Index (CPI), increased 2.6 percent in 1997. This increase was greater than the overall increase in the CPI (which rose 2.3 percent) for the third consecutive year. Higher charges for processing and distributing food, as measured by the farm-to-retail price spread, were primarily responsible for the 1997 increase. The prices farmers received for commodities, as measured by the farm value of USDA's market basket of foods, dropped 4.4 percent. The farm value share of the food dollar spent in grocery stores in 1997 was 23 percent, a decrease of 2 percent from 1996. The farm-to-retail price spread of USDA's market basket of foods rose 4.7 percent, partly reflecting higher prices of inputs, such as labor.

Keywords: *Foods, *Prices, *Agricultural economics, Food industry, Retail trade, Productivity, Expenses, Profits, Market value, Farms, Consumer price index, Food processing, Statistical data, Economic aspects, Labor force, Cost analysis, Commodities.

ERS-AIB-752REB PC$14.00/MF A01
Green Technologies for a More Sustainable Agriculture. Agriculture information bulletin.
Economic Research Service, Washington, DC. Resource Economics Div.
J. Hrubovcak, U. Vasavada, and J. E. Aldy. Jun 1999, 48p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

For U.S. agriculture to continue along a sustainable path of economic development, further production increases must be generated by technologies that are both profitable and more environmentally benign. In this context, the authors assess the role of these 'green' or sustainable technologies in steering agriculture along a more sustainable path.

Keywords: *United States, *Farm management, Farms, Crop production, Soil conservation, Cultivation, Planting management, Nutrients, Barriers, Renewable resources, Environmental impacts, *Sustainable agriculture, *Green technology, Agricultural practices, Integrated pest management, Nonrenewable resources.

HUP-0001REB PC$18.50
Governing the Global Economy. International Finance and the State.
Harvard Univ. Press, Cambridge, MA.
E. B. Kapstein. c1994, 240p, ISBN 0-674-35758-2.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In this book, the international banker and political economist Ethan Kapstein explores the actions that governments have taken to cope with the economic and political consequences associated with the globalization of international finance.

Keywords: *Banking business, Regulations, Banking, Globalization, *International finance, International banking.

HUP-0002REB PC$24.95
United States and China. Fourth Edition.
Harvard Univ. Press, Cambridge, MA.
J. K. Fairbank. c1983, 664p, ISBN 0-674-92438-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Fairbank provides a miraculously concise account of Chinese civilization from its foundations to the present day. Maps, photographs, and an 80-page bibliography make this an invaluable reference work. The book addresses a popular, not the academic, audience. It offers a sweeping view of the Chinese polity from ancient times up to the recent, convoluted period of Western contact.

Keywords: *China, *History, Political systems, United States, Societies.

HUP-0003REB PC$16.95
Russia. People and Empire.
Harvard Univ. Press, Cambridge, MA.
G. Hosking. c1998, 576p, ISBN 0-674-78119-8.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The publication of this book invites us to do nothing less than rethink Russian history. In a sweeping yet meticulously argued reinterpretation of the past five centuries, Hosking shows the ways in which the Russian state's policy of empire-building has impeded the creation of a Russian nation, leaving today's Russians uncertain about what being Russian actually means. It thus goes a significant step beyond the commonplace according to which Russia's current troubles stem from the lack of a democratic tradition: Democracy requires a sense of self, Hosking maintains, and Russia cannot fully embrace democracy without developing a viable ethnic and civil identity.

Keywords: *Russian Federation, *History, Political systems, Societies.

HUP-0004REB PC$14.50
Exit, Voice, and Loyalty. Responses to Decline in Firms, Organizations, and States.
Harvard Univ. Press, Cambridge, MA.
A. O. Hirschman. c1970, 162p, ISBN 0-674-27660-4.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This is an imaginative little book. Its message should be of use to economists, political scientists, and all those interested in policy questions related to these areas. Hirschman starts his argument by assuming that in time all organizations (firms, bureaus, political parties, governments, and so on) develop slack and experience a deterioration in the quality of their output. The clients of a declining organization have two options for reversing this trend: exit and voice. And much of the book is devoted to an explication of the ways in which these options operate, their relative advantages and weaknesses, the interdependence between them. This unusual and subtle book is an exercise in interdisciplinary analysis focused on the interaction between market and non-market forces affecting the process of development and decline.

Keywords: *Organizations, *Organizational effectiveness, *Market research, Policies, Economic analysis.

HUP-0005REB PC$24.95
History of Middle East Economies in the Twentieth Century.
Harvard Univ. Press, Cambridge, MA.
R. Owen, and S. Pamuk. c1999, 400p, ISBN 0-674-39831-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This important book on economic development in the modern Middle East examines, for the first time, the separate national economies of the Arab states, including the Gulf, Israel, and Turkey, from 1918 to the present. It describes the main trends within each economy based on the best available statistical data, and answers larger questions concerning the long-term

growth of the countries, first in the colonial period, then in the periods characterized by planning and development, followed by the first steps toward liberalization and structural adjustment. It evaluates government policy in promoting the protection of imports and in advancing market economies. Policies employed by the oil-producing states to build new institutional structures based on near unlimited supplies of capital and labor are also examined. The Middle East economies are placed in their proper international context, and questions of colonialism and labor migration are discussed. The authors evaluate where the Middle Eastern economies are now, and speculate about how they may develop in the future.

Keywords: *Economic development, *Middle East, Trends, Arabs countries, Israel, Turkey, Statistical data, Government policies.

HUP-0006REB PC$16.50
Russia. The Roots of Confrontation.
Harvard Univ. Press, Cambridge, MA.
E. O. Reischauer. c1985, 432p, ISBN 0-674-77966-5.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Daniels's extraordinarily compact survey of Russian history, contemporary Soviet society and Soviet-American relations arrives right on time. In this authoritative analysis of the Russian historical experience, Daniels dismantles many of the old stereotypes, misperceptions, and irrational fears that have cumulatively (and consistently) undermined accurate perceptions of who the Soviets are, both pragmatic and sensitive, this book will give both policy makers and interested laypersons an opportunity to understand the Soviet Union in new and more enlightened ways.

Keywords: *Russian Federation, *History, Confrontation, Foreign policy.

HUP-0007REB PC$16.50
Coup D'Etat. A Practical Handbook.
Harvard Univ. Press, Cambridge, MA.
E. Luttwak. c1979, 215p, ISBN 0-674-17547-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Coup d'Etat demonstrates that scholarly analysis can be good social science and at the same time fun to read. It is nontechnical in approach and informal in style. Moreover, Edward Luttwak's familiarity with the basic concepts and problems of political science is evident throughout. This short book is...wicked, truthful, and entertaining. The author, after outlining a step-by-step procedure for bringing about a coup, analyzes modern (post-Second World War) coups, and points out why some succeeded and others failed.

Keywords: *Political revolution, Political science, *Coups d'etat.

HUP-0008REB PC$15.95
Ronald Reagan. The Politics of Symbolism.
Harvard Univ. Press, Cambridge, MA.
R. Dallek. c1999, 256p, ISBN 0-674-77941-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Few American politicians have enjoyed greater popularity than Ronald Reagan. Humor, charm, good looks, an intuitive feel for national concerns, and an extraordinary ability to speak persuasively to millions of people were major assets. But his fundamental appeal went deeper: a blend of Catholic and Protestant, small-town boy and famous entertainer, Horatio Alger and P. T. Barnum, traditional moralist and media celebrity, Reagan spoke for old values in current accents. Robert Dallek presents a sharply drawn, richly detailed portrait of the man and his politics--from his childhood years through the California governorship to the first years of the presidency. It is an essential guide for all observers of the presidential election of 2000, and a starting point for anyone wanting to discover what the Reagan experience really meant.

Keywords: *Politics, *Background, *Political attitudes, Political influences, Presidents, *Ronald Reagan.

HUP-0009REB PC$15.50
Regional Advantage. Culture and Competition in Silicon Valley and Route 128.
Harvard Univ. Press, Cambridge, MA.
A. Saxenian. c1994, 240p, ISBN 0-674-75340-2.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Why is it that business in Silicon Valley is again flourishing while along Route 128 in Massachusetts it continues to decline. The answer, Saxenian suggests, has to do with the fact that despite similar histories and technologies, Silicon Valley developed a decentralized but cooperative industrial system while Route 128 came to be dominated by independent, self-sufficient corporations. This history offers important economic-development lessons. More than technology, capital and infrastructure are needed to compete successfully in the global economy. Most important is the ability to stimulate and sustain a culture of openness, opportunity, collaboration and entrepreneurialism. Saxenian's findings are important because they highlight the fundamental organizational practices behind California's economic successes in several key sectors, a reality dangerously ignored by many of the state's political and business leaders.

Keywords: *Economic development, *Massachusetts, *Regional development, Commercialization, Competition, Regional analysis, *Silicon Valley(California).

HUP-0010REB PC$16.95
Japanese Today. Change and Continuity, Enlarged Edition.
Harvard Univ. Press, Cambridge, MA.
E. O. Reischauer, and M. B. Jansen. c1994, 496p, ISBN 0-674-47184-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Japan, like the rest of the world, has undergone enormous changes in the last few years. The impact of the end of the Cold War has combined with a world-wide recession to create a fluid situation in which long-held assumptions about politics and policies no longer hold. A classic, short history of Japan, this book has been brought up to date by Marius Jansen, now our most distinguished interpreter of Japanese history. Jansen gives a lucid account and analysis of the events that have rocked Japan since 1990, taking the story through the election of Murayama as Prime Minister.

Keywords: *Japan, *History, Politics, Foreign policy, Economic impact, Economic development.

HUP-0011REB PC$31.00
Making Markets. Opportunism and Restraint on Wall Street.
Harvard Univ. Press, Cambridge, MA.
M. Y. Abolafia. c1996, 240p, ISBN 0-674-54324-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Abolafia looks at three subcultures that co-exist in the world of Wall Street: the stock, bond, and futures markets. Through interviews, anecdotes, and the author's skillful analysis, we see how traders and New York Stock Exchange 'specialists' negotiate the perpetual tension between short-term self-interest and long-term self-restraint that marks their respective communities--and how the temptation toward excess spurs market activity. We also see the complex relationships among those market communities--why, for instance, NYSE specialists resent the freedoms permitted over-the-counter bond traders and futures traders. Making Markets shows us that what propels Wall Street is not a fundamental human drive or instinct, but strategies enacted in the context of social relationships, cultural idioms, and institutions--a cycle that moves between phases of unbridled self-interest and collective self-restraint.

Keywords: *Stocks, *Bonds, *Futures, Markets, Interviews, Traders, Specialists, *Wall Street.

HUP-0012REB PC$35.00
Russia Under Western Eyes. From the Bronze Horseman to the Lenin Mausoleum.
Harvard Univ. Press, Cambridge, MA.
M. Malia. c1999, 480p, ISBN 0-674-78120-1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

As the dust clears from the fall of Communism, will Western eyes see Russia, the unclaimed orphan of Western history or Russia as she truly is, a perplexing but undeniable member of the European family. A dazzling work of intellectual history by a world-renowned scholar, spanning the years from Peter the Great to the fall of the Soviet Union, this book gives us a clear and sweeping view of Russia not as an eternal barbarian menace but as an outermost, if laggard, member in the continuum of European nations.

Keywords: *Russia, Histories, Europe, *Western countries.

HUP-0013REB PC$16.95
Kennedy Tapes. Inside the White House During the Cuban Missile Crisis.
Harvard Univ. Press, Cambridge, MA.
E. R. May, and P. D. Zelikow. c1998, 468p, ISBN 0-674-17927-7.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

October 1962: the United States and the Soviet Union stood face to face, each brandishing enough nuclear weapons to obliterate the other's civilization. For two weeks an executive committee formed around elements of President Kennedy's National Security Council debated what to do, twice coming to the brink of attacking Soviet military units in Cuba, units equipped for nuclear retaliation. Through it all, unbeknownst to any of the participants except the President himself and probably his brother Robert, audio tape was rolling, capturing for posterity the deliberations that might have ended the world as we know it. These are the full, authenticated, and annotated transcripts of those riveting recordings, with an introduction setting the scene of the Cold War and a conclusion on what we have learned, on Soviet behavior, and on the aftermath.

Keywords: *International relations, United States, Soviet Union, *Kennedy tapes, *White House, *Cuban missile crisis, Cold War.

HUP-0014REB PC$14.95
Last Best Hope of Earth. Abraham Lincoln and the Promise of America.
Harvard Univ. Press, Cambridge, MA.
M. E. Neely. c1993, 320p, ISBN 0-674-51126-3.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Mark E. Neely, Jr., gives us the first compact biography of Abraham Lincoln based on new scholarship. Neely, a Pulitzer prize-winning historian, vividly recaptures the central place of politics in Lincoln's life. Richly illustrated, nuanced and accessible, written with attention to the age in which Lincoln lived, yet ever alert to universal moral questions, this book provides a portrait of Lincoln as an extraordinary man in his own time and ours.

Keywords: *Biographies, Politics, *United States Presidents, *Abraham Lincoln.

HUP-0015REB PC$24.95
Leadership Without Easy Answers.
Harvard Univ. Press, Cambridge, MA.
R. A. Heifetz. c1994, 368p, ISBN 0-674-51858-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at

orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This pioneering study constitutes one of the most insightful and innovative approaches to leadership studies in over a decade. Heifetz masterfully presents his new leadership model by intertwining general theory and prescriptive practical guidance through fertile historical and work-place case studies. Heifetz's goal is nothing less than a summoning for a new social contract that seeks to revitalize America's civic ethos by adopting leadership strategies to empower the citizenry rather than to merely enhance the authority of the leader. The upshot of this study should place it in the front line in leadership historiography for years to come.

Keywords: *Leadership, *Democracy, Models, Theories, Management practice.

HUP-0016REB PC$19.95
History of the World in the Twentieth Century. Volume I: Western Dominance, 1900-1947.
Harvard Univ. Press, Cambridge, MA.
J. Grenville. c1997, 416p, ISBN 0-674-39961-7.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This now classic history of the world in our century has been updated and expanded to take the history almost to the end of our century. It is being published in paperback in two compact volumes, divided at the time of the Cold War. Volume I covers the years 1900 to 1947 while volume II extends from 1945 to 1996. Grenville has also updated the references and index, and has provided new prefatory material. All illustrations and maps have been retained.

Keywords: *World history, *Twentieth century, Histories, Western dominance, Cold War.

HUP-0017REB PC$22.95
History of the World in the Twentieth Century. Volume II: Conflict and Liberation, 1945-1996.
Harvard Univ. Press, Cambridge, MA.
J. Grenville. c1997, 656p, ISBN 0-674-39962-5.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This now classic history of the world in our century has been updated and expanded to take the history almost to the end of our century. It is being published in paperback in two compact volumes, divided at the time of the Cold War. Volume I covers the years 1900 to 1947 while volume II extends from 1945 to 1996. Grenville has also updated the references and index, and has provided new prefatory material. All illustrations and maps have been retained.

Keywords: *World history, *Twentieth century, *Conflict, *Liberation, Histories, Western dominance, Cold War.

HUP-0018REB PC$16.95
China. A New History. Enlarged Edition.
Harvard Univ. Press, Cambridge, MA.
J. K. Fairbank, and M. Goldman. c1998, 624p, ISBN 0-674-11673-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The late John King Fairbank was the West's doyen on China, and this book is the full and final expression of his lifelong engagement with this vast ancient civilization. This book remains a masterwork without parallel--a concise and authoritative account of China and its people over four millennia. The distinguished historian Merle Goldman has brought the book up to date with a chapter on events in the post-Mao period and a new preface and epilogue. She provides a detailed account of the wide array of changes--social, economic, cultural, and even political--that have taken place in China over the past two decades.

Keywords: *China, Histories, Changes, Social, Economic, Cultural, Political.

HUP-0019REB PC$14.50
Rhetoric of Reaction. Perversity, Futility, Jeopardy.
Harvard Univ. Press, Cambridge, MA.
A. O. Hirschman. c1991, 208p, ISBN 0-674-76868-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Propelled by an ecumenical motive--to explain the 'massive, stubborn, and exasperating otherness of others', in this case conservative thinkers--and guided, as he himself muses, by 'an inbred urge toward symmetry', Albert Hirschman has written an enjoyable and profound book. He argues that a triplet of 'rhetorical' criticisms--perversity, futility, and jeopardy--'has been unfailingly leveled' by 'reactionaries' at each major progressive reform of the past 300 years--those T. H. Marshall identified with the advancement of civil, political and social rights of citizenship. Charmingly written, this book can benefit a diverse readership.

Keywords: *Reactions, Peversity, Futility, Jeopardy, *Rhetorical criticisms.

HUP-0020REB PC$24.95
Paradox of China's Post-Mao Reforms.
Harvard Univ. Press, Cambridge, MA.
M. Goldman, and R. Macfarquhar. c1999, 448p, ISBN 0-674-65454-4.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

China's bold program of reforms launched in the late 1970s--the move to a market economy and the opening to the outside world--ended the political chaos and economic stagnation of the Cultural Revolution and sparked China's unprecedented economic boom. Yet, while the reforms made possible a rising standard of living for the majority of China's population, they came at the cost of a weakening central government, increasing inequalities, and fragmenting society.

Keywords: *China, *Economic reforms, Essays, Market economies, Politics, Social structure, Post-Mao reforms.

HUP-0021REB PC$17.00
Strategy. The Logic of War and Peace.
Harvard Univ. Press, Cambridge, MA.
E. N. Luttwak. c1987, 320p, ISBN 0-674-83996-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Luttwak succeeds admirably in revealing the complex and invariably contradictory relationship between the various levels of strategic action; our grasp of the process of conflict is correspondingly enhanced and the reader left properly skeptical about claims that his or that technical innovation will provide an ultimate and foolproof defense. Luttwak's achievement is therefore considerable: Like his mentor Clausewitz he has recognized that the study of war cannot be subject to the 'intellectual codification used in the (mechanical) arts and sciences.' Rather, it requires philosophical rigour and historical understanding of a kind rarely found in the narrow, a historical world of the scenario builder. These intellectual virtues are abundantly present in this book, and teacher and student alike can only benefit from a close reading and assessment of its central hypothesis.

Keywords: *Strategic actions, *Conflicts, Logic, War, Peace.

HUP-0022REB PC$26.00
Korea Old and New. A History.
Harvard Univ. Press, Cambridge, MA.
C. J. Eckert, K. B. Lee, Y. I. Lew, M. Robinson, and E. W. Wagner. c1991, 454p, ISBN 0-962-7713-0-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This is the most reliable and popular history of Korea available in English. The tumultuous developments of the modern era receive the greatest coverage, but the book's balanced treatment of traditional Korea emphasizes cultural events as integrally related to the political, social, and economic evolution of this ancient nation. Five outstanding scholars give a wide-angle view of each distinct period, elucidating the past while providing new understanding of the vast changes that have taken place in Korea.

Keywords: *Korea, Asia, Histories, Cultural events, Politics, Sociology, Economics.

HUP-0023REB PC$27.95
Structural Slumps. The Modern Equilibrium Theory of Unemployment, Interest, and Assets.
Harvard Univ. Press, Cambridge, MA.
E. S. Phelps. c1998, 440p, ISBN 0-674-84374-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Dissatisfied with the explanations of the business cycle provided by the Keynesian, monetarist, New Keynesian, and real business cycle schools, Edmund Phelps has developed from various existing strands--some modern and some classical--a radically different theory to account for the long periods of unemployment that have dogged the economies of the United States and Western Europe since the early 1970s.

Keywords: *Unemployment, *Business cycles, United States, Europe, Interest, Assets, Equilibrium theory, Macroeconomic theory.

HUP-0024REB PC$15.95
Inside the Arab World.
Harvard Univ. Press, Cambridge, MA.
M. Field. c1995, 448p, ISBN 0-674-45521-5.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The first book to include developments since the Gulf War and the historic pact between Israel and the PLO, Inside the Arab World gives us a complete and detailed picture of the region as it is today, as well as a clear sense of how Arab affairs have evolved and where they may lead. Timely, thorough, and highly readable, this book offers much-needed insight into the Arab world as its politics and policies increasingly engage our own.

Keywords: *Arabs, *Middle East, Histories, Politics, Policies, Developments, Israel, Palestinian Liberation Organization.

HUP-0025REB PC$19.95
Resources, Values and Development.
Harvard Univ. Press, Cambridge, MA.
A. Sen. c1997, 560p, ISBN 0-674-76526-5.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book contains many of Amartya Sen's path-breaking contributions to development economics, including papers on resource allocation in nonwage systems, investment planning, shadow pricing, employment policy, and welfare economics.

Keywords: *Development economics, Nonwage systems, Investment planning, Shadow pricing, Employment policy, Welfare economics.

HUP-0026REB PC$19.95
Choice, Welfare, and Measurement.
Harvard Univ. Press, Cambridge, MA.
A. Sen. c1997, 480p, ISBN 0-674-12778-1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book contains many of Amartya Sen's most important contributions to economic analysis and methods,

including papers on choice, preference, rationality, aggregation, and measurement. A substantial introductory essay interrelates his diverse concerns, and also analyzes discussions generated by the original papers, focusing on the underlying issues.

Keywords: *Economic analysis, Choice, Preference, Rationality, Aggregation, Measurements.

HUP-0027REB PC$16.95
John Quincy Adams. A Public Life, A Private Life.
Harvard Univ. Press, Cambridge, MA.
P. C. Nagel. c1999, 448p, ISBN 0-674-47940-8.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

John Quincy Adams was raised, educated, and groomed to be President, following in the footsteps of his father, John. At fourteen he was secretary to the Minister to Russia and, later, was himself Minister to the Netherlands and Prussia. He was U.S. Senator, Secretary of State, and then President for one ill-fated term. His private life showed a parallel descent. He was a poet, writer, critic, and Professor of Oratory at Harvard. He married a talented and engaging Southerner, but two of his three sons were disappointments. This polymath and troubled man, caught up in both a democratic age not to his understanding and the furies of passion, was an American lion in winter.

Keywords: *Statesmen, Histories, United States President, John Quincy Adams.

HUP-0028REB PC$39.95
Grabbing Hand. Government Pathologies and Their Cures.
Harvard Univ. Press, Cambridge, MA.
A. Shleifer, and R. Vishny. c1999, 288p, ISBN 0-674-35887-2.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In many countries, public sector institutions impose heavy burdens on economic life: heavy and arbitrary taxes retard investment, regulations enrich corrupt bureaucrats, state firms consume national wealth, and the most talented people turn to rent-seeking rather than productive activities. As a consequence of such predatory policies--described in this book as the grabbing hand of the state--entrepreneurship lingers and economies stagnate. The authors of this collection of essays describe many of these pathologies of a grabbing hand government, and examine their consequences for growth. The essays share a common viewpoint that political control of economic life is central to the many government failures that we observe.

Keywords: *Governments, Essays, Growth, Reforms, Europe, Developing countries, United States, Transition economies, Taxes, Regulations.

HUP-0029REB PC$16.95
Inequality Reexamined.
Harvard Univ. Press, Cambridge, MA.
A. Sen. c1992, 224p, ISBN 0-674-45256-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In this deft analysis, Amartya Sen argues that the dictum 'all people are created equal' serves largely to deflect attention from the fact that we differ in age, gender, talents, and physical abilities as well as in material advantages and social background. He argues for concentrating on higher and more basic values: individual capabilities and freedom to achieve objectives. By concentrating on the equity and efficiency of social arrangements in promoting freedoms and capabilities of individuals, Sen adds an important new angle to arguments about such vital issues as gender inequalities, welfare policies, affirmative action, and public provision of health care and education.

Keywords: *Inequality, *Social arrangements, Gender inequalities, Welfare policies, Affirmative action, Public services.

HUP-0030REB PC$18.50
Propensity To Self-Subversion.
Harvard Univ. Press, Cambridge, MA.
A. O. Hirschman. c1995, 264p, ISBN 0-674-71558-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Albert O. Hirschman is renowned worldwide for theories that have been at the forefront of political economics during the last half century. In these twenty essays he casts his sharp analytical eye on his own ideas, questioning and qualifying some of his major propositions on social change and economic development. Hirschman's self-subversion, as well as the self-affirmation that is also present here, reveal the workings of a distinguished mind. They also bring us fresh perspective on the material in his twelve previous books and countless essays. In the substantial essays that open this collection, Hirschman reappraises points he made in such books as Exit, Voice, and Loyalty, The Strategy of Economic Development, and The Rhetoric of Reaction. Subsequent essays fruitfully reexplore the themes of Latin American development and market society that have occupied him throughout his career. Hirschman also forays into new puzzles, such as the likely impact, negative or otherwise, of the Eastern European revolutions of 1989 on the Third World, the on-and-off connections between political and economic progress, and the role of conflict in enhancing community spirit in a liberal democracy.

Keywords: *Social change, *Economic development, Essays, Political economics.

HUP-0031REB PC$16.95
History of Twentieth-Century Russia.
Harvard Univ. Press, Cambridge, MA.
R. Service. c1998, 688p, ISBN 0-674-40348-7.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Russia has had an extraordinary history in the twentieth century. As the first Communist society, the USSR was both an admired model and an object of fear and hatred to the rest of the world. How are we to make sense of this history. A History of Twentieth-Century Russia treats the years from 1917 to 1991 as a single period and analyzes the peculiar mixture of political, economic, and social ingredients that made up the Soviet formula. Under a succession of leaders from Lenin to Gorbachev, various methods were used to conserve and strengthen this compound. At times the emphasis was upon shaking up the ingredients, at others upon stabilization. All this occurred against a background of dictatorship, civil war, forcible industrialization, terror, world war, and the postwar arms race.

Keywords: *Russia, Histories, Politics, Economics, Sociology, *Twentieth-Century.

HUP-0032REB PC$29.95
Greek Grammar.
Harvard Univ. Press, Cambridge, MA.
H. W. Smyth. c1984, 803p, ISBN 0-674-36250-0.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The present book, apart from its greater extent and certain differences of statement and arrangements, has, in general, the same plan as the author's Greek Grammar for Schools and Colleges. It is a descriptive, not an historical, nor a comparative, grammar. Though it has adopted many of the assured results of Comparative Linguistics, especially in the field of Analogy, it has excluded much of the more complicated matter that belongs to a purely scientific treatment of the problems of Morphology.

Keywords: *Greek grammar, Foreign languages, Dialects, Attic speech.

HUP-0033REB PC$52.50
Sanskrit Grammar. Including Both the Classical Language, and the Older Dialects, of Veda and Brahmana.
Harvard Univ. Press, Cambridge, MA.
W. D. Whitney. c1987, 577p, ISBN 0-674-78810-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

It was in June, 1875, as I chanced to be for a day or two in Leipzig, that was unexpectedly invited to prepare the Sanskrit grammar for the Indo-European series projected by Messrs. Breitkopf and Hartel. After some consideration, and consultation with friends, I accepted the taks, and have since devoted to it what time could be spared from regular duties, after the satisfaction of engagements earlier formed. If the delay seems a long one, it was nevertheless unavoidable; and I would gladly, in the interest of the work itself, have made it still longer. In every such case, it is necessary to make a compromise between measurably satisfying a present pressing need, and doing the subject fuller justice at the cost of more time.

Keywords: *Sanskrit grammar, *Foreign languages, Dialects, Veda, Brahmana, Classical language.

HUP-0034REB PC$17.50
Equality, the Third World, and Economic Delusion.
Harvard Univ. Press, Cambridge, MA.
P. T. Bauer. c1981, 302p, ISBN 0-674-25986-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The central theme of this book is the conspicuous and disconcerting hiatus between accepted opinion and evident reality in major areas of academic and public eocnomic discourse since the Second World War. Review of intellectually and practically significant instances of this discrepancy provides the connecting thread between the studies presented in this volume. The book is ambitious in that it attempts to demonstrate the presence of this hiatus over a wide range of economics and politics and their academic study. This hiatus is evident in all three major areas covered by this book. I argue that the widely accepted ideas examined here, many of which are staples of the economic literature and of the publications of leading economists, are demonstrably invalid, often evidently so. The received conclusions have served as a basic for major policies in the West, and in the less developed world.

Keywords: *World War II, *Economics, *Politics, Policies.

HUP-0035REB PC$30.00
Macroeconomic Policy and Adjustment in Korea 1970-1990.
Harvard Univ. Press, Cambridge, MA.
S. Haggard, R. N. Cooper, S. Collins, C. Kim, and S. T. Ro. c1994, 333p, ISBN 0-674-54085-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The study of macroeconomic policy in Korea is a collaborative venture between the Korea Development Institute and the Harvard Institute for International Development. It was designed to update the previous joint study of Korea's modernization. This volume provides an analytic history of Korean macroeconomic policy over the last two decades that integrates political as well as economic analysis. The book analyzes fiscal, monetary, financial, and labor-market policy, savings behavior, and the balance of payments, and draws conclusions for policy reform in other developing countries.

Keywords: *Korea, *Macroeconomics, Policies, Adjustment, Histories, Political analysis, Economic analysis.

HUP-0036REB PC$14.50
China and Japan in the Global Setting.
Harvard Univ. Press, Cambridge, MA.

A. Iriye. c1992, 165p, ISBN 0-674-11839-1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Like all Reischauer lecturers, I was asked to address a topic that embraces and connects the countries of East Asia. I chose to focus on the modern history of Chinese-Japanese relations. This may have been a reckless undertaking, since my work in the last twenty years or so has moved away from East Asian history per se, so my knowledge or understanding of this history may be somewhat dated. I can attempt, however, to put Chinese-Japanese relations in a global context. My research and teaching for some time have been in international history, the history of modern international relations broadly defined, and I have found it useful to discuss the ways in which Chinese-Japanese relations have been affected by developments in the international community as a whole, and, at the same time, have contributed to defining it.

Keywords: *China, *Japan, Relations, Histories, Developments.

HUP-0037REB PC$39.50
Mathews' Chinese-English Dictionary. Revised American Edition.
Harvard Univ. Press, Cambridge, MA.
R. H. Mathews. c1996, 1249p, ISBN 0-674-12350-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

With books no longer coming from the Far East, the need for Chinese dictionaries in this country has grown from chronic to acute. To anser the immediate demands of American students, the Harvard-Yenching Institute has undertaken to revise and reprint two practical dictionaries, (1) C. H. Fenn's Pocket Dictionary, which appeared in November, 1942, and (2) the present Chinsese-English Dictionary by R. H. Mathews, both photolithographic reproductions. Within the necessary limitations of a photographic edition, and as far as interstices of the original edition allow, errors have been corrected, pronunciations and definitions revised, and new entries inserted, -- in all amounting to some 15,000 items. A whole introduction on Pronunciation has been added, and a list of the syllabic headings is included for quick reference, since the original order of syllables is not strictly alphabetic. An additional feature of the new edition is that all cases of the neutral, i.e., unstressed, tone are indicated.

Keywords: *Dictionaries, Pronunciations, Errors, Definitions, *Chinese-English.

ISLAND-0475REB PC$29.95
For the Health of the Land: Previously Unpublished Essays and Other Writings.
Island Press, Washington, DC.
A. Leopold. c1999, 240p, ISBN-1-55963-763-3.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book is a new collection of rare and previously unpublished essays by Leopold, builds on that vision of ethical land use and develops the concept of 'land health' and the practical measures landowners can take to sustain it. The writings are vintage Leopold-clear, sensible, and provocative, sometimes humorous, often lyrical, and always inspiring. Joining them together are a wisdom and a passion that transcend the time and place of the author's life.

Keywords: *Land use, *Conservation, Essays, Ethics, Private lands, Wildlife.

ISLAND-0476REB PC$31.95
Heart of America: Our Landscape, Our Future.
Island Press, Washington, DC.
T. Palmer. c1999, 350p, ISBN-1-55963-436-7.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In this illuminating portrait of America at the threshold of the new millennium, author Tim Palmer explores and assesses the landscape of the United States-both timeless wonders of natural beauty and lost places scarred by human exploitation. He takes the reader on an informative and inspirational tour of our most vital landscapes, including mountains, forests, grasslands, deserts, rivers, lakes, wetlands, and seashores. He introduces us to the basic geography and ecological value of each landscape, describes historical patterns of land use, considers the most serious threats, and discusses what is being done to protect the landscape for future generations. Throughout, he instills a deeper understanding of the importance of the land, a sense of outrage at the damage that has been done, and a feeling of hope that those working to correct past abuses will succeed.

Keywords: *Landscapes, *United States, Geography, Ecology, Land use.

ISLAND-0478REB PC$29.95
Halflives: Reconciling Work and Wildness.
Island Press, Washington, DC.
B. Williams. c1999, 224p, ISBN-1-55963-577-0.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In Halflives, Brooke Williams presents the engrossing story of his personal journey in balancing the expectations of family and society, and the needs and desires of his heart. In witty, poignant prose, he tells how he came to free himself from the life he was expected to live. Williams comes to realize he is not alone in this struggle, and he identifies a balance we all must strike between our cultural obligations and the strong pull toward wildness that our evolutionary heritage exerts on the human psyche.

Keywords: *Outdoors, *Nature, Human psyche, Reconciliation, Needs, Desires.

ISLAND-0479REB PC$31.95
Encounters with Nature.
Island Press, Washington, DC.
P. Shepard. c1999, 208p, ISBN-1-55963-529-0.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Throughout the vast body of Shepard's literary legacy, certain themes appear repeatedly: the aesthetics and perception of landscape and nature; animals and their pervasive influence on our humanity; ontogeny, the development of the individual in complicity with nature and with culture; and 'place' as the grounding of our being. The book brings together twenty-one essays written over a span of four decades that explore those themes and chronicle an interlocking progression of knowledge and insight that certifies Paul Shepard as one of the most brilliant thinkers of our time.

Keywords: *Nature, *Landscapes, Essays, Animals, Ontogeny, Culture.

ISLAND-0480REB PC$34.95
Reaping the Wind: How Mechanical Wizards, Visionaries, and Profiteers Helped Shape Our Energy Future.
Island Press, Washington, DC.
P. Asmus. c1999, 267p, ISBN-1-55963-707-2.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In the book, journalist Peter Asmus tells the fascinating and convoluted history of commercial wind power in the United States. He introduces readers to maverick scientists and technologists who labored in obscurity, to entrepreneurs and visionary capitalists who believed that a centuries-old idea could be made feasible in the modern world, and to enterprising financial advisers and investors who sought to exploit the last great tax shelter in federal history. Beginning with the early pioneers, from William Heronemus, a former U.S. Navy captain who dreamt of huge floating wind farms off the coast of New England, to the $40 million success story of Jim Dehlsen of Zond, he offers an animated narrative that profiles the colorful cast of characters involved with the development of the American wind power industry.

Keywords: *Wind power, United States, Histories, Technologies, Policies.

ISLAND-0482REB PC$72.00
Freshwater Ecoregions of North America: A Conservative Assessment.
Island Press, Washington, DC.
R. A. Abell, D. M. Olson, E. Dinerstein, W. Eichbaum, S. Walters, W. Wettengel, T. Allnutt, C. J. Loucks, P. Hedao, P. T. Hurley, and J. T. Diggs. c1999, 368p, ISBN-1-55963-734-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

As an initial step in identifying those areas where protective and restorative measures should be implemented first, World Wildlife Fund-US assembled a team of leading scientists to conduct a conservation assessment of freshwater ecoregions. This book presents that assessment and outlines measures that must be taken to conserve, and in many cases restore, native biodiversity. The book: identifies freshwater ecoregions that support globally outstanding biological diversity assesses the types and immediacy of threats to North American ecoregions; identifies gaps in information that hamper an accurate evaluation of biodiversity; provides a broad-scale framework for conservation activities. In addition, it offers appendixes that provide detailed descriptions of methodologies, raw scores and statistical analysis of results, and an integrated biological distinctiveness and conservation status index. Also included are 21 full-color maps.

Keywords: *North America, *Freshwater biology, *Aquatic habitats, *Natural resource conservation, Aquatic ecosystems, Species diversity, Wildlife conservation, Environmental impact assessments, Environmental protection, Threat evaluation, *Ecoregions, Biodiversity.

ISLAND-0483REB PC$34.50
Trade-Off Myth: Fact and Fiction About Jobs and the Environment.
Island Press, Washington, DC.
E. Goodstein. c1999, 208p, ISBN-1-55963-683-1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Many Americans believe three things about jobs and the environment: that the implementation of environmental protection measures has created ongoing, widespread unemployment; that it has caused large numbers of plant shutdowns and layoffs in manufacturing; and that it has led many U.S. firms to flee to developing countries with lax environmental regulations. Virtually all economists who have studied the issue agree that each of these propositions is false. In the book, economist Eban Goodstein provides an in-depth examination of the deep-seated, but ultimately mistaken, American belief in a widespread jobs-environment trade-off. Remarkably, his is the first book to state unambiguously the truth about jobs and the environment.

Keywords: *Environmental protection, *Jobs, Unemployment, Labor, Regulations, United States, Measures.

ISLAND-0486REB PC$39.50
Nature in Focus: Rapid Ecological Assessment.
Island Press, Washington, DC.
R. Sayre, E. Roca, G. Sedaghatkish, R. Roca, S. Sheppard, B. Young, and S. Keel. c1999, 224p, ISBN-1-55963-754-4.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Rapid Ecological Assessment (REA) is a methodology developed by The Nature Conservancy to provide

comprehensive and reliable information about biodiversity resources in situations where time and financial resources are limited. This book is an in-depth guide to the theory and practice of REAs, offering a detailed approach for assessing biodiversity in a rapid and integrative manner. It provides researchers with the essential tools and techniques they need to conduct an REA, and offers valuable advice about the planning and implementation aspects. The book: presents an overview of the REA methodology and sampling framework; reviews all aspects of an REA: planning and management, mapping and spatial information, information management; describes surveys of vegetation and fauna; presents a generalized description of threat assessments; explores the manner in which large amounts of data produced by different REA teams are integrated and synthesized into a cohesive set of management recommendations; explains how the REA effort is documented, published, and disseminated; and offers a detailed REA case study. Also included is a set of twelve color maps that describe the sequence of mapping activities in the case-study REA, along with other map examples from a range of REAs. In addition to the case study, appendixes offer a full set of REA field forms for sampling, and a model 'Scope of Work' that describes the nature of work to be conducted in an REA and outlines the roles and responsibilities of the participating organizations.

Keywords: *Remote sensing, *Natural resource conservation, *Data collection, Aerial reconnaissance, Overflight, Mapping, Threat evaluation, Vegetation, Animals, Species diversity, Planning, Data processing, Information management, *Rapid ecological assessment, Biodiversity.

ISLAND-0491REB PC$37.00
Rivers of Gold: Designing Markets to Allocate Water in California.
Island Press, Washington, DC.
B. M. Haddad. c1999, 275p, ISBN-1-55963-712-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book takes a new look at California's water-reallocation challenge. The author explains the concept of water markets and the economic theory undergirding them. He shows how some water markets have worked-and others have failed-and gives the reader the analytic tools necessary to understand why. The book: provides an overview of water-supply issues in California; compares the situation in California with that of other western states; considers the different property rights regimes governing current use and their fit with water market institutions; explains how water markets would work and their benefits and drawbacks as an allocation mechanism; presents a series of case studies of water markets currently in effect in California; offers a list of principles for water market design. In the end, the author offers a comprehensive assessment of the institutional design features that any water market should incorporate if it is to reallocate water effectively, in California or in any other region where water is scarce.

Keywords: *California, *Water supply, *Markets, *Water allocation(Policy), Water resources, Ground water, Surface waters, Water demand, Prices, Water costs, Water distribution(Applied), Water utilization, Competing uses, Water policy, Property rights, Water conservation, Economic analysis.

ISLAND-0492REB PC$47.00
Economic Losses from Marine Pollution. A Handbook for Assessment.
Island Press, Washington, DC.
D. D. Ofiara, and J. J. Seneca. c1999, 203p, ISBN-1-55963-609-2.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book brings a fuller understanding of the variety and extent of marine losses and how they are assessed to scientists, lawyers, and environmentalists by systematically identifying and classifying marine losses and relating them to models and methods of economic valuation. The authors use a step-by-step approach to show how economists have used these methods and how they approach the problem of assessing economic damage. The book begins by describing the importance of economic valuation of marine damages, the history of concern over marine pollution, and the development of economic methodologies to assess damage from it. Following that, the book: considers types of marine pollution and their effects on organisms, ecosystems, and humans, and the corresponding economic effects of those biological impacts; introduces the economic principles and methods needed to understand and to assess economic damages; expresses losses from water quality impairments in terms of economic value; introduces the basic economic techniques that have been developed and used to measure changes in economic value; discusses how to apply those economic techniques, and presents a variety of practical examples; explores limitations and problems that can arise in such applied work.

Keywords: *Economic analysis, *Losses, *Marine pollution, Damage assessment, Environmental impact assessments, Economic impact, Value, Marine resources, Marine ecosystems, Fisheries, Water quality, Environmental economics.

ISLAND-0493REB PC$37.00
Estuarine Science: A Synthetic Approach to Research and Practice.
Island Press, Washington, DC.
J. Hobbie. c1999, 338p, ISBN-1-55963-700-5.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book presents examples of synthetic approaches to estuarine science. Leading scientists-including Donald F. Boesch, W. Rockwell Geyer, Nancy Rabalais, Charles A. Simenstad, and many others-offer twelve chapters that report on different types of ecological synthesis and summarize the current state of scientific knowledge. Additional chapters examine the adequacy of existing synthesis, and the data and models required for improving the scientific management of estuaries in the coming decade. Each of the book's five section introduces a major area of estuarine synthesis; highlights key problems about that topic; reports case histories of successful synthesis; and recommends types of data to collect, processes to study, and models to build for a predictive understanding. Sections examine: inputs to estuaries of water, sediment, and nutrients from the drainage basin; the coupling of estuarine physics with biogeochemistry and ecology; the biogeochemical process in estuaries and their linkages to the food web; controls on the distribution and abundance of organisms in the estuary; and the need for synthesis that would directly improve the scientific management of estuaries.

Keywords: *Estuarine environment, *Coastal zone management, *Research projects, Estuaries, Drainage area, Aquatic biology, Aquatic ecology, Biological communities, Biogeochemistry, Food webs, Environmental protection, Environmental issues.

ISLAND-0494REB PC$47.00
Protecting the Land: Conservation Easements Past, Present, and Future.
Island Press, Washington, DC.
J. A. Gustanski, and R. H. Squires. c1999, 450p, ISBN-1-55963-654-8.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A conservation easement is a legal agreement between a property owner and a conservation organization, generally a private nonprofit land trust, that restricts the type and amount of development that can be undertaken on that property. The book provides a thoughtful examination of land trusts and how they function, and a comprehensive look at the past and future of conservation easements. The book: provides a geographical and historical overview of the role of conservation easements; analyzes relevant legislation and its role in achieving community conservation goals; examines innovative ways in which conservation easements have been used around the country; considers the links between social and economic values and land conservation. Contributors, including noted tax attorney and land preservation expert Stephen Small, Colorado's leading land preservation attorney Bill Silberstein, and Maine Coast Heritage Trust's general counsel Karin Marchetti, describe and analyze the present status of easement law. Sharing their unique perspectives, experts including author and professor of geography Jack Wright, Dennis Collins of the Wildlands Conservancy, and Chuck Roe of the Conservation Trust of North Carolina offer case studies that demonstrate the flexibility and diversity of conservation easements.

Keywords: *Environmental protection, *Natural resource conservation, *Land use, Property rights, Natural resources management, Land development, Restrictions, Agreements, Legislation, Legal aspects, Law(Jurisprudence), *Land trusts.

ISLAND-0495REB PC$37.00
Hidden Costs of Coastal Hazards. Implications for Risk Assessment and Mitigation.
Island Press, Washington, DC.
c1999, 210p, ISBN-1-55963-756-0.
Prepared in cooperation with Heinz (John H.) Center for Science, Economics and the Environment, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book presents the panel's findings, offering the first in-depth study that considers the costs of coastal hazards to natural resources, social institutions, business, and the built environment. Using Hurricane Hugo, which struck South Carolina in 1989, as a case study, it provides for the first time information on the full range of economic costs caused by a major coastal hazard event. The book: describes and examines unreported, undocumented, and hidden costs such as losses due to business interruption, reduction in property values, interruption of social services, psychological trauma, damage to natural systems, and others; examines the concepts of risk and vulnerability, and discusses conventional approaches to risk assessment and the emerging area of vulnerability assessment; recommends a comprehensive framework for developing and implementing mitigation strategies; documents the human impact of Hurricane Hugo and provides insight from those who lived through it. The Hidden Costs of Coastal Hazards takes a structured approach to the problem of coastal hazards, offering a new framework for community-based hazard mitigation along with specific recommendations for implementation.

Keywords: *Coastal areas, *Hazards, *Cost analysis, Disasters, Hurricanes, Coastal zone management, Land use planning, Land development, Vulnerability, Real property, Insurance, Investments, Economic analysis, Decision making, Policy making, Risk assessment, Mitigation.

ISLAND-0496REB PC$37.00
Future of U.S. Ocean Policy. Choices for the New Century.
Island Press, Washington, DC.
B. Cicin-Sain, and R. W. Knecht. c1999, 400p, ISBN-1-55963-676-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book provides an overview, with an in-depth analysis of the evolution of U.S. ocean policy and a timely discussion of the most important ocean and coastal issues facing the nation. The book assesses the current status of ocean policy, examines national and international trends, and considers choices for policymakers in the 21st century. Following an introductory chapter that reviews national ocean policy and the process by which it is made, the authors: review the history of development of U.S. ocean and coastal policy; examine the major ocean laws enacted in the 1970s and review and assess their record of implementation; examine factors that will affect U.S. ocean policy in the coming decade; discuss the need to make policy more coherent, and to develop institutional mechanisms that can foster more effective guidance and oversight; and present a set of policy options for improving U.S. ocean policy.

Keywords: *Policy making, *Government policies, *United States, Ocean environments, Coastal zone management, Marine resources, Environmental policy, Natural resources management, Envionmental protection, Environment management, *Ocean policy.

ISLAND-0497REB PC$42.00
Negotiating Environmental, Health, and Safety Agreements. How to Avoid Escalating Confrontation, Needless Costs, and Unnecessary Litigation.
Island Press, Washington, DC.
L. Susskind, P. F. Levy, and J. Thomas-Larmer. c1999, 300p, ISBN-1-55963-633-5.
Prepared in cooperation with Massachusetts Inst. of Tech., Cambridge.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

For the past five years, the authors of this volume have conducted semi-annual seminars at the Massachussetts Institute of Technology and at Harvard to provide business leaders and regulators with the knowledge and skills they need to more effectively handle environmental, health, and safety negotiations. Their strategy, known as the 'mutual gains approach,' is a proven method of producing fairer, more efficient, more stable, and wiser results. This book provides the first comprehensive introduction to this widely practiced and highly effective approach to environmental regulation. The book begins with an overview of the mutual gains approach, introducing important concepts and ideas from negotiation theory as well as the theory and practice of mediation. The authors then offer five model negotiations from their MIT-Harvard Public Disputes seminar, followed by a series of real-world negotiated environmental agreements that illustrate the kinds of outcomes possible when the mutual gains approach is employed. A collection of writings by leading experts provide valuable insights into the process, and appendixes offer both instructions for conducting model negotiation sessions and analysis of actual game results from earlier seminars.

Keywords: *Environmental health, *Agreements, *Negotiations, *Environmental protection, Environmental issues, Environmental policy, Policy making, Conflict resolution, Problem solving, Decision making, Disputes, Settlement(Law), Mutual gains approach, Environmental regulation.

ISLAND-0500REB PC$31.95
Rose's Kiss: A Natural History of Flowers.
Island Press, Washington, DC.
P. Bernhardt. c1999, 250p, ISBN-1-55963-564-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In the book, botanist Peter Bernhardt rekindles our sense of wonder at the plant life all around us. He presents a fascinating and wide ranging look at the natural history of flowers-their forms and functions as well as their hidden interactions with the surrounding environment and the other living organisms they depend upon for survival. Using both familiar and exotic examples, he examines: flower architecture, including the wonderfully descriptive names of floral parts and their respective roles in a plant's life-cycle; the secret exchange between a bud and its environment that determines blooming time and the lifespan of individual blossoms; colors, scents, and other mechanisms that plants use to attract pollinators and keep them returning season after season; the incredible diversity of organisms that pollinate plants-cockroaches, flies, moths, parrots, hummingbirds, bats, and others; extinct plants and their fossil blossoms, showing the evolution of flowering plants over the past 125 million years; and much more.

Keywords: *Flowers, *Natural history, Plants(Botany), History, Folklore, Mythology.

ISLAND-0501REB PC$31.95
Fire on the Plateau: Conflict and Endurance in the American Southwest.
Island Press, Washington, DC.
C. Wilkinson. c1999, 384p, ISBN-1-55963-647-5.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In the book, legal scholar and writer Charles Wilkinson relates the powerful story of how, over the past thirty years, he has been drawn ever more deeply into the redrock country and Indian societies of the Colorado Plateau. His work in the early 1970s as staff attorney for the newly formed Native American Rights Fund brought him into close contact with Navajo and Hopi people. His growing friendships with American Indians and increasing understanding of their cultures, along with his longstanding scholarship and experiences on federal public lands, led him to delve into the complicated history of the region.

Keywords: *American Indians, Histories, Colorado plateau, Redrock country.

ISLAND-0502REB PC$29.95
Shadows in the Sun: Travels to Landscapes of Spirit and Desire.
Island Press, Washington, DC.
W. Davis. c1999, 260p, ISBN-1-55963-354-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Wade Davis has been called 'a rare combination of scientist, scholar, poet and passionate defender of all of life's diversity.' In Shadows in the Sun, he brings all those gifts to bear on a fascinating examination of indigenous cultures and the interactions between human societies and the natural world. Ranging from the British Columbian wilderness to the jungles of the Amazon and the polar ice of the Arctic Circle. Shadows in the Sun is a testament to a world where spirits still stalk the land and seize the human heart. Its essays and stories, though distilled from travels in widely separated parts of the world, are fundamentally about landscape and character, the wisdom of lives drawn directly from the land, the hunger of those who seek to rediscover such understanding, and the consequences of failure.

Keywords: *Cultures, *Nature, Humans, Interactions, Diversity, Landscapes, Character.

ISLAND-0506REB PC$82.00
Terrestrial Ecoregions of North America: A Conservation Assessment.
Island Press, Washington, DC.
T. H. Ricketts, E. Dinerstein, D. M. Olson, D. DellaSala, K. Kavanagh, P. Hedao, P. T. Hurley, K. M. Carney, C. J. Loucks, and W. Eichbaum. c1999, 558p, ISBN-1-55963-722-6.
Prepared in cooperation with World Wildlife Fund, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book begins with six chapters that present the rationale for the ecoregion approach, describe the biological distinctiveness of North American ecoregions, assess the level of threats facing each, present a conservation agenda for the next decade, and set forth recommendations for preserving and restoring biodiversity. In addition, nineteen essays by leading scientists address specific topics such as the effect of cattle on riparian areas, and the problem of invasive exotic plant species. Following the main text are substantial appendixes that describe each ecoregion in detail, including information on: unique features of the ecoregion that set it apart from the others; its biological distinctiveness, threats to habitats and wildlife, and important sites for conservation; activities that enhance biodiversity conservation in the ecoregion; conservation partners working in the ecoregion, including addresses and other contact information; the relationship of the ecoregion to other classification schemes; literature cited for that ecoregion. One of the most useful and unique features of the book is the series of thirty full-color maps that present essential information about the ecoregions and the biodiversity they contain in a compelling and easily understood graphical format.

Keywords: *Terrestrial ecosystems, *North America, *Natural resource conservation, *Environmental impact assessments, Riparian land, Wildlife habitats, Canada, United States, Species diversity, Environmental protection, Threat evaluation, Planning, *Ecoregions, Biodiversity.

ISLAND-0507REB PC$32.00
Continental Conservation: Scientific Foundations of Regional Reserve Networks.
Island Press, Washington, DC.
M. E. Soule, and J. Terborgh. c1999, 265p, ISBN-1-55963-698-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Wildlands Project is a far-reaching effort by scientists and activists to develop better ways of protecting nature, wilderness, and biodiversity. Its ultimate goal is to establish an effective network of nature reserves throughout North America-core conservation areas linked by corridors, and buffered, where appropriate, by lands that may also serve economic objectives. The book examines the science underlying the design and management of these regional-scale networks. It provides conservationists and biologists with the latest scientific principles for protecting living nature at spatial scales that encompass entire regions and continents. Following an opening chapter that sets the stage by introducing major themes and the scientific and policy background, the contributors: consider scale in the identification, selection, and design of biological reserves; examine the role of top carnivores in regulating terrestrial ecosystems; suggest the need for a paradigm shift in the field of ecological restoration; consider the scientific details of implementing regional conservation in core areas, corridors, and in buffer zones; and discuss the need for megareserves and how to design them.

Keywords: *Nature reserves, *Natural resource conservation, *North America, Wilderness areas, Terrestrial habitats, Species diversity, Wildlife management, Environment management, Environmental protection, Planning, Implementation, Restoration, *Wildland project.

ISLAND-0508REB PC$26.95
Unmanaged Landscapes: Voices for Untamed Nature.
Island Press, Washington, DC.
B. Willers. c1999, 256p, ISBN-1-55963-694-7.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In the book, editor Bill Willers brings together an insightful and thought-provoking selection of writings that challenge that assumption. Written between the mid-nineteenth century and the present day, the pieces range from two paragraphs written in response to an exam question to tightly reasoned philosophical arguments. They offer the thoughts, stories, and analysis of scientists, journalists, philosophers, historians, educators, and others who have considered the effects and implications of 'resource management,' and have found themselves in favor of keeping some landscapes free from human interference. The collection is divided into three sections: one that focuses on biology and ecology, one that examines the idea of wildness from the standpoint of human society and its economic concerns, and a third that considers philosophical and spiritual aspects of wildness.

Keywords: *Resource management, *Wildness, Biology, Ecology, Landscapes, Economics, Humans.

ISLAND-0509REB PC$47.00
Managing Tourism Growth: Issues and Applications.
Island Press, Washington, DC.
F. P. Bosselman, C. A. Peterson, and C. McCarthy. c1999, 420p, ISBN-1-55963-605-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book analyzes and evaluates methods by which communities can carefully control tourism in order to

maximize the positive aspects while minimizing the detrimental effects. The authors offer vivid examples of the ways in which uncontrolled tourism can adversely affect a community, and explain how to create an effective strategy that can protect tourism resources for current and future generations.

Keywords: *Tourism, *Communities, Methods, Management, Incentives.

ISLAND-0511REB PC$34.50
Reshaping the Built Environment: Ecology, Ethics, and Economics.
Island Press, Washington, DC.
C. J. Kibert. c1999, 350p, ISBN-1-55963-702-1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

While the transition to sustainability will not be easy, natural systems provide abundant models of architecture, engineering, production, and waste conversion that can be used in rethinking the human habitat and its interconnections. This volume provides insights that can light the way to a new era in which a reshaped built environment will not only provide improved human living conditions, but will also protect and respect the earth's essential natural life-support systems and resources.

Keywords: *Natural systems, Models, Ecology, Ethics, Economics, Natural resources, *Built environment.

ISLAND-0512REB PC$37.00
Design for Human Ecosystems: Landscape, Land Use, and Natural Resources.
Island Press, Washington, DC.
J. T. Lyle, and J. Woodward. c1999, 279p, ISBN-1-55963-720-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book provides a framework for thinking about and understanding ecological design, along with a wealth of real-world examples that bring to life Lyle's key ideas. Lyle traces the historical growth of design approaches involving natural processes, and presents an introduction to the principles, methods, and techniques that can be used to shape landscape, land use, and natural resources in an ecologically sensitive and sustainable manner.

Keywords: *Ecological design, Humans, Landscapes, Land use, Natural resources.

ISLAND-0514REB PC$42.00
Disasters and Democracy: The Politics of Extreme Natural Events.
Island Press, Washington, DC.
R. H. Platt. c1999, 335p, ISBN-1-55963-696-3.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book addresses the political response to natural disasters, focusing specifically on the changing role of the federal government from distant observer to immediate responder and principal financier of disaster costs. The book: traces the historical evolution of the federal disaster assistance role and major programs over the past century; presents an analysis of disaster declarations and federal assistance provided under the Stafford Act since 1988; examines the concept of hazard mitigation, historically and in present practice; considers the 'backlash against regulation' and the property rights movement as of the mid-1990s; offers profiles of several national and regional property rights organizations; presents a detailed review of constitutional law on the 'taking issue' as it applies to the regulation of hazardous areas; and provides a summary of cross-cutting issues and recommendations for federal policy. In addition, the book offers major regional case studies that examine the federal role and relief expenditures in three disaster recovery efforts: Fire Island, New York after the 1992-93 winter storms; St. Charles County, Missouri after the Midwest flood of 1993; and Oakland, California after the Loma Prieta earthquake of 1989 and the urban-wildland fire of October 20, 1991.

Keywords: *Disasters, *Federal programs, *Environmental issues, *Government policies, United States, Federal government, Policy making, Financial assistance, Political aspects, Cost analysis, Property rights, Land development, Earthquakes, Fires, Floods, Storms, Incentives, Mitigation.

ISLAND-0516REB PC$37.00
Protecting Public Health and the Environment: Implementing the Precautionary Principle.
Island Press, Washington, DC.
C. Raffensperger, and J. Tickner. c1999, 319p, ISBN-1-55963-688-2.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In January 1998, the Science and Environmmental Health Network convened an international group of scientists, researchers, environmentalists, academics, and labor representatives to discuss ways of incorporating the precautionary approach into environmental and public health decision-making. The workshop focused on understanding the contexts under which the principle developed, its basis, and how it could be implemented. The book: describes the history, specific content, and scientific and philosophical foundations of the principle of precautionary action; explains the functions of the principle in activities as diverse as agriculture and manufacturing; explains how to know when precautionary action is needed and who decides what action will (or will not) be taken; attempts to show how the burden of proof of environmental harm can be shifted to proponents of a potentially hazardous activity; provides specific structures and mechanisms for implementing the precautionary principle. Throughout, contributors focus on the difficult questions of implementation and fundamental change required to support a more precautionary approach to environmental and public health hazards.

Keywords: *Public health, *Environmental protection, *Risk management, Public safety, Environmental health, Health hazards, Environmental policy, Public policy, Policy making, Agriculture, Manufacturing, *Precautionary principle.

ISLAND-0517REB PC$47.00
Modeling the Environment: An Introduction to System Dynamics Modeling of Environmental Systems.
Island Press, Washington, DC.
A. Ford. c1999, 480p, ISBN-1-55963-601-7.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book is a basic introduction to one of the most widely known and used modeling techniques, system dynamics. The book is designed to build the skills of students as they progress from learning fundamental ideas to constructing models of increasing complexity. Written in a clear and comprehensible style, the book: presents basic concepts of modeling using system dynamics; illustrates the mechanics of model construction through a range of working models; offers a rich array of exercises for students to use in applying the principles and techniques described in the text; walks students through the design and application of models of specific types of environmental systems. In addition, the book contains more than 300 figures and model illustrations, and provides a guide to an interactive website where students can use the text to 'navigate' management flight simulators – models of both real and hypothetical systems developed by the author. The book also contains appendixes that help students review the necessary math, and which provide additional concepts and exercises for further study.

Keywords: Environment management, Environmental impact assessments, Environmental policy, Policy making, Textbooks, Education, *Environmental models, *Environmental systems, *Systems dynamics.

ISLAND-0518REB PC$41.95
Better Environmental Decisions: Strategies for Governments, Businesses, and Communities.
Island Press, Washington, DC.
K. Sexton, A. A. Marcus, K. W. Easter, and T. D. Burkhardt. c1999, 370p, ISBN-1-55963-614-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book reponds to the need for improved environmental decision making by bringing together leading scholars and practitioners to provide a comprehensive interdisciplinary introduction to the subject. Each chapter describes an important aspect of environmental decision making; identifies key issues, problems, and barriers; and recommends ways to improve both the process and the final result.

Keywords: *Environmental decisions, *Decision making, Issues, Problems, Barriers, Recommendations, Strategies.

ISLAND-0519REB PC$39.50
Bioregional Assessments. Science at the Crossroads of Management and Policy.
Island Press, Washington, DC.
K. N. Johnson, F. Swanson, M. Herring, and S. Greene. c1999, 385p, ISBN-1-55963-658-0.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book synthesizes the knowledge from many regions by examining the assessment process and detailing a series of case studies from around the country. Each case study features a detailed description of the project followed by reviews from the perspectives of science, management, and policy. Case studies examined are the Forest Ecosystem Management Assessment Team (FEMAT) Assessment; the Great Lakes-St. Lawrence River Basin Assessments; the Everglades-South Florida Assessments; the Northern Forest Lands Assessments; Southern California Natural Community Conservation Planning (NCCP); the Interior Columbia Basin Ecosystem Management Project; and the Sierra Nevada Ecosystem Project. In addition, the book features introductory chapters that examine the challenges inherent in the assessment of complex regional systems, and the role of science in the assessment process. The concluding chapter provides a synthesis and analysis of the assessment process.

Keywords: *Natural resources management, *Assessments, *Ecosystems, Environment management, Environmental policy, Natural resource conservation, Forest management, Planning, Science, Regional analysis, Case studies, *Bioregions, Sustainable development.

ISLAND-0520REB PC$31.95
Bounded People, Boundless Lands: Envisioning a New Land Ethic.
Island Press, Washington, DC.
E. T. Freyfogle. c1999, 200p, ISBN-1-55963-418-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In Bounded People, Boundless Lands, legal scholar Eric T. Freyfogle asks a series of pointed and challenging questions about the human quest for ecological harmony. Deftly interweaving moral and ethical considerations with case studies and real-life situations, Freyfogle provides a deep philosophical examination of personal responsibility and the dominion of human beings over the earth. He raises provocative questions about private property rights, responsible land ownership, the rights of wildlife, and ecological health. Although the questions that Freyfogle asks are not new, they are presented in the context of contemporary events, often connected to legal cases, which allows him to bring age-old issues up to date, and to make direct connections between abstract concepts and our own lives.

Keywords: *Ecological harmony, *Land ethics, Morals, Private property rights, Land ownership.

ISLAND-0521REB PC$42.00
Changing Nature of Work: Frontier Issues in Economic Thought.
Island Press, Washington, DC.
F. Ackerman, N. R. Goodwin, L. Dougherty, and K. Gallagher. c1999, 432p, ISBN-1-55963-666-1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

examines the causes and effects of the rapid transformation of the world of work. It provides concise summaries of the key writings on work and workplace issues, extending the frontiers of labor economics to include the often overlooked social and psychological dimensions of work. The book begins with a foreword by former Secretary of Labor Robert Reich that presents labor in contemporary perspective. An introductory overview provides a brief history of the changing nature of work and situates current problems in the context of longer-term developments. Following that are eight topical sections that feature three- to five-page summaries for each of the ten to twelve most important articles or book chapters on a subject.

Keywords: *Work, *Workplace issues, Transformations, Labor economics, Social dimensions, Psychological dimensions, Causes, Effects.

ISLAND-0522REB PC$31.95
Coming Home to the Pleistocene.
Island Press, Washington, DC.
P. H. Shepard. c1999, 260p, ISBN-1-55963-589-4.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Shepard returned repeatedly to his guiding theme, the central tenet of his thought: that our essential human nature is a product of our genetic heritage, formed through thousands of years of evolution during the Pleistocene epoch, and that the current subversion of that Pleistocene heritage lies at the heart of today's ecological and social ills. The book provides the fullest explanation of that theme. Completed just before his death in the summer of 1996, it represents the culmination of Paul Shepard's life work and constitutes the clearest, most accessible expression of his ideas.

Keywords: *Genetics, *Pleistocene, Ecology, Culture, Humans.

ISLAND-0523REB PC$32.00
Ecotourism and Sustainable Development. Who Owns Paradise.
Island Press, Washington, DC.
M. Honey. c1999, 350p, ISBN-1-55963-582-7.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In the book Martha Honey presents an overview of the ecotourism industry and a first-hand account of ecotourism projects around the world. Based on interviews and visits to ecotourist hotspots in Latin America and Africa, she offers a vivid description and analysis of projects that meet the goals and standards of ecotourism as well as those that claim to be ecotourism but in reality fall short. She presents in-depth case studies of seven destinations (Galapagos, Costa Rica, Cuba, Zanzibar, Tanzania, Kenya, and South Africa) that serve to illustrate the real world of ecotourism. For each, she offers an ecotourism scorecard, grading it on its adherence to the enumerated principles of ecotourism and sustainable development.

Keywords: *Ecotourism, Interviews, Visits, Evolution, Projects, *Sustainable development.

ISLAND-0524REB PC$37.00
Holistic Management: A New Framework for Decision-Making. Second Edition.
Island Press, Washington, DC.
A. Savory, and J. Butterfield. c1999, 550p, ISBN-1-55963-488-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Extensive fieldwork in both Africa and the United States convinced Allan Savory that neither the forces of nature nor commonly blamed culprits-overpopulation, poor farming practices, lack of financial support-were causing the decline of once-healthy ecosystems. land has Savory eventually came to realize that on the most fundamental level, environmental problems are caused by human management decisions, and only through wholesale changes in the way decisions are made can functioning ecosystems be restored. Savory began to develop a revolutionary new approach to decision-making and management. Known initially as Holistic Resource Management, and now as simply Holistic Management, it considers humans, their economies, and the environment as inseparable. It includes a common-sense decision-making framework that requires no specialized knowledge or elaborate technology to utilize, and is applicable in any environment or management situation. This book is an essential handbook for anyone involved with land management and stewardship-ranchers, farmers, resource managers, and others-and a valuable guide for all those seeking to make better decisions within their organizations or in any aspect of their personal lives.

Keywords: *Natural resources management, *Ecosystems, *Decision making, Environment management, Environmental health, Man environment interactions, Environmental policy, Biosphere, Planning, Economic impact, Social impact, Environmental impact, Agriculture, *Holistic management, Holistic resource management.

ISLAND-0526REB PC$24.95
Understanding and Protecting Marine Biodiversity. Second Edition.
Island Press, Washington, DC.
B. Thorne-Miller. c1999, 200p, ISBN-1-55963-678-5.
See also First Edition, ISLAND-0186.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

With 1998 designated by the United Nations as the International Year of the Ocean, this new, revised and expanded, edition is a welcome and much-needed addition to the literature. This edition brings the volume (ISLAND-0186) up-to-date, and re-establishes it as an essential primer for anyone wishing to gain an understanding of marine biodiversity and how it can be protected. It provides an overview of basic concepts and principles and a review of relevant policy issues and existing instruments. The author: defines biological diversity and discusses the importance of threats to marine biodiversity; reviews the current status of scientific knowledge describes the major coastal and oceanic ecosystem types and addresses the major threats in each; presents a general discussion of the ways in which government and the public can protect marine biological diversity; provides specific examples of national and international policies, legal instruments, programs, and institutions; addresses how social, economic, political, and ethical considerations affect decisions to conserve marine biological diversity; and considers the involvement of citizens in developing ocean policy. The book also includes a useful glossary that provides information about basic biological concepts, and a comprehensive bibliography.

Keywords: *Marine ecosystems, *Environmental protection, *Ocean environments, Marine resources, Natural resource conservation, Species diversity, Marine biology, Coastal zone management, Coastal waters, Environmental policy, Policy making, Threat evaluation, Social factors, Economic aspects, Political aspects, Legal aspects, Ethics, *Biodiversity.

ISLAND-0527REB PC$52.00
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
Island Press, Washington, DC.
D. Godschalk, T. Beatley, P. Berke, D. J. Brower, and E. J. Kaiser. c1999, 450p, ISBN-1-55963-602-5.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book describes and analyzes the way that hazard mitigation has been carried out in the U.S. under our national disaster law, the Robert T. Stafford Disaster Relief and Emergency Assistance Act. It is the first systematic study of the complete intergovernmental system for natural hazard mitigation, including its major elements and the linkages among them. The book: analyzes the effectiveness of the Stafford Act and investigates what is contained in state hazard mitigation plans required by the Act; studies how federal hazard mitigation funds have been spent; explores what goes into decision making following a major disaster; looks at how government mitigation officials rate the effectiveness of the mitigation system; suggests changes that could help solve the widely recognized problems with current methods of coping with disasters.

Keywords: *Hazards, *Disasters, *Mitigation, *Government policies, Land use planning, States(United States), Funds, Financial assistance, Risk assessment, Protection, Decision making, Policy making, Economic aspects, Cost reduction, Robert T Stafford Disaster Relief and Emergency Assistance Act.

ISLAND-0528REB PC$32.00
Politics of Ecosystem Management.
Island Press, Washington, DC.
H. J. Cortner, and M. A. Moote. c1999, 224p, ISBN-1-55963-672-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book considers the sweeping and profound changes that will be required of the American governance system-its political philosophy, institutions, notions of citizenship, and politics, as well its resource management practices-if the shift to ecosystem management is to be realized. It is a lucid and accessible volume that represents a vital contribution to the literature for students, researchers, and professionals involved with any aspect of developing and implementing ecosystem-based approaches to resource management.

Keywords: *Politics, *Ecosystem management, *Resource management, United States, Sustained-yield, Sustainability.

ISLAND-0529REB PC$42.00
Practical Approaches to the Conservation of Biodiversity.
Island Press, Washington, DC.
R. K. Baydack, H. Campa, and J. B. Haufler. c1999, 320p, ISBN-1-55963-544-4.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book explains the importance of biodiversity conservation for natural resource professionals and students. Following an introductory section that examines the concept of biological diversity, its historical context, and its importance to humans, the book presents a general discussion of approaches to biodiversity conservation along with detailed description and analysis of a variety of specific strategies. For each strategy, contributors introduce theoretical background and context, explore specific techniques and assumptions, identify complications and other considerations, and discuss advantages and disadvantages. Specific approaches considered include: bioreserve strategies; emphasis area strategies; coarse filter strategies based on habitat diversity and on historical ranges of variability; fine filter strategies; coarse filter/fine filter combinations; Each chapter examines the theory underlying the strategy being discussed, followed by a case studies of real-world application of that strategy. Among the case studies are the Legacy project in northern California, the Gap Analysis Program, Prairie CARE in the Canadian prairie provinces, and others. The book examines typical real-world constraints, criticisms, and related management problems that often arise, and provides alternative solutions and options for managers to consider in those situations. It ends with a summary overview of the information presented and a discussion of future directions and innovations in biodiversity conservation.

Keywords: *Wildlife conservation, Species diversity, Variability, Wildlife habitats, Wildlife management, Nature reserves, Environment management, Strategy, Alternatives, Case studies, *Biodiversity.

ISLAND-0530REB PC$36.95
Restoring Life in Running Waters.
Island Press, Washington, DC.
J. R. Karr, and E. W. Chu. c1999, 200p, ISBN-1-55963-674-2.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book discusses freshwater ecosystems in the United States and the need for using biology to understand their present condition. The book makes a case for using indexes that integrate measurements of many biological attributes to assess and communicate environmental health. In a unique and innovative format, the authors present 37 premises and 7 myths that explore the theory and practice of biological monitoring and the use of multimetric indexes. The book explains: why biological monitoring and assessment are needed; the historical evolution of biological monitoring; how and why living systems give the best signals for diagnosing environmental degradation; what multimetric indexes do and why they are effective; how multimetric indexes can be used and common pitfalls to avoid in using them; why many criticisms of biological indexes are not valid; how the principles of biological monitoring and multimetric indexes can be expanded beyond aquatic systems to other environments; and how information from indexes can be integrated into the regulatory and policy framework. The book provides practical and effective tools for managers and scientsts seeking to understand the impact of human activities on natural systems and to determine proper action to remedy problems.

Keywords: *Aquatic ecosystems, *Environmental monitoring, *Habitat improvement, *Natural resource conservation, Environmental health, Aquatic biology, Biological communities, Aquatic habitats, Biological indicators, Fresh water, Water quality, Degradation, Environment management, Natural resources management.

ISLAND-0531REB PC$67.00
Takings Issue: Constitutional Limits on Land Use Control and Environmental Regulation.
Island Press, Washington, DC.
R. Meltz, D. H. Merriam, and R. M. Frank. c1999, 525p, ISBN-1-55963-380-8.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

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Keywords: *Land use, *Environmental regulations.

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Island Press, Washington, DC.
A. S. Kesselheim. c1999, 208p, ISBN-1-55963-562-2.
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Keywords: *Rivers, *Man environment interactions, *Outdoor recreation, *Boating, Paddling.

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Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0423.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Complete details of the market for patrol craft in naval, coast guard and police applications, including their existing and future requirements are in this Special Report. You'll find details on constructors, users and current fleets. Important information on the options for machinery, sensors and weapons provide valuable insight into maritime security.

Keywords: *Patrol ships, *Market analysis, Ships, Naval ships, Coast Guard ships, Police, Law enforcement, Requirements, Fleets, Machinery, Sensors, Weapons.

JANE-0538REB PC$1135.00
Jane's Aircraft Upgrades (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0024.
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Jane's Aircraft Upgrades is your reference tool for information on civil and military aircraft no longer in production, but still in service. You'll have details on upgrades, overhauls and retrofit programs including technical descriptions of landing gear, accommodations, systems and avionics, plus more than 1,300 photographs and 150 drawings. Together with Jane's All the World's Aircraft, you'll have a complete view of aircraft in service today.

Keywords: *Aircraft, *Reference books, Upgrading, Overhauling, Rebuilding, Landing gear, Aircraft equipment, Avionics, Military aircraft, Civil aviation.

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Jane's All the World's Aircraft (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0026.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

As the world's leading information provider on aircraft around the globe, Jane's All the World's Aircraft expertly details more than 1,400 civil and military manned aircraft currently being produced or under development. This thorough coverage enables you to evaluate competitors, identifying potential buyers, locate possible business partners and examine aircraft equipment. The book allows you to identify the main sub-systems as well as key contracts and customers, verify the details of specifications and performance for each aero-engine in development or under construction and inspect the structure and accommodations.

Keywords: *Aircraft, *Reference books, Civil aviation, Military aircraft, Market analysis, Aircraft equipment, Specifications, Performance evaluation, Aircraft engines.

JANE-0540REB PC$1175.00
Jane's Avionics (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0025.
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You'll find detailed information on the avionics equipment for military and civilian aircraft and helicopters in Jane's Avionics. Stay up-to-date with the latest developments and new production lines on avionics. Plus, investigate how large-scale integration is changing the way systems are designed and employed worldwide.

Keywords: *Avionics, Airborne equipment, Military aircraft, Helicopters, Communication systems, Sensors, Data handling, Recording instruments, Flight safety, Aviation safety, Aircraft equipment, Cockpits, Head-up displays, Flight instruments.

JANE-0541REB PC$1175.00
Jane's Space Directory (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0029.
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Profiling hundreds of space programs and their different technologies, Jane's Space Directory enables you to identify thousands of different commercial and defense applications. You can review key objectives, developments and technical specifications, plus receive listings of suppliers and manufacturers. This invaluable source provides you with the current information you need for reports, decision making and forecasting.

Keywords: *Space programs, *Directories, Specifications, Manufacturers, Technology.

JANE-0542REB PC$1135.00
World Military Aircraft Market Forecast (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0418.
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Get information on the current and future markets for combat aircraft around the world, through the year 2015. This invaluable report shows who is using which types of aircraft and provides details on manufacturers and suppliers.

Keywords: Aircraft, Manufacturers, Market analysis, *Combat aircraft.

JANE-0543REB PC$1205.00
Future of Europe's Aerospace Industry. Edition 2 (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0425.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The report will give you a strong insight into the potential impact the European Union will have on such areas of the aerospace industry as research and development, manufacturing standards and licenses, mergers and acquisitions and defense procurement policies.

Keywords: *Aerospace industry, *Europe, Impacts, Research and development, Manufacturing, Mergers, Acquisitions, Procurement, Policies, Forecasting.

JANE-0544REB PC$1205.00
Trainer Aircraft Markets (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0419.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The important and rapidly expanding trainer aircraft market is fully analyzed in this report. Details of aircraft markets and their manufacturers provide reliable estimates of competitive advantages.

Keywords: *Training aircraft, Aircraft, Market analysis, Manufacturers, Competition.

JANE-0545REB PC$1135.00
Jane's Land-Based Air Defence (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0040.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Determine the capabilities, strengths and weaknesses of existing air defense systems in more than 126 armed forces throughout the world. Explore the systems currently under development and forecast future improvements to older systems. With Jane's Land-Based Air Defense you'll find out how a system works and which radar and sensors are appropriate for each system.

Keywords: *Air defense, *Reference books, Armed Forces, Antiaircraft defense, Antimissile defense.

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Jane's Military Vehicles and Logistics (Online Service).
Jane's Information Group, Alexandria, VA.
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Jane's Military Vehicles and Logistics is your best information source on the latest equipment used to supply, build and clear the way for today's armies throughout the world. Covering over 2,000 items of logistical equipment, you'll find detailed descriptions on the construction, method of operation, status and more. Vital specifications include dimensions, speed, weight, range, load and fuel capacity.

Keywords: *Military vehicles, *Logistics, Construction, Specifications, Operations, Dimensions, Speed, Weight, Kange, Distance, Fuel capacity, Load carrying capacity.

JANE-0547REB PC$1205.00
Jane's Armour and Artillery (Online Service).
Jane's Information Group, Alexandria, VA.
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Jane's Armour and Artillery covers all armoured vehicles and artillery systems in service or under development, making this an invaluable tool. The information included allows you to determine the capabilities of current equipment and identify future requirements worldwide. You can examine each country's capabilities with a review of the equipment in service plus the planned upgrade programs.

Keywords: *Armored vehicles, *Artillery, *Reference books, Forecasting, Requirements, Upgrading, Military vehicles.

JANE-0548REB PC$1175.00
Jane's Armour and Artillery Upgrades (Online Service).
Jane's Information Group, Alexandria, VA.
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Also available on CD-ROM, JANE-0037.
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With Jane's Armour and Artillery Upgrades you'll receive information on the key modernization sub-systems in production or under development worldwide to upgrade armoured vehicles. This prominent reference document also covers trends and future upgrading requirements. More than 1,000 photographs will assist you in recognizing the upgrade systems, allowing you to evaluate their complete packages and compare the sub-systems.

Keywords: *Armored vehicles, *Artillery, *Upgrading, *Reference books, Trends, Military vehicles.

JANE-0549REB PC$1135.00
Jane's Ammunition Handbook (Online Service).
Jane's Information Group, Alexandria, VA.
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Whether in service, in stock or under development, you'll find comprehensive information on more than 1,200 types of ammunition currently available on the world market. More than 800 photographs and line drawings help make ammunition identification quick and easy. In addition, Jane's Ammunition Handbook is divided by type with each entry covering armament, development, description, specifications and more.

Keywords: *Ammunition, *Handbooks, Small arms ammunition, Guns(Ordnance), Tanks, Artillery, Grenades, Artillery fuzes, Projectile fuzes, Military equipment.

JANE-0550REB PC$1175.00
Jane's Infantry Weapons (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0038.
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Jane's Infantry Weapons gives you a country-by-country systematic profile of each weapon and includes comprehensive details on development history, descriptions, performance, variants, specifications, status, manufacturers and service. More than 1,200 photographs allow you to identify weapons and their capabilities.

Keywords: *Weapons, *Infantry, Development, History, Performance, Pistols, Guns(Ordnance), Rifles, Pyrotechnics, Grenades, Mortars(Weapons), Antitank weapons.

JANE-0551REB PC$1175.00
Jane's Mines and Mine Clearance (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0045.
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Examine the mines and booby traps being deployed or placed for deployment, plus the mine clearance countermeasures, procedures and organizations with Jane's Mines and Mine Clearance. You'll find more than 700 photographs and cutaway diagrams to help you quickly recognize land mines and booby traps.

Keywords: *Mines(Ordnance), *Mine sweeping, Land mines, Countermeasures, Mine countermeasures, Minelaying, Ordnance handling equipment, Booby traps.

JANE-0552REB PC$1135.00
Jane's NBC Defence Systems (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0044.
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Examine the declared policies of countries throughout the world and investigate their known NBC arsenals. Discover what weapons terrorist may be using and how you can safeguard against them. With Jane's NBC Defense Systems, more than 600 items of equipment, protective clothing, decontamination kits, antidotes and more are thoroughly evaluated, providing the information you need to ensure protection against NBC attacks.

Keywords: *Nuclear warfare, *Biological, *Chemical warfare, Biological operations, Military chemical operations, Warfare, Weapons, Protective clothing, Decontamination kits, Antidotes, Nuclear weapons, Protection.

JANE-0553REB PC$1135.00
Jane's Personal Combat Equipment (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0411.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Jane's Personal Computer Equipment is your worldwide guide to the garments and equipment worn by armies, navies and air forces to make them more efficient (not including armaments). This comprehensive information source covers everything from helmets (including specialist helmets for pilots and EOD operators), and boots to sleeping bags and survival equipment. In addition, you'll find complete information on all needed supplies for procurement executives.

Keywords: *Combat, Armed Forces, Clothing, Protective clothing, Helmets, Footwear, Uniforms, Protective equipment, Headgear, Survival equipment, *Military clothing, *Personal combat equipment.

JANE-0554REB PC$1205.00
World Markets for Armoured and Military Logistic Vehicles. Edition 2 (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0427.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Determine the current capabilities and future plans for armoured and logistic vehicles of armed forces around the world. Get current information on their inventories, the latest procurement plans, upgrade programs and expert forecasts for future requirements.

Keywords: *Armored vehicles, *Logistics, Military vehicles, Armed Forces, Inventories, Procurement, Upgrades, Forecasting, Requirements.

JANE-0555REB PC$1205.00
Future Land Battlefield: Infantry, Armour and Artillery (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0429.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Discover the latest developments in infantry, armour, artillery and attack helicopter operations worldwide, plus get an assessment of the prospects for future contact battle. Also included is the impact of digital technologies in warfare.

Keywords: *Military operations, Infantry, Armor, Artillery, Attach aircraft, Digital systems, *Land warfare.

JANE-0556REB PC$1175.00
Jane's Radar and Electronic Warfare Systems (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0049.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This information source covers the full range of radar and electronic warfare systems worldwide, including identification, targeting, intelligence gathering and self-protection systems. Trace the development history, methods of operation and specifications of systems in service or under development. Jane's Radar and Electronic Warfare Systems is arranged in alphabetical order by country and within equipment classification for quick and easy identification.

Keywords: *Electronic warfare, *Radar equipment, History, Operations, Specifications.

JANE-0557REB PC$1135.00
Jane's C(4)I Systems (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0048.
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Jane's C4I Systems examines 1,000 command systems and related equipment. You'll be able to review the technical specifications, systems diagrams, photographs and details of operational status. Also included is a listing of more than 280 contractors. Get the latest information on upgrades, program developments and new contracts with this comprehensive intelligence source.

Keywords: *Command and control, Specifications, Diagrams, Upgrading, Communication networks, Computer systems, Manufacturers.

JANE-0558REB PC$1135.00
Jane's Simulation and Training Systems (Online Service).
Jane's Information Group, Alexandria, VA.
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Investigate the latest sea, land, air and multi-role systems, including head and helmet mounted systems with Jane's Simulation and Training Systems. The 2,000 photographs and diagrams enable you to easily recognize the simulation and training systems available. In addition, you can examine controls, switches and panels, instrumented gloves, sound and audio, tracking devices, service providers and medical simulation and training.

Keywords: *Simulators, *Training devices, *Reference books, Training simulators, Simulation, Head mounted systems.

JANE-0559REB PC$1175.00
Jane's Military Communications (Online Service).
Jane's Information Group, Alexandria, VA.
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Also available on CD-ROM, JANE-0050.
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To keep you up-to-date on the latest advances in communications, Jane's Military Communications include 4,000 equipment entries. You can evaluate communication systems and equipment, learn about their development programs, operating parameters, how they work in battlefield conditions and how they can be integrated with other services.

Keywords: *Communication systems, *Military communication, Development, Telecommunication, Communication equipment, Operations, Jamming, Laser communication, Trends, Technology.

JANE-0560REB PC$1135.00
Jane's Electro-Optic Systems (Online Service).
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tries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Jane's Electro-Optic Systems examines the weapon guidance, target tracking, surveillance and identification systems that are critical in modern warfare. You can identify the capabilities of more than 500 lane, naval and airborne systems from over 200 developers. You'll also get coverage on 1,200 systems that allow warships, military aircraft, vehicles and troops worldwide to operate effectively under all conditions.

Keywords: *Military equipment, *Electrooptics, *Warfare, Weapon systems, Target recognition, Surveillance, Identification systems, Lasers, Countermeasures.

JANE-0561REB PC$1205.00
Thermal Imaging Markets (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0431.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Get a comprehensive assessment of the market for the thermal imaging system in air, land and sea applications. Details include the current market, anticipated demands, manufacturers and their capabilities, systems available, current technologies and future demands.

Keywords: *Thermal images, *Market analysis, Manufacturers, Forecasting, Market research, Thermal imaging.

JANE-0562REB PC$1205.00
Non-Lethal Weapons: Doctrine Suppliers and Technology (Online Service).
Jane's Information Group, Alexandria, VA.
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The report introduces non-lethal warfare including less-lethal philosophy and its role, a brief discussion of legal and ethical concerns and a discussion of the types of non-lethal weapons such as anti-personnel and anti-material. You'll also find a listing of the non-lethal technologies commercially available, along with the basics of fielding.

Keywords: *Nonlethal agents, *Warfare, Legal aspects, Ethics, Antipersonnel weapons, Antimaterials, Antimaterial agents, Technology.

JANE-0563REB PC$1935.00
Jane's Chemical-Biological Defense Guidebook (Online Service).
Jane's Information Group, Alexandria, VA.
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Also available on CD-ROM, JANE-0046.
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Jane's Chemical-Biological Defense Guidelines is the definitive desk reference for understanding everything you need to know to effectively prepare for a chemical or biological warfare incident. You'll get information on worldwide organizations and policies related to countering chemical-biological warfare.

Keywords: *Chemical warfare, *Biological warfare, Military chemical operations, Chemical agent detection, Biological agents, Coutermeasures, Detection.

JANE-0564REB PC$1135.00
Jane's Counter Terrorism (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0216.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Jane's Counter Terrorism is the information and planning guide for emergency response personnel who need to understand and prepared for various acts of terrorism. You will be able to assess international threats, deal with jurisdictional and federal agency matters and build your own integrated counter terrorism plan.

Keywords: *Terrorism, *Emergency preparedness, Emergency planning, International terrorism, Command systems, Command guidance, Planning, Jurisdiction, Federal agencies.

JANE-0565REB PC$1205.00
Indian Defence and Security: Industry, Forces and Future Trends (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0435.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Get an in-depth view into the structure of India's thriving defense market, including industrial and nuclear capabilities and programs. Find out what changes are taking place in the infrastructure and investigate key security issues affecting India's future in this extraordinary report.

Keywords: *India, *Defense systems, Security, Industrial development, Nuclear warfare, Trends, Industries.

JANE-0566REB PC$1135.00
Terrorism: A Global Survey (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0420.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Get full coverage on terrorist organizations and activities around the world. Examine the tactics, techniques and weaponry used. All forms of terrorism are detailed including aviation, environmental groups, protect groups and militia, plus nuclear, biological and chemical threats.

Keywords: *Terrorism, International terrorism, Global, Weapons, Tactical intelligence.

JANE-0567REB PC$1135.00
Central Asia: Pipelines and Power Politics (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0437.
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Explore the key issues affecting this increasingly important region, including the role and interests of the US, Russia, China, Iran and Pakistan. Study the impact of developments in Afghanistan and ongoing and potential conflicts. In addition, this report includes vital information on security and trade relations throughout Central Asia.

Keywords: *Asia, *International trade, *Politics, Security, Central Asia.

JANE-0568REB PC$1245.00
Jane's International ABC Aerospace Directory (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0034.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Jane's International ABC Aerospace Directory helps you track down suppliers, customers or competitors with full contact details for 30,000 key decision makers at 30,000 organizations. The comprehensive Product-Supplier Link identifies numerous extensive categories of civil and military aerospace equipment and services.

Keywords: *Aerospace industry, *Directories, Manufacturers, Competition, Military equipment.

JANE-0569REB PC$1245.00
Jane's International Defence Directory (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
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Jane's International Defense Directory gives you access to more than 23,000 decision makers at 14,000 organizations in 185 countries. Country-by-country you'll find information on each organization, including a list of key personnel, full addresses, telephone and fax numbers, e-mail and Web addresses.

Keywords: *Defense industry, *Directories, *International, Decision making, Personnel, Products, Services, Finance.

JANE-0570REB PC$1205.00
French Defence Industry Forecast (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0439.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This highly detailed Special Report assesses the industry's strengths and weaknesses and examines issues such as public ownership and privatization. You'll find a sector-by-sector survey and in-depth profiles of the major companies, plus a canvassing of the opinions of corporate figures and independent financial analysis on the French industry's medium and long-term prospects.

Keywords: *Defense industry, *France, Forecasting, Ownership, Profiles, Surveys, Corporations, Privatization.

JANE-0571REB PC$1205.00
South American Defence Industries and Markets (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0441.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report addresses the defense markets of the South American continent from Columbia to Cape Horn, identifying equipment in need of replacement and programs of procurement or upgrade. Find out how military forces are able to maintain their credibility even though defense budgets are shrinking and there has been an economic downturn. Evaluate who may purchase second-hand equipment or upgrade and modernize existing equipment.

Keywords: *Defense industry, *South America, Equipment, Procurement, Markets, Budgets, Equipment replacement, Upgrading.

JANE-0572REB PC$1205.00
Japan's Defence Industry: Capabilities and Future Trends (Online Service).
Jane's Information Group, Alexandria, VA.

c1999, 1p.
Also available on CD-ROM, JANE-0415.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Get a one-stop review of Japan's defense industry, one of the most capable in the world and of great interest to the worldwide defense community. Included are key industrial companies, technical capabilities, research and development activities and more.

Keywords: *Defense industry, *Japan, Trends, Research and development, Companies.

JANE-0573REB PC$1205.00
China Business Handbook (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0416.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report features a complete review of China's economy, identifies key markets and suggests where joint ventures may be advantageous. The optimum approaches to the problems of doing business in China are detailed.

Keywords: *China, *Economic analysis, Economics, Joint ventures, Market analysis.

JANE-0574REB PC$1205.00
Military Simulation Markets. Edition 2 (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0417.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Defense and training budget trends and land, sea and air simulation programs are carefully analyzed in this important Special Report. In addition, market opportunities, training analyses, technologies and industry characteristics are fully detailed.

Keywords: *Defense budgets, *Training, Budgets, Market analysis, Technology, Defense industry, Trends, Military budgets.

JANE-0575REB PC$1205.00
Russia's Aerospace Industry (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0443.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Evaluate the competition, market and investment opportunities in the Russian Federation with this unique report. Get insight into the new shape of the industry and programs starting up as the industry emerges from its post-soviet slump. Follow the changing needs and growing trends in this dynamic market.

Keywords: *Russian Federation, *Aerospace industry, Competition, Market analysis, Investments, Trends.

JANE-0576REB PC$1205.00
Jane's World Railways (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0065.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Track down almost every supplier of rolling stock, signal lines, communications and maintenance equipment, plus new information on training simulators for locomotive drivers and signalling personnel with Jane's World Railways. With everything from small private networks to the major national operations, you gain access to in-depth and up-to-date profiles of over 450 railway systems currently operating in 120 countries. More than 1,400 railway equipment manufacturers and their products are listed alphabetically by category. Each entry provides complete contact details including address and telephone/fax numbers. Jane's World Railways also gives you the latest traffic and revenue statistics of each company and future plans for new equipment and infrastructure development.

Keywords: *Railroads, *Supplying, Manufacturers, Supply systems, Distribution systems, Equipment, Training simulators.

JANE-0577REB PC$1205.00
Jane's Urban Transport Systems (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0066.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Jane's Urban Transport Systems delivers an expert analysis of public transport in more than 400 cities, profiling each city's transport network including bus, metro, train, light rail, trolley bus, ferry and paratransit systems. Included in this information source are city-by-city listings of transport systems in more than 115 countries worldwide. You'll also find details of more than 1,000 manufacturers, consultants and contracting services.

Keywords: *Urban transportation, *Public transportation, Buses, Rapid transit railways, Transportation systems, Ferries, Manufacturers, Consultants, Contracted services, Paratransit systems.

JANE-0578REB PC$1135.00
Jane's Air Traffic Control (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0068.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Jane's Air Traffic Control examines ATC equipment and equipment manufacturers including detailed information on the many aspects of air traffic control and operations. You can discover which air traffic control systems are in use at civil and military airports worldwide as well as a complete list of products and contact details of the manufacturers. Systems and equipment from more than 600 leading suppliers worldwide are easily found in sections including air traffic management, navigational and electronic landing aids, communications and information systems, airfield lighting and guidance systems and more.

Keywords: *Air traffic control, Equipment, Technology, Market analysis, Manufacturers.

JANE-0579REB PC$1175.00
Jane's Airports, Equipment and Services (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0069.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Jane's Airports, Equipment and Services details more than 1,500 specialized contractors with comprehensive information on their products and services. You will discover new developments on everything from passenger and baggage handling to environmental monitoring and control. A directory of more than 1,600 airports worldwide complete with contact details of senior airport managers is also included.

Keywords: *Airports, Airport operations, Manufacturers, Equipment, Development, Directories, Contracts.

JANE-0580REB PC$1550.00
Jane's World Airlines (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0067.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Jane's World Airlines is the definitive guide to more than 500 of the world's top airlines. Updated three times per year, you'll have the latest information on the world's airlines including their structure, fleet, financial performance, cargo capacity, overhaul and maintenance, reservation systems and more.

Keywords: Fleets, Finance, Cargo, Maintenance, Personnel, *Airlines.

JANE-0581REB PC$1175.00
Jane's High-Speed Marine Transportation (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0288.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Jane's High-Speed Marine Transportation provides information on craft, over 20 meters in length and with speed capability of more than 30 knots. You can discover who designs and builds specialized high-speed craft, complete with the most up-to-date company profiles and manufacturer details. The listings of more than 350 civilian operators, plus builders, include complete contact information.

Keywords: *Marine transportation, *High speed transportation, Manufacturers, Companies.

JANE-0582REB PC$1205.00
Airport and Aviation Expansion: Africa and Middle East (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0445.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This new Special Report examines the airport industry in Africa and the Middle East. With sections on aviation economic, air traffic modernization programs, potential investment opportunities and more, you'll find this report essential for making business decisions about these growing regions.

Keywords: *Airports, *Africa, *Middle East, Aviation industry, Economics, Investments.

JANE-0583REB PC$1205.00
Airport and Aviation Expansion: China (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0447.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The rapid growth in the Chinese economy is reflected in the great demand for passenger and air freight transportation. You'll get a region-by-region detailed overview of modernization programs taking place and the future of China's principal air carriers.

Keywords: *Airports, *China, Aviation industry, Passenger transportation, Economic growth.

JANE-0584REB PC$1205.00
Airport Security: Standards and Technology (Online Service).
Jane's Information Group, Alexandria, VA.

c1999, 1p.
Also available on CD-ROM, JANE-0421.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Provided in this Special Report is comprehensive coverage of aviation security systems worldwide. Stay ahead of new regulations and standards with examinations of ICAO efforts to standardize avaiation security globally and study how these international regulations are put into practice.

Keywords: *Airport security, Airports, Security, Regulations, Standards, Technology.

JANE-0585REB PC$1170.00
Intermodal Transportation Markets: Asia Pacific (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0422.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The effect individual economic influences in Asia have on transport infrastructures are reviewed with details of current capabilities and future developments planned for the road, rail and port networks. Keep informed of developing market opportunities in this region, with listings of intermodal operators and service providers complete with contact details.

Keywords: *Intermodal transportation systems, *Asia, *Economic analysis, Market research, Transportation networks, Transportation planning.

JANE-0586REB PC$1205.00
World Market for Civil Aircraft (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0449.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Investigate the predictions for new aircraft over the next 10 years and the status of the growth markets. This report examines major forecasts in each sector, analyses the differences and similarities between them and produces objective views of each area.

Keywords: *Civil aviation, *Aircraft, Forecasting, Market research, Growth.

JANE-0587REB PC$1135.00
Jane's Police and Security Equipment (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0064.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

More than 1,600 items of law enforcement equipment are featured in Jane's Police and Security Equipment including firearms, armour and personal protection along with riot and crowd control equipment, communications, security equipment and more. You'll get details on how the equipment works, key specifications, manufacturers, current status, and users and photographs.

Keywords: *Law enforcement, *Equipment, Police, Security, Firearms, Small arms, Armor, Communication equipment, Specifications, Manufacturers, Riot control, Crowd control.

JANE-0588REB PC$1170.00
Police Markets of North America and the European Union (Online Service).
Jane's Information Group, Alexandria, VA.
c1999, 1p.
Also available on CD-ROM, JANE-0314.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Examine the potential police markets for defense manufacturers attempting to expand into the police and security market. This valuable reference addresses the North American market on a state-by-state basis, including Canadian provinces and the European Union market on a national basis.

Keywords: *Law enforcement, *North America, *Europe, Police, Markets, *Defense manufacturers.

JHUP-0303REB PC$24.95
Too Close to Home. Domestic Violence in the Americas.
Johns Hopkins Univ. Press, Baltimore, MD.
A. R. Morrison, and M. L. Biehl. cJun 1999, 220p, ISBN 1-886938-44-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Too Close to Home is a collection of essays by international authorities ranging from psychologists and doctors to economists and communication experts. Several authors analyze the economic and health costs imposed by domestic violence, documenting that domestic violence is both a serious public health issue and a severe impediment to economic development. Others examine promising approaches that have been used to combat domestic violence, including community treatment and prevention networks, telephone hotlines, judicial and police reform, anti-violence curricula in primary and secondary schools, street theater, and creative use of the mass media.

Keywords: *Family members, *Domestic violence, *Latin America, Legislation, Social aspects, Prevention, Economic aspects, Public health, Economic development, Mass media, Treatment outcome, Public policy, Health costs, Spouse abuse.

JHUP-0304REB PC$13.95
Breakdown of Democratic Regimes. Europe.
Johns Hopkins Univ. Press, Baltimore, MD.
J. J. Linz, and A. Stepan. c1994, 240p, ISBN 0-8018-2022-7.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

How and why democratic regimes break down. Given the tragic consequences of the breakdown of democracy in countries such as Germany, Spain, and Chile, we believe it intellectually and politically worthwhile to direct systematic attention to the dynamics of the political process of breakdown. In particular, we felt it important to analyze the behavior of those committed to democracy, especially the behavior of the incumbent democratic leaders, and to ask in what ways the actions or nonactions of the incumbents contributed to the breakdown under analysis.

Keywords: *Political science, *Europe, Democracy, Regimes.

JHUP-0305REB PC$19.95
Environmental Economics. An Elementary Introduction.
Johns Hopkins Univ. Press, Baltimore, MD.
R. K. Turner, D. Pearce, and I. Bateman. c1993, 324p, ISBN 0-8018-4863-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The authors have done a superb job of providing the general reader with an authoritative, exceptionally well-written overview of the contributions environmental economics can make to the analysis and improvement of environmental management policy.

Keywords: *Environmental economics, Environmental policy, Environmental issues.

JHUP-0306REB PC$42.50
Poverty and Inequality in Latin America. The Impact of Adjustment and Recovery.
Johns Hopkins Univ. Press, Baltimore, MD.
S. A. Morley. c1995, 288p, ISBN 0-8018-5064-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The decade of the 1980s was a period of profound and painful structural adjustment in Latin America. In Poverty and Inequality in Latin America Samuel Morley offers an analysis of the effects of that adjustment on poverty and distribution of income. Morley also draws conclusions about the factors that will be important in poverty alleviation in the future.

Keywords: *Latin America, *Developing countries, *Poverty, Income, Economic recovery.

MIC-99-03102REB PC E17/MF E01
Soil fertility handbook.
Fertilizer Institute of Ontario Inc., Toronto.
c1998, 243p, ISBN-0-7778-7730-9.
French ed. (Manuel sur la fertilite du sol): 99-03103/3.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book describes the principles behind soil fertility management and provides practical information for use in the field. Subjects covered include: Sampling of soil, plant tissue, and manure; soil testing and analysis of organic materials; nutrients, including primary, secondary, and micro nutrients, non-essential minerals, and how to diagnose deficiencies; soil pH, liming, and acidification; organic nutrient sources such as manure and legumes; factors limiting yield response to fertilizer and recommendations for fertilization; and fertilizer materials, blending, and application. Appendices include worksheets and a glossary.

Keywords: *Canada, *Soil amendments, *Soil fertility.

MIC-99-03104REB PC E12/MF E01
Managing identified wildlife: Procedures and measures, vol. I.
British Columbia. Ministry of Environment, Lands & Parks, Victoria.
c1999, 192p, ISBN-0-7726-3593-5.
On cover: Forest Practices Code.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Under the Forest Practices Code of British Columbia Act, identified wildlife are those species and plant communities that have been approved as requiring special management. This document outlines specific management prescriptions for identified species or plant communities and describes the procedure for establishing, modifying, and removing a wildlife habitat area. The management strategies presented can only be applied to Crown forest and rangeland, or private land subject to a tree farm or woodlot license. General procedures are given first, including establishment of wildlife habitat areas, planning thresholds, mapping, and management of energy & mineral resource activities. This is followed by management prescriptions for 36 species and subspecies (fish, amphibians, reptiles, birds, mammals) and four plant communities. Includes glossary. Appendices include tables showing identified wildlife by forest region.

Keywords: *Forest management, *Natural resource management, *Wildlife management, Habitat (Ecology), Maps, British Columbia.

MIC-99-03105REB PC E07/MF E01
Fraser Timber Supply Area: Rationale for Allowable Annual Cut (AAC) determination, effective April 1, 1999.
British Columbia. Ministry of Forests, Victoria.

L. Pederson. c1999, 85p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Fraser Timber Supply Area (TSA) covers about 1.1 million hectares in south-eastern mainland British Columbia, of which about 280,000 hectares are currently considered as being available for timber harvesting. After a brief description of the TSA, this report reviews the principles for determining the allowable annual cut for the TSA and presents an accounting of the factors and the rationale used in making that determination. These factors include the role of the base-case timber supply forecast, the land base contributing to timber harvesting, the existing forest inventory, the expected rate of forest growth, regeneration delay, areas not satisfactorily restocked, silvicultural systems, decay and wastage, integrated resource management objectives, alternative harvest flows, and timber processing facilities. The appendix contains relevant sections of provincial forestry legislation and a summary of public input to the Timber Supply Review for the Fraser TSA.

Keywords: *Forests and forestry, Mensuration, Forest management, Logging, British Columbia.

MIC-99-03106REB PC E07/MF E01
Effects of modafinil, d-amphetamine and placebo on physiological and psychological stress during sleep deprivation.
Defence & Civil Institute of Environmental Medicine (Canada), North York, (Ontario). International Military Testing Assn. Conference (37th: 1995: Toronto, Ont.).
Y. P. Shek, and R. A. Pigeau. c1995, 8p.
On cover: 37th Annual Conference of the International Military Testing Association.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Reports on the effects of modafinil and d-amphetamine (versus a placebo) on their ability to alleviate psychological and physiological stress resulting from pairing sleep loss with continuous cognitive work. Psychological stress in the experimental subjects was measured using the NASA Task Load Index, a subjective estimate of workload. Physiological stress was determined by measurement of salivary cortisol levels.

Keywords: *Cognition, Sleep deprivation, Stimulants, Drugs, Research, Meetings, *Foreign technology.

MIC-99-03111REB PC E07/MF E01
Drive clean guide: Emission standards, emissions test methods and technical information relating to Ontario Regulation 361/98 as amended.
Ontario. Drive Clean Office, Toronto.
c1999, 25p, ISBN-0-7778-8265-5.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This guide has been prepared for reference by automotive specialists and others with a technical interest in Ontario's Drive Clean program, an initiative intended to reduce smog-causing emissions from cars, trucks, and buses. It contains details of specific methods for measuring vehicle emissions, as well as the standards that vehicles must meet to pass a Drive Clean test. These requirements are based on Ontario Regulation 361/98, as amended, made under the authority of the Environmental Protection Act. Information is included on the two-speed idle test, the dynamometer test, and opacity test.

Keywords: *Environmental law, Ontario, Laws and regulations, Motor vehicles, Environmental aspects, Environmental protection, Canada, Standards.

MIC-99-03112REB PC E07/MF E01
Aggregate resources inventory of the Regional Municipality of Durham: Townships of Brock, Uxbridge, Scugog; the Municipality of Clarington; the towns of Pickering, Ajax and Whitby and the City of Oshawa. Ontario Geological Survey aggregate resources inventory paper no. 166.
MacNaughton, Hermsen, Britton, Clarkson Planning Ltd., Toronto (Ontario).
c1999, 65p, ISBN-0-7778-8161-6.
Fold. maps not filmed.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this report is to provide the basic geological information required to include potential mineral aggregate resource areas in planning strategies. It includes an inventory and evaluation of sand, gravel, and bedrock resources in the Regional Municipality of Durham, Ontario. Information comes from field examination of natural and man-made exposures, mostly at quarries and sand & gravel pits located from government records. Observations made at pit sites include estimates of total face height and proportion of gravel- and sand-sized materials in the deposit, as well as observations regarding the shape and lithology of the particles. Information is also included on field methods, data presentation and interpretation, and local geology. A total of 11 sand and gravel resource areas of primary significance are identified and described. Includes glossary.

Keywords: *Aggregates (Building materials), Geology, Maps, Ontario.

MIC-99-03113REB PC E12/MF E01
Quaternary geology of the Separation Lake area, Northwestern Ontario. Ontario Geological Survey open file report no. 5980.
Ontario Geological Survey, Toronto.
T. F. Morris. c1999, 104p, ISBN-0-7778-8181-0.
Fold. maps not filmed.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report defines the distribution and characteristics of overburden and related features of the Separation Lake area, located north of Kenora, Ontario. Information is included on the study area's location and access, physiography and drainage, Quaternary geology (ice flow features, glacial deposits, glacial history, drift thickness) and indicator minerals, as well as on the field methods used. Appendices contain data tables, including geochemical analyses and pebble lithology data.

Keywords: *Drift, *Geology, Characteristics, Maps, Ontario.

MIC-99-03114REB PC E07/MF E01
Graduated licensing system evaluation: Interim report '98.
Ontario. Ministry of Transportation. Safety Policy Branch, Toronto.
P. Boase, and L. Tasca. c1998, 32p, ISBN-0-7778-7746-5.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Graduated Licensing System (GLS) was introduced in 1994 in Ontario to help reduce the risk of collision for new drivers by requiring them to progress through a two-step licensing system before full licensure. This report evaluates the success of the GLS by tracking the collision history of the 1993 and 1995 novice driver populations and comparing their collision rates. Two principal factors considered were gender and age. Results are presented for two measures: Collision rate per 10,000 licensed novice drivers, and fatal & injury collision rate per 10,000 licensed novice drivers. The effect of key GLS restrictions such as nighttime curfews and the effect of driver education programs are also evaluated. In addition, the Ontario GLS is compared to the New Zealand GLS. Finally, social cost savings resulting from adopting the GLS in Ontario are estimated.

Keywords: *Drivers, *Traffic accidents, *Information systems, *Driver licensing, *Automobile drivers' licences, Motor vehicle accidents, Age, Gender, Canada, *Foreign technology, Ontario.

MIC-99-03115REB PC E07/MF E01
Aggregate resources inventory of Prince Edward County. Ontario Geological Survey aggregate resources inventory paper no. 172.
Jagger Hims Ltd., Toronto (Ontario).
c1999, 54p, ISBN-0-7778-8173-X.
Fold. maps not filmed.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this report is to provide the basic geological information required to include potential mineral aggregate resource areas in planning strategies. It includes an inventory and evaluation of sand, gravel, and bedrock resources in Prince Edward County, Ontario. Information comes from field examination of natural and man-made exposures, mostly at quarries and sand & gravel pits located from government records. Observations made at pit sites include estimates of total face height and proportion of gravel- and sand-sized materials in the deposit, as well as observations regarding the shape and lithology of the particles. Information is also included on field methods, data presentation and interpretation, and local geology. Three sand and gravel resource areas of primary significance are identified and described. Includes glossary.

Keywords: *Aggregates (Building materials), Geology, Maps, Ontario.

MIC-99-03116REB PC E07/MF E01
Aggregate resources inventory of Wellington County: Townships of Minto, Arthur, West Luther, Maryborough, Peel, West Garafraxa, Pilkington, Nichol, Guelph, Eramosa, Erin, Puslinch and the City of Guelph. Ontario Geological Survey aggregate resources inventory paper no. 162.
Planning & Engineering Initiatives Ltd., Toronto (Ontario).
c1999, 83p, ISBN-0-7778-8162-4.
Fold. maps not filmed.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of this report is to provide the basic geological information required to include potential mineral aggregate resource areas in planning strategies. It includes an inventory and evaluation of sand, gravel, and bedrock resources in Wellington County, Ontario. Information comes from field examination of natural and man-made exposures, mostly at quarries and sand & gravel pits located from government records. Observations made at pit sites include estimates of total face height and proportion of gravel- and sand-sized materials in the deposit, as well as observations regarding the shape and lithology of the particles. Information is also included on field methods, data presentation and interpretation, and local geology. Forty sand and gravel resource areas of primary significance and nine bedrock resource areas are identified and described. Includes glossary.

Keywords: *Aggregates (Building materials), Maps, Natural resources, Sand, Gravel, Bedrock, Inventory, Estimates, Geology, Ontario.

MIC-99-03118REB PC E17/MF E01
Birds of British Columbia: A taxonomic catalogue.
Wildlife bulletin no. B-86.
British Columbia. Wildlife Branch, Victoria. British Columbia. Ministry of Environment, Lands & Parks. Resources Inventory Branch.
R. J. Cannings. c1998, 256p, ISBN-0-7726-3651-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This catalogue lists 467 species and 633 taxa of British Columbia birds at the species or subspecies level. Of the latter taxa, 426 are regular breeders in the prov-

ince, 89 are regular visitors (migrants or winter residents), 115 are irregular visitors, and two are extinct or extirpated. The catalogue is arranged taxonomically and each species account includes the scientific and common names of the taxon (species or subspecies), status in British Columbia, the reference for the original description of the taxon, the locality where the taxon was collected, and the range of the taxon. Includes name indexes.

Keywords: *Birds, Biology, Classification, *Foreign technology, British Columbia.

MIC-99-03120REB PC E07/MF E01
Migratory birds environmental assessment guideline.
Canadian Wildlife Service. Biodiversity Protection Branch, Ottawa (Ontario).
R. Milko. c1998, 34p, SSC-CW66-173/1998, ISBN-0-662-63740-2.
Text in English and French (Bilingual). (Directive pour les evaluations...).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The guidelines presented in this publication have been developed to identify for project proponents the types of information and analyses that Environment Canada would expect in the section of an environmental impact statement (EIS) that deals with impacts on migratory birds. An introductory section explains background legislation and related material such as the Migratory Birds Convention of 1916, the Canadian Wildlife Act, and the Convention on Biological Diversity. This is followed by a section describing both the contextual and specific information requirements that should be included in an EIS addressing potential environmental effects of a project on migratory birds. Finally, the environmental effects section of the EIS is discussed, with reference to such matters as cumulative effects, mitigation, residual effects, and monitoring.

Keywords: *Environmental impact analysis, Birds Protection of, *Foreign technology, *Bilingual.

MIC-99-03121REB PC E07/MF E01
Wetlands environmental assessment guideline.
Canadian Wildlife Service. Biodiversity Protection Branch, Ottawa (Ontario).
R. Milko. c1998, 42p, SSC-CW66-174/1998, ISBN-0-662-63741-0.
Text in English and French (Bilingual). (Directives pour les evaluations environnementales...).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The guidelines presented in this publication have been developed to identify for project proponents the types of information and analyses that Environment Canada would expect in the section of an environmental impact statement (EIS) that deals with impacts on wetlands. An introductory section explains background legislation and federal policy. This is followed by a section describing both the contextual and specific information requirements that should be included in an EIS addressing potential environmental effects of a project on wetlands. Finally, the environmental effects section of the EIS is discussed, with reference to such matters as cumulative effects, mitigation, residual effects, and monitoring.

Keywords: *Environmental impact analysis, Wetlands, *Foreign technology, *Bilingual.

MIC-99-03122REB PC E07/MF E01
Environmental assessment guideline for forest habitat of migratory birds.
Canadian Wildlife Service. Biodiversity Protection Branch, Ottawa (Ontario).
R. Milko. c1998, 41p, SSC-CW66-175/1998, ISBN-0-662-63740-2.
Text in English and French (Bilingual). French ed. (Directive pour les evaluations...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The guidelines presented in this publication have been developed to identify for project proponents the types of information and analyses that Environment Canada would expect in an environmental impact statement (EIS) for projects that would affect the forest habitat of migratory birds. An introductory section explains background legislation and related material such as the Migratory Birds Convention of 1916 and the Convention on Biological Diversity. This is followed by a section describing both the contextual and specific information requirements that should be included in an EIS addressing potential environmental effects of a project on the forest habitat of migratory birds. Finally, the environmental effects section of the EIS is discussed, with reference to such matters as cumulative effects, mitigation, residual effects, monitoring, and additional considerations for forest management plans.

Keywords: *Environmental impact analysis, Forest ecology, Birds(Protection of), Birds, Habitat.

MIC-99-03123REB PC E12/MF E01
Diseases of Populus in British Columbia: A diagnostic manual.
Pacific Forestry Centre, Victoria.
B. E. Callan. c1998, 168p, SSC-FO42-274/1998E, ISBN-0-662-27084-3.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This manual is designed to help the reader with both field and laboratory identification of common poplar diseases in British Columbia, and to provide regionally specific disease impact and distribution information, where known. Sections of the manual cover the following: The province's poplar resource; poplar taxonomy and distribution; field and laboratory techniques for sample collection and preparation; abiotic diseases and virus-like symptoms; arthropod damage; vertebrate damage; cankers and bark diseases; foliar diseases and shoot blights; root diseases; and wood decay. Includes a glossary, general index, and host fungus index.

Keywords: *Poplar, Trees, Diseases and pests, Maps.

MIC-99-03125REB PC E07/MF E01
Alberta heavy oil, oil sands and enhanced recovery: Alberta & Saskatchewan steam-assisted gravity drainage projects, a survey.
Alberta. Dept. of Energy. Planning & Development Division. Research & Technology Branch, Calgary, (Alberta).
N. F. Stasiuk, C. E. Keen, and L. Little. c1998, 36p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Provides information of active or recently suspended steam-assisted gravity drainage (SAGD) projects located in Alberta and Saskatchewan. For each project, the following information is included: Description of reservoir and field facilities; well pattern; project-specific description of SAGD process applied; historical documentation of the engineering events associated with the project; and description of important adjustments made to improve the process performance.

Keywords: *Thermal oil recovery, Oil sands, Research, Reservoirs, Oil fields, Alberta, Saskatchewan.

MIC-99-03128REB PC E12/MF E01
Post-construction evaluation of stormwater exfiltration & filtration systems.
A.M. Candaras Associates Inc., Ottawa (Ontario).
c1997, 183p, ISBN-0-7778-7285-4.
On cover: Great Lakes 2000, Cleanup Fund.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This study report presents the background, implementation, monitoring results, and system evaluation of systems developed by the City of Etobicoke as an alternative stormwater management approach to eliminate the discharge of storm runoff for frequent rainfall events. Two systems were installed and evaluated: An exfiltration system, suitable for areas of permeable soil, consisting of lengths of storm sewers and manholes with two parallel perforated pipes, plugged at the downstream end, located below the storm sewer; and a filtration system, suitable for areas with low permeability soil, similar to the former but with an additional perforated pipe wrapped in filter fabric installed above the storm sewer. In both systems, the perforated pipes allow stormwater to infiltrate the soil rather than entering the storm sewer. Stormwater entering the system at a rate greater than the exfiltration rate would overflow into the storm sewers. Information is included on site constraints for exfiltration technology, system design methodology, construction procedure, system monitoring and performance, and system operation and maintenance.

Keywords: *Stormwater management, Sewerage, *Foreign technology, Ontario.

MIC-99-03131REB PC E07/MF E01
Alberta heavy oil, oil sands and enhanced recovery: Experimental pilot projects, a survey.
Alberta. Dept. of Energy. Planning & Development Division. Research & Technology Branch, Calgary, (Alberta).
N. F. Stasiuk, C. E. Keen, and L. Little. c1998, 23p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This survey provides detailed coverage of all of Alberta's active or recently suspended in-situ heavy oil, oil sands and enhanced oil recovery pilot projects. Each pilot project listed contains a detailed reservoir and field facilities description, well pattern, project-specific description of EOR process employed, historical documentation of the engineering events associated with the project, and a description of important adjustments made to improve the process performance.

Keywords: *Oil sands, Research, Oil fields, Production methods, Petroleum industry and trade, Oil recovery, Alberta.

MIC-99-03132REB PC E07/MF E01
Annual report 1997-98.
Northern Pipeline Agency, Ottawa (Ontario).
c1998, 38p, SSC-C98-1/1999, ISBN-0-662-64060-8.
Text in English and French (Bilingual).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Includes overview of the Alaska Highway Gas Pipeline Project with a review of the old plans and explanation of the new plans devised. Discusses the merger of TransCanada and NOVA, the agreement of Foothills' shareholders, the extension the eastern leg of the project, the export of north slope gas to the pacific rim, and the regulatory authorities. Also reviews finance, personnel, the Official Languages Plan and the Report of the Auditor General.

Keywords: *Alaska, *Natural gas, *Pipeline transportation, *Foreign technology, *Bilingual.

MIC-99-03133REB PC E07/MF E01
Formulating objectives for management on an ecosystem scale.
Ontario. Ministry of the Environment, Toronto.
M. Gordon. c1998, 85p, ISBN-0-7778-7706-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document offers advice to collaborators responsible for formulating resource management objectives on an ecosystem scale. The historical context for ecosystem-scale management is first reviewed, then some useful concepts, principles, and evaluation criteria needed to successfully complete a ten-step process for formulating management objectives are presented. The process, described in the subsequent section, is intended to be applicable within known boundaries of any ecosystem. The steps include identification of eco-

system boundaries, forming a collaborative team, assessing of past and present condition of the ecosystem, assess how human activities have changed the ecosystem, determine the desired condition of the ecosystem, formulate and organize objectives into ecological groupings, and refine the objectives according to the criteria presented. Appendices include explanations of terms and concepts, criteria, the ecosystem approach, and the ideals and strategic directions of management.

Keywords: *Biotic communities, Natural resources, Management.

MIC-99-03134REB PC E99/MF E01
Water quality assessment and objectives for the Fraser River from Hope to Sturgeon and Roberts banks: First update, technical appendix.
British Columbia. Ministry of Environment, Lands & Parks, Victoria.
L. G. Swain. c1998, 684p, ISBN-0-7726-3706-7.
Cover title: Fraser River from Hope to Sturgeon and Roberts Banks. On cover: Water quality guidelines. On cover: Fraser River Action Plan.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes the water quality within the Fraser River from Hope to the river mouth, using data collected from 1985 to June 1994. Introductory sections review Fraser River water quality objectives, watershed characteristics, sources of contaminants, hydrology, and water uses in the watershed. Section 4 details permitted waste discharges, by source, divided into six sections of the river. Section 5 examines non-point source discharges from such sectors as forestry, agriculture, urban runoff, sewage, dredging, and shipping. Section 6 presents ambient water quality data and proposed water quality objectives, arranged by section of the river. Information is given on water and sediment chemistry, and on analyses of benthic invertebrates and fish. Appendices include a glossary and a summary of comments received in a Fraser River water quality and recreational use survey.

Keywords: *Water pollution, Water quality, Environmental protection, Standards, Maps, Fraser River.

MIC-99-03135REB PC E07/MF E01
Site index, a primer.
British Columbia. Ministry of Forests. Research Branch, Victoria.
c1998, 15p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Site index is the most common measure of site productivity used in such applications as timber supply analyses, formulation of silviculture prescriptions, and updating forest inventories. This publication introduces the basic concept of the site index, reviews its typical applications, and describes tools available in British Columbia for estimating site index. Finally, two sources of bias in site index estimates are discussed: Misapplication of site index models and bias in the height-age model.

Keywords: *Forest site quality, Forests and forestry, Mensuration, Production.

MIC-99-03138REB PC E12/MF E01
Land capability classification for forest ecosystems in the oil sands region – Rev. ed. Revised edition.
Tailings Sand Reclamation Practices Working Group, Edmonton (Alberta).
L. A. Leskiw. c1998, 131p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The land classification system presented in this document is used to evaluate pre- and post-disturbance land capability for forest production. It is intended to aid in planning soil handling procedures and measuring land capability in the oil sands region of Alberta where surface disturbances are caused by oil sand mining, transportation, utilities, and pipeline corridors. Classification system development, assumptions, and definitions are first presented and the five land capability classes and associated sub-classes are outlined. Section 3 reviews soil inventory requirements for using the classification system, including requirements for the soil survey, soil sampling, and analyses. Sections 4 and 5 describe the soil- and landscape-related factors used in the classification. Section 6 briefly notes the importance of knowing the ecoregion of the site of interest. The final section contains forms used in the field application of the system. Appendices include information on soil moisture relationships, soil chemical properties, soil capability and the soil productivity relationship, as well as examples of soil capability profiles and a glossary.

Keywords: *Oil sands, *Land reclamation, Soils, Classification, Land capability for agriculture, Forest soils, Mapping, Alberta.

MIC-99-03151REB PC E12/MF E01
New Brunswick's mineral industry, 1997. Mineral resource report no. 98-3. Annual publication.
New Brunswick. Minerals & Energy Division, Fredericton.
B. M. Carroll. c1998, 138p, ISBN-1-55236-277-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Annual report of exploration, development, mining and government activities in the mineral industry in New Brunswick. An overview is presented of government organizations and programs by branch and regional office, including a listing of reports published during the year, with abstracts. Details are given on mineral exploration, mine development, and producing mines and quarries, by type (metallic and non-metallic) and by area. As well, value of production and employment in producing mines and quarries are given.

Keywords: *Mineral industries, Mines and mineral resources, Prospecting, Maps, New Brunswick.

MIC-99-03154REB PC E12/MF E01
Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list. Annual publication.
New Brunswick. Minerals & Energy Division, Fredericton.
P. Wandless, C. M. McNeill-Dobbelsteyn, and D. J. Carroll. c1999, 112p.
Fold. map not filmed.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Publications available from the New Brunswick Minerals and Energy Division include claim maps, 1/4 mile geology maps, field guidebooks, geoscience reports, information circulars, memoirs, mineral resource reports, requests for tender, popular geology papers, reports of investigation, open file reports, map reports, and miscellaneous reports from the Division, as well as certain Geological Survey of Canada reports, bulletins, and maps. This catalogue lists those publications and includes a directory of New Brunswick companies and individuals providing goods and services that may be of interest to the mineral exploration industry.

Keywords: *Geology, *Canada, Bibliography, Mineral industries, *Bibliographies.

MIC-99-03159REB PC E17/MF E01
Adaptive research reports, 1995, v. 17. Annual publication.
New Brunswick. Plant Industry Branch, Fredericton.
c1995, 314p, ISBN--55137-598-2.
Text in English and French (Bilingual).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Reports of results of research projects conducted for the benefit of New Brunswick farmers and agrologists, covering technology transfer activities conducted under the provincial Adaptive Research Partnership Initiative. Reports include bilingual abstracts and are arranged under the following topic areas: General, including pollution; cereals and protein crops; forage crops; pest management; and vegetables.

Keywords: *Agricultural innovations, *Research, Agriculture, Technology transfer, Maps, *Foreign technology, Bilingual, New Brunswick.

MIC-99-03164REB PC E12/MF E01
Aquatic Toxicity Workshop: Proceedings 1998. Canadian technical report of fisheries and aquatic sciences no. 2260. Abstracts.
Aquatic Toxicity Workshop (25th: 1998: Quebec, Quebec), Ottawa (Ontario).
R. Van Coillie. c1999, 150p, SSC-FS 99-6/2197.
Text in English and French (Bilingual). Reports are in the language of presentation, English or French (Colloque annuel de toxicologie...).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The workshop was one of a continuing series of annual workshops in Canada on aquatic toxicology, covering topics from basic aquatic toxicology to applications in environmental monitoring, setting of regulations and guidelines, and the development of sediment and water quality criteria. This volume contains abstracts of platform and poster papers presented at the workshop. Abstracts are in the language of presentation. A list of participants is also included.

Keywords: *Environmental monitoring, Water quality management, Aquatic ecology, Water pollution, Toxicology, Meetings, *Foreign technology, *Bilingual.

MIC-99-03167REB PC E07/MF E01
Comparison of prethin densities in hardwood stands measured at 1 meter and 30 centimeters respectively, data measurements gathered during hardwood time & motion studies in 1996: Information report. Internal working document no. 98:04, and Technique no. 98:04.
New Brunswick. Forest Management Branch, Fredericton.
c1998, 20p, ISBN-1-55236-190-X.
Text in English and French (Bilingual). (Comparaison des densites...).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Reimbursement of New Brunswick forest licensees for precommercial thinning on Crown land is based on average pre-thin densities of woody stems measured at one metre height. It has been difficult to convince licensees that densities for stems between 30 centimetres and one metre in height are in fact included in the productivities established for the densities measured at one metre. To compare the relationship between densities measured at 30 centimetres and one metre respectively, it was decided to determine densities at both measurement height levels using identical plot centres. This report presents such a study conducted in hardwood stands using data collected during a 1996 time and motion study. Results are tabulated for worker thinning productivity expressed in hectares per hour for the two measurements. Formulas are included for converting the hardwood density measurements.

Keywords: *Forest thinning, Motion study, Forests and forestry, Mensuration, Time study.

MIC-99-03171REB PC E07/MF E01
Guidelines for estimating beef grassing costs based on 500 head. Information update.
Manitoba. Farm Management, Winnipeg.
c1999, 7p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This publication presents a budget that estimates the costs of production associated with pasturing 500 feeder cattle in Manitoba. The purpose of the budget is to assist livestock producers in calculating their own costs and take into consideration the factors that should be included when budgeting to determine break-even prices. Both operating and fixed costs are included, and worksheets for making the calculations are provided.

Keywords: *Grazing, *Cattle, Agriculture, Economic aspects, Feeding and feeds, *Foreign technology, Manitoba.

MIC-99-03172REB PC E17/MF E01
Phosphorus loading to Shellmouth Reservoir, Manitoba, Canada. Report no. 98-10.
Manitoba Environment, Winnipeg.
R. V. Fortin, and S. E. Gurney. c1998, 212p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Shellmouth Reservoir is located on the Manitoba-Saskatchewan border at the confluence of the Shell and Assiniboine rivers. The reservoir is a heavily used recreational area but summer algal blooms can have a detrimental impact on the overall use of the reservoir. This study attempts to determine a mass balance phosphorus budget for the reservoir in order to obtain a better understanding of factors affecting its algal community. A phosphorus balance model is presented and used to predict total phosphorus outflow concentrations and to determine the components of phosphorus loading. Factors limiting algal growth discussed in the study include availability of light, nutrients, and zooplankton grazing.

Keywords: *Water bloom, Reservoirs, Water quality, Phosphorus, Environmental aspects, Manitoba.

MIC-99-03182REB PC E07/MF E01
Household equipment of Canadians, features of the 1993 stock & the 1994 & 1995 purchases: Analysis report.
Natural Resources Canada, Ottawa (Ontario).
c1997, 44p, SSC-M92-131/1997, ISBN-0-662-62806-3.
Text in English and French (Bilingual). (Les Equipements menagers...). Running title: Household equipment purchases, 1994 and 1995. On cover: National Energy Use Database.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report reviews the results of three surveys that collected information on household equipment: The 1994 and 1995 Household Equipment Surveys and the 1993 Survey of Household Energy Use. The goal of the report is to highlight the features of energy-consuming equipment bought by Canadian households in 1994 and 1995 in comparison to those owned by households in 1993. Results are presented by type of equipment: Refrigerators, stoves, dishwashers, freezers, automatic washers, automatic dryers, air conditioning systems, heating systems, and water heaters. Appendices include information on survey methodology and a copy of the survey questionnaire.

Keywords: *Energy consumption, *Appliances, *Electric equipment, Household surveys, *Foreign technology, *Bilingual.

MIC-99-03183REB PC E07/MF E01
Survey of Canadian new household equipment purchases, 1994 & 1995: Statistical report.
Natural Resources Canada, Ottawa (Ontario).
c1997, 64p, SSC-M92-133/1997, ISBN-0-662-62902-7.
Text in English and French (Bilingual). (Enquete sur les achats...). On cover: National Energy Use Database. Running title: Household equipment purchases, 1994 and 1995.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report reviews results of two surveys that collected information on household equipment: The 1994 and 1995 Household Equipment Surveys. The goal of this report is to present the features of energy-consuming equipment bought by Canadian households in 1994 and 1995. Data on equipment features are presented by type of equipment: Refrigerators, ranges, dishwashers, freezers, washers, dryers, air conditioners, heating systems, and water heaters. The appendix contains information on survey methodology and a copy of the survey questionnaire.

Keywords: *Energy consumption, *Appliances, *Electric equipment, Household surveys, *Foreign technology, *Bilingual.

MIC-99-03187REB PC E17/MF E01
Guide to weed control, 1999. Annual publication.
Ontario. Ministry of Agriculture, Food & Rural Affairs, Toronto.
c1999, 300p.
French ed. (Guide de lutte...): 99-03188/4.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This guide includes both general and specific information on the uses and equipment for herbicides and pesticides covering application procedures, emergency and first-aid procedures, federal registration and provincial classification, chemical notes, precautions, principles of weed control, and chemical weed control. Application technology is discussed in some detail. Specific recommendations are made for various field crops, horticultural crops, and roadsides and non-crop areas.

Keywords: *Pesticides, *Weeds, Control, *Foreign technology.

MIC-99-03190REB PC E07/MF E01
Canadian fertilizer quality assurance report: Plant ratings 1998. Annual publication.
Canadian Food Inspection Agency. Plant Health & Production Division, Nepean, (Ontario).
c1999, 61p.
Text in English and French (Bilingual). (Rapport canadien de verification...).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Canadian Fertilizer Quality Assurance Program is a national quality control program that was designed by the federal dept. for agriculture and the fertilizer industry. Each fertilizer manufacturer/blender rated has implemented a voluntary quality control program in their own plant. This annual report presents plant ratings based on samples taken under this program, about 5,000 of which were submitted by over hundreds of companies. Federal inspectors took samples from companies as well. The report covers ratings for material (basic ingredients used to manufacture blends) and ratings for blends. Information is given by location, company, number of samples, and rating.

Keywords: *Fertilizers, Quality assurance, Canada, Inspection, Sampling, *Ratings.

MIC-99-03194REB PC E07/MF E01
Manitoba food products directory, 1999. Directory.
Manitoba Agriculture, Winnipeg.
c1999, 79p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Comprehensive list of food suppliers, brokers, wholesalers and distributors, producer associations and marketing boards plus research resources. Listings contain addresses, telephone numbers, telex and/or fax numbers, company contacts and product lists. Product listings are given alphabetically by supplier/broker.

Keywords: *Directories, *Food industry, *Agricultural economics, Manitoba, Commerce, Agriculture, Maps.

MIC-99-03196REB PC E07/MF E01
Annual report 1997-98.
New Brunswick. Fisheries & Aquaculture New Brunswick, Fredericton.
c1998, 73p.
Text in English and French (Bilingual).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The improvement of New Brunswick's fishing, aquaculture, and fish marketing and processing activities is the principal mission of the Dept. This annual report gives an overview of its activities: Policies, planning and training; School of Fisheries; marketing; finance and administration; Aquarium and Marine Centre; aquaculture; operations and services; and Fisheries Development Board.

Keywords: *Aquaculture, Fisheries, Commercial fishing, Recreational fishing, New Brunswick.

MIC-99-03199REB PC E07/MF E01
Dunbar community vision, city plan.
Vancouver (B.C.), Vancouver, (British Columbia).
c1999, 49p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document presents a community vision for the Vancouver neighbourhood of Dunbar that will be used to help guide policy decisions, corporate work, priorities, budgets and capital plans in that community. Vision directions are grouped into seven themes, each theme including the following information: Background on the existing situation and on city policies and practices; vision directions; community survey results regarding the directions; and other ideas generated at community workshops. The themes are: Shopping areas; existing single family areas; new housing types; traffic and transportation; greening, parks, streets, and lanes; community services and facilities; and other community priorities such as home-based work, recycling, and community involvement in decision making. The final section describes a rezoning policy following the Dunbar community vision.

Keywords: *Vancouver (B.C.), *Urban planning, Maps, Budgets, Policy decisions, Capital plans.

MIC-99-03200REB PC E07/MF E01
Kensington-Cedar Cottage community vision, city plan.
Vancouver (B.C.), Vancouver, (British Columbia).
c1999, 57p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document presents a community vision for the Vancouver neighbourhood of Kensington-Cedar Cottage that will be used to help guide policy decisions, corporate work, priorities, budgets and capital plans in that community. Vision directions are grouped into eight themes, each theme including the following information: Background on the existing situation and on city policies and practices; vision directions; community survey results regarding the directions; and other ideas generated at community workshops. The themes are: Community involvement; safety and services; shopping areas; traffic and transportation; existing single family areas; new housing types; greening, parks, and public places; and other community priorities such as home-based work, recycling, and community boundaries. The final section describes a rezoning policy following the community vision.

Keywords: *Vancouver (B.C.), *Urban planning, Maps, Budgets, Policy decisions, Capital plans.

MIC-99-03209REB PC E07/MF E01
Smart communities: Report.
Panel on Smart Communities, Ottawa (Ontario).
c1998, 86p, SSC-C2-395/1998, ISBN-0-662-63998-7.
Text in English and French (Bilingual). (Collectivites ingenieuses...).

Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Smart communities are those that use information and communication technologies in new and innovative ways to empower their residents, institutions, and region as a whole. This document is the report of a panel established to propose ways in which information and communication technology can help create smart communities in Canada. The panel report discusses the following issues: The capability of Canada to become a leader in the smart communities movement; the characteristics of smart communities, and examples of smart community initiatives in Canada; the benefits of smart communities to Canadians; creation of a unique Canadian approach to building smart communities; selection of communities for demonstrating the smart community concept; and the challenge of national accessibility to information and communication technologies.

Keywords: *Community development, Information technology, Information society, Canada, Technological innovations, Social aspects, *Foreign technology, *Bilingual.

MIC-99-03210REB PC E07/MF E01
Effects of contaminants on aquatic organisms in the Peace, Athabasca and Slave River basins. Northern River Basins Study synthesis report no. 2.
Northern River Basins Study (Canada), Edmonton (Alberta).
J. H. Carey, and O. T. Cordeiro. c1997, 70p, SSC-R71-49/4-2E, ISBN-0-662-25126-1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report summarizes the activities of the Contaminants Component of the Northern River Basins Study to address the following questions: How the aquatic ecosystems in the Peace, Athabasca, and Slave river basins been affected by exposure to toxic compounds; and what long-term monitoring programs and predictive models are required to provide ongoing assessment of the state of those ecosystems. Research is described in four project areas: A basin-wide survey of biochemical responses to organochlorines and other contaminants in major fish species; a basin-wide survey of the toxicity in bottom and suspended sediments; an assessment of the utility of semi-permeable membrane devices as potential substitutes for wild fish in a long-term monitoring program; and assessment of the feasibility of using small, locally resident fish species as alternates to large adult fish in a long-term biological effects monitoring program.

Keywords: *Aquatic organisms, Biological monitoring, Fish, Effect of water pollution on, Water pollution, Contaminated sediments, Analysis, Maps, *Foreign technology, Alberta.

MIC-99-03214REB PC E07/MF E01
Flight recorder configuration standard, version 1.0.
Software Kinetics Ltd., Stittsville, (Ontario).
I. Smith, and C. Bolduc. c1999, 46p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document describes version 1.0 of a standard that defines the content and format for electronic files that describe the flight data stored on a flight data recorder system. The intended users of the standard are airlines, manufacturers, and air safety investigators. The document is written for software systems designers and developers who wish to support the standard through enhanced or new software systems. The content of this standards document has been logically grouped into header, subframe (record) and parameter information, the latter further grouped into identification, location, conversion, accuracy, sensor and signal, and digital information transfer system items. The standard's file format follows the logical groups defined in the standard's content.

Keywords: *Flight recorders, Information technology, Standards, *Foreign technology.

MIC-99-03216REB PC E12/MF E01
Guide for reporting to the National Pollutant Release Inventory, 1998. Annual publication.
Environment Canada, Ottawa (Ontario).
c1998, 120p, SSC-EN40-495/1998E, ISBN-0-662-27343-5.
French ed. (Guide de declaration...): 99-03217/2. Diskette not included with microfiche. Important information for the 1999 reporting year (2 p.) laid in. On cover: Canadian Environmental Protection Act.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The National Pollutant Release Inventory (NPRI) is a federal government initiative designed to collect and make available to the public, on a yearly basis, comprehensive national data on releases to air, water and land and transfers in waste of specified substances. The inventory provides information from all Canadian sectors: Industrial, government, commercial and others. Under the authority of the Canadian Environmental Protection Act, owners or operators of facilities that manufacture, process or otherwise use one or more of the specified substances under prescribed conditions are required to report to the NPRI. This document enables facility owners or operators to review the NPRI reporting criteria and determine if they are required to report the NPRI for the current year. It also provides guidance for completing the reporting form and filing a report with Environment Canada.

Keywords: *Environmental monitoring, Environmental policy, Environmental protection, *Foreign technology.

MIC-99-03222REB PC E12/MF E01
Field crop recommendations, 1999-2000. Annual publication.
Ontario. Ministry of Agriculture, Food & Rural Affairs, Toronto.
c1999, 162p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The report provides guidelines for the production and management of such field crops as corn, soybeans, forage crops, cereal crops, dry edible beans, and spring and winter canola. The guide gives general information on soil testing and sampling, plant analysis, the use of manure and sewage sludge as fertilizer, acidity and liming, and toxicity of fertilizer materials. General information on pesticide use and application is included, as well as specific pesticides recommended for particular applications in raising the listed crops.

Keywords: *Crops, *Soil amendments, *Crop production, Plant growth, Fertilizers, Pesticides, Agricultural pests, Pest control.

MIC-99-03223REB PC E07/MF E01
Mining and mineral processing operations in Canada, 1998. Mineral bulletin no. MR 247. Annual publication.
Minerals & Metals Sector, Ottawa (Ontario).
c1999, 88p, SSC-M38-2/247E, ISBN-0-660-17861-5.
French ed. (Mines et usines de traitement...): 99-03224/1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Part 1 of this document lists significant information concerning metal mines and processing plants, industrial mineral mines and processing plants, listing the name of operator, location of the mine or plant, capacity, processes, products and other details of special interest. The next section goes on to list the principal metallurgical works in Canada that treat ores and concentrates of nonferrous and precious metals. Excludes scrap refiners and refiners of secondary material, foundries, base-bullion gold refineries associated with mines, and fabricating plants. Data provided by participating companies by means of a questionnaire.

Keywords: *Metallurgical plants, *Mineral industries, Mineral processing, Directories.

MIC-99-03227REB PC E07/MF E01
40Ar/39Ar dating of ribbon-textured veins and wall-rock material from Meguma lode gold deposits, Nova Scotia: Implications for timing and duration of vein formation in slate-belt hosted vein gold deposits. Contribution series no. CS ME 1998-13.
Nova Scotia. Dept. of Natural Resources, Halifax.
D. J. Kontak. c1998, 17p.
In Canadian Journal of Earth Sciences: Vol. 35, 1998.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents results of argon-argon geochronological age spectra for whole-rock argillite samples collected from within and adjacent to veins from eight gold districts in southern Nova Scotia. The implications of the results for the timing of vein emplacement, the duration of hydrothermal events, the origin of the gold deposits, and regional metamorphism in the Meguma Terrane are discussed.

Keywords: *Ore deposits, *Geological time, Petrology, Geology, Rocks(Metamorphic), Nova Scotia.

MIC-99-03228REB PC E07/MF E01
Carboniferous evolution of Nova Scotia. Contribution series no. CS ME 1998-14.
Nova Scotia. Dept. of Natural Resources, Halifax.
J. H. Calder. c1998, 42p.
In Lyell: The past is the key to the present. London: Geological Society.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In this paper, the evolution of Nova Scotia in the Carboniferous period is considered by linking its tectonic history, basin fill sequence, fossil record, and paleoclimate with those of Carboniferous Euramerica to the west in North America and to the east in Europe. The aim of the paper is to review and relate the records of disparate geological disciplines and to consider implications that emerge for long-established views of the Carboniferous history of the province. Sections of the paper cover the geological setting, the history of geological studies of the Nova Scotia Carboniferous, the evolution of the basin fill sequence, the fossil record, paleoclimate, mineral and energy deposits, and implications for Euramerican studies. Appendices contain lists of Carboniferous fauna and flora of Nova Scotia.

Keywords: *Historical geology, Geology, Nova Scotia.

MIC-99-03229REB PC E07/MF E01
Origin and evolution of the Greisenizing fluid at the East Kemptville tin deposit, Nova Scotia, Canada. Contribution series no. CS ME 1998-15.
Nova Scotia. Dept. of Natural Resources, Halifax.
W. E. Halter, D. J. Kontak, and A. E. Williams-Jones. c1998, 26p.
In Economic Geology: Vol. 93, 1998.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes a study conducted to establish the origin of the fluid and the metals in the East Kemptville hydrothermal system and document the changes in rock and fluid composition during greisenization in order to evaluate the possible role of this alteration in cassiterite precipitation. The investigators performed detailed analyses of the mineralogy and chemistry of samples from fresh and variably altered leucogranite, as well as analyses of fluid inclusion compositions in the same samples. The data are used to quantify the direction and mechanisms of mass transfer during fluid-rock interaction. The results demonstrate the factors involved in cassiterite deposition and underline the potentially important role of alteration in the concentration of tin in the East Kemptville deposit. The study also explains the formation of the chemical potential gradients that developed during greisenization.

Keywords: *Ore deposits, Petrology, Geology, Tin ores, Mineralogy, Chemical analysis, Nova Scotia.

MIC-99-03230REB PC E07/MF E01
Wisconsinan glacial and sea-level history of Maritime Canada and the adjacent continental shelf: A correlation of land and sea events. Contribution series no. CS ME 1998-16.
Nova Scotia. Dept. of Natural Resources, Halifax.
R. R. Stea. c1998, 26p.
In Geological Society of America Bulletin: Vol. 110, 1998.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Wisconsinan glacial history of maritime Canada records the interaction of land-based glaciers with the sea, which dissects the region along the deep embayments of the Bay of Fundy and the Laurentian Channel. This paper presents a new empirical model of ice advances and retreats in the Wisconsinan period, and relative sea-level changes for eastern Canada, incorporating concepts from both terrestrial and marine study areas. Five glacier flow events are described and discussed in detail and the case for extensive early Wisconsinan glaciation of maritime Canada is summarized.

Keywords: *Continental shelf, *Glacial landforms, Sea level, Historical geology, Maps, Atlantic Provinces.

MIC-99-03231REB PC E07/MF E01
Guidelines for manure management for Prince Edward Island.
Prince Edward Island. Dept. of Agriculture & Forestry, Charlottetown.
c1999, 74p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

These guidelines give direction for recommended manure management practices and systems that will reduce the risk of pollution and minimize odors at livestock operations in Prince Edward Island. Provisions of the guidelines relate to: Permits and approvals processes; types of manure and their utilization; manure storage, including design, construction, and siting of storage facilities; land application of manure; the environmental impact assessment process; and siting to reduce odor nuisance. Worksheets and calculation procedures are included where applicable. The appendix includes a glossary and information on alternate methods of manure treatment and utilization.

Keywords: *Manure handling, *Environmental aspects, Manures, Agriculture, Odor control, Prince Edward Island.

MIC-99-03234REB PC E07/MF E01
Regulatory barriers to on-site water reuse.
Canadian Water & Wastewater Assn, Ottawa (Ontario).
c1997, 68p.
French ed. (Obstacles poses par la reglementation...): 99-03235/1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The use of on-site and small-community water reuse technology offers great potential for water conservation and reducing water distribution and collection infrastructure needs. This report presents results of an investigation into the existence of regulatory barriers to the implementation of on-site water reuse in Canada. It explores the barriers present in health and environmental regulations as well as in plumbing/building codes and municipal by-laws. Regulatory barriers are outlined at the national level and within each province or territory, with municipal examples provided. The implications of perceived barriers are also discussed. Appendices include a copy of a British Columbia plumbing code amendment that deals with recycled waste water systems.

Keywords: *Construction, *Legislation, *Regulations, *Water supply, *Canada, Water reuse, *Foreign technology.

MIC-99-03240REB PC E17/MF E01
Electronic village: Policy issues of the information economy. Policy study no. 32.
Economic & Public Policy Issues of the Information Economy. Conference (1997: Toronto, Ont.).
T. A. Wilson, and D. Orr. c1999, 322p, ISBN-0-88806-444-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Papers in this volume, mostly from a conference on the information economy, provide analysis and discussion of some of the economic and public policy issues related to the revolutionary changes occurring in telecommunications. Topics of papers include: The impacts of changing technologies in communication and information processing on regulatory and other government policies; the different approaches to telecommunications regulation in Canada and the United States; international influences on Canadian communications policy; policies affecting foreign direct investment in telecommunications; the links between improvements in telecommunication infrastructure and economic growth; the determinants of the geographic distribution of information technology in the United States, 1986-92; and broadcasting regulation and government policies in Canada.

Keywords: *Telecommunication, Telecommunication policy, Meetings, *Foreign technology.

MIC-99-03249REB PC E07/MF E01
Annual report 1997-98.
Prince Edward Island Food Technology Centre, Charlottetown.
c1998, 27p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Centre provides technical services to aid processing and other value-added activities within the agricultural and fishery sectors of the province's economy. It also provides research and development leadership. This annual report covers objectives, highlights of projects, and affiliations. A financial statement is included. Businesses and government agencies which received assistance are listed, as are workshops and meetings to which the Centre contributed.

Keywords: *Research institutes, *Food processing, Research projects, Agriculture, Fisheries, Prince Edward Island.

MIC-99-03255REB PC E07/MF E01
Annual report 1997-98. AECL research no. AECL-11964.
Atomic Energy of Canada Ltd., Mississauga, (Ontario). c1998, 90p, SSC-CC1-1998E, ISBN-0-662-27234-X.
Text in English and French (Bilingual). French ed. on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Annual report of AECL, the legal name of Atomic Energy of Canada Limited. Its mandate is to undertake research into nuclear energy and to develop commercial applications for its developments. This annual report presents information on marketing and commercial operations, product development, CANDU research, waste management and nuclear sciences, environmental management and site refurbishment. A financial review is included, along with management responsibility, an Auditor's report, financial statements, a five-year financial summary, and a list of directors and locations.

Keywords: *Crown corporations, Nuclear energy, *Foreign technology, Bilingual.

MIC-99-03257REB PC E17/MF E01
Annual report 1997-98.
Prince Edward Island. Dept. of Transportation & Public Works, Charlottetown.
c1998, 243p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The annual report includes various reports by the Administration, Finance and Services Division, Public Works Division, Highway Safety Division, Transportation Division, Highway Maintenance Division, and the Highway Construction Division. Ordinary and capital expenditures conclude the document.

Keywords: *Public works, *Transportation planning, Highway construction, Highway maintenance, Capitalized costs, Prince Edward Island.

MIC-99-03262REB PC E07/MF E01
CTBT verification related case studies of three recent seismic events, Novaya Zemlya, India and Pakistan.
Dept. of Foreign Affairs & International Trade, Ottawa (Ontario).
c1998, 61p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report examines three recent seismic events which can be seen as case studies of the effectiveness of the verification system of the Comprehensive Nuclear Test Ban Treaty (CTBT). The events studied are an August 1997 seismic event near a Russian nuclear test site on Novaya Zemlya, and the Indian and Pakistani nuclear explosions of May 1998. The report first explains the CTBT, what it is and is not, the CTBT-related issues raised by the three events, and implementation of the CTBT verification system. Section 2 reviews technical aspects of verification and testing and section 3 reviews non-seismic methods of verification, including on-site inspections, atmospheric radionuclide detection, and use of satellite imagery. Section 4 details the three events, and their implications for CTBT verification are discussed in section 5. Appendices include information on the measurement of yield, the detection threshold, and the military significance of test explosions below the threshold; and a review of three non-seismic technologies in the CTBT monitoring system (radionuclide, infrasound, and hydroacoustic detection).

Keywords: *Remote sensing, *Seismology, Nuclear weapons, Testing, Arms control, Verification.

MIC-99-03279REB PC E07/MF E01
Adaptive nulling of skywave interference using horizontal dipole antennas in a coastal surveillance HF surface wave radar system.
Defence Research Establishment Ottawa, Ottawa.
H. Leong. c1998, 5p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents results of a preliminary study of an adaptive system using horizontal antennas for the suppression of sky wave interference in high-frequency surface wave radar (HFSWR). In the study, four horizontal dipoles configured as two separate crosses were added to a HFSWR system that normally uses vertically polarized antennas. Data received from the dipoles were correlated with the data received from the vertically polarized antennas to estimate and cancel the interference adaptively in the latter. Results show the degree of effectiveness of this exploitation of the difference in polarization between HFSWR signals and sky wave interference. The study also compared the effectiveness of the adaptive technique using one, two, or four horizontal dipole antennas.

Keywords: *Signal processing, Surface wave antennas, Radar, Interference, *Foreign technology.

MIC-99-03282REB PC E07/MF E01
Stratigraphy and tectonic significance of the Lower to Middle Devonian McAdams Lake Formation, Cape Breton Island, Nova Scotia. Contribution series no. CS ME 1998-17.
Nova Scotia. Dept. of Natural Resources, Halifax.
C. E. White, and S. M. Barr. c1998, 13p.
In Atlantic Geology, vol. 34, 1998.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The McAdams Lake Formation in central Cape Breton Island is one of the earliest records of sediment deposition in the Devonian-Carboniferous Sydney Basin. The purpose of this paper is to report the results of recent mapping of this formation, which has led to the establishment of an internal stratigraphy as well as an interpretation of the structural history and of the significance of the formation in regional tectonic models. Information is included on the geological setting, formation age, palynology, lithology of the individual members of the formation, folding and thickness, depositional environment, tectonic implications, regional correlations, and economic potential.

Keywords: *Cape Breton Island (N.S.), Rocks(Sedimentary), Geology, Maps, Sediments, Age, Nova Scotia.

MIC-99-03283REB PC E17/MF E01
Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. I: Accounts by location. Technical report series no. 321.
Canadian Wildlife Service. Environmental Conservation Branch - Ontario Region., Downsview, (Ontario).
C. Pekarik. c1998, 264p, ISBN-0-662-27012-6.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

During 1993-97, the Canadian Wildlife Service collected 1,252 eggs from 32 fish-eating colonial water bird sites throughout the Great Lakes. The work was part of a monitoring program to understand the temporal and spatial trends of environmental contaminant levels in Great Lakes biota. Eggs of four species (double-crested cormorant, great black-backed gull, herring gull, and ring-billed gull) were sampled and analyzed for organochlorine pesticides, chlorinated benzenes, polychlorinated biphenyls (PCB), dioxins and furans, and lipid and moisture. This volume contains contaminant data for all four species summarized by sample size and by location, as well as data on non-coplanar PCB congener patterns in herring gull eggs.

Keywords: *Water birds, Organochlorine compounds, Environmental aspects, Birds, Effect of pollution on, Maps, *Foreign technology, Ontario.

MIC-99-03284REB PC E17/MF E01
Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. II: Accounts by chemical. Technical report series no. 322.
Canadian Wildlife Service. Environmental Conservation Branch - Ontario Region., Downsview, (Ontario).
C. Pekarik. c1998, 230p, ISBN-0-662-27013-4.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

During 1993-97, the Canadian Wildlife Service collected 1,252 eggs from 32 fish-eating colonial water bird sites throughout the Great Lakes. The work was part of a monitoring program to understand the temporal and spatial trends of environmental contaminant levels in Great Lakes biota. Eggs of four species (double-crested cormorant, great black-backed gull, herring gull, and ring-billed gull) were sampled and analyzed for organochlorine pesticides, chlorinated benzenes, polychlorinated biphenyls (PCB), dioxins and furans, and lipid and moisture. This volume contains contaminant data for all four species summarized by compound.

Keywords: *Water birds, Organochlorine compounds, Environmental aspects, Birds, Effect of pollution on, Maps, *Foreign technology, Ontario.

MIC-99-03291REB PC E07/MF E01
Trial by adventure.
Defence & Civil Institute of Environmental Medicine (Canada), North York, (Ontario). Cold Weather Military Operations. International conference (1995: Burlington, VT).
c1995, 26p.
On cover: International Conference, Cold Weather Military Operations: Proceedings ; U.S. Army Cold Regions Research and Engineering Laboratory Special report 95-9.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report describes two trials conducted to examine a trial concept to provide a more rigorous peacetime test of protective equipment for use in cold weather operations. The equipment tested included an insulated tent, clothing, and sleeping bags developed to enable a small group to be self-supported for many days and to cover distances on the order of 1,000 miles across open country on snowmobiles. The tests were conducted in 1986 and 1989 on the west coast of James Bay and involved travel both over land and over landfast sea ice. Information is included on the performance of the equipment used and on the success of the trial concept.

Keywords: *Cold weather clothing, *Military requirements, *Canada, Tents, Military supplies, Snowmobiling, Meetings, *Foreign technology.

MIC-99-03292REB PC E07/MF E01
Estimation of cloud droplet size density distribution from multiple field-of-view lidar returns. DREV report no. R-9705.
Defence Research Establishment Valcartier, Val-Belair, (Quebec).
G. Roy. c1997, 45p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Remote detection of cloud droplet size can provide information on the potential danger of in-flight icing clouds. Recent progress on multiple field of view (MFOV) lidar has shown that remote detection of cloud droplet size is possible up to a few kilometres, and consequently, that the remote detection of icing conditions as well as the prediction of atmospheric transmission at wavelengths other than the lidar wavelength are also possible. This report presents an analysis of MFOV lidar data that leads to the determination of the droplet size density in clouds. The analytical model used is supported by Monte Carlo simulations and experimental data obtained under a controlled environment. The results indicate the range of droplet size resolution that is achievable.

Keywords: *Optical radar, Clouds, Remote sensing, *Foreign technology.

MIC-99-03294REB PC E07/MF E01
Navier-Stokes prediction of pitch damping coefficients for projectiles. DREV memorandum no. TM-9717.
Defence Research Establishment Valcartier, Val-Belair, (Quebec).
F. Lesage. c1997, 44p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A new numerical technique has been developed for the prediction of the pitch-damping coefficient, based on the observation that the forces and moments acting on a projectile undergoing coning motion, when viewed from the projectile reference frame, can be related to the pitch damping coefficient in the inertial reference frame. This memorandum presents the results of the implementation of this method with the TASCflow Navier-Stokes software. It reviews the theory which describes how the pitch damping coefficient sum can be obtained from steady-state calculations of a projectile undergoing a coning motion, and how the individual pitch damping terms can be obtained from calculations of projectiles undergoing helical motions. The TASCflow software is described and calculation results for pitch damping coefficient sums and individual pitch damping terms are presented for two projectile geometries. Results are also compared to published numerical and experimental studies.

Keywords: *Aerodynamics, Projectiles, Damping, *Foreign technology.

MIC-99-03296REB PC E07/MF E01
Agri-food policy in Canada.
Agriculture & Agri-Food Canada. Economic & Policy Analysis Directorate, Ottawa (Ontario).
K. Ash. c1998, 58p, SSC-A22-179/1998E, ISBN-0-662-27209-9.
Text in English and French (Bilingual). French ed. (Politique agroalimentaire...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper begins with a brief overview of the agri-food system in Canada, followed by a review and discussion of Canadian agri-food policies. These include market regulations (supply management), income stabilization, and subsidies to western grain transportation, as well as recent changes in policy. The final chapter offers views on the medium-term prospects for world agri-food markets and on other factors expected to influence the nature of future agri-food policies.

Keywords: *Agriculture, *Food, *Foreign technology, *Canada, Bilingual.

MIC-99-03298REB PC E07/MF E01
Development of an optimum consumable alloy for low heat input welding of nickel aluminum bronzes.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
C. V. Hyatt. c1998, 19p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Low heat input welding and weld cladding methods such as laser welding are promising means to improve the surface properties of nickel aluminium bronzes used in ship and submarine propulsion and sea water handling systems. This report describes experiments conducted to identify an optimum consumable alloy composition for use in cladding nickel aluminium bronzes. To identify such a composition, the investigators studied 28 experimental alloys that were laser surface melted with eight different heat inputs. Results are presented and discussed with regard to microstructure, microhardness, cavitation erosion behaviour, corrosion potentials, and temper resistance.

Keywords: *Bronze, Metal coating, Nickel alloys, Welding, Aluminum alloys, Marine machinery, Ships, Maintenance and repair, *Foreign technology.

MIC-99-03299REB PC E07/MF E01
Modeling of the 6DOF missile dynamics using the NED axes system. DREV technical note no. N-9703.
Defence Research Establishment Valcartier, Val-Belair, (Quebec).
M. Lauzon. c1997, 40p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

High fidelity and validated six-degree-of-freedom (6DOF) missile simulation models are being developed to accurately model the aerodynamics, guidance, and control characteristics of current tactical air-to-air missiles for system performance assessment. For efficiency, the development of this missile simulation takes advantage of already available model components, such as the modelling of the missile dynamics. However, the documented 6DOF model of missile dy-

namics currently available is not based on the standard north-east-down (NED) axes system used in most current simulation models. To maintain compatibility with the existing library of components, this missile dynamics model has been modified to use the NED system. This report details those modifications, including information on co-ordinate systems, transformations, equations of motion, tracking loop dynamics, and simulation control.

Keywords: *Aerodynamics, Guided missiles, Aeronautics, Mathematical models, Information storage and retrieval systems, Military art and science, *Foreign technology.

MIC-99-03304REB PC E07/MF E01
Nickel aluminum bronze overlay deposit using gas metal arc welding process and 0.5 mm diameter wire. DREA contractor report no. DREA CR/97/417.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
C. Nicholson. c1997, 13p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The report describes a project conducted to make overlay gas-metal arc weld deposits on cast nickel aluminium bronze allow at the lowest heat input possible, using 0.5-millimeter diameter welding wire. Results are presented with regard to microstructure and hardness of the overlay. Hardness and energy input results are also compared to those obtained with other welding methods.

Keywords: *Bronze, *Nickel alloys, *Aluminum alloys, Metal coating, Gas metal arc welding, Cast metal, Wire, Physical properties, *Foreign technology.

MIC-99-03305REB PC E07/MF E01
Browns Bank survey 1998: Cruise report and scientific results. Open file no. 3666.
Geological Survey of Canada, Ottawa.
B. J. Todd. c1999, 94p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Browns Bank is located at the south-western end of the Scotian Shelf. This report describes a July 1998 geoscientific survey of the bank. Objectives of the survey were: To provide ground truth for an ongoing scallop fishery habitat study; to contribute to the understanding of the Quaternary evolution of the Scotian Shelf and the associated changes in sea level; and to calibrate acoustic systems over 'type' sea floor on the bank. Two technical objectives of the survey cruise were the testing of the Regulus navigation system and its utility for locating towed bodies, and the first underway testing of data input into the Geological Survey of Canada Atlantic data base system.

Keywords: *Navigation, Submarine geology, Scallop fisheries, Oceanography, Geological surveys, Information storage and retrieval systems, Maps, *Foreign technology, Nova Scotia.

MIC-99-03310REB PC E12/MF E01
Structure of Canadian agriculture, 1996.
Agriculture & Agri-Food Canada. Economic & Policy Analysis Directorate, Ottawa (Ontario).
S. M. Rizvi, and T. Weimer. c1998, 161p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents statistics from the Statistics Canada Census of Agriculture showing numbers and percentage of farms, total and average gross farm receipts, and percentage of gross farm receipts for farms grouped by province or region and by farm revenue. Part 1 presents the data by farm type and part 2 presents the data by farm enterprise.

Keywords: *Farm income, Farms, Statistics, *Foreign technology, Canada.

MIC-99-03319REB PC E12/MF E01
Human factors assessment of prototype lightweight thermal undergarment systems for the Clothe-the-Soldier Programme. DCIEM publication no. 97-CR-30.
Rhodes & Associates, Toronto (Ontario).
S. J. Weihrer. c1997, 146p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes a project that evaluated several candidate light-weight thermal undergarment (LWTU) systems according to human factors criteria, in order to facilitate the selection of a LWTU system for the Canadian Forces. Five commercially available LWTU candidates were tested along with the current in-service cold weather underwear during field trials in Churchill and Iqaluit at temperatures down to -68 degrees C. The LWTU was worn with standard issue winter clothing. Initial fit and initial acceptance questionnaires were administered at time of issue. Data on subjective thermal comfort were collected using a weekly questionnaire. An exit questionnaire was administered at the end of the trial in conjunction with focus groups. Data were analyzed for comparative subjective ratings of each LWTU condition, examining comfort, function, fit, compatibility, care, and ease of doffing and donning. The findings were used to develop specifications for an ideal LWTU set. Copies of the questionnaires are appended.

Keywords: *Human engineering, *Cold weather clothing, Military supplies, *Foreign technology.

MIC-99-03320REB PC E12/MF E01
Grain Handling and Transportation Review: Final report.
Transport Canada, Ottawa.
W. Z. Estey. c1998, 113p.
French ed. (Examen de la manutention...): 99-03321/2.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This is the final report of a comprehensive review of the handling and transportation system for prairie grain and grain products. Work carried out during the review included 147 meetings with stakeholders and other interested parties, public meetings across the Prairie Provinces, and receipt of over 250 written submissions. The introductory sections include an overview of the elements of the Canadian grain industry (markets, competitiveness, grain gathering and transport) and of the present roles of the stakeholders (farmers, Canadian Wheat Board, grain and elevator companies, railways, ports and waterways). Chapter 3 discusses issues arising in the present system, including the importance of value-added products, grain segregation and cleaning, grain car ownership, labour issues, car allocation, competition between railways, branch line abandonment, and trucks and road repair. Chapter 4 discusses the proper role of the Wheat Board and whether its administrative and regulatory function should be separated from its commercial function. Chapter 5 briefly notes efficiency gains to the producer should the recommendations of the report be adopted. These recommendations are summarized in the final chapter.

Keywords: *Agriculture and state, *Transportation, Grain trade, Grain, Transportation and state.

MIC-99-03322REB PC E07/MF E01
Grain Handling and Transportation System Review: Phase one report.
Transport Canada, Ottawa.
W. Z. Estey. c1998, 76p.
Text in English and French (Bilingual). French ed. (Rapport sur la phase un...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This is the phase I report of a comprehensive review of the handling and transportation system for prairie grain and grain products, a review that involved gathering the views of the stakeholders in the grain transportation system on the issues and problems which have arisen in that system. The objective of this report is to identify and catalogue the views of stakeholders and the issues discussed in the review. The introductory section sets out the context of the review by briefly describing the economic importance of western Canadian agriculture to the economy and the principal participant groups involved in the grain transportation system. Stakeholder views are then reviewed with regard to such issues as branch line abandonment, rail car ownership, producer benefits from efficiency gains, impacts on trucking, competitive access to rail lines, dispute resolution, the role of the Canadian Wheat Board, utilization of ports, grain cleaning and grading, and labour issues.

Keywords: *Agriculture and state, Grain trade, Grain, Transportation, Transportation and state.

MIC-99-03323REB PC A99/MF E01
Human factors engineering study for a Griffon Mission Planning System: Final project report. DCIEM publication no. 97-CR-19.
Canadian Marconi Company, Kanata, (Ontario).
D. E. McKay. c1997, 821p.
Contents: Vol. 1: Main report and annexes A and B -- vol. 2: Annexes C to I.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes a project that completed a human factors engineering study of the mission planning process for the CH146 Griffon helicopter used by the Canadian Forces. Specific objectives were to identify and document the steps of mission planning using representative scenarios, evaluate three mission planning system alternatives, determine the number of systems required, recommend hardware and software to meet mission planning requirements, and begin construction of a database of CH146 human factors information that can be used for future analyses and life cycle support. Site visits were conducted to operational units to gather information to support the mission and function analysis. Three levels of functions are identified and documented for all missions, and mission planning elements are decomposed to the task level. Six mission planning scenarios are documented, addressing preflight planning, in-flight planning, and post-flight debriefing. Operational sequence diagrams of the scenarios are included, and an information flow and processing analysis of critical sequences is provided. Evaluation of three mission planning systems resulted in development of a prototype, for which numerous improvements were identified and implemented. Appendices include function flow diagrams, inventories and descriptions of mission functions, and screen layouts.

Keywords: *Human engineering, *Military, Helicopters, Decision support systems, Transportation, Planning, *Foreign technology.

MIC-99-03324REB PC E07/MF E01
Trade liberalization of the international oilseed complex. Trade research series.
Agriculture & Agri-Food Canada. Economic & Policy Analysis Directorate, Ottawa (Ontario).
K. D. Meilke, and M. Wensley. c1998, 74p, SSC-A22-174/1998E, ISBN-0-662-26988-8.
Text in English and French (Bilingual). French ed. (Liberalisation du commerce...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Reviews findings of an independent study which used a modified version of the AGLINK model to conduct an assessment of the impact of complete border trade liberalization on oilseed and oilseed product trade. The assessment provides quantitative measures of possible impacts which help to weigh the benefits, costs, and difficulties of the liberalization proposal. Key questions addressed in the analysis include: The impacts on prices of oilseeds and oilseed products; impacts on supply and disposition of these commodities for Canada and for major consumers or competitors in the marketplace; income effects, by country, on primary producers and processors; impacts on the economics of oilseed crushing in Canada and in competing countries; the critical policies in different countries; and the

additional impact of extending the proposal to reduce domestic subsidy support to zero.

Keywords: *Agriculture and state, Free trade and protection, Oilseeds, Seed industry and trade, Farm produce, Marketing, *Bilingual.

MIC-99-03325REB PC E07/MF E01
Lidar remote sensing of meteorological parameters in adverse weather: Performance of electro-optic systems and aircraft in-flight icing. DREV report no. R-9707.
Defence Research Establishment Valcartier, Val-Belair, (Quebec).
L. R. Bissonnette. c1997, 47p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The purpose of the research described in this paper is to study the feasibility of constructing a practical sensor to fill needs related to military operations and detection of in-flight icing conditions. The proposed sensor is a recently developed multiple field of view (MFOV) lidar that makes use of the information contained in the multiple scattering contributions of fog, cloud, or precipitation particles in order to solve for both the particles' concentration and effective diameter. The paper reviews the principles behind MFOV lidar, describes the inversion algorithm used in the solution method, and presents measurement results obtained in a control chamber and stratiform clouds. Comparisons with independent measurements and published cloud data indicate the degree of precision of the remote sensing method developed.

Keywords: *Military airplanes, Algorithms, Optical radar, Airplanes, Ice prevention, Clouds, Remote sensing, *Foreign technology.

MIC-99-03326REB PC E07/MF E01
Canada Centre for Mineral & Energy Technology.
Microstructural characterization of NIAl bronze weldments. Report no. MTL 95-3 (TR-R), and DREA contractor report no. DREA CR/95/435.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
J. A. Gianetto. c1995, 47p.
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The objective of this study was to develop and evaluate a series of simulation techniques to provide a better understanding of the transformation behaviour of both the weld metal and the heat-affected zone (HAZ) regions formed in nickel-aluminium bronze weldments. The welds investigated were produced by laser cladding, gas-tungsten arc welding, and a Gleeble 2000 weld simulator. In the latter case, the aim was to develop melting and reheating experiments that would accurately simulate the HAZ and weld metal regions found in the laser clad weldments. Optical microscopy and microhardness surveys were used to characterize the structures formed in the real and simulated weldments. In addition, radial dilatometry was performed to assist in interpreting the complex microstructures formed as a result of dynamic thermal cycling.

Keywords: *Welds, *Bronze, Microstructure, Nickel alloys, Welding, Aluminum alloys, *Foreign technology, *CANMET.

MIC-99-03327REB PC E07/MF E01
Efficient Raman conversion from liquid nitrogen contained in an ordinary Dewar. DREV technical note no. TN-9707.
Defence Research Establishment Valcartier, Val-Belair, (Quebec).
P. Mathieu, and V. Larochelle. c1998, 14p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Raman shifting is a well-known technique for extending the wavelength coverage of the few efficient and high-power solid-state laser sources. Liquid nitrogen has been proven to be one of the best Raman media for such a purpose, but it has not been extensively used, mostly due to the need for sophisticated cryogenic cells. This technical note proposes a simple set-up that makes use of the backward-Raman process instead of the more usual forward process. With this approach, an ordinary laboratory dewar can be used as the liquid nitrogen container. Input-output results are presented for both wavelengths of the neodymium-YAG pump laser used in the experimental set-up.

Keywords: *Lasers, Nitrogen, Light, Scattering, *Foreign technology.

MIC-99-03330REB PC E07/MF E01
Engine life cycle cost control by advanced repair and qualification methods.
Dept. of National Defence, Ottawa.
R. R. Hastings, and K. M. Jaansalu. c1997, 10p.
On cover: International Society for Air Breathing Engines: International Symposium on Air Breathing Engines.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report first describes the generalized business case for aircraft gas turbine repair development and the establishment of a knowledge base and infrastructure for repair and certification. The repair qualification methodology and use of the Cost Effectiveness Analysis software package to ensure continuing awareness of cost and benefit issues are next discussed. Finally, the current phase of the Canadian Forces program which uses the qualification methodology to certify a number of repairs for immediate introduction to CF18 service is reviewed. This methodology describes how to design and certify a repair as being airworthy following a systematic, consistent, and auditable procedure. The certification is generic in nature and will also be used on other Canadian Forces aero-gas turbines and components.

Keywords: *Military airplanes, Gas turbines, Airplanes, Maintenance and repair, Meetings, *Foreign technology.

MIC-99-03331REB PC E07/MF E01
Simulation of microstructures in laser clad nickel aluminum bronzes.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
C. V. Hyatt. c1998, 8p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper examines whether a weld simulation technique can be used for developing an understanding of the laser welding processing-structure-property relationships of laser-clad nickel-aluminium bronzes. Simulation experiments are described using the Gleeble 2000 thermomechanical simulator. The simulator was used to simulate the microstructures of the as-deposited and reheated weld metal and base metal heat affected zones of a nickel-aluminium bronze laser weld clad produced with a heat input of 150 joules per millimetre. Insights into phase transformations were obtained by combining metallography with dilatometry. Techniques potentially useful for generating specimens representative of a particular weld zone and large enough for testing purposes were also investigated.

Keywords: *Welds, *Bronze, Microstructure, Nickel alloys, Welding, Aluminum alloys, *Foreign technology.

MIC-99-03332REB PC E07/MF E01
Microstructural characterization of laser-clad nickel aluminum bronze alloys using transmission electron microscopy.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
c1996, 18p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Laser surface modification techniques such as cladding and surface melting are being investigated for the repair and surface engineering of nickel-aluminium bronze (NAB) alloy components. This paper reports transmission electron microscopy observations of the microstructure developed in a commercial NAB alloy cladding. Results are presented and discussed for microstructures observed in the as-deposited and reheat zones. The results demonstrate the ability of transmission electron microscopy to provide new insights into the complex microstructural phenomena occurring in laser-processed NAB alloys.

Keywords: *Welds, *Bronze, Electron microscopy, Microstructure, Nickel alloys, Welding, Aluminum alloys, *Foreign technology.

MIC-99-03333REB PC E07/MF E01
Re-engining the CC130 Hercules transport aircraft as a fleet management option.
Dept. of National Defence, Ottawa.
R. R. Hastings. c1997, 10p.
On cover: International Society for Air Breathing Engines: International Symposium on Air Breathing Engines.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper describes a project to develop and validate a simplified aircraft performance prediction capability to enable the Canadian Forces to evaluate aircraft manufacturer performance claims, perform systems trade-off studies, and assess the option of airframe upgrade and engine replacement for its fleet of CC130 Hercules aircraft rather than procurement of replacement aircraft. A summary of the status of the CC130 fleet is first provided to identify when fleet replacement decisions may be required. This is followed by a brief description and discussion of some of the potential replacement aircraft, their anticipated capabilities, and any pertinent program issues. The procurement and adjustment of an aircraft performance prediction code is summarized along with the validation results for that code. The final section attempts to identify the cost and implications of a refurbishment/engine replacement program for the CC130 fleet which would maintain or enhance operational capability at a cost much less than the procurement of new aircraft.

Keywords: *Military airplanes, *Performance evaluaton, Airplanes, Motors, Maintenance and repair, Meetings, *Foreign technology.

MIC-99-03334REB PC E07/MF E01
Electrophoretic separation of biological molecules on micro-machined silica plates: Final report. DRES contractor report no. CR 97-19.
Defence Research Establishment Suffield, Medicine Hat, (Alberta).
D. J. Harrison. c1997, 13p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes and presents results of a project to demonstrate the separation of the products of immunological reactions and of DNA binding assays on a microchip. The first section discusses immunological separations using microfluidic devices etched in glass substrates and operating on the principle of capillary electrophoresis. The second section describes experiments demonstrating the feasibility of DNA separations on microchips, using cycling probe technology. The third section presents results of a demonstration of on-chip mixing of diluted serum samples with a labelled tracer compound and a selective antibody, followed by separation and analysis of the components. The results, shown for the drug theophylline, indicate the feasibility of integration of several steps to create a lab-on-a-chip for an immunoassay of complex, real samples. A possible future application of the technology being developed is the automated determination of biological warfare agents.

Keywords: *Electrophoresis, Biological assay, Immunology, *Foreign technology.

MIC-99-03336REB PC E07/MF E01
Generalized ELF propagation.
Esquimalt Defence Research Detachment (B.C.). Victoria (British Columbia).
A. Timonov, I. Barrodale, and P. Holtham. c1996, 6p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Research in marine electromagnetics requires computation of the propagation characteristics of the extremely low frequency (ELF) electromagnetic radiation arising from an alternating current source embedded in a conducting medium. This paper considers two cases of ELF propagation: In offshore and in-shore locations. The paper outlines a technique which generalizes the solution of Maxwell's equations to an arbitrary number of layers, and which can be extended to a sloping sea bed. The scheme includes solving the parallel layer situation followed by solving a Fredholm integral equation to produce the solution in the sloping layer. The solution for any arbitrary region outside of the sloping layer is then determined by evaluation of an integral. Some computational methods for solving the Fredholm equation are also analyzed, focusing on iterative procedures that provide reasonable computational effectiveness.

Keywords: *Mathematical models, Electromagnetic waves, Wave propagation, Oceanography, Research, *Foreign technology.

MIC-99-03337REB PC E07/MF E01
Automated winch control system to provide sea bottom following for side scan sonar surveys. DREA technical memorandum no. 97/234.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
D. A. Hopkin. c1997, 30p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Sea trials of side-scan sonar systems have demonstrated a very strong requirement of an automated system to ensure that the sonar towbody maintains a constant altitude over the sea bottom. This report describes the development of an automated winch control system that achieves this objective. A review of early bottom-following techniques is provided, along with details of the servo-controlled winch and the computer-based sea bottom following controller. Results of field trials and recommendations for further improvements are also presented.

Keywords: *Hoisting machinery, Oceanographic instruments, Sonar, Automatic control, *Foreign technology.

MIC-99-03338REB PC E07/MF E01
Complexity analysis for nearest neighbor search. DREA technical memorandum no. 97/240.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
P. Zakarauskas, and J. M. Ozard. c1997, 45p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Acoustic Analysis Group at Defence Research Establishment Atlantic is investigating the use of matched field processing (MFP) for the detection and localization of acoustic sources on and in the ocean. MFP consists of matching the acoustic data received on an underwater acoustic array to predictions of the acoustic field for all possible source ranges, depths, and bearings. This report describes an investigation into the data processing speed increase that can be achieved by partitioning predictions for the received data so that predictions most like the data can be selected for matching. Computation cost estimates are derived for four types of nearest-neighbour searches based on three different partitioning schemes.

Keywords: *Algorithms, Underwater acoustics, Signal processing, *Foreign technology.

MIC-99-03339REB PC E07/MF E01
Air deployable buoy for search and rescue operations.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
W. C. Risley, G. T. Leger, and A. Patterson. c1998, 5p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper describes a new tool for maritime search and rescue activities, a self-locating datum marker buoy. The buoy is deployable from the air and is configured to drift with the same trajectory as a life raft or as a person in the water. The buoy contains a geographic positioning system receiver and a satellite transmitter so that it can relay near-real-time position data to a rescue co-ordination centre, thereby allowing search activities to be directed in a more focused and successful manner. The paper includes information on the technical features of the buoy and results of sea trials conducted to validate drift trajectories of the buoys compared to reference drift objects, and to test air deployment of the buoys.

Keywords: *Search and rescue operations, Buoys, Ocean drift.

MIC-99-03340REB PC E07/MF E01
Lagrangian ambient noise drifter.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
W. C. Risley, I. A. Fraser, and G. T. Leger. c1994, 6p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper describes various aspects of the design of buoys constructed for use in an experiment to study the relationship between ambient noise and oceanographic features in regions of pronounced oceanic currents. The buoys, called Lagrangian Ambient Noise Drifters (LANDs), comprise a drogued free-floating buoy which employs satellite telemetry to report hourly measurements of the underwater ambient noise spectrum, the surface wave energy spectrum, wind speed and direction, global positioning system geographic position, and water temperature at the sea surface and the hydrophone. The paper focuses on the techniques used for measuring and processing the ambient noise and surface wave height data. Comparative examples of data collected by the LANDs are included to provide an indication of the quality and comprehensiveness of the experimental results obtainable with these buoys.

Keywords: *Oceanographic instruments, Buoys, Noise, Measurement, *Foreign technology.

MIC-99-03342REB PC E07/MF E01
DADS steering simulation. DRES contractor report no. CR 97-41.
Defence Research Establishment Suffield. Mobility Systems Section, Medicine Hat, (Alberta).
D. Heitkamp. c1997, 23p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes the computer modelling of an autonomous controller used for steering an articulated loader vehicle. The model description covers the mechanical model, steering model, program set-up, and road profiles used in a simulation. Results from simulation runs are also presented. The appendix includes a description of the hydraulic circuit model.

Keywords: *Computer simulation, *Autonomous navigation, *Controllers, Autonomous vehicles, Robotics, *Foreign technology.

MIC-99-03343REB PC E07/MF E01
Bifunctional detergents as novel catalysts: Final report. DRES contractor report no. CR 98-01.
Defence Research Establishment Suffield, Medicine Hat, (Alberta).
R. S. Brown. c1994, 18p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The report describes investigations of the oxidation of model compounds used as models for the oxidation of sulfur mustard in the presence of 2-n-alkyl succinic and 2-n-alkyl glutaric acids at 25 degrees C in aqueous media containing added co-solvents and iodine. The kinetics of cleavage of acyl halide benzoylchloride in the presence of alkyl succinic acid or acetic acid/acetate, and succinic acid/succinate in dry acetonitrile, were also investigated.

Keywords: *Catalysts, *Detergents, Oxidation, Sulfur compounds, Organic acids, Chemical kinetics, *Foreign technology.

MIC-99-03347REB PC E07/MF E01
Notch effect of 350WT steel plate at high strain rates. DREA contractor report no. DREA CR/97/418.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
M. N. Bassim. c1997, 37p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The report describes results of fracture toughness studies performed at very high strain rates on compact tension specimens of 350WT plate steel. Several notch configurations were used, including a saw cut and pressed notch, an electro discharge machining notch, and a saw cut followed by a fatigue precrack. The specimens were tested in a specially designed split Hopkinson bar equipped with a swing arm mechanism over the temperature range of -45 to +15 degrees C in 15-degree steps. The shear lip width on the broken specimens and the stretch zone was measured using a scanning electron microscope. Whenever the specimens broke totally, shear lip and sketch zone transition curves were obtained. The results demonstrate the effect of notch acuity and crack orientation on the fracture toughness of the steel.

Keywords: *Fracture mechanics, Strain(Mechanics), Stress analysis, Testing, Destructive testing, *Foreign technology, *Steel plates, Notch toughness, Notch tests.

MIC-99-03348REB PC E07/MF E01
Laboratory simulation of the galvanic corrosion of a ship hull plate by shaft grounding systems.
Esquimalt Defence Research Detachment (B.C.). DREA Dockyard Laboratory, Victoria (British Columbia).
T. Huber. c1998, 16p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The use of cathodic protection and shaft grounding systems has substantially reduced the corrosion of the underwater hull and propellers of ships. However, there are occasions when the cathodic protection must be turned off, leading to corrosion of the hull plate. This report describes a laboratory simulation developed to determine the extent of galvanic corrosion that occurs under such circumstances. The effects of different relative velocities of impinging natural sea water on the galvanic corrosion of 350WT hull steel coupled to a bronze propeller were quantified with a zero resistance ammeter data acquisition system. The effects of relative surface area and different propeller materials were also measured. The results are extrapolated to estimate the length of time the cathodic protection system could be shut off before hull perforation could occur.

Keywords: *Bronze, Cathodic protection, Hulls (Naval architecture), Steel, Corrosion, Electric currents, Grounding, *Foreign technology.

MIC-99-03350REB PC E07/MF E01
Supporting document for the Canada-wide acid rain strategy for post-2000. The Canada-wide acid rain strategy for post-2000 : strategy and supporting document.
Federal/Provincial/Territorial Ministers of Energy & Environment (Canada). Halifax (Nova Scotia).

c1998, 63p, SSC-EN40-570/1999, ISBN-0-662-64061-6.
Text in English and French (Bilingual). (Document de reference: Strategie...). Document source: Environment Canada, Environmental Protection Directorate. Cover title: The Canada-wide acid rain strategy for post-2000: Strategy and supporting document.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents background and other information on the Canada-Wide Acid Rain Strategy for Post-2000, which puts in place a framework for addressing the remaining acid rain problem in eastern Canada, for ensuring that new acid rain problems do not occur elsewhere in Canada, and for ensuring that Canada meets its international commitments on acid rain. Background information is included on the first and second Sulphur Protocols of 1985 and 1994, the 1991 Canada-United States Air Quality Agreement, and progress to date in meeting emission targets. Key features of the strategy are then presented with respect to such matters as sulphur dioxide emission reductions, pollution prevention, and research. Finally, the positions of members of the multi-stakeholder task group who developed the supporting documentation for the strategy are outlined.

Keywords: *Environmental policy, Acid rain, Environmental aspects, *Foreign technology, *Bilingual.

MIC-99-03353REB PC E07/MF E01
Seabed classification by QTC VIEW: Sites near Vancouver Island. DREA contractor report no. DREA CR/96/462.
Quester Tangent Corp. Marine Technology Centre, Sidney, (British Columbia). 062121000 Defence Research Establishment Atlantic. TAG-CY=Sidney, (British Columbia).
A. S. Tsemahman, and W. T. Collins. c1996, 60p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The aim of this study was to determine the ability of the QTC VIEW system to classify typical seabed types encountered in harbours near the south-eastern shore of Vancouver Island. This study report begins with a description of the study area and its sediments, including the work performed to collect sea bed cores and grab samples for system calibration and ground truthing. It then discusses the system used for acoustic data acquisition and processing. The subsequent section describes the seabed classification methodology used, based on extraction of characteristic features from an acoustic echo, and analysis of the data by canonical correlation. Results of the classification are presented along with empirical relations between the geotechnical parameters of the sediments and the acoustic classification.

Keywords: *Marine sediments, Submarine geology, Underwater acoustics, Sediments (Geology), Remote sensing, *Foreign technology.

MIC-99-03354REB PC E12/MF E01
North Baffin Partnership Project: Summary of investigations. Open file no. 3637.
Geological Survey of Canada, Ottawa.
D. G. Richardson. c1999, 134p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The North Baffin Partnership Project was a one-year collaborative geoscience project established in September 1997 to develop a digital geoscience knowledge base and mineral potential assessment of northern Baffin Island and the adjacent northern Melville Peninsula. This volume contains papers that document investigations conducted during the Project. Topics of the papers include bedrock geology, surface material and till geochemistry, mineral resource potential, geoscience knowledge base compilation methodology, and mineral exploration history.

Keywords: *Geology, Prospecting, Maps, Geochemistry, Minerals, Northwest Territories.

MIC-99-03355REB PC E12/MF E01
Mineralogy and geochemistry of the C14 kimberlite and associated glacial sediments, Kirkland Lake, Ontario. Open file no. 3719.
Geological Survey of Canada, Ottawa.
M. B. McClenaghan. c1999, 162p.
Diskette not included with microfiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The C14 kimberlite pipe is located at the southern edge of Clifford Township about 20 kilometres north-east of Kirkland Lake, Ontario. This report documents results of investigations of this kimberlite pipe and overlying glacial sediments. It begins with an overview of the geology of the study area and previous kimberlite research in the area. It then describes sample collection, preparation, kimberlite indicator mineral identification, geochemical and textural analysis, and pebble lithology. Results are presented with regard to kimberlite indicator mineral chemistry, kimberlite and till geochemistry, gold grains, pebble lithology, and biogeochemical studies. Appendices include sample descriptions and data tables.

Keywords: *Mineralogy, Drift, Geochemical prospecting, Kimberlite, Maps, Ontario.

MIC-99-03358REB PC E07/MF E01
Development of inspection techniques for TTCP ceramic matrix composite specimens. DCIEM technical memorandum no. 97-TM-58.
Defence & Civil Institute of Environmental Medicine (Canada). Air Vehicle Research Detachment, Ottawa (Ontario).
K. I. McRae. c1997, 15p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The report describes non-destructive analyses performed on three ceramic matrix composite material specimens using an ultrasonic imaging technique. Images were obtained by one of two methods: A broad gate was set that extended between the front surface reflection to the back surface reflection (defect gate); or the gate was selected to include only the back surface reflection from the specimen. Areas of possible defects in the specimens are noted.

Keywords: *Ceramics, *Ultrasonic testing, Composite materials, Inspection, Defects, *Foreign technology, TTCP(Tetracalcium Phosphate).

MIC-99-03359REB PC E07/MF E01
Conversion of oscillatory shear data from propellants and explosives. DREV memorandum no. TM-9625.
Defence Research Establishment Valcartier, Valcartier, (Quebec).
P. Brousseau, and E. J. Duncan. c1997, 63p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The stress relaxation modulus is an important property of viscoelastic materials such as rocket propellants or plastic-bonded explosives. An alternative to lengthy and time-consuming relaxation tests used to measure this property involves the use of a dynamic spectrometer to perform a series of frequency sweeps at different temperatures. Results from this alternative technique have to be transformed from the frequency domain to the time domain to recuperate the relaxation modulus. In this study, both stress relaxation tests and frequency/temperature sweep tests were performed on highly loaded polymers using a dynamic spectrometer. Three different methods of transforming the results are investigated: Fourier integral transforms, the Ninomiya-Ferry relation, and discrete relaxation spectrum determinations. Results presented include the accuracy of the predictions using the three methods.

Keywords: *Explosives, *Non-destructive testing, Strains and stresses, Propellants, *Foreign technology.

MIC-99-03363REB PC E07/MF E01
Initial investigation of bandwidth required for collision avoidance using a video camera on a remotely controlled vehicle. DREA contractor report no. DREA CR/96/463.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
R. Racca. c1996, 49p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A marine mine hunting system being developed in Canada includes a semi-submersible, remotely controlled drone towing a submerged, sonar-carrying towfish. The possibility of encountering water-borne obstacles dictates the requirement for remote human piloting based on continuous visual information from a camera mounted on the drone's above-water mast. Transmitting the video signal to a remote control station poses a bandwidth problem, especially if other data such as sonar records and navigational information also need to be multiplexed on a single channel. This report assesses the use of image compression formats to reduce the bandwidth to a rate not much larger than that of a sonar signal, so that the signals could be transmitted over a relatively simple radio link. The study task is in two parts: A literature search to identify the current status of video compression algorithms and hardware and to assess the merits of various approaches; and a practical phase in which a few representative sequences from a test videotape of forward-looking marine imagery were digitized and subjected to various compression schemes in order to compare both the reduction in data size and the subjective quality of the reconstructed images. A suitable scheme is identified and recommendations are made for further research. Appendices include video image processing program listings and a user guide to the Berkeley MPEG-1 video encoder.

Keywords: *Data transmission systems, Electronics in navigation, Autonomous vehicles, Image processing, Digital techniques, *Foreign technology.

MIC-99-03364REB PC E12/MF E01
Buoyancy effects for HFX AFT Cleansing Station. DRES contractor report no. CR 97-37.
Defence Research Establishment Suffield, Waterloo, (Ontario).
M. Ivanovic. c1997, 110p.
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This report presents the computational fluid dynamics simulation of the flow and contaminant concentration field for the aft cleansing station of naval ships. The cleansing station is designed to prevent ingress of contaminants and consists of four rooms, separated by doors and pressurized above ambient condition. Purging of the rooms is achieved by flowing clean air through them via one-way flow valves, with a final exit valve dumping to the atmosphere. The purpose of the simulation is to investigate the effect of buoyancy on the entrainment rate of contaminant for a typical door opening and closing sequence. The domain for the simulation includes the last two rooms and the corridor outside the cleansing station. For all aspects of the calculation, the study employs the TASCflow version 2.6 software, a finite volume code which solves the three-dimensional Reynolds-averaged Navier-Stokes equations for fluid flow within complex geometries. The flow simulation method and results of simulations are presented and discussed.

Keywords: *Fluid dynamics, Ships, Maintenance and repair, Decontamination (from gases chemicals), *Foreign technology.

MIC-99-03365REB PC E07/MF E01
Sabot performance for gun launched MK-82 CF, BDU-5003/B and BDU-5002/B MOD 1 bombs. DREV memorandum no. TM-9734.
Defence Research Establishment Valcartier, Valcartier, (Quebec).
A. D. Dupuis, and M. Normand. c1998, 90p.
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orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes a project conducted to fire a series of CF-18 aircraft munition configurations in the Defence Research Establishment Valcartier aeroballistic range with the goal of obtaining their free-stream static and dynamic aerodynamic coefficients. The ordnance chosen for the tests were a scaled MK-82 projectile and two full-scale practice bombs (low- and high-drag). Preliminary free-flight tests were conducted to verify the integrity of sabots and projectiles. Two projectiles of each configuration were fired as well as a series of slugs for charge determination. The propellant charge mass, muzzle velocity, maximum accelerations, chamber pressure, and drag coefficient were determined for each shot when fired from a 110-millimetre smoothbore gun with a high-low pressure chamber adapter.

Keywords: *Aerodynamics, Projectiles, *Foreign technology.

MIC-99-03366REB PC E07/MF E01
Assessment of risks associated with the commercial operation of selected DRES facilities. DRES contractor report no. CR 97-34.
Defence Research Establishment Suffield, Medicine Hat, (Alberta).
G. Duncan. c1997, 77p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Defence Research Establishment Suffield (DRES) has excess capacity in its laboratories and its Experimental Proving Ground. It is believed that DRES can contract this excess capacity to a third party facilitator known as the Suffield Technical Centre, who in turn would locate users for both the laboratories and the Proving Ground. The attempt to establish the Centre is being frustrated in part by insurance requirements. This report presents an assessment of the risk associated with the commercial operation of selected DRES facilities in order to quantify risks for insurance purposes. It provides DRES with information and recommendations on ways to resolve their insurance issues relative to the Centre concept, and is of value to potential Centre operators and insurance providers. Appendices include a glossary and descriptions and risk analyses of specific DRES facilities.

Keywords: *Research institutes, *Risk (Insurance), Industrial insurance, Military research, Risk assessment.

MIC-99-03367REB PC E17/MF E01
Judgements of the inclination and slant of surfaces in stereoscopic display systems. DCIEM publication no. 97-CR-32.
Defence & Civil Institute of Environmental Medicine (Canada), North York, (Ontario).
I. P. Howard. c1997, 215p.
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Differences between images in the two eyes produce impressions of depth even when no other cues to depth are present. Such differences are known as binocular disparity. This report describes seven series of experiments that examined certain types of distortions in stereoscopic displays and their effects on depth perception. Series 1 and 2 investigated whether vertical-shear disparity was extracted from the whole visual field or from a more local area, how global estimates of vertical disparity are derived, the role of shear and rotation disparities in the perception of inclination of depth, and interactions between patterns with shear or rotation disparity and superimposed or adjacent zero-disparity stimuli. Series 3 to 5 examined the hypothesis that perceived slant about a vertical axis depends on the differences between horizontal-size disparity and vertical-size disparity. Series 6 measured depth contrast induced in a frontal test surface by an adjacent induction surface as a function of the type of disparity in the induction surface and of the vertical/horizontal orientation of the boundary between the surfaces. Series 7 repeated a selection of the earlier experiments on a helmet-mounted flight simulator. The practical significance of the experiments is that a series of simple tests have been established for evaluating the stereoscopic capabilities of virtual reality systems. Appendices include published and submitted papers on relevant subjects.

Keywords: *Visual perception, Virtual reality, *Foreign technology.

MIC-99-03378REB PC E07/MF E01
Tethered dye gene probes. DRES contractor report no. CR 97-27.
Defence Research Establishment Suffield, Ralston, (Alberta).
P. A. Piunno, and U. J. Krull. c1997, 75p.
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Research described in this report focuses on the synthesis of transduction agents for conversion of selective nucleic acid hybridization events into measurable analytical signals. Two transduction elements studied were polyether tethered analogues of the fluorescent intercalant double-stranded DNA ligands ethidium bromide and YOYO-1. Proof of concept for this strategy has been provided by a hydrocarbon tethered analogue of ethidium bromide attached to thymidylic acid icosanucleotides immobilized on fused silica optical fibres in an optical biosensor configuration. Transduction of hybridization events between the immobilized analogue and complementary sequences in real time is described, and synthetic protocols are disclosed which were developed toward the synthesis of polyether tethered phosphoramidite analogues of these fluorophores. The overall goal of the research is to improve the capability to identify microorganisms, viruses, and genetic mutations based on a new diagnostic strategy for conducting nucleic acid hybridization assays.

Keywords: *Nucleic acid probes, *Foreign technology.

MIC-99-03381REB PC E07/MF E01
Impact properties of composite sonar dome materials.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
J. P. Szabo, A. J. Russell, and J. A. Hiltz. c1998, 35p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

As part of a project to reduce the costs associated with repair and overhaul of a stainless steel sonar dome, this report presents a study of the acoustic and mechanical properties of glass and Spectra(TM) reinforced composite panels. In the study, six 30x30-centimeter panels, fabricated using various combinations of reinforcing fiber, resin system, and weave, were impacted using a drop tower until damage was evident both visually and ultrasonically. Normal incidence insertion loss in the 1-10 kilohertz range was measured for both damaged and undamaged panels using a parametric array source and a hydrophone. The effect of water uptake on insertion loss and the implications for sonar performance are noted.

Keywords: *Composite materials, Fracture mechanics, Materials testing, Sound transmission, Destructive testing, *Foreign technology, *Sonar equipment, *Impact.

MIC-99-03382REB PC E07/MF E01
Acoustic seabed classification, MAST'97: Final report. DREA contractor report no. DREA CR/98/406.
Defence Research Establishment Atlantic, Dartmouth, (Nova Scotia).
W. T. Collins. c1998, 76p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Acoustic classification and mapping of the sea floor is important in a variety of civil and military applications. This report describes acoustic classification studies conducted off the Australian coast using the QTC VIEW system. The system recorded and classified dual 38- and 120-kilohertz echoes from the sea floor, each echo represented as a set of shape descriptors. Echo data were analyzed by multivariate statistics, and echoes with similar properties were grouped and labelled as an acoustic class. An acoustic classification map of the survey area was then produced. Two approaches, supervised and unsupervised classification, were used to describe and map acoustical classes for each frequency and the advantages and drawbacks of each approach are discussed. Finally, a new classification method was developed in which both frequencies are combined, and its performance is compared to that of the other approaches.

Keywords: *Marine sediments, Sonar, Submarine geology, Underwater acoustics, Sediments (Geology), Remote sensing, Maps, *Foreign technology.

MIC-99-03384REB PC E07/MF E01
Sustainable Forest Economy Workshop draft report: Summary of proceedings.
Workshop on Sustainable Forest Economies (1997: Whitehorse, Yukon). Whitehorse (Yukon).
c1997, 45p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Summarizes proceedings of a workshop initiated to provide direction for the development of the Yukon Forest Strategy. Presentations summarized are mainly those of four workshop panels that addressed the forest economy, its values, its significance to the community, and management tools. Topics discussed include forest product market trends, small-scale milling, First Nations and tourism perspectives, municipal government issues, and incorporation of other resource values into forest economy management. Outlines of results of workshop breakout groups are also presented.

Keywords: *Forests and forestry, *Meetings, Economic aspects, Sustainable forestry, Forest management, Trends, Yukon Territory.

MIC-99-03406REB PC E12/MF E01
Evaluation of two school bus advance signalling devices: The eight-light system and hazard lights.
Transportation Development Centre (Canada). Safety & Security, Montreal (Quebec).
J. F. Bruneau. c1999, 111p.
French ed. (Evaluation de deux dispositifs...): 99-03407/2.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Evaluates two advance signalling devices used on school buses: The eight-light system with alternately flashing amber lights, and hazard warning lights. The advance signal lights were tested on the same routes, on rural or near-urban expressways. Data were gathered using two video cameras placed at the front and back of the bus. Illegal passing and changes in driver speeds were studied with a relative risk ratio and an efficiency index, and the ratios were validated using expected frequencies. The effectiveness of the two systems in reducing the speed of drivers and preventing stopping violations is assessed.

Keywords: *School buses, *Highway transportation, *Signal devices, Automobile driving, Buses, Traffic safety, *Foreign technology.

MIC-99-03408REB PC E07/MF E01
Redeployment plan for spectrum efficient land mobile equipment in the frequency range 100-500 MHz.
Spectrum Management Operations, Ottawa (Ontario).
c1998, 33p.
Text in English and French (Bilingual). French ed. (Plan de reamenagement...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In view of the limited availability of radio frequency spectrum in the land mobile bands between 100 and 500 megahertz in large urban areas of Canada, a proc-

ess was initiated to lead to a change in the spectrum management framework for these bands. This report presents a redeployment plan for these bands that is intended to facilitate introduction of more spectrum-efficient equipment and systems, leading to increased overall traffic capacity of the bands. The provisions of the plan will be applicable within areas of intensive mobile use where applicants are denied access to spectrum. The report begins with background on spectrum policy and principles of redeployment, then outlines implementation of the redeployment plan.

Keywords: *Mobile communication systems, Radio frequency allocation, Maps, *Foreign technology, *Bilingual.

MIC-99-03411REB PC E12/MF E01
Tuberculosis in Canada, 1996. Annual publication.
Health Canada, Ottawa (Ontario).
H. Njoo, P. Nault, and E. Farzad. c1998, 117p, SSC-H49-108/1996, ISBN-0-662-63782-8.
Text in English and French (Bilingual). (La Tuberculose au Canada...).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This is a report on tuberculosis morbidity and mortality, consisting of graphs and tables presenting data on such matters as: Reported new active and relapsed tuberculosis cases and incidence rates, distribution of cases by origin and by main diagnostic site, cases by province or territory, by gender and age group, by birthplace and activity status, by method of detection, by length of inactive interval, by birthplace and year of arrival in Canada, and by cause of death. Appendices include population estimates by sex and age group and by Canadian-born origin or foreign-born birthplace; a reporting form for notification of a new active or reactivated tuberculosis case; and technical notes regarding methodology, data quality, and definitions of terms.

Keywords: *Tuberculosis, Medical statistics, Population, Mortality, Canada, *Bilingual.

MIC-99-03421REB PC E12/MF E01
Algorithm for the solution of complex linear systems with Hermitian positive definite coefficient matrices. CRC report no. 86-685.
Communications Research Centre (Canada). Radar Research Laboratory, Ottawa (Ontario).
L. Lightstone. c1986, 124p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes a direct method for the numerical solution of large complex systems of linear equations given by Ax=b, where the coefficient matrix A is non-sparse, Hermitian, and positive definite. The algorithm presented was developed and implemented in support of work on clutter suppression in space-based radar studies. The algorithm uses Hermitian Gaussian elimination to decompose the matrix A into a product of an upper-triangular matrix, a diagonal matrix, and a complex conjugate transpose. Forced diagonal correction is used to ensure the stability of the elimination algorithm. The algorithm is suited for vector processing machines and achieve economy of storage and improved speed. The performance of the algorithm is evaluated using the linear equation solver package LEQTIC. The appendix includes FORTRAN codes for the implementation.

Keywords: *Algorithms, Matrices, Signal processing, Digital techniques.

MIC-99-03429REB PC E07/MF E01
Trip report: Fremantle fatigue conference and FMP-related field visits and meetings.
International Conference on Fatigue & Transportation (3d: 1998: Fremantle, Western Australia), Montreal (Quebec).
S. Vespa. c1998, 12p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The first part of this report summarizes proceedings of the third International Conference on Fatigue & Transportation held in Fremantle, Western Australia, in 1998. The conference is held to discuss the state of the art in driver fatigue research, implications for transportation, and future directions. Topics covered include fatigue determinants, risk factors, driver fatigue monitoring, driver surveys, fatigue recovery, countermeasures to reduce fatigue-related accidents, and work scheduling. The second part reviews the current regulatory situation in Australia regarding hours of service for commercial drivers. The third part describes the Queensland Transport fatigue management program pilot project. Part 4 assesses the essential elements of an effective fatigue management program. The final part briefly reviews a program called TruckSafe.

Keywords: *Motor vehicle driving, *Fatigue (Physiology), Meetings.

MIC-99-03431REB PC E07/MF E01
Automated land area tests for the 2001 census, part 1: Preliminary results using the 1996 Digital Cartographic Files. Geography working paper series no. 1998-1.
Statistics Canada. Geography Division, Ottawa (Ontario).
C. Weiss, and A. Akuoko-Asibey. c1998, 43p.
Text in English and French (Bilingual). French ed. (Tests automatises...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Prior to the 2001 Census, Statistics Canada's Geography Division manually calculated land areas using a planimeter, a labour-intensive, time-consuming, expensive, and error-prone process. Problems associated with this method are to be eliminated with the introduction of national digital data base so that the land area calculation becomes an automatic process using geographic information systems. This report presents results of the first stage of testing the automated process, using 1996 digital cartographic files. The objectives are to show the effects of data aggregation and different map projections. The results indicate whether land area stored at the census block level can be aggregated to higher-level geographic entities without any serious ramifications, and determine which projection is most appropriate for calculating land area.

Keywords: *Cartography, Geographic information systems, Census districts.

MIC-99-03438REB PC E07/MF E01
City of Vancouver plan, transportation, 1997.
Vancouver (B.C.). City Council, Vancouver, (British Columbia).
c1997, 59p, ISBN-1-894152-00-1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The first part of this plan document reviews the transportation problem in Vancouver and associated issues such as traffic congestion, air pollution, regional policies, and changes in personal attitudes and behaviour. The second part outlines an overall transportation strategy for Vancouver, setting out a direction consistent with both the regional transportation policy and the principles of the city plan. Plan fundamentals are presented with regard to sharing of the road network, neighbourhood traffic, the transportation balance to downtown, and transportation mode/trip targets. The final part sets out the policies and proposals for actions needed to achieve the strategy, covering the road network, transit, neighbourhoods and pedestrians, downtown, cycling, goods movement, financing, and monitoring and implementation of the plan. Includes glossary.

Keywords: *Transportation, *Urban transportation, Planning, Maps, Vancouver Metropolitan Area (B.C.).

MIC-99-03441REB PC E07/MF E01
Strength and related properties of woods grown in Canada. Publication no. 1104.
Forest Products Research Branch, Ottawa (Ontario).
E. I. Kennedy. c1965, 54p, SSC-FO 57-1104.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This publication lists the strength values and main physical properties of most of the woods grown in Canada. Data were obtained by the systematic sampling and testing of thousands of clear wood specimens using standard procedures. Statistics are provided to show the average values and the degree of variability of the properties. Summary tables of the most frequently used averages are also included. Properties covered include density, shrinkage, modulus of elasticity and rupture, work in bending, compression, hardness, shear, cleavage, maximum tension, and splitting strength. Data are shown for wood from both conifers and broad-leaved trees, and for green and oven-dry samples.

Keywords: *Wood, *Canada, Physical properties, Tests, Tables(data), *Foreign technology.

MIC-99-03442REB PC E17/MF E01
National geochemical reconnaissance reanalysis of 1775 lake sediments from regional surveys on central Baffin Island, Nunavut, 1999: Parts of NTS 27B, 27C, 37A, and 37D. Open file no. 3716.
Geological Survey of Canada, Ottawa. Northwest Territories. Dept. of Resources, Wildlife & Economic Development (Canada).
P. W. Friske. c1999, 389p.
Fold. maps not filmed. Diskette not included with microfiche. Cover title: Reanalysis of 1775 lake sediments from regional surveys on central Baffin Island, parts of NTS 27B, 27C, 37A and 37D.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents data for gold and 25 additional elements obtained by re-analyzing lake sediments collected in 1978 from 1,774 sites on central Baffin Island. The purpose of the re-analysis was to confirm the arsenic values originally analyzed and to provide supplementary data derived from non-destructive instrumental neutron activation analysis. Collection procedures and sample management during the original surveys, as well as the analytical procedures used in the re-analysis, are described. In addition, a general discussion reviews the format used to present the gold geochemical data and outlines some important points to consider when interpreting these data. The bulk of the document consists of data tables and some associated histograms.

Keywords: *Gold, Geochemical prospecting, Northwest Territories.

MIC-99-03449REB PC E07/MF E01
Blueways guidelines and recommendations: Draft document for discussion, February 1997.
Vancouver (B.C.), Vancouver, (British Columbia).
c1997, 31p.
On title page: Blueways is an initiative of the Vancouver Water Opportunities Advisory Group.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document proposes long-term direction for the development, use, and management of the limited water resource surrounding Vancouver, with the key objective of optimizing the relationship between the upland uses and the water through a co-operative of private owners, government, and the public. The document begins with a description of the waterways surrounding Vancouver, then outlines guidelines and recommendations in line with the objectives. Planning targets, actions, and lead agencies for implementing the actions are included. The guidelines apply to access and transportation; commercial, industrial and retail activity; accommodation of a diversity of uses; moorage; recreation, tourism, and culture; safety and marine regulations; and water quality and shoreline environment. The appendix lists jurisdictional considerations and agencies that could be involved in the proposals.

Keywords: *Vancouver (B.C.), *Urban planning, *Water resources, Waterfront planning, Development, Uses, Management.

MIC-99-03450REB PC E07/MF E01
Butternut canker, a first record for New Brunswick. Technical note no. 315.
Atlantic Forestry Centre (Canada). Fredericton (New Brunswick).
c1998, 3p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Butternut (Juglans cinerea L.) in New Brunswick is at the north-eastern limit of its natural range, where it grows along the valleys of the St. John and Miramichi rivers. Butternut is being killed throughout its range in North America by the butternut canker fungus Sirococcus clavigignenti juglandacearum. Butternut canker infection has been found to be widespread in southern Ontario and southern Quebec. This report describes the detection of this disease and the finding of the first examples of canker infection of butternut in New Brunswick.

Keywords: *Hardwoods, Diseases and pests.

MIC-99-03453REB PC E07/MF E01
Eastern hemlock looper, Lambdina fiscellaria fiscellaria (Guen.), Lepidoptera: Geometridae, in Newfoundland, 1983-95. Information report no. N-X-302.
Canadian Forest Service. Newfoundland & Labrador Region, St. John's.
J. Hudak. c1996, 92p, SSC-FO46-15/302E, ISBN-0-662-25669-7.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Eastern hemlock looper (EHL) is a native species to Newfoundland and is the most destructive defoliator of the province's forests. This report reviews the outbreak of EHL in Newfoundland from 1983 to 1995, which eventually caused over 11 million cubic metres of tree mortality. It also contains research papers on the following subjects: EHL population dynamics; development of detection and monitoring systems for EHL; development of EHL control tactics; biodeterioration and utilization of balsam fir stands damaged by EHL; detection and classification of insect damage by remote sensing; socio-economic analysis of EHL damage and control; and an EHL decision support system. The appendix includes questions and answers on the EHL outbreak and its control in Newfoundland.

Keywords: *Fir, *Pest control, Hemlock looper, Forest insects, Control, Forests and forestry, Maps, Newfoundland.

MIC-99-03458REB PC E17/MF E01
Building solutions: A problem solving guide for builders and renovators.
Canada Mortgage & Housing Corporation, Ottawa.
c1998, 286p, SSC-NH15-195/1998E, ISBN-0-660-17440-5.
French ed. (Solutions de construction...): 99-03459/3.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This publication identifies the sources of the most common problems encountered in house construction and describes solutions to those problems. Sections of the publication describe problems and their solutions related to the following components: Foundations, floor systems, wall systems, roof and ceiling systems, indoor air quality and ventilation, and noise control.

Keywords: *Residential buildings, *Construction, *Foreign technology.

MIC-99-03467REB PC E07/MF E01
Varieties of grain crops, 1999. Annual publication.
Saskatchewan Agriculture & Food, Regina (Canada).
c1999, 16p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document provides the description, characteristics and suitability of various types of cereal crops, oilseed crops, pulse crops, canary seed, and safflower for the 4 grain crop production areas in the province. Yield, average maturity in days, and resistance to common diseases is given for each variety in each area. A list of breeding institutions and seed distributors is also given.

Keywords: *Crops, *Grain, Plant growth, Crop production, Yield, Disease resistance, Plant diseases, Grain, Saskatchewan.

MIC-99-03469REB PC E07/MF E01
New Trade and Convention Facilities Review Program, stage two: Evaluation site and community context summary.
Vancouver (B.C.), Vancouver, (British Columbia).
c1998, 36p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents findings of stage two of an evaluation of the site and community context of a proposal for development of new trade and convention centre facilities in Vancouver. The purpose of stage two was to determine the preferred proposal based on the project proponent's response to a more detailed development program and response to conditions given in the first stage. The document outlines the proposal of Greystone Properties, the only proponent to submit a stage two proposal, and the results of the city's evaluation. The appendix, forming the bulk of the document, details the evaluation according to criteria related to: Compatibility and compliance with applicable planning and other policies and regulations; transportation and infrastructure; public amenities and benefits; ancillary facilities such as cruise ship expansion; emergency servicing; and the application process, other agency support, and project delivery.

Keywords: *Convention facilities, *Urban planning, Vancouver (B.C.), Building sites, Planning, Development.

MIC-99-03474REB PC E17/MF E01
Reports for public discussion.
Vancouver (B.C.), Vancouver, (British Columbia).
c1998, 315p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This volume contains six reports concerning the Downtown Eastside and surrounding areas of Vancouver. The first establishes a number of important principles for city initiatives and sets the context for public discussion of the other reports. The second report proposes a wide range of short-term measures to address the Downtown Eastside's difficult problems such as drug-related addiction and crime. The remaining reports contain longer-term ideas and cover the following: Background on drug treatment needs in Vancouver, including a review of the current drug and drug treatment situation, costs of addiction, benefits of treatment, and comparisons with other cities; a housing plan for the Downtown Eastside, Chinatown, Gastown, and Strathcona neighbourhoods; a concept plan for the Victory Square area that proposes revitalization of the area without displacement of the existing low-income community and recommends retention of the area's heritage buildings, scale, and character; and a land use plan for Gastown which recommends changes to the zoning by-law.

Keywords: *Vancouver (B.C.), *Urban planning, Drug treatment, Maps, Social conditions.

MIC-99-03476REB PC E17/MF E01
Tent group systems requirements, phase 1A.
DCIEM publication no. 97-CR-37.
Defence & Civil Institute of Environmental Medicine (Canada), Vancouver, (British Columbia).
S. Davis, and B. Cameron. c1997, 230p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents a literature and industry review of current technologies relating to tents and associated equipment used by the military in cold weather. Tents and related technologies are reviewed and compared to items currently in use by the Canadian Forces in the following areas: Fabrics and tent design; tactical heating; cooking systems; tactical lighting; sleeping systems, including sleeping bags and pads; and tent group systems load carriage, including sleds and toboggans. Information was obtained from scientific literature and commercial sources in Canada, the United States, United Kingdom, Sweden, and Norway. Appendices include product technical data sheets, a compendium of tents used by the Canadian Forces, specifications for an extreme cold weather shelter used by US Marines, and a description of the Mustang survival prototype integrated sleeping system.

Keywords: *Military requirements, *Tents, *Canada, Military supplies, *Foreign technology.

MIC-99-03496REB PC E07/MF E01
National ambient air quality objectives for particulate matter, executive summary: Part 1, science assessment document, a report.
Canadian Environmental Protection Act Federal/Provincial Working Group on Air Quality Objectives & Guidelines, Ottawa (Ontario).
c1998, 49p, SSC-H46-2/98-220, ISBN-0-662-63486-1.
Text in English and French (Bilingual). (Objectifs nationaux de qualite de l'air...).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document summarizes a re-examination of particulate matter air pollution and its possible consequences on human health and the environment. It reviews the physical and chemical characteristics of particulates, their natural and anthropogenic sources, airborne particulate sampling and analysis methods, ambient levels of particulates in Canada, relationships among various constituents of particulates, human exposures to airborne particulates, aesthetic effects of particulates such as reduction in visibility, environmental impacts, and human health effects (acute, long-term and chronic, effects of fine versus coarse particles, results of experimental studies). The final sections discuss the characterization of risk to human health from particulates and derive reference levels (levels above which effects on human health and the environment can be demonstrated) for two different size categories of airborne particulates.

Keywords: *Air pollution, Environmental health, Environmental protection, Standards, *Bilingual.

MIC-99-03497REB PC E19/MF E01
AOSTRA technical handbook on oil sands, bitumens and heavy oils. AOSTRA technical publication no. 6.
Alberta Oil Sands Technology & Research Authority, Edmonton.
L. G. Hepler, and C. Hsi. c1989, 394p, ISBN-0-7732-0189-0.
Errata (2 p.) laid in.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This publication is designed to make available research results, analytical procedures, and engineering data on the properties and behaviour of Alberta petroleum resources. Sections of the publication cover the following: The geology of Alberta oil sand deposits; oil sand and bitumen analytical methods; bitumen and heavy oil chemistry; thermochemical and thermodynamic properties; interfacial properties; phase equi-

libria and pressure/volume/temperature properties; viscosity; geotechnical properties; inorganic geochemistry; fluid flow in porous media; heat transfer; mass transfer by diffusion; and electrical heating of oil sand reservoirs.

Keywords: *Bitumen, Oil sands, Petroleum, Handbooks, *Foreign technology.

MIC-99-03501REB PC E07/MF E01
Waste management industry survey, government sector, 1994. Econnections, linking the environment and the economy.
Statistics Canada. Environment Statistics Program, Ottawa (Ontario).
c1998, 43p.
Text in English and French (Bilingual). French ed. (Enquete de l'industrie de la gestion...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents results from a 1994 survey that gathered information on waste management services provided by Canadian governments. These services included the collection and transportation of waste and of materials destined for recycling, the operation of non-hazardous waste disposal facilities, and the operation of transfer stations. Data are provided on such matters as operating and capital expenditures on waste management, government employment in waste management services, and amounts of non-hazardous waste disposed in both government- and privately-operated facilities. Survey design and methodology are also described. A copy of the survey questionnaire is appended.

Keywords: *Public administration, Environmental aspects, Environmental protection industries, Canada, Refuse disposal industry, *Bilingual.

MIC-99-03502REB PC E07/MF E01
Waste management industry survey, business sector, 1995. Econnections, linking the environment and the economy.
Statistics Canada. Environment Statistics Program, Ottawa (Ontario).
c1998, 59p.
Text in English and French (Bilingual). French ed. (Enquete de l'industrie de la gestion...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents results from survey that gathered information on the financial characteristics and waste management activities undertaken by business sector companies that provided waste management services in 1995. These services included the collection and transportation of waste and of materials destined for recycling, the operation of non-hazardous waste disposal facilities, the operation of transfer stations, and disposal of wastes deemed to be hazardous. Data are provided on such matters as revenues, operating and capital expenditures, employment, and amounts of waste disposed (by type of waste, type of waste management activity, and province). Survey design and methodology are also described. A copy of the survey questionnaire is appended.

Keywords: *Environmental protection industries, *Waste management, Refuse disposal industry, *Bilingual.

MIC-99-03503REB PC E07/MF E01
Environmental protection expenditures in the business sector, 1995. Econnections, linking the environment and the economy.
Statistics Canada. Environment Statistics Program, Ottawa (Ontario).
c1998, 51p.
French ed. (Depenses de protection de l'environnement...): 99-03504/1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents results of a survey addressed to primary and manufacturing industries in order to fill significant gaps in the data regarding the cost to industry of environmental protection and the demand for associated environmental products and services. The survey covered all expenditures made in response to, or in anticipation of, an environmental regulation or convention. Data are provided on capital and operating expenditures related to environmental protection by type of activity, by industry, by province, and by type of medium. Industry sectors surveyed include logging, mining, petroleum/natural gas, beverages, selected food industries, pulp and paper, primary metals, non-metallic mineral products, refined petroleum and coal products, chemicals and chemical products, electric power systems, pipeline transport, and gas distribution. Information is also included on survey design and methodology. A copy of the survey questionnaire is appended.

Keywords: *Environmental protection, Economic aspects, Industry, Environmental aspects, *Foreign technology.

MIC-99-03514REB PC E12/MF E01
Operational evaluation for the four sensor Contaminant/Fluid Integrity Measuring System (C/FIMS(trademark)), Midway Airlines F-100 aircraft.
Transportation Development Centre (Canada). Safety & Security, Etobicoke, (Ontario).
c1997, 99p.
On cover: Contract no. T8200-6-6554/001/XSD.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes an in-service evaluation of a contaminant/fluid integrity measuring system (C/FIMS) installed on a F-100 Fokker aircraft which operated on airline routes in the United States. The system was developed for use on the ground before take-off for the detection of ice, frost, and snow on aircraft wings, and for monitoring the effectiveness of the applied de- and anti-icing fluids. This report introduces the C/FIMS concept, discusses current regulations regarding aircraft take-off in icing conditions and pre-flight checks, and describes the hardware and operation of the four-sensor C/FIMS system installed. Results are presented and discussed for data obtained from 63 take-off events during early 1997. To analyze system performance, a correlation was measured between C/FIMS display annunciations and other validated event markers including pilot observations, airport weather data, and fluid holdover times. The results indicate the safety improvements possible when the system is used.

Keywords: *Aircraft, *Deicing chemicals, Take-off, Ice prevention, Detectors, *Foreign technology.

MIC-99-03515REB PC E12/MF E01
Effects of roughness on advanced airfoils: Final report for phase II and phase III.
Bombardier Aerospace, Montreal (Quebec).
c1998, 157p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Presents results of the second and third phases of a research program that studied the effects of roughness contamination on modern airfoils and wings. Phase two involved testing a Bombardier Aerospace proprietary supercritical airfoil section in a wind tunnel, and phase three involved a low-speed test of the Canadair Regional Jet wing in a larger wind tunnel. The performance of the tested models with different flap deflections, sweep angles, and roughness parameters was compared to computational fluid dynamics (CFD) results. A quasi-three-dimensional CFD model based on a viscous-inviscid coupling technique, using a panel method for the inviscid flow field and a two-dimensional compressible boundary layer with sweep and roughness effects, was calibrated using the results. Experimental results were also compared with Regional Jet flight test data. The results reveal the possibility of predicting the effects of roughness on aerodynamic performance.

Keywords: *Aerodynamics, Aerofoils, Wind tunnels, Air flow, *Foreign technology.

MIC-99-03567REB PC E07/MF E01
State of science and technology indicators in the OECD countries. Research paper no. 1.
Statistics Canada. Science & Technology Section, Ottawa (Ontario).
B. Godin. c1996, 68p.
Text in English and French (Bilingual). French ed. (L'Etat des indicateurs...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper reviews the principal indicators currently used in the science and technology sphere in the Organization for Economic Cooperation & Development (OECD) countries. The first sections provide a brief historical overview of the development of science and technology indicators in the OECD countries to the present. The second section reviews the main indicators currently available, or those that are sufficiently standardized to be used by the governments of the OECD countries. These include input indicators (monetary investment, human resources, equipment), output indicators (innovations, patents, publications, numbers of graduates), impact indicators (diffusion, technological balance of payments, bibliometrics), and flow indicators. The conclusion takes stock of recent developments and the challenges facing governments in the measurement of scientific and technological activity.

Keywords: *Economic indicators, *Science and technology, Science and state, Technology and state, Research and development.

MIC-99-03574REB PC E07/MF E01
St. Lawrence River Valley 1998 ice storm: Maps and facts. Econnections, linking the environment and the economy.
Statistics Canada, Ottawa.
c1998, 20p.
Text in English and French (Bilingual). (La Tempete de verglas...).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In early 1998, three successive storm fronts deposited up to 100 millimetres of freezing rain through parts of central and eastern Canada, resulting in electricity outages, damaged ecosystems, economic disruption, and other drastic effects. This publication gathers a series of six annotated maps and tables illustrating some of the impact of this event as it passed through the St. Lawrence River valley. Topics covered include population and power failures, employment, retail trade, effects on urban and natural landscapes, dairy farming, and the maple sugar industry. The methodology used to produce the maps is also discussed.

Keywords: *Disasters, Ontario, Economic conditions, Quebec (Province), Storms, Maps.

MIC-99-03575REB PC E07/MF E01
Preparedness of Canadian business for the Year 2000 computer problem: A reassessment. Special survey reports no. 2.
Statistics Canada. Small Business & Special Surveys Division, Ottawa (Ontario).
J. Brunet, and C. Norris. c1998, 85p.
Text in English and French (Bilingual). French ed. (La Preparation des entreprises...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Task Force Year 2000 sponsored an initial survey in October 1997 to determine the state of preparedness of Canadian businesses for dealing with the year 2000 computer problem. In response to the results, the Task Force carried out a nation-wide communications strategy to increase awareness about the year 2000 issue, and a follow-up survey was then conducted in May 1998. This report provides descriptive analysis of the results of the follow-up survey. It examines the various steps that firms have taken to address the problem and re-assesses the costs, in both monetary and human resource terms, of finding and fixing non-compliant systems. It also presents findings on firms' timetables for

preparing for the year 2000. Finally, the report contains detailed charts and tables of survey results for various industrial sectors and business-size categories. A copy of the survey instrument is also included.

Keywords: *Economic surveys, Year 2000 date conversion (Computer systems), *Bilingual.

MIC-99-03583REB PC E07/MF E01
Biotechnology use by Canadian industry, 1996. Working papers no. ST-98-05.
Statistics Canada. Science & Technology Section, Ottawa (Ontario).
A. Rose. c1998, 91p.
Text in English and French (Bilingual). French ed. (Utilisation des biotechnologies...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Describes and presents results of the first survey of biotechnology use in Canadian industries. The survey was carried out in spring 1996 among industries chosen on the basis of expert opinion on their probable use of biotechnologies, with emphasis on the following sectors: Aquaculture, forestry, agro-industry, wood products, fossil fuel products, and chemicals. Biotechnologies in three categories were considered: Those related to selection and/or modification of biological material, culture and/or use of biological material, and the use of micro-organisms to treat industrial waste. Issues examined in the survey include duration and frequency of use of biotechnology, investment, factors affecting use of biotechnology, sources of information about biotechnology, and research and development activity. A copy of the survey questionnaire is appended.

Keywords: *Biotechnology, Economic surveys, *Canada, Bilingual.

MIC-99-03600REB PC E12/MF E01
Profile of the 1998 Farm Financial Survey.
Agriculture & Agri-Food Canada. Economic & Policy Analysis Directorate, Ottawa (Ontario).
c1999, 137p, SSC-A22-188/1999E, ISBN-0-662-27640-X.
Text in English and French (Bilingual). French ed. (Profil de l'enquete financiere...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This profile provides highlights of the 1998 Farm Financial Survey and compares the results with two previous surveys conducted in 1994 and 1996. Data were collected by Statistics Canada under contract with Agriculture & Agri-Food Canada.

Keywords: *Farm income, Farms, Statistics, Surveys, *Finances.

MIC-99-03602REB PC E07/MF E01
Inserting joiners into a longitudinal panel of households and individuals: Simulations. SLID research paper series no. 93-18.
Statistics Canada, Ottawa.
B. Gailly, and P. Lavallee. c1993, 70p.
French ed. (Inserer des nouveaux membres...): 99-03603/1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The study called the Panel socio-economique, established in 1985, follows the same persons and households from year to year with the primary objective of collecting information that reflects year-by-year developments in household standard of living, life style, and living conditions. The sample has never been replenished and has therefore undergone progressive distortion. The distortion effects can be managed in such a way that the sample retains its basic statistical properties, generally via weighting procedures. The objective of this paper is to evaluate various such procedures and to propose a solution that improves sample sensitivity to general demographic phenomena. The procedures evaluated include traditional sampling and weighting, the share approach of Ernst (1989), and the composite estimator proposed by J.N.K. Rao. The appendix includes a comparison of estimates using the traditional and share approaches, and a paper demonstrating that the Ernst procedure is unbiased.

Keywords: *Socioeconomics, *Canada, *Statistical modelling, Sampling (Statistics), Household surveys.

MIC-99-03604REB PC E07/MF E01
Sample representativeness for the Survey of Labour and Income Dynamics. SLID research paper series no. 93-19.
Statistics Canada, Ottawa.
P. Lavallee. c1993, 37p.
Text in English and French (Bilingual). French ed. (Representativite de l'echantillon...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Statistics Canada Survey of Labour & Income Dynamics is a longitudinal survey that will follow panels of respondents for six years. This paper discusses the survey plans relevant to ensuring that the Survey estimates will be representative of the target population, and describes the various sampling weights that will be produced. Topics covered include sample design, data collection, target and eligible populations, the effect of two panels in survey design, the effect of non-response, cross-sectional representativeness, longitudinal weights, and annual or cross-sectional weights.

Keywords: *Socioeconomics, *Canada, *Data collection, Sampling (Statistics), Household surveys, *Bilingual.

MIC-99-03610REB PC E07/MF E01
Georges Bank, 1998 conservation requirements for Georges Bank groundfish stocks: Report to the Minister of Fisheries and Oceans.
Dept. of Fisheries & Oceans, Ottawa.
c1998, 28p, SSC-FS1-68/1998E, ISBN-0-662-26875-X.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report presents recommendations regarding fishery resource conservation requirements for cod, haddock, and yellowtail flounder fisheries on Georges Bank for 1998. For each stock, a history of Fisheries Resource Conservation Council recommendations is given, followed by the current recommendation and a summary of consultations held in 1998 with stakeholders in the respective fisheries, a stock analysis, and Council views on the status of the stock.

Keywords: *Fishery resources, Haddock, Codfish, Fisheries, Flatfishes, Requirements, *Resource conservation, *Groundfish, Northwest Atlantic Ocean.

MIC-99-03631REB PC E07/MF E01
Pesticide residues in sediment and water from two watersheds in Prince Edward Island, 1996 and 1997. Atlantic region surveillance report no. EPS-5-AR-99-2.
Environment Canada. Atlantic Region. Environmental Protection Branch, Dartmouth, (Nova Scotia).
M. A. Savard. c1999, 50p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Several fish kills have occurred in western Prince Edward Island in the last five years in an area of intensive potato production, and with one exception, causes of the kills have not been identified. This report describes and presents results from a sampling program conducted in summer 1996 and 1997 in an attempt to determine whether pesticides were entering the Big Pierre Jacques River and Long Creek in sufficient concentrations to present a risk to the aquatic community of the stream systems. Results are presented with regard to pesticide concentrations observed (both during dry spells and after rain events) and to guidelines respecting protection of aquatic life.

Keywords: *Pesticide residues, *River sediments, *Water pollution sampling, *Agricultural runoff, Environmental aspects, Pesticides, Agriculture, Contaminated sediments, Chemical analysis, Environmental impact assessments, Ecological concentration, Prince Edward Island.

MIC-99-03634REB PC E12/MF E01
Workbook on fish.
Manitoba Round Table for Sustainable Development, Winnipeg.
c1999, 138p, ISBN-0-7711-1498-2.
Fish questionnaire (10 p.) laid in.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In March 1994, the Province of Manitoba adopted a strategy that established sustainable development goals and a framework for policy development. This document reviews the strategy preparation process and describes the land and water component of the sustainable development strategy. It then explains the rationale for a fish strategy as part of that component, summarizes the history and status of fishing in Manitoba, and outlines the legal framework governing fish resources. Finally, a draft of the sustainable development policy for fish is presented in the following policy areas: Environmental enhancement and protection, allocation and supply of fish resources, development and use, planning and integrated management, public awareness and education, and human and property health and safety. Under each area, strategy objectives and specific policies are listed along with recommendations for implementation. Includes glossary. The accompanying questionnaire lists the fish resource objectives and policies with spaces for public comment.

Keywords: *Fisheries, *Sustainable development, Environmental aspects, Fishery management, Fishing, Fishery resources, Resource conservation, Manitoba.

MIC-99-03635REB PC E12/MF E01
Workbook on wildlife.
Manitoba Round Table for Sustainable Development, Winnipeg.
c1999, 174p, ISBN-0-7711-1500-8.
Wildlife strategy questionnaire (26 p.) laid in.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In March 1994, the Province of Manitoba adopted a strategy that established sustainable development goals and a framework for policy development. This document reviews the strategy preparation process and describes the land and water component of the sustainable development strategy. It then explains the rationale for a wildlife strategy as part of that component, summarizes the history and status of wildlife in Manitoba, and outlines the legal framework governing wildlife resources. Finally, a draft of the sustainable development policy for wildlife is presented in the following policy areas: Environmental enhancement and protection, allocation and supply of, development and use, planning and integrated management, urban environment, public awareness and education, human health and property protection, humane treatment of wild animals, and legislation and administration. Under each area, strategy objectives and specific policies are listed along with recommendations for implementation. Includes glossary. The accompanying questionnaire lists the wildlife resource objectives and policies with spaces for public comment.

Keywords: *Sustainable development, *Wildlife management, Wildlife conservation, Policies, Manitoba.

MIC-99-03650REB PC E17/MF E01
Guide to crop protection, 1999. Annual publication.
Manitoba Agriculture, Winnipeg.
c1999, 310p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This guide covers weed control, plant disease control/seed treatments, and insect control. The guide includes weed control tables, a directory of herbicides, a plant disease/seed treatment table, a fungicide/seed treatment directory, insect control tables, and an insecticide directory.

Keywords: *Pesticides, *Disease control, *Weed control, *Pest control, *Guides, Protection, Plant diseases, Insect control, Seeds, Fungicides, Insecticides, Herbicides, Control.

MIC-99-03652REB PC E07/MF E01
Climate change and forests, context for the Canadian Forest Service's science program. Science program context paper.
Canadian Forest Service. Science Branch, Ottawa (Ontario).
c1999, 31p, SSC-FO42-289/1999, ISBN-0-662-64102-7.
Text in English and French (Bilingual). (Les Changements climatiques et la foret...).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper is the second in a series of context papers intended as guides to the current and future directions of the Canadian Forest Service science program. It defines climate change in the context of forests and describes why the Service, in co-operation with its wide range of partners, addresses climate change issues through research, monitoring, and assessment activities in its science and technology research networks.

Keywords: *Climatic changes, Forest policy, Forests and forestry, Research.

MIC-99-03657REB PC E07/MF E01
Changes in butyltin residue concentrations in marine sediments of Atlantic Canada between 1988 and 1994. Atlantic region surveillance report no. EPS-5-AR-99-1.
Environment Canada. Atlantic Region. Environmental Protection Branch, Dartmouth, (Nova Scotia).
W. R. Ernst. c1999, 28p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Due to the effects of butyltins on marine organisms, Canada implemented controls on the use of tributyltin (TBT) as aquatic antifoulants in 1989. Since the intent of the controls was to reduce the introduction of TBT to the marine environment, it was of interest to determine whether environmental burdens had changed with time after the controls were implemented. This study was undertaken to compare TBT concentrations in sediments obtained from various large- and small-vessel harbors in Atlantic Canada in 1994 with samples obtained from the same locations in 1988, one year prior to the implementation of controls. Results are presented for the analysis of samples for TBT, dibutyltin, and monobutyltin. Analytical methods are also described.

Keywords: *Marine sediments, *Ecological concentration, Harbors, Environmental aspects, Contaminated sediments, Chemical analysis, Organotin compounds, Residues, *Butyltin, Antifouling coatings, Atlantic Provinces.

MIC-99-03658REB PC E07/MF E01
Synopsis of the first cycle of the pulp and paper mill environmental effects monitoring program in the Atlantic region. Atlantic region surveillance report no. EPS-5-AR-99-3.
Environment Canada. Atlantic Region. Environmental Protection Branch, Dartmouth, (Nova Scotia).
R. Parker, and N. Smith. c1999, 61p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

May 1992 amendments to the federal Pulp & Paper Effluent Regulations included changes in effluent limits and a requirement for every Canadian pulp and paper mill to conduct an environmental effects monitoring (EEM) program in order to determine if the fish, fish habitat, and the utilization of the fishery resource were being adequately protected by the requirements of the Regulations. This report summarizes results of 17 EEM studies of the mills operating in the Atlantic region. Study components included: An adult fish survey; an invertebrate community survey; measurements for chlorinated dioxins and furans, if the mills used chlorine for bleaching; supporting water and sediment quality measurements; and a fish tainting study if there was any public concern about the tainting of fish. Monitoring techniques that produced useful results are identified along with areas where problems were encountered. Changes are recommended for the next cycle of the EEM program.

Keywords: *Pulp and paper industry, Environmental aspects, Fish, Effect of water pollution on, Water pollution, Environmental monitoring, *Foreign technology, Atlantic Provinces.

MIC-99-03727REB PC E07/MF E01
Guide to the Canadian Environmental Assessment Act for Health Canada project managers.
Health Canada, Ottawa (Ontario).
c1995, 54p.
French ed. (Manuel d'application de la Loi...): 99-03728/1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This guide provides Health Canada Responsibility Centre managers, the managers responsible for the financial and engineering decisions regarding projects, with a clear step-by-step method for determining whether their projects fall under the Canadian Environmental Assessment Act and therefore must be assessed for potential environmental effects. The guide also furnishes instructions for conducting an environmental assessment that is consistent with requirements of the Act as well as efficient in terms of time and resources. Chapters of the guide cover such topics as the types of environmental assessment available, registration of projects in the Departmental Public Registry, environmental screening, and providing public access to documents in the Registry. Appendices include report forms.

Keywords: *Environmental impact analysis, Environmental law, *Foreign technology.

MIC-99-03738REB PC E07/MF E01
Recommendations on dose coefficients for assessing doses from accidental radionuclide releases to the environment.
Health Protection Branch, Ottawa.
c1998, 91p.
Text in English and French (Bilingual). French ed. (Recommandations sur les coefficients...) on the same fiche.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document contains recommendations on appropriate human physiological and dosimetric parameters for use in assessing doses in the short term following an accidental release of radioactive contamination to the atmosphere during a nuclear emergency. It focuses on the exposure pathways expected to deliver the greatest radiation dose under this scenario, namely external irradiation by photons and electrons from radionuclides in the plume or deposited on the ground, and internal irradiation following inhalation of airborne radionuclides. Specifically, it provides: Age groups and age-specific breathing rates for assessment of Canadian populations; age-specific effective dose coefficients for internal and external exposures; and guidance on use of the data. The derivation of the recommended values is also explained.

Keywords: *Radiation dosimetry, *Accidents, Radioactive pollution, Nuclear power plants, Dose rates, Radionuclide migration, Inhalation.

N19990041146REB PC A02/MF A01
Modular Wideband Active Vibration Absorber.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
W. Zewari, K. Y. Lee, and D. R. Smith. 1999, 7p.
Presented at International Congress on Sound and Vibration, 6th, Copenhagen, Denmark, 5-8 Jul. 1999.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A comparison of space experiments with previous missions shows a common theme. Some of the recent experiments are based on the scientific fundamentals of instruments of prior years. However, the main distinguishing characteristic is the embodiment of advances in engineering and manufacturing in order to extract clearer and sharper images and extend the limits of measurement. One area of importance to future missions is providing vibration free observation platforms at acceptable costs. It has been shown by researchers that vibration problems cannot be eliminated by passive isolation techniques alone. Therefore, various organizations have conducted research in the area of combining active and passive vibration control techniques. The essence of this paper is to present progress in what is believed to be a new concept in this arena. It is based on the notion that if one active element in a vibration transmission path can provide a reasonable vibration attenuation, two active elements in series may provide more control options and better results. The paper presents the functions of a modular split shaft linear actuator developed by NASA's Goddard Space Flight Center and University of Massachusetts Lowell. It discusses some of the control possibilities facilitated by the device. Some preliminary findings and problems are also discussed.

Keywords: *Vibration damping, *Spaceborne experiments, *Control systems design, *Actuators, Shafts(Machine elements), Progress, Organizations, Manufacturing, Isolation, Extraction, Active control.

N19990041147REB PC A02/MF A01
Spacecraft Onboard Software Maintenance: An Effective Approach which Reduces Costs and Increases Science Return.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
E. M. Shell, Y. Lue, and M. I. Chu. 20 Jan 1999, 9p.
Presented at Reducing Cost of Aircraft Ground Systems and Operations, 3rd, Taiwan, Province of China, 1999.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Flight software (FSW) is a mission critical element of spacecraft functionality and performance. When ground operations personnel interface to a spacecraft, they are dealing almost entirely with onboard software. This software, even more than ground/flight communications systems, is expected to perform perfectly at all times during all phases of on-orbit mission life. Due to the fact that FSW can be reconfigured and reprogrammed to accommodate new spacecraft conditions, the on-orbit FSW maintenance team is usually significantly responsible for the long-term success of a science mission. Failure of FSW can result in very expensive operations work-around costs and lost science opportunities. There are three basic approaches to staffing on-orbit software maintenance, namely: (1) using the original developers, (2) using mission operations personnel, or (3) assembling a Center of Excellence for multi-spacecraft on-orbit FSW support. This paper explains a National Aeronautics and Space Administration, Goddard Space Flight Center (NASA/GSFC) experience related to the roles of on-orbit FSW maintenance personnel. It identifies the advantages and disadvantages of each of the three approaches to staffing the FSW roles, and demonstrates how a cost efficient on-orbit FSW Maintenance Center of Excellence can be established and maintained with significant return on the investment.

Keywords: *Applications programs(Computers), *Costs, *Spacecraft maintenance, *Flight control, *Computer programs, Ground operational support system, Nasa programs, Personnel, Telecommunication, Spacecraft performance.

N19990041148REB PC A03/MF A01
National Aeronautics and Space Administration, Washington, DC.
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document. Final Report.
Aerojet-General Corp., Azusa, CA.
A. Cisneros. 7 Dec 1998, 14p, NAS 1.26:209213, NASA/CR-1998-209213, REPT-10976A.
Contract NAS5-32314
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This is the final submittal of the Earth Observing System/Advanced Microwave Sounding Unit-A Firmware Version Description Document. Its purpose is to provide a precise description of the particular version of the firmware being released. This description also defines the version of the requirements and design applicable to this version.

Keywords: *Advanced microwave sounding unit, *Earth observing system(Eos), *Firmware, *Documentation, Computer components, Computer programs.

N19990041149REB PC A03/MF A01
National Academy of Sciences - National Research Council, Greenbelt, MD.
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
T. Kaya, J. Ku, T. Hoang, and M. K. Cheung. 1999, 14p.
Presented at National Heat Transfer, 33rd, Albuquerque, NM, 15-17 Aug. 1999.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The temperature hysteresis phenomenon of a Loop Heat Pipe (LHP) was experimentally investigated. The temperature hysteresis was identified by the fact that the operating temperature depends upon not only the imposed power but also the previous history of the power variation. The temperature hysteresis could impose limitations on the LHP applications since the LHP may exhibit different steady-state operating temperatures at a given power input even when the condenser sink temperature remains unchanged. In order to obtain insight to this phenomenon, a LHP was tested at different elevations and tilts by using an elaborated power profile. A hypothesis was suggested to explain the temperature hysteresis. This hypothesis explains well the experimental observations. Results of this study provide a better understanding of the performance characteristics of the LHPS.

Keywords: *Hysteresis, *Operating temperature, *Heat pipes, *Experimentation, Steady state, Hypotheses, Elevation.

N19990041150REB PC A02/MF A01
Textural-Contextual Labeling and Metadata Generation for Remote Sensing Applications.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
R. K. Kiang. 1999, 6p.
Presented at Aerosense, Orlando, FL, 5-9 Apr. 1999.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Despite the extensive research and the advent of several new information technologies in the last three decades, machine labeling of ground categories using remotely sensed data has not become a routine process. Considerable amount of human intervention is needed to achieve a level of acceptable labeling accuracy. In addition, there may be shortcomings in the methodology for labeling ground categories. The spatial information of a pixel, whether textural or contextual, relates a pixel to its surroundings. Landsat-4 Thematic Mapper (TM) data taken in July 1982 over an area in the vicinity of Washington, D.C. are used in this study. On-line texture extraction by neural networks may not be the most efficient way to incorporate textural information into the labeling process. Texture features are pre-computed from cooccurrence matrices and then combined with a pixel's spectral and contextual information as the input to a neural network. The improvement in labeling accuracy with spatial information included is significant. The prospect of automatic generation of metadata consisting of ground categories, textural and contextual information is discussed.

Keywords: *Data management, *Thematic mappers(Landsat), *Remote sensing, *Neural nets, *Landsat 4, Spectra, Textures, Pixels, Extraction.

N19990041151REB PC A04/MF A01
Revision of the NASA Team Sea Ice Algorithm.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
T. Markus, and D. J. Cavalieri. 1998, 45p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In a recent paper, two operational algorithms to derive ice concentration from satellite multichannel passive microwave sensors have been compared. Although the results of these, known as the NASA Team algorithm and the Bootstrap algorithm, have been validated and are generally in good agreement, there are areas where the ice concentrations differ, by up to 30%. These differences can be explained by shortcomings in one or the other algorithm. Here, we present an algorithm which, in addition to the 19 and 37 GHz channels used by both the Bootstrap and NASA Team algorithms, makes use of the 85 GHz channels as well. Atmospheric effects particularly at 85 GHz are reduced by using a forward atmospheric radiative transfer model. Comparisons with the NASA Team and Bootstrap algorithm show that the individual shortcomings of these algorithms are not apparent in this new approach. The results further show better quantitative agreement with ice concentrations derived from NOAA AVHRR infrared data.

Keywords: *Algorithms, *Sea ice, *Satellite instruments, *Infrared radiation, *Atmospheric models, Satellite observation, Radiative transfer, Microwave sensors, Atmospheric effects, Advanced very high resolution radiometer.

N19990041152REB PC A04/MF A01
National Aeronautics and Space Administration, Washington, DC.
Coupling Processes between Atmospheric Chemistry and Climate. Semiannual Report No. 4, Jul. - Dec. 1998.
Atmospheric and Environmental Research, Inc., Cambridge, MA.
M. K. W. Ko, D. K. Weisenstein, R. L. Shia, C. J. Scott, and N. D. Sze. 18 Mar 1998, 34p, NAS 1.26:209207, NASA/CR-1999-209207.
Contract NAS5-97039
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This is the fourth semi-annual report for NAS5-97039, covering the time period July through December 1998. The overall objective of this project is to improve the understanding of coupling processes between atmospheric chemistry and climate. Model predictions of the future distributions of trace gases in the atmosphere constitute an important component of the input necessary for quantitative assessments of global change. We will concentrate on the changes in ozone and stratospheric sulfate aerosol, with emphasis on how ozone in the lower stratosphere would respond to natural or anthropogenic changes. The key modeling tools for this work are the Atmospheric and Environmental Research (AER) two-dimensional chemistry-transport model, the AER two-dimensional stratospheric sulfate model, and the AER three-wave interactive model with full chemistry. For this six month period, we report on a modeling study of new rate constant which modify the NOx/NOy ratio in the lower stratosphere; sensitivity to changes in stratospheric water vapor in the future atmosphere; a study of N2O and CH4 observations which has allowed us to adjust diffusion in the 2-D CTM in order to obtain appropriate polar vortex isolation; a study of SF6 and age of air with comparisons of models and measurements; and a report on the Models and Measurements II effort.

Keywords: *Air pollution, *Atmospheric chemistry, *Atmospheric composition, *Climate, *Environment effects, *Man environment interactions, *Ozone, *Reaction kinetics, *Stratosphere, *Trace elements, *Two dimensional models, Mathematical models, Methane, Nitrogen oxides, Sulfur hexafluoride, Water vapor.

N19990041153REB PC A04/MF A01
National Aeronautics and Space Administration, Washington, DC.
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms. Final Report, 1 Oct. 1994 - 30 Sep. 1998.
Futuretech Corp., Greenbelt, MD.
L. A. Chang. Oct 1998, 49p, NAS 1.26:209227, NASA/CR-1998-209227, REPT-98FTC0001.
Contract NAS5-32705
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This document describes the final report of the Millimeter-wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms. Volumes of radiometric data have been collected using airborne MIR measurements during a series of field experiments since May 1992. Calibrated brightness temperature data in MIR channels are now available for studies of various hydrological parameters of the atmosphere and Earth's surface. Water vapor retrieval algorithms using multichannel MIR data input are developed for the profiling of atmospheric humidity. The retrieval algorithms are also extended to do three-dimensional mapping of moisture field using continuous observation provided by airborne sensor MIR or spaceborne sensor SSM/T-2. Validation studies for water vapor retrieval are carried out through the intercomparison of collocated and concurrent measurements using different instruments including lidars and radiosondes. The developed MIR water vapor retrieval algorithm is capable of humidity profiling under meteorological conditions ranging from clear column to moderately cloudy sky. Simulative water vapor retrieval studies using extended microwave channels near 183 and 557 GHz strong absorption lines indicate feasibility of humidity profiling to layers in the upper troposphere and improve the overall vertical resolution through the atmosphere.

Keywords: *Water vapor, *Moisture content, *Clouds(Meteorology), *Radiometers, *Millimeter waves, *Algorithms, *Calibrating, *Data processing, Weather, Precipitation(Meteorology), Snow cover, Data retrieval.

N19990041155REB PC A03/MF A01
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
J. Kuhn, S. Benner, D. Butler, and E. Silk. 1999, 17p.
Presented at Denver, CO, 18-23 Jul. 1999. International Society for Optical Engineering, Bellingham, WA.
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Carbon-carbon composite materials offer greater thermal efficiency, stiffness to weight ratio, tailorability, and dimensional stability than aluminum. These lightweight thermal materials could significantly reduce the overall costs associated with satellite thermal control and weight. However, the high cost and long lead-time for carbon-carbon manufacture have limited their widespread usage. Consequently, an informal partnership between government and industrial personnel called the Carbon-Carbon Spacecraft Radiator Partnership (CSRP) was created to foster carbon-carbon composite use for thermally and structurally demanding space radiator applications. The first CSRP flight opportunity is on the New Millennium Program (NMP) Earth Orbiter-1 (EO-1) spacecraft, scheduled for launch in late 1999. For EO-1, the CSRP designed and fabricated a Carbon-Carbon Radiator (CCR) with car-

bon-carbon facesheets and aluminum honeycomb core, which will also serve as a structural shear panel. While carbon-carbon is an ideal thermal candidate for spacecraft radiators, in practice there are technical challenges that may compromise performance. In this work, the thermal and mechanical performance of the EO-1 CCR is assessed by analysis and testing. Both then-nal and mechanical analyses were conducted to predict the radiator response to anticipated launch and on-orbit loads. The thermal model developed was based on thermal balance test conditions. The thermal analysis was performed using SINDA version 4.0. Structural finite element modeling and analysis were performed using SDRC/1-DEAS and UAI/NASTRAN, respectively. In addition, the CCR was subjected to flight qualification thermal/vacuum and vibration tests. The panel meets or exceeds the requirements for space flight and demonstrates promise for future satellite missions.

Keywords: *Carbon-carbon composites, *Spacecraft radiators, *Technology utilization, *Thermal analysis, *Thermodynamic efficiency, *Vibration tests, *Structural analysis, Temperature, Thermocouples, Strain gages.

N19990041157REB PC A05/MF A01
National Aeronautics and Space Administration, Washington, DC.
High Speed A/D DSP Interface for Carrier Doppler Tracking.
New Mexico State Univ., Las Cruces.
T. Baggett. Nov 1998, 72p, NMSU-ECE-98-010.
Grant NAG5-1491
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As on-board satellite systems continue to increase in ability to perform self diagnostic checks, it will become more important for satellites to initiate ground communications contact. Currently, the NASA Space Network requires users to pre-arranged times for satellite communications links through the Tracking and Data Relay Satellite (TDRS). One of the challenges in implementing an on-demand access protocol into the Space Network, is the fact that a low Earth orbiting (LEO) satellite's communications will be subject to a doppler shift which is outside the capability of the NASA ground station to lock onto. In a prearranged system, the satellite's doppler is known a priori, and the ground station is able to lock onto the satellite's signal. This paper describes the development of a high speed analog to digital interface into a Digital Signal Processor (DSP). This system will be used for identifying the doppler shift of a LEO satellite through the Space Network, and aiding the ground station equipment in locking onto the signal. Although this interface is specific to one application, it can be used as a basis for interfacing other devices with a DSP.

Keywords: *Doppler effect, *Satellite communication, *Signal processing, *Analog to digital converters, *Digital systems, *Carrier frequencies, *Telecommunication, Ground stations, Low earth orbits, Tdr satellites, Carrier to noise ratios.

N19990041159REB PC A03/MF A01
Meteoroids and Meteor Storms: A Threat to Spacecraft.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
B. J. Anderson. 20 Apr 1999, 16p.
Presented at VISTA User's Conference, Atlanta, GA, 18-21 Apri. 1999.
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Robust system design is the best protection against meteoroid damage. Impacts by small meteoroids are common on satellite surfaces, but impacts by meteoroids large enough to damage well designed systems are very rare. Estimating the threat from the normal meteoroid environment is difficult. Estimates for the occasional 'storm' are even more uncertain. Common sense precautions are in order for the 1999 Leonids, but wide-spread catastrophic damage is highly unlikely. Strong Leonid showers are also expected in 2000 and 2001, but these pose much less threat than 1999.

Keywords: *Systems engineering, *Meteoritic damage, *Accident prevention, *Meteoroid concentration, *Meteoroids, Satellite surfaces, Storms, Damage, Estimates, Estimating.

N19990041161REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Prediction of X-33 Engine Dynamic Environments.
Boeing North American, Inc., Canoga Park, CA. Rocketdyne Div.
J. J. Shi. 1999, 7p.
Contract NCC8-115
Presented at Aerospace Testing, 18th, Manhattan Beach, CA, 16-18 Mar. 1999.
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Rocket engines normally have two primary sources of dynamic excitation. The first source is the injector and the combustion chambers that generate wide band random vibration. The second source is the turbopumps, which produce lower levels of wide band random vibration as well as sinusoidal vibration at frequencies related to the rotating speed and multiples thereof. Additionally, the pressure fluctuations due to flow turbulence and acoustics represent secondary sources of excitation. During the development stage, in order to design/size the rocket engine components, the local dynamic environments as well as dynamic interface loads have to be defined.

Keywords: *X-33 reusable launch vehicle, *Dynamic loads, *Rocket engines, *Engine parts, *Combustion chambers, Turbine pumps, Vibration, Turbulence, Random vibration, Pressure oscillations.

N19990041162REB PC A01/MF A01
Narrow Pass-Band Optical Filters for Space-Borne Remote Sensing Applications.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
G. R. Allan, M. A. Krainak, and M. A. Stephen. 1999, 4p.
Presented at Optical Remote Sensing for the Atmosphere, 21-24 Jun. 1999.
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The report describes optical characterization of 532 nm, 200 pm passband and 1064 nm, I mn passband LkD filters after exposure to proton irradiation, temperature cycling and angle tuning.

Keywords: *Remote sensing, *Proton irradiation, *Narrowband, *Optical filters, Cycles, Exposure, Tuning.

N19990041197REB PC A02/MF A01
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
National Aeronautics and Space Administration, Cleveland, OH. NASA John H. Glenn Research Center at Lewis Field.
R. DeLombard, K. Hrovat, and K. M. McPherson. Mar 1999, 10p, NAS 1.15:209048, NASA/TM-1999-209048, E-11580.
Contract NAS3-27254
Presented at Instrumentation and Measurement Technology, 16th, Venice, Italy, 24-26 May 1999. Institute of Electrical and Electronics Engineers, Washington, DC.
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The Principal Component Spectral Analysis and the Quasi-steady Three-dimensional Histogram techniques provide the means to describe, on a single plot, the microgravity acceleration environment of a long period of time, such as a day, week, or month. This allows a straight forward comparison of the microgravity environment between microgravity increments on the International Space Station, locations within the International Space Station, and/or different operating conditions. Traditional data display methods (e.g. acceleration versus time), while adequate for shorter time periods, would utilize more plots for an extensive period of time, often making interpretation more difficult. These new techniques provide a single page representation of a large set of microgravity acceleration data. These techniques, in conjunction with other techniques, may be employed to derive useful information from acceleration data to characterize or compare the microgravity environment.

Keywords: *Histograms, *Microgravity, *Principal components analysis, *Spectrum analysis, International space station, Position(Location).

N19990041198REB PC A02/MF A01
Payload Operations.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
R. D. Cissom, T. L. Melton, M. P. Schneider, and C. C. Lapenta. 1999, 6p.
Presented at Space Technology and Applications International Forum (STAIF-99), Albuquerque, NM, 31 Jan. - Feb. 4 1999.
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The objective of this paper is to provide the future ISS scientist and/or engineer a sense of what ISS payload operations are expected to be. This paper uses a real-time operations scenario to convey this message. The real-time operations scenario begins at the initiation of payload operations and runs through post run experiment analysis. In developing this scenario, it is assumed that the ISS payload operations flight and ground capabilities are fully available for use by the payload user community. Emphasis is placed on telescience operations whose main objective is to enable researchers to utilize experiment hardware onboard the International Space Station as if it were located in their terrestrial laboratory. An overview of the Payload Operations Integration Center (POIC) systems and user ground system options is included to provide an understanding of the systems and interfaces users will utilize to perform payload operations. Detailed information regarding POIC capabilities can be found in the POIC Capabilities Document, SSP 50304.

Keywords: *Payloads, *Real time operation, *Payload integration, *Communication networks, *Flight characteristics, International space station, Messages.

N19990041199REB PC A03/MF A01
Application of Rotation- and Translation-Invariant Overcomplete Wavelets to the registration of Remotely Sensed Imagery.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
J. LeMoigne, and I. Zavorine. 1999, 11p.
Presented at Aerosence '99, Orlando, FL, 5-9 Apr. 1999.
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A wavelet-based image registration approach has previously been proposed by the authors. In this work, wavelet coefficient maxima obtained from an orthogonal wavelet decomposition using Daubechies filters were utilized to register images in a multi-resolution fashion. Tested on several remote sensing datasets, this method gave very encouraging results. Despite the lack of translation-invariance of these filters, we showed that when using cross-correlation as a feature matching technique, features of size larger than twice the size of the filters are correctly registered by using the low-frequency subbands of the Daubechies wavelet decomposition. Nevertheless, high-frequency subbands are still sensitive to translation effects. In this work, we are considering a rotation- and translation-invariant representation developed by E. Simoncelli and integrate it in our image registration scheme. The two types of filters, Daubechies and Simoncelli filters, are then being compared from a registration point of view, utilizing synthetic data as well as data from the

Landsat/Thematic Mapper (TM) and from the NOAA Advanced Very High Resolution Radiometer (AVHRR).

Keywords: *Wavelet analysis, *Rotation, *Remote sensing, *Translating, *Thematic mappers(Landsat), *Image processing, Advanced very high resolution radiometer, Pattern registration, Low frequencies, Landsat satellites.

N19990041246REB PC A14/MF A03
National Aeronautics and Space Administration, Washington, DC.
X-33 Flight Operations Center. Annual Report, 1 Apr. 1998 - 31 Mar. 1999.
Lockheed Martin Corp., Palmdale, CA.
Apr 1999, 287p.
Contract NCC8-115
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In response to Clause 17 of the Cooperative Agreement NCC8-115, Lockheed Martin Skunk Works has compiled an Annual Performance Report of the X-33/RLV Program. This report consists of individual reports from all industry team members, as well as NASA team centers. Contract award was announced on July 2, 1996 and the first milestone was hand delivered to NASA MSFC on July 17, 1996. With the dedication of the launch site, and continuing excellence in technological achievement, the third year of the Cooperative Agreement has been one of outstanding accomplishment and excitement.

Keywords: *X-33 reusable launch vehicle, *Launching pads, *Preflight operations, *Systems engineering, *Systems integration, *Single stage to orbit vehicles, Performance tests, Ground support equipment, Systems simulation, Propulsion system configurations, Propulsion system performance, Liquid propellant rocket engines.

N19990041253REB PC A19/MF A04
National Aeronautics and Space Administration, Washington, DC.
Studying Turbulence Using Numerical Simulation Databases, No. 7.
Stanford Univ., CA.
Nov 1998, 422p.
Contract NCC2-460
Presented at Studying Turbulence Using Numerical Simulation Databases, 7th, Stanford, CA, 5-31 Jul. 1998. NASA Ames Research Center, Moffett Field, CA.
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The Seventh Summer Program of the Center for Turbulence Research took place in the four-week period, July 5 to July 31, 1998. This was the largest CTR Summer CTR's main role continues to be in providing a forum for the study of turbulence for engineering analysis and in facilitating intellectual exchange among the leading researchers in the field. Turbulent combustion has enjoyed remarkable progress in using simulations to address increasingly complex and practically more relevant questions. The combustion group's studies included such challenging topics as fuel evaporation, soot chemistry, and thermonuclear reactions. The flow control and acoustics group demonstrated a successful application of the so-called evolution algorithms which actually led to a previously unknown forcing strategy for jets yielding increased spreading rate. A very efficient algorithm for flow in complex geometries with moving boundaries based on the immersed boundary forcing technique was tested with very encouraging results. Also a new strategy for the destruction of aircraft trailing vortices was introduced and tested. The Reynolds Averaged Modeling (RANS) group demonstrated that the elliptic relaxation concept for RANS calculations is also applicable to transonic flows with shocks. A large fraction of the LES efort was devoted to the development and testing of a new algorithmic procedure (as opposed to phenomenological model) for subgrid scale modeling based on regularized de-filtering of the flow variables.

Keywords: *Direct numerical simulation, *Large eddy simulation, *Turbulent flow, *Turbulent combustion, *Mathematical models, *Computerized simulation, *Meetings, *Navier-stokes equation, *Reacting flow, *Turbulent flames, *Turbulence models, *Scaling laws, Vortices, Turbulent heat transfer, Turbulent wakes, Channel flow, Spray characteristics, Reynolds averaging, Three dimensional models, Acoustics, Jet control, Flow stability, Computational grids, Boundary conditions, Flame stability, Similarity theorem, RANS(Reynolds-Averaged Navier-Stokes), LES(Large Eddy Simulation), DNS(Direct Numerical Simulation).

N19990041333REB PC A04/MF A01
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
R. Yang, S. E. Cohn, A. daSilva, J. Joiner, and P. R. Houser. 1997, 44p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In this study, we apply a methodology known as tangent linear modeling to help us understand more deeply, the behavior of the Mosaic land surface model, a model that has been developed over the past several years at NASA/GSFC. This methodology allows us to examine, directly and quantitatively, the dependence of prediction errors in land surface variables upon different vegetation conditions. The work also highlights the importance of accurate soil moisture information. Although surface variables are predicted imperfectly due to inherent uncertainties in the modeling process, our study suggests how satellite observations can be combined with the model, through land surface data assimilation, to improve their prediction.

Keywords: *Biomass, *Climatology, *Earth surface, *Prediction analysis techniques, *Surface properties, *Weather, *Mathematical models, *Linear systems, Soil moisture, Climate change, Carbon dioxide, Earth observations(From space).

N19990041334REB PC A03/MF A01
X-33/VentureStar Program.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
J. Laube. 22 Oct 1998, 11p.
Contract NCC8-115
Presented at Canoga Park, CA, 22 Oct. 1998.
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The VentureStar reusable launch vehicle is discussed in this viewgraph presentation. The objectives of the VentureStar program are reviewed: (1) expendables cost too much, (2) commercial space market is growing (3) meets NASA's goals, (4) Users want fast ground turnaround, (5) users want quick access to space, (6) the offline payload processing saves time, (7) low cost access to space will enable new markets. Flight tests of the X-33, which was designed to test the technology and is pictured in several slides, built credibility for VentureStar. One slide shows the dimensions, weight, length, LEO payload capacity, and the propulsion, in comparison for the X-33, the VentureStar, the Space Shuttle, the Proton D-1e, and the Ariane V. Yet other slides outline the vehicle's features, the plan for the operation of the vehicle, from the runway, to the pad, to orbit. The planned containerized payload operation will allow for a 7 day turnaround for the system, which will allow for the planned 40 flights per year.

Keywords: *Flight tests, *Low cost, *Payloads, *Reusable launch vehicles, *X-33 reusable launch vehicle, *Commercial spacecraft, *Space commercialization, *Aerospace vehicles, Market research, Materials handling, Rocket engines, Spacecraft propulsion.

N19990041335REB PC A03/MF A01
National Aeronautics and Space Administration, Washington, DC.
Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument. Final Report.
James Madison Univ., Harrisonburg, VA. Coll. of Integrated Science and Technology.
J. J. Miles. 1 Mar 1999, 13p.
Contract NCC1-267
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Aerospace Electronic Systems Division (AESD), Sensor Systems Branch (SSB), at NASA LARC had proposed a new mission, GEOstationary TROpospheric Pollution SATellite (GEO TROPSAT), to address critical science questions of tropospheric chemistry. GEO TROPSAT would be implemented about a geostationary Earth orbital (GEO) position at the equator between 600 and 80° West longitude to observe the Americas and large portions of the oceans of either coast. This mission would advance our knowledge of the atmosphere by capturing the wide temporal and spatial variability of tropospheric phenomena which is undetectable from low Earth orbit. A pre-prototype imaging carbon monoxide (CO) imaging system operating within a narrow waveband about 4.7 Lm was built, demonstrated, and evaluated. This system applies the gas-filter correlation radiometry (GFCR) technique and produces digitized images comprising 4096 pixels, each representing a single CO mixing ratio measurement inferred from radiometric data. Laboratory evaluation of this system involved imaging of a test cell placed in the path of radiant flux emanating from a blackbody source used to simulate the radiant energy reflected by Earth in real application. Two related research efforts were undertaken during the term of the study continued development of an atmospheric CO imaging instrument and characterization of diode-laser beams. Both efforts are described within the body of this report. A second objective was to provide a means for undergraduate ISAT majors to become involved with the research described, to be afforded the opportunity to learn the technologies associated with the work performed.

Keywords: *Atmospheric chemistry, *Atmospheric composition, *Carbon monoxide, *Imaging techniques, *Laser beams, *Photochemical reactions, *Troposphere, *Earth observations(From space), *Infrared imagery, *Infrared lasers, Design, Computer aided design, Equipment specifications.

N19990041439REB PC A06/MF A01
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
D. Allen, K. Pickering, G. Stenchikov, A. M. Thompson, and Y. Kondo. 12 Mar 1999, 84p.
Contract NCC5-55, Grant NAG5-7263
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The relative importance of various odd nitrogen (NOy) sources including lightning, aircraft, and surface emissions on upper tropospheric total odd nitrogen is illustrated as a first application of the three-dimensional Stretched-Grid University of Maryland/Goddard Chemical-Transport Model (SG-GCTM). The SG-GCTM has been developed to look at the effect of localized sources and/or small scale mixing processes on the large-scale or global chemical balance. For this simulation, the stretched-arid was chosen so that its maximum resolution is located over eastern North America and the North Atlantic; a region that includes most of the SONEX (the SASS (Subsonic Assessment) Ozone and Nitrogen Oxides Experiment) flight paths. The SONEX period (October-November 1997) is simulated by driving the SG-GCTM with assimilated data from the GEOS-STRAT DAS (Goddard Earth Observing System-STRAT Data Assimilation System). A new algorithm is used to parameterize the lightning, flash rates that are needed to calculate emissions of NOy by lightning. Model-calculated upper tropospheric NOy and NOy measurements from the NASA DC-8 aircraft are compared. Spatial variations in NOy were well captured especially with the stretched-grid run; however, model-calculated concentrations were often too high in the upper troposphere, particularly during the first several flights. The lightning algorithm does a reasonably good job; however, the use of emissions from observed lightning, flashes significantly improves the simulation on a few occasions, especially November 3, 1997, indicating that significant uncertainty remains in

parameterizing lightning in CTMS. Aircraft emissions play a relatively minor role (about 12%) in the upper tropospheric NOY budget averaged along SONEX flight paths; however, the contribution of such emmissions is as large as about 30% during portions of some flights.

Keywords: *Lightning, *Nitrogen oxides, *Simulation, *Troposphere, *Three dimensional models, *Aircraft, *Air pollution, *Pollution transport, *Atmospheric circulation, *Mathematical models, Earth observing system(Eos), Fossil fuels, Algorithms.

N19990041441REB PC A01/MF A01
National Aeronautics and Space Administration, Washington, DC.
Global Retrieval of Cloud Particle Size and Optical Thickness Using ISCCP Data. Final Report.
Alabama Univ. in Huntsville.
R. M. Welch, and Q. Han. 1998, 3p.
Contract NAG8-3922
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The primary thrust of this investigation is to develop an algorithm to retrieve cloud particle sizes using ISCCP data. The research under this grant has been successful in obtaining initial results of global distribution of ice-particle sizes. Further research about possible problems caused by nonsphericity of ice particle sizes is currently underway. An algorithm of retrieving ice-cloud particle sizes using ISCCP CX data has been developed. The first survey of ice-particle size in a near-global scale has been completed. Comparison with in situ measurements of ice crystal sizes during FIRE I shows good agreement. The initial results show that the global mean size of ice crystals (De) is about 60 micron. This result is consistent with the range of in situ measurements all over the world if definitions of effective particle size are unified (see next section). The survey also shows that there is no distinct difference of ice-particle sizes between continental and maritime ice-clouds. There are many different definitions of effective particle size used in ice-cloud research. Simple comparisons between values of in situ measurement and satellite remote sensing are misleading and may lead to incorrect conclusions. We reviewed different definitions of effective particle sizes used in the literature and compared their relative magnitudes.

Keywords: *Particle size distribution, *Optical thickness, *Algorithms, *Ice clouds, Climatology, Crystals, Fires, In situ measurement, Magnitude, Surveys.

N19990041442REB PC A05/MF A01
National Aeronautics and Space Administration, Washington, DC.
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
Auburn Univ., AL. Solid State Sciences Center.
D. A. Bodeker, and W. A. Foster. 13 Nov 1998, 53p, NAS 1.26:208192, NASA/CR-1999-208192.
Contract NAS8-39131
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The Space Shuttle Solid Rocket Booster (SRB) is a complex assembly of segments of which the field and factory joints contain an unpredictable amount of freeplay. Freeplay is inherent due to tolerances in being able to assemble the segments and the gaps that occur at each joint. The purpose of this work is to quantify the amount of freeplay for the field joint as well as identify the effects of introducing multiple joints that contain freeplay into a system. To provide a baseline for the above study an additional model was made to quantify the behavior of a field joint that does not have any freeplay in the system.

Keywords: *Booster rocket engines, *Solid propellant rocket engines, *Stiffness, *Structural design, *Models, Assembling, Industrial plants, Space shuttle boosters.

N19990041443REB PC A03/MF A01
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
A. M. Brown, and A. A. Ferri. 1998, 29p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The Probabilistic Dynamic Synthesis method is a technique for obtaining the statistics of a desired response engineering quantity for a structure with non-deterministic parameters. The method uses measured data from modal testing of the structure as the input random variables, rather than more 'primitive' quantities like geometry or material variation. This modal information is much more comprehensive and easily measured than the 'primitive' information. The probabilistic analysis is carried out using either response surface reliability methods or Monte Carlo simulation. In previous work, the feasibility of the PDS method applied to a simple seven degree-of-freedom spring-mass system was verified. In this paper, extensive issues involved with applying the method to a realistic three-substructure system are examined, and free and forced response analyses are performed. The results from using the method are promising, especially when the lack of alternatives for obtaining quantitative output for probabilistic structures is considered.

Keywords: *Monte carlo method, *Probability theory, *Modal response, *Surface properties, *Structural reliability, *Distribution functions, *Substructures, *Structural design, Eigenvalues, Eigenvectors, Flexibility, Mathematical models.

N19990041444REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Design Heritage-Based Forecasting Methodology for Risk Informed Management of Advanced Systems.
Science Applications International Corp., New York. Advanced Technology Div.
G. Maggio, and J. R. Fragola. 1999, 9p.
Contract NCC8-115
Presented at Probabilistic Safety Assessment (PSA '99), Washington, DC, Aug. 1999.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The development of next generation systems often carries with it the promise of improved performance, greater reliability, and reduced operational costs. These expectations arise from the use of novel designs, new materials, advanced integration and production technologies intended for functionality replacing the previous generation. However, the novelty of these nascent technologies is accompanied by lack of operational experience and, in many cases, no actual testing as well. Therefore some of the enthusiasm surrounding most new technologies may be due to inflated aspirations from lack of knowledge rather than actual future expectations. This paper proposes a design heritage approach for improved reliability forecasting of advanced system components. The basis of the design heritage approach is to relate advanced system components to similar designs currently in operation. The demonstrated performance of these components could then be used to forecast the expected performance and reliability of comparable advanced technology components. In this approach the greater the divergence of the advanced component designs from the current systems the higher the uncertainty that accompanies the associated failure estimates. Designers of advanced systems are faced with many difficult decisions. One of the most common and more difficult types of these decisions are those related to the choice between design alternatives. In the past decision-makers have found these decisions to be extremely difficult to make because they often involve the trade-off between a known performing fielded design and a promising paper design. When it comes to expected reliability performance the paper design always looks better because it is on paper and it addresses all the know failure modes of the fielded design. On the other hand there is a long, and sometimes very difficult road, between the promise of a paper design and its fulfillment; with the possibility that sometimes the reliability promise is not fulfilled at all. Decision makers in advanced technology areas have always known to discount the performance claims of a design to a degree in proportion to its stage of development, and at times have preferred the more mature design over the one of lesser maturity even with the latter promising substantially better performance once fielded. As with the broader measures of performance this has also been true for projected reliability performance. Paper estimates of potential advances in design reliability are to a degree uncertain in proportion to the maturity of the features being proposed to secure those advances. This is especially true when performance-enhancing features in other areas are also planned to be part of the development program.

Keywords: *Forecasting, *Reliability, *Systems engineering, *Design analysis, *Reliability analysis, *Feasibility analysis, Technology assessment, Risk.

N19990041445REB PC A08/MF A02
National Aeronautics and Space Administration, Washington, DC.
TFaNS Tone Fan Noise Design/Prediction System, Volume 2. Final Report.
United Technologies Corp., East Hartford, CT.
D. A. Topol, and W. Eversman. Mar 1999, 136p, NAS 1.26:208883, NASA/CR-1999-208883, E-11616.
Contracts NAS3-26618 , NAS3-27727
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

TFaNS is the Tone Fan Noise Design/Prediction System developed by Pratt & Whitney under contract to NASA Lewis (presently NASA Glenn). The purpose of this system is to predict tone noise emanating from a fan stage including the effects of reflection and transmission by the rotor and stator and by the duct inlet and nozzle. These effects have been added to an existing annular duct/isolated stator noise prediction capability. TFaNS consists of: the codes that compute the acoustic properties (reflection and transmission coefficients) of the various elements and write them to files. CUP3D: Fan Noise Coupling Code that reads these files, solves the coupling problem, and outputs the desired noise predictions. AWAKEN: CFD/Measured Wake Postprocessor which reformats CFD wake predictions and/or measured wake data so it can be used by the system. This volume of the report provides information on code input and file structure essential for potential users of TFANS.

Keywords: *Acoustic properties, *Fan blades, *Noise prediction, *Fabrication, *Prediction analysis techniques, *Aerodynamic noise, Product development, Wakes, User manuals(Computer programs), Stators, Rotors, Reflectance, Inlet nozzles.

N19990041446REB PC A01/MF A01
New ERA in Global Temperature Monitoring with the Advanced Microwave Sounding Unit (AMSU).
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
R. W. Spencer, W. D. Braswell, and J. R. Christy. Jan 1999, 4p.
Presented at Dallas, TX, 10-15 Jan. 1999. American Meteorological Society, Washington, DC.
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The launch of the first Advanced Microwave Sounding Unit (AMSU) on the NOAA-15 spacecraft on 13 May 1998 marked a significant advance in our ability to monitor global temperatures. Compared to the Microwave Sounding Units (MSU) flying since 1978 on the TIROS-N series of NOAA polar orbiters, the AMSU offers better horizontal, vertical, and radiometric resolutions. It will allow routine monitoring of 1 1 (mostly) separate layers, compared to 2 or 3 with the MSU, including layers in the middle and upper stratosphere (2.5 hPa) where increasing carbon dioxide concentrations should be causing a cooling rate of about 1 deg. C per decade. More precise limb corrections combined with low noise will allow identification of subtle spatial temperature patterns associated with global cyclone activity.

Keywords: *Temperature control, *Radiometers, *Correction, *Advanced microwave sounding unit, Tiros n series satellites, Temperature distribution, Stratosphere, Low noise, Launching, Cyclones, Cooling, Carbon dioxide.

N19990041448REB PC A02/MF A01
Nanosat Intelligent Power System Development.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
M. A. Johnson, R. G. Beaman, J. A. Mica, D. E. Simm, W. F. Truszkowski, and M. L. Rilee. 31 Mar 1999, 10p.
Presented at Intelligent Micro Nano Technologies for Space Applications, 2nd, Pasadena, CA, 11-15 Apr. 1999.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

NASA Goddard Space Flight Center is developing a class of satellites called nano-satellites. The technologies developed for these satellites will enable a class of constellation missions for the NASA Space Science Sun-Earth Connections theme and will be of great benefit to other NASA enterprises. A major challenge for these missions is meeting significant scientific- objectives with limited onboard and ground-based resources. Total spacecraft power is limited by the small satellite size. Additionally, it is highly desirable to minimize operational costs by limiting the ground support required to manage the constellation. This paper will describe how these challenges are met in the design of the nanosat power system. We will address the factors considered and tradeoffs made in deriving the nanosat power system architecture. We will discuss how incorporating onboard fault detection and correction capability yields a robust spacecraft power bus without the mass and volume penalties incurred from redundant systems and describe how power system efficiency is maximized throughout the mission duration.

Keywords: *Product development, *Fabrication, *Technology assessment, *Nanosatellites, *Power conditioning, Tradeoffs, Systems engineering, System effectiveness, Power efficiency, Operating costs, Fault detection, Constellations, Architecture(Computers).

N19990041449REB PC A01/MF A01
Direct Detection Doppler Lidar for Spaceborne Wind Measurement.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
C. L. Korb, and C. Flesia. 1999, 2p.
Presented at Advanced Technologies in Optical Communication and Sensing, Tokyo, Japan, 17-18 Mar. 1999.
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Aerosol and molecular based versions of the double-edge technique can be used for direct detection Doppler lidar spaceborne wind measurement. The edge technique utilizes the edge of a high spectral resolution filter for high accuracy wind measurement using direct detection lidar. The signal is split between an edge filter channel and a broadband energy monitor channel. The energy monitor channel is used for signal normalization. The edge measurement is made as a differential frequency measurement between the outgoing laser signal and the atmospheric backscattered return for each pulse. As a result the measurement is insensitive to laser and edge filter frequency jitter and drift at a level less than a few parts in 10(exp 10). We have developed double edge versions of the edge technique for aerosol and molecular-based lidar measurement of the wind. Aerosol-based wind measurements have been made at Goddard Space Flight Center and molecular-based wind measurements at the University of Geneva. We have demonstrated atmospheric measurements using these techniques for altitudes from 1 to more than 10 km. Measurement accuracies of better than 1.25 m/s have been obtained with integration times from 5 to 30 seconds. The measurements can be scaled to space and agree, within a factor of two, with satellite-based simulations of performance based on Poisson statistics. The theory of the double edge aerosol technique is described by a generalized formulation which substantially extends the capabilities of the edge technique. It uses two edges with opposite slopes located about the laser frequency at approximately the half-width of each edge filter. This doubles the signal change for a given Doppler shift and yields a factor of 1.6 improvement in the measurement accuracy compared to the single edge technique. The use of two high resolution edge filters substantially reduces the effects of Rayleigh scattering on the measurement, as much as order of magnitude, and allows the signal to noise ratio to be substantially improved in areas of low aerosol backscatter. We describe a method that allows the Rayleigh and aerosol components of the signal to be independently determined using the two edge channels and an energy monitor channel. The effects of Rayleigh scattering may then subtracted from the measurement and we show that the correction process does not significantly increase the measurement noise for Rayleigh to aerosol ratios up to 10. We show that for small Doppler shifts a measurement accuracy of 0.4 m/s can be obtained for 5000 detected photon, 1.2 m/s for 1000 detected photons, and 3.7 m/s for 50 detected photons for a Rayleigh to aerosol ratio of 5. Methods for increasing the dynamic range of the aerosol-based system to more than +/- 100 m/s are given.

Keywords: *Aerosols, *Doppler radar, *Optical radar, *Wind measurement, *Remote sensors, *Satellite-borne instruments, Rayleigh scattering, Spectral resolution, Meteorological radar.

N19990041450REB PC A03/MF A01
National Aeronautics and Space Administration, Washington, DC.
Summary of Work for Joint Research Interchanges with DARWIN Integrated Product Team 1998.
Stanford Univ., CA.
L. Hesselink. Mar 1999, 13p.
Contract NCC2-5211
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The intent of Stanford University's SciVis group is to develop technologies that enabled comparative analysis and visualization techniques for simulated and experimental flow fields. These techniques would then be made available under the Joint Research Interchange for potential injection into the DARWIN Workspace Environment (DWE). Our current research effort focuses on finding a quantitative comparison of general vector fields based on topological features. Since the method relies on topological information, grid matching and vector alignment is not needed in the comparison. In addition, since only topology based information is stored and compared for each field, there is a significant compression of information that enables large databases to be quickly searched. This report briefly (1) describes current technologies in the area of comparison techniques, (2) describes the theory of our new method, and finally (3) summarizes a few of the results.

Keywords: *Data bases, *Topology, *Flow distribution, *Comparison, *Vector analysis, Differential equations, Computational grids, Flow visualization, Airfoils, Cylindrical bodies, Vortex shedding, Wind tunnels.

N19990041500REB PC A14/MF A03
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
National Aeronautics and Space Administration, Hampton, VA. Langley Research Center.
A. K. C. Noor, and J. B. C. Malone. Feb 1999, 295p, NAS 1.55:208986, NASA/CP-1999-208986, L-17802.
Presented at Hampton, VA, 16-17 Sep. 1998. NASA, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This document contains the proceedings of the Workshop on Intelligent Agents and Their Potential for Future Design and Synthesis Environment, held at NASA Langley Research Center, Hampton, VA, September 16-17, 1998. The workshop was jointly sponsored by the University of Virginia's Center for Advanced Computational Technology and NASA. Workshop attendees came from NASA, industry and universities. The objectives of the workshop were to assess the status of intelligent agents technology and to identify the potential of software agents for use in future design and synthesis environment. The presentations covered the current status of agent technology and several applications of intelligent software agents. Certain materials and products are identified in this publication in order to specify adequately the materials and products that were investigated in the research effort. In no case does such identification imply recommendation or endorsement of products by NASA, nor does it imply that the materials and products are the only ones or the best ones available for this purpose. In many cases equivalent materials and products are available and would probably produce equivalent results.

Keywords: *Conferences, *Software engineering, *Systems engineering, *Self organizing systems, *Adaptive control, Software reuse, Systems analysis, Human-computer interface.

N19990041515REB PC A20/MF A04
First International Symposium on Strain Gauge Balances, Pt. 1.
National Aeronautics and Space Administration, Hampton, VA. Langley Research Center.
Mar 1999, 443p, NAS 1.55:209101/PT1, NASA/CP-1999-209101/PT1, L-17809A.
Presented at, 1st, Hampton, VA, 22-25 Oct. 1996. NASA, Washington, DC.
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The first International Symposium on Strain Gauge Balances was sponsored and held at NASA Langley Research Center during October 22-25, 1996. The symposium provided an open international forum for presentation, discussion, and exchange of technical information among wind tunnel test technique specialists and strain gauge balance designers. The Symposium also served to initiate organized professional activities among the participating and relevant international technical communities. Over 130 delegates from 15 countries were in attendance. The program opened with a panel discussion, followed by technical paper sessions, and guided tours of the National Transonic Facility (NTF) wind tunnel, a local commercial balance fabrication facility, and the LaRC balance calibration laboratory. The opening panel discussion addressed 'Future Trends in Balance Development and Applications.' Forty-six technical papers were presented in 11 technical sessions covering the following areas: calibration, automatic calibration, data reduction, facility reports, design, accuracy and uncertainty analysis, strain gauges, instrumentation, balance design, thermal effects, finite element analysis, applications, and special balances. At the conclusion of the Symposium, a steering committee representing most of the nations and several U.S. organizations attending the Symposium was established to initiate planning for a second international balance symposium, to be held in 1999 in the UK.

Keywords: *Conferences, *Strain gage balances, *Wind tunnel tests, *Wind tunnel apparatus, *Weight indicators, Data reduction, Fabrication, Finite element method, Calibrating, Accuracy, Errors.

N19990041594REB PC A05/MF A01
Aeronautical Engineering: A Continuing Bibliography With Indexes, Supplement 401.
National Aeronautics and Space Administration, Hampton, VA. Langley Research Center.
28 May 1999, 52p, NAS 1.21:7037/SUPPL401, NASA/SP-1999-7037/SUPPL401.
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This report lists reports, articles and other documents recently announced in the NASA STI Database.

Keywords: *Data bases, *Bibliographies, *Aeronautical engineering, Supplements.

N19990041598REB PC A03/MF A01
Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
National Aeronautics and Space Administration, Hampton, VA. Langley Research Center.

31 May 1999, 29p, NAS 1.21:7011/SUPPL492, NASA/SP-1999-7011/SUPPL492.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This report lists reports, articles and other documents recently announced in the NASA STI Database. In its subject coverage, Aerospace Medicine and Biology concentrates on the biological, physiological, psychological, and environmental effects to which humans are subjected during and following simulated or actual flight in the Earth's atmosphere or in interplanetary space. References describing similar effects on biological organisms of lower order are also included. Such related topics as sanitary problems, pharmacology, toxicology, safety and survival, life support systems, exobiology, and personnel factors receive appropriate attention. Applied research receives the most emphasis, but references to fundamental studies and theoretical principles related to experimental development also qualify for inclusion.

Keywords: *Aerospace medicine, *Bibliographies, *Data bases, *Indexes(Documentation), Earth atmosphere, Physiological effects, Psychological effects, Environment effects, Interplanetary space, Life support systems, Pharmacology, Toxicology, Survival, Exobiology, Organisms, Aerospace safety.

N19990041609REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance. 1 Feb. 1989 - 31 Oct. 1998.
Institute for Experimental Psychiatry Research Foundation, Merion Station, PA.
D. F. Dinges. 1998, 10p.
Contract NCC2-599
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This project had three broad goals: (1) to identify environmental and organismic risks to performance of long-haul cockpit crews; (2) to assess how cognitive and psychomotor vigilance performance, and subjective measures of alertness, were affected by work-rest schedules typical of long-haul cockpit crews; and (3) to determine the alertness-promoting effectiveness of behavioral and technological countermeasures to fatigue on the flight deck. During the course of the research, a number of studies were completed in cooperation with the NASA Ames Fatigue Countermeasures Program. The publications emerging from this project are listed in a bibliography in the appendix. Progress toward these goals will be summarized below according to the period in which it was accomplished.

Keywords: *Psychomotor performance, *Work-rest cycle, *Fatigue(Biology), *Flight crews, *Pilot performance, *Flight fatigue, *Alertness, *Circadian rhythms, *Aerospace medicine, Attention, Schedules, Sleep, Activity cycles(Biology).

N19990041616REB PC A02/MF A01
Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
P. S. Chen, and B. N. Bhat. 1999, 7p.
Contract NAS8-97105
Presented at Light Weight Materials for Aerospace Applications, San Diego, CA, 1999. Metallurgical Society, Warrendale, PA.
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Al-Cu-Li alloy 2195, with its combination of good cryogenic properties, low density, and high modulus, has been selected by NASA to be the main structural alloy of the Super Light Weight Tank (SLWT) for the Space Shuttle. Alloy 2195 is strengthened by an aging treatment that precipitates a particular precipitate, labeled as T1(Al2CuLi). Other phases, such as GP zone, (theta)', (theta)', theta, (delta)', S' are also present in this alloy when artificially aged. Cryogenic strength and fracture toughness are critical to the -SLWT application, since the SLWT will house liquid oxygen and hydrogen. Motivation for the Time-Temperature-Precipitation (TTP) study at lower temperature (lower than 350 F) comes in part from a recent study by Chen, The study found that the cryogenic fracture toughness of alloy 2195 is greatly influenced by the phases present in the matrix and subgrain boundaries. Therefore, the understanding of TTP behavior can help develop a guideline to select appropriate heat treatment conditions for the desirable applications. The study of TTP behavior at higher temperature (400 to 1000 F) was prompted by the fact that the SLWT requires a welded construction. Heat conduction from the weld pool affects the microstructure in the heat-affected zone (HAZ), which leads to changes in the mechanical properties. Furthermore, the SLWT may need repair welding for more than one time and any additional thermal cycles will increase precipitate instability and promote phase transformation. As a result considerable changes in HAZ microstructure and mechanical properties are expected during the construction of the SLWT. Therefore, the TTP diagrams can serve to understand the thermal history of the alloy by analyzing the welded microstructure. In the case welding, the effects of thermal cycles on the microstructure and mechanical properties can be predicted with the aid of the TTP diagrams. The 2195 alloy (nominally Al + 4 pct Cu + 1 pct Li + 0.3 pct Ag + 0.3 pct Mg + 0.1 pct Zr) used in this study was received in the form of 1.7 inch thick rolled plates. In brief goal of this study is to develop TTR diagram for the solutiontreated and stretched alloy 2195 from which the precipitation sequence at any service or aging conditions can be predicted.A subgrain boundary TTR diagram is also presented since precipitations at subgrain boundary can control and/or modify a wide veriety of material properties, such as cryogenic fracture toughness.

Keywords: *Lithium alloys, *Cryogenics, *Fracture strength, *Mechanical properties, *Time temperature parameter, Boundaries, Heat affected zone, Heat treatment, Microstructure, Motivation, Phase transformations, Welding.

N19990041617REB PC A05/MF A01
National Aeronautics and Space Administration, Washington, DC.
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
United Technologies Corp., East Hartford, CT.
D. A. Topol. Mar 1999, 56p, NAS 1.26:208884, NASA/CR-1999-208884, E-11618.
Contract NAS3-26618
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TFANS is the Tone Fan Noise Design/Prediction System developed by Pratt & Whitney under contract to NASA Lewis (presently NASA Glenn). The purpose of this system is to predict tone noise emanating from a fan stage including the effects of reflection and transmission by the rotor and stator and by the duct inlet and nozzle. These effects have been added to an existing annular duct/isolated stator noise prediction capability. TFANS consists of: The codes that compute the acoustic properties (reflection and transmission coefficients) of the various elements and write them to files. Cup3D: Fan Noise Coupling Code that reads these files, solves the coupling problem, and outputs the desired noise predictions. AWAKEN: CFD/Measured Wake Postprocessor which reformats CFD wake predictions and/or measured wake data so it can be used by the system. This volume of the report evaluates TFANS versus full-scale and ADP 22 inch fig. data using the semi-empirical wake modeling in the system.

Keywords: *Aerodynamic noise, *Fan blades, *Rotors, *Stators, *Interactional aerodynamics, *Noise prediction(Aircraft), *Aircraft noise, *Propeller noise, *Computer programs, *Inlet nozzles, Blade-vortex interaction, Rotor stator interactions, User manuals(Computer programs), Acoustic properties.

N19990041707REB PC A03/MF A01
National Aeronautics and Space Administration, Washington, DC.
Effects of Microgravity on Embryonic Quail Eye Development. Final Report.
Kansas State Univ., Manhattan. Dept. of Mechanical Engineering.
J. E. Barrett, D. C. Wells, A. Q. Paulsen, and G. W. Conrad. 1997, 24p.
Grants NAG2-1005, NAGW-2328
Partially funded by Grants NIH-EY-00952.
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Immunohistochemical methods were used to stain neurofilament protein in corneal nerves of Embryonic Day 16 (E16) quail eyes that had been fixed in 4% paraformaldehyde at room temperature for several months. Fixation was according to the methods used by the Mir 21/NASA 2 Avian Developmental Biology Flight Experiments for quail embryos incubated on the Mir Space Station. After fixation, corneas were pretreated to improve immunohistochemical visualization of neurofilaments. A sequential combination of three pretreatments (microwave heating in saline G, followed by extraction with sodium dodecyl sulfate (SDS) at 37 C, followed by digestion with hyaluronidase at 37 C), produced increased antibody staining of corneal nerve neurofilament proteins, compared with corneas subjected to no prior pretreatments. Darker nerve staining and increased numbers of fine branches were observed, together with lower background staining after such pretreatments. In contrast, use of any single pretreatment or pair of pretreatments resulted in only slight and inconsistent enhancement of nerve staining. Only the sequential combination of all three pretreatments resulted in consistently better nerve staining.

Keywords: *Microgravity, *Embryos, *Eye(Anatomy), *Pretreatment, *Cornea, *Augmentation, *Antigens, *Antibodies, Staining, Sodium sulfates, Room temperature, Proteins, Nerves, Mir space station, Microwaves, Extraction.

N19990041784REB PC A09/MF A02
Orbital Debris: A Chronology.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
Jan 1999, 172p, NAS 1.60:208856, NASA/TP-1999-208856.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This chronology covers the 37-year history of orbital debris concerns. It tracks orbital debris hazard creation, research, observation, experimentation, management, mitigation, protection, and policy. Included are debris-producing, events; U.N. orbital debris treaties, Space Shuttle and space station orbital debris issues; ASAT tests; milestones in theory and modeling; uncontrolled reentries; detection system development; shielding development; geosynchronous debris issues, including reboost policies: returned surfaces studies, seminar papers reports, conferences, and studies; the increasing effect of space activities on astronomy; and growing international awareness of the near-Earth environment.

Keywords: *Hazards, *Orbitals, *Observation, *Space debris, *Research management, *Protection, Systems engineering, Space stations, Space shuttles, Shielding, Safety, Detection.

N19990041803REB PC A05/MF A01
Monographs in Aerospace History Series No. 11. Together In Orbit: The Origins of International Participation in the Space Station.
National Aeronautics and Space Administration, Washington, DC.
J. M. Logsdon. Nov 1998, 60p, NAS 1.83:1998-10-244-HQ, NASA-NP-1998-10-244-HQ.
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This essay is a history and analysis of the steps leading to the origins of the space station partnership between the United States and its closest allies. It traces

the process that led to the decision to invite other countries to participate in the project and their reasons for accepting that invitation. Not covered in this account are the difficult negotiations during the 1984-1988 period that led first to an initial set of agreements that allowed the prospective partners to work together during the early stages of the space station program and then to the final set of agreements creating the original space station partnership. Also, the 1993 invitation to the Russian Federation to join the original partners is not discussed, nor are the subsequent negotiations to revise the 1988 agreements.

Keywords: *International space station, *History, *International cooperation, *European space agency, Technology transfer, Japanese space program, Canadian space program, French space program, German space program, UK space program.

N19990041815REB PC A03/MF A01
National Aeronautics and Space Administration, Washington, DC.
Activities of Dept. of Geological Sciences, Colorado University. Final Report, Period ending 30 Sep. 1997.
Cooperative Inst. for Research in Environmental Science, Boulder, CO.
R. Bilham. 1997, 14p.
Grant NAG5-3072
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Using remotely sensed data and GPS observations we completed a study of neotectonic processes responsible for landscape changes in an area of active extensional deformation and volcanism. The findings from this study describe the extensional processes operating in the region of the Afar triple junction and the northern Ethiopian rift.

Keywords: *Tectonics, *Research, *Volcanology, *Topography, *Deformation, Remote sensing, Data bases, Global positioning system, Observation, African rift system.

N19990041839REB PC A03/MF A01
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
P. A. Newman, J. C. Wilson, M. N. Ross, M. R. Schoeberl, L. R. Lait, T. P. Bui, M. Loewenstein, C. Brock, and P. Sheridan. 1999, 18p.
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During a routine ER-2 aircraft high-altitude test flight on April 18, 1997, an unusual aerosol cloud was detected at 20 km altitude near the California coast at about 370 degrees N latitude. Not visually observed by the ER-2 pilot, the cloud was characterized by high concentration of soot and sulfate aerosol in a region over 100 km in horizontal extent indicating that the source of the plume was a large hydrocarbon fueled vehicle, most likely a launch vehicle powered only by rocket motors burning liquid oxygen and kerosene. Two Russian Soyuz rockets could conceivably have produced the plume. The first was launched from the Baikonur Cosmodrome, Kazakhstan on April 6th; the second was launched from Plesetsk, Russia on April 9. Air parcel trajectory calculations and long-lived tracer gas concentrations in the cloud indicate that the Baikonur rocket launch is the most probable source of the plume. The parcel trajectory calculations do not unambiguously trace the transport of the Soyuz plume from Asia to North America, illustrating serious flaws in the point-to-point trajectory calculations. This chance encounter represents the only measurement of the stratospheric effects of emissions from a rocket powered exclusively with hydrocarbon fuel.

Keywords: *Hydrocarbon fuels, *Kerosene, *Ozone depletion, *Trajectory analysis, *Rocket exhaust, *Pollution transport, *Combustion products, Gas transport, Aerosols, Russian federation.

N19990041841REB PC A04/MF A01
National Aeronautics and Space Administration, Washington, DC.
Genetic Regulatory Networks in Embryogenesis and Evolution.
Marine Biological Lab., Woods Hole, MA.
Dec 1998, 32p.
Contract NCC2-896
Presented at Woods Hole, MA, 11-14 Jun. 1997. Marine Biological Lab., Center for Advanced Studies in the Space Life Sciences, Woods Hole, MA.
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The article introduces a series of papers that were originally presented at a workshop titled Genetic Regulatory Network in Embryogenesis and Evaluation. Contents include the following: evolution of cleavage programs in relationship to axial specification and body plan evolution, changes in cell lineage specification elucidate evolutionary relations in spiralia, axial patterning in the leech: developmental mechanisms and evolutionary implications, hox genes in arthropod development and evolution, heterochronic genes in development and evolution, a common theme for LIM homeobox gene function across phylogeny, and mechanisms of specification in ascidian embryos.

Keywords: *Concentration, *Genetics, *Reproduction(Biology), *Hydrogen compounds, *Embryology, Oxides, Genes, Evolution(Development), Embryos, Cleavage, Arthropods.

N19990041878REB PC A08/MF A02
National Aeronautics and Space Administration, Washington, DC.
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models. Final Report.
Atmospheric and Environmental Research, Inc., Cambridge, MA.
M. K. W. Ko, J. M. Rodriquez, W. Hu, M. Y. Danilin, and R. L. Shia. Nov 1998, 134p, NAS 1.26:209228, NASA/CR-1998-209228.
Contract NAS5-32844
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The proposed work utilized Upper Atmosphere Research Satellite (UARS) measurements of short-lived and long-lived species, in conjunction with existing photochemical 'box' models, trajectory models, and two-dimensional global models, to elucidate outstanding questions in our understanding of photochemical and dynamical mechanisms in the stratosphere. Particular emphasis was given to arriving at the best possible understanding of the chemical and dynamical contributions to the stratospheric ozone budget. Such understanding will increase confidence in the simulations carried out by assessment models.

Keywords: *Data processing, *Photochemical reactions, *Dynamical systems, *Stratosphere, *Two dimensional models, *Proving, Upper atmosphere research satellite(Uars), Atmospheric composition, Atmospheric models, Mathematical models, Ozone, Satellite observation, Simulation, Trajectories.

N19990041879REB PC A03/MF A01
Reusable Launch Vehicle (RLV) Mission/Market Model.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
F. A. Prince. 1999, 23p.
Presented at San Antonio, TX, 8-11 Jun. 1999. International Society of Parametric Analysts, Chesterfield, MO.
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The goal of this model was to assess the Reusable Launch Vehicle's (RLV) capability to support the International Space Station (ISS) servicing, determine the potential to leverage the commercial marketplace to reduce NASA's cost, and to evaluate the RLV's ability to expand the space economy. The presentation is in view-graph format.

Keywords: *International space station, *Orbital servicing, *Reusable launch vehicles, *Space commercialization, *Economic analysis, *Defense program, Cost reduction, Management planning, Operating costs.

N19990041880REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Space Shuttle Main Engine: Part Number RS007001.
Rockwell International Corp., Canoga Park, CA. Rocketdyne Div.
A. Guinzburg. 7 Jul 1977, 9p, E41000, RSS-8559-1-1-1.
Contract NAS8-27980
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Topics considered include: low-pressure oxidizer turbopump; low-pressure fuel turbopump; high-pressure oxidizer turbopump; high-pressure oxidizer turbopump turbine; high-pressure fuel turbopump; and SSME propellant flow schematic.

Keywords: *Space shuttle main engine, *Turbine pumps, *Propellants, Turbines, Oxidizers, Low pressure, High pressure, Fuel oils.

N19990041888REB PC A06/MF A01
General Public Space Travel and Tourism, Volume 2.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
D. C. ONeil. Feb 1999, 76p, NAS 1.55:209146/VOL2, NASA/CP-1999-209146/VOL2, M-913/VOL2.
Presented at Washington, DC, 19-21 Feb. 1997. NASA Marshall Space Flight Center, Huntsville, AL.
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The Space Transportation Association and NASA conducted a General Public Space Travel study between 1996 and 1998. During the study, a workshop was held at Georgetown University. Participants included representatives from the travel, aerospace, and construction industries. This report is the proceedings from that workshop. Sections include infrastructure needs, travel packages, policy related issues, and potential near-term activities.

Keywords: *Space transportation, *Space tourism, *Conferences, Space commercialization, Space flight, Travel.

N19990041946REB PC A06/MF A02
National Aeronautics and Space Administration, Washington, DC.
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
GenCorp Aerojet, Azusa, CA.
R. Kapper. Nov 1998, 100p, NAS 1.26:209220, NASA/CR-1999-209220, REPT-11317.
Contract NAS5-32314
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The AMSU-A receiver subsystem comprises two separated receiver assemblies; AMSU-A1 and AMSU-A2(PN1356441-1). The AMSU-A1 receiver contains 13 channels and the AMSU-A2 receiver 2 channels. The AMSU-AL receiver assembly is further divided into two parts; AMSU-A 1-1 (P/N 1356429-1) and AMSU-A 1-2 (P/N 1356409-1), which contain 9 and 4 channels, respectively. The AMSU-A receiver subsystem stands in between the antenna and signal processing subsystems of the AMSU-A instrument and comprises the

RF and IF components from RF isolators to IF attenuators. It receives the RF signals from the antenna subsystem, down-converts the RF signals to IF signals, amplifies and defines the IF signals to proper power level and frequency bandwidth as specified for each channel, and inputs the IF signals to the signal processing subsystem. The test reports for the METSAT AMSU-A receiver subsystem are prepared separately for the A1 and A2 receivers so that each receiver stands alone during integration of instruments into the spacecraft. This test report presents the test data of the METSAT AMSU-A2 Flight Model No.4 (FM4) receiver. The tests are performed per the Acceptance Test Procedure for the AMSU-A Receiver Subsystem, AE-26002/6A. The functional performance tests are conducted either at the component or subsystem level. While the component-level tests are performed over the entire operating temperature range predicted by thermal analysis, the subsystem-level tests are conducted at ambient temperature only.

Keywords: *Signal processing, *Microwave equipment, *Performance tests, *Thermal analysis, *Receivers, *Advanced microwave sounding unit, *Acceptability, Radio frequencies, Operating temperature, Isolators, Bandwidth, Attenuators, Antenna design, Ambient temperature.

N19990041952REB PC A03/MF A01
Solution to the Fundamental Linear Fractional Order Differential Equation.
National Aeronautics and Space Administration, Cleveland, OH. Lewis Research Center.
T. T. Hartley, and C. F. Lorenzo. Dec 1998, 20p, NAS 1.60:208693, NASA/TP-1998-208693, E-11408.
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This paper provides a solution to the fundamental linear fractional order differential equation, namely, (sub c)d(sup q, sub t) + ax(t) = bu(t). The impulse response solution is shown to be a series, named the F-function, which generalizes the normal exponential function. The F-function provides the basis for a qth order 'fractional pole'. Complex plane behavior is elucidated and a simple example, the inductor terminated semi- infinite lossy line, is used to demonstrate the theory.

Keywords: *Differential equations, *Linear equations, Inductors, Impulses, Exponential functions.

N19990041955REB PC A01/MF A01
Variable Structure PID Control to Prevent Integrator Windup.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
C. E. Hall, A. S. Hodel, and J. Y. Hung. 1999, 5p.
Presented at System Theory (SSST 99), Auburn, AL, 21-23 Mar. 1999.
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PID controllers are frequently used to control systems requiring zero steady-state error while maintaining requirements for settling time and robustness (gain/phase margins). PID controllers suffer significant loss of performance due to short-term integrator wind-up when used in systems with actuator saturation. We examine several existing and proposed methods for the prevention of integrator wind-up in both continuous and discrete time implementations.

Keywords: *Controllers, *Integrators, *Control theory, *Feedback control, *Feedforward control, Computerized simulation, Stability, Steady state, Robustness(Mathematics), Temperature profiles, Computer programming.

N19990042027REB PC A04/MF A01
Bundesministerium fuer Forschung und Technologie, Bonn, Germany.
Gamma Radiation from PSR B1055-52.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
1999, 40p.
Contract NAS5-31210, Grant NAG5-1742
Partially funded by Grants NAG5-1605.
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The telescopes on the Compton Gamma Ray Observatory (CGRO) have observed PSR B1055-52 a number of times between 1991 and 1998. From these data, a more detailed picture of the gamma radiation from this source has been developed, showing several characteristics which distinguish this pulsar: the light curve is complex; there is no detectable unpulsed emission; the energy spectrum is flat, with no evidence of a sharp high-energy cutoff up to greater than 4 GeV. Comparisons of the gamma-ray data with observations at longer wavelengths show that no two of the known gamma-ray pulsars have quite the same characteristics; this diversity makes interpretation in terms of theoretical models difficult.

Keywords: *Gamma rays, *Data acquisition, *Pulsars, *Mathematical models, *Atmospheric radiation, Telescopes, Subjects, Light curve, Images, Energy spectra, Gamma ray observatory.

N19990042028REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
Final Report, 1 Feb. 1992 - 31 Jan. 1999.
Iowa State Univ. of Science and Technology, Ames.
J. C. Tannehill. 1999, 10p.
Grant NAG2-776
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This final report summarizes the research accomplished. The research performed during the grant period can be divided into the following major areas: (1) Computation of chemically reacting Supersonic combustion ramjet (scramjet) flowfields. (2) Application of a two-equation turbulence model to supersonic combustion flowfields. (3) Computation of the integrated aerodynamic and propulsive flowfields of a generic hypersonic space plane. (4) Computation of hypersonic flows with finite-catalytic walls. (5) Development of an upwind Parabolized Navier-Stokes (PNS) code for thermo-chemical nonequilibrium flows.

Keywords: *Navier-stokes equation, *National aerospace plane program, *Computational fluid dynamics, *Supersonic combustion ramjet engines, *Hypersonic flow, *Laminar flow, *Three dimensional flow, *Hypersonic nozzles, *Inviscid flow, *Nonequilibrium flow, *Turbulence models, *Acoustic velocity, Hydrogen, Models, Reacting flow, Cauchy problem, Tvd schemes, Conical bodies.

N19990042032REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
Final Report.
Georgia Inst. of Tech., Atlanta.
M. Polk. 1999, 6p.
Grant NGT10-52603
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The objective of this research project is to design calixarenes, cup-shaped molecules, with the specific binding sites to the sodium chloride and nitrogen containing components of urine, such as urea and uric acid, in urine. The following partition of the research accomplishes this objective: (1) functionalization of calixarene, (2) development of a calixarene based medium for the separatory process, (3) design of the column regeneration protocol. Work was also accomplished in the area of temperature sensitive paint (TSP). Research was undertaken to design a TSP with insulating propertites. An important part of this research project is to discover the thermal conductivity of polymers for TSP.

Keywords: *Sodium chlorides, *Water, *Urine, *Nitrogen, *Purification, *Thermal conductivity, *Paints, Uric acid, Chromophores, Ureas.

N19990042066REB PC A10/MF A02
National Aeronautics and Space Administration, Washington, DC.
Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
GenCorp Aerojet, Azusa, CA.
R. Schwantje. 29 Oct 1998, 176p, NAS 1.26:209223, NASA/CR-1998-209223, REPT-10974A.
Contract NAS5-32314
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This document is the Firmware Test Report for the firmware to be used in the Earth Observing System (EOS) Advanced Microwave Sounding Unit-A (AMSU-A) instrument. It describes the firmware results of the Formal Qualification Test (FQT)/Demonstrations conducted on Mar. 21, 1997, Apr. 8, 1998, and July 14, 1998, for the EOS/AMSU-A instrument.

Keywords: *Performance tests, *Firmware, Earth observing system(Eos), Advanced microwave sounding unit.

N19990042067REB PC A03/MF A01
Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
National Aeronautics and Space Administration, New York. Goddard Inst. for Space Studies.
C. Prigent, J. P. Wigneron, W. B. Rossow, and J. R. Pardo-Carrion. 1999, 21p.
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To retrieve temperature and humidity profiles from SSM/T and AMSU, it is important to quantify the contribution of the Earth surface emission. So far, no global estimates of the land surface emissivities are available at SSM/T and AMSU frequencies and scanning conditions. The land surface emissivities have been previously calculated for the globe from the SSM/I conical scanner between 19 and 85 GHz. To analyze the feasibility of deriving SSM/T and AMSU land surface emissivities from SSM/I emissivities, the spectral and angular variations of the emissivities are studied, with the help of ground-based measurements, models and satellite estimates. Up to 100 GHz, for snow and ice free areas, the SSM/T and AMSU emissivities can be derived with useful accuracy from the SSM/I emissivities. The emissivities can be linearly interpolated in frequency. Based on ground-based emissivity measurements of various surface types, a simple model is proposed to estimate SSM/T and AMSU emissivities for all zenith angles knowing only the emissivities for the vertical and horizontal polarizations at 53 deg zenith angle. The method is tested on the SSM/T-2 91.655 GHz channels. The mean difference between the SSM/T-2 and SSM/I-derived emissivities is less than or equal to 0.01 for all zenith angles with an r.m.s. difference of approx. = 0.02. Above 100 GHz, preliminary results are presented at 150 GHz, based on SSM/T-2 observations and are compared with the very few estimations available in the literature.

Keywords: *Frequencies, *Angular distribution, *Remote sensing, *Microwave emission, *Emissivity, *Earth surface, *Atmospheric temperature, Zenith, Spectra, Snow, Microwave imagery, Interpolation, Ice, Humidity, Estimates, Conical scanning.

N19990042081REB PC A03/MF A01
Flight Prediction for Performance of the SWAS Solar Array Deployment Mechanism.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
G. Sneiderman, and W. K. Daniel. 1999, 15p.
Presented at Aerospace Mechanics, Pasadena, CA, 11-14 May 1999.
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orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The focus of this paper is a comparison of ground-based solar array deployment tests with the on-orbit deployment. The discussion includes a summary of the mechanisms involved and the correlation of a dynamics model with ground based test results. Some of the unique characteristics of the mechanisms are explained through the analysis of force and angle data acquired from the test deployments. The correlated dynamics model is then used to predict the performance of the system in its flight application.

Keywords: *Performance prediction, *Flight tests, *Solar arrays, *Deployment, Ground tests, Dynamic models, Data acquisition.

N19990042082REB PC A04/MF A01
Seasonal and Interannual Variabilities in Tropical Tropospheric Ozone.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
J. R. Ziemke, and S. Chandra. 1999, 44p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This paper presents a detailed characterization of seasonal and interannual variability in tropical tropospheric column ozone (TCO). TCO time series are derived from 20 years (1979-1998) of total ozone mapping spectrometer (TOMS) data using the convective cloud differential (CCD) method. Our study identifies three regions in the tropics with distinctly different zonal characteristics related to seasonal and interannual variability. These three regions are the eastern Pacific, Atlantic, and western Pacific. Results show that in both the eastern and western Pacific seasonal-cycle variability of northern hemisphere (NH) TCO exhibits maximum amount during NH spring whereas largest amount in southern hemisphere (SH) TCO occurs during SH spring. In the Atlantic, maximum TCO in both hemispheres occurs in SH spring. These seasonal cycles are shown to be comparable to seasonal cycles present in ground-based ozonesonde measurements. Interannual variability in the Atlantic region indicates a quasi-biennial oscillation (QBO) signal that is out of phase with the QBO present in stratospheric column ozone (SCO). This is consistent with high pollution and high concentrations of mid-to-upper tropospheric O3-producing precursors in this region. The out of phase relation suggests a UV modulation of tropospheric photochemistry caused by the QBO in stratospheric O3. During El Nino events there is anomalously low TCO in the eastern Pacific and high values in the western Pacific, indicating the effects of convectively-driven transport of low-value boundary layer O3 (reducing TCO) and O3 precursors including H2O and OH. A simplified technique is proposed to derive high-resolution maps of TCO in the tropics even in the absence of tropopause-level clouds. This promising approach requires only total ozone gridded measurements and utilizes the small variability observed in TCO near the dateline. This technique has an advantage compared to the CCD method because the latter requires high-resolution footprint measurements of both reflectivity and total ozone in the presence of tropopause-level cloud tops.

Keywords: *Annual variations, *Atmospheric composition, *Cycles, *Ozone, *Oscillations, *Troposphere, *Variability, Boundary layers, Cloud height indicators, Convection, El nino, Footprints, High resolution, Modulation, Northern hemisphere, Photochemical reactions, Reflectance, Total ozone mapping spectrometer.

N19990042083REB PC A01/MF A01
Modular Wideband Active Vibration Absorber.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
D. R. Smith, W. Zewari, and K. Y. Lee. 1999, 4p.
Presented at Sound and Vibration, Copenhagen, Denmark, 5 Jul. - Aug. 1999.
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A comparison of space experiments with previous missions shows a common theme. Some of the recent experiments are based on the scientific fundamentals of instruments of prior years. However, the main distinguishing characteristic is the embodiment of advances in engineering and manufacturing in order to extract clearer and sharper images and extend the limits of measurement. One area of importance to future missions is providing vibration free observation platforms at acceptable costs. It has been shown by researchers that vibration problems cannot be eliminated by passive isolation techniques alone. Therefore, various organizations have conducted research in the area of combining active and passive vibration control techniques. The essence of this paper is to present progress in what is believed to be a new concept in this arena. It is based on the notion that if one active element in a vibration transmission path can provide a reasonable vibration attenuation, two active elements in series may provide more control options and better results. The paper presents the functions of a modular split shaft linear actuator developed by NASA's Goddard Space Flight Center and University of Massachusetts Lowell. It discusses some of the control possibilities facilitated by the device. Some preliminary findings and problems are also discussed.

Keywords: *Active control, *Vibration, *Vibration damping, *Attenuation, *Broadband, Positioning devices(Machinery), Holders.

N19990042097REB PC A01/MF A01
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
National Aeronautics and Space Administration, Moffett Field, CA. Ames Research Center.
B. Fritzsch, and L. L. Bruce. 1 Jun 1998, 5p.
Contract NCC2-861
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In our original application we proposed to investigate the effects of gravity on the formation of connections between the gravity receptors of the ear and the brain in rat pups raised in space beginning at an age before these connections are made until near the time of birth, when they are to some extent functional. We used the neuronal tracer, DiI, which could be applied to tissue obtained immediately after landing of the space shuttle, thus minimizing changes due to the earth's gravity. We hoped to determine whether the vestibular system develops in two phases, as do other sensory systems (such as the visual system). In these other systems the first phase of development is controlled genetically and the second phase is controlled by environmental stimulation. Our data collected strongly supports the idea that the vestibular system has these same two phases of development. The tissue obtained from the NIH.R1 experiment was of exceptionally high quality for our analysis. Therefore, we expanded our investigation into the ultrastructural effects of microgravity on vestibular development. For the sake of clarity we will subdivide our summary into two categories: (1) analysis of the branching pattern of axons between the vestibular nerve and the gravistatic receptors of the ear in flight and control animals, and (2) analysis of the branching pattern of axons between the vestibular nerve and the brain in flight and control animals.

Keywords: *Vestibules, *Experimentation, *Spaceborne experiments, *Exobiology, *Spacecraft environments, *Weightlessness, *Controlled atmospheres, Gravitational effects, Microgravity, Ear, Brain, Rats, Nerves.

N19990042107REB PC A01/MF A01
National Aeronautics and Space Administration, Washington, DC.
Hard X-Ray Emission from X-Ray Bursters. Final Report, 1 Jun. 1997 - 31 May 1999.
Columbia Univ., New York.
J. P. Halpern, and P. Kaaret. Apr 1999, 2p, CAL-3093.
Grant NAG5-4633
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The scientific goal of this project is to study the hard x-ray emission from x-ray bursters. One target of opportunity observation was made for this investigation during 1997. We obtained 38ks of data on the source 4UI705-44. The project is closely related to 'Monitoring x-ray emission from x-ray bursters', and 'Long-Term Hard X-Ray Monitoring of X-Ray Bursters'.

Keywords: *X rays, *X ray binaries, *Emission spectra, *X ray astronomy, Compton effect, Time lag, Accretion disks, Neutron stars, Black holes(Astronomy).

N19990042108REB PC A03/MF A01
National Aeronautics and Space Administration, Washington, DC.
Interaction-Activity Connection.
Hughes STX, Inc., Greenbelt, MD.
K. D. Borne. 1996, 17p.
Grants NAG5-1920, NAG5-26555
Partially funded by Grants NAG5-30960, GO-05410.01-93.
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A review is presented of the numerous studies that have been undertaken to investigate the likely interaction-activity connection among galaxies. Both observational evidence and theoretical supporting models are reviewed. Some specific examples of 'interactive' galaxies from the author's own research are presented: (a) the collision-induced AGN (Active Galactic Nuclei) activity in the radio jet source 3C278; and (b) the collision-induced starburst activity in the spectacular 'Cartwheel' ring galaxy. Some comments are offered concerning some of the more promising theoretical investigations that are now taking place. A few words of warning are also offered about the possible misinterpretation of putative collision-induced morphologies among some galaxy samples.

Keywords: *Active galactic nuclei, *Active galaxies, *Radio sources(Astronomy), *Radio astronomy, *Galactic radiation, *Radio emission, Ring galaxies, Star formation, Rosat mission, Very large array(Vla), Infrared astronomy satellite.

N19990042109REB PC A03/MF A01
National Aeronautics and Space Administration, Washington, DC.
Multidisciplinary Design and Analysis for Commercial Aircraft.
California Polytechnic State Univ., San Luis Obispo.
R. M. Cummings, and H. J. A. Freeman. Apr 1999, 19p.
Grant NGT-10012
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Multidisciplinary design and analysis (MDA) has become the normal mode of operation within most aerospace companies, but the impact of these changes have largely not been reflected at many universities. On an effort to determine if the emergence of multidisciplinary design concepts should influence engineering curricula, NASA has asked several universities (Virginia Tech, Georgia Tech, Clemson, BYU, and Cal Poly) to investigate the practicality of introducing MDA concepts within their undergraduate curricula. A multidisciplinary team of faculty, students, and industry partners evaluated the aeronautical engineering curriculum at Cal Poly. A variety of ways were found to introduce MDA themes into the curriculum without adding courses or units to the existing program. Both analytic and educational tools for multidisciplinary design of aircraft have been developed and implemented.

Keywords: *Aeronautical engineering, *Aircraft design, *Commercial aircraft, *Systems engineering, *Structural design, Aerospace industry, Students, Engineers.

N19990042110REB PC A03/MF A01
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
National Aeronautics and Space Administration, Edwards, CA. Hugh L. Dryden Flight Research Center.
D. Soreide, R. K. Bogue, L. J. Ehernberger, and J. Seidel. Jul 1997, 18p, NAS 1.15:104332, H-2186, NASA-TM-1997-104332.

Presented at Joint Propulsion, Seattle, WA, 6-9 Jul. 1997. American Inst. of Aeronautics and Astronautics, Washington, DC.
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Inlet unstart causes a disturbance akin to severe turbulence for a supersonic commercial airplane. Consequently, the current goal for the frequency of unstarts is a few times per fleet lifetime. For a mixed-compression inlet, there is a tradeoff between propulsion system efficiency and unstart margin. As the unstart margin decreases, propulsion system efficiency increases, but so does the unstart rate. This paper intends to first, quantify that tradeoff for the High Speed Civil Transport (HSCT) and second, to examine the benefits of using a sensor to detect turbulence ahead of the airplane. When the presence of turbulence is known with sufficient lead time to allow the propulsion system to adjust the unstart margin, then inlet un,starts can be minimized while overall efficiency is maximized. The NASA Airborne Coherent Lidar for Advanced In-Flight Measurements program is developing a lidar system to serve as a prototype of the forward-looking sensor. This paper reports on the progress of this development program and its application to the prevention of inlet unstart in a mixed-compression supersonic inlet. Quantified benefits include significantly reduced takeoff gross weight (TOGW), which could increase payload, reduce direct operating costs, or increase range for the HSCT.

Keywords: *Atmospheric turbulence, *Supersonic transports, *Aircraft design, *Commercial aircraft, *Civil aviation, Weight reduction, System effectiveness, Propulsion, Optical radar, Measuring instruments, Airborne equipment.

N19990042133REB PC A01/MF A01
National Aeronautics and Space Administration, Washington, DC.
High Resolution Far-Infrared Studies of Compact Regions in Star-Forming Molecular Clouds.
Maryland Univ., College Park.
L. G. Mundy. 1998, 5p.
Grant NAG2-1060
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This grant supported the acquisition, analysis and publication of high spatial resolution observations of the far-infrared emission from compact regions of star-forming molecular clouds using the Kuiper Airborne Observatory. We studied regions which are forming stars of low and intermediate mass. In analyzing the data, we utilized radiative transfer codes, incorporating disk models and envelopes, including departures from spherical symmetry. These data, along with data at other wavelengths, were used to probe the distribution of dust temperature and density around young stars and to test theoretical predictions about star formation.

Keywords: *Infrared radiation, *Star formation, *Interstellar matter, *Stellar envelopes, *Molecular clouds, *Herbig-haro objects, *A stars, *B stars, Infrared astronomy, Kuiper airborne observatory, Satellite-borne instruments, Spectral emission, Infrared photometry.

N19990042134REB PC A02/MF A01
Airborne Astronomy Program.
National Aeronautics and Space Administration, Moffett Field, CA. Ames Research Center.
H. M. Butner. 1999, 7p.
Grant NAG2-1074
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Our understanding about the inter-relationship between the collapsing cloud envelope and the disk has been greatly altered. While the dominant star formation models invoke free fall collapse and r(sup -1.5) density profile, other star formation models are possible. These models invoke either different cloud starting conditions or the mediating effects of magnetic fields to alter the cloud geometry during collapse. To test these models, it is necessary to understand the envelope's physical structure. The discovery of disks, based on millimeter observations around young stellar objects, however makes a simple interpretation of the emission complicated. Depending on the wavelength, the disk or the envelope could dominate emission from a star. In addition, the discovery of planets around other stars has made understanding the disks in their own right quite important. Many star formation models predict disks should form naturally as the star is forming. In many cases, the information we derive about disk properties depends implicitly on the assumed envelope properties. How to understand the two components and their interaction with each other is a key problem of current star formation.

Keywords: *Star formation, *Collapse, *Molecular clouds, *Stellar envelopes, *Interstellar matter, *Accretion disks, *Astrophysics, *Infrared astronomy, Magnetic fields, Spectral emission, Far infrared radiation, Kuiper airborne observatory, Infrared interferometers, Infrared photometry.

N19990042135REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Study the Effects of Charged Particle Radiation on Gravitational Sensors in Space.
Stanford Univ., CA.
J. A. Lipa. 7 May 1999, 9p.
Grant NAGW-4863
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Space-flight charging of free floating masses poses an unusual problem– how can one control charge on the object without exerting a significant force on it. One approach is to make contact to the object with a fine wire. However, for many precision applications no physical contact is permissible, so charge must be conveyed in, a more sophisticated manner. One method has already been developed: Gravitational Probe B (GP-B) uses an ultraviolet photo-emission system described in ref 1. This system meets the experiment requirements, yet poses a number of constraints, including high power dissipation (approximately 10 W peak, approximately 1 W average), low current output (approximately 10(exp -13) A), and potential reliability problems associated with fiber optics system and the UV source. The aim of the current research is to improve this situation and, if possible, develop a more rugged and lower power alternative, usable in a wide range of situations. An potential alternative to the UV electron source is a Spindt-type field emission cathode. These consist of an array of extremely sharp silicon tips mounted in a standard IC package with provision for biasing them relative to the case potential. They are attractive as electron sources for space applications due to their low power consumption (10(exp -5) W), high current levels (10(exp -9) to 10(exp -5) A), and the absence of mechanical switching. Unfortunately, existing cathodes require special handling to avoid contamination and gas absorption. These contaminants can cause severe current fluctuations and eventual destruction of the cathode tips. Another potential drawback is the absence of any data indicating the possibility of bipolar current flow. This capability is needed because of the large uncertainties in the net charge transfer from cosmic rays to a free floating mass in space. More recent devices reduce the current fluctuations and destructive arcing by mounting the tips on a resistive substrate rather than a good conductor. This effectively wires a resistor to each individual tip, providing a current limit and thus greatly reducing the possibility of destructive arcing through an individual tip. An issue with this resistive layer is its range of operating temperatures. From the experience with the GP-B system, we hypothesized about using secondary electron emission for control of net charge transfer to an object. An important goal of the testing described below was to demonstrate the ability to apply both positive and negative charges to the test object from a single emitter.

Keywords: *Charged particles, *Electron sources, *Fiber optics, *Gravity probe b, *Electron emission, Technology utilization, Cathodes.

N19990042136REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Hydrodynamic Stability and Magnetic Reconnection in Disks and Stars. Final Report, 1 Dec. 1994 - 31 Jan. 1999.
Princeton Univ., NJ. Dept. of Astrophysical Sciences.
J. Goodman, and R. Kulsrud. 12 Apr 1999, 8p.
Grant NAG5-2796
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The purpose of this grant is to study parametric instability. The simplest example of parametric instability is a harmonic oscillator with a periodic modulation of the spring constant. If the modulation frequency is close to twice the natural frequency of the oscillator, the amplitude of oscillation tends to grow exponentially. The growth rate is proportional to the strength of the modulation, but it also depends upon the closeness to resonance of the two frequencies, and upon natural damping rate or 'Q' of the oscillator. Parametric instabilities are very common in physics. A familiar example is a jogger's ponytail--normally a very strongly damped pendulum, it can be destabilized by the variation in effective gravity during the jogger's stride. Observation confirms that the period of the pendulum is half that of the jogger's vertical motion. In astrophysics, parametric instability may occur by external tidal forcing, or by interaction among eigenmodes. In the latter case, an energetic eigenmode may destabilize modes of half its frequency, provided some weak nonlinearity exists to couple them. Under a previous Astrophysical Theory grant (NAGW-2419), the PI discovered a parametric instability of tidally forced disks such as the accretion disks in cataclysmic variables and X ray binaries (2). The destabilized modes are tightly-wound, incompressible, three-dimensional waves analogous to g-modes and r-modes in stars. Later work has confirmed our analysis (4). It was hoped that these modes might provide a source of turbulence and angular momentum transport in accretion disks. However, a follow-up investigation of this instability by local numerical simulations, although confirming the analytically estimated growth rates, found negligible angular momentum flux (3). Other work, partly supported by the ATP, now strongly indicates that the transport mechanism in such disks is magnetohydrodynamic turbulence (6). Nevertheless, the parametric mechanism may truncate the outer edges of disks in close binaries (2), and it may be important in disks of very low ionization such as protostellar disks, or even cataclysmic-variable disks in quiescence where the MHD mechanism may be ineffective (5). All analyses up to 1996 were done in a local approximation where the orbital frequency, shear rate, and tidal field were treated as constants. The locally computed growth rate turns out to depend strongly on radius, and it was unclear how to average these local rates to obtain the correct global rate. This is a critical issue for accretion disks in close binaries, because the local growth rate is comparable to the orbital frequency towards the outer edge of the disk but decreases rapidly inwards. Paper 1 examined this issue in a simplified global model where the destabilizing terms vary with position. We found that the global growth rate is essentially equal to the maximum local rate, provided that the latter is smoothed over a radial range equal to the distance that the destabilized wave propagates at its group speed in one growth time. Thus, in an accretion disk, waves would grow rapidly in the outer parts but would propagate both inwards and outwards at a maximum group speed of order the disk thickness divided by the orbital period.

Keywords: *Magnetic field reconnection, *Astrophysics, *Flow stability, *Harmonic oscillators, *Pendulums, *Oscillations, Magnetohydrodynamics, Accretion disks, Cataclysmic variables, X ray binaries, Resonant frequencies.

N19990042137REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST. Final Report, 1 Jan. 1995 - 14 Feb. 1998.
Space Telescope Science Inst., Baltimore, MD.
H. E. Bond. 1998, 9p.
Grant NAG5-3912
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This report summarizes activities carried out with support from the NASA Ultraviolet, Visible, and Gravitational Astrophysics Research and Analysis Program. The aim of the program is to calibrate the absolute magnitudes of post-asymptotic-giant-branch (post-AGB or PAGB) stars, which we believe will be an excellent new 'standard candle' for measuring extragalactic distances. The reason for this belief is that in old populations, the stars that are evolving through the PAGB region of the HR (Hertzsprung-Russell) diagram arise from only a single main-sequence turnoff mass. In addition, the theoretical PAGB evolutionary tracks show that they evolve through this region at constant luminosity; hence the PAGB stars should have an extremely narrow luminosity function. Moreover, as the PAGB stars evolve through spectral types F and A (en route from the AGB to hot stellar remnants and white dwarfs), they have the highest luminosities attained by old stars (both bolometrically and in the visual band). Finally, the PAGB stars of these spectral types are very easily identified, due to their large Balmer jumps, which are due to their very low surface gravities.

Keywords: *Astrophysics, *Asymptotic giant branch stars, *Stellar evolution, *A stars, *F stars, *White dwarf stars, *Main sequence stars, *Supergiant stars, Distance, Globular clusters, Luminosity, Magnitude, Milky way galaxy, Photometry, Ultraviolet spectra, Visible spectrum.

N19990042139REB PC A01/MF A01
Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
National Aeronautics and Space Administration, Moffett Field, CA. Ames Research Center.
P. R. Gazis. 1997, 4p.
Contract NCC2-687
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Co-rotating interaction regions (CIRs) and their associated shock pairs are dominant structures in the solar wind between the heliocentric distances of 2 and 8 AU. At larger heliocentric distances, these structures undergo a qualitative change. Shocks decay to a point where they are often difficult to detect, and may have little influence on the dynamics of the solar wind. Interaction regions spread and merge, though they appear to retain their identity to surprisingly large distances from the Sun. Solar wind and IMF data from the Pioneer 10, Pioneer 11, and Voyager 2 spacecraft were used to conduct a comprehensive survey of CIRs and their successors between heliocentric distances of 1 and 55 AU over the last two solar cycles. The structure of the solar wind varied in a consistent fashion with heliocentric distance. Similar structures were observed at similar heliocentric distances by all three spacecraft during different portions of the solar cycle.

Keywords: *Solar wind, *Solar cycles, *Solar position, *Distance, *Geophysics, *Earth planetary structure, Pioneer 10 space probe, Pioneer 11 space probe, Voyager 2 spacecraft, Wind velocity, Wind profiles, Temperature.

N19990042149REB PC A03/MF A01
Development of Lightweight Electronics Enclosures for Space Applications.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
M. T. Fenske, J. L. Barth, J. R. Didion, and P. Mule.
1999, 13p.
Presented at Long Beach, CA, May 1999. Society for the Advancement of Materials and Process Engineering, Covina, CA.
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This paper outlines the end to end effort to produce lightweight electronics enclosures for NASA GSFC electronics applications with the end goal of presenting an array of lightweight box options for a flight opportunity. Topics including the development of requirements, design of three different boxes, utilization of advanced materials and processes, and analysis and test are discussed. Three different boxes were developed independently and in parallel. A lightweight machined Aluminum box, a cast Aluminum box and a composite box were designed, fabricated, and tested both mechanically and thermally. There were many challenges encountered in meeting the requirements with a non-metallic enclosure and the development of the composite box employed several innovative techniques.

Keywords: *Fabrication, *Enclosure, *Spacecraft construction materials, *Weight(Mass), Technology utilization, Metal matrix composites, Indexes(Documentation), Design analysis, Performance tests.

N19990042154REB PC A07/MF A02
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
National Aeronautics and Space Administration, Moffett Field, CA. Ames Research Center.
D. Jeker, L. Pfister, D. Brunner, A. M. Thompson, H. Wernli, R. B. Selkirk, Y. Kondo, M. Koike, Y. Zhao, J. Staehelin, D. J. Boccippio, and K. E. Pickering. 1999, 104p.
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In the framework of the project POLINAT 2 (Pollution in the North Atlantic Flight Corridor) we measured NO(x) (NO and NO2) and ozone on 98 flights through the North Atlantic Flight Corridor (NAFC) with a fully automated system permanently installed aboard an in-service Swissair B-747 airliner in the period of August to November 1997. The averaged NO, concentrations both in the NAFC and at the U.S. east coast were similar to that measured in autumn 1995 with the same system. The patchy occurrence of NO(x), enhancements up to 3000 pptv over several hundred kilometers (plumes), predominately found over the U.S. east coast lead to a log-normal NO(x) probability density function. In three case-studies we examine the origins of such plumes by combining back-trajectories with brightness temperature enhanced (IR) satellite imagery, with lightning observations from the U.S. National Lightning Detection Network (NLDN) or with the Optical Transient Detector (OTD) satellite. For frontal activity above the continental U.S., we demonstrate that the location of NO(x) plumes can be well explained with maps of convective influence. For another case we show that the number of lightning flashes in a cluster of marine thunderstorms is proportional to the NO(x) concentrations observed several hundred kilometers downwind of the anvil outflows and suggest that lightning was the dominant source. From the fact that in autumn the NO, maximum was found several hundred kilometers off the U.S. east coast, it can be inferred that thunderstorms triggered over the warm Gulf Stream current are an important source for the regional upper tropospheric NO(x) budget in autumn.

Keywords: *Augmentation, *Detection, *Marine meteorology, *Nitrogen oxides, *Normal density functions, *Ozone, *Plumes, *Troposphere, *Nitrogen dioxide, Atlantic ocean, Autumn, Boeing 747 aircraft, Brightness temperature, Coasts, Convection, Corridors, Gulf stream, Infrared imagery, Lightning, Position(Location), Probability theory, Satellite imagery, Thunderstorms, Trajectories.

N19990042165REB PC A03/MF A01
GISS Analysis of Surface Temperature Changes.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
J. Hansen, R. Ruedy, J. Glascoe, and M. Sato. 1999, 30p.
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We describe the current GISS analysis of surface temperature change based primarily on meteorological station measurements. The global surface temperature in 1998 was the warmest in the period of instrumental data. The rate of temperature change is higher in the past 25 years than at any previous time in the period of instrumental data. The warmth of 1998 is too large and pervasive to be fully accounted for by the recent El Nino, suggesting that global temperature may have moved to a higher level, analogous to the increase that occurred in the late 1970s. The warming in the United States over the past 50 years is smaller than in most of the world, and over that period there is a slight cooling trend in the Eastern United States and the neighboring Atlantic ocean. The spatial and temporal patterns of the temperature change suggest that more than one mechanism is involved in this regional cooling.

Keywords: *Surface temperature, *Weather stations, *Climate change, *Spatial distribution, *Temperature measurement, *Temperature dependence, El nino, Wide area networks, United states, Temporal distribution, Cooling, Atlantic ocean.

N19990042166REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Global MHD Simulation of Mesoscale Structures at the Magnetospheric Boundary. Final Report, 1 May 1995 - 31 Dec. 1998.
California Univ., Los Angeles. Dept. of Mechanical, Aerospace and Nuclear Engineering.
J. Berchem. 1998, 6p.
Grant NAG5-4685
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The research carried out for this protocol was focused on the study of mesoscales structures at the magnetospheric boundary. We investigated three areas: (1) the structure of the magnetospheric boundary for steady solar wind conditions; (2) the dynamics of the dayside magnetospheric boundary and (3) the dynamics of the distant tail magnetospheric boundary. Our approach was to use high resolution three-dimensional global magnetohydrodynamic (MHD) simulations of the interaction of the solar wind with the Earth's magnetosphere. We first considered simple variations of the interplanetary conditions to obtain generic cases that helped us in establishing the basic cause and effect relationships for steady solar wind conditions. Subsequently, we used actual solar wind plasma and magnetic field parameters measured by an upstream spacecraft as input to the simulations and compared the simulation results with sequences of events observed by another or several other spacecraft located downstream the bow shock. In particular we compared results with observations made when spacecraft crossed the magnetospheric boundary.

Keywords: *Magnetohydrodynamics, *Simulation, *Mesoscale phenomena, *Magnetic fields, *Boundaries, *Research, *Solar wind, Wind velocity, Wind direction, Upstream, Bow waves, Earth magnetosphere, Plasma interactions, Three dimensional models, Shock waves, Protocol(Computers).

N19990042170REB PC A01/MF A01
Photon-Weighted Midpoint Exposure Meter for Keck/HIRES Extrasolar Planet Research. Progress Report No. 2.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
22 Apr 1999, 5p.
Grant NAG5-4445
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NASA Grant was received for research involving the construction of a photon-weighting midpoint exposure meter for the Keck HIRES spectrometer, and for support of our NASA/Keck-based planet research with this instrumentation. The research funds were also to be used to make our iodine cell calibration system and exposure meter available to the NASA Keck observing community. Progress this past year, the second of the 3-year granting period, involved work in 4 areas: 1) Further construction of the midpoint exposure meter. 2) Assisting observers with use of the Iodine system. 3) Acquisition of precision radial velocity data on our program star sample with continued monitoring to proceed in subsequent years as available telescope time permits. 4) Reduction and analysis of incoming precision radial velocity data to reject problematic and uninteresting program stars, and to identify promising planet candidates.

Keywords: *Research, *Fabrication, *Photon beams, *Spectrometers, *Construction, Telescopes, Radial ve-

locity, Iodine, Extrasolar planets, Exposure, Calibrating.

N19990042171REB PC A03/MF A01
National Aeronautics and Space Administration, Washington, DC.
Investigation of the Effect of Surface Impurities on the Adsorption Kinetics of Hydrogen Chemisorbed onto Iron. Final Report, 1 Apr. 1980 - 30 Sep. 1997.
California Univ., Santa Barbara.
R. M. Shanabarger. 1997, 21p.
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The original goal of this program was to investigate the effect surface impurities have on the heterogeneous kinetic processes of those molecular species which produce gaseous hydrogen degradation of the mechanical properties of metallic structural materials. However, shortly after the initiation of the original program, the program's NASA Technical Monitor, Dr. Howard Nelson, requested that the effort supported by this Co-operative Agreement be redirected to study more pressing materials issues associated to the development of the National Aero-Space Plane (NASP). The results of these efforts are outlined in this report. Detailed discussions of specific work, including experimental techniques and procedures, will be found in the publications listed with the subsection discussing that specific work as well and in Section 5. No inventions were generated or disclosed within this Agreement.

Keywords: *Research, *Impurities, *Surface defects, *Adsorption, *Hydrogen, *Chemisorption, *Iron, *Aerospace planes, Reaction kinetics, National aerospace plane program, Molecular gases, Mechanical properties, Heterogeneity, Degradation, Atmospheric chemistry.

N19990042172REB PC A03/MF A01
New Materials for EMI Shielding.
National Aeronautics and Space Administration, Cleveland, OH. NASA John H. Glenn Research Center at Lewis Field.
J. R. Gaier. Apr 1999, 14p, NAS 1.15:209054, NASA/TM-1999-209054, E-11590.
Presented at Electromagnetic Compatibility, Seattle, WA, 2-6 Aug. 1999. Institute of Electrical and Electronics Engineers, Washington, DC.
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Graphite fibers intercalated with bromine or similar mixed halogen compounds have substantially lower resistivity than their pristine counterparts, and thus should exhibit higher shielding effectiveness against electromagnetic interference. The mechanical and thermal properties are nearly unaffected, and the shielding of high energy x-rays and gamma rays is substantially increased. Characterization of the resistivity of the composite materials is subtle, but it is clear that the composite resistivity is substantially lowered. Shielding effectiveness calculations utilizing a simple rule of mixtures model yields results that are consistent with available data on these materials.

Keywords: *Graphite, *Fiber composites, *Electromagnetic interference, *Thermodynamic properties, *Shielding, X rays, Mechanical properties, Halogen compounds, Gamma rays, Electrical resistivity, Bromine.

N19990042214REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
Experimental Internet Environment Software Development. Final Report, 14 Jun. 1996 - 31 Mar. 1997.
Alabama Univ. in Huntsville.
G. A. Maddux. Sep 1998, 10p, NAS 1.26:208191, NASA/CR-1999-208191, TR-5-34474.
Contract NAS8-38609
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Geographically distributed project teams need an Internet based collaborative work environment or 'Intranet.' The Virtual Research Center (VRC) is an experimental Intranet server that combines several services such as desktop conferencing, file archives, on-line publishing, and security. Using the World Wide Web (WWW) as a shared space paradigm, the Graphical User Interface (GUI) presents users with images of a lunar colony. Each project has a wing of the colony and each wing has a conference room, library, laboratory, and mail station. In FY95, the VRC development team proved the feasibility of this shared space concept by building a prototype using a Netscape commerce server and several public domain programs. Successful demonstrations of the prototype resulted in approval for a second phase. Phase 2, documented by this report, will produce a seamlessly integrated environment by introducing new technologies such as Java and Adobe Web Links to replace less efficient interface software.

Keywords: *Internets, *On-line systems, *World wide web, *Graphical user interface, *Java(Programming language), Computer conferencing, Document storage, Coding.

N19990042245REB PC A04/MF A01
National Aeronautics and Space Administration, Washington, DC.
In Situ Resource Utilization (ISRU 3) Technical Interchange Meeting: Abstracts.
Lunar and Planetary Inst., Houston, TX.
1999, 47p, LPI-CONTRIB-963.
Contract NASW-4574
Presented at In-Situ Resource Utilization Technical Interchange, Denver, CO, 11-12 Feb. 1999. Lunar and Planetary Inst., Houston, TX.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This volume contains abstracts that have been accepted for presentation at the In Situ Resource Utilization (ISRU III) Technical Interchange Meeting, February 11-12, 1999, hosted by the Lockheed Martin Astronautics Waterton Facility, Denver, Colorado. Administration and publication support for this meeting were provided by the staff of the Publications and Program Services Department at the Lunar and Planetary Institute.

Keywords: *Abstracts, *Meetings, *Research and development, *Aerospace technology transfer, *Technology utilization, *Information flow, Mars(Planet), Mars exploration, Mars atmosphere, Mars sample return missions, Manned mars missions.

N19990042320REB PC A02/MF A01
Incorporating Manual and Autonomous Code Generation.
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
D. McComas. Sep 1998, 6p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Code can be generated manually or using code-generated software tools, but how do you interpret the two. This article looks at a design methodology that combines object-oriented design with autonomic code generation for attitude control flight software. Recent improvements in space flight computers are allowing software engineers to spend more time engineering the applications software. The application developed was the attitude control flight software for an astronomical satellite called the Microwave Anisotropy Probe (MAP). The MAP flight system is being designed, developed, and integrated at NASA's Goddard Space Flight Center. The MAP controls engineers are using Integrated Systems Inc.'s MATRIXx for their controls analysis. In addition to providing a graphical analysis for an environment, MATRIXx includes an autonomic code generation facility called AutoCode. This article examines the forces that shaped the final design and describes three highlights of the design process: (1) Defining the manual to autonomic code interface; (2) Applying object-oriented design to the manual flight code; (3) Implementing the object-oriented design in C.

Keywords: *Applications programs(Computers), *Object-oriented programming, *Software development tools, *Autocoders, *Computer systems design, *Satellite attitude control, Microwave probes, Airborne/spaceborne computers, Stationkeeping, C(Programming language), Subroutine libraries(Computers), Controllers.

N19990042321REB PC A04/MF A01
National Aeronautics and Space Administration, Washington, DC.
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
Kitt Peak National Observatory, Tucson, AZ.
K. J. Mighell, A. Sarajedini, and R. S. French. 10 Aug 1998, 42p, NOAO-PREPRINT-813, NRA-95-OSS-16.
Contract NAS5-26555, NASA ORDER S-67046-F
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

We present our analysis of archival Hubble Space Telescope Wide Field Planetary Camera 2 (WFPC2) observations in F450W (approximately B) and F555W (approximately V) of the intermediate-age populous star clusters NGC 121, NGC 339, NGC 361, NGC 416, and Kron 3 in the Small Magellanic Cloud. We use published photometry of two other SMC populous star clusters, Lindsay 1 and Lindsay 113, to investigate the age sequence of these seven populous star clusters in order to improve our understanding of the formation chronology of the SMC. We analyzed the V vs B-V and M(sub V) vs (B-V)(sub 0) color-magnitude diagrams of these populous Small Magellanic Cloud star clusters using a variety of techniques and determined their ages, metallicities, and reddenings. These new data enable us to improve the age-metallicity relation of star clusters in the Small Magellanic Cloud. In particular, we find that a closed-box continuous star-formation model does not reproduce the age-metallicity relation adequately. However, a theoretical model punctuated by bursts of star formation is in better agreement with the observational data presented herein.

Keywords: *Magellanic clouds, *Star clusters, *Star formation, *Galactic evolution, *Chronology, Metallicity, Color-magnitude diagram, Astronomical photometry, Hubble space telescope, Stellar models.

N19990042372REB PC A03/MF A01
National Aeronautics and Space Administration, Washington, DC.
Merged Vision and GPS Control of a Semi-Autonomous, Small Helicopter. Final Report, 1 Apr. 1996 - 30 Sep. 1997.
Stanford Univ., CA.
S. M. Rock. Apr 1999, 20p.
Contract NCC2-967
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This final report documents the activities performed during the research period from April 1, 1996 to September 30, 1997. It contains three papers: Carrier Phase GPS and Computer Vision for Control of an Autonomous Helicopter; A Contestant in the 1997 International Aerospace Robotics Laboratory Stanford University; and Combined CDGPS and Vision-Based Control of a Small Autonomous Helicopter.

Keywords: *Global positioning system, *Computer vision, *Helicopters, *Autonomous navigation, *Automatic flight control, *Flight management systems, *Helicopter control, Position sensing, Control systems design, Robot control.

N19990042373REB PC A01/MF A01
Representation and Integration of Scientific Information.
National Aeronautics and Space Administration, Moffett Field, CA. Ames Research Center.
1998, 2p.
Contract NCC2-5247
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The objective of this Joint Research Interchange with NASA-Ames was to investigate how the Tsimmis tech-

nology could be used to represent and integrate scientific information. The main goal of the Tsimmis project is to allow a decision maker to find information of interest from such sources, fuse it, and process it (e.g., summarize it, visualize it, discover trends). Another important goal is the easy incorporation of new sources, as well the ability to deal with sources whose structure or services evolve. During the Interchange we had research meetings approximately every month or two. The funds provided by NASA supported work that lead to the following two papers: Fusion Queries over Internet Databases; Efficient Query Subscription Processing in a Multicast Environment.

Keywords: *Information systems, *Information transfer, *Information retrieval, *Information flow, *Technology transfer, *Internet resources, *On-line systems, Decision making, Systems integration.

N19990042404REB PC A02/MF A01
National Aeronautics and Space Administration, Washington, DC.
RXTE Observation of Cygnus X-1, 1.
Cooperative Inst. for Research in Environmental Science, Boulder, CO.
J. B. Dove, J. Wilms, M. A. Nowak, B. A. Vaughan, and M. C. Begelman. 28 Sep 1998, 8p, ASTRO-PH/9707322-VOL-2.
Contract DARA-50-OR-92054, Grant NAG5-2026
Partially funded by Grants NAG5-3225, NAG5-3310, NSF AST-91-20599, NSF AST-95-29175, NSF INT-95-13899.
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We present the results of the analysis of the broadband spectrum of Cygnus X-1 from 3.0 to 200 keV, using data from a 10 ksec observation by the Rossi X-ray Timing Explorer. The spectrum can be well described phenomenologically by an exponentially cut-off power law with a photon index Gamma = 1.45(+0.01 -0.02) (a value considerably harder 0.02 than typically found), e-folding energy E(sub f) = 162(+9 -8) keV, plus a deviation from a power law that formally can be modeled as a thermal blackbody with temperature kT(sub bb) = 1.2(+0.0 -0.1) keV. Although the 3-30 keV portion of the spectrum can be fit with a reflected power law with Gamma = 1.81 + or - 0.01 and covering fraction f = 0.35 + or - 0.02, the quality of the fit is significantly reduced when the HEXTE data in the 30-100 keV range is included, as there is no observed hardening in the power law within this energy range. As a physical description of this system, we apply the accretion disc corona models of Dove, Wilms & Begelman (1997a) - where the temperature of the corona is determined self-consistently. A spherical corona with a total optical depth pi = 1.6 + or - 0.1 and an average temperature kT(sub c) = 87 + or - 5 keV, surrounded by an exterior cold disc, does provide a good description of the data (X(exp 2 sub red) = 1.55). These models deviate from red the data by up to 7% in the 5 - 10 keV range, and we discuss possible reasons for these discrepancies. However, considering bow successfully the spherical corona reproduces the 10 - 200 keV data, such 'pboton-starved' coronal geometries seem very promising for explaining the accretion processes of Cygnus X-1.

Keywords: *Accretion disks, *X ray astronomy, *X ray binaries, *Radiative transfer, *Coronas, X ray timing explorer, Cygnus constellation, X ray spectroscopy.

N19990042443REB PC A03/MF A01
Design/Use of the Remotely Operated Bakeout Box Shutter (ROBBS).
National Aeronautics and Space Administration, Greenbelt, MD. Goddard Space Flight Center.
B. P. Ottens. 30 Dec 1999, 22p.
Presented at Value Driven Testing and Best Practices: Challenges for 21st Century, 16-18 Mar. 1999.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A thermal vacuum box bakeout and certification allows orbital payloads to be cleaned and certified when the background TQCM measurements (a measure of how much molecular contamination is on a payload or chamber) are unacceptable or unmanageable in the standard thermal vacuum chamber. The box bakeout procedure is usually performed in 4 steps: bakeout the box, certify the box, bake out the payload, and finally certify the payload. In the procedure's current setup, the contaminant conduction hole ('lid') is initially open and a vacuum chamber break must occur between the bakeout and certification phases to close the box from the vacuum chamber. This exposure is necessary to allow the outgassed contaminants to escape the box's volume rapidly during bakeout phase, but payload certification isn't usually performed while the lid is still open, because it exposes the payload, TQCM, and box volume to chamber contaminants. The Remotely Operated Bakeout Box Shutter (ROBBS) is a new facility design and will allow the remote closure of the contamination hole while the chamber is still under vacuum, and with little or no time to do so.

Keywords: *Contamination, *Remote control, *Vacuum chambers, *Contaminants, *Thermodynamic properties, Payloads, Degassing, Exposure.

NASS-ZAG-99REB PC$28.00/MF A04
Agricultural Statistics, 1999.
National Agricultural Statistics Service, Washington, DC.
1999, 500p, ISBN-0-16-049562-8.
See also NASS-ZAG-98 and NASS-ZAG-97.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Agricultural Statistics is published each year to meet the diverse need for a reliable reference book on agricultural production, supplies, consumption, facilities, costs, and returns. Its tables of annual data cover a wide variety of facts in forms suited to most common use.

Keywords: *Agricultural economics, *United States, *Statistics, Vegetables, Grain crops, Exports, Imports, International trade, Livestock, Market value, Production, Commodities, Tables(Data).

NASS-ZCP-99REB PC$15.00/MF A01
Cherry Production (Released June 24, 1999).
National Agricultural Statistics Service, Washington, DC. Agricultural Statistics Board.
24 Jun 1999, 4p.
See also NASS-ZCP-98 and NASS-ZCP-97.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

U.S. tart cherry production is forecast at 260 million pounds, down 25% from 1998 and 11% below 1997. This level is the lowest since 1991 when 190 million pounds were produced. Michigan, the largest producing state, expects a crop of 192 million pounds, down 27% percent from last year and 15% below the 1997 crop. Drought conditions in the fall along with light frost damage reduced bud formation in the northern growing areas. Southwestern Michigan reports excellent fruit set due to favorable conditions. Crop maturity is making normal progress. Fruit size is expected to be large and of good quality due to excellent weather conditions since pollination.

Keywords: *Agricultural economics, *Cherries, *United States, Production, Economic forecasting, Fruit crops, Harvesting, Marketing, Pollination, Michigan, Utah, Oregon, New York, California, Washington(State), Weight, Statistical data.

NASS-ZFC-99REB PC$20.00/MF A02
Floriculture Crops. 1998 Summary.
National Agricultural Statistics Service, Washington, DC. Agricultural Statistics Board.
Jun 1999, 124p.
See also NASS-ZFC-98 and NASS-ZFC-97.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The wholesale vlaue of 1998 floriculture crops was up one percent from the revised 1997 valuation. The total value of all crops at wholesale for all growers with $10,000 or more in sales is estimated at $3.93 billion for 1998, compared with $3.90 billion for 1997. California was again the leading state with crops valued at $769 million, down 3% for the year. Florida was down slightly from 1997 with $654 million in wholesale value. These two states accounted for 36 percent of the total value. Of the 36 states surveyed, 21 showed increased value over the previous year. The top five states, California, Florida, Michigan, Texas, and Ohio accounted for $2.02 billion, 51% of the total value. Growers with sales exceeding $100,000 for the year accounted for 91% of the total, at $3.56 billion. This group comprised 36% of the total number of growers.

Keywords: *Horticulture, *Flowers, *Marketing, *Agribusiness, Agricultural economics, Market value, Prices, Production, Statistical data, United States, Sales, Crops, Commerce, Greenhouses, Surveys, Commodities, *Floriculture.

NUREG/CR-5500-V3REB PC A12/MF A03
Nuclear Regulatory Commission, Washington, DC. Safety Programs Div.
Reliability Study: General Electric Reactor Protection System, 1984-1995. Technical rept. 1 Jan 84-31 Dec 95.
Idaho National Engineering and Environmental Lab., Idaho Falls.
S. A. Eide, S. T. Beck, M. B. Calley, S. T. Khericha, T. E. Wierman, W. J. Galyean, and C. D. Gentillon. May 1999, 240p.
See also NUREG/CR-5500-V2. Sponsored by Nuclear Regulatory Commission, Washington, DC. Safety Programs Div.
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This report documents an analysis of the safety-related performance of the ractor protection system (RPS) at U.S. General Electric commercial reactors during the period 1984 through 1995. General Electric RPS designs analyzed in this report include those with relay-based trip systems. The analysis is based on a BWR/4 plant design. RPS operational data were collected for all U.S. General Electric commercial reactors from the Nuclear Plant Reliability Data System and Licensee Event Reports. A risk-based analysis was performed on the data to estimate the observed unavailability of the RPS, based on a fault tree model of the system. An engineering analysis of trends and patterns was also performed on the data to provide additional insights into RPS performance. RPS unavailability results obtained from the data were compared with existing unavailability estimates from Individual Plant Examinations and other reports.

Keywords: *Reactor protection systems, *BWR type reactors, Performance evaluation, Reactor safety, Fault tree analysis, Failure mode analysis, Safety, Nuclear power plants, Reliability, Probabilistic risk assessment.

NUREG/CR-5730REB PC A10
Nuclear Regulatory Commission, Washington, DC. Div. of Engineering Technology.
Paleoseismology Study Northwest of the New Madrid Seismic Zone. Technical rept. Sep 95-Dec 99.
Maryland Univ., College Park. Dept. of Geology.
M. Tuttle, J. Chester, R. Lafferty, K. Dyer-Williams, and R. Cande. May 1999, 178p.
Available in original stock only. See also NUREG/CR-0017. Sponsored by Nuclear Regulatory Commission, Washington, DC. Div. of Engineering Technology.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

During this paleoseismology study, we surveyed more than 400 km of river cutbank and documented liquefaction features, including sand dikes and sand blows, at over 50 sites. In addition, we studied several structures, including the Bodenschatz-Lick, Eureka-House Springs, and Ste. Genevieve fault systems and the Farmington and Valmeyer anticlines, that are spatially associated with concentrations of historical and instrumentally recorded seismicity. Although no evidence of Holocene faulting was found, possible earthquake sources responsible for liquefaction include the St.

Louis, Centralia, and new Madrid faults, the Valmeyer and Waterloo-Dupo anticlines, and the Du Quoin monocline.

Keywords: *Liquefaction, *Paleoseismology, *Seismicity, Geological faults, Seismic events, Earthquakes, Ground motion, Risk assessment, Hazards, Geologic history, *New Madrid Seismic Zone, Central Mississippi Valley(United States), Southern Region(Illinois), Southeastern Region(Missouri), Northwestern Region(Tennessee), Northeastern Region(Arkansas), Western Region(Kentucky).

NUREG/CR-5751REB PC A16/MF A03
Nuclear Regulatory Commission, Washington, DC. Div. of Fuel Cycle Safety and Safeguards.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
Southwest Research Inst., San Antonio, TX. Center for Nuclear Waste Regulatory Analyses.
R. T. Pabalan, M. S. Jarzemba, D. A. Pickett, C. S. Brazel, J. T. Persyn, D. S. Moulton, J. P. Hsu, J. Erwin, N. Sridhar, and J. Weldy. Mar 1999, 338p, CNWRA-97-008-REV-2.
Prepared in cooperation with Rensselaer Polytechnic Inst., Troy, NY. Dept. of Earth and Environmental Sciences. and OLI Systems, Inc., Morris Plains, NJ. Sponsored by Nuclear Regulatory Commission, Washington, DC. Div. of Fuel Cycle Safety and Safeguards.
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The U.S. Department of Energy (DOE) plans to privatize the waste treatment and immobilization operations of the Hanford Tank Waste Remediation System (TWRS) program. A Memorandum of Understanding has been established between the DOE and the Nuclear Regulatory Commission (NRC) for the first phase of the TWRS program. To assist the NRC in developing technical and regulatory tools for the TWRS privatization effort, the Center for Nuclear Waste Regulatory Analyses is providing the NRC with information and tools needed to assess the chemical, radiological, and criticality hazards of Hanford tank wastes and operations addressed under the privatization initiative. Of primary concern are those reactions that could occur during waste retrieval and processing, but potential reactions during continued interim storage are also important.

Keywords: *High-level wastes, *Radioactive waste storage, *Chemical reactions, Tanks, Chemistry, Flammable gases, Flammability, Hazards, Criticality, Physical properties, Chemical properties.

NUREG/CR-6512REB PC A06/MF A02
Nuclear Regulatory Commission, Washington, DC. Div. of Engineering Technology.
Dynamic Fracture Initiation Toughness of ASTM A533, Grade B Steel Plate.
Oak Ridge National Lab., TN.
R. E. Link, and S. M. Graham. May 1999, 100p, ORNL/TM-13342.
Also pub. as Naval Surface Warfare Center Dahlgren Div., Silver Spring, MD. rept. no. NSWCCD-TR-61-CR-96/01. See also NUREG/CR-5793. Prepared in cooperation with Naval Surface Warfare Center Dahlgren Div., Silver Spring, MD., Naval Academy, Annapolis, MD. and Vector Research, Rockville, MD. Sponsored by Nuclear Regulatory Commission, Washington, DC. Div. of Engineering Technology.
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No abstract available.

Keywords: *Steel-ASTM-A533-B, *Fracture properties, Ductile-brittle transitions, Dyanmic loads, Mechaical properties, Steels, Pressure vessels, Cracks.

NUREG/CR-6532REB PC A05/MF A01
Nuclear Regulatory Commission, Washington, DC. Div. of Systems Technology.
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual. Technical rept.
Idaho National Engineering and Environmental Lab., Idaho Falls.
K. D. Russell, C. L. Hoffman, K. J. Kvarfordt, S. T. Wood, E. Lois, and C. L. Smith. May 1999, 72p, INEEL/EXT-97-00151.
See also NUREG/CR-6116-V2. Sponsored by Nuclear Regulatory Commission, Washington, DC. Div. of Systems Technology.
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The Systems Analysis Programs for Hands-on Integated Reliability Evaluations (SAPHIRE) is a software application for performing probabilistic risk assessments (PRAs) for industrial facilities and in particular for nuclear power plants, using a personal computer. This is a summary report of the functions and capabilities available in SAPHIRE. It provides instructions for instaling and using the code and discusses SAPHIRE's quality assurance process. This report also gives an overview of the separate module called the Graphical Evaluation Module (GEM), which automates the process for evaluating operational events at commercial nuclear plants. Detailed documentation of SAPHIRE is available in the on-line reference manual.

Keywords: *Nuclear power plants, *Reactor safety, Manuals, Fault tree analysis, Failure mode analysis, Reactor accidents, Systems analysis, Risk assessment, Reactor cores, Damage, *SAPHIRE 6.0 computer programs, *Probabilistic rik assessment, GEM(Graphical Evaluation Module).

NUREG/CR-6587REB PC A06/MF A01
Nuclear Regulatory Commission, Washington, DC. Div. of Risk Analysis and Applications.
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground. Technical rept.
Pacific Northwest National Lab., Richland, WA.
S. O. Link, K. J. King, M. Benz, W. G. Evenden, and D. E. Robertson. May 1999, 84p, PNNL-12068.
See also NUREG/CR-4879. Prepared in cooperation with Atomic Energy of Canada Ltd., Chalk River (Ontario). Chalk River Nuclear Labs. and Tri-Cities University Center, Richland, WA. Sponsored by Nuclear Regulatory Commission, Washington, DC. Div. of Risk Analysis and Applications.
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The main objectives of this study on behavior in a natural humid region ecosystem are: to determine the distribution of Carbon 14 specific activities in groundwaters and surface waters, air, vegetation, and peat at selected sites in the ecosystem, to test the significance of the transpirational stream as a significant pathway in wetland areas, to establish empirical transfer coefficients from groundwater-to-air and air-to-vegetation among others for use in modeling Carbon 14 transport, and to improve our understanding of radiocarbon budgets in wetland ecosystems with the aim of supplying modelers with better input parameters.

Keywords: *Low level radioactive wastes, *Carbon 14, *Radionuclide transport, Radioactive waste management, Ground water, Vegetation, Radioactive waste disposal, Transpiration, Surface water, Sampling, Wetlands, Ecosystem pathways.

PAT-APPL-8-012 016REB PC N03/MF A04
Oily Waste Water Treatment System. Patent Application.
Department of the Navy, Washington, DC.
K. T. Tompkins, J. S. Stefanko, B. L. Owsenek, L. W. Tomlinson, and J. A. Gavin. Filed 22 Jan 98, 15p, ADD019338.
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of application available NTIS. Product reproduced from digital image.

The effluent outflow from a shipboard oil/water separator is further reduced in oil content by passage through ultrafiltration membranes as an added downstream treatment prior to overboard discharge. Effluent from the oil/water separator is buffered by delivery through a feed pump and use of a recirculation pump through which such downstream ultrafiltration treatment is subject to conditional flow control as well as periodic backflush cleansing of the filter membranes.

Keywords: *Patent applications, *Waste water, *Water treatment, *Oil wastes, Filters, Effluents, Recirculation, Buffers(Chemistry), Separators, Ultrafiltration, Shipboard sewage treatment systems, Backflush.

PAT-APPL-8-137 870REB PC N03/MF A04
Multiline Tow Cable Assembly Including Swivel and Slip Ring. Patent Application.
Department of the Navy, Washington, DC.
M. R. Williams. Filed 12 Aug 98, 23p, ADD019339.
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of application available NTIS. Product reproduced from digital image.

This patent application discloses a multiline tow cable assembly including swivel area components and slip ring components. The swivel area components include a rotor member connected to an external housing, at least one contact member formed within the rotor member and rotatable with the rotor, and first electrical leads connected to the at least one contact member. The slip ring components include a multiline termination member, a stator connected to the multiline termination member, at least one contact pin formed in connection with the stator, and second electrical leads connected to the at least one contact pin. A substantially friction free member is interposed between the swivel area components and the slip ring components for enabling relative rotation of the swivel area components with respect to the slip ring components. By the described assemblies, continuous electrical connection is maintained between the first and second electrical leads upon rotation of the swivel area components with respect to the slip ring components.

Keywords: *Patent applications, *Towing cables, *Cable assemblies, Towed arrays, Stators, Rotors, Barges, Slip rings, *Multiline, Swivel, Contact pin, Electrical leads.

PAT-APPL-8-226 614REB PC N03/MF A04
Electrical Outlet Splash Protector. Patent Application.
Department of the Navy, Washington, DC.
P. E. Moody. Filed 21 Dec 98, 23p, ADD019342.
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of application available NTIS. Product reproduced from digital image.

A splash protector in combination with an electrical outlet includes a shield member having a first shield portion and a second shield portion opposite to the first shield portion. A spring member is provided in connection with the first and second shield portions. An outlet cover includes an outer face with a pair of rectangular slot openings and a grounding pin opening formed therein, and an inner face having a recessed area with an outer perimeter of the recessed area encompassing at least the pair of rectangular slot openings and grounding pin opening, but less than an outer dimension of the outlet cover. A spring-supporting post is formed on the inner face of the outlet cover and projecting therefrom such that the spring member fits within facing inner sides of the first and second shield portions so that the first and second shields completely block external access to the rectangular slot openings and grounding pin opening of the outlet cover. Upon selectively actuating the spring, the shield portions are moved away from the rectangular slot openings and grounding pin opening.

Keywords: *Patent applications, *Electrical equipment, *Safety equipment, Protection, Shielding, Splash, Electric terminals, Electrical outlets, Safety shields, Splash protector.

PAT-APPL-8-226 620REB PC N03/MF A04
Illuminating Electrical Fuse. Patent Application.
Department of the Navy, Washington, DC.
P. E. Moody. Filed 21 Dec 98, 13p, ADD019340.
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of

application available NTIS. Product reproduced from digital image.

An illuminating electrical fuse having an indicator lamp is provided. The indicator lamp is connected to the fuse element on the load side of the circuit and to an independent ground. During operation of the fuse, the lamp is illuminated. When the fuse blows out, the lamp is extinguished. The configuration of the circuit places the lamp in parallel with the circuit load in contrast to similar fuses having the lamp, fuse element and load in series. With the lamp in parallel, lamp failure does not shut down the circuit. Further, the current draw of the electrical load bypasses the lamp circuit through which only a small current passes. The lamp in the preferred embodiment is a light emitting diode.

Keywords: *Patent applications, *Electrical equipment, Illumination, Circuits, Indicators, Lamps, Electrical loads, *Illuminating electrical fuse.

PAT-APPL-8-226 621REB PC N03/MF A04
Non-Slip Safety Glasses. Patent Application.
Department of the Navy, Washington, DC.
P. E. Moody. Filed 21 Dec 98, 19p, ADD019341.
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of application available NTIS. Product reproduced from digital image.

A side piece for eye glasses includes a front side piece portion and a rear side piece portion. The front side piece portion includes a forward end and a rearward end with an elongated, open-ended slot formed therein. The open end of the elongated open-ended slot is directed to the rearward end of the front side piece portion. The rear side piece portion includes a forward end and a rearward end with an elongated, closed-ended slot formed therein. The rear side piece portion is additionally formed of a spring metal. A stop pin is inserted through the longitudinal slot of the rear side piece portion and fixed to the front side piece portion adjacent the rear end thereof. The rear side piece portion is slidably inserted into the open-ended longitudinal slot of the front side piece portion to a point defined by contact of the stop pin with one end of the closed-end longitudinal slot, and slidably removed from the open-ended longitudinal slot to a point defined by contact of said stop pin with the remaining end of the closed-end longitudinal slot. Extension of the rear side piece portion enables automatic bending of the spring metal forming the rear side piece portion.

Keywords: *Patent applications, *Protective equipment, *Eyeglasses, Metals, Eye safety, Springs.

PAT-APPL-8-226 625REB PC N03/MF A04
Acoustic Sound Speed Profiling System. Patent Application.
Department of the Navy, Washington, DC.
T. R. Stottlemyer. Filed 21 Dec 98, 12p, ADD019337.
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of application available NTIS. Product reproduced from digital image.

An acoustic sound speed profiling system is provided. The system includes a sound emitter and a series of sensors or hydrophones spaced vertically in a water column. The sound emitter is a high-frequency sound source adapted for mounting on the front end of a passive, towed sonar array. The sound source has a frequency which may be outside the acoustic aperture of the towed array. The series of sensors are located at intervals along and embedded within the array tow cable. The sensors are conventional hydrophones or thin-film hydrophone membranes. During operation of the system, the source transmits high frequency sound, which is received by each sensor along the tow cable of the towed array. Calculation of the speed of sound is determined from the position of the tow cable and the time-of-arrival of acoustic signals at each sensor. There is no interference with the normal operation of the passive towed array.

Keywords: *Patent applications, *Underwater acoustics, *Acoustic velocity, Towed arrays, Hydrophones, Sonar signals, Sonar arrays, Sound generators, Towed sonar.

SHARPE-00419REB PC$77.95
Japan-The System that Soured: The Rise and Fall of the Japanese Economic Miracle.
Sharpe (M.E.), Inc., Armonk, NY.
R. Katz. cMay 1999, 424p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

As this important book explains, the root of the problem is that Japan is still mired in the economic patterns of the 1950s-1960s. These patterns, which gave rise to the nickname 'Japan Inc.', were miraculously successful in helping a backward Japan catch up to the West. But, once the economy matured in the 1970s, continuing those same practices became a recipe for disaster. the end result is a deformed 'dual economy' of strong exporters and weak domestic sectors that is sapping productivity and hindering growth. Without sweeping reform that goes beyond mere deregulation, Japan is doomed to years of stagnant growth, financial turmoil, and political gridlock.

Keywords: *Japan, *Economic developments, Patterns, Politics, Dual ecoomy.

SHARPE-00420REB PC$37.95
Coming Class War and How to Avoid It: Rebuilding the American Middle Class.
Sharpe (M.E.), Inc., Armonk, NY.
F. R. Strobel, and W. C. Peterson. cAug 1999, 192p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Strobel and Peterson offer a clear, accessible analysis of the worsening distribution of income and wealth in America. In addressing the decline of the middle class, the authors determine that the middle class has not only continued to shrink, but that the majority of economic benefits have continued to be concentrated into fewer and fewer hands, increasingly the upper one half of one percent of the population. There is a close analysis of the linkage between economic and political power, discussing the increasing inability of the growing lower ahd shrinking middle classes to get their economic views represented in Washington.

Keywords: *United States, *Income, *Wealth, Policies, Distribution, Economic benefits, Politics, Middle class.

SHARPE-00421REB PC$67.95
Complete Business Export Kit.
Sharpe (M.E.), Inc., Armonk, NY.
F. Reilly. cNov 1999, 400p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

All the tools and information needed to start or expand an export business are conveniently packaged in the book. Anyone involved in exporting will find this resource invaluable. It includes: ready-to-use tools-forms, worksheets, samples, and checklists; step-by-step guidelines for establishing mutually-beneficial relationships with foreign buyers; sample marketing plans; comprehensive details on setting up a contract with another country; preparation for getting started; investigating foreign markets; and much more. Written and prepared by an attorney expert in the legal issues of exporting, the Kit is presented in easy-to-understand language, without excessive legal jargon.

Keywords: *Export businesses, Tools, Guidelines, Marketing, Contracts.

SHARPE-00422REB PC$70.95
Conservative Reformers: The Republican Freshmen and the Lessons of the 104th Congress.
Sharpe (M.E.), Inc., Armonk, NY.
N. C. Rae. cMay 1999, 256p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The 73 Republican freshmen who entered the House of Representatives after the 1994 election were a well-organized group with majority status and a commitment to change. This book examines the extent to which they were sucessful in redirecting policy and reforming the institutions of reprensative government-and the extend to which those same institutions moderated, and even frustrated, efforts to introduce radical, rapid-indeed revolutionary-change. Contrasts are drawn both with the role of the Republican freshmen in the Senate and with the power of the President as manifested in the 1995-96 budget battle.

Keywords: *Republicans, Interviews, Policies, *104th Congress, *Conservative reformers.

SHARPE-00423REB PC$32.95
Rise and Fall of the Asian Miracle.
Sharpe (M.E.), Inc., Armonk, NY.
E. Terry. cDec 1999, 320p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

In this timely and compelling book, drawing on more than five years of concentrated research in Asia, including a trip there in the spring of 1998, Edith Terry presents a blow-by-blow account of the crisis, beginning with the 1996 collapse of the Bangkok Bank of Commerce. In her overview, she links the fall of the Asian miracle with the theme of globalization, arguing that the crisis demonstrates the urgency of dismantling restraints to trade, investment, and financial services, and that the United States should take leadership in pushin for new and sweeping reform through the World Trade Organization and in bilateral negotiations with its trading partners.

Keywords: *Asia, *Economics, Investments, Banks, Globalization, Trade, Financial services.

SHARPE-00425REB PC$73.95
Central Asia: The Challenges of Independence.
Sharpe (M.E.), Inc., Armonk, NY.
B. Rumer, and S. Zhukov. cAug 1999, 304p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The economic, political, and international profile of Central Asia has been the subject of much speculation since the region emerged from under the Soviet banner. This book offers systematic, informed analysis of developments in the newest of emerging market regions by a team of international experts, including leading in-country specialists. After an astute survey of political regimes by Umirerik Kasenov, Boris Rumer and Stanislav Zhukov present a comprehensive analysis of economic development and integration issues. In the final four chapters, focused attentioin is devoted to foreign investment and trade questions and the most critical challenges confronting the two largest states, Uzbekistan and Kazakhstan.

Keywords: *Central Asia, *Independence, *Economic development, Trade, Foreign investments, Emerging markets.

SHARPE-00426REB PC$73.00
Artisans and Entrepreneurs of Dongyang County: Economic Reform and Flexible Production in China.
Sharpe (M.E.), Inc., Armonk, NY.
E. Cooper, and Y. Jiang. cJul 1999, 272p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The book represents a continuation of research begun by Cooper in Hong Kong in the early 1970s among expatriate artisan furniture makers and woodcarvers fron Dongyang County, Zhejiang Province, research which traced the evolution of the mode of production of Chinese wood furniture from its origins in an architecturally based part-time rural sideline craft, through a tradition regime of urban-based factory 'hand manufacture', to

full-scale industrial production, based first in Republican Shanghai, and later in post-World War II Hong Kong.

Keywords: *China, *Economic reform, *Flexible production, Artisans, Entrepreneurs, Dongyang County.

SHARPE-00437REB PC$31.95
United States Trade Policy: History, Theory, and the WTO.
Sharpe (M.E.), Inc., Armonk, NY.
W. A. Lovett, A. E. Eckes, and R. L. Brinkman. cOct 1999, 224p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This is a critical review of recent U.S. trade policies that have failed to enforce sufficient reciprocity and overall trade balance. The authors explore the history of U.S. trade policy and seek to explain the reasons behind the failure of that policy. Their emphasis is on trade history, a synthesis of trade theory outlooks (from Adam Smith to post-WWII globalist thought), and most recently structural asymmetries and free riding that distort trade-investment flows and cause chronic external deficits.

Keywords: *Trade policies, United States, Histories, External deficits, Outlooks.

SHARPE-00438REB PC$98.00
Managing Capital Flows in Turbulent Times: The Experience of Europe's Emerging Market Economies in Global Perspective.
Sharpe (M.E.), Inc., Armonk, NY.
Z. Drabek, and S. Griffith-Jones. cOct 1999, 320p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book explores the patterns and problems of capital inflows in the Central European economies in a global context and in particular with reference to the relevant experience of Spain as well as the emerging economies of Asia and Latin America.

Keywords: *Capital flows, *Emerging markets, *Europe, Patterns, Volatility.

SHARPE-00439REB PC$31.95
Hard Labor: Poor Women and Work in the Post-Welfare Era.
Sharpe (M.E.), Inc., Armonk, NY.
J. F. Handler, and L. White. cSep 1999, 256p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This expert presentation by authors actively involved in the field provides a realistic picture of the women and a practical view of the issues and solutions. The book covers a wide range of topics, including getting and keeping a job, struggling to balance the demands of work and family, health care, child care, and unemployment. It is set in the context of both welfare reform and the low-wage labor market and incorporates both self-employment and micro-business enterprise.

Keywords: *Women, *Labor, Child care, Poverty, Employment, Families, Health care, Low-wage.

SHARPE-00440REB PC$64.95
Income Inequality in America: An Analysis of Trends.
Sharpe (M.E.), Inc., Armonk, NY.
P. Ryscavage, and D. J. B. Mitchell. cJul 1999, 232p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

What is income inequality. How is it measured. is the middle class really declining. How does it relate to poverty. How long has inequality been rising in the US. Have there been other periods in history when income differences were as large as they are today. What are the causes of growing income and wage inequality. The author addresses these and other conceptual issues in eight skillfully reasoned and clearly presented chapters. Concluding with an analysis and comparison of trends in wage inequality in other developed countries, he asks the final speculative question: How much more growth in inequality can our society withstand.

Keywords: *Incomes, Wages, United States, Inequality, Trends.

SHARPE-00441REB PC$77.95
Education and Economic Development in Latin America: Dropout Prevention in the Primary Grades.
Sharpe (M.E.), Inc., Armonk, NY.
L. Randall, and J. Anderson. cDec 1999, 350p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The link between economic development and education in Latin America is generally well-recognized. A literate and educated work force is the largest single factor in explaining economic growth. In this study, the editors and contributors survey the various elementary educational systems to investigate the reasons behind the failure of schools to retain students in elementary grades. A group of scholars looks at the current state of education in five countries: Mexico, Argentina, Brazil, Venezuela, and Chile, with a view to designing more effective progams for reducing the dropout and grade repetition rates. For each country studied, there is an overview of the scholl system, teacher training and attitudes, centralized and decentralized planning, curriculum development, and psychological and environmental issues that contribute to school dropout.

Keywords: *Education, *Economic development, *Latin America, Surveys, Elementary schools, Dropouts.

SHARPE-00463REB PC$27.95
Sandakan Brothel No. 8: A Journey into the History of Lower-Class Japanese Women.
Sharpe (M.E.), Inc., Armonk, NY.
T. Yamazaki, and K. F. Colligan-Taylor. cSep 1999, 256p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This is a pioneering work on karayuki-san, impoverished Japanese women sent abroad to work as prostitutes from the 1860s to the 1920s. The narrative follows the life of one such prostitute, Osaki, who is persuaded as a child of ten to accept cleaning work in Sandakan, North Borneo, and then forced to work as a prostitute in a Japanese brothel, one of the many such brothels that were established throughout Asia in conjunction with the expansion of Japanese business interests. Yamazaki views Osaki as the embodiment of the suffering experienced by all Japanese women, who have long been oppressed under the dual yoke of class and gender.

Keywords: *Women, *Prostitutes, Japan, Asia.

SHARPE-00464REB PC$32.95
Nanjing Massacre: A Japanese Journalist Confronts Japan's National Shame.
Sharpe (M.E.), Inc., Armonk, NY.
K. Honda, F. Gibney, and K. Sandness. cSep 1999, 332p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

This book is based on four visits to China between 1971 and 1989 by Honda Katsuichi, an investigative journalist for Asahi Shimbun. His aim is to show in pitiless detail the horrors of the Japanese Army's seizure and capture of Nanjing in December 1937. Unvarnished accounts of the testimony-Chinese victims and Japanese perpetrators-to the rape and slaughter are juxtaposed with public relations announcements of the Japanese Army as printed in various Japanese newspapers of the time. The bland announcements of triumphant victories stand in bitter contrast to the atrocities that actually took place on the scene.

Keywords: *Military operations, *Japan, *China, Horrors, Army, Nanjing.

SHARPE-00465REB PC$27.95
Nadia, Captive of Hope: Memoir of an Arab Woman.
Sharpe (M.E.), Inc., Armonk, NY.
F. A. Kanafani. cOct 1999, 352p.
Three to four weeks for shipments overseas.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

A rare feminist perspective on a people and a culture in one of the most tumultuous regions in the world, the book is the autobiography of Fay Afaf Kanafani an Arab Muslim woman born in Beirut in 1918. Kanafani is frank and passionate as she recounts her difficult life. At age thirteen, she was engaged to a distant cousin and was married and living in Palestine by the age of seventeen. After her husband was shot dead, Kanafani soon learned how tradition and custom circumscribed her life and that of her three children.

Keywords: *Women, *Arabs, *Autobiographies, Customs, Employment, Marriage, Families.

UN-0947REB PC$60.00
World Information Directory of Industrial Technology and Investment Support Services.
United Nations, New York.
C. Carrier, and F. Gauthier. c1997, 290p.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

The objective of the book is to facilitate the working relationship between various national and regional information providers (institutions, agencies and organizations) and to improve the flow of information among each country and among the countries in the world. It has been prepared under the UNIDO/INTIB (Information and Networking for Technology, Investment and Business) program.

Keywords: *Directories, *Industrial technology, Support services, Information flows, Investment facilitators, Information sources, Profiles.

UN-0964REB PC$15.00
Ageing and the Family. Proceedings of the United Nations International Conference on Ageing Populations in the Context of the Family, Kitakyushu (Japan), 15-19 October 1990.
United Nations, New York.
c1994, 238p, ISBN 92-1-151261-1.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

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UN-1000REB PC$15.00
UNCITRAL. Model Law on Electronic Commerce with Guide to Enactment. 1996.
United Nations, New York.
c1996, 80p, ISBN 92-1-133607-4.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

Electronic Commerce, the transactions in international trade, is fast becoming a means of business commu-

nication. Guidelines and laws of operation are becoming a great necessity to ensure security and uniformity. This publication presents the Model Laws with the hope that countries will consider it when enacting or revising their laws on electronic commerce.

Keywords: *International trade, *International law, *Psychotropic substances, Countries.

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DE99050592REB PC A02/MF A01

1995 Annual epidemiologic surveillance report for Brookhaven National Laboratory.
DE99001921REB PC A07/MF A02

1998 FFTF annual system assessment reports.
DE99050595REB PC A17/MF A03

1998 interim 242-A Evaporator tank system integrity assessment report.
DE99050823REB PC A06/MF A01

Ab initio calculations of As-vacancy interactions in silicon.
DE99002225REB PC A03/MF A01

Acoustic seabed classification, MAST'97: Final report.
MIC-99-03382REB PC E07/MF E01

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PAT-APPL-8-226 625REB PC N03/MF A04

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Adaptive nulling of skywave interference using horizontal dipole antennas in a coastal surveillance HF surface wave radar system.
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Adaptive research reports, 1995, v. 17.
MIC-99-03159REB PC E17/MF E01

ADDAMS Application: Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module in CDFs.
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ADA363334REB PC A05/MF A01

Advanced algorithms for information science.
DE99002231REB PC A01/MF A01

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PB99-152290REB PC A05/MF A01

Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB PC A05/MF A01

Advanced Radiation Theory, Support Annual Report 1998.
ADA362872REB PC A09/MF A02

Advanced telemedicine development.
DE99002236REB PC A01/MF A01

Advice of the Italian CCTN on the Health Risk Assessment Relative to Exposure to Automobile Emissions.
PB99-117798REB PC A07/MF A02

Aerial Video of Smoke-Marked Wind Shifts Caused by Ocean Internal Waves.
PB99-154486REB PC A03/MF A01

Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB PC A07/MF A02

Aeronautical Engineering: A Continuing Bibliography With Indexes, Supplement 401.
N19990041594REB PC A05/MF A01

Aerospace Acquisition 2000, Volume 2, Number 1.
ADA362959REB PC A03/MF A01

Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
N19990041598REB PC A03/MF A01

Ageing and the Family. Proceedings of the United Nations International Conference on Ageing Populations in the Context of the Family, Kitakyushu (Japan), 15-19 October 1990.
UN-0964REB PC$15.00

Aggregate resources inventory of Prince Edward County.
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Aggregate resources inventory of the Regional Municipality of Durham: Townships of Brock, Uxbridge, Scugog; the Municipality of Clarington; the towns of Pickering, Ajax and Whitby and the City of Oshawa.
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Agri-food policy in Canada.
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Agricultural Statistics, 1999.
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ADA363089REB PC A01/MF A01

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ADA286991REB PC A08/MF A02

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ADA363174REB PC A05/MF A01

Airborne Astronomy Program.
N19990042134REB PC A02/MF A01

Airborne Forces of the United States Army: Cornerstone of Force Projection.
ADA363187REB PC A03/MF A01

Airport and Aviation Expansion: Africa and Middle East (Online Service).
JANE-0582REB PC$1205.00

Airport and Aviation Expansion: China (Online Service).
JANE-0583REB PC$1205.00

Airport Security: Standards and Technology (Online Service).
JANE-0584REB PC$1205.00

ALARA Center of Technology -- resource guide.
DE99050623REB PC A09/MF A02

Alberta heavy oil, oil sands and enhanced recovery: Alberta & Saskatchewan steam-assisted gravity drainage projects, a survey.
MIC-99-03125REB PC E07/MF E01

Alberta heavy oil, oil sands and enhanced recovery: Experimental pilot projects, a survey.
MIC-99-03131REB PC E07/MF E01

Algorithm for the solution of complex linear systems with Hermitian positive definite coefficient matrices.
MIC-99-03421REB PC E12/MF E01

America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
ADA363178REB PC A04/MF A01

American Military's Discomfort with Peace Operations.
ADA363217REB PC A03/MF A01

AMPL: An Exclusive Technology for DecisionNet.
ADA362883REB PC A08/MF A02

Analysis of a Ceramic Radome.
ADA363023REB PC A05/MF A01

Analysis of a Pyroceram Radome Subjected to Aerodynamic Heating.
ADA363019REB PC A04/MF A01

Analysis of an Aircraft Tire.
ADA363105REB PC A04/MF A01

Analysis of Damped Plates.
ADA363361REB PC A10/MF A02

Analysis of Delayed Entry Program (DEP) Attrition by High School Seniors.
ADA363088REB PC A07/MF A02

Analysis of First-Term Army Attrition.
ADA362968REB PC A04/MF A01

Analysis of the Operating Costs for Light Armored Vehicles in the United States Marine Corps.
ADA363387REB PC A06/MF A01

Analysis of thermal issues associated with the pre-amplifier modules in the National Ignition Facility.
DE99002258REB PC A03/MF A01

Analytical Transmission Electron Microscopy Studies on Copper-Alumina Interfaces.
ADA362728REB PC A06/MF A02

Annual and Local Variation in Reproduction in the Red-Eared Slider 'Trachemys scripta elagans'.
PB99-152183REB PC A03/MF A01

Annual Report to Congress. Fiscal Year 1998.
ADA363370REB PC A15/MF A03

Annual report 1997-98.
MIC-99-03132REB PC E07/MF E01

Annual report 1997-98.
MIC-99-03196REB PC E07/MF E01

Annual report 1997-98.
MIC-99-03249REB PC E07/MF E01

Annual report 1997-98.
MIC-99-03255REB PC E07/MF E01

Annual report 1997-98.
MIC-99-03257REB PC E17/MF E01

Answers to Questions about the National Flood Insurance Program.
PB99-113904REB PC A06/MF A01

Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB PC A11/MF A03

AOSTRA technical handbook on oil sands, bitumens and heavy oils.
MIC-99-03497REB PC E19/MF E01

Application of environmental accounting to pollution prevention.
DE99050167REB PC A03/MF A01

Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
DE99002444REB PC A02/MF A01

Application of new techniques for EOS data.
DE99002232REB PC A02/MF A01

Application of nonlinear wave modulation spectroscopy to discern material damage.
DE99002411REB PC A02/MF A01

Application of Rotation- and Translation-Invariant Overcomplete Wavelets to the registration of Remotely Sensed Imagery.
N19990041199REB PC A03/MF A01

Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB PC A03/MF A01

Applied ALARA techniques.
DE99050625REB PC A03/MF A01

Aquatic Toxicity Workshop: Proceedings 1998.
MIC-99-03164REB PC E12/MF E01

Arabian Gulf Maritime Interception Operations: Balancing the Ends, Ways, Means and Risks.
ADA363175REB PC A03/MF A01

Archeological and Architectural Investigations at Brown's Sheep Camp (5LA5824), a Multicomponent District in the U.S. Army Pinon Canyon Maneuver Site, Las Animas County, Colorado.
ADA363169REB PC A07/MF A02

Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art.
ADA363064REB PC A03/MF A01

Area Air Defense Commander: Can JFACC Do It All.
ADA363189REB PC A03/MF A01

ARL Intranet Analysis and Development Study.
ADA362869REB PC A04/MF A01

Army After Next: A Cashless Army.
ADA363033REB PC A04/MF A01

Army's B-2 Bomber - Field Artillery Modernization.
ADA363364REB PC A04/MF A01

ARTI refrigerant database.
DE99002209REB PC A21/MF A04

Artisans and Entrepreneurs of Dongyang County: Economic Reform and Flexible Production in China.
SHARPE-00426REB PC$73.00

Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB PC A03/MF A01

Assessment of Advanced Warning Signs for Flagging Operations.
PB99-152134REB PC A04/MF A01

Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center.
ADA362833REB PC A04/MF A01

Assessment of risks associated with the commercial operation of selected DRES facilities.
MIC-99-03366REB PC E07/MF E01

Assessment of the REmote Minefield Detection System (REMIDS).
ADA362985REB PC A04/MF A01

Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB PC A06/MF A02

Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. I: Accounts by location.
MIC-99-03283REB PC E17/MF E01

Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. II: Accounts by chemical.
MIC-99-03284REB PC E17/MF E01

Attitudes on Physical and Mental Labor in Communist China--Translation.
ADA362795REB PC A03/MF A01

Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB PC A12/MF A03

Automated land area tests for the 2001 census, part 1: Preliminary results using the 1996 Digital Cartographic Files.
MIC-99-03431REB PC E07/MF E01

Automated System for Determining Applicability of Regulations.
ADA363392REB PC A02/MF A01

Automated winch control system to provide sea bottom following for side scan sonar surveys.
MIC-99-03337REB PC E07/MF E01

Automatic synthesis of analog/digital circuits.
DE99002295REB PC A01/MF A01

Automotive Parts Acquisition Guide.
ADA363262REB PC A08/MF A02

Awakening China: Rabbit or Tiger.
ADA363030REB PC A04/MF A01

Award of Lenin Prizes in Science and Technology, USSR--Translation.
ADA362853REB PC A01/MF A01

Awards to Soviet Women Medical Workers-USSR.
ADA363375REB PC A04/MF A01

AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB PC A99/MF A06

Axis Offensive Military Operations Against the Continental United States: Opportunity Lost.
ADA363182REB PC A03/MF A01

Background Biological Aerosol Properties.
ADA363253REB PC A03/MF A01

Background Fluorescence in an Aerosol Biodetector Based on 266-nm Excitation.
ADA363355REB PC A03/MF A01

BALLISTIC MISSILE DEFENSE: More Common Systems and Components Could Result in Cost Savings.
ADA363345REB PC A03/MF A01

Bankruptcy Basics.
PB99-151235REB PC A04/MF A01

Bayesian analysis of MEG visual evoked responses.
DE99002182REB PC A02/MF A01

BCLDP site environmental report for calendar year 1997 on radiological and nonradiological parameters.
DE99002442REB PC A06/MF A01

Beechcraft 1900C Vertical Impact Test.
PB99-149726REB PC A03/MF A01

Behavioral Ecology of Coral Reef Fishes at Spawning Aggregation Sites.
ADA363347REB PC A13/MF A03

Beneath the Surface (Episode No. 10). (VHS video).
AVA20549-VNB1REB AV$99.00

Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
PB99-116501REB PC A06/MF A02

Better Environmental Decisions: Strategies for Governments, Businesses, and Communities.
ISLAND-0518REB PC$41.95

Bibliography of Surface-Mine Reclamation Research: 1976-1993.
PB99-152795REB PC A04/MF A01

Bid Opening Report. Federal-Aid Highway Construction Contracts, First Six Months, 1998.
PB99-147340REB PC A03/MF A01

Bifunctional detergents as novel catalysts: Final report.
MIC-99-03343REB PC E07/MF E01

Big Picture (Episode No. 3). (VHS video).
AVA20542-VNB1REB AV$99.00

Bioacoustics of Monterey Bay Pinnipeds: Auditory Fatigue and Masking.
ADA362641REB PC A01/MF A01

Biomorphic Networks for ATR and Higher-Level Processing.
ADA362731REB PC A02/MF A01

Bioregional Assessments. Science at the Crossroads of Management and Policy.
ISLAND-0519REB PC$39.50

Biotechnology use by Canadian industry, 1996.
MIC-99-03583REB PC E07/MF E01

Bird Strike Risk Assessment for United States Air Force Airfields and Aircraft.
ADA363170REB PC A09/MF A02

Birds of British Columbia: A taxonomic catalogue.
MIC-99-03118REB PC E17/MF E01

Blueways guidelines and recommendations: Draft document for discussion, February 1997.
MIC-99-03449REB PC E07/MF E01

Boundary Conditions for Magnetic Field Gradients Inside a Source-Free Volume.
ADA362760REB PC A03/MF A01

Bounded People, Boundless Lands: Envisioning a New Land Ethic.
ISLAND-0520REB PC$31.95

Breakdown of Democratic Regimes. Europe.
JHUP-0304REB PC$13.95

Breaking Through (Episode No. 16). (VHS video).
AVA20555-VNB1REB AV$99.00

Brief Report on a Scientific Mission to the United States, USSR.
ADA363311REB PC A03/MF A01

Browns Bank survey 1998: Cruise report and scientific results.
MIC-99-03305REB PC E07/MF E01

Building and Maintaining Public Acceptance of and Political Support for the Military of the Future.
ADA363390REB PC A04/MF A01

Building solutions: A problem solving guide for builders and renovators.
MIC-99-03458REB PC E17/MF E01

Bulletin of the Electrotechnical Laboratory, Vol. 60, No. 12, 1996. Special Issue: Lithium Secondary Batteries.
PB99-152043REB PC E13/MF E13

Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 1, 1997. Special Issue: Solar Cells V.
PB99-152050REB PC E13/MF E13

Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 2, 1997.
PB99-152068REB PC E08/MF E08

Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 3, 1997. Special Issue: KrF Laser.
PB99-152076REB PC E08/MF E08

Bulletin of the Electrotechnical Laboratory, Vol. 61, No.11, 1997.
PB99-152084REB PC E07/MF E07

Buoyancy effects for HFX AFT Cleansing Station.
MIC-99-03364REB PC E12/MF E01

BusinessLINC: Learning, Information, Networking and Collaboration. Business-to-Business Relationships That Increase the Economic Competitiveness of Firms. A Report to Vice President Al Gore.
PB99-147092REB PC A08/MF A02

Butternut canker, a first record for New Brunswick.
MIC-99-03450REB PC E07/MF E01

Buylt Prototype Software Requirements Analysis: A C-BASS Component.
ADA363050REB PC A05/MF A01

Buylt Software Development Plan: A C-BASS Component.
ADA363051REB PC A03/MF A01

By Example: The Impact of Recent Argentine Naval Activities on Southern Cone Naval Strategies.
ADA362685REB PC A05/MF A01

C2 in the Information Age: Will Operational Command Echelons Become Unnecessary.
ADA363259REB PC A03/MF A01

Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST.
N19990042137REB PC A02/MF A01

Can We Get There From Here. RMAs, Network-Centric Warfare and the Process of Transformation.
ADA363146REB PC A03/MF A01

Canadian fertilizer quality assurance report: Plant ratings 1998.
MIC-99-03190REB PC E07/MF E01

Carboniferous evolution of Nova Scotia.
MIC-99-03228REB PC E07/MF E01

Catch tank inhibitor addition 200-East and 200-West Areas.
DE98054293REB PC A05/MF A01

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women.
ADA362645REB PC A08/MF A02

Celtic Warfare in Ireland: A Logistical Perspective.
ADA363119REB PC A07/MF A02

Center of Gravity: Justification for Assassination.
ADA363034REB PC A04/MF A01

Central Asia, Physical Geography Handbook.
ADA362787REB PC A12/MF A03

Central Asia, Physical Geography Handbook--Translation.
ADA362771REB PC A12/MF A03

Central Asia: Pipelines and Power Politics (Online Service).
JANE-0567REB PC$1135.00

Central Asia: The Challenges of Independence.
SHARPE-00425REB PC$73.95

Ceramic Armor Material Database.
ADA362926REB PC A12/MF A03

Ceramic Coated Piston Rods for Civil Works.
ADA362682REB PC A04/MF A01

Certain Problems on the Theory of Heat Resistance and the Development of New High-Strength Titanium Alloys -- USSR --Translation.
ADA362792REB PC A03/MF A01

Challenge of Manning the Post-Cold War Army.
ADA363118REB PC A04/MF A01

Challenges of Command and Control in 2010 Counterdrug Operations.
ADA363091REB PC A04/MF A01

Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB PC A03/MF A01

Changes in butyltin residue concentrations in marine sediments of Atlantic Canada between 1988 and 1994.
MIC-99-03657REB PC E07/MF E01

Changing Nature of Work: Frontier Issues in Economic Thought.
ISLAND-0521REB PC$42.00

Characterization of a Hard-Switching Motor Controller for EMC considerations.
ADA362721REB PC A04/MF A01

Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
N19990041335REB PC A03/MF A01

Characterization of the 309 building fuel transfer pit and storage basin.
DE99050597REB PC A08/MF A02

Characterization of Underground Facilities.
ADA363359REB PC A05/MF A01

Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB PC A03/MF A01

Cherry Production (Released June 24, 1999).
NASS-ZCP-99REB PC$15.00/MF A01

China. A New History. Enlarged Edition.
HUP-0018REB PC$16.95

China and Japan in the Global Setting.
HUP-0036REB PC$14.50

China Business Handbook (Online Service).
JANE-0573REB PC$1205.00

China Report, Agriculture, No. 279.
ADA363285REB PC A06/MF A01

China Report, Economic Affairs, No. 296. Energy: Status and Development XII.
ADA363312REB PC A08/MF A02

China Report, Economic Affairs No. 323 Energy: Status and Development-- XV.
ADA363288REB PC A09/MF A02

China Report, Political, Sociological and Military Affairs.
ADA362672REB PC A07/MF A02

China Report, Political, Sociological and Military Affairs.
ADA362701REB PC A10/MF A02

China Report, Political, Sociological and Military Affairs.
ADA363280REB PC A10/MF A02

China Report, Political, Sociological and Military Affairs No. 374.
ADA363382REB PC A08/MF A02

China Report, Political, Sociological and Military Affairs, No. 377.
ADA362679REB PC A06/MF A01

China Report, Political, Sociological and Military Affairs, No. 404--Translation.
ADA363326REB PC A07/MF A02

China Report, Political, Sociological and Military Affairs, No. 412--Translation.
ADA362821REB PC A06/MF A01

China Report, Political, Sociological and Military Affairs, No. 431--Translation.
ADA362815REB PC A05/MF A01

China Report, Political, Sociological and Military Affairs No. 436.
ADA362780REB PC A10/MF A02

China Report: Political, Sociological and Military Affairs, No. 437.
ADA363014REB PC A11/MF A03

China Report, Political, Sociological and Military Affairs, No. 438--Translation.
ADA362831REB PC A08/MF A02

China Report: Political, Sociological and Military Affairs, No. 452--Translation.
ADA362890REB PC A08/MF A02

China Report: Political, Sociological and Military Affairs, No. 453--Translation.
ADA362893REB PC A05/MF A01

China Report: Political, Sociological and Military Affairs, No. 469.
ADA362767REB PC A06/MF A01

China Report: Political, Sociological and Military Affairs, No. 470--Translation.
ADA362799REB PC A09/MF A02

China Report, Political, Sociological and Military Affairs, No. 472--Translation.
ADA363372REB PC A06/MF A01

China Report, Political, Sociological and Military Affairs No. 474.
ADA363309REB PC A09/MF A02

China Report, Political, Sociological and Military Affairs, No. 475--Translation.
ADA362995REB PC A06/MF A01

China Report, Political, Sociological and Military Affairs, No. 476.
ADA363293REB PC A07/MF A02

China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 16, 30 July 1984--Translation.
ADA362703REB PC A03/MF A01

China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 17, 10 August 1984--Translation.
ADA362691REB PC A04/MF A01

China Report, Political, Sociological and Military Affairs--Translation.
ADA362687REB PC A07/MF A02

China Report, Political, Sociological and Military Affairs--Translation.
ADA362689REB PC A06/MF A01

China Report, Political, Sociological and Military Affairs--Translation.
ADA362690REB PC A11/MF A03

China Report, Political, Sociological and Military Affairs--Translation.
ADA362943REB PC A08/MF A02

China Report, Science and Technology, No. 192--Translation.
ADA363107REB PC A05/MF A01

China Report, Science and Technology No. 213.
ADA362902REB PC A04/MF A01

Choice, Welfare, and Measurement.
HUP-0026REB PC$19.95

Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB PC A04/MF A01

Christianity's Contribution to Just War Tradition.
ADA363087REB PC A04/MF A01

City of Vancouver plan, transportation, 1997.
MIC-99-03438REB PC E07/MF E01

Climate change and forests, context for the Canadian Forest Service's science program.
MIC-99-03652REB PC E07/MF E01

Closing the Book: The Role of the Aircraft Carrier in the Twenty-First Century.
ADA363211REB PC A03/MF A01

CO(sub 2) Huff-n-Puff process in a light oil shallow shelf carbonate reservoir.
DE98054328REB PC A02/MF A01

Combustion Control Using a Multiplexed Diode-Laser Sensor System.
ADA363252REB PC A03/MF A01

Coming Class War and How to Avoid It: Rebuilding the American Middle Class.
SHARPE-00420REB PC$37.95

Coming Home to the Pleistocene.
ISLAND-0522REB PC$31.95

Command and Control in Joint Vision 2010: Flexible, Adaptive and Networked.
ADA363260REB PC A03/MF A01

Commander's Estimate of the Situation: Kosovo & The Southern Balkans.
ADA363226REB PC A03/MF A01

Communist China Digest, No. 16--Translation.
ADA362796REB PC A06/MF A01

Comparison of prethin densities in hardwood stands measured at 1 meter and 30 centimeters respectively, data measurements gathered during hardwood time & motion studies in 1996: Information report.
MIC-99-03167REB PC E07/MF E01

Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB PC A02/MF A01

Complete Business Export Kit.
SHARPE-00421REB PC$67.95

Completing the Sensor Grid: A Revolution in Imagery Management.
ADA363053REB PC A03/MF A01

Complexity analysis for nearest neighbor search.
MIC-99-03338REB PC E07/MF E01

Component Based Simulation of the Space Operations Vehicle and the Common Aero Vehicle.
ADA363022REB PC A08/MF A02

Compromising the Principles of War: Technological Advancements Impact Multinational Military Operations.
ADA363054REB PC A03/MF A01

Computer for Ab Initio Molecular Dynamics Simulations.
ADA363044REB PC A01/MF A01

Conceptual design statement of work for the immobilized low-activity waste disposal facility, project W-520.
DE99050668REB PC A05/MF A01

Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB PC A01/MF A01

Condensation of Quasi-Two-Dimensional Biexcitons in a Single Heterojunction Quantum Well.
ADA362735REB PC A03/MF A01

Conference on the Control of the Colorado Beetle, USSR.
ADA362786REB PC A01/MF A01

Conference on the Problem of Sun-Troposphere -- USSR -- --Translation.
ADA362812REB PC A02/MF A01

Conservative Reformers: The Republican Freshmen and the Lessons of the 104th Congress.
SHARPE-00422REB PC$70.95

Conserving Assets: An Alternative Paradigm for Peace Operations.
ADA363376REB PC A04/MF A01

Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
DE99002167REB PC A03/MF A01

Consolidating Active and Reserve Component Training Infrastructure.
ADA363165REB PC A08/MF A02

Continental Conservation: Scientific Foundations of Regional Reserve Networks.
ISLAND-0507REB PC$32.00

Continuation of a Postdoctoral Research Associateship Program.
ADA363232REB PC A06/MF A01

Contractors in the Joint Theater: The Need for a Joint Doctrine.
ADA363125REB PC A03/MF A01

Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements.
PB99-152993REB PC A10/MF A02

Conversion of Laser Phase Noise to Amplitude Noise in a Resonant Atomic Vapor: The Role of Laser Linewidth.
ADA362816REB PC A03/MF A01

Conversion of oscillatory shear data from propellants and explosives.
MIC-99-03359REB PC E07/MF E01

Coso Monitoring Program, October 1997 through September 1998.
ADA362727REB PC A05/MF A01

Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB PC A03/MF A01

Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
DE99002242REB PC A04/MF A01

Countering the New Terrorism.
ADA363163REB PC A09/MF A02

Countermeasure: Army Ground Risk-Management Publication, Volume 20, Number 5, May 1999.
ADA363062REB PC A03/MF A01

Coup D'Etat. A Practical Handbook.
HUP-0007REB PC$16.50

Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB PC A04/MF A01

Creative PDB's (parts databases).
DE99002284REB PC A03/MF A01

Creeping Jurisdiction, Are International Straits in Jeopardy.
ADA363191REB PC A03/MF A01

Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB PC A02/MF A01

Cross Flow Over Double Delta Wings.
ADA363041REB PC A03/MF A01

Cruise Missile Defense: Progress Made But Significant Challenges Remain.
ADA362742REB PC A03/MF A01

Cruising CVBGs and Horizon MAGs: An Alternative Approach to Naval Forward Presence for the 21st Century.
ADA363203REB PC A03/MF A01

CSER 97-004: PFP production denitration calciner system.
DE99050233REB PC A07/MF A02

CTBT verification related case studies of three recent seismic events, Novaya Zemlya, India and Pakistan.
MIC-99-03262REB PC E07/MF E01

Current Methods and Research Strategies for Modeling Atmospheric Mercury.
PB99-149783REB PC A03/MF A01

CVD Diamond Grown by Microwave Plasmas in Mixtures of Acetone/Oxygen and Acetone/Carbon Dioxide.
ADA362752REB PC A03/MF A01

CVX Damage Control Information Technology Evolutionary Model.
ADA362692REB PC A06/MF A02

DADS steering simulation.
MIC-99-03342REB PC E07/MF E01

Damage evolution and clustering in shock loaded tantalum.
DE99002291REB PC A02/MF A01

Data mining.
DE99002233REB PC A02/MF A01

Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB PC A02/MF A01

Data quality objective to support resolution of the organic solvent safety issue.
DE99050161REB PC A03/MF A01

Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050584REB PC A04/MF A01

Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050824REB PC A04/MF A01

Data Quality Tools for Data Warehousing - A Small Sample Survey.
ADA362923REB PC A03/MF A01

Data Transfer Report - 30-mm Enhanced Alternate High-Energy Propellant Program (EAHEP): Evaluation of the Performance of an RDX-Based ARDEC-7994 Propellant and the Effect of Two Different Slug Projectile Designs.
ADA363101REB PC A04/MF A01

Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB PC A03/MF A01

Dealing With Data: Seminar Summary. Using Information in Government Program Information Sharing Seminar Series, Seminar No. 1.
ADA362861REB PC A03/MF A01

Decade of DIII-D research. Final report for the period of work, October 1, 1989--September 30, 1998.
DE99002353REB PC A18/MF A04

Decarburization of Uranium Via Electron Beam Processing.
ADA362955REB PC A02/MF A01

Decision Aids and Wargaming for Information Operations.
ADA363158REB PC A04/MF A01

Deep-Sea Corals: A New Oceanic Archive.
ADA363389REB PC A12/MF A03

Deep Water Formation and Circulation in the Arctic Ocean Studies by Natural and Anthropogenic Tracers.
ADA363047REB PC A01/MF A01

Defense Depot Maintenance Council Study of DoD Management of Industrial Plant Equipment.
ADA363391REB PC A03/MF A01

Defense of Naval Task Forces from Anti-Ship Missile Attack.
ADA363038REB PC A06/MF A01

DEFENSE REFORM INITIATIVE: Organization, Status, and Challenges.
ADA363206REB PC A06/MF A01

Defense Transportation Efforts to Improve DOD's Personal Property Program.
ADA363396REB PC A03/MF A01

Definition and means of maintaining the criticality detectors and alarms portion of the PFP safety envelope.
DE99050188REB PC A03/MF A01

Degradation of Haloaromatic Compounds by Indigenous Sediment Microflora: Biochemistry and Molecular Ecology.
ADA362983REB PC A06/MF A01

Democracy in Kuwait.
ADA362984REB PC A05/MF A01

Demonstration of Lead-Based Paint Removal From an Historic Wood Structure Using Laser Technology.
ADA363188REB PC A05/MF A01

Denial and Deception--Network-Centric Challenge.
ADA363099REB PC A03/MF A01

Dental Readiness of the Army War College Students Class of 1999, A Comparison study to the class of 1985.
ADA363356REB PC A04/MF A01

Denying Access to Commercial Communications Satellites.
ADA363096REB PC A03/MF A01

Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998.
ADA362634REB PC A18/MF A04

Department of Defense, Inc. Are We Ready To Become An Extension of Corporate America.
ADA362978REB PC A04/MF A01

Department of Defense Nuclear/Biological/Chemical (NBC) Defense Annual Report to Congress March 1999.
ADA362674REB PC A12/MF A03

Department of Energy: Key Factors Underlying Security Problems at DOE facilities.
ADA362670REB PC A03/MF A01

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activities 1-3.
ADA362764REB PC A20/MF A04

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 4.
ADA362763REB PC A22/MF A04

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 5.
ADA362762REB PC A99/MF A06

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 6.
ADA362765REB PC A10/MF A03

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 7.
ADA362766REB PC A99/MF A06

Deployment of pollution prevention during design -- a case study.
DE99050164REB PC A03/MF A01

Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
N19990042032REB PC A02/MF A01

Design for Human Ecosystems: Landscape, Land Use, and Natural Resources.
ISLAND-0512REB PC$37.00

Design Heritage-Based Forecasting Methodology for Risk Informed Management of Advanced Systems.
N19990041444REB PC A02/MF A01

Design of a Switched-Reluctance Motor Drive for Electric Propulsion.
ADA363184REB PC A02/MF A01

Design/Use of the Remotely Operated Bakeout Box Shutter (ROBBS).
N19990042443REB PC A03/MF A01

Deterrence Effects of Operation Frontier Shield.
ADA362838REB PC A04/MF A01

Detonation and combustion of explosives: A selected bibliography.
DE99002406REB PC A05/MF A01

Develop Maintenance Strategy Selection Procedures for Pavements Incorporating Semi-Rigid or Chemically Stabilized Layers.
PB99-149593REB PC A08/MF A02

Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB PC A05/MF A01

Development and Application of an Advanced Optical Based Pressure Instrument for Low-Speed Flows.
ADA362829REB PC A04/MF A01

Development of a Biaxial Test Fixture.
ADA363135REB PC A08/MF A02

Development of a gamma ray spectroscopy capability at LANSCE.
DE99002234REB PC A01/MF A01

Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
ADA363351REB PC A02/MF A01

Development of an optimum consumable alloy for low heat input welding of nickel aluminum bronzes.
MIC-99-03298REB PC E07/MF E01

Development of Biotrickling Filters to Treat Sulfur and VOC Emissions.
ADA362950REB PC A01/MF A01

Development of inspection techniques for TTCP ceramic matrix composite specimens.
MIC-99-03358REB PC E07/MF E01

Development of Lightweight Electronics Enclosures for Space Applications.
N19990042149REB PC A03/MF A01

Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB PC A03/MF A01

Development of radiological concentrations and unit liter doses for TWRS FSAR radiological consequence calculations.
DE99050397REB PC A08/MF A02

Development of the Air Force-Army Military Skill Linkage System (MISL).
ADA362717REB PC A10/MF A02

Development of the Civil Air Fleet, Peoples Republic of China--Translation.
ADA362772REB PC A02/MF A01

Development of the Melt-Dilute Treatment Technology for Al-Based DOE Spent Nuclear Fuel.
DE98054756REB PC A02/MF A01

Diagnostic enhancements for plasma processing.
DE99002256REB PC A02/MF A01

Different Perspectives on Economic Base.
PB99-147639REB PC A03/MF A01

Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB PC A11/MF A03

Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB PC A03/MF A01

Direct Detection Doppler Lidar for Spaceborne Wind Measurement.
N19990041449REB PC A01/MF A01

Disability rights in dialogue with clinical genetics conference, May 31 to June 2, 1996.
DE99002368REB PC A03/MF A01

Disaster-Related Needs of Seniors and Persons with Disabilities. Student Manual.
PB99-130932REB PC A08/MF A02

Disasters and Democracy: The Politics of Extreme Natural Events.
ISLAND-0514REB PC$42.00

Diseases of Populus in British Columbia: A diagnostic manual.
MIC-99-03123REB PC E12/MF E01

Dislocation accumulation at large plastic strains -- An approach to the theoretical strength of materials.
DE99002412REB PC A04/MF A01

Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next.
ADA363198REB PC A05/MF A01

Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module.
ADA362729REB PC A03/MF A01

DOD FINANCIAL MANAGEMENT: More Reliable Information Key to Assuring Accountability and Managing Defense Operations More Efficiently.
ADA363192REB PC A03/MF A01

Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B.
ADA363349REB PC A03/MF A01

Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436.
ADA363275REB PC A04/MF A01

Doped PMN-PT Single Crystals.
ADA362908REB PC A02/MF A01

Dotted Line (Episode No. 17). (VHS video).
AVA20556-VNB1REB AV$99.00

Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
DE99050153REB PC A16/MF A03

Draft for Two Bridges in the People's Republic of Korea--Translation.
ADA362813REB PC A03/MF A01

Drive clean guide: Emission standards, emissions test methods and technical information relating to Ontario Regulation 361/98 as amended.
MIC-99-03111REB PC E07/MF E01

Dunbar community vision, city plan.
MIC-99-03199REB PC E07/MF E01

Durability Testing for Fouling Release Coatings.
ADA362839REB PC A02/MF A01

DURIP 97 Vacuum Equipment for Ultra High Power Microwave Experiments.
ADA362954REB PC A03/MF A01

Dynamic and static error analyses of neutron radiography testing.
DE99002096REB PC A03/MF A01

Dynamic Failure of Materials. Volume 1 - Experiments and Analyses.
ADA362713REB PC A16/MF A03

Dynamic Failure of Materials. Volume 2 - Compilation of Russian Spall Data.
ADA362759REB PC A09/MF A02

Dynamic Fracture Initiation Toughness of ASTM A533, Grade B Steel Plate.
NUREG/CR-6512REB PC A06/MF A02

Dynamic fracture of heterogeneous materials.
DE99002235REB PC A03/MF A01

Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
DE99002408REB PC A02/MF A01

E Pluribus Unum: Enhancing Intelligence Support in the Network Centric Environment.
ADA363102REB PC A03/MF A01

E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July--September 1996.
DE99002446REB PC A03/MF A01

E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October--December 1996.
DE99002447REB PC A04/MF A01

E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October--December 1997.
DE99002454REB PC A03/MF A01

EAF Transition Workshop: After Action Report, Lessons Learned and Recommendations.
ADA363388REB PC A03/MF A01

Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB PC A03/MF A01

Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB PC A10/MF A02

East Asia: Korea.
ADA362824REB PC A05/MF A01

East Asia: Korea.
ADA363286REB PC A08/MF A02

East Asia: Korea--Translation.
ADA362937REB PC A05/MF A01

East Asia: Southeast Asia.
ADA362684REB PC A04/MF A01

East Asia: Southeast Asia.
ADA362709REB PC A03/MF A01

East Asia: Southeast Asia.
ADA362715REB PC A04/MF A01

East Asia: Southeast Asia.
ADA362913REB PC A03/MF A01

East Asia: Southeast Asia.
ADA362914REB PC A04/MF A01

East Asia: Southeast Asia.
ADA362931REB PC A05/MF A01

East Asia: Southeast Asia.
ADA362933REB PC A05/MF A01

East Asia: Southeast Asia.
ADA363015REB PC A04/MF A01

East Asia: Southeast Asia, Autobiography of Chamlong.
ADA362817REB PC A03/MF A01

East Asia: Southeast Asia--Translation.
ADA362708REB PC A05/MF A01

East Europe Report, Economic and Industrial Affairs, No. 2475.
ADA362895REB PC A07/MF A02

East Europe Report, Political, Sociological and Military Affairs, No. 2079--Translation.
ADA362830REB PC A10/MF A02

East Europe Report, Political, Sociological and Military Affairs No. 2087.
ADA363379REB PC A08/MF A02

East Europe Report: Political, Sociological and Military Affairs, No. 2088.
ADA362777REB PC A06/MF A01

East Europe Report, Political, Sociological and Military Affairs, No. 2090--Translation.
ADA362657REB PC A07/MF A02

East Europe Report, Political, Sociological and Military Affairs, No. 2121.
ADA363294REB PC A08/MF A02

East Europe Report Political, Sociological and Military Affairs No. 2122--Translation.
ADA363367REB PC A07/MF A02

East Europe Report, Political, Sociological and Military Affairs, No. 2123--Translation.
ADA363325REB PC A09/MF A02

East Europe Report, Political, Sociological and Military Affairs, No. 2130--Translation.
ADA362945REB PC A10/MF A02

East Europe Report, Political, Sociological and Military Affairs, No. 2133.
ADA362807REB PC A06/MF A01

East Europe Report, Political, Sociological and Military Affairs, No. 2153--Translation.
ADA362841REB PC A07/MF A02

East Europe Report, Political, Sociological and Military Affairs, No. 2154--Translation.
ADA362686REB PC A06/MF A01

East Europe Report, Political, Sociological and Military Affairs No. 2157.
ADA363307REB PC A05/MF A01

East Europe Report, Political, Sociological and Military Affairs, No. 2158.
ADA363290REB PC A08/MF A02

East Europe Report, Political, Sociological and Military Affairs, No. 2164--Translation.
ADA363324REB PC A08/MF A02

East Europe Report, Political, Sociological and Military Affairs, No. 2169.
ADA362698REB PC A05/MF A01

East Europe Report: Political, Sociological and Military Affairs, No. 2193.
ADA362778REB PC A10/MF A02

East Europe Report: Political, Sociological and Military Affairs, No. 2194.
ADA362779REB PC A07/MF A02

East Europe Report: Political, Sociological and Military Affairs, No. 2225.
ADA362774REB PC A05/MF A01

East Europe Report: Political, Sociological and Military Affairs, No. 2226--Translation.
ADA362894REB PC A05/MF A01

East Europe Report, Political, Sociological and Military Affairs, No. 2232--Translation.
ADA363369REB PC A05/MF A01

East Europe Report, Political, Sociological and Military Affairs No. 2234.
ADA363308REB PC A10/MF A02

East Europe Report, Political, Sociological and Military Affairs, No. 2235--Translation.
ADA362994REB PC A05/MF A01

East Europe Report, Scientific Affairs No. 762.
ADA363272REB PC A04/MF A01

East Europe Report: Scientific Affairs, No. 772.
ADA362652REB PC A05/MF A01

East Europe Report, Scientific Affairs, No. 782.
ADA362949REB PC A06/MF A01

East Europe Report, Scinetific Affairs, No. 783--Translation.
ADA363368REB PC A05/MF A01

Eastern hemlock looper, Lambdina fiscellaria fiscellaria (Guen.), Lepidoptera: Geometridae, in Newfoundland, 1983-95.
MIC-99-03453REB PC E07/MF E01

Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
ADA363353REB PC A03/MF A01

Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758).
ADA363350REB PC A08/MF A02

Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB PC A03/MF A01

Economic Losses from Marine Pollution. A Handbook for Assessment.
ISLAND-0492REB PC$47.00

Economic Sanctions: Viable Instruments of Power or Economic Chaos.
ADA363199REB PC A04/MF A01

Ecotourism and Sustainable Development. Who Owns Paradise.
ISLAND-0523REB PC$32.00

Education and Economic Development in Latin America: Dropout Prevention in the Primary Grades.
SHARPE-00441REB PC$77.95

Education of Children and Youth with Special Needs: What Do the Laws Say.
PB99-151227REB PC A03/MF A01

Effective One-Body Approach to General Relativistic Two-Body Dynamics.
PB99-148777REB PC A05/MF A01

Effective temperatures and electron spin polarization in storage rings.
DE99002386REB PC A01/MF A01

Effects-Based Targeting and Operational Art in the 21st Century.
ADA363060REB PC A03/MF A01

Effects of contaminants on aquatic organisms in the Peace, Athabasca and Slave River basins.
MIC-99-03210REB PC E07/MF E01

Effects of Information Operations on Nonlinear Force Structures.
ADA363159REB PC A04/MF A01

Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB PC A03/MF A01

Effects of modafinil, d-amphetamine and placebo on physiological and psychological stress during sleep deprivation.
MIC-99-03106REB PC E07/MF E01

Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB PC A02/MF A01

Effects of roughness on advanced airfoils: Final report for phase II and phase III.
MIC-99-03515REB PC E12/MF E01

Effects of Texture on Distance Estimation in Synthetic Environments.
ADA362882REB PC A06/MF A01

Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB PC A01/MF A01

Efficient Computation of Nonlinear Transient Structural Synthesis for Seismic Isolation.
ADA362911REB PC A06/MF A01

Efficient Raman conversion from liquid nitrogen contained in an ordinary Dewar.
MIC-99-03327REB PC E07/MF E01

Electrical Outlet Splash Protector.
PAT-APPL-8-226 614REB PC N03/MF A04

Electromagnetic Cold-Test Characterization of the Quad-Driven Stripline Kicker.
ADA362953REB PC A02/MF A01

Electromagnetic Effects of Advanced Packaging.
ADA362900REB PC A11/MF A03

Electron Assisted Deposition of Cubic Boron Nitride by RF Magnetron Sputtering.
ADA362770REB PC A03/MF A01

Electron cyclotron resonance (ECR) plasma film deposition.
DE99002202REB PC A02/MF A01

Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB PC A03/MF A01

Electronic Case Files in the Federal Courts: A Preliminary Examination of Goals, Issues, and the Road Ahead.
PB99-151243REB PC A05/MF A01

Electronic village: Policy issues of the information economy.
MIC-99-03240REB PC E17/MF E01

Electrophoretic separation of biological molecules on micromachined silica plates: Final report.
MIC-99-03334REB PC E07/MF E01

Elimination of Toxic Materials and Solvents from Solid Propellant Components (PP1058).
ADA363240REB PC A03/MF A01

EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Eectric Vehicle Program.
ADA362952REB PC A03/MF A01

Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB PC A03/MF A01

Enabling field spectroscopies.
DE00002697REB PC A01/MF A01

Encounters with Nature.
ISLAND-0479REB PC$31.95

Encyclopedia of Explosives (on CD-ROM).
PB99-500076REB CD-ROM $375.00

Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences.
PB99-102899REB PC A99/MF E08

Engine life cycle cost control by advanced repair and qualification methods.
MIC-99-03330REB PC E07/MF E01

Engineering Model for Prediction of Waste Incineration in a Dump Combustor.
ADA363341REB PC A02/MF A01

Enhancement of Boiling in Highly Wetting Fluids.
ADA362878REB PC A07/MF A02

Enhancement of photoassimilate utilization by manipulation of ADP-glucose pyrophosphorylase gene. Final progress report.
DE99002382REB PC A03/MF A01

Enhancing a CAVE with Eye Tracking System for Human-Computer Interaction Research in 3D Visualization.
ADA363070REB PC A01/MF A01

Environmental Analysis of U.S. Navy Shipboard Solid Waste Discharges: Addendum to the Report of Findings.
ADA362694REB PC A17/MF A03

Environmental assessment guideline for forest habitat of migratory birds.
MIC-99-03122REB PC E07/MF E01

Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB PC A06/MF A01

Environmental Economics. An Elementary Introduction.
JHUP-0305REB PC$19.95

Environmental management policy analysis using complex system simulation.
DE99002148REB PC A02/MF A01

Environmental protection expenditures in the business sector, 1995.
MIC-99-03503REB PC E07/MF E01

Environmental report 1996, Lawrence Livermore National Laboratory.
DE99002426REB PC A12/MF A03

Environmental report 1997, Lawrence Livermore National Laboratory.
DE99002427REB PC A12/MF A03

Equality, the Third World, and Economic Delusion.
HUP-0034REB PC$17.50

Error studies for SNS Linac. Part 1: Transverse errors.
DE99002254REB PC A03/MF A01

Estimated dose to in-tank equipment: Phase 1 waste feed delivery.
DE99050558REB PC A04/MF A01

Estimating Dredging Sediment Resuspension Sources.
ADA362892REB PC A02/MF A01

Estimating Intersection Turning Movements.
PB99-152977REB PC A08/MF A02

Estimation of cloud droplet size density distribution from multiple field-of-view lidar returns.
MIC-99-03292REB PC E07/MF E01

Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB PC A03/MF A01

Estuarine Science: A Synthetic Approach to Research and Practice.
ISLAND-0493REB PC$37.00

Ethanol Plant Feasibility Study for the Lower Kaskaskia River Valley Corn Wet Milling Facility.
PB99-122921REB PC A05/MF A01

Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment.
ADA362972REB PC A03/MF A01

Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB PC A12/MF A03

Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
DE99002218REB PC A03/MF A01

Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB PC A05/MF A01

Evaluation of Operator Performance Using True Color and Artificial Color in Natural Scene Perception.
ADA363036REB PC A08/MF A02

Evaluation of Passive Systems for the Treatment of Mine Drainage.
ADA362851REB PC A12/MF A03

Evaluation of Precise Absolute Navigation (PAN) Performance Under Dynamic Conditions.
ADA362733REB PC A04/MF A01

Evaluation of Prototype Electrically Heated Handwear.
ADA363276REB PC A04/MF A01

Evaluation of Reflective Crack Control Policy.
PB99-152951REB PC A10/MF A03

Evaluation of Rubber-Modified Asphaltic Concrete.
PB99-152381REB PC A04/MF A01

Evaluation of Test Methodologies for Dissolution and Corrosion of Al-SNF.
DE98054573REB PC A02/MF A01

Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation – USSR —Translation.
ADA362823REB PC A03/MF A01

Evaluation of the Impact of the Target Force Planning Model (TFPM) on the Manpower Process at Headquarters, U.S. Marine Corps.
ADA362904REB PC A06/MF A01

Evaluation of two school bus advance signalling devices: The eight-light system and hazard lights.
MIC-99-03406REB PC E12/MF E01

Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB PC A03/MF A01

Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB PC A02/MF A01

Evolution of microstructural changes in pressed HMX explosives.
DE99002405REB PC A02/MF A01

Exit, Voice, and Loyalty. Responses to Decline in Firms, Organizations, and States.
HUP-0004REB PC$14.50

Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB PC A04/MF A01

Experimental Internet Environment Software Development.
N19990042214REB PC A02/MF A01

Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
ADA363246REB PC A02/MF A01

Experimental Tests of Relativistic Gravity.
PB99-148736REB PC A03/MF A01

Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB PC A03/MF A01

Exploratory technology research program for electrochemical energy storage, annual report for 1997.
DE99002392REB PC A05/MF A01

Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants.
ADA362974REB PC A05/MF A01

Extending the State-of-the-Art for the COMAN/ATCAL Methodology.
ADA363016REB PC A08/MF A02

Extra Mile (Episode No. 19). (VHS video).
AVA20558-VNB1REB AV$99.00

Falling through the Net: Defining the Digital Divide. A Report on the, Telecommunications and Information Technology Gap in America.
PB99-144487REB PC A08/MF A02

Farinon microwave end of life cycle.
DE98054292REB PC A05/MF A01

Fatality Assessment and Control Evaluation (FACE) Report: Electrical Mechanic Dies After 45-Foot Fall through Unguarded Floor Opening, North Carolina.
PB99-155632REB PC A03/MF A01

Fatality Assessment and Control Evaluation (FACE) Report: Floor Collapse in a Single Family Dwelling Fire Claims the Life of One Fire Fighter and Injures Another, Kentucky.
PB99-155665REB PC A03/MF A01

Fatality Assessment and Control Evaluation (FACE) Report: Mechanic Fatally Injured during Dismantling of Crane Boom at Scrap Metal Yard, Pennsylvania.
PB99-155657REB PC A02/MF A01

Fatality Assessment and Control Evaluation (FACE) Report: Temporary Laborer Crushed by Dump Truck at Landfill, South Carolina.
PB99-155624REB PC A03/MF A01

Fatality Assessment and Control Evaluation (FACE) Report: Tree Feller Killed When Struck by Chain Saw, West Virginia.
PB99-155640REB PC A03/MF A01

Fatigue crack nucleation in metallic materials.
DE99002227REB PC A03/MF A01

Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB PC A03/MF A01

Feasibility Study of Liquid Phase Sinter Forming of a Model Ceramic System.
ADA362946REB PC A06/MF A01

Female Gender and Other Potential Predictors of Functional Health Status Among Persian Gulf War Veterans (Revised).
ADA362870REB PC A04/MF A01

Fidelity of DNA Replication in Normal and Malignant Human Breast Cells.
ADA362661REB PC A04/MF A01

Field crop recommendations, 1999-2000.
MIC-99-03222REB PC E12/MF E01

Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
ADA363228REB PC A03/MF A01

Field Demonstration of NRL Environmental Flow Immunosensor for Environmental Monitoring.
ADA363133REB PC A06/MF A01

Final Data Usability Summary and Resampling Proposal for Fort Sheridan.
ADA363090REB PC A04/MF A01

Financial Services Institutions: Information for Assessing the Government's Potential Financial Exposure.
PB99-145849REB PC A05/MF A01

Fire on the Plateau: Conflict and Endurance in the American Southwest.
ISLAND-0501REB PC$31.95

First Impressions (Episode No. 5). (VHS video).
AVA20544-VNB1REB AV$99.00

First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB PC A20/MF A04

First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
DE99002200REB PC A02/MF A01

Fleet Air Defense in the Falkland Islands Conflict: A Failure in Operational Protection.
ADA363067REB PC A03/MF A01

Flight Prediction for Performance of the SWAS Solar Array Deployment Mechanism.
N19990042081REB PC A03/MF A01

Flight recorder configuration standard, version 1.0.
MIC-99-03214REB PC E07/MF E01

Floriculture Crops. 1998 Summary.
NASS-ZFC-99REB PC$20.00/MF A02

Flow Visualisation About the Helicopter Deck of the Hydrographic Ship.
ADA362877REB PC A08/MF A02

Food Cost Review, 1950-97.
ERS-AER-780REB PC$16.00/MF A01

For the Health of the Land: Previously Unpublished Essays and Other Writings.
ISLAND-0475REB PC$29.95

For the Welfare of Man Development of Medical Science in the USSR–Translation.
ADA362991REB PC A02/MF A01

For Want of a Home - A Study of Wherry and Capehan Military Family Housing.
ADA362706REB PC A10/MF A02

Force Protection and Strategic Air Mobility: The MANPAD Challenge.
ADA363181REB PC A03/MF A01

Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
ADA363186REB PC A03/MF A01

Forest Road Effects on Flood Flows in the Deschutes River Basin, Washington.
PB99-152621REB PC A14

Formulating objectives for management on an ecosystem scale.
MIC-99-03133REB PC E07/MF E01

Fort Bliss, Texas 1998: Acute Gastroenteritis Outbreak.
ADA362944REB PC A03/MF A01

Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures.
ADA363279REB PC A19/MF A04

Forward Air Controllers, 1965 - 1995.
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Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
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Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 1.
PB99-101735REB PC A08/MF A02

Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 2.
PB99-101743REB PC A07/MF A02

Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 3.
PB99-101750REB PC A09/MF A02

JPRS Report, East Asia Korea.
ADA362866REB PC A04/MF A01

JPRS Report, East Asia: Korea.
ADA362867REB PC A04/MF A01

JPRS Report, East Asia: Korea.
ADA362921REB PC A03/MF A01

JPRS Report, East Asia: Korea.
ADA362922REB PC A04/MF A01

JPRS Report, East Asia: Korea--Translation.
ADA362927REB PC A05/MF A01

JPRS Report, East Asia, Korea--Translation.
ADA363009REB PC A04/MF A01

JPRS Report, East Asia, Mongolia, Biographic Information on Officials--Translation.
ADA362885REB PC A06/MF A01

JPRS Report, East Asia Southeast Asia.
ADA362646REB PC A05/MF A01

JPRS Report, East Asia Southeast Asia.
ADA362649REB PC A04/MF A01

JPRS Report, East Asia Southeast Asia.
ADA362655REB PC A04/MF A01

JPRS Report, East Asia: Southeast Asia.
ADA362664REB PC A04/MF A01

JPRS Report, East Asia Southeast Asia.
ADA362666REB PC A04/MF A01

JPRS Report, East Asia Southeast Asia.
ADA362669REB PC A03/MF A01

JPRS Report, East Asia Southeast Asia.
ADA362711REB PC A04/MF A01

JPRS Report, East Asia Southeast Asia--Translation.
ADA362941REB PC A04/MF A01

JPRS Report, Latin America.
ADA362917REB PC A10/MF A02

JPRS Report, Latin America.
ADA362919REB PC A05/MF A01

JPRS Report, Latin America.
ADA362920REB PC A04/MF A01

JPRS Report, Latin America--Translation.
ADA362832REB PC A05/MF A01

JPRS Report, Latin America--Translation.
ADA362834REB PC A05/MF A01

JPRS Report, Latin America--Translation.
ADA362836REB PC A05/MF A01

JPRS Report, Latin America--Translation.
ADA362837REB PC A05/MF A01

JPRS Report, Near East & South Asia.
ADA362647REB PC A06/MF A01

JPRS Report, Near East & South Asia.
ADA362651REB PC A05/MF A01

JPRS Report, Near East & South Asia.
ADA362652REB PC A06/MF A01

JPRS Report, Near East & South Asia.
ADA362653REB PC A06/MF A01

JPRS Report, Near East & South Asia.
ADA362654REB PC A06/MF A01

JPRS Report, Near East & South Asia.
ADA362663REB PC A06/MF A01

JPRS Report, Near East & South Asia.
ADA362665REB PC A06/MF A01

JPRS Report, Near East & South Asia.
ADA362879REB PC A06/MF A01

JPRS Report, Near East & South Asia, Table of Contents, JPRS-NEA-87-001, 2 January 1987-JPRS-NEA-87-041, 6 Apr 1987 Part 1--Translation.
ADA363013REB PC A10/MF A02

JPRS Report, Near East & South Asia--Translation.
ADA362886REB PC A06/MF A01

JPRS Report, Near East & South Asia--Translation.
ADA362887REB PC A06/MF A01

JPRS Report, Near East & South Asia--Translation.
ADA362915REB PC A04/MF A01

JPRS Report, West Europe Reference Aid Portuguese Military Terms.
ADA363301REB PC A07/MF A02

Judgements of the inclination and slant of surfaces in stereoscopic display systems.
MIC-99-03367REB PC E17/MF E01

Just Punishment: Public Perceptions and the Federal Sentencing Guidelines.
PB99-151250REB PC A03/MF A01

k-Inflation.
PB99-148769REB PC A03/MF A01

Kennedy Tapes. Inside the White House During the Cuban Missile Crisis.
HUP-0013REB PC$16.95

Kensington-Cedar Cottage community vision, city plan.
MIC-99-03200REB PC E07/MF E01

Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB PC A07/MF A02

Korea Old and New. A History.
HUP-0022REB PC$26.00

Korean Affairs Report, No. 326 Kulloja No. 3, March 1983.
ADA363292REB PC A07/MF A02

Kt -- jets and jet structure and fragmentation at the Tevatron.
DE99050750REB PC A02/MF A01

Laboratory simulation of the galvanic corrosion of a ship hull plate by shaft grounding systems.
MIC-99-03348REB PC E07/MF E01

Lagrangian ambient noise drifter.
MIC-99-03340REB PC E07/MF E01

Land capability classification for forest ecosystems in the oil sands region -- Rev. ed. Revised edition.
MIC-99-03138REB PC E12/MF E01

Large Engine Uncontained Debris Analysis.
PB99-154569REB PC A06/MF A02

Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB PC A02/MF A01

Larger bases and mixed analog/digital neural nets.
DE99002294REB PC A02/MF A01

Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB PC A05/MF A01

Laser Doppler Velocimeter and High Speed Imaging System for Fluid Dynamics, Combustion and Chemical Kinetics Research.
ADA362940REB PC A03/MF A01

Last Best Hope of Earth. Abraham Lincoln and the Promise of America.
HUP-0014REB PC$14.95

Latin America.
ADA362898REB PC A04/MF A01

Latin America.
ADA362899REB PC A04/MF A01

Latin America Report, No. 2704.
ADA362676REB PC A08/MF A02

Latin America Report, No. 2710. Fighting in Nicaragua: Battles Along Two Borders.
ADA362680REB PC A08/MF A02

Leadership Without Easy Answers.
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Lidar remote sensing of meteorological parameters in adverse weather: Performance of electro-optic systems and aircraft in-flight icing.
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Light duty utility arm startup plan.
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Limit Cycle Oscillations (LCO) and Nonlinear Aeroelastic Wing Response: Reduced Order Aerodynamic Models.
ADA362982REB PC A03/MF A01

Line (Episode No. 23). (VHS video).
AVA20562-VNB1REB AV$99.00

Listed waste history at Hanford facility TSD units.
DE98054296REB PC A05/MF A01

LLE review, Volume 77. Quarterly report, October–December 1998.
DE99002358REB PC A05/MF A01

Load Time Dependent Relaxation of Residual Stresses in an Aluminum Test Specimen.
ADA363139REB PC A09/MF A02

Local Area Network Material Accounting System (LANMAS) Functions and Features Overview.
DE98057851REB PC A01/MF A01

Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising.
ADA363100REB PC A05/MF A01

Locomotive and Rolling Stock Forecasts (Online Service).
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Long-Range International Civil Reserve Air Fleet (CRAF) Capability.
ADA362743REB PC A04/MF A01

Losing Anti-Personnel Landmines: An Economy of Force.
ADA363214REB PC A03/MF A01

Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB PC A09/MF A02

Low-level radioactive waste management at the Nevada Test Site – Current status.
DE99002186REB PC A02/MF A01

Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB PC A02/MF A01

Macroeconomic Policy and Adjustment in Korea 1970-1990.
HUP-0035REB PC$30.00

Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
ADA362963REB PC A99/MF A06

Main Source of Solar Corpuscular Streams –USSR— Translation.
ADA362791REB PC A02/MF A01

Maintaining Budgetary Discipline: Spending and Revenue Options.
ADA363202REB PC A14/MF A03

Making Connections (Episode No. 12). (VHS video).
AVA20551-VNB1REB AV$99.00

Making Markets. Opportunism and Restraint on Wall Street.
HUP-0011REB PC$31.00

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SHARPE-00438REB PC$98.00

Managing identified wildlife: Procedures and measures, vol. I.
MIC-99-03104REB PC E12/MF E01

Managing the Dynamics of Change.
ADA363208REB PC A03/MF A01

Managing Tourism Growth: Issues and Applications.
ISLAND-0509REB PC$47.00

Manitoba food products directory, 1999.
MIC-99-03194REB PC E07/MF E01

Mapping Coastal Surface Winds in Monterey Bay Using High Frequency Radar.
ADA362924REB PC A08/MF A02

Marine Mammal Auditory Systems: A Summary of Audiometric and Anatomical Data and Its Implications for Underwater Acoustic Impacts.
PB99-154791REB PC A06/MF A02

Maritime Preposition Force Ship 2010.
ADA363180REB PC A13/MF A03

Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
ADA363348REB PC A03/MF A01

Mathews' Chinese-English Dictionary. Revised American Edition.
HUP-0037REB PC$39.50

Mechanical Properties and Energy Absorption Characteristics of a Polyurethane Foam.
PB99-105504REB PC A04/MF A01

Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models.
PB99-152829REB PC A05/MF A01

Medical Information Technology in Support of the Operational Commander.
ADA363363REB PC A03/MF A01

Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Determination of the Median Lethal Dose of Two Anticholinesterase Agents and Efficacy of Current Therapy.
ADA362975REB PC A05/MF A01

Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB PC A17/MF A03

Medium Extended Air Defense System: A Renaissance in Trans-Atlantic Armaments Cooperation.
ADA362935REB PC A08/MF A02

Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century. A White House Roundtable Dialogue for President Clinton's Initiative on Race. Proceedings of Panel Discussion and Position Papers.
PB99-151409REB PC A07/MF A02

Merged Vision and GPS Control of a Semi-Autonomous, Small Helicopter.
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Meteoroids and Meteor Storms: A Threat to Spacecraft.
N19990041159REB PC A03/MF A01

Method for Analyzing Piled Embankments.
PB99-149650REB PC A03/MF A01

Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-, (K metodike issledovaniya gazoobmena pri vdykhanii bol' shikh kontsentratsiy kisloroda)–Translation.
ADA362856REB PC A01/MF A01

Micro fuel cell.
DE99002286REB PC A03/MF A01

Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB PC A03/MF A01

Microstructural characterization of laser-clad nickel aluminum bronze alloys using transmission electron microscopy.
MIC-99-03332REB PC E07/MF E01

Microstructural characterization of NiAl bronze weldments.
MIC-99-03326REB PC E07/MF E01

Microstructure and Physical Metallurgy in Melt-Dilute Treatment Technology for Al-Based Spent Nuclear Fuel.
DE98054572REB PC A02/MF A01

Migratory birds environmental assessment guideline.
MIC-99-03120REB PC E07/MF E01

Military News Items From Chinese Communist Press–Translation.
ADA362992REB PC A02/MF A01

Military Simulation Markets. Edition 2 (Online Service).
JANE-0574REB PC$1205.00

Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB PC A04/MF A01

Mineralogy and geochemistry of the C14 kimberlite and associated glacial sediments, Kirkland Lake, Ontario.
MIC-99-03355REB PC E12/MF E01

Mining and mineral processing operations in Canada, 1998.
MIC-99-03223REB PC E07/MF E01

Misguided Intentions: U.S. Policy in World War II and Chinese Intervention in Korea.
ADA363031REB PC A06/MF A01

Mobility Traid and Challenges for the Operational Commander.
ADA363220REB PC A03/MF A01

Modeling of Silicon Quantum Structures.
ADA363362REB PC A03/MF A01

Modeling of the 6DOF missile dynamics using the NED axes system.
MIC-99-03299REB PC E07/MF E01

Modeling the Environment: An Introduction to System Dynamics Modeling of Environmental Systems.
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Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB PC A06/MF A01

Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy.
ADA363194REB PC A03/MF A01

Modification and Analysis of the 40MM Selective Feed System.
ADA363145REB PC A05/MF A01

Modified T-37 Instead of T-46: Impact on Undergraduate Pilot Training.
ADA362757REB PC A03/MF A01

Modular Wideband Active Vibration Absorber.
N19990041146REB PC A02/MF A01

Modular Wideband Active Vibration Absorber.
N19990042083REB PC A01/MF A01

Molecular Quantum States at Dissociation.
PB99-120339REB PC A06/MF A01

Monographs in Aerospace History Series No. 11. Together in Orbit: The Origins of International Participation in the Space Station.
N19990041803REB PC A05/MF A01

Monte Carlo Simulation for Appliction to Aerospace Vehicle Structures.
ADA363043REB PC A03/MF A01

Moving Targets and Joint Theater Missile Defense Doctrine: Does it Apply to Locating and Engaging the Needle in the Haystack.
ADA363153REB PC A03/MF A01

Moving Toward the Food Guide Pyramid: Implications for U.S. Agriculture.
ERS-AER-779REB PC$14.00/MF A01

Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB PC A02/MF A01

Multidisciplinary Design and Analysis for Commercial Aircraft.
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Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications.
ADA362660REB PC A04/MF A01

Multiline Tow Cable Assembly Including Swivel and Slip Ring.
PAT-APPL-8-137 870REB PC N03/MF A04

Multiphase Flow Modeling - Validation and Application CRADA MC94-019, Final Report.
DE00003027REB PC A01/MF A01

Nadia, Captive of Hope: Memoir of an Arab Woman.
SHARPE-00465REB PC$27.95

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SHARPE-00464REB PC$32.95

Nanosat Intelligent Power System Development.
N19990041448REB PC A02/MF A01

Narrow Pass-Band Optical Filters for Space-Borne Remote Sensing Applications.
N19990041162REB PC A01/MF A01

National Air Pollutant Emission Trends Update, 1970-1997.
PB99-150260REB PC A07/MF A02

National ambient air quality objectives for particulate matter, executive summary: Part 1, science assessment document, a report.
MIC-99-03496REB PC E07/MF E01

National geochemical reconnaissance reanalysis of 1775 lake sediments from regional surveys on central Baffin Island, Nunavut, 1999: Parts of NTS 27B, 27C, 37A, and 37D.
MIC-99-03442REB PC E17/MF E01

National Guard State Partnership Program: Is It Still Relevant.
ADA363117REB PC A04/MF A01

National Sovereignty and the International Criminal Court.
ADA363395REB PC A05/MF A01

National Transportation Science and Technology Strategy.
PB99-151383REB PC A05/MF A01

NATO: From Creation to Golden Anniversary. Insights for the Czech Republic.
ADA363231REB PC A06/MF A01

Natural gas imports and exports. Fourth quarter report, 1998.
DE99002705REB PC A10/MF A03

Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB PC$52.00

Nature in Focus: Rapid Ecological Assessment.
ISLAND-0486REB PC$39.50

Naval Force Protection in the Littorals.
ADA363193REB PC A03/MF A01

Naval Mine Warfare Markets (Online Service).
JANE-0536REB PC$1175.00

Naval Operational Concept and Operational Maneuver from the Sea: Analysis in Operational Design.
ADA363216REB PC A03/MF A01

Navier-Stokes prediction of pitch damping coefficients for projectiles.
MIC-99-03294REB PC E07/MF E01

Navy AV-8B Crash Survivable Flight Incident Recorder (CSFIR).
ADA363122REB PC A04/MF A01

Navy F/A-18 Crash Survivable Flight Incident Recorder (CSFIR).
ADA363120REB PC A03/MF A01

NBC Report, Spring - Summer 1999. Survivability of Army Personnel and Materiel.
ADA363243REB PC A04/MF A01

Near East and South Asia.
ADA362773REB PC A05/MF A01

Near East and South Asia.
ADA362846REB PC A04/MF A01

Near East and South Asia--Translation.
ADA362916REB PC A05/MF A01

Near East and South Asia--Translation.
ADA362929REB PC A05/MF A01

Near East and South Asia--Translation.
ADA362930REB PC A04/MF A01

Near East and South Asia--Translation.
ADA362986REB PC A04/MF A01

Near East/South Asia Report, No. 2780--Translation.
ADA362828REB PC A07/MF A02

Need and options available for permanent CO(sub 2) disposal.
DE99002199REB PC A02/MF A01

Negotiating Environmental, Health, and Safety Agreements. How to Avoid Escalating Confrontation, Needless Costs, and Unnecessary Litigation.
ISLAND-0497REB PC$42.00

Network Centric Warfare and the Joint Forces Air Component Commander.
ADA363152REB PC A03/MF A01

Networked Computing for the 21st Century; Supplement to the President's FY 1999 Budget: Computing, Information, and Communications.
PB99-152415REB PC A08/MF A02

New Brunswick's mineral industry, 1997.
MIC-99-03151REB PC E12/MF E01

New ERA in Global Temperature Monitoring with the Advanced Microwave Sounding Unit (AMSU).
N19990041446REB PC A01/MF A01

New Materials for EMI Shielding.
N19990042172REB PC A03/MF A01

New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB PC A03/MF A01

New Technology Demonstration Program, Kennedy Space Center..
DE00006694REB PC A01/MF A01

New Trade and Convention Facilities Review Program, stage two: Evaluation site and community context summary.
MIC-99-03469REB PC E07/MF E01

New 3D parallel GILD electromagnetic modeling and nonlinear inversion using global magnetic integral and local differential equation.
DE99002422REB PC A04/MF A01

New 1999 National Electrical Code Coupled with New Standards Clarify Requirements for Installations of Photovoltaic Systems in the U.S.;Progress in Photovoltaics - Research and Applications.
DE00003202REB PC A01/MF A01

News from AFAR, March/April 1998.
ADA362865REB PC A01/MF A01

News from AFAR, Volume 1, Number 3 July/August 1998.
ADA362973REB PC A03/MF A01

News from AFAR, Volume 1 Number 7 January/February 1996.
ADA363035REB PC A03/MF A01

News from AFAR, Volume 2, Number 1 March/April 1996.
ADA362956REB PC A02/MF A01

News from AFAR, Volume 2 Number 2 May/June 1996.
ADA362960REB PC A02/MF A01

Next Convoy War: The American Campaign Against Enemy Shipping in the Twenty-First Century.
ADA363196REB PC A03/MF A01

Nickel aluminum bronze overlay deposit using gas metal arc welding process and 0.5 mm diameter wire.
MIC-99-03304REB PC E07/MF E01

Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB PC A07/MF A02

NKK Technical Report No. 158, June 1997.
PB99-153249REB PC E08/MF E08

Non-Lethal Operational Fires in Military Operations Other Than War.
ADA363126REB PC A03/MF A01

Non-Lethal Weapons: Applications in Maritime Interdiction Operations.
ADA363076REB PC A03/MF A01

Non-Lethal Weapons: Doctrine Suppliers and Technology (Online Service).
JANE-0562REB PC$1205.00

Non-Slip Safety Glasses.
PAT-APPL-8-226 621REB PC N03/MF A04

Non-Thermal Plasmas as Gas-Phase Advance Oxidation Processes.
ADA363247REB PC A02/MF A01

Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB PC A05/MF A01

Nondestructive Evaluation (NDE) Techniques Assessment for Graphite/Epoxy (Gr/Ep) Composite Overwrapped Pressure Vessels.
ADA363261REB PC A03/MF A01

NonLethal Weapons, NonLethal Policy, and Complex Contingencies.
ADA363056REB PC A04/MF A01

Nonradioactive Air Emissions Notice of Construction use on a portable exhauster on 241-A-101 tank during salt well pumping.
DE99050550REB PC A04/MF A01

Nontraditional inheritance: Genetics and the nature of science, now titled, The puzzle of inheritance: Genetics and the methods of science. Final report.
DE99002177REB PC A18/MF A04

Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
PB99-152944REB PC A11/MF A03

North Baffin Partnership Project: Summary of investigations.
MIC-99-03354REB PC E12/MF E01

Not to Foresee, But to Enable: The Promise and Pitfalls of Computer Simulations in Operational Planning.
ADA363148REB PC A03/MF A01

Notch effect of 350WT steel plate at high strain rates.
MIC-99-03347REB PC E07/MF E01

NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
PB99-152878REB PC A10/MF A02

NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
PB99-152886REB PC A10/MF A02

Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB PC A02/MF A01

Numerical Computation of the Radar Cross Section of the ZSU-23-4.
ADA363007REB PC A03/MF A01

Numerical simulation of explosive volcanism and its effects on the atmosphere.
DE99002259REB PC A02/MF A01

Nursing Home Trends, 1987 and 1996. MEPS Chartbook No. 3. Executive Summary.
PB99-154692REB PC A04/MF A01

Nutritional supplements as radioprotectors -- A review and proposal.
DE99002283REB PC A03/MF A01

OCCUPATIONAL SURVEY REPORT: Surgical Services, AFSC 4N1X1B/C/D, OSSN 2331.
ADA363121REB PC A08/MF A02

Occupational Survey Report, Survival Equipment, AFSC 2A7X4.
ADA362840REB PC A07/MF A02

Officer Candidate School (OCS): Relevance into the 21st Century.
ADA362971REB PC A04/MF A01

Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB PC N03/MF A04

One World (Episode No. 26). (VHS video).
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Open Line (Episode No. 24). (VHS video).
AVA20563-VNB1REB AV$99.00

Operational Art and the Human Dimension of Warfare in the 21st Century.
ADA363177REB PC A03/MF A01

Operational Commander and the Trident SSGN.
ADA363168REB PC A03/MF A01

Operational Commander, the Media, and MOOTW: A New Paradigm.
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Operational Counter Deception Cell: Is It The Answer.
ADA363190REB PC A03/MF A01

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Operational Design: The Impact of Nuclear, Biological, and Chemical Attack on U.S. Forces During Power Projection and Sustainment Operations.
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Operational Effects of Mine Warfare.
ADA363227REB PC A03/MF A01

Operational evaluation for the four sensor Contaminant/Fluid Integrity Measuring System (C/FIMS(trademark)), Midway Airlines F-100 aircraft.
MIC-99-03514REB PC E12/MF E01

Operational Fires on the Urban Battlefield: An Underdeveloped Concept.
ADA363059REB PC A03/MF A01

Operational Level Intelligence Preparation of the Battlefield for Special Operations Forces.
ADA363167REB PC A03/MF A01

Operational Level of War: Radical Change Needed to Support the American RMA.
ADA363061REB PC A03/MF A01

Opportunities to Improve Diagnostics Performance Using Computer-Based Product Definition Models and Simulations.
ADA362942REB PC A05/MF A01

Optical Frequency Standard in Trapped Atomic Hydrogen.
ADA362776REB PC A01/MF A01

Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
ADA362637REB PC A05/MF A01

Optimal neural computations require analog processors.
DE99002277REB PC A03/MF A01

Orbital Debris: A Chronology.
N19990041784REB PC A09/MF A02

Organic ion exchange resin separation methods evaluation.
DE99050699REB PC A04/MF A01

Organizational Implications of Network-Centric Warfare.
ADA363092REB PC A03/MF A01

Origin and evolution of the Greisenizing fluid at the East Kemptville tin deposit, Nova Scotia, Canada.
MIC-99-03229REB PC E07/MF E01

Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
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Overview of the Modular Effectiveness/Vulnerability Assessment (MEVA) Architecture.
ADA362951REB PC A02/MF A01

Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB PC A03/MF A01

Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
PB99-153009REB PC A05/MF A01

OWCP (Office of Workers' Compensation Programs) Annual Report to Congress: FY 1997.
PB99-152985REB PC A06/MF A01

Packaging and transportation system for K-Basin spent fuel.
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Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB PC A10

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Paradox of China's Post-Mao Reforms.
HUP-0020REB PC$24.95

Parallel Simulations of Waste Incineration in a Dump Combustor.
ADA363339REB PC A02/MF A01

Parallel Workstation Cluster for Algorithm Development, Parameter Scoping, and Data Analysis.
ADA363032REB PC A03/MF A01

Parametric Thermal Analysis for Codisposal Waste Package Canister.
DE98054748REB PC A02/MF A01

Patient-Centered Outcomes in Neurologic Disease. Abstract, Executive Summary and Final Report.
PB99-149609REB PC A04/MF A01

Patrol Craft Markets (Online Service).
JANE-0537REB PC$1205.00

Payload Operations.
N19990041196REB PC A02/MF A01

Peak Performance (Episode No. 21). (VHS video).
AVA20560-VNB1REB AV$99.00

Performance analysis of wavefront algorithms on very-large scale distributed systems.
DE99002219REB PC A03/MF A01

Performance and scalability analysis of teraflop-scale parallel architectures using multidimensional wavefront applications.
DE99002404REB PC A03/MF A01

Performance Budgeting: Initial Experiences Under the Results Act in Linking Plans With Budgets.
ADA363171REB PC A05/MF A01

Performance confirmation data acquisition system.
DE99002146REB PC A12/MF A03

Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362696REB PC A05/MF A01

Periodica Polytechnica, Chemical Engineering, Volume 42, No. 1, 1998.
PB99-120297REB PC A06/MF A01

Periodica Polytechnica Chemical Engineering, Volume 42, No. 2, 1998.
PB99-149627REB PC A07/MF A02

Periodica Polytechnica, Civil Engineering, Volume 42, No. 2, 1998.
PB99-120313REB PC A06/MF A02

Periodica Polytechnica, Mechanical Engineering, Volume 42, No. 1, 1998.
PB99-120305REB PC A06/MF A01

Periodica Polytechnica Mechanical Engineering, Volume 42, No. 2, 1998.
PB99-149635REB PC A07/MF A02

Periodica Polytechnica, Transportation Engineering, Volume 24, No. 1, 1998.
PB99-120321REB PC A06/MF A01

Permitting plan for the immobilized low-activity waste project.
DE99050230REB PC A06/MF A01

Personal Best (Episode No. 22). (VHS video).
AVA20561-VNB1REB AV$99.00

Personal Touch (Episode No. 4). (VHS video).
AVA20543-VNB1REB AV$99.00

Perspective Splatting.
ADA363073REB PC A04/MF A01

Pesticide residues in sediment and water from two watersheds in Prince Edward Island, 1996 and 1997.
MIC-99-03631REB PC E07/MF E01

Phosphorus loading to Shellmouth Reservoir, Manitoba, Canada.
MIC-99-03172REB PC E17/MF E01.

Photon-Weighted Midpoint Exposure Meter for Keck/HIRES Extrasolar Planet Research.
N19990042170REB PC A01/MF A01

Physical and Chemical Environmental Factors Associated with the Temporal and Spatial Distribution of Cyanobacteria in Lake George, New York.
ADA363278REB PC A07/MF A02

Plain English Handbook: How to Create Clear SEC Disclosure Documents.
PB99-151219REB PC A06/MF A01

Plan of Action (Episode No. 13). (VHS video).
AVA20552-VNB1REB AV$99.00

Planning Factors for Non Lethal Weapons in Counter Narcotic Operations.
ADA363094REB PC A03/MF A01

Planning for Future Humanitarian Assistance Operations: Using the SAO to Establish the NGO Working Relationship.
ADA363213REB PC A03/MF A01

Plasma and ion barrier for electron beam spot stability.
DE99002226REB PC A02/MF A01

Police Markets of North America and the European Union (Online Service).
JANE-0588REB PC$1170.00

Police Review (Online Service).
JANE-0525REB PC$215.00

Polish Long-Range Plan (1961-1975) and Five-Year Plan (1961-1965) for Scientific Research in Agricultural Technology--Translation.
ADA362736REB PC A03/MF A01

Political Information on Indonesia--Translation.
ADA362990REB PC A03/MF A01

Politics of Ecosystem Management.
ISLAND-0528REB PC$32.00

Polyhedral and Dihedral Caustics in the R(3).
PB99-148793REB PC A03/MF A01

Ponce de Leon Inlet, Florida, Site Investigation. Report 2: Inlet Hydrodynamics: Monitoring and Interpretation of Physical Processes.
ADA362897REB PC A05/MF A01

Portable exhausters POR-004 SKID B, POR-005 SKID C, POR-006 SKID D storage plan.
DE99050232REB PC A04/MF A01

Portfolio Optimization for Multiple Group Credit Unions.
ADA363385REB PC A06/MF A01

Positive Aspects of Network Centric Command. The Ties Between Behavioral Doctrine and Technology.
ADA363250REB PC A03/MF A01

Possibility of Using as a Photogrammetric Base the 1:25,000 Map for Photogrammetric Mapping at Scales of 1:10,000 and 1:5,000 -- Czechoslovakia --Translation.
ADA362801REB PC A03/MF A01

Post-construction evaluation of stormwater exfiltration & filtration systems.
MIC-99-03128REB PC E12/MF E01

Poverty and Inequality in Latin America. The Impact of Adjustment and Recovery.
JHUP-0306REB PC$42.50

Practical Approaches to the Conservation of Biodiversity.
ISLAND-0529REB PC$42.00

Practical Method for Aircraft Life Enhancement.
ADA362642REB PC A03/MF A01

Practical Tools for Electronic Records Management and Preservation.
ADA362863REB PC A03/MF A01

Precision Naval Fires in the Age of Information Superiority: Is The Day Of The Carrier Over.
ADA363066REB PC A03/MF A01

Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB PC A09/MF A02

Prediction of Crack Initiation and Growth in Solid Propellants.
ADA363081REB PC A12/MF A03

Prediction of X-33 Engine Dynamic Environments.
N19990041161REB PC A02/MF A01

Preliminary Study of Sensitivity Analysis and its Applications to Structural Control Problems.
ADA363042REB PC A04/MF A01

Preliminary tank characterization report for single-shell tank 241-SX-105: Best-basis inventory.
DE99050194REB PC A03/MF A01

Preliminary tank characterization report for single-shell tank 241-SX-106: Best-basis inventory.
DE99050195REB PC A03/MF A01

Preliminary tank characterization report for single-shell tank 241-SX-107: Best-basis inventory.
DE99050196REB PC A03/MF A01

Preliminary tank characterization report for single-shell tank 241-SX-111: Best-basis inventory.
DE99050197REB PC A04/MF A01

Preliminary tank characterization report for single-shell tank 241-SX-112: Best-basis inventory.
DE99050198REB PC A04/MF A01

Preliminary tank characterization report for single-shell tank 241-TX-103: Best-basis inventory.
DE99050184REB PC A04/MF A01

Preliminary tank characterization report for single-shell tank 241-TX-106: Best-basis inventory.
DE99050182REB PC A03/MF A01

Preliminary tank characterization report for single-shell tank 241-TX-110: Best-basis inventory.
DE99050186REB PC A03/MF A01

Preliminary tank characterization report for single-shell tank 241-TX-111: Best-basis inventory.
DE99050185REB PC A03/MF A01

Preliminary tank characterization report for single-shell tank 241-TX-112: Best-basis inventory.
DE99050181REB PC A04/MF A01

Preliminary tank characterization report for single-shell tank 241-TX-114: Best-basis inventory.
DE99050183REB PC A04/MF A01

Preparedness of Canadian business for the Year 2000 computer problem: A reassessment.
MIC-99-03575REB PC E07/MF E01

Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB PC A03/MF A01

Primer of CORBA: A Framework for Distributed Applications in Defence.
ADA362761REB PC A05/MF A01

Problem of Early Diagnosis of Cancer of the Uterine Cervix--Translation.
ADA362859REB PC A02/MF A01

Problem of Intervention.
ADA362635REB PC A09/MF A02

Problem of Radiological Protection, Poland.
ADA362600REB PC A03/MF A01

Proceedings of the National Highway/Utility Conference (7th). Held in Louisville, Kentucky on October 28-30, 1998.
PB99-150120REB PC A17/MF A03

Proceedings of the National Joint Use Conference (5th). Held in Louisville, Kentucky on October 26-27, 1998.
PB99-150062REB PC A08/MF A02

Proceedings of the National Science Council, Republic of China: Part A: Physical Science and Engineering, Volume 22, No. 2, March 1998.
PB99-101768REB PC A08/MF A02

Proceedings of the workshop on nonlinear MHD and extended MHD.
DE99001004REB PC A05/MF A01

Proceedings of the 5. joint Russian-American computational mathematics conference.
DE99000778REB PC A15/MF A03

Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB PC A01/MF A01

Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997.
PB99-152845REB PC A08/MF A02

Profile of the 1998 Farm Financial Survey.
MIC-99-03600REB PC E12/MF E01

Program Guide to Federally Funded Environment and Natural Resources R and D.
PB99-152449REB PC A05/MF A01

Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
DE99050411REB PC A04/MF A01

Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB PC A03/MF A01

Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
ADA362756REB PC A03/MF A01

Project CS-1082, Information and Technology Tools for Assessment and Prediction of the Potential Effects of Military Noise on Marine Mammals.
ADA363354REB PC A02/MF A01

Project Plan for the Baseline Measurment of Checkpoint Effectiveness and Efficiency.
PB99-149684REB PC A03/MF A01

Project W-314 241-AN-A valve pit upgrade acceptance for beneficial use.
DE99050201REB PC A03/MF A01

Project W-320 high vacuum 241-AY-102 annulus ventilation system operability test report.
DE99050588REB PC A13/MF A03

Propensity To Self-Subversion.
HUP-0030REB PC$18.50

Prospects for a Naval Service Operational Concept.
ADA363221REB PC A03/MF A01

Protecting Public Health and the Environment: Implementing the Precautionary Principle.
ISLAND-0516REB PC$37.00

Protecting the Land: Conservation Easements Past, Present, and Future.
ISLAND-0494REB PC$47.00

Psychophysical Comparisons in Image Compression Algorithms.
ADA362726REB PC A08/MF A02

Public Health Assessment for Agriculture Street Landfill, New Orleans, Orleans Parish, Louisiana, Region 6. CERCLIS No. LAD981056997.
PB99-152282REB PC A06/MF A01

Public Health Assessment for Sandoval Zinc Company, Sandoval, Marion County, Illinois, Region 5. CERCLIS No. ILD053980454.
PB99-155616REB PC A04/MF A01

Public Health Assessment for Sherwin Williams, Emeryville, Alameda County, California, Region 9. CERCLIS No. CAD03934601.
PB99-155590REB PC A05/MF A01

Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list.
MIC-99-03154REB PC E12/MF E01

Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB PC A06/MF A01

Quantum Chaos in Rydberg Atoms.
ADA362681REB PC A01/MF A01

Quantum Modeling.
ADA363264REB PC A04/MF A01

Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB PC A02/MF A01

Quasigeoid and the Standard Elevations -- East Germany -- -Translation.
ADA362811REB PC A03/MF A01

Quaternary geology of the Separation Lake area, Northwestern Ontario.
MIC-99-03113REB PC E12/MF E01

Quick-look eye-safety assessment for the short range lidar.
DE99002263REB PC A02/MF A01

R and D 100 market assessment.
DE99002205REB PC A01/MF A01

R/V Seward Johnson Cruise Report (SJ-9807) ACCE S-PALACE Float Deployments.
ADA362874REB PC A03/MF A01

Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques.
ADA363380REB PC A06/MF A01

Radiation Injury and Autolysis, USSR--Translation.
ADA363320REB PC A04/MF A01

Radioactive Air Emissions Notice of Construction for the 105-KW Basin integrated water treatment system filter vessel sparging vent.
DE99050561REB PC A04/MF A01

Radioisotope thermoelectric generator transportation system safety analysis report for packaging. Volumes 1 and 2.
DE99050392REB PC A99/MF E11

RAND Forum on Cuba.
ADA363063REB PC A05/MF A01

Re-engining the CC130 Hercules transport aircraft as a fleet management option.
MIC-99-03333REB PC E07/MF E01

Reaction of preshocked explosives.
DE99002285REB PC A04/MF A01

Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB PC A03/MF A01

Real Cost of 'Engagement'.
ADA363230REB PC A03/MF A01

Reaping the Wind: How Mechanical Wizards, Visionaries, and Profiteers Helped Shape Our Energy Future.
ISLAND-0480REB PC$34.95

Rear Area Security In The Field Army Service Area.
ADA362710REB PC A08/MF A02

Recent Developments in Population Viability Analysis, with Specific Reference to Pacific Salmon.
PB99-155426REB PC A04/MF A01

Recent Geographical Conferences in the Soviet Union, USSR--Translation.
ADA362768REB PC A03/MF A01

Reclaimed Manufacturer Asphalt Roofing Shingles in Asphalt Mixtures.
PB99-152613REB PC A05/MF A01

Recommendations on dose coefficients for assessing doses from accidental radionuclide releases to the environment.
MIC-99-03738REB PC E07/MF E01

Red Sea Studies.
ADA363049REB PC A01/MF A01

Redeployment plan for spectrum efficient land mobile equipment in the frequency range 100-500 MHz.
MIC-99-03408REB PC E07/MF E01

Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB PC A03/MF A01

Reevaluating Doctrine for Joint Theater Air and Missile Defense.
ADA363155REB PC A04/MF A01

Reexamination of the Joint Force Air Component Commander (JFACC) concept for the 21st Century.
ADA363183REB PC A03/MF A01

Regional Advantage. Culture and Competition in Silicon Valley and Route 128.
HUP-0009REB PC$15.50

Regional Civil-Military Operations Center: A Force Multiplier in Military Operations Other Than War.
ADA363176REB PC A03/MF A01

Regulation of the Multidrug Resistance-Associated Protein Gene by Estrogen.
ADA362659REB PC A04/MF A01

Regulations for the Technical Operation of Interurban Telephone- Telegraph Cable Lines, USSR.
ADA363281REB PC A08/MF A02

Regulatory barriers to on-site water reuse.
MIC-99-03234REB PC E07/MF E01

Reliability of the nervous (Nv) nets.
DE99002293REB PC A02/MF A01

Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB PC A12/MF A03

Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB PC A05/MF A01

Reorganization of Industrial Hygiene on a Scientific Basis, Ussr--Translation.
ADA362794REB PC A02/MF A01

Report on the testing of Raschig Rings.
DE99002257REB PC A05/MF A01

Report to the President on the Use of Technology to Strengthen K-12 Education in the United States.
PB99-152431REB PC A08/MF A02

Reports for public discussion.
MIC-99-03474REB PC E17/MF E01

Reports of the Hokkaido National Industrial Research Institute, No. 69, 1997.
PB99-152126REB PC E08/MF E08

Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
PB99-152118REB PC E08/MF E08

Reports of the Kyushu National Industrial Research Institute, No. 58, March 1997.
PB99-152035REB PC E04/MF E04

Representation and Integration of Scientific Information.
N19990042373REB PC A01/MF A01

Research and Development in Soviet Nonferrous Metallurgy--Translation.
ADA363316REB PC A07/MF A02

Research and Development Needs in Finite Element Analysis of Viscoelasticity Damped Structures.
ADA363134REB PC A03/MF A01

Reserve Component Officer Professional Development.
ADA363357REB PC A04/MF A01

Reshaping the Built Environment: Ecology, Ethics, and Economics.
ISLAND-0511REB PC$34.50

Residual Dust and Radiation Model (REDRAM), Model Description.
ADA362633REB PC A03/MF A01

Resolution of Hanford tanks organic complexant safety issue.
DE99050708REB PC A02/MF A01

Resource for Piezoelectric Single Crystals.
ADA363144REB PC A08/MF A02

Resources, Values and Development.
HUP-0025REB PC$19.95

Responses to additional JAPC questions.
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Restoring Life in Running Waters.
ISLAND-0530REB PC$36.95

Results of a Cultural Resource Inventory of Portions of Fort Carson Military Reservation and Test Excavation of Site 5EP2524, El Paso County, Colorado, 1996.
ADA363383REB PC A10/MF A02

Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB PC A06/MF A01

Results of the Field Study of the Paleontological Resources of the Fort Carson Military Reservation, Colorado.
ADA363332REB PC A06/MF A01

Results of the 1997 Cultural Resource Reevaluation Project, Fort Carson Military Reservation: El Paso, Fremont, and Pueblo Counties, Colorado.
ADA363384REB PC A10/MF A03

Retrieved waste properties and high-level waste critical component ratios for privatization waste feed delivery.
DE99050568REB PC A04/MF A01

Reusable Launch Vehicle (RLV) Mission/Market Model.
N19990041879REB PC A03/MF A01

Revision of the NASA Team Sea Ice Algorithm.
N19990041151REB PC A04/MF A01

Revolution in Military Logistics: Surviving the Budget Process.
ADA363267REB PC A04/MF A01

Rhetoric of Reaction. Perversity, Futility, Jeopardy.
HUP-0019REB PC$14.50

Right Choice (Episode No. 25). (VHS video).
AVA20564-VNB1REB AV$99.00

Right Force for the Future: Who Pays the Bill.
ADA363400REB PC A04/MF A01

Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
PB99-155418REB PC A03/MF A01

Rise and Fall of the Asian Miracle.
SHARPE-00423REB PC$32.95

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ADA363058REB PC A04/MF A01

Rivers of Gold: Designing Markets to Allocate Water in California.
ISLAND-0491REB PC$37.00

Road to Successful ITS Software Acquisition: Executive Summary.
PB99-117053REB PC A03/MF A01

Role of Mutant p53 Protein in Breast Cancer.
ADA363399REB PC A03/MF A01

Role of Persuasion and Coercion in the Soviet State USSR.
ADA363323REB PC A03/MF A01

Role of statistics and thermodynamics in nuclear multifragmentation.
DE99002390REB PC A02/MF A01

Roles of Historical Photography in Waste Site Characterization, Closure, and Remediation.
DE98057841REB PC A03/MF A01

ROMI-RIP 2.0 User's Guide: a ROugh Mill RIP-First Simulator.
PB99-152803REB PC A05/MF A01

Ronald Reagan. The Politics of Symbolism.
HUP-0008REB PC$15.95

Rose's Kiss: A Natural History of Flowers.
ISLAND-0500REB PC$31.95

RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
ADA363078REB PC A12/MF A03

Rural telemedicine project in northern New Mexico.
DE99002299REB PC A02/MF A01

Russia. People and Empire.
HUP-0003REB PC$16.95

Russia's Aerospace Industry (Online Service).
JANE-0575REB PC$1205.00

Russia. The Roots of Confrontation.
HUP-0006REB PC$16.50

Russia Under Western Eyes. From the Bronze Horseman to the Lenin Mausoleum.
HUP-0012REB PC$35.00

RXTE Observation of Cygnus X-1, 1.
N19990042404REB PC A02/MF A01

S2 Automated Agent (S2A2): A Training Aid for Commanders and Intelligence Officers.
ADA363075REB PC A10/MF A02

Sabot performance for gun launched MK-82 CF, BDU-5003/B and BDU-5002/B MOD 1 bombs.
MIC-99-03365REB PC E07/MF E01

Safety evaluation for packaging (onsite) depleted uranium waste boxes.
DE99050187REB PC A06/MF A01

Safety evaluation for packaging (onsite) for cesium chloride capsules with type W overpacks.
DE99050234REB PC A08/MF A02

Safety evaluation for packaging (onsite) 221 T sodium tanks.
DE99050488REB PC A04/MF A01

Sales Connection Series. (26 X 30 minute VHS videos).
AVA20539-VNB7REB AV$599.00

Sales Engine (Episode No. 1). (VHS video).
AVA20540-VNB1REB AV$99.00

Sales Talk (Episode No. 6). (VHS video).
AVA20545-VNB1REB AV$99.00

Sample representativeness for the Survey of Labour and Income Dynamics.
MIC-99-03604REB PC E07/MF E01

Sampling and analysis plan for sampling of liquid waste streams generated by 222-S Laboratory Complex operations.
DE99050155REB PC A04/MF A01

Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB PC A07/MF A02

Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB PC A99/MF E08

Sandakan Brothel No. 8: A Journey into the History of Lower-Class Japanese Women.
SHARPE-00463REB PC$27.95

Sandia National Laboratories Institutional Plan: FY 1999-2004.
DE00002622REB PC A12/MF A03

Sanskrit Grammar. Including Both the Classical Language, and the Older Dialects, of Veda and Brahmana.
HUP-0033REB PC$52.50

Satellite Control Systems: Opportunity for DOD to Implement Space Policy and Integrate Capabilities.
ADA363241REB PC A03/MF A01

Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB PC A03/MF A01

Scientific Coordination and Adaptive Management and Experimental Restoration of Longleaf Pine Community Structure, Function, and Composition.
ADA362888REB PC A06/MF A01

Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB PC A03/MF A01

Scoping assessment on medical isotope production at the Fast Flux Test Facility.
DE99050414REB PC A03/MF A01

Sea-Based Logistics: Does It Satisfy the Operational Commander's Need.
ADA363098REB PC A03/MF A01

Seabed classification by QTC VIEW: Sites near Vancouver Island.
MIC-99-03353REB PC E07/MF E01

Sealift Transportation in a Working Capital Fund Environment: Rate Stability When Workload Declines.
ADA362719REB PC A05/MF A01

Seasonal and Interannual Variabilities in Tropical Tropospheric Ozone.
N19990042082REB PC A04/MF A01

Security Planning for Wireless Networks: DOD Concerns.
ADA362720REB PC A06/MF A02

Selected Articles on Armed Forces in North Vietnam.
ADA363318REB PC A03/MF A01

Selected Articles on Machine Industry in Communist China in 1959--Translation.
ADA362798REB PC A03/MF A01

Selected Soviet Military Translations (Air Force and Civil Defense Materials)--Translation.
ADA362789REB PC A04/MF A01

Selected Soviet Military Translations (Recent Events in the Soviet Navy) No. 61--Translation.
ADA363306REB PC A03/MF A01

Selected Translations of Abstracts in Referativnyy Zhurnal - Biologiya, No. 6, 1959--Translation.
ADA362785REB PC A04/MF A01

Self-Synchronization: What is it, How is it Created, and is it Needed.
ADA363229REB PC A03/MF A01

Seller's World (Episode No. 2). (VHS video).
AVA20541-VNB1REB AV$99.00

Semiclassical Random Electrodynamics: Spontaneous Emission and the Lamb Shift.
ADA363360REB PC A03/MF A01

Separation of RDX from Composition B Via a Supercritical Fluid Extraction Process.
ADA363254REB PC A02/MF A01

SERDP Scientific Advisory Board Annual Report to Congress, Fiscal Year 1998.
ADA363071REB PC A06/MF A01

Setting the Pace (Episode No. 20). (VHS video).
AVA20559-VNB1REB AV$99.00

Shadows in the Sun: Travels to Landscapes of Spirit and Desire.
ISLAND-0502REB PC$29.95

Shaping of Policy in Support of National and Environmental Security for the Remediation of Cold War Related Ecosystem Degradation in the Commonwealth of Independent States.
ADA363123REB PC A04/MF A01

Shaping the Regional Stability Environment with Reserves.
ADA363210REB PC A04/MF A01

Shifting Ambiguity U.S. Foreign Policy Toward China and Taiwan.
ADA363166REB PC A10/MF A02

Shock Survivability of Dynamical Systems.
ADA363045REB PC A09/MF A02

Shoring Up the Homeland Defense: The Joint Medical Task Force and Weapons of Mass Destruction.
ADA363093REB PC A04/MF A01

Short Contact Time Direct Coal Liquefactionn Using a Novel Batch Reactor. Quarterly Report. May 16 - August 15, 1996.
DE00001726REB PC A01/MF A01

Show and Tell (Episode No. 15). (VHS video).
AVA20554-VNB1REB AV$99.00

Showcase Europe (on CD-ROM).
PB99-501611REB CD-ROM $125.00

SI-Combiner: Making sense of results from multiple trained programs.
DE99002292REB PC A01/MF A01

Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
DE99002359REB PC A04/MF A01

Simulation of microstructures in laser clad nickel aluminum bronzes.
MIC-99-03331REB PC E07/MF E01

Site index, a primer.
MIC-99-03135REB PC E07/MF E01

Six-Jet Production at Lepton Colliders.
PB99-120362REB PC A06/MF A01

Sixth national stakeholder workshop summary report.
DE99002110REB PC A07/MF A02

Small Scale Biomass Fueled Gas Turbine Power Plant.
PB99-126450REB PC A02/MF A01

Smart communities: Report.
MIC-99-03209REB PC E07/MF E01

SNS Linac: Revised configuration.
DE99002261REB PC A02/MF A01

Software Acquisition Capability Maturity Model (SA-CMM) Version 1.02.
ADA362667REB PC A09/MF A02

Soil fertility handbook.
MIC-99-03102REB PC E17/MF E01

Solar-Geophysical Data Number 657, May 1999. Part 1 (Prompt Reports). Data for March, April 1999 and Late Data.
PB99-154676REB PC A09/MF A02

Solar-Geophysical Data Number 657, May 1999. Part 2. (Comprehensive Reports). Data for November 1998 and Miscellaneous.
PB99-154684REB PC A05/MF A01

Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
ADA362745REB PC A99/MF E08

Solid waste integrated forecast technical (SWIFT) report: FY1997 to FY 2070.
DE99050410REB PC A99/MF A06

Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB PC A03/MF A01

Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB PC A04/MF A01

Some Perspectives of the Development of Television Broadcasting Technology -- USSR ---Translation.
ADA362810REB PC A03/MF A01

Some Principles of Network-Centric Warfare: A Look at How Network- Centric Warfare Applies to the Principles of War.
ADA363055REB PC A03/MF A01

Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
ADA362855REB PC A02/MF A01

South American Defence Industries and Markets (Online Service).
JANE-0571REB PC$1205.00

Southeast Asia Report, No. 1304.
ADA363289REB PC A07/MF A02

Southeast Asia Report No. 1308.
ADA363377REB PC A07/MF A02

Southeast Asia Report, No. 1310.
ADA362842REB PC A05/MF A01

Southeast Asia Report, No. 1371.
ADA362825REB PC A06/MF A01

Southeast Asia Report, No. 1372.
ADA362854REB PC A06/MF A01

Southeast Asia Report, No. 1373--Translation.
ADA362844REB PC A06/MF A01

Soviet Abstracts Biology, Section O, Plant Diseases, Book No. 23, 1958, Abstracts 104958 thru 105054--Translation.
ADA363310REB PC A03/MF A01

Soviet Scientific and Engineering Personnel.
ADA362639REB PC A04/MF A01

Soviet Union, Military Affairs.
ADA362702REB PC A06/MF A01

Soviet Union, Military Affairs.
ADA362704REB PC A07/MF A02

Soviet Union, Military Affairs.
ADA362705REB PC A06/MF A01

Soviet Union, Military Affairs.
ADA362747REB PC A07/MF A02

Soviet Union, Military Affairs.
ADA362781REB PC A07/MF A02

Soviet Union, Military Affairs.
ADA362782REB PC A07/MF A02

Soviet Union, Military Affairs.
ADA362804REB PC A06/MF A01

Soviet Union, Military Affairs. Data, Diagrams of Ground Forces Weaponry.
ADA362748REB PC A05/MF A01

Soviet Union, Military Affairs--Translation.
ADA362696REB PC A07/MF A02

Space as an Area of Responsibility (AOR), Is it the Right Solution.
ADA363149REB PC A03/MF A01

Space Shuttle Main Engine: Part Number RS007001.
N19990041880REB PC A02/MF A01

SPACE STATION: Status of Russian Involvement and Cost Control Efforts.
ADA363386REB PC A03/MF A01

Spacecraft Onboard Software Maintenance: An Effective Approach which Reduces Costs and Increases Science Return.
N19990041147REB PC A02/MF A01

Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
ADA363352REB PC A04/MF A01

Special Forces: The Peacetime Regional Engagement Force of Choice ... and More.
ADA363185REB PC A03/MF A01

Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB PC A04/MF A01

Spectroscopic Observations of the Planets.
ADA362847REB PC A01/MF A01

Spin Correlations in e(sup +)e(sup -) Yields 4 Jets.
PB99-120370REB PC A04/MF A01

SRS TRU Criticality Safety Analysis Waste Characterization.
DE98054750REB PC A01/MF A01

St. Lawrence River Valley 1998 ice storm: Maps and facts.
MIC-99-03574REB PC E07/MF E01

Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the New Orleans District for 1994.
ADA362753REB PC A12/MF A03

Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB PC A03/MF A01

State of science and technology indicators in the OECD countries.
MIC-99-03567REB PC E07/MF E01

Static Structural Analysis of the Loreors Electronic Console Support Frame.
ADA363138REB PC A07/MF A02

Statistics of U.S. Businesses: Microdata and Tables. SBA/ Census Data on Establishments by Firm Size.
PB99-142572REB PC A04/MF A01

Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
ADA363024REB PC A07/MF A02

Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152860REB PC A04/MF A01

Steel 'Mouse' and Automations, USSR.
ADA363321REB PC A01/MF A01

Step by Step (Episode No. 11). (VHS video).
AVA20550-VNB1REB AV$99.00

Strategic Creep: From Power Projection Back to Forward Presence.
ADA362989REB PC A04/MF A01

Strategy. The Logic of War and Peace.
HUP-0021REB PC$17.00

Stratification Mixing and Circulation of the Indonesian Seas.
ADA363048REB PC A02/MF A01

Stratified Coastal Trapped Waves and Mean Flows.
ADA362722REB PC A01/MF A01

Stratigraphy and tectonic significance of the Lower to Middle Devonian McAdams Lake Formation, Cape Breton Island, Nova Scotia.
MIC-99-03282REB PC E07/MF E01

Strehl Ratio Probabilities for Phase-Only Adaptive Optics.
ADA362881REB PC A06/MF A01

Strength and related properties of woods grown in Canada.
MIC-99-03441REB PC E07/MF E01

Structural Analysis of the Lamars Assembly.
ADA363136REB PC A07/MF A02

Structural Optimization Technique.
ADA363330REB PC A04/MF A01

Structural Slumps. The Modern Equilibrium Theory of Unemployment, Interest, and Assets.
HUP-0023REB PC$27.95

Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB PC A05/MF A01

Structure and dynamics of interactive documents.
DE99002193REB PC A03/MF A01

Structure of Canadian agriculture, 1996.
MIC-99-03310REB PC E12/MF E01

Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
N19990042139REB PC A01/MF A01

Studies in Intelligence, Winter 1998-1999.
PB99-928002REB PC A08

Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
PB99-152373REB PC A04/MF A01

Study Of The Aerial Interdiction of Railways During The Korean War.
ADA362707REB PC A09/MF A02

Study of the overdriven behaviors of PBX 9501 and PBX 9502.
DE99002407REB PC A02/MF A01

Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues.
ADA363238REB PC A05/MF A01

Study the Effects of Charged Particle Radiation on Gravitational Sensors in Space.
N19990042135REB PC A02/MF A01

Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB PC A19/MF A04

STWAVE: Steady-State Spectral Wave Model. Report 1: User's Manual for STWAVE Version 2.0.
ADA362875REB PC A05/MF A01

Sub-Saharan Africa Report, No. 2873--Translation.
ADA362993REB PC A08/MF A02

Successful Management Practices.
ADA362668REB PC A06/MF A02

Summary of Experiments in Converting Copper Oxide Process Regenerator Off-Gases to Elemental Sulfur, CRADA 97-F006, Final Report.
DE00003034REB PC A01/MF A01

Summary of FY 1997 related to JAPC-U.S. DOE contract study on improvement of core safety -- study on GEM (III).
DE99050497REB PC A04/MF A01

Summary of radioactive solid waste received in the 200 Areas during calendar year 1995.
DE98054295REB PC A17/MF A03

Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB PC A02/MF A01

Summary of Work for Joint Research Interchanges with DARWIN Integrated Product Team 1998.
N19990041450REB PC A03/MF A01

Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB PC A03/MF A01

Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB PC A03/MF A01

Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB PC A07/MF A02

Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB PC A07/MF A02

Supporting document for the Canada-wide acid rain strategy for post-2000.
MIC-99-03350REB PC E07/MF E01

Survey of Canadian new household equipment purchases, 1994 & 1995: Statistical report.
MIC-99-03183REB PC E07/MF E01

Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB PC A99/MF A06

Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB PC A99/MF E08

Survey of Key Concepts and Issues for Electronic Recordkeeping.
ADA362864REB PC A03/MF A01

Survey of Soviet Heavy Industry (4).
ADA363314REB PC A03/MF A01

Survey of Soviet Heavy Industry (7).
ADA362803REB PC A03/MF A01

Survey of Work and Sleep Hours of U.S. Army Aviation Personnel.
ADA362964REB PC A04/MF A01

Sustainable Forest Economy Workshop draft report: Summary of proceedings.
MIC-99-03384REB PC E07/MF E01

Symmetry and Topology of Energy Bands in Crystals.
PB99-148801REB PC A03/MF A01

Synopsis of the first cycle of the pulp and paper mill environmental effects monitoring program in the Atlantic region.
MIC-99-03658REB PC E07/MF E01

Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
PB99-152464REB PC A03/MF A01

Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
ADA362936REB PC A03/MF A01

Synthesis and Characterization of Diamond-Like Carbon Coatings Deposited by Plasma Source Ion Implantation and Conventional Ion Beam Assisted Deposition Processes.
ADA362850REB PC A05/MF A01

Synthesis, characterization and reactivity of high oxidation state nickel fluorides.
DE99002385REB PC A09/MF A02

Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures.
ADA362769REB PC A04/MF A01

Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB PC A05/MF A01

Systems Integration for Manufacturing Applications, 1998 Annual Report.
PB99-152696REB PC A06/MF A01

Tacit Knowledge in the Workplace.
ADA362656REB PC A11/MF A03

Takings Issue: Constitutional Limits on Land Use Control and Environmental Regulation.
ISLAND-0531REB PC$67.00

Tank characterization report for double-shell tank 241-AN-103.
DE99050200REB PC A15/MF A03

Tank characterization report for single-shell tank 241-BY-112.
DE99050199REB PC A10/MF A03

Tank 241-TX-104, cores 230 and 231 analytical results for the final report.
DE99050826REB PC A99/MF A06

Technical Achievements in Communist China's Electrical Equipment Industry--Translation.
ADA362775REB PC A07/MF A02

Technical information for the relocation and treatment of Argonne National Laboratory drums.
DE99050147REB PC A03/MF A01

Technical Operations Division - Heritage Remembered.
ADA362693REB PC A07/MF A02

Technical work plan for the privatization waste characterization data quality objective process.
DE99050402REB PC A04/MF A01

Technique for Measuring the Gain of HF Antennas.
ADA362876REB PC A03/MF A01

Technological Development for Interfacing Parallel Access Memories to Parallel Computers.
ADA362650REB PC A03/MF A01

Technologies for the oil and gas industry.
DE99002238REB PC A01/MF A01

Technology and Intervention: The Negative Impact on Future Leader Development.
ADA363207REB PC A03/MF A01

Tel8 Telecommnications Network: A Pooled Fund Study for Transportation Videoconferencing.
PB99-151433REB PC A04/MF A01

Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB PC A04/MF A01

Tent group systems requirements, phase 1A.
MIC-99-03476REB PC E17/MF E01

Terrain Backscattering Coefficient Generator.
ADA362716REB PC A06/MF A01

Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB PC$82.00

Terrestrial Turtle Habitats Potentially Impacted.
ADA363365REB PC A02/MF A01

Terrorism: A Global Survey (Online Service).
JANE-0566REB PC$1135.00

Test and Evalution Plan for Determining Screener Training Effectiveness.
PB99-149692REB PC A03/MF A01

Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
DE99050154REB PC A05/MF A01

Tethered dye gene probes.
MIC-99-03378REB PC E07/MF E01

Textural-Contextual Labeling and Metadata Generation for Remote Sensing Applications.
N19990041150REB PC A02/MF A01

TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB PC A08/MF A02

TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB PC A05/MF A01

THAAD Radar: Examination of a Cost Saving Initiative.
ADA362644REB PC A06/MF A01

Theater Ballistic Missile Defense, an Achilles Heel for the United States.
ADA363251REB PC A03/MF A01

Theater Missile Defense in World War II - Some Operational Art Considerations.
ADA363065REB PC A03/MF A01

Theodore Roosevelt: Activated Vision Through the Bully Pulpit.
ADA363268REB PC A06/MF A01

Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB PC A03/MF A01

Thermal Imaging Markets (Online Service).
JANE-0561REB PC$1205.00

Thermodynamics and sound speeds at the Chapman-Jouguet state.
DE99002289REB PC A02/MF A01

Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
ADA362754REB PC A04/MF A01

Third All-Union Conference on the Electrophysiology of the Nervous System, USSR.
ADA363322REB PC A01/MF A01

Third Congress of the All-Union Astronomic-Geodetic Society, USSR.
ADA363319REB PC A02/MF A01

Threading the Currents.
ISLAND-0532REB PC$29.95

Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB PC A06/MF A01

Thrust Augmentation for a Small Turbojet Engine.
ADA362981REB PC A06/MF A01

Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
N19990041616REB PC A02/MF A01

Too Close to Home. Domestic Violence in the Americas.
JHUP-0303REB PC$24.95

Tracer modeling in an urban environment.
DE99002399REB PC A01/MF A01

Trade liberalization of the international oilseed complex.
MIC-99-03324REB PC E07/MF E01

Trade-Off Myth: Fact and Fiction About Jobs and the Environment.
ISLAND-0483REB PC$34.50

Trainer Aircraft Markets (Online Service).
JANE-0544REB PC$1205.00

Training Spatial Knowledge Acquisition Using Virtual Environments.
ADA362600REB PC A03/MF A01

Transfer of Training Effectiveness in Flight Simulation: 1986 to 1997.
ADA362818REB PC A03/MF A01

Transformation of the Hungarian Home Defense Forces or a New Role in a New Environment.
ADA363358REB PC A04/MF A01

Translations on Eastern Europe. Political, Sociological, and Military Affairs, No. 1406--Translation.
ADA362695REB PC A05/MF A01

Transmission Availability Forecast Service for Internet Protocol Networks.
ADA363086REB PC A04/MF A01

Transportation Strategic Research Plan.
PB99-151391REB PC A05/MF A01

Trends in Maritime Violence (Online Service).
JANE-0535REB PC$1135.00

Trial by adventure.
MIC-99-03291REB PC E07/MF E01

Triangulation-Based L1-Fitting of Terrain Surfaces.
PB99-152779REB PC A04/MF A01

Tribal Environmental and Natural Resource Assistance Handbook.
PB99-150969REB PC A08/MF A02

Tricare Baseline Analysis of Access and Satisfaction.
ADA362744REB PC A05/MF A01

Trip report: Fremantle fatigue conference and FMP-related field visits and meetings.
MIC-99-03429REB PC E07/MF E01

TSCA Deskbook.
ELI-0060REB PC$89.95

Tuberculosis in Canada, 1996.
MIC-99-03411REB PC E12/MF E01

Twinning Mechanisms in Complex High Tm Intermetallic Compounds.
ADA362826REB PC A02/MF A01

Two Concepts and Two Tendencies of Statism, Yugoslavic.
ADA363317REB PC A02/MF A01

TWRS technical baseline database manager definition document.
DE99050152REB PC A06/MF A01

U.S. - JAPAN TRADE: The Japanese Insurance Market.
ADA363205REB PC A05/MF A01

U.S. Military, NGO's and CMOC: Staying Connected and Achieving Unity of Effort During MOOTW.
ADA363224REB PC A03/MF A01

U.S. Navy Heavy Weather Mooring Criteria.
ADA363085REB PC A03/MF A01

U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB PC A04/MF A01

Uncertain Superiority: Information Technology and Operational-Level Decision Making.
ADA363057REB PC A03/MF A01

UNCITRAL Model Law on Electronic Commerce with Guide to Enactment. 1996.
UN-1000REB PC$15.00

Unclassified Publications of Lincoln Laboratory.
ADA363077REB PC A05/MF A01

Understanding and Protecting Marine Biodiversity. Second Edition.
ISLAND-0526REB PC$24.95

Unique Polymeric Fiber and Fiber Delivery Systems for the Economic Preparation of High-Fiber Content Concrete with Superior Physical Properties.
ADA363079REB PC A12/MF A03

Unit radiological doses for fuel retrieval preliminary safety evaluation.
DE99050396REB PC A05/MF A01

UNITED NATIONS: Progress of Procurement Reforms.
ADA363233REB PC A04/MF A01

United States and China. Fourth Edition.
HUP-0002REB PC$24.95

United States Trade Policy: History, Theory, and the WTO.
SHARPE-00437REB PC$31.95

Unmanaged Landscapes: Voices for Untamed Nature.
ISLAND-0508REB PC$26.95

Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide.
ADA363010REB PC A06/MF A01

Upscaled Self-Propagating High-Temperature Synthesis (SHS)/Dynamic Compaction Processing.
ADA362636REB PC A05/MF A01

USAF Aerospace Expeditionary Force: Flying into the 21st Century.
ADA363209REB PC A03/MF A01

USAF Manufacturing Technology; Program Status Report, Spring 1999.
ADA363080REB PC A03/MF A01

USAFA Discovery, Jan-Mar 99.
ADA362648REB PC A03/MF A01

Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB PC A03/MF A01

Use of Commercial Space Assets by the Joint Force Commander.
ADA363150REB PC A03/MF A01

Use of Perspective View Displays for Operational Tasks.
ADA362590REB PC A03/MF A01

Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
ADA362843REB PC A02/MF A01

Use of Waste Glass as Aggregate for Pipe Backfill and Embankment Material.
PB99-152399REB PC A03/MF A01

User's Guide for the Naval Communications Assessment Tool (NCAT) software Version 2.0.
ADA362901REB PC A05/MF A01

USSR Report, Agriculture, No. 1409.
ADA362961REB PC A04/MF A01

USSR Report, Chemistry, No. 110.
ADA363143REB PC A06/MF A01

USSR Report, Construction and Equipment, No. 78.
ADA362750REB PC A10/MF A03

USSR Report, Construction and Related Industries, No. 93.
ADA363141REB PC A05/MF A01

USSR Report, Earth Sciences, No. 27.
ADA362860REB PC A05/MF A01

USSR Report, Electronics and Electrical Engineering, No. 118.
ADA363284REB PC A04/MF A01

USSR Report, Energy, No. 126.
ADA362819REB PC A04/MF A01

USSR Report, Energy No. 129.
ADA363327REB PC A04/MF A01

USSR Report, Energy, No. 130.
ADA362741REB PC A05/MF A01

USSR Report, Energy, No. 131.
ADA362738REB PC A04/MF A01

USSR Report, Energy, No. 152.
ADA362802REB PC A05/MF A01

USSR Report, Energy, No. 154.
ADA362740REB PC A06/MF A01

USSR Report: Energy, No. 164.
ADA362966REB PC A06/MF A01

USSR Report, Engineering and Equipment, No. 95--Translation.
ADA363025REB PC A07/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362987REB PC A06/MF A01

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362988REB PC A06/MF A01

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362998REB PC A08/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362999REB PC A09/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363000REB PC A06/MF A01

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363001REB PC A06/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363002REB PC A08/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363003REB PC A10/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363004REB PC A08/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363008REB PC A07/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363287REB PC A09/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences, No. 38.
ADA362755REB PC A08/MF A02

USSR Report: Life Sciences, Biomedical and Behavioral Sciences, No. 40--Translation.
ADA362835REB PC A07/MF A02

USSR Report, Life Sciences Biomedical and Behavioral Sciences, No. 45--Translation.
ADA363373REB PC A06/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363108REB PC A08/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363109REB PC A08/MF A02

USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363111REB PC A06/MF A01

USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363112REB PC A06/MF A01

USSR Report, Machine Tools and Metalworking Equipment, No. 7.
ADA363140REB PC A04/MF A01

USSR Report, Military Affairs.
ADA362783REB PC A06/MF A01

USSR Report, Military Affairs, No. 1731. Military History Journal, No. 8, August 1982.
ADA362749REB PC A06/MF A01

USSR Report, Military Affairs, No. 1732.
ADA362677REB PC A08/MF A02

USSR Report, Military Affairs, No. 1733.
ADA362671REB PC A07/MF A02

USSR Report, Military Affairs, No. 1764.
ADA362805REB PC A05/MF A01

USSR Report, Military Affairs, No. 1775.
ADA362700REB PC A06/MF A01

USSR Report, Military Affairs, No. 1781.
ADA362699REB PC A05/MF A01

USSR Report: Military Affairs, No. 1810.
ADA362889REB PC A06/MF A01

USSR Report, Military Affairs, No. 1814--Translation.
ADA362928REB PC A05/MF A01

USSR Report, Military Affairs, No. 1817.
ADA363291REB PC A07/MF A02

USSR Report, Political, and Sociological Affairs, No. 1390.
ADA362845REB PC A04/MF A01

USSR Report: Political and Sociological Affairs, No. 1478.
ADA362827REB PC A06/MF A01

USSR Report, Science and Technology Policy, No. 14.
ADA362934REB PC A07/MF A02

USSR Report, USA: Economics, Politics, Ideology, No. 1, January 1985--Translation.
ADA363296REB PC A06/MF A01

USSR Report, USA: Economics, Politics, Ideology No. 2, February 1985--Translation.
ADA363114REB PC A04/MF A01

USSR Report, USA, Economics, Politics, Ideology, NO. 3, March 1985--Translation.
ADA363113REB PC A06/MF A01

USSR Report, USA, Economics, Politics, Ideology, No. 4, April 1985.
ADA363299REB PC A05/MF A01

USSR Report, USA, Economics, Politics, Ideology, NO. 5, May 1985.
ADA363298REB PC A05/MF A01

USSR Report, USA, Economics, Politics, Ideology, No. 6, June 1985.
ADA363297REB PC A05/MF A01

USSR Report, USA: Economics, Politics, Ideology, No. 7, July 1985.
ADA363304REB PC A06/MF A01

USSR Report, USA: Economics, Politics, Ideology, No. 8, August 1985.
ADA363303REB PC A05/MF A01

USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1982.
ADA362678REB PC A07/MF A02

USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1985.
ADA363302REB PC A05/MF A01

USSR Report, USA: Economics, Politics, Ideology, No. 10, October 1985.
ADA363300REB PC A05/MF A01

USSR Report, USA: Economics, Politics, Ideology No. 12, December 1984--Translation.
ADA363110REB PC A07/MF A02

USSR Report, USA: Economics, Politics, Ideology--Translation.
ADA363295REB PC A05/MF A01

Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB PC A08/MF A02

Validating the Computer-Based Training Process for Aviation Security Screeners.
PB99-149585REB PC A03/MF A01

Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB PC A09/MF A02

Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives.
ADA363337REB PC A06/MF A01

Values Identified in Different Groups of Air Force Nurses.
ADA363338REB PC A08/MF A02

Vapor and gas sampling of single-shell tank 241-B-102 using the in situ vapor sampling system.
DE99050142REB PC A04/MF A01

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DE99050143REB PC A04/MF A01

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DE99050138REB PC A04/MF A01

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DE99050134REB PC A04/MF A01

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DE99050146REB PC A04/MF A01

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DE99050151REB PC A04/MF A01

Vapor and gas sampling of single-shell tank 241-TY-102 using the in situ vapor sampling system.
DE99050135REB PC A04/MF A01

Vapor and gas sampling of single-shell tank 241-U-104 using the in situ vapor sampling system.
DE99050145REB PC A04/MF A01

Variable Structure PID Control to Prevent Integrator Windup.
N19990041955REB PC A01/MF A01

Varieties of grain crops, 1999.
MIC-99-03467REB PC E07/MF E01

Vector meson production and nuclear effects in FNAL E866.
DE99002282REB PC A02/MF A01

Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB PC A04/MF A01

Verification of Effectiveness of Epoxy-Coated Rebars.
PB99-152407REB PC A06

Verzeichnis der im Faachinformationswesen der bundesswehr laufend gehaltenen Zeitschriften (Zeitschriftenverzeichnis FIWBw). Listing of the Magazines Held Constantly in the Speciaiized Information System of the German Federal Armed Forces (magazine listing FIWBw)--Translation.
ADA363396REB PC A11/MF A03

Vibration Damping by a Nearly Continuous Distribution of Nearly Undamped Oscillators.
ADA362958REB PC A03/MF A01

Visual Analysis of a Radio Frequency Tracking System for Virtual Environments.
ADA363020REB PC A06/MF A01

Volatile Losses from Aged Field Sediments.
ADA362809REB PC A03/MF A01

Volumetric Radioactivity Viewed as Surface Radioactivity for Free Release Assessment Purposes.
DE98057850REB PC A02/MF A01

Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB PC A13/MF A03

Waste feed delivery environmental permits and approvals plan.
DE99050825REB PC A07/MF A02

Waste Forms Based on Separations Media (DOE 360-94). The Strategic Environmental Research and Development Program.
ADA363257REB PC A10/MF A03

Waste management industry survey, business sector, 1995.
MIC-99-03502REB PC E07/MF E01

Waste management industry survey, government sector, 1994.
MIC-99-03501REB PC E07/MF E01

Waste management project fiscal year 1998 multi-year work plan WBS 1.2.
DE99050203REB PC A23/MF A04

Waste management project technical baseline description.
DE99050158REB PC A24/MF A04

Waste Receiving and Processing Facility Module 1 Data Management System software requirements specification.
DE99050395REB PC A06/MF A01

Waste sampling and characterization facility (WSCF) maintenance implementation plan.
DE99050206REB PC A05/MF A01

Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB PC A03/MF A01

Water quality assessment and objectives for the Fraser River from Hope to Sturgeon and Roberts banks: First update, technical appendix.
MIC-99-03134REB PC E99/MF E01

Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB PC A10/MF A02

Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB PC A21/MF A04

Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
PB99-152928REB PC A17/MF A03

Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB PC A16/MF A03

Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins.
PB99-152688REB PC A23/MF A04

Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB PC A25/MF A04

Waterborne Commerce of the United States. Calendar Year 1997. Part 2. Waterways and Harbors Gulf Coast, Mississippi River System and Antilles.
PB99-151367REB PC A18/MF A04

Ways to Solve Fuel Problems in North Korea.
ADA362784REB PC A02/MF A01

Weapon Indexing and Weapon Ratios in Arms Control.
ADA362751REB PC A02/MF A01

WEAPONS OF MASS DESTRUCTION: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned.
ADA363201REB PC A03/MF A01

West Europe Report, No. 2170.
ADA362849REB PC A05/MF A01

West Europe Report: Science and Technology, No. 166.
ADA363028REB PC A06/MF A01

West Europe Report, Science and Technology, No. 182.
ADA362909REB PC A04/MF A01

Wetlands environmental assessment guideline.
MIC-99-03121REB PC E07/MF E01

WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB PC A04/MF A01

When Is a Simple Model Adequate for Use in Scheduling in MSHN.
ADA362793REB PC A06/MF A01

Why Reengineering Projects Fail.
ADA362725REB PC A04/MF A01

WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB PC A03/MF A01

Winning MOOTW's in 2010: The Future Relationship Between the U.S. Military and Nongovernmental Organizations (NGO's).
ADA363212REB PC A03/MF A01

Wisconsinan glacial and sea-level history of Maritime Canada and the adjacent continental shelf: A correlation of land and sea events.
MIC-99-03230REB PC E07/MF E01

Within the Context of JV2010, Is There a Requirement for a Theater-Level Joint Forces Logistics Commander (JKLOGC) and a Joint Theater Logistics Command (JTLC).
ADA363172REB PC A04/MF A01

Woodpecker Use and Fail Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB PC A03/MF A01

Workbook on fish.
MIC-99-03634REB PC E12/MF E01

Workbook on wildlife.
MIC-99-03635REB PC E12/MF E01

Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946--1997.
DE99002410REB PC A02/MF A01

Workshop on 'New Engineering Technology Transfer in Orthopaedic Surgery'.
ADA362697REB PC A04/MF A01

World Information Directory of Industrial Technology and Investment Support Services.
UN-0947REB PC$60.00

World Market for ATC Equipment. Edition 2 (Online Service).
JANE-0524REB PC$1205.00

World Market for Civil Aircraft (Online Service).
JANE-0586REB PC$1205.00

World Markets for Armoured and Military Logistic Vehicles. Edition 2 (Online Service).
JANE-0554REB PC$1205.00

World Military Aircraft Market Forecast (Online Service).
JANE-0542REB PC$1135.00

Worldwide Report: Environmental Quality, No. 379.
ADA362967REB PC A06/MF A01

Worldwide Report, Environmental Quality No. 381.
ADA363239REB PC A06/MF A01

Worldwide Report, Environmental Quality, No. 403, China Addresses Environmental Issues – V.
ADA363021REB PC A13/MF A03

Worldwide Report, Epidemiology, No. 303.
ADA362734REB PC A06/MF A01

Worldwide Report, Epidemiology, No. 316.
ADA362857REB PC A05/MF A01

Worldwide Report, Epidemiology, No. 322.
ADA362858REB PC A05/MF A01

Worldwide Report, Epidemiology, No. 324.
ADA362997REB PC A05/MF A01

Worldwide Report: Epidemiology, No. 330.
ADA362979REB PC A05/MF A01

Worldwide Report: Epidemiology, No. 337.
ADA362980REB PC A05/MF A01

Worldwide Report: Nuclear Development and Proliferation, No. 170.
ADA363329REB PC A05/MF A01

Worldwide Report: Nuclear Development and Proliferation, No. 172.
ADA363282REB PC A05/MF A01

Worldwide Report, Nuclear Development and Proliferation, No. 173.
ADA362724REB PC A04/MF A01

Worldwide Report Nuclear Development and Proliferation No. 182.
ADA363283REB PC A04/MF A01

Worldwide Report: Nuclear Development and Proliferation, No. 201–Translation.
ADA362891REB PC A05/MF A01

Worldwide Report, Nuclear Development and Proliferation No. 209–Translation.
ADA363237REB PC A06/MF A01

Worldwide Report, Nuclear Development and Proliferation No. 210.
ADA363328REB PC A05/MF A01

Worldwide Report, Telecommunications Policy, Research and Development, No. 250.
ADA362820REB PC A05/MF A01

Worldwide Report Telecommunications Policy, Research and Development No. 253.
ADA363271REB PC A05/MF A01

Worldwide Report: Telecommunications Policy, Research and Development, No. 285.
ADA362797REB PC A05/MF A01

Worldwide Report, Telecommunications Policy, Research and Development, No. 293.
ADA363273REB PC A05/MF A01

Worldwide Report: Telecommunications Policy, Research and Development, No. 294.
ADA362868REB PC A07/MF A02

X-Ray Shawdowgraph Camera Design.
DE00002698REB PC A01/MF A01

X-33 Flight Operations Center.
N19990041246REB PC A14/MF A03

X-33/VentureStar Program.
N19990041334REB PC A03/MF A01

Year End Progress Report for ONR Young Investigator Grant N00014-97-1-0774.
ADA363335REB PC A02/MF A01

Yellow Book: Guide to Environmental Enforcement and Compliance at Federal Facilities.
PB99-152530REB PC A17/MF A03

Yields of ten and eleven year-old hybrid poplars in the north central United States. Final report.
DE99002354REB PC A03/MF A01

YMCA Earth Service Corps Club Handbook.
PB99-154551REB PC A06/MF A01

Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
DE99002391REB PC A03/MF A01

KEYWORD INDEX

Index entries in this section are selected to indicate important ideas and concepts presented in a report. When using the keyword index, be sure to look under terms narrower, broader, or related to a particular topic. Although some of the keywords are not selected from a controlled vocabulary of terms, most of them have been selected from the DoD, DoE, NASA, of NTIS controlled vocabularies. The entries are arranged by keyword and then by the NTIS order number.

SAMPLE ENTRY

Use: Keywords Term	**RECYCLED MATERIALS**
Title	Engineering and Environmental Aspects of Recycled Materials for Highway Construction
NTIS Order Number/Media Code Price Codes	PB94-100443/REB PC A10/MF A03

KEYWORD INDEX

0RGANIC COMPOUNDS
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July–September 1996.
DE99002446REB

104TH CONGRESS
Conservative Reformers: The Republican Freshmen and the Lessons of the 104th Congress.
SHARPE-00422REB

A STARS
High Resolution Far-Infrared Studies of Compact Regions in Star-Forming Molecular Clouds.
N19990042133REB
Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST.
N19990042137REB

ABRAHAM LINCOLN
Last Best Hope of Earth. Abraham Lincoln and the Promise of America.
HUP-0014REB

ABSORBERS (MATERIALS)
Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB

ABSTRACTS
In Situ Resource Utilization (ISRU 3) Technical Interchange Meeting: Abstracts.
N19990042245REB

ACCELERATOR FACILITIES
Development of a gamma ray spectroscopy capability at LANSCE.
DE99002234REB
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB

ACCEPTABILITY
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB

ACCESS
Falling through the Net: Defining the Digital Divide. A Report on the Telecommunications and Information Technology Gap in America.
PB99-144487REB

ACCIDENT PREVENTION
Meteoroids and Meteor Storms: A Threat to Spacecraft.
N19990041159REB

ACCIDENTS
Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946–1997.
DE99002410REB
Development of radiological concentrations and unit liter doses for TWRS FSAR radiological consequence calculations.
DE99050397REB
Recommendations on dose coefficients for assessing doses from accidental radionuclide releases to the environment.
MIC-99-03738REB

ACCOUNTABILITY
Performance Budgeting: Initial Experiences Under the Results Act in Linking Plans With Budgets.
ADA363171REB

ACCOUNTING
Application of environmental accounting to pollution prevention.
DE99050167REB

ACCRETION DISKS
Airborne Astronomy Program.
N19990042134REB
RXTE Observation of Cygnus X-1, 1.
N19990042404REB

ACOUSTIC FIELDS
Hybrid Asymptotic-Numerical Methods in Scattering.
ADA363046REB
Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
ADA363186REB

ACOUSTIC PROPERTIES
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB

ACOUSTIC SCATTERING
Hybrid Asymptotic-Numerical Methods in Scattering.
ADA363046REB

ACOUSTIC VELOCITY
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB
Acoustic Sound Speed Profiling System.
PAT-APPL-8-226 625REB

ACOUSTICS
Project CS-1082, Information and Technology Tools for Assessment and Prediction of the Potential Effects of Military Noise on Marine Mammals.
ADA363354REB

ACQUIRED IMMUNE DEFICIENCY SYNDROME
Worldwide Report, Epidemiology, No. 324.
ADA362997REB

ACQUISITION
Acquisition Positions in the Department of Defense Update.
ADA362683REB
News from AFAR, March/April 1998.
ADA362865REB
News from AFAR, Volume 2, Number 1 March/April 1996.
ADA362956REB
Aerospace Acquisition 2000, Volume 2, Number 1.
ADA362959REB
News from AFAR, Volume 2 Number 2 May/June 1996.
ADA362960REB
News from AFAR, Volume 1, Number 3 July/August 1998.
ADA362973REB
News from AFAR, Volume 1 Number 7 January/February 1996.
ADA363035REB
Air Traffic Control: FAA's Modernization Investment Management Approach Could Be Strengthened.
ADA363174REB
Road to Successful ITS Software Acquisition: Executive Summary.
PB99-117053REB

ACQUISITION REFORM
News from AFAR, Volume 1, Number 3 July/August 1998.
ADA362973REB
News from AFAR, Volume 1 Number 7 January/February 1996.
ADA363035REB

ACTINIDES
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB

ACTIVE CONTROL
Modular Wideband Active Vibration Absorber.
N19990042083REB

ACTIVE DEFENSE
Theater Ballistic Missile Defense, an Achilles Heel for the United States.
ADA363251REB

ACTIVE GALACTIC NUCLEI
Interaction-Activity Connection.
N19990042108REB

ACTIVE GALAXIES
Interaction-Activity Connection.
N19990042108REB

ACTUATORS
Modular Wideband Active Vibration Absorber.
N19990041146REB

ADAPTIVE CONTROL
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB

ADAPTIVE CONTROL SYSTEMS
Adaptive Inventory Control for Non-Stationary Demand with Partial Information.
ADA363083REB

ADAPTIVE OPTICS
Strehl Ratio Probabilities for Phase-Only Adaptive Optics.
ADA362881REB

ADRENAL CORTEX
Human Adrenal Androgens: Regulation of Biosynthesis and Role in Estrogen-Responsive Breast Cancer in a Mouse Model.
ADA362673REB

ADSORPTION
Investigation of the Effect of Surface Impurities on the Adsorption Kinetics of Hydrogen Chemisorbed onto Iron.
N19990042171REB

ADVANCED ENGINEERING ENVIRONMENTS
Advanced Engineering Environments; Achieving the Vision. Phase 1.
PB99-152290REB

ADVANCED MICROWAVE SOUNDING UNIT
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB
New ERA in Global Temperature Monitoring with the Advanced Microwave Sounding Unit (AMSU).
N19990041446REB
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB

ADVANCED PHOTON SOURCE
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB

ADVISORY ACTIVITIES
Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy.
ADA363194REB

AERODYNAMIC CHARACTERISTICS
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB

AERODYNAMIC HEATING
Analysis of a Pyroceram Radome Subjected to Aerodynamic Heating.
ADA363019REB

AERODYNAMIC NOISE
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB

AERODYNAMIC STABILITY
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB

AERODYNAMICS
Navier-Stokes prediction of pitch damping coefficients for projectiles.
MIC-99-03294REB
Modeling of the 6DOF missile dynamics using the NED axes system.
MIC-99-03299REB
Sabot performance for gun launched MK-82 CF, BDU-5003/B and BDU-5002/B MOD 1 bombs.
MIC-99-03365REB
Effects of roughness on advanced airfoils: Final report for phase II and phase III.
MIC-99-03515REB

AEROELASTICITY
Limit Cycle Oscillations (LCO) and Nonlinear Aeroelastic Wing Response: Reduced Order Aerodynamic Models.
ADA362982REB

AERONAUTICAL ENGINEERING
Aeronautical Engineering: A Continuing Bibliography With Indexes, Supplement 401.
N19990041594REB
Multidisciplinary Design and Analysis for Commercial Aircraft.
N19990042109REB

AERONAUTICS
Selected Soviet Military Translations (Air Force and Civil Defense Materials)—Translation.
ADA362789REB

AEROSOLS
Direct Detection Doppler Lidar for Spaceborne Wind Measurement.
N19990041449REB
Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models.
PB99-152829REB

AEROSPACE INDUSTRY
Future of Europe's Aerospace Industry. Edition 2 (Online Service).
JANE-0543REB
Jane's International ABC Aerospace Directory (Online Service).
JANE-0568REB
Russia's Aerospace Industry (Online Service).
JANE-0575REB
Advanced Engineering Environments; Achieving the Vision. Phase 1.
PB99-152290REB

AEROSPACE MEDICINE
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363004REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363008REB
Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
N19990041598REB
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB

AEROSPACE PLANES
Investigation of the Effect of Surface Impurities on the Adsorption Kinetics of Hydrogen Chemisorbed onto Iron.
N19990042171REB

AEROSPACE SAFETY
Interagency Report on Orbital Debris, 1995.
PB99-151375REB

AEROSPACE TECHNOLOGY TRANSFER
In Situ Resource Utilization (ISRU 3) Technical Interchange Meeting: Abstracts.
N19990042245REB

AEROSPACE VEHICLES
X-33/VentureStar Program.
N19990041334REB

AFRICA
Jane's Airports and Handling Agents: Middle East and Africa (Online Service).
JANE-0511REB
Jane's Airport and Handling Agents: Middle East and Africa (on CD-ROM).
JANE-0512REB
Jane's Airports and Handling Agents: Middle East and Africa. 1999-2000 Edition.
JANE-0513REB
Airport and Aviation Expansion: Africa and Middle East (Online Service).
JANE-0582REB

AGGREGATES
Use of Waste Glass as Aggregate for Pipe Backfill and Embankment Material.
PB99-152399REB

KEYWORD INDEX

AGGREGATES (BUILDING MATERIALS)
Aggregate resources inventory of the Regional Municipality of Durham: Townships of Brock, Uxbridge, Scugog; the Municipality of Clarington; the towns of Pickering, Ajax and Whitby and the City of Oshawa.
MIC-99-03112REB
Aggregate resources inventory of Prince Edward County.
MIC-99-03115REB
Aggregate resources inventory of Wellington County: Townships of Minto, Arthur, West Luther, Maryborough, Peel, West Garafraxa, Pilkington, Nichol, Guelph, Eramosa, Erin, Puslinch and the City of Guelph.
MIC-99-03116REB

AGING
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB

AGING (MATERIALS)
Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide.
ADA363010REB

AGREEMENTS
Negotiating Environmental, Health, and Safety Agreements. How to Avoid Escalating Confrontation, Needless Costs, and Unnecessary Litigation.
ISLAND-0497REB

AGRIBUSINESS
Floriculture Crops. 1998 Summary.
NASS-ZFC-99REB

AGRICULTURAL ECONOMICS
Food Cost Review, 1950-97.
ERS-AER-780REB
Manitoba food products directory, 1999.
MIC-99-03194REB
Agricultural Statistics, 1999.
NASS-ZAG-99REB
Cherry Production (Released June 24, 1999).
NASS-ZCP-99REB

AGRICULTURAL INNOVATIONS
Adaptive research reports, 1995, v. 17.
MIC-99-03159REB

AGRICULTURAL RUNOFF
Pesticide residues in sediment and water from two watersheds in Prince Edward Island, 1996 and 1997.
MIC-99-03631REB

AGRICULTURE
Polish Long-Range Plan (1961-1975) and Five-Year Plan (1961-1965) for Scientific Research in Agricultural Technology--Translation.
ADA362736REB
Conference on the Control of the Colorado Beetle, USSR.
ADA362786REB
JPRS Report, Latin America.
ADA362919REB
USSR Report, Agriculture, No. 1409.
ADA362961REB
China Report, Agriculture, No. 279.
ADA363285REB
Agricultural Trade Changes Made to Market Access Program, but Questions Remain on Economic Impact.
ADA363397REB
Agri-food policy in Canada.
MIC-99-03296REB

AGRICULTURE AND STATE
Grain Handling and Transportation Review: Final report.
MIC-99-03320REB
Grain Handling and Transportation System Review: Phase one report.
MIC-99-03322REB
Trade liberalization of the international oilseed complex.
MIC-99-03324REB

AIR DEFENSE
Component Based Simulation of the Space Operations Vehicle and the Common Aero Vehicle.
ADA363022REB
Fleet Air Defense in the Falkland Islands Conflict: A Failure in Operational Protection.
ADA363067REB
Area Air Defense Commander: Can JFACC Do It All.
ADA363189REB
Jane's Land-Based Air Defence (Online Service).
JANE-0545REB

AIR FORCE
News from AFAR, March/April 1998.
ADA362865REB
News from AFAR, Volume 2, Number 1 March/April 1996.
ADA362956REB
Aerospace Acquisition 2000, Volume 2, Number 1.
ADA362959REB
News from AFAR, Volume 2 Number 2 May/June 1996.
ADA362960REB
Air Force Journal of Logistics, Volume XXIII, Number 1. Spring 1999.
ADA363012REB

AIR FORCE OPERATIONS
News from AFAR, Volume 1 Number 7 January/February 1996.
ADA363035REB

AIR FORCE PERSONNEL
Improved Methodology For Screening Military Pilot Applicants.
ADA362675REB
Development of the Air Force-Army Military Skill Linkage System (MISL).
ADA362717REB
News from AFAR, Volume 2, Number 1 March/April 1996.
ADA362956REB
News from AFAR, Volume 2 Number 2 May/June 1996.
ADA362960REB
Values Identified in Different Groups of Air Force Nurses.
ADA363338REB

AIR FORCE PROCUREMENT
News from AFAR, Volume 1, Number 3 July/August 1998.
ADA362973REB
News from AFAR, Volume 1 Number 7 January/February 1996.
ADA363035REB
USAF Manufacturing Technology; Program Status Report, Spring 1999.
ADA363080REB

AIR FORCE RESEARCH
Air Force Research Laboratory Success Stories: A Review of 1997/1998.
ADA286991REB
USAFA Discovery, Jan-Mar 99.
ADA362648REB
Air Force Research Laboratory Research Highlights, Mar/Apr 1999.
ADA363089REB
EAF Transition Workshop: After Action Report, Lessons Learned and Recommendations.
ADA363388REB

AIR FORCE TRAINING
Modified T-37 Instead of T-46: Impact on Undergraduate Pilot Training.
ADA362757REB

AIR KERMA
Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
PB99-154882REB

AIR NAVIGATION
Evaluation of Precise Absolute Navigation (PAN) Performance Under Dynamic Conditions.
ADA362733REB

AIR POLLUTION
Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
ADA363351REB
Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB
National ambient air quality objectives for particulate matter, executive summary: Part 1, science assessment document, a report.
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Periodica Polytechnica, Transportation Engineering, Volume 24, No. 1, 1998.
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Bankruptcy Basics.
PB99-151235REB

BATTLE MANAGEMENT
NonLethal Weapons, NonLethal Policy, and Complex Contingencies.
ADA363056REB
Uncertain Superiority: Information Technology and Operational-Level Decision Making.
ADA363057REB
How Can Operational Maneuver be Used by the Naval or Joint Task Force Commander to Enhance Operational Protection in the Littoral.
ADA363095REB
Operational Level Intelligence Preparation of the Battlefield for Special Operations Forces.
ADA363167REB

BATTLEFIELDS
Psychophysical Comparisons in Image Compression Algorithms.
ADA362726REB

BATTLES
Latin America Report, No. 2710. Fighting in Nicaragua: Battles Along Two Borders.
ADA362680REB

BEAM SPLITTING
Electromagnetic Cold-Test Characterization of the Quad-Driven Stripline Kicker.
ADA362953REB

BEECHCRAFT AIRCRAFT
Beechcraft 1900C Vertical Impact Test.
PB99-149726REB

BEHAVIORAL SCIENCES
USSR Report: Life Sciences, Biomedical and Behavioral Sciences, No. 40--Translation.
ADA362835REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362987REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362988REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362998REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362999REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363000REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363001REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363002REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363003REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363004REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363008REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363108REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363109REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363111REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363112REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363287REB
USSR Report, Life Sciences Biomedical and Behavioral Sciences, No. 45--Translation.
ADA363373REB

BENCHMARKS
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB

BIAXIAL STRESSES
Development of a Biaxial Test Fixture.
ADA363135REB
Interim Report on the Development and Fabrication of a Biaxial Test Fixture.
ADA363137REB

BIBLIOGRAPHIES
Unclassified Publications of Lincoln Laboratory.
ADA363077REB
Detonation and combustion of explosives: A selected bibliography.
DE99002406REB
Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list.
MIC-99-03154REB
Aeronautical Engineering: A Continuing Bibliography With Indexes, Supplement 401.
N19990041594REB
Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
N19990041598REB
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
PB99-152795REB

BILINGUAL
Migratory birds environmental assessment guideline.
MIC-99-03120REB
Wetlands environmental assessment guideline.
MIC-99-03121REB
Annual report 1997-98.
MIC-99-03132REB
Aquatic Toxicity Workshop: Proceedings 1998.
MIC-99-03164REB
Household equipment of Canadians, features of the 1993 stock & the 1994 & 1995 purchases: Analysis report.
MIC-99-03182REB
Survey of Canadian new household equipment purchases, 1994 & 1995: Statistical report.
MIC-99-03183REB
Smart communities: Report.
MIC-99-03209REB
Trade liberalization of the international oilseed complex.
MIC-99-03324REB
Supporting document for the Canada-wide acid rain strategy for post-2000.
MIC-99-03350REB
Redeployment plan for spectrum efficient land mobile equipment in the frequency range 100-500 MHz.
MIC-99-03408REB
Tuberculosis in Canada, 1996.
MIC-99-03411REB
National ambient air quality objectives for particulate matter, executive summary: Part 1, science assessment document, a report.
MIC-99-03496REB
Waste management industry survey, government sector, 1994.
MIC-99-03501REB
Waste management industry survey, business sector, 1995.
MIC-99-03502REB
Preparedness of Canadian business for the Year 2000 computer problem: A reassessment.
MIC-99-03575REB
Sample representativeness for the Survey of Labour and Income Dynamics.
MIC-99-03604REB

BINDERS
Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB

BINDERS (MATERIALS)
Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements.
PB99-152993REB

BIOACCUMULATION
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB

BIOACOUSTICS
Bioacoustics of Monterey Bay Pinnipeds: Auditory Fatigue and Masking.
ADA362641REB

BIOCHEMISTRY
USSR Report, Life Sciences, Biomedical and Behavioral Sciences, No. 38.
ADA362755REB
Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
PB99-152118REB

BIODEGRADATION
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB

BIODIVERSITY
Understanding and Protecting Marine Biodiversity. Second Edition.
ISLAND-0526REB
Practical Approaches to the Conservation of Biodiversity.
ISLAND-0529REB

BIOGRAPHIES
East Asia: Southeast Asia, Autobiography of Chamlong.
ADA362817REB
JPRS Report, East Asia, Mongolia, Biographic Information on Officials--Translation.
ADA362885REB
General Creighton Abrams: Ethical Leadership at the Strategic Level.
ADA363255REB
Last Best Hope of Earth. Abraham Lincoln and the Promise of America.
HUP-0014REB

BIOLOGICAL
Jane's NBC Defence Systems (Online Service).
JANE-0552REB

BIOLOGICAL AEROSOLS
Background Biological Aerosol Properties.
ADA363253REB

BIOLOGICAL RADIATION EFFECTS
Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152860REB

BIOLOGICAL WARFARE
Department of Defense Nuclear/Biological/Chemical (NBC) Defense Annual Report to Congress March 1999.
ADA362674REB
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five

Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB

Operational Design: The Impact of Nuclear, Biological, and Chemical Attack on U.S. Forces During Power Projection and Sustainment Operations.
ADA363124REB

Jane's Chemical-Biological Defense Guidebook (Online Service).
JANE-0563REB

BIOLOGICAL WARFARE AGENTS

Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
ADA363348REB

BIOLOGY

Selected Translations of Abstracts in Referativnyy Zhurnal - Biologiya, No. 6, 1959--Translation.
ADA362785REB

BIOMASS

Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB

BIOMASS CONVERSION PLANTS

Ethanol Plant Feasibility Study for the Lower Kaskaskia River Valley Corn Wet Milling Facility.
PB99-122921REB

Small Scale Biomass Fueled Gas Turbine Power Plant.
PB99-126450REB

BIOMASS PLANTATIONS

Yields of ten and eleven year-old hybrid poplars in the north central United States. Final report.
DE99002354REB

BIOMEDICINE

USSR Report, Life Sciences, Biomedical and Behavioral Sciences, No. 38.
ADA362755REB

USSR Report: Life Sciences, Biomedical and Behavioral Sciences, No. 40--Translation.
ADA362835REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362987REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362988REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362998REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362999REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363000REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363001REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363003REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363004REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363108REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363109REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363111REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363112REB

USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363287REB

USSR Report, Life Sciences Biomedical and Behavioral Sciences, No. 45--Translation.
ADA363373REB

BIOMORPHIC NETWORKS

Biomorphic Networks for ATR and Higher-Level Processing.
ADA362731REB

BIOREGIONS

Bioregional Assessments. Science at the Crossroads of Management and Policy.
ISLAND-0519REB

BIOSYNTHESIS

Human Adrenal Androgens: Regulation of Biosynthesis and Role in Estrogen-Responsive Breast Cancer in a Mouse Model.
ADA362673REB

BIOTECHNOLOGY

Biotechnology use by Canadian industry, 1996.
MIC-99-03583REB

BIOTIC COMMUNITIES

Formulating objectives for management on an ecosystem scale.
MIC-99-03133REB

BIRD STRIKES

Bird Strike Risk Assessment for United States Air Force Airfields and Aircraft.
ADA363170REB

BIRDS

Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB

Birds of British Columbia: A taxonomic catalogue.
MIC-99-03118REB

Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB

BITUMEN

AOSTRA technical handbook on oil sands, bitumens and heavy oils.
MIC-99-03497REB

BITUMINOUS CONCRETE

Evaluation of Rubber-Modified Asphaltic Concrete.
PB99-152381REB

BITUMINOUS CONCRETES

Evaluation of Reflective Crack Control Policy.
PB99-152951REB

BLADES

Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB

BLOWERS

Portable exhausters POR-004 SKID B, POR-005 SKID C, POR-006 SKID D storage plan.
DE99050232REB

BOATING

Threading the Currents.
ISLAND-0532REB

BOILERS

Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB

BOMBER AIRCRAFT

Army's B-2 Bomber - Field Artillery Modernization.
ADA363364REB

BONDS

Making Markets. Opportunism and Restraint on Wall Street.
HUP-0011REB

BOOSTER ROCKET ENGINES

Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB

BORDER CONTROL

Jane's Border Protection and Economic Exclusion Zones (Online Service).
JANE-0531REB

BORON NITRIDES

Electron Assisted Deposition of Cubic Boron Nitride by RF Magnetron Sputtering.
ADA362770REB

BOUNDARIES

Global MHD Simulation of Mesoscale Structures at the Magnetospheric Boundary.
N19990042166REB

BOUNDARY VALUE PROBLEMS

Boundary Conditions for Magnetic Field Gradients Inside a Source-Free Volume.
ADA362760REB

BRAZING

Health Hazard Evaluation Report HETA 95-0001-2679, Caterpillar Inc., York, Pennsylvania.
PB99-152233REB

BREAST CANCER

Involvement of Nuclear Receptor Co-Repressors in the Development of Human Breast Cancer.
ADA362658REB

Regulation of the Multidrug Resistance-Associated Protein Gene by Estrogen.
ADA362659REB

Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications.
ADA362660REB

Fidelity of DNA Replication in Normal and Malignant Human Breast Cells.
ADA362661REB

Human Adrenal Androgens: Regulation of Biosynthesis and Role in Estrogen-Responsive Breast Cancer in a Mouse Model.
ADA362673REB

Genomic Instability at Premalignant and Early Stages of Breast Cancer Development.
ADA362712REB

Role of Mutant p53 Protein in Breast Cancer.
ADA363399REB

BRIDGE DECKS

Verification of Effectiveness of Epoxy-Coated Rebars.
PB99-152407REB

BRIDGE PARAPETS

Full-Scale Crash Evaluation of the NETC 4-Bar Sidewalk-Mounted Steel Bridge Railing.
PB99-152720REB

BRIDGES

Draft for Two Bridges in the People's Republic of Korea--Translation.
ADA362813REB

BRITAIN

Police Review (Online Service).
JANE-0525REB

BROADBAND

Modular Wideband Active Vibration Absorber.
N19990042083REB

BRONZE

Development of an optimum consumable alloy for low heat input welding of nickel aluminum bronzes.
MIC-99-03298REB

Nickel aluminum bronze overlay deposit using gas metal arc welding process and 0.5 mm diameter wire.
MIC-99-03304REB

Microstructural characterization of NiAl bronze weldments.
MIC-99-03326REB

Simulation of microstructures in laser clad nickel aluminum bronzes.
MIC-99-03331REB

Microstructural characterization of laser-clad nickel aluminum bronze alloys using transmission electron microscopy.
MIC-99-03332REB

Laboratory simulation of the galvanic corrosion of a ship hull plate by shaft grounding systems.
MIC-99-03348REB

BUDGET ESTIMATES

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 5.
ADA362762REB

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 4.
ADA362763REB

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activities 1-3.
ADA362764REB

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 6.
ADA362765REB

Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 7.
ADA362766REB

BUDGETS

SPACE STATION: Status of Russian Involvement and Cost Control Efforts.
ADA363386REB

BUFFERS

Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
PB99-155418REB

BUFFETING

Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB

BUILDING CODES

New 1999 National Electrical Code Coupled with New Standards Clarify Requirements for Installations of Photovoltaic Systems in the U.S.;Progress in Photovoltaics - Research and Applications.
DE00003202REB

BUILDINGS

For Want of a Home - A Study of Wherry and Capehan Military Family Housing.
ADA362706REB

BUILT ENVIRONMENT

Reshaping the Built Environment: Ecology, Ethics, and Economics.
ISLAND-0511REB

BUSINESS CYCLES

Structural Slumps. The Modern Equilibrium Theory of Unemployment, Interest, and Assets.
HUP-0023REB

BUSINESSES

Open Line (Episode No. 24). (VHS video).
AVA20563-VNB1REB

One World (Episode No. 26). (VHS video).
AVA20565-VNB1REB

Statistics of U.S. Businesses: Microdata and Tables. SBA/Census Data on Establishments by Firm Size.
PB99-142572REB

BusinessLINC: Learning, Information, Networking and Collaboration. Business-to-Business Relationships That Increase the Economic Competitiveness of Firms. A Report to Vice President Al Gore.
PB99-147092REB

BUTYLTIN

Changes in butyltin residue concentrations in marine sediments of Atlantic Canada between 1988 and 1994.
MIC-99-03657REB

BWR TYPE REACTORS

Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB

CABLE ASSEMBLIES

Multiline Tow Cable Assembly Including Swivel and Slip Ring.
PAT-APPL-8-137 870REB

CADMIUM
Health Hazard Evaluation Report HETA 95-0001-2679, Caterpillar Inc., York, Pennsylvania.
PB99-152233REB
CADMIUM TELLURIDES
Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB
CALIBRATING
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB
CALIBRATION STANDARDS
Journal of Research of the National Institute of Standards and Technology, January/February 1999. Volume 104, Number 1.
PB99-154833REB
CALIFORNIA
Rivers of Gold: Designing Markets to Allocate Water in California.
ISLAND-0491REB
CANADA
Jane's Airports and Handling Agents: USA and Canada (Online Service).
JANE-0508REB
Jane's Airports and Handling Agents: USA and Canada (on CD-ROM).
JANE-0509REB
Jane's Airports and Handling Agents: USA and Canada. 1999-2000 Edition.
JANE-0510REB
Soil fertility handbook.
MIC-99-03102REB
Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list.
MIC-99-03154REB
Regulatory barriers to on-site water reuse.
MIC-99-03234REB
Trial by adventure.
MIC-99-03291REB
Agri-food policy in Canada.
MIC-99-03296REB
Strength and related properties of woods grown in Canada.
MIC-99-03441REB
Tent group systems requirements, phase 1A.
MIC-99-03476REB
Biotechnology use by Canadian industry, 1996.
MIC-99-03583REB
Inserting joiners into a longitudinal panel of households and individuals: Simulations.
MIC-99-03602REB
Sample representativeness for the Survey of Labour and Income Dynamics.
MIC-99-03604REB
CANCER
Problem of Early Diagnosis of Cancer of the Uterine Cervix--Translation.
ADA362859REB
CANMET
Microstructural characterization of NiAl bronze weldments.
MIC-99-03326REB
CAPE BRETON ISLAND (N.S.)
Stratigraphy and tectonic significance of the Lower to Middle Devonian McAdams Lake Formation, Cape Breton Island, Nova Scotia.
MIC-99-03282REB
CAPITAL FLOWS
Managing Capital Flows in Turbulent Times: The Experience of Europe's Emerging Market Economies in Global Perspective.
SHARPE-00438REB
CARBON
Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB
CARBON 14
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB
CARBON-CARBON COMPOSITES
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB
CARBON DIOXIDE
Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB
CARBON DIOXIDE INJECTION
CO(sub 2) Huff-n-Puff process in a light oil shallow shelf carbonate reservoir.
DE98054328REB
CARBON MONOXIDE
Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
N19990041335REB
CARCINOGENESIS
Genomic Instability at Premalignant and Early Stages of Breast Cancer Development.
ADA362712REB
NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
PB99-152878REB
NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
PB99-152886REB
CARCINOGENICITY TESTING
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB
CARCINOGENS
Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB
SI-Combiner: Making sense of results from multiple trained programs.
DE99002292REB
CARDIAC ARREST
Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB
CARDIOVASCULAR SYSTEM
Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB
CAREER DEVELOPMENT
Seller's World (Episode No. 2). (VHS video).
AVA20541-VNB1REB
CAREERS
Occupational Survey Report, Survival Equipment, AFSC 2A7X4.
ADA362840REB
OCCUPATIONAL SURVEY REPORT: Surgical Services, AFSC 4N1X1B/C/D, OSSN 2331.
ADA363121REB
Big Picture (Episode No. 3). (VHS video).
AVA20542-VNB1REB
CARGO HANDLING
Long-Range International Civil Reserve Air Fleet (CRAF) Capability.
ADA362743REB
CARIBBEAN REGION
Jane's Airports and Handling Agents: Central and Latin America (Including the Caribbean) (Online Service).
JANE-0517REB
Jane's Airports and Handling Agents: Central and Latin America (Including the Caribbean) (on CD-ROM).
JANE-0518REB
Jane's Airports and Handling Agents: Central and Latin America (Including the Caribbean). 1999-2000 Edition.
JANE-0519REB
CARRIER FREQUENCIES
High Speed A/D DSP Interface for Carrier Doppler Tracking.
N19990041157REB
CARTOGRAPHY
Automated land area tests for the 2001 census, part 1: Preliminary results using the 1996 Digital Cartographic Files.
MIC-99-03431REB
CASKS
Safety evaluation for packaging (onsite) for cesium chloride capsules with type W overpacks.
DE99050234REB
CATALYSTS
Bifunctional detergents as novel catalysts: Final report.
MIC-99-03343REB
CATTLE
Guidelines for estimating beef grassing costs based on 500 head.
MIC-99-03171REB
CENTRAL AMERICA
Future Insurgencies in Latin America and the Caribbean: Implications for U.S. Operations.
ADA363179REB
CENTRAL ASIA
Central Asia, Physical Geography Handbook--Translation.
ADA362771REB
Central Asia: The Challenges of Independence.
SHARPE-00425REB
CENTRAL NERVOUS SYSTEM
Third All-Union Conference on the Electrophysiology of the Nervous System, USSR.
ADA363322REB
CENTRAL REGION (TEXAS)
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB
CERAMIC COATINGS
Ceramic Coated Piston Rods for Civil Works.
ADA362682REB
CERAMIC MATERIALS
Upscaled Self-Propagating High-Temperature Synthesis (SHS)/Dynamic Compaction Processing.
ADA362636REB
Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
ADA362745REB
Ceramic Armor Material Database.
ADA362926REB
Feasibility Study of Liquid Phase Sinter Forming of a Model Ceramic System.
ADA362946REB
CERAMIC RADOMES
Analysis of a Ceramic Radome.
ADA363023REB
CERAMICS
Development of inspection techniques for TTCP ceramic matrix composite specimens.
MIC-99-03358REB
CHARGE TRANSPORT
Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB
CHARGED PARTICLES
Study the Effects of Charged Particle Radiation on Gravitational Sensors in Space.
N19990042135REB
CHEMICAL AGENT DETECTORS
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB
Innovative Thin Film Fluorescence Sensor Providing Greatly Enhanced Signal-to-Noise and Integrated Solid State Detection. Suitable for Incorporation in Microchip Sensor Systems. Phase 1.
ADA363084REB
CHEMICAL ANALYSIS
Sampling and analysis plan for sampling of liquid waste streams generated by 222-S Laboratory Complex operations.
DE99050155REB
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB
Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
PB99-152118REB
CHEMICAL CONTAMINATION
Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants.
ADA362974REB
Background Biological Aerosol Properties.
ADA363253REB
CHEMICAL DISSOCIATION
Molecular Quantum States at Dissociation.
PB99-120339REB
CHEMICAL ENGINEERING
Periodica Polytechnica Chemical Engineering, Volume 42, No. 2, 1998.
PB99-149627REB
CHEMICAL EXPLOSIONS
Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB
CHEMICAL EXPLOSIVES
Implementation of model predictive control on a hydrothermal oxidation reactor.
DE99002280REB
Reaction of preshocked explosives.
DE99002285REB
Thermodynamics and sound speeds at the Chapman-Jouguet state.
DE99002289REB
Evolution of microstructural changes in pressed HMX explosives.
DE99002405REB
Detonation and combustion of explosives: A selected bibliography.
DE99002406REB
Study of the overdriven behaviors of PBX 9501 and PBX 9502.
DE99002407REB
Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946--1997.
DE99002410REB
CHEMICAL PROPERTIES
Physical and Chemical Environmental Factors Associated with the Temporal and Spatial Distribution of Cyanobacteria in Lake George, New York.
ADA363278REB
CHEMICAL REACTION KINETICS
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB
CHEMICAL REACTIONS
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB
CHEMICAL REACTIVITY
Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models.
PB99-152829REB
CHEMICAL SYNTHESIS
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB
CHEMICAL VAPOR DEPOSITION
CVD Diamond Grown by Microwave Plasmas in Mixtures of Acetone/Oxygen and Acetone/Carbon Dioxide.
ADA362752REB

Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures.
ADA362769REB

CHEMICAL WARFARE
Department of Defense Nuclear/Biological/Chemical (NBC) Defense Annual Report to Congress March 1999.
ADA362674REB
Operational Design: The Impact of Nuclear, Biological, and Chemical Attack on U.S. Forces During Power Projection and Sustainment Operations.
ADA363124REB
Jane's NBC Defence Systems (Online Service).
JANE-0552REB
Jane's Chemical-Biological Defense Guidebook (Online Service).
JANE-0563REB

CHEMICAL WARFARE AGENTS
Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
ADA363348REB

CHEMISORPTION
Investigation of the Effect of Surface Impurities on the Adsorption Kinetics of Hydrogen Chemisorbed onto Iron.
N19990042171REB

CHEMOTHERAPY
Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications.
ADA362660REB

CHERRIES
Cherry Production (Released June 24, 1999).
NASS-ZCP-99REB

CHESAPEAKE BAY
Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB

CHILDREN
Education of Children and Youth with Special Needs: What Do the Laws Say.
PB99-151227REB

CHINA
China Report, Political, Sociological and Military Affairs.
ADA362672REB
China Report, Political, Sociological and Military Affairs, No. 377.
ADA362679REB
China Report, Political, Sociological and Military Affairs--Translation.
ADA362689REB
China Report, Political, Sociological and Military Affairs--Translation.
ADA362690REB
China Report: Political, Sociological and Military Affairs, No. 469.
ADA362767REB
Development of the Civil Air Fleet, Peoples Republic of China--Translation.
ADA362772REB
China Report, Political, Sociological and Military Affairs No. 436.
ADA362780REB
Attitudes on Physical and Mental Labor in Communist China--Translation.
ADA362795REB
Communist China Digest, No. 16--Translation.
ADA362796REB
China Report: Political, Sociological and Military Affairs, No. 470--Translation.
ADA362799REB
China Report, Political, Sociological and Military Affairs, No. 431--Translation.
ADA362815REB
China Report, Political, Sociological and Military Affairs, No. 412--Translation.
ADA362821REB
China Report, Political, Sociological and Military Affairs, No. 438--Translation.
ADA362831REB
China Report: Political, Sociological and Military Affairs, No. 452--Translation.
ADA362890REB
China Report: Political, Sociological and Military Affairs, No. 453--Translation.
ADA362893REB
China Report, Science and Technology No. 213.
ADA362902REB
China Report, Political, Sociological and Military Affairs--Translation.
ADA362943REB
China Report, Political, Sociological and Military Affairs, No. 475--Translation.
ADA362995REB
Awakening China: Rabbit or Tiger.
ADA363030REB
Misguided Intentions: U.S. Policy in World War II and Chinese Intervention in Korea.
ADA363031REB
Shifting Ambiguity U.S. Foreign Policy Toward China and Taiwan.
ADA363166REB
China Report, Economic Affairs No. 323 Energy: Status and Development- XV.
ADA363288REB
China Report, Economic Affairs, No. 296. Energy: Status and Development XII.
ADA363312REB
United States and China. Fourth Edition.
HUP-0002REB
China. A New History. Enlarged Edition.
HUP-0018REB
Paradox of China's Post-Mao Reforms.
HUP-0020REB
China and Japan in the Global Setting.
HUP-0036REB
China Business Handbook (Online Service).
JANE-0573REB
Airport and Aviation Expansion: China (Online Service).
JANE-0583REB
Artisans and Entrepreneurs of Dongyang County: Economic Reform and Flexible Production in China.
SHARPE-00426REB
Nanjing Massacre: A Japanese Journalist Confronts Japan's National Shame.
SHARPE-00464REB

CHINESE-ENGLISH
Mathews' Chinese-English Dictionary. Revised American Edition.
HUP-0037REB

CHOLERA
Worldwide Report: Epidemiology, No. 330.
ADA362979REB

CHROMOSOMES
Genomic Instability at Premalignant and Early Stages of Breast Cancer Development.
ADA362712REB

CHRONOLOGY
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB

CIRCADIAN RHYTHMS
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB

CIRCUIT BREAKERS
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
PB99-152308REB

CIRCUIT INTERCONNECTIONS
Technological Development for Interfacing Parallel Access Memories to Parallel Computers.
ADA362650REB

CIVIL AFFAIRS
JPRS Report, Latin America--Translation.
ADA362837REB
Southeast Asia Report, No. 1373--Translation.
ADA362844REB
Near East and South Asia.
ADA362846REB
JPRS Report, Near East & South Asia--Translation.
ADA362887REB
Regional Civil-Military Operations Center: A Force Multiplier in Military Operations Other Than War.
ADA363176REB

CIVIL AVIATION
Development of the Civil Air Fleet, Peoples Republic of China--Translation.
ADA362772REB
World Market for Civil Aircraft (Online Service).
JANE-0586REB
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB

CIVIL DEFENSE
Selected Soviet Military Translations (Air Force and Civil Defense Materials)--Translation.
ADA362789REB
Soviet Union, Military Affairs.
ADA362804REB
USSR Report, Military Affairs, No. 1764.
ADA362805REB

CIVIL ENGINEERING
Periodica Polytechnica, Civil Engineering, Volume 42, No. 2, 1998.
PB99-120313REB

CIVIL MILITARY OPERATIONS CENTER (CMOC)
U.S. Military, NGO's and CMOC: Staying Connected and Achieving Unity of Effort During MOOTW.
ADA363224REB

CLASSIFIED INFORMATION
Information barrier functional requirements.
DE99002297REB

CLIMATE
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB

CLIMATE CHANGE
GISS Analysis of Surface Temperature Changes.
N19990042165REB

CLIMATIC CHANGE
Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
DE99002359REB

CLIMATIC CHANGES
Climate change and forests, context for the Canadian Forest Service's science program.
MIC-99-03652REB

CLIMATOLOGY
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB

CLINICAL MEDICINE
Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications.
ADA362660REB
Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
ADA362855REB
Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-, (K metodike issledovaniya gazoobmena pri vdykhanii bol' shikh kontsentratsiy kisloroda)--Translation.
ADA362856REB
Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
ADA362963REB
Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility.
ADA363334REB
Medical Information Technology in Support of the Operational Commander.
ADA363363REB

CLINICAL PSYCHOLOGY
Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB

CLOSE SUPPORT
Forward Air Controllers, 1985 - 1995.
ADA362737REB

CLOUDS
Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB

CLOUDS (METEOROLOGY)
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB

COAL GASIFICATION
Multiphase Flow Modeling - Validation and Application CRADA MC94-019, Final Report.
DE00003027REB

COAL LIQUEFACTION
Short Contact Time Direct Coal Liquefactionn Using a Novel Batch Reactor. Quarterly Report. May 16 - August 15, 1996.
DE00001726REB

COAL MINES
Evaluation of Passive Systems for the Treatment of Mine Drainage.
ADA362851REB

COAST GUARD OPERATIONS
Deterrence Effects of Operation Frontier Shield.
ADA362838REB
Non-Lethal Weapons: Applications in Maritime Interdiction Operations.
ADA363076REB
Planning Factors for Non Lethal Weapons in Counter Narcotic Operations.
ADA363094REB

COASTAL AREAS
Hidden Costs of Coastal Hazards. Implications for Risk Assessment and Mitigation.
ISLAND-0495REB

COASTAL ZONE MANAGEMENT
Estuarine Science: A Synthetic Approach to Research and Practice.
ISLAND-0493REB

COATINGS
Synthesis and Characterization of Diamond-Like Carbon Coatings Deposited by Plasma Source Ion Implantation and Conventional Ion Beam Assisted Deposition Processes.
ADA362850REB

CODE GENERATION
Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
PB99-154882REB

COGNITION
Effects of modafinil, d-amphetamine and placebo on physiological and psychological stress during sleep deprivation.
MIC-99-03106REB

COLD WAR
Air Force Journal of Logistics, Volume XXIII, Number 1. Spring 1999.
ADA363012REB

COLD WEATHER CLOTHING
Trial by adventure.
MIC-99-03291REB
Human factors assessment of prototype lightweight thermal undergarment systems for the Clothe-the-Soldier Programme.
MIC-99-03319REB

COLLAPSE
Airborne Astronomy Program.
N19990042134REB

COLOR DISPLAYS
Evaluation of Operator Performance Using True Color and Artificial Color in Natural Scene Perception.
ADA363036REB

COLUMBIA RIVER BASIN
Different Perspectives on Economic Base.
PB99-147639REB
Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB

COMBAT
Jane's Personal Combat Equipment (Online Service).
JANE-0553REB

COMBAT AIRCRAFT
World Military Aircraft Market Forecast (Online Service).
JANE-0542REB

COMBAT EFFECTIVENESS
Airborne Forces of the United States Army: Cornerstone of Force Projection.
ADA363187REB

COMBAT FORCES
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB

COMBAT READINESS
Analysis of First-Term Army Attrition.
ADA362968REB
Future of the Combat Training Centers to Meet the National Military Strategy.
ADA362969REB
Organizational Implications of Network-Centric Warfare.
ADA363092REB
Not to Foresee, But to Enable: The Promise and Pitfalls of Computer Simulations in Operational Planning.
ADA363148REB
Information-Based RMA and the Principles of War.
ADA363157REB

COMBAT SIMULATION
Increasing the Resolution of Simulated Combat Trauma Injuries in a High Level Architecture (HLA) Environment.
ADA362714REB
Extending the State-of-the-Art for the COMAN/ATCAL Methodology.
ADA363016REB
Component Based Simulation of the Space Operations Vehicle and the Common Aero Vehicle.
ADA363022REB
S2 Automated Agent (S2A2): A Training Aid for Commanders and Intelligence Officers.
ADA363075REB

COMBUSTION
Combustion Control Using a Multiplexed Diode-Laser Sensor System.
ADA363252REB

COMBUSTION CHAMBERS
Prediction of X-33 Engine Dynamic Environments.
N19990041161REB

COMBUSTION POLLUTANTS
Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB

COMBUSTION PRODUCTS
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB

COMBUSTORS
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB
Parallel Simulations of Waste Incineration in a Dump Combustor.
ADA363339REB

COMETS
Spectroscopic Observations of the Planets.
ADA362847REB

COMMAND AND CONTROL
Jane's C(4)I Systems (Online Service).
JANE-0557REB

COMMAND AND CONTROL SYSTEMS
Network Centric Warfare and the Joint Forces Air Component Commander.
ADA363152REB
C2 in the Information Age: Will Operational Command Echelons Become Unnecessary.
ADA363259REB
Command and Control in Joint Vision 2010: Flexible, Adaptive and Networked.
ADA363260REB

COMMAND CONTROL COMMUNICATIONS
Denying Access to Commercial Communications Satellites.
ADA363096REB
Operational Commander and the Trident SSGN.
ADA363168REB
Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next.
ADA363198REB

COMMERCE
Practical Method for Aircraft Life Enhancement.
ADA362642REB
Waterborne Commerce of the United States. Calendar Year 1997. Part 2. Waterways and Harbors Gulf Coast, Mississippi River System and Antilles.
PB99-151367REB

COMMERCIAL AIRCRAFT
Multidisciplinary Design and Analysis for Commercial Aircraft.
N19990042109REB
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB

COMMERCIAL COMMUNICATIONS
Denying Access to Commercial Communications Satellites.
ADA363096REB

COMMERCIAL SECTOR
Showcase Europe (on CD-ROM).
PB99-501611REB

COMMERCIAL SPACECRAFT
X-33/VentureStar Program.
N19990041334REB

COMMERCIAL TRANSPORTATION
Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
PB99-116501REB

COMMODITIES
Waterborne Commerce of the United States. Calendar Year 1997. Part 2. Waterways and Harbors Gulf Coast, Mississippi River System and Antilles.
PB99-151367REB

COMMUNICATING
Sales Talk (Episode No. 6). (VHS video).
AVA20545-VNB1REB

COMMUNICATION
In Position (Episode No. 9). (VHS video).
AVA20548-VNB1REB

COMMUNICATION AND RADIO SYSTEMS
Regulations for the Technical Operation of Interurban Telephone- Telegraph Cable Lines, USSR.
ADA363281REB

COMMUNICATION NETWORKS
Payload Operations.
N19990041198REB

COMMUNICATION SATELLITES
Denying Access to Commercial Communications Satellites.
ADA363096REB

COMMUNICATION SYSTEMS
Jane's Military Communications (Online Service).
JANE-0559REB
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB

COMMUNICATIONS
Farinon microwave end of life cycle.
DE98054292REB

COMMUNICATIONS INTELLIGENCE
E Pluribus Unum: Enhancing Intelligence Support in the Network Centric Environment.
ADA363102REB

COMMUNISM
Role of Persuasion and Coercion in the Soviet State USSR.
ADA363323REB

COMMUNISTS
Communist China Digest, No. 16--Translation.
ADA362796REB

COMMUNITIES
Managing Tourism Growth: Issues and Applications.
ISLAND-0509REB

COMMUNITY DEVELOPMENT
Smart communities: Report.
MIC-99-03209REB

COMPARISON
Summary of Work for Joint Research Interchanges with DARWIN Integrated Product Team 1998.
N19990041450REB

COMPATIBILITY
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB

COMPLEXOMETRY
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB

COMPOSITE MATERIALS
Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
ADA362756REB
Development of a Biaxial Test Fixture.
ADA363135REB
Interim Report on the Development and Fabrication of a Biaxial Test Fixture.
ADA363137REB
Fatigue crack nucleation in metallic materials.
DE99002227REB
Impact properties of composite sonar dome materials.
MIC-99-03381REB

COMPRESSORS
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB

COMPUTATIONAL FLUID DYNAMICS
Cross Flow Over Double Delta Wings.
ADA363041REB
RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
ADA363078REB
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB

COMPUTER AIDED DESIGN
Opportunities to Improve Diagnostics Performance Using Computer-Based Product Definition Models and Simulations.
ADA362942REB
Creative PDB's (parts databases).
DE99002284REB
Systems Integration for Manufacturing Applications, 1998 Annual Report.
PB99-152696REB

COMPUTER AIDED DIAGNOSIS
Opportunities to Improve Diagnostics Performance Using Computer-Based Product Definition Models and Simulations.
ADA362942REB
Integrated Diagnostics.
ADA363343REB

COMPUTER AIDED INSTRUCTION
Training Spatial Knowledge Acquisition Using Virtual Environments.
ADA362800REB

COMPUTER AIDED MANUFACTURING
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB
Advanced Engineering Environments; Achieving the Vision. Phase 1.
PB99-152290REB
Systems Integration for Manufacturing Applications, 1998 Annual Report.
PB99-152696REB

COMPUTER APPLICATIONS
Survey of Key Concepts and Issues for Electronic Recordkeeping.
ADA362864REB
BuyIt Prototype Software Requirements Analysis: A C-BASS Component.
ADA363050REB
BuyIt Software Development Plan: A C-BASS Component.
ADA363051REB

COMPUTER ASSISTED INSTRUCTION
Line (Episode No. 23). (VHS video).
AVA20562-VNB1REB

COMPUTER BASED INSTRUCTION
Validating the Computer-Based Training Process for Aviation Security Screeners.
PB99-149585REB

COMPUTER COMMUNICATIONS
Primer of CORBA: A Framework for Distributed Applications in Defence.
ADA362761REB
Transmission Availability Forecast Service for Internet Protocol Networks.
ADA363086REB

COMPUTER GRAPHICS
Framework for Effective Algorithm Visualization Using Animation-Embedded Hypermedia.
ADA363104REB

COMPUTER NETWORKS
Parallel Workstation Cluster for Algorithm Development, Parameter Scoping, and Data Analysis.
ADA363032REB
Integrated Approach for Security on Demand in High Speed, Shared Use Networks.
ADA363245REB
Networked Computing for the 21st Century; Supplement to the President's FY 1999 Budget: Computing, Information, and Communications.
PB99-152415REB
Hitachi Review, Volume 46, No. 4, August 1997. Electronic Commerce for a New Social Infrastructure.
PB99-153140REB

COMPUTER PROGRAM DOCUMENTATION
User's Guide for the Naval Communications Assessment Tool (NCAT) software Version 2.0.
ADA362901REB

COMPUTER PROGRAMS
Spacecraft Onboard Software Maintenance: An Effective Approach which Reduces Costs and Increases Science Return.
N19990041147REB
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB

COMPUTER SIMULATION
DADS steering simulation.
MIC-99-03342REB

COMPUTER SOFTWARE
Road to Successful ITS Software Acquisition: Executive Summary.
PB99-117053REB

COMPUTER SYSTEMS DESIGN
Incorporating Manual and Autonomous Code Generation.
N19990042320REB

COMPUTER VISION
Merged Vision and GPS Control of a Semi-Autonomous, Small Helicopter.
N19990042372REB
COMPUTERIZED SIMULATION
Residual Dust and Radiation Model (REDRAM), Model Description.
ADA362633REB
Strehl Ratio Probabilities for Phase-Only Adaptive Optics.
ADA362881REB
Visual Analysis of a Radio Frequency Tracking System for Virtual Environments.
ADA363020REB
Not to Foresee, But to Enable: The Promise and Pitfalls of Computer Simulations in Operational Planning.
ADA363148REB
Parallel Simulations of Waste Incineration in a Dump Combustor.
ADA363339REB
Engineering Model for Prediction of Waste Incineration in a Dump Combustor.
ADA363341REB
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB
ROMI-RIP 2.0 User's Guide: a ROugh MIII RIP-First Simulator.
PB99-152803REB
COMPUTERIZED TOMOGRAPHY
High Resolution Computerized Ionospheric Tomography Systems.
ADA362662REB
COMPUTERS
East Europe Report, Scinetific Affairs, No. 783--Translation.
ADA363368REB
Information barrier functional requirements.
DE99002297REB
Falling through the Net: Defining the Digital Divide. A Report on the Telecommunications and Information Technology Gap in America.
PB99-144487REB
CONCENTRATION
Genetic Regulatory Networks in Embryogenesis and Evolution.
N19990041841REB
CONCRETE
Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362896REB
CONCUSSION
Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB
CONFERENCES
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB
General Public Space Travel and Tourism, Volume 2.
N19990041888REB
CONFINED ENVIRONMENTS
Naval Force Protection in the Littorals.
ADA363193REB
CONFLICT
Special Forces: The Peacetime Regional Engagement Force of Choice ... and More.
ADA363185REB
History of the World in the Twentieth Century. Volume II: Conflict and Liberation, 1945-1996.
HUP-0017REB
CONFLICTS
Strategy. The Logic of War and Peace.
HUP-0021REB
CONGRESS
Annual Report to Congress. Fiscal Year 1998.
ADA363370REB
CONNECTIVITY
Falling through the Net: Defining the Digital Divide. A Report on the Telecommunications and Information Technology Gap in America.
PB99-144487REB
CONSERVATION
For the Health of the Land: Previously Unpublished Essays and Other Writings.
ISLAND-0475REB
CONSERVATIVE REFORMERS
Conservative Reformers: The Republican Freshmen and the Lessons of the 104th Congress.
SHARPE-00422REB
CONSTRUCTION
USSR Report, Construction and Equipment, No. 78.
ADA362750REB
Regulatory barriers to on-site water reuse.
MIC-99-03234REB
Building solutions: A problem solving guide for builders and renovators.
MIC-99-03458REB
Photon-Weighted Midpoint Exposure Meter for Keck/HIRES Extrasolar Planet Research.
N19990042170REB
CONSTRUCTION EQUIPMENT
USSR Report, Construction and Equipment, No. 78.
ADA362750REB
CONSTRUCTION SITE TRAFFIC CONTROL
Assessment of Advanced Warning Signs for Flagging Operations.
PB99-152134REB
CONSUMERS
In the Know (Episode No. 7). (VHS video).
AVA20546-VNB1REB
Good Match (Episode No. 8). (VHS video).
AVA20547-VNB1REB
Beneath the Surface (Episode No. 10). (VHS video).
AVA20549-VNB1REB
Breaking Through (Episode No. 16). (VHS video).
AVA20555-VNB1REB
CONTAINERS
Parametric Thermal Analysis for Codisposal Waste Package Canister.
DE98054748REB
Report on the testing of Raschig Rings.
DE99002257REB
Technical information for the relocation and treatment of Argonne National Laboratory drums.
DE99050147REB
CONTAINMENT SYSTEMS
Radioisotope thermoelectric generator transportation system safety analysis report for packaging. Volumes 1 and 2.
DE99050392REB
CONTAMINANTS
Development of Biotrickling Filters to Treat Sulfur and VOC Emissions.
ADA362950REB
Design/Use of the Remotely Operated Bakeout Box Shutter (ROBBS).
N19990042443REB
CONTAMINATION
Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module.
ADA362729REB
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB
Indexing contamination surveys.
DE99050499REB
Design/Use of the Remotely Operated Bakeout Box Shutter (ROBBS).
N19990042443REB
CONTINENTAL SHELF
Wisconsinan glacial and sea-level history of Maritime Canada and the adjacent continental shelf: A correlation of land and sea events.
MIC-99-03230REB
CONTRACTORS
Contractors in the Joint Theater: The Need for a Joint Doctrine.
ADA363125REB
CONTRACTS
News from AFAR, Volume 1, Number 3 July/August 1998.
ADA362973REB
Bid Opening Report. Federal-Aid Highway Construction Contracts, First Six Months, 1998.
PB99-147340REB
CONTROL PANELS
Static Structural Analysis of the Loreors Electronic Console Support Frame.
ADA363138REB
CONTROL SYSTEMS DESIGN
Modular Wideband Active Vibration Absorber.
N19990041146REB
CONTROL THEORY
Preliminary Study of Sensitivity Analysis and its Applications to Structural Control Problems.
ADA363042REB
Variable Structure PID Control to Prevent Integrator Windup.
N19990041955REB
CONTROLLED ATMOSPHERES
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB
CONTROLLERS
DADS steering simulation.
MIC-99-03342REB
Variable Structure PID Control to Prevent Integrator Windup.
N19990041955REB
CONVECTION
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB
CONVENTION FACILITIES
New Trade and Convention Facilities Review Program, stage two: Evaluation site and community context summary.
MIC-99-03469REB
COOLING
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB
COPPER
Analytical Transmission Electron Microscopy Studies on Copper-Alumina Interfaces.
ADA362728REB
Fatigue crack nucleation in metallic materials.
DE99002227REB
CORAL
Deep-Sea Corals: A New Oceanic Archive.
ADA363389REB
CORMIX MODEL
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB
CORNEA
Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB
CORONAS
RXTE Observation of Cygnus X-1, 1.
N19990042404REB
CORPUSCULAR RADIATION
Main Source of Solar Corpuscular Streams --USSR--Translation.
ADA362791REB
CORRECTION
New ERA in Global Temperature Monitoring with the Advanced Microwave Sounding Unit (AMSU).
N19990041446REB
CORROSION
Evaluation of Test Methodologies for Dissolution and Corrosion of Al-SNF.
DE98054573REB
COST
Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
PB99-116501REB
COST ANALYSIS
Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives.
ADA363337REB
Hidden Costs of Coastal Hazards. Implications for Risk Assessment and Mitigation.
ISLAND-0495REB
COST BENEFIT ANALYSIS
Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
DE99002242REB
Application of environmental accounting to pollution prevention.
DE99050167REB
COST EFFECTIVENESS
BALLISTIC MISSILE DEFENSE: More Common Systems and Components Could Result in Cost Savings.
ADA363345REB
Defense Depot Maintenance Council Study of DoD Management of Industrial Plant Equipment.
ADA363391REB
Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB
Evaluation of Reflective Crack Control Policy.
PB99-152951REB
COST ESTIMATES
Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
ADA363024REB
COST SAVINGS
BALLISTIC MISSILE DEFENSE: More Common Systems and Components Could Result in Cost Savings.
ADA363345REB
COSTS
THAAD Radar: Examination of a Cost Saving Initiative.
ADA362644REB
Closing the Book: The Role of the Aircraft Carrier in the Twenty-First Century.
ADA363211REB
Analysis of the Operating Costs for Light Armored Vehicles in the United States Marine Corps.
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Spacecraft Onboard Software Maintenance: An Effective Approach which Reduces Costs and Increases Science Return.
N19990041147REB
COUNTERDRUG OPERATIONS
Challenges of Command and Control in 2010 Counterdrug Operations.
ADA363091REB
COUNTERINTELLIGENCE
Operational Counter Deception Cell: Is It The Answer.
ADA363190REB
COUPS D'ETAT
Coup D'Etat. A Practical Handbook.
HUP-0007REB
COVERT OPERATIONS
Challenges of Command and Control in 2010 Counterdrug Operations.
ADA363091REB
CRACK DETECTION
Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB
CRACK PROPAGATION
Prediction of Crack Initiation and Growth in Solid Propellants.
ADA363081REB

Dynamic fracture of heterogeneous materials.
DE99002235REB

CRACKING (FRACTURING)
Develop Maintenance Strategy Selection Procedures for Pavements Incorporating Semi-Rigid or Chemically Stabilized Layers.
PB99-149593REB
Evaluation of Reflective Crack Control Policy.
PB99-152951REB
Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements.
PB99-152993REB

CREDIT UNIONS
Portfolio Optimization for Multiple Group Credit Unions.
ADA363385REB

CREEP
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
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General Creighton Abrams: Ethical Leadership at the Strategic Level.
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CRISIS MANAGEMENT
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ADA363229REB

CRITICALITY
SRS TRU Criticality Safety Analysis Waste Characterization.
DE98054750REB
Definition and means of maintaining the criticality detectors and alarms portion of the PFP safety envelope.
DE99050188REB
CSER 97-004: PFP production denitration calciner system.
DE99050233REB

CROP PRODUCTION
Field crop recommendations, 1999-2000.
MIC-99-03222REB

CROPS
Field crop recommendations, 1999-2000.
MIC-99-03222REB
Varieties of grain crops, 1999.
MIC-99-03467REB

CROSS CULTURE (SOCIOLOGY)
Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues.
ADA363238REB

CROWN CORPORATIONS
Annual report 1997-98.
MIC-99-03255REB

CROWN ETHERS
Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
ADA362936REB

CRUISE MISSILES
Cruise Missile Defense: Progress Made But Significant Challenges Remain.
ADA362742REB

CRYOGENICS
Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
N19990041616REB

CRYSTAL GROWTH
Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures.
ADA362769REB
Resource for Piezoelectric Single Crystals.
ADA363144REB

CRYSTAL STRUCTURE
Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
ADA362936REB

CRYSTAL STRUCTURES
Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
PB99-154882REB

CRYSTAL SYMMETRY
Symmetry and Topology of Energy Bands in Crystals.
PB99-148801REB

CTCS (COMBAT TRAINING CENTERS)
Future of the Combat Training Centers to Meet the National Military Strategy.
ADA362969REB

CUBA
RAND Forum on Cuba.
ADA363063REB
Economic Sanctions: Viable Instruments of Power or Economic Chaos.
ADA363199REB

CUBAN MISSILE CRISIS
Kennedy Tapes. Inside the White House During the Cuban Missile Crisis.
HUP-0013REB

CULTURE
Archeological and Architectural Investigations at Brown's Sheep Camp (5LA5824), a Multicomponent District in the U.S. Army Pinon Canyon Maneuver Site, Las Animas County, Colorado.
ADA363169REB

CULTURES
Shadows in the Sun: Travels to Landscapes of Spirit and Desire.
ISLAND-0502REB

CUSTOMER SERVICES
Full Service (Episode No. 18). (VHS video).
AVA20557-VNB1REB

CUSTOMERS
First Impressions (Episode No. 5). (VHS video).
AVA20544-VNB1REB
Extra Mile (Episode No. 19). (VHS video).
AVA20558-VNB1REB

CYANOBACTERIA
Physical and Chemical Environmental Factors Associated with the Temporal and Spatial Distribution of Cyanobacteria in Lake George, New York.
ADA363278REB

CYCLES
Seasonal and Interannual Variabilities in Tropical Tropospheric Ozone.
N19990042082REB

CYTOLOGY
Radiation Injury and Autolysis, USSR--Translation.
ADA363320REB
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB

DAMAGE
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB
Application of nonlinear wave modulation spectroscopy to discern material damage.
DE99002411REB

DAMAGE ASSESSMENT
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB

DAMPING
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB

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ADA362800REB
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB
Continuation of a Postdoctoral Research Associateship Program.
ADA363232REB
Gamma Radiation from PSR B1055-52.
N19990042027REB

DATA ANALYSIS
Data mining.
DE99002233REB

DATA BASE MANAGEMENT
Advanced telemedicine development.
DE99002236REB
Creative PDB's (parts databases).
DE99002284REB
TWRS technical baseline database manager definition document.
DE99050152REB
Waste Receiving and Processing Facility Module 1 Data Management System software requirements specification.
DE99050395REB

DATA BASES
Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB
Increasing the Resolution of Simulated Combat Trauma Injuries in a High Level Architecture (HLA) Environment.
ADA362714REB
Ceramic Armor Material Database.
ADA362926REB
Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures.
ADA363279REB
Hazard Analysis Database report.
DE99050159REB
Summary of Work for Joint Research Interchanges with DARWIN Integrated Product Team 1998.
N19990041450REB
Aeronautical Engineering: A Continuing Bibliography With Indexes, Supplement 401.
N19990041594REB
Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
N19990041598REB
Statistics of U.S. Businesses: Microdata and Tables. SBA/Census Data on Establishments by Firm Size.
PB99-142572REB

DATA COLLECTION
Nature in Focus: Rapid Ecological Assessment.
ISLAND-0486REB
Sample representativeness for the Survey of Labour and Income Dynamics.
MIC-99-03604REB

DATA FILE
Encyclopedia of Explosives (on CD-ROM).
PB99-500076REB
Showcase Europe (on CD-ROM).
PB99-501611REB

DATA FUSION
Year End Progress Report for ONR Young Investigator Grant N00014-97-1-0774.
ADA363335REB

DATA MANAGEMENT
Data Quality Tools for Data Warehousing - A Small Sample Survey.
ADA362923REB
Transmission Availability Forecast Service for Internet Protocol Networks.
ADA363086REB
Textural-Contextual Labeling and Metadata Generation for Remote Sensing Applications.
N19990041150REB

DATA PROCESSING
Advanced algorithms for information science.
DE99002231REB
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB

DATA QUALITY
Data quality objective to support resolution of the organic solvent safety issue.
DE99050161REB

DATA TRANSMISSION SYSTEMS
Initial investigation of bandwidth required for collision avoidance using a video camera on a remotely controlled vehicle.
MIC-99-03363REB

DATAFILE
ACTG 240: Randomized Comparative Trial of Stavudine (d4T) versus Zidovudine (ZDV, AZT) in Children with Human Immunodeficiency Virus Infection (on Diskette).
PB99-501629REB

DC TO DC CONVERTERS
Frequency-Based Load Sharing in Current-Mode-Controlled Buck Converters.
ADA362884REB

DEBRIS
Large Engine Uncontained Debris Analysis.
PB99-154569REB

DECARBURIZATION
Decarburization of Uranium Via Electron Beam Processing.
ADA362955REB

DECEPTION
Operational Counter Deception Cell: Is It The Answer.
ADA363190REB

DECISION AIDS
Use of Perspective View Displays for Operational Tasks.
ADA362590REB
Decision Aids and Wargaming for Information Operations.
ADA363158REB

DECISION MAKING
Uncertain Superiority: Information Technology and Operational-Level Decision Making.
ADA363057REB
Technology and Intervention: The Negative Impact on Future Leader Development.
ADA363207REB
Managing the Dynamics of Change.
ADA363208REB
Winning MOOTW's in 2010: The Future Relationship Between the U.S. Military and Nongovernmental Organizations (NGO's).
ADA363212REB
Operational Design of Hurricane Relief Operations.
ADA363215REB
Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility.
ADA363334REB
Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB
Defense Depot Maintenance Council Study of DoD Management of Industrial Plant Equipment.
ADA363391REB
Better Environmental Decisions: Strategies for Governments, Businesses, and Communities.
ISLAND-0518REB
Holistic Management: A New Framework for Decision-Making. Second Edition.
ISLAND-0524REB

DECISION SUPPORT SYSTEMS
CVX Damage Control Information Technology Evolutionary Model.
ADA362692REB
AMPL: An Exclusive Technology for DecisionNet.
ADA362883REB

DECOMMISSIONING
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB

Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB

105-DR Large Sodium Fire Facility closure activities evaluation report.
DE99050394REB

Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
DE99050411REB

DECONTAMINATION

Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB

Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB

105-DR Large Sodium Fire Facility closure activities evaluation report.
DE99050394REB

Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
DE99050411REB

DEEP WATER

Deep Water Formation and Circulation in the Arctic Ocean Studies by Natural and Anthropogenic Tracers.
ADA363047REB

DEFENSE BUDGETS

Military Simulation Markets. Edition 2 (Online Service).
JANE-0574REB

DEFENSE IN DEPTH

Department of Energy: Key Factors Underlying Security Problems at DOE facilities.
ADA362670REB

DEFENSE INDUSTRY

Jane's International Defence Directory (Online Service).
JANE-0569REB

French Defence Industry Forecast (Online Service).
JANE-0570REB

South American Defence Industries and Markets (Online Service).
JANE-0571REB

Japan's Defence Industry: Capabilities and Future Trends (Online Service).
JANE-0572REB

DEFENSE MANUFACTURERS

Police Markets of North America and the European Union (Online Service).
JANE-0588REB

DEFENSE PLANNING

DEFENSE REFORM INITIATIVE: Organization, Status, and Challenges.
ADA363206REB

DEFENSE PROGRAM

Reusable Launch Vehicle (RLV) Mission/Market Model.
N19990041879REB

DEFENSE REFORM INITIATIVE (DRI)

DEFENSE REFORM INITIATIVE: Organization, Status, and Challenges.
ADA363206REB

DEFENSE SYSTEMS

Opportunities to Improve Diagnostics Performance Using Computer-Based Product Definition Models and Simulations.
ADA362942REB

Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Determination of the Median Lethal Dose of Two Anticholinesterase Agents and Efficacy of Current Therapy.
ADA362975REB

Indian Defence and Security: Industry, Forces and Future Trends (Online Service).
JANE-0565REB

DEFORESTATION

Forest Road Effects on Flood Flows in the Deschutes River Basin, Washington.
PB99-152621REB

DEFORMATION

Activities of Dept. of Geological Sciences, Colorado University.
N19990041815REB

DEGASSING

Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
DE99050154REB

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New Technology Demonstration Program, Kennedy Space Center.
DE00006694REB

DEICING CHEMICALS

Operational evaluation for the four sensor Contaminant/Fluid Integrity Measuring System (C/FIMS(trademark)), Midway Airlines F-100 aircraft.
MIC-99-03514REB

DELTA WINGS

Limit Cycle Oscillations (LCO) and Nonlinear Aeroelastic Wing Response: Reduced Order Aerodynamic Models.
ADA362982REB

Cross Flow Over Double Delta Wings.
ADA363041REB

DEMILITARIZATION

WEAPONS OF MASS DESTRUCTION: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned.
ADA363201REB

DEMOCRACY

Democracy in Kuwait.
ADA362984REB

U.S. Military, NGO's and CMOC: Staying Connected and Achieving Unity of Effort During MOOTW.
ADA363224REB

Leadership Without Easy Answers.
HUP-0015REB

DEMOLITION

Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
DE99050411REB

DENSITY

Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB

DENSITY WAVE

Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB

DENTISTRY

Dental Readiness of the Army War College Students Class of 1999, A Comparison study to the class of 1985.
ADA363356REB

DEOXYRIBONUCLEIC ACIDS

Fidelity of DNA Replication in Normal and Malignant Human Breast Cells.
ADA362661REB

DEP (DELAYED ENLISTMENT PROGRAM)

Analysis of Delayed Entry Program (DEP) Attrition by High School Seniors.
ADA363088REB

DEPARTMENT OF DEFENSE

Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998.
ADA362634REB

Security Planning for Wireless Networks: DOD Concerns.
ADA362720REB

Department of Defense, Inc. Are We Ready To Become An Extension of Corporate America.
ADA362978REB

Annual Report to Congress. Fiscal Year 1998.
ADA363370REB

DEPLETED URANIUM

Safety evaluation for packaging (onsite) depleted uranium waste boxes.
DE99050187REB

DEPLOYMENT

Mobility Traid and Challenges for the Operational Commander.
ADA363220REB

Real Cost of 'Engagement'.
ADA363230REB

Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB

Flight Prediction for Performance of the SWAS Solar Array Deployment Mechanism.
N19990042081REB

DESCHUTES RIVER

Forest Road Effects on Flood Flows in the Deschutes River Basin, Washington.
PB99-152621REB

DESIGN

Micro fuel cell.
DE99002286REB

Deployment of pollution prevention during design – a case study.
DE99050164REB

DESIGN ANALYSIS

SNS Linac: Revised configuration.
DE99002261REB

Design Heritage-Based Forecasting Methodology for Risk Informed Management of Advanced Systems.
N19990041444REB

DETECTION

AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB

Evaluation of Operator Performance Using True Color and Artificial Color in Natural Scene Perception.
ADA363036REB

Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB

DETERGENTS

Bifunctional detergents as novel catalysts: Final report.
MIC-99-03343REB

DETERRENCE

Deterrence Effects of Operation Frontier Shield.
ADA362838REB

DETONATION WAVES

Study of the overdriven behaviors of PBX 9501 and PBX 9502.
DE99002407REB

DEVELOPING COUNTRIES

Poverty and Inequality in Latin America. The Impact of Adjustment and Recovery.
JHUP-0306REB

DEVELOPING NATIONS

Impact of Nuclear Proliferation: Final Report.
ADA362905REB

DEVELOPMENT ECONOMICS

Resources, Values and Development.
HUP-0025REB

DIAGNOSIS (MEDICINE)

Problem of Early Diagnosis of Cancer of the Uterine Cervix--Translation.
ADA362859REB

Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility.
ADA363334REB

DIAMOND FILMS

CVD Diamond Grown by Microwave Plasmas in Mixtures of Acetone/Oxygen and Acetone/Carbon Dioxide.
ADA362752REB

Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures.
ADA362769REB

Synthesis and Characterization of Diamond-Like Carbon Coatings Deposited by Plasma Source Ion Implantation and Conventional Ion Beam Assisted Deposition Processes.
ADA362850REB

DICTIONARIES

Mathews' Chinese-English Dictionary. Revised American Edition.
HUP-0037REB

DIELECTRIC FLUIDS

Enhancement of Boiling in Highly Wetting Fluids.
ADA362878REB

DIETS

Moving Toward the Food Guide Pyramid: Implications for U.S. Agriculture.
ERS-AER-779REB

DIFFERENTIAL EQUATIONS

Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB

DIFFUSE REFLECTANCE

Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
PB99-154882REB

DIGITAL CIRCUITS

Larger bases and mixed analog/digital neural nets.
DE99002294REB

Automatic synthesis of analog/digital circuits.
DE99002295REB

DIGITAL SYSTEMS

Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB

Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next.
ADA363198REB

High Speed A/D DSP Interface for Carrier Doppler Tracking.
N19990041157REB

DIODE LASERS

Combustion Control Using a Multiplexed Diode-Laser Sensor System.
ADA363252REB

Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB

Background Fluorescence in an Aerosol Biodetector Based on 266-nm Excitation.
ADA363355REB

DIRECT NUMERICAL SIMULATION

Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB

DIRECT SEQUENCE SPREAD SPECTRUM

Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB

DIRECTORIES

Jane's Space Directory (Online Service).
JANE-0541REB

Jane's International ABC Aerospace Directory (Online Service).
JANE-0568REB

Jane's International Defence Directory (Online Service).
JANE-0569REB

Manitoba food products directory, 1999.
MIC-99-03194REB

World Information Directory of Industrial Technology and Investment Support Services.
UN-0947REB

DISABLED PERSONS

Disaster-Related Needs of Seniors and Persons with Disabilities. Student Manual.
PB99-130932REB

DISASTER-RELATED NEEDS
Disaster-Related Needs of Seniors and Persons with Disabilities. Student Manual.
PB99-130932REB

DISASTERS
Disasters and Democracy: The Politics of Extreme Natural Events.
ISLAND-0514REB
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB
St. Lawrence River Valley 1998 ice storm: Maps and facts.
MIC-99-03574REB

DISEASE CONTROL
Guide to crop protection, 1999.
MIC-99-03650REB

DISEASES
Soviet Abstracts Biology, Section O, Plant Diseases, Book No. 23, 1958, Abstracts 104958 thru 105054--Translation.
ADA363310REB

DISSOLUTION
Evaluation of Test Methodologies for Dissolution and Corrosion of Al-SNF.
DE98054573REB

DISTANCE
Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
N19990042139REB

DISTRIBUTED CONTROL
Implementing a Standards-Based Distributed Measurement and Control Application on the Internet.
PB99-152712REB

DISTRIBUTED DATA PROCESSING
When Is a Simple Model Adequate for Use in Scheduling in MSHN.
ADA362793REB
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service.
ADA362912REB
Performance analysis of wavefront algorithms on very-large scale distributed systems.
DE99002219REB

DISTRIBUTED MEASUREMENT AND CONTROL
Implementing a Standards-Based Distributed Measurement and Control Application on the Internet.
PB99-152712REB

DISTRIBUTION FUNCTIONS
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB

DIVISION LEVEL ORGANIZATIONS
Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next.
ADA363198REB

DOCUMENTATION
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB

DOCUMENTS
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB
Korean Affairs Report, No. 326 Kulloja No. 3, March 1983.
ADA363292REB
Structure and dynamics of interactive documents.
DE99002193REB

DOMESTIC VIOLENCE
Too Close to Home. Domestic Violence in the Americas.
JHUP-0303REB

DOPED MATERIALS
Ab initio calculations of As-vacancy interactions in silicon.
DE99002225REB

DOPPLER EFFECT
High Speed A/D DSP Interface for Carrier Doppler Tracking.
N19990041157REB

DOPPLER RADAR
Direct Detection Doppler Lidar for Spaceborne Wind Measurement.
N19990041449REB

DOPPLER SYSTEMS
Laser Doppler Velocimeter and High Speed Imaging System for Fluid Dynamics, Combustion and Chemical Kinetics Research.
ADA362940REB

DOSIMETRY
Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
DE99002167REB

DOUBLET-3 DEVICE
Decade of DIII-D research. Final report for the period of work, October 1, 1989--September 30, 1998.
DE99002353REB

DRAINAGE
Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the New Orleans District for 1994.
ADA362753REB
Evaluation of Passive Systems for the Treatment of Mine Drainage.
ADA362851REB

DREDGED MATERIALS
Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module.
ADA362729REB
ADDAMS Application: Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module in CDFs.
ADA362730REB
Volatile Losses from Aged Field Sediments.
ADA362809REB
Estimating Dredging Sediment Resuspension Sources.
ADA362892REB
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB
Improving Dredged Material Management Decisions with Uncertainty Analysis.
ADA363151REB

DREDGING
ADDAMS Application: Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module in CDFs.
ADA362730REB

DRIFT
Quaternary geology of the Separation Lake area, Northwestern Ontario.
MIC-99-03113REB

DRILL BITS
Electron cyclotron resonance (ECR) plasma film deposition.
DE99002202REB

DRINKING WATER
Innovative Approaches to Watershed Characterization: Winters Run Watershed Pilot Project - A Case Study.
ADA363266REB

DRIVER LICENSING
Graduated licensing system evaluation: Interim report '98.
MIC-99-03114REB

DRIVERS
Graduated licensing system evaluation: Interim report '98.
MIC-99-03114REB

DRUG SMUGGLING
Deterrence Effects of Operation Frontier Shield.
ADA362838REB
Challenges of Command and Control in 2010 Counterdrug Operations.
ADA363091REB

DRUG TOLERANCE
Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications.
ADA362660REB

DRUGS
Regulation of the Multidrug Resistance-Associated Protein Gene by Estrogen.
ADA362659REB

DSSS (DIRECT SEQUENCE SPREAD SPECTRUM)
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB

DURABILITY
Durability Testing for Fouling Release Coatings.
ADA362839REB

DYNAMIC FRACTURE
Dynamic Failure of Materials. Volume 1 - Experiments and Analyses.
ADA362713REB

DYNAMIC LOADS
Prediction of X-33 Engine Dynamic Environments.
N19990041161REB

DYNAMIC RESPONSE
Shock Survivability of Dynamical Systems.
ADA363045REB

DYNAMICAL SYSTEMS
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB

EAR
Marine Mammal Auditory Systems: A Summary of Audiometric and Anatomical Data and Its Implications for Underwater Acoustic Impacts.
PB99-154791REB

EARLY STAGES (PHYSIOLOGY)
Genomic Instability at Premalignant and Early Stages of Breast Cancer Development.
ADA362712REB

EARTH OBSERVATIONS (FROM SPACE)
Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
N19990041335REB

EARTH OBSERVING SYSTEM (EOS)
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB

EARTH PLANETARY STRUCTURE
Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
N19990042139REB

EARTH SCIENCES
USSR Report, Earth Sciences, No. 27.
ADA362860REB

EARTH SURFACE
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB
Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
N19990042067REB

EAST ASIA
JPRS Report, East Asia, Mongolia, Biographic Information on Officials--Translation.
ADA362885REB
East Asia: Southeast Asia.
ADA362913REB
East Asia: Southeast Asia.
ADA362914REB
JPRS Report, Near East & South Asia, Table of Contents, JPRS-NEA-87-001, 2 January 1987-JPRS-NEA-87-041, 6 Apr 1987 Part 1--Translation.
ADA363013REB

EASTERN EUROPE
East Europe Report: Political, Sociological and Military Affairs, No. 2225.
ADA362774REB
East Europe Report, Political, Sociological and Military Affairs, No. 2133.
ADA362807REB
East Europe Report, Political, Sociological and Military Affairs, No. 2079--Translation.
ADA362830REB
East Europe Report, Political, Sociological and Military Affairs, No. 2153--Translation.
ADA362841REB
East Europe Report: Scientific Affairs, No. 772.
ADA362852REB
East Europe Report, Political, Sociological and Military Affairs, No. 2130--Translation.
ADA362945REB
East Europe Report, Political, Sociological and Military Affairs, No. 2235--Translation.
ADA362994REB

EASTERN REGION (NEW YORK)
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB

ECF (ELECTRONIC CASE FILES)
Electronic Case Files in the Federal Courts: A Preliminary Examination of Goals, Issues, and the Road Ahead.
PB99-151243REB

ECOLOGICAL CONCENTRATION
Changes in butyltin residue concentrations in marine sediments of Atlantic Canada between 1988 and 1994.
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Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
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Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
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Project CS-1082, Information and Technology Tools for Assessment and Prediction of the Potential Effects of Military Noise on Marine Mammals.
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Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997.
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State of science and technology indicators in the OECD countries.
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Paradox of China's Post-Mao Reforms.
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BusinessLINC: Learning, Information, Networking and Collaboration. Business-to-Business Relationships That Increase the Economic Competitiveness of Firms. A Report to Vice President Al Gore.
PB99-147092REB
ECONOMICS
JPRS Report, East Asia: Southeast Asia.
ADA362664REB
JPRS Report, Near East & South Asia.
ADA362665REB
JPRS Report, East Asia Southeast Asia.
ADA362666REB
Latin America Report, No. 2704.
ADA362676REB
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1982.
ADA362678REB
East Asia: Southeast Asia.
ADA362684REB
China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 17, 10 August 1984--Translation.
ADA362691REB
East Asia: Southeast Asia--Translation.
ADA362708REB
East Asia: Southeast Asia.
ADA362709REB
JPRS Report, East Asia Southeast Asia.
ADA362711REB
East Asia: Southeast Asia.
ADA362715REB
Ways to Solve Fuel Problems in North Korea.
ADA362784REB
East Asia: Korea.
ADA362824REB
JPRS Report, Latin America--Translation.
ADA362832REB
JPRS Report, Latin America--Translation.
ADA362834REB
JPRS Report, Latin America--Translation.
ADA362836REB
JPRS Report, Latin America--Translation.
ADA362837REB
Southeast Asia Report, No. 1373--Translation.
ADA362844REB
Near East and South Asia.
ADA362846REB
JPRS Report, East Asia Korea.
ADA362866REB
JPRS Report, East Asia: Korea.
ADA362867REB
JPRS Report, Near East & South Asia.
ADA362879REB
JPRS Report, Near East & South Asia--Translation.
ADA362887REB
East Europe Report, Economic and Industrial Affairs, No. 2475.
ADA362895REB
JPRS Report, Latin America.
ADA362920REB
JPRS Report, East Asia: Korea.
ADA362922REB
East Asia: Korea--Translation.
ADA362937REB
JPRS Report, East Asia Southeast Asia--Translation.
ADA362941REB
Sub-Saharan Africa Report, No. 2873--Translation.
ADA362993REB
USSR Report, USA: Economics, Politics, Ideology No. 12, December 1984--Translation.
ADA363110REB
USSR Report, USA, Economics, Politics, Ideology, NO. 3, March 1985--Translation.
ADA363113REB
USSR Report, USA: Economics, Politics, Ideology No. 2, February 1985--Translation.
ADA363114REB
Economic Sanctions: Viable Instruments of Power or Economic Chaos.
ADA363199REB
USSR Report, USA: Economics, Politics, Ideology--Translation.
ADA363295REB
USSR Report, USA: Economics, Politics, Ideology, No. 1, January 1985--Translation.
ADA363296REB
USSR Report, USA, Economics, Politics, Ideology, No. 6, June 1985.
ADA363297REB
USSR Report, USA, Economics, Politics, Ideology, NO. 5, May 1985.
ADA363298REB
USSR Report, USA, Economics, Politics, Ideology, No. 4, April 1985.
ADA363299REB
USSR Report, USA: Economics, Politics, Ideology, No. 10, October 1985.
ADA363300REB
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1985.
ADA363302REB
USSR Report, USA: Economics, Politics, Ideology, No. 8, August 1985.
ADA363303REB
USSR Report, USA: Economics, Politics, Ideology, No. 7, July 1985.
ADA363304REB
China Report, Economic Affairs, No. 296. Energy: Status and Development XII.
ADA363312REB
Equality, the Third World, and Economic Delusion.
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Rise and Fall of the Asian Miracle.
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Terrestrial Ecoregions of North America: A Conservation Assessment.
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Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
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Ecotourism and Sustainable Development. Who Owns Paradise.
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EDUCATION
Soviet Union, Military Affairs.
ADA362804REB
Nontraditional inheritance: Genetics and the nature of science, now titled, The puzzle of inheritance: Genetics and the methods of science. Final report.
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Education of Children and Youth with Special Needs: What Do the Laws Say.
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Consolidating Active and Reserve Component Training Infrastructure.
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Heat Treatment of Al 7075 for Ejection Seat Shear Wire.
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Disaster-Related Needs of Seniors and Persons with Disabilities. Student Manual.
PB99-130932REB
ELECTRIC BATTERIES
Exploratory technology research program for electrochemical energy storage, annual report for 1997.
DE99002392REB
Bulletin of the Electrotechnical Laboratory, Vol. 60, No. 12, 1996. Special Issue: Lithium Secondary Batteries.
PB99-152043REB
ELECTRIC EQUIPMENT
Household equipment of Canadians, features of the 1993 stock & the 1994 & 1995 purchases: Analysis report.
MIC-99-03182REB
Survey of Canadian new household equipment purchases, 1994 & 1995: Statistical report.
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Evaluation of Prototype Electrically Heated Handwear.
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Design of a Switched-Reluctance Motor Drive for Electric Propulsion.
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ELECTRIC POWER
USSR Report, Energy, No. 152.
ADA362802REB
USSR Report, Energy, No. 126.
ADA362819REB
China Report, Economic Affairs, No. 296. Energy: Status and Development XII.
ADA363312REB
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Characterization of a Hard-Switching Motor Controller for EMC considerations.
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Frequency-Based Load Sharing in Current-Mode-Controlled Buck Converters.
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General Framework to Provide for the Optimal Dispatch of Hybrid Renewable Power Systems.
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Small Scale Biomass Fueled Gas Turbine Power Plant.
PB99-126450REB
ELECTRIC POWER PRODUCTION
General Framework to Provide for the Optimal Dispatch of Hybrid Renewable Power Systems.
ADA363052REB
ELECTRIC PROPULSION
EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Eectric Vehicle Program.
ADA362952REB
Design of a Switched-Reluctance Motor Drive for Electric Propulsion.
ADA363184REB
ELECTRICAL ENGINEERING
USSR Report, Electronics and Electrical Engineering, No. 118.
ADA363284REB
ELECTRICAL EQUIPMENT
Electrical Outlet Splash Protector.
PAT-APPL-8-226 614REB
Illuminating Electrical Fuse.
PAT-APPL-8-226 620REB
ELECTRICAL INDUSTRY
Technical Achievements in Communist China's Electrical Equipment Industry--Translation.
ADA362775REB
ELECTRICAL LOADS
Frequency-Based Load Sharing in Current-Mode-Controlled Buck Converters.
ADA362884REB
ELECTRICAL MECHANIC
Fatality Assessment and Control Evaluation (FACE) Report: Electrical Mechanic Dies After 45-Foot Fall through Unguarded Floor Opening, North Carolina.
PB99-155632REB

ELECTROCHEMISTRY
Computer for Ab Initio Molecular Dynamics Simulations.
ADA363044REB
ELECTROLYTES
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB
ELECTROMAGENTIC FIELDS
Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152159REB
ELECTROMAGNETIC COMPATIBILITY
Characterization of a Hard-Switching Motor Controller for EMC considerations.
ADA362721REB
Electromagnetic Effects of Advanced Packaging.
ADA362900REB
ELECTROMAGNETIC FIELDS
Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152860REB
ELECTROMAGNETIC INTERFERENCE
EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Eectric Vehicle Program.
ADA362952REB
New Materials for EMI Shielding.
N19990042172REB
ELECTROMAGNETIC PULSES
NBC Report, Spring - Summer 1999. Survivability of Army Personnel and Materiel.
ADA363243REB
ELECTROMAGNETIC RADIATION
Bayesian analysis of MEG visual evoked responses.
DE99002182REB
ELECTROMAGNETIC SCATTERING
Hybrid Version of Method of Moments Computer Code: IBC3D.
ADA363074REB
ELECTROMAGNETIC SURVEYS
New 3D parallel GILD electromagnetic modeling and nonlinear inversion using global magnetic integral and local differential equation.
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Electromagnetic Effects of Advanced Packaging.
ADA362900REB
ELECTRON BEAM MELTING
Decarburization of Uranium Via Electron Beam Processing.
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ELECTRON BEAMS
Electromagnetic Cold-Test Characterization of the Quad-Driven Stripline Kicker.
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Plasma and ion barrier for electron beam spot stability.
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Effective temperatures and electron spin polarization in storage rings.
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Electron cyclotron resonance (ECR) plasma film deposition.
DE99002202REB
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Study the Effects of Charged Particle Radiation on Gravitational Sensors in Space.
N19990042135REB
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Analytical Transmission Electron Microscopy Studies on Copper-Alumina Interfaces.
ADA362728REB
ELECTRON SOURCES
Study the Effects of Charged Particle Radiation on Gravitational Sensors in Space.
N19990042135REB
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Electronic Case Files in the Federal Courts: A Preliminary Examination of Goals, Issues, and the Road Ahead.
PB99-151243REB
ELECTRONIC COMMERCE
BuyIt Prototype Software Requirements Analysis: A C-BASS Component.
ADA363050REB
BuyIt Software Development Plan: A C-BASS Component.
ADA363051REB
Hitachi Review, Volume 46, No. 4, August 1997. Electronic Commerce for a New Social Infrastructure.
PB99-153140REB
ELECTRONIC PACKAGING
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
ADA362637REB
ELECTRONIC SECURITY
Integrated Approach for Security on Demand in High Speed, Shared Use Networks.
ADA363245REB
ELECTRONIC STRUCTURE
Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB
Ab initio calculations of As-vacancy interactions in silicon.
DE99002225REB
ELECTRONIC WARFARE
Initial Assessment of the Air Combat Environment Test and Evaluation Facility To Support Operational Test and Evaluation.
ADA362688REB
Jane's Radar and Electronic Warfare Systems (Online Service).
JANE-0556REB
ELECTRONICS
Practical Tools for Electronic Records Management and Preservation.
ADA362863REB
USSR Report, Electronics and Electrical Engineering, No. 118.
ADA363284REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No.11, 1997.
PB99-152084REB
ELECTROOPTICS
Instrumentation for Research on High-Speed Optical Transmultiplexing and Coding for Optoelectronic Computer Networking.
ADA363026REB
Unclassified Publications of Lincoln Laboratory.
ADA363077REB
Jane's Electro-Optic Systems (Online Service).
JANE-0560REB
ELECTROPHORESIS
Electrophoretic separation of biological molecules on micro-machined silica plates: Final report.
MIC-99-03334REB
ELECTROPHYSIOLOGY
Third All-Union Conference on the Electrophysiology of the Nervous System, USSR.
ADA363322REB
ELIMINATION
Elimination of Toxic Materials and Solvents from Solid Propellant Components (PP1058).
ADA363240REB
ELK
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB
EMBANKMENTS
Method for Analyzing Piled Embankments.
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Genetic Regulatory Networks in Embryogenesis and Evolution.
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Disaster-Related Needs of Seniors and Persons with Disabilities. Student Manual.
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EMERGENCY PLANS
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DE99050560REB
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Jane's Counter Terrorism (Online Service).
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EMERGENCY RESPONSE
Hazardous Materials Operating Site Practices. Activities Manual.
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Managing Capital Flows in Turbulent Times: The Experience of Europe's Emerging Market Economies in Global Perspective.
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EMISSION
Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB
EMISSION CONTROL
Volatile Losses from Aged Field Sediments.
ADA362809REB
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB
Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
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Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
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Non-Thermal Plasmas as Gas-Phase Advance Oxidation Processes.
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Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB
EMISSION FACTORS
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB
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National Air Pollutant Emission Trends Update, 1970-1997.
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Hard X-Ray Emission from X-Ray Bursters.
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Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
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Encyclopedia of Explosives (on CD-ROM).
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Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
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Terrestrial Turtle Habitats Potentially Impacted.
ADA363365REB
Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
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Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences.
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ENDURANCE (PHYSIOLOGY)
Evaluation of Prototype Electrically Heated Handwear.
ADA363276REB
ENERGY
USSR Report, Energy, No. 152.
ADA362802REB
USSR Report, Energy, No. 126.
ADA362819REB
USSR Report, Energy No. 129.
ADA363327REB
ENERGY BANDS
Symmetry and Topology of Energy Bands in Crystals.
PB99-148801REB
ENERGY CONSUMPTION
USSR Report, Energy, No. 131.
ADA362738REB
USSR Report, Energy, No. 154.
ADA362740REB
USSR Report, Energy, No. 130.
ADA362741REB
USSR Report: Energy, No. 164.
ADA362966REB
Household equipment of Canadians, features of the 1993 stock & the 1994 & 1995 purchases: Analysis report.
MIC-99-03182REB
Survey of Canadian new household equipment purchases, 1994 & 1995: Statistical report.
MIC-99-03183REB
ENERGY LEVELS
Molecular Quantum States at Dissociation.
PB99-120339REB
ENERGY MANAGEMENT
General Framework to Provide for the Optimal Dispatch of Hybrid Renewable Power Systems.
ADA363052REB
China Report, Economic Affairs No. 323 Energy: Status and Development- XV.
ADA363288REB
ENERGY STORAGE
Exploratory technology research program for electrochemical energy storage, annual report for 1997.
DE99002392REB
ENGINE COMPONENTS
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB
ENGINE PARTS
Prediction of X-33 Engine Dynamic Environments.
N19990041161REB

ENGINEERING
Soviet Scientific and Engineering Personnel.
ADA362639REB
USSR Report, Engineering and Equipment, No. 95--Translation.
ADA363025REB
Journal of The Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 5.
PB99-101719REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 6.
PB99-101727REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 1.
PB99-101735REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 2.
PB99-101743REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 3.
PB99-101750REB
Proceedings of the National Science Council, Republic of China: Part A: Physical Science and Engineering, Volume 22, No. 2, March 1998.
PB99-101768REB

ENGINEERS
Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century. A White House Roundtable Dialogue for President Clinton's Initiative on Race. Proceedings of Panel Discussion and Position Papers.
PB99-151409REB

ENGLISH LANGUAGE
Plain English Handbook: How to Create Clear SEC Disclosure Documents.
PB99-151219REB

ENLISTED PERSONNEL
Analysis of Delayed Entry Program (DEP) Attrition by High School Seniors.
ADA363068REB

ENTRAINMENT
Thrust Augmentation for a Small Turbojet Engine.
ADA362981REB

ENVIRONMENT EFFECTS
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB

ENVIRONMENTAL ASPECTS
Guidelines for manure management for Prince Edward Island.
MIC-99-03231REB

ENVIRONMENTAL DECISIONS
Better Environmental Decisions: Strategies for Governments, Businesses, and Communities.
ISLAND-0518REB

ENVIRONMENTAL ECONOMICS
Environmental Economics. An Elementary Introduction.
JHUP-0305REB

ENVIRONMENTAL EDUCATION
YMCA Earth Service Corps Club Handbook.
PB99-154551REB

ENVIRONMENTAL EFFECTS
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB

ENVIRONMENTAL ENGINEERING
Field Demonstration of NRL Environmental Flow Immunosensor for Environmental Monitoring.
ADA363133REB

ENVIRONMENTAL HEALTH
Negotiating Environmental, Health, and Safety Agreements. How to Avoid Escalating Confrontation, Needless Costs, and Unnecessary Litigation.
ISLAND-0497REB

ENVIRONMENTAL IMPACT
Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module.
ADA362729REB
ADDAMS Application: Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module in CDFs.
ADA362730REB
High-Resolution Ozone Imager (HIROIG).
ADA362746REB
Physical and Chemical Environmental Factors Associated with the Temporal and Spatial Distribution of Cyanobacteria in Lake George, New York.
ADA363278REB

ENVIRONMENTAL IMPACT ANALYSIS
Migratory birds environmental assessment guideline.
MIC-99-03120REB
Wetlands environmental assessment guideline.
MIC-99-03121REB
Environmental assessment guideline for forest habitat of migratory birds.
MIC-99-03122REB
Guide to the Canadian Environmental Assessment Act for Health Canada project managers.
MIC-99-03727REB

ENVIRONMENTAL IMPACT ASSESSMENTS
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB

ENVIRONMENTAL IMPACT STATEMENTS
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB

ENVIRONMENTAL IMPACTS
Numerical simulation of explosive volcanism and its effects on the atmosphere.
DE99002259REB
Environmental report 1996, Lawrence Livermore National Laboratory.
DE99002426REB
Environmental report 1997, Lawrence Livermore National Laboratory.
DE99002427REB
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July--September 1996.
DE99002446REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October--December 1996.
DE99002447REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October--December 1997.
DE99002454REB
Waste feed delivery environmental permits and approvals plan.
DE99050825REB

ENVIRONMENTAL ISSUES
Disasters and Democracy: The Politics of Extreme Natural Events.
ISLAND-0514REB

ENVIRONMENTAL LAW
Worldwide Report: Environmental Quality, No. 379.
ADA362967REB
TSCA Deskbook.
ELI-0060REB
Drive clean guide: Emission standards, emissions test methods and technical information relating to Ontario Regulation 361/98 as amended.
MIC-99-03111REB
Yellow Book: Guide to Environmental Enforcement and Compliance at Federal Facilities.
PB99-152530REB

ENVIRONMENTAL MANAGEMENT
Worldwide Report, Environmental Quality, No. 403, China Addresses Environmental Issues -- V.
ADA363021REB
SERDP Scientific Advisory Board Annual Report to Congress, Fiscal Year 1998.
ADA363071REB
Shaping of Policy in Support of National and Environmental Security for the Remediation of Cold War Related Ecosystem Degradation in the Commonwealth of Independent States.
ADA363123REB
Groundwater Remediation Field Laboratory (GRFL).
ADA363156REB
Automated System for Determining Applicability of Regulations.
ADA363392REB
Tribal Environmental and Natural Resource Assistance Handbook.
PB99-150989REB

ENVIRONMENTAL MODELS
Modeling the Environment: An Introduction to System Dynamics Modeling of Environmental Systems.
ISLAND-0517REB

ENVIRONMENTAL MONITORING
Restoring Life in Running Waters.
ISLAND-0530REB
Aquatic Toxicity Workshop: Proceedings 1998.
MIC-99-03164REB
Guide for reporting to the National Pollutant Release Inventory, 1998.
MIC-99-03216REB

ENVIRONMENTAL POLICY
Environmental management policy analysis using complex system simulation.
DE99002148REB
Supporting document for the Canada-wide acid rain strategy for post-2000.
MIC-99-03350REB

ENVIRONMENTAL PROTECTION
Worldwide Report, Environmental Quality, No. 403, China Addresses Environmental Issues -- V.
ADA363021REB
Physical and Chemical Environmental Factors Associated with the Temporal and Spatial Distribution of Cyanobacteria in Lake George, New York.
ADA363278REB
Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB
Annual Report to Congress. Fiscal Year 1998.
ADA363370REB
Trade-Off Myth: Fact and Fiction About Jobs and the Environment.
ISLAND-0483REB
Protecting the Land: Conservation Easements Past, Present, and Future.
ISLAND-0494REB
Negotiating Environmental, Health, and Safety Agreements. How to Avoid Escalating Confrontation, Needless Costs, and Unnecessary Litigation.
ISLAND-0497REB
Protecting Public Health and the Environment: Implementing the Precautionary Principle.
ISLAND-0516REB
Understanding and Protecting Marine Biodiversity. Second Edition.
ISLAND-0526REB
Environmental protection expenditures in the business sector, 1995.
MIC-99-03503REB

ENVIRONMENTAL PROTECTION INDUSTRIES
Waste management industry survey, business sector, 1995.
MIC-99-03502REB

ENVIRONMENTAL QUALITY
Worldwide Report, Environmental Quality No. 381.
ADA363239REB

ENVIRONMENTAL REGULATIONS
Takings Issue: Constitutional Limits on Land Use Control and Environmental Regulation.
ISLAND-0531REB

ENVIRONMENTAL SURVEYS
Public Health Assessment for Agriculture Street Landfill, New Orleans, Orleans Parish, Louisiana, Region 6. CERCLIS No. LAD981056997.
PB99-152282REB
Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
PB99-152464REB
Public Health Assessment for Sherwin Williams, Emeryville, Alameda County, California, Region 9. CERCLIS No. CAD03934601.
PB99-155590REB
Public Health Assessment for Sandoval Zinc Company, Sandoval, Marion County, Illinois, Region 5. CERCLIS No. ILD053980454.
PB99-155616REB

ENVIRONMENTAL SYSTEMS
Modeling the Environment: An Introduction to System Dynamics Modeling of Environmental Systems.
ISLAND-0517REB

ENVIRONMENTAL TRANSPORT
Tracer modeling in an urban environment.
DE99002399REB

EPIDEMIOLOGY
Worldwide Report, Epidemiology, No. 303.
ADA362734REB
Worldwide Report, Epidemiology, No. 316.
ADA362857REB
Worldwide Report, Epidemiology, No. 322.
ADA362858REB
Worldwide Report: Epidemiology, No. 330.
ADA362979REB
Worldwide Report: Epidemiology, No. 337.
ADA362980REB
Worldwide Report, Epidemiology, No. 324.
ADA362997REB
1995 Annual epidemiologic surveillance report for Brookhaven National Laboratory.
DE99001921REB

EPOXY COATINGS
Verification of Effectiveness of Epoxy-Coated Rebars.
PB99-152407REB

EQUAL EMPLOYMENT OPPORTUNITY
GENDER ISSUES: Perceptions of Readiness in Selected Units.
ADA363204REB

EQUATIONS OF STATE
Application of new techniques for EOS data.
DE99002232REB

EQUIPMENT
World Market for ATC Equipment. Edition 2 (Online Service).
JANE-0524REB
Jane's Police and Security Equipment (Online Service).
JANE-0587REB

ERGONOMICS
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB

ERRORS
Error studies for SNS Linac. Part 1: Transverse errors.
DE99002254REB

ESD (EXPLANATION OF SIGNIFICANT DIFFERENCE)
Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB

ESTIMATION PROCEDURES
Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB

ESTROGENS
Regulation of the Multidrug Resistance-Associated Protein Gene by Estrogen.
ADA362659REB
Human Adrenal Androgens: Regulation of Biosynthesis and Role in Estrogen-Responsive Breast Cancer in a Mouse Model.
ADA362673REB

ESTUARINE ENVIRONMENT
Estuarine Science: A Synthetic Approach to Research and Practice.
ISLAND-0493REB

ETHANOL FUELS
Ethanol Plant Feasibility Study for the Lower Kaskaskia River Valley Corn Wet Milling Facility.
PB99-122921REB

ETHICS
Operational Art and the Human Dimension of Warfare in the 21st Century.
ADA363177REB
General Creighton Abrams: Ethical Leadership at the Strategic Level.
ADA363255REB
Right Choice (Episode No. 25). (VHS video).
AVA20564-VNB1REB

ETIOLOGY
Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
ADA362855REB

EUROPE
Jane's Airports and Handling Agents: Europe (Online Service).
JANE-0505REB
Jane's Airport and Handling Agents: Europe (on CD-ROM).
JANE-0506REB
Jane's Airports and Handling Agents: Europe. 1999-2000 Edition.
JANE-0507REB
Future of Europe's Aerospace Industry. Edition 2 (Online Service).
JANE-0543REB
Police Markets of North America and the European Union (Online Service).
JANE-0588REB
Breakdown of Democratic Regimes. Europe.
JHUP-0304REB
Managing Capital Flows in Turbulent Times: The Experience of Europe's Emerging Market Economies in Global Perspective.
SHARPE-00438REB

EUROPEAN SPACE AGENCY
Monographs in Aerospace History Series No. 11. Together in Orbit: The Origins of International Participation in the Space Station.
N19990041803REB

EVAPORATORS
1998 interim 242-A Evaporator tank system integrity assessment report.
DE99050823REB

EXHAUST SYSTEMS
Portable exhausters POR-004 SKID B, POR-005 SKID C, POR-006 SKID D storage plan.
DE99050232REB

EXOBIOLOGY
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB

EXPEDITIONARY AEROSPACE FORCE
EAF Transition Workshop: After Action Report, Lessons Learned and Recommendations.
ADA363388REB

EXPERIMENTATION
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
N19990041149REB
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB

EXPLANATION OF SIGNIFICANT DIFFERENCE
Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB

EXPLOSIVES
Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants.
ADA362974REB
Conversion of oscillatory shear data from propellants and explosives.
MIC-99-03359REB
Encyclopedia of Explosives (on CD-ROM).
PB99-500076REB

EXPORT BUSINESSES
Complete Business Export Kit.
SHARPE-00421REB

EXPORTS
Natural gas imports and exports. Fourth quarter report, 1998.
DE99002705REB
Showcase Europe (on CD-ROM).
PB99-501611REB

EXPOSURE (PHYSIOLOGY)
Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB

EYE (ANATOMY)
Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB

EYEGLASSES
Non-Slip Safety Glasses.
PAT-APPL-8-226 621REB

EYES
Quick-look eye-safety assessment for the short range lidar.
DE99002263REB

F STARS
Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST.
N19990042137REB

FABRICATION
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB
Nanosat Intelligent Power System Development.
N19990041448REB
Development of Lightweight Electronics Enclosures for Space Applications.
N19990042149REB
Photon-Weighted Midpoint Exposure Meter for Keck/HIRES Extrasolar Planet Research.
N19990042170REB

FACILITIES
Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998.
ADA362634REB

FAILURE (MECHANICS)
Integrated Diagnostics.
ADA363343REB

FALKLAND ISLANDS
Fleet Air Defense in the Falkland Islands Conflict: A Failure in Operational Protection.
ADA363067REB

FAMILY MEMBERS
For Want of a Home - A Study of Wherry and Capehan Military Family Housing.
ADA362706REB
Too Close to Home. Domestic Violence in the Americas.
JHUP-0303REB

FAN BLADES
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB

FAR EAST
JPRS Report, East Asia: Southeast Asia.
ADA362664REB
JPRS Report, Near East & South Asia.
ADA362665REB
JPRS Report, East Asia Southeast Asia.
ADA362666REB
JPRS Report, East Asia Southeast Asia.
ADA362669REB
East Asia: Southeast Asia.
ADA362913REB
East Asia: Southeast Asia.
ADA362914REB
Jane's Airports and Handling Agents: Far East, Asia and Australasia (Online Service).
JANE-0514REB
Jane's Airports and Handling Agents: Far East, Asia and Australasia (on CD-ROM).
JANE-0515REB
Jane's Airports and Handling Agents: Far East, Asia and Australasia. 1999-2000 Edition.
JANE-0516REB

FARM INCOME
Structure of Canadian agriculture, 1996.
MIC-99-03310REB
Profile of the 1998 Farm Financial Survey.
MIC-99-03600REB

FARM MANAGEMENT
Green Technologies for a More Sustainable Agriculture.
ERS-AIB-752REB

FAST IGNITION
Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB

FATIGUE
Fatigue crack nucleation in metallic materials.
DE99002227REB

FATIGUE (BIOLOGY)
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB

FATIGUE LIFE
Monte Carlo Simulation for Appliction to Aerospace Vehicle Structures.
ADA363043REB

FATIGUE (MECHANICS)
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB
Integrated Diagnostics.
ADA363343REB

FATIGUE (PHYSIOLOGY)
Trip report: Fremantle fatigue conference and FMP-related field visits and meetings.
MIC-99-03429REB

FEASIBILITY ANALYSIS
Design Heritage-Based Forecasting Methodology for Risk Informed Management of Advanced Systems.
N19990041444REB

FEASIBILITY STUDIES
Ethanol Plant Feasibility Study for the Lower Kaskaskia River Valley Corn Wet Milling Facility.
PB99-122921REB

FEDERAL AGENCIES
Impact of Firm Size on Dollar Amount of Penalties Assessed by Government Agencies.
PB99-142564REB
Program Guide to Federally Funded Environment and Natural Resources R and D.
PB99-152449REB

FEDERAL AID
Bid Opening Report. Federal-Aid Highway Construction Contracts, First Six Months, 1998.
PB99-147340REB

FEDERAL BUDGETS
Performance Budgeting: Initial Experiences Under the Results Act in Linking Plans With Budgets.
ADA363171REB
Maintaining Budgetary Discipline: Spending and Revenue Options.
ADA363202REB

FEDERAL COURTS
Electronic Case Files in the Federal Courts: A Preliminary Examination of Goals, Issues, and the Road Ahead.
PB99-151243REB

FEDERAL FACILITIES
Yellow Book: Guide to Environmental Enforcement and Compliance at Federal Facilities.
PB99-152530REB

FEDERAL GOVERNMENT
Financial Services Institutions: Information for Assessing the Government's Potential Financial Exposure.
PB99-145849REB

FEDERAL LAW
Bankruptcy Basics.
PB99-151235REB

FEDERAL PROGRAMS
Disasters and Democracy: The Politics of Extreme Natural Events.
ISLAND-0514REB
Networked Computing for the 21st Century; Supplement to the President's FY 1999 Budget: Computing, Information, and Communications.
PB99-152415REB

FEEDBACK CONTROL
Variable Structure PID Control to Prevent Integrator Windup.
N19990041955REB

FEEDFORWARD CONTROL
Variable Structure PID Control to Prevent Integrator Windup.
N19990041955REB

FERTILIZERS
Canadian fertilizer quality assurance report: Plant ratings 1998.
MIC-99-03190REB

FETUS
Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
ADA362843REB

FFTF REACTOR
Summary of FY 1997 related to JAPC-U.S. DOE contract study on improvement of core safety – study on GEM (III).
DE99050497REB
1998 FFTF annual system assessment reports.
DE99050595REB

FIBER COMPOSITES
New Materials for EMI Shielding.
N19990042172REB

FIBER OPTICS
Study the Effects of Charged Particle Radiation on Gravitational Sensors in Space.
N19990042135REB

FIBER REINFORCEMENT
Unique Polymeric Fiber and Fiber Delivery Systems for the Economic Preparation of High-Fiber Content Concrete with Superior Physical Properties.
ADA363079REB

FID (FOREIGN INTERNAL DEFENSE)
Future Insurgencies in Latin America and the Caribbean: Implications for U.S. Operations.
ADA363179REB

FIELD ARMY
Rear Area Security In The Field Army Service Area.
ADA362710REB

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FIELD TESTS
Verification of Effectiveness of Epoxy-Coated Rebars.
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FIGHTER AIRCRAFT
IRON BIRD Model for Agile Program Part 2.
ADA363115REB
FINANCE
Portfolio Optimization for Multiple Group Credit Unions.
ADA363385REB
FINANCES
Profile of the 1998 Farm Financial Survey.
MIC-99-03600REB
FINANCIAL ASSISTANCE
Tribal Environmental and Natural Resource Assistance Handbook.
PB99-150989REB
FINANCIAL DEREGULATORY REFORM
U.S. - JAPAN TRADE: The Japanese Insurance Market.
ADA363205REB
FINANCIAL MANAGEMENT
DOD FINANCIAL MANAGEMENT: More Reliable Information Key to Assuring Accountability and Managing Defense Operations More Efficiently.
ADA363192REB
Maintaining Budgetary Discipline: Spending and Revenue Options.
ADA363202REB
FINANCIAL SERVICES
Financial Services Institutions: Information for Assessing the Government's Potential Financial Exposure.
PB99-145849REB
FINANCIAL STATEMENTS
OWCP (Office of Workers' Compensation Programs) Annual Report to Congress: FY 1997.
PB99-152985REB
FINITE ELEMENT ANALYSIS
Boundary Conditions for Magnetic Field Gradients Inside a Source-Free Volume.
ADA362760REB
FIR
Eastern hemlock looper, Lambdina fiscellaria fiscellaria (Guen.), Lepidoptera: Geometridae, in Newfoundland, 1983-95.
MIC-99-03453REB
FIRE EXTINGUISHING AGENTS
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB
FIRE FIGHTERS
Fatality Assessment and Control Evaluation (FACE) Report: Floor Collapse in a Single Family Dwelling Fire Claims the Life of One Fire Fighter and Injures Another, Kentucky.
PB99-155665REB
FIRE INVESTIGATORS
Health Hazard Evaluation Report HETA 96-0171-2692, Bureau of Alcohol, Tobacco, and Firearms, Washington, DC.
PB99-152167REB
FIRE SUPPRESSION
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB
FIRES
Non-Lethal Operational Fires in Military Operations Other Than War.
ADA363126REB
FIRMWARE
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB
Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB
FISH MIGRATION
Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB
FISH POPULATIONS
Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB
FISHERIES
Workbook on fish.
MIC-99-03634REB
FISHERY RESOURCES
Georges Bank, 1998 conservation requirements for Georges Bank groundfish stocks: Report to the Minister of Fisheries and Oceans.
MIC-99-03610REB
FISHES
Behavioral Ecology of Coral Reef Fishes at Spawning Aggregation Sites.
ADA363347REB
FISHWAYS
Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB
FLAGGING OPERATIONS
Assessment of Advanced Warning Signs for Flagging Operations.
PB99-152134REB
FLEXIBLE PRODUCTION
Artisans and Entrepreneurs of Dongyang County: Economic Reform and Flexible Production in China.
SHARPE-00426REB
FLIGHT CHARACTERISTICS
Payload Operations.
N19990041198REB
FLIGHT CONTROL
Spacecraft Onboard Software Maintenance: An Effective Approach which Reduces Costs and Increases Science Return.
N19990041147REB
FLIGHT CREWS
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB
FLIGHT FATIGUE
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB
FLIGHT INSTRUMENTS
GPS User-Interface Design Problems.
ADA363331REB
FLIGHT LOADS
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB
FLIGHT MANAGEMENT SYSTEMS
Merged Vision and GPS Control of a Semi-Autonomous, Small Helicopter.
N19990042372REB
FLIGHT RECORDERS
Navy F/A-18 Crash Survivable Flight Incident Recorder (CSFIR).
ADA363120REB
Navy AV-8B Crash Survivable Flight Incident Recorder (CSFIR).
ADA363122REB
Flight recorder configuration standard, version 1.0.
MIC-99-03214REB
FLIGHT SIMULATION
Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment.
ADA362972REB
FLIGHT SIMULATORS
Transfer of Training Effectiveness in Flight Simulation: 1986 to 1997.
ADA362818REB
Structural Analysis of the Lamars Assembly.
ADA363136REB
FLIGHT TESTS
X-33/VentureStar Program.
N19990041334REB
Flight Prediction for Performance of the SWAS Solar Array Deployment Mechanism.
N19990042081REB
FLOOD FLOW
Forest Road Effects on Flood Flows in the Deschutes River Basin, Washington.
PB99-152621REB
FLOODS
Answers to Questions about the National Flood Insurance Program.
PB99-113904REB
FLORICULTURE
Floriculture Crops. 1998 Summary.
NASS-ZFC-99REB
FLOW DISTRIBUTION
Summary of Work for Joint Research Interchanges with DARWIN Integrated Product Team 1998.
N19990041450REB
FLOW PATHS
Ground-Water Flow Paths and Traveltime to Three Small Embayments within the Peconic Estuary, Eastern Suffolk County, New York.
PB99-152456REB
FLOW STABILITY
Hydrodynamic Stability and Magnetic Reconnection in Disks and Stars.
N19990042136REB
FLOW VISUALIZATION
Flow Visualisation About the Helicopter Deck of the Hydrographic Ship.
ADA362877REB
FLOWERS
Rose's Kiss: A Natural History of Flowers.
ISLAND-0500REB
Floriculture Crops. 1998 Summary.
NASS-ZFC-99REB
FLUE GAS
Summary of Experiments in Converting Copper Oxide Process Regenerator Off-Gases to Elemental Sulfur, CRADA 97-F006, Final Report.
DE00003034REB
FLUID DYNAMICS
Laser Doppler Velocimeter and High Speed Imaging System for Fluid Dynamics, Combustion and Chemical Kinetics Research.
ADA362940REB
Buoyancy effects for HFX AFT Cleansing Station.
MIC-99-03364REB
FLUID FLOW
Red Sea Studies.
ADA363049REB
Separation of RDX from Composition B Via a Supercritical Fluid Extraction Process.
ADA363254REB
FLUID INJECTION PROCESSES
CO(sub 2) Huff-n-Puff process in a light oil shallow shelf carbonate reservoir.
DE98054328REB
FLUIDIZED BEDS
Multiphase Flow Modeling - Validation and Application CRADA MC94-019, Final Report.
DE00003027REB
FLUORESCENCE
Background Biological Aerosol Properties.
ADA363253REB
Background Fluorescence in an Aerosol Biodetector Based on 266-nm Excitation.
ADA363355REB
FLY BY WIRE CONTROL
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB
FOOD
Agri-food policy in Canada.
MIC-99-03296REB
FOOD GUIDE PYRAMID
Moving Toward the Food Guide Pyramid: Implications for U.S. Agriculture.
ERS-AER-779REB
FOOD INDUSTRY
Manitoba food products directory, 1999.
MIC-99-03194REB
FOOD POISONING
Fort Bliss, Texas 1998: Acute Gastroenteritis Outbreak.
ADA362944REB
FOOD PROCESSING
Annual report 1997-98.
MIC-99-03249REB
FOODS
Food Cost Review, 1950-97.
ERS-AER-780REB
FORCE STRUCTURE
Right Force for the Future: Who Pays the Bill.
ADA363400REB
FORECASTING
Design Heritage-Based Forecasting Methodology for Risk Informed Management of Advanced Systems.
N19990041444REB
FOREIGN LANGUAGES
Sanskrit Grammar. Including Both the Classical Language, and the Older Dialects, of Veda and Brahmana.
HUP-0033REB
FOREIGN POLICY
JPRS Report, Near East & South Asia.
ADA362651REB
China Report, Political, Sociological and Military Affairs, No. 377.
ADA362679REB
Latin America.
ADA362899REB
JPRS Report, Latin America.
ADA362919REB
Near East and South Asia--Translation.
ADA362929REB
Near East and South Asia--Translation.
ADA362930REB
East Asia: Southeast Asia.
ADA362931REB
From Carter to Reagan: Formulation of American Foreign Policy during a Time of Transition. An Explanation of Foreign Policy Decisions Based on the Initial Presidential Transition Period.
ADA362996REB
Misguided Intentions: U.S. Policy in World War II and Chinese Intervention in Korea.
ADA363031REB
RAND Forum on Cuba.
ADA363063REB
Shifting Ambiguity U.S. Foreign Policy Toward China and Taiwan.
ADA363166REB
Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy.
ADA363194REB
Economic Sanctions: Viable Instruments of Power or Economic Chaos.
ADA363199REB
Winning MOOTW's in 2010: The Future Relationship Between the U.S. Military and Nongovernmental Organizations (NGO's).
ADA363212REB
Theodore Roosevelt: Activated Vision Through the Bully Pulpit.
ADA363268REB
East Asia: Korea.
ADA363286REB

Southeast Asia Report, No. 1304.
ADA363289REB
USSR Report, USA: Economics, Politics, Ideology, No. 1, January 1985–Translation.
ADA363296REB
USSR Report, USA, Economics, Politics, Ideology, No. 6, June 1985.
ADA363297REB
USSR Report, USA, Economics, Politics, Ideology, NO. 5, May 1985.
ADA363298REB
USSR Report, USA: Economics, Politics, Ideology, No. 8, August 1985.
ADA363303REB
Two Concepts and Two Tendencies of Statism, Yugoslavic.
ADA363317REB
Southeast Asia Report No. 1308.
ADA363377REB

FOREIGN TECHNOLOGY

Polish Long-Range Plan (1961-1975) and Five-Year Plan (1961-1965) for Scientific Research in Agricultural Technology–Translation.
ADA362736REB
Primer of CORBA: A Framework for Distributed Applications in Defence.
ADA362761REB
China Report: Political, Sociological and Military Affairs, No. 469.
ADA362767REB
Technical Achievements in Communist China's Electrical Equipment Industry–Translation.
ADA362775REB
Technique for Measuring the Gain of HF Antennas.
ADA362876REB
Worldwide Report: Nuclear Development and Proliferation, No. 201–Translation.
ADA362891REB
China Report, Science and Technology No. 213.
ADA362902REB
West Europe Report, Science and Technology, No. 182.
ADA362909REB
USSR Report, Science and Technology Policy, No. 14.
ADA362934REB
General Meeting of the Siberian Affiliate of the Academy of Sciences USSR–Translation.
ADA362938REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363008REB
Hungarian Symposium of Radiation Damage and Protection.
ADA363027REB
West Europe Report: Science and Technology, No. 166.
ADA363028REB
Transmission Availability Forecast Service for Internet Protocol Networks.
ADA363086REB
China Report, Science and Technology, No. 192–Translation.
ADA363107REB
Worldwide Report Telecommunications Policy, Research and Development No. 253.
ADA363271REB
East Europe Report, Scientific Affairs No. 762.
ADA363272REB
Worldwide Report, Telecommunications Policy, Research and Development, No. 293.
ADA363273REB
China Report, Economic Affairs No. 323 Energy: Status and Development– XV.
ADA363288REB
East Europe Report, Scinetific Affairs, No. 783–Translation.
ADA363368REB
Effects of modafinil, d-amphetamine and placebo on physiological and psychological stress during sleep deprivation.
MIC-99-03106REB
Graduated licensing system evaluation: Interim report '98.
MIC-99-03114REB
Birds of British Columbia: A taxonomic catalogue.
MIC-99-03118REB
Migratory birds environmental assessment guideline.
MIC-99-03120REB
Wetlands environmental assessment guideline.
MIC-99-03121REB
Post-construction evaluation of stormwater exfiltration & filtration systems.
MIC-99-03128REB
Annual report 1997-98.
MIC-99-03132REB
Adaptive research reports, 1995, v. 17.
MIC-99-03159REB
Aquatic Toxicity Workshop: Proceedings 1998.
MIC-99-03164REB
Guidelines for estimating beef grassing costs based on 500 head.
MIC-99-03171REB
Household equipment of Canadians, features of the 1993 stock & the 1994 & 1995 purchases: Analysis report.
MIC-99-03182REB
Survey of Canadian new household equipment purchases, 1994 & 1995: Statistical report.
MIC-99-03183REB
Guide to weed control, 1999.
MIC-99-03187REB
Smart communities: Report.
MIC-99-03209REB
Effects of contaminants on aquatic organisms in the Peace, Athabasca and Slave River basins.
MIC-99-03210REB
Flight recorder configuration standard, version 1.0.
MIC-99-03214REB
Guide for reporting to the National Pollutant Release Inventory, 1998.
MIC-99-03216REB
Regulatory barriers to on-site water reuse.
MIC-99-03234REB
Electronic village: Policy issues of the information economy.
MIC-99-03240REB
Annual report 1997-98.
MIC-99-03255REB
Adaptive nulling of skywave interference using horizontal dipole antennas in a coastal surveillance HF surface wave radar system.
MIC-99-03279REB
Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. I: Accounts by location.
MIC-99-03283REB
Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. II: Accounts by chemical.
MIC-99-03284REB
Trial by adventure.
MIC-99-03291REB
Estimation of cloud droplet size density distribution from multiple field-of-view lidar returns.
MIC-99-03292REB
Navier-Stokes prediction of pitch damping coefficients for projectiles.
MIC-99-03294REB
Agri-food policy in Canada.
MIC-99-03296REB
Development of an optimum consumable alloy for low heat input welding of nickel aluminum bronzes.
MIC-99-03298REB
Modeling of the 6DOF missile dynamics using the NED axes system.
MIC-99-03299REB
Nickel aluminum bronze overlay deposit using gas metal arc welding process and 0.5 mm diameter wire.
MIC-99-03304REB
Browns Bank survey 1998: Cruise report and scientific results.
MIC-99-03305REB
Structure of Canadian agriculture, 1996.
MIC-99-03310REB
Human factors assessment of prototype lightweight thermal undergarment systems for the Clothe-the-Soldier Programme.
MIC-99-03319REB
Human factors engineering study for a Griffon Mission Planning System: Final project report.
MIC-99-03323REB
Lidar remote sensing of meteorological parameters in adverse weather: Performance of electro-optic systems and aircraft in-flight icing.
MIC-99-03325REB
Microstructural characterization of NiAl bronze weldments.
MIC-99-03326REB
Efficient Raman conversion from liquid nitrogen contained in an ordinary Dewar.
MIC-99-03327REB
Engine life cycle cost control by advanced repair and qualification methods.
MIC-99-03330REB
Simulation of microstructures in laser clad nickel aluminum bronzes.
MIC-99-03331REB
Microstructural characterization of laser-clad nickel aluminum bronze alloys using transmission electron microscopy.
MIC-99-03332REB
Re-engining the CC130 Hercules transport aircraft as a fleet management option.
MIC-99-03333REB
Electrophoretic separation of biological molecules on micro-machined silica plates: Final report.
MIC-99-03334REB
Generalized ELF propagation.
MIC-99-03336REB
Automated winch control system to provide sea bottom following for side scan sonar surveys.
MIC-99-03337REB
Complexity analysis for nearest neighbor search.
MIC-99-03338REB
Lagrangian ambient noise drifter.
MIC-99-03340REB
DADS steering simulation.
MIC-99-03342REB
Bifunctional detergents as novel catalysts: Final report.
MIC-99-03343REB
Notch effect of 350WT steel plate at high strain rates.
MIC-99-03347REB
Laboratory simulation of the galvanic corrosion of a ship hull plate by shaft grounding systems.
MIC-99-03348REB
Supporting document for the Canada-wide acid rain strategy for post-2000.
MIC-99-03350REB
Seabed classification by QTC VIEW: Sites near Vancouver Island.
MIC-99-03353REB
Development of inspection techniques for TTCP ceramic matrix composite specimens.
MIC-99-03358REB
Conversion of oscillatory shear data from propellants and explosives.
MIC-99-03359REB
Initial investigation of bandwidth required for collision avoidance using a video camera on a remotely controlled vehicle.
MIC-99-03363REB
Buoyancy effects for HFX AFT Cleansing Station.
MIC-99-03364REB
Sabot performance for gun launched MK-82 CF, BDU-5003/B and BDU-5002/B MOD 1 bombs.
MIC-99-03365REB
Judgements of the inclination and slant of surfaces in stereoscopic display systems.
MIC-99-03367REB
Tethered dye gene probes.
MIC-99-03378REB
Impact properties of composite sonar dome materials.
MIC-99-03381REB
Acoustic seabed classification, MAST'97: Final report.
MIC-99-03382REB
Evaluation of two school bus advance signalling devices: The eight-light system and hazard lights.
MIC-99-03406REB
Redeployment plan for spectrum efficient land mobile equipment in the frequency range 100-500 MHz.
MIC-99-03408REB
Strength and related properties of woods grown in Canada.
MIC-99-03441REB
Building solutions: A problem solving guide for builders and renovators.
MIC-99-03458REB
Tent group systems requirements, phase 1A.
MIC-99-03476REB
AOSTRA technical handbook on oil sands, bitumens and heavy oils.
MIC-99-03497REB
Environmental protection expenditures in the business sector, 1995.
MIC-99-03503REB
Operational evaluation for the four sensor Contaminant/Fluid Integrity Measuring System (C/FIMS(trademark)), Midway Airlines F-100 aircraft.
MIC-99-03514REB
Effects of roughness on advanced airfoils: Final report for phase II and phase III.
MIC-99-03515REB
Synopsis of the first cycle of the pulp and paper mill environmental effects monitoring program in the Atlantic region.
MIC-99-03658REB
Guide to the Canadian Environmental Assessment Act for Health Canada project managers.
MIC-99-03727REB
Journal of The Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 5.
PB99-101719REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 6.
PB99-101727REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 1.
PB99-101735REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 2.
PB99-101743REB
Periodica Polytechnica, Chemical Engineering, Volume 42, No. 1, 1998.
PB99-120297REB
Periodica Polytechnica, Mechanical Engineering, Volume 42, No. 1, 1998.
PB99-120305REB
Periodica Polytechnica, Civil Engineering, Volume 42, No. 2, 1998.
PB99-120313REB
Periodica Polytechnica, Transportation Engineering, Volume 24, No. 1, 1998.
PB99-120321REB
Molecular Quantum States at Dissociation.
PB99-120339REB
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB
Six-Jet Production at Lepton Colliders.
PB99-120362REB
Spin Correlations in e(sup +)e(sup -) Yields 4 Jets.
PB99-120370REB
Experimental Tests of Relativistic Gravity.
PB99-148736REB
k-Inflation.
PB99-148769REB
Effective One-Body Approach to General Relativistic Two-Body Dynamics.
PB99-148777REB
Polyhedral and Dihedral Caustics in the R(3).
PB99-148793REB

Symmetry and Topology of Energy Bands in Crystals.
PB99-148901REB
Periodica Polytechnica Chemical Engineering, Volume 42, No. 2, 1998.
PB99-149627REB
Periodica Polytechnica Mechanical Engineering, Volume 42, No. 2, 1998.
PB99-149635REB
Method for Analyzing Piled Embankments.
PB99-149650REB
Reports of the Kyushu National Industrial Research Institute, No. 58, March 1997.
PB99-152035REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 1, 1997. Special Issue: Solar Cells V.
PB99-152050REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 2, 1997.
PB99-152068REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 3, 1997. Special Issue: KrF Laser.
PB99-152076REB
Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
PB99-152118REB
Hitachi Review, Volume 46, No. 5, October 1997. Hitachi's Multimedia Solutions.
PB99-153132REB
Hitachi Review, Volume 46, No. 4, August 1997. Electronic Commerce for a New Social Infrastructure.
PB99-153140REB
Fuji Electric Review, Volume 44, No. 2, 1998. Instrumentation and Control Technology.
PB99-153199REB
NKK Technical Report No. 158, June 1997.
PB99-153249REB

FOREST FIRES
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB

FOREST INDUSTRY
Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997.
PB99-152845REB

FOREST MANAGEMENT
Managing identified wildlife: Procedures and measures, vol. I.
MIC-99-03104REB

FOREST SITE QUALITY
Site index, a primer.
MIC-99-03135REB

FOREST THINNING
Comparison of prethin densities in hardwood stands measured at 1 meter and 30 centimeters respectively, data measurements gathered during hardwood time & motion studies in 1996: Information report.
MIC-99-03167REB

FORESTS
Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
PB99-155418REB

FORESTS AND FORESTRY
Fraser Timber Supply Area: Rationale for Allowable Annual Cut (AAC) determination, effective April 1, 1999.
MIC-99-03105REB
Sustainable Forest Economy Workshop draft report: Summary of proceedings.
MIC-99-03364REB

FORGING
Forward Flow at the Boundary of the Zone of Deformation -- USSR --Translation.
ADA362822REB

FORTRAN
Residual Dust and Radiation Model (REDRAM), Model Description.
ADA362633REB

FOSSIL-FUEL POWER PLANTS
Need and options available for permanent CO(sub 2) disposal.
DE99002199REB

FOULING RELEASE COATINGS
Durability Testing for Fouling Release Coatings.
ADA362839REB

FRACTURE (MECHANICS)
Dynamic Failure of Materials. Volume 1 - Experiments and Analyses.
ADA362713REB
Dynamic Failure of Materials. Volume 2 - Compilation of Russian Spall Data.
ADA362759REB
Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide.
ADA363010REB
Dynamic fracture of heterogeneous materials.
DE99002235REB
Notch effect of 350WT steel plate at high strain rates.
MIC-99-03347REB

FRACTURE PROPERTIES
Fatigue crack nucleation in metallic materials.
DE99002227REB
Dynamic Fracture Initiation Toughness of ASTM A533, Grade B Steel Plate.
NUREG/CR-6512REB

FRACTURE STRENGTH
Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
N19990041616REB

FRAGMENTS
Large Engine Uncontained Debris Analysis.
PB99-154569REB

FRAMES
Static Structural Analysis of the Loreors Electronic Console Support Frame.
ADA363138REB

FRANCE
French Defence Industry Forecast (Online Service).
JANE-0570REB

FRAUD
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB

FREQUENCIES
Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
N19990042067REB

FREQUENCY STANDARDS
Optical Frequency Standard in Trapped Atomic Hydrogen.
ADA362776REB

FRESHWATER BIOLOGY
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-6482REB

FRICTION
Influence of surface topography on the forming friction of automotive aluminum sheet.
DE99002244REB

FUEL ELEMENTS
Unit radiological doses for fuel retrieval preliminary safety evaluation.
DE99050396REB

FUEL REPROCESSING PLANTS
Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB

FUEL STORAGE POOLS
Characterization of the 309 building fuel transfer pit and storage basin.
DE99050597REB

FUEL TANKS
Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB

FUELS
USSR Report, Energy, No. 152.
ADA362802REB

FUNDING
Program Guide to Federally Funded Environment and Natural Resources R and D.
PB99-152449REB

FUSELAGES
Beechcraft 1900C Vertical Impact Test.
PB99-149726REB

FUTURES
Making Markets. Opportunism and Restraint on Wall Street.
HUP-0011REB

GAIN
Technique for Measuring the Gain of HF Antennas.
ADA362876REB

GALACTIC EVOLUTION
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB

GALACTIC RADIATION
Interaction-Activity Connection.
N19990042108REB

GAME THEORY
Iterative Algorithms for Two-Person Zero-Sum Games.
ADA362910REB

GAMMA RAYS
Gamma Radiation from PSR B1055-52.
N19990042027REB

GAS ANALYSIS
Vapor and gas sampling of single-shell tank 241-BX-103 *using the in situ vapor sampling system.*
DE99050133REB
Vapor and gas sampling of single-shell tank 241-C-204 using the in situ vapor sampling system.
DE99050134REB
Vapor and gas sampling of single-shell tank 241-TY-102 using the in situ vapor sampling system.
DE99050135REB
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DE99050136REB
Vapor and gas sampling of single-shell tank 241-C-107 using the in situ vapor sampling system.
DE99050137REB
Vapor and gas sampling of single-shell tank 241-BX-104 using the in situ vapor sampling system.
DE99050138REB
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DE99050140REB
Vapor and gas sampling of single-shell tank 241-BX-110 using the in situ vapor sampling system.
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Vapor and gas sampling of single-shell tank 241-B-102 using the in situ vapor sampling system.
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DE99050143REB
Vapor and gas sampling of single-shell tank 241-BX-102 using the in situ vapor sampling system.
DE99050144REB
Vapor and gas sampling of single-shell tank 241-U-104 using the in situ vapor sampling system.
DE99050145REB
Vapor and gas sampling of single-shell tank 241-S-103 using the in situ vapor sampling system.
DE99050146REB
Vapor and gas sampling of single-shell tank 241-C-201 using the in situ vapor sampling system.
DE99050148REB
Vapor and gas sampling of single-shell tank 241-S-102 using the in situ vapor sampling system.
DE99050149REB
Vapor and gas sampling of single-shell tank 241-C-202 using the in situ vapor sampling system.
DE99050150REB
Vapor and gas sampling of single-shell tank 241-T-104 using the in situ vapor sampling system.
DE99050151REB

GAS TURBINE ENGINES
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB

GAS TURBINES
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB
Small Scale Biomass Fueled Gas Turbine Power Plant.
PB99-126450REB

GASES
Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-, (K *metodike issledovaniya gazoobmena pri vdykhanii* bol' shikh kontsentratsiy kisloroda)--Translation.
ADA362856REB
Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB

GASTROENTERITIS
Fort Bliss, Texas 1998: Acute Gastroenteritis Outbreak.
ADA362944REB

GB AGENT
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436.
ADA363275REB
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of *Blue Max Hazmat Splash Clothing Model B.*
ADA363349REB

GENE REGULATION
Enhancement of photoassimilate utilization by manipulation of ADP-glucose pyrophosphorylase gene. Final *progress report.*
DE99002382REB

GENERAL OFFICERS
East Asia: Southeast Asia, Autobiography of Chamlong.
ADA362817REB
General Creighton Abrams: Ethical Leadership at the Strategic Level.
ADA363255REB

GENES
Regulation of the Multidrug Resistance-Associated Protein Gene by Estrogen.
ADA362659REB
Genomic Instability at Premalignant and Early Stages of Breast Cancer Development.
ADA362712REB

GENETICS
Nontraditional inheritance: Genetics and the nature of science, now titled, The puzzle of inheritance: Genetics and the methods of science. Final report.
DE99002177REB
Disability rights in dialogue with clinical genetics conference, *May 31 to June 2, 1996.*
DE99002368REB
Coming Home to the Pleistocene.
ISLAND-0522REB
Genetic Regulatory Networks in Embryogenesis and Evo*lution.*
N19990041841REB

GEODESICS
Quasigeoid and the Standard Elevations -- East Germany --Translation.
ADA362811REB

GEODETIC ASTRONOMY
Third Congress of the All-Union Astronomic-Geodetic Society, USSR.
ADA363319REB

GEOGRAPHICAL INFORMATION SYSTEMS
Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB

GEOGRAPHY
Recent Geographical Conferences in the Soviet Union, USSR--Translation.
ADA362768REB
Central Asia, Physical Geography Handbook--Translation.
ADA362771REB
Central Asia, Physical Geography Handbook.
ADA362787REB

GEOLOGICAL SURVEYS
Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the New Orleans District for 1994.
ADA362753REB

GEOLOGICAL TIME
40Ar/39Ar dating of ribbon-textured veins and wall-rock material from Meguma lode gold deposits, Nova Scotia: Implications for timing and duration of vein formation in slate-belt hosted vein gold deposits.
MIC-99-03227REB

GEOLOGY
Central Asia, Physical Geography Handbook--Translation.
ADA362771REB
Quaternary geology of the Separation Lake area, Northwestern Ontario.
MIC-99-03113REB
Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list.
MIC-99-03154REB
North Baffin Partnership Project: Summary of investigations.
MIC-99-03354REB

GEOPHYSICAL PROSPECTING
Geophysical Prospecting in the People's Republic of China.
ADA362739REB

GEOPHYSICS
Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
N19990042139REB

GEOTHERMY
Coso Monitoring Program, October 1997 through September 1998.
ADA362727REB

GETTERS
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB

GIRDLING
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB

GLACIAL LANDFORMS
Wisconsinan glacial and sea-level history of Maritime Canada and the adjacent continental shelf: A correlation of land and sea events.
MIC-99-03230REB

GLASS
Use of Waste Glass as Aggregate for Pipe Backfill and Embankment Material.
PB99-152399REB

GLOBAL
Worldwide Report: Telecommunications Policy, Research and Development, No. 294.
ADA362868REB

GLOBAL POSITIONING SYSTEM
Evaluation of Precise Absolute Navigation (PAN) Performance Under Dynamic Conditions.
ADA362733REB
GPS User-Interface Design Problems.
ADA363331REB
Merged Vision and GPS Control of a Semi-Autonomous, Small Helicopter.
N19990042372REB

GLOVEBOXES
CSER 97-004: PFP production denitration calciner system.
DE99050233REB

GLOVES
Evaluation of Prototype Electrically Heated Handwear.
ADA363276REB

GOLD
National geochemical reconnaissance reanalysis of 1775 lake sediments from regional surveys on central Baffin Island, Nunavut, 1999: Parts of NTS 27B, 27C, 37A, and 37D.
MIC-99-03442REB

GOVERNMENT CORPORATIONS
Financial Services Institutions: Information for Assessing the Government's Potential Financial Exposure.
PB99-145849REB

GOVERNMENT (FOREIGN)
JPRS Report, Near East & South Asia.
ADA362665REB
Southeast Asia Report, No. 1371.
ADA362825REB
Near East/South Asia Report, No. 2780--Translation.
ADA362828REB
Democracy in Kuwait.
ADA362984REB
JPRS Report, East Asia, Korea--Translation.
ADA363009REB
JPRS Report, Near East & South Asia, Table of Contents, JPRS-NEA-87-001, 2 January 1987-JPRS-NEA-87-041, 6 Apr 1987 Part 1--Translation.
ADA363013REB
China Report: Political, Sociological and Military Affairs, No. 437.
ADA363014REB
East Asia: Southeast Asia.
ADA363015REB
U.S. - JAPAN TRADE: The Japanese Insurance Market.
ADA363205REB
Korean Affairs Report, No. 326 Kulloja No. 3, March 1983.
ADA363292REB
Japan Opposes US-Japanese Security Pact.
ADA363305REB
Selected Soviet Military Translations (Recent Events in the Soviet Navy) No. 61--Translation.
ADA363306REB
East Europe Report, Political, Sociological and Military Affairs No. 2234.
ADA363308REB
China Report, Political, Sociological and Military Affairs No. 474.
ADA363309REB
Role of Persuasion and Coercion in the Soviet State USSR.
ADA363323REB

GOVERNMENT OFFICIALS
JPRS Report, East Asia, Mongolia, Biographic Information on Officials--Translation.
ADA362885REB

GOVERNMENT POLICIES
Future of U.S. Ocean Policy. Choices for the New Century.
ISLAND-0496REB
Disasters and Democracy: The Politics of Extreme Natural Events.
ISLAND-0514REB
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB

GOVERNMENT PROGRAMS
Tribal Environmental and Natural Resource Assistance Handbook.
PB99-150989REB

GOVERNMENT PURCHASE CARD
Automotive Parts Acquisition Guide.
ADA363262REB

GOVERNMENTS
Grabbing Hand. Government Pathologies and Their Cures.
HUP-0028REB

GRAIN
Varieties of grain crops, 1999.
MIC-99-03467REB

GRAIN BOUNDARIES
Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation - USSR --Translation.
ADA362823REB

GRAPHICAL USER INTERFACE
Overview of the Modular Effectiveness/Vulnerability Assessment (MEVA) Architecture.
ADA362951REB
Enhancing a CAVE with Eye Tracking System for Human-Computer Interaction Research in 3D Visualization.
ADA363070REB
Experimental Internet Environment Software Development.
N19990042214REB

GRAPHITE
New Materials for EMI Shielding.
N19990042172REB

GRAPHITE EPOXY COMPOSITES
Nondestructive Evaluation (NDE) Techniques Assessment for Graphite/Epoxy (Gr/Ep) Composite Overwrapped Pressure Vessels.
ADA363261REB

GRAVITATION THEORY
Experimental Tests of Relativistic Gravity.
PB99-148736REB

GRAVITY PROBE B
Study the Effects of Charged Particle Radiation on Gravitational Sensors in Space.
N19990042135REB

GRAZING
Guidelines for estimating beef grassing costs based on 500 head.
MIC-99-03171REB
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB

GREEK GRAMMAR
Greek Grammar.
HUP-0032REB

GREEN TECHNOLOGY
Green Technologies for a More Sustainable Agriculture.
ERS-AIB-752REB

GRENADE LAUNCHERS
Modification and Analysis of the 40MM Selective Feed System.
ADA363145REB

GROUND CLUTTER
Terrain Backscattering Coefficient Generator.
ADA362716REB

GROUND WATER
Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants.
ADA362974REB
Final Data Usability Summary and Resampling Proposal for Fort Sheridan.
ADA363090REB
Groundwater Remediation Field Laboratory (GRFL).
ADA363156REB
Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
DE99002359REB
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB
Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
PB99-152928REB

GROUNDFISH
Georges Bank, 1998 conservation requirements for Georges Bank groundfish stocks: Report to the Minister of Fisheries and Oceans.
MIC-99-03610REB

GROUNDWATER MOVEMENT
Ground-Water Flow Paths and Traveltime to Three Small Embayments within the Peconic Estuary, Eastern Suffolk County, New York.
PB99-152456REB

GROWTH (PHYSIOLOGY)
Genomic Instability at Premalignant and Early Stages of Breast Cancer Development.
ADA362712REB

GUERRILLA WARFARE
Rear Area Security In The Field Army Service Area.
ADA362710REB

GUIDED MISSILES
Theater Missile Defense in World War II - Some Operational Art Considerations.
ADA363065REB

GUIDED WEAPONS
Completing the Sensor Grid: A Revolution in Imagery Management.
ADA363053REB

GUIDES
Guide to crop protection, 1999.
MIC-99-03650REB
Program Guide to Federally Funded Environment and Natural Resources R and D.
PB99-152449REB

GUN PROPELLANTS
Data Transfer Report - 30-mm Enhanced Alternate High-Energy Propellant Program (EAHEP): Evaluation of the Performance of an RDX-Based ARDEC-7994 Propellant and the Effect of Two Different Slug Projectile Designs.
ADA363101REB

HABITAT IMPROVEMENT
Restoring Life in Running Waters.
ISLAND-0530REB

HABITATS
Terrestrial Turtle Habitats Potentially Impacted.
ADA363365REB
Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB

HADRONS
Kt - jets and jet structure and fragmentation at the Tevatron.
DE99050750REB

HANDBOOKS
Central Asia, Physical Geography Handbook.
ADA362787REB
Automotive Parts Acquisition Guide.
ADA363262REB
Jane's Ammunition Handbook (Online Service).
JANE-0549REB

HANDWEAR
Evaluation of Prototype Electrically Heated Handwear.
ADA363276REB

HANFORD RESERVATION
FY 1996 solid waste integrated life-cycle forecast characteristics summary. Volumes 1 and 2.
DE98053023REB
Summary of radioactive solid waste received in the 200 Areas during calendar year 1995.
DE98054295REB
Listed waste history at Hanford facility TSD units.
DE98054296REB

Hanford Site National Environmental Policy Act (NEPA) characterization. Revision 10.
DE99002425REB
International Atomic Energy Agency/Hanford Site shared use of calorimeters.
DE99050111REB
TWRS technical baseline database manager definition document.
DE99050152REB
Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
DE99050153REB
Sampling and analysis plan for sampling of liquid waste streams generated by 222-S Laboratory Complex operations.
DE99050155REB
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB
Waste management project technical baseline description.
DE99050158REB
Hazard Analysis Database report.
DE99050159REB
Deployment of pollution prevention during design – a case study.
DE99050164REB
Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB
Preliminary tank characterization report for single-shell tank 241-TX-112: Best-basis inventory.
DE99050181REB
Preliminary tank characterization report for single-shell tank 241-TX-106: Best-basis inventory.
DE99050182REB
Preliminary tank characterization report for single-shell tank 241-TX-114: Best-basis inventory.
DE99050183REB
Preliminary tank characterization report for single-shell tank 241-TX-103: Best-basis inventory.
DE99050184REB
Preliminary tank characterization report for single-shell tank 241-TX-111: Best-basis inventory.
DE99050185REB
Preliminary tank characterization report for single-shell tank 241-TX-110: Best-basis inventory.
DE99050186REB
Preliminary tank characterization report for single-shell tank 241-SX-106: Best-basis inventory.
DE99050195REB
Preliminary tank characterization report for single-shell tank 241-SX-111: Best-basis inventory.
DE99050197REB
Preliminary tank characterization report for single-shell tank 241-SX-112: Best-basis inventory.
DE99050198REB
Tank characterization report for single-shell tank 241-BY-112.
DE99050199REB
Tank characterization report for double-shell tank 241-AN-103.
DE99050200REB
Project W-314 241-AN-A valve pit upgrade acceptance for beneficial use.
DE99050201REB
Waste management project fiscal year 1998 multi-year work plan WBS 1.2.
DE99050203REB
222-S Laboratory maintenance implementation plan.
DE99050205REB
Waste sampling and characterization facility (WSCF) maintenance implementation plan.
DE99050206REB
Hanford spent nuclear fuel project update.
DE99050207REB
Permitting plan for the immobilized low-activity waste project.
DE99050230REB
105-DR Large Sodium Fire Facility closure activities evaluation report.
DE99050394REB
Solid waste integrated forecast technical (SWIFT) report: FY1997 to FY 2070.
DE99050410REB
Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
DE99050411REB
Indexing contamination surveys.
DE99050499REB
283-E, 283-W, and 315 (water treatment plant) hazards assessment.
DE99050560REB
Resolution of Hanford tanks organic complexant safety issue.
DE99050708REB

HARDWOODS

Scientific Coordination and Adaptive Management and Experimental Restoration of Longleaf Pine Community Structure, Function, and Composition.
ADA362888REB
Butternut canker, a first record for New Brunswick.
MIC-99-03450REB

HARMONIC OSCILLATORS

Hydrodynamic Stability and Magnetic Reconnection in Disks and Stars.
N19990042136REB

HAZARDOUS MATERIALS

Elimination of Toxic Materials and Solvents from Solid Propellant Components (PP1058).
ADA363240REB
Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB
Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB
Hazardous Materials Operating Site Practices. Activities Manual.
PB99-130940REB

HAZARDS

Hazard Analysis Database report.
DE99050159REB
Hidden Costs of Coastal Hazards. Implications for Risk Assessment and Mitigation.
ISLAND-0495REB
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB
Orbital Debris: A Chronology.
N19990041784REB

HD AGENT

Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436.
ADA363275REB
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B.
ADA363349REB

HEALTH

CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women.
ADA362645REB
Female Gender and Other Potential Predictors of Functional Health Status Among Persian Gulf War Veterans (Revised).
ADA362870REB
Healthy People 2010 Objectives: Draft for Public Comment.
PB99-103889REB

HEALTH CARE FACILITIES

Workshop on 'New Engineering Technology Transfer in Orthopaedic Surgery'.
ADA362697REB
Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility.
ADA363334REB
Nursing Home Trends, 1987 and 1996. MEPS Chartbook No. 3. Executive Summary.
PB99-154692REB

HEALTH CARE OUTCOMES

Patient-Centered Outcomes in Neurologic Disease. Abstract, Executive Summary and Final Report.
PB99-149809REB

HEALTH CARE REFORM

Workshop on 'New Engineering Technology Transfer in Orthopaedic Surgery'.
ADA362697REB

HEALTH EFFECTS

Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152860REB

HEALTH HAZARD EVALAUTION

Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB
Health Hazard Evaluation Report HETA 96-0258-2673, Foss Manufacturing Company, Inc., Hampton, New Hampshire.
PB99-152191REB

HEALTH HAZARD EVALUATION

Health Hazard Evaluation Report HETA 96-0171-2692, Bureau of Alcohol, Tobacco, and Firearms, Washington, DC.
PB99-152167REB
Health Hazard Evaluation Report HETA 96-0266-2702, Cooper Engineered Products, Bowling Green, Ohio.
PB99-152175REB
Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
PB99-152217REB
Health Hazard Evaluation Report HETA 95-0001-2679, Caterpillar Inc., York, Pennsylvania.
PB99-152233REB
Health Hazard Evaluation Report HETA 97-0153-2694, The Grand Experience Salon, Chicago, Illinois.
PB99-152258REB
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
PB99-152308REB
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
PB99-152316REB
Health Hazard Evaluation Report HETA 98-0017-2699, United States Postal Service, Mail Processing and Distribution Center, Omaha, Nebraska.
PB99-152324REB
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
PB99-152332REB
Health Hazard Evaluation Report HETA 96-0093-2685, Microfibres, Inc. Pawtucket, RI.
PB99-152357REB

HEALTH HAZARDS

Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152159REB
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB
Public Health Assessment for Agriculture Street Landfill, New Orleans, Orleans Parish, Louisiana, Region 6. CERCLIS No. LAD981056997.
PB99-152282REB
Public Health Assessment for Sherwin Williams, Emeryville, Alameda County, California, Region 9. CERCLIS No. CAD03934601.
PB99-155590REB
Public Health Assessment for Sandoval Zinc Company, Sandoval, Marion County, Illinois, Region 5. CERCLIS No. ILD053980454.
PB99-155616REB

HEALTH RISK ASSESSMENT

Advice of the Italian CCTN on the Health Risk Assessment Relative to Exposure to Automobile Emissions.
PB99-117798REB

HEALTH SCREENING

Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB

HEALTH SURVEYS

Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB

HEAT EXCHANGERS

New Technology Demonstration Program, Kennedy Space Center,.
DE00006694REB

HEAT PIPES

New Technology Demonstration Program, Kennedy Space Center,.
DE00006694REB
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
N19990041149REB

HEAT PUMPS

Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
PB99-152373REB

HEAT STRESS (PHYSIOLOGY)

Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB

HEAVY ION REACTIONS

Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
DE99002391REB

HEAVY METALS

Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB

HELICOPTER CONTROL

Merged Vision and GPS Control of a Semi-Autonomous, Small Helicopter.
N19990042372REB

HELICOPTER ROTORS

Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB

HELICOPTERS

Merged Vision and GPS Control of a Semi-Autonomous, Small Helicopter.
N19990042372REB

HELIUM 4

Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB

HERBIG-HARO OBJECTS

High Resolution Far-Infrared Studies of Compact Regions in Star-Forming Molecular Clouds.
N19990042133REB

HEREDITARY DISEASES

Disability rights in dialogue with clinical genetics conference, May 31 to June 2, 1996.
DE99002368REB

HEURISTIC METHODS

Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to

Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB

HIGH ALTITUDE ELECTROMAGNETIC PULSE (HEMP)
NBC Report, Spring - Summer 1999. Survivability of Army Personnel and Materiel.
ADA363243REB

HIGH ENERGY LASERS
High-Power Laser Source Evaluation.
ADA362788REB
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB

HIGH EXPLOSIVES
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB

HIGH FREQUENCY
Technique for Measuring the Gain of HF Antennas.
ADA362876REB

HIGH LEVEL PROGRAMMING
Implementing a Standards-Based Distributed Measurement and Control Application on the Internet.
PB99-152712REB

HIGH-LEVEL RADIOACTIVE WASTES
Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
DE99002218REB
Retrieved waste properties and high-level waste critical component ratios for privatization waste feed delivery.
DE99050568REB

HIGH-LEVEL WASTES
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB

HIGH SCHOOLS
Nontraditional inheritance: Genetics and the nature of science, now titled, The puzzle of inheritance: Genetics and the methods of science. Final report.
DE99002177REB

HIGH SPEED TRANSPORTATION
Jane's High-Speed Marine Transportation (Online Service).
JANE-0581REB

HIGH TEMPERATURE SYNTHESIS
Upscaled Self-Propagating High-Temperature Synthesis (SHS)/Dynamic Compaction Processing.
ADA362636REB

HIGH VELOCITY
Laser Doppler Velocimeter and High Speed Imaging System for Fluid Dynamics, Combustion and Chemical Kinetics Research.
ADA362940REB

HIGHLY LETHAL MOBILE FORCES (HLMF)
Transformation of the Hungarian Home Defense Forces or a New Role in a New Environment.
ADA363358REB

HIGHWAY CONSTRUCTION
Bid Opening Report. Federal-Aid Highway Construction Contracts, First Six Months, 1998.
PB99-147340REB

HIGHWAY DESIGN
Estimating Intersection Turning Movements.
PB99-152977REB

HIGHWAY TRANSPORTATION
Evaluation of two school bus advance signalling devices: The eight-light system and hazard lights.
MIC-99-03406REB
National Transportation Science and Technology Strategy.
PB99-151383REB

HIGHWAYS
Proceedings of the National Joint Use Conference (5th). Held in Louisville, Kentucky on October 26-27, 1998.
PB99-150062REB
Proceedings of the National Highway/Utility Conference (7th). Held in Louisville, Kentucky on October 28-30, 1998.
PB99-150120REB
Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
PB99-153009REB

HISPANICS
Hispanic Youth and Military Enlistment Propensity.
ADA362976REB

HISTOGRAMS
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB

HISTORIC SITES
Archeological and Architectural Investigations at Brown's Sheep Camp (5LA5824), a Multicomponent District in the U.S. Army Pinon Canyon Maneuver Site, Las Animas County, Colorado.
ADA363169REB

HISTORICAL ASPECTS
Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946–1997.
DE99002410REB

HISTORICAL GEOLOGY
Carboniferous evolution of Nova Scotia.
MIC-99-03228REB

HISTORY
Democracy in Kuwait.
ADA362984REB
Theodore Roosevelt: Activated Vision Through the Bully Pulpit.
ADA363268REB
United States and China. Fourth Edition.
HUP-0002REB
Russia. People and Empire.
HUP-0003REB
Russia. The Roots of Confrontation.
HUP-0006REB
Japanese Today. Change and Continuity, Enlarged Edition.
HUP-0010REB
Monographs in Aerospace History Series No. 11. Together in Orbit: The Origins of International Participation in the Space Station.
N19990041803REB
Studies in Intelligence, Winter 1998-1999.
PB99-928002REB

HOISTING MACHINERY
Automated winch control system to provide sea bottom following for side scan sonar surveys.
MIC-99-03337REB

HOLISTIC MANAGEMENT
Holistic Management: A New Framework for Decision-Making, Second Edition.
ISLAND-0524REB

HORIZONTAL STABILIZERS
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB

HORTICULTURE
Floriculture Crops. 1998 Summary.
NASS-ZFC-99REB

HOSPITALS
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
PB99-152332REB

HOSTAGES
High Profile Special Operations Missions and Timing: Identifying the Culminating Point of Execution.
ADA363195REB

HOT CELLS
324 Facility B-Cell quality process plan.
DE99050592REB

HOUSEHOLD GOODS
Defense Transportation Efforts to Improve DOD's Personal Property Program.
ADA363398REB

HOUSEHOLDS
Falling through the Net: Defining the Digital Divide. A Report on the Telecommunications and Information Technology Gap in America.
PB99-144487REB
Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB

HOUSING (DWELLINGS)
For Want of a Home - A Study of Wherry and Capehan Military Family Housing.
ADA362706REB

HUMAN ENGINEERING
Human factors assessment of prototype lightweight thermal undergarment systems for the Clothe-the-Soldier Programme.
MIC-99-03319REB
Human factors engineering study for a Griffon Mission Planning System: Final project report.
MIC-99-03323REB

HUMAN FACTORS
First Impressions (Episode No. 5). (VHS video).
AVA20544-VNB1REB

HUMAN IMMUNODEFICIENCY VIRUS
ACTG 240: Randomized Comparative Trial of Stavudine (d4T) versus Zidovudine (ZDV, AZT) in Children with Human Immunodeficiency Virus Infection (on Diskette).
PB99-501629REB

HUMAN RESOURCES
Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century. A White House Roundtable Dialogue for President Clinton's Initiative on Race. Proceedings of Panel Discussion and Position Papers.
PB99-151409REB

HUMIDITY
New Technology Demonstration Program, Kennedy Space Center,.
DE00006694REB

HURRICANES
Operational Design of Hurricane Relief Operations.
ADA363215REB

HYDROCARBON FUELS
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB

HYDROCARBONS
Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
PB99-152373REB

HYDRODYNAMICS
Ponce de Leon Inlet, Florida, Site Investigation. Report 2: Inlet Hydrodynamics: Monitoring and Interpretation of Physical Processes.
ADA362897REB

HYDROFLUOROCARBONS
Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
PB99-152373REB

HYDROGEN
Optical Frequency Standard in Trapped Atomic Hydrogen.
ADA362776REB
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB
Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
DE99050154REB
Investigation of the Effect of Surface Impurities on the Adsorption Kinetics of Hydrogen Chemisorbed onto Iron.
N19990042171REB

HYDROGEN COMPOUNDS
Genetic Regulatory Networks in Embryogenesis and Evolution.
N19990041841REB

HYDROGRAPHIC SHIPS
Flow Visualisation About the Helicopter Deck of the Hydrographic Ship.
ADA362877REB

HYDROLOGY
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins.
PB99-152688REB
Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
PB99-152928REB

HYPERSONIC FLOW
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB

HYPERSONIC NOZZLES
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB

HYPONATREMIA
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB

HYPOTHERMIA
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB

HYSTERESIS
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
N19990041149REB

IAEA SAFEGUARDS
International Atomic Energy Agency/Hanford Site shared use of calorimeters.
DE99050111REB

ICE CLOUDS
Global Retrieval of Cloud Particle Size and Optical Thickness Using ISCCP Data.
N19990041441REB

IDAHO NATIONAL ENGINEERING LABORATORY
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB

IGNITION
Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB

ILLUMINATING ELECTRICAL FUSE
Illuminating Electrical Fuse.
PAT-APPL-8-226 620REB

IMAGE COMPRESSION
Psychophysical Comparisons in Image Compression Algorithms.
ADA362726REB

IMAGE PROCESSING
Laser Doppler Velocimeter and High Speed Imaging System for Fluid Dynamics, Combustion and Chemical Kinetics Research.
ADA362940REB

Perspective Splatting.
ADA363073REB
Advanced algorithms for information science.
DE99002231REB
Application of Rotation- and Translation-Invariant Over-complete Wavelets to the registration of Remotely Sensed Imagery.
N19990041199REB

IMAGING TECHNIQUES
Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
N19990041335REB

IMMUNOASSAY
Field Demonstration of NRL Environmental Flow Immunosensor for Environmental Monitoring.
ADA363133REB

IMPACT
Analysis of First-Term Army Attrition.
ADA362968REB
Impact properties of composite sonar dome materials.
MIC-99-03381REB

IMPACT SHOCK
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB

IMPACT TESTS
Beechcraft 1900C Vertical Impact Test.
PB99-149726REB
Full-Scale Crash Evaluation of the NETC 4-Bar Sidewalk-Mounted Steel Bridge Railing.
PB99-152720REB

IMPORTS
Natural gas imports and exports. Fourth quarter report, 1998.
DE99002705REB

IMPURITIES
Investigation of the Effect of Surface Impurities on the Adsorption Kinetics of Hydrogen Chemisorbed onto Iron.
N19990042171REB

INCINERATORS
Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
ADA363186REB

INCOME
Coming Class War and How to Avoid It: Rebuilding the American Middle Class.
SHARPE-00420REB

INCOMES
Income Inequality in America: An Analysis of Trends.
SHARPE-00440REB

INDEPENDENCE
Central Asia: The Challenges of Independence.
SHARPE-00425REB

INDEXES (DOCUMENTATION)
Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
N19990041598REB

INDIA
Indian Defence and Security: Industry, Forces and Future Trends (Online Service).
JANE-0565REB

INDONESIA
Political Information on Indonesia--Translation.
ADA362990REB
Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art.
ADA363064REB

INDONESIAN SEAS
Stratification Mixing and Circulation of the Indonesian Seas.
ADA363048REB

INDUSTRIAL HYGIENE
Reorganization of Industrial Hygiene on a Scientific Basis, Ussr--Translation.
ADA362794REB

INDUSTRIAL PLANTS
East Europe Report, Economic and Industrial Affairs, No. 2475.
ADA362895REB
Survey of Soviet Heavy Industry (4).
ADA363314REB
Defense Depot Maintenance Council Study of DoD Management of Industrial Plant Equipment.
ADA363391REB
Fuji Electric Review, Volume 44, No. 2, 1998. Instrumentation and Control Technology.
PB99-153199REB

INDUSTRIAL PRODUCTION
Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB

INDUSTRIAL SAFETY
Fatality Assessment and Control Evaluation (FACE) Report: Temporary Laborer Crushed by Dump Truck at Landfill, South Carolina.
PB99-155624REB
Fatality Assessment and Control Evaluation (FACE) Report: Electrical Mechanic Dies After 45-Foot Fall through Unguarded Floor Opening, North Carolina.
PB99-155632REB
Fatality Assessment and Control Evaluation (FACE) Report: Tree Feller Killed When Struck by Chain Saw, West Virginia.
PB99-155640REB
Fatality Assessment and Control Evaluation (FACE) Report: Mechanic Fatally Injured during Dismantling of Crane Boom at Scrap Metal Yard, Pennsylvania.
PB99-155657REB
Fatality Assessment and Control Evaluation (FACE) Report: Floor Collapse in a Single Family Dwelling Fire Claims the Life of One Fire Fighter and Injures Another, Kentucky.
PB99-155665REB

INDUSTRIAL TECHNOLOGY
World Information Directory of Industrial Technology and Investment Support Services.
UN-0947REB

INELASTIC SCATTERING
Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB

INEQUALITY
Inequality Reexamined.
HUP-0029REB

INFANTRY
Jane's Infantry Weapons (Online Service).
JANE-0550REB

INFLATION
k-Inflation.
PB99-148769REB

INFORMATION
Occupational Survey Report, Survival Equipment, AFSC 2A7X4.
ADA362840REB

INFORMATION FLOW
In Situ Resource Utilization (ISRU 3) Technical Interchange Meeting: Abstracts.
N19990042245REB
Representation and Integration of Scientific Information.
N19990042373REB

INFORMATION RETRIEVAL
Representation and Integration of Scientific Information.
N19990042373REB

INFORMATION SCIENCES
Information Technology Innovation in the U.S. Army: The Case of the Adoption, Adaptation, and Utilization of the Strategic Crisis Exercise Intranet.
ADA362718REB

INFORMATION SYSTEMS
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB
Dealing With Data: Seminar Summary. Using Information in Government Program Information Sharing Seminar Series, Seminar No. 1.
ADA362861REB
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB
Survey of Key Concepts and Issues for Electronic Recordkeeping.
ADA362864REB
Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next.
ADA363196REB
Graduated licensing system evaluation: Interim report '98.
MIC-99-03114REB
Representation and Integration of Scientific Information.
N19990042373REB
Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
PB99-116501REB
Hitachi Review, Volume 46, No. 4, August 1997. Electronic Commerce for a New Social Infrastructure.
PB99-153140REB

INFORMATION TECHNOLOGY
Road to Successful ITS Software Acquisition: Executive Summary.
PB99-117053REB
Falling through the Net: Defining the Digital Divide. A Report on the Telecommunications and Information Technology Gap in America.
PB99-144487REB

INFORMATION TRANSFER
Representation and Integration of Scientific Information.
N19990042373REB

INFORMATION WARFARE
Organizational Implications of Network-Centric Warfare.
ADA363092REB
Denial and Deception--Network-Centric Challenge.
ADA363099REB
Can We Get There From Here. RMAs, Network-Centric Warfare and the Process of Transformation.
ADA363146REB
Decision Aids and Wargaming for Information Operations.
ADA363158REB
Effects of Information Operations on Nonlinear Force Structures.
ADA363159REB
Information Operations in Iraq.
ADA363160REB
C2 in the Information Age: Will Operational Command Echelons Become Unnecessary.
ADA363259REB

INFRARED ASTRONOMY
Airborne Astronomy Program.
N19990042134REB

INFRARED DATABASE
Journal of Research of the National Institute of Standards and Technology, January/February 1999. Volume 104, Number 1.
PB99-154833REB

INFRARED DETECTORS
Evaluation of Operator Performance Using True Color and Artificial Color in Natural Scene Perception.
ADA363036REB

INFRARED IMAGERY
Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
N19990041335REB

INFRARED LASERS
Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
N19990041335REB

INFRARED RADIATION
Revision of the NASA Team Sea Ice Algorithm.
N19990041151REB
High Resolution Far-Infrared Studies of Compact Regions in Star-Forming Molecular Clouds.
N19990042133REB

INFRARED SPECTROSCOPY
Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
PB99-154882REB

INFRASTRUCTURE
Consolidating Active and Reserve Component Training Infrastructure.
ADA363165REB
Hitachi Review, Volume 46, No. 4, August 1997. Electronic Commerce for a New Social Infrastructure.
PB99-153140REB

INLET NOZZLES
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB

INLETS (WATERWAYS)
Ponce de Leon Inlet, Florida, Site Investigation. Report 2: Inlet Hydrodynamics: Monitoring and Interpretation of Physical Processes.
ADA362897REB

INSPECTION
Inspection and Analysis of Aluminum Storage Racks in Spent Fuel Storage Basins.
DE98057842REB

INSTALLATION
New 1999 National Electrical Code Coupled with New Standards Clarify Requirements for Installations of Photovoltaic Systems in the U.S.;Progress in Photovoltaics - Research and Applications.
DE00003202REB

INSTALLATION RESTORATION
Final Data Usability Summary and Resampling Proposal for Fort Sheridan.
ADA363090REB

INSTRUCTORS
Continuation of a Postdoctoral Research Associateship Program.
ADA363232REB

INSURANCE
U.S. - JAPAN TRADE: The Japanese Insurance Market.
ADA363205REB
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JPRS Report, East Asia Southeast Asia.
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USSR Report, Military Affairs, No. 1733.
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China Report: Political, Sociological and Military Affairs, No. 469.
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East Europe Report: Political, Sociological and Military Affairs, No. 2088.
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East Europe Report: Political, Sociological and Military Affairs, No. 2193.
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East Europe Report: Political, Sociological and Military Affairs, No. 2194.
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West Europe Report, No. 2170.
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East Asia: Southeast Asia.
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JPRS Report, Near East & South Asia--Translation.
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JPRS Report, Near East & South Asia.
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JPRS Report, Near East & South Asia.
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JPRS Report, Near East & South Asia.
ADA362654REB
JPRS Report, East Asia Southeast Asia.
ADA362655REB
JPRS Report, Near East & South Asia.
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Latin America Report, No. 2704.
ADA362676REB
USSR Report, Military Affairs, No. 1732.
ADA362677REB
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1982.
ADA362678REB
China Report, Political, Sociological and Military Affairs, No. 377.
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Latin America Report, No. 2710. Fighting in Nicaragua: Battles Along Two Borders.
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East Europe Report, Political, Sociological and Military Affairs, No. 2169.
ADA362698REB
USSR Report, Military Affairs, No. 1781.
ADA362699REB
USSR Report, Military Affairs, No. 1775.
ADA362700REB
China Report, Political, Sociological and Military Affairs.
ADA362701REB
Soviet Union, Military Affairs.
ADA362702REB
China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 16, 30 July 1984--Translation.
ADA362703REB
Soviet Union, Military Affairs.
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Soviet Union, Military Affairs.
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Soviet Union, Military Affairs.
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Near East and South Asia.
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Soviet Union, Military Affairs.
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Soviet Union, Military Affairs.
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USSR Report, Military Affairs.
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Ways to Solve Fuel Problems in North Korea.
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Communist China Digest, No. 16--Translation.
ADA362796REB
Soviet Union, Military Affairs.
ADA362804REB
East Europe Report, Political, Sociological and Military Affairs, No. 2079--Translation.
ADA362830REB
China Report, Political, Sociological and Military Affairs, No. 438--Translation.
ADA362831REB
East Europe Report, Political, Sociological and Military Affairs, No. 2153--Translation.
ADA362841REB
Southeast Asia Report, No. 1310.
ADA362842REB
Southeast Asia Report, No. 1372.
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JPRS Report, Near East & South Asia--Translation.
ADA362886REB
JPRS Report, Near East & South Asia--Translation.
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China Report: Political, Sociological and Military Affairs, No. 453--Translation.
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Latin America.
ADA362898REB
Latin America.
ADA362899REB
Near East and South Asia--Translation.
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JPRS Report, Latin America.
ADA362917REB
USSR Report, Military Affairs, No. 1814--Translation.
ADA362928REB
Near East and South Asia--Translation.
ADA362929REB
Near East and South Asia--Translation.
ADA362930REB
East Asia: Southeast Asia.
ADA362931REB
East Asia: Southeast Asia.
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USSR Report, Agriculture, No. 1409.
ADA362961REB
Worldwide Report: Environmental Quality, No. 379.
ADA362967REB
Near East and South Asia--Translation.
ADA362986REB
Sub-Saharan Africa Report, No. 2873--Translation.
ADA362993REB
Worldwide Report Telecommunications Policy, Research and Development No. 253.
ADA363271REB
China Report, Political, Sociological and Military Affairs.
ADA363280REB
East Asia: Korea.
ADA363286REB
Southeast Asia Report, No. 1304.
ADA363289REB
East Europe Report, Political, Sociological and Military Affairs, No. 2158.
ADA363290REB
Korean Affairs Report, No. 326 Kulloja No. 3, March 1983.
ADA363292REB
China Report, Political, Sociological and Military Affairs, No. 476.
ADA363293REB
East Europe Report, Political, Sociological and Military Affairs, No. 2121.
ADA363294REB
USSR Report, USA: Economics, Politics, Ideology--Translation.
ADA363295REB
USSR Report, USA, Economics, Politics, Ideology, No. 4, April 1985.
ADA363299REB
USSR Report, USA: Economics, Politics, Ideology, No. 10, October 1985.
ADA363300REB
JPRS Report, West Europe Reference Aid Portuguese Military Terms.
ADA363301REB
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1985.
ADA363302REB
USSR Report, USA: Economics, Politics, Ideology, No. 8, August 1985.
ADA363303REB
USSR Report, USA: Economics, Politics, Ideology, No. 7, July 1985.
ADA363304REB
East Europe Report, Political, Sociological and Military Affairs No. 2157.
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East Europe Report, Political, Sociological and Military Affairs No. 2234.
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Waterborne Commerce of the United States. Calendar Year 1997. Part 2. Waterways and Harbors Gulf Coast, Mississippi River System and Antilles.
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DE99050183REB
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Research and Development in Soviet Nonferrous Metallurgy--Translation.
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Overview of the Ozark Isoprene Experiment (OZIE).
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ISOTOPE DILUTION
Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
PB99-154882REB

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Spectroscopic Observations of the Planets.
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U.S. - JAPAN TRADE: The Japanese Insurance Market.
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Japanese Today. Change and Continuity, Enlarged Edition.
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China and Japan in the Global Setting.
HUP-0036REB
Japan's Defence Industry: Capabilities and Future Trends (Online Service).
JANE-0572REB
Reports of the Kyushu National Industrial Research Institute, No. 58, March 1997.
PB99-152035REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 2, 1997.
PB99-152068REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No.11, 1997.
PB99-152084REB
Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
PB99-152118REB
Reports of the Hokkaido National Industrial Research Institute, No. 69, 1997.
PB99-152126REB
Japan-The System that Soured: The Rise and Fall of the Japanese Economic Miracle.
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Development of the Air Force-Army Military Skill Linkage System (MISL).
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Reexamination of the Joint Force Air Component Commander (JFACC) concept for the 21st Century.
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Command and Control in Joint Vision 2010: Flexible, Adaptive and Networked.
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JOURNALISM
USSR Report, Military Affairs, No. 1731. Military History Journal, No. 8, August 1982.
ADA362749REB

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Report to the President on the Use of Technology to Strengthen K-12 Education in the United States.
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Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB

KOREA
East Asia: Korea.
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JPRS Report, East Asia: Korea--Translation.
ADA362927REB
JPRS Report, East Asia, Korea--Translation.
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Study Of The Aerial Interdiction of Railways During The Korean War.
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Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 3, 1997. Special Issue: KrF Laser.
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Attitudes on Physical and Mental Labor in Communist China--Translation.
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Air Force Research Laboratory Success Stories: A Review of 1997/1998.
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Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998.
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Polyhedral and Dihedral Caustics in the R(3).
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Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB
Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB

LAND RECLAMATION
Land capability classification for forest ecosystems in the oil sands region -- Rev. ed. Revised edition.
MIC-99-03138REB
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
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LAND TRUSTS
Protecting the Land: Conservation Easements Past, Present, and Future.
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General Aviation Airports: Unauthorized Land Use Highlights Need for Improved Oversight and Enforcement.
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Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758).
ADA363350REB
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
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Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
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Protecting the Land: Conservation Easements Past, Present, and Future.
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Extending the State-of-the-Art for the COMAN/ATCAL Methodology.
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Future Land Battlefield: Infantry, Armour and Artillery (Online Service).
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Fatality Assessment and Control Evaluation (FACE) Report: Temporary Laborer Crushed by Dump Truck at Landfill, South Carolina.
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Flow Visualisation About the Helicopter Deck of the Hydrographic Ship.
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Textural-Contextual Labeling and Metadata Generation for Remote Sensing Applications.
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Encounters with Nature.
ISLAND-0479REB

LARGE EDDY SIMULATION
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB

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Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
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High-Power Laser Source Evaluation.
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Demonstration of Lead-Based Paint Removal From an Historic Wood Structure Using Laser Technology.
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Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
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LASER VELOCIMETERS
Laser Doppler Velocimeter and High Speed Imaging System for Fluid Dynamics, Combustion and Chemical Kinetics Research.
ADA362940REB

LASERS
China Report, Science and Technology, No. 192--Translation.
ADA363107REB
East Europe Report, Scinetific Affairs, No. 783--Translation.
ADA363368REB
LLE review, Volume 77. Quarterly report, October--December 1998.
DE99002358REB
Efficient Raman conversion from liquid nitrogen contained in an ordinary Dewar.
MIC-99-03327REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 3, 1997. Special Issue: KrF Laser.
PB99-152076REB

LATIN AMERICA
Latin America Report, No. 2710. Fighting in Nicaragua: Battles Along Two Borders.
ADA362680REB
Latin America.
ADA362898REB
Latin America.
ADA362899REB
JPRS Report, Latin America.
ADA362917REB
JPRS Report, Latin America.
ADA362919REB
JPRS Report, Latin America.
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Future Insurgencies in Latin America and the Caribbean: Implications for U.S. Operations.
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Jane's Airports and Handling Agents: Central and Latin America (Including the Caribbean) (on CD-ROM).
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Jane's Airports and Handling Agents: Central and Latin America (Including the Caribbean). 1999-2000 Edition.
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Police Review (Online Service).
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LAWRENCE LIVERMORE NATIONAL LABORATORY
Environmental report 1996, Lawrence Livermore National Laboratory.
DE99002426REB
Environmental report 1997, Lawrence Livermore National Laboratory.
DE99002427REB

LEACHING
Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module.
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ADDAMS Application: Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module in CDFs.
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Doped PMN-PT Single Crystals.
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Getting the Most Out of Integrated Product Teams (IPTs).
ADA362638REB
Tacit Knowledge in the Workplace.
ADA362656REB
YMCA Earth Service Corps Club Handbook.
PB99-154551REB

LEARNING
Reserve Component Officer Professional Development.
ADA363357REB

LEARNING ACTIVITIES
YMCA Earth Service Corps Club Handbook.
PB99-154551REB

LEGAL ASPECTS
Right Choice (Episode No. 25). (VHS video).
AVA20564-VNB1REB

LEGISLATION
Regulatory barriers to on-site water reuse.
MIC-99-03234REB
Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences.
PB99-102899REB

LEPTONS
Six-Jet Production at Lepton Colliders.
PB99-120362REB

LESSONS LEARNED
Technology and Intervention: The Negative Impact on Future Leader Development.
ADA363207REB
Real Cost of 'Engagement'.
ADA363230REB

LETHAL DOSAGE
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Determination of the Median Lethal Dose of Two Anticholinesterase Agents and Efficacy of Current Therapy.
ADA362975REB

LIBERATION
History of the World in the Twentieth Century. Volume II: Conflict and Liberation, 1945-1996.
HUP-0017REB

LIBRARY OF CONGRESS
Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152159REB

LIFE CYCLE MANAGEMENT
Implementation of Successful Practices Using an Iterative Development Methodology for an AEGIS Configuration Management Software Application.
ADA363072REB

LIFE CYCLES
Opportunities to Improve Diagnostics Performance Using Computer-Based Product Definition Models and Simulations.
ADA362942REB

LIFE SCIENCES
China Report, Science and Technology No. 213.
ADA362902REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362987REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362988REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362998REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362999REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363000REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363001REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363287REB

LIGANDS
Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
ADA362936REB

LIGHTNING
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS).

Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB

LIGHTNING DETECTION
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB

LIMIT CYCLE OSCILLATION
Limit Cycle Oscillations (LCO) and Nonlinear Aeroelastic Wing Response: Reduced Order Aerodynamic Models.
ADA362982REB

LIMITERS
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB

LINEAR ACCELERATORS
Error studies for SNS Linac. Part 1: Transverse errors.
DE99002254REB
SNS Linac: Revised configuration.
DE99002261REB

LINEAR EQUATIONS
Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB

LINEAR SYSTEMS
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB

LIQUEFACTION
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB

LIQUID COOLING
Enhancement of Boiling in Highly Wetting Fluids.
ADA362878REB

LIQUID PHASES
Feasibility Study of Liquid Phase Sinter Forming of a Model Ceramic System.
ADA362946REB

LIQUID POOL FIRES
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB

LIQUID WASTES
Sampling and analysis plan for sampling of liquid waste streams generated by 222-S Laboratory Complex operations.
DE99050155REB

LITHIUM ALLOYS
Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
N19990041616REB

LITHIUM BATTERIES
Bulletin of the Electrotechnical Laboratory, Vol. 60, No. 12, 1996. Special Issue: Lithium Secondary Batteries.
PB99-152043REB

LITTORAL ZONES
How Can Operational Maneuver be Used by the Naval or Joint Task Force Commander to Enhance Operational Protection in the Littoral.
ADA363095REB
Naval Force Protection in the Littorals.
ADA363193REB
Closing the Book: The Role of the Aircraft Carrier in the Twenty-First Century.
ADA363211REB

LMFBR TYPE REACTORS
Summary of FY 1997 related to JAPC-U.S. DOE contract study on improvement of core safety -- study on GEM (III).
DE99050497REB
Responses to additional JAPC questions.
DE99050498REB

LOCAL AREA NETWORKS
Security Planning for Wireless Networks: DOD Concerns.
ADA362720REB
ARL Intranet Analysis and Development Study.
ADA362869REB

LOCAL GOVERNMENT
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB
Dealing With Data: Seminar Summary. Using Information in Government Program Information Sharing Seminar Series, Seminar No. 1.
ADA362861REB

LOGGING WORKER
Fatality Assessment and Control Evaluation (FACE) Report: Tree Feller Killed When Struck by Chain Saw, West Virginia.
PB99-155640REB

LOGISTICS
News from AFAR, Volume 1, Number 3 July/August 1998.
ADA362973REB
News from AFAR, Volume 1 Number 7 January/February 1996.
ADA363035REB
Jane's Military Vehicles and Logistics (Online Service).
JANE-0546REB
World Markets for Armoured and Military Logistic Vehicles. Edition 2 (Online Service).
JANE-0554REB

LOGISTICS MANAGEMENT
Identification and Evaluation of Interfaces of IL Support Operations with the Army Logistics System.
ADA362962REB
Within the Context of JV2010, Is There a Requirement for a Theater-Level Joint Forces Logistics Commander (JKLOGC) and a Joint Theater Logistics Command (JTLC).
ADA363172REB
Defense Transportation Efforts to Improve DOD's Personal Property Program.
ADA363398REB

LOGISTICS PLANNING
Maritime Preposition Force Ship 2010.
ADA363180REB
Revolution in Military Logistics: Surviving the Budget Process.
ADA363267REB

LOGISTICS SUPPORT
Building and Maintaining Public Acceptance of and Political Support for the Military of the Future.
ADA363390REB

LONGLEAF PINE TREES
Scientific Coordination and Adaptive Management and Experimental Restoration of Longleaf Pine Community Structure, Function, and Composition.
ADA362888REB

LOS ALAMOS NATIONAL LABORATORY
Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946--1997.
DE99002410REB

LOSSES
Economic Losses from Marine Pollution. A Handbook for Assessment.
ISLAND-0492REB

LOW COST
X-33/VentureStar Program.
N19990041334REB

LOW EARTH ORBITS
Interagency Report on Orbital Debris, 1995.
PB99-151375REB

LOW-LEVEL RADIOACTIVE WASTES
Low-level radioactive waste management at the Nevada Test Site -- Current status.
DE99002186REB
Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB
Technical work plan for the privatization waste characterization data quality objective process.
DE99050402REB
Immobilized low-activity waste interim storage facility, Project W-465 conceptual design report.
DE99050565REB
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050584REB
Conceptual design statement of work for the immobilized low-activity waste disposal facility, project W-520.
DE99050668REB
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB

LOW TEMPERATURE TESTS
Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements.
PB99-152993REB

LOW VELOCITY
Development and Application of an Advanced Optical Based Pressure Instrument for Low-Speed Flows.
ADA362829REB

LUBRICANTS
ARTI refrigerant database.
DE99002209REB

LUMBER
ROMI-RIP 2.0 User's Guide: a ROugh Mill RIP-First Simulator.
PB99-152803REB

MACHINE TOOL INDUSTRY
Selected Articles on Machine Industry in Communist China in 1959--Translation.
ADA362798REB

MACHINE TOOLS
Survey of Soviet Heavy Industry (7).
ADA362803REB
USSR Report, Machine Tools and Metalworking Equipment, No. 7.
ADA363140REB

MACROECONOMICS
Macroeconomic Policy and Adjustment in Korea 1970-1990.
HUP-0035REB

MAGAZINES (ORDNANCE)
Verzeichnis der im Faachinformationswesen der bundesswehr laufend gehaltenen Zeitschriften (Zeitschriftenverzeichnis FIWBw). Listing of the Magazines Held Constantly in the Speciaiized Information System of the German Federal Armed Forces (magazine listing FIWBw)--Translation.
ADA363396REB

MAGELLANIC CLOUDS
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB

MAGNETIC FIELD RECONNECTION
Hydrodynamic Stability and Magnetic Reconnection in Disks and Stars.
N19990042136REB

MAGNETIC FIELDS
Boundary Conditions for Magnetic Field Gradients Inside a Source-Free Volume.
ADA362760REB
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB
Global MHD Simulation of Mesoscale Structures at the Magnetospheric Boundary.
N19990042166REB
NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
PB99-152886REB

MAGNETIC PROPERTIES
Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
DE99002444REB

MAGNETOENCEPHALOGRAM
Bayesian analysis of MEG visual evoked responses.
DE99002182REB

MAGNETOHYDRODYNAMICS
Advanced Radiation Theory, Support Annual Report 1998.
ADA362872REB
Global MHD Simulation of Mesoscale Structures at the Magnetospheric Boundary.
N19990042166REB

MAIL PROCESSING
Health Hazard Evaluation Report HETA 98-0017-2699, United States Postal Service, Mail Processing and Distribution Center, Omaha, Nebraska.
PB99-152324REB

MAIN SEQUENCE STARS
Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST.
N19990042137REB

MAINTENANCE
222-S Laboratory maintenance implementation plan.
DE99050205REB

MALES
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Determination of the Median Lethal Dose of Two Anticholinesterase Agents and Efficacy of Current Therapy.
ADA362975REB

MALIGNANT
Fidelity of DNA Replication in Normal and Malignant Human Breast Cells.
ADA362661REB

MAMMALS
Project CS-1082, Information and Technology Tools for Assessment and Prediction of the Potential Effects of Military Noise on Marine Mammals.
ADA363354REB

MAMMARY GLANDS
Role of Mutant p53 Protein in Breast Cancer.
ADA363399REB

MAN COMPUTER INTERFACE
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service.
ADA362912REB
GPS User-Interface Design Problems.
ADA363331REB

MAN ENVIRONMENT INTERACTIONS
Threading the Currents.
ISLAND-0532REB
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB

MAN MACHINE SYSTEMS
Use of Perspective View Displays for Operational Tasks.
ADA362590REB

MANAGEMENT
Why Reengineering Projects Fail.
ADA362725REB
Dealing With Data: Seminar Summary. Using Information in Government Program Information Sharing Seminar Series, Seminar No. 1.
ADA362861REB
News from AFAR, Volume 2, Number 1 March/April 1996.
ADA362956REB
Aerospace Acquisition 2000, Volume 2, Number 1.
ADA362959REB
News from AFAR, Volume 2 Number 2 May/June 1996.
ADA362960REB
News from AFAR, Volume 1, Number 3 July/August 1998.
ADA362973REB

MANAGEMENT INFORMATION SYSTEMS
Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives.
ADA363337REB
Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB

MANAGEMENT PERSONNEL
Getting the Most Out of Integrated Product Teams (IPTs).
ADA362638REB
Successful Management Practices.
ADA362668REB

MANAGEMENT PLANNING AND CONTROL
Air Traffic Control: FAA's Modernization Investment Management Approach Could Be Strengthened.
ADA363174REB
Technology and Intervention: The Negative Impact on Future Leader Development.
ADA363207REB
Managing the Dynamics of Change.
ADA363208REB
East Europe Report, Scientific Affairs No. 762.
ADA363272REB

MANEUVERS
Forward Amphibious Maneuver from the Sea.
ADA363234REB

MANGANESE
High-resolution structural studies of ultra-thin magnetic, transition metal overlayers and two-dimensional transition metal oxides using synchrotron radiation.
DE99002387REB

MANIPULATORS
Hand Tool Manipulation and Self-Presence in VR.
ADA362871REB

MANPOWER
Evaluation of the Impact of the Target Force Planning Model (TFPM) on the Manpower Process at Headquarters, U.S. Marine Corps.
ADA362904REB

MANPOWER UTILIZATION
Managing the Dynamics of Change.
ADA363208REB

MANUFACTURING
USAF Manufacturing Technology; Program Status Report, Spring 1999.
ADA363080REB
Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
PB99-152316REB

MANURE HANDLING
Guidelines for manure management for Prince Edward Island.
MIC-99-03231REB

MARINE CORPS
Prospects for a Naval Service Operational Concept.
ADA363221REB
Analysis of the Operating Costs for Light Armored Vehicles in the United States Marine Corps.
ADA363387REB

MARINE CORPS PERSONNEL
Evaluation of the Impact of the Target Force Planning Model (TFPM) on the Manpower Process at Headquarters, U.S. Marine Corps.
ADA362904REB

MARINE ECOSYSTEMS
Understanding and Protecting Marine Biodiversity. Second Edition.
ISLAND-0526REB

MARINE MAMMALS
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB
Marine Mammal Auditory Systems: A Summary of Audiometric and Anatomical Data and Its Implications for Underwater Acoustic Impacts.
PB99-154791REB

MARINE METEOROLOGY
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB

MARINE POLLUTION
Economic Losses from Marine Pollution. A Handbook for Assessment.
ISLAND-0492REB

MARINE PROPULSION
Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB

MARINE SEDIMENTS
Seabed classification by QTC VIEW: Sites near Vancouver Island.
MIC-99-03353REB
Acoustic seabed classification, MAST'97: Final report.
MIC-99-03382REB
Changes in butyltin residue concentrations in marine sediments of Atlantic Canada between 1988 and 1994.
MIC-99-03657REB

MARINE TRANSPORTATION
Sealift Transportation in a Working Capital Fund Environment: Rate Stability When Workload Declines.
ADA362719REB
Mobility Traid and Challenges for the Operational Commander.
ADA363220REB
Jane's High-Speed Marine Transportation (Online Service).
JANE-0581REB
Waterborne Commerce of the United States. Calendar Year 1997. Part 2. Waterways and Harbors Gulf Coast, Mississippi River System and Antilles.
PB99-151367REB

MARKET ANALYSIS
World Market for ATC Equipment. Edition 2 (Online Service).
JANE-0524REB
Patrol Craft Markets (Online Service).
JANE-0537REB
Thermal Imaging Markets (Online Service).
JANE-0561REB

MARKET RESEARCH
Exit, Voice, and Loyalty. Responses to Decline in Firms, Organizations, and States.
HUP-0004REB
Naval Mine Warfare Markets (Online Service).
JANE-0536REB

MARKETING
Sales Engine (Episode No. 1). (VHS video).
AVA20540-VNB1REB
Seller's World (Episode No. 2). (VHS video).
AVA20541-VNB1REB
Big Picture (Episode No. 3). (VHS video).
AVA20542-VNB1REB
Sales Talk (Episode No. 6). (VHS video).
AVA20545-VNB1REB
In the Know (Episode No. 7). (VHS video).
AVA20546-VNB1REB
Good Match (Episode No. 8). (VHS video).
AVA20547-VNB1REB
In Position (Episode No. 9). (VHS video).
AVA20548-VNB1REB
Beneath the Surface (Episode No. 10). (VHS video).
AVA20549-VNB1REB
Step by Step (Episode No. 11). (VHS video).
AVA20550-VNB1REB
Making Connections (Episode No. 12). (VHS video).
AVA20551-VNB1REB
Plan of Action (Episode No. 13). (VHS video).
AVA20552-VNB1REB
Going the Distance (Episode No. 14). (VHS video).
AVA20553-VNB1REB
Show and Tell (Episode No. 15). (VHS video).
AVA20554-VNB1REB
Breaking Through (Episode No. 16). (VHS video).
AVA20555-VNB1REB
Dotted Line (Episode No. 17). (VHS video).
AVA20556-VNB1REB
Full Service (Episode No. 18). (VHS video).
AVA20557-VNB1REB
Extra Mile (Episode No. 19). (VHS video).
AVA20558-VNB1REB
Setting the Pace (Episode No. 20). (VHS video).
AVA20559-VNB1REB
Personal Best (Episode No. 22). (VHS video).
AVA20561-VNB1REB
One World (Episode No. 26). (VHS video).
AVA20565-VNB1REB
Floriculture Crops. 1998 Summary.
NASS-ZFC-99REB

MARKETS
Rivers of Gold: Designing Markets to Allocate Water in California.
ISLAND-0491REB

MARYLAND
Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152860REB

MASS DESTRUCTION WEAPONS
Shoring Up the Homeland Defense: The Joint Medical Task Force and Weapons of Mass Destruction.
ADA363093REB
Operational Design: The Impact of Nuclear, Biological, and Chemical Attack on U.S. Forces During Power Projection and Sustainment Operations.
ADA363124REB
WEAPONS OF MASS DESTRUCTION: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned.
ADA363201REB

MASS SPECTROSCOPY
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB

MASSACHUSETTS
Regional Advantage. Culture and Competition in Silicon Valley and Route 128.
HUP-0009REB

MATERIAL SUBSTITUTION
ARTI refrigerant database.
DE99002209REB

MATERIALS
Dislocation accumulation at large plastic strains -- An approach to the theoretical strength of materials.
DE99002412REB

MATERIALS TESTING
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB
Application of nonlinear wave modulation spectroscopy to discern material damage.
DE99002411REB

MATHEMATICAL MODELS
Estimating Dredging Sediment Resuspension Sources.
ADA362892REB
Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
DE99002218REB
Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB
Generalized ELF propagation.
MIC-99-03336REB
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB
Gamma Radiation from PSR B1055-52.
N19990042027REB
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB
Current Methods and Research Strategies for Modeling Atmospheric Mercury.
PB99-149783REB

MATHEMATICS
Proceedings of the 5. joint Russian-American computational mathematics conference.
DE99000778REB

MEAN FLOWS
Stratified Coastal Trapped Waves and Mean Flows.
ADA362722REB

MEASUREMENT
Technique for Measuring the Gain of HF Antennas.
ADA362876REB

MEASURING INSTRUMENTS
Fuji Electric Review, Volume 44, No. 2, 1998. Instrumentation and Control Technology.
PB99-153199REB

MECHANICAL ENGINEERING
Periodica Polytechnica, Mechanical Engineering, Volume 42, No. 1, 1998.
PB99-120305REB
Periodica Polytechnica Mechanical Engineering, Volume 42, No. 2, 1998.
PB99-149635REB

MECHANICAL PROPERTIES
Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
N19990041616REB

MECHANICAL TWINNING
Twinning Mechanisms in Complex High Tm Intermetallic Compounds.
ADA362826REB

MECHANICS
China Report, Science and Technology, No. 192--Translation.
ADA363107REB
Fatality Assessment and Control Evaluation (FACE) Report: Mechanic Fatally Injured during Dismantling of Crane Boom at Scrap Metal Yard, Pennsylvania.
PB99-155657REB

MEDICAL INFORMATION TECHNOLOGY
Medical Information Technology in Support of the Operational Commander.
ADA363363REB

MEDICAL RESEARCH
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Determination of the Median Lethal Dose of Two Anticholinesterase Agents and Efficacy of Current Therapy.
ADA362975REB
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB

MEDICAL SERVICES
Problem of Radiological Protection, Poland.
ADA362600REB
CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women.
ADA362645REB

Increasing the Resolution of Simulated Combat Trauma Injuries in a High Level Architecture (HLA) Environment.
ADA362714REB

Tricare Baseline Analysis of Access and Satisfaction.
ADA362744REB

Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
ADA362963REB

Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility.
ADA363334REB

Medical Information Technology in Support of the Operational Commander.
ADA363363REB

Awards to Soviet Women Medical Workers-USSR.
ADA363375REB

MEDICINAL HERBS

Military News Items From Chinese Communist Press--Translation.
ADA362992REB

MEDICINE

For the Welfare of Man Development of Medical Science in the USSR--Translation.
ADA362991REB

Advanced telemedicine development.
DE99002236REB

Rural telemedicine project in northern New Mexico.
DE99002299REB

MEETINGS

Selected Translations of Abstracts in Referativnyy Zhurnal - Biologiya, No. 6, 1959--Translation.
ADA362785REB

Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB

Hungarian Symposium of Radiation Damage and Protection.
ADA363027REB

RAND Forum on Cuba.
ADA363063REB

Proceedings of the 5. joint Russian-American computational mathematics conference.
DE99000778REB

Sixth national stakeholder workshop summary report.
DE99002110REB

Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB

Bayesian analysis of MEG visual evoked responses.
DE99002182REB

Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB

Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB

Low-level radioactive waste management at the Nevada Test Site -- Current status.
DE99002186REB

Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB

Structure and dynamics of interactive documents.
DE99002193REB

Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB

Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB

Need and options available for permanent CO(sub 2) disposal.
DE99002199REB

First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
DE99002200REB

Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB

Creative PDB's (parts databases).
DE99002284REB

Summary of FY 1997 related to JAPC-U.S. DOE contract study on improvement of core safety -- study on GEM (III).
DE99050497REB

Responses to additional JAPC questions.
DE99050498REB

Indexing contamination surveys.
DE99050499REB

Sustainable Forest Economy Workshop draft report: Summary of proceedings.
MIC-99-03384REB

Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB

In Situ Resource Utilization (ISRU 3) Technical Interchange Meeting: Abstracts.
N19990042245REB

Proceedings of the National Science Council, Republic of China: Part A: Physical Science and Engineering, Volume 22, No. 2, March 1998.
PB99-101768REB

BusinessLINC: Learning, Information, Networking and Collaboration. Business-to-Business Relationships That Increase the Economic Competitiveness of Firms. A Report to Vice President Al Gore.
PB99-147092REB

Proceedings of the National Joint Use Conference (5th). Held in Louisville, Kentucky on October 26-27, 1998.
PB99-150062REB

Proceedings of the National Highway/Utility Conference (7th). Held in Louisville, Kentucky on October 28-30, 1998.
PB99-150120REB

Studies in Intelligence, Winter 1998-1999.
PB99-928002REB

MELTING

Application of new techniques for EOS data.
DE99002232REB

MENTAL ABILITY

Attitudes on Physical and Mental Labor in Communist China--Translation.
ADA362795REB

MENTAL DISORDERS

Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB

MERCENARIES

Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy.
ADA363194REB

MERCHANT SHIPS

Jane's Merchant Ships (Online Service).
JANE-0534REB

MERCURY (METAL)

Current Methods and Research Strategies for Modeling Atmospheric Mercury.
PB99-149783REB

MESOSCALE PHENOMENA

Global MHD Simulation of Mesoscale Structures at the Magnetospheric Boundary.
N19990042166REB

METABOLISM

Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-, (K metodike issledovaniya gazoobmena pri vdykhanii bol' shikh kontsentratsiy kisloroda)--Translation.
ADA362856REB

METAL WORKING FLUIDS

Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
PB99-152217REB

METALLIZATION

Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB

METALLOGRAPHY

Growth of the Physics of Metals and Physical Metallography in the Chinese People's Republics for 10 years -- USSR---Translation.
ADA362790REB

METALLURGICAL PLANTS

Mining and mineral processing operations in Canada, 1998.
MIC-99-03223REB

METALLURGY

China Report, Science and Technology, No. 192--Translation.
ADA363107REB

Research and Development in Soviet Nonferrous Metallurgy--Translation.
ADA363316REB

METALS

Growth of the Physics of Metals and Physical Metallography in the Chinese People's Republics for 10 years -- USSR---Translation.
ADA362790REB

METALWORKING

USSR Report, Machine Tools and Metalworking Equipment, No. 7.
ADA363140REB

METEORITIC DAMAGE

Meteoroids and Meteor Storms: A Threat to Spacecraft.
N19990041159REB

METEOROID CONCENTRATION

Meteoroids and Meteor Storms: A Threat to Spacecraft.
N19990041159REB

METEOROIDS

Meteoroids and Meteor Storms: A Threat to Spacecraft.
N19990041159REB

METEOROLOGICAL DATA

Mapping Coastal Surface Winds in Monterey Bay Using High Frequency Radar.
ADA362924REB

METHANOL

Micro fuel cell.
DE99002286REB

MICROCIRCUITS

Air Force Research Laboratory Research Highlights, Mar/Apr 1999.
ADA363089REB

MICROELECTRONICS

East Europe Report, Scientific Affairs, No. 782.
ADA362949REB

MICROFLORA

Degradation of Haloaromatic Compounds by Indigenous Sediment Microflora: Biochemistry and Molecular Ecology.
ADA362983REB

MICROGRAVITY

Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB

Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB

MICROORGANISMS

Degradation of Haloaromatic Compounds by Indigenous Sediment Microflora: Biochemistry and Molecular Ecology.
ADA362983REB

MICROPROCESSORS

East Europe Report, Scientific Affairs, No. 782.
ADA362949REB

MICROSTRUCTURE

Dynamic fracture of heterogeneous materials.
DE99002235REB

Evolution of microstructural changes in pressed HMX explosives.
DE99002405REB

MICROWAVE EMISSION

Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
N19990042067REB

MICROWAVE EQUIPMENT

Fairnon microwave end of life cycle.
DE98054292REB

Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB

MICROWAVE HEATING

R and D 100 market assessment.
DE99002205REB

MICROWAVE PLASMAS

CVD Diamond Grown by Microwave Plasmas in Mixtures of Acetone/Oxygen and Acetone/Carbon Dioxide.
ADA362752REB

Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures.
ADA362769REB

MICROWAVE TUBES

DURIP 97 Vacuum Equipment for Ultra High Power Microwave Experiments.
ADA362954REB

MIDDLE EAST

Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB

JPRS Report, Near East & South Asia.
ADA362663REB

JPRS Report, Near East & South Asia.
ADA362665REB

Near East and South Asia.
ADA362773REB

Near East/South Asia Report, No. 2780--Translation.
ADA362828REB

JPRS Report, Near East & South Asia--Translation.
ADA362886REB

JPRS Report, Near East & South Asia--Translation.
ADA362915REB

Near East and South Asia--Translation.
ADA362929REB

Near East and South Asia--Translation.
ADA362930REB

Near East and South Asia--Translation.
ADA362986REB

JPRS Report, Near East & South Asia, Table of Contents, JPRS-NEA-87-001, 2 January 1987-JPRS-NEA-87-041, 6 Apr 1987 Part 1--Translation.
ADA363013REB

History of Middle East Economies in the Twentieth Century.
HUP-0005REB

Inside the Arab World.
HUP-0024REB

Jane's Airports and Handling Agents: Middle East and Africa (Online Service).
JANE-0511REB

Jane's Airport and Handling Agents: Middle East and Africa (on CD-ROM).
JANE-0512REB

Jane's Airports and Handling Agents: Middle East and Africa. 1999-2000 Edition.
JANE-0513REB

Airport and Aviation Expansion: Africa and Middle East (Online Service).
JANE-0582REB

MILITARY

Human factors engineering study for a Griffon Mission Planning System: Final project report.
MIC-99-03323REB

MILITARY AFFAIRS

China Report: Political, Sociological and Military Affairs, No. 470--Translation.
ADA362799REB

MILITARY AIRCRAFT

RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
ADA363078REB

MILITARY AIRPLANES
Lidar remote sensing of meteorological parameters in adverse weather: Performance of electro-optic systems and aircraft in-flight icing.
MIC-99-03325REB
Engine life cycle cost control by advanced repair and qualification methods.
MIC-99-03330REB
Re-engining the CC130 Hercules transport aircraft as a fleet management option.
MIC-99-03333REB

MILITARY ART
Some Principles of Network-Centric Warfare: A Look at How Network- Centric Warfare Applies to the Principles of War.
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Uncertain Superiority: Information Technology and Operational-Level Decision Making.
ADA363057REB
Operational Fires on the Urban Battlefield: An Underdeveloped Concept.
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Effects-Based Targeting and Operational Art in the 21st Century.
ADA363060REB
Operational Level of War: Radical Change Needed to Support the American RMA.
ADA363061REB
Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art.
ADA363064REB
Operational Art and the Human Dimension of Warfare in the 21st Century.
ADA363177REB
High Profile Special Operations Missions and Timing: Identifying the Culminating Point of Execution.
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Hide Your Shape Sun Tzu: ROE Considerations for Negating High-Resolution Commercial Imagery Satellites.
ADA363236REB
C2 in the Information Age: Will Operational Command Echelons Become Unnecessary.
ADA363259REB

MILITARY BUDGETS
Revolution in Military Logistics: Surviving the Budget Process.
ADA363267REB

MILITARY CAPABILITIES
Precision Naval Fires in the Age of Information Superiority: Is The Day Of The Carrier Over.
ADA363066REB
Information-Based RMA and the Principles of War.
ADA363157REB

MILITARY CLOTHING
Jane's Personal Combat Equipment (Online Service).
JANE-0553REB

MILITARY COMMUNICATION
Jane's Military Communications (Online Service).
JANE-0559REB

MILITARY DOCTRINE
Rear Area Security In The Field Army Service Area.
ADA362710REB
Compromising the Principles of War: Technological Advancements Impact Multinational Military Operations.
ADA363054REB
Some Principles of Network-Centric Warfare: A Look at How Network- Centric Warfare Applies to the Principles of War.
ADA363055REB
Moving Targets and Joint Theater Missile Defense Doctrine: Does it Apply to Locating and Engaging the Needle in the Haystack.
ADA363153REB
Reevaluating Doctrine for Joint Theater Air and Missile Defense.
ADA363155REB
Information-Based RMA and the Principles of War.
ADA363157REB
Effects of Information Operations on Nonlinear Force Structures.
ADA363159REB
Area Air Defense Commander: Can JFACC Do It All.
ADA363189REB
American Military's Discomfort with Peace Operations.
ADA363217REB
Positive Aspects of Network Centric Command. The Ties Between Behavioral Doctrine and Technology.
ADA363250REB

MILITARY EQUIPMENT
Jane's Electro-Optic Systems (Online Service).
JANE-0560REB

MILITARY FORCES (FOREIGN)
JPRS Report, Near East & South Asia.
ADA362652REB
JPRS Report, Near East & South Asia.
ADA362653REB
USSR Report, Military Affairs, No. 1733.
ADA362671REB
Latin America Report, No. 2710. Fighting in Nicaragua: Battles Along Two Borders.
ADA362680REB
East Asia: Southeast Asia.
ADA362684REB
Soviet Union, Military Affairs--Translation.
ADA362696REB
USSR Report, Military Affairs, No. 1781.
ADA362699REB
USSR Report, Military Affairs, No. 1775.
ADA362700REB
Soviet Union, Military Affairs.
ADA362702REB
Soviet Union, Military Affairs.
ADA362705REB
East Asia: Southeast Asia.
ADA362709REB
Soviet Union, Military Affairs. Data, Diagrams of Ground Forces Weaponry.
ADA362748REB
Soviet Union, Military Affairs.
ADA362781REB
Soviet Union, Military Affairs.
ADA362782REB
USSR Report, Military Affairs.
ADA362783REB
Soviet Union, Military Affairs.
ADA362804REB
USSR Report, Military Affairs, No. 1764.
ADA362805REB
Southeast Asia Report, No. 1310.
ADA362842REB
Southeast Asia Report, No. 1372.
ADA362854REB
USSR Report: Military Affairs, No. 1810.
ADA362889REB
USSR Report, Military Affairs, No. 1814--Translation.
ADA362928REB
Military News Items From Chinese Communist Press--Translation.
ADA362992REB
Fleet Air Defense in the Falkland Islands Conflict: A Failure in Operational Protection.
ADA363067REB
Celtic Warfare in Ireland: A Logistical Perspective.
ADA363119REB
Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues.
ADA363238REB
USSR Report, Military Affairs, No. 1817.
ADA363291REB
JPRS Report, West Europe Reference Aid Portuguese Military Terms.
ADA363301REB
Japan Opposes US-Japanese Security Pact.
ADA363305REB
Selected Soviet Military Translations (Recent Events in the Soviet Navy) No. 61--Translation.
ADA363306REB
Selected Articles on Armed Forces in North Vietnam.
ADA363318REB
Transformation of the Hungarian Home Defense Forces or a New Role in a New Environment.
ADA363358REB
Verzeichnis der im Faachinformationswesen der bundesswehr laufend gehaltenen Zeitschriften (Zeitschriftenverzeichnis FIWBw). Listing of the Magazines Held Constantly in the Speciaiized Information System of the German Federal Armed Forces (magazine listing FIWBw)--Translation.
ADA363396REB

MILITARY FORCES (UNITED STATES)
USSR Report, Military Affairs, No. 1732.
ADA362677REB
Operational Design: The Impact of Nuclear, Biological, and Chemical Attack on U.S. Forces During Power Projection and Sustainment Operations.
ADA363124REB
America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
ADA363178REB
Special Forces: The Peacetime Regional Engagement Force of Choice ... and More.
ADA363185REB
Improved U.S. Pacific Command Theater Design for the Future.
ADA363197REB
Real Cost of 'Engagement'.
ADA363230REB
Analysis of the Operating Costs for Light Armored Vehicles in the United States Marine Corps.
ADA363387REB

MILITARY GOVERNMENT
Selected Soviet Military Translations (Recent Events in the Soviet Navy) No. 61--Translation.
ADA363306REB

MILITARY HISTORY
Technical Operations Division - Heritage Remembered.
ADA362693REB
For Want of a Home - A Study of Wherry and Capehan Military Family Housing.
ADA362706REB
USSR Report, Military Affairs, No. 1731. Military History Journal, No. 8, August 1982.
ADA362749REB
America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
ADA363178REB
Axis Offensive Military Operations Against the Continental United States: Opportunity Lost.
ADA363182REB
Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy.
ADA363194REB
NATO: From Creation to Golden Anniversary. Insights for the Czech Republic.
ADA363231REB
Transformation of the Hungarian Home Defense Forces or a New Role in a New Environment.
ADA363358REB
General Harold K. Johnson and the Ambiguities of Strategic Leadership.
ADA363378REB

MILITARY INTELLIGENCE
S2 Automated Agent (S2A2): A Training Aid for Commanders and Intelligence Officers.
ADA363075REB
Operational Level Intelligence Preparation of the Battlefield for Special Operations Forces.
ADA363167REB
Operational Counter Deception Cell: Is It The Answer.
ADA363190REB

MILITARY MEDICINE
Shoring Up the Homeland Defense: The Joint Medical Task Force and Weapons of Mass Destruction.
ADA363093REB
Is a Fundamental Revolution in Military Medicine Required to Support Joint Vision 2010 and the Joint Forces Commander in the 21st Century.
ADA363097REB
Values Identified in Different Groups of Air Force Nurses.
ADA363338REB

MILITARY MODERNIZATION
Army After Next: A Cashless Army.
ADA363033REB
Army's B-2 Bomber - Field Artillery Modernization.
ADA363364REB

MILITARY OCCUPATIONAL SPECIALTIES
Development of the Air Force-Army Military Skill Linkage System (MISL).
ADA362717REB

MILITARY OPERATIONS
JPRS Report, East Asia: Southeast Asia.
ADA362664REB
JPRS Report, East Asia Southeast Asia.
ADA362666REB
JPRS Report, East Asia Southeast Asia.
ADA362669REB
East Europe Report: Political, Sociological and Military Affairs, No. 2225.
ADA362774REB
China Report, Political, Sociological and Military Affairs No. 436.
ADA362780REB
China Report: Political, Sociological and Military Affairs, No. 470--Translation.
ADA362799REB
USSR Report, Military Affairs, No. 1764.
ADA362805REB
East Europe Report, Political, Sociological and Military Affairs, No. 2133.
ADA362807REB
China Report, Political, Sociological and Military Affairs, No. 431--Translation.
ADA362815REB
China Report, Political, Sociological and Military Affairs, No. 412--Translation.
ADA362821REB
Southeast Asia Report, No. 1371.
ADA362825REB
JPRS Report, East Asia Korea.
ADA362866REB
JPRS Report, East Asia: Korea.
ADA362867REB
JPRS Report, East Asia: Korea--Translation.
ADA362927REB
Shoring Up the Homeland Defense: The Joint Medical Task Force and Weapons of Mass Destruction.
ADA363093REB
Is a Fundamental Revolution in Military Medicine Required to Support Joint Vision 2010 and the Joint Forces Commander in the 21st Century.
ADA363097REB
In the Crucible of Battle: An Analysis of the Split Air Operations Center and the Principles of War.
ADA363116REB
Operational Commander, the Media, and MOOTW: A New Paradigm.
ADA363154REB
Regional Civil-Military Operations Center: A Force Multiplier in Military Operations Other Than War.
ADA363176REB
America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
ADA363178REB
Axis Offensive Military Operations Against the Continental United States: Opportunity Lost.
ADA363182REB
U.S. Military, NGO's and CMOC: Staying Connected and Achieving Unity of Effort During MOOTW.
ADA363224REB
Japan Opposes US-Japanese Security Pact.
ADA363305REB
Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB

Medical Information Technology in Support of the Operational Commander.
ADA363363REB
Conserving Assets: An Alternative Paradigm for Peace Operations.
ADA363376REB
Right Force for the Future: Who Pays the Bill.
ADA363400REB
Future Land Battlefield: Infantry, Armour and Artillery (Online Service).
JANE-0555REB
Nanjing Massacre: A Japanese Journalist Confronts Japan's National Shame.
SHARPE-00464REB

MILITARY PERSONNEL
CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women.
ADA362645REB
Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy.
ADA363194REB

MILITARY PLANNING
Increasing the Resolution of Simulated Combat Trauma Injuries in a High Level Architecture (HLA) Environment.
ADA362714REB
Compromising the Principles of War: Technological Advancements Impact Multinational Military Operations.
ADA363054REB
Risk Management: An Integral Part of Operational Planning.
ADA363058REB
Effects-Based Targeting and Operational Art in the 21st Century.
ADA363060REB
Operational Level of War: Radical Change Needed to Support the American RMA.
ADA363061REB
Denial and Deception--Network-Centric Challenge.
ADA363099REB
E Pluribus Unum: Enhancing Intelligence Support in the Network Centric Environment.
ADA363102REB
Not to Foresee, But to Enable: The Promise and Pitfalls of Computer Simulations in Operational Planning.
ADA363148REB
Use of Commercial Space Assets by the Joint Force Commander.
ADA363150REB
Self-Synchronization: What is it, How is it Created, and is it Needed.
ADA363229REB
Positive Aspects of Network Centric Command. The Ties Between Behavioral Doctrine and Technology.
ADA363250REB

MILITARY PROCUREMENT
THAAD Radar: Examination of a Cost Saving Initiative.
ADA362644REB
BALLISTIC MISSILE DEFENSE: More Common Systems and Components Could Result in Cost Savings.
ADA363345REB

MILITARY PSYCHOLOGY
Information Operations in Iraq.
ADA363160REB

MILITARY PUBLICATIONS
USAFA Discovery, Jan-Mar 99.
ADA362648REB
Countermeasure: Army Ground Risk-Management Publication, Volume 20, Number 5, May 1999.
ADA363062REB

MILITARY REQUIREMENTS
Naval Operational Concept and Operational Maneuver from the Sea: Analysis in Operational Design.
ADA363216REB
Trial by adventure.
MIC-99-03291REB
Tent group systems requirements, phase 1A.
MIC-99-03476REB

MILITARY RESEARCH
Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998.
ADA362634REB
Dental Readiness of the Army War College Students Class of 1999, A Comparison study to the class of 1985.
ADA363356REB

MILITARY RESERVES
Shaping the Regional Stability Environment with Reserves.
ADA363210REB
Reserve Component Officer Professional Development.
ADA363357REB

MILITARY SATELLITES
Use of Commercial Space Assets by the Joint Force Commander.
ADA363150REB
Satellite Control Systems: Opportunity for DOD to Implement Space Policy and Integrate Capabilities.
ADA363241REB

MILITARY STRATEGY
By Example: The Impact of Recent Argentine Naval Activities on Southern Cone Naval Strategies.
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Strategic Creep: From Power Projection Back to Forward Presence.
ADA362989REB
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ADA363033REB
Some Principles of Network-Centric Warfare: A Look at How Network- Centric Warfare Applies to the Principles of War.
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ADA363059REB
Effects-Based Targeting and Operational Art in the 21st Century.
ADA363060REB
Operational Level of War: Radical Change Needed to Support the American RMA.
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Organizational Implications of Network-Centric Warfare.
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Arabian Gulf Maritime Interception Operations: Balancing the Ends, Ways, Means and Risks.
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Force Protection and Strategic Air Mobility: The MANPAD Challenge.
ADA363181REB
Axis Offensive Military Operations Against the Continental United States: Opportunity Lost.
ADA363182REB
Special Forces: The Peacetime Regional Engagement Force of Choice ... and More.
ADA363185REB
Airborne Forces of the United States Army: Cornerstone of Force Projection.
ADA363187REB
Creeping Jurisdiction, Are International Straits in Jeopardy.
ADA363191REB
Improved U.S. Pacific Command Theater Design for the Future.
ADA363197REB
Cruising CVBGs and Horizon MAGs: An Alternative Approach to Naval Forward Presence for the 21st Century.
ADA363203REB
USAF Aerospace Expeditionary Force: Flying into the 21st Century.
ADA363209REB
Shaping the Regional Stability Environment with Reserves.
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Commander's Estimate of the Situation: Kosovo & The Southern Balkans.
ADA363226REB
Hide Your Shape Sun Tzu: ROE Considerations for Negating High-Resolution Commercial Imagery Satellites.
ADA363236REB
Growing Imperative to Adopt 'Flexibility' as an American Principle of War.
ADA363381REB

MILITARY TACTICS
Can We Get There From Here. RMAs, Network-Centric Warfare and the Process of Transformation.
ADA363146REB
Network Centric Warfare and the Joint Forces Air Component Commander.
ADA363152REB
Building and Maintaining Public Acceptance of and Political Support for the Military of the Future.
ADA363390REB

MILITARY TRAINING
USSR Report, Military Affairs, No. 1781.
ADA362699REB
Soviet Union, Military Affairs. Data, Diagrams of Ground Forces Weaponry.
ADA362748REB
S2 Automated Agent (S2A2): A Training Aid for Commanders and Intelligence Officers.
ADA363075REB

MILITARY VEHICLES
Jane's Military Vehicles and Logistics (Online Service).
JANE-0546REB

MILLIMETER WAVES
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB

MINE COUNTERMEASURES
Operational Effects of Mine Warfare.
ADA363227REB

MINE DETECTION
Assessment of the REmote Minefield Detection System (REMIDS).
ADA362985REB

MINE SWEEPING
Jane's Mines and Mine Clearance (Online Service).
JANE-0551REB

MINE WARFARE
Operational Effects of Mine Warfare.
ADA363227REB

MINERAL INDUSTRIES
New Brunswick's mineral industry, 1997.
MIC-99-03151REB
Mining and mineral processing operations in Canada, 1998.
MIC-99-03223REB

MINERALOGY
Mineralogy and geochemistry of the C14 kimberlite and associated glacial sediments, Kirkland Lake, Ontario.
MIC-99-03355REB

MINES (ORDNANCE)
Operational Effects of Mine Warfare.
ADA363227REB
Jane's Mines and Mine Clearance (Online Service).
JANE-0551REB

MISNORMING
Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB

MISSION AREA ANALYSIS
Commander's Estimate of the Situation: Kosovo & The Southern Balkans.
ADA363226REB

MISSIONS
America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
ADA363178REB

MISSISSIPPI RIVER
Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the New Orleans District for 1994.
ADA362753REB

MIST
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB

MITIGATION
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB

MIXING ZONES
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB

MOBILE COMMUNICATION SYSTEMS
Redeployment plan for spectrum efficient land mobile equipment in the frequency range 100-500 MHz.
MIC-99-03408REB

MOBILITY
Force Protection and Strategic Air Mobility: The MANPAD Challenge.
ADA363181REB

MODAL CHOICES
Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
PB99-152944REB

MODAL RESPONSE
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB

MODELS
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB

MODIFICATIONS
Development of a gamma ray spectroscopy capability at LANSCE.
DE99002234REB
SNS Linac: Revised configuration.
DE99002261REB

MOISTURE CONTENT
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB

MOLDING COMPOUNDS
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
PB99-152308REB

MOLECULAR BIOLOGY
Degradation of Haloaromatic Compounds by Indigenous Sediment Microflora: Biochemistry and Molecular Ecology.
ADA362983REB

MOLECULAR CLOUDS
High Resolution Far-Infrared Studies of Compact Regions in Star-Forming Molecular Clouds.
N19990042133REB
Airborne Astronomy Program.
N19990042134REB

MOLECULAR DYNAMICS
Computer for Ab Initio Molecular Dynamics Simulations.
ADA363044REB

MOLECULAR STATES
Molecular Quantum States at Dissociation.
PB99-120339REB

MOLECULAR WEIGHT
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB

MONEY
Army After Next: A Cashless Army.
ADA363033REB

MONGOLIA
JPRS Report, East Asia, Mongolia, Biographic Information on Officials--Translation.
ADA362885REB

MONITORING
Coso Monitoring Program, October 1997 through September 1998.
ADA362727REB

Environmental report 1996, Lawrence Livermore National Laboratory.
DE99002426REB
Environmental report 1997, Lawrence Livermore National Laboratory.
DE99002427REB
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July–September 1996.
DE99002446REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1996.
DE99002447REB

MONITORS
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1997.
DE99002454REB

MONOCHROMATORS
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB

MONTE CARLO METHOD
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB

MONTE SARO MOUNTAIN
Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
PB99-152464REB

MOTOR VEHICLE ACCIDENTS
Countermeasure: Army Ground Risk-Management Publication, Volume 20, Number 5, May 1999.
ADA363062REB

MOTOR VEHICLE DRIVING
Trip report: Fremantle fatigue conference and FMP-related field visits and meetings.
MIC-99-03429REB

MOTOR VEHICLES
Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
PB99-116501REB

MOVING TARGETS
Moving Targets and Joint Theater Missile Defense Doctrine: Does it Apply to Locating and Engaging the Needle in the Haystack.
ADA363153REB

MULTICHIP MODULES
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
ADA362637REB

MULTIDRUG RESISTANCE
Regulation of the Multidrug Resistance-Associated Protein Gene by Estrogen.
ADA362659REB
Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications.
ADA362660REB

MULTILINE
Multiline Tow Cable Assembly Including Swivel and Slip Ring.
PAT-APPL-8-137 870REB

MULTIMEDIA
Hitachi Review, Volume 46, No. 5, October 1997. Hitachi's Multimedia Solutions.
PB99-153132REB

MULTIPLE SCLEROSIS
Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
ADA362855REB

MULTIPLICITY
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB

MUTATIONS
Role of Mutant p53 Protein in Breast Cancer.
ADA363399REB

NANOSATELLITES
Nanosat Intelligent Power System Development.
N19990041448REB

NARCOTICS
Planning Factors for Non Lethal Weapons in Counter Narcotic Operations.
ADA363094REB

NARROWBAND
Narrow Pass-Band Optical Filters for Space-Borne Remote Sensing Applications.
N19990041162REB

NATIONAL AEROSPACE PLANE PROGRAM
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB

NATIONAL GUARD
Officer Candidate School (OCS): Relevance into the 21st Century.
ADA362971REB
National Guard State Partnership Program: Is It Still Relevant.
ADA363117REB
Integrated of the National Guard into the Total Force.
ADA363393REB

NATIONAL PARKS
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB

NATIONAL SECURITY
Department of Energy: Key Factors Underlying Security Problems at DOE facilities.
ADA362670REB
Strategic Creep: From Power Projection Back to Forward Presence.
ADA362989REB
From Carter to Reagan: Formulation of American Foreign Policy during a Time of Transition. An Explanation of Foreign Policy Decisions Based on the Initial Presidential Transition Period.
ADA362996REB
National Guard State Partnership Program: Is It Still Relevant.
ADA363117REB
Improved U.S. Pacific Command Theater Design for the Future.
ADA363197REB
Economic Sanctions: Viable Instruments of Power or Economic Chaos.
ADA363199REB
Real Cost of 'Engagement'.
ADA363230REB

NATO
NATO: From Creation to Golden Anniversary. Insights for the Czech Republic.
ADA363231REB

NATURAL DISASTERS
Operational Design of Hurricane Relief Operations.
ADA363215REB

NATURAL GAS
Natural gas imports and exports. Fourth quarter report, 1998.
DE99002705REB
Annual report 1997-98.
MIC-99-03132REB

NATURAL HISTORY
Rose's Kiss: A Natural History of Flowers.
ISLAND-0500REB

NATURAL REGULATION
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB

NATURAL RESOURCE CONSERVATION
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB
Nature in Focus: Rapid Ecological Assessment.
ISLAND-0486REB
Protecting the Land: Conservation Easements Past, Present, and Future.
ISLAND-0494REB
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB
Continental Conservation: Scientific Foundations of Regional Reserve Networks.
ISLAND-0507REB
Restoring Life in Running Waters.
ISLAND-0530REB

NATURAL RESOURCE MANAGEMENT
Managing identified wildlife: Procedures and measures, vol. I.
MIC-99-03104REB

NATURAL RESOURCES
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB

NATURAL RESOURCES MANAGEMENT
Bioregional Assessments. Science at the Crossroads of Management and Policy.
ISLAND-0519REB
Holistic Management: A New Framework for Decision-Making, Second Edition.
ISLAND-0524REB
Tribal Environmental and Natural Resource Assistance Handbook.
PB99-150989REB
Program Guide to Federally Funded Environment and Natural Resources R and D.
PB99-152449REB
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB
Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB

NATURAL SYSTEMS
Reshaping the Built Environment: Ecology, Ethics, and Economics.
ISLAND-0511REB

NATURE
Halflives: Reconciling Work and Wildness.
ISLAND-0478REB
Encounters with Nature.
ISLAND-0479REB
Shadows in the Sun: Travels to Landscapes of Spirit and Desire.
ISLAND-0502REB

NATURE RESERVES
Continental Conservation: Scientific Foundations of Regional Reserve Networks.
ISLAND-0507REB

NAVAL BUDGETS
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 5.
ADA362762REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 4.
ADA362763REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activities 1-3.
ADA362764REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 6.
ADA362765REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 7.
ADA362766REB

NAVAL COMMUNICATIONS ASSESSMENT TOOL
User's Guide for the Naval Communications Assessment Tool (NCAT) software Version 2.0.
ADA362901REB

NAVAL LOGISTICS
Sea-Based Logistics: Does It Satisfy the Operational Commander's Need.
ADA363098REB

NAVAL MINE WARFARE
Naval Mine Warfare Markets (Online Service).
JANE-0536REB

NAVAL OPERATIONS
By Example: The Impact of Recent Argentine Naval Activities on Southern Cone Naval Strategies.
ADA362685REB
U.S. Navy Heavy Weather Mooring Criteria.
ADA363085REB
Arabian Gulf Maritime Interception Operations: Balancing the Ends, Ways, Means and Risks.
ADA363175REB
Maritime Preposition Force Ship 2010.
ADA363180REB
Naval Force Protection in the Littorals.
ADA363193REB
Cruising CVBGs and Horizon MAGs: An Alternative Approach to Naval Forward Presence for the 21st Century.
ADA363203REB
Prospects for a Naval Service Operational Concept.
ADA363221REB
Forward Amphibious Maneuver from the Sea.
ADA363234REB

NAVAL PLANNING
By Example: The Impact of Recent Argentine Naval Activities on Southern Cone Naval Strategies.
ADA362685REB
Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art.
ADA363064REB

NAVAL RESEARCH
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 5.
ADA362762REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 4.
ADA362763REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activities 1-3.
ADA362764REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 6.
ADA362765REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 7.
ADA362766REB

NAVAL RESEARCH LABORATORIES
Initial Assessment of the Air Combat Environment Test and Evaluation Facility To Support Operational Test and Evaluation.
ADA362688REB

NAVAL SHIPS
Jane's Fighting Ships (Online Service).
JANE-0529REB
NAVAL SHORE FACILITIES
Initial Assessment of the Air Combat Environment Test and Evaluation Facility To Support Operational Test and Evaluation.
ADA362688REB
U.S. Navy Heavy Weather Mooring Criteria.
ADA363085REB
NAVAL VESSELS
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB
NAVAL WARFARE
Defense of Naval Task Forces from Anti-Ship Missile Attack.
ADA363038REB
NAVIER-STOKES EQUATION
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB
NAVIGATION
Browns Bank survey 1998: Cruise report and scientific results.
MIC-99-03305REB
NAVY
Prospects for a Naval Service Operational Concept.
ADA363221REB
Forward Amphibious Maneuver from the Sea.
ADA363234REB
NCAT (NAVAL COMMUNICATIONS ASSESSMENT TOOL)
User's Guide for the Naval Communications Assessment Tool (NCAT) software Version 2.0.
ADA362901REB
NEGOTIATIONS
Negotiating Environmental, Health, and Safety Agreements. How to Avoid Escalating Confrontation, Needless Costs, and Unnecessary Litigation.
ISLAND-0497REB
NEOPLASMS
Involvement of Nuclear Receptor Co-Repressors in the Development of Human Breast Cancer.
ADA362658REB
NETWORK ANALYSIS (MANAGEMENT)
Introduction to Workflow Management Systems.
ADA362925REB
NETWORKS
Survey of Key Concepts and Issues for Electronic Recordkeeping.
ADA362864REB
NEURAL NETS
High Resolution Computerized Ionospheric Tomography Systems.
ADA362662REB
Biomorphic Networks for ATR and Higher-Level Processing.
ADA362731REB
Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
ADA362754REB
Textural-Contextual Labeling and Metadata Generation for Remote Sensing Applications.
N19990041150REB
NEURAL NETWORKS
Optimal neural computations require analog processors.
DE99002277REB
Reliability of the nervous (Nv) nets.
DE99002293REB
Larger bases and mixed analog/digital neural nets.
DE99002294REB
NEUTRON DETECTORS
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB
NEUTRON RADIOGRAPHY
Dynamic and static error analyses of neutron radiography testing.
DE99002096REB
NEUTRONS
Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB
NEVADA TEST SITE
Low-level radioactive waste management at the Nevada Test Site – Current status.
DE99002186REB
NEW HAMPSHIRE
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB
NEW MADRID SEISMIC ZONE
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB
NEW YORK
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB
NICKEL ALLOYS
Nickel aluminum bronze overlay deposit using gas metal arc welding process and 0.5 mm diameter wire.
MIC-99-03304REB
NICKEL FLUORIDES
Synthesis, characterization and reactivity of high oxidation state nickel fluorides.
DE99002385REB
NIGHT VISION DEVICES
Evaluation of Operator Performance Using True Color and Artificial Color in Natural Scene Perception.
ADA363036REB
NITRIC ACID
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB
NITROGEN
Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
N19990042032REB
NITROGEN DIOXIDE
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB
NITROGEN OXIDES
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB
Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
ADA363228REB
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB
NOISE PREDICTION
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB
NOISE PREDICTION (AIRCRAFT)
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB
NOISE REDUCTION
Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising.
ADA363100REB
NOISE (SOUND)
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB
NON-DESTRUCTIVE TESTING
Conversion of oscillatory shear data from propellants and explosives.
MIC-99-03359REB
NONEQUILIBRIUM FLOW
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB
NONLETHAL AGENTS
Non-Lethal Weapons: Doctrine Suppliers and Technology (Online Service).
JANE-0562REB
NONLETHAL WEAPONS
NonLethal Weapons, NonLethal Policy, and Complex Contingencies.
ADA363056REB
Non-Lethal Weapons: Applications in Maritime Interdiction Operations.
ADA363076REB
Planning Factors for Non Lethal Weapons in Counter Narcotic Operations.
ADA363094REB
Non-Lethal Operational Fires in Military Operations Other Than War.
ADA363126REB
NONTHERMAL PLASMA REACTORS
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB
Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
ADA363246REB
Non-Thermal Plasmas as Gas-Phase Advance Oxidation Processes.
ADA363247REB
NONTHERMAL PLASMA TECHNOLOGY
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB
NONTHERMAL PLASMAS
Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB
NORMAL DENSITY FUNCTIONS
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB
NORTH AFRICA
Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB
JPRS Report, Near East & South Asia--Translation.
ADA362915REB
Near East and South Asia--Translation.
ADA362986REB
NORTH AMERICA
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB
Continental Conservation: Scientific Foundations of Regional Reserve Networks.
ISLAND-0507REB
Police Markets of North America and the European Union (Online Service).
JANE-0588REB
NORTH KOREA
East Asia: Korea.
ADA362824REB
JPRS Report, East Asia Korea.
ADA362866REB
JPRS Report, East Asia: Korea.
ADA362867REB
JPRS Report, East Asia: Korea.
ADA362921REB
JPRS Report, East Asia: Korea.
ADA362922REB
NORTHEASTERN REGION (TEXAS)
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB
NORTHWEST REGION (UNITED STATES)
Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997.
PB99-152645REB
NUCLEAR CLOUDS
Residual Dust and Radiation Model (REDRAM), Model Description.
ADA362633REB
NUCLEAR ENERGY
Worldwide Report Nuclear Development and Proliferation No. 182.
ADA363283REB
China Report, Economic Affairs, No. 296. Energy: Status and Development XII.
ADA363312REB
NUCLEAR EXPLOSION DETECTION
Technical Operations Division - Heritage Remembered.
ADA362693REB
NUCLEAR FACILITIES
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB
BCLDP site environmental report for calendar year 1997 on radiological and nonradiological parameters.
DE99002442REB
NUCLEAR FRAGMENTATION
Role of statistics and thermodynamics in nuclear multifragmentation.
DE99002390REB

Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
DE99002391REB

NUCLEAR MATERIALS MANAGEMENT
Local Area Network Material Accounting System (LANMAS) Functions and Features Overview.
DE98057851REB
Information barrier functional requirements.
DE99002297REB

NUCLEAR POWER PLANTS
Worldwide Report: Nuclear Development and Proliferation, No. 172.
ADA363282REB
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB

NUCLEAR PROLIFERATION
Worldwide Report, Nuclear Development and Proliferation, No. 173.
ADA362724REB
Worldwide Report: Nuclear Development and Proliferation, No. 201–Translation.
ADA362891REB
Impact of Nuclear Proliferation: Final Report.
ADA362905REB
Worldwide Report, Nuclear Development and Proliferation No. 209–Translation.
ADA363237REB
Worldwide Report: Nuclear Development and Proliferation, No. 172.
ADA363282REB
Worldwide Report Nuclear Development and Proliferation No. 182.
ADA363283REB
Worldwide Report, Nuclear Development and Proliferation No. 210.
ADA363328REB
Worldwide Report: Nuclear Development and Proliferation, No. 170.
ADA363329REB

NUCLEAR WARFARE
Operational Design: The Impact of Nuclear, Biological, and Chemical Attack on U.S. Forces During Power Projection and Sustainment Operations.
ADA363124REB
Jane's NBC Defence Systems (Online Service).
JANE-0552REB

NUCLEAR WEAPON DEBRIS
Residual Dust and Radiation Model (REDRAM), Model Description.
ADA362633REB

NUCLEAR WEAPONS
Worldwide Report, Nuclear Development and Proliferation, No. 173.
ADA362724REB
Sandia National Laboratories Institutional Plan: FY 1999-2004.
DE00002622REB

NUCLEATE BOILING
Enhancement of Boiling in Highly Wetting Fluids.
ADA362878REB

NUCLEIC ACID PROBES
Tethered dye gene probes.
MIC-99-03378REB

NUMERICAL ANALYSIS
Recent Developments in Population Viability Analysis, with Specific Reference to Pacific Salmon.
PB99-155426REB

NURSES
Values Identified in Different Groups of Air Force Nurses.
ADA363338REB

NURSING HOMES
Nursing Home Trends, 1987 and 1996. MEPS Chartbook No. 3. Executive Summary.
PB99-154692REB

NUTRIENTS
Nutritional supplements as radioprotectors – A review and proposal.
DE99002283REB

NUTRITION
Moving Toward the Food Guide Pyramid: Implications for U.S. Agriculture.
ERS-AER-779REB

OBJECT ORIENTED PROGRAMMING
Primer of CORBA: A Framework for Distributed Applications in Defence.
ADA362761REB
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service.
ADA362912REB
Incorporating Manual and Autonomous Code Generation.
N19990042320REB
Implementing a Standards-Based Distributed Measurement and Control Application on the Internet.
PB99-152712REB

OBSERVATION
Orbital Debris: A Chronology.
N19990041784REB

OCCUPATIONAL SAFETY
Quick-look eye-safety assessment for the short range lidar.
DE99002263REB

OCCUPATIONAL SAFETY AND HEALTH
Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152159REB
Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
PB99-152217REB
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
PB99-152316REB
Health Hazard Evaluation Report HETA 98-0017-2699, United States Postal Service, Mail Processing and Distribution Center, Omaha, Nebraska.
PB99-152324REB
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
PB99-152332REB
Fatality Assessment and Control Evaluation (FACE) Report: Temporary Laborer Crushed by Dump Truck at Landfill, South Carolina.
PB99-155624REB
Fatality Assessment and Control Evaluation (FACE) Report: Electrical Mechanic Dies After 45-Foot Fall through Unguarded Floor Opening, North Carolina.
PB99-155632REB
Fatality Assessment and Control Evaluation (FACE) Report: Tree Feller Killed When Struck by Chain Saw, West Virginia.
PB99-155640REB
Fatality Assessment and Control Evaluation (FACE) Report: Floor Collapse in a Single Family Dwelling Fire Claims the Life of One Fire Fighter and Injures Another, Kentucky.
PB99-155665REB

OCCUPATIONAL SAFETY AND HELATH
Fatality Assessment and Control Evaluation (FACE) Report: Mechanic Fatally Injured during Dismantling of Crane Boom at Scrap Metal Yard, Pennsylvania.
PB99-155657REB

OCEAN CURRENTS
R/V Seward Johnson Cruise Report (SJ-9807) ACCE S-PALACE Float Deployments.
ADA362874REB
STWAVE: Steady-State Spectral Wave Model. Report 1: User's Manual for STWAVE Version 2.0.
ADA362875REB
Deep Water Formation and Circulation in the Arctic Ocean Studies by Natural and Anthropogenic Tracers.
ADA363047REB
Stratification Mixing and Circulation of the Indonesian Seas.
ADA363048REB

OCEAN ENVIRONMENTS
Understanding and Protecting Marine Biodiversity. Second Edition.
ISLAND-0526REB

OCEAN MODELS
Stratified Coastal Trapped Waves and Mean Flows.
ADA362722REB

OCEAN POLICY
Future of U.S. Ocean Policy. Choices for the New Century.
ISLAND-0496REB

OCEAN WAVES
Stratified Coastal Trapped Waves and Mean Flows.
ADA362722REB
STWAVE: Steady-State Spectral Wave Model. Report 1: User's Manual for STWAVE Version 2.0.
ADA362875REB
Aerial Video of Smoke-Marked Wind Shifts Caused by Ocean Internal Waves.
PB99-154486REB

OCEANOGRAPHIC INSTRUMENTS
Lagrangian ambient noise drifter.
MIC-99-03340REB

OCEANS
Deep-Sea Corals: A New Oceanic Archive.
ADA363389REB

OFFICER PERSONNEL
Officer Candidate School (OCS): Relevance into the 21st Century.
ADA362971REB
Air Force Journal of Logistics, Volume XXIII, Number 1. Spring 1999.
ADA363012REB
Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues.
ADA363238REB
Reserve Component Officer Professional Development.
ADA363357REB

OHIO
BCLDP site environmental report for calendar year 1997 on radiological and nonradiological parameters.
DE99002442REB

OIL SANDS
Alberta heavy oil, oil sands and enhanced recovery: Experimental pilot projects, a survey.
MIC-99-03131REB
Land capability classification for forest ecosystems in the oil sands region – Rev. ed. Revised edition.
MIC-99-03138REB

OIL WASTES
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB

ON-LINE SYSTEMS
Experimental Internet Environment Software Development.
N19990042214REB
Representation and Integration of Scientific Information.
N19990042373REB

ONLINE SYSTEMS
BuyIt Prototype Software Requirements Analysis: A C-BASS Component.
ADA363050REB
BuyIt Software Development Plan: A C-BASS Component.
ADA363051REB

OPEN BURNING
Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
ADA363351REB

OPEN DETONATION
Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
ADA363351REB

OPERATING TEMPERATURE
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
N19990041149REB

OPERATION FRONTIER SHIELD
Deterrence Effects of Operation Frontier Shield.
ADA362838REB

OPERATIONAL READINESS
CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women.
ADA362645REB
GENDER ISSUES: Perceptions of Readiness in Selected Units.
ADA363204REB
Defense Depot Maintenance Council Study of DoD Management of Industrial Plant Equipment.
ADA363391REB

OPERATIONS OTHER THAN WAR
NonLethal Weapons, NonLethal Policy, and Complex Contingencies.
ADA363056REB
Non-Lethal Operational Fires in Military Operations Other Than War.
ADA363126REB
Operational Commander, the Media, and MOOTW: A New Paradigm.
ADA363154REB
Regional Civil-Military Operations Center: A Force Multiplier in Military Operations Other Than War.
ADA363176REB
America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
ADA363178REB
Future Insurgencies in Latin America and the Caribbean: Implications for U.S. Operations.
ADA363179REB
Shaping the Regional Stability Environment with Reserves.
ADA363210REB
Winning MOOTW's in 2010: The Future Relationship Between the U.S. Military and Nongovernmental Organizations (NGO's).
ADA363212REB
Planning for Future Humanitarian Assistance Operations: Using the SAO to Establish the NGO Working Relationship.
ADA363213REB
U.S. Military, NGO's and CMOC: Staying Connected and Achieving Unity of Effort During MOOTW.
ADA363224REB
Right Force for the Future: Who Pays the Bill.
ADA363400REB

OPTICAL EQUIPMENT
Evaluation of Operator Performance Using True Color and Artificial Color in Natural Scene Perception.
ADA363036REB

OPTICAL FILTERS
Narrow Pass-Band Optical Filters for Space-Borne Remote Sensing Applications.
N19990041162REB

OPTICAL FREQUENCY
Optical Frequency Standard in Trapped Atomic Hydrogen.
ADA362776REB

OPTICAL INTERCONNECTIONS
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
ADA362637REB

OPTICAL PROCESSING
Instrumentation for Research on High-Speed Optical Transmultiplexing and Coding for Optoelectronic Computer Networking.
ADA363026REB

OPTICAL PROPERTIES
Optical Frequency Standard in Trapped Atomic Hydrogen.
ADA362776REB

OPTICAL RADAR
Quick-look eye-safety assessment for the short range lidar.
DE99002263REB
Estimation of cloud droplet size density distribution from multiple field-of-view lidar returns.
MIC-99-03292REB
Direct Detection Doppler Lidar for Spaceborne Wind Measurement.
N19990041449REB

OPTICAL THICKNESS
Global Retrieval of Cloud Particle Size and Optical Thickness Using ISCCP Data.
N19990041441REB

OPTICQL MEASUREMENT
Development and Application of an Advanced Optical Based Pressure Instrument for Low-Speed Flows.
ADA362829REB

OPTIMIZATION
Portfolio Optimization for Multiple Group Credit Unions.
ADA363385REB
Optimal neural computations require analog processors.
DE99002277REB

ORAL HEALTH
Dental Readiness of the Army War College Students Class of 1999, A Comparison study to the class of 1985.
ADA363356REB

ORBITAL SERVICING
Reusable Launch Vehicle (RLV) Mission/Market Model.
N19990041879REB

ORBITALS
Orbital Debris: A Chronology.
N19990041784REB

ORE DEPOSITS
40Ar/39Ar dating of ribbon-textured veins and wall-rock material from Meguma lode gold deposits, Nova Scotia: Implications for timing and duration of vein formation in slate-belt hosted vein gold deposits.
MIC-99-03227REB
Origin and evolution of the Greisenizing fluid at the East Kemptville tin deposit, Nova Scotia, Canada.
MIC-99-03229REB

ORGANIC COMPOUNDS
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October--December 1998.
DE99002447REB
Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models.
PB99-152829REB

ORGANIC ION EXCHANGERS
Organic ion exchange resin separation methods evaluation.
DE99050699REB

ORGANIC MATERIALS
Degradation of Haloaromatic Compounds by Indigenous Sediment Microflora: Biochemistry and Molecular Ecology.
ADA362983REB

ORGANIC SOLVENTS
Data quality objective to support resolution of the organic solvent safety issue.
DE99050161REB

ORGANIZATIONAL EFFECTIVENESS
Exit, Voice, and Loyalty. Responses to Decline in Firms, Organizations, and States.
HUP-0004REB

ORGANIZATIONS
Why Reengineering Projects Fail.
ADA362725REB
Reexamination of the Joint Force Air Component Commander (JFACC) concept for the 21st Century.
ADA363183REB
Planning for Future Humanitarian Assistance Operations: Using the SAO to Establish the NGO Working Relationship.
ADA363213REB
Exit, Voice, and Loyalty. Responses to Decline in Firms, Organizations, and States.
HUP-0004REB

ORTHOPEDICS
Workshop on 'New Engineering Technology Transfer in Orthopaedic Surgery'.
ADA362697REB

OSCILLATIONS
Seasonal and Interannual Variabilities in Tropical Tropospheric Ozone.
N19990042082REB
Hydrodynamic Stability and Magnetic Reconnection in Disks and Stars.
N19990042136REB

OUTDOOR RECREATION
Threading the Currents.
ISLAND-0532REB

OUTDOORS
Halflives: Reconciling Work and Wildness.
ISLAND-0478REB

OUTSOURCING
Department of Defense, Inc. Are We Ready To Become An Extension of Corporate America.
ADA362978REB

OVERSEAS
Strategic Creep: From Power Projection Back to Forward Presence.
ADA362989REB

OXIDATION
Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB

OXYGEN CONSUMPTION
Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-, (K metodike issledovaniya gazoobmena pri vdykhanii bol' shikh kontsentratsiy kisloroda)--Translation.
ADA362856REB

OZARK PLATEAU
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB

OZONE
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB
Seasonal and Interannual Variabilities in Tropical Tropospheric Ozone.
N19990042082REB
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB

OZONE DEPLETION
High-Resolution Ozone Imager (HIROIG).
ADA362746REB
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB

P CODES
Data mining.
DE99002233REB

PACIFIC OCEAN
Improved U.S. Pacific Command Theater Design for the Future.
ADA363197REB
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB

PACKAGING
Safety evaluation for packaging (onsite) 221 T sodium tanks.
DE99050488REB

PAINT REMOVERS
Demonstration of Lead-Based Paint Removal From an Historic Wood Structure Using Laser Technology.
ADA363188REB

PAINTS
Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB
Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
N19990042032REB

PALEONTOLOGY
Results of the Field Study of the Paleontological Resources of the Fort Carson Military Reservation, Colorado.
ADA363332REB

PALEOSEISMOLOGY
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB

PANIC DISORDER
Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB

PARALLEL PROCESSING
Parallel Workstation Cluster for Algorithm Development, Parameter Scoping, and Data Analysis.
ADA363032REB
Parallel Simulations of Waste Incineration in a Dump Combustor.
ADA363339REB
Performance and scalability analysis of teraflop-scale parallel architectures using multidimensional wavefront applications.
DE99002404REB

PARALLEL PROCESSORS
Technological Development for Interfacing Parallel Access Memories to Parallel Computers.
ADA362650REB

PARTICLE PRODUCTION
Kt – jets and jet structure and fragmentation at the Tevatron.
DE99050750REB

PARTICLE SIZE DISTRIBUTION
Global Retrieval of Cloud Particle Size and Optical Thickness Using ISCCP Data.
N19990041441REB

PARTONS
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB

PARTS
Automotive Parts Acquisition Guide.
ADA363262REB

PASSENGER TRANSPORTATION
Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
PB99-152944REB

PATHOGENESIS
Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
ADA362855REB

PATIENTS
Patient-Centered Outcomes in Neurologic Disease. Abstract, Executive Summary and Final Report.
PB99-149809REB

PATROL SHIPS
Patrol Craft Markets (Online Service).
JANE-0537REB

PAVEMENTS
Develop Maintenance Strategy Selection Procedures for Pavements Incorporating Semi-Rigid or Chemically Stabilized Layers.
PB99-149593REB

PAYLOAD INTEGRATION
Payload Operations.
N19990041198REB

PAYLOADS
Payload Operations.
N19990041198REB
X-33/VentureStar Program.
N19990041334REB

PEACEKEEPING
Closing the Book: The Role of the Aircraft Carrier in the Twenty-First Century.
ADA363211REB
Conserving Assets: An Alternative Paradigm for Peace Operations.
ADA363376REB

PEACETIME
Special Forces: The Peacetime Regional Engagement Force of Choice ... and More.
ADA363185REB
American Military's Discomfort with Peace Operations.
ADA363217REB

PECONIC ESTUARY
Ground-Water Flow Paths and Traveltime to Three Small Embayments within the Peconic Estuary, Eastern Suffolk County, New York.
PB99-152456REB

PENALTIES
Impact of Firm Size on Dollar Amount of Penalties Assessed by Government Agencies.
PB99-142564REB

PENDULUMS
Hydrodynamic Stability and Magnetic Reconnection in Disks and Stars.
N19990042136REB

PENNSYLVANIA
Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
PB99-152928REB

PENTACHLOROPHENOL
NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
PB99-152878REB

PERFORMANCE (ENGINEERING)
Thrust Augmentation for a Small Turbojet Engine.
ADA362981REB

PERFORMANCE EVALUATON
Re-engining the CC130 Hercules transport aircraft as a fleet management option.
MIC-99-03333REB

PERFORMANCE (HUMAN)
Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment.
ADA362972REB
Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB
Performance Budgeting: Initial Experiences Under the Results Act in Linking Plans With Budgets.
ADA363171REB

PERFORMANCE PREDICTION
Flight Prediction for Performance of the SWAS Solar Array Deployment Mechanism.
N19990042081REB

PERFORMANCE TESTING
Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
DE99050154REB

PERFORMANCE TESTS
Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB
Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB

PERIODICALS
USAFA Discovery, Jan-Mar 99.
ADA362648REB

PEROVSKITES
Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB

PERSIAN GULF WAR
Information Operations in Iraq.
ADA363160REB
PERSONAL COMBAT EQUIPMENT
Jane's Personal Combat Equipment (Online Service).
JANE-0553REB
PERSONNEL DEVELOPMENT
Occupational Survey Report, Survival Equipment, AFSC 2A7X4.
ADA362840REB
OCCUPATIONAL SURVEY REPORT: Surgical Services, AFSC 4N1X1B/C/D, OSSN 2331.
ADA363121REB
Reserve Component Officer Professional Development.
ADA363357REB
Big Picture (Episode No. 3). (VHS video).
AVA20542-VNB1REB
Personal Touch (Episode No. 4). (VHS video).
AVA20543-VNB1REB
Validating the Computer-Based Training Process for Aviation Security Screeners.
PB99-149585REB
Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century. A White House Roundtable Dialogue for President Clinton's Initiative on Race. Proceedings of Panel Discussion and Position Papers.
PB99-151409REB
PERSONNEL MANAGEMENT
Occupational Survey Report, Survival Equipment, AFSC 2A7X4.
ADA362840REB
OCCUPATIONAL SURVEY REPORT: Surgical Services, AFSC 4N1X1B/C/D, OSSN 2331.
ADA363121REB
Planning for Future Humanitarian Assistance Operations: Using the SAO to Establish the NGO Working Relationship.
ADA363213REB
Personal Best (Episode No. 22). (VHS video).
AVA20561-VNB1REB
PERSONNEL SELECTION
Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB
Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues.
ADA363238REB
PEST CONTROL
Conference on the Control of the Colorado Beetle, USSR.
ADA362786REB
Eastern hemlock looper, Lambdina fiscellaria fiscellaria (Guen.), Lepidoptera: Geometridae, in Newfoundland, 1983-95.
MIC-99-03453REB
Guide to crop protection, 1999.
MIC-99-03650REB
PESTICIDE RESIDUES
Pesticide residues in sediment and water from two watersheds in Prince Edward Island, 1996 and 1997.
MIC-99-03631REB
PESTICIDES
Guide to weed control, 1999.
MIC-99-03187REB
Guide to crop protection, 1999.
MIC-99-03650REB
PHARMACOLOGY
Military News Items From Chinese Communist Press--Translation.
ADA362992REB
PHASE TRANSFORMATIONS
Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB
PHONONS
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB
PHOSPHORESCENCE
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB
PHOSPHOTRANSFERASES
Enhancement of photoassimilate utilization by manipulation of ADP-glucose pyrophosphorylase gene. Final progress report.
DE99002382REB
PHOTOCHEMICAL REACTIONS
Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
N19990041335REB
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB
PHOTOGRAMMETRY
Possibility of Using as a Photogrammetric Base the 1:25,000 Map for Photogrammetric Mapping at Scales of 1:10,000 and 1:5,000 – Czechoslovakia —Translation.
ADA362801REB
PHOTOGRAPHY
Roles of Historical Photography in Waste Site Characterization, Closure, and Remediation.
DE98057841REB
PHOTON BEAMS
Photon-Weighted Midpoint Exposure Meter for Keck/HIRES Extrasolar Planet Research.
N19990042170REB
PHOTOVOLTAIC POWER SUPPLIES
New 1999 National Electrical Code Coupled with New Standards Clarify Requirements for Installations of Photovoltaic Systems in the U.S.;Progress in Photovoltaics - Research and Applications.
DE00003202REB
PHYSICAL FITNESS
Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures.
ADA363279REB
Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB
PHYSICAL RADIATION EFFECTS
Report on the testing of Raschig Rings.
DE99002257REB
PHYSICAL SCIENCES
Central Asia, Physical Geography Handbook--Translation.
ADA362771REB
Proceedings of the National Science Council, Republic of China: Part A: Physical Science and Engineering, Volume 22, No. 2, March 1998.
PB99-101768REB
PHYSICAL STRESSORS
Health Hazard Evaluation Report HETA 96-0258-2673, Foss Manufacturing Company, Inc., Hampton, New Hampshire.
PB99-152191REB
PHYSICIANS
Awards to Soviet Women Medical Workers-USSR.
ADA363375REB
PHYSICS
China Report, Science and Technology No. 213.
ADA362902REB
PIEZOELECTRIC CRYSTALS
Resource for Piezoelectric Single Crystals.
ADA363144REB
PIEZOELECTRIC MATERIALS
Doped PMN-PT Single Crystals.
ADA362908REB
PILE FOUNDATIONS
Method for Analyzing Piled Embankments.
PB99-149650REB
PILOT PERFORMANCE
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB
PILOTS
Modified T-37 Instead of T-46: Impact on Undergraduate Pilot Training.
ADA362757REB
Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment.
ADA362972REB
PIPELINE TRANSPORTATION
Annual report 1997-98.
MIC-99-03132REB
PIPELINES
USSR Report, Energy, No. 130.
ADA362741REB
USSR Report, Energy, No. 126.
ADA362819REB
USSR Report, Energy No. 129.
ADA363327REB
Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
DE99002444REB
PISTONS
Ceramic Coated Piston Rods for Civil Works.
ADA362682REB
PLANNING
Sandia National Laboratories Institutional Plan: FY 1999-2004.
DE00002622REB
PLANNING PROGRAMMING BUDGETING
Maintaining Budgetary Discipline: Spending and Revenue Options.
ADA363202REB
PLANT DISEASES
Soviet Abstracts Biology, Section O, Plant Diseases, Book No. 23, 1958, Abstracts 104958 thru 105054--Translation.
ADA363310REB
PLANTS (BOTANY)
Soviet Abstracts Biology, Section O, Plant Diseases, Book No. 23, 1958, Abstracts 104958 thru 105054--Translation.
ADA363310REB
PLASMA CONFINEMENT
Plasma and ion barrier for electron beam spot stability.
DE99002226REB
PLASMA DIAGNOSTICS
Diagnostic enhancements for plasma processing.
DE99002256REB
LLE review, Volume 77. Quarterly report, October--December 1998.
DE99002358REB
PLASMA FURNACES
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB
PLASMA PRODUCTION
Diagnostic enhancements for plasma processing.
DE99002256REB
PLASMAS (PHYSICS)
WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB
Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB
Non-Thermal Plasmas as Gas-Phase Advance Oxidation Processes.
ADA363247REB
PLASTIC DEFORMATION
Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation – USSR —Translation.
ADA362823REB
PLASTICITY
Dislocation accumulation at large plastic strains – An approach to the theoretical strength of materials.
DE99002412REB
PLEISTOCENE
Coming Home to the Pleistocene.
ISLAND-0522REB
PLUMES
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB
PLUTONIUM
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB
Application of new techniques for EOS data.
DE99002232REB
Addendum 1 to CSER 97-025: PFP storage of 9.25/9.5 inch tall, 4.4 kg Pu cans on existing Vault 4 pedestals.
DE99050231REB
POLAND
Polish Long-Range Plan (1961-1975) and Five-Year Plan (1961-1965) for Scientific Research in Agricultural Technology--Translation.
ADA362736REB
POLARIZATION INTERFEROMETER
Journal of Research of the National Institute of Standards and Technology, January/February 1999. Volume 104, Number 1.
PB99-154833REB
POLICIES
Worldwide Report: Telecommunications Policy, Research and Development, No. 285.
ADA362797REB
Worldwide Report, Telecommunications Policy, Research and Development, No. 250.
ADA362820REB
Worldwide Report: Telecommunications Policy, Research and Development, No. 294.
ADA362868REB
Impact of Nuclear Proliferation: Final Report.
ADA362905REB
USSR Report, Science and Technology Policy, No. 14.
ADA362934REB
Department of Defense, Inc. Are We Ready To Become An Extension of Corporate America.
ADA362978REB
Managing the Dynamics of Change.
ADA363208REB
POLICY MAKING
Future of U.S. Ocean Policy. Choices for the New Century.
ISLAND-0496REB
POLITICAL ALLIANCES
Air Force Journal of Logistics, Volume XXIII, Number 1. Spring 1999.
ADA363012REB
NATO: From Creation to Golden Anniversary. Insights for the Czech Republic.
ADA363231REB
POLITICAL ASPECTS
Impact of Nuclear Proliferation: Final Report.
ADA362905REB
POLITICAL ATTITUDES
Ronald Reagan. The Politics of Symbolism.
HUP-0008REB
POLITICAL NEGOTIATIONS
American Military's Discomfort with Peace Operations.
ADA363217REB
POLITICAL PARTIES
China Report, Political, Sociological and Military Affairs, No. 377.
ADA362679REB
East Europe Report, Political, Sociological and Military Affairs, No. 2169.
ADA362698REB

USSR Report, Military Affairs, No. 1775.
ADA362700REB
China Report, Political, Sociological and Military Affairs.
ADA362701REB
Soviet Union, Military Affairs.
ADA362704REB
Soviet Union, Military Affairs.
ADA362747REB
Near East and South Asia.
ADA362773REB
East Europe Report: Political, Sociological and Military Affairs, No. 2225.
ADA362774REB
China Report, Political, Sociological and Military Affairs No. 436.
ADA362780REB
China Report: Political, Sociological and Military Affairs, No. 470–Translation.
ADA362799REB
East Europe Report, Political, Sociological and Military Affairs, No. 2133.
ADA362807REB
China Report, Political, Sociological and Military Affairs, No. 431–Translation.
ADA362815REB
China Report, Political, Sociological and Military Affairs, No. 412–Translation.
ADA362821REB
East Asia: Korea.
ADA362824REB
Southeast Asia Report, No. 1371.
ADA362825REB
East Europe Report, Political, Sociological and Military Affairs, No. 2079–Translation.
ADA362830REB
China Report, Political, Sociological and Military Affairs, No. 438–Translation.
ADA362831REB
China Report: Political, Sociological and Military Affairs, No. 453–Translation.
ADA362893REB
East Europe Report: Political, Sociological and Military Affairs, No. 2226–Translation.
ADA362894REB
JPRS Report, Latin America.
ADA362917REB
JPRS Report, Latin America.
ADA362919REB
JPRS Report, East Asia: Korea.
ADA362922REB
JPRS Report, East Asia: Korea–Translation.
ADA362927REB
USSR Report, Military Affairs, No. 1814–Translation.
ADA362928REB
East Asia: Southeast Asia.
ADA362931REB
Center of Gravity: Justification for Assassination.
ADA363034REB
China Report, Political, Sociological and Military Affairs.
ADA363280REB
East Europe Report, Political, Sociological and Military Affairs, No. 2158.
ADA363290REB
China Report, Political, Sociological and Military Affairs, No. 476.
ADA363293REB
East Europe Report, Political, Sociological and Military Affairs, No. 2121.
ADA363294REB
USSR Report, USA, Economics, Politics, Ideology, No. 4, April 1985.
ADA363299REB
East Europe Report, Political, Sociological and Military Affairs No. 2234.
ADA363308REB
China Report, Political, Sociological and Military Affairs No. 474.
ADA363309REB

POLITICAL REVOLUTION

Future Insurgencies in Latin America and the Caribbean: Implications for U.S. Operations.
ADA363179REB
Coup D'Etat. A Practical Handbook.
HUP-0007REB

POLITICAL SCIENCE

East Europe Report, Political, Sociological and Military Affairs, No. 2090–Translation.
ADA362657REB
JPRS Report, East Asia: Southeast Asia.
ADA362664REB
JPRS Report, East Asia Southeast Asia.
ADA362666REB
JPRS Report, East Asia Southeast Asia.
ADA362669REB
USSR Report, Military Affairs, No. 1732.
ADA362677REB
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1982.
ADA362678REB
East Asia: Southeast Asia.
ADA362684REB
East Europe Report, Political, Sociological and Military Affairs, No. 2154–Translation.
ADA362686REB
China Report, Political, Sociological and Military Affairs–Translation.
ADA362687REB
China Report, Political, Sociological and Military Affairs–Translation.
ADA362689REB
China Report, Political, Sociological and Military Affairs–Translation.
ADA362690REB
China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 17, 10 August 1984–Translation.
ADA362691REB
Translations on Eastern Europe. Political, Sociological, and Military Affairs, No. 1406–Translation.
ADA362695REB
Soviet Union, Military Affairs–Translation.
ADA362696REB
East Asia: Southeast Asia–Translation.
ADA362708REB
JPRS Report, East Asia Southeast Asia.
ADA362711REB
East Asia: Southeast Asia.
ADA362715REB
Near East and South Asia.
ADA362773REB
East Europe Report: Political, Sociological and Military Affairs, No. 2225.
ADA362774REB
China Report, Political, Sociological and Military Affairs No. 436.
ADA362780REB
China Report: Political, Sociological and Military Affairs, No. 470–Translation.
ADA362799REB
East Europe Report, Political, Sociological and Military Affairs, No. 2133.
ADA362807REB
China Report, Political, Sociological and Military Affairs, No. 412–Translation.
ADA362821REB
Southeast Asia Report, No. 1371.
ADA362825REB
USSR Report: Political and Sociological Affairs, No. 1478.
ADA362827REB
Near East/South Asia Report, No. 2780–Translation.
ADA362828REB
JPRS Report, Latin America–Translation.
ADA362832REB
JPRS Report, Latin America–Translation.
ADA362834REB
JPRS Report, Latin America–Translation.
ADA362836REB
East Europe Report, Political, Sociological and Military Affairs, No. 2153–Translation.
ADA362841REB
USSR Report, Political, and Sociological Affairs, No. 1390.
ADA362845REB
JPRS Report, East Asia Korea.
ADA362866REB
JPRS Report, East Asia: Korea.
ADA362867REB
JPRS Report, Near East & South Asia.
ADA362879REB
China Report: Political, Sociological and Military Affairs, No. 452–Translation.
ADA362890REB
Latin America.
ADA362898REB
JPRS Report, Latin America.
ADA362917REB
JPRS Report, Latin America.
ADA362919REB
JPRS Report, Latin America.
ADA362920REB
JPRS Report, East Asia: Korea.
ADA362922REB
JPRS Report, East Asia: Korea–Translation.
ADA362927REB
East Asia: Southeast Asia.
ADA362933REB
East Asia: Korea–Translation.
ADA362937REB
JPRS Report, East Asia Southeast Asia–Translation.
ADA362941REB
China Report, Political, Sociological and Military Affairs–Translation.
ADA362943REB
East Europe Report, Political, Sociological and Military Affairs, No. 2130–Translation.
ADA362945REB
Democracy in Kuwait.
ADA362984REB
Political Information on Indonesia–Translation.
ADA362990REB
East Europe Report, Political, Sociological and Military Affairs, No. 2235–Translation.
ADA362994REB
China Report, Political, Sociological and Military Affairs, No. 475–Translation.
ADA362995REB
JPRS Report, East Asia, Korea–Translation.
ADA363009REB
JPRS Report, Near East & South Asia, Table of Contents, JPRS-NEA-87-001, 2 January 1987-JPRS-NEA-87-041, 6 Apr 1987 Part 1–Translation.
ADA363013REB
China Report: Political, Sociological and Military Affairs, No. 437.
ADA363014REB
East Asia: Southeast Asia.
ADA363015REB
Center of Gravity: Justification for Assassination.
ADA363034REB
USSR Report, USA: Economics, Politics, Ideology No. 12, December 1984–Translation.
ADA363110REB
USSR Report, USA, Economics, Politics, Ideology, NO. 3, March 1985–Translation.
ADA363113REB
USSR Report, USA: Economics, Politics, Ideology No. 2, February 1985–Translation.
ADA363114REB
Theodore Roosevelt: Activated Vision Through the Bully Pulpit.
ADA363268REB
USSR Report, Military Affairs, No. 1817.
ADA363291REB
USSR Report, USA: Economics, Politics, Ideology–Translation.
ADA363295REB
USSR Report, USA: Economics, Politics, Ideology, No. 1, January 1985–Translation.
ADA363296REB
USSR Report, USA, Economics, Politics, Ideology, No. 6, June 1985.
ADA363297REB
USSR Report, USA, Economics, Politics, Ideology, NO. 5, May 1985.
ADA363298REB
USSR Report, USA: Economics, Politics, Ideology, No. 10, October 1985.
ADA363300REB
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1985.
ADA363302REB
USSR Report, USA: Economics, Politics, Ideology, No. 8, August 1985.
ADA363303REB
USSR Report, USA: Economics, Politics, Ideology, No. 7, July 1985.
ADA363304REB
East Europe Report, Political, Sociological and Military Affairs No. 2157.
ADA363307REB
East Europe Report, Political, Sociological and Military Affairs, No. 2164–Translation.
ADA363324REB
East Europe Report, Political, Sociological and Military Affairs, No. 2123–Translation.
ADA363325REB
China Report, Political, Sociological and Military Affairs, No. 404–Translation.
ADA363326REB
East Europe Report Political, Sociological and Military Affairs No. 2122–Translation.
ADA363367REB
East Europe Report, Political, Sociological and Military Affairs, No. 2232–Translation.
ADA363369REB
China Report, Political, Sociological and Military Affairs, No. 472–Translation.
ADA363372REB
East Europe Report, Political, Sociological and Military Affairs No. 2087.
ADA363379REB
Breakdown of Democratic Regimes. Europe.
JHUP-0304REB

POLITICS

Ronald Reagan. The Politics of Symbolism.
HUP-0008REB
Equality, the Third World, and Economic Delusion.
HUP-0034REB
Politics of Ecosystem Management.
ISLAND-0528REB
Central Asia: Pipelines and Power Politics (Online Service).
JANE-0567REB

POLLUTION

Worldwide Report, Environmental Quality No. 381.
ADA363239REB

POLLUTION PREVENTION

Deployment of pollution prevention during design – a case study.
DE99050164REB
Application of environmental accounting to pollution prevention.
DE99050167REB

POLLUTION REGULATIONS

Yellow Book: Guide to Environmental Enforcement and Compliance at Federal Facilities.
PB99-152530REB

POLLUTION TRANSPORT

Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB

POLYMERS

Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB
Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB

POLYOLEFIN FIBERS
Unique Polymeric Fiber and Fiber Delivery Systems for the Economic Preparation of High-Fiber Content Concrete with Superior Physical Properties.
ADA363079REB

POLYURETHANE FOAM
Mechanical Properties and Energy Absorption Characteristics of a Polyurethane Foam.
PB99-105504REB

POLYURETHANE PAINT
Health Hazard Evaluation Report HETA 96-0266-2702, Cooper Engineered Products, Bowling Green, Ohio.
PB99-152175REB

POPLAR
Diseases of Populus in British Columbia: A diagnostic manual.
MIC-99-03123REB

POPULATION DYNAMICS
Recent Developments in Population Viability Analysis, with Specific Reference to Pacific Salmon.
PB99-155426REB

POPULATION RELOCATION
Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.
PB98-963305REB

POPULATIONS
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB

PORTFOLIOS
Portfolio Optimization for Multiple Group Credit Unions.
ADA363385REB

POSTAL SERVICE
East Europe Report, Scientific Affairs No. 762.
ADA363272REB

POVERTY
Poverty and Inequality in Latin America. The Impact of Adjustment and Recovery.
JHUP-0306REB

POWER
Awakening China: Rabbit or Tiger.
ADA363030REB
Operational Art and the Human Dimension of Warfare in the 21st Century.
ADA363177REB

POWER CONDITIONING
Nanosat Intelligent Power System Development.
N19990041448REB

PRECAUTIONARY PRINCIPLE
Protecting Public Health and the Environment: Implementing the Precautionary Principle.
ISLAND-0516REB

PREDICTION ANALYSIS TECHNIQUES
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB

PREDICTIONS
Prediction of Crack Initiation and Growth in Solid Propellants.
ADA363081REB
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB

PREFLIGHT OPERATIONS
X-33 Flight Operations Center.
N19990041246REB

PREGNANCY
Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
ADA362843REB

PREPOSITIONING (LOGISTICS)
Mobility Traid and Challenges for the Operational Commander.
ADA363220REB

PRESERVATION
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB
Practical Tools for Electronic Records Management and Preservation.
ADA362863REB

PRESIDENT (UNITED STATES)
Theodore Roosevelt: Activated Vision Through the Bully Pulpit.
ADA363268REB

PRESSURE MEASUREMENT
Development and Application of an Advanced Optical Based Pressure Instrument for Low-Speed Flows.
ADA362829REB

PRETREATMENT
Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB

PREVENTIVE MEDICINE
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Determination of the Median Lethal Dose of Two Anticholinesterase Agents and Efficacy of Current Therapy.
ADA362975REB
Healthy People 2010 Objectives: Draft for Public Comment.
PB99-103889REB

PRICES
Food Cost Review, 1950-97.
ERS-AER-780REB

PRINCIPAL COMPONENTS ANALYSIS
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB

PRIVATIZATION
Department of Defense, Inc. Are We Ready To Become An Extension of Corporate America.
ADA362978REB

PROBABILISTIC RIK ASSESSMENT
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB

PROBABILITY THEORY
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB

PROCUREMENT
UNITED NATIONS: Progress of Procurement Reforms.
ADA363233REB

PRODUCT DEVELOPMENT
Nanosat Intelligent Power System Development.
N19990041448REB

PRODUCTION
Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB

PRODUCTIVITY
Yields of ten and eleven year-old hybrid poplars in the north central United States. Final report.
DE99002354REB

PROGRAM EVALUATION
OWCP (Office of Workers' Compensation Programs) Annual Report to Congress: FY 1997.
PB99-152985REB

PROJECT MANAGEMENT
Air Force Research Laboratory Success Stories: A Review of 1997/1998.
ADA286991REB
Successful Management Practices.
ADA362668REB

PROMOTION (ADVANCEMENT)
Officer Candidate School (OCS): Relevance into the 21st Century.
ADA362971REB

PROPELLANTS
Space Shuttle Main Engine: Part Number RS007001.
N19990041880REB

PROPELLER NOISE
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB

PROSPECT
Making Connections (Episode No. 12). (VHS video).
AVA20551-VNB1REB

PROSTITUTES
Sandakan Brothel No. 8: A Journey into the History of Lower-Class Japanese Women.
SHARPE-00463REB

PROTECTION
Fleet Air Defense in the Falkland Islands Conflict: A Failure in Operational Protection.
ADA363067REB
Naval Force Protection in the Littorals.
ADA363193REB
Orbital Debris: A Chronology.
N19990041784REB

PROTECTIVE CLOTHING
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappter CPF3 Coverall, Model 3T436.
ADA363275REB
Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
ADA363348REB
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B.
ADA363349REB

PROTECTIVE COATINGS
Durability Testing for Fouling Release Coatings.
ADA362839REB

PROTECTIVE EQUIPMENT
Non-Slip Safety Glasses.
PAT-APPL-8-226 621REB

PROTECTIVE TREATMENTS
Medical Information Technology in Support of the Operational Commander.
ADA363363REB

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Narrow Pass-Band Optical Filters for Space-Borne Remote Sensing Applications.
N19990041162REB

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Vector meson production and nuclear effects in FNAL E866.
DE99002282REB

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Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB

PSYCHOLOGY
Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB

PSYCHOMOTOR PERFORMANCE
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB

PSYCHOTROPIC SUBSTANCES
UNCITRAL. Model Law on Electronic Commerce with Guide to Enactment. 1996.
UN-1000REB

PUBLIC ADMINISTRATION
Waste management industry survey, government sector, 1994.
MIC-99-03501REB

PUBLIC HEALTH
Protecting Public Health and the Environment: Implementing the Precautionary Principle.
ISLAND-0516REB
Public Health Assessment for Agriculture Street Landfill, New Orleans, Orleans Parish, Louisiana, Region 6. CERCLIS No. LAD981056997.
PB99-152282REB
Public Health Assessment for Sherwin Williams, Emeryville, Alameda County, California, Region 9. CERCLIS No. CAD03934601.
PB99-155590REB
Public Health Assessment for Sandoval Zinc Company, Sandoval, Marion County, Illinois, Region 5. CERCLIS No. ILD053980454.
PB99-155616REB

PUBLIC OPINION
Just Punishment: Public Perceptions and the Federal Sentencing Guidelines.
PB99-151250REB

PUBLIC TRANSPORTATION
Jane's Urban Transport Systems (Online Service).
JANE-0577REB
Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
PB99-152944REB

PUBLIC WORKS
Annual report 1997-98.
MIC-99-03257REB

PULP AND PAPER INDUSTRY
Synopsis of the first cycle of the pulp and paper mill environmental effects monitoring program in the Atlantic region.
MIC-99-03658REB

PULSARS
Gamma Radiation from PSR B1055-52.
N19990042027REB

PUMPS
Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
DE99050154REB

PUNISHMENT
Just Punishment: Public Perceptions and the Federal Sentencing Guidelines.
PB99-151250REB

PURCHASING
Step by Step (Episode No. 11). (VHS video).
AVA20550-VNB1REB

PUREX PROCESS
Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB

PURIFICATION
Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
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PYREX
Report on the testing of Raschig Rings.
DE99002257REB

PYROTECHNICS
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB

QUAD KICKERS
Electromagnetic Cold-Test Characterization of the Quad-Driven Stripline Kicker.
ADA362953REB

QUALITY ASSURANCE
Data Quality Tools for Data Warehousing - A Small Sample Survey.
ADA362923REB
Technical work plan for the privatization waste characterization data quality objective process.
DE99050402REB

QUANTUM CHEMISTRY
Molecular Quantum States at Dissociation.
PB99-120339REB

QUANTUM CHROMODYNAMICS
Six-Jet Production at Lepton Colliders.
PB99-120362REB

QUANTUM ELECTRODYNAMICS
Semiclassical Random Electrodynamics: Spontaneous Emission and the Lamb Shift.
ADA363360REB

QUANTUM ELECTRONICS
Quantum Chaos in Rydberg Atoms.
ADA362681REB

QUANTUM WELLS
Condensation of Quasi-Two-Dimensional Biexcitons in a Single Heterojunction Quantum Well.
ADA362735REB
Quantum Modeling.
ADA363264REB
Modeling of Silicon Quantum Structures.
ADA363362REB

RACE
Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century. A White House Roundtable Dialogue for President Clinton's Initiative on Race. Proceedings of Panel Discussion and Position Papers.
PB99-151409REB

RADAR
Mapping Coastal Surface Winds in Monterey Bay Using High Frequency Radar.
ADA362924REB

RADAR ANTENNAS
Technique for Measuring the Gain of HF Antennas.
ADA362876REB

RADAR CROSS SECTIONS
Numerical Computation of the Radar Cross Section of the ZSU-23-4.
ADA363007REB
Hybrid Version of Method of Moments Computer Code: IBC3D.
ADA363074REB

RADAR DUPLEXERS
THAAD Radar: Examination of a Cost Saving Initiative.
ADA362644REB

RADAR EQUIPMENT
Jane's Radar and Electronic Warfare Systems (Online Service).
JANE-0556REB

RADAR IMAGES
Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques.
ADA363380REB

RADIATION DAMAGE
Hungarian Symposium of Radiation Damage and Protection.
ADA363027REB

RADIATION DOSES
Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
DE99002167REB
Unit radiological doses for fuel retrieval preliminary safety evaluation.
DE99050396REB
Development of radiological concentrations and unit liter doses for TWRS FSAR radiological consequence calculations.
DE99050397REB
Estimated dose to in-tank equipment: Phase 1 waste feed delivery.
DE99050558REB

RADIATION DOSIMETRY
Recommendations on dose coefficients for assessing doses from accidental radionuclide releases to the environment.
MIC-99-03738REB

RADIATION INJURIES
Radiation Injury and Autolysis, USSR--Translation.
ADA363320REB

RADIATION PROTECTION
Problem of Radiological Protection, Poland.
ADA362800REB
Applied ALARA techniques.
DE99050625REB

RADIATION TRANSPORT
Introduction to radiation transport.
DE99002279REB

RADIATIVE TRANSFER
RXTE Observation of Cygnus X-1, 1.
N19990042404REB

RADIO ASTRONOMY
Interaction-Activity Connection.
N19990042108REB

RADIO BROADCASTING
Some Perspectives of the Development of Television Broadcasting Technology -- USSR ---Translation.
ADA362810REB
Worldwide Report, Telecommunications Policy, Research and Development, No. 293.
ADA363273REB

RADIO EMISSION
Interaction-Activity Connection.
N19990042108REB

RADIO SOURCES (ASTRONOMY)
Interaction-Activity Connection.
N19990042108REB

RADIO TRACKING
Visual Analysis of a Radio Frequency Tracking System for Virtual Environments.
ADA363020REB

RADIO TRANSMISSION
User's Guide for the Naval Communications Assessment Tool (NCAT) software Version 2.0.
ADA362901REB

RADIO WAVES
WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB

RADIOACTIVE WASTE DISPOSAL
Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB

RADIOACTIVE WASTE FACILITIES
Listed waste history at Hanford facility TSD units.
DE98054296REB
Performance confirmation data acquisition system.
DE99002146REB
Waste sampling and characterization facility (WSCF) maintenance implementation plan.
DE99050206REB
Waste Receiving and Processing Facility Module 1 Data Management System software requirements specification.
DE99050395REB
324 Facility B-Cell quality process plan.
DE99050592REB
Conceptual design statement of work for the immobilized low-activity waste disposal facility, project W-520.
DE99050668REB
1998 interim 242-A Evaporator tank system integrity assessment report.
DE99050823REB

RADIOACTIVE WASTE MANAGEMENT
FY 1998 solid waste integrated life-cycle forecast characteristics summary. Volumes 1 and 2.
DE98053023REB
Low-level radioactive waste management at the Nevada Test Site -- Current status.
DE99002186REB
Waste management project technical baseline description.
DE99050158REB
Waste management project fiscal year 1998 multi-year work plan WBS 1.2.
DE99050203REB
Permitting plan for the immobilized low-activity waste project.
DE99050230REB
Waste Receiving and Processing Facility Module 1 Data Management System software requirements specification.
DE99050395REB
Solid waste integrated forecast technical (SWIFT) report: FY1997 to FY 2070.
DE99050410REB

RADIOACTIVE WASTE PROCESSING
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB

RADIOACTIVE WASTE STORAGE
Summary of radioactive solid waste received in the 200 Areas during calendar year 1995.
DE98054295REB
Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
DE99002242REB
Report on the testing of Raschig Rings.
DE99002257REB
Technical information for the relocation and treatment of Argonne National Laboratory drums.
DE99050147REB
Vapor and gas sampling of single-shell tank 241-C-201 using the in situ vapor sampling system.
DE99050148REB
TWRS technical baseline database manager definition document.
DE99050152REB
Hazard Analysis Database report.
DE99050159REB
Data quality objective to support resolution of the organic solvent safety issue.
DE99050161REB
Preliminary tank characterization report for single-shell tank 241-TX-112: Best-basis inventory.
DE99050181REB
Preliminary tank characterization report for single-shell tank 241-TX-108: Best-basis inventory.
DE99050182REB
Preliminary tank characterization report for single-shell tank 241-TX-114: Best-basis inventory.
DE99050183REB
Preliminary tank characterization report for single-shell tank 241-TX-103: Best-basis inventory.
DE99050184REB
Preliminary tank characterization report for single-shell tank 241-TX-111: Best-basis inventory.
DE99050185REB
Preliminary tank characterization report for single-shell tank 241-TX-110: Best-basis inventory.
DE99050186REB
Preliminary tank characterization report for single-shell tank 241-SX-106: Best-basis inventory.
DE99050195REB
Preliminary tank characterization report for single-shell tank 241-SX-111: Best-basis inventory.
DE99050197REB
Preliminary tank characterization report for single-shell tank 241-SX-112: Best-basis inventory.
DE99050198REB
Tank characterization report for single-shell tank 241-BY-112.
DE99050199REB
Tank characterization report for double-shell tank 241-AN-103.
DE99050200REB
Project W-314 241-AN-A valve pit upgrade acceptance for beneficial use.
DE99050201REB
Portable exhausters POR-004 SKID B, POR-005 SKID C, POR-006 SKID D storage plan.
DE99050232REB
Nonradioactive Air Emissions Notice of Construction use on a portable exhauster on 241-A-101 tank during salt well pumping.
DE99050550REB
Estimated dose to in-tank equipment: Phase 1 waste feed delivery.
DE99050558REB
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050824REB
Waste feed delivery environmental permits and approvals plan.
DE99050825REB
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB

RADIOACTIVE WASTES
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB
Waste Forms Based on Separations Media (DOE 360-94). The Strategic Environmental Research and Development Program.
ADA363257REB
R and D 100 market assessment.
DE99002205REB
BCLDP site environmental report for calendar year 1997 on radiological and nonradiological parameters.
DE99002442REB
Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
DE99050153REB
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB
Tank 241-TX-104, cores 230 and 231 analytical results for the final report.
DE99050826REB

RADIOACTIVITY
Volumetric Radioactivity Viewed as Surface Radioactivity for Free Release Assessment Purposes.
DE98057850REB

RADIOCHEMICAL ANALYSIS
Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
DE99050153REB

RADIOISOTOPE HEAT SOURCES
Radioisotope thermoelectric generator transportation system safety analysis report for packaging. Volumes 1 and 2.
DE99050392REB

RADIOMETERS
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB
New ERA in Global Temperature Monitoring with the Advanced Microwave Sounding Unit (AMSU).
N19990041446REB

RADIONUCLIDE TRANSPORT
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB

RADIOPHARMACEUTICALS
Scoping assessment on medical isotope production at the Fast Flux Test Facility.
DE99050414REB

RADIOPROTECTIVE SUBSTANCES
Nutritional supplements as radioprotectors -- A review and proposal.
DE99002263REB

RADIOTELEPHONES
Security Planning for Wireless Networks: DOD Concerns.
ADA362720REB
Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising.
ADA363100REB

RADOMES
Analysis of a Pyroceram Radome Subjected to Aerodynamic Heating.
ADA363019REB
Analysis of a Ceramic Radome.
ADA363023REB
RAILROADS
Study Of The Aerial Interdiction of Railways During The Korean War.
ADA362707REB
Locomotive and Rolling Stock Forecasts (Online Service).
JANE-0523REB
Jane's World Railways (Online Service).
JANE-0576REB
RAINFALL-RUNOFF RELATIONSHIPS
Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
PB99-153009REB
RAPID ECOLOGICAL ASSESSMENT
Nature in Focus: Rapid Ecological Assessment.
ISLAND-0486REB
RASCHIG RINGS
Report on the testing of Raschig Rings.
DE99002257REB
RATES
Sealift Transportation in a Working Capital Fund Environment: Rate Stability When Workload Declines.
ADA362719REB
RATINGS
Canadian fertilizer quality assurance report: Plant ratings 1998.
MIC-99-03190REB
RATIOS
Weapon Indexing and Weapon Ratios in Arms Control.
ADA362751REB
RDX
Separation of RDX from Composition B Via a Supercritical Fluid Extraction Process.
ADA363254REB
REACTING FLOW
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB
REACTION KINETICS
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB
REACTIONS
Rhetoric of Reaction. Perversity, Futility, Jeopardy.
HUP-0019REB
REACTOR KINETICS
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB
REACTOR PROTECTION SYSTEMS
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB
REACTOR SAFETY
Summary of FY 1997 related to JAPC-U.S. DOE contract study on improvement of core safety – study on GEM (III).
DE99050497REB
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB
REAL TIME
Psychophysical Comparisons in Image Compression Algorithms.
ADA362726REB
REAL TIME OPERATION
Payload Operations.
N19990041198REB
REASONING
Tacit Knowledge in the Workplace.
ADA362656REB
RECEIVER CIRCUITS
Technological Development for Interfacing Parallel Access Memories to Parallel Computers.
ADA362650REB
RECEIVERS
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB
RECEPTOR SITES (PHYSIOLOGY)
Involvement of Nuclear Receptor Co-Repressors in the Development of Human Breast Cancer.
ADA362658REB
RECHARGE PROJECTS
Reports of the Kyushu National Industrial Research Institute, No. 58, March 1997.
PB99-152035REB
RECONNAISSANCE
Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center.
ADA362833REB
RECORD OF DECISION
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB
Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB
RECORDS
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB
RECORDS MANAGEMENT
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB
Practical Tools for Electronic Records Management and Preservation.
ADA362863REB
Survey of Key Concepts and Issues for Electronic Recordkeeping.
ADA362864REB
Rural telemedicine project in northern New Mexico.
DE99002299REB
RECRUITING
Hispanic Youth and Military Enlistment Propensity.
ADA362976REB
RECRUITS
Analysis of Delayed Entry Program (DEP) Attrition by High School Seniors.
ADA363088REB
RECYCLING
Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
DE99002242REB
Reclaimed Manufacturer Asphalt Roofing Shingles in Asphalt Mixtures.
PB99-152613REB
RED-COCKADED WOODPECKER
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB
RED SEA
Red Sea Studies.
ADA363049REB
REDUCTION
Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB
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Jane's Aircraft Upgrades (Online Service).
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Jane's All the World's Aircraft (Online Service).
JANE-0539REB
Jane's Land-Based Air Defence (Online Service).
JANE-0545REB
Jane's Armour and Artillery (Online Service).
JANE-0547REB
Jane's Armour and Artillery Upgrades (Online Service).
JANE-0548REB
Jane's Simulation and Training Systems (Online Service).
JANE-0558REB
REFERENCE MATERIALS
Jane's Airports and Handling Agents: Europe (Online Service).
JANE-0505REB
Jane's Airport and Handling Agents: Europe (on CD-ROM).
JANE-0506REB
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Jane's Airports and Handling Agents: USA and Canada (Online Service).
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Jane's Airports and Handling Agents: USA and Canada. 1999-2000 Edition.
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Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
PB99-154882REB
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Reliability of the nervous (Nv) nets.
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Environmental report 1996, Lawrence Livermore National Laboratory.
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Environmental report 1997, Lawrence Livermore National Laboratory.
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RESEARCH
Adaptive research reports, 1995, v. 17.
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Activities of Dept. of Geological Sciences, Colorado University.
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Periodica Polytechnica, Mechanical Engineering, Volume 42, No. 1, 1998.
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Networked Computing for the 21st Century; Supplement to the President's FY 1999 Budget: Computing, Information, and Communications.
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Program Guide to Federally Funded Environment and Natural Resources R and D.
PB99-152449REB

RESEARCH INSTITUTES
Annual report 1997-98.
MIC-99-03249REB
Assessment of risks associated with the commercial operation of selected DRES facilities.
MIC-99-03366REB

RESEARCH MANAGEMENT
Worldwide Report: Telecommunications Policy, Research and Development, No. 294.
ADA362868REB
ARL Intranet Analysis and Development Study.
ADA362869REB
SERDP Scientific Advisory Board Annual Report to Congress, Fiscal Year 1998.
ADA363071REB
Orbital Debris: A Chronology.
N19990041784REB
Program Guide to Federally Funded Environment and Natural Resources R and D.
PB99-152449REB

RESEARCH PROGRAMS
Decade of DIII-D research. Final report for the period of work, October 1, 1989–September 30, 1998.
DE99002353REB

RESEARCH PROJECTS
Estuarine Science: A Synthetic Approach to Research and Practice.
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Journal of The Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 5.
PB99-101719REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 6.
PB99-101727REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 1.
PB99-101735REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 2.
PB99-101743REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 3.
PB99-101750REB
Periodica Polytechnica, Civil Engineering, Volume 42, No. 2, 1998.
PB99-120313REB
Periodica Polytechnica, Transportation Engineering, Volume 24, No. 1, 1998.
PB99-120321REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 2, 1997.
PB99-152068REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No.11, 1997.
PB99-152084REB
Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
PB99-152118REB
Reports of the Hokkaido National Industrial Research Institute, No. 69, 1997.
PB99-152126REB
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
PB99-152795REB
NKK Technical Report No. 158, June 1997.
PB99-153249REB

RESERVE OFFICER TRAINING CORPS
Officer Candidate School (OCS): Relevance into the 21st Century.
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Building solutions: A problem solving guide for builders and renovators.
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Load Time Dependent Relaxation of Residual Stresses in an Aluminum Test Specimen.
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RESOURCE CONSERVATION
Georges Bank, 1998 conservation requirements for Georges Bank groundfish stocks: Report to the Minister of Fisheries and Oceans.
MIC-99-03610REB

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When Is a Simple Model Adequate for Use in Scheduling in MSHN.
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ADA363365REB
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Involvement of Nuclear Receptor Co-Repressors in the Development of Human Breast Cancer.
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Rhetoric of Reaction. Perversity, Futility, Jeopardy.
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Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
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Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB

RISK ASSESSMENT
Interagency Report on Orbital Debris, 1995.
PB99-151375REB
Public Health Assessment for Agriculture Street Landfill, New Orleans, Orleans Parish, Louisiana, Region 6. CERCLIS No. LAD981056997.
PB99-152282REB
Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152860REB
Public Health Assessment for Sherwin Williams, Emeryville, Alameda County, California, Region 9. CERCLIS No. CAD03934601.
PB99-155590REB
Public Health Assessment for Sandoval Zinc Company, Sandoval, Marion County, Illinois, Region 5. CERCLIS No. ILD053980454.
PB99-155616REB

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Assessment of risks associated with the commercial operation of selected DRES facilities.
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Application of Rotation- and Translation-Invariant Overcomplete Wavelets to the registration of Remotely Sensed Imagery.
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Russia. People and Empire.
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Russia. The Roots of Confrontation.
HUP-0006REB
Russia's Aerospace Industry (Online Service).
JANE-0575REB

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SRS TRU Criticality Safety Analysis Waste Characterization.
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Hazard Analysis Database report.
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Data quality objective to support resolution of the organic solvent safety issue.
DE99050161REB
Safety evaluation for packaging (onsite) depleted uranium waste boxes.
DE99050187REB
Addendum 1 to CSER 97-025: PFP storage of 9.25/9.5 inch tall, 4.4 kg Pu cans on existing Vault 4 pedestals.
DE99050231REB

CSER 97-004: PFP production denitration calciner system.
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Safety evaluation for packaging (onsite) for cesium chloride capsules with type W overpacks.
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Safety evaluation for packaging (onsite) 221 T sodium tanks.
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Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
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Electrical Outlet Splash Protector.
PAT-APPL-8-226 614REB

SAFING AND ARMING (ORDNANCE)
Countermeasure: Army Ground Risk-Management Publication, Volume 20, Number 5, May 1999.
ADA363062REB

SALES
Sales Engine (Episode No. 1). (VHS video).
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Going the Distance (Episode No. 14). (VHS video).
AVA20553-VNB1REB
Full Service (Episode No. 18). (VHS video).
AVA20557-VNB1REB

SALES MANAGEMENT
Sales Connection Series. (26 X 30 minute VHS videos).
AVA20539-VNB7REB
Show and Tell (Episode No. 15). (VHS video).
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Breaking Through (Episode No. 16). (VHS video).
AVA20555-VNB1REB
Dotted Line (Episode No. 17). (VHS video).
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Setting the Pace (Episode No. 20). (VHS video).
AVA20559-VNB1REB
Peak Performance (Episode No. 21). (VHS video).
AVA20560-VNB1REB
Line (Episode No. 23). (VHS video).
AVA20562-VNB1REB

SALES PERSONS
Sales Talk (Episode No. 6). (VHS video).
AVA20545-VNB1REB
Making Connections (Episode No. 12). (VHS video).
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Extra Mile (Episode No. 19). (VHS video).
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Right Choice (Episode No. 25). (VHS video).
AVA20564-VNB1REB

SALES WORKERS
Sales Connection Series. (26 X 30 minute VHS videos).
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AVA20543-VNB1REB
First Impressions (Episode No. 5). (VHS video).
AVA20544-VNB1REB

SALESMANSHIP
Personal Touch (Episode No. 4). (VHS video).
AVA20543-VNB1REB

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R/V Seward Johnson Cruise Report (SJ-9807) ACCE S-PALACE Float Deployments.
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Recent Developments in Population Viability Analysis, with Specific Reference to Pacific Salmon.
PB99-155426REB

SALONS
Health Hazard Evaluation Report HETA 97-0153-2694, The Grand Experience Salon, Chicago, Illinois.
PB99-152258REB

SAMPLING
Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
DE99050153REB
Sampling and analysis plan for sampling of liquid waste streams generated by 222-S Laboratory Complex operations.
DE99050155REB
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB

SANDIA NATIONAL LABORATORIES
Sandia National Laboratories Institutional Plan: FY 1999-2004.
DE00002622REB

SANDWICH PANELS
Analysis of Damped Plates.
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Sanskrit Grammar. Including Both the Classical Language, and the Older Dialects, of Veda and Brahmana.
HUP-0033REB

SAPHIRE 6.0 COMPUTER PROGRAMS
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB

SAPPHIRE
Fatigue crack nucleation in metallic materials.
DE99002227REB

SATELLITE ATTITUDE CONTROL
Incorporating Manual and Autonomous Code Generation.
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Studying Turbulence Using Numerical Simulation Databases, No. 7.
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SCHOOL BUSES
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SCIENCE AND TECHNOLOGY
Award of Lenin Prizes in Science and Technology, USSR--Translation.
ADA362853REB
West Europe Report, Science and Technology, No. 182.
ADA362909REB
USSR Report, Science and Technology Policy, No. 14.
ADA362934REB
State of science and technology indicators in the OECD countries.
MIC-99-03567REB

SCIENTIFIC ORGANIZATIONS
Soviet Scientific and Engineering Personnel.
ADA362639REB
Activities of Scientific Societies of the Tatar ASSR.
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SCIENTIFIC RESEARCH
Polish Long-Range Plan (1961-1975) and Five-Year Plan (1961-1965) for Scientific Research in Agricultural Technology--Translation.
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Reorganization of Industrial Hygiene on a Scientific Basis, Ussr--Translation.
ADA362794REB
East Europe Report: Scientific Affairs, No. 772.
ADA362852REB
Award of Lenin Prizes in Science and Technology, USSR--Translation.
ADA362853REB
Brief Report on a Scientific Mission to the United States, USSR.
ADA363311REB

SCIENTISTS
Soviet Scientific and Engineering Personnel.
ADA362639REB
Award of Lenin Prizes in Science and Technology, USSR--Translation.
ADA362853REB
USSR Report, Science and Technology Policy, No. 14.
ADA362934REB
General Meeting of the Siberian Affiliate of the Academy of Sciences USSR--Translation.
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Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB
Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century. A White House Roundtable Dialogue for President Clinton's Initiative on Race. Proceedings of Panel Discussion and Position Papers.
PB99-151409REB

SEA BASED
Sea-Based Logistics: Does It Satisfy the Operational Commander's Need.
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Revision of the NASA Team Sea Ice Algorithm.
N19990041151REB

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Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art.
ADA363064REB

SEA POWER
Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art.
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Arabian Gulf Maritime Interception Operations: Balancing the Ends, Ways, Means and Risks.
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Volatile Losses from Aged Field Sediments.
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Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB

SEISMIC DATA
Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB

SEISMICITY
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB

SEISMOLOGY
CTBT verification related case studies of three recent seismic events, Novaya Zemlya, India and Pakistan.
MIC-99-03262REB

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Improved Methodology For Screening Military Pilot Applicants.
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Test and Evalution Plan for Determining Screener Training Effectiveness.
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Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
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Quantum Modeling.
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Condensation of Quasi-Two-Dimensional Biexcitons in a Single Heterojunction Quantum Well.
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Reaction of preshocked explosives.
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Just Punishment: Public Perceptions and the Federal Sentencing Guidelines.
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Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
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Separation of RDX from Composition B Via a Supercritical Fluid Extraction Process.
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Organic ion exchange resin separation methods evaluation.
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Heat Treatment of Al 7075 for Ejection Seat Shear Wire.
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New Materials for EMI Shielding.
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Environmental Analysis of U.S. Navy Shipboard Solid Waste Discharges: Addendum to the Report of Findings.
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Efficient Computation of Nonlinear Transient Structural Synthesis for Seismic Isolation.
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SHOCK WAVES

Interaction of Weak Shock Waves With a Flame Front, USSR.
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Reaction of preshocked explosives.
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SIBERIA

General Meeting of the Siberian Affiliate of the Academy of Sciences USSR--Translation.
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America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
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Evaluation of two school bus advance signalling devices: The eight-light system and hazard lights.
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Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
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Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising.
ADA363100REB

Year End Progress Report for ONR Young Investigator Grant N00014-97-1-0774.
ADA363335REB

Adaptive nulling of skywave interference using horizontal dipole antennas in a coastal surveillance HF surface wave radar system.
MIC-99-03279REB

High Speed A/D DSP Interface for Carrier Doppler Tracking.
N19990041157REB

Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB

SILENT DISCHARGE PLASMAS

Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
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SILICON

Ab initio calculations of As-vacancy interactions in silicon.
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Regional Advantage. Culture and Competition in Silicon Valley and Route 128.
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SIMULATION

Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB

Global MHD Simulation of Mesoscale Structures at the Magnetospheric Boundary.
N19990042166REB

SIMULATORS

Jane's Simulation and Training Systems (Online Service).
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SINGLE CRYSTALS

Doped PMN-PT Single Crystals.
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SINGLE STAGE TO ORBIT VEHICLES

X-33 Flight Operations Center.
N19990041246REB

SINTERING

Feasibility Study of Liquid Phase Sinter Forming of a Model Ceramic System.
ADA362946REB

SITE CHARACTERIZATION

Roles of Historical Photography in Waste Site Characterization, Closure, and Remediation.
DE98057841REB

Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB

In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB

SITUATIONAL AWARENESS

Cruising CVBGs and Horizon MAGs: An Alternative Approach to Naval Forward Presence for the 21st Century.
ADA363203REB

SLEEP DEPRIVATION

Survey of Work and Sleep Hours of U.S. Army Aviation Personnel.
ADA362964REB

Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment.
ADA362972REB

SMOKE

Aerial Video of Smoke-Marked Wind Shifts Caused by Ocean Internal Waves.
PB99-154486REB

SNAGS

Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB

SOCIAL ARRANGEMENTS

Inequality Reexamined.
HUP-0029REB

SOCIAL CHANGE

Propensity To Self-Subversion.
HUP-0030REB

SOCIALISM

Selected Articles on Armed Forces in North Vietnam.
ADA363318REB

SOCIOECONOMIC CONDITIONS

Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB

SOCIOECONOMICS

Inserting joiners into a longitudinal panel of households and individuals: Simulations.
MIC-99-03602REB

Sample representativeness for the Survey of Labour and Income Dynamics.
MIC-99-03604REB

SOCIOLOGY

East Europe Report, Political, Sociological and Military Affairs, No. 2090--Translation.
ADA362657REB

China Report, Political, Sociological and Military Affairs.
ADA362672REB

East Europe Report, Political, Sociological and Military Affairs, No. 2154--Translation.
ADA362686REB

China Report, Political, Sociological and Military Affairs--Translation.
ADA362687REB

China Report, Political, Sociological and Military Affairs--Translation.
ADA362689REB

China Report, Political, Sociological and Military Affairs--Translation.
ADA362690REB

China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 17, 10 August 1984--Translation.
ADA362691REB

Translations on Eastern Europe. Political, Sociological, and Military Affairs, No. 1406--Translation.
ADA362695REB

East Europe Report, Political, Sociological and Military Affairs, No. 2189.
ADA362698REB

China Report, Political, Sociological and Military Affairs.
ADA362701REB

China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 16, 30 July 1984--Translation.
ADA362703REB

East Asia: Southeast Asia.
ADA362709REB

China Report: Political, Sociological and Military Affairs, No. 469.
ADA362767REB

East Europe Report: Political, Sociological and Military Affairs, No. 2225.
ADA362774REB

East Europe Report: Political, Sociological and Military Affairs, No. 2088.
ADA362777REB

East Europe Report: Political, Sociological and Military Affairs, No. 2193.
ADA362778REB

East Europe Report: Political, Sociological and Military Affairs, No. 2194.
ADA362779REB

China Report, Political, Sociological and Military Affairs No. 436.
ADA362780REB

China Report: Political, Sociological and Military Affairs, No. 470--Translation.
ADA362799REB

East Europe Report, Political, Sociological and Military Affairs, No. 2133.
ADA362807REB

China Report, Political, Sociological and Military Affairs, No. 431--Translation.
ADA362815REB

China Report, Political, Sociological and Military Affairs, No. 412--Translation.
ADA362821REB

East Asia: Korea.
ADA362824REB

USSR Report: Political and Sociological Affairs, No. 1478.
ADA362827REB

East Europe Report, Political, Sociological and Military Affairs, No. 2079--Translation.
ADA362830REB

China Report, Political, Sociological and Military Affairs, No. 438--Translation.
ADA362831REB

JPRS Report, Latin America--Translation.
ADA362834REB

JPRS Report, Latin America--Translation.
ADA362836REB

East Europe Report, Political, Sociological and Military Affairs, No. 2153--Translation.
ADA362841REB

USSR Report, Political, and Sociological Affairs, No. 1390.
ADA362845REB

JPRS Report, Near East & South Asia.
ADA362879REB

China Report: Political, Sociological and Military Affairs, No. 452--Translation.
ADA362890REB

China Report: Political, Sociological and Military Affairs, No. 453--Translation.
ADA362893REB

East Europe Report: Political, Sociological and Military Affairs, No. 2226--Translation.
ADA362894REB

JPRS Report, East Asia Southeast Asia--Translation.
ADA362941REB

China Report, Political, Sociological and Military Affairs--Translation.
ADA362943REB

East Europe Report, Political, Sociological and Military Affairs, No. 2130--Translation.
ADA362945REB

East Europe Report, Political, Sociological and Military Affairs, No. 2235--Translation.
ADA362994REB

China Report, Political, Sociological and Military Affairs, No. 475--Translation.
ADA362995REB

Pantjasila, the Five Basic Principles of the Republic of Indonesia.
ADA363017REB

China Report, Political, Sociological and Military Affairs.
ADA363280REB

East Europe Report, Political, Sociological and Military Affairs, No. 2158.
ADA363290REB

China Report, Political, Sociological and Military Affairs, No. 476.
ADA363293REB

East Europe Report, Political, Sociological and Military Affairs, No. 2121.
ADA363294REB

East Europe Report, Political, Sociological and Military Affairs No. 2157.
ADA363307REB

East Europe Report, Political, Sociological and Military Affairs No. 2234.
ADA363308REB

China Report, Political, Sociological and Military Affairs No. 474.
ADA363309REB

East Europe Report, Political, Sociological and Military Affairs, No. 2164--Translation.
ADA363324REB

East Europe Report, Political, Sociological and Military Affairs, No. 2123--Translation.
ADA363325REB

China Report, Political, Sociological and Military Affairs, No. 404--Translation.
ADA363326REB

East Europe Report Political, Sociological and Military Affairs No. 2122--Translation.
ADA363367REB

East Europe Report, Political, Sociological and Military Affairs, No. 2232--Translation.
ADA363369REB

China Report, Political, Sociological and Military Affairs, No. 472--Translation.
ADA363372REB

East Europe Report, Political, Sociological and Military Affairs No. 2087.
ADA363379REB

SODIUM

Safety evaluation for packaging (onsite) 221 T sodium tanks.
DE99050488REB

SODIUM CHLORIDES

Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
N19990042032REB

SOFTWARE

Waste Receiving and Processing Facility Module 1 Data Management System software requirements specification.
DE99050395REB

SOFTWARE DEVELOPMENT TOOLS

Incorporating Manual and Autonomous Code Generation.
N19990042320REB

SOFTWARE ENGINEERING

Software Acquisition Capability Maturity Model (SA-CMM) Version 1.02.
ADA362667REB

CVX Damage Control Information Technology Evolutionary Model.
ADA362692REB
Why Reengineering Projects Fail.
ADA362725REB
AMPL: An Exclusive Technology for DecisionNet.
ADA362883REB
Implementation of Successful Practices Using an Iterative Development Methodology for an AEGIS Configuration Management Software Application.
ADA363072REB
Automated System for Determining Applicability of Regulations.
ADA363392REB
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB

SOIL AMENDMENTS
Soil fertility handbook.
MIC-99-03102REB
Field crop recommendations, 1999-2000.
MIC-99-03222REB

SOIL FERTILITY
Soil fertility handbook.
MIC-99-03102REB

SOIL POLLUTION
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB

SOIL REMEDIATION
Final Data Usability Summary and Resampling Proposal for Fort Sheridan.
ADA363090REB

SOIL SETTLEMENT
ADDAMS Application: Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module in CDFs.
ADA362730REB

SOLAR ACTIVITY
Conference on the Problem of Sun-Troposphere – USSR —Translation.
ADA362812REB
Solar-Geophysical Data Number 657, May 1999. Part 1 (Prompt Reports). Data for March, April 1999 and Late Data.
PB99-154676REB
Solar-Geophysical Data Number 657, May 1999. Part 2. (Comprehensive Reports). Data for November 1998 and Miscellaneous.
PB99-154684REB

SOLAR ARRAYS
Flight Prediction for Performance of the SWAS Solar Array Deployment Mechanism.
N19990042081REB

SOLAR CELLS
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 1, 1997. Special Issue: Solar Cells V.
PB99-152050REB

SOLAR CYCLES
Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
N19990042139REB

SOLAR OBSERVATORIES
Main Source of Solar Corpuscular Streams –USSR— Translation.
ADA362791REB

SOLAR POSITION
Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
N19990042139REB

SOLAR WIND
Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
N19990042139REB
Global MHD Simulation of Mesoscale Structures at the Magnetospheric Boundary.
N19990042166REB

SOLID FREEFORM FABRICATION
Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
ADA362745REB

SOLID PROPELLANT ROCKET ENGINES
Elimination of Toxic Materials and Solvents from Solid Propellant Components (PP1058).
ADA363240REB
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB

SOLID PROPELLANTS
Prediction of Crack Initiation and Growth in Solid Propellants.
ADA363081REB

SOLID WASTE DISPOSAL
Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
PB99-152118REB

SOLID WASTES
Solid waste integrated forecast technical (SWIFT) report: FY1997 to FY 2070.
DE99050410REB

SOLIDIFICATION
R and D 100 market assessment.
DE99002205REB

SOLVENTS
Elimination of Toxic Materials and Solvents from Solid Propellant Components (PP1058).
ADA363240REB

SONAR EQUIPMENT
Impact properties of composite sonar dome materials.
MIC-99-03381REB

SONIC FATIGUE
Monte Carlo Simulation for Appliction to Aerospace Vehicle Structures.
ADA363043REB

SORBENTS
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB

SOUTH AMERICA
South American Defence Industries and Markets (Online Service).
JANE-0571REB

SOUTH ASIA
JPRS Report, Near East & South Asia.
ADA362647REB
JPRS Report, Near East & South Asia.
ADA362651REB
JPRS Report, Near East & South Asia.
ADA362654REB
JPRS Report, Near East & South Asia.
ADA362663REB
JPRS Report, Near East & South Asia.
ADA362665REB
Near East and South Asia.
ADA362773REB
Near East/South Asia Report, No. 2780--Translation.
ADA362828REB
JPRS Report, Near East & South Asia--Translation.
ADA362886REB
East Asia: Southeast Asia.
ADA362913REB
East Asia: Southeast Asia.
ADA362914REB
JPRS Report, Near East & South Asia--Translation.
ADA362915REB
Near East and South Asia--Translation.
ADA362929REB
Near East and South Asia--Translation.
ADA362930REB
Near East and South Asia--Translation.
ADA362986REB
JPRS Report, Near East & South Asia, Table of Contents, JPRS-NEA-87-001, 2 January 1987-JPRS-NEA-87-041, 6 Apr 1987 Part 1--Translation.
ADA363013REB

SOUTH KOREA
JPRS Report, East Asia Korea.
ADA362866REB
JPRS Report, East Asia: Korea.
ADA362867REB
JPRS Report, East Asia: Korea.
ADA362921REB
JPRS Report, East Asia: Korea.
ADA362922REB

SOUTHEAST ASIA
JPRS Report, East Asia Southeast Asia.
ADA362646REB
JPRS Report, East Asia Southeast Asia.
ADA362649REB
JPRS Report, East Asia Southeast Asia.
ADA362655REB
JPRS Report, East Asia: Southeast Asia.
ADA362664REB
JPRS Report, East Asia Southeast Asia.
ADA362666REB
JPRS Report, East Asia Southeast Asia.
ADA362669REB
Southeast Asia Report, No. 1371.
ADA362825REB
Southeast Asia Report, No. 1310.
ADA362842REB
Southeast Asia Report, No. 1372.
ADA362854REB
East Asia: Southeast Asia.
ADA362931REB
East Asia: Southeast Asia.
ADA362933REB

SOUTHWESTERN REGION (ILLINOIS)
Ethanol Plant Feasibility Study for the Lower Kaskaskia River Valley Corn Wet Milling Facility.
PB99-122921REB

SOUTHWESTERN REGION (TEXAS)
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins.
PB99-152688REB

SOV (SPACE OPERATIONS VEHICLE)
Component Based Simulation of the Space Operations Vehicle and the Common Aero Vehicle.
ADA363022REB

SPACE COMMERCIALIZATION
X-33/VentureStar Program.
N19990041334REB
Reusable Launch Vehicle (RLV) Mission/Market Model.
N19990041879REB

SPACE DEBRIS
Orbital Debris: A Chronology.
N19990041784REB
Interagency Report on Orbital Debris, 1995.
PB99-151375REB

SPACE MISSIONS
High-Resolution Ozone Imager (HIROIG).
ADA362746REB

SPACE OPERATIONS VEHICLE
Component Based Simulation of the Space Operations Vehicle and the Common Aero Vehicle.
ADA363022REB

SPACE PROGRAMS
Jane's Space Directory (Online Service).
JANE-0541REB

SPACE SHUTTLE MAIN ENGINE
Space Shuttle Main Engine: Part Number RS007001.
N19990041880REB

SPACE STATIONS
SPACE STATION: Status of Russian Involvement and Cost Control Efforts.
ADA363386REB

SPACE SYSTEMS
Independent Research and Development.
ADA363103REB
Use of Commercial Space Assets by the Joint Force Commander.
ADA363150REB

SPACE TOURISM
General Public Space Travel and Tourism, Volume 2.
N19990041888REB

SPACE TRANSPORTATION
General Public Space Travel and Tourism, Volume 2.
N19990041888REB

SPACE WARFARE
Space as an Area of Responsibility (AOR), Is it the Right Solution.
ADA363149REB

SPACEBORNE EXPERIMENTS
Modular Wideband Active Vibration Absorber.
N19990041146REB
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB

SPACECRAFT CONSTRUCTION MATERIALS
Development of Lightweight Electronics Enclosures for Space Applications.
N19990042149REB

SPACECRAFT ENVIRONMENTS
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB

SPACECRAFT MAINTENANCE
Spacecraft Onboard Software Maintenance: An Effective Approach which Reduces Costs and Increases Science Return.
N19990041147REB

SPACECRAFT RADIATORS
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB

SPALL FRACTURE
Dynamic Failure of Materials. Volume 1 - Experiments and Analyses.
ADA362713REB

SPATIAL DISTRIBUTION
GISS Analysis of Surface Temperature Changes.
N19990042165REB

SPECIAL FORCES
Special Forces: The Peacetime Regional Engagement Force of Choice ... and More.
ADA363185REB

SPECIAL NEEDS
Education of Children and Youth with Special Needs: What Do the Laws Say.
PB99-151227REB

SPECIAL OPERATIONS FORCES
Operational Level Intelligence Preparation of the Battlefield for Special Operations Forces.
ADA363187REB
High Profile Special Operations Missions and Timing: Identifying the Culminating Point of Execution.
ADA363195REB

SPECTROMETERS
Photon-Weighted Midpoint Exposure Meter for Keck/HIRES Extrasolar Planet Research.
N19990042170REB

SPECTROPHOTOMETRY
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB

SPECTROSCOPY
Application of nonlinear wave modulation spectroscopy to discern material damage.
DE99002411REB

SPECTRUM ANALYSIS
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB

SPENT FUEL CASKS
Packaging and transportation system for K-Basin spent fuel.
DE99050622REB

SPENT FUEL ELEMENTS
Microstructure and Physical Metallurgy in Melt-Dilute Treatment Technology for Al-Based Spent Nuclear Fuel.
DE98054572REB
Development of the Melt-Dilute Treatment Technology for Al-Based DOE Spent Nuclear Fuel.
DE98054756REB
SPENT FUEL STORAGE
Inspection and Analysis of Aluminum Storage Racks in Spent Fuel Storage Basins.
DE98057842REB
Hanford spent nuclear fuel project update.
DE99050207REB
SPLATTING
Perspective Splatting.
ADA363073REB
SPREAD SPECTRUM
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB
SPRINGS (WATER)
Coso Monitoring Program, October 1997 through September 1998.
ADA362727REB
Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
PB99-152464REB
SPUTTERING
Electron Assisted Deposition of Cubic Boron Nitride by RF Magnetron Sputtering.
ADA362770REB
STANDARDIZATION
Implementing a Standards-Based Distributed Measurement and Control Application on the Internet.
PB99-152712REB
STANDARDS
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July–September 1996.
DE99002446REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1996.
DE99002447REB
STANDARDS COMPLIANCE
Yellow Book: Guide to Environmental Enforcement and Compliance at Federal Facilities.
PB99-152530REB
STAR CLUSTERS
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB
STAR FORMATION
High Resolution Far-Infrared Studies of Compact Regions in Star-Forming Molecular Clouds.
N19990042133REB
Airborne Astronomy Program.
N19990042134REB
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB
STARTUP
Light duty utility arm startup plan.
DE99050751REB
STATE GOVERNMENT
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB
Dealing With Data: Seminar Summary. Using Information in Government Program Information Sharing Seminar Series, Seminar No. 1.
ADA362861REB
STATESMEN
John Quincy Adams. A Public Life, A Private Life.
HUP-0027REB
STATISTICAL DATA
Natural gas imports and exports. Fourth quarter report, 1998.
DE99002705REB
Statistics of U.S. Businesses: Microdata and Tables. SBA/Census Data on Establishments by Firm Size.
PB99-142572REB
STATISTICAL MODELLING
Inserting joiners into a longitudinal panel of households and individuals: Simulations.
MIC-99-03602REB
STATISTICS
Agricultural Statistics, 1999.
NASS-ZAG-99REB
STATORS
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB
STATUTES
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB
STEEL-ASTM-A533-B
Dynamic Fracture Initiation Toughness of ASTM A533, Grade B Steel Plate.
NUREG/CR-6512REB
STEEL PLATES
Notch effect of 350WT steel plate at high strain rates.
MIC-99-03347REB
STEELS
Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
DE99002444REB
STELLAR ENVELOPES
High Resolution Far-Infrared Studies of Compact Regions in Star-Forming Molecular Clouds.
N19990042133REB
Airborne Astronomy Program.
N19990042134REB
STELLAR EVOLUTION
Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST.
N19990042137REB
STIFFNESS
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB
STOCKS
Making Markets. Opportunism and Restraint on Wall Street.
HUP-0011REB
STORAGE
Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB
STORAGE FACILITIES
Indexing contamination surveys.
DE99050499REB
Immobilized low-activity waste interim storage facility, Project W-465 conceptual design report.
DE99050565REB
Project W-320 high vacuum 241-AY-102 annulus ventilation system operability test report.
DE99050588REB
STORAGE RINGS
Effective temperatures and electron spin polarization in storage rings.
DE99002386REB
STORAGE TANKS
Preliminary tank characterization report for single-shell tank 241-TX-112: Best-basis inventory.
DE99050181REB
Preliminary tank characterization report for single-shell tank 241-TX-106: Best-basis inventory.
DE99050182REB
Preliminary tank characterization report for single-shell tank 241-TX-114: Best-basis inventory.
DE99050183REB
Preliminary tank characterization report for single-shell tank 241-TX-103: Best-basis inventory.
DE99050184REB
Preliminary tank characterization report for single-shell tank 241-TX-111: Best-basis inventory.
DE99050185REB
Preliminary tank characterization report for single-shell tank 241-TX-110: Best-basis inventory.
DE99050186REB
STORM WATER RUNOFF
Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
PB99-153009REB
STORMWATER MANAGEMENT
Post-construction evaluation of stormwater exfiltration & filtration systems.
MIC-99-03128REB
STRAIN GAGE BALANCES
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB
STRATEGIC ACTIONS
Strategy. The Logic of War and Peace.
HUP-0021REB
STRATEGIC ANALYSIS
Space as an Area of Responsibility (AOR), Is it the Right Solution.
ADA363149REB
STRATEGIC PLANNING
National Transportation Science and Technology Strategy.
PB99-151383REB
Transportation Strategic Research Plan.
PB99-151391REB
STRATEGIC WARFARE
Can We Get There From Here. RMAs, Network-Centric Warfare and the Process of Transformation.
ADA363146REB
Network Centric Warfare and the Joint Forces Air Component Commander.
ADA363152REB
Next Convoy War: The American Campaign Against Enemy Shipping in the Twenty-First Century.
ADA363196REB
STRATEGY
Awakening China: Rabbit or Tiger.
ADA363030REB
Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next.
ADA363198REB
STRATOSPHERE
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB
STREAMS
Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
PB99-152464REB
STREHL RATIO
Strehl Ratio Probabilities for Phase-Only Adaptive Optics.
ADA362881REB
STRESS ANALYSIS
Static Structural Analysis of the Loreors Electronic Console Support Frame.
ADA363138REB
STRESS (PSYCHOLOGY)
Female Gender and Other Potential Predictors of Functional Health Status Among Persian Gulf War Veterans (Revised).
ADA362870REB
STRIKE WARFARE
Component Based Simulation of the Space Operations Vehicle and the Common Aero Vehicle.
ADA363022REB
STRUCTURAL ANALYSIS
Efficient Computation of Nonlinear Transient Structural Synthesis for Seismic Isolation.
ADA362911REB
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB
Analysis of Damped Plates.
ADA363361REB
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB
STRUCTURAL DESIGN
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB
Multidisciplinary Design and Analysis for Commercial Aircraft.
N19990042109REB
STRUCTURAL INTEGRITY
Practical Method for Aircraft Life Enhancement.
ADA362642REB
STRUCTURAL MECHANICS
Structural Optimization Technique.
ADA363330REB
STRUCTURAL RELIABILITY
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB
STRUCTURAL RESPONSE
Efficient Computation of Nonlinear Transient Structural Synthesis for Seismic Isolation.
ADA362911REB
Cross Flow Over Double Delta Wings.
ADA363041REB
Preliminary Study of Sensitivity Analysis and its Applications to Structural Control Problems.
ADA363042REB
SUBSTRUCTURES
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB
SULFUR
Development of Biotrickling Filters to Treat Sulfur and VOC Emissions.
ADA362950REB
SULFUR OXIDES
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
ADA363228REB
SUPERCRITICAL FLOW
Separation of RDX from Composition B Via a Supercritical Fluid Extraction Process.
ADA363254REB
Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB
SUPERFUND
Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB
Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.
PB98-963305REB
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB
Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB

SUPERGIANT STARS
Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST.
N19990042137REB
SUPERSONIC COMBUSTION RAMJET ENGINES
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB
SUPERSONIC TRANSPORTS
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB
SUPPLYING
Jane's World Railways (Online Service).
JANE-0576REB
SURFACE DEFECTS
Investigation of the Effect of Surface Impurities on the Adsorption Kinetics of Hydrogen Chemisorbed onto Iron.
N19990042171REB
SURFACE MINING
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
PB99-152795REB
SURFACE PRESSURE FILMS
Development and Application of an Advanced Optical Based Pressure Instrument for Low-Speed Flows.
ADA362829REB
SURFACE PROPERTIES
Influence of surface topography on the forming friction of automotive aluminum sheet.
DE99002244REB
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB
SURFACE TARGETS
Overview of the Modular Effectiveness/Vulnerability Assessment (MEVA) Architecture.
ADA362951REB
SURFACE TEMPERATURE
GISS Analysis of Surface Temperature Changes.
N19990042165REB
SURFACE WATERS
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening CoastaL Basins.
PB99-152688REB
Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
PB99-152928REB
SURFACES
Triangulation-Based L1-Fitting of Terrain Surfaces.
PB99-152779REB
SURGERY
Workshop on 'New Engineering Technology Transfer in Orthopaedic Surgery'.
ADA362697REB
SURVEYS
Falling through the Net: Defining the Digital Divide. A Report on the Telecommunications and Information Technology Gap in America.
PB99-144487REB
SURVIVABILITY
NBC Report, Spring - Summer 1999. Survivability of Army Personnel and Materiel.
ADA363243REB
SUSPENDED SEDIMENTS
Estimating Dredging Sediment Resuspension Sources.
ADA362892REB
SUSTAINABLE AGRICULTURE
Green Technologies for a More Sustainable Agriculture.
ERS-AIB-752REB
SUSTAINABLE DEVELOPMENT
Ecotourism and Sustainable Development. Who Owns Paradise.
ISLAND-0523REB
Workbook on fish.
MIC-99-03634REB
Workbook on wildlife.
MIC-99-03635REB
SYMPOSIA
Recent Geographical Conferences in the Soviet Union, USSR--Translation.
ADA362768REB
Selected Translations of Abstracts in Referativnyy Zhurnal - Biologiya, No. 6, 1959--Translation.
ADA362785REB
Hungarian Symposium of Radiation Damage and Protection.
ADA363027REB
RAND Forum on Cuba.
ADA363063REB
RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
ADA363078REB
SYNCHROTRON RADIATION
High-resolution structural studies of ultra-thin magnetic, transition metal overlayers and two-dimensional transition metal oxides using synchrotron radiation.
DE99002387REB
SYNTHESIS
Synthesis, characterization and reactivity of high oxidation state nickel fluorides.
DE99002385REB
SYNTHETIC APERTURE RADAR
Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques.
ADA363380REB
SYSTEMS DYNAMICS
Modeling the Environment: An Introduction to System Dynamics Modeling of Environmental Systems.
ISLAND-0517REB
SYSTEMS ENGINEERING
Meteoroids and Meteor Storms: A Threat to Spacecraft.
N19990041159REB
X-33 Flight Operations Center.
N19990041246REB
Design Heritage-Based Forecasting Methodology for Risk Informed Management of Advanced Systems.
N19990041444REB
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB
Multidisciplinary Design and Analysis for Commercial Aircraft.
N19990042109REB
SYSTEMS INTEGRATION
X-33 Flight Operations Center.
N19990041246REB
Systems Integration for Manufacturing Applications, 1998 Annual Report.
PB99-152696REB
TACIT KNOWLEDGE
Tacit Knowledge in the Workplace.
ADA362656REB
TAILLESS AIRCRAFT
Innovative Control Effectors (Configuration 101) Dynamic Wind Tunnel Test Report. Rotary Balance and Forced Oscillation Tests.
ADA362903REB
TAIWAN
Shifting Ambiguity U.S. Foreign Policy Toward China and Taiwan.
ADA363166REB
Journal of The Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 5.
PB99-101719REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 6.
PB99-101727REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 1.
PB99-101735REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 2.
PB99-101743REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 3.
PB99-101750REB
Proceedings of the National Science Council, Republic of China: Part A: Physical Science and Engineering, Volume 22, No. 2, March 1998.
PB99-101768REB
TANKS
Nonradioactive Air Emissions Notice of Construction use on a portable exhauster on 241-A-101 tank during salt well pumping.
DE99050550REB
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050584REB
Resolution of Hanford tanks organic complexant safety issue.
DE99050708REB
Tank 241-TX-104, cores 230 and 231 analytical results for the final report.
DE99050826REB
TANTALUM
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB
TARGET ACQUISITION
Completing the Sensor Grid: A Revolution in Imagery Management.
ADA363053REB
TARGET RECOGNITION
Biomorphic Networks for ATR and Higher-Level Processing.
ADA362731REB
TARGETS
Overview of the Modular Effectiveness/Vulnerability Assessment (MEVA) Architecture.
ADA362951REB
Plasma and ion barrier for electron beam spot stability.
DE99002226REB
TEAMS (PERSONNEL)
Getting the Most Out of Integrated Product Teams (IPTs).
ADA362638REB
TECHNICAL ASSISTANCE
Tribal Environmental and Natural Resource Assistance Handbook.
PB99-150989REB
TECHNOLOGY
Report to the President on the Use of Technology to Strengthen K-12 Education in the United States.
PB99-152431REB
TECHNOLOGY ASSESSMENT
Information Technology Innovation in the U.S. Army: The Case of the Adoption, Adaptation, and Utilization of the Strategic Crisis Exercise Intranet.
ADA362718REB
Naval Force Protection in the Littorals.
ADA363193REB
Technology and Intervention: The Negative Impact on Future Leader Development.
ADA363207REB
Nanosat Intelligent Power System Development.
N19990041448REB
TECHNOLOGY INNOVATION
Hitachi Review, Volume 46, No. 5, October 1997. Hitachi's Multimedia Solutions.
PB99-153132REB
TECHNOLOGY TRANSFER
Workshop on 'New Engineering Technology Transfer in Orthopaedic Surgery'.
ADA362697REB
Representation and Integration of Scientific Information.
N19990042373REB
TECHNOLOGY UTILIZATION
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB
In Situ Resource Utilization (ISRU 3) Technical Interchange Meeting: Abstracts.
N19990042245REB
TECTONICS
Activities of Dept. of Geological Sciences, Colorado University.
N19990041815REB
TELECOMMUNICATION
Electronic village: Policy issues of the information economy.
MIC-99-03240REB
High Speed A/D DSP Interface for Carrier Doppler Tracking.
N19990041157REB
Tel8 Telecommnications Network: A Pooled Fund Study for Transportation Videoconferencing.
PB99-151433REB
TELECOMMUNICATIONS
Worldwide Report: Telecommunications Policy, Research and Development, No. 285.
ADA362797REB
Worldwide Report, Telecommunications Policy, Research and Development, No. 250.
ADA362820REB
Worldwide Report: Telecommunications Policy, Research and Development, No. 294.
ADA362868REB
Worldwide Report Telecommunications Policy, Research and Development No. 253.
ADA363271REB
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB
TELEGRAPH SYSTEMS
Regulations for the Technical Operation of Interurban Telephone- Telegraph Cable Lines, USSR.
ADA363281REB
TELEMARKETING
Open Line (Episode No. 24). (VHS video).
AVA20563-VNB1REB
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB
TELEPHONE SYSTEMS
Regulations for the Technical Operation of Interurban Telephone- Telegraph Cable Lines, USSR.
ADA363281REB
TELEVISION SYSTEMS
Some Perspectives of the Development of Television Broadcasting Technology -- USSR —Translation.
ADA362810REB

TEMPERATURE
Coso Monitoring Program, October 1997 through September 1998.
ADA362727REB

TEMPERATURE CONTROL
Analysis of thermal issues associated with the pre-amplifier modules in the National Ignition Facility.
DE99002258REB
New ERA in Global Temperature Monitoring with the Advanced Microwave Sounding Unit (AMSU).
N19990041446REB

TEMPERATURE DEPENDENCE
GISS Analysis of Surface Temperature Changes.
N19990042165REB

TEMPERATURE MEASUREMENT
GISS Analysis of Surface Temperature Changes.
N19990042165REB

TEMPERATURE MONITORING
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB

TENSILE PROPERTIES
Dislocation accumulation at large plastic strains – An approach to the theoretical strength of materials.
DE99002412REB

TENTS
Tent group systems requirements, phase 1A.
MIC-99-03476REB

TENURE
Continuation of a Postdoctoral Research Associateship Program.
ADA363232REB

TERMINAL FACILITIES
Intermodal Cargo Transportation: Industry Best Security Practices.
PB99-152761REB

TERMINAL FLIGHT FACILITIES
General Aviation Airports: Unauthorized Land Use Highlights Need for Improved Oversight and Enforcement.
ADA363173REB

TERRAIN MODELS
Triangulation-Based L1-Fitting of Terrain Surfaces.
PB99-152779REB

TERRESTRIAL ECOSYSTEMS
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB

TERRORISM
Countering the New Terrorism.
ADA363163REB
Jane's Counter Terrorism (Online Service).
JANE-0564REB
Terrorism: A Global Survey (Online Service).
JANE-0566REB

TERRORISTS
Countering the New Terrorism.
ADA363163REB
Real Cost of 'Engagement'.
ADA363230REB

TEST FACILITIES
Plasma and ion barrier for electron beam spot stability.
DE99002226REB

TEXAS
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins.
PB99-152688REB

TEXTILE MANUFACTURING
Health Hazard Evaluation Report HETA 96-0258-2673, Foss Manufacturing Company, Inc., Hampton, New Hampshire.
PB99-152191REB

TEXTILE PAINTS
Health Hazard Evaluation Report HETA 96-0093-2685, Microfibres, Inc. Pawtucket, RI.
PB99-152357REB

THAAD (THEATER HIGH ALTITUDE AREA DEFENSE)
THAAD Radar: Examination of a Cost Saving Initiative.
ADA362644REB

THAILAND
East Asia: Southeast Asia, Autobiography of Chamlong.
ADA362817REB

THEATER HIGH ALTITUDE AREA DEFENSE
THAAD Radar: Examination of a Cost Saving Initiative.
ADA362644REB

THEATER LEVEL OPERATIONS
Theater Missile Defense in World War II - Some Operational Art Considerations.
ADA363065REB
Contractors in the Joint Theater: The Need for a Joint Doctrine.
ADA363125REB
Within the Context of JV2010, Is There a Requirement for a Theater-Level Joint Forces Logistics Commander (JKLOGC) and a Joint Theater Logistics Command (JTLC).
ADA363172REB
Reexamination of the Joint Force Air Component Commander (JFACC) concept for the 21st Century.
ADA363183REB
Area Air Defense Commander: Can JFACC Do It All.
ADA363189REB
Improved U.S. Pacific Command Theater Design for the Future.
ADA363197REB

THEATER MISSILE DEFENSE
Theater Missile Defense in World War II - Some Operational Art Considerations.
ADA363065REB
Reevaluating Doctrine for Joint Theater Air and Missile Defense.
ADA363155REB
Theater Ballistic Missile Defense, an Achilles Heel for the United States.
ADA363251REB

THEMATIC MAPPERS (LANDSAT)
Textural-Contextual Labeling and Metadata Generation for Remote Sensing Applications.
N19990041150REB
Application of Rotation- and Translation-Invariant Overcomplete Wavelets to the registration of Remotely Sensed Imagery.
N19990041199REB

THERMAL ANALYSIS
Parametric Thermal Analysis for Codisposal Waste Package Canister.
DE98054748REB
Analysis of thermal issues associated with the pre-amplifier modules in the National Ignition Facility.
DE99002258REB
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB

THERMAL CONDUCTIVITY
Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
N19990042032REB

THERMAL EFFLUENTS
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB

THERMAL IMAGES
Thermal Imaging Markets (Online Service).
JANE-0561REB

THERMAL OIL RECOVERY
Alberta heavy oil, oil sands and enhanced recovery: Alberta & Saskatchewan steam-assisted gravity drainage projects, a survey.
MIC-99-03125REB

THERMAL RESISTANCE
Certain Problems on the Theory of Heat Resistance and the Development of New High-Strength Titanium Alloys – USSR —Translation.
ADA362792REB

THERMAL SHOCK
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB

THERMAL STRESSES
Analysis of a Pyroceram Radome Subjected to Aerodynamic Heating.
ADA363019REB
Analysis of a Ceramic Radome.
ADA363023REB
Monte Carlo Simulation for Appliction to Aerospace Vehicle Structures.
ADA363043REB

THERMODYNAMIC EFFICIENCY
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB

THERMODYNAMIC PROPERTIES
New Materials for EMI Shielding.
N19990042172REB
Design/Use of the Remotely Operated Bakeout Box Shutter (ROBBS).
N19990042443REB

THERMODYNAMIC TEMPERATURE
Journal of Research of the National Institute of Standards and Technology, January/February 1999. Volume 104, Number 1.
PB99-154833REB

THERMODYNAMICS
Thermodynamics and sound speeds at the Chapman-Jouguet state.
DE99002289REB
Role of statistics and thermodynamics in nuclear multifragmentation.
DE99002390REB
Periodica Polytechnica, Chemical Engineering, Volume 42, No. 1, 1998.
PB99-120297REB

THERMOELECTRIC GENERATORS
Radioisotope thermoelectric generator transportation system safety analysis report for packaging. Volumes 1 and 2.
DE99050392REB

THERMOELECTRIC MATERIALS
Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
ADA362756REB

THERMOELECTRICITY
Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
ADA362756REB

THERMONUCLEAR REACTOR MATERIALS
Fusion materials semiannual progress report for the period ending December 31, 1997.
DE98004697REB

THIN FILMS
Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
ADA362754REB
Electron Assisted Deposition of Cubic Boron Nitride by RF Magnetron Sputtering.
ADA362770REB
Innovative Thin Film Fluorescence Sensor Providing Greatly Enhanced Signal-to-Noise and Integrated Solid State Detection. Suitable for Incorporation in Microchip Sensor Systems. Phase 1.
ADA363084REB

THIOLS
Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
ADA362936REB

THREATS
Center of Gravity: Justification for Assassination.
ADA363034REB

THREE DIMENSIONAL FLOW
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB

THREE DIMENSIONAL MODELS
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB

THRUST AUGMENTATION
Thrust Augmentation for a Small Turbojet Engine.
ADA362981REB

THYRISTORS
Characterization of a Hard-Switching Motor Controller for EMC considerations.
ADA362721REB

TIME TEMPERATURE PARAMETER
Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
N19990041616REB

TITAN
Spectroscopic Observations of the Planets.
ADA362847REB

TITANIUM ALLOYS
Certain Problems on the Theory of Heat Resistance and the Development of New High-Strength Titanium Alloys – USSR —Translation.
ADA362792REB

TOOLS
Hand Tool Manipulation and Self-Presence in VR.
ADA362871REB

TOPOGRAPHIC MAPS
Possibility of Using as a Photogrammetric Base the 1:25,000 Map for Photogrammetric Mapping at Scales of 1:10,000 and 1:5,000 – Czechoslovakia —Translation.
ADA362801REB

TOPOGRAPHY
Activities of Dept. of Geological Sciences, Colorado University.
N19990041815REB

TOPOLOGY
Summary of Work for Joint Research Interchanges with DARWIN Integrated Product Team 1998.
N19990041450REB

TOTAL FORCE
Integrated of the National Guard into the Total Force.
ADA363393REB

TOURISM
Managing Tourism Growth: Issues and Applications.
ISLAND-0509REB

TOWING CABLES
Multiline Tow Cable Assembly Including Swivel and Slip Ring.
PAT-APPL-8-137 870REB

TOXICOLOGY
NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
PB99-152878REB
NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
PB99-152886REB

TRACE AMOUNTS
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB

TRACE ELEMENTS
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB
TRACER STUDIES
Deep Water Formation and Circulation in the Arctic Ocean Studies by Natural and Anthropogenic Tracers.
ADA363047REB
TRADE POLICIES
United States Trade Policy: History, Theory, and the WTO.
SHARPE-00437REB
TRAFFIC ACCIDENTS
Graduated licensing system evaluation: Interim report '98.
MIC-99-03114REB
TRAFFIC CONTROL
Assessment of Advanced Warning Signs for Flagging Operations.
PB99-152134REB
TRAFFIC COUNTERS
Estimating Intersection Turning Movements.
PB99-152977REB
TRAFFIC SURVEYS
Estimating Intersection Turning Movements.
PB99-152977REB
TRAINEES
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB
TRAINING
Military Simulation Markets. Edition 2 (Online Service).
JANE-0574REB
TRAINING AIRCRAFT
Trainer Aircraft Markets (Online Service).
JANE-0544REB
TRAINING DEVICES
Jane's Simulation and Training Systems (Online Service).
JANE-0558REB
TRAINING MANUALS
Hazardous Materials Operating Site Practices. Activities Manual.
PB99-130940REB
TRAINING ORDNANCE
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB
TRAJECTORY ANALYSIS
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB
TRANSFER FACILITIES
Intermodal Cargo Transportation: Industry Best Security Practices.
PB99-152761REB
TRANSFER OF TRAINING
Transfer of Training Effectiveness in Flight Simulation: 1986 to 1997.
ADA362818REB
TRANSLATING
Application of Rotation- and Translation-Invariant Overcomplete Wavelets to the registration of Remotely Sensed Imagery.
N19990041199REB
TRANSPORT THEORY
Introduction to radiation transport.
DE99002279REB
TRANSPORTATION
Grain Handling and Transportation Review: Final report.
MIC-99-03320REB
City of Vancouver plan, transportation, 1997.
MIC-99-03436REB
Tel8 Telecommnications Network: A Pooled Fund Study for Transportation Videoconferencing.
PB99-151433REB
TRANSPORTATION PLANNING
Annual report 1997-98.
MIC-99-03257REB
TRANSPORTATION RESEARCH
National Transportation Science and Technology Strategy.
PB99-151383REB
Transportation Strategic Research Plan.
PB99-151391REB
TRANSURANIC WASTES
Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB
TRAUMA
Increasing the Resolution of Simulated Combat Trauma Injuries in a High Level Architecture (HLA) Environment.
ADA362714REB
TRAVEL PATTERNS
Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
PB99-152944REB
TRAVEL TIME
Ground-Water Flow Paths and Traveltime to Three Small Embayments within the Peconic Estuary, Eastern Suffolk County, New York.
PB99-152456REB
TREATIES
Creeping Jurisdiction, Are International Straits in Jeopardy.
ADA363191REB
TREES
Scientific Coordination and Adaptive Management and Experimental Restoration of Longleaf Pine Community Structure, Function, and Composition.
ADA362888REB
TRENDS
Trends in Maritime Violence (Online Service).
JANE-0535REB
Hitachi Review, Volume 46, No. 5, October 1997. Hitachi's Multimedia Solutions.
PB99-153132REB
TRENDS ANALYSIS
National Air Pollutant Emission Trends Update, 1970-1997.
PB99-150260REB
TRIANGULATION
Triangulation-Based L1-Fitting of Terrain Surfaces.
PB99-152779REB
TROPICAL REGIONS
R/V Seward Johnson Cruise Report (SJ-9807) ACCE S-PALACE Float Deployments.
ADA362874REB
TROPOSPHERE
Conference on the Problem of Sun-Troposphere -- USSR --Translation.
ADA362812REB
Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
N19990041335REB
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB
Seasonal and Interannual Variabilities in Tropical Tropospheric Ozone.
N19990042082REB
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB
TRUCKS
EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Eectric Vehicle Program.
ADA362952REB
TUBERCULOSIS
Tuberculosis in Canada, 1996.
MIC-99-03411REB
TUNNELING (ELECTRONICS)
Quantum Chaos in Rydberg Atoms.
ADA362681REB
TURBINE ENGINES
Large Engine Uncontained Debris Analysis.
PB99-154569REB
TURBINE PUMPS
Space Shuttle Main Engine: Part Number RS007001.
N19990041880REB
TURBOMACHINERY
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB
TURBULENCE MODELS
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB
TURBULENT COMBUSTION
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB
TURBULENT FLAMES
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB
TURBULENT FLOW
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB
TURKEY
Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues.
ADA363238REB
TURNING MOVEMENTS
Estimating Intersection Turning Movements.
PB99-152977REB
TURTLES
Terrestrial Turtle Habitats Potentially Impacted.
ADA363365REB
Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB
Annual and Local Variation in Reproduction in the Red-Eared Slider 'Trachemys scripta elagans'.
PB99-152183REB
TWENTIETH CENTURY
History of the World in the Twentieth Century. Volume I: Western Dominance, 1900-1947.
HUP-0016REB
History of the World in the Twentieth Century. Volume II: Conflict and Liberation, 1945-1996.
HUP-0017REB
History of Twentieth-Century Russia.
HUP-0031REB
TWINNING (CRYSTALLOGRAPHY)
Twinning Mechanisms in Complex High Tm Intermetallic Compounds.
ADA362826REB
TWO BODY PROBLEM
Effective One-Body Approach to General Relativistic Two-Body Dynamics.
PB99-148777REB
TWO DIMENSIONAL MODELS
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB
U-2 AIRCRAFT
Studies in Intelligence, Winter 1998-1999.
PB99-928002REB
ULTRACOLD NEUTRONS
Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB
ULTRAHIGH VACUUM
DURIP 97 Vacuum Equipment for Ultra High Power Microwave Experiments.
ADA362954REB
ULTRASONIC TESTING
Development of inspection techniques for TTCP ceramic matrix composite specimens.
MIC-99-03358REB
ULTRAVIOLET RADIATION
Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152159REB
UNCONTAINED FAILURE
Large Engine Uncontained Debris Analysis.
PB99-154569REB
UNDAMPED OSCILLATORS
Vibration Damping by a Nearly Continuous Distribution of Nearly Undamped Oscillators.
ADA362958REB
UNDERGROUND DISPOSAL
Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB
UNDERGROUND FACILITIES
Characterization of Underground Facilities.
ADA363359REB
UNDERWATER ACOUSTICS
Acoustic Sound Speed Profiling System.
PAT-APPL-8-226 625REB
UNDERWATER EQUIPMENT
Jane's Underwater Technology (Online Service).
JANE-0533REB
UNDERWATER LASER SHOCK
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB
UNDERWATER SOUND
Bioacoustics of Monterey Bay Pinnipeds: Auditory Fatigue and Masking.
ADA362641REB
Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB
UNEMPLOYMENT
Structural Slumps. The Modern Equilibrium Theory of Unemployment, Interest, and Assets.
HUP-0023REB
UNITED STATES
Misguided Intentions: U.S. Policy in World War II and Chinese Intervention in Korea.
ADA363031REB
Shifting Ambiguity U.S. Foreign Policy Toward China and Taiwan.
ADA363166REB
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1985.
ADA363302REB
USSR Report, USA: Economics, Politics, Ideology, No. 8, August 1985.
ADA363303REB
USSR Report, USA: Economics, Politics, Ideology, No. 7, July 1985.
ADA363304REB
SPACE STATION: Status of Russian Involvement and Cost Control Efforts.
ADA363386REB
Green Technologies for a More Sustainable Agriculture.
ERS-AIB-752REB
Heart of America: Our Landscape, Our Future.
ISLAND-0476REB

Future of U.S. Ocean Policy. Choices for the New Century.
ISLAND-0496REB
Jane's Airports and Handling Agents: USA and Canada (Online Service).
JANE-0508REB
Jane's Airports and Handling Agents: USA and Canada (on CD-ROM).
JANE-0509REB
Jane's Airports and Handling Agents: USA and Canada. 1999-2000 Edition.
JANE-0510REB
Agricultural Statistics, 1999.
NASS-ZAG-99REB
Cherry Production (Released June 24, 1999).
NASS-ZCP-99REB
Statistics of U.S. Businesses: Microdata and Tables. SBA/Census Data on Establishments by Firm Size.
PB99-142572REB
National Air Pollutant Emission Trends Update, 1970-1997.
PB99-150260REB
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB
Coming Class War and How to Avoid It: Rebuilding the American Middle Class.
SHARPE-00420REB

UNITED STATES GOVERNMENT
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB
Dealing With Data: Seminar Summary. Using Information in Government Program Information Sharing Seminar Series, Seminar No. 1.
ADA362861REB
Transportation Strategic Research Plan.
PB99-151391REB

UNITED STATES PRESIDENTS
Last Best Hope of Earth. Abraham Lincoln and the Promise of America.
HUP-0014REB

UPGRADING
Jane's Armour and Artillery Upgrades (Online Service).
JANE-0548REB

URANIUM
Worldwide Report, Nuclear Development and Proliferation, No. 173.
ADA362724REB
Decarburization of Uranium Via Electron Beam Processing.
ADA362955REB
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB

URANIUM CHLORIDES
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB

URBAN AREAS
Tracer modeling in an urban environment.
DE99002399REB

URBAN PLANNING
Dunbar community vision, city plan.
MIC-99-03199REB
Kensington-Cedar Cottage community vision, city plan.
MIC-99-03200REB
Blueways guidelines and recommendations: Draft document for discussion, February 1997.
MIC-99-03449REB
New Trade and Convention Facilities Review Program, stage two: Evaluation site and community context summary.
MIC-99-03469REB
Reports for public discussion.
MIC-99-03474REB

URBAN TRANSPORTATION
Jane's Urban Transport Systems (Online Service).
JANE-0577REB
City of Vancouver plan, transportation, 1997.
MIC-99-03438REB

URBAN WARFARE
Operational Fires on the Urban Battlefield: An Underdeveloped Concept.
ADA363059REB

URINE
Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
N19990042032REB

US CIA
Studies in Intelligence, Winter 1998-1999.
PB99-928002REB

US DOE
Sixth national stakeholder workshop summary report.
DE99002110REB

US EPA
Impact of Firm Size on Dollar Amount of Penalties Assessed by Government Agencies.
PB99-142564REB

US NATIONAL ENVIRONMENTAL POLICY ACT
Hanford Site National Environmental Policy Act (NEPA) characterization. Revision 10.
DE99002425REB

US NATIONAL IGNITION FACILITY
Analysis of thermal issues associated with the pre-amplifier modules in the National Ignition Facility.
DE99002258REB

USER MANUALS (COMPUTER PROGRAMS)
ROMI-RIP 2.0 User's Guide: a ROugh MIll RIP-First Simulator.
PB99-152803REB

USSR
Soviet Union, Military Affairs--Translation.
ADA362696REB
USSR Report, Energy, No. 131.
ADA362738REB
USSR Report, Energy, No. 154.
ADA362740REB
USSR Report, Energy, No. 130.
ADA362741REB
Soviet Union, Military Affairs.
ADA362747REB
Recent Geographical Conferences in the Soviet Union, USSR--Translation.
ADA362768REB
Soviet Union, Military Affairs.
ADA362781REB
Soviet Union, Military Affairs.
ADA362782REB
Conference on the Control of the Colorado Beetle, USSR.
ADA362786REB
Selected Soviet Military Translations (Air Force and Civil Defense Materials)--Translation.
ADA362789REB
Reorganization of Industrial Hygiene on a Scientific Basis, Ussr--Translation.
ADA362794REB
USSR Report, Energy, No. 152.
ADA362802REB
Survey of Soviet Heavy Industry (7).
ADA362803REB
Soviet Union, Military Affairs.
ADA362804REB
USSR Report, Military Affairs, No. 1764.
ADA362805REB
USSR Report, Energy, No. 126.
ADA362819REB
USSR Report: Political and Sociological Affairs, No. 1478.
ADA362827REB
USSR Report, Political, and Sociological Affairs, No. 1390.
ADA362845REB
Award of Lenin Prizes in Science and Technology, USSR--Translation.
ADA362853REB
USSR Report: Military Affairs, No. 1810.
ADA362889REB
East Europe Report: Political, Sociological and Military Affairs, No. 2226--Translation.
ADA362894REB
USSR Report, Military Affairs, No. 1814--Translation.
ADA362928REB
USSR Report, Science and Technology Policy, No. 14.
ADA362934REB
General Meeting of the Siberian Affiliate of the Academy of Sciences USSR--Translation.
ADA362938REB
USSR Report: Energy, No. 164.
ADA362966REB
For the Welfare of Man Development of Medical Science in the USSR--Translation.
ADA362991REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363002REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363003REB
USSR Report, Engineering and Equipment, No. 95--Translation.
ADA363025REB
USSR Report, Machine Tools and Metalworking Equipment, No. 7.
ADA363140REB
USSR Report, Construction and Related Industries, No. 93.
ADA363141REB
USSR Report, Chemistry, No. 110.
ADA363143REB
Survey of Soviet Heavy Industry (4).
ADA363314REB
USSR Report, Energy No. 129.
ADA363327REB

UTERINE CERVIX
Problem of Early Diagnosis of Cancer of the Uterine Cervix--Translation.
ADA362859REB

UTILIES
Proceedings of the National Highway/Utility Conference (7th). Held in Louisville, Kentucky on October 28-30, 1998.
PB99-150120REB

UTILITIES
Proceedings of the National Joint Use Conference (5th). Held in Louisville, Kentucky on October 26-27, 1998.
PB99-150062REB

VACUUM CHAMBERS
Design/Use of the Remotely Operated Bakeout Box Shutter (ROBBS).
N19990042443REB

VALUE ENGINEERING
Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives.
ADA363337REB

VANCOUVER (B.C.)
Dunbar community vision, city plan.
MIC-99-03199REB
Kensington-Cedar Cottage community vision, city plan.
MIC-99-03200REB
Blueways guidelines and recommendations: Draft document for discussion, February 1997.
MIC-99-03449REB
Reports for public discussion.
MIC-99-03474REB

VANS
EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Eectric Vehicle Program.
ADA362952REB

VAPOR ANALYSIS
Vapor and gas sampling of single-shell tank 241-BX-103 using the in situ vapor sampling system.
DE99050133REB
Vapor and gas sampling of single-shell tank 241-C-204 using the in situ vapor sampling system.
DE99050134REB
Vapor and gas sampling of single-shell tank 241-TY-102 using the in situ vapor sampling system.
DE99050135REB
Vapor and gas sampling of single-shell tank 241-B-105 using the in situ vapor sampling system.
DE99050136REB
Vapor and gas sampling of single-shell tank 241-C-107 using the in situ vapor sampling system.
DE99050137REB
Vapor and gas sampling of single-shell tank 241-BX-104 using the in situ vapor sampling system.
DE99050138REB
Vapor and gas sampling of single-shell tank 241-C-107 using the vapor sampling system.
DE99050140REB
Vapor and gas sampling of single-shell tank 241-BX-110 using the in situ vapor sampling system.
DE99050141REB
Vapor and gas sampling of single-shell tank 241-B-102 using the in situ vapor sampling system.
DE99050142REB
Vapor and gas sampling of single-shell tank 241-B-202 using the in situ vapor sampling system.
DE99050143REB
Vapor and gas sampling of single-shell tank 241-BX-102 using the in situ vapor sampling system.
DE99050144REB
Vapor and gas sampling of single-shell tank 241-U-104 using the in situ vapor sampling system.
DE99050145REB
Vapor and gas sampling of single-shell tank 241-S-103 using the in situ vapor sampling system.
DE99050146REB
Vapor and gas sampling of single-shell tank 241-C-201 using the in situ vapor sampling system.
DE99050148REB
Vapor and gas sampling of single-shell tank 241-S-102 using the in situ vapor sampling system.
DE99050149REB
Vapor and gas sampling of single-shell tank 241-C-202 using the in situ vapor sampling system.
DE99050150REB
Vapor and gas sampling of single-shell tank 241-T-104 using the in situ vapor sampling system.
DE99050151REB

VARIABILITY
Seasonal and Interannual Variabilities in Tropical Tropospheric Ozone.
N19990042082REB

VARIABLE SPEED DRIVES
Design of a Switched-Reluctance Motor Drive for Electric Propulsion.
ADA363184REB

VECTOR ANALYSIS
Summary of Work for Joint Research Interchanges with DARWIN Integrated Product Team 1998.
N19990041450REB

VECTOR MESONS
Vector meson production and nuclear effects in FNAL E866.
DE99002282REB

VEGETATION
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB

VEHICLE AIR POLLUTION
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB

VENTILATION SYSTEMS
Project W-320 high vacuum 241-AY-102 annulus ventilation system operability test report.
DE99050588REB

VERMONT
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB
VERY HIGH PRESSURE
Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB
VESTIBULES
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB
VIBRATION
Vibration Damping by a Nearly Continuous Distribution of Nearly Undamped Oscillators.
ADA362958REB
Research and Development Needs in Finite Element Analysis of Viscoelasticity Damped Structures.
ADA363134REB
Structural Optimization Technique.
ADA363330REB
Modular Wideband Active Vibration Absorber.
N19990042083REB
VIBRATION DAMPING
Vibration Damping by a Nearly Continuous Distribution of Nearly Undamped Oscillators.
ADA362958REB
Research and Development Needs in Finite Element Analysis of Viscoelasticity Damped Structures.
ADA363134REB
Analysis of Damped Plates.
ADA363361REB
Modular Wideband Active Vibration Absorber.
N19990041146REB
Modular Wideband Active Vibration Absorber.
N19990042083REB
VIBRATION TESTS
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB
VIOLATIONS
Impact of Firm Size on Dollar Amount of Penalties Assessed by Government Agencies.
PB99-142564REB
VIOLENCE
Trends in Maritime Violence (Online Service).
JANE-0535REB
VIRTUAL ENVIRONMENTS
Training Spatial Knowledge Acquisition Using Virtual Environments.
ADA362800REB
VIRTUAL REALITY
Training Spatial Knowledge Acquisition Using Virtual Environments.
ADA362800REB
Hand Tool Manipulation and Self-Presence in VR.
ADA362871REB
Effects of Texture on Distance Estimation in Synthetic Environments.
ADA362882REB
Visual Analysis of a Radio Frequency Tracking System for Virtual Environments.
ADA363020REB
Enhancing a CAVE with Eye Tracking System for Human-Computer Interaction Research in 3D Visualization.
ADA363070REB
VISUAL PERCEPTION
Effects of Texture on Distance Estimation in Synthetic Environments.
ADA362882REB
Evaluation of Operator Performance Using True Color and Artificial Color in Natural Scene Perception.
ADA363036REB
Judgements of the inclination and slant of surfaces in stereoscopic display systems.
MIC-99-03367REB
VITAMIN E
Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
ADA362843REB
VOC (VOLATILE ORGANIC COMPOUNDS)
Development of Biotrickling Filters to Treat Sulfur and VOC Emissions.
ADA362950REB
Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB
VOCABULARY
JPRS Report, West Europe Reference Aid Portuguese Military Terms.
ADA363301REB
VOLATILE MATTER
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July–September 1996.
DE99002446REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1996.
DE99002447REB
VOLATILE ORGANIC COMPOUNDS
Development of Biotrickling Filters to Treat Sulfur and VOC Emissions.
ADA362950REB
Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB
Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB
VOLCANOES
Numerical simulation of explosive volcanism and its effects on the atmosphere.
DE99002259REB
VOLCANOLOGY
Activities of Dept. of Geological Sciences, Colorado University.
N19990041815REB
VOLUME RENDERING
Perspective Splatting.
ADA363073REB
VORTICES
Cross Flow Over Double Delta Wings.
ADA363041REB
VULNERABILITY
Overview of the Modular Effectiveness/Vulnerability Assessment (MEVA) Architecture.
ADA362951REB
VX AGENT
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB
WAKE
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB
WALL STREET
Making Markets. Opportunism and Restraint on Wall Street.
HUP-0011REB
WAR GAMES
Decision Aids and Wargaming for Information Operations.
ADA363158REB
WARFARE
Christianity's Contribution to Just War Tradition.
ADA363087REB
In the Crucible of Battle: An Analysis of the Split Air Operations Center and the Principles of War.
ADA363116REB
Celtic Warfare in Ireland: A Logistical Perspective.
ADA363119REB
Operational Art and the Human Dimension of Warfare in the 21st Century.
ADA363177REB
Jane's Amphibious Warfare Capabilities (Online Service).
JANE-0532REB
Naval Mine Warfare Markets (Online Service).
JANE-0536REB
Jane's Electro-Optic Systems (Online Service).
JANE-0560REB
Non-Lethal Weapons: Doctrine Suppliers and Technology (Online Service).
JANE-0562REB
WARNING SIGNS
Assessment of Advanced Warning Signs for Flagging Operations.
PB99-152134REB
WARSHIPS
Jane's Fighting Ships (Online Service).
JANE-0529REB
Jane's Major Warships (Online Service).
JANE-0530REB
WASTE DISPOSAL
Estimating Dredging Sediment Resuspension Sources.
ADA362892REB
Improving Dredged Material Management Decisions with Uncertainty Analysis.
ADA363151REB
Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
ADA363186REB
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB
Waste Forms Based on Separations Media (DOE 360-94). The Strategic Environmental Research and Development Program.
ADA363257REB
Need and options available for permanent CO(sub 2) disposal.
DE99002199REB
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050584REB
Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB
WASTE MANAGEMENT
Waste management industry survey, business sector, 1995.
MIC-99-03502REB
WASTE PRODUCT UTILIZATION
Evaluation of Rubber-Modified Asphaltic Concrete.
PB99-152381REB
Use of Waste Glass as Aggregate for Pipe Backfill and Embankment Material.
PB99-152399REB
WASTE RETRIEVAL
Estimated dose to in-tank equipment: Phase 1 waste feed delivery.
DE99050558REB
WASTE TRANSPORTATION
Safety evaluation for packaging (onsite) depleted uranium waste boxes.
DE99050187REB
Safety evaluation for packaging (onsite) for cesium chloride capsules with type W overpacks.
DE99050234REB
WASTE TREATMENT
Parallel Simulations of Waste Incineration in a Dump Combustor.
ADA363339REB
Engineering Model for Prediction of Waste Incineration in a Dump Combustor.
ADA363341REB
Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
ADA363351REB
WASTE WATER
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB
WASTER DISPOSAL
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB
WASTERN REGION (PENNSYLVANIA)
Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
PB99-152928REB
WATER
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB
Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
N19990042032REB
WATER ALLOCATION (POLICY)
Rivers of Gold: Designing Markets to Allocate Water in California.
ISLAND-0491REB
WATER BIRDS
Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. I: Accounts by location.
MIC-99-03283REB
Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. II: Accounts by chemical.
MIC-99-03284REB
WATER BLOOM
Phosphorus loading to Shellmouth Reservoir, Manitoba, Canada.
MIC-99-03172REB
WATER INJECTION
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB
WATER MIST SUPPRESSION
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB
WATER POLLUTION
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB
Water quality assessment and objectives for the Fraser River from Hope to Sturgeon and Roberts banks: First update, technical appendix.
MIC-99-03134REB
WATER POLLUTION CONTROL
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB
WATER POLLUTION SAMPLING
Pesticide residues in sediment and water from two watersheds in Prince Edward Island, 1996 and 1997.
MIC-99-03631REB
WATER POLLUTION SOURCES
Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
PB99-152464REB
WATER QUALITY
Innovative Approaches to Watershed Characterization: Winters Run Watershed Pilot Project - A Case Study.
ADA363266REB

Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB
Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
PB99-153009REB

WATER QUALITY MANAGEMENT
Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
PB99-155418REB

WATER RESOURCES
Blueways guidelines and recommendations: Draft document for discussion, February 1997.
MIC-99-03449REB

WATER SUPPLY
Rivers of Gold: Designing Markets to Allocate Water in California.
ISLAND-0491REB
Regulatory barriers to on-site water reuse.
MIC-99-03234REB

WATER TREATMENT
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB

WATER TREATMENT PLANTS
283-E, 283-W, and 315 (water treatment plant) hazards assessment.
DE99050560REB

WATER VAPOR
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB

WAVELET ANALYSIS
Application of Rotation- and Translation-Invariant Overcomplete Wavelets to the registration of Remotely Sensed Imagery.
N19990041199REB

WEALTH
Coming Class War and How to Avoid It: Rebuilding the American Middle Class.
SHARPE-00420REB

WEAPON DELIVERY
Overview of the Modular Effectiveness/Vulnerability Assessment (MEVA) Architecture.
ADA362951REB

WEAPON SYSTEMS
Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
ADA363024REB
RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
ADA363078REB
Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives.
ADA363337REB
Jane's Major Warships (Online Service).
JANE-0530REB

WEAPONS
Soviet Union, Military Affairs. Data, Diagrams of Ground Forces Weaponry.
ADA362748REB
Weapon Indexing and Weapon Ratios in Arms Control.
ADA362751REB
Jane's Infantry Weapons (Online Service).
JANE-0550REB

WEATHER
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB

WEATHER FORECASTING
U.S. Navy Heavy Weather Mooring Criteria.
ADA363065REB

WEATHER STATIONS
GISS Analysis of Surface Temperature Changes.
N19990042165REB

WEED CONTROL
Guide to crop protection, 1999.
MIC-99-03650REB

WEEDS
Guide to weed control, 1999.
MIC-99-03187REB

WEIGHT INDICATORS
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB

WEIGHT (MASS)
Development of Lightweight Electronics Enclosures for Space Applications.
N19990042149REB

WEIGHTLESSNESS
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB

WELDING
Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB

WELDS
Microstructural characterization of NiAl bronze weldments.
MIC-99-03326REB
Simulation of microstructures in laser clad nickel aluminum bronzes.
MIC-99-03331REB
Microstructural characterization of laser-clad nickel aluminum bronze alloys using transmission electron microscopy.
MIC-99-03332REB

WESTERN COUNTRIES
Russia Under Western Eyes. From the Bronze Horseman to the Lenin Mausoleum.
HUP-0012REB

WESTERN EUROPE
West Europe Report, No. 2170.
ADA362849REB
West Europe Report, Science and Technology, No. 182.
ADA362909REB

WHITE DWARF STARS
Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST.
N19990042137REB

WHITE HOUSE
Kennedy Tapes. Inside the White House During the Cuban Missile Crisis.
HUP-0013REB

WIGGLER MAGNETS
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB

WILDLAND PROJECT
Continental Conservation: Scientific Foundations of Regional Reserve Networks.
ISLAND-0507REB

WILDLIFE CONSERVATION
Practical Approaches to the Conservation of Biodiversity.
ISLAND-0529REB
Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences.
PB99-102899REB

WILDLIFE MANAGEMENT
Managing identified wildlife: Procedures and measures, vol. I.
MIC-99-03104REB
Workbook on wildlife.
MIC-99-03635REB

WILDNESS
Unmanaged Landscapes: Voices for Untamed Nature.
ISLAND-0508REB

WIND DIRECTION
Aerial Video of Smoke-Marked Wind Shifts Caused by Ocean Internal Waves.
PB99-154486REB

WIND MEASUREMENT
Direct Detection Doppler Lidar for Spaceborne Wind Measurement.
N19990041449REB

WIND POWER
Reaping the Wind: How Mechanical Wizards, Visionaries, and Profiteers Helped Shape Our Energy Future.
ISLAND-0480REB

WIND TUNNEL APPARATUS
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB

WIND TUNNEL TESTS
Innovative Control Effectors (Configuration 101) Dynamic Wind Tunnel Test Report. Rotary Balance and Forced Oscillation Tests.
ADA362903REB
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB

WINTERS RUN WATERSHED
Innovative Approaches to Watershed Characterization: Winters Run Watershed Pilot Project - A Case Study.
ADA363266REB

WOMEN
CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women.
ADA362645REB
GENDER ISSUES: Perceptions of Readiness in Selected Units.
ADA363204REB
Hard Labor: Poor Women and Work in the Post-Welfare Era.
SHARPE-00439REB
Sandakan Brothel No. 8: A Journey into the History of Lower-Class Japanese Women.
SHARPE-00463REB
Nadia, Captive of Hope: Memoir of an Arab Woman.
SHARPE-00465REB

WOOD
Demonstration of Lead-Based Paint Removal From an Historic Wood Structure Using Laser Technology.
ADA363188REB
Strength and related properties of woods grown in Canada.
MIC-99-03441REB

WOOD PRODUCTS
Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997.
PB99-152845REB

WORK
Survey of Work and Sleep Hours of U.S. Army Aviation Personnel.
ADA362964REB
Changing Nature of Work: Frontier Issues in Economic Thought.
ISLAND-0521REB

WORK CAPACITY EVALUATION
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB

WORK-REST CYCLE
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB

WORKMEN'S COMPENSATION
OWCP (Office of Workers' Compensation Programs) Annual Report to Congress: FY 1997.
PB99-152985REB

WORKPLACE ISSUES
Changing Nature of Work: Frontier Issues in Economic Thought.
ISLAND-0521REB

WORKSHOPS
General Meeting of the Siberian Affiliate of the Academy of Sciences USSR–Translation.
ADA362938REB

WORLD HISTORY
History of the World in the Twentieth Century. Volume I: Western Dominance, 1900-1947.
HUP-0016REB
History of the World in the Twentieth Century. Volume II: Conflict and Liberation, 1945-1996.
HUP-0017REB

WORLD WAR II
Equality, the Third World, and Economic Delusion.
HUP-0034REB

WORLD WIDE WEB
Experimental Internet Environment Software Development.
N19990042214REB
Networked Computing for the 21st Century; Supplement to the President's FY 1999 Budget: Computing, Information, and Communications.
PB99-152415REB

WOUNDS AND INJURIES
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB

WRITING
Plain English Handbook: How to Create Clear SEC Disclosure Documents.
PB99-151219REB

X-33 REUSABLE LAUNCH VEHICLE
Prediction of X-33 Engine Dynamic Environments.
N19990041161REB
X-33 Flight Operations Center.
N19990041246REB
X-33/VentureStar Program.
N19990041334REB

X RAY ASTRONOMY
Hard X-Ray Emission from X-Ray Bursters.
N19990042107REB
RXTE Observation of Cygnus X-1, 1.
N19990042404REB

X RAY BINARIES
Hard X-Ray Emission from X-Ray Bursters.
N19990042107REB
RXTE Observation of Cygnus X-1, 1.
N19990042404REB

X RAY INSPECTION
Project Plan for the Baseline Measurment of Checkpoint Effectiveness and Efficiency.
PB99-149684REB
Test and Evalution Plan for Determining Screener Training Effectiveness.
PB99-149692REB

X-RAY RADIOGRAPHY
X-Ray Shawdowgraph Camera Design.
DE00002698REB
Plasma and ion barrier for electron beam spot stability.
DE99002226REB

X RAYS
High-Power Laser Source Evaluation.
ADA362788REB
Hard X-Ray Emission from X-Ray Bursters.
N19990042107REB

YELLOWSTONE NATIONAL PARK
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB

YMCA EARTH SERVICE CORPS
YMCA Earth Service Corps Club Handbook.
PB99-154551REB

YOSEMITE NATIONAL PARK
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB

YOUTHS
YMCA Earth Service Corps Club Handbook.
PB99-154551REB

YUCCA MOUNTAIN
Performance confirmation data acquisition system.
DE99002146REB

Z PINCH PLASMAS
Advanced Radiation Theory, Support Annual Report 1998.
ADA362872REB

ZEOLITES
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB

Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB

ZINC TELLURIDES
Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB

SPONSORING EPA OFFICE INDEX

Publications are sorted alphabetically by title under the sponsoring EPA office. The EPA office is listed with the major EPA headquarters office. Laboratories and Divisions are listed alphabetically within the appropriate office.

SAMPLE ENTRY

Sponsoring EPA Office	**ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, Cincinnati, OH**
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OFFICE OF EXTERNAL AFFAIRS

Tribal Environmental and Natural Resource Assistance Handbook.
PB99-150989REB

EPA/315/B-98/011

Yellow Book: Guide to Environmental Enforcement and Compliance at Federal Facilities.
PB99-152530REB

OFFICE OF AIR AND RADIATION

AIR QUALITY PLANNING AND STANDARDS

EPA/456/F-99/004

Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB

EPA/454/C-98/007

National Air Pollutant Emission Trends Update, 1970-1997.
PB99-150260REB

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

EPA-540-F-98-033

Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.
PB98-963305REB

OFFICE OF EMERGENCY AND REMEDIAL RESPONSE

EPA 541-R98-120

Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB

EPA 541-R98-190

Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB

EPA 541-R98-181

Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB

OFFICE OF RESEARCH AND DEVELOPMENT

ENVIRONMENTAL SCIENCES RESEARCH LAB - RTP, NC

EPA/600/A-99/046

Current Methods and Research Strategies for Modeling Atmospheric Mercury.
PB99-149783REB

EPA/600/A-99/644

Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB

INDUSTRIAL ENVIRONMENTAL RESEARCH LAB - RTP, NC

EPA/600/A-98/143

Small Scale Biomass Fueled Gas Turbine Power Plant.
PB99-126450REB

REGION III - PHILADELPHIA, PA

EPA/903/R-99/012

Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB

EPA/903/R-99/002

Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
PB99-155418REB

CORPORATE AUTHOR INDEX

Entries are sequenced by corporate name, report number, and NTIS order number. The monitor agency number is given following the report title.

SAMPLE ENTRY

Corporate/Performing Organization	**University of Wyoming Research Corp., Laramie, WY**
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Title	Engineering and Environmental Aspects of Recycled Materials for Highway Construction
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NTIS Order Number/Media Code Price Codes	PB94-100443/REB PC A10/MF A03

CORPORATE AUTHOR INDEX

A.M. CANDARAS ASSOCIATES INC., OTTAWA (ONTARIO).
ISBN-0-7778-7285-4
Post-construction evaluation of stormwater exfiltration & filtration systems.
MIC-99-03128REB

ADMINISTRATIVE OFFICE OF THE UNITED STATES COURTS, WASHINGTON, DC. APPLICATIONS MANAGEMENT AND DEVELOPMENT DIV.
Electronic Case Files in the Federal Courts: A Preliminary Examination of Goals, Issues, and the Road Ahead.
PB99-151243REB

ADMINISTRATIVE OFFICE OF THE UNITED STATES COURTS, WASHINGTON, DC. BANKRUPTCY JUDGES DIV.
Bankruptcy Basics.
PB99-151235REB

AEROJET-GENERAL CORP., AZUSA, CA.
NAS 1.26:209213
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB
NASA/CR-1998-209213
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB
REPT-10976A
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB

AEROSPACE CORP., EL SEGUNDO, CA.
Independent Research and Development.
ADA363103REB

AEROSPACE CORP., EL SEGUNDO, CA. ENGINEERING AND TECHNOLOGY GROUP.
TR-98(8555)-14
Conversion of Laser Phase Noise to Amplitude Noise in a Resonant Atomic Vapor: The Role of Laser Linewidth.
(SMC-TR-99-11)
ADA362816REB

AEROSPACE CORP., EL SEGUNDO, CA. TECHNOLOGY OPERATIONS.
TR-98(1306)-2
High-Resolution Ozone Imager (HIROIG).
(SMC-TR-99-13)
ADA362746REB
TR-98(8504)-3
Nondestructive Evaluation (NDE) Techniques Assessment for Graphite/Epoxy (Gr/Ep) Composite Overwrapped Pressure Vessels.
(SMC-TR-99-16)
ADA363261REB
TR-98(8555)-2
Semiclassical Random Electrodynamics: Spontaneous Emission and the Lamb Shift.
(SMC-TR-99-12)
ADA363360REB

AEROSPACE STRUCTURES INFORMATION AND ANALYSIS CENTER, WRIGHT-PATTERSON AFB, OH.
ASIAC-RN-187.1A-VOL-1
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB
ASIAC-RN-187.1A-VOL-2
Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB
ASIAC-180-1A
Development of a Biaxial Test Fixture.
ADA363135REB
ASIAC-677-1C
Load Time Dependent Relaxation of Residual Stresses in an Aluminum Test Specimen.
ADA363139REB
ASIAC-679-1A
Analysis of a Pyroceram Radome Subjected to Aerodynamic Heating.
ADA363019REB
ASIAC-779-1A
Static Structural Analysis of the Loreors Electronic Console Support Frame.
ADA363138REB
ASIAC-978-1C
Analysis of a Ceramic Radome.
ADA363023REB
ASIAC-1181-1A
Structural Analysis of the Lamars Assembly.
ADA363136REB
ASIAC-1182-1C
Analysis of Damped Plates.
ADA363361REB
ASIAC-1278-1A
Interim Report on the Development and Fabrication of a Biaxial Test Fixture.
ADA363137REB
ASIAC-1280-1A
Research and Development Needs in Finite Element Analysis of Viscoelasticity Damped Structures.
ADA363134REB

AEROTECH ENGINEERING AND RESEARCH, LAWRENCE, KS.
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
(DOT/FAA/AR-99/27)
PB99-154478REB

AGENCY FOR HEALTH CARE POLICY AND RESEARCH, ROCKVILLE, MD.
AHCPR/PUB-99-0027
Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB
AHCPR/PUB-99-0032
Nursing Home Trends, 1987 and 1996. MEPS Chartbook No. 3. Executive Summary.
PB99-154692REB

AGRICULTURE & AGRI-FOOD CANADA. ECONOMIC & POLICY ANALYSIS DIRECTORATE, OTTAWA (ONTARIO).
Structure of Canadian agriculture, 1996.
MIC-99-03310REB
ISBN-0-662-26988-8
Trade liberalization of the international oilseed complex.
MIC-99-03324REB
ISBN-0-662-27209-9
Agri-food policy in Canada.
MIC-99-03296REB
ISBN-0-662-27640-X
Profile of the 1998 Farm Financial Survey.
MIC-99-03600REB
SSC-A22-174/1998E
Trade liberalization of the international oilseed complex.
MIC-99-03324REB
SSC-A22-179/1998E
Agri-food policy in Canada.
MIC-99-03296REB
SSC-A22-188/1999E
Profile of the 1998 Farm Financial Survey.
MIC-99-03600REB

AIR-CONDITIONING AND REFRIGERATION TECHNOLOGY INST., ARLINGTON, VA.
DOE/CE/23810-100
ARTI refrigerant database.
DE99002209REB

AIR FORCE ACADEMY, CO.
USAFA Discovery, Jan-Mar 99.
ADA362648REB

AIR FORCE CENTER FOR STUDIES AND ANALYSES, WASHINGTON, DC.
Residual Dust and Radiation Model (REDRAM), Model Description.
ADA362633REB
Long-Range International Civil Reserve Air Fleet (CRAF) Capability.
ADA362743REB
Modified T-37 Instead of T-46: Impact on Undergraduate Pilot Training.
ADA362757REB

AIR FORCE FLIGHT TEST CENTER, EDWARDS AFB, CA.
AFFTC-TR-98-26
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB

AIR FORCE INST. OF TECH., WRIGHT-PATTERSON AFB, OH.
Shifting Ambiguity U.S. Foreign Policy Toward China and Taiwan.
ADA363166REB
Bird Strike Risk Assessment for United States Air Force Airfields and Aircraft.
ADA363170REB

AIR FORCE INST. OF TECH., WRIGHT-PATTERSON AFB, OH. SCHOOL OF ENGINEERING.
AFIT/GE/ENG-99M-18
Terrain Backscattering Coefficient Generator.
ADA362716REB
FY99-96
Framework for Effective Algorithm Visualization Using Animation-Embedded Hypermedia.
ADA363104REB

AIR FORCE LOGISTICS MANAGEMENT CENTER, GUNTER AFB, AL.
Air Force Journal of Logistics, Volume XXIII, Number 1. Spring 1999.
ADA363012REB
AFLMA-LC-199719000
Automotive Parts Acquisition Guide.
ADA363282REB

AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON, RANDOLPH AFB, TX.
Occupational Survey Report, Survival Equipment, AFSC 2A7X4.
ADA362840REB
OCCUPATIONAL SURVEY REPORT: Surgical Services, AFSC 4N1X1B/C/D, OSSN 2331.
ADA363121REB

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH, BOLLING AFB, DC.
Air Force Research Laboratory Research Highlights, Mar/Apr 1999.
ADA363089REB

AIR FORCE RESEARCH LAB., BROOKS AFB, TX. HUMAN EFFECTIVENESS DIRECTORATE.
Transfer of Training Effectiveness in Flight Simulation: 1986 to 1997.
(AFRL-HE-AZ-TR-1998-0078)
ADA362818REB

AIR FORCE RESEARCH LAB., EGLIN AFB, FL. MUNITIONS DIRECTORATE.
Overview of the Modular Effectiveness/Vulnerability Assessment (MEVA) Architecture.
ADA362951REB

AIR FORCE RESEARCH LAB., WRIGHT-PATTERSON AFB, OH.
AFRL-WS-WP-TR-1999-9002
Air Force Research Laboratory Success Stories: A Review of 1997/1998.
ADA286991REB

AIR FORCE RESEARCH LAB., WRIGHT-PATTERSON AFB, OH. AIR VEHICLES DIRECTORATE.
AFRL-VA-WP-TR-1998-3043
Innovative Control Effectors (Configuration 101) Dynamic Wind Tunnel Test Report. Rotary Balance and Forced Oscillation Tests.
ADA362903REB

AIR FORCE RESEARCH LAB., WRIGHT-PATTERSON AFB, OH. MATERIALS AND MANUFACTURING DIRECTORATE.
USAF Manufacturing Technology; Program Status Report, Spring 1999.
ADA363080REB

AIR FORCE STUDIES AND ANALYSES AGENCY, WASHINGTON, DC.
EAF Transition Workshop: After Action Report, Lessons Learned and Recommendations.
ADA363388REB

AIR FORCE TECHNICAL APPLICATIONS CENTER, PATRICK AFB, FL.
Technical Operations Division - Heritage Remembered.
ADA362693REB

ALABAMA UNIV. IN HUNTSVILLE.
Global Retrieval of Cloud Particle Size and Optical Thickness Using ISCCP Data.
N19990041441REB
NAS 1.26:208191
Experimental Internet Environment Software Development.
N19990042214REB
NASA/CR-1999-208191
Experimental Internet Environment Software Development.
N19990042214REB
TR-5-34474
Experimental Internet Environment Software Development.
N19990042214REB

ALABAMA UNIV. IN HUNTSVILLE. RESEARCH INST.
UAHRITR-5-34734
Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives.
ADA363337REB

ALBERTA. DEPT. OF ENERGY. PLANNING & DEVELOPMENT DIVISION. RESEARCH & TECHNOLOGY BRANCH, CALGARY, (ALBERTA).
Alberta heavy oil, oil sands and enhanced recovery: Alberta & Saskatchewan steam-assisted gravity drainage projects, a survey.
MIC-99-03125REB
Alberta heavy oil, oil sands and enhanced recovery: Experimental pilot projects, a survey.
MIC-99-03131REB

ALBERTA OIL SANDS TECHNOLOGY & RESEARCH AUTHORITY, EDMONTON.
ISBN-0-7732-0189-0
AOSTRA technical handbook on oil sands, bitumens and heavy oils.
MIC-99-03497REB

AMARILLO NATIONAL RESOURCE CENTER FOR PLUTONIUM, TX (UNITED STATES).
ANRCP-1999-15
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB

ANAMET LABS., INC., SAN CARLOS, CA.
ANAMET-ASIAC-884.1F
IRON BIRD Model for Agile Program Part 2.
ADA363115REB
ANAMET-ASIAC-978.1B
Analysis of an Aircraft Tire.
ADA363105REB

APR CONSULTANTS, INC., MEDWAY, OH.
Practical Method for Aircraft Life Enhancement.
ADA362642REB

AQUATIC TOXICITY WORKSHOP (25TH: 1998: QUEBEC, QUEBEC), OTTAWA (ONTARIO).
SSC-FS 99-6/2197
Aquatic Toxicity Workshop: Proceedings 1998.
MIC-99-03164REB

ARGONNE NATIONAL LAB., IL.
Automated System for Determining Applicability of Regulations.
ADA363392REB
ANL/XFD/CP-96040
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB

ARIZONA STATE UNIV., TEMPE.
Integrated Approach for Security on Demand in High Speed, Shared Use Networks.
ADA363245REB

ARKANSAS UNIV., FAYETTEVILLE. DEPT. OF ELECTRICAL ENGINEERING.
Design of a Switched-Reluctance Motor Drive for Electric Propulsion.
ADA363184REB

ARMINGTON (CATHERINE), WASHINGTON, DC.
Statistics of U.S. Businesses: Microdata and Tables. SBA/Census Data on Establishments by Firm Size.
(SBAHQ-97-M-0577)
PB99-142572REB

ARMSTRONG LAB., TYNDALL AFB, FL. ENVIRONICS DIRECTORATE.
Groundwater Remediation Field Laboratory (GRFL).
ADA363156REB

ARMY AEROMEDICAL RESEARCH LAB., FORT RUCKER, AL.
USAARL-99-15
Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment.
ADA362972REB
USAARL-99-16
Survey of Work and Sleep Hours of U.S. Army Aviation Personnel.
ADA362964REB

ARMY ARMAMENT RESEARCH, DEVELOPMENT AND ENGINEERING CENTER, DOVER, NJ. ENERGETICS WARHEADS DIV.
Encyclopedia of Explosives (on CD-ROM).
PB99-500076REB

ARMY ARMAMENT RESEARCH, DEVELOPMENT AND ENGINEERING CENTER, WATERVLIET, NY. BENET WEAPONS LAB.
ARCCB-TR-99005
Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
ADA362756REB

ARMY ARMOR SCHOOL, FORT KNOX, KY.
Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center.
ADA362833REB

ARMY AVIATION AND MISSILE COMMAND, REDSTONE ARSENAL, AL.
Elimination of Toxic Materials and Solvents from Solid Propellant Components (PP1058).
ADA363240REB

ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE, (PROVISIONAL) ABERDEEN PROVING GROUND, MD.
Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures.
ADA363279REB
USACHPPM-29-HE-6781-98
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB
USACHPPM-29-HE-8092-99
Fort Bliss, Texas 1998: Acute Gastroenteritis Outbreak.
ADA362944REB

ARMY COMMAND AND GENERAL STAFF COLL., FORT LEAVENWORTH, KS.
Improved Methodology For Screening Military Pilot Applicants.
ADA362675REB
Study Of The Aerial Interdiction of Railways During The Korean War.
ADA362707REB
Rear Area Security In The Field Army Service Area.
ADA362710REB

ARMY ENGINEER DISTRICT, NEW ORLEANS, LA.
Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the New Orleans District for 1994.
ADA362753REB

ARMY ENGINEER WATERWAYS EXPERIMENT STATION, VICKSBURG, MS.
DOER-E6
Estimating Dredging Sediment Resuspension Sources.
ADA362892REB
EEDP-04-30
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB
EEDP-06-20
Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module.
ADA362729REB
EEDP-06-21
ADDAMS Application: Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module in CDFs.
ADA362730REB
REMR-CS-62
Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362896REB
WES/TR/DOER-3
Improving Dredged Material Management Decisions with Uncertainty Analysis.
ADA363151REB

ARMY ENGINEER WATERWAYS EXPERIMENT STATION, VICKSBURG, MS. COASTAL HYDRAULICS LAB.
STWAVE: Steady-State Spectral Wave Model. Report 1: User's Manual for STWAVE Version 2.0.
ADA362875REB
Ponce de Leon Inlet, Florida, Site Investigation. Report 2: Inlet Hydrodynamics: Monitoring and Interpretation of Physical Processes.
ADA362897REB

ARMY ENGINEER WATERWAYS EXPERIMENT STATION, VICKSBURG, MS. ENVIRONMENTAL LAB.
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB
EEDP-02-26
Volatile Losses from Aged Field Sediments.
ADA362809REB
WES/TR/EL-98-13
Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants.
ADA362974REB

ARMY ENGINEER WATERWAYS EXPERIMENT STATION, VICKSBURG, MS. STRUCTURES LAB.
WES/TR/CPAR-SL-98-5
Unique Polymeric Fiber and Fiber Delivery Systems for the Economic Preparation of High-Fiber Content Concrete with Superior Physical Properties.
ADA363079REB

ARMY ENVIRONMENTAL CENTER, ABERDEEN PROVING GROUND, MD.
For Want of a Home - A Study of Wherry and Capehan Military Family Housing.
(SFIM-AEC-EC-TR-98034)
ADA362706REB
Final Data Usability Summary and Resampling Proposal for Fort Sheridan.
ADA363090REB

ARMY LOGISTICS MANAGEMENT CENTER, FORT LEE, VA.
Identification and Evaluation of Interfaces of IL Support Operations with the Army Logistics System.
(RIA-81-U147)
ADA362962REB

ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY, ABERDEEN PROVING GROUND, MD.
Successful Management Practices.
ADA362668REB

ARMY NUCLEAR AND CHEMICAL AGENCY, SPRINGFIELD, VA.
NBC Report, Spring - Summer 1999. Survivability of Army Personnel and Materiel.
ADA363243REB

ARMY RESEARCH INST. OF ENVIRONMENTAL MEDICINE, NATICK, MA.
Evaluation of Prototype Electrically Heated Handwear.
ADA363276REB

ARMY RESEARCH LAB., ABERDEEN PROVING GROUND, MD.
Separation of RDX from Composition B Via a Supercritical Fluid Extraction Process.
ADA363254REB
Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB
ARL-MR-443
BuyIt Software Development Plan: A C-BASS Component.
ADA363051REB
ARL-MR-444
BuyIt Prototype Software Requirements Analysis: A C-BASS Component.
ADA363050REB
ARL-TN-114
Data Transfer Report - 30-mm Enhanced Alternate High-Energy Propellant Program (EAHEP): Evaluation of the Performance of an RDX-Based ARDEC-7994 Propellant and the Effect of Two Different Slug Projectile Designs.
ADA363101REB

ARMY RESEARCH LAB., ADELPHI, MD.
ARL-TR-1934
Condensation of Quasi-Two-Dimensional Biexcitons in a Single Heterojunction Quantum Well.
ADA362735REB

ARMY RESEARCH LAB., ADELPHI, MD. SENSORS AND ELECTRON DEVICES DIRECTORATE.
ARL-MR-430
Numerical Computation of the Radar Cross Section of the ZSU-23-4.
ADA363007REB

ARMY SAFETY CENTER, FORT RUCKER, AL.
Countermeasure: Army Ground Risk-Management Publication, Volume 20, Number 5, May 1999.
ADA363062REB

ARMY WAR COLL., CARLISLE BARRACKS, PA.
Analysis of First-Term Army Attrition.
ADA362968REB
Future of the Combat Training Centers to Meet the National Military Strategy.
ADA362969REB
Officer Candidate School (OCS): Relevance into the 21st Century.
ADA362971REB
Department of Defense, Inc. Are We Ready To Become An Extension of Corporate America.
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ADA362989REB
From Carter to Reagan: Formulation of American Foreign Policy during a Time of Transition. An Explanation of Foreign Policy Decisions Based on the Initial Presidential Transition Period.
ADA362996REB
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ADA363030REB
Army After Next: A Cashless Army.
ADA363033REB
Center of Gravity: Justification for Assassination.
ADA363034REB
Christianity's Contribution to Just War Tradition.
ADA363087REB
National Guard State Partnership Program: Is It Still Relevant.
ADA363117REB
Challenge of Manning the Post-Cold War Army.
ADA363118REB
Shaping of Policy in Support of National and Environmental Security for the Remediation of Cold War Related Ecosystem Degradation in the Commonwealth of Independent States.
ADA363123REB
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ADA363158REB
Effects of Information Operations on Nonlinear Force Structures.
ADA363159REB
Information Operations in Iraq.
ADA363160REB
Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next.
ADA363198REB
Economic Sanctions: Viable Instruments of Power or Economic Chaos.
ADA363199REB
General Creighton Abrams: Ethical Leadership at the Strategic Level.
ADA363255REB
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Democracy in Kuwait.
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Reserve Component Officer Professional Development.
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ASSISTANT SECRETARY OF THE AIR FORCE (ACQUISITION), WASHINGTON, DC.
News from AFAR, March/April 1998.
ADA362865REB
News from AFAR, Volume 2, Number 1 March/April 1996.
ADA362956REB
Aerospace Acquisition 2000, Volume 2, Number 1.
ADA362959REB
News from AFAR, Volume 2 Number 2 May/June 1996.
ADA362960REB
News from AFAR, Volume 1, Number 3 July/August 1998.
ADA362973REB
News from AFAR, Volume 1 Number 7 January/February 1996.
ADA363035REB

ATLANTIC FORESTRY CENTRE (CANADA). FREDERICTON (NEW BRUNSWICK).
Butternut canker, a first record for New Brunswick.
MIC-99-03450REB

ATMOSPHERIC AND ENVIRONMENTAL RESEARCH, INC., CAMBRIDGE, MA.
NAS 1.26:209207
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB
NAS 1.26:209228
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB

NASA/CR-1998-209228
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB
NASA/CR-1999-209207
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB

ATOMIC ENERGY OF CANADA LTD., MISSISSAUGA, (ONTARIO).
ISBN-0-662-27234-X
Annual report 1997-98.
MIC-99-03255REB
SSC-CC1-1998E
Annual report 1997-98.
MIC-99-03255REB

AUBURN UNIV., AL.
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NAS 1.26:208192
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB
NASA/CR-1999-208192
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB

AVXM PARTNERSHIP, KETTERING, OH.
AVXM-99-1
Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
(AFRL-ML-WP-TR-1999-4028)
ADA362754REB

BATTELLE, COLUMBUS, OH.
BCLDP-093098
BCLDP site environmental report for calendar year 1997 on radiological and nonradiological parameters.
DE99002442REB

BATTELLE MEDICAL RESEARCH AND EVALUATION FACILITY, WEST JEFFERSON, OH.
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB

BATTELLE MEMORIAL INST., COLUMBUS, OH.
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Determination of the Median Lethal Dose of Two Anticholinesterase Agents and Efficacy of Current Therapy.
ADA362975REB

BAYLOR COLL. OF MEDICINE, HOUSTON, TX.
Human Adrenal Androgens: Regulation of Biosynthesis and Role in Estrogen-Responsive Breast Cancer in a Mouse Model.
ADA362673REB

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DOE/NV/11718-261
Enabling field spectroscopies.
DE00002697REB
DOE/NV/11718-279
X-Ray Shawdowgraph Camera Design.
DE00002698REB

BETTIS ATOMIC POWER LAB., WEST MIFFLIN, PA (UNITED STATES).
WAPD-T-3231
Dynamic and static error analyses of neutron radiography testing.
DE99002096REB

BIOLOGICAL RESOURCES DIV., FORT COLLINS, CO. MIDCONTINENT ECOLOGICAL SCIENCE CENTER.
USGS/BRD/BSR-1999-0003
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB

BIOLOGICAL SCIENCES CURRICULUM STUDY, COLORADO SPRINGS, CO (UNITED STATES).
DOE/ER/61989-T1
Nontraditional inheritance: Genetics and the nature of science, now titled, The puzzle of inheritance: Genetics and the methods of science. Final report.
DE99002177REB

BOEING DEFENSE AND SPACE GROUP, SEATTLE, WA. RESEARCH AND TECHNOLOGY DIV.
Electromagnetic Effects of Advanced Packaging.
(AFRL-IF-RS-TR-1999-50)
ADA362900REB

BOEING NORTH AMERICAN, INC., CANOGA PARK, CA. ROCKETDYNE DIV.
Prediction of X-33 Engine Dynamic Environments.
N19990041161REB

BOMBARDIER AEROSPACE, MONTREAL (QUEBEC).
Effects of roughness on advanced airfoils: Final report for phase II and phase III.
MIC-99-03515REB

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Development of the Air Force-Army Military Skill Linkage System (MISL).
(AFRL-HE-BR-TR-1998-0129)
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BOSTON UNIV., MA. DEPT. OF AEROSPACE AND MECHANICAL ENGINEERING.
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Hybrid Asymptotic-Numerical Methods in Scattering.
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AM-99-006
Shock Survivability of Dynamical Systems.
ADA363045REB

BRAUN INTERTEC CORP., MINNEAPOLIS, MN.
Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
(MN/RC-1999-06)
PB99-153009REB

BRIGHAM YOUNG UNIV., PROVO, UT. DEPT. OF CHEMISTRY AND BIOCHEMISTRY.
Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
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Site index, a primer.
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BRITISH COLUMBIA. WILDLIFE BRANCH, VICTORIA. BRITISH COLUMBIA. MINISTRY OF ENVIRONMENT, LANDS & PARKS. RESOURCES INVENTORY BRANCH.
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Birds of British Columbia: A taxonomic catalogue.
MIC-99-03118REB

BUDAPESTI MUESZAKI EGYETEM (HUNGARY).
Periodica Polytechnica, Chemical Engineering, Volume 42, No. 1, 1998.
PB99-120297REB
Periodica Polytechnica, Mechanical Engineering, Volume 42, No. 1, 1998.
PB99-120305REB
Periodica Polytechnica, Civil Engineering, Volume 42, No. 2, 1998.
PB99-120313REB
Periodica Polytechnica, Transportation Engineering, Volume 24, No. 1, 1998.
PB99-120321REB
Periodica Polytechnica Chemical Engineering, Volume 42, No. 2, 1998.
PB99-149627REB
Periodica Polytechnica Mechanical Engineering, Volume 42, No. 2, 1998.
PB99-149635REB

CALIFORNIA DEPT. OF HEALTH SERVICES, SACRAMENTO.
Public Health Assessment for Sherwin Williams, Emeryville, Alameda County, California, Region 9. CERCLIS No. CAD03934601.
PB99-155590REB

CALIFORNIA INST. OF TECH., PASADENA.
Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models.
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PB99-152829REB

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Multidisciplinary Design and Analysis for Commercial Aircraft.
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Global MHD Simulation of Mesoscale Structures at the Magnetospheric Boundary.
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Technological Development for Interfacing Parallel Access Memories to Parallel Computers.
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SSC-NH15-195/1998E
Building solutions: A problem solving guide for builders and renovators.
MIC-99-03458REB

CANADIAN ENVIRONMENTAL PROTECTION ACT FEDERAL/PROVINCIAL WORKING GROUP ON AIR QUALITY OBJECTIVES & GUIDELINES, OTTAWA (ONTARIO).
ISBN-0-662-63486-1
National ambient air quality objectives for particulate matter, executive summary: Part 1, science assessment document, a report.
MIC-99-03496REB
SSC-H46-2/98-220
National ambient air quality objectives for particulate matter, executive summary: Part 1, science assessment document, a report.
MIC-99-03496REB

CANADIAN FOOD INSPECTION AGENCY. PLANT HEALTH & PRODUCTION DIVISION, NEPEAN, (ONTARIO).
Canadian fertilizer quality assurance report: Plant ratings 1998.
MIC-99-03190REB

CANADIAN FOREST SERVICE. NEWFOUNDLAND & LABRADOR REGION, ST. JOHN'S.
ISBN-0-662-25669-7
Eastern hemlock looper, Lambdina fiscellaria fiscellaria (Guen.), Lepidoptera: Geometridae, in Newfoundland, 1983-95.
MIC-99-03453REB
SSC-FO46-15/302E
Eastern hemlock looper, Lambdina fiscellaria fiscellaria (Guen.), Lepidoptera: Geometridae, in Newfoundland, 1983-95.
MIC-99-03453REB

CANADIAN FOREST SERVICE. SCIENCE BRANCH, OTTAWA (ONTARIO).
ISBN-0-662-64102-7
Climate change and forests, context for the Canadian Forest Service's science program.
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SSC-FO42-289/1999
Climate change and forests, context for the Canadian Forest Service's science program.
MIC-99-03652REB

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Human factors engineering study for a Griffon Mission Planning System: Final project report.
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Wetlands environmental assessment guideline.
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SSC-CW66-173/1998
Migratory birds environmental assessment guideline.
MIC-99-03120REB
SSC-CW66-174/1998
Wetlands environmental assessment guideline.
MIC-99-03121REB
SSC-CW66-175/1998
Environmental assessment guideline for forest habitat of migratory birds.
MIC-99-03122REB

CANADIAN WILDLIFE SERVICE. ENVIRONMENTAL CONSERVATION BRANCH - ONTARIO REGION., DOWNSVIEW, (ONTARIO).
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Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. I: Accounts by location.
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ISBN-0-662-27013-4
Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. II: Accounts by chemical.
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Software Acquisition Capability Maturity Model (SA-CMM) Version 1.02.
(ESC-TR-99-002)
ADA362667REB
CMU/SEI-99-TR-010
Why Reengineering Projects Fail.
(ESC-TR-99-010)
ADA362725REB

CCS ASSOCIATES, MOUNTAIN VIEW, CA.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity, 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity, 1995-1996 Volume. Section 2.
PB99-105538REB

CENTER FOR NAVAL ANALYSES, ALEXANDRIA, VA.
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CRM-96-49-10
Getting the Most Out of Integrated Product Teams (IPTs).
ADA362638REB

CENTRAL INTELLIGENCE AGENCY, WASHINGTON, DC.
Studies in Intelligence, Winter 1998-1999.
PB99-928002REB

CHINESE INST. OF ENGINEERS, TAIPEI (TAIWAN).
Journal of The Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 5.
PB99-101719REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 6.
PB99-101727REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 1.
PB99-101735REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 2.
PB99-101743REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 3.
PB99-101750REB

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GPS User-Interface Design Problems.
(DOT/FAA/AM-99/13)
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Laser Doppler Velocimeter and High Speed Imaging System for Fluid Dynamics, Combustion and Chemical Kinetics Research.
ADA362940REB

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General Framework to Provide for the Optimal Dispatch of Hybrid Renewable Power Systems.
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ADA363052REB

COLUMBIA UNIV., NEW YORK.
Role of Mutant p53 Protein in Breast Cancer.
ADA363399REB
CAL-3093
Hard X-Ray Emission from X-Ray Bursters.
N19990042107REB

COLUMBIA UNIV., NEW YORK. CENTER FOR TELECOMMUNICATIONS RESEARCH.
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service.
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ADA362912REB

COLUMBIA UNIV., NEW YORK. DEPT. OF CIVIL ENGINEERING AND ENGINEERING MECHANICS.
TR-890.1A
Monte Carlo Simulation for Appliction to Aerospace Vehicle Structures.
ADA363043REB

COMMUNICATIONS RESEARCH CENTRE (CANADA). RADAR RESEARCH LABORATORY, OTTAWA (ONTARIO).
Algorithm for the solution of complex linear systems with Hermitian positive definite coefficient matrices.
MIC-99-03421REB

CONCORR, INC., ASHBURN, VA.
Verification of Effectiveness of Epoxy-Coated Rebars.
(PA-89-0001-94-05)
PB99-152407REB

CONGRESSIONAL BUDGET OFFICE, WASHINGTON, DC.
Maintaining Budgetary Discipline: Spending and Revenue Options.
ADA363202REB

CONSTRUCTION ENGINEERING RESEARCH LAB. (ARMY), CHAMPAIGN, IL.
Demonstration of Lead-Based Paint Removal From an Historic Wood Structure Using Laser Technology.
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(SERDP-CS-1083)
ADA363336REB

CONSTRUCTION ENGINEERING RESEARCH LAB. (ARMY), CHAMPAIGN, IL. ENGINEERING AND MATERIALS DIV.
USACERL-TR-99/36
Ceramic Coated Piston Rods for Civil Works.
ADA362682REB

COOPERATIVE INST. FOR RESEARCH IN ENVIRONMENTAL SCIENCE, BOULDER, CO.
Activities of Dept. of Geological Sciences, Colorado University.
N19990041815REB
ASTRO-PH/9707322-VOL-2
RXTE Observation of Cygnus X-1, 1.
N19990042404REB

CORNELL UNIV., ITHACA, NY.
DURIP 97 Vacuum Equipment for Ultra High Power Microwave Experiments.
(AFRL-SR-BL-TR-99-0118)
ADA362954REB

CORNELL UNIV., ITHACA, NY. INST. FOR THE STUDY OF THE CONTINENTS.
Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
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ADA286992REB

CORPS OF ENGINEERS, KANSAS CITY, MO. KANSAS CITY DISTRICT.
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB

CORPS OF ENGINEERS, WASHINGTON, DC.
TN-EMRRP-SI-07
Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB
TN-EMRRP-SI-08
Terrestrial Turtle Habitats Potentially Impacted.
ADA363365REB

CRATECH, INC., TAHOKA, TX.
Small Scale Biomass Fueled Gas Turbine Power Plant.
(EPA/600/A-98/143)
PB99-126450REB

CSA ENGINEERING, INC., PALO ALTO, CA.
ASIAC-TR-94-23
Cross Flow Over Double Delta Wings.
ADA363041REB

DAYTON UNIV., OH. RESEARCH INST.
UDR-TR-1998-00154-VOL-1
Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide.
(AFRL-VA-WP-TR-1999-3030)
ADA363010REB

DEFENCE & CIVIL INSTITUTE OF ENVIRONMENTAL MEDICINE (CANADA). AIR VEHICLE RESEARCH DETACHMENT, OTTAWA (ONTARIO).
Development of inspection techniques for TTCP ceramic matrix composite specimens.
MIC-99-03358REB

DEFENCE & CIVIL INSTITUTE OF ENVIRONMENTAL MEDICINE (CANADA), NORTH YORK, (ONTARIO).
Judgements of the inclination and slant of surfaces in stereoscopic display systems.
MIC-99-03367REB

DEFENCE & CIVIL INSTITUTE OF ENVIRONMENTAL MEDICINE (CANADA), NORTH YORK, (ONTARIO). COLD WEATHER MILITARY OPERATIONS. INTERNATIONAL CONFERENCE (1995: BURLINGTON, VT)
Trial by adventure.
MIC-99-03291REB

DEFENCE & CIVIL INSTITUTE OF ENVIRONMENTAL MEDICINE (CANADA), NORTH YORK, (ONTARIO). INTERNATIONAL MILITARY TESTING ASSN. CONFERENCE (37TH: 1995: TORONTO, ONT.).
Effects of modafinil, d-amphetamine and placebo on physiological and psychological stress during sleep deprivation.
MIC-99-03106REB

DEFENCE & CIVIL INSTITUTE OF ENVIRONMENTAL MEDICINE (CANADA), VANCOUVER, (BRITISH COLUMBIA).
Tent group systems requirements, phase 1A.
MIC-99-03476REB

DEFENCE RESEARCH ESTABLISHMENT ATLANTIC, DARTMOUTH, (NOVA SCOTIA).
Development of an optimum consumable alloy for low heat input welding of nickel aluminum bronzes.
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Nickel aluminum bronze overlay deposit using gas metal arc welding process and 0.5 mm diameter wire.
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Microstructural characterization of NiAl bronze weldments.
MIC-99-03326REB
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Microstructural characterization of laser-clad nickel aluminum bronze alloys using transmission electron microscopy.
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Initial investigation of bandwidth required for collision avoidance using a video camera on a remotely controlled vehicle.
MIC-99-03363REB
Impact properties of composite sonar dome materials.
MIC-99-03381REB
Acoustic seabed classification, MAST'97: Final report.
MIC-99-03382REB

DEFENCE RESEARCH ESTABLISHMENT OTTAWA, OTTAWA.
Adaptive nulling of skywave interference using horizontal dipole antennas in a coastal surveillance HF surface wave radar system.
MIC-99-03279REB

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Electrophoretic separation of biological molecules on micro-machined silica plates: Final report.
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MIC-99-03343REB
Assessment of risks associated with the commercial operation of selected DRES facilities.
MIC-99-03366REB

DEFENCE RESEARCH ESTABLISHMENT SUFFIELD. MOBILITY SYSTEMS SECTION, MEDICINE HAT, (ALBERTA).
DADS steering simulation.
MIC-99-03342REB

DEFENCE RESEARCH ESTABLISHMENT SUFFIELD, RALSTON, (ALBERTA).
Tethered dye gene probes.
MIC-99-03378REB

DEFENCE RESEARCH ESTABLISHMENT SUFFIELD, WATERLOO, (ONTARIO).
Buoyancy effects for HFX AFT Cleansing Station.
MIC-99-03364REB

DEFENCE RESEARCH ESTABLISHMENT VALCARTIER, VAL-BELAIR, (QUEBEC).
Estimation of cloud droplet size density distribution from multiple field-of-view lidar returns.
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MIC-99-03327REB

DEFENCE RESEARCH ESTABLISHMENT VALCARTIER, VALCARTIER, (QUEBEC).
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MIC-99-03359REB
Sabot performance for gun launched MK-82 CF, BDU-5003/B and BDU-5002/B MOD 1 bombs.
MIC-99-03365REB

DEFENCE SCIENCE AND TECHNOLOGY ORGANISATION, CANBERRA (AUSTRALIA).
DSTO-TR-0654
Technique for Measuring the Gain of HF Antennas.
(DODA-AR-010-510)
ADA362876REB
DSTO-TR-0788
Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
(DODA-ARM-98-119, X5SA-X5)
ADA363348REB

DEFENCE SCIENCE AND TECHNOLOGY ORGANIZATION, MELBOURNE (AUSTRALIA).
DSTO-TR-0762
Flow Visualisation About the Helicopter Deck of the Hydrographic Ship.
(DODA-AR-010-842)
ADA362877REB

DEMOKRITOS UNIV. OF THRACE, KOMOTINI (GREECE).
Prediction of Crack Initiation and Growth in Solid Propellants.
(EOARD-SPC 98-4003)
ADA363081REB

DEPARTMENT OF COMMERCE, WASHINGTON, DC.
Showcase Europe (on CD-ROM).
PB99-501611REB

DEPARTMENT OF DEFENSE, WASHINGTON, DC.
Department of Defense Nuclear/Biological/Chemical (NBC) Defense Annual Report to Congress March 1999.
ADA362674REB
Defense Depot Maintenance Council Study of DoD Management of Industrial Plant Equipment.
ADA363391REB

DEPARTMENT OF HEALTH AND HUMAN SERVICES, WASHINGTON, DC. OFFICE OF PUBLIC HEALTH AND SCIENCE.
Healthy People 2010 Objectives: Draft for Public Comment.
PB99-103889REB

DEPARTMENT OF THE AIR FORCE, WASHINGTON, DC.
Forward Air Controllers, 1985 - 1995.
ADA362737REB
Weapon Indexing and Weapon Ratios in Arms Control.
ADA362751REB

DEPARTMENT OF THE NAVY, WASHINGTON, DC.
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 5.
ADA362762REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 4.
ADA362763REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activities 1-3.
ADA362764REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 6.
ADA362765REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 7.
ADA362766REB
ADD019337
Acoustic Sound Speed Profiling System.
PAT-APPL-8-226 625REB
ADD019338
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB
ADD019339
Multiline Tow Cable Assembly Including Swivel and Slip Ring.
PAT-APPL-8-137 870REB
ADD019340
Illuminating Electrical Fuse.
PAT-APPL-8-226 620REB
ADD019341
Non-Slip Safety Glasses.
PAT-APPL-8-226 621REB
ADD019342
Electrical Outlet Splash Protector.
PAT-APPL-8-226 614REB

DEPT. OF ENERGY OFFICE OF EPIDEMIOLOGIC STUDIES, GERMANTOWN, MD (UNITED STATES).
DOE/EH-99001291
1995 Annual epidemiologic surveillance report for Brookhaven National Laboratory.
DE99001921REB

DEPT. OF ENERGY, OFFICE OF NATURAL GAS AND PETROLEUM IMPORT AND EXPORT ACTIVITIES, WASHINGTON, DC (UNITED STATES).
DOE/FE-0388
Natural gas imports and exports. Fourth quarter report, 1998.
DE99002705REB

DEPT. OF ENERGY, OFFICE OF WORKER AND COMMUNITY TRANSITION, WASHINGTON, DC (UNITED STATES).
DOE/WT-0007
Sixth national stakeholder workshop summary report.
DE99002110REB

DEPT. OF FISHERIES & OCEANS, OTTAWA.
ISBN-0-662-26875-X
Georges Bank, 1998 conservation requirements for Georges Bank groundfish stocks: Report to the Minister of Fisheries and Oceans.
MIC-99-03610REB
SSC-FS1-68/1998E
Georges Bank, 1998 conservation requirements for Georges Bank groundfish stocks: Report to the Minister of Fisheries and Oceans.
MIC-99-03610REB

DEPT. OF FOREIGN AFFAIRS & INTERNATIONAL TRADE, OTTAWA (ONTARIO).
CTBT verification related case studies of three recent seismic events, Novaya Zemlya, India and Pakistan.
MIC-99-03262REB

DEPT. OF NATIONAL DEFENCE, OTTAWA.
Engine life cycle cost control by advanced repair and qualification methods.
MIC-99-03330REB
Re-engining the CC130 Hercules transport aircraft as a fleet management option.
MIC-99-03333REB

DEPUTY DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING, ARLINGTON, VA. STRATEGIC ENVIRONMENTAL RESEARCH AND DEVELOPMENT.
SERDP Scientific Advisory Board Annual Report to Congress, Fiscal Year 1998.
ADA363071REB
Annual Report to Congress. Fiscal Year 1998.
ADA363370REB

DOKUMENTATIONS-UND FACHINFORMATIONSZENTRUM DER BUNDESWEHR, BONN (GERMANY, F.R.).
Verzeichnis der im Faachinformationswesen der bundesswehr laufend gehaltenen Zeitschriften (Zeitschriftenverzeichnis FIWBw). Listing of the Magazines Held Constantly in the Speciaiized Information System of the German Federal Armed Forces (magazine listing FIWBw)--Translation.
ADA363396REB

DUKE UNIV., DURHAM, NC.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
(AHCPR/PUB-99/E010)
PB99-152936REB

DUKE UNIV., DURHAM, NC. SCHOOL OF ENGINEERING.
Limit Cycle Oscillations (LCO) and Nonlinear Aeroelastic Wing Response: Reduced Order Aerodynamic Models.
(AFRL-SR-BL-TR-99-0125)
ADA362982REB

EAI CORP., ABINGDON, MD.
ECBC-TR-010
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
(ECBC-TR-010)
ADA362643REB

ECONOMIC & PUBLIC POLICY ISSUES OF THE INFORMATION ECONOMY. CONFERENCE (1997: TORONTO, ONT.).
ISBN-0-88806-444-6
Electronic village: Policy issues of the information economy.
MIC-99-03240REB

ECONOMIC RESEARCH SERVICE, WASHINGTON, DC. FOOD AND RURAL ECONOMICS DIV.
Moving Toward the Food Guide Pyramid: Implications for U.S. Agriculture.
ERS-AER-779REB
Food Cost Review, 1950-97.
ERS-AER-780REB

ECONOMIC RESEARCH SERVICE, WASHINGTON, DC. RESOURCE ECONOMICS DIV.
Green Technologies for a More Sustanable Agriculture.
ERS-AIB-752REB

EDGEWOOD CHEMICAL BIOLOGICAL CENTER, ABERDEEN PROVING GROUND, MD.
ECBC-TR-025
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436.
ADA363275REB
ECBC-TR-026
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B.
ADA363349REB

ELECTRONICS RESEARCH LAB., ADELAIDE (AUSTRALIA).
DSTO-RR-0146
Transmission Availability Forecast Service for Internet Protocol Networks.
(DSTO-RR-0146, X5SA-X5)
ADA363086REB

ELECTROTECHNICAL LAB., IBARAKI (JAPAN).
Bulletin of the Electrotechnical Laboratory, Vol. 60, No. 12, 1996. Special Issue: Lithium Secondary Batteries.
PB99-152043REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 1, 1997. Special Issue: Solar Cells V.
PB99-152050REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 2, 1997.
PB99-152068REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 3, 1997. Special Issue: KrF Laser.
PB99-152076REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No.11, 1997.
PB99-152084REB

EMPLOYMENT STANDARDS ADMINISTRATION, WASHINGTON, DC. OFFICE OF WORKERS' COMPENSATION PROGRAMS.
ESA/OWCP/AR-97/6
OWCP (Office of Workers' Compensation Programs) Annual Report to Congress: FY 1997.
PB99-152985REB

ENERGY AND ENVIRONMENTAL RESEARCH CORP., IRVINE, CA.
N00014-95-C-0310
Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
ADA363186REB

ENVIROGEN, INC., LAWRENCEVILLE, NJ.
N00014-96-C-0370
Development of Biotrickling Filters to Treat Sulfur and VOC Emissions.
ADA362950REB

ENVIRON INTERNATIONAL CORP., NOVATO, CA.
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB

ENVIRONMENT CANADA. ATLANTIC REGION. ENVIRONMENTAL PROTECTION BRANCH, DARTMOUTH, (NOVA SCOTIA).
Pesticide residues in sediment and water from two watersheds in Prince Edward Island, 1996 and 1997.
MIC-99-03631REB
Changes in butyttin residue concentrations in marine sediments of Atlantic Canada between 1988 and 1994.
MIC-99-03657REB
Synopsis of the first cycle of the pulp and paper mill environmental effects monitoring program in the Atlantic region.
MIC-99-03658REB

ENVIRONMENT CANADA, OTTAWA (ONTARIO).
ISBN-0-662-27343-5
Guide for reporting to the National Pollutant Release Inventory, 1998.
MIC-99-03216REB
SSC-EN40-495/1998E
Guide for reporting to the National Pollutant Release Inventory, 1998.
MIC-99-03216REB

ENVIRONMENTAL LAW INST., WASHINGTON, DC.
ISBN 0-911937-83-8
TSCA Deskbook.
ELI-0060REB

ENVIRONMENTAL PROTECTION AGENCY, ANNAPOLIS, MD. CHESAPEAKE BAY PROGRAM.
CBP/TRS-220/99
Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
PB99-155418REB
CBP/TRS-222/105
Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB
EPA/903/R-99/002
Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
PB99-155418REB
EPA/903/R-99/012
Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB

ENVIRONMENTAL PROTECTION AGENCY, CINCINNATI, OH. NATIONAL EXPOSURE RESEARCH LAB.
EPA/600/A-99/046
Current Methods and Research Strategies for Modeling Atmospheric Mercury.
PB99-149783REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. CLEAN AIR TECHNOLOGY CENTER.
EPA/456/F-99/004
Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB

ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC. NATIONAL EXPOSURE RESEARCH LAB.
EPA/600/A-99/644
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. AMERICAN INDIAN ENVIRONMENTAL OFFICE.
Tribal Environmental and Natural Resource Assistance Handbook.
PB99-150989REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE.
EPA-540-F-98-033
Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.
PB98-963305REB
EPA 541-R98-120
Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB
EPA 541-R98-181
Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB
EPA 541-R98-190
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB
OSWER-9355.0-71P
Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.
PB98-963305REB

ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC. OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE.
EPA/315/B-98/011
Yellow Book: Guide to Environmental Enforcement and Compliance at Federal Facilities.
PB99-152530REB

ENVIRONMENTAL SCIENCE AND RESEARCH FOUNDATION, INC., IDAHO FALLS, ID (UNITED STATES).
ESRF-030
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB

ESRF-031
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB

ESQUIMALT DEFENCE RESEARCH DETACHMENT (B.C.). DREA DOCKYARD LABORATORY, VICTORIA (BRITISH COLUMBIA).
Laboratory simulation of the galvanic corrosion of a ship hull plate by shaft grounding systems.
MIC-99-03348REB

ESQUIMALT DEFENCE RESEARCH DETACHMENT (B.C.). VICTORIA (BRITISH COLUMBIA).
Generalized ELF propagation.
MIC-99-03336REB

FEDERAL AVIATION ADMINISTRATION TECHNICAL CENTER, ATLANTIC CITY, NJ.
DOT/FAA/CT-TN98/23
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB

FEDERAL AVIATION ADMINISTRATION TECHNICAL CENTER, ATLANTIC CITY, NJ. OFFICE OF AVIATION RESEARCH.
DOT/FAA/AR-TN99/25
Beechcraft 1900C Vertical Impact Test.
PB99-149726REB

FEDERAL DATA CORP., EGG HARBOR, NJ. SCIENCE AND ENGINEERING DIV.
Validating the Computer-Based Training Process for Aviation Security Screeners.
(DOT/FAA/AR-99/40)
PB99-149585REB
Project Plan for the Baseline Measurment of Checkpoint Effectiveness and Efficiency.
(DOT/FAA/AR-99/43)
PB99-149684REB

FEDERAL EMERGENCY MANAGEMENT AGENCY, WASHINGTON, DC.
Answers to Questions about the National Flood Insurance Program.
PB99-113904REB
FEMA/SM-250-3
Disaster-Related Needs of Seniors and Persons with Disabilities. Student Manual.
PB99-130932REB

FEDERAL ENERGY TECHNOLOGY CENTER (FETC), MORGANTOWN, WV, AND PITTSBURGH, PA (UNITED STATES).
DE-FG22-93PC93205-12
Short Contact Time Direct Coal Liquefactionn Using a Novel Batch Reactor. Quarterly Report. May 16 - August 15, 1996.
DE00001726REB

FEDERAL ENERGY TECHNOLOGY CENTER, MORGANTOWN, WV, AND PITTSBURGH, PA (UNITED STATES).
DOE/FETC-99/1081
Multiphase Flow Modeling - Validation and Application CRADA MC94-019, Final Report.
DE00003027REB
DOE/FETC-99/1085
Summary of Experiments in Converting Copper Oxide Process Regenerator Off-Gases to Elemental Sulfur, CRADA 97-F006, Final Report.
DE00003034REB

FEDERAL HIGHWAY ADMINISTRATION, WASHINGTON, DC.
FHWA-PD-99-012
Bid Opening Report. Federal-Aid Highway Construction Contracts, First Six Months, 1998.
PB99-147340REB

FEDERAL HIGHWAY ADMINISTRATION, WASHINGTON, DC. FEDERAL-AID AND DESIGN DIV.
Proceedings of the National Joint Use Conference (5th). Held in Louisville, Kentucky on October 26-27, 1998.
PB99-150062REB
FHWA/IF-99/003
Proceedings of the National Highway/Utility Conference (7th). Held in Louisville, Kentucky on October 28-30, 1998.
PB99-150120REB

FEDERAL/PROVINCIAL/TERRITORIAL MINISTERS OF ENERGY & ENVIRONMENT (CANADA). HALIFAX (NOVA SCOTIA).
ISBN-0-662-64061-6
Supporting document for the Canada-wide acid rain strategy for post-2000.
MIC-99-03350REB
SSC-EN40-570/1999
Supporting document for the Canada-wide acid rain strategy for post-2000.
MIC-99-03350REB

FERMI NATIONAL ACCELERATOR LAB., BATAVIA, IL (UNITED STATES).
FNAL/C-97/203-E
Kt – jets and jet structure and fragmentation at the Tevatron.
DE99050750REB

FERTILIZER INSTITUTE OF ONTARIO INC., TORONTO.
ISBN-0-7778-7730-9
Soil fertility handbook.
MIC-99-03102REB

FISH AND WILDLIFE SERVICE, WASHINGTON, DC.
Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences.
PB99-102899REB

FLORIDA ATLANTIC UNIV., BOCA RATON. DEPT. OF OCEAN ENGINEERING.
ASIAC-1090-1N
Preliminary Study of Sensitivity Analysis and its Applications to Structural Control Problems.
ADA363042REB

FLUOR DANIEL HANFORD, INC., RICHLAND, WA (UNITED STATES).
Packaging and transportation system for K-Basin spent fuel.
DE99050622REB
DOE/RL-96-28
Nonradioactive Air Emissions Notice of Construction use on a portable exhauster on 241-A-101 tank during salt well pumping.
DE99050550REB
DOE/RL-96-77
Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
DE99050411REB
DOE/RL-98-02
Radioactive Air Emissions Notice of Construction for the 105-KW Basin integrated water treatment system filter vessel sparging vent.
DE99050561REB
HNF-EP-0918-REV.1
Solid waste integrated forecast technical (SWIFT) report: FY1997 to FY 2070.
DE99050410REB
HNF-SA-3170-FP
International Atomic Energy Agency/Hanford Site shared use of calorimeters.
DE99050111REB
HNF-SA-3205-FP
Hanford spent nuclear fuel project update.
DE99050207REB
HNF-SA-3229-FP
Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB
HNF-SA-3230-FP
Application of environmental accounting to pollution prevention.
DE99050167REB
HNF-SA-3231-FP
Deployment of pollution prevention during design – a case study.
DE99050164REB
HNF-SD-CP-SDD-003-REV.5
Definition and means of maintaining the criticality detectors and alarms portion of the PFP safety envelope.
DE99050188REB
HNF-SD-ENV-EE-003
Permitting plan for the immobilized low-activity waste project.
DE99050230REB
HNF-SD-FF-EV-003
Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
DE99050154REB
HNF-SD-FF-RPT-010
Scoping assessment on medical isotope production at the Fast Flux Test Facility.
DE99050414REB
HNF-SD-PRP-TRP-001
Hanford Site Emergency Alerting System siren testing report.
DE99050202REB
HNF-SD-SQA-CSA-528
Addendum 1 to CSER 97-025: PFP storage of 9.25/9.5 inch tall, 4.4 kg Pu cans on existing Vault 4 pedestals.
DE99050231REB
HNF-SD-SQA-CSA-529
CSER 97-004: PFP production denitration calciner system.
DE99050233REB
HNF-SD-TP-SEP-065
Safety evaluation for packaging (onsite) for cesium chloride capsules with type W overpacks.
DE99050234REB
HNF-SD-TP-SEP-066
Safety evaluation for packaging (onsite) depleted uranium waste boxes.
DE99050187REB
HNF-SD-TWR-CSUD-001
TWRS technical baseline database manager definition document.
DE99050152REB
HNF-SD-W314-ABU-002
Project W-314 241-AN-A valve pit upgrade acceptance for beneficial use.
DE99050201REB
HNF-SD-WM-DP-227
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB
HNF-SD-WM-DP-251
Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
DE99050153REB
HNF-SD-WM-DP-305
Tank 241-TX-104, cores 230 and 231 analytical results for the final report.
DE99050826REB
HNF-SD-WM-DQO-026
Data quality objective to support resolution of the organic solvent safety issue.
DE99050161REB
HNF-SD-WM-ER-644
Preliminary tank characterization report for single-shell tank 241-SX-105: Best-basis inventory.
DE99050194REB
HNF-SD-WM-ER-645
Preliminary tank characterization report for single-shell tank 241-SX-106: Best-basis inventory.
DE99050195REB
HNF-SD-WM-ER-656
Preliminary tank characterization report for single-shell tank 241-TX-106: Best-basis inventory.
DE99050182REB
HNF-SD-WM-ER-659
Preliminary tank characterization report for single-shell tank 241-TX-111: Best-basis inventory.
DE99050185REB
HNF-SD-WM-ER-671
Preliminary tank characterization report for single-shell tank 241-SX-107: Best-basis inventory.
DE99050196REB
HNF-SD-WM-ER-682
Preliminary tank characterization report for single-shell tank 241-SX-111: Best-basis inventory.
DE99050197REB
HNF-SD-WM-ER-683
Preliminary tank characterization report for single-shell tank 241-SX-112: Best-basis inventory.
DE99050198REB
HNF-SD-WM-ER-701
Tank characterization report for single-shell tank 241-BY-112.
DE99050199REB
HNF-SD-WM-ER-702
Tank characterization report for double-shell tank 241-AN-103.
DE99050200REB
HNF-SD-WM-ER-704
Preliminary tank characterization report for single-shell tank 241-TX-103: Best-basis inventory.
DE99050184REB
HNF-SD-WM-ER-708
Preliminary tank characterization report for single-shell tank 241-TX-114: Best-basis inventory.
DE99050183REB
HNF-SD-WM-ER-715
Preliminary tank characterization report for single-shell tank 241-TX-112: Best-basis inventory.
DE99050181REB
HNF-SD-WM-ER-731
Sampling and analysis plan for sampling of liquid waste streams generated by 222-S Laboratory Complex operations.
DE99050155REB
HNF-SD-WM-RPT-215
Vapor and gas sampling of single-shell tank 241-T-104 using the in situ vapor sampling system.
DE99050151REB
HNF-SD-WM-RPT-230
Vapor and gas sampling of single-shell tank 241-C-107 using the vapor sampling system.
DE99050140REB
HNF-SD-WM-RPT-233
Vapor and gas sampling of single-shell tank 241-TY-102 using the in situ vapor sampling system.
DE99050135REB
HNF-SD-WM-RPT-234
Vapor and gas sampling of single-shell tank 241-B-102 using the in situ vapor sampling system.
DE99050142REB
HNF-SD-WM-RPT-236
Vapor and gas sampling of single-shell tank 241-BX-110 using the in situ vapor sampling system.
DE99050141REB
HNF-SD-WM-RPT-245
Vapor and gas sampling of single-shell tank 241-S-103 using the in situ vapor sampling system.
DE99050146REB
HNF-SD-WM-RPT-248
Vapor and gas sampling of single-shell tank 241-C-201 using the in situ vapor sampling system.
DE99050148REB
HNF-SD-WM-RPT-249
Vapor and gas sampling of single-shell tank 241-C-202 using the in situ vapor sampling system.
DE99050150REB
HNF-SD-WM-RPT-250
Vapor and gas sampling of single-shell tank 241-C-204 using the in situ vapor sampling system.
DE99050134REB
HNF-SD-WM-RPT-255
Vapor and gas sampling of single-shell tank 241-B-105 using the in situ vapor sampling system.
DE99050136REB
HNF-SD-WM-RPT-256
Vapor and gas sampling of single-shell tank 241-B-202 using the in situ vapor sampling system.
DE99050143REB
HNF-SD-WM-RPT-259
Vapor and gas sampling of single-shell tank 241-BX-104 using the in situ vapor sampling system.
DE99050138REB

HNF-SD-WM-RPT-262
Vapor and gas sampling of single-shell tank 241-U-104 using the in situ vapor sampling system.
DE99050145REB
HNF-SD-WM-RPT-264
Vapor and gas sampling of single-shell tank 241-BX-102 using the in situ vapor sampling system.
DE99050144REB
HNF-SD-WM-RPT-265
Vapor and gas sampling of single-shell tank 241-BX-103 using the in situ vapor sampling system.
DE99050133REB
HNF-SD-WM-RPT-288
Waste management project technical baseline description.
DE99050158REB
HNF-SD-WM-RPT-289
Vapor and gas sampling of single-shell tank 241-C-107 using the in situ vapor sampling system.
DE99050137REB
HNF-SD-WM-RPT-291
Vapor and gas sampling of single-shell tank 241-S-102 using the in situ vapor sampling system.
DE99050149REB
HNF-SD-WM-RPT-302
Portable exhausters POR-004 SKID B, POR-005 SKID C, POR-006 SKID D storage plan.
DE99050232REB
HNF-SD-WM-TI-764-REV.1
Hazard Analysis Database report.
DE99050159REB
HNF-SD-WM-TI-814
Technical information for the relocation and treatment of Argonne National Laboratory drums.
DE99050147REB
HNF-SP-0842-REV.2
222-S Laboratory maintenance implementation plan.
DE99050205REB
HNF-SP-1009-REV.2
Waste sampling and characterization facility (WSCF) maintenance implementation plan.
DE99050206REB
HNF-SP-1229
Waste management project fiscal year 1998 multi-year work plan WBS 1.2.
DE99050203REB
HNF-1564
283-E, 283-W, and 315 (water treatment plant) hazards assessment.
DE99050560REB
HNF-1796
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050584REB
HNF-1796-REV.1
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050824REB
HNF-1930-FP
Resolution of Hanford tanks organic complexant safety issue.
DE99050708REB
HNF-1975-REV.1
Immobilized low-activity waste interim storage facility, Project W-465 conceptual design report.
DE99050565REB
HNF-2004
Estimated dose to in-tank equipment: Phase 1 waste feed delivery.
DE99050558REB
HNF-2072
Safety evaluation for packaging (onsite) 221 T sodium tanks.
DE99050488REB
HNF-2153
Conceptual design statement of work for the immobilized low-activity waste disposal facility, project W-520.
DE99050668REB
HNF-2194-FP
Indexing contamination surveys.
DE99050499REB
HNF-2195-VA
Summary of FY 1997 related to JAPC-U.S. DOE contract study on improvement of core safety -- study on GEM (III).
DE99050497REB
HNF-2206-FP
Applied ALARA techniques.
DE99050625REB
HNF-2207
ALARA Center of Technology -- resource guide.
DE99050623REB
HNF-2208-VA
Responses to additional JAPC questions.
DE99050498REB
HNF-2286
324 Facility B-Cell quality process plan.
DE99050592REB
HNF-2300-REV.1
Light duty utility arm startup plan.
DE99050751REB
HNF-2317
Project W-320 high vacuum 241-AY-102 annulus ventilation system operability test report.
DE99050588REB
HNF-2371
Characterization of the 309 building fuel transfer pit and storage basin.
DE99050597REB
HNF-2380
1998 FFTF annual system assessment reports.
DE99050595REB
HNF-2401
Waste feed delivery environmental permits and approvals plan.
DE99050825REB
HNF-2729
Organic ion exchange resin separation methods evaluation.
DE99050699REB
HNF-2905
1998 interim 242-A Evaporator tank system integrity assessment report.
DE99050823REB
TWR-2244
Retrieved waste properties and high-level waste critical component ratios for privatization waste feed delivery.
DE99050568REB
WHC-EP-0125-08
Summary of radioactive solid waste received in the 200 Areas during calendar year 1995.
DE98054295REB
WHC-EP-0906
FY 1996 solid waste integrated life-cycle forecast characteristics summary. Volumes 1 and 2.
DE98053023REB
WHC-MR-0517
Listed waste history at Hanford facility TSD units.
DE98054296REB
WHC-SD-EN-EV-034-REV.1
105-DR Large Sodium Fire Facility closure activities evaluation report.
DE99050394REB
WHC-SD-GN-ER-20007
Farinon microwave end of life cycle.
DE98054292REB
WHC-SD-RTG-SARP-001
Radioisotope thermoelectric generator transportation system safety analysis report for packaging. Volumes 1 and 2.
DE99050392REB
WHC-SD-W026-CSRS-001-REV.1
Waste Receiving and Processing Facility Module 1 Data Management System software requirements specification.
DE99050395REB
WHC-SD-WM-CN-018
Unit radiological doses for fuel retrieval preliminary safety evaluation.
DE99050396REB
WHC-SD-WM-ER-573
Catch tank inhibitor addition 200-East and 200-West Areas.
DE98054293REB
WHC-SD-WM-SARR-037
Development of radiological concentrations and unit liter doses for TWRS FSAR radiological consequence calculations.
DE99050397REB
WHC-SD-WM-WP-324
Technical work plan for the privatization waste characterization data quality objective process.
DE99050402REB

FOREST PRODUCTS RESEARCH BRANCH, OTTAWA (ONTARIO).

SSC-FO 57-1104
Strength and related properties of woods grown in Canada.
MIC-99-03441REB

FOREST SERVICE, PORTLAND, OR. PACIFIC NORTHWEST RESEARCH STATION.

FSGTR-PNW-453
Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB
FSGTR-PNW-455
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB
FSRB-PNW-230
Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997.
PB99-152845REB
FSRN-PNW-538
Different Perspectives on Economic Base.
PB99-147639REB
FSRP-PNW-515
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB

FORT LEWIS COLL., DURANGO, CO. DEPT. OF ANTHROPOLOGY.

Results of a Cultural Resource Inventory of Portions of Fort Carson Military Reservation and Test Excavation of Site 5EP2524, El Paso County, Colorado, 1996.
ADA363383REB
Results of the 1997 Cultural Resource Reevaluation Project, Fort Carson Military Reservation: El Paso, Fremont, and Pueblo Counties, Colorado.
ADA363384REB

FRONTIER SCIENCE AND TECHNOLOGY RESEARCH FOUNDATION, INC., CHESTNUT HILL, MA.

Patient-Centered Outcomes in Neurologic Disease. Abstract, Executive Summary and Final Report.
(AHCPR-99-44)
PB99-149809REB

FUJI ELECTRIC CO. LTD., TOKYO (JAPAN).

Fuji Electric Review, Volume 44, No. 2, 1998. Instrumentation and Control Technology.
PB99-153199REB

FUTURETECH CORP., GREENBELT, MD.

NAS 1.26:209227
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB
NASA/CR-1998-209227
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB
REPT-98FTC0001
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB

GENCORP AEROJET, AZUSA, CA.

NAS 1.26:209220
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB
NAS 1.26:209223
Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB
NASA/CR-1998-209223
Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB
NASA/CR-1999-209220
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB
REPT-10974A
Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB
REPT-11317
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB

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Performance Budgeting: Initial Experiences Under the Results Act in Linking Plans With Budgets.
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ADA363173REB

GAO/T-RCED-99-159
Department of Energy: Key Factors Underlying Security Problems at DOE facilities.
ADA362670REB

GENERAL ATOMICS, SAN DIEGO, CA.

GA-A23028
Decade of DIII-D research. Final report for the period of work, October 1, 1989–September 30, 1998.
DE99002353REB

GA-C22131(3Q/96)
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July–September 1996.
DE99002446REB

GA-C22131(4Q/96)
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1996.
DE99002447REB

GA-C22131(4Q/97)
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1997.
DE99002454REB

GEOLOGICAL SURVEY, AUSTIN, TX. WATER RESOURCES DIV.

USGS/WDR/TX-98/1
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152862REB

USGS/WDR/TX-98/2
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB

USGS/WDR/TX-98/3
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins.
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Ground-Water Flow Paths and Traveltime to Three Small Embayments within the Peconic Estuary, Eastern Suffolk County, New York.
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Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
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Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
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Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
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Browns Bank survey 1998: Cruise report and scientific results.
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North Baffin Partnership Project: Summary of investigations.
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Mineralogy and geochemistry of the C14 kimberlite and associated glacial sediments, Kirkland Lake, Ontario.
MIC-99-03355REB

GEOLOGICAL SURVEY OF CANADA, OTTAWA. NORTHWEST TERRITORIES. DEPT. OF RESOURCES, WILDLIFE & ECONOMIC DEVELOPMENT (CANADA).

National geochemical reconnaissance reanalysis of 1775 lake sediments from regional surveys on central Baffin Island, Nunavut, 1999: Parts of NTS 27B, 27C, 37A, and 37D.
MIC-99-03442REB

GEOLOGICAL SURVEY, PEMBROKE, NH. WATER RESOURCES DIV.

USGS/WDR/NH/VT-98/1
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB

GEOLOGICAL SURVEY, TROY, NY. WATER RESOURCES DIV.

USGS/WDR/NY-98/1
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB

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Parallel Simulations of Waste Incineration in a Dump Combustor.
ADA363339REB

AIAA-97-0260
Engineering Model for Prediction of Waste Incineration in a Dump Combustor.
ADA363341REB

GOVERNMENT INDUSTRIAL RESEARCH INST., KYUSHU, TOSU (JAPAN).

Reports of the Kyushu National Industrial Research Institute, No. 58, March 1997.
PB99-152035REB

HARVARD UNIV. PRESS, CAMBRIDGE, MA.

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Tuberculosis in Canada, 1996.
MIC-99-03411REB

SSC-H49-108/1996
Tuberculosis in Canada, 1996.
MIC-99-03411REB

HEALTH PROTECTION BRANCH, OTTAWA.

Recommendations on dose coefficients for assessing doses from accidental radionuclide releases to the environment.
MIC-99-03738REB

HITACHI LTD., TOKYO (JAPAN).

Hitachi Review, Volume 46, No. 5, October 1997. Hitachi's Multimedia Solutions.
PB99-153132REB

Hitachi Review, Volume 46, No. 4, August 1997. Electronic Commerce for a New Social Infrastructure.
PB99-153140REB

HOKKAIDO NATIONAL INDUSTRIAL RESEARCH INST., SAPPORO (JAPAN).

Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
PB99-152118REB

Reports of the Hokkaido National Industrial Research Institute, No. 69, 1997.
PB99-152126REB

HONEYWELL TECHNOLOGY CENTER, MINNEAPOLIS, MN.

C-98057
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
(AFRL-SN-WP-TR-1998-1055)
ADA362637REB

HOSPITAL OF THE UNIV. OF PENNSYLVANIA, PHILADELPHIA. DEPT. OF NEUROSURGERY.

Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB

HUGHES STX, INC., GREENBELT, MD.

Interaction-Activity Connection.
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HUMAN RESOURCES RESEARCH ORGANIZATION, ALEXANDRIA, VA.

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Augmented Selection Criteria for Enlisted Personnel.
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ADA363068REB

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LAB., IDAHO FALLS.
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB
INEEL/EXT-97-00151
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB

ILLINOIS NATURAL HISTORY SURVEY, ALTON. GREAT RIVERS FIELD STATION.
Annual and Local Variation in Reproduction in the Red-Eared Slider 'Trachemys scripta elagans'.
(LTRMP-99-R006)
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ILLINOIS STATE DEPT. OF PUBLIC HEALTH, SPRINGFIELD.
Public Health Assessment for Sandoval Zinc Company, Sandoval, Marion County, Illinois, Region 5. CERCLIS No. ILD053980454.
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ADA362985REB
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AVA20565-VNB1REB

INTERNATIONAL CONFERENCE ON FATIGUE & TRANSPORTATION (3D: 1998: FREMANTLE, WESTERN AUSTRALIA), MONTREAL (QUEBEC).
Trip report: Fremantle fatigue conference and FMP-related field visits and meetings.
MIC-99-03429REB

IOWA STATE UNIV. OF SCIENCE AND TECHNOLOGY, AMES.
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB

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High Resolution Computerized Ionospheric Tomography Systems.
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JPRS-3919
Draft for Two Bridges in the People's Republic of Korea--Translation.
ADA362813REB
JPRS-3925
Forward Flow at the Boundary of the Zone of Deformation -- USSR ---Translation.
ADA362822REB
JPRS-3927
Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation -- USSR ---Translation.
ADA362823REB
JPRS-3934
Brief Report on a Scientific Mission to the United States, USSR.
ADA363311REB
JPRS-4301
Survey of Soviet Heavy Industry (4).
ADA363314REB
JPRS-4303
Attitudes on Physical and Mental Labor in Communist China--Translation.
ADA362795REB
JPRS-4311
Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
ADA362855REB
JPRS-4372
Pantjasila, the Five Basic Principles of the Republic of Indonesia.
ADA363017REB
JPRS-4377
Activities of Scientific Societies of the Tatar ASSR.
ADA363315REB
JPRS-4378
Hungarian Symposium of Radiation Damage and Protection.
ADA363027REB
Third All-Union Conference on the Electrophysiology of the Nervous System, USSR.
ADA363322REB
JPRS-4380
Steel 'Mouse' and Automations, USSR.
ADA363321REB
JPRS-4381
Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-, (K metodike issledovaniya gazoobmena pri vdykhanii bol' shikh kontsentratsiy kisloroda)--Translation.
ADA362856REB
JPRS-4384
Survey of Soviet Heavy Industry (7).
ADA362803REB
JPRS-4387
Radiation Injury and Autolysis, USSR--Translation.
ADA363320REB
JPRS-4389
Political Information on Indonesia--Translation.
ADA362990REB
JPRS-4677
Japan Opposes US-Japanese Security Pact.
ADA363305REB
JPRS-4693
Military News Items From Chinese Communist Press--Translation.
ADA362992REB
JPRS-4696
Selected Soviet Military Translations (Recent Events in the Soviet Navy) No. 61--Translation.
ADA363306REB
JPRS-69315
Translations on Eastern Europe. Political, Sociological, and Military Affairs, No. 1406--Translation.
ADA362695REB
JPRS-82320
East Europe Report, Political, Sociological and Military Affairs, No. 2079--Translation.
ADA362830REB
JPRS-82324
Worldwide Report: Environmental Quality, No. 379.
ADA362967REB
JPRS-82325
USSR Report, Construction and Equipment, No. 78.
ADA362750REB
JPRS-82332
Worldwide Report, Epidemiology, No. 303.
ADA362734REB
JPRS-82336
Worldwide Report: Nuclear Development and Proliferation, No. 170.
ADA363329REB
JPRS-82357
Worldwide Report, Telecommunications Policy, Research and Development, No. 250.
ADA362820REB
JPRS-82361
USSR Report, Energy, No. 126.
ADA362819REB
JPRS-82483
China Report, Political, Sociological and Military Affairs No. 374.
ADA363382REB
JPRS-82488
Worldwide Report Telecommunications Policy, Research and Development No. 253.
ADA363271REB
JPRS-82490
East Europe Report, Political, Sociological and Military Affairs No. 2087.
ADA363379REB
JPRS-82491
USSR Report, Energy No. 129.
ADA363327REB
JPRS-82500
Worldwide Report, Environmental Quality No. 381.
ADA363239REB
JPRS-82507
East Europe Report: Political, Sociological and Military Affairs, No. 2088.
ADA362777REB
JPRS-82509
Worldwide Report: Nuclear Development and Proliferation, No. 172.
ADA363282REB
JPRS-82512
China Report, Economic Affairs, No. 296. Energy: Status and Development XII.
ADA363312REB
JPRS-82549
USSR Report, Military Affairs, No. 1731. Military History Journal, No. 8, August 1982.
ADA362749REB
JPRS-82551
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1982.
ADA362678REB
JPRS-82552
USSR Report, Energy, No. 130.
ADA362741REB
JPRS-82556
China Report, Political, Sociological and Military Affairs, No. 377.
ADA362679REB
JPRS-82560
USSR Report, Military Affairs, No. 1732.
ADA362677REB
JPRS-82564
East Europe Report, Political, Sociological and Military Affairs, No. 2090--Translation.
ADA362657REB
JPRS-82568
USSR Report, Energy, No. 131.
ADA362738REB
JPRS-82573
USSR Report, Military Affairs, No. 1733.
ADA362671REB
JPRS-82575
Worldwide Report, Nuclear Development and Proliferation, No. 173.
ADA362724REB
JPRS-83129
East Europe Report, Political, Sociological and Military Affairs, No. 2121.
ADA363294REB
JPRS-83135
East Europe Report: Scientific Affairs, No. 772.
ADA362852REB
JPRS-83136
USSR Report, Political, and Sociological Affairs, No. 1390.
ADA362845REB

JPRS-83145
China Report, Science and Technology, No. 192–Translation.
ADA363107REB

JPRS-83151
China Report, Political, Sociological and Military Affairs, No. 404–Translation.
ADA363326REB

JPRS-83152
East Europe Report Political, Sociological and Military Affairs No. 2122–Translation.
ADA363367REB

JPRS-83157
East Europe Report, Political, Sociological and Military Affairs, No. 2123–Translation.
ADA363325REB

JPRS-83162
China Report, Economic Affairs No. 323 Energy: Status and Development– XV.
ADA363288REB

JPRS-83282
East Europe Report, Political, Sociological and Military Affairs, No. 2130–Translation.
ADA362945REB

JPRS-83285
China Report, Political, Sociological and Military Affairs, No. 412–Translation.
ADA362821REB

JPRS-83332
East Europe Report, Political, Sociological and Military Affairs, No. 2133.
ADA362807REB

JPRS-83333
Worldwide Report, Epidemiology, No. 316.
ADA362857REB

JPRS-83346
USSR Report, Military Affairs, No. 1764.
ADA362805REB

JPRS-83691
USSR Report, Machine Tools and Metalworking Equipment, No. 7.
ADA363140REB

JPRS-83692
USSR Report, Military Affairs, No. 1775.
ADA362700REB

JPRS-83697
China Report, Political, Sociological and Military Affairs, No. 431–Translation.
ADA362815REB

JPRS-83700
East Europe Report, Political, Sociological and Military Affairs, No. 2153–Translation.
ADA362841REB

JPRS-83702
Worldwide Report, Epidemiology, No. 322.
ADA362858REB

JPRS-83708
USSR Report, Energy, No. 152.
ADA362802REB

JPRS-83709
East Europe Report, Political, Sociological and Military Affairs, No. 2154–Translation.
ADA362686REB

JPRS-83744
USSR Report, Science and Technology Policy, No. 14.
ADA362934REB

JPRS-83760
East Europe Report, Scientific Affairs, No. 782.
ADA362949REB

JPRS-83762
East Europe Report, Political, Sociological and Military Affairs No. 2157.
ADA363307REB

JPRS-83764
Southeast Asia Report, No. 1304.
ADA363289REB

JPRS-83765
East Europe Report, Political, Sociological and Military Affairs, No. 2158.
ADA363290REB

JPRS-83766
Worldwide Report, Environmental Quality, No. 403, China Addresses Environmental Issues – V.
ADA363021REB

JPRS-83829
USSR Report, Earth Sciences, No. 27.
ADA362860REB

JPRS-83839
East Europe Report, Scinetific Affairs, No. 783–Translation.
ADA363368REB

JPRS-83844
USSR Report, Engineering and Equipment, No. 95–Translation.
ADA363025REB

JPRS-83845
Near East/South Asia Report, No. 2780–Translation.
ADA362828REB

JPRS-83846
Latin America Report, No. 2704.
ADA362676REB

JPRS-83847
West Europe Report, No. 2170.
ADA362849REB

JPRS-83848
Worldwide Report, Epidemiology, No. 324.
ADA362997REB

JPRS-83851
USSR Report, Construction and Related Industries, No. 93.
ADA363141REB

JPRS-83854
China Report, Political, Sociological and Military Affairs No. 436.
ADA362780REB

JPRS-83860
East Europe Report, Political, Sociological and Military Affairs, No. 2164–Translation.
ADA363324REB

JPRS-83866
China Report: Political, Sociological and Military Affairs, No. 437.
ADA363014REB

JPRS-83867
Southeast Asia Report, No. 1310.
ADA362842REB

JPRS-83937
East Europe Report, Political, Sociological and Military Affairs, No. 2169.
ADA362698REB

JPRS-83938
Latin America Report, No. 2710. Fighting in Nicaragua: Battles Along Two Borders.
ADA362680REB

JPRS-83943
USSR Report, Military Affairs, No. 1781.
ADA362699REB

JPRS-83946
China Report, Political, Sociological and Military Affairs, No. 438–Translation.
ADA362831REB

JPRS-83954
USSR Report, Energy, No. 154.
ADA362740REB

JPRS-83958
USSR Report, Life Sciences, Biomedical and Behavioral Sciences, No. 38.
ADA362755REB

JPRS-84245
China Report: Political, Sociological and Military Affairs, No. 452–Translation.
ADA362890REB

JPRS-84246
USSR Report: Life Sciences, Biomedical and Behavioral Sciences, No. 40–Translation.
ADA362835REB

JPRS-84247
Worldwide Report: Telecommunications Policy, Research and Development, No. 285.
ADA362797REB

JPRS-84253
Worldwide Report: Epidemiology, No. 330.
ADA362979REB

JPRS-84254
Worldwide Report: Nuclear Development and Proliferation, No. 201–Translation.
ADA362891REB

JPRS-84259
East Europe Report: Political, Sociological and Military Affairs, No. 2193.
ADA362778REB

JPRS-84264
China Report: Political, Sociological and Military Affairs, No. 453–Translation.
ADA362893REB

JPRS-84265
East Europe Report: Political, Sociological and Military Affairs, No. 2194.
ADA362779REB

JPRS-84668
East Europe Report: Political, Sociological and Military Affairs, No. 2225.
ADA362774REB

JPRS-84670
China Report: Political, Sociological and Military Affairs, No. 469.
ADA362767REB

JPRS-84672
West Europe Report, Science and Technology, No. 182.
ADA362909REB

JPRS-84677
East Europe Report: Political, Sociological and Military Affairs, No. 2226–Translation.
ADA362894REB

JPRS-84679
Worldwide Report: Epidemiology, No. 337.
ADA362980REB

JPRS-84684
USSR Report: Energy, No. 164.
ADA362966REB

JPRS-84685
USSR Report: Military Affairs, No. 1810.
ADA362889REB

JPRS-84693
China Report: Political, Sociological and Military Affairs, No. 470–Translation.
ADA362799REB

JPRS-84695
China Report, Science and Technology No. 213.
ADA362902REB

JPRS-84749
Worldwide Report, Telecommunications Policy, Research and Development, No. 293.
ADA363273REB

JPRS-84758
USSR Report, Life Sciences Biomedical and Behavioral Sciences, No. 45–Translation.
ADA363373REB

JPRS-84765
China Report, Political, Sociological and Military Affairs, No. 472–Translation.
ADA363372REB

JPRS-84767
Worldwide Report, Nuclear Development and Proliferation No. 209–Translation.
ADA363237REB

JPRS-84768
USSR Report, Military Affairs, No. 1814–Translation.
ADA362928REB

JPRS-84770
China Report, Agriculture, No. 279.
ADA363285REB

JPRS-84771
East Europe Report, Economic and Industrial Affairs, No. 2475.
ADA362895REB

JPRS-84773
Sub-Saharan Africa Report, No. 2873–Translation.
ADA362993REB

JPRS-84777
USSR Report, Chemistry, No. 110.
ADA363143REB

JPRS-84778
Worldwide Report: Telecommunications Policy, Research and Development, No. 294.
ADA362868REB

JPRS-84780
USSR Report, Agriculture, No. 1409.
ADA362961REB

JPRS-84783
Worldwide Report, Nuclear Development and Proliferation No. 210.
ADA363328REB

JPRS-84784
USSR Report: Political and Sociological Affairs, No. 1478.
ADA362827REB

JPRS-84785
East Europe Report, Political, Sociological and Military Affairs, No. 2232–Translation.
ADA363369REB

JPRS-84787
Southeast Asia Report, No. 1371.
ADA362825REB

JPRS-84789
Southeast Asia Report, No. 1372.
ADA362854REB

JPRS-84794
Southeast Asia Report, No. 1373–Translation.
ADA362844REB

JPRS-84830
East Europe Report, Political, Sociological and Military Affairs No. 2234.
ADA363308REB

JPRS-84831
China Report, Political, Sociological and Military Affairs No. 474.
ADA363309REB

JPRS-84839
USSR Report, Electronics and Electrical Engineering, No. 118.
ADA363284REB

JPRS-84841
East Europe Report, Political, Sociological and Military Affairs, No. 2235–Translation.
ADA362994REB

JPRS-84844
China Report, Political, Sociological and Military Affairs, No. 475–Translation.
ADA362995REB

JPRS-84845
West Europe Report: Science and Technology, No. 166.
ADA363028REB

JPRS-84853
USSR Report, Military Affairs, No. 1817.
ADA363291REB

JPRS-84854
Korean Affairs Report, No. 326 Kulloja No. 3, March 1983.
ADA363292REB

JPRS-84857
China Report, Political, Sociological and Military Affairs, No. 476.
ADA363293REB

JPRS-89143
Worldwide Report Nuclear Development and Proliferation No. 182.
ADA363283REB

OTS-60-11-439
Soviet Abstracts Biology, Section O, Plant Diseases, Book No. 23, 1958, Abstracts 104958 thru 105054–Translation.
ADA363310REB

OTS-60-11-441
Conference on the Control of the Colorado Beetle, USSR.
ADA362786REB

OTS-60-31-158
Research and Development in Soviet Nonferrous Metallurgy–Translation.
ADA363316REB

OTS-60-31-175
Award of Lenin Prizes in Science and Technology, USSR–Translation.
ADA362853REB

OTS-60-31-295
Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB
OTS-60-31-404
Awards to Soviet Women Medical Workers-USSR.
ADA363375REB
OTS-60-31-765
Problem of Early Diagnosis of Cancer of the Uterine Cervix--Translation.
ADA362859REB
OTS-60-31-773
Third Congress of the All-Union Astronomic-Geodetic Society, USSR.
ADA363319REB
OTS-60-31-779
Brief Report on a Scientific Mission to the United States, USSR.
ADA363311REB
SS-3033
Attitudes on Physical and Mental Labor in Communist China--Translation.
ADA362795REB

KANSAS STATE UNIV., MANHATTAN. DEPT. OF MECHANICAL ENGINEERING.
Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB

KITT PEAK NATIONAL OBSERVATORY, TUCSON, AZ.
NOAO-PREPRINT-813
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB
NRA-95-OSS-16
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB

LAMONT-DOHERTY EARTH OBSERVATORY, PALISADES, NY.
Deep Water Formation and Circulation in the Arctic Ocean Studies by Natural and Anthropogenic Tracers.
ADA363047REB
Stratification Mixing and Circulation of the Indonesian Seas.
ADA363048REB

LAWRENCE BERKELEY NATIONAL LAB., ADVANCED LIGHT SOURCE DIV., CA (UNITED STATES).
LBNL-41797
High-resolution structural studies of ultra-thin magnetic, transition metal overlayers and two-dimensional transition metal oxides using synchrotron radiation.
DE99002387REB

LAWRENCE BERKELEY NATIONAL LAB., CA (UNITED STATES).
LBNL-41975
Influence of surface topography on the forming friction of automotive aluminum sheet.
DE99002244REB
LBNL-42188
Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB

LAWRENCE BERKELEY NATIONAL LAB., CHEMICAL SCIENCES DIV., CA (UNITED STATES).
LBNL-41247
Synthesis, characterization and reactivity of high oxidation state nickel fluorides.
DE99002385REB

LAWRENCE BERKELEY NATIONAL LAB., EARTH SCIENCES DIV., CA (UNITED STATES).
LBNL-42105
New 3D parallel GILD electromagnetic modeling and nonlinear inversion using global magnetic integral and local differential equation.
DE99002422REB

LAWRENCE BERKELEY NATIONAL LAB., ENVIRONMENTAL ENERGY TECHNOLOGIES DIV., CA (UNITED STATES).
LBNL-41950
Exploratory technology research program for electrochemical energy storage, annual report for 1997.
DE99002392REB

LAWRENCE BERKELEY NATIONAL LAB., NUCLEAR SCIENCE DIV., CA (UNITED STATES).
LBNL-41936
Role of statistics and thermodynamics in nuclear multifragmentation.
DE99002390REB
LBNL-41939
Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
DE99002391REB

LAWRENCE BERKELEY NATIONAL LAB., PHYSICS DIV., CA (UNITED STATES).
LBNL-41750
Effective temperatures and electron spin polarization in storage rings.
DE99002386REB

LAWRENCE LIVERMORE NATIONAL LAB., CA.
QDV-99-0001
High-Power Laser Source Evaluation.
ADA362788REB
UCRL-ID-129096-98
High-Power Laser Source Evaluation.
ADA362788REB
UCRL-JC-130415-REV-1
Electromagnetic Cold-Test Characterization of the Quad-Driven Stripline Kicker.
ADA362953REB
UCRL-JC-131866
Decarburization of Uranium Via Electron Beam Processing.
ADA362955REB
UCRL-JC-132178
Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB

LAWRENCE LIVERMORE NATIONAL LAB., CA (UNITED STATES).
UCRL-50027-96
Environmental report 1996, Lawrence Livermore National Laboratory.
DE99002426REB
UCRL-50027-97
Environmental report 1997, Lawrence Livermore National Laboratory.
DE99002427REB

LEHIGH UNIV., BETHLEHEM, PA. DEPT. OF COMPUTER SCIENCE AND ELECTRICAL ENGINEERING.
Year End Progress Report for ONR Young Investigator Grant N00014-97-1-0774.
ADA363335REB

LOCKHEED MARTIN CORP., PALMDALE, CA.
X-33 Flight Operations Center.
N19990041246REB

LOGISTICS MANAGEMENT INST., MCLEAN, VA.
LMI-AQ804T1
Acquisition Positions in the Department of Defense Update.
ADA362683REB

LOS ALAMOS NATIONAL LAB., APPLIED THEORETICAL AND COMPUTATIONAL PHYSICS DIV., NM (UNITED STATES).
LA-UR-98-3353
Introduction to radiation transport.
DE99002279REB

LOS ALAMOS NATIONAL LAB., DIV. OF SPACE AND ATMOSPHERIC SCIENCES, NM (UNITED STATES).
LA-UR-98-3325
Optimal neural computations require analog processors.
DE99002277REB

LOS ALAMOS NATIONAL LAB., HIGH EXPLOSIVES SCIENCE AND TECHNOLOGY GROUP, NM (UNITED STATES).
LA-UR-98-3367
Implementation of model predictive control on a hydrothermal oxidation reactor.
DE99002280REB

LOS ALAMOS NATIONAL LAB., NM.
LA-SUB-98-36
R and D 100 market assessment.
DE99002205REB
LA-SUB-99-6
Electron cyclotron resonance (ECR) plasma film deposition.
DE99002202REB
LA-UR-96-1846
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
ADA363228REB
LA-UR-97-2124
Non-Thermal Plasmas as Gas-Phase Advance Oxidation Processes.
ADA363247REB
LA-UR-98-968
Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB
LA-UR-98-2706
Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
DE99002408REB
LA-UR-98-3247
Advanced algorithms for information science.
DE99002231REB
LA-UR-98-3253
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB
LA-UR-98-3257
Application of new techniques for EOS data.
DE99002232REB
LA-UR-98-3261
Data mining.
DE99002233REB
LA-UR-98-3262
Development of a gamma ray spectroscopy capability at LANSCE.
DE99002234REB
LA-UR-98-3264
Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB
LA-UR-98-3266
Dynamic fracture of heterogeneous materials.
DE99002235REB
LA-UR-98-3272
Advanced telemedicine development.
DE99002236REB
LA-UR-98-3273
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB
LA-UR-98-3275
Technologies for the oil and gas industry.
DE99002238REB
LA-UR-98-3301
Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB
LA-UR-98-3339
Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
DE99002242REB
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Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946--1997.
DE99002410REB
LA-UR-98-3365
Study of the overdriven behaviors of PBX 9501 and PBX 9502.
DE99002407REB
LA-UR-98-3370
Vector meson production and nuclear effects in FNAL E866.
DE99002282REB
LA-UR-98-3372
Error studies for SNS Linac. Part 1: Transverse errors.
DE99002254REB
LA-UR-98-3400
Quick-look eye-safety assessment for the short range lidar.
DE99002263REB
LA-UR-98-3405
Nutritional supplements as radioprotectors -- A review and proposal.
DE99002283REB
LA-UR-98-3408
Creative PDB's (parts databases).
DE99002284REB
LA-UR-98-3414
Reaction of preshocked explosives.
DE99002285REB
LA-UR-98-3415
Micro fuel cell.
DE99002286REB
LA-UR-98-3423
Thermodynamics and sound speeds at the Chapman-Jouguet state.
DE99002289REB
LA-UR-98-3431
Diagnostic enhancements for plasma processing.
DE99002256REB
LA-UR-98-3434
Detonation and combustion of explosives: A selected bibliography.
DE99002406REB
LA-UR-98-3441
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB
LA-UR-98-3450
Report on the testing of Raschig Rings.
DE99002257REB
LA-UR-98-3453
SI-Combiner: Making sense of results from multiple trained programs.
DE99002292REB
LA-UR-98-3460
Analysis of thermal issues associated with the pre-amplifier modules in the National Ignition Facility.
DE99002258REB
LA-UR-98-3461
Reliability of the nervous (Nv) nets.
DE99002293REB
LA-UR-98-3462
Larger bases and mixed analog/digital neural nets.
DE99002294REB
LA-UR-98-3463
Automatic synthesis of analog/digital circuits.
DE99002295REB
LA-UR-98-3469
Numerical simulation of explosive volcanism and its effects on the atmosphere.
DE99002259REB
LA-UR-98-3473
Evolution of microstructural changes in pressed HMX explosives.
DE99002405REB
LA-UR-98-3525
Information barrier functional requirements.
DE99002297REB
LA-UR-98-3535
Rural telemedicine project in northern New Mexico.
DE99002299REB
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Performance and scalability analysis of teraflop-scale parallel architectures using multidimensional wavefront applications.
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LA-UR-98-3563
Tracer modeling in an urban environment.
DE99002399REB
LA-UR-98-3577
Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB
LA-UR-98-3595
SNS Linac: Revised configuration.
DE99002261REB

LA-UR-98-3598
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB
LA-UR-98-4926
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB
LA-UR-98-5553
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB
LA-UR-99-101
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB
LA-UR-99-522
Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
DE99002218REB
LA-UR-99-527
Performance analysis of wavefront algorithms on very-large scale distributed systems.
DE99002219REB
LA-UR-99-564
Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB
LA-UR-99-572
Ab initio calculations of As-vacancy interactions in silicon.
DE99002225REB
LA-UR-99-582
Plasma and ion barrier for electron beam spot stability.
DE99002226REB
LA-UR-99-594
Fatigue crack nucleation in metallic materials.
DE99002227REB
LA-UR-99-605
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB
LA-UR-99-630
Bayesian analysis of MEG visual evoked responses.
DE99002182REB
LA-UR-99-638
Low-level radioactive waste management at the Nevada Test Site – Current status.
DE99002186REB
LA-UR-99-639
Intermediate depth burial of classified transuranic wastes in and alluvium.
DE99002192REB
LA-UR-99-644
Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB
LA-UR-99-654
Structure and dynamics of interactive documents.
DE99002193REB
LA-UR-99-684
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB
LA-UR-99-686
Environmental management policy analysis using complex system simulation.
DE99002148REB
LA-UR-99-706
Need and options available for permanent CO(sub 2) disposal.
DE99002199REB
LA-UR-99-708
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB
LA-UR-99-709
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB
LA-UR-99-750
Dislocation accumulation at large plastic strains -- An approach to the theoretical strength of materials.
DE99002412REB
LA-UR-99-753
Application of nonlinear wave modulation spectroscopy to discern material damage.
DE99002411REB
LA-UR-99-759
First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
DE99002200REB
LA-UR-972308
Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
ADA363246REB

LOS ALAMOS NATIONAL LAB., TN.
LA-UR-99-646
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB

LOUISIANA STATE OFFICE OF PUBLIC HEALTH, BATON ROUGE.
Public Health Assessment for Agriculture Street Landfill, New Orleans, Orleans Parish, Louisiana, Region 6. CERCLIS No. LAD981056997.
PB99-152282REB

LUNAR AND PLANETARY INST., HOUSTON, TX.
LPI-CONTRIB-963
In Situ Resource Utilization (ISRU 3) Technical Interchange Meeting: Abstracts.
N19990042245REB

M.D. ANDERSON CANCER CENTER, HOUSTON, TX.
Genomic Instability at Premalignant and Early Stages of Breast Cancer Development.
ADA362712REB

MACNAUGHTON, HERMSEN, BRITTON, CLARKSON PLANNING LTD., TORONTO (ONTARIO).
ISBN-0-7778-8161-6
Aggregate resources inventory of the Regional Municipality of Durham: Townships of Brock, Uxbridge, Scugog; the Municipality of Clarington; the towns of Pickering, Ajax and Whitby and the City of Oshawa.
MIC-99-03112REB

MACRO INTERNATIONAL, INC., CALVERTON, MD.
CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women.
ADA362645REB

MADIGAN ARMY MEDICAL CENTER, TACOMA, WA. DEPT. OF CLINICAL INVESTIGATION.
Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
ADA362963REB

MANITOBA AGRICULTURE, WINNIPEG.
Manitoba food products directory, 1999.
MIC-99-03194REB
Guide to crop protection, 1999.
MIC-99-03650REB

MANITOBA ENVIRONMENT, WINNIPEG.
Phosphorus loading to Shellmouth Reservoir, Manitoba, Canada.
MIC-99-03172REB

MANITOBA. FARM MANAGEMENT, WINNIPEG.
Guidelines for estimating beef grassing costs based on 500 head.
MIC-99-03171REB

MANITOBA ROUND TABLE FOR SUSTAINABLE DEVELOPMENT, WINNIPEG.
ISBN-0-7711-1498-2
Workbook on fish.
MIC-99-03634REB
ISBN-0-7711-1500-8
Workbook on wildlife.
MIC-99-03635REB

MARINE BIOLOGICAL LAB., WOODS HOLE, MA.
Genetic Regulatory Networks in Embryogenesis and Evolution.
N19990041841REB

MARYLAND POWER PLANT RESEARCH PROGRAM, ANNAPOLIS.
PPSE-T-42
Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152860REB

MARYLAND UNIV., BALTIMORE. SCHOOL OF MEDICINE.
Fidelity of DNA Replication in Normal and Malignant Human Breast Cells.
ADA362661REB

MARYLAND UNIV., COLLEGE PARK.
High Resolution Far-Infrared Studies of Compact Regions in Star-Forming Molecular Clouds.
N19990042133REB

MARYLAND UNIV., COLLEGE PARK. DEPT. OF GEOLOGY.
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB

MASSACHUSETTS INST. OF TECH., CAMBRIDGE.
MIT/WHOI-98-07
Deep-Sea Corals: A New Oceanic Archive.
ADA363389REB
MIT/WHOI-98-23
Behavioral Ecology of Coral Reef Fishes at Spawning Aggregation Sites.
ADA363347REB

MASSACHUSETTS INST. OF TECH., CAMBRIDGE. GAS TURBINE LAB.
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
(AFRL-SR-BL-TR-99-0121)
ADA363039REB

MASSACHUSETTS INST. OF TECH., CAMBRIDGE. RESEARCH LAB. OF ELECTRONICS.
Quantum Chaos in Rydberg Atoms.
ADA362681REB
Optical Frequency Standard in Trapped Atomic Hydrogen.
ADA362776REB
Training Spatial Knowledge Acquisition Using Virtual Environments.
ADA362800REB

MASSACHUSETTS INST. OF TECH., LEXINGTON. LINCOLN LAB.
Unclassified Publications of Lincoln Laboratory.
(AFMC-ESC-TR-98-049)
ADA363077REB
Background Fluorescence in an Aerosol Biodetector Based on 266-nm Excitation.
(ESC-TR-98-045)
ADA363355REB

MASSACHUSETTS UNIV., AMHERST.
Problem of Intervention.
ADA362635REB

MASSACHUSETTS UNIV. AT BOSTON.
Quantum Modeling.
(AFRL-SN-RS-TR-1999-76)
ADA363264REB
Modeling of Silicon Quantum Structures.
(AFRL-SN-RS-TR-1999-65)
ADA363362REB

MASSACHUSETTS UNIV. MEDICAL CENTER, WORCESTER.
Involvement of Nuclear Receptor Co-Repressors in the Development of Human Breast Cancer.
ADA362658REB

MICHIGAN STATE UNIV., EAST LANSING.
Information Technology Innovation in the U.S. Army: The Case of the Adoption, Adaptation, and Utilization of the Strategic Crisis Exercise Intranet.
ADA362718REB

MICHIGAN UNIV., ANN ARBOR.
Misguided Intentions: U.S. Policy in World War II and Chinese Intervention in Korea.
ADA363031REB

MINERALS & METALS SECTOR, OTTAWA (ONTARIO).
ISBN-0-660-17861-5
Mining and mineral processing operations in Canada, 1998.
MIC-99-03223REB
SSC-M38-2/247E
Mining and mineral processing operations in Canada, 1998.
MIC-99-03223REB

MINNESOTA UNIV., MINNEAPOLIS.
Regulation of the Multidrug Resistance-Associated Protein Gene by Estrogen.
ADA362659REB

MITRE CORP., MCLEAN, VA. JASON PROGRAM OFFICE.
JSR-97-155
Characterization of Underground Facilities.
ADA363359REB
JSR-98-145
Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB

MITRETEK SYSTEMS, INC., WASHINGTON, DC.
Road to Successful ITS Software Acquisition: Executive Summary.
PB99-117053REB

MOORE SCHOOL OF ELECTRICAL ENGINEERING, PHILADELPHIA, PA. DEPT. OF COMPUTER AND INFORMATION SCIENCES.
Hand Tool Manipulation and Self-Presence in VR.
ADA362871REB

MORGAN STATE UNIV., BALTIMORE, MD. NATIONAL TRANSPORTATION CENTER.
Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
PB99-116501REB

NATIONAL ACADEMY OF SCIENCES, WASHINGTON, DC.
Continuation of a Postdoctoral Research Associateship Program.
ADA363232REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, CLEVELAND, OH. LEWIS RESEARCH CENTER.
E-11408
Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB
NAS 1.60:208693
Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB
NASA/TP-1998-208693
Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, CLEVELAND, OH. NASA JOHN H. GLENN RESEARCH CENTER AT LEWIS FIELD.
E-11580
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB
E-11590
New Materials for EMI Shielding.
N19990042172REB
NAS 1.15:209048
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB
NAS 1.15:209054
New Materials for EMI Shielding.
N19990042172REB
NASA/TM-1999-209048
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB
NASA/TM-1999-209054
New Materials for EMI Shielding.
N19990042172REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, EDWARDS, CA. HUGH L. DRYDEN FLIGHT RESEARCH CENTER.
H-2186
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
(NASA-TM-1997-104332)
N19990042110REB
NAS 1.15:104332
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
(NASA-TM-1997-104332)
N19990042110REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, GREENBELT, MD. GODDARD SPACE FLIGHT CENTER.
Modular Wideband Active Vibration Absorber.
N19990041146REB
Spacecraft Onboard Software Maintenance: An Effective Approach which Reduces Costs and Increases Science Return.
N19990041147REB
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
N19990041149REB
Textural-Contextual Labeling and Metadata Generation for Remote Sensing Applications.
N19990041150REB
Revision of the NASA Team Sea Ice Algorithm.
N19990041151REB
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB
Narrow Pass-Band Optical Filters for Space-Borne Remote Sensing Applications.
N19990041162REB
Application of Rotation- and Translation-Invariant Overcomplete Wavelets to the registration of Remotely Sensed Imagery.
N19990041199REB
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB
Nanosat Intelligent Power System Development.
N19990041448REB
Direct Detection Doppler Lidar for Spaceborne Wind Measurement.
N19990041449REB
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB
Gamma Radiation from PSR B1055-52.
N19990042027REB
Flight Prediction for Performance of the SWAS Solar Array Deployment Mechanism.
N19990042081REB
Seasonal and Interannual Variabilities in Tropical Tropospheric Ozone.
N19990042082REB
Modular Wideband Active Vibration Absorber.
N19990042083REB
Development of Lightweight Electronics Enclosures for Space Applications.
N19990042149REB
GISS Analysis of Surface Temperature Changes.
N19990042165REB
Photon-Weighted Midpoint Exposure Meter for Keck/HIRES Extrasolar Planet Research.
N19990042170REB
Incorporating Manual and Autonomous Code Generation.
N19990042320REB
Design/Use of the Remotely Operated Bakeout Box Shutter (ROBBS).
N19990042443REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, HAMPTON, VA. LANGLEY RESEARCH CENTER.
L-17802
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB
L-17809A
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB
NAS 1.21:7011/SUPPL492
Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
N19990041598REB
NAS 1.21:7037/SUPPL401
Aeronautical Engineering: A Continuing Bibliography With Indexes, Supplement 401.
N19990041594REB
NAS 1.55:208986
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB
NAS 1.55:209101/PT1
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB
NASA/CP-1999-208986
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB
NASA/CP-1999-209101/PT1
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB
NASA/SP-1999-7011/SUPPL492
Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
N19990041598REB
NASA/SP-1999-7037/SUPPL401
Aeronautical Engineering: A Continuing Bibliography With Indexes, Supplement 401.
N19990041594REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, HOUSTON, TX. LYNDON B. JOHNSON SPACE CENTER.
NAS 1.60:208856
Orbital Debris: A Chronology.
N19990041784REB
NASA/TP-1999-208856
Orbital Debris: A Chronology.
N19990041784REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, HUNTSVILLE, AL. GEORGE C. MARSHALL SPACE FLIGHT CENTER.
Meteoroids and Meteor Storms: A Threat to Spacecraft.
N19990041159REB
Payload Operations.
N19990041198REB
X-33/VentureStar Program.
N19990041334REB
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB
New ERA in Global Temperature Monitoring with the Advanced Microwave Sounding Unit (AMSU).
N19990041446REB
Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
N19990041616REB
Reusable Launch Vehicle (RLV) Mission/Market Model.
N19990041879REB
Variable Structure PID Control to Prevent Integrator Windup.
N19990041955REB
M-913/VOL2
General Public Space Travel and Tourism, Volume 2.
N19990041888REB
NAS 1.55:209146/VOL2
General Public Space Travel and Tourism, Volume 2.
N19990041888REB
NASA/CP-1999-209146/VOL2
General Public Space Travel and Tourism, Volume 2.
N19990041888REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, MOFFETT FIELD, CA. AMES RESEARCH CENTER.
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB
Airborne Astronomy Program.
N19990042134REB
Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
N19990042139REB
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB
Representation and Integration of Scientific Information.
N19990042373REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, NEW YORK. GODDARD INST. FOR SPACE STUDIES.
Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
N19990042067REB

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, WASHINGTON, DC.
NAS 1.83:1998-10-244-HQ
Monographs in Aerospace History Series No. 11. Together in Orbit: The Origins of International Participation in the Space Station.
(NASA-NP-1998-10-244-HQ)
N19990041803REB

NATIONAL AGRICULTURAL STATISTICS SERVICE, WASHINGTON, DC.
ISBN-0-16-049562-8
Agricultural Statistics, 1999.
NASS-ZAG-99REB

NATIONAL AGRICULTURAL STATISTICS SERVICE, WASHINGTON, DC. AGRICULTURAL STATISTICS BOARD.
Cherry Production (Released June 24, 1999).
NASS-ZCP-99REB
Floriculture Crops. 1998 Summary.
NASS-ZFC-99REB

NATIONAL FIRE ACADEMY, EMMITSBURG, MD.
Hazardous Materials Operating Site Practices. Activities Manual.
PB99-130940REB

NATIONAL GEOPHYSICAL DATA CENTER, BOULDER, CO.
SGD-657-PT-1
Solar-Geophysical Data Number 657, May 1999. Part 1 (Prompt Reports). Data for March, April 1999 and Late Data.
PB99-154676REB
SGD-657-PT-2
Solar-Geophysical Data Number 657, May 1999. Part 2. (Comprehensive Reports). Data for November 1998 and Miscellaneous.
PB99-154684REB

NATIONAL INFORMATION CENTER FOR CHILDREN AND YOUTH WITH DISABILITIES, WASHINGTON, DC.
Education of Children and Youth with Special Needs: What Do the Laws Say.
PB99-151227REB

NATIONAL INST. FOR ENVIRONMENTAL RENEWAL, MAYFIELD, PA.
Innovative Approaches to Watershed Characterization: Winters Run Watershed Pilot Project - A Case Study.
ADA363266REB

NATIONAL INST. FOR OCCUPATIONAL SAFETY AND HEALTH, CINCINNATI, OH.
HETA-96-0012-2652
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
PB99-152332REB
HETA-96-0093-2685
Health Hazard Evaluation Report HETA 96-0093-2685, Microfibres, Inc. Pawtucket, RI.
PB99-152357REB

NATIONAL INST. FOR OCCUPATIONAL SAFETY AND HEALTH, CINCINNATI, OH. DIV. OF SAFETY RESEARCH.
FACE-97-03
Fatality Assessment and Control Evaluation (FACE) Report: Mechanic Fatally Injured during Dismantling of Crane Boom at Scrap Metal Yard, Pennsylvania.
PB99-155657REB
FACE-97-04
Fatality Assessment and Control Evaluation (FACE) Report: Floor Collapse in a Single Family Dwelling Fire Claims the Life of One Fire Fighter and Injures Another, Kentucky.
PB99-155665REB
FACE-98-09
Fatality Assessment and Control Evaluation (FACE) Report: Tree Feller Killed When Struck by Chain Saw, West Virginia.
PB99-155640REB
FACE-98-10
Fatality Assessment and Control Evaluation (FACE) Report: Temporary Laborer Crushed by Dump Truck at Landfill, South Carolina.
PB99-155624REB
FACE-98-11
Fatality Assessment and Control Evaluation (FACE) Report: Electrical Mechanic Dies After 45-Foot Fall through Unguarded Floor Opening, North Carolina.
PB99-155632REB

NATIONAL INST. FOR OCCUPATIONAL SAFETY AND HEALTH, CINCINNATI, OH. DIV. OF SURVEILLANCE, HAZARD EVALUATIONS AND FIELD STUDIES.
HETA-95-0001-2679
Health Hazard Evaluation Report HETA 95-0001-2679, Caterpillar Inc., York, Pennsylvania.
PB99-152233REB
HETA-96-0171-2692
Health Hazard Evaluation Report HETA 96-0171-2692, Bureau of Alcohol, Tobacco, and Firearms, Washington, DC.
PB99-152167REB
HETA-96-0258-2673
Health Hazard Evaluation Report HETA 96-0258-2673, Foss Manufacturing Company, Inc., Hampton, New Hampshire.
PB99-152191REB
HETA-96-0266-2702
Health Hazard Evaluation Report HETA 96-0266-2702, Cooper Engineered Products, Bowling Green, Ohio.
PB99-152175REB
HETA-97-0153-2694
Health Hazard Evaluation Report HETA 97-0153-2694, The Grand Experience Salon, Chicago, Illinois.
PB99-152258REB
HETA-97-0154-2693
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
PB99-152308REB
HETA-97-0161-2706
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
PB99-152316REB
HETA-97-0199-2680
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB
HETA-97-0245-2696
Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152159REB
HETA-98-0003-2698
Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB

HETA-98-0017-2699
Health Hazard Evaluation Report HETA 98-0017-2699, United States Postal Service, Mail Processing and Distribution Center, Omaha, Nebraska.
PB99-152324REB
HETA-98-0030-2697
Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
PB99-152217REB

NATIONAL INST. OF ALLERGY AND INFECTIOUS DISEASES, BETHESDA, MD. DIV. OF ACQUIRED IMMUNODEFICIENCY SYNDROME.
ACTG 240: Randomized Comparative Trial of Stavudine (d4T) versus Zidovudine (ZDV, AZT) in Children with Human Immunodeficiency Virus Infection (on Diskette).
PB99-501629REB

NATIONAL INST. OF STANDARDS AND TECHNOLOGY (BFRL), GAITHERSBURG, MD. BUILDING ENVIRONMENT DIV.
NISTIR-6330
Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
PB99-152373REB

NATIONAL INST. OF STANDARDS AND TECHNOLOGY, GAITHERSBURG, MD.
Journal of Research of the National Institute of Standards and Technology, January/February 1999. Volume 104, Number 1.
PB99-154833REB
Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
PB99-154882REB

NATIONAL INST. OF STANDARDS AND TECHNOLOGY (ITL), GAITHERSBURG, MD. MATHEMATICAL AND COMPUTATIONAL SCIENCES DIV.
NISTIR-6346
Triangulation-Based L1-Fitting of Terrain Surfaces.
(DARPA/TEC MIPR-97-5039)
PB99-152779REB

NATIONAL INST. OF STANDARDS AND TECHNOLOGY (MEL), GAITHERSBURG, MD. MANUFACTURING SYSTEMS INTEGRATION DIV.
NISTIR-6339
Systems Integration for Manufacturing Applications, 1998 Annual Report.
PB99-152696REB

NATIONAL INST. OF STANDARDS AND TECHNOLOGY (MEL), GAITHERSBURG, MD. SENSOR INTEGRATION GROUP.
NISTIR-6338
Implementing a Standards-Based Distributed Measurement and Control Application on the Internet.
PB99-152712REB

NATIONAL MARINE FISHERIES SERVICE, LA JOLLA, CA. SOUTHWEST FISHERIES SCIENCE CENTER.
NOAA-TM-NMFS-SWFSC-258
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB

NATIONAL MARINE FISHERIES SERVICE, TIBURON, CA. SOUTHWEST FISHERIES SCIENCE CENTER.
NOAA-TM-NMFS-SWFSC-261
Recent Developments in Population Viability Analysis, with Specific Reference to Pacific Salmon.
PB99-155426REB

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, BOULDER, CO. ENVIRONMENTAL TECHNOLOGY LAB.
NOAA-TM-ERL-ETL-296
Aerial Video of Smoke-Marked Wind Shifts Caused by Ocean Internal Waves.
PB99-154486REB

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, RESEARCH TRIANGLE PARK, NC. ATMOSPHERIC SCIENCES MODELING DIV.
Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
ADA363351REB

NATIONAL PARK SERVICE, LINCOLN, NE. MIDWEST ARCHEOLOGICAL CENTER.
Archeological and Architectural Investigations at Brown's Sheep Camp (5LA5824), a Multicomponent District in the U.S. Army Pinon Canyon Maneuver Site, Las Animas County, Colorado.
ADA363169REB

NATIONAL RENEWABLE ENERGY LABORATORY (NREL), GOLDEN, CO (UNITED STATES).
NREL/SR-710-24738
New Technology Demonstration Program, Kennedy Space Center,.
DE00006694REB

NATIONAL RESEARCH COUNCIL, WASHINGTON, DC. AERONAUTICS AND SPACE ENGINEERING BOARD.
ISBN-0-309-06541-0
Advanced Engineering Environments; Achieving the Vision. Phase 1.
PB99-152290REB

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL, WASHINGTON, DC. COMMITTEE ON ENVIRONMENT AND NATURAL RESOURCES.
Program Guide to Federally Funded Environment and Natural Resources R and D.
PB99-152449REB

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL, WASHINGTON, DC. COMMITTEE ON TRANSPORTATION RESEARCH AND DEVELOPMENT.
Interagency Report on Orbital Debris, 1995.
PB99-151375REB

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL, WASHINGTON, DC. SUBCOMMITTEE ON COMPUTING, INFORMATION, AND COMMUNICATIONS RESEARCH AND DEVELOPMENT.
Networked Computing for the 21st Century; Supplement to the President's FY 1999 Budget: Computing, Information, and Communications.
PB99-152415REB

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL, WASHINGTON, DC. SUBCOMMITTEE ON TRANSPORTATION RESEARCH AND DEVELOPMENT.
National Transportation Science and Technology Strategy.
PB99-151383REB
Transportation Strategic Research Plan.
PB99-151391REB

NATIONAL SCIENCE COUNCIL, TAIPEI (TAIWAN).
Proceedings of the National Science Council, Republic of China: Part A: Physical Science and Engineering, Volume 22, No. 2, March 1998.
PB99-101768REB

NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION, WASHINGTON, DC.
Falling through the Net: Defining the Digital Divide. A Report on the Telecommunications and Information Technology Gap in America.
PB99-144487REB

NATIONAL TOXICOLOGY PROGRAM, RESEARCH TRIANGLE PARK, NC.
NIH/PUB-99-3973
NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
PB99-152878REB
NIH/PUB-99-3978
NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
PB99-152886REB
NTP-TR-483
NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
PB99-152878REB
NTP-TR-488
NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
PB99-152886REB

NATIONAL UNIV. OF IRELAND, GALWAY.
Background Biological Aerosol Properties.
ADA363253REB

NATO RESEARCH AND TECHNOLOGY ORGANIZATION, NEUILLY-SUR-SEINE (FRANCE).
AC/323(SCI)TP/8
RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
ADA363078REB
RTO-MP-16
RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
ADA363078REB

NATURAL RESOURCES CANADA, OTTAWA (ONTARIO).
ISBN-0-662-62806-3
Household equipment of Canadians, features of the 1993 stock & the 1994 & 1995 purchases: Analysis report.
MIC-99-03182REB
ISBN-0-662-62902-7
Survey of Canadian new household equipment purchases, 1994 & 1995: Statistical report.
MIC-99-03183REB
SSC-M92-131/1997
Household equipment of Canadians, features of the 1993 stock & the 1994 & 1995 purchases: Analysis report.
MIC-99-03182REB
SSC-M92-133/1997
Survey of Canadian new household equipment purchases, 1994 & 1995: Statistical report.
MIC-99-03183REB

NATURE CONSERVANCY, ARLINGTON, VA.
Scientific Coordination and Adaptive Management and Experimental Restoration of Longleaf Pine Community Structure, Function, and Composition.
ADA362888REB

NAVAL AIR WARFARE CENTER, CHINA LAKE, CA. WEAPONS DIV.
Large Engine Uncontained Debris Analysis.
(DOT/FAA/AR-99/11)
PB99-154569REB

NAVAL AIR WEAPONS STATION, CHINA LAKE, CA.
NAWS-CL-TP-011
Coso Monitoring Program, October 1997 through September 1998.
ADA362727REB

NAVAL FACILITIES ENGINEERING SERVICE CENTER, PORT HUENEME, CA.
NFESC-TM-2226-ENV
Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB
NFESC-TR-6012-OCN
U.S. Navy Heavy Weather Mooring Criteria.
ADA363085REB

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Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues.
ADA363238REB
Analysis of the Operating Costs for Light Armored Vehicles in the United States Marine Corps.
ADA363387REB
NPS-EC-99-006
Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising.
ADA363100REB
NPS-ME-99-002
Maritime Preposition Force Ship 2010.
ADA363180REB

NAVAL POSTGRADUATE SCHOOL, MONTEREY, CA. DEPT. OF MECHANICAL ENGINEERING.
Enhancement of Boiling in Highly Wetting Fluids.
ADA362878REB

NAVAL RESEARCH LAB., WASHINGTON, DC. ADVANCED INFORMATION TECHNOLOGY BRANCH.
NRL/MR/5580--99-8355
Perspective Splatting.
ADA363073REB

NAVAL RESEARCH LAB., WASHINGTON, DC. BEAM PHYSICS BRANCH.
NRL/MR/6790--99-8317
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB

NAVAL RESEARCH LAB., WASHINGTON, DC. CENTER FOR BIOMOLECULAR SCIENCE AND ENGINEERING.
Field Demonstration of NRL Environmental Flow Immunosensor for Environmental Monitoring.
ADA363133REB

NAVAL RESEARCH LAB., WASHINGTON, DC. PLASMA PHYSICS DIV.
NRL/MR/6750–99-8349
WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB
NAVAL RESEARCH LAB., WASHINGTON, DC. RADAR ANALYSIS BRANCH.
NRL/MR/5310–99-8378
Hybrid Version of Method of Moments Computer Code: IBC3D.
ADA363074REB
NAVAL RESEARCH LAB., WASHINGTON, DC. RADIATION HYDRODYNAMICS BRANCH.
NRL/MR/6720–99-8341
Advanced Radiation Theory, Support Annual Report 1998.
ADA362872REB
NAVAL SURFACE WARFARE CENTER, ANNAPOLIS, MD.
Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB
NAVAL SURFACE WARFARE CENTER CARDEROCK DIV., BETHESDA, MD.
NSWCCD-TR-1999/007
Boundary Conditions for Magnetic Field Gradients Inside a Source-Free Volume.
ADA362760REB
NSWCCD-65-TR-1998/21
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB
NAVAL SURFACE WARFARE CENTER CARDEROCK DIV., BETHESDA, MD. SHIP MATERIALS ENGINEERING DEPT.
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB
NAVAL SURFACE WARFARE CENTER CARDEROCK DIV., BETHESDA, MD. SIGNATURES DIRECTORATE.
NSWCCD-70-TR–1999-120
Vibration Damping by a Nearly Continuous Distribution of Nearly Undamped Oscillators.
ADA362958REB
NAVAL SURFACE WARFARE CENTER CARDEROCK DIV., BETHESDA, MD. SURVIVABILITY STRUCTURES AND MATERIALS DIRECTORATE.
NSWCCD-61-TR-1999/04
Heat Treatment of Al 7075 for Ejection Seat Shear Wire.
ADA362873REB
NAVAL SURFACE WARFARE CENTER, DAHLGREN, VA. DAHLGREN DIV.
NSWCDD/MP-98/118
Implementation of Successful Practices Using an Iterative Development Methodology for an AEGIS Configuration Management Software Application.
ADA363072REB
NSWCDD/TR-98/113
Evaluation of Precise Absolute Navigation (PAN) Performance Under Dynamic Conditions.
ADA362733REB
NAVAL UNDERSEA WARFARE CENTER DIV., NEWPORT, RI.
NUWC-NPT-TD-11082
EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Eectric Vehicle Program.
ADA362952REB
NAVAL WAR COLL., NEWPORT, RI.
Completing the Sensor Grid: A Revolution in Imagery Management.
ADA363053REB
Compromising the Principles of War: Technological Advancements Impact Multinational Military Operations.
ADA363054REB
Some Principles of Network-Centric Warfare: A Look at How Network- Centric Warfare Applies to the Principles of War.
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NonLethal Weapons, NonLethal Policy, and Complex Contingencies.
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Uncertain Superiority: Information Technology and Operational-Level Decision Making.
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Risk Management: An Integral Part of Operational Planning.
ADA363058REB
Operational Fires on the Urban Battlefield: An Underdeveloped Concept.
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Effects-Based Targeting and Operational Art in the 21st Century.
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Operational Level of War: Radical Change Needed to Support the American RMA.
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Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art.
ADA363064REB
Theater Missile Defense in World War II - Some Operational Art Considerations.
ADA363065REB
Precision Naval Fires in the Age of Information Superiority: Is The Day Of The Carrier Over.
ADA363066REB
Fleet Air Defense in the Falkland Islands Conflict: A Failure in Operational Protection.
ADA363067REB
Non-Lethal Weapons: Applications in Maritime Interdiction Operations.
ADA363076REB
Challenges of Command and Control in 2010 Counterdrug Operations.
ADA363091REB
Organizational Implications of Network-Centric Warfare.
ADA363092REB
Shoring Up the Homeland Defense: The Joint Medical Task Force and Weapons of Mass Destruction.
ADA363093REB
Planning Factors for Non Lethal Weapons in Counter Narcotic Operations.
ADA363094REB
How Can Operational Maneuver be Used by the Naval or Joint Task Force Commander to Enhance Operational Protection in the Littoral.
ADA363095REB
Denying Access to Commercial Communications Satellites.
ADA363096REB
Is a Fundamental Revolution in Military Medicine Required to Support Joint Vision 2010 and the Joint Forces Commander in the 21st Century.
ADA363097REB
Sea-Based Logistics: Does It Satisfy the Operational Commander's Need.
ADA363098REB
Denial and Deception–Network-Centric Challenge.
ADA363099REB
E Pluribus Unum: Enhancing Intelligence Support in the Network Centric Environment.
ADA363102REB
In the Crucible of Battle: An Analysis of the Split Air Operations Center and the Principles of War.
ADA363116REB
Operational Design: The Impact of Nuclear, Biological, and Chemical Attack on U.S. Forces During Power Projection and Sustainment Operations.
ADA363124REB
Contractors in the Joint Theater: The Need for a Joint Doctrine.
ADA363125REB
Non-Lethal Operational Fires in Military Operations Other Than War.
ADA363126REB
Can We Get There From Here. RMAs, Network-Centric Warfare and the Process of Transformation.
ADA363146REB
Not to Foresee, But to Enable: The Promise and Pitfalls of Computer Simulations in Operational Planning.
ADA363148REB
Space as an Area of Responsibility (AOR), Is it the Right Solution.
ADA363149REB
Use of Commercial Space Assets by the Joint Force Commander.
ADA363150REB
Network Centric Warfare and the Joint Forces Air Component Commander.
ADA363152REB
Moving Targets and Joint Theater Missile Defense Doctrine: Does it Apply to Locating and Engaging the Needle in the Haystack.
ADA363153REB
Operational Commander, the Media, and MOOTW: A New Paradigm.
ADA363154REB
Reevaluating Doctrine for Joint Theater Air and Missile Defense.
ADA363155REB
Information-Based RMA and the Principles of War.
ADA363157REB
Operational Level Intelligence Preparation of the Battlefield for Special Operations Forces.
ADA363167REB
Operational Commander and the Trident SSGN.
ADA363168REB
Within the Context of JV2010, Is There a Requirement for a Theater-Level Joint Forces Logistics Commander (JKLOGC) and a Joint Theater Logistics Command (JTLC).
ADA363172REB
Arabian Gulf Maritime Interception Operations: Balancing the Ends, Ways, Means and Risks.
ADA363175REB
Regional Civil-Military Operations Center: A Force Multiplier in Military Operations Other Than War.
ADA363176REB
Operational Art and the Human Dimension of Warfare in the 21st Century.
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America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
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Future Insurgencies in Latin America and the Caribbean: Implications for U.S. Operations.
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Force Protection and Strategic Air Mobility: The MANPAD Challenge.
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Axis Offensive Military Operations Against the Continental United States: Opportunity Lost.
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Reexamination of the Joint Force Air Component Commander (JFACC) concept for the 21st Century.
ADA363183REB
Special Forces: The Peacetime Regional Engagement Force of Choice ... and More.
ADA363185REB
Airborne Forces of the United States Army: Cornerstone of Force Projection.
ADA363187REB
Area Air Defense Commander: Can JFACC Do It All.
ADA363189REB
Operational Counter Deception Cell: Is It The Answer.
ADA363190REB
Creeping Jurisdiction, Are International Straits in Jeopardy.
ADA363191REB
Naval Force Protection in the Littorals.
ADA363193REB
Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy.
ADA363194REB
High Profile Special Operations Missions and Timing: Identifying the Culminating Point of Execution.
ADA363195REB
Next Convoy War: The American Campaign Against Enemy Shipping in the Twenty-First Century.
ADA363196REB
Improved U.S. Pacific Command Theater Design for the Future.
ADA363197REB
Cruising CVBGs and Horizon MAGs: An Alternative Approach to Naval Forward Presence for the 21st Century.
ADA363203REB
Technology and Intervention: The Negative Impact on Future Leader Development.
ADA363207REB
Managing the Dynamics of Change.
ADA363208REB
USAF Aerospace Expeditionary Force: Flying into the 21st Century.
ADA363209REB
Shaping the Regional Stability Environment with Reserves.
ADA363210REB
Closing the Book: The Role of the Aircraft Carrier in the Twenty-First Century.
ADA363211REB
Winning MOOTW's in 2010: The Future Relationship Between the U.S. Military and Nongovernmental Organizations (NGO's).
ADA363212REB
Planning for Future Humanitarian Assistance Operations: Using the SAO to Establish the NGO Working Relationship.
ADA363213REB
Losing Anti-Personnel Landmines: An Economy of Force.
ADA363214REB
Operational Design of Hurricane Relief Operations.
ADA363215REB
Naval Operational Concept and Operational Maneuver from the Sea: Analysis in Operational Design.
ADA363216REB
American Military's Discomfort with Peace Operations.
ADA363217REB
Prospects for a Naval Service Operational Concept.
ADA363221REB
U.S. Military, NGO's and CMOC: Staying Connected and Achieving Unity of Effort During MOOTW.
ADA363224REB
Commander's Estimate of the Situation: Kosovo & The Southern Balkans.
ADA363226REB
Operational Effects of Mine Warfare.
ADA363227REB
Real Cost of 'Engagement'.
ADA363230REB
Forward Amphibious Maneuver from the Sea.
ADA363234REB
GAO/NSIAD-99-71
UNITED NATIONS: Progress of Procurement Reforms.
ADA363233REB
GAO/NSIAD-99-108BR
U.S. - JAPAN TRADE: The Japanese Insurance Market.
ADA363205REB
NAVAL WAR COLL., NEWPORT, RI. JOINT MILITARY OPERATIONS DEPT.
Mobility Traid and Challenges for the Operational Commander.
ADA363220REB
Self-Synchronization: What is it, How is it Created, and is it Needed.
ADA363229REB
Hide Your Shape Sun Tzu: ROE Considerations for Negating High-Resolution Commercial Imagery Satellites.
ADA363236REB
Positive Aspects of Network Centric Command. The Ties Between Behavioral Doctrine and Technology.
ADA363250REB
Theater Ballistic Missile Defense, an Achilles Heel for the United States.
ADA363251REB
C2 in the Information Age: Will Operational Command Echelons Become Unnecessary.
ADA363259REB
Command and Control in Joint Vision 2010: Flexible, Adaptive and Networked.
ADA363260REB
Medical Information Technology in Support of the Operational Commander.
ADA363363REB

NAVY TECHNOLOGY CENTER FOR SAFETY AND SURVIVABILITY, WASHINGTON, DC.
NRL/MR/6180-99-8372
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB

NEW BRUNSWICK. FISHERIES & AQUACULTURE NEW BRUNSWICK, FREDERICTON.
Annual report 1997-98.
MIC-99-03196REB

NEW BRUNSWICK. FOREST MANAGEMENT BRANCH, FREDERICTON.
ISBN-1-55236-190-X
Comparison of prethin densities in hardwood stands measured at 1 meter and 30 centimeters respectively, data measurements gathered during hardwood time & motion studies in 1996: Information report.
MIC-99-03167REB

NEW BRUNSWICK LAB., ARGONNE, IL.
NBL-345
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB

NEW BRUNSWICK. MINERALS & ENERGY DIVISION, FREDERICTON.
Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list.
MIC-99-03154REB
ISBN-1-55236-277-9
New Brunswick's mineral industry, 1997.
MIC-99-03151REB

NEW BRUNSWICK. PLANT INDUSTRY BRANCH, FREDERICTON.
ISBN--55137-598-2
Adaptive research reports, 1995, v. 17.
MIC-99-03159REB

NEW MEXICO STATE UNIV., LAS CRUCES.
NMSU-ECE-98-010
High Speed A/D DSP Interface for Carrier Doppler Tracking.
N19990041157REB

NIPPON KOKAN K.K., TOKYO.
NKK Technical Report No. 158, June 1997.
PB99-153249REB

NORTH CENTRAL RESEARCH STATION, FORESTRY SCIENCES LAB., RHINELANDER, WI (UNITED STATES).
DOE/OR/21871-T1
Yields of ten and eleven year-old hybrid poplars in the north central United States. Final report.
DE99002354REB

NORTH DAKOTA STATE UNIV., FARGO. UPPER GREAT PLAINS TRANSPORTATION INST.
Tel8 Telecommnications Network: A Pooled Fund Study for Transportation Videoconferencing.
(FHWA/ND/SPR-0003(025))
PB99-151433REB

NORTHEASTERN FOREST EXPERIMENT STATION, RADNOR, PA.
FSGTR-NE-259
ROMI-RIP 2.0 User's Guide: a ROugh MIll RIP-First Simulator.
PB99-152803REB
FSGTR-NE-262
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
PB99-152795REB
NEFES/99-4
ROMI-RIP 2.0 User's Guide: a ROugh MIll RIP-First Simulator.
PB99-152803REB
NEFES/99-5
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
PB99-152795REB

NORTHERN PIPELINE AGENCY, OTTAWA (ONTARIO).
ISBN-0-662-64060-8
Annual report 1997-98.
MIC-99-03132REB
SSC-C98-1/1999
Annual report 1997-98.
MIC-99-03132REB

NORTHERN RIVER BASINS STUDY (CANADA), EDMONTON (ALBERTA).
ISBN-0-662-25126-1
Effects of contaminants on aquatic organisms in the Peace, Athabasca and Slave River basins.
MIC-99-03210REB
SSC-R71-49/4-2E
Effects of contaminants on aquatic organisms in the Peace, Athabasca and Slave River basins.
MIC-99-03210REB

NOVA SCOTIA. DEPT. OF NATURAL RESOURCES, HALIFAX.
40Ar/39Ar dating of ribbon-textured veins and wall-rock material from Meguma lode gold deposits, Nova Scotia: Implications for timing and duration of vein formation in slate-belt hosted vein gold deposits.
MIC-99-03227REB
Carboniferous evolution of Nova Scotia.
MIC-99-03228REB
Origin and evolution of the Greisenizing fluid at the East Kemptville tin deposit, Nova Scotia, Canada.
MIC-99-03229REB
Wisconsinan glacial and sea-level history of Maritime Canada and the adjacent continental shelf: A correlation of land and sea events.
MIC-99-03230REB
Stratigraphy and tectonic significance of the Lower to Middle Devonian McAdams Lake Formation, Cape Breton Island, Nova Scotia.
MIC-99-03282REB

OAK RIDGE NATIONAL LAB., TN.
DOE/ER-0313/23
Fusion materials semiannual progress report for the period ending December 31, 1997.
DE98004697REB
ORNL/TM-13342
Dynamic Fracture Initiation Toughness of ASTM A533, Grade B Steel Plate.
NUREG/CR-6512REB

OAK RIDGE NATIONAL LAB., TN. ENVIRONMENTAL SCIENCES DIV.
Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758).
ADA363350REB
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
(SERDP-CS-758)
ADA363352REB
Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
(SERDP-CS-758-4567)
ADA363353REB

OFFICE OF SCIENCE AND TECHNOLOGY POLICY, WASHINGTON, DC.
Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century. A White House Roundtable Dialogue for President Clinton's Initiative on Race. Proceedings of Panel Discussion and Position Papers.
PB99-151409REB

OFFICE OF THE DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING, WASHINGTON, DC.
Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998.
ADA362634REB

OKLAHOMA UNIV. HEALTH SCIENCES CENTER, OKLAHOMA CITY.
AFIT-99/97
Values Identified in Different Groups of Air Force Nurses.
ADA363338REB

ONTARIO. DRIVE CLEAN OFFICE, TORONTO.
ISBN-0-7778-8265-5
Drive clean guide: Emission standards, emissions test methods and technical information relating to Ontario Regulation 361/98 as amended.
MIC-99-03111REB

ONTARIO GEOLOGICAL SURVEY, TORONTO.
ISBN-0-7778-8181-0
Quaternary geology of the Separation Lake area, Northwestern Ontario.
MIC-99-03113REB

ONTARIO. MINISTRY OF AGRICULTURE, FOOD & RURAL AFFAIRS, TORONTO.
Guide to weed control, 1999.
MIC-99-03187REB
Field crop recommendations, 1999-2000.
MIC-99-03222REB

ONTARIO. MINISTRY OF THE ENVIRONMENT, TORONTO.
ISBN-0-7778-7706-6
Formulating objectives for management on an ecosystem scale.
MIC-99-03133REB

ONTARIO. MINISTRY OF TRANSPORTATION. SAFETY POLICY BRANCH, TORONTO.
ISBN-0-7778-7746-5
Graduated licensing system evaluation: Interim report '98.
MIC-99-03114REB

PACIFIC FORESTRY CENTRE, VICTORIA.
ISBN-0-662-27084-3
Diseases of Populus in British Columbia: A diagnostic manual.
MIC-99-03123REB
SSC-FO42-274/1998E
Diseases of Populus in British Columbia: A diagnostic manual.
MIC-99-03123REB

PACIFIC NORTHWEST NATIONAL LAB., RICHLAND, WA.
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB
Waste Forms Based on Separations Media (DOE 360-94). The Strategic Environmental Research and Development Program.
ADA363257REB
PNNL-12068
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB

PACIFIC NORTHWEST NATIONAL LAB., RICHLAND, WA (UNITED STATES).
PNNL-6415-REV.10
Hanford Site National Environmental Policy Act (NEPA) characterization. Revision 10.
DE99002425REB

PACIFIC SCIENCES AND ENGINEERING GROUP, INC., SAN DIEGO, CA.
TR-1795
Use of Perspective View Displays for Operational Tasks.
ADA362590REB

PALEONTOLOGICAL INVESTIGATIONS, DENVER, CO.
Results of the Field Study of the Paleontological Resources of the Fort Carson Military Reservation, Colorado.
ADA363332REB

PANEL ON SMART COMMUNITIES, OTTAWA (ONTARIO).
ISBN-0-662-63998-7
Smart communities: Report.
MIC-99-03209REB
SSC-C2-395/1998
Smart communities: Report.
MIC-99-03209REB

PEACE CORPS, WASHINGTON, DC. INFORMATION COLLECTION AND EXCHANGE.
PC/ICE/M-0058
YMCA Earth Service Corps Club Handbook.
PB99-154551REB

PECHAN-AVANTI GROUP, DURHAM, NC.
National Air Pollutant Emission Trends Update, 1970-1997.
(EPA/454/C-98/007)
PB99-150260REB

PENNSYLVANIA DEPT. OF TRANSPORTATION, HARRISBURG.
PA-98-008-91-072
Use of Waste Glass as Aggregate for Pipe Backfill and Embankment Material.
PB99-152399REB
PA-98-010-90-63
Evaluation of Rubber-Modified Asphaltic Concrete.
PB99-152381REB

PENNSYLVANIA DEPT. OF TRANSPORTATION, HARRISBURG. ENGINEERING AND INFORMATION TECHNOLOGY DIV.
PA-99-005-91-77
Reclaimed Manufacturer Asphalt Roofing Shingles in Asphalt Mixtures.
PB99-152613REB

PENNSYLVANIA STATE UNIV., UNIVERSITY PARK.
Celtic Warfare in Ireland: A Logistical Perspective.
ADA363119REB

PENNSYLVANIA STATE UNIV., UNIVERSITY PARK. DEPT. OF CIVIL ENGINEERING.
Evaluation of Passive Systems for the Treatment of Mine Drainage.
ADA362851REB

PENNSYLVANIA STATE UNIV., UNIVERSITY PARK. MATERIALS RESEARCH LAB.
Resource for Piezoelectric Single Crystals.
ADA363144REB

PENNSYLVANIA UNIV., PHILADELPHIA. DEPT. OF ELECTRICAL ENGINEERING.
Biomorphic Networks for ATR and Higher-Level Processing.
ADA362731REB

PENNSYLVANIA UNIV., PHILADELPHIA. DEPT. OF MATERIALS SCIENCE AND ENGINEERING.
Twinning Mechanisms in Complex High Tm Intermetallic Compounds.
ADA362826REB

PLANNING & ENGINEERING INITIATIVES LTD., TORONTO (ONTARIO).
ISBN-0-7778-8162-4
Aggregate resources inventory of Wellington County: Townships of Minto, Arthur, West Luther, Maryborough, Peel, West Garafraxa, Pilkington, Nichol, Guelph, Eramosa, Erin, Puslinch and the City of Guelph.
MIC-99-03116REB

PRESIDENT'S COMMITTEE OF ADVISORS ON SCIENCE AND TECHNOLOGY, WASHINGTON, DC. PANEL ON EDUCATIONAL TECHNOLOGY.
Report to the President on the Use of Technology to Strengthen K-12 Education in the United States.
PB99-152431REB

PRINCE EDWARD ISLAND. DEPT. OF AGRICULTURE & FORESTRY, CHARLOTTETOWN.
Guidelines for manure management for Prince Edward Island.
MIC-99-03231REB

PRINCE EDWARD ISLAND. DEPT. OF TRANSPORTATION & PUBLIC WORKS, CHARLOTTETOWN.
Annual report 1997-98.
MIC-99-03257REB

PRINCE EDWARD ISLAND FOOD TECHNOLOGY CENTRE, CHARLOTTETOWN.
Annual report 1997-98.
MIC-99-03249REB

PRINCETON UNIV., NJ. DEPT. OF ASTROPHYSICAL SCIENCES.
Hydrodynamic Stability and Magnetic Reconnection in Disks and Stars.
N19990042136REB

PROJECT ON WOMEN AND DISABILITY, BOSTON, MA (UNITED STATES).
Disability rights in dialogue with clinical genetics conference, May 31 to June 2, 1996.
DE99002368REB

PURDUE UNIV., WEST LAFAYETTE, IN. JOINT TRANSPORTATION RESEARCH PROGRAM.
Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements.
(FHWA/IN/JTRP-96/22)
PB99-152993REB

PURDUE UNIV., WEST LAFAYETTE, IN. SCHOOL OF ELECTRICAL ENGINEERING.
Instrumentation for Research on High-Speed Optical Transmultiplexing and Coding for Optoelectronic Computer Networking.
(AFRL-SR-BL-TR-99-0122)
ADA363026REB

QUESTER TANGENT CORP. MARINE TECHNOLOGY CENTRE, SIDNEY, (BRITISH COLUMBIA). 062121000 DEFENCE RESEARCH ESTABLISHMENT ATLANTIC. TAGCY=SIDNEY, (BRITISH COLUMBIA).
Seabed classification by QTC VIEW: Sites near Vancouver Island.
MIC-99-03353REB

RADIAN INTERNATIONAL LLC, OAK RIDGE, TN.
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
(SFIM-AEC-ET-CR-99013-V2, DPG-WDTC-TR-99-015)
ADA362906REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
(SFIM-AEC-ET-CR-99013-V1, DPG-WDTC-TR-99-015)
ADA362907REB

RAND ARROYO CENTER, SANTA MONICA, CA.
RAND/MR-1012-A
Consolidating Active and Reserve Component Training Infrastructure.
ADA363165REB

RAND CORP., SANTA MONICA, CA.
RAND/CF-146
RAND Forum on Cuba.
ADA363063REB
RAND/MR-989-AF
Countering the New Terrorism.
ADA363163REB

RENSSELAER POLYTECHNIC INST., TROY, NY.
Physical and Chemical Environmental Factors Associated with the Temporal and Spatial Distribution of Cyanobacteria in Lake George, New York.
ADA363278REB

RHODES & ASSOCIATES, TORONTO (ONTARIO).
Human factors assessment of prototype lightweight thermal undergarment systems for the Clothe-the-Soldier Programme.
MIC-99-03319REB

ROCK ISLAND ARSENAL, IL.
AC-TR-75001
Structural Optimization Technique.
ADA363330REB
RIA-76-U565
Structural Optimization Technique.
ADA363330REB

ROCK ISLAND ARSENAL, IL. GENERAL THOMAS J. RODMAN LAB.
RIA-R-TR-77-023
Modification and Analysis of the 40MM Selective Feed System.
ADA363145REB
RIA-81-U1035
Modification and Analysis of the 40MM Selective Feed System.
ADA363145REB

ROCKWELL INTERNATIONAL CORP., CANOGA PARK, CA. ROCKETDYNE DIV.
E41000
Space Shuttle Main Engine: Part Number RS007001.
N19990041880REB
RSS-8559-1-1-1
Space Shuttle Main Engine: Part Number RS007001.
N19990041880REB

RUTHERFORD APPLETON LAB., CHILTON (ENGLAND).
DTP-98-32
Spin Correlations in e(sup +)e(sup -) Yields 4 Jets.
PB99-120370REB
DTP-98-52
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB
RAL-TR-1998-035
Six-Jet Production at Lepton Colliders.
PB99-120362REB
RAL-TR-1998-037
Spin Correlations in e(sup +)e(sup -) Yields 4 Jets.
PB99-120370REB
RAL-TR-1998-061
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB

SANDIA NATIONAL LABORATORIES, ALBUQUERQUE, NM, AND LIVERMORE, CA (UNITED STATES).
SAND98-2257
Sandia National Laboratories Institutional Plan: FY 1999-2004.
DE00002622REB
SAND99-0054J
New 1999 National Electrical Code Coupled with New Standards Clarify Requirements for Installations of Photovoltaic Systems in the U.S.;Progress in Photovoltaics - Research and Applications.
DE00003202REB

SANDIA NATIONAL LABS., ALBUQUERQUE, NM (UNITED STATES).
SAND-98-1591
Proceedings of the 5. joint Russian-American computational mathematics conference.
DE99000778REB

SANDIA NATIONAL LABS., LIVERMORE, CA. POLYMER AND ELECTROCHEMICAL TECHNOLOGIES DEPT.
SAND97-8490
Mechanical Properties and Energy Absorption Characteristics of a Polyurethane Foam.
PB99-105504REB

SASKATCHEWAN AGRICULTURE & FOOD, REGINA (CANADA).
Varieties of grain crops, 1999.
MIC-99-03467REB

SCIENCE APPLICATIONS INTERNATIONAL CORP., NEW YORK. ADVANCED TECHNOLOGY DIV.
Design Heritage-Based Forecasting Methodology for Risk Informed Management of Advanced Systems.
N19990041444REB

SECURITIES AND EXCHANGE COMMISSION, WASHINGTON, DC. OFFICE OF INVESTOR EDUCATION AND ASSISTANCE.
Plain English Handbook: How to Create Clear SEC Disclosure Documents.
PB99-151219REB

SECURITY RESEARCH CENTER, MONTEREY, CA.
SRC-TR-99-001
Hispanic Youth and Military Enlistment Propensity.
ADA362976REB

SENSARRAY CORP., BURLINGTON, MA.
M0109-04
Doped PMN-PT Single Crystals.
ADA362908REB

SENTENCING COMMISSION, WASHINGTON, DC.
Just Punishment: Public Perceptions and the Federal Sentencing Guidelines.
PB99-151250REB
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB

SHARPE (M.E.), INC., ARMONK, NY.
Japan-The System that Soured: The Rise and Fall of the Japanese Economic Miracle.
SHARPE-00419REB
Coming Class War and How to Avoid It: Rebuilding the American Middle Class.
SHARPE-00420REB
Complete Business Export Kit.
SHARPE-00421REB
Conservative Reformers: The Republican Freshmen and the Lessons of the 104th Congress.
SHARPE-00422REB
Rise and Fall of the Asian Miracle.
SHARPE-00423REB
Central Asia: The Challenges of Independence.
SHARPE-00425REB
Artisans and Entrepreneurs of Dongyang County: Economic Reform and Flexible Production in China.
SHARPE-00426REB
United States Trade Policy: History, Theory, and the WTO.
SHARPE-00437REB
Managing Capital Flows in Turbulent Times: The Experience of Europe's Emerging Market Economies in Global Perspective.
SHARPE-00438REB
Hard Labor: Poor Women and Work in the Post-Welfare Era.
SHARPE-00439REB
Income Inequality in America: An Analysis of Trends.
SHARPE-00440REB
Education and Economic Development in Latin America: Dropout Prevention in the Primary Grades.
SHARPE-00441REB
Sandakan Brothel No. 8: A Journey into the History of Lower-Class Japanese Women.
SHARPE-00463REB
Nanjing Massacre: A Japanese Journalist Confronts Japan's National Shame.
SHARPE-00464REB
Nadia, Captive of Hope: Memoir of an Arab Woman.
SHARPE-00465REB

SMALL BUSINESS ADMINISTRATION, WASHINGTON, DC.
BusinessLINC: Learning, Information, Networking and Collaboration. Business-to-Business Relationships That Increase the Economic Competitiveness of Firms. A Report to Vice President Al Gore.
PB99-147092REB

SMITHS INDUSTRIES AEROSPACE AND DEFENSE SYSTEMS, INC., GRAND RAPIDS, MI. GRAND RAPIDS DIV.
Navy F/A-18 Crash Survivable Flight Incident Recorder (CSFIR).
ADA363120REB
Navy AV-8B Crash Survivable Flight Incident Recorder (CSFIR).
ADA363122REB

SOFTWARE KINETICS LTD., STITTSVILLE, (ONTARIO).
Flight recorder configuration standard, version 1.0.
MIC-99-03214REB

SOUTH CAROLINA UNIV., COLUMBIA. DEPT. OF BIOLOGICAL SCIENCES.
Degradation of Haloaromatic Compounds by Indigenous Sediment Microflora: Biochemistry and Molecular Ecology.
ADA362983REB

SOUTHWEST RESEARCH INST., SAN ANTONIO, TX.
SRI-18-8518
Full-Scale Crash Evaluation of the NETC 4-Bar Sidewalk-Mounted Steel Bridge Railing.
(NETCR-14)
PB99-152720REB

SOUTHWEST RESEARCH INST., SAN ANTONIO, TX. CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES.
CNWRA-97-008-REV-2
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB

SOUTHWEST RESEARCH INST., SAN ANTONIO, TX (UNITED STATES).
Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
DE99002444REB

SOUTHWESTERN ILLINOIS RESOURCE CONSERVATION AND DEVELOPMENT, INC., MASCOUTAH.
Ethanol Plant Feasibility Study for the Lower Kaskaskia River Valley Corn Wet Milling Facility.
PB99-122921REB

SPACE AND NAVAL WARFARE SYSTEMS COMMAND, SAN DIEGO, CA.
Project CS-1082, Information and Technology Tools for Assessment and Prediction of the Potential Effects of Military Noise on Marine Mammals.
(SERDP-CS-1082)
ADA363354REB
SPAWAR/CA-TD-3070
User's Guide for the Naval Communications Assessment Tool (NCAT) software Version 2.0.
ADA362901REB
SSC-TD-3068
Characterization of a Hard-Switching Motor Controller for EMC considerations.
ADA362721REB
TR-1716-ADD
Environmental Analysis of U.S. Navy Shipboard Solid Waste Discharges: Addendum to the Report of Findings.
ADA362694REB

SPACE TELESCOPE SCIENCE INST., BALTIMORE, MD.
Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST.
N19990042137REB

SPECTRUM MANAGEMENT OPERATIONS, OTTAWA (ONTARIO).
Redeployment plan for spectrum efficient land mobile equipment in the frequency range 100-500 MHz.
MIC-99-03408REB

SRI INTERNATIONAL, MENLO PARK, CA.
SRI-PYU-4727
Dynamic Failure of Materials. Volume 2 - Compilation of Russian Spall Data.
(DSWA-TR-96-77-V2)
ADA362759REB
SRI-PYU-4727-VOL-1
Dynamic Failure of Materials. Volume 1 - Experiments and Analyses.
(DSWA-TR-96-77-V1)
ADA362713REB

STANFORD UNIV., CA.
Studying Turbulence Using Numerical Simulation Databases, No. 7.
N19990041253REB
Summary of Work for Joint Research Interchanges with DARWIN Integrated Product Team 1998.
N19990041450REB
Study the Effects of Charged Particle Radiation on Gravitational Sensors in Space.
N19990042135REB
Merged Vision and GPS Control of a Semi-Autonomous, Small Helicopter.
N19990042372REB

STANFORD UNIV., CA. HIGH TEMPERATURE GASDYNAMICS LAB.
Combustion Control Using a Multiplexed Diode-Laser Sensor System.
ADA363252REB
HGTL-3172-10
Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB

STATE UNIV. OF NEW YORK AT ALBANY.
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB
Dealing With Data: Seminar Summary. Using Information in Government Program Information Sharing Seminar Series, Seminar No. 1.
ADA362861REB
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB
Practical Tools for Electronic Records Management and Preservation.
ADA362863REB

Data Quality Tools for Data Warehousing - A Small Sample Survey.
ADA362923REB
CTG-MFA-001
Survey of Key Concepts and Issues for Electronic Recordkeeping.
ADA362864REB
CTG.MFA-002
Introduction to Workflow Management Systems.
ADA362925REB

STATISTICS CANADA. ENVIRONMENT STATISTICS PROGRAM, OTTAWA (ONTARIO).
Waste management industry survey, government sector, 1994.
MIC-99-03501REB
Waste management industry survey, business sector, 1995.
MIC-99-03502REB
Environmental protection expenditures in the business sector, 1995.
MIC-99-03503REB

STATISTICS CANADA. GEOGRAPHY DIVISION, OTTAWA (ONTARIO).
Automated land area tests for the 2001 census, part 1: Preliminary results using the 1996 Digital Cartographic Files.
MIC-99-03431REB

STATISTICS CANADA, OTTAWA.
St. Lawrence River Valley 1998 ice storm: Maps and facts.
MIC-99-03574REB
Inserting joiners into a longitudinal panel of households and individuals: Simulations.
MIC-99-03602REB
Sample representativeness for the Survey of Labour and Income Dynamics.
MIC-99-03604REB

STATISTICS CANADA. SCIENCE & TECHNOLOGY SECTION, OTTAWA (ONTARIO).
State of science and technology indicators in the OECD countries.
MIC-99-03567REB
Biotechnology use by Canadian industry, 1996.
MIC-99-03583REB

STATISTICS CANADA. SMALL BUSINESS & SPECIAL SURVEYS DIVISION, OTTAWA (ONTARIO).
Preparedness of Canadian business for the Year 2000 computer problem: A reassessment.
MIC-99-03575REB

SURVEILLANCE RESEARCH LAB., SALISBURY (AUSTRALIA).
DSTO-GD-0192
Primer of CORBA: A Framework for Distributed Applications in Defence.
(DODA-AR-01-622)
ADA362761REB

SYDNEY UNIV. (AUSTRALIA). CENTRE FOR GEOTECHNICAL RESEARCH.
Method for Analyzing Piled Embankments.
PB99-149650REB

SYRACUSE UNIV., NY. DEPT. OF ELECTRICAL AND COMPUTER ENGINEERING.
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
(AFRL-IF-RS-TR-1999-53)
ADA362918REB

SYSTEMS AND PROCESSING ENGINEERING CORP., AUSTIN, TX.
Innovative Thin Film Fluorescence Sensor Providing Greatly Enhanced Signal-to-Noise and Integrated Solid State Detection. Suitable for Incorporation in Microchip Sensor Systems. Phase 1.
ADA363084REB

TACOM RESEARCH, DEVELOPMENT AND ENGINEERING CENTER, WARREN, MI.
TARDEC-TR-13754
Ceramic Armor Material Database.
ADA362926REB

TAILINGS SAND RECLAMATION PRACTICES WORKING GROUP, EDMONTON (ALBERTA).
Land capability classification for forest ecosystems in the oil sands region -- Rev. ed. Revised edition.
MIC-99-03138REB

TEXACO EXPLORATION AND PRODUCTION, INC., HOBBS, NM (UNITED STATES).
DOE/BC/14986-15
CO(sub 2) Huff-n-Puff process in a light oil shallow shelf carbonate reservoir.
DE98054328REB

TEXAS TRANSPORTATION INST., COLLEGE STATION.
Develop Maintenance Strategy Selection Procedures for Pavements Incorporating Semi-Rigid or Chemically Stabilized Layers.
(FHWA/TX-99/1722-2)
PB99-149593REB

TEXAS UNIV. AT AUSTIN.
Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
ADA362745REB

TEXAS UNIV. AT AUSTIN. DEPT. OF ELECTRICAL AND COMPUTER ENGINEERING.
UT-ECE-1
Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques.
ADA363380REB

TRANSPORT CANADA, OTTAWA.
Grain Handling and Transportation Review: Final report.
MIC-99-03320REB
Grain Handling and Transportation System Review: Phase one report.
MIC-99-03322REB

TRANSPORTATION DEVELOPMENT CENTRE (CANADA). SAFETY & SECURITY, ETOBICOKE, (ONTARIO).
Operational evaluation for the four sensor Contaminant/Fluid Integrity Measuring System (C/FIMS(trademark)), Midway Airlines F-100 aircraft.
MIC-99-03514REB

TRANSPORTATION DEVELOPMENT CENTRE (CANADA). SAFETY & SECURITY, MONTREAL (QUEBEC).
Evaluation of two school bus advance signalling devices: The eight-light system and hazard lights.
MIC-99-03406REB

TRW ENVIRONMENTAL SAFETY SYSTEMS, INC., LAS VEGAS, NV (UNITED STATES).
DOE/RW-99002146
Performance confirmation data acquisition system.
DE99002146REB
TPM-847
Performance confirmation data acquisition system.
DE99002146REB

TUFTS UNIV., BOSTON, MA.
Female Gender and Other Potential Predictors of Functional Health Status Among Persian Gulf War Veterans (Revised).
ADA362870REB

UNIFORMED SERVICES UNIV. OF THE HEALTH SCIENCES, BETHESDA, MD.
AFIT-99/98
Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB
AFIT-99-99
Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility.
ADA363334REB

UNITED NATIONS, NEW YORK.
World Information Directory of Industrial Technology and Investment Support Services.
UN-0947REB
ISBN 92-1-133607-4
UNCITRAL Model Law on Electronic Commerce with Guide to Enactment. 1996.
UN-1000REB
ISBN 92-1-151261-1
Ageing and the Family. Proceedings of the United Nations International Conference on Ageing Populations in the Context of the Family, Kitakyushu (Japan), 15-19 October 1990.
UN-0964REB

UNITED TECHNOLOGIES CORP., EAST HARTFORD, CT.
E-11616
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB
E-11618
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB
NAS 1.26:208883
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB
NAS 1.26:208884
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB
NASA/CR-1999-208883
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB
NASA/CR-1999-208884
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB

UNIV. OF FLORIDA, DEPT. OF NUCLEAR AND RADIOLOGICAL ENGINEERING, GAINESVILLE, FL (UNITED STATES).
DOE/ER/61846-T2
Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
DE99002167REB
DOE/ER/62006-T1
Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
DE99002167REB

UNIV. OF ROCHESTER, LAB. FOR LASER ENERGETICS, NY (UNITED STATES).
DOE/SF/19460-284
LLE review, Volume 77. Quarterly report, October--December 1998.
DE99002358REB

UNIV. OF WISCONSIN, CENTER FOR PLASMA THEORY AND COMPUTATION, MADISON, WI (UNITED STATES).
Proceedings of the workshop on nonlinear MHD and extended MHD.
DE99001004REB

UNIVERSITY COLL., LONDON (ENGLAND).
ISBN-0-9522736-5-9
Molecular Quantum States at Dissociation.
PB99-120339REB

UNIVERSITY OF CENTRAL FLORIDA, ORLANDO.
Increasing the Resolution of Simulated Combat Trauma Injuries in a High Level Architecture (HLA) Environment.
ADA362714REB
S2 Automated Agent (S2A2): A Training Aid for Commanders and Intelligence Officers.
ADA363075REB

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES.
Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications.
ADA362660REB

UTAH UNIV., SALT LAKE CITY. DEPT. OF CHEMISTRY.
Computer for Ab Initio Molecular Dynamics Simulations.
ADA363044REB

VANCOUVER (B.C.). CITY COUNCIL, VANCOUVER, (BRITISH COLUMBIA).
ISBN-1-894152-00-1
City of Vancouver plan, transportation, 1997.
MIC-99-03438REB

VANCOUVER (B.C.), VANCOUVER, (BRITISH COLUMBIA).
Dunbar community vision, city plan.
MIC-99-03199REB
Kensington-Cedar Cottage community vision, city plan.
MIC-99-03200REB
Blueways guidelines and recommendations: Draft document for discussion, February 1997.
MIC-99-03449REB
New Trade and Convention Facilities Review Program, stage two: Evaluation site and community context summary.
MIC-99-03469REB
Reports for public discussion.
MIC-99-03474REB

VERSAR, INC., COLUMBIA, MD.
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
(PPRP-114)
PB99-149700REB

VIRGINIA MILITARY INST., LEXINGTON.
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB

VIRGINIA POLYTECHNIC INST. AND STATE UNIV., BLACKSBURG. DEPT. OF COMPUTER SCIENCE.
Enhancing a CAVE with Eye Tracking System for Human-Computer Interaction Research in 3D Visualization.
ADA363070REB

VIRGINIA POLYTECHNIC INST. AND STATE UNIV., BLACKSBURG. DEPT. OF MECHANICAL ENGINEERING.
Durability Testing for Fouling Release Coatings.
ADA362839REB

VIRGINIA TRANSPORTATION RESEARCH COUNCIL, CHARLOTTESVILLE.
VTRC99-R20
Assessment of Advanced Warning Signs for Flagging Operations.
PB99-152134REB
VTRC-99-TAR8
Estimating Intersection Turning Movements.
PB99-152977REB

VIRGINIA UNIV., CHARLOTTESVILLE. SCHOOL OF ENGINEERING AND APPLIED SCIENCE.
Portfolio Optimization for Multiple Group Credit Unions.
ADA363385REB

WASHINGTON STATE UNIV., INST. OF BIOLOGICAL CHEMISTRY, PULLMAN, WA (UNITED STATES).
DOE/ER/13699-T1
Enhancement of photoassimilate utilization by manipulation of ADP-glucose pyrophosphorylase gene. Final progress report.
DE99002382REB

WASHINGTON UNIV., SEATTLE. AEROSPACE AND ENERGETICS RESEARCH PROGRAM.
Parallel Workstation Cluster for Algorithm Development, Parameter Scoping, and Data Analysis.
(AFRL-SR-BL-TR-99-0124)
ADA363032REB

WASHINGTON UNIV., SEATTLE. DEPT. OF CIVIL ENGINEERING, ENVIRONMENTAL ENGINEERING AND SCIENCE.
WATER RESOURCES SER/TR-15d
Forest Road Effects on Flood Flows in the Deschutes River Basin, Washington.
PB99-152621REB

WASHINGTON UNIV., SEATTLE. SCHOOL OF OCEANOGRAPHY.
Stratified Coastal Trapped Waves and Mean Flows.
ADA362722REB

WATERBORNE COMMERCE STATISTICS CENTER, NEW ORLEANS, LA.
WRSC-WCUS-97-2
Waterborne Commerce of the United States. Calendar Year 1997. Part 2. Waterways and Harbors Gulf Coast, Mississippi River System and Antilles.
PB99-151367REB

WESTINGHOUSE HANFORD CO., RICHLAND, WA (UNITED STATES).
HNF-SD-WM-ER-658
Preliminary tank characterization report for single-shell tank 241-TX-110: Best-basis inventory.
DE99050186REB

WESTINGHOUSE SAVANNAH RIVER COMPANY, AIKEN, SC (UNITED STATES).
WSRC-MS-98-00096
Roles of Historical Photography in Waste Site Characterization, Closure, and Remediation.
DE98057841REB
WSRC-MS-98-00204
Local Area Network Material Accounting System (LANMAS) Functions and Features Overview.
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DE98057842REB
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DE98054750REB
WSRC-MS-98-00460
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WSRC-MS-98-00527
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WSRC-MS-98-00537
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB

WILLIAM J. HUGHES TECHNICAL CENTER, ATLANTIC CITY, NJ. AVIATION SECURITY HUMAN FACTORS PROGRAM.
DOT/FAA/AR-99/42
Test and Evalution Plan for Determining Screener Training Effectiveness.
PB99-149692REB

WISCONSIN UNIV.-MADISON. DEPT. OF NUCLEAR ENGINEERING.
Synthesis and Characterization of Diamond-Like Carbon Coatings Deposited by Plasma Source Ion Implantation and Conventional Ion Beam Assisted Deposition Processes.
ADA362850REB

WOODS HOLE OCEANOGRAPHIC INSTITUTION, MA.
WHOI-99-03
R/V Seward Johnson Cruise Report (SJ-9807) ACCE S-PALACE Float Deployments.
ADA362874REB
WHOI-13045600
Red Sea Studies.
ADA363049REB

WOODS HOLE OCEANOGRAPHIC INSTITUTION, MA. DEPT. OF BIOLOGY.
Marine Mammal Auditory Systems: A Summary of Audiometric and Anatomical Data and Its Implications for Underwater Acoustic Impacts.
(NOAA-TM-NMFS-SWFSC-256)
PB99-154791REB

WORKSHOP ON SUSTAINABLE FOREST ECONOMIES (1997: WHITEHORSE, YUKON). WHITEHORSE (YUKON).
Sustainable Forest Economy Workshop draft report: Summary of proceedings.
MIC-99-03384REB

XFORM, INC., COHOES, NY.
Upscaled Self-Propagating High-Temperature Synthesis (SHS)/Dynamic Compaction Processing.
(ARL-CR-439)
ADA362636REB

YALE UNIV., NEW HAVEN, CT. DEPT. OF PSYCHOLOGY.
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Making Markets. Opportunism and Restraint on Wall Street.
HUP-0011REB

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ADA362786REB

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Changing Nature of Work: Frontier Issues in Economic Thought.
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TWRS technical baseline database manager definition document.
DE99050152REB

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ADA362912REB

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ADA363389REB

ADLER, J. G.
105-DR Large Sodium Fire Facility closure activities evaluation report.
DE99050394REB

AGGARWAL, R. L.
Background Fluorescence in an Aerosol Biodetector Based on 266-nm Excitation.
ADA363355REB

AGNEW, S. F.
Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
DE99002218REB

AHRENS, D. A.
Christianity's Contribution to Just War Tradition.
ADA363087REB

AKTAS, U.
Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising.
ADA363100REB

AKUOKO-ASIBEY, A.
Automated land area tests for the 2001 census, part 1: Preliminary results using the 1996 Digital Cartographic Files.
MIC-99-03431REB

AL-SEWAJI, H. N.
Democracy in Kuwait.
ADA362984REB

ALBERS, R. C.
First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
DE99002200REB

ALDAZ, C. M.
Genomic Instability at Premalignant and Early Stages of Breast Cancer Development.
ADA362712REB

ALDIJAILI, S. S.
Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives.
ADA363337REB

ALDY, J. E.
Green Technologies for a More Sustainable Agriculture.
ERS-AIB-752REB

ALESKEROV, G. S.
Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
ADA362843REB

ALEXANDER, C. R.
Strategic Creep: From Power Projection Back to Forward Presence.
ADA362989REB

ALIZADE, F. M.
Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
ADA362843REB

ALLAN, G. R.
Narrow Pass-Band Optical Filters for Space-Borne Remote Sensing Applications.
N19990041162REB

ALLEN, D.
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB

ALLEN, H. H.
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB

ALLISON, R. E.
Analysis of First-Term Army Attrition.
ADA362968REB

ALLNUTT, T.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB

ALMAGUER, D.
Health Hazard Evaluation Report HETA 97-0153-2694, The Grand Experience Salon, Chicago, Illinois.
PB99-152258REB

AMBROSE, C. R.
Strehl Ratio Probabilities for Phase-Only Adaptive Optics.
ADA362881REB

AMMAN, M.
Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB

ANANTH, R.
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB

ANDERSON, B.
Maintaining Budgetary Discipline: Spending and Revenue Options.
ADA363202REB

ANDERSON, B. H.
Mobility Traid and Challenges for the Operational Commander.
ADA363220REB

ANDERSON, B. J.
Meteoroids and Meteor Storms: A Threat to Spacecraft.
N19990041159REB

ANDERSON, C. A.
Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB

ANDERSON, D. C.
Shaping the Regional Stability Environment with Reserves.
ADA363210REB

ANDERSON, J.
Education and Economic Development in Latin America: Dropout Prevention in the Primary Grades.
SHARPE-00441REB

ANDERSON, T.
Maritime Preposition Force Ship 2010.
ADA363180REB

ANDREWS, F. L.
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins.
PB99-152688REB
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB

ANGEVINE, J. R.
Revolution in Military Logistics: Surviving the Budget Process.
ADA363267REB

ANTOUN, T. H.
Dynamic Failure of Materials. Volume 1 - Experiments and Analyses.
ADA362713REB
Dynamic Failure of Materials. Volume 2 - Compilation of Russian Spall Data.
ADA362759REB

ARAKI, L. M.
Self-Synchronization: What is it, How is it Created, and is it Needed.
ADA363229REB

ARFLACK, N. E.
National Guard State Partnership Program: Is It Still Relevant.
ADA363117REB

ARGO, P.
Advanced algorithms for information science.
DE99002231REB

ARMBRISTER, S. L.
Officer Candidate School (OCS): Relevance into the 21st Century.
ADA362971REB

ARMENDARIZ-PICON, C.
k-Inflation.
PB99-148769REB

ARMINGTON, C.
Statistics of U.S. Businesses: Microdata and Tables. SBA/Census Data on Establishments by Firm Size.
PB99-142572REB

ARNOLD, E. D.
Estimating Intersection Turning Movements.
PB99-152977REB

ARNOLD, R. R.
Load Time Dependent Relaxation of Residual Stresses in an Aluminum Test Specimen.
ADA363139REB

ARQUILLA, J.
Countering the New Terrorism.
ADA363163REB

ARUNAJATESAN, S.
Engineering Model for Prediction of Waste Incineration in a Dump Combustor.
ADA363341REB
Parallel Simulations of Waste Incineration in a Dump Combustor.
ADA363339REB

ASAY, B. W.
Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
DE99002408REB

ASH, K.
Agri-food policy in Canada.
MIC-99-03296REB

ASHWOOD, T. L.
Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
ADA363353REB
Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758).
ADA363350REB
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
ADA363352REB

ASMUS, P.
Reaping the Wind: How Mechanical Wizards, Visionaries, and Profiteers Helped Shape Our Energy Future.
ISLAND-0480REB

ATKINSON, N. L.
CD-ROM Technology to Increase Appropriate Self-Care and Preventive Behaviors Among Army and Navy Women.
ADA362645REB

AU, T. A.
Primer of CORBA: A Framework for Distributed Applications in Defence.
ADA362761REB

AURRECOECHEA, C.
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service.
ADA362912REB

AYLIFFE, J. K.
Technique for Measuring the Gain of HF Antennas.
ADA362876REB

AZIZ, N. M.
Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module.
ADA362729REB

BABSKI, R. J.
Hide Your Shape Sun Tzu: ROE Considerations for Negating High-Resolution Commercial Imagery Satellites.
ADA363236REB

BACK, C. A.
High-Power Laser Source Evaluation.
ADA362788REB

BADGER, S.
Electromagnetic Effects of Advanced Packaging.
ADA362900REB

BADLER, N. I.
Hand Tool Manipulation and Self-Presence in VR.
ADA362871REB

BAER, D. S.
Combustion Control Using a Multiplexed Diode-Laser Sensor System.
ADA363252REB
Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB

BAGGETT, T.
High Speed A/D DSP Interface for Carrier Doppler Tracking.
N19990041157REB

BAILES, M.
Gamma Radiation from PSR B1055-52.
N19990042027REB

BAILEY, J. W.
Project W-320 high vacuum 241-AY-102 annulus ventilation system operability test report.
DE99050588REB

BAILEY, S.
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB

BAINBRIDGE, R. L.
Initial Assessment of the Air Combat Environment Test and Evaluation Facility To Support Operational Test and Evaluation.
ADA362688REB

BAKER, L. B.
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB

BALDREE, S. W.
Positive Aspects of Network Centric Command. The Ties Between Behavioral Doctrine and Technology.
ADA363250REB

BALDWIN, J. H.
Tank characterization report for single-shell tank 241-BY-112.
DE99050199REB

BALL, C. R.
Decision Aids and Wargaming for Information Operations.
ADA363158REB

BALMER, M. L.
Waste Forms Based on Separations Media (DOE 360-94). The Strategic Environmental Research and Development Program.
ADA363257REB

BALUT, S. J.
Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
ADA363024REB

BANKS, S. A.
Planning for Future Humanitarian Assistance Operations: Using the SAO to Establish the NGO Working Relationship.
ADA363213REB

BAPNA, S.
Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
PB99-116501REB

BARANOSKI, J. M.
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B.
ADA363349REB

BARAZANGI, M.
Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB

BARBIE, D. L.
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB

Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening CoastaL Basins.
PB99-152688REB

Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB

BARBONE, P. E.
Hybrid Asymptotic-Numerical Methods in Scattering.
ADA363046REB

Shock Survivability of Dynamical Systems.
ADA363045REB

BARLOW, J.
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB

BARLOW, J. W.
Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
ADA362745REB

BARNES, D. M.
Problem of Intervention.
ADA362635REB

BARNES, G. A.
Light duty utility arm startup plan.
DE99050751REB

BARR, S.
Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB

BARR, S. M.
Stratigraphy and tectonic significance of the Lower to Middle Devonian McAdams Lake Formation, Cape Breton Island, Nova Scotia.
MIC-99-03282REB

BARRETT, J. E.
Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB

BARRODALE, I.
Generalized ELF propagation.
MIC-99-03336REB

BARTH, J. L.
Development of Lightweight Electronics Enclosures for Space Applications.
N19990042149REB

BASSIM, M. N.
Notch effect of 350WT steel plate at high strain rates.
MIC-99-03347REB

BASTIAN, L.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB

BATEMAN, I.
Environmental Economics. An Elementary Introduction.
JHUP-0305REB

BAUER, P. T.
Equality, the Third World, and Economic Delusion.
HUP-0034REB

BAYDACK, R. K.
Practical Approaches to the Conservation of Biodiversity.
ISLAND-0529REB

BAYER
Development of the Air Force-Army Military Skill Linkage System (MISL).
ADA362717REB

BEAMAN, J. J.
Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
ADA362745REB

BEAMAN, M. W.
Reserve Component Officer Professional Development.
ADA363357REB

BEAMAN, R. G.
Nanosat Intelligent Power System Development.
N19990041448REB

BEATLEY, T.
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB

BEATTY, W. D.
Department of Defense, Inc. Are We Ready To Become An Extension of Corporate America.
ADA362978REB

BEAULIEU, L.
Role of statistics and thermodynamics in nuclear multifragmentation.
DE99002390REB

Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
DE99002391REB

BECK, S. T.
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB

BECKER, B. D.
Low-level radioactive waste management at the Nevada Test Site – Current status.
DE99002186REB

BEDNAR, L.
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB

BEGELMAN, M. C.
RXTE Observation of Cygnus X-1, 1.
N19990042404REB

BEIU, V.
Automatic synthesis of analog/digital circuits.
DE99002295REB

Larger bases and mixed analog/digital neural nets.
DE99002294REB

Optimal neural computations require analog processors.
DE99002277REB

Reliability of the nervous (Nv) nets.
DE99002293REB

BEKES, I.
Transformation of the Hungarian Home Defense Forces or a New Role in a New Environment.
ADA363358REB

BELL, J. C.
Not to Foresee, But to Enable: The Promise and Pitfalls of Computer Simulations in Operational Planning.
ADA363148REB

BENALLY, A. B.
Sampling and analysis plan for sampling of liquid waste streams generated by 222-S Laboratory Complex operations.
DE99050155REB

BENEDICT, M.
Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
ADA362754REB

BENEVOLENSKIY, V. N.
Radiation Injury and Autolysis, USSR–Translation.
ADA363320REB

BENNER, S.
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB

BENNETT, H. H.
Assessment of the REmote Minefield Detection System (REMIDS).
ADA362985REB

BENNETT, J. G.
Dynamic fracture of heterogeneous materials.
DE99002235REB

BENSON, D. E.
Tel8 Telecommnications Network: A Pooled Fund Study for Transportation Videoconferencing.
PB99-151433REB

BENTRUP, J. A.
Initial Assessment of the Air Combat Environment Test and Evaluation Facility To Support Operational Test and Evaluation.
ADA362688REB

BENZ, M.
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB

BEOUGHER, D. B.
Celtic Warfare in Ireland: A Logistical Perspective.
ADA363119REB

BERARD, D. L.
Army After Next: A Cashless Army.
ADA363033REB

BERCHEM, J.
Global MHD Simulation of Mesoscale Structures at the Magnetospheric Boundary.
N19990042166REB

BERENS, A. P.
Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide.
ADA363010REB

BERETVAS, A.
Kt – jets and jet structure and fragmentation at the Tevatron.
DE99050750REB

BERGEY, J.
Why Reengineering Projects Fail.
ADA362725REB

BERGLIN, B. G.
Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
DE99050154REB

BERKE, P.
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB

BERNAL, J.
Triangulation-Based L1-Fitting of Terrain Surfaces.
PB99-152779REB

BERNHARDT, P.
Rose's Kiss: A Natural History of Flowers.
ISLAND-0500REB

BERTHA, R. L.
Future of the Combat Training Centers to Meet the National Military Strategy.
ADA362969REB

BERTSCH, D. L.
Gamma Radiation from PSR B1055-52.
N19990042027REB

BESHENICH, G. M.
From Carter to Reagan: Formulation of American Foreign Policy during a Time of Transition. An Explanation of Foreign Policy Decisions Based on the Initial Presidential Transition Period.
ADA362996REB

BEST, E. P.
Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants.
ADA362974REB

BEZUGLIY, V. P.
Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-, (K metodike issledovaniya gazoobmena pri vdykhanii bol' shikh kontsentratsiy kisloroda)—Translation.
ADA362856REB

BHAT, B. N.
Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
N19990041616REB

BHATIA, T. S.
SNS Linac: Revised configuration.
DE99002261REB

BHAVE, P.
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB

BIEHL, M. L.
Too Close to Home. Domestic Violence in the Americas.
JHUP-0303REB

BIGG, E. K.
Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB

BILHAM, R.
Activities of Dept. of Geological Sciences, Colorado University.
N19990041815REB

BILLEN, J. H.
SNS Linac: Revised configuration.
DE99002261REB

BILLS, L. P.
Static Structural Analysis of the Loreors Electronic Console Support Frame.
ADA363138REB

BISHNOI, K. D.
Ceramic Armor Material Database.
ADA362926REB

BISHOP, R.
Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
ADA363024REB

BISSONNETTE, L. R.
Lidar remote sensing of meteorological parameters in adverse weather: Performance of electro-optic systems and aircraft in-flight icing.
MIC-99-03325REB

BLACK, R. J.
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB

BLACKWELL, K. R.
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB

BLADE, L. M.
Health Hazard Evaluation Report HETA 95-0001-2679, Caterpillar Inc., York, Pennsylvania.
PB99-152233REB

BLAIR, W. D.
Transmission Availability Forecast Service for Internet Protocol Networks.
ADA363086REB

BLALOCK, T.
Numerical Computation of the Radar Cross Section of the ZSU-23-4.
ADA363007REB

BLANCHARD, A.
SRS TRU Criticality Safety Analysis Waste Characterization.
DE98054750REB

BLANCHARD, L. A.
Evaluation of Prototype Electrically Heated Handwear.
ADA363276REB

BLANKEMEYER, F. J.
Evaluation of the Impact of the Target Force Planning Model (TFPM) on the Manpower Process at Headquarters, U.S. Marine Corps.
ADA362904REB

BLONIARZ, P. A.
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB

BLUM, R. S.
Year End Progress Report for ONR Young Investigator Grant N00014-97-1-0774.
ADA363335REB

BOASE, P.
Graduated licensing system evaluation: Interim report '98.
MIC-99-03114REB

BOCCIPPIO, D. J.
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB

BODEKER, D. A.
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB

BODINE, C. J.
Psychophysical Comparisons in Image Compression Algorithms.
ADA362726REB

BOETTINGER, W. L.
Volumetric Radioactivity Viewed as Surface Radioactivity for Free Release Assessment Purposes.
DE98057850REB

BOGUE, R. K.
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB

BOKSHTEYN, B. S.
Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation – USSR —Translation.
ADA362823REB

BOLAND, D. J.
National Sovereignty and the International Criminal Court.
ADA363395REB

BOLCH, W. E.
Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
DE99002167REB

BOLCHOZ, J. M.
Center of Gravity: Justification for Assassination.
ADA363034REB

BOLDUC, C.
Flight recorder configuration standard, version 1.0.
MIC-99-03214REB

BOND, H. E.
Calibration of Post-AGB Supergiants as Standard Extragalactic Candles for HST.
N19990042137REB

BONDARENKO, I.
Selected Soviet Military Translations (Air Force and Civil Defense Materials)--Translation.
ADA362789REB

BORLA, M.
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service.
ADA362912REB

BORNE, K. D.
Interaction-Activity Connection.
N19990042108REB

BORNSTEIN, J.
Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
PB99-152944REB

BOSSELMAN, F. P.
Managing Tourism Growth: Issues and Applications.
ISLAND-0509REB

BOSSERT, J. E.
Numerical simulation of explosive volcanism and its effects on the atmosphere.
DE99002259REB
Tracer modeling in an urban environment.
DE99002399REB

BOTT, T. F.
Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
DE99002218REB

BOUCHARD, R. M.
Information Operations in Iraq.
ADA363160REB

BOURELL, D. L.
Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
ADA362745REB

BOWDEN, D.
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB

BOWER, W.
New 1999 National Electrical Code Coupled with New Standards Clarify Requirements for Installations of Photovoltaic Systems in the U.S.;Progress in Photovoltaics - Research and Applications.
DE00003202REB

BOZKURT, D.
Evaluation of Reflective Crack Control Policy.
PB99-152951REB

BRADSHAW, J. L.
Theodore Roosevelt: Activated Vision Through the Bully Pulpit.
ADA363268REB

BRADSHAW, J. S.
Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
ADA362936REB

BRASWELL, W. D.
New ERA in Global Temperature Monitoring with the Advanced Microwave Sounding Unit (AMSU).
N19990041446REB

BRAZEL, C. S.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB

BREHM, D.
Evaluation of Rubber-Modified Asphaltic Concrete.
PB99-152381REB

BRIAN C. CIANCIOLO
Summary of Experiments in Converting Copper Oxide Process Regenerator Off-Gases to Elemental Sulfur, CRADA 97-F006, Final Report.
DE00003034REB

BRICKA, R. M.
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB

BRIDGES, T. S.
Improving Dredged Material Management Decisions with Uncertainty Analysis.
ADA363151REB
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB

BRINDLEY, A.
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB

BRINKMAN, R. L.
United States Trade Policy: History, Theory, and the WTO.
SHARPE-00437REB

BRISLAWN, C.
Advanced algorithms for information science.
DE99002231REB

BRISTOW, J.
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
ADA362637REB

BROCK, C.
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB

BROOKS, R. W.
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB

BROOKS, S. A.
Dental Readiness of the Army War College Students Class of 1999, A Comparison study to the class of 1985.
ADA363356REB

BROOM, C.
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB

BROOMALL, H. T.
Integrated of the National Guard into the Total Force.
ADA363393REB

BROUSSEAU, P.
Conversion of oscillatory shear data from propellants and explosives.
MIC-99-03359REB

BROWER, D. J.
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB

BROWN, A. M.
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB

BROWN, C. A.
General Harold K. Johnson and the Ambiguities of Strategic Leadership.
ADA363378REB

BROWN, E. C.
TSCA Deskbook.
ELI-0060REB

BROWN, H. R.
Opportunities to Improve Diagnostics Performance Using Computer-Based Product Definition Models and Simulations.
ADA362942REB

BROWN, J. R.
Residual Dust and Radiation Model (REDRAM), Model Description.
ADA362633REB

BROWN, R. L.
Indexing contamination surveys.
DE99050499REB

BROWN, R. O.
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB

BROWN, R. S.
Bifunctional detergents as novel catalysts: Final report.
MIC-99-03343REB

BROWN, S.
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB

BRUCE, L. L.
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB

BRUNDAGE, J.
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB

BRUNEAU, J. F.
Evaluation of two school bus advance signalling devices: The eight-light system and hazard lights.
MIC-99-03406REB

BRUNET, J.
Preparedness of Canadian business for the Year 2000 computer problem: A reassessment.
MIC-99-03575REB

BRUNNER, D.
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB

BRUNO, A. B.
EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Eectric Vehicle Program.
ADA362952REB

BRUNO, K. E.
Regional Civil-Military Operations Center: A Force Multiplier in Military Operations Other Than War.
ADA363176REB

BUCCI, S. P.
Conserving Assets: An Alternative Paradigm for Peace Operations.
ADA363376REB

BUESCHER, K. L.
Data mining.
DE99002233REB

BUI, T. P.
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB

BULLOCK, O. R.
Current Methods and Research Strategies for Modeling Atmospheric Mercury.
PB99-149783REB

BULTMAN, N. K.
SNS Linac: Revised configuration.
DE99002261REB
BUNKER, B.
Waste Forms Based on Separations Media (DOE 360-94). The Strategic Environmental Research and Development Program.
ADA363257REB
BUONANNO, A.
Effective One-Body Approach to General Relativistic Two-Body Dynamics.
PB99-148777REB
BUONO, G.
Health Hazard Evaluation Report HETA 98-0017-2699, United States Postal Service, Mail Processing and Distribution Center, Omaha, Nebraska.
PB99-152324REB
BURKE, T. M.
Responses to additional JAPC questions.
DE99050498REB
Summary of FY 1997 related to JAPC-U.S. DOE contract study on improvement of core safety -- study on GEM (III).
DE99050497REB
BURKHARDT, G. L.
Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
DE99002444REB
BURKHARDT, T. D.
Better Environmental Decisions: Strategies for Governments, Businesses, and Communities.
ISLAND-0518REB
BURKHART, J.
Health Hazard Evaluation Report HETA 96-0093-2685, Microfibres, Inc. Pawtucket, RI.
PB99-152357REB
BURN, G.
Fusion materials semiannual progress report for the period ending December 31, 1997.
DE98004697REB
BURRIS, H. R.
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB
BUSHAW, B. A.
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB
BUTCH, G. K.
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB
BUTLER, D.
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB
BUTNER, H. M.
Airborne Astronomy Program.
N19990042134REB
BUTT, D. P.
Need and options available for permanent CO(sub 2) disposal.
DE99002199REB
BUTTERFIELD, J.
Holistic Management: A New Framework for Decision-Making. Second Edition.
ISLAND-0524REB
BUTTLAR, W. G.
Evaluation of Reflective Crack Control Policy.
PB99-152951REB
C.E. HANCOCK
New Technology Demonstration Program, Kennedy Space Center,.
DE00006694REB
CABANAS-HOLMEN, M. F.
Doped PMN-PT Single Crystals.
ADA362906REB
CALDER, J. H.
Carboniferous evolution of Nova Scotia.
MIC-99-03228REB
CALDWELL, J. A.
Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment.
ADA362972REB
CALDWELL, J. L.
Survey of Work and Sleep Hours of U.S. Army Aviation Personnel.
ADA362964REB
CALLAN, B. E.
Diseases of Populus in British Columbia: A diagnostic manual.
MIC-99-03123REB
CALLEY, M. B.
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB
CALM, J. M.
ARTI refrigerant database.
DE99002209REB
CALVANO, C. N.
Maritime Preposition Force Ship 2010.
ADA363180REB
CAMERON, B.
Tent group systems requirements, phase 1A.
MIC-99-03476REB
CAMONI, I.
Advice of the Italian CCTN on the Health Risk Assessment Relative to Exposure to Automobile Emissions.
PB99-117798REB
CAMPA, H.
Practical Approaches to the Conservation of Biodiversity.
ISLAND-0529REB
CAMPARO, J. C.
Conversion of Laser Phase Noise to Amplitude Noise in a Resonant Atomic Vapor: The Role of Laser Linewidth.
ADA362816REB
Semiclassical Random Electrodynamics: Spontaneous Emission and the Lamb Shift.
ADA363360REB
CAMPBELL, G. H.
Fatigue crack nucleation in metallic materials.
DE99002227REB
CAMPBELL, J. A.
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB
CAMPBELL, P. E.
Visual Analysis of a Radio Frequency Tracking System for Virtual Environments.
ADA363020REB
CANDE, R.
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB
CANN, D.
Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
ADA363024REB
CANNINGS, R. J.
Birds of British Columbia: A taxonomic catalogue.
MIC-99-03118REB
CAPONE, D.
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB
CAPRIO, G. S.
Vapor and gas sampling of single-shell tank 241-B-202 using the in situ vapor sampling system.
DE99050143REB
CAREY, J. H.
Effects of contaminants on aquatic organisms in the Peace, Athabasca and Slave River basins.
MIC-99-03210REB
CARFF, P. F.
When Is a Simple Model Adequate for Use in Scheduling in MSHN.
ADA362793REB
CARLOS, J.
Design of a Switched-Reluctance Motor Drive for Electric Propulsion.
ADA363184REB
CARLSON, J. L.
324 Facility B-Cell quality process plan.
DE99050592REB
CARNEY, K. M.
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB
CARRETTA, T. R.
Transfer of Training Effectiveness in Flight Simulation: 1986 to 1997.
ADA362818REB
CARRIER, C.
World Information Directory of Industrial Technology and Investment Support Services.
UN-0947REB
CARROLL, B. M.
New Brunswick's mineral industry, 1997.
MIC-99-03151REB
CARROLL, D. J.
Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list.
MIC-99-03154REB
CARSON, J.
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB
CASEY, M. P.
AMPL: An Exclusive Technology for DecisionNet.
ADA362883REB
CAVALIERI, D. J.
Revision of the NASA Team Sea Ice Algorithm.
N19990041151REB
CERTA, P. J.
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050584REB
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050824REB
CHACON, L. C.
Synthesis, characterization and reactivity of high oxidation state nickel fluorides.
DE99002385REB
CHADWICK, D. B.
Environmental Analysis of U.S. Navy Shipboard Solid Waste Discharges: Addendum to the Report of Findings.
ADA362694REB
CHANDRA, S.
Seasonal and Interannual Variabilities in Tropical Tropospheric Ozone.
N19990042082REB
CHANG, J.
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB
CHANG, J. S.
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB
CHANG, L. A.
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB
CHANGE, J.
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB
CHAO, E.
Workshop on 'New Engineering Technology Transfer in Orthopaedic Surgery'.
ADA362697REB
CHAPA, M.
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB
CHARLES, M.
Results of a Cultural Resource Inventory of Portions of Fort Carson Military Reservation and Test Excavation of Site 5EP2524, El Paso County, Colorado, 1996.
ADA363383REB
Results of the 1997 Cultural Resource Reevaluation Project, Fort Carson Military Reservation: El Paso, Fremont, and Pueblo Counties, Colorado.
ADA363384REB
CHASE, R.
Numerical Computation of the Radar Cross Section of the ZSU-23-4.
ADA363007REB
CHEIN, T.
CVD Diamond Grown by Microwave Plasmas in Mixtures of Acetone/Oxygen and Acetone/Carbon Dioxide.
ADA362752REB
Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures.
ADA362769REB
CHEN, J. D.
Involvement of Nuclear Receptor Co-Repressors in the Development of Human Breast Cancer.
ADA362658REB
CHEN, P. S.
Time Temperature-Precipitation Behavior in An Al-Cu-Li Alloy 2195.
N19990041616REB
CHEN, S. P.
Ab initio calculations of As-vacancy interactions in silicon.
DE99002225REB
First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
DE99002200REB
CHESTER, J.
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB
CHEUNG, M. K.
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
N19990041149REB
CHICHAGOV, V. P.
Recent Geographical Conferences in the Soviet Union, USSR--Translation.
ADA362768REB

CHIH-HUNG, C.
Growth of the Physics of Metals and Physical Metallography in the Chinese People's Republics for 10 years --USSR--Translation.
ADA362790REB

CHRISTY, J. R.
New ERA in Global Temperature Monitoring with the Advanced Microwave Sounding Unit (AMSU).
N19990041446REB

CHU, E. W.
Restoring Life in Running Waters.
ISLAND-0530REB

CHU, M. I.
Spacecraft Onboard Software Maintenance: An Effective Approach which Reduces Costs and Increases Science Return.
N19990041147REB

CICIN-SAIN, B.
Future of U.S. Ocean Policy. Choices for the New Century.
ISLAND-0496REB

CISNEROS, A.
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB

CISSOM, R. D.
Payload Operations.
N19990041198REB

CLAGHORN, R. D.
Estimated dose to in-tank equipment: Phase 1 waste feed delivery.
DE99050558REB

CLARK, T.
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB

CLARY, D. C.
Molecular Quantum States at Dissociation.
PB99-120339REB

CLAYTON, W. A.
Low-level radioactive waste management at the Nevada Test Site -- Current status.
DE99002186REB

CLINTON, R.
Technical information for the relocation and treatment of Argonne National Laboratory drums.
DE99050147REB

COAKLEY, M. F.
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB

COCCHIARO, J. E.
Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB

COCHRAN, J. R.
Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB

COFFER, J. G.
Conversion of Laser Phase Noise to Amplitude Noise in a Resonant Atomic Vapor: The Role of Laser Linewidth.
ADA362816REB

COFFEY, H. E.
Solar-Geophysical Data Number 657, May 1999. Part 1 (Prompt Reports). Data for March, April 1999 and Late Data.
PB99-154676REB
Solar-Geophysical Data Number 657, May 1999. Part 2. (Comprehensive Reports). Data for November 1998 and Miscellaneous.
PB99-154684REB

COFFMAN, D. W.
Operational Art and the Human Dimension of Warfare in the 21st Century.
ADA363177REB

COHEN, S. B.
Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB

COHN, S. E.
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB

COLBURN, J. W.
Data Transfer Report - 30-mm Enhanced Alternate High-Energy Propellant Program (EAHEP): Evaluation of the Performance of an RDX-Based ARDEC-7994 Propellant and the Effect of Two Different Slug Projectile Designs.
ADA363101REB

COLE, J. A.
Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
ADA363186REB

COLEMAN, C. J.
Technique for Measuring the Gain of HF Antennas.
ADA362876REB

COLEMAN, N.
Structural Optimization Technique.
ADA363330REB

COLL, M. B.
Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
PB99-152928REB

COLLIGAN-TAYLOR, K. F.
Sandakan Brothel No. 8: A Journey into the History of Lower-Class Japanese Women.
SHARPE-00463REB

COLLINS, R.
Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
ADA363024REB

COLLINS, S.
Macroeconomic Policy and Adjustment in Korea 1970-1990.
HUP-0035REB

COLLINS, W. T.
Acoustic seabed classification, MAST'97: Final report.
MIC-99-03382REB
Seabed classification by QTC VIEW: Sites near Vancouver Island.
MIC-99-03353REB

COLSON, S. D.
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB

COLSTON, S. N.
Implementation of Successful Practices Using an Iterative Development Methodology for an AEGIS Configuration Management Software Application.
ADA363072REB

CONKLIN, D. A.
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB

CONNELL, T. R.
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB

CONRAD, G. W.
Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB

COOGAN, J. J.
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
ADA363228REB

COOPER, E.
Artisans and Entrepreneurs of Dongyang County: Economic Reform and Flexible Production in China.
SHARPE-00426REB

COOPER, J.
Software Acquisition Capability Maturity Model (SA-CMM) Version 1.02.
ADA362667REB

COOPER, R. M.
Upscaled Self-Propagating High-Temperature Synthesis (SHS)/Dynamic Compaction Processing.
ADA362636REB

COOPER, R. N.
Macroeconomic Policy and Adjustment in Korea 1970-1990.
HUP-0035REB

COPPOCK, M. L.
Modification and Analysis of the 40MM Selective Feed System.
ADA363145REB

CORDEIRO, O. T.
Effects of contaminants on aquatic organisms in the Peace, Athabasca and Slave River basins.
MIC-99-03210REB

CORDES, J.
Gamma Radiation from PSR B1055-52.
N19990042027REB

COREY, B. K.
Theater Ballistic Missile Defense, an Achilles Heel for the United States.
ADA363251REB

CORNWALL, J.
Characterization of Underground Facilities.
ADA363359REB

CORTNER, H. J.
Politics of Ecosystem Management.
ISLAND-0528REB

COSTA, J.
Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
ADA363348REB

COTE, T. J.
Creative PDB's (parts databases).
DE99002284REB

COTTRELL, B. H.
Assessment of Advanced Warning Signs for Flagging Operations.
PB99-152134REB

COVERT, E. E.
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB

COWAN, R. S.
Integrated Diagnostics.
ADA363343REB

COWAN, T. E.
Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB

COWEN, M. B.
Use of Perspective View Displays for Operational Tasks.
ADA362590REB

COWLEY, W. L.
Development of radiological concentrations and unit liter doses for TWRS FSAR radiological consequence calculations.
DE99050397REB

CRAFT, W. J.
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB
Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB

CRAIG, J. D.
Small Scale Biomass Fueled Gas Turbine Power Plant.
PB99-126450REB

CRAIG, S.
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB

CRANDALL, K. R.
Error studies for SNS Linac. Part 1: Transverse errors.
DE99002254REB

CRANE, B. D.
Deterrence Effects of Operation Frontier Shield.
ADA362838REB

CRANE, R. M.
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB

CRAWFIS, R.
Perspective Splatting.
ADA363073REB

CRAWFORD, K. B.
High-Resolution Ozone Imager (HIROIG).
ADA362746REB

CRAWFORD, R. H.
Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
ADA362745REB

CREECH, G. S.
Increasing the Resolution of Simulated Combat Trauma Injuries in a High Level Architecture (HLA) Environment.
ADA362714REB

CRESCENTI, G. H.
Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
ADA363351REB

CREWS, J. T.
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
PB99-152795REB

CROATTO, P. V.
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB

CRONE, L. K.
Different Perspectives on Economic Base.
PB99-147639REB

CROWE, B. M.
Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB
Low-level radioactive waste management at the Nevada Test Site -- Current status.
DE99002186REB

CROWLEY, J. C.
Consolidating Active and Reserve Component Training Infrastructure.
ADA363165REB

CUDNOHUFSKY, A. L.
Space as an Area of Responsibility (AOR), Is it the Right Solution.
ADA363149REB

CUMMINGS, R. M.
Multidisciplinary Design and Analysis for Commercial Aircraft.
N19990042109REB

CUMMINS, C. S.
Closing the Book: The Role of the Aircraft Carrier in the Twenty-First Century.
ADA363211REB

CURRAN, D. R.
Dynamic Failure of Materials. Volume 1 - Experiments and Analyses.
ADA362713REB
Dynamic Failure of Materials. Volume 2 - Compilation of Russian Spall Data.
ADA362759REB

CURTIS, S. L.
Environmental Analysis of U.S. Navy Shipboard Solid Waste Discharges: Addendum to the Report of Findings.
ADA362694REB

CUSHNER, H.
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB

CWIKLINSKI, C. J.
America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
ADA363178REB

D'AGNESE, F. A.
Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
DE99002359REB

DALE, V. H.
Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
ADA363353REB
Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758).
ADA363350REB
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
ADA363352REB

DALLAS, G. M.
Awakening China: Rabbit or Tiger.
ADA363030REB

DALLEK, R.
Ronald Reagan. The Politics of Symbolism.
HUP-0008REB

DALLEY, N. K.
Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
ADA362936REB

DAMICO, N.
Gamma Radiation from PSR B1055-52.
N19990042027REB

DAMOUR, T.
Effective One-Body Approach to General Relativistic Two-Body Dynamics.
PB99-148777REB
Experimental Tests of Relativistic Gravity.
PB99-148736REB
k-Inflation.
PB99-148769REB

DANIEL, W. K.
Flight Prediction for Performance of the SWAS Solar Array Deployment Mechanism.
N19990042081REB

DANILIN, M. Y.
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB

DARBY, A.
Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998.
ADA362634REB

DASILVA, A.
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB

DATTA, S.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB

DAVIS, J. F.
High-Power Laser Source Evaluation.
ADA362788REB

DAVIS, S.
Maintaining Budgetary Discipline: Spending and Revenue Options.
ADA363202REB
Tent group systems requirements, phase 1A.
MIC-99-03476REB

DAVIS, V.
Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
PB99-153009REB

DAVIS, W.
Shadows in the Sun: Travels to Landscapes of Spirit and Desire.
ISLAND-0502REB

DAWES, S. S.
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB

DAWSON, E. L.
Use of Commercial Space Assets by the Joint Force Commander.
ADA363150REB

DAY, D. C.
Unique Polymeric Fiber and Fiber Delivery Systems for the Economic Preparation of High-Fiber Content Concrete with Superior Physical Properties.
ADA363079REB

DAY, D. E.
Waste Forms Based on Separations Media (DOE 360-94). The Strategic Environmental Research and Development Program.
ADA363257REB

DAY, N. B.
Network Centric Warfare and the Joint Forces Air Component Commander.
ADA363152REB

DECKER, C. D.
High-Power Laser Source Evaluation.
ADA362788REB

DEFFENBAUGH, M. L.
Permitting plan for the immobilized low-activity waste project.
DE99050230REB

DEL MAR, R. A.
Application of environmental accounting to pollution prevention.
DE99050167REB
Deployment of pollution prevention during design -- a case study.
DE99050164REB

DELANEY, D. K.
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB

DELGADO, R. R.
Mapping Coastal Surface Winds in Monterey Bay Using High Frequency Radar.
ADA362924REB

DELL'ORCO, P. C.
Implementation of model predictive control on a hydrothermal oxidation reactor.
DE99002280REB

DELLASALA, D.
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB

DELOMBARD, R.
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB

DEMASTER, D. P.
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB

DEMIRKIRAN, I.
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB

DEMPSEY, B. J.
Evaluation of Reflective Crack Control Policy.
PB99-152951REB

DEMUTH, S.
Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
DE99002242REB

DEN HARTOG, B. K.
SI-Combiner: Making sense of results from multiple trained programs.
DE99002292REB

DENG, H.
Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques.
ADA363380REB

DESIO, P. J.
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB

DESPAIN, A.
Characterization of Underground Facilities.
ADA363359REB

DI SANZA, F.
Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB

DIAMOND, D. J.
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB

DIAZ, L. A.
Tank 241-TX-104, cores 230 and 231 analytical results for the final report.
DE99050826REB

DICATERINO, A.
Introduction to Workflow Management Systems.
ADA362925REB

DICKERSON, D.
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB

DICKERSON, D. D.
Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB
Terrestrial Turtle Habitats Potentially Impacted.
ADA363365REB

DICKSON, P. M.
Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
DE99002408REB

DIDIER, M. E.
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB

DIDION, J. R.
Development of Lightweight Electronics Enclosures for Space Applications.
N19990042149REB

DIFAZIO, A. S.
Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB

DIGGS, J. T.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB

DINERSTEIN, E.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB

DINGES, D. F.
Crew Alertness Management on the Flight Deck: Cognitive and Vigilance Performance.
N19990041609REB

DINOIA, T. P.
Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB

DIRKS, L.
Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
PB99-152944REB

DIXIT, S.
High-Power Laser Source Evaluation.
ADA362788REB

DOBRATZ, B.
Detonation and combustion of explosives: A selected bibliography.
DE99002406REB

DODSON, G. W.
Future Insurgencies in Latin America and the Caribbean: Implications for U.S. Operations.
ADA363179REB

DOELTZ, M. K.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB

DOLAN, K. J.
C2 in the Information Age: Will Operational Command Echelons Become Unnecessary.
ADA363259REB

DOMANSKI, P. A.
Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
PB99-152373REB

DONAHUE, T. J.
Modification and Analysis of the 40MM Selective Feed System.
ADA363145REB

DONLEY, P. H.
Shifting Ambiguity U.S. Foreign Policy Toward China and Taiwan.
ADA363166REB

DOOLING, R.
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB

DOUGHERTY, L.
Changing Nature of Work: Frontier Issues in Economic Thought.
ISLAND-0521REB

DOUR, C. A.
Winning MOOTW's in 2010: The Future Relationship Between the U.S. Military and Nongovernmental Organizations (NGO's).
ADA363212REB

DOVE, J. B.
RXTE Observation of Cygnus X-1, 1.
N19990042404REB

DOWELL, E. H.
Limit Cycle Oscillations (LCO) and Nonlinear Aeroelastic Wing Response: Reduced Order Aerodynamic Models.
ADA362982REB

DRABEK, Z.
Managing Capital Flows in Turbulent Times: The Experience of Europe's Emerging Market Economies in Global Perspective.
SHARPE-00438REB

DUGGER, H.
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB

DUKE, J. R.
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB

DUKE, P.
Results of a Cultural Resource Inventory of Portions of Fort Carson Military Reservation and Test Excavation of Site 5EP2524, El Paso County, Colorado, 1996.
ADA363383REB
Results of the 1997 Cultural Resource Reevaluation Project, Fort Carson Military Reservation: El Paso, Fremont, and Pueblo Counties, Colorado.
ADA363384REB

DUNCAN, E. J.
Conversion of oscillatory shear data from propellants and explosives.
MIC-99-03359REB

DUNCAN, G.
Assessment of risks associated with the commercial operation of selected DRES facilities.
MIC-99-03366REB

DUNLAP, J. E.
Electromagnetic Cold-Test Characterization of the Quad-Driven Stripline Kicker.
ADA362953REB

DUNLAP, R. D.
Transfer of Training Effectiveness in Flight Simulation: 1986 to 1997.
ADA362818REB

DUPUIS, A. D.
Sabot performance for gun launched MK-82 CF, BDU-5003/B and BDU-5002/B MOD 1 bombs.
MIC-99-03365REB

DURLACH, N. I.
Training Spatial Knowledge Acquisition Using Virtual Environments.
ADA362800REB

DURRETT, M.
Innovative Thin Film Fluorescence Sensor Providing Greatly Enhanced Signal-to-Noise and Integrated Solid State Detection. Suitable for Incorporation in Microchip Sensor Systems. Phase 1.
ADA363084REB

DURST, H. D.
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB

DYE, R. C.
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB

DYER-WILLIAMS, K.
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB

EARDLEY, D.
Characterization of Underground Facilities.
ADA363359REB
Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB

EASTER, K. W.
Better Environmental Decisions: Strategies for Governments, Businesses, and Communities.
ISLAND-0518REB

EBY, M. E.
Is a Fundamental Revolution in Military Medicine Required to Support Joint Vision 2010 and the Joint Forces Commander in the 21st Century.
ADA363097REB

ECKERT, C. J.
Korea Old and New. A History.
HUP-0022REB

ECKES, A. E.
United States Trade Policy: History, Theory, and the WTO.
SHARPE-00437REB

EDWARD J. MCCREA
X-Ray Shawdowgraph Camera Design.
DE00002698REB

EDWARDS, C. D.
Flow Visualisation About the Helicopter Deck of the Hydrographic Ship.
ADA362877REB

EGAMI, T.
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB

EGGLESTONE, G. T.
Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
ADA363348REB

EHERNBERGER, L. J.
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB

EICHBAUM, W.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB

EIDE, S. A.
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB

EISENHAUER, K.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB

EISENHAWER, S. W.
Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
DE99002218REB

EISS, N. S.
Durability Testing for Fouling Release Coatings.
ADA362839REB

ELGAS, J. A.
Satellite Control Systems: Opportunity for DOD to Implement Space Policy and Integrate Capabilities.
ADA363241REB

ELITZAK, H.
Food Cost Review, 1950-97.
ERS-AER-780REB

ELLING, J. W.
SI-Combiner: Making sense of results from multiple trained programs.
DE99002292REB

EMBURY, J. D.
Dislocation accumulation at large plastic strains – An approach to the theoretical strength of materials.
DE99002412REB

EMMONS, P. H.
Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362896REB

EMORY, J.
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB

ENGELHARDT, R. J.
Medium Extended Air Defense System: A Renaissance in Trans-Atlantic Armaments Cooperation.
ADA362935REB

ERICKSON, G.
Electromagnetic Effects of Advanced Packaging.
ADA362900REB

ERNST, W. R.
Changes in butyltin residue concentrations in marine sediments of Atlantic Canada between 1988 and 1994.
MIC-99-03657REB

ERWIN, J.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB

ESCH, R. A.
Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
DE99050153REB

ESENER, S. C.
Technological Development for Interfacing Parallel Access Memories to Parallel Computers.
ADA362650REB

ESPOSITO, J. A.
Gamma Radiation from PSR B1055-52.
N19990042027REB

ESSWEIN, E. J.
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
PB99-152332REB

ESTEY, W. Z.
Grain Handling and Transportation Review: Final report.
MIC-99-03320REB
Grain Handling and Transportation System Review: Phase one report.
MIC-99-03322REB

EVANS, R. B.
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB

EVENDEN, W. G.
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB

EVERSMAN, W.
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB

EWING, M.
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB

FAIRBANK, J. K.
China. A New History. Enlarged Edition.
HUP-0018REB
United States and China. Fourth Edition.
HUP-0002REB

FAISON, D. M.
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB

FALETTO, D.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB

FALKENSTEIN, Z.
Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
ADA363246REB

FARHAT, N. H.
Biomorphic Networks for ATR and Higher-Level Processing.
ADA362731REB

FARKAS, Z. A.
Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
PB99-116501REB

FAROKHI, S.
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB

FARZAD, E.
Tuberculosis in Canada, 1996.
MIC-99-03411REB

FAUNT, C. C.
Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
DE99002359REB

FEDOROVA, N. V.
Problem of Early Diagnosis of Cancer of the Uterine Cervix--Translation.
ADA362859REB

FEIGHNER, B. H.
Fort Bliss, Texas 1998: Acute Gastroenteritis Outbreak.
ADA362944REB

FENSKE, M. T.
Development of Lightweight Electronics Enclosures for Space Applications.
N19990042149REB

FERIL, B. G.
Shoring Up the Homeland Defense: The Joint Medical Task Force and Weapons of Mass Destruction.
ADA363093REB

FERRELL, P. C.
Radioisotope thermoelectric generator transportation system safety analysis report for packaging. Volumes 1 and 2.
DE99050392REB

FERRI, A. A.
Application of the Probabilistic Dynamic Synthesis Method to Realistic Structures.
N19990041443REB

FIELD, M.
Inside the Arab World.
HUP-0024REB

FINLEY, J.
Gamma Radiation from PSR B1055-52.
N19990042027REB

FINNEGAN, R. J.
Organizational Implications of Network-Centric Warfare.
ADA363092REB

FISHER, M.
Software Acquisition Capability Maturity Model (SA-CMM) Version 1.02.
ADA362667REB

FITZGERALD, T. J.
Advanced algorithms for information science.
DE99002231REB

FLACKS, M.
Hispanic Youth and Military Enlistment Propensity.
ADA362976REB

FLAGAN, R. C.
Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models.
PB99-152829REB

FLEMING, S. D.
Challenges of Command and Control in 2010 Counterdrug Operations.
ADA363091REB

FLESIA, C.
Direct Detection Doppler Lidar for Spaceborne Wind Measurement.
N19990041449REB

FLESNER, R. L.
Implementation of model predictive control on a hydrothermal oxidation reactor.
DE99002280REB

FLETCHER, P. D.
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB

FLICK, E.
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB

FOA, V.
Advice of the Italian CCTN on the Health Risk Assessment Relative to Exposure to Automobile Emissions.
PB99-117798REB

FOBES, J. L.
Project Plan for the Baseline Measurment of Checkpoint Effectiveness and Efficiency.
PB99-149684REB
Test and Evalution Plan for Determining Screener Training Effectiveness.
PB99-149692REB
Validating the Computer-Based Training Process for Aviation Security Screeners.
PB99-149585REB

FOLKES, P. A.
Condensation of Quasi-Two-Dimensional Biexcitons in a Single Heterojunction Quantum Well.
ADA362735REB

FORD, A.
Modeling the Environment: An Introduction to System Dynamics Modeling of Environmental Systems.
ISLAND-0517REB

FOREST, C. A.
Thermodynamics and sound speeds at the Chapman-Jouguet state.
DE99002289REB

FORNEY, K. A.
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB

FORSLUND, D.
Rural telemedicine project in northern New Mexico.
DE99002299REB

FORSLUND, D. W.
Advanced telemedicine development.
DE99002236REB

FORSYTHE, G. B.
Tacit Knowledge in the Workplace.
ADA362656REB

FORTIN, R. V.
Phosphorus loading to Shellmouth Reservoir, Manitoba, Canada.
MIC-99-03172REB

FOSMIRE, C. J.
Hanford Site National Environmental Policy Act (NEPA) characterization. Revision 10.
DE99002425REB

FOSTER, W. A.
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB

FOWLER, J. D.
Security Planning for Wireless Networks: DOD Concerns.
ADA362720REB

FOWLER, J. E.
Systems Integration for Manufacturing Applications, 1998 Annual Report.
PB99-152698REB

FOWLER, R. A.
Hanford Site National Environmental Policy Act (NEPA) characterization. Revision 10.
DE99002425REB

FRAGOLA, J. R.
Design Heritage-Based Forecasting Methodology for Risk Informed Management of Advanced Systems.
N19990041444REB

FRANEKNBERGER, C. E.
Large Engine Uncontained Debris Analysis.
PB99-154569REB

FRANK, I. W.
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB

FRANK, P.
Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
PB99-152944REB

FRANK, R. M.
Takings Issue: Constitutional Limits on Land Use Control and Environmental Regulation.
ISLAND-0531REB

FRASER, I. A.
Lagrangian ambient noise drifter.
MIC-99-03340REB

FREDRICKSON, H. L.
Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants.
ADA362974REB

FREEMAN, H. J. A.
Multidisciplinary Design and Analysis for Commercial Aircraft.
N19990042109REB

FREEMAN, T. J.
Develop Maintenance Strategy Selection Procedures for Pavements Incorporating Semi-Rigid or Chemically Stabilized Layers.
PB99-149583REB

FREESE, T. A.
Force Protection and Strategic Air Mobility: The MANPAD Challenge.
ADA363181REB

FRENCH, R. S.
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB

FRESE, J.
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB

FREYFOGLE, E. T.
Bounded People, Boundless Lands: Envisioning a New Land Ethic.
ISLAND-0520REB

FRIGO, J. R.
Reliability of the nervous (Nv) nets.
DE99002293REB

FRISKE, P. W.
National geochemical reconnaissance reanalysis of 1775 lake sediments from regional surveys on central Baffin Island, Nunavut, 1999: Parts of NTS 27B, 27C, 37A, and 37D.
MIC-99-03442REB

FRITZ, J. N.
Thermodynamics and sound speeds at the Chapman-Jouguet state.
DE99002289REB

FRITZSCH, B.
Effects of Weightlessness on Vestibular Development: Summary of Research on NIH.R1.
N19990042097REB

FROST, R. S.
Growing Imperative to Adopt 'Flexibility' as an American Principle of War.
ADA363381REB

FRY, J.
BCLDP site environmental report for calendar year 1997 on radiological and nonradiological parameters.
DE99002442REB

FUGARD, C.
Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
DE99002408REB

FUGARD, C. S.
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB

FULMER, P.
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB

FUNK, D. J.
Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
DE99002408REB

FURLONG, E. R.
Combustion Control Using a Multiplexed Diode-Laser Sensor System.
ADA363252REB

GABBE, D. R.
Doped PMN-PT Single Crystals.
ADA362908REB

GAETANO, R.
Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB

GAIER, J. R.
New Materials for EMI Shielding.
N19990042172REB

GAILLY, B.
Inserting joiners into a longitudinal panel of households and individuals: Simulations.
MIC-99-03602REB

GALLAGHER, K.
Changing Nature of Work: Frontier Issues in Economic Thought.
ISLAND-0521REB

GALYEAN, W. J.
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB

GANDARA, S. C.
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins.
PB99-152688REB
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB

GARBER, D. P.
Sandia National Laboratories Institutional Plan: FY 1999-2004.
DE00002622REB

GARDNER, D. L.
Technologies for the oil and gas industry.
DE99002238REB

GARDNER, J. W.
Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures.
ADA363279REB

GARGIULO, R.
Use of Waste Glass as Aggregate for Pipe Backfill and Embankment Material.
PB99-152399REB

GARWIN, R.
Characterization of Underground Facilities.
ADA363359REB

GAUTHIER, F.
World Information Directory of Industrial Technology and Investment Support Services.
UN-0947REB

GAVIN, J. A.
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB

GAVRILOV, E. M.
Advanced telemedicine development.
DE99002236REB

GAZIS, P. R.
Structure of the Solar Wind at Large Heliocentric Distances: CIRs and their Successors.
N19990042139REB

GDOUTOS, E. E.
Prediction of Crack Initiation and Growth in Solid Propellants.
ADA363081REB

GEHIN, J. C.
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB

GELZEICHTER, T. R.
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB

GENTILLON, C. D.
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB

GEORGE, J. E.
Advanced telemedicine development.
DE99002236REB

GEORGE, J. S.
Bayesian analysis of MEG visual evoked responses.
DE99002182REB

GERTZ, C. P.
Low-level radioactive waste management at the Nevada Test Site -- Current status.
DE99002186REB

GIANETTO, J. A.
Microstructural characterization of NiAl bronze weldments.
MIC-99-03326REB

GIBBONS, W. J.
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins.
PB99-152688REB
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB

GIBNEY, F.
Nanjing Massacre: A Japanese Journalist Confronts Japan's National Shame.
SHARPE-00464REB

GIBSON, W.
Development of a Biaxial Test Fixture.
ADA363135REB

GILCHRIST, R. N.
General Framework to Provide for the Optimal Dispatch of Hybrid Renewable Power Systems.
ADA363052REB

GILLARD, W. J.
Innovative Control Effectors (Configuration 101) Dynamic Wind Tunnel Test Report. Rotary Balance and Forced Oscillation Tests.
ADA362903REB

GILREATH, S. R.
Survey of Work and Sleep Hours of U.S. Army Aviation Personnel.
ADA362964REB

GLASCOE, J.
GISS Analysis of Surface Temperature Changes.
N19990042165REB

GLICKSTEIN, S. S.
Dynamic and static error analyses of neutron radiography testing.
DE99002096REB

GODIN, B.
State of science and technology indicators in the OECD countries.
MIC-99-03567REB

GODSCHALK, D.
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB

GOFF, S. J.
Technologies for the oil and gas industry.
DE99002238REB
GOKSEL, H.
Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB
GOL'TSOV, A. P.
Recent Geographical Conferences in the Soviet Union, USSR--Translation.
ADA362768REB
GOLDIE, R. H.
Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946--1997.
DE99002410REB
GOLDMAN, M.
China. A New History. Enlarged Edition.
HUP-0018REB
Paradox of China's Post-Mao Reforms.
HUP-0020REB
GONZALEZ, E.
RAND Forum on Cuba.
ADA363063REB
GOODMAN, J.
Hydrodynamic Stability and Magnetic Reconnection in Disks and Stars.
N19990042136REB
GOODS, S. H.
Mechanical Properties and Energy Absorption Characteristics of a Polyurethane Foam.
PB99-105504REB
GOODSTEIN, E.
Trade-Off Myth: Fact and Fiction About Jobs and the Environment.
ISLAND-0483REB
GOODWIN, N. R.
Changing Nature of Work: Frontier Issues in Economic Thought.
ISLAND-0521REB
GOOLEY, K. W.
Technique for Measuring the Gain of HF Antennas.
ADA362876REB
GORDON, A. L.
Stratification Mixing and Circulation of the Indonesian Seas.
ADA363048REB
GORDON, M.
Formulating objectives for management on an ecosystem scale.
MIC-99-03133REB
GORDON, V.
Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
ADA363024REB
GOSS, L. P.
Development and Application of an Advanced Optical Based Pressure Instrument for Low-Speed Flows.
ADA362829REB
GOULD, M. J.
Non-Lethal Operational Fires in Military Operations Other Than War.
ADA363126REB
GRAHAM, S. M.
Dynamic Fracture Initiation Toughness of ASTM A533, Grade B Steel Plate.
NUREG/CR-6512REB
GREASER, D.
Initial Assessment of the Air Combat Environment Test and Evaluation Facility To Support Operational Test and Evaluation.
ADA362688REB
GREEN, D. E.
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB
GREENE, G. L.
Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB
GREENE, S.
Bioregional Assessments. Science at the Crossroads of Management and Policy.
ISLAND-0519REB
GREENWOOD, M. D.
E Pluribus Unum: Enhancing Intelligence Support in the Network Centric Environment.
ADA363102REB
GRENVILLE, J.
History of the World in the Twentieth Century. Volume I: Western Dominance, 1900-1947.
HUP-0016REB
History of the World in the Twentieth Century. Volume II: Conflict and Liberation, 1945-1996.
HUP-0017REB
GRIFFIN, J. T.
Cruising CVBGs and Horizon MAGs: An Alternative Approach to Naval Forward Presence for the 21st Century.
ADA363203REB
GRIFFITH-JONES, S.
Managing Capital Flows in Turbulent Times: The Experience of Europe's Emerging Market Economies in Global Perspective.
SHARPE-00438REB
GROOT, D.
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB
GROSS, S.
Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
PB99-153009REB
GROSSO, G. M.
Real Cost of 'Engagement'.
ADA363230REB
GRUN, J.
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB
High-Power Laser Source Evaluation.
ADA362788REB
GRYC, R.
NATO: From Creation to Golden Anniversary. Insights for the Czech Republic.
ADA363231REB
GUBKOVA, T. I.
Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation -- USSR ---Translation.
ADA362823REB
GUENTHER, A.
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB
GUEST, B. J.
R/V Seward Johnson Cruise Report (SJ-9807) ACCE S-PALACE Float Deployments.
ADA362874REB
GUINZBURG, A.
Space Shuttle Main Engine: Part Number RS007001.
N19990041880REB
GURNEY, S. E.
Phosphorus loading to Shellmouth Reservoir, Manitoba, Canada.
MIC-99-03172REB
GUSEYNOV, G. A.
Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
ADA362843REB
GUSTANSKI, J. A.
Protecting the Land: Conservation Easements Past, Present, and Future.
ISLAND-0494REB
GUTIERREZ, D. J.
High-Resolution Ozone Imager (HIROIG).
ADA362746REB
GUTTENBERG, S.
1998 FFTF annual system assessment reports.
DE99050595REB
HA, T. T.
Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising.
ADA363100REB
HABES, D. J.
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB
HACKADAY, G. L.
Thrust Augmentation for a Small Turbojet Engine.
ADA362981REB
HADDAD, B. M.
Rivers of Gold: Designing Markets to Allocate Water in California.
ISLAND-0491REB
HAGGARD, S.
Macroeconomic Policy and Adjustment in Korea 1970-1990.
HUP-0035REB
HAGLER, D.
Elimination of Toxic Materials and Solvents from Solid Propellant Components (PP1058).
ADA363240REB
HAHN, H.
Rural telemedicine project in northern New Mexico.
DE99002299REB
HALE, N. S.
Characterization of the 309 building fuel transfer pit and storage basin.
DE99050597REB
HALL, C. E.
Variable Structure PID Control to Prevent Integrator Windup.
N19990041955REB
HALL, R. M.
Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB
HALPERN, J. P.
Hard X-Ray Emission from X-Ray Bursters.
N19990042107REB
HALTER, W. E.
Origin and evolution of the Greisenizing fluid at the East Kemptville tin deposit, Nova Scotia, Canada.
MIC-99-03229REB
HAMMEL, B. A.
Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB
HAMMER, D.
Characterization of Underground Facilities.
ADA363359REB
HAMMER, K.
SRS TRU Criticality Safety Analysis Waste Characterization.
DE98054750REB
HAN, K.
Dislocation accumulation at large plastic strains -- An approach to the theoretical strength of materials.
DE99002412REB
HAN, Q.
Global Retrieval of Cloud Particle Size and Optical Thickness Using ISCCP Data.
N19990041441REB
HANDLER, J. F.
Hard Labor: Poor Women and Work in the Post-Welfare Era.
SHARPE-00439REB
HANLEY, K.
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
PB99-152308REB
HANNIGAN, J. B.
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B.
ADA363349REB
HANSELL, D. W.
Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
ADA363186REB
HANSEN, J.
GISS Analysis of Surface Temperature Changes.
N19990042165REB
HANSEN, S. R.
Framework for Effective Algorithm Visualization Using Animation-Embedded Hypermedia.
ADA363104REB
HANSON, R. K.
Combustion Control Using a Multiplexed Diode-Laser Sensor System.
ADA363252REB
Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB
HAPPER, W.
Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB
HARDESTY, J. L.
Scientific Coordination and Adaptive Management and Experimental Restoration of Longleaf Pine Community Structure, Function, and Composition.
ADA362888REB
HARDIE, W.
Environmental management policy analysis using complex system simulation.
DE99002148REB
HARGROVE, W. W.
Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
ADA363353REB
HARNEY, R. C.
Maritime Preposition Force Ship 2010.
ADA363180REB
HARRACH, R. J.
Environmental report 1996, Lawrence Livermore National Laboratory.
DE99002426REB
Environmental report 1997, Lawrence Livermore National Laboratory.
DE99002427REB
HARRISON, D. J.
Electrophoretic separation of biological molecules on micromachined silica plates: Final report.
MIC-99-03334REB
HARTLEY, T. T.
Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB
HARTMAN, R. C.
Gamma Radiation from PSR B1055-52.
N19990042027REB
HASHIMOTO, R. Y.
Analytical Transmission Electron Microscopy Studies on Copper-Alumina Interfaces.
ADA362728REB
HASSELBLAD, V.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB
HASTINGS, R. R.
Engine life cycle cost control by advanced repair and qualification methods.
MIC-99-03330REB

Re-engining the CC130 Hercules transport aircraft as a fleet management option.
MIC-99-03333REB

HATCHER, J. A.
TSCA Deskbook.
ELI-0060REB

HATCHETT, S. P.
Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB

HATHAWAY, C. R.
TSCA Deskbook.
ELI-0060REB

HAUFLER, J. B.
Practical Approaches to the Conservation of Biodiversity.
ISLAND-0529REB

HAUG, E.
Structural Optimization Technique.
ADA363330REB

HAYDEN, T. J.
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB

HAYES, M. D.
By Example: The Impact of Recent Argentine Naval Activities on Southern Cone Naval Strategies.
ADA362685REB

HAYNES, R. W.
Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB
Different Perspectives on Economic Base.
PB99-147639REB

HAYS, C. B.
Nonradioactive Air Emissions Notice of Construction use on a portable exhauster on 241-A-101 tank during salt well pumping.
DE99050550REB

HE HUANG
Short Contact Time Direct Coal Liquefactionn Using a Novel Batch Reactor. Quarterly Report. May 16 - August 15, 1996.
DE00001726REB

HEARNE, G. R.
Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB

HECHT, J. H.
High-Resolution Ozone Imager (HIROIG).
ADA362746REB

HEDAO, P.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB

HEDLUND, J.
Tacit Knowledge in the Workplace.
ADA362656REB

HEIDENREICH, R. M.
Naval Operational Concept and Operational Maneuver from the Sea: Analysis in Operational Design.
ADA363216REB

HEIFETZ, R. A.
Leadership Without Easy Answers.
HUP-0015REB

HEIKEN, J.
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB

HEINEMANN, J. L.
222-S Laboratory maintenance implementation plan.
DE99050205REB
Waste sampling and characterization facility (WSCF) maintenance implementation plan.
DE99050206REB

HEITKAMP, D.
DADS steering simulation.
MIC-99-03342REB

HELWEG, D. A.
Project CS-1082, Information and Technology Tools for Assessment and Prediction of the Potential Effects of Military Noise on Marine Mammals.
ADA363354REB

HENDERSON, B. L
Analysis of Delayed Entry Program (DEP) Attrition by High School Seniors.
ADA363088REB

HENDERSON, C.
Mechanical Properties and Energy Absorption Characteristics of a Polyurethane Foam.
PB99-105504REB

HENDERSON, M. D.
Non-Lethal Weapons: Applications in Maritime Interdiction Operations.
ADA363076REB

HENDRICKSON, D. W.
Preliminary tank characterization report for single-shell tank 241-TX-103: Best-basis inventory.
DE99050184REB

HENINS, I.
Diagnostic enhancements for plasma processing.
DE99002256REB

HENRY, E. A.
Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB

HENSON, B.
Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
DE99002408REB

HEPLER, L. G.
AOSTRA technical handbook on oil sands, bitumens and heavy oils.
MIC-99-03497REB

HEPNER, T. A.
User's Guide for the Naval Communications Assessment Tool (NCAT) software Version 2.0.
ADA362901REB

HERMANN, B. R.
Evaluation of Precise Absolute Navigation (PAN) Performance Under Dynamic Conditions.
ADA362733REB

HERMANN, K. L.
Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB
Terrestrial Turtle Habitats Potentially Impacted.
ADA363365REB

HERMSEN, W.
Gamma Radiation from PSR B1055-52.
N19990042027REB

HERRING, M.
Bioregional Assessments. Science at the Crossroads of Management and Policy.
ISLAND-0519REB

HERRON, J. T.
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB

HESS, W. P.
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB

HESSELINK, L.
Summary of Work for Joint Research Interchanges with DARWIN Integrated Product Team 1998.
N19990041450REB

HEWETT, D.
Health Hazard Evaluation Report HETA 98-0017-2699, United States Postal Service, Mail Processing and Distribution Center, Omaha, Nebraska.
PB99-152324REB

HICKEY, J.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB

HIGGINS, P. J.
Identification and Evaluation of Interfaces of IL Support Operations with the Army Logistics System.
ADA362962REB

HILL, P. S.
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB

HILLESLAND, K. E.
Addendum 1 to CSER 97-025: PFP storage of 9.25/9.5 inch tall, 4.4 kg Pu cans on existing Vault 4 pedestals.
DE99050231REB
CSER 97-004: PFP production denitration calciner system.
DE99050233REB

HILTZ, J. A.
Impact properties of composite sonar dome materials.
MIC-99-03381REB

HINE, G. A.
Health Hazard Evaluation Report HETA 96-0171-2692, Bureau of Alcohol, Tobacco, and Firearms, Washington, DC.
PB99-152167REB

HIPPENSTIEL, R. D.
Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising.
ADA363100REB

HIRSCHFELD, T. J.
Impact of Nuclear Proliferation: Final Report.
ADA362905REB

HIRSCHMAN, A. O.
Exit, Voice, and Loyalty. Responses to Decline in Firms, Organizations, and States.
HUP-0004REB
Propensity To Self-Subversion.
HUP-0030REB
Rhetoric of Reaction. Perversity, Futility, Jeopardy.
HUP-0019REB

HISHON, W. G.
Operational Design of Hurricane Relief Operations.
ADA363215REB

HIVELY, A. H.
Sealift Transportation in a Working Capital Fund Environment: Rate Stability When Workload Declines.
ADA362719REB

HIX, D.
Enhancing a CAVE with Eye Tracking System for Human-Computer Interaction Research in 3D Visualization.
ADA363070REB

HIXSON, R. S.
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB

HLADEK, K. L.
Summary of radioactive solid waste received in the 200 Areas during calendar year 1995.
DE98054295REB

HOANG, T.
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
N19990041149REB

HOBBIE, J.
Estuarine Science: A Synthetic Approach to Research and Practice.
ISLAND-0493REB

HOCKADAY, R.
Micro fuel cell.
DE99002286REB

HODEL, A. S.
Variable Structure PID Control to Prevent Integrator Windup.
N19990041955REB

HOFFMAN, B.
Countering the New Terrorism.
ADA363163REB

HOFFMAN, C. L.
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB

HOGAN, M. S.
Contractors in the Joint Theater: The Need for a Joint Doctrine.
ADA363125REB

HOISIE, A.
Performance analysis of wavefront algorithms on very-large scale distributed systems.
DE99002219REB
Performance and scalability analysis of teraflop-scale parallel architectures using multidimensional wavefront applications.
DE99002404REB

HOLMAN, B. W.
DEFENSE REFORM INITIATIVE: Organization, Status, and Challenges.
ADA363206REB

HOLMES, C. A.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity, 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity, 1995-1996 Volume. Section 2.
PB99-105538REB

HOLMES, J. J.
Boundary Conditions for Magnetic Field Gradients Inside a Source-Free Volume.
ADA362760REB

HOLMQUIST, T. J.
Ceramic Armor Material Database.
ADA362926REB

HOLT, N.
Development of a Biaxial Test Fixture.
ADA363135REB

HOLTHAM, P.
Generalized ELF propagation.
MIC-99-03336REB

HONDA, K.
Nanjing Massacre: A Japanese Journalist Confronts Japan's National Shame.
SHARPE-00464REB

HONEY, M.
Ecotourism and Sustainable Development. Who Owns Paradise.
ISLAND-0523REB

HOPKIN, D. A.
Automated winch control system to provide sea bottom following for side scan sonar surveys.
MIC-99-03337REB

HOPKINS, A. T.
Residual Dust and Radiation Model (REDRAM), Model Description.
ADA362633REB

HORNE, A. L.
Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB

HORNSBY, P. J.
Human Adrenal Androgens: Regulation of Biosynthesis and Role in Estrogen-Responsive Breast Cancer in a Mouse Model.
ADA362673REB

HORVATH, J. A.
Tacit Knowledge in the Workplace.
ADA362656REB
HOSHINO, S.
Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB
HOSKING, G.
Russia. People and Empire.
HUP-0003REB
HOUGH, G.
Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
ADA362963REB
HOUSER, P. R.
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB
HOVEY, P. W.
Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide.
ADA363010REB
HOWARD, I. P.
Judgements of the inclination and slant of surfaces in stereoscopic display systems.
MIC-99-03367REB
HOWE, P. M.
Evolution of microstructural changes in pressed HMX explosives.
DE99002405REB
HOWELL, J. P.
Inspection and Analysis of Aluminum Storage Racks in Spent Fuel Storage Basins.
DE98057842REB
HOWRYLAK, C.
Use of Waste Glass as Aggregate for Pipe Backfill and Embankment Material.
PB99-152399REB
HROVAT, K.
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB
HRUBOVCAK, J.
Green Technologies for a More Sustainable Agriculture.
ERS-AIB-752REB
HSI, C.
AOSTRA technical handbook on oil sands, bitumens and heavy oils.
MIC-99-03497REB
HSING, W.
Application of new techniques for EOS data.
DE99002232REB
HSU, J. P.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB
HU, W.
Utilization of UARS Data in Validation of Photochemical and *Dynamical Mechanisms in Stratospheric* Models.
N19990041878REB
HUANG, C. H.
Unit radiological doses for fuel retrieval preliminary safety evaluation.
DE99050396REB
HUBER, T.
Laboratory simulation of the galvanic corrosion of a ship hull plate by shaft grounding systems.
MIC-99-03348REB
HUDAK, J.
Eastern hemlock looper, Lambdina fiscellaria fiscellaria (Guen.), Lepidoptera: Geometridae, in Newfoundland, 1983-95.
MIC-99-03453REB
HUIE, R. E.
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB
HUNG, J. Y.
Variable Structure PID Control to Prevent Integrator Windup.
N19990041955REB
HUNT, W. J.
Archeological and Architectural Investigations at Brown's Sheep Camp (5LA5824), a Multicomponent District in the U.S. Army Pinon Canyon Maneuver Site, Las Animas County, Colorado.
ADA363169REB
HURLEY, P. T.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB
HYATT, C. V.
Development of an optimum consumable alloy for low heat input welding of nickel aluminum bronzes.
MIC-99-03298REB
Simulation of microstructures in laser clad nickel aluminum bronzes.
MIC-99-03331REB
HYNES, A. P.
Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
ADA362756REB
IDAR, D. J.
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB
IL'INSKAYA, N.
Steel 'Mouse' and Automations, USSR.
ADA363321REB
IODICE, S.
Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB
IRIYE, A.
China and Japan in the Global Setting.
HUP-0036REB
IVAKHNENKO, O. H.
Brief Report on a Scientific Mission to the United States, USSR.
ADA363311REB
IVANOV, A. G.
Geophysical Prospecting in the People's Republic of China.
ADA362739REB
IVANOVIC, M.
Buoyancy effects for HFX AFT Cleansing Station.
MIC-99-03364REB
IYER, N. C.
Development of the Melt-Dilute Treatment Technology for Al-Based DOE Spent Nuclear Fuel.
DE98054756REB
JAANSALU, K. M.
Engine life cycle cost control by advanced repair and qualification methods.
MIC-99-03330REB
JACKSON, A. G.
Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
ADA362754REB
JACKSON, J. D.
Effective temperatures and electron spin polarization in storage rings.
DE99002386REB
JACOBSON, L.
Report on the testing of Raschig Rings.
DE99002257REB
JAMES, M. R.
Structural Analysis of the Lamars Assembly.
ADA363136REB
JAMES, R. V.
Improved U.S. Pacific Command Theater Design for the Future.
ADA363197REB
JANA, R.
Transmission Availability Forecast Service for Internet Protocol Networks.
ADA363086REB
JANISZEWSKI, J. T.
S2 Automated Agent (S2A2): A Training Aid for Commanders and Intelligence Officers.
ADA363075REB
JANSEN, M. B.
Japanese Today. Change and Continuity, Enlarged Edition.
HUP-0010REB
JANTZEN, L. C.
Information Technology Innovation in the U.S. Army: The Case of the Adoption, Adaptation, and Utilization of the Strategic Crisis Exercise Intranet.
ADA362718REB
JANZEN, F. J.
Annual and Local Variation in Reproduction in the Red-Eared Slider 'Trachemys scripta elagans'.
PB99-152183REB
JARZEMBA, M. S.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB
JASON, A.
SNS Linac: Revised configuration.
DE99002261REB
JEKER, D.
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and *Case-Studies on Continental and Marine Convection.*
N19990042154REB
JENNINGS, S. G.
Background Biological Aerosol Properties.
ADA363253REB
JENSEN, C. E.
1998 interim 242-A Evaporator tank system integrity assessment report.
DE99050823REB
JERNIGAN, W. S.
BuyIt Prototype Software Requirements Analysis: A C-BASS Component.
ADA363050REB
BuyIt Software Development Plan: A C-BASS Component.
ADA363051REB
JIANG, Y.
Artisans and Entrepreneurs of Dongyang County: Economic Reform and Flexible Production in China.
SHARPE-00426REB
JOETS, A.
Polyhedral and Dihedral Caustics in the R(3).
PB99-148793REB
JOHNSON, B. H.
Estimating Dredging Sediment Resuspension Sources.
ADA362892REB
JOHNSON, B. R.
Coso Monitoring Program, October 1997 through September 1998.
ADA362727REB
JOHNSON, C. D.
Analysis of Damped Plates.
ADA363361REB
JOHNSON, E. C.
Nondestructive Evaluation (NDE) Techniques Assessment for Graphite/Epoxy (Gr/Ep) Composite Overwrapped Pressure Vessels.
ADA363261REB
JOHNSON, H. D.
Operational Design: The Impact of Nuclear, Biological, and Chemical Attack on U.S. Forces During Power Projection and Sustainment Operations.
ADA363124REB
JOHNSON, K.
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
ADA362637REB
JOHNSON, K. D.
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB
JOHNSON, K. N.
Bioregional Assessments. Science at the Crossroads of Management and Policy.
ISLAND-0519REB
JOHNSON, M. A.
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436.
ADA363275REB
Nanosat Intelligent Power System Development.
N19990041448REB
JOHNSON, P. A.
Application of nonlinear wave modulation spectroscopy to discern material damage.
DE99002411REB
JOINER, J.
Internal Physical Features of a Land Surface Model Employing a Tangent Linear Model.
N19990041333REB
JONES, B.
Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
ADA362963REB
JONES, H. D.
Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment.
ADA362972REB
JONES, S. L.
Assessment of Advanced Warning Signs for Flagging Operations.
PB99-152134REB
Estimating Intersection Turning Movements.
PB99-152977REB
JONES, T. G.
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB
JOO, H.
Dynamic and static error analyses of neutron radiography testing.
DE99002096REB
JORDAN, J. D.
Development and Application of an Advanced Optical Based Pressure Instrument for Low-Speed Flows.
ADA362829REB
JOY, B. A.
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB
KAARET, P.
Hard X-Ray Emission from X-Ray Bursters.
N19990042107REB
KAISER, E. J.
Natural Hazard Mitigation. Recasting Disaster Policy and Planning.
ISLAND-0527REB
KALACHEV, N. S.
Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB
KAMBERG, L. D.
Radioactive Air Emissions Notice of Construction for the *105-KW Basin integrated water treatment system filter ves*sel sparging vent.
DE99050561REB
KANAFANI, F. A.
Nadia, Captive of Hope: Memoir of an Arab Woman.
SHARPE-00465REB
KANBACH, G.
Gamma Radiation from PSR B1055-52.
N19990042027REB

KANE DRISCOLL, S. B.
Improving Dredged Material Management Decisions with Uncertainty Analysis.
ADA363151REB
KANTOR, L.
Moving Toward the Food Guide Pyramid: Implications for U.S. Agriculture.
ERS-AER-779REB
KAO, C. Y. J.
Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB
KAPPER, R.
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB
KAPSTEIN, E. B.
Governing the Global Economy. International Finance and the State.
HUP-0001REB
KARGUPTA, H.
Data mining.
DE99002233REB
KARR, J. R.
Restoring Life in Running Waters.
ISLAND-0530REB
KASPI, V. M.
Gamma Radiation from PSR B1055-52.
N19990042027REB
KATAYEV, S. I.
Some Perspectives of the Development of Television Broadcasting Technology -- USSR —Translation.
ADA362810REB
KATZ, C. N.
Environmental Analysis of U.S. Navy Shipboard Solid Waste Discharges: Addendum to the Report of Findings.
ADA362694REB
KATZ, N.
High-Resolution Ozone Imager (HIROIG).
ADA362746REB
KATZ, R.
Japan-The System that Soured: The Rise and Fall of the Japanese Economic Miracle.
SHARPE-00419REB
KAVANAGH, K.
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB
KAWAMOTO, M. M.
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
PB99-152332REB
KAYA, M.
Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues.
ADA363238REB
KAYA, T.
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
N19990041149REB
KEANE, R. E.
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB
KEARNEY, K. N.
Denial and Deception--Network-Centric Challenge.
ADA363099REB
KEE, A. T.
Packaging and transportation system for K-Basin spent fuel.
DE99050822REB
KEEL, S.
Nature in Focus: Rapid Ecological Assessment.
ISLAND-0486REB
KEEN, C. E.
Alberta heavy oil, oil sands and enhanced recovery: Alberta & Saskatchewan steam-assisted gravity drainage projects, a survey.
MIC-99-03125REB
Alberta heavy oil, oil sands and enhanced recovery: Experimental pilot projects, a survey.
MIC-99-03131REB
KEIRSTEAD, C.
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB
KELLAR, S. A.
High-resolution structural studies of ultra-thin magnetic, transition metal overlayers and two-dimensional transition metal oxides using synchrotron radiation.
DE99002387REB
KELLEY, B.
Advanced algorithms for information science.
DE99002231REB
KELLY, K. L.
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB
KENESBAYEV, I.
Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB
KENNEDY, E. I.
Strength and related properties of woods grown in Canada.
MIC-99-03441REB
KENNEDY, E. J.
WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB
KENT, J. E.
Building and Maintaining Public Acceptance of and Political Support for the Military of the Future.
ADA363390REB
KESKINEN, M. J.
WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB
KESNER, K. E.
Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362896REB
KESSELHEIM, A. S.
Threading the Currents.
ISLAND-0532REB
KETTEN, D. R.
Marine Mammal Auditory Systems: A Summary of Audiometric and Anatomical Data and Its Implications for Underwater Acoustic Impacts.
PB99-154791REB
KEY, M. H.
Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB
KHERICHA, S. T.
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB
KIAH, R. G.
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB
KIANG, R. K.
Textural-Contextual Labeling and Metadata Generation for Remote Sensing Applications.
N19990041150REB
KIBERT, C. J.
Reshaping the Built Environment: Ecology, Ethics, and Economics.
ISLAND-0511REB
KICKERT, R. N.
Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
ADA363353REB
Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758).
ADA363350REB
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
ADA363352REB
KIECKHAFER, R.
SI-Combiner: Making sense of results from multiple trained programs.
DE99002292REB
KIEFER, M.
Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
PB99-152217REB
KIENHOLZ, D. A.
Analysis of Damped Plates.
ADA363361REB
Research and Development Needs in Finite Element Analysis of Viscoelasticity Damped Structures.
ADA363134REB
KIM, C.
Macroeconomic Policy and Adjustment in Korea 1970-1990.
HUP-0035REB
KIM, J.
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB
KIM, S. J.
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB
KIM, W. H.
Advanced algorithms for information science.
DE99002231REB
KIMBALL, C. E.
Full-Scale Crash Evaluation of the NETC 4-Bar Sidewalk-Mounted Steel Bridge Railing.
PB99-152720REB
KING, A. W.
Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
ADA363353REB
Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758).
ADA363350REB
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
ADA363352REB
KING, K. J.
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB
KING, S.
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB
KING, W.
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB
KINNES, G.
Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB
KINNES, G. M.
Health Hazard Evaluation Report HETA 96-0171-2692, Bureau of Alcohol, Tobacco, and Firearms, Washington, DC.
PB99-152167REB
KINOSHITA, K.
Exploratory technology research program for electrochemical energy storage, annual report for 1997.
DE99002392REB
KIRCH, N. W.
Resolution of Hanford tanks organic complexant safety issue.
DE99050708REB
KIRKBRIDE, R. A.
Technical work plan for the privatization waste characterization data quality objective process.
DE99050402REB
KITCHENS, C.
Just Punishment: Public Perceptions and the Federal Sentencing Guidelines.
PB99-151250REB
KLEPPNER, D.
Optical Frequency Standard in Trapped Atomic Hydrogen.
ADA362776REB
Quantum Chaos in Rydberg Atoms.
ADA362681REB
KLOCK, B. A.
Project Plan for the Baseline Measurment of Checkpoint Effectiveness and Efficiency.
PB99-149684REB
Test and Evalution Plan for Determining Screener Training Effectiveness.
PB99-149692REB
KLYSHEV, L. K.
Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB
KNAPIK, J.
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB
KNAUSS, D. T.
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB
Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB
KNECHT, R. W.
Future of U.S. Ocean Policy. Choices for the New Century.
ISLAND-0496REB
KNIFFEN, D. A.
Gamma Radiation from PSR B1055-52.
N19990042027REB
KNOUSE, E. M.
Effects-Based Targeting and Operational Art in the 21st Century.
ADA363080REB
KNOWLTON, J.
Air Force Research Laboratory Research Highlights, Mar/Apr 1999.
ADA363089REB
KO, M. K. W.
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB
KODRES, C.
Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB
KOEHLER, S. T.
Operational Level of War: Radical Change Needed to Support the American RMA.
ADA363061REB

KOERBER, M.
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB

KOIKE, M.
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB

KOMKOV, V.
Structural Optimization Technique.
ADA363330REB

KONDO, Y.
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB

KONTAK, D. J.
40Ar/39Ar dating of ribbon-textured veins and wall-rock material from Meguma lode gold deposits, Nova Scotia: Implications for timing and duration of vein formation in slate-belt hosted vein gold deposits.
MIC-99-03227REB
Origin and evolution of the Greisenizing fluid at the East Kemptville tin deposit, Nova Scotia, Canada.
MIC-99-03229REB

KORB, C. L.
Direct Detection Doppler Lidar for Spaceborne Wind Measurement.
N19990041449REB

KORNILOV, I. I.
Certain Problems on the Theory of Heat Resistance and the Development of New High-Strength Titanium Alloys – USSR —Translation.
ADA362792REB

KORZEKWA, R. A.
Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB
Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
ADA363246REB
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
ADA363228REB

KOUDELA, K.
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB

KOWLOWITZ, A.
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB

KRAABEL, D.
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB

KRAINAK, M. A.
Narrow Pass-Band Optical Filters for Space-Borne Remote Sensing Applications.
N19990041162REB

KRAMER, P. A.
Influence of surface topography on the forming friction of automotive aluminum sheet.
DE99002244REB

KRASNICKI, S.
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB

KRAUSS, N. A.
Nursing Home Trends, 1987 and 1996. MEPS Chartbook No. 3. Executive Summary.
PB99-154692REB

KREBS, T. A.
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB

KRULL, U. J.
Tethered dye gene probes.
MIC-99-03378REB

KU, J.
Investigation of the Temperature Hysteresis Phenomenon of a Loop Heat Pipe.
N19990041149REB

KUHN, J.
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB

KUIPER, L.
Gamma Radiation from PSR B1055-52.
N19990042027REB

KULSRUD, R.
Hydrodynamic Stability and Magnetic Reconnection in Disks and Stars.
N19990042136REB

KUNTZ, W. H.
IRON BIRD Model for Agile Program Part 2.
ADA363115REB

KUPFER, M. J.
Preliminary tank characterization report for single-shell tank 241-SX-105: Best-basis inventory.
DE99050194REB
Preliminary tank characterization report for single-shell tank 241-SX-106: Best-basis inventory.
DE99050195REB
Preliminary tank characterization report for single-shell tank 241-SX-107: Best-basis inventory.
DE99050196REB
Preliminary tank characterization report for single-shell tank 241-SX-111: Best-basis inventory.
DE99050197REB
Preliminary tank characterization report for single-shell tank 241-SX-112: Best-basis inventory.
DE99050198REB
Preliminary tank characterization report for single-shell tank 241-TX-106: Best-basis inventory.
DE99050182REB

KURATH, D.
Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
DE99002242REB

KVARFORDT, K. J.
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB

KWAN, T. J. T.
Plasma and ion barrier for electron beam spot stability.
DE99002226REB

KWUN, H.
Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
DE99002444REB

LA MARCHE, J.
Forest Road Effects on Flood Flows in the Deschutes River Basin, Washington.
PB99-152621REB

LACKNER, K. S.
Need and options available for permanent CO(sub 2) disposal.
DE99002199REB

LAFFERTY, R.
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB

LAGER, S. D.
Coso Monitoring Program, October 1997 through September 1998.
ADA362727REB

LAI, S. H.
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB
Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB

LAIRD, C.
Fatigue crack nucleation in metallic materials.
DE99002227REB

LAIT, L. R.
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB

LAM, K. L.
Analysis of thermal issues associated with the pre-amplifier modules in the National Ignition Facility.
DE99002258REB

LAMOREAUX, S.
Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB

LANE, J.
Technique for Measuring the Gain of HF Antennas.
ADA362876REB

LANGLEY, M. E.
Operational Fires on the Urban Battlefield: An Underdeveloped Concept.
ADA363059REB

LANGNER, D. G.
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB

LANTZ, B. S.
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB

LAPENTA, C. C.
Payload Operations.
N19990041198REB

LAPRISE, B. S.
Evaluation of Prototype Electrically Heated Handwear.
ADA363276REB

LARA, J.
Sea-Based Logistics: Does It Satisfy the Operational Commander's Need.
ADA363098REB

LARMORE, S.
Results of a Cultural Resource Inventory of Portions of Fort Carson Military Reservation and Test Excavation of Site 5EP2524, El Paso County, Colorado, 1996.
ADA363383REB
Results of the 1997 Cultural Resource Reevaluation Project, Fort Carson Military Reservation: El Paso, Fremont, and Pueblo Counties, Colorado.
ADA363384REB

LAROCHELLE, V.
Efficient Raman conversion from liquid nitrogen contained in an ordinary Dewar.
MIC-99-03327REB

LARSEN, K.
Introduction to Workflow Management Systems.
ADA362925REB

LARSON, S. L.
Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants.
ADA362974REB

LATRASH, F.
Risk Management: An Integral Part of Operational Planning.
ADA363058REB

LAUBE, J.
X-33/VentureStar Program.
N19990041334REB

LAURENCE, J. H.
Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB

LAUZON, M.
Modeling of the 6DOF missile dynamics using the NED axes system.
MIC-99-03299REB

LAVALLEE, P.
Inserting joiners into a longitudinal panel of households and individuals: Simulations.
MIC-99-03602REB
Sample representativeness for the Survey of Labour and Income Dynamics.
MIC-99-03604REB

LAWRENCE, R.
Long-Range International Civil Reserve Air Fleet (CRAF) Capability.
ADA362743REB

LAWRENCE, S. S.
Effects of Information Operations on Nonlinear Force Structures.
ADA363159REB

LAWSON, D.
Development of the Air Force-Army Military Skill Linkage System (MISL).
ADA362717REB

LAZAR, A. L.
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service.
ADA362912REB

LE, L. A.
Implementation of model predictive control on a hydrothermal oxidation reactor.
DE99002280REB

LEAR-NORDBY, K.
Impact of Firm Size on Dollar Amount of Penalties Assessed by Government Agencies.
PB99-142564REB

LEBARON, G. J.
Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB

LEE, J. S.
Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB

LEE, K.
Data mining.
DE99002233REB
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB

LEE, K. B.
Korea Old and New. A History.
HUP-0022REB

LEE, K. Y.
Modular Wideband Active Vibration Absorber.
N19990041146REB
Modular Wideband Active Vibration Absorber.
N19990042083REB

LEE, S. L.
Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
ADA362756REB

LEE, S. Y.
Parametric Thermal Analysis for Codisposal Waste Package Canister.
DE98054748REB

LEGER, G. T.
Air deployable buoy for search and rescue operations.
MIC-99-03339REB
Lagrangian ambient noise drifter.
MIC-99-03340REB

LEITCH, M. J.
Vector meson production and nuclear effects in FNAL E866.
DE99002282REB

LEMOIGNE, J.
Application of Rotation- and Translation-Invariant Overcomplete Wavelets to the registration of Remotely Sensed Imagery.
N19990041199REB

LENGERICH, S.
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB

LENIHAN, J. M.
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB

LENTZNER, H. L.
Environmental report 1996, Lawrence Livermore National Laboratory.
DE99002426REB
Environmental report 1997, Lawrence Livermore National Laboratory.
DE99002427REB

LEONARD, P. A.
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB

LEONG, H.
Adaptive nulling of skywave interference using horizontal dipole antennas in a coastal surveillance HF surface wave radar system.
MIC-99-03279REB

LEONOVICH, A. L.
Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
ADA362855REB

LEOPOLD, A.
For the Health of the Land: Previously Unpublished Essays and Other Writings.
ISLAND-0475REB

LEREW, D. R.
Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB

LESAGE, F.
Navier-Stokes prediction of pitch damping coefficients for projectiles.
MIC-99-03294REB

LESKIW, L. A.
Land capability classification for forest ecosystems in the oil sands region – Rev. ed. Revised edition.
MIC-99-03138REB

LESSER, I. O.
Countering the New Terrorism.
ADA363163REB

LETOURNEAU, M.
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB

LETTENMAIER, D. P.
Forest Road Effects on Flood Flows in the Deschutes River Basin, Washington.
PB99-152621REB

LEVY, P. F.
Negotiating Environmental, Health, and Safety Agreements. How to Avoid Escalating Confrontation, Needless Costs, and Unnecessary Litigation.
ISLAND-0497REB

LEW, Y. I.
Korea Old and New. A History.
HUP-0022REB

LEWIS, J. W.
THAAD Radar: Examination of a Cost Saving Initiative.
ADA362644REB

LEWIS, N.
Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB

LI, C.
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB

LI, J.
New 3D parallel GILD electromagnetic modeling and nonlinear inversion using global magnetic integral and local differential equation.
DE99002422REB
Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques.
ADA363380REB

LI, S. T.
Characterization of a Hard-Switching Motor Controller for EMC considerations.
ADA362721REB

LIEBERMAN, S.
Maintaining Budgetary Discipline: Spending and Revenue Options.
ADA363202REB

LIGHTSTONE, L.
Algorithm for the solution of complex linear systems with Hermitian positive definite coefficient matrices.
MIC-99-03421REB

LILIYONBERG, D. A.
Recent Geographical Conferences in the Soviet Union, USSR–Translation.
ADA362768REB

LIMANSKIY, Y. P.
Third All-Union Conference on the Electrophysiology of the Nervous System, USSR.
ADA363322REB

LIMSAKUL, P.
Iterative Algorithms for Two-Person Zero-Sum Games.
ADA362910REB

LIN, M. R.
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB

LIN, Y. C.
Gamma Radiation from PSR B1055-52.
N19990042027REB

LINDSAY, R. S.
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B.
ADA363349REB
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436.
ADA363275REB

LING-CHAO, C.
Growth of the Physics of Metals and Physical Metallography in the Chinese People's Republics for 10 years –USSR—Translation.
ADA362790REB

LING, H.
Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques.
ADA363380REB

LINK, R. E.
Dynamic Fracture Initiation Toughness of ASTM A533, Grade B Steel Plate.
NUREG/CR-6512REB

LINK, S. O.
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB

LINZ, J. J.
Breakdown of Democratic Regimes. Europe.
JHUP-0304REB

LIOU, C. T.
Journal of The Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 5.
PB99-101719REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 6.
PB99-101727REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 1.
PB99-101735REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 2.
PB99-101743REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 3.
PB99-101750REB

LIPA, J. A.
Study the Effects of Charged Particle Radiation on Gravitational Sensors in Space.
N19990042135REB

LITTLE, D. N.
Develop Maintenance Strategy Selection Procedures for Pavements Incorporating Semi-Rigid or Chemically Stabilized Layers.
PB99-149593REB

LITTLE, L.
Alberta heavy oil, oil sands and enhanced recovery: Alberta & Saskatchewan steam-assisted gravity drainage projects, a survey.
MIC-99-03125REB
Alberta heavy oil, oil sands and enhanced recovery: Experimental pilot projects, a survey.
MIC-99-03131REB

LITTON, L. G.
Information-Based RMA and the Principles of War.
ADA363157REB

LIU, C.
Dynamic fracture of heterogeneous materials.
DE99002235REB

LIU, Y.
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
ADA362637REB

LLOYD, D. W.
Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
DE99050411REB

LOCKBAUM, M. J.
Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
PB99-153009REB

LOCKREM, L. L.
Vapor and gas sampling of single-shell tank 241-B-102 using the in situ vapor sampling system.
DE99050142REB
Vapor and gas sampling of single-shell tank 241-B-105 using the in situ vapor sampling system.
DE99050136REB
Vapor and gas sampling of single-shell tank 241-BX-102 using the in situ vapor sampling system.
DE99050144REB
Vapor and gas sampling of single-shell tank 241-BX-103 using the in situ vapor sampling system.
DE99050133REB
Vapor and gas sampling of single-shell tank 241-BX-104 using the in situ vapor sampling system.
DE99050138REB
Vapor and gas sampling of single-shell tank 241-BX-110 using the in situ vapor sampling system.
DE99050141REB
Vapor and gas sampling of single-shell tank 241-C-107 using the in situ vapor sampling system.
DE99050137REB
Vapor and gas sampling of single-shell tank 241-C-107 using the vapor sampling system.
DE99050140REB
Vapor and gas sampling of single-shell tank 241-C-201 using the in situ vapor sampling system.
DE99050148REB
Vapor and gas sampling of single-shell tank 241-C-202 using the in situ vapor sampling system.
DE99050150REB
Vapor and gas sampling of single-shell tank 241-C-204 using the in situ vapor sampling system.
DE99050134REB
Vapor and gas sampling of single-shell tank 241-S-102 using the in situ vapor sampling system.
DE99050149REB
Vapor and gas sampling of single-shell tank 241-S-103 using the in situ vapor sampling system.
DE99050146REB
Vapor and gas sampling of single-shell tank 241-T-104 using the in situ vapor sampling system.
DE99050151REB
Vapor and gas sampling of single-shell tank 241-TY-102 using the in situ vapor sampling system.
DE99050135REB
Vapor and gas sampling of single-shell tank 241-U-104 using the in situ vapor sampling system.
DE99050145REB

LOEWENSTEIN, M.
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB

LOGSDON, J. M.
Monographs in Aerospace History Series No. 11. Together in Orbit: The Origins of International Participation in the Space Station.
N19990041803REB

LOH, S. W.
Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements.
PB99-152993REB

LOHR, B.
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB

LOIS, E.
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB

LONGWORTH, T. L.
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436.
ADA363275REB

LOOMIS, J. S.
Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide.
ADA363010REB

LORENZO, C. F.
Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB

LOUCKS, C. J.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB

LOUTHAN, M. R.
Evaluation of Test Methodologies for Dissolution and Corrosion of Al-SNF.
DE98054573REB

LOVELL, C. R.
Degradation of Haloaromatic Compounds by Indigenous Sediment Microflora: Biochemistry and Molecular Ecology.
ADA362983REB

LOVETT, W. A.
United States Trade Policy: History, Theory, and the WTO.
SHARPE-00437REB

LUBECK, O.
Performance analysis of wavefront algorithms on very-large scale distributed systems.
DE99002219REB

Performance and scalability analysis of teraflop-scale parallel architectures using multidimensional wavefront applications.
DE99002404REB

LUCAS, M. J.
Evaluation of Rubber-Modified Asphaltic Concrete.
PB99-152381REB

LUE, Y.
Spacecraft Onboard Software Maintenance: An Effective Approach which Reduces Costs and Increases Science Return.
N19990041147REB

LUKE, P. N.
Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB

LUMIA, R.
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB

LUSSIER, P. A.
Acquisition Positions in the Department of Defense Update.
ADA362683REB

LUSSKA, A.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB

LUTTWAK, E.
Coup D'Etat. A Practical Handbook.
HUP-0007REB

LUTTWAK, E. N.
Strategy. The Logic of War and Peace.
HUP-0021REB

LUTZ, C. H.
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB

LUZZI, D. E.
Twinning Mechanisms in Complex High Tm Intermetallic Compounds.
ADA362826REB

LYLE, J. T.
Design for Human Ecosystems: Landscape, Land Use, and Natural Resources.
ISLAND-0512REB

LYNE, A.
Gamma Radiation from PSR B1055-52.
N19990042027REB

MACARTHUR, D.
Information barrier functional requirements.
DE99002297REB

MACFARQUHAR, R.
Paradox of China's Post-Mao Reforms.
HUP-0020REB

MACHAVARIANI, G. Y.
Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB

MACKEY, H.
Roles of Historical Photography in Waste Site Characterization, Closure, and Remediation.
DE98057841REB

MADARANG, R.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB

MADDUX, G.
Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives.
ADA363337REB

MADDUX, G. A.
Experimental Internet Environment Software Development.
N19990042214REB

MADHAVA SYAMLAL
Multiphase Flow Modeling - Validation and Application CRADA MC94-019, Final Report.
DE00003027REB

MAFFEI, H.
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB

MAGGIO, G.
Design Heritage-Based Forecasting Methodology for Risk Informed Management of Advanced Systems.
N19990041444REB

MAIDANIK, G.
Vibration Damping by a Nearly Continuous Distribution of Nearly Undamped Oscillators.
ADA362958REB

MAIO, B.
Survey of Key Concepts and Issues for Electronic Recordkeeping.
ADA362864REB

MAJ, J.
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB

MAJER, E.
New 3D parallel GILD electromagnetic modeling and nonlinear inversion using global magnetic integral and local differential equation.
DE99002422REB

MALIA, M.
Russia Under Western Eyes. From the Bronze Horseman to the Lenin Mausoleum.
HUP-0012REB

MALKIN, R.
Health Hazard Evaluation Report HETA 97-0153-2694, The Grand Experience Salon, Chicago, Illinois.
PB99-152258REB

MALONE, J. B. C.
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB

MALONEY, D. M.
Automated System for Determining Applicability of Regulations.
ADA363392REB

MANCHESTER, R.
Gamma Radiation from PSR B1055-52.
N19990042027REB

MANG, J. T.
Evolution of microstructural changes in pressed HMX explosives.
DE99002405REB

MANKA, C.
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB

MANN, L. K.
Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758).
ADA363350REB
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
ADA363352REB

MANTHIRAM, A.
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB

MARCUS, A. A.
Better Environmental Decisions: Strategies for Governments, Businesses, and Communities.
ISLAND-0518REB

MARCUS, H. L.
Solid Freeform Fabrication Proceedings (9th) Held in Austin, Texas on August 10-12 1998.
ADA362745REB

MARKUS, T.
Revision of the NASA Team Sea Ice Algorithm.
N19990041151REB

MARLEY, S. L.
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB

MARTIN, A. D.
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB

MARTIN, C. O.
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB

MARTIN, D. B.
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB

MARTIN, T. W.
Design of a Switched-Reluctance Motor Drive for Electric Propulsion.
ADA363184REB

MARTIN, W.
Just Punishment: Public Perceptions and the Federal Sentencing Guidelines.
PB99-151250REB

MARTINEAU, R. L.
Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB

MARTINEZ, K. F.
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
PB99-152316REB

MASON, P. B.
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB

MASTROIANNI, L. S.
Heat Treatment of Al 7075 for Ejection Seat Shear Wire.
ADA362873REB

MATCHAR, D. B.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB

MATHEWS, R. H.
Mathews' Chinese-English Dictionary. Revised American Edition.
HUP-0037REB

MATHIEU, P.
Efficient Raman conversion from liquid nitrogen contained in an ordinary Dewar.
MIC-99-03327REB

MATTOCK, M. G.
Consolidating Active and Reserve Component Training Infrastructure.
ADA363165REB

MATTORANO, D.
Health Hazard Evaluation Report HETA 96-0266-2702, Cooper Engineered Products, Bowling Green, Ohio.
PB99-152175REB
Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB

MATTORANO, D. A.
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
PB99-152316REB

MATZ, S. M.
Gamma Radiation from PSR B1055-52.
N19990042027REB

MAXFIELD, L. D.
Just Punishment: Public Perceptions and the Federal Sentencing Guidelines.
PB99-151250REB

MAY, E. R.
Kennedy Tapes. Inside the White House During the Cuban Missile Crisis.
HUP-0013REB

MAYER-HASSELWANDER, H. A.
Gamma Radiation from PSR B1055-52.
N19990042027REB

MAYER, J. B.
Full-Scale Crash Evaluation of the NETC 4-Bar Sidewalk-Mounted Steel Bridge Railing.
PB99-152720REB

MCAFFEE, D. A.
Performance confirmation data acquisition system.
DE99002146REB

MCCALL, C. G.
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB

MCCARRICK, M.
WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB

MCCARTER, W.
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB

MCCARTHY, C.
Managing Tourism Growth: Issues and Applications.
ISLAND-0509REB

MCCARTHY, M. I.
Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB

MCCLEERY, R. E.
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
PB99-152316REB

MCCLENAGHAN, M. B.
Mineralogy and geochemistry of the C14 kimberlite and associated glacial sediments, Kirkland Lake, Ontario.
MIC-99-03355REB

MCCLOY, R. A.
Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB

MCCOMAS, D.
Incorporating Manual and Autonomous Code Generation.
N19990042320REB

MCCORMICK, W. A.
Safety evaluation for packaging (onsite) depleted uranium waste boxes.
DE99050187REB
Safety evaluation for packaging (onsite) 221 T sodium tanks.
DE99050488REB

MCCOY, J. C.
Safety evaluation for packaging (onsite) for cesium chloride capsules with type W overpacks.
DE99050234REB

MCCRORY, D. V.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB

MCDONALD, J. E.
Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362896REB

MCFEE, J.
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB

MCGEE, J. B.
Characterization of a Hard-Switching Motor Controller for EMC considerations.
ADA362721REB
MCGUIRE, R. J.
Beechcraft 1900C Vertical Impact Test.
PB99-149726REB
MCHUGH, M. A.
Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB
MCINERNEY, J. D.
Nontraditional inheritance: Genetics and the nature of science, now titled, The puzzle of inheritance: Genetics and the methods of science. Final report.
DE99002177REB
MCINTOSH, T. K.
Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB
MCKAY, D. E.
Human factors engineering study for a Griffon Mission Planning System: Final project report.
MIC-99-03323REB
MCKENZIE, D.
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB
MCKENZIE, D. L.
High-Resolution Ozone Imager (HIROIG).
ADA362746REB
MCKERROW, G.
Maritime Preposition Force Ship 2010.
ADA363180REB
MCKINLEY, M. J.
Economic Sanctions: Viable Instruments of Power or Economic Chaos.
ADA363199REB
MCKOON, R. H.
Decarburization of Uranium Via Electron Beam Processing.
ADA362955REB
MCNEILL-DOBBELSTEYN, C. M.
Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list.
MIC-99-03154REB
MCPHERSON, A. K.
Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
PB99-152464REB
MCPHERSON, K. M.
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB
MCQUEENEY, R. J.
Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB
MCRAE, K. I.
Development of inspection techniques for TTCP ceramic matrix composite specimens.
MIC-99-03358REB
MEACHAM, J. E.
Data quality objective to support resolution of the organic solvent safety issue.
DE99050161REB
MEANS, P. A.
Unclassified Publications of Lincoln Laboratory.
ADA363077REB
MEDIAVILLA, R.
Terrain Backscattering Coefficient Generator.
ADA362716REB
MEDINA, J. R.
Automotive Parts Acquisition Guide.
ADA363262REB
MEDLER, L. R.
In the Crucible of Battle: An Analysis of the Split Air Operations Center and the Principles of War.
ADA363116REB
MEESE, W. R.
Planning Factors for Non Lethal Weapons in Counter Narcotic Operations.
ADA363094REB
MEILKE, K. D.
Trade liberalization of the international oilseed complex.
MIC-99-03324REB
MELTON, T. L.
Payload Operations.
N19990041198REB
MELTZ, R.
Takings Issue: Constitutional Limits on Land Use Control and Environmental Regulation.
ISLAND-0531REB
MENON, S.
Engineering Model for Prediction of Waste Incineration in a Dump Combustor.
ADA363341REB
Parallel Simulations of Waste Incineration in a Dump Combustor.
ADA363339REB
MENTON, R. G.
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB
MERRIAM, D. H.
Takings Issue: Constitutional Limits on Land Use Control and Environmental Regulation.
ISLAND-0531REB
MERRILL, F. J.
Study Of The Aerial Interdiction of Railways During The Korean War.
ADA362707REB
METAXATOS, P.
Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
PB99-152944REB
MICA, J. A.
Nanosat Intelligent Power System Development.
N19990041448REB
MICHAEL J. DOMAN
X-Ray Shawdowgraph Camera Design.
DE00002698REB
MICHAEL T. KLEIN
Short Contact Time Direct Coal Liquefactionn Using a Novel Batch Reactor. Quarterly Report. May 16 - August 15, 1996.
DE00001726REB
MICHEL, L.
Symmetry and Topology of Energy Bands in Crystals.
PB99-148801REB
MICHELSON, P. F.
Gamma Radiation from PSR B1055-52.
N19990042027REB
MICILLO, D.
Axis Offensive Military Operations Against the Continental United States: Opportunity Lost.
ADA363182REB
MICKALONIS, J. I.
Evaluation of Test Methodologies for Dissolution and Corrosion of Al-SNF.
DE98054573REB
MIGHELL, K. J.
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB
MIHALCEA, R. M.
Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB
MIKULA, J. P.
Challenge of Manning the Post-Cold War Army.
ADA363118REB
MILES, J. J.
Characterization of Infrared Diode Laser Beams and Atmospheric CO Imaging Instrument.
N19990041335REB
MILITELLO, A.
Ponce de Leon Inlet, Florida, Site Investigation. Report 2: Inlet Hydrodynamics: Monitoring and Interpretation of Physical Processes.
ADA362897REB
MILKO, R.
Environmental assessment guideline for forest habitat of migratory birds.
MIC-99-03122REB
Migratory birds environmental assessment guideline.
MIC-99-03120REB
Wetlands environmental assessment guideline.
MIC-99-03121REB
MILLER, J. L.
Explosives Removal from Groundwater of the Iowa Army Ammunition Plant in Continuous-Flow Laboratory Systems Planted with Aquatic and Wetland Plants.
ADA362974REB
MILNER, A. P.
Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB
MIRSAFIAN, S.
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB
MISKHO, A. G.
Listed waste history at Hanford facility TSD units.
DE98054296REB
MITCHELL, D. J. B.
Income Inequality in America: An Analysis of Trends.
SHARPE-00440REB
MITCHELL, J. W.
Medical Information Technology in Support of the Operational Commander.
ADA363363REB
MITCHELL, R. G.
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB
MITTELMAN, A.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB
MIZIOLEK, A. W.
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB
MOLLER, T.
Perspective Splatting.
ADA363073REB
MONASTYRSKY, M.
Polyhedral and Dihedral Caustics in the R(3).
PB99-148793REB
MONTGOMERY, E. T.
R/V Seward Johnson Cruise Report (SJ-9807) ACCE S-PALACE Float Deployments.
ADA362874REB
MOODY, P. E.
Electrical Outlet Splash Protector.
PAT-APPL-8-226 614REB
Illuminating Electrical Fuse.
PAT-APPL-8-226 620REB
Non-Slip Safety Glasses.
PAT-APPL-8-226 621REB
MOORE, C. D.
Modified T-37 Instead of T-46: Impact on Undergraduate Pilot Training.
ADA362757REB
MOORE, J. E.
Frequency-Based Load Sharing in Current-Mode-Controlled Buck Converters.
ADA362884REB
MOORE, K. R.
Reliability of the nervous (Nv) nets.
DE99002293REB
MOOTE, M. A.
Politics of Ecosystem Management.
ISLAND-0528REB
MOOTY, W. S.
Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
PB99-152464REB
MORETTI, S.
Six-Jet Production at Lepton Colliders.
PB99-120362REB
Spin Correlations in e(sup +)e(sup -) Yields 4 Jets.
PB99-120370REB
MORETTO, L. G.
Role of statistics and thermodynamics in nuclear multifragmentation.
DE99002390REB
Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
DE99002391REB
MORGAN, D. J.
Reexamination of the Joint Force Air Component Commander (JFACC) concept for the 21st Century.
ADA363183REB
MORIEN, S. B.
Operational Effects of Mine Warfare.
ADA363227REB
MORLEY, J. C.
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
PB99-152308REB
MORLEY, S. A.
Poverty and Inequality in Latin America. The Impact of Adjustment and Recovery.
JHUP-0306REB
MORRIS, J. B.
Separation of RDX from Composition B Via a Supercritical Fluid Extraction Process.
ADA363254REB
Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB
MORRIS, J. C.
Environmental report 1997, Lawrence Livermore National Laboratory.
DE99002427REB

MORRIS, R. A.
EAF Transition Workshop: After Action Report, Lessons Learned and Recommendations.
ADA363388REB

MORRIS, T. F.
Quaternary geology of the Separation Lake area, Northwestern Ontario.
MIC-99-03113REB

MORRISON, A. R.
Too Close to Home. Domestic Violence in the Americas.
JHUP-0303REB

MORRISSEY, K.
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB

MORTON, R. P.
Opportunities to Improve Diagnostics Performance Using Computer-Based Product Definition Models and Simulations.
ADA362942REB

MOSS, C. E.
Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152159REB

MOSTELLER, R. D.
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB

MOULTON, D. S.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB

MROZ, E. J.
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB

MUCCI, N.
Advice of the Italian CCTN on the Health Risk Assessment Relative to Exposure to Automobile Emissions.
PB99-117798REB

MUELLER, K.
Perspective Splatting.
ADA363073REB
Quasigeoid and the Standard Elevations -- East Germany -- --Translation.
ADA362811REB

MUGGIA, F. M.
Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications.
ADA362660REB

MUKHANOV, V.
k-Inflation.
PB99-148769REB

MULE, P.
Development of Lightweight Electronics Enclosures for Space Applications.
N19990042149REB

MULFORD, R. N.
Reaction of preshocked explosives.
DE99002285REB

MULHOLLAND, S. P.
Special Forces: The Peacetime Regional Engagement Force of Choice ... and More.
ADA363185REB

MULLEN, S. P.
Evaluation of Prototype Electrically Heated Handwear.
ADA363276REB

MULLER, J.
Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
PB99-152373REB

MUNDY, L. G.
High Resolution Far-Infrared Studies of Compact Regions in Star-Forming Molecular Clouds.
N19990042133REB

MURRAY, K. L.
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB

MURRAY, P. M.
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB

MURRAY, S. D.
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB

MUSCATELLO, A. C.
Nutritional supplements as radioprotectors -- A review and proposal.
DE99002283REB

MUSKE, K. R.
Implementation of model predictive control on a hydrothermal oxidation reactor.
DE99002280REB

MUSTEL, E. R.
Main Source of Solar Corpuscular Streams --USSR-- Translation.
ADA362791REB

MYER, M. F.
Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art.
ADA363064REB

MYERS, E.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB

MYERS, M. A.
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB

NA, H.
High Resolution Computerized Ionospheric Tomography Systems.
ADA362662REB

NAESER, R.
Draft for Two Bridges in the People's Republic of Korea-- Translation.
ADA362813REB

NAGEL, P. C.
John Quincy Adams. A Public Life, A Private Life.
HUP-0027REB

NANDA, K.
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB

NAPOLITANO, M. M.
Environmental report 1996, Lawrence Livermore National Laboratory.
DE99002426REB

NATHAN, R.
Results of a Cultural Resource Inventory of Portions of Fort Carson Military Reservation and Test Excavation of Site 5EP2524, El Paso County, Colorado, 1996.
ADA363383REB
Results of the 1997 Cultural Resource Reevaluation Project, Fort Carson Military Reservation: El Paso, Fremont, and Pueblo Counties, Colorado.
ADA363384REB

NATION, J. A.
DURIP 97 Vacuum Equipment for Ultra High Power Microwave Experiments.
ADA362954REB

NAULT, P.
Tuberculosis in Canada, 1996.
MIC-99-03411REB

NAWAB, S. H.
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB

NDUBIZU, C. C.
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB

NEELEY, B. D.
Unique Polymeric Fiber and Fiber Delivery Systems for the Economic Preparation of High-Fiber Content Concrete with Superior Physical Properties.
ADA363079REB

NEELY, M. E.
Last Best Hope of Earth. Abraham Lincoln and the Promise of America.
HUP-0014REB

NEELY, M. P.
Data Quality Tools for Data Warehousing - A Small Sample Survey.
ADA362923REB

NEGAARD, G. R.
Analysis of a Ceramic Radome.
ADA363023REB
Analysis of a Pyroceram Radome Subjected to Aerodynamic Heating.
ADA363019REB
Structural Analysis of the Lamars Assembly.
ADA363136REB

NEIDERMAN, E. C.
Validating the Computer-Based Training Process for Aviation Security Screeners.
PB99-149585REB

NEITZEL, D. A.
Hanford Site National Environmental Policy Act (NEPA) characterization. Revision 10.
DE99002425REB

NELSON, D.
Results of the Field Study of the Paleontological Resources of the Fort Carson Military Reservation, Colorado.
ADA363332REB

NELSON, D. Z.
Inspection and Analysis of Aluminum Storage Racks in Spent Fuel Storage Basins.
DE98057842REB

NELSON, O. D.
Portable exhausters POR-004 SKID B, POR-005 SKID C, POR-006 SKID D storage plan.
DE99050232REB

NELSON, R. O.
Development of a gamma ray spectroscopy capability at LANSCE.
DE99002234REB

NELSON, S. D.
Electromagnetic Cold-Test Characterization of the Quad-Driven Stripline Kicker.
ADA362953REB

NETZER, D.
Yields of ten and eleven year-old hybrid poplars in the north central United States. Final report.
DE99002354REB

NEUSCHWANGER, C. L.
Mechanical Properties and Energy Absorption Characteristics of a Polyurethane Foam.
PB99-105504REB

NEWMAN, P. A.
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB

NICHOLSON, C.
Nickel aluminum bronze overlay deposit using gas metal arc welding process and 0.5 mm diameter wire.
MIC-99-03304REB

NICKLESS, S. R.
Analysis of the Operating Costs for Light Armored Vehicles in the United States Marine Corps.
ADA363387REB

NIEMI, B. J.
Hazard Analysis Database report.
DE99050159REB

NIEMUTH, N. A.
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB

NIZICH, S. V.
National Air Pollutant Emission Trends Update, 1970-1997.
PB99-150260REB

NJOO, H.
Tuberculosis in Canada, 1996.
MIC-99-03411REB

NOKES, J. P.
Nondestructive Evaluation (NDE) Techniques Assessment for Graphite/Epoxy (Gr/Ep) Composite Overwrapped Pressure Vessels.
ADA363261REB

NOLAN, P. L.
Gamma Radiation from PSR B1055-52.
N19990042027REB

NOMINKHANOV, T. D.
Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB

NOOR, A. K. C.
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB

NORDBERG, E. A.
High Profile Special Operations Missions and Timing: Identifying the Culminating Point of Execution.
ADA363195REB

NORMAN, D. N.
Survey of Work and Sleep Hours of U.S. Army Aviation Personnel.
ADA362964REB

NORMAND, M.
Sabot performance for gun launched MK-82 CF, BDU-5003/B and BDU-5002/B MOD 1 bombs.
MIC-99-03365REB

NORRIS, C.
Preparedness of Canadian business for the Year 2000 computer problem: A reassessment.
MIC-99-03575REB

NOWAK, M. A.
RXTE Observation of Cygnus X-1, 1.
N19990042404REB

NTUEN, C. A.
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB
Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB

NUCCIO, R. A.
RAND Forum on Cuba.
ADA363063REB

NUSCA, M. J.
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB

NUZUM, J. L.
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB

NYQUIST, J. K.
Continuation of a Postdoctoral Research Associateship Program.
ADA363232REB

O'BRIEN, G. M.
Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
DE99002359REB

O'CONNOR BOES, J.
Hispanic Youth and Military Enlistment Propensity.
ADA362976REB

O'CONNOR, R. J.
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB

OAKES, R.
Environmental management policy analysis using complex system simulation.
DE99002148REB

OFIARA, D. D.
Economic Losses from Marine Pollution. A Handbook for Assessment.
ISLAND-0492REB

OKITA, T. W.
Enhancement of photoassimilate utilization by manipulation of ADP-glucose pyrophosphorylase gene. Final progress report.
DE99002382REB

OLEK, J.
Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements.
PB99-152993REB

OLIN, T. J.
Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
ADA363244REB

OLMO, F. J.
Command and Control in Joint Vision 2010: Flexible, Adaptive and Networked.
ADA363260REB

OLSEN, F.
Results of the Field Study of the Paleontological Resources of the Fort Carson Military Reservation, Colorado.
ADA363332REB

OLSON, C. T.
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Determination of the Median Lethal Dose of Two Anticholinesterase Agents and Efficacy of Current Therapy.
ADA362975REB

Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB

OLSON, D. M.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB

Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB

OLSON, G. L.
Introduction to radiation transport.
DE99002279REB

ONEIL, D. C.
General Public Space Travel and Tourism, Volume 2.
N19990041888REB

ORMECI, A.
First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
DE99002200REB

ORR, D.
Electronic village: Policy issues of the information economy.
MIC-99-03240REB

OTIS, G. K.
Rear Area Security In The Field Army Service Area.
ADA362710REB

OTTENS, B. P.
Design/Use of the Remotely Operated Bakeout Box Shutter (ROBBS).
N19990042443REB

OTTIGNON, D. A.
Losing Anti-Personnel Landmines: An Economy of Force.
ADA363214REB

OVCHINNIKOV, V.
Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures.
ADA363279REB

OWEN, R.
History of Middle East Economies in the Twentieth Century.
HUP-0005REB

OWEN, T. C.
Spectroscopic Observations of the Planets.
ADA362847REB

OWSENEK, B. L.
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB

OWUSU-OFORI, S.
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB

Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB

OZARD, J. M.
Complexity analysis for nearest neighbor search.
MIC-99-03338REB

PABALAN, R. T.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB

PACHURE, T. M.
Estimating Dredging Sediment Resuspension Sources.
ADA362892REB

PAGE, E.
Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB

PALIT, A. N.
Catch tank inhibitor addition 200-East and 200-West Areas.
DE98054293REB

PALMER, D. L.
Residual Dust and Radiation Model (REDRAM), Model Description.
ADA362633REB

PALMER, J.
Aerial Video of Smoke-Marked Wind Shifts Caused by Ocean Internal Waves.
PB99-154486REB

PALMER, T.
Heart of America: Our Landscape, Our Future.
ISLAND-0476REB

PAMUK, S.
History of Middle East Economies in the Twentieth Century.
HUP-0005REB

PANSOY-HJELVIK, M. E.
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB

PAPP, L G.
Waste feed delivery environmental permits and approvals plan.
DE99050825REB

PARDO-CARRION, J. R.
Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
N19990042067REB

PARDO, T. A.
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB

PAREKH, J.
Analysis of Damped Plates.
ADA363361REB

PARIN, V. V.
For the Welfare of Man Development of Medical Science in the USSR--Translation.
ADA362991REB

PARISH, T. A.
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB

PARK, E. H.
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB

Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB

PARKER, R.
Synopsis of the first cycle of the pulp and paper mill environmental effects monitoring program in the Atlantic region.
MIC-99-03658REB

PARKER, T.
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB

PARKS, C. G.
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB

PASIC, N.
Two Concepts and Two Tendencies of Statism, Yugoslavic.
ADA363317REB

PASTERNAK, M. P.
Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB

PATER, L. L.
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB

PATIENCE, T.
Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
ADA362963REB

PATTERSON, A.
Air deployable buoy for search and rescue operations.
MIC-99-03339REB

PATTY, S. S.
Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152860REB

PAUKSTIS, G. L.
Annual and Local Variation in Reproduction in the Red-Eared Slider 'Trachemys scripta elagans'.
PB99-152183REB

PAUL REEVES
New Technology Demonstration Program, Kennedy Space Center,.
DE00006694REB

PAULSEN, A. Q.
Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB

PAVIET-HARTMANN, P.
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB

PEACOCK, H. B.
Development of the Melt-Dilute Treatment Technology for Al-Based DOE Spent Nuclear Fuel.
DE98054756REB

Microstructure and Physical Metallurgy in Melt-Dilute Treatment Technology for Al-Based Spent Nuclear Fuel.
DE98054572REB

PEARCE, C. P.
Efficient Computation of Nonlinear Transient Structural Synthesis for Seismic Isolation.
ADA362911REB

PEARCE, D.
Environmental Economics. An Elementary Introduction.
JHUP-0305REB

PEDERSON, L.
Fraser Timber Supply Area: Rationale for Allowable Annual Cut (AAC) determination, effective April 1, 1999.
MIC-99-03105REB

PEKARIK, C.
Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. I: Accounts by location.
MIC-99-03283REB

Atlas of contaminants in the eggs of fish-eating colonial birds of the Great Lakes, 1993-97, vol. II: Accounts by chemical.
MIC-99-03284REB

PENG, S. M.
Proceedings of the National Science Council, Republic of China: Part A: Physical Science and Engineering, Volume 22, No. 2, March 1998.
PB99-101768REB

PENGILLY, P. L.
Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility.
ADA363334REB

PERALTA, P.
Fatigue crack nucleation in metallic materials.
DE99002227REB

PERSYN, J. T.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB

PETERS, B. B.
Retrieved waste properties and high-level waste critical component ratios for privatization waste feed delivery.
DE99050568REB

PETERSCHMIDT, J. C.
Reevaluating Doctrine for Joint Theater Air and Missile Defense.
ADA363155REB

PETERSON, C. A.
Managing Tourism Growth: Issues and Applications.
ISLAND-0509REB

PETERSON, D. L.
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB

PETERSON, P. D.
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB

PETERSON, W. C.
Coming Class War and How to Avoid It: Rebuilding the American Middle Class.
SHARPE-00420REB

PETROV, Y.
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB

PFISTER, L.
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB

PHAIR, L.
Role of statistics and thermodynamics in nuclear multifragmentation.
DE99002390REB
Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
DE99002391REB

PHELPS, E. S.
Structural Slumps. The Modern Equilibrium Theory of Unemployment, Interest, and Assets.
HUP-0023REB

PHILIP A. NICOLETTI
Multiphase Flow Modeling - Validation and Application CRADA MC94-019, Final Report.
DE00003027REB

PHILLIPS, D. S.
Evolution of microstructural changes in pressed HMX explosives.
DE99002405REB

PIACITELLI, C.
Health Hazard Evaluation Report HETA 96-0093-2685, Microfibres, Inc. Pawtucket, RI.
PB99-152357REB

PIACITELLI, L.
Health Hazard Evaluation Report HETA 96-0258-2673, Foss Manufacturing Company, Inc., Hampton, New Hampshire.
PB99-152191REB

PICHLIK, V.
Possibility of Using as a Photogrammetric Base the 1:25,000 Map for Photogrammetric Mapping at Scales of 1:10,000 and 1:5,000 – Czechoslovakia —Translation.
ADA362801REB

PICKERING, K.
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB

PICKERING, K. E.
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB

PICKETT, D. A.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB

PICKETT, W. W.
Conceptual design statement of work for the immobilized low-activity waste disposal facility, project W-520.
DE99050668REB
Immobilized low-activity waste interim storage facility, Project W-465 conceptual design report.
DE99050565REB

PIERCE, T.
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB

PIGEAU, R. A.
Effects of modafinil, d-amphetamine and placebo on physiological and psychological stress during sleep deprivation.
MIC-99-03106REB

PIUNNO, P. A.
Tethered dye gene probes.
MIC-99-03378REB

PLACE, D. E.
Preliminary tank characterization report for single-shell tank 241-TX-110: Best-basis inventory.
DE99050186REB
Preliminary tank characterization report for single-shell tank 241-TX-111: Best-basis inventory.
DE99050185REB
Preliminary tank characterization report for single-shell tank 241-TX-112: Best-basis inventory.
DE99050181REB
Preliminary tank characterization report for single-shell tank 241-TX-114: Best-basis inventory.
DE99050183REB

PLATT, R. H.
Disasters and Democracy: The Politics of Extreme Natural Events.
ISLAND-0514REB

PLEHN, M. T.
Uncertain Superiority: Information Technology and Operational-Level Decision Making.
ADA363057REB

POE, R. C.
Farinon microwave end of life cycle.
DE98054292REB

POLK, M.
Design and Development of a Regenerative Separatory Column Using Calixarenes as a Polymeric Backbone for the Purification of Water from Urine.
N19990042032REB

POLLACK, A. K.
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB

POPE, A.
National Air Pollutant Emission Trends Update, 1970-1997.
PB99-150260REB

POPE, D. P.
Twinning Mechanisms in Complex High Tm Intermetallic Compounds.
ADA362826REB

POPOVICH, R. M.
Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures.
ADA363279REB

PORTER, L. J.
Assessment of the REmote Minefield Detection System (REMIDS).
ADA362985REB

POSTON, R. W.
Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362896REB

POTOSKUYEV, M. N.
Forward Flow at the Boundary of the Zone of Deformation – USSR —Translation.
ADA362822REB

POULOS, H. G.
Method for Analyzing Piled Embankments.
PB99-149650REB

POURNELLE, P. E.
Component Based Simulation of the Space Operations Vehicle and the Common Aero Vehicle.
ADA363022REB

POYER, J. M.
Next Convoy War: The American Campaign Against Enemy Shipping in the Twenty-First Century.
ADA363196REB

PRASAD, K.
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB

PRATT, L.
Red Sea Studies.
ADA363049REB

PRESS, M. F.
Multidrug Resistance in Breast Cancer: Occurrence and Therapeutic Implications.
ADA362660REB

PRESTON, J.
WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB

PRIGENT, C.
Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
N19990042067REB

PRIME, M. B.
Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB

PRINCE, F. A.
Reusable Launch Vehicle (RLV) Mission/Market Model.
N19990041879REB

PRIVES, C. L.
Role of Mutant p53 Protein in Breast Cancer.
ADA363399REB

PROSMITI, R.
Molecular Quantum States at Dissociation.
PB99-120339REB

PURVIS, C. R.
Small Scale Biomass Fueled Gas Turbine Power Plant.
PB99-126450REB

QUIGLEY, T. M.
Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB

QUINN, T. W.
Can We Get There From Here. RMAs, Network-Centric Warfare and the Process of Transformation.
ADA363146REB

RABIE, R.
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB

RACCA, R.
Initial investigation of bandwidth required for collision avoidance using a video camera on a remotely controlled vehicle.
MIC-99-03363REB

RACZKA, N. T.
Performance confirmation data acquisition system.
DE99002146REB

RAE, N. C.
Conservative Reformers: The Republican Freshmen and the Lessons of the 104th Congress.
SHARPE-00422REB

RAFFENSPERGER, C.
Protecting Public Health and the Environment: Implementing the Precautionary Principle.
ISLAND-0516REB

RAJENDRAN, M.
Ceramic Armor Material Database.
ADA362926REB

RAMAMURTY, U.
Fatigue crack nucleation in metallic materials.
DE99002227REB

RAMER, B.
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB

RAMSAY, J. B.
Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946–1997.
DE99002410REB

RAMSBERGER, P. F.
Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB

RANDALL, L.
Education and Economic Development in Latin America: Dropout Prevention in the Primary Grades.
SHARPE-00441REB

RANDY A. ROHDE
X-Ray Shawdowgraph Camera Design.
DE00002698REB

RATCLIFFE, C. P.
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB

RAVINDRAN, B.
Data mining.
DE99002233REB

RAWSON, W. K.
TSCA Deskbook.
ELI-0060REB

RAYNOLDS, R.
Results of the Field Study of the Paleontological Resources of the Fort Carson Military Reservation, Colorado.
ADA363332REB

REED, A. B.
Reclaimed Manufacturer Asphalt Roofing Shingles in Asphalt Mixtures.
PB99-152613REB

REGAN, S. P.
LLE review, Volume 77. Quarterly report, October–December 1998.
DE99002358REB

REID, J. R.
USAF Aerospace Expeditionary Force: Flying into the 21st Century.
ADA363209REB

REILLY, F.
Complete Business Export Kit.
SHARPE-00421REB

REIMERS, R. F.
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
ADA363228REB

REINE, K. J.
Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB
Terrestrial Turtle Habitats Potentially Impacted.
ADA363365REB

REISCHAUER, E. O.
Japanese Today. Change and Continuity, Enlarged Edition.
HUP-0010REB
Russia. The Roots of Confrontation.
HUP-0006REB

REISNER, J. M.
Tracer modeling in an urban environment.
DE99002399REB

RESIO, D. T.
STWAVE: Steady-State Spectral Wave Model. Report 1: User's Manual for STWAVE Version 2.0.
ADA362875REB

REVAK, J.
Development of Biotrickling Filters to Treat Sulfur and VOC Emissions.
ADA362950REB

REVELLE, D. O.
Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB

REYNA, N. E.
Different Perspectives on Economic Base.
PB99-147639REB

REYNOLDS, T. D.
Operational Commander, the Media, and MOOTW: A New Paradigm.
ADA363154REB

REZENDES, V. S.
Department of Energy: Key Factors Underlying Security Problems at DOE facilities.
ADA362670REB

RHOADES, J. A.
Nursing Home Trends, 1987 and 1996. MEPS Chartbook No. 3. Executive Summary.
PB99-154692REB

RHODES, M. F.
Automated System for Determining Applicability of Regulations.
ADA363392REB

RIBOTTA, R.
Polyhedral and Dihedral Caustics in the R(3).
PB99-148793REB

RICHARD J. OEHLBERG
Summary of Experiments in Converting Copper Oxide Process Regenerator Off-Gases to Elemental Sulfur, CRADA 97-F006, Final Report.
DE00003034REB

RICHARDSON, D. G.
North Baffin Partnership Project: Summary of investigations.
MIC-99-03354REB
RICHARDSON, L. E.
Physical and Chemical Environmental Factors Associated with the Temporal and Spatial Distribution of Cyanobacteria in Lake George, New York.
ADA363278REB
RICKETTS, T. H.
Terrestrial Ecoregions of North America: A Conservation Assessment.
ISLAND-0506REB
RIDLEY, M. B.
Data Transfer Report - 30-mm Enhanced Alternate High-Energy Propellant Program (EAHEP): Evaluation of the Performance of an RDX-Based ARDEC-7994 Propellant and the Effect of Two Different Slug Projectile Designs.
ADA363101REB
RILEE, M. L.
Nanosat Intelligent Power System Development.
N19990041448REB
RISLEY, W. C.
Air deployable buoy for search and rescue operations.
MIC-99-03339REB
Lagrangian ambient noise drifter.
MIC-99-03340REB
RITTING, A. N.
Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB
RIVAS, J. M.
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB
RIZVI, S. M.
Structure of Canadian agriculture, 1996.
MIC-99-03310REB
RO, S. T.
Macroeconomic Policy and Adjustment in Korea 1970-1990.
HUP-0035REB
ROBERTS, D.
Environmental management policy analysis using complex system simulation.
DE99002148REB
ROBERTS, K. A.
Evaluating Performance Effects of a Medication (Dexedrine) in the Simulator Versus Aircraft Environment.
ADA362972REB
ROBERTS, K. M.
Archeological and Architectural Investigations at Brown's Sheep Camp (5LA5824), a Multicomponent District in the U.S. Army Pinon Canyon Maneuver Site, Las Animas County, Colorado.
ADA363169REB
ROBERTS, R. G.
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB
ROBERTSON, D. E.
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB
ROBICHAUX, J. J.
Local Area Network Material Accounting System (LANMAS) Functions and Features Overview.
DE98057851REB
ROBINSON, M.
Korea Old and New. A History.
HUP-0022REB
ROCA, E.
Nature in Focus: Rapid Ecological Assessment.
ISLAND-0486REB
ROCA, R.
Nature in Focus: Rapid Ecological Assessment.
ISLAND-0486REB
ROCHA, J. T.
Structure and dynamics of interactive documents.
DE99002193REB
ROCK, S. M.
Merged Vision and GPS Control of a Semi-Autonomous, Small Helicopter.
N19990042372REB
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DE99002257REB
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ADA362758REB
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N19990041878REB
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Feasibility Study of Liquid Phase Sinter Forming of a Model Ceramic System.
ADA362946REB
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Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152156REB
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ADA362942REB
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Biotechnology use by Canadian industry, 1996.
MIC-99-03583REB
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Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center.
ADA362833REB
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Waste Receiving and Processing Facility Module 1 Data Management System software requirements specification.
DE99050395REB
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Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB
Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
ADA363246REB
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
ADA363228REB
Non-Thermal Plasmas as Gas-Phase Advance Oxidation Processes.
ADA363247REB
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB
ROSS, M. N.
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB
ROSSOW, W. B.
Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
N19990042067REB
ROTONDO, F. S.
Assessment of the REmote Minefield Detection System (REMIDS).
ADA362985REB
ROUSH, D.
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB
ROUSH, D. E.
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB
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Effects of Texture on Distance Estimation in Synthetic Environments.
ADA362882REB
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Estimation of cloud droplet size density distribution from multiple field-of-view lidar returns.
MIC-99-03292REB
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Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB
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N19990042165REB
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Central Asia: The Challenges of Independence.
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Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB
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Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB
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Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB
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Impact properties of composite sonar dome materials.
MIC-99-03381REB
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Cross Flow Over Double Delta Wings.
ADA363041REB
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Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB
RYDZAJ, T.
EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Eectric Vehicle Program.
ADA362952REB
RYSAKOV, I.
Reorganization of Industrial Hygiene on a Scientific Basis, Ussr--Translation.
ADA362794REB
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Income Inequality in America: An Analysis of Trends.
SHARPE-00440REB
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Concussive Effects of Low Frequency Sound Exposure.
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Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
DE99002444REB
SALAZAR, N.
Results of a Cultural Resource Inventory of Portions of Fort Carson Military Reservation and Test Excavation of Site 5EP2524, El Paso County, Colorado, 1996.
ADA363383REB
SALAZAR, S. D.
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB
SALMANDRA, G. D.
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ADA363123REB
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ADA362918REB
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Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
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ADA363347REB
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Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
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WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB

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Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB

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GISS Analysis of Surface Temperature Changes.
N19990042165REB

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Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
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Pesticide residues in sediment and water from two watersheds in Prince Edward Island, 1996 and 1997.
MIC-99-03631REB

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Holistic Management: A New Framework for Decision-Making. Second Edition.
ISLAND-0524REB

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Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB

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Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB

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Regional Advantage. Culture and Competition in Silicon Valley and Route 128.
HUP-0009REB

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Hitachi Review, Volume 46, No. 4, August 1997. Electronic Commerce for a New Social Infrastructure.
PB99-153140REB
Hitachi Review, Volume 46, No. 5, October 1997. Hitachi's Multimedia Solutions.
PB99-153132REB

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Nature in Focus: Rapid Ecological Assessment.
ISLAND-0486REB

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Verification of Effectiveness of Epoxy-Coated Rebars.
PB99-152407REB

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Air Force Research Laboratory Research Highlights, Mar/Apr 1999.
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BuyIt Prototype Software Requirements Analysis: A C-BASS Component.
ADA363050REB
BuyIt Software Development Plan: A C-BASS Component.
ADA363051REB

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Consolidating Active and Reserve Component Training Infrastructure.
ADA363165REB

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Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB

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Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB

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AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB

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Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
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Characterization of a Hard-Switching Motor Controller for EMC considerations.
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Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB

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Patient-Centered Outcomes in Neurologic Disease. Abstract, Executive Summary and Final Report.
PB99-149809REB

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DE99050414REB

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Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module.
ADA362729REB

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Dynamic Failure of Materials. Volume 1 - Experiments and Analyses.
ADA362713REB
Dynamic Failure of Materials. Volume 2 - Compilation of Russian Spall Data.
ADA362759REB

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Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
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Nature in Focus: Rapid Ecological Assessment.
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Waste management project technical baseline description.
DE99050158REB

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Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
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Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB

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Unclassified Publications of Lincoln Laboratory.
ADA363077REB

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Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models.
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PB99-152944REB
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HUP-0025REB

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ISLAND-0492REB

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History of Twentieth-Century Russia.
HUP-0031REB

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ADA362640REB

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ADA363032REB

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Summary of Experiments in Converting Copper Oxide Process Regenerator Off-Gases to Elemental Sulfur, CRADA 97-F006, Final Report.
DE00003034REB

SIGMAN, C. C.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity, 1995-1996 Volume. Section 1.
PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity, 1995-1996 Volume. Section 2.
PB99-105538REB

SILK, E.
Thermal and Mechanical Performance of a Carbon/Carbon Composite Spacecraft Radiator.
N19990041155REB

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PB99-155012REB

SINITSYN, V.
Central Asia, Physical Geography Handbook.
ADA362787REB

SINITSYN, V. M.
Central Asia, Physical Geography Handbook--Translation.
ADA362771REB

SITUMORAN, S.
Pantjasila, the Five Basic Principles of the Republic of Indonesia.
ADA363017REB

SIWICKI, R. W.
Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
PB99-152928REB

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Some Principles of Network-Centric Warfare: A Look at How Network- Centric Warfare Applies to the Principles of War.
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Waste management project fiscal year 1998 multi-year work plan WBS 1.2.
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Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
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N19990042083REB

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Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB

SMITH, I.
Flight recorder configuration standard, version 1.0.
MIC-99-03214REB

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STWAVE: Steady-State Spectral Wave Model. Report 1: User's Manual for STWAVE Version 2.0.
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Evaluation of kinetic phosphorescence analysis for the determination of uranium.
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Synopsis of the first cycle of the pulp and paper mill environmental effects monitoring program in the Atlantic region.
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Conference on the Problem of Sun-Troposphere -- USSR -- --Translation.
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Spin Correlations in e(sup +)e(sup -) Yields 4 Jets.
PB99-120370REB

STOLOFF, P. H.
Tricare Baseline Analysis of Access and Satisfaction.
ADA362744REB

STONE, M. A.
Naval Force Protection in the Littorals.
ADA363193REB

STOTTLEMYER, T. R.
Acoustic Sound Speed Profiling System.
PAT-APPL-8-226 625REB

STOUT, B. M.
Synthesis and Characterization of Diamond-Like Carbon Coatings Deposited by Plasma Source Ion Implantation and Conventional Ion Beam Assisted Deposition Processes.
ADA362850REB

STOUT, M. G.
Dynamic fracture of heterogeneous materials.
DE99002235REB

STRATTON, J.
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB

STREBEL, D. E.
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB

STRIETELMEIER, B. A.
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB

STROBEL, F. R.
Coming Class War and How to Avoid It: Rebuilding the American Middle Class.
SHARPE-00420REB

STROTTMAN, D. D.
Development of a gamma ray spectroscopy capability at LANSCE.
DE99002234REB

STUFF, J. R.
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB

SU, N.
Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
ADA362936REB

SULLIVAN, C.
Long-Range International Civil Reserve Air Fleet (CRAF) Capability.
ADA362743REB

SULLIVAN, S. C.
How Can Operational Maneuver be Used by the Naval or Joint Task Force Commander to Enhance Operational Protection in the Littoral.
ADA363095REB

SUN, G.
Modeling of Silicon Quantum Structures.
ADA363362REB
Quantum Modeling.
ADA363264REB

SURESH, S.
Fatigue crack nucleation in metallic materials.
DE99002227REB

SUSSKIND, L.
Negotiating Environmental, Health, and Safety Agreements. How to Avoid Escalating Confrontation, Needless Costs, and Unnecessary Litigation.
ISLAND-0497REB

SUSSMAN, R. M.
TSCA Deskbook.
ELI-0060REB

SUTIN, A.
Application of nonlinear wave modulation spectroscopy to discern material damage.
DE99002411REB

SUTTON, L. N.
283-E, 283-W, and 315 (water treatment plant) hazards assessment.
DE99050560REB

SWAIN, L. G.
Water quality assessment and objectives for the Fraser River from Hope to Sturgeon and Roberts banks: First update, technical appendix.
MIC-99-03134REB

SWANN, J. E.
Perspective Splatting.
ADA363073REB

SWANSON, F.
Bioregional Assessments. Science at the Crossroads of Management and Policy.
ISLAND-0519REB

SWEET, M. R.
New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB

SWEETMAN, E.
Technique for Measuring the Gain of HF Antennas.
ADA362876REB

SWIFT, G. W.
Technologies for the oil and gas industry.
DE99002238REB

SWINDLE, E. A.
U.S. Military, NGO's and CMOC: Staying Connected and Achieving Unity of Effort During MOOTW.
ADA363224REB

SZABO, J. P.
Impact properties of composite sonar dome materials.
MIC-99-03381REB

SZE, N. D.
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB

TAKEDA, H.
SNS Linac: Revised configuration.
DE99002261REB

TAN, C. S.
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB

TANG, M.
Introduction to Workflow Management Systems.
ADA362925REB

TANG, P. K.
Study of the overdriven behaviors of PBX 9501 and PBX 9502.
DE99002407REB

TANGNEY, J.
Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998.
ADA362634REB

TANNEHILL, J. C.
Numerical Computation of the Chemically Reacting Flow around the National Aero-Space Plane.
N19990042028REB

TARJAN-FABRY, M.
Periodica Polytechnica, Chemical Engineering, Volume 42, No. 1, 1998.
PB99-120297REB
Periodica Polytechnica Chemical Engineering, Volume 42, No. 2, 1998.
PB99-149627REB
Periodica Polytechnica, Civil Engineering, Volume 42, No. 2, 1998.
PB99-120313REB
Periodica Polytechnica, Mechanical Engineering, Volume 42, No. 1, 1998.
PB99-120305REB
Periodica Polytechnica Mechanical Engineering, Volume 42, No. 2, 1998.
PB99-149635REB
Periodica Polytechnica, Transportation Engineering, Volume 24, No. 1, 1998.
PB99-120321REB

TASCA, L.
Graduated licensing system evaluation: Interim report '98.
MIC-99-03114REB

TATEM, P. A.
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB

TAYLOR, D.
Hybrid Version of Method of Moments Computer Code: IBC3D.
ADA363074REB

TEDROW, C. A.
Bird Strike Risk Assessment for United States Air Force Airfields and Aircraft.
ADA363170REB

TEMME, V. J.
For Want of a Home - A Study of Wherry and Capehan Military Family Housing.
ADA362706REB

TEMPLEMAN, B. D.
Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
ADA363351REB

TEMPLETON, D. W.
Ceramic Armor Material Database.
ADA362926REB

TEMPLETON, K. J.
FY 1996 solid waste integrated life-cycle forecast characteristics summary. Volumes 1 and 2.
DE98053023REB

TENNYSON, J.
Molecular Quantum States at Dissociation.
PB99-120339REB

TEPPER, A.
Health Hazard Evaluation Report HETA 95-0001-2679, Caterpillar Inc., York, Pennsylvania.
PB99-152233REB

TERBORGH, J.
Continental Conservation: Scientific Foundations of Regional Reserve Networks.
ISLAND-0507REB

TERRY, E.
Rise and Fall of the Asian Miracle.
SHARPE-00423REB

THISSELL, W. R.
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB

THOMAS-LARMER, J.
Negotiating Environmental, Health, and Safety Agreements. How to Avoid Escalating Confrontation, Needless Costs, and Unnecessary Litigation.
ISLAND-0497REB

THOMAS, R. E.
ROMI-RIP 2.0 User's Guide: a ROugh Mill RIP-First Simulator.
PB99-152803REB

THOMPSON, A. M.
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB
Three-Dimensional Total Odd Nitrogen (NO(y)) Simulation During SONEX using a Stretched-Grid Chemical Transport Model.
N19990041439REB

THOMPSON, D. J.
Gamma Radiation from PSR B1055-52.
N19990042027REB

THOMPSON, H. H.
Satellite Control Systems: Opportunity for DOD to Implement Space Policy and Integrate Capabilities.
ADA363241REB

THOMPSON, L.
Stratified Coastal Trapped Waves and Mean Flows.
ADA362722REB

THOMPSON, R. T.
Moving Targets and Joint Theater Missile Defense Doctrine: Does it Apply to Locating and Engaging the Needle in the Haystack.
ADA363153REB

THORNE-MILLER, B.
Understanding and Protecting Marine Biodiversity. Second Edition.
ISLAND-0526REB

THORNE, R. S.
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB

TICKNER, J.
Protecting Public Health and the Environment: Implementing the Precautionary Principle.
ISLAND-0516REB

TILLEY, S.
Why Reengineering Projects Fail.
ADA362725REB

TIMONOV, A.
Generalized ELF propagation.
MIC-99-03336REB

TODD, B. J.
Browns Bank survey 1998: Cruise report and scientific results.
MIC-99-03305REB

TOGNA, A. P.
Development of Biotrickling Filters to Treat Sulfur and VOC Emissions.
ADA362950REB

TOLMAN, M.
Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures.
ADA363279REB

TOLSTED, D.
Yields of ten and eleven year-old hybrid poplars in the north central United States. Final report.
DE99002354REB

TOMICK, J. J.
EAF Transition Workshop: After Action Report, Lessons Learned and Recommendations.
ADA363388REB

TOMLINSON, L. W.
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB

TOMPKINS, K. T.
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB

TONKS, D. L.
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB

TONNESSEN, T.
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB

TOPOL, D. A.
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB

TOWER, W. E.
Creeping Jurisdiction, Are International Straits in Jeopardy.
ADA363191REB

TOWNSEND, J. R.
Defense of Naval Task Forces from Anti-Ship Missile Attack.
ADA363038REB

TRA, T. V.
Selected Articles on Armed Forces in North Vietnam.
ADA363318REB

TRAN, C.
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB

TRAN, D.
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB

Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB

TREHARNE, J. T.
Adaptive Inventory Control for Non-Stationary Demand with Partial Information.
ADA363083REB

TREMBLE, T.
Tacit Knowledge in the Workplace.
ADA362656REB

TROUT, D.
Health Hazard Evaluation Report HETA 96-0266-2702, Cooper Engineered Products, Bowling Green, Ohio.
PB99-152175REB
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
PB99-152308REB
Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
PB99-152217REB

TRUSZKOWSKI, W. F.
Nanosat Intelligent Power System Development.
N19990041446REB

TSEMAHMAN, A. S.
Seabed classification by QTC VIEW: Sites near Vancouver Island.
MIC-99-03353REB

TSUNG, K.
Growth of the Physics of Metals and Physical Metallography in the Chinese People's Republics for 10 years --USSR--- Translation.
ADA362790REB

TUCKER, J. K.
Annual and Local Variation in Reproduction in the Red-Eared Slider 'Trachemys scripta elagans'.
PB99-152183REB

TUITE, J. M.
Enhancement of Boiling in Highly Wetting Fluids.
ADA362878REB

TURNER, J.
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB

TURNER, R. K.
Environmental Economics. An Elementary Introduction.
JHUP-0305REB

TUTTLE, M.
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB

TYLER, H. W.
Identification and Evaluation of Interfaces of IL Support Operations with the Army Logistics System.
ADA362962REB

TZENG, Y.
CVD Diamond Grown by Microwave Plasmas in Mixtures of Acetone/Oxygen and Acetone/Carbon Dioxide.
ADA362752REB
Electron Assisted Deposition of Cubic Boron Nitride by RF Magnetron Sputtering.
ADA362770REB
Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures.
ADA362769REB

UJHELYI, A.
Hungarian Symposium of Radiation Damage and Protection.
ADA363027REB

ULERY, D. L.
ARL Intranet Analysis and Development Study.
ADA362869REB
Buyit Prototype Software Requirements Analysis: A C-BASS Component.
ADA363050REB
Buyit Software Development Plan: A C-BASS Component.
ADA363051REB

URASHIMA, K.
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB

URBACH, H. B.
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB
Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB

URMAN, T.
Acquisition Positions in the Department of Defense Update.
ADA362683REB

VAICAITIS, R.
Monte Carlo Simulation for Appliction to Aerospace Vehicle Structures.
ADA363043REB

VALENTINE, G. A.
Numerical simulation of explosive volcanism and its effects on the atmosphere.
DE99002259REB

VALERO, O. J.
Solid waste integrated forecast technical (SWIFT) report: FY1997 to FY 2070.
DE99050410REB

VALLVE, M.
Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB

VAN COILLIE, R.
Aquatic Toxicity Workshop: Proceedings 1998.
MIC-99-03164REB

VAN EECKHOUT, E.
Environmental management policy analysis using complex system simulation.
DE99002148REB

VANCE PAYNE, W.
Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
PB99-152373REB

VANDERBORGH, N. E.
Micro fuel cell.
DE99002286REB

VARGO, J. T.
Evaluation of Operator Performance Using True Color and Artificial Color in Natural Scene Perception.
ADA363036REB

VARSHNEY, P. K.
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB

VASAVADA, U.
Green Technologies for a More Sustanable Agriculture.
ERS-AIB-752REB

VAUGHAN, B. A.
RXTE Observation of Cygnus X-1, 1.
N19990042404REB

VAUGHT, D. S.
Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy.
ADA363194REB

VAYSBURD, A. M.
Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362896REB

VESPA, S.
Trip report: Fremantle fatigue conference and FMP-related field visits and meetings.
MIC-99-03429REB

VIA, D. L.
Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next.
ADA363198REB

VILLARREAL, R.
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB

VISHNY, R.
Grabbing Hand. Government Pathologies and Their Cures.
HUP-0028REB

VON STACKELBERG, K.
Improving Dredged Material Management Decisions with Uncertainty Analysis.
ADA363151REB

VORHEES, D. J.
Improving Dredged Material Management Decisions with Uncertainty Analysis.
ADA363151REB

VOTH, G. A.
Computer for Ab Initio Molecular Dynamics Simulations.
ADA363044REB

VU, T.
Beechcraft 1900C Vertical Impact Test.
PB99-149726REB

VUONG, H.
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB

VUONO, T. A.
Commander's Estimate of the Situation: Kosovo & The Southern Balkans.
ADA363226REB

WAGGONER, L. O.
ALARA Center of Technology -- resource guide.
DE99050623REB
Applied ALARA techniques.
DE99050625REB

WAGNER, E. W.
Korea Old and New. A History.
HUP-0022REB

WALL, A. R.
Theater Missile Defense in World War II - Some Operational Art Considerations.
ADA363065REB

WALLACE, B. L.
Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB
Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB

WALLACE, H. B.
Numerical Computation of the Radar Cross Section of the ZSU-23-4.
ADA363007REB

WALLINGFORD, K. M.
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
PB99-152332REB

WALTERS, S.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB

WANDLESS, P.
Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list.
MIC-99-03154REB

WANG, W.
Introduction to Workflow Management Systems.
ADA362925REB

WANG, Y.
Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques.
ADA363380REB

WARNICK, T. L.
Project W-314 241-AN-A valve pit upgrade acceptance for beneficial use.
DE99050201REB

WARREN, D. D.
Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997.
PB99-152845REB

WASHINGTON, T. M.
Denying Access to Commercial Communications Satellites.
ADA363096REB

WASHKO, R.
Health Hazard Evaluation Report HETA 96-0093-2685, Microfibres, Inc. Pawtucket, RI.
PB99-152357REB

WASSER, J. H.
Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB

WASSERMAN, H.
Performance analysis of wavefront algorithms on very-large scale distributed systems.
DE99002219REB
Performance and scalability analysis of teraflop-scale parallel architectures using multidimensional wavefront applications.
DE99002404REB

WATERS, D. E.
Precision Naval Fires in the Age of Information Superiority: Is The Day Of The Carrier Over.
ADA363066REB

WATERS, T.
Health Hazard Evaluation Report HETA 96-0258-2673, Foss Manufacturing Company, Inc., Hampton, New Hampshire.
PB99-152191REB

WATTS, D. B.
Overview of the Modular Effectiveness/Vulnerability Assessment (MEVA) Architecture.
ADA362951REB

WEAVER, F. B.
General Creighton Abrams: Ethical Leadership at the Strategic Level.
ADA363255REB

WEBER, R. A.
Ceramic Coated Piston Rods for Civil Works.
ADA362682REB

WEBSTER, T. S.
Development of Biotrickling Filters to Treat Sulfur and VOC Emissions.
ADA362950REB

WEEKLY, R.
Maritime Preposition Force Ship 2010.
ADA363180REB

WEHNER, T. R.
Quick-look eye-safety assessment for the short range lidar.
DE99002263REB

WEI, J.
Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures.
ADA362769REB

WEIDERMAN, N.
Why Reengineering Projects Fail.
ADA362725REB

WEIDNER, L. B.
Hanford Site Emergency Alerting System siren testing report.
DE99050202REB

WEIGEL, J. F.
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB

WEIHRER, S. J.
Human factors assessment of prototype lightweight thermal undergarment systems for the Clothe-the-Soldier Programme.
MIC-99-03319REB

WEIMER, T.
Structure of Canadian agriculture, 1996.
MIC-99-03310REB
WEINER, A. M.
Instrumentation for Research on High-Speed Optical Transmultiplexing and Coding for Optoelectronic Computer Networking.
ADA363026REB
WEINER, D. D.
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB
WEINRACH, J.
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB
WEINZETTLE, J. P.
Army's B-2 Bomber - Field Artillery Modernization.
ADA363364REB
WEISE, D. R.
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB
WEISENSTEIN, D. K.
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB
WEISS, C.
Automated land area tests for the 2001 census, part 1: Preliminary results using the 1996 Digital Cartographic Files.
MIC-99-03431REB
WELCH, R. M.
Global Retrieval of Cloud Particle Size and Optical Thickness Using ISCCP Data.
N19990041441REB
WELDY, J.
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB
WELLS, D. C.
Effects of Microgravity on Embryonic Quail Eye Development.
N19990041707REB
WELSH, T. L.
International Atomic Energy Agency/Hanford Site shared use of calonmeters.
DE99050111REB
WENDT, C. H.
Need and options available for permanent CO(sub 2) disposal.
DE99002199REB
WENSLEY, M.
Trade liberalization of the international oilseed complex.
MIC-99-03324REB
WERNLI, H.
Nitrogen Oxides and Ozones from B-747 Measurements (NOXAR) during POLINAT 2 and SONEX: Overview and Case-Studies on Continental and Marine Convection.
N19990042154REB
WETTENGEL, W.
Freshwater Ecoregions of North America: A Conservative Assessment.
ISLAND-0482REB
WETTL, F.
Periodica Polytechnica, Chemical Engineering, Volume 42, No. 1, 1998.
PB99-120297REB
Periodica Polytechnica Chemical Engineering, Volume 42, No. 2, 1998.
PB99-149627REB
Periodica Polytechnica, Civil Engineering, Volume 42, No. 2, 1998.
PB99-120313REB
Periodica Polytechnica, Mechanical Engineering, Volume 42, No. 1, 1998.
PB99-120305REB
Periodica Polytechnica Mechanical Engineering, Volume 42, No. 2, 1998.
PB99-149635REB
Periodica Polytechnica, Transportation Engineering, Volume 24, No. 1, 1998.
PB99-120321REB
WHITE, C. C.
Background Biological Aerosol Properties.
ADA363253REB
WHITE, C. E.
Stratigraphy and tectonic significance of the Lower to Middle Devonian McAdams Lake Formation, Cape Breton Island, Nova Scotia.
MIC-99-03282REB
WHITE, L.
Hard Labor: Poor Women and Work in the Post-Welfare Era.
SHARPE-00439REB
WHITE, R. C.
Airborne Forces of the United States Army: Cornerstone of Force Projection.
ADA363187REB
WHITE, W. F.
Definition and means of maintaining the criticality detectors and alarms portion of the PFP safety envelope.
DE99050188REB
WHITESON, R.
Information barrier functional requirements.
DE99002297REB
WHITNEY, W. D.
Sanskrit Grammar. Including Both the Classical Language, and the Older Dialects, of Veda and Brahmana.
HUP-0033REB
WHITTEN, N.
Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
ADA362963REB
WIDMER, N. L.
Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
ADA363186REB
WIERMAN, T. E.
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB
WIERSMA, B. J.
Evaluation of Test Methodologies for Dissolution and Corrosion of Al-SNF.
DE98054573REB
WIGNERON, J. P.
Frequency and Angular Variations of Land Surface Microwave Emissivities: Can we Estimate SSM/T and AMSU Emissivities from SSM/I Emissivities.
N19990042067REB
WIJESINGHE, H. S.
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB
WILCOX, M. A.
Fleet Air Defense in the Falkland Islands Conflict: A Failure in Operational Protection.
ADA363067REB
WILKINS, N. E.
Tank characterization report for double-shell tank 241-AN-103.
DE99050200REB
WILKINSON, C.
Fire on the Plateau: Conflict and Endurance in the American Southwest.
ISLAND-0501REB
WILLERS, B.
Unmanaged Landscapes: Voices for Untamed Nature.
ISLAND-0508REB
WILLIAM H. CALKINS
Short Contact Time Direct Coal Liquefactionn Using a Novel Batch Reactor. Quarterly Report. May 16 - August 15, 1996.
DE00001726REB
WILLIAMS, B.
Halflives: Reconciling Work and Wildness.
ISLAND-0478REB
WILLIAMS, E.
Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB
WILLIAMS-JONES, A. E.
Origin and evolution of the Greisenizing fluid at the East Kemptville tin deposit, Nova Scotia, Canada.
MIC-99-03229REB
WILLIAMS, K. W.
GPS User-Interface Design Problems.
ADA363331REB
WILLIAMS, L.
Department of Defense In-House RDT&E Activities Report for Fiscal Year 1998.
ADA362634REB
WILLIAMS, M. R.
Multiline Tow Cable Assembly Including Swivel and Slip Ring.
PAT-APPL-8-137 870REB
WILLIAMS, N. H.
Hanford spent nuclear fuel project update.
DE99050207REB
WILLIAMS, R. G.
Cross Flow Over Double Delta Wings.
ADA363041REB
WILLIAMS, T. O.
Dynamic fracture of heterogeneous materials.
DE99002235REB
WILLIS, J. B.
Portfolio Optimization for Multiple Group Credit Unions.
ADA363385REB
WILLS, J. M.
First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
DE99002200REB
WILMS, J.
RXTE Observation of Cygnus X-1, 1.
N19990042404REB
WILSON, D. V.
Improved Methodology For Screening Military Pilot Applicants.
ADA362675REB
WILSON, J. C.
Chance Encounter with a Stratospheric Kerosene Rocket Plume from Russia over California.
N19990041839REB
WILSON, K. J.
Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
ADA363186REB
WILSON, T.
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Entries in this index list reports produced as a result of research done under specific contract or grant numbers. Entries are sequenced by contract or grant number, corporate author, and NTIS order number.

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ADA363078REB PC A12/MF A03

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ADA286991REB PC A08/MF A02

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ADA286992REB PC A11/MF A03

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China Report, Political, Sociological and Military Affairs–Translation.
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China Report, Political, Sociological and Military Affairs. PRC State Council Bulletin, No. 16, 30 July 1984–Translation.
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Soviet Union, Military Affairs.
ADA362747REB PC A07/MF A02

ADA362748REB
Soviet Union, Military Affairs. Data, Diagrams of Ground Forces Weaponry.
ADA362748REB PC A05/MF A01

ADA362749REB
USSR Report, Military Affairs, No. 1731. Military History Journal, No. 8, August 1982.
ADA362749REB PC A06/MF A01

ADA362750REB
USSR Report, Construction and Equipment, No. 78.
ADA362750REB PC A10/MF A03

ADA362751REB
Weapon Indexing and Weapon Ratios in Arms Control.
ADA362751REB PC A02/MF A01

ADA362752REB
CVD Diamond Grown by Microwave Plasmas in Mixtures of Acetone/Oxygen and Acetone/Carbon Dioxide.
ADA362752REB PC A03/MF A01

ADA362753REB
Stages and Discharges of the Mississippi River and Tributaries and Other Watersheds in the New Orleans District for 1994.
ADA362753REB PC A12/MF A03

ADA362754REB
Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
ADA362754REB PC A04/MF A01

ADA362755REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences, No. 38.
ADA362755REB PC A08/MF A02

ADA362756REB
Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
ADA362756REB PC A03/MF A01

ADA362757REB
Modified T-37 Instead of T-46: Impact on Undergraduate Pilot Training.
ADA362757REB PC A03/MF A01

ADA362758REB
WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB PC A03/MF A01

ADA362759REB
Dynamic Failure of Materials. Volume 2 - Compilation of Russian Spall Data.
ADA362759REB PC A09/MF A02

ADA362760REB
Boundary Conditions for Magnetic Field Gradients Inside a Source-Free Volume.
ADA362760REB PC A03/MF A01

ADA362761REB
Primer of CORBA: A Framework for Distributed Applications in Defence.
ADA362761REB PC A05/MF A01

ADA362762REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 5.
ADA362762REB PC A99/MF A06

ADA362763REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 4.
ADA362763REB PC A22/MF A04

ADA362764REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activities 1-3.
ADA362764REB PC A20/MF A04

ADA362765REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 6.
ADA362765REB PC A10/MF A03

ADA362766REB
Department of the Navy Fiscal Year (FY) 2000/2001 Biennial Budget Estimates, Justification of Estimates, February 1999 Research, Development, Test & Evaluation, Navy Budget Activity 7.
ADA362766REB PC A99/MF A06

ADA362767REB
China Report: Political, Sociological and Military Affairs, No. 469.
ADA362767REB PC A06/MF A01

ADA362768REB
Recent Geographical Conferences in the Soviet Union, USSR--Translation.
ADA362768REB PC A03/MF A01

ADA362769REB
Synthesis of Diamond in High Power-Density Microwave Methane/Hydrogen/ Oxygen Plasmas at Elevated Substrate Temperatures.
ADA362769REB PC A04/MF A01

ADA362770REB
Electron Assisted Deposition of Cubic Boron Nitride by RF Magnetron Sputtering.
ADA362770REB PC A03/MF A01

ADA362771REB
Central Asia, Physical Geography Handbook--Translation.
ADA362771REB PC A12/MF A03

ADA362772REB
Development of the Civil Air Fleet, Peoples Republic of China--Translation.
ADA362772REB PC A02/MF A01

ADA362773REB
Near East and South Asia.
ADA362773REB PC A05/MF A01

ADA362774REB
East Europe Report: Political, Sociological and Military Affairs, No. 2225.
ADA362774REB PC A05/MF A01

ADA362775REB
Technical Achievements in Communist China's Electrical Equipment Industry--Translation.
ADA362775REB PC A07/MF A02

ADA362776REB
Optical Frequency Standard in Trapped Atomic Hydrogen.
ADA362776REB PC A01/MF A01

ADA362777REB
East Europe Report: Political, Sociological and Military Affairs, No. 2088.
ADA362777REB PC A06/MF A01

ADA362778REB
East Europe Report: Political, Sociological and Military Affairs, No. 2193.
ADA362778REB PC A10/MF A02

ADA362779REB
East Europe Report: Political, Sociological and Military Affairs, No. 2194.
ADA362779REB PC A07/MF A02

ADA362780REB
China Report, Political, Sociological and Military Affairs No. 436.
ADA362780REB PC A10/MF A02

ADA362781REB
Soviet Union, Military Affairs.
ADA362781REB PC A07/MF A02

ADA362782REB
Soviet Union, Military Affairs.
ADA362782REB PC A07/MF A02

ADA362783REB
USSR Report, Military Affairs.
ADA362783REB PC A06/MF A01

ADA362784REB
Ways to Solve Fuel Problems in North Korea.
ADA362784REB PC A02/MF A01

ADA362785REB
Selected Translations of Abstracts in Referativnyy Zhurnal - Biologiya, No. 6, 1959--Translation.
ADA362785REB PC A04/MF A01

ADA362786REB
Conference on the Control of the Colorado Beetle, USSR.
ADA362786REB PC A01/MF A01

ADA362787REB
Central Asia, Physical Geography Handbook.
ADA362787REB PC A12/MF A03

ADA362788REB
High-Power Laser Source Evaluation.
ADA362788REB PC A05/MF A01

ADA362789REB
Selected Soviet Military Translations (Air Force and Civil Defense Materials)--Translation.
ADA362789REB PC A04/MF A01

ADA362790REB
Growth of the Physics of Metals and Physical Metallography in the Chinese People's Republics for 10 years --USSR--Translation.
ADA362790REB PC A03/MF A01

ADA362791REB
Main Source of Solar Corpuscular Streams --USSR--Translation.
ADA362791REB PC A02/MF A01

ADA362792REB
Certain Problems on the Theory of Heat Resistance and the Development of New High-Strength Titanium Alloys -- USSR --Translation.
ADA362792REB PC A03/MF A01

ADA362793REB
When Is a Simple Model Adequate for Use in Scheduling in MSHN.
ADA362793REB PC A06/MF A01

ADA362794REB
Reorganization of Industrial Hygiene on a Scientific Basis, Ussr--Translation.
ADA362794REB PC A02/MF A01

ADA362795REB
Attitudes on Physical and Mental Labor in Communist China--Translation.
ADA362795REB PC A03/MF A01

ADA362796REB
Communist China Digest, No. 16--Translation.
ADA362796REB PC A06/MF A01

ADA362797REB
Worldwide Report: Telecommunications Policy, Research and Development, No. 285.
ADA362797REB PC A05/MF A01

ADA362798REB
Selected Articles on Machine Industry in Communist China in 1959--Translation.
ADA362798REB PC A03/MF A01

ADA362799REB
China Report: Political, Sociological and Military Affairs, No. 470--Translation.
ADA362799REB PC A09/MF A02

ADA362800REB
Training Spatial Knowledge Acquisition Using Virtual Environments.
ADA362800REB PC A03/MF A01

ADA362801REB
Possibility of Using as a Photogrammetric Base the 1:25,000 Map for Photogrammetric Mapping at Scales of 1:10,000 and 1:5,000 -- Czechoslovakia --Translation.
ADA362801REB PC A03/MF A01

ADA362802REB
USSR Report, Energy, No. 152.
ADA362802REB PC A05/MF A01

ADA362803REB
Survey of Soviet Heavy Industry (7).
ADA362803REB PC A03/MF A01

ADA362804REB
Soviet Union, Military Affairs.
ADA362804REB PC A06/MF A01

ADA362805REB
USSR Report, Military Affairs, No. 1764.
ADA362805REB PC A05/MF A01

ADA362806REB
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB PC A04/MF A01

ADA362807REB
East Europe Report, Political, Sociological and Military Affairs, No. 2133.
ADA362807REB PC A06/MF A01

ADA362808REB
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB PC A99/MF A06

ADA362809REB
Volatile Losses from Aged Field Sediments.
ADA362809REB PC A03/MF A01

ADA362810REB
Some Perspectives of the Development of Television Broadcasting Technology -- USSR --Translation.
ADA362810REB PC A03/MF A01

ADA362811REB
Quasigeoid and the Standard Elevations -- East Germany -- --Translation.
ADA362811REB PC A03/MF A01

ADA362812REB
Conference on the Problem of Sun-Troposphere -- USSR -- --Translation.
ADA362812REB PC A02/MF A01

ADA362813REB
Draft for Two Bridges in the People's Republic of Korea--Translation.
ADA362813REB PC A03/MF A01

ADA362815REB
China Report, Political, Sociological and Military Affairs, No. 431--Translation.
ADA362815REB PC A05/MF A01

ADA362816REB
Conversion of Laser Phase Noise to Amplitude Noise in a Resonant Atomic Vapor: The Role of Laser Linewidth.
ADA362816REB PC A03/MF A01

ADA362817REB
East Asia: Southeast Asia, Autobiography of Chamlong.
ADA362817REB PC A03/MF A01

ADA362818REB
Transfer of Training Effectiveness in Flight Simulation: 1986 to 1997.
ADA362818REB PC A03/MF A01

ADA362819REB
USSR Report, Energy, No. 126.
ADA362819REB PC A04/MF A01

ADA362820REB
Worldwide Report, Telecommunications Policy, Research and Development, No. 250.
ADA362820REB PC A05/MF A01

ADA362821REB
China Report, Political, Sociological and Military Affairs, No. 412--Translation.
ADA362821REB PC A06/MF A01

ADA362822REB
Forward Flow at the Boundary of the Zone of Deformation -- USSR --Translation.
ADA362822REB PC A03/MF A01

ADA362823REB
Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation -- USSR --Translation.
ADA362823REB PC A03/MF A01

ADA362824REB
East Asia: Korea.
ADA362824REB PC A05/MF A01

ADA362825REB
Southeast Asia Report, No. 1371.
ADA362825REB PC A06/MF A01

ADA362826REB
Twinning Mechanisms in Complex High Tm Intermetallic Compounds.
ADA362826REB PC A02/MF A01

ADA362827REB
USSR Report: Political and Sociological Affairs, No. 1478.
ADA362827REB PC A06/MF A01

ADA362828REB
Near East/South Asia Report, No. 2780--Translation.
ADA362828REB PC A07/MF A02

ADA362829REB
Development and Application of an Advanced Optical Based Pressure Instrument for Low-Speed Flows.
ADA362829REB PC A04/MF A01

ADA362830REB
East Europe Report, Political, Sociological and Military Affairs, No. 2079--Translation.
ADA362830REB PC A10/MF A02

ADA362831REB
China Report, Political, Sociological and Military Affairs, No. 438--Translation.
ADA362831REB PC A08/MF A02

ADA362832REB
JPRS Report, Latin America--Translation.
ADA362832REB PC A05/MF A01

ADA362833REB
Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center.
ADA362833REB PC A04/MF A01

ADA362834REB
JPRS Report, Latin America--Translation.
ADA362834REB PC A05/MF A01

ADA362835REB
USSR Report: Life Sciences, Biomedical and Behavioral Sciences, No. 40--Translation.
ADA362835REB PC A07/MF A02

ADA362836REB
JPRS Report, Latin America--Translation.
ADA362836REB PC A05/MF A01

ADA362837REB
JPRS Report, Latin America--Translation.
ADA362837REB PC A05/MF A01

ADA362838REB
Deterrence Effects of Operation Frontier Shield.
ADA362838REB PC A04/MF A01

ADA362839REB
Durability Testing for Fouling Release Coatings.
ADA362839REB PC A02/MF A01

ADA362840REB
Occupational Survey Report, Survival Equipment, AFSC 2A7X4.
ADA362840REB PC A07/MF A02

ADA362841REB
East Europe Report, Political, Sociological and Military Affairs, No. 2153--Translation.
ADA362841REB PC A07/MF A02

ADA362842REB
Southeast Asia Report, No. 1310.
ADA362842REB PC A05/MF A01

ADA362843REB
Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
ADA362843REB PC A02/MF A01

ADA362844REB
Southeast Asia Report, No. 1373--Translation.
ADA362844REB PC A06/MF A01

ADA362845REB
USSR Report, Political, and Sociological Affairs, No. 1390.
ADA362845REB PC A04/MF A01

ADA362846REB
Near East and South Asia.
ADA362846REB PC A04/MF A01

ADA362847REB
Spectroscopic Observations of the Planets.
ADA362847REB PC A01/MF A01

ADA362848REB
Some Assembly Required: Building a Digital Government for the 21st Century. Report of a Multidisciplinary Workshop Held in October 1998.
ADA362848REB PC A04/MF A01

ADA362849REB
West Europe Report, No. 2170.
ADA362849REB PC A05/MF A01

ADA362850REB
Synthesis and Characterization of Diamond-Like Carbon Coatings Deposited by Plasma Source Ion Implantation and Conventional Ion Beam Assisted Deposition Processes.
ADA362850REB PC A05/MF A01

ADA362851REB
Evaluation of Passive Systems for the Treatment of Mine Drainage.
ADA362851REB PC A12/MF A03

ADA362852REB
East Europe Report: Scientific Affairs, No. 772.
ADA362852REB PC A05/MF A01

ADA362853REB
Award of Lenin Prizes in Science and Technology, USSR--Translation.
ADA362853REB PC A01/MF A01

ADA362854REB
Southeast Asia Report, No. 1372.
ADA362854REB PC A06/MF A01

ADA362855REB
Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
ADA362855REB PC A02/MF A01

ADA362856REB
Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-, (K metodike issledovaniya gazoobmena pri vdykhanii bol' shikh kontsentratsiy kisloroda)--Translation.
ADA362856REB PC A01/MF A01

ADA362857REB
Worldwide Report, Epidemiology, No. 316.
ADA362857REB PC A05/MF A01

ADA362858REB
Worldwide Report, Epidemiology, No. 322.
ADA362858REB PC A05/MF A01

ADA362859REB
Problem of Early Diagnosis of Cancer of the Uterine Cervix--Translation.
ADA362859REB PC A02/MF A01

ADA362860REB
USSR Report, Earth Sciences, No. 27.
ADA362860REB PC A05/MF A01

ADA362861REB
Dealing With Data: Seminar Summary. Using Information in Government Program Information Sharing Seminar Series, Seminar No. 1.
ADA362861REB PC A03/MF A01

ADA362862REB
Models for Action: Practical Approaches to Electronic Records Management and Preservation.
ADA362862REB PC A06/MF A01

ADA362863REB
Practical Tools for Electronic Records Management and Preservation.
ADA362863REB PC A03/MF A01

ADA362864REB
Survey of Key Concepts and Issues for Electronic Recordkeeping.
ADA362864REB PC A03/MF A01

ADA362865REB
News from AFAR, March/April 1998.
ADA362865REB PC A01/MF A01

ADA362866REB
JPRS Report, East Asia Korea.
ADA362866REB PC A04/MF A01

ADA362867REB
JPRS Report, East Asia: Korea.
ADA362867REB PC A04/MF A01

ADA362868REB
Worldwide Report: Telecommunications Policy, Research and Development, No. 294.
ADA362868REB PC A07/MF A02

ADA362869REB
ARL Intranet Analysis and Development Study.
ADA362869REB PC A04/MF A01

ADA362870REB
Female Gender and Other Potential Predictors of Functional Health Status Among Persian Gulf War Veterans (Revised).
ADA362870REB PC A04/MF A01

ADA362871REB
Hand Tool Manipulation and Self-Presence in VR.
ADA362871REB PC A01/MF A01

ADA362872REB
Advanced Radiation Theory, Support Annual Report 1998.
ADA362872REB PC A09/MF A02

ADA362873REB
Heat Treatment of Al 7075 for Ejection Seat Shear Wire.
ADA362873REB PC A03/MF A01

ADA362874REB
R/V Seward Johnson Cruise Report (SJ-9807) ACCE S-PALACE Float Deployments.
ADA362874REB PC A03/MF A01

ADA362875REB
STWAVE: Steady-State Spectral Wave Model. Report 1: User's Manual for STWAVE Version 2.0.
ADA362875REB PC A05/MF A01

ADA362876REB
Technique for Measuring the Gain of HF Antennas.
ADA362876REB PC A03/MF A01

ADA362877REB
Flow Visualisation About the Helicopter Deck of the Hydrographic Ship.
ADA362877REB PC A08/MF A02

ADA362878REB
Enhancement of Boiling in Highly Wetting Fluids.
ADA362878REB PC A07/MF A02

ADA362879REB
JPRS Report, Near East & South Asia.
ADA362879REB PC A06/MF A01

ADA362880REB
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB PC A03/MF A01

ADA362881REB
Strehl Ratio Probabilities for Phase-Only Adaptive Optics.
ADA362881REB PC A06/MF A01

ADA362882REB
Effects of Texture on Distance Estimation in Synthetic Environments.
ADA362882REB PC A06/MF A01

ADA362883REB
AMPL: An Exclusive Technology for DecisionNet.
ADA362883REB PC A08/MF A02

ADA362884REB
Frequency-Based Load Sharing in Current-Mode-Controlled Buck Converters.
ADA362884REB PC A07/MF A02

ADA362885REB
JPRS Report, East Asia, Mongolia, Biographic Information on Officials--Translation.
ADA362885REB PC A06/MF A01

ADA362886REB
JPRS Report, Near East & South Asia--Translation.
ADA362886REB PC A06/MF A01

ADA362887REB
JPRS Report, Near East & South Asia--Translation.
ADA362887REB PC A06/MF A01

ADA362888REB
Scientific Coordination and Adaptive Management and Experimental Restoration of Longleaf Pine Community Structure, Function, and Composition.
ADA362888REB PC A06/MF A01

ADA362889REB
USSR Report: Military Affairs, No. 1810.
ADA362889REB PC A06/MF A01

ADA362890REB
China Report: Political, Sociological and Military Affairs, No. 452--Translation.
ADA362890REB PC A08/MF A02

ADA362891REB
Worldwide Report: Nuclear Development and Proliferation, No. 201--Translation.
ADA362891REB PC A05/MF A01

ADA362892REB
Estimating Dredging Sediment Resuspension Sources.
ADA362892REB PC A02/MF A01

ADA362893REB
China Report: Political, Sociological and Military Affairs, No. 453--Translation.
ADA362893REB PC A05/MF A01

ADA362894REB
East Europe Report: Political, Sociological and Military Affairs, No. 2226--Translation.
ADA362894REB PC A05/MF A01

ADA362895REB
East Europe Report, Economic and Industrial Affairs, No. 2475.
ADA362895REB PC A07/MF A02

ADA362896REB
Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362896REB PC A05/MF A01

ADA362897REB
Ponce de Leon Inlet, Florida, Site Investigation. Report 2: Inlet Hydrodynamics: Monitoring and Interpretation of Physical Processes.
ADA362897REB PC A05/MF A01

ADA362898REB
Latin America.
ADA362898REB PC A04/MF A01

ADA362899REB
Latin America.
ADA362899REB PC A04/MF A01

ADA362900REB
Electromagnetic Effects of Advanced Packaging.
ADA362900REB PC A11/MF A03

ADA362901REB
User's Guide for the Naval Communications Assessment Tool (NCAT) software Version 2.0.
ADA362901REB PC A05/MF A01

ADA362902REB
China Report, Science and Technology No. 213.
ADA362902REB PC A04/MF A01

ADA362903REB
Innovative Control Effectors (Configuration 101) Dynamic Wind Tunnel Test Report. Rotary Balance and Forced Oscillation Tests.
ADA362903REB PC A11/MF A03

ADA362904REB
Evaluation of the Impact of the Target Force Planning Model (TFPM) on the Manpower Process at Headquarters, U.S. Marine Corps.
ADA362904REB PC A06/MF A01

ADA362905REB
Impact of Nuclear Proliferation: Final Report.
ADA362905REB PC A06/MF A02

ADA362906REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB PC A99/MF E08

ADA362907REB
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB PC A07/MF A02

ADA362908REB
Doped PMN-PT Single Crystals.
ADA362908REB PC A02/MF A01

ADA362909REB
West Europe Report, Science and Technology, No. 182.
ADA362909REB PC A04/MF A01

ADA362910REB
Iterative Algorithms for Two-Person Zero-Sum Games.
ADA362910REB PC A05/MF A01

ADA362911REB
Efficient Computation of Nonlinear Transient Structural Synthesis for Seismic Isolation.
ADA362911REB PC A06/MF A01

ADA362912REB
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service.
ADA362912REB PC A10/MF A03

ADA362913REB
East Asia: Southeast Asia.
ADA362913REB PC A03/MF A01

ADA362914REB
East Asia: Southeast Asia.
ADA362914REB PC A04/MF A01

ADA362915REB
JPRS Report, Near East & South Asia--Translation.
ADA362915REB PC A04/MF A01

ADA362916REB
Near East and South Asia--Translation.
ADA362916REB PC A05/MF A01

ADA362917REB
JPRS Report, Latin America.
ADA362917REB PC A10/MF A02

ADA362918REB
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB PC A07/MF A02

ADA362919REB
JPRS Report, Latin America.
ADA362919REB PC A05/MF A01

ADA362920REB
JPRS Report, Latin America.
ADA362920REB PC A04/MF A01

ADA362921REB
JPRS Report, East Asia: Korea.
ADA362921REB PC A03/MF A01

ADA362922REB
JPRS Report, East Asia: Korea.
ADA362922REB PC A04/MF A01

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Data Quality Tools for Data Warehousing - A Small Sample Survey.
ADA362923REB PC A03/MF A01

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Mapping Coastal Surface Winds in Monterey Bay Using High Frequency Radar.
ADA362924REB PC A08/MF A02

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Introduction to Workflow Management Systems.
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ADA362926REB
Ceramic Armor Material Database.
ADA362926REB PC A12/MF A03

ADA362927REB
JPRS Report, East Asia: Korea--Translation.
ADA362927REB PC A05/MF A01

ADA362928REB
USSR Report, Military Affairs, No. 1814--Translation.
ADA362928REB PC A05/MF A01

ADA362929REB
Near East and South Asia--Translation.
ADA362929REB PC A05/MF A01

ADA362930REB
Near East and South Asia--Translation.
ADA362930REB PC A04/MF A01

ADA362931REB
East Asia: Southeast Asia.
ADA362931REB PC A05/MF A01

ADA362932REB
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB PC A03/MF A01

ADA362933REB
East Asia: Southeast Asia.
ADA362933REB PC A05/MF A01

ADA362934REB
USSR Report, Science and Technology Policy, No. 14.
ADA362934REB PC A07/MF A02

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Medium Extended Air Defense System: A Renaissance in Trans-Atlantic Armaments Cooperation.
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Syntheses and Crystal Structures of Novel Diaza-18-Crown-6 Ligands Containing Aromatic Thiol-Derived Side Arms.
ADA362936REB PC A03/MF A01

ADA362937REB
East Asia: Korea--Translation.
ADA362937REB PC A05/MF A01

ADA362938REB
General Meeting of the Siberian Affiliate of the Academy of Sciences USSR--Translation.
ADA362938REB PC A01/MF A01

ADA362940REB
Laser Doppler Velocimeter and High Speed Imaging System for Fluid Dynamics, Combustion and Chemical Kinetics Research.
ADA362940REB PC A03/MF A01

ADA362941REB
JPRS Report, East Asia Southeast Asia--Translation.
ADA362941REB PC A04/MF A01

ADA362942REB
Opportunities to Improve Diagnostics Performance Using Computer-Based Product Definition Models and Simulations.
ADA362942REB PC A05/MF A01

ADA362943REB
China Report, Political, Sociological and Military Affairs--Translation.
ADA362943REB PC A08/MF A02

ADA362944REB
Fort Bliss, Texas 1998: Acute Gastroenteritis Outbreak.
ADA362944REB PC A03/MF A01

ADA362945REB
East Europe Report, Political, Sociological and Military Affairs, No. 2130--Translation.
ADA362945REB PC A10/MF A02

ADA362946REB
Feasibility Study of Liquid Phase Sinter Forming of a Model Ceramic System.
ADA362946REB PC A06/MF A01

ADA362947REB
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ADA362948REB
Overhydration with Secondary Hyponatremia, Fort Benning, Georgia.
ADA362948REB PC A06/MF A01

ADA362949REB
East Europe Report, Scientific Affairs, No. 782.
ADA362949REB PC A06/MF A01

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ADA362955REB
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ADA362955REB PC A02/MF A01

ADA362956REB
News from AFAR, Volume 2, Number 1 March/April 1996.
ADA362956REB PC A02/MF A01

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Progress in Fast Ignitor Research with the Nova Petawatt Laser Facility.
ADA362957REB PC A03/MF A01

ADA362958REB
Vibration Damping by a Nearly Continuous Distribution of Nearly Undamped Oscillators.
ADA362958REB PC A03/MF A01

ADA362959REB
Aerospace Acquisition 2000, Volume 2, Number 1.
ADA362959REB PC A03/MF A01

ADA362960REB
News from AFAR, Volume 2 Number 2 May/June 1996.
ADA362960REB PC A02/MF A01

ADA362961REB
USSR Report, Agriculture, No. 1409.
ADA362961REB PC A04/MF A01

ADA362962REB
Identification and Evaluation of Interfaces of IL Support Operations with the Army Logistics System.
ADA362962REB PC A14/MF A03

ADA362963REB
Madigan Army Medical Center, Department of Clinical Investigation. Annual Progress Report.
ADA362963REB PC A99/MF A06

ADA362964REB
Survey of Work and Sleep Hours of U.S. Army Aviation Personnel.
ADA362964REB PC A04/MF A01

ADA362965REB
Concussive Effects of Low Frequency Sound Exposure.
ADA362965REB PC A01/MF A01

ADA362966REB
USSR Report: Energy, No. 164.
ADA362966REB PC A06/MF A01

ADA362967REB
Worldwide Report: Environmental Quality, No. 379.
ADA362967REB PC A06/MF A01

ADA362968REB
Analysis of First-Term Army Attrition.
ADA362968REB PC A04/MF A01

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ADA362973REB
News from AFAR, Volume 1, Number 3 July/August 1998.
ADA362973REB PC A03/MF A01

ADA362974REB
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ADA362974REB PC A05/MF A01

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ADA362976REB
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ADA362976REB PC A06/MF A01

ADA362977REB
Medical Research and Evaluation Facility (MREF) and Studies Supporting the Medical Chemical Defense Program. Evaluation of the Passive Protection Against Five Serotypes of Botulinum Toxin Provided by Botulinum Human Immune Globulin in an Animal Model.
ADA362977REB PC A17/MF A03

ADA362978REB
Department of Defense, Inc. Are We Ready To Become An Extension of Corporate America.
ADA362978REB PC A04/MF A01

ADA362979REB
Worldwide Report: Epidemiology, No. 330.
ADA362979REB PC A05/MF A01

ADA362980REB
Worldwide Report: Epidemiology, No. 337.
ADA362980REB PC A05/MF A01

ADA362981REB
Thrust Augmentation for a Small Turbojet Engine.
ADA362981REB PC A06/MF A01

ADA362982REB
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ADA362982REB PC A03/MF A01

ADA362983REB
Degradation of Haloaromatic Compounds by Indigenous Sediment Microflora: Biochemistry and Molecular Ecology.
ADA362983REB PC A06/MF A01

ADA362984REB
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ADA362984REB PC A05/MF A01

ADA362985REB
Assessment of the REmote Minefield Detection System (REMIDS).
ADA362985REB PC A04/MF A01

ADA362986REB
Near East and South Asia–Translation.
ADA362986REB PC A04/MF A01

ADA362987REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362987REB PC A06/MF A01

ADA362988REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362988REB PC A06/MF A01

ADA362989REB
Strategic Creep: From Power Projection Back to Forward Presence.
ADA362989REB PC A04/MF A01

ADA362990REB
Political Information on Indonesia–Translation.
ADA362990REB PC A03/MF A01

ADA362991REB
For the Welfare of Man Development of Medical Science in the USSR–Translation.
ADA362991REB PC A02/MF A01

ADA362992REB
Military News Items From Chinese Communist Press–Translation.
ADA362992REB PC A02/MF A01

ADA362993REB
Sub-Saharan Africa Report, No. 2873–Translation.
ADA362993REB PC A08/MF A02

ADA362994REB
East Europe Report, Political, Sociological and Military Affairs, No. 2235–Translation.
ADA362994REB PC A05/MF A01

ADA362995REB
China Report, Political, Sociological and Military Affairs, No. 475–Translation.
ADA362995REB PC A06/MF A01

ADA362996REB
From Carter to Reagan: Formulation of American Foreign Policy during a Time of Transition. An Explanation of Foreign Policy Decisions Based on the Initial Presidential Transition Period.
ADA362996REB PC A05/MF A01

ADA362997REB
Worldwide Report, Epidemiology, No. 324.
ADA362997REB PC A05/MF A01

ADA362998REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362998REB PC A08/MF A02

ADA362999REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362999REB PC A09/MF A02

ADA363000REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363000REB PC A06/MF A01

ADA363001REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363001REB PC A06/MF A02

ADA363002REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363002REB PC A08/MF A02

ADA363003REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363003REB PC A10/MF A02

ADA363004REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363004REB PC A08/MF A02

ADA363007REB
Numerical Computation of the Radar Cross Section of the ZSU-23-4.
ADA363007REB PC A03/MF A01

ADA363008REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363008REB PC A07/MF A02

ADA363009REB
JPRS Report, East Asia, Korea–Translation.
ADA363009REB PC A04/MF A01

ADA363010REB
Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide.
ADA363010REB PC A06/MF A01

ADA363012REB
Air Force Journal of Logistics, Volume XXIII, Number 1. Spring 1999.
ADA363012REB PC A04/MF A01

ADA363013REB
JPRS Report, Near East & South Asia, Table of Contents, JPRS-NEA-87-001, 2 January 1987-JPRS-NEA-87-041, 6 Apr 1987 Part 1–Translation.
ADA363013REB PC A10/MF A02

ADA363014REB
China Report: Political, Sociological and Military Affairs, No. 437.
ADA363014REB PC A11/MF A03

ADA363015REB
East Asia: Southeast Asia.
ADA363015REB PC A04/MF A01

ADA363016REB
Extending the State-of-the-Art for the COMAN/ATCAL Methodology.
ADA363016REB PC A08/MF A02

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ADA363017REB PC A03/MF A01

ADA363019REB
Analysis of a Pyroceram Radome Subjected to Aerodynamic Heating.
ADA363019REB PC A04/MF A01

ADA363020REB
Visual Analysis of a Radio Frequency Tracking System for Virtual Environments.
ADA363020REB PC A06/MF A01

ADA363021REB
Worldwide Report, Environmental Quality, No. 403, China Addresses Environmental Issues – V.
ADA363021REB PC A13/MF A03

ADA363022REB
Component Based Simulation of the Space Operations Vehicle and the Common Aero Vehicle.
ADA363022REB PC A08/MF A02

ADA363023REB
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ADA363023REB PC A05/MF A01

ADA363024REB
Status of DoD's Capability to Estimate the Costs of Weapon Systems: 1999 Update.
ADA363024REB PC A07/MF A02

ADA363025REB
USSR Report, Engineering and Equipment, No. 95–Translation.
ADA363025REB PC A07/MF A02

ADA363026REB
Instrumentation for Research on High-Speed Optical Transmultiplexing and Coding for Optoelectronic Computer Networking.
ADA363026REB PC A02/MF A01

ADA363027REB
Hungarian Symposium of Radiation Damage and Protection.
ADA363027REB PC A02/MF A01

ADA363028REB
West Europe Report: Science and Technology, No. 166.
ADA363028REB PC A06/MF A01

ADA363030REB
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ADA363030REB PC A04/MF A01

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ADA363031REB PC A06/MF A01

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ADA363034REB
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ADA363034REB PC A04/MF A01

ADA363035REB
News from AFAR, Volume 1 Number 7 January/February 1996.
ADA363035REB PC A03/MF A01

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ADA363036REB PC A08/MF A02

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ADA363043REB PC A03/MF A01

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ADA363045REB PC A09/MF A02

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Hybrid Asymptotic-Numerical Methods in Scattering.
ADA363046REB PC A14/MF A03

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ADA363048REB PC A02/MF A01

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ADA363049REB PC A01/MF A01

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ADA363051REB PC A03/MF A01

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ADA363052REB PC A09/MF A02

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ADA363054REB PC A03/MF A01

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Some Principles of Network-Centric Warfare: A Look at How Network- Centric Warfare Applies to the Principles of War.
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Operational Fires on the Urban Battlefield: An Underdeveloped Concept.
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Effects-Based Targeting and Operational Art in the 21st Century.
ADA363060REB PC A03/MF A01

ADA363061REB
Operational Level of War: Radical Change Needed to Support the American RMA.
ADA363061REB PC A03/MF A01

ADA363062REB
Countermeasure: Army Ground Risk-Management Publication, Volume 20, Number 5, May 1999.
ADA363062REB PC A03/MF A01

ADA363063REB
RAND Forum on Cuba.
ADA363063REB PC A05/MF A01

ADA363064REB
Archipelagic Sea Lanes: Designation Factors and Effects on Operational Art.
ADA363064REB PC A03/MF A01

ADA363065REB
Theater Missile Defense in World War II - Some Operational Art Considerations.
ADA363065REB PC A03/MF A01

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Enhancing a CAVE with Eye Tracking System for Human-Computer Interaction Research in 3D Visualization.
ADA363070REB PC A01/MF A01

ADA363071REB
SERDP Scientific Advisory Board Annual Report to Congress, Fiscal Year 1998.
ADA363071REB PC A06/MF A01

ADA363072REB
Implementation of Successful Practices Using an Iterative Development Methodology for an AEGIS Configuration Management Software Application.
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ADA363073REB
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ADA363073REB PC A04/MF A01

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Hybrid Version of Method of Moments Computer Code: IBC3D.
ADA363074REB PC A03/MF A01

ADA363075REB
S2 Automated Agent (S2A2): A Training Aid for Commanders and Intelligence Officers.
ADA363075REB PC A10/MF A02

ADA363076REB
Non-Lethal Weapons: Applications in Maritime Interdiction Operations.
ADA363076REB PC A03/MF A01

ADA363077REB
Unclassified Publications of Lincoln Laboratory.
ADA363077REB PC A05/MF A01

ADA363078REB
RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
ADA363078REB PC A12/MF A03

ADA363079REB
Unique Polymeric Fiber and Fiber Delivery Systems for the Economic Preparation of High-Fiber Content Concrete with Superior Physical Properties.
ADA363079REB PC A12/MF A03

ADA363080REB
USAF Manufacturing Technology; Program Status Report, Spring 1999.
ADA363080REB PC A03/MF A01

ADA363081REB
Prediction of Crack Initiation and Growth in Solid Propellants.
ADA363081REB PC A12/MF A03

ADA363083REB
Adaptive Inventory Control for Non-Stationary Demand with Partial Information.
ADA363083REB PC A08/MF A02

ADA363084REB
Innovative Thin Film Fluorescence Sensor Providing Greatly Enhanced Signal-to-Noise and Integrated Solid State Detection. Suitable for Incorporation in Microchip Sensor Systems. Phase 1.
ADA363084REB PC A03/MF A01

ADA363085REB
U.S. Navy Heavy Weather Mooring Criteria.
ADA363085REB PC A03/MF A01

ADA363086REB
Transmission Availability Forecast Service for Internet Protocol Networks.
ADA363086REB PC A04/MF A01

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ADA363087REB PC A04/MF A01

ADA363088REB
Analysis of Delayed Entry Program (DEP) Attrition by High School Seniors.
ADA363088REB PC A07/MF A02

ADA363089REB
Air Force Research Laboratory Research Highlights, Mar/Apr 1999.
ADA363089REB PC A01/MF A01

ADA363090REB
Final Data Usability Summary and Resampling Proposal for Fort Sheridan.
ADA363090REB PC A04/MF A01

ADA363091REB
Challenges of Command and Control in 2010 Counterdrug Operations.
ADA363091REB PC A04/MF A01

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ADA363092REB PC A03/MF A01

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ADA363093REB PC A04/MF A01

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ADA363094REB PC A03/MF A01

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ADA363100REB
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ADA363100REB PC A05/MF A01

ADA363101REB
Data Transfer Report - 30-mm Enhanced Alternate High-Energy Propellant Program (EAHEP): Evaluation of the Performance of an RDX-Based ARDEC-7994 Propellant and the Effect of Two Different Slug Projectile Designs.
ADA363101REB PC A04/MF A01

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ADA363104REB PC A13/MF A03

ADA363105REB
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ADA363105REB PC A04/MF A01

ADA363107REB
China Report, Science and Technology, No. 192--Translation.
ADA363107REB PC A05/MF A01

ADA363108REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363108REB PC A08/MF A02

ADA363109REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363109REB PC A08/MF A02

ADA363110REB
USSR Report, USA: Economics, Politics, Ideology No. 12, December 1984--Translation.
ADA363110REB PC A07/MF A02

ADA363111REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363111REB PC A06/MF A01

ADA363112REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363112REB PC A06/MF A01

ADA363113REB
USSR Report, USA, Economics, Politics, Ideology, NO. 3, March 1985--Translation.
ADA363113REB PC A06/MF A01

ADA363114REB
USSR Report, USA: Economics, Politics, Ideology No. 2, February 1985--Translation.
ADA363114REB PC A04/MF A01

ADA363115REB
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ADA363115REB PC A03/MF A01

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ADA363118REB PC A04/MF A01

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ADA363119REB PC A07/MF A02

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ADA363120REB PC A03/MF A01

ADA363121REB
OCCUPATIONAL SURVEY REPORT: Surgical Services, AFSC 4N1X1B/C/D, OSSN 2331.
ADA363121REB PC A08/MF A02

ADA363122REB
Navy AV-8B Crash Survivable Flight Incident Recorder (CSFIR).
ADA363122REB PC A04/MF A01

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ADA363123REB PC A04/MF A01

ADA363124REB
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ADA363139REB
Load Time Dependent Relaxation of Residual Stresses in an Aluminum Test Specimen.
ADA363139REB PC A09/MF A02

ADA363140REB
USSR Report, Machine Tools and Metalworking Equipment, No. 7.
ADA363140REB PC A04/MF A01

ADA363141REB
USSR Report, Construction and Related Industries, No. 93.
ADA363141REB PC A05/MF A01

ADA363143REB
USSR Report, Chemistry, No. 110.
ADA363143REB PC A06/MF A01

ADA363144REB
Resource for Piezoelectric Single Crystals.
ADA363144REB PC A08/MF A02

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ADA363145REB PC A05/MF A01

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Information Operations in Iraq.
ADA363160REB PC A04/MF A01

ADA363161REB
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB PC A03/MF A01

ADA363162REB
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB PC A03/MF A01

ADA363163REB
Countering the New Terrorism.
ADA363163REB PC A09/MF A02

ADA363165REB
Consolidating Active and Reserve Component Training Infrastructure.
ADA363165REB PC A08/MF A02

ADA363166REB
Shifting Ambiguity U.S. Foreign Policy Toward China and Taiwan.
ADA363166REB PC A10/MF A02

ADA363167REB
Operational Level Intelligence Preparation of the Battlefield for Special Operations Forces.
ADA363167REB PC A03/MF A01

ADA363168REB
Operational Commander and the Trident SSGN.
ADA363168REB PC A03/MF A01

ADA363169REB
Archeological and Architectural Investigations at Brown's Sheep Camp (5LA5824), a Multicomponent District in the U.S. Army Pinon Canyon Maneuver Site, Las Animas County, Colorado.
ADA363169REB PC A07/MF A02

ADA363170REB
Bird Strike Risk Assessment for United States Air Force Airfields and Aircraft.
ADA363170REB PC A09/MF A02

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Performance Budgeting: Initial Experiences Under the Results Act in Linking Plans With Budgets.
ADA363171REB PC A05/MF A01

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Within the Context of JV2010, Is There a Requirement for a Theater-Level Joint Forces Logistics Commander (JKLOGC) and a Joint Theater Logistics Command (JTLC).
ADA363172REB PC A04/MF A01

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General Aviation Airports: Unauthorized Land Use Highlights Need for Improved Oversight and Enforcement.
ADA363173REB PC A03/MF A01

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Air Traffic Control: FAA's Modernization Investment Management Approach Could Be Strengthened.
ADA363174REB PC A05/MF A01

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Arabian Gulf Maritime Interception Operations: Balancing the Ends, Ways, Means and Risks.
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Regional Civil-Military Operations Center: A Force Muttiplier in Military Operations Other Than War.
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Operational Art and the Human Dimension of Warfare in the 21st Century.
ADA363177REB PC A03/MF A01

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America's Role in the Allied Intervention in Northern Russia and Siberia (1918-1920) Case Studies of Mission Creep and Coalition Failure.
ADA363178REB PC A04/MF A01

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Future Insurgencies in Latin America and the Caribbean: Implications for U.S. Operations.
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Maritime Preposition Force Ship 2010.
ADA363180REB PC A13/MF A03

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Force Protection and Strategic Air Mobility: The MANPAD Challenge.
ADA363181REB PC A03/MF A01

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Axis Offensive Military Operations Against the Continental United States: Opportunity Lost.
ADA363182REB PC A03/MF A01

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Reexamination of the Joint Force Air Component Commander (JFACC) concept for the 21st Century.
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Design of a Switched-Reluctance Motor Drive for Electric Propulsion.
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Special Forces: The Peacetime Regional Engagement Force of Choice ... and More.
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Forced Acoustic Field Effects on Incineration Processes: Research on U. S. Navy Shipboard Waste Disposal.
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Airborne Forces of the United States Army: Cornerstone of Force Projection.
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Demonstration of Lead-Based Paint Removal From an Historic Wood Structure Using Laser Technology.
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Area Air Defense Commander: Can JFACC Do It All.
ADA363189REB PC A03/MF A01

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Operational Counter Deception Cell: Is It The Answer.
ADA363190REB PC A03/MF A01

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Creeping Jurisdiction, Are International Straits in Jeopardy.
ADA363191REB PC A03/MF A01

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DOD FINANCIAL MANAGEMENT: More Reliable Information Key to Assuring Accountability and Managing Defense Operations More Efficiently.
ADA363192REB PC A03/MF A01

ADA363193REB
Naval Force Protection in the Littorals.
ADA363193REB PC A03/MF A01

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Modern Mercenaries of the Twentyfirst Century; Professional Military Consultants a Modern Tool of Foreign Policy.
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High Profile Special Operations Missions and Timing: Identifying the Culminating Point of Execution.
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Next Convoy War: The American Campaign Against Enemy Shipping in the Twenty-First Century.
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Division G6 - Strategic Signal Leadership for Information Superiority in the Army After Next.
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Economic Sanctions: Viable Instruments of Power or Economic Chaos.
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Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB PC A03/MF A01

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WEAPONS OF MASS DESTRUCTION: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned.
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Maintaining Budgetary Discipline: Spending and Revenue Options.
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Cruising CVBGs and Horizon MAGs: An Alternative Approach to Naval Forward Presence for the 21st Century.
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GENDER ISSUES: Perceptions of Readiness in Selected Units.
ADA363204REB PC A04/MF A01

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U.S. - JAPAN TRADE: The Japanese Insurance Market.
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DEFENSE REFORM INITIATIVE: Organization, Status, and Challenges.
ADA363206REB PC A06/MF A01

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Technology and Intervention: The Negative Impact on Future Leader Development.
ADA363207REB PC A03/MF A01

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Managing the Dynamics of Change.
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USAF Aerospace Expeditionary Force: Flying into the 21st Century.
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Shaping the Regional Stability Environment with Reserves.
ADA363210REB PC A04/MF A01

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Closing the Book: The Role of the Aircraft Carrier in the Twenty-First Century.
ADA363211REB PC A03/MF A01

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Winning MOOTW's in 2010: The Future Relationship Between the U.S. Military and Nongovernmental Organizations (NGO's).
ADA363212REB PC A03/MF A01

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Planning for Future Humanitarian Assistance Operations: Using the SAO to Establish the NGO Working Relationship.
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Losing Anti-Personnel Landmines: An Economy of Force.
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Operational Design of Hurricane Relief Operations.
ADA363215REB PC A04/MF A01

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Naval Operational Concept and Operational Maneuver from the Sea: Analysis in Operational Design.
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American Military's Discomfort with Peace Operations.
ADA363217REB PC A03/MF A01

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Water Injection into Navy Gas-Turbine Combustors to Reduce NOx Emissions.
ADA363219REB PC A03/MF A01

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Mobility Traid and Challenges for the Operational Commander.
ADA363220REB PC A03/MF A01

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Prospects for a Naval Service Operational Concept.
ADA363221REB PC A03/MF A01

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Reduction of NOx Emissions from Marine Power Plants.
ADA363222REB PC A03/MF A01

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U.S. Military, NGO's and CMOC: Staying Connected and Achieving Unity of Effort During MOOTW.
ADA363224REB PC A03/MF A01

ADA363225REB
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB PC A03/MF A01

ADA363226REB
Commander's Estimate of the Situation: Kosovo & The Southern Balkans.
ADA363226REB PC A03/MF A01

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Operational Effects of Mine Warfare.
ADA363227REB PC A03/MF A01

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Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
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Real Cost of 'Engagement'.
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NATO: From Creation to Golden Anniversary. Insights for the Czech Republic.
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UNITED NATIONS: Progress of Procurement Reforms.
ADA363233REB PC A04/MF A01

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Forward Amphibious Maneuver from the Sea.
ADA363234REB PC A03/MF A01

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ADA363236REB PC A03/MF A01

ADA363237REB
Worldwide Report, Nuclear Development and Proliferation No. 209--Translation.
ADA363237REB PC A06/MF A01

ADA363238REB
Study of Turkish Officers at the Naval Postgraduate School: Social, Cultural, and Administrative Issues.
ADA363238REB PC A05/MF A01

ADA363239REB
Worldwide Report, Environmental Quality No. 381.
ADA363239REB PC A06/MF A01

ADA363240REB
Elimination of Toxic Materials and Solvents from Solid Propellant Components (PP1058).
ADA363240REB PC A03/MF A01

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Satellite Control Systems: Opportunity for DOD to Implement Space Policy and Integrate Capabilities.
ADA363241REB PC A03/MF A01

ADA363242REB
Evaporative Compressor Cooling for NOx Suppression and Enhanced Engine Performance for Naval Gas Turbine Propulsion Plants.
ADA363242REB PC A03/MF A01

ADA363243REB
NBC Report, Spring - Summer 1999. Survivability of Army Personnel and Materiel.
ADA363243REB PC A04/MF A01

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Low Cost Sorbents Screening and Engineering Analysis of Zeolite for Treatment of Metals Contaminated Water and Soil Extracts.
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ADA363245REB PC A09/MF A02

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Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
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Non-Thermal Plasmas as Gas-Phase Advance Oxidation Processes.
ADA363247REB PC A02/MF A01

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Laser Ablation/Ionization Characterization of Solids: Final Progress Report of the Strategic Environmental Research and Development Program.
ADA363248REB PC A05/MF A01

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Positive Aspects of Network Centric Command. The Ties Between Behavioral Doctrine and Technology.
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Theater Ballistic Missile Defense, an Achilles Heel for the United States.
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Combustion Control Using a Multiplexed Diode-Laser Sensor System.
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Background Biological Aerosol Properties.
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Separation of RDX from Composition B Via a Supercritical Fluid Extraction Process.
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General Creighton Abrams: Ethical Leadership at the Strategic Level.
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Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB PC A05/MF A01

ADA363257REB
Waste Forms Based on Separations Media (DOE 360-94). The Strategic Environmental Research and Development Program.
ADA363257REB PC A10/MF A03

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Supercritical Carbon Dioxide Based Processing of PEP Binder Polymers.
ADA363258REB PC A03/MF A01

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C2 in the Information Age: Will Operational Command Echelons Become Unnecessary.
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Command and Control in Joint Vision 2010: Flexible, Adaptive and Networked.
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Nondestructive Evaluation (NDE) Techniques Assessment for Graphite/Epoxy (Gr/Ep) Composite Overwrapped Pressure Vessels.
ADA363261REB PC A03/MF A01

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Automotive Parts Acquisition Guide.
ADA363262REB PC A08/MF A02

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Quantum Modeling.
ADA363264REB PC A04/MF A01

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Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB PC A03/MF A01

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Innovative Approaches to Watershed Characterization: Winters Run Watershed Pilot Project - A Case Study.
ADA363266REB PC A04/MF A01

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Revolution in Military Logistics: Surviving the Budget Process.
ADA363267REB PC A04/MF A01

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Theodore Roosevelt: Activated Vision Through the Bully Pulpit.
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ADA363269REB
Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB PC A06/MF A02

ADA363270REB
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB PC A05/MF A01

ADA363271REB
Worldwide Report Telecommunications Policy, Research and Development No. 253.
ADA363271REB PC A05/MF A01

ADA363272REB
East Europe Report, Scientific Affairs No. 762.
ADA363272REB PC A04/MF A01

ADA363273REB
Worldwide Report, Telecommunications Policy, Research and Development, No. 293.
ADA363273REB PC A05/MF A01

ADA363275REB
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436.
ADA363275REB PC A04/MF A01

ADA363276REB
Evaluation of Prototype Electrically Heated Handwear.
ADA363276REB PC A04/MF A01

ADA363278REB
Physical and Chemical Environmental Factors Associated with the Temporal and Spatial Distribution of Cyanobacteria in Lake George, New York.
ADA363278REB PC A07/MF A02

ADA363279REB
Fort Jackson 1988 Database: Demographics, Anthropometrics, Risk Factors and Fitness Measures.
ADA363279REB PC A19/MF A04

ADA363280REB
China Report, Political, Sociological and Military Affairs.
ADA363280REB PC A10/MF A02

ADA363281REB
Regulations for the Technical Operation of Interurban Telephone- Telegraph Cable Lines, USSR.
ADA363281REB PC A08/MF A02

ADA363282REB
Worldwide Report: Nuclear Development and Proliferation, No. 172.
ADA363282REB PC A05/MF A01

ADA363283REB
Worldwide Report Nuclear Development and Proliferation No. 182.
ADA363283REB PC A04/MF A01

ADA363284REB
USSR Report, Electronics and Electrical Engineering, No. 118.
ADA363284REB PC A04/MF A01

ADA363285REB
China Report, Agriculture, No. 279.
ADA363285REB PC A06/MF A01

ADA363286REB
East Asia: Korea.
ADA363286REB PC A08/MF A02

ADA363287REB
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363287REB PC A09/MF A02

ADA363288REB
China Report, Economic Affairs No. 323 Energy: Status and Development-- XV.
ADA363288REB PC A09/MF A02

ADA363289REB
Southeast Asia Report, No. 1304.
ADA363289REB PC A07/MF A02

ADA363290REB
East Europe Report, Political, Sociological and Military Affairs, No. 2158.
ADA363290REB PC A08/MF A02

ADA363291REB
USSR Report, Military Affairs, No. 1817.
ADA363291REB PC A07/MF A02

ADA363292REB
Korean Affairs Report, No. 326 Kulloja No. 3, March 1983.
ADA363292REB PC A07/MF A02

ADA363293REB
China Report, Political, Sociological and Military Affairs, No. 476.
ADA363293REB PC A07/MF A02

ADA363294REB
East Europe Report, Political, Sociological and Military Affairs, No. 2121.
ADA363294REB PC A08/MF A02

ADA363295REB
USSR Report, USA: Economics, Politics, Ideology–Translation.
ADA363295REB PC A05/MF A01

ADA363296REB
USSR Report, USA: Economics, Politics, Ideology, No. 1, January 1985–Translation.
ADA363296REB PC A06/MF A01

ADA363297REB
USSR Report, USA, Economics, Politics, Ideology, No. 6, June 1985.
ADA363297REB PC A05/MF A01

ADA363298REB
USSR Report, USA, Economics, Politics, Ideology, NO. 5, May 1985.
ADA363298REB PC A05/MF A01

ADA363299REB
USSR Report, USA, Economics, Politics, Ideology, No. 4, April 1985.
ADA363299REB PC A05/MF A01

ADA363300REB
USSR Report, USA: Economics, Politics, Ideology, No. 10, October 1985.
ADA363300REB PC A05/MF A01

ADA363301REB
JPRS Report, West Europe Reference Aid Portuguese Military Terms.
ADA363301REB PC A07/MF A02

ADA363302REB
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1985.
ADA363302REB PC A05/MF A01

ADA363303REB
USSR Report, USA: Economics, Politics, Ideology, No. 8, August 1985.
ADA363303REB PC A05/MF A01

ADA363304REB
USSR Report, USA: Economics, Politics, Ideology, No. 7, July 1985.
ADA363304REB PC A06/MF A01

ADA363305REB
Japan Opposes US-Japanese Security Pact.
ADA363305REB PC A02/MF A01

ADA363306REB
Selected Soviet Military Translations (Recent Events in the Soviet Navy) No. 61–Translation.
ADA363306REB PC A03/MF A01

ADA363307REB
East Europe Report, Political, Sociological and Military Affairs No. 2157.
ADA363307REB PC A05/MF A01

ADA363308REB
East Europe Report, Political, Sociological and Military Affairs No. 2234.
ADA363308REB PC A10/MF A02

ADA363309REB
China Report, Political, Sociological and Military Affairs No. 474.
ADA363309REB PC A09/MF A02

ADA363310REB
Soviet Abstracts Biology, Section O, Plant Diseases, Book No. 23, 1958, Abstracts 104958 thru 105054–Translation.
ADA363310REB PC A03/MF A01

ADA363311REB
Brief Report on a Scientific Mission to the United States, USSR.
ADA363311REB PC A03/MF A01

ADA363312REB
China Report, Economic Affairs, No. 296. Energy: Status and Development XII.
ADA363312REB PC A08/MF A02

ADA363313REB
Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB PC A03/MF A01

ADA363314REB
Survey of Soviet Heavy Industry (4).
ADA363314REB PC A03/MF A01

ADA363315REB
Activities of Scientific Societies of the Tatar ASSR.
ADA363315REB PC A02/MF A01

ADA363316REB
Research and Development in Soviet Nonferrous Metallurgy–Translation.
ADA363316REB PC A07/MF A02

ADA363317REB
Two Concepts and Two Tendencies of Statism, Yugoslavic.
ADA363317REB PC A02/MF A01

ADA363318REB
Selected Articles on Armed Forces in North Vietnam.
ADA363318REB PC A03/MF A01

ADA363319REB
Third Congress of the All-Union Astronomic-Geodetic Society, USSR.
ADA363319REB PC A02/MF A01

ADA363320REB
Radiation Injury and Autolysis, USSR–Translation.
ADA363320REB PC A04/MF A01

ADA363321REB
Steel 'Mouse' and Automations, USSR.
ADA363321REB PC A01/MF A01

ADA363322REB
Third All-Union Conference on the Electrophysiology of the Nervous System, USSR.
ADA363322REB PC A01/MF A01

ADA363323REB
Role of Persuasion and Coercion in the Soviet State USSR.
ADA363323REB PC A03/MF A01

ADA363324REB
East Europe Report, Political, Sociological and Military Affairs, No. 2164–Translation.
ADA363324REB PC A08/MF A02

ADA363325REB
East Europe Report, Political, Sociological and Military Affairs, No. 2123–Translation.
ADA363325REB PC A09/MF A02

ADA363326REB
China Report, Political, Sociological and Military Affairs, No. 404–Translation.
ADA363326REB PC A07/MF A02

ADA363327REB
USSR Report, Energy No. 129.
ADA363327REB PC A04/MF A01

ADA363328REB
Worldwide Report, Nuclear Development and Proliferation No. 210.
ADA363328REB PC A05/MF A01

ADA363329REB
Worldwide Report: Nuclear Development and Proliferation, No. 170.
ADA363329REB PC A05/MF A01

ADA363330REB
Structural Optimization Technique.
ADA363330REB PC A04/MF A01

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GPS User-Interface Design Problems.
ADA363331REB PC A03/MF A01

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Results of the Field Study of the Paleontological Resources of the Fort Carson Military Reservation, Colorado.
ADA363332REB PC A06/MF A01

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Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility.
ADA363334REB PC A05/MF A01

ADA363335REB
Year End Progress Report for ONR Young Investigator Grant N00014-97-1-0774.
ADA363335REB PC A02/MF A01

ADA363336REB
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB PC A06/MF A02

ADA363337REB
Value Engineering/Operation and Support Cost Reduction Computer Based Program and VE Training Tool For Tech Loop Spare Parts Initiatives.
ADA363337REB PC A06/MF A01

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Values Identified in Different Groups of Air Force Nurses.
ADA363338REB PC A08/MF A02

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Parallel Simulations of Waste Incineration in a Dump Combustor.
ADA363339REB PC A02/MF A01

ADA363340REB
Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB PC A13/MF A03

ADA363341REB
Engineering Model for Prediction of Waste Incineration in a Dump Combustor.
ADA363341REB PC A02/MF A01

ADA363343REB
Integrated Diagnostics.
ADA363343REB PC A10/MF A02

ADA363345REB
BALLISTIC MISSILE DEFENSE: More Common Systems and Components Could Result in Cost Savings.
ADA363345REB PC A03/MF A01

ADA363346REB
Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB PC A11/MF A03

ADA363347REB
Behavioral Ecology of Coral Reef Fishes at Spawning Aggregation Sites.
ADA363347REB PC A13/MF A03

ADA363348REB
Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
ADA363348REB PC A03/MF A01

ADA363349REB
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B.
ADA363349REB PC A03/MF A01

ADA363350REB
Ecological Modeling to Support Land Use Decisions. Strategic Environmental Research and Development Program Conservation Thrust Area (CS-758).
ADA363350REB PC A08/MF A02

ADA363351REB
Development of an Integrated Mobile Meteorological Monitoring System for Use in Open Burning and Open Detonation Activities.
ADA363351REB PC A02/MF A01

ADA363352REB
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
ADA363352REB PC A04/MF A01

ADA363353REB
Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
ADA363353REB PC A03/MF A01

ADA363354REB
Project CS-1082, Information and Technology Tools for Assessment and Prediction of the Potential Effects of Military Noise on Marine Mammals.
ADA363354REB PC A02/MF A01

ADA363355REB
Background Fluorescence in an Aerosol Biodetector Based on 266-nm Excitation.
ADA363355REB PC A03/MF A01

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Dental Readiness of the Army War College Students Class of 1999, A Comparison study to the class of 1985.
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Reserve Component Officer Professional Development.
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Transformation of the Hungarian Home Defense Forces or a New Role in a New Environment.
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Characterization of Underground Facilities.
ADA363359REB PC A05/MF A01

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Semiclassical Random Electrodynamics: Spontaneous Emission and the Lamb Shift.
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Analysis of Damped Plates.
ADA363361REB PC A10/MF A02

ADA363362REB
Modeling of Silicon Quantum Structures.
ADA363362REB PC A03/MF A01

ADA363363REB
Medical Information Technology in Support of the Operational Commander.
ADA363363REB PC A03/MF A01

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Army's B-2 Bomber - Field Artillery Modernization.
ADA363364REB PC A04/MF A01

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Terrestrial Turtle Habitats Potentially Impacted.
ADA363365REB PC A02/MF A01

ADA363366REB
Mud and Musk Turtle Habitats Potentially Impacted.
ADA363366REB PC A02/MF A01

ADA363367REB
East Europe Report Political, Sociological and Military Affairs No. 2122–Translation.
ADA363367REB PC A07/MF A02

ADA363368REB
East Europe Report, Scinetific Affairs, No. 783–Translation.
ADA363368REB PC A05/MF A01

ADA363369REB
East Europe Report, Political, Sociological and Military Affairs, No. 2232–Translation.
ADA363369REB PC A05/MF A01

ADA363370REB
Annual Report to Congress. Fiscal Year 1998.
ADA363370REB PC A15/MF A03

ADA363371REB
Effects of Reservoir Operations on Individual Species and Communities: A Watershed Perspective.
ADA363371REB PC A02/MF A01

ADA363372REB
China Report, Political, Sociological and Military Affairs, No. 472–Translation.
ADA363372REB PC A06/MF A01

ADA363373REB
USSR Report, Life Sciences Biomedical and Behavioral Sciences, No. 45–Translation.
ADA363373REB PC A06/MF A02

ADA363375REB
Awards to Soviet Women Medical Workers-USSR.
ADA363375REB PC A04/MF A01

ADA363376REB
Conserving Assets: An Alternative Paradigm for Peace Operations.
ADA363376REB PC A04/MF A01

ADA363377REB
Southeast Asia Report No. 1308.
ADA363377REB PC A07/MF A02

ADA363378REB
General Harold K. Johnson and the Ambiguities of Strategic Leadership.
ADA363378REB PC A03/MF A01

ADA363379REB
East Europe Report, Political, Sociological and Military Affairs No. 2087.
ADA363379REB PC A08/MF A02

ADA363380REB
Radar Image Enhancement, Feature Extraction and Motion Compensation Using Joint Time-Frequency Techniques.
ADA363380REB PC A06/MF A01

ADA363381REB
Growing Imperative to Adopt 'Flexibility' as an American Principle of War.
ADA363381REB PC A06/MF A01

ADA363382REB
China Report, Political, Sociological and Military Affairs No. 374.
ADA363382REB PC A08/MF A02

ADA363383REB
Results of a Cultural Resource Inventory of Portions of Fort Carson Military Reservation and Test Excavation of Site 5EP2524, El Paso County, Colorado, 1996.
ADA363383REB PC A10/MF A02

ADA363384REB
Results of the 1997 Cultural Resource Reevaluation Project, Fort Carson Military Reservation: El Paso, Fremont, and Pueblo Counties, Colorado.
ADA363384REB PC A10/MF A03

ADA363385REB
Portfolio Optimization for Multiple Group Credit Unions.
ADA363385REB PC A06/MF A01

ADA363386REB
SPACE STATION: Status of Russian Involvement and Cost Control Efforts.
ADA363386REB PC A03/MF A01

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Analysis of the Operating Costs for Light Armored Vehicles in the United States Marine Corps.
ADA363387REB PC A06/MF A01

ADA363388REB
EAF Transition Workshop: After Action Report, Lessons Learned and Recommendations.
ADA363388REB PC A03/MF A01

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Deep-Sea Corals: A New Oceanic Archive.
ADA363389REB PC A12/MF A03

ADA363390REB
Building and Maintaining Public Acceptance of and Political Support for the Military of the Future.
ADA363390REB PC A04/MF A01

ADA363391REB
Defense Depot Maintenance Council Study of DoD Management of Industrial Plant Equipment.
ADA363391REB PC A03/MF A01

ADA363392REB
Automated System for Determining Applicability of Regulations.
ADA363392REB PC A02/MF A01

ADA363393REB
Integrated of the National Guard into the Total Force.
ADA363393REB PC A04/MF A01

ADA363395REB
National Sovereignty and the International Criminal Court.
ADA363395REB PC A05/MF A01

ADA363396REB
Verzeichnis der im Fachinformationswesen der bundesswehr laufend gehaltenen Zeitschriften (Zeitschriftenverzeichnis FIWBw). Listing of the Magazines Held Constantly in the Specialized Information System of the German Federal Armed Forces (magazine listing FIWBw)--Translation.
ADA363396REB PC A11/MF A03

ADA363397REB
Agricultural Trade Changes Made to Market Access Program, but Questions Remain on Economic Impact.
ADA363397REB PC A04/MF A01

ADA363398REB
Defense Transportation Efforts to Improve DOD's Personal Property Program.
ADA363398REB PC A03/MF A01

ADA363399REB
Role of Mutant p53 Protein in Breast Cancer.
ADA363399REB PC A03/MF A01

ADA363400REB
Right Force for the Future: Who Pays the Bill.
ADA363400REB PC A04/MF A01

ADD019337
Acoustic Sound Speed Profiling System.
PAT-APPL-8-226 625REB PC N03/MF A04

ADD019338
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB PC N03/MF A04

ADD019339
Multiline Tow Cable Assembly Including Swivel and Slip Ring.
PAT-APPL-8-137 870REB PC N03/MF A04

ADD019340
Illuminating Electrical Fuse.
PAT-APPL-8-226 620REB PC N03/MF A04

ADD019341
Non-Slip Safety Glasses.
PAT-APPL-8-226 621REB PC N03/MF A04

ADD019342
Electrical Outlet Splash Protector.
PAT-APPL-8-226 614REB PC N03/MF A04

AFFTC-TR-98-26
Results of Attempts to Prevent Departure and/or Pilot-Induced Oscillations (PIO) Due to Actuator Rate Limiting in Highly-Augmented Fighter Flight Control Systems (HAVE FILTER).
ADA362947REB PC A06/MF A01

AFIT-FY99-95
General Framework to Provide for the Optimal Dispatch of Hybrid Renewable Power Systems.
ADA363052REB PC A09/MF A02

AFIT/GE/ENG-99M-18
Terrain Backscattering Coefficient Generator.
ADA362716REB PC A06/MF A01

AFIT-99/97
Values Identified in Different Groups of Air Force Nurses.
ADA363338REB PC A08/MF A02

AFIT-99/98
Anxiety Sensitivity and Psychological Vulnerability.
ADA363346REB PC A11/MF A03

AFIT-99-99
Adherence to the Otitis Media with Effusion Clinical Practice Guideline by Providers in a United States Air Force Medical Treatment Facility.
ADA363334REB PC A05/MF A01

AFIT-99-100
Inhalation Exposure Risk During a Military Operation: A Risk Assessment Approach.
ADA363340REB PC A13/MF A03

AFLMA-LC-199719000
Automotive Parts Acquisition Guide.
ADA363262REB PC A08/MF A02

AFMC-ESC-TR-98-049
Unclassified Publications of Lincoln Laboratory.
ADA363077REB PC A05/MF A01

AFRL-HE-AZ-TR-1998-0078
Transfer of Training Effectiveness in Flight Simulation: 1986 to 1997.
ADA362818REB PC A03/MF A01

AFRL-HE-BR-TR-1998-0129
Development of the Air Force-Army Military Skill Linkage System (MISL).
ADA362717REB PC A10/MF A02

AFRL-IF-RS-TR-1999-50
Electromagnetic Effects of Advanced Packaging.
ADA362900REB PC A11/MF A03

AFRL-IF-RS-TR-1999-53
Knowledge-Based Interference Rejection Scheme for Direct-Sequence Spread-Spectrum Systems.
ADA362918REB PC A07/MF A02

AFRL-IF-RS-TR-1999-54
Generic Management and Control API Based on an Object-Level Interaction Paradigm and Its Demonstration in a Virtual Workshop Service.
ADA362912REB PC A10/MF A03

AFRL-ML-WP-TR-1999-4028
Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
ADA362754REB PC A04/MF A01

AFRL-SN-RS-TR-1999-65
Modeling of Silicon Quantum Structures.
ADA363362REB PC A03/MF A01

AFRL-SN-RS-TR-1999-76
Quantum Modeling.
ADA363264REB PC A04/MF A01

AFRL-SN-WP-TR-1998-1055
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
ADA362637REB PC A05/MF A01

AFRL-SR-BL-TR-99-0116
Technological Development for Interfacing Parallel Access Memories to Parallel Computers.
ADA362650REB PC A03/MF A01

AFRL-SR-BL-TR-99-0118
DURIP 97 Vacuum Equipment for Ultra High Power Microwave Experiments.
ADA362954REB PC A03/MF A01

AFRL-SR-BL-TR-99-0121
Aerodynamic Response of Turbomachinery Blade Rows to Convecting Density Wakes.
ADA363039REB PC A07/MF A02

AFRL-SR-BL-TR-99-0122
Instrumentation for Research on High-Speed Optical Transmultiplexing and Coding for Optoelectronic Computer Networking.
ADA363026REB PC A02/MF A01

AFRL-SR-BL-TR-99-0124
Parallel Workstation Cluster for Algorithm Development, Parameter Scoping, and Data Analysis.
ADA363032REB PC A03/MF A01

AFRL-SR-BL-TR-99-0125
Limit Cycle Oscillations (LCO) and Nonlinear Aeroelastic Wing Response: Reduced Order Aerodynamic Models.
ADA362982REB PC A03/MF A01

AFRL-VA-WP-TR-1998-3043
Innovative Control Effectors (Configuration 101) Dynamic Wind Tunnel Test Report. Rotary Balance and Forced Oscillation Tests.
ADA362903REB PC A11/MF A03

AFRL-VA-WP-TR-1999-3030
Update of the Probability of Fracture (PROF) Computer Program for Aging Aircraft Risk Analysis. Volume 1: Modifications and User's Guide.
ADA363010REB PC A06/MF A01

AFRL-VS-HA-TR-98-0041
Digital Database Development and Seismic Characterization and Calibration for the Middle East and North Africa.
ADA286992REB PC A11/MF A03

AFRL-WS-WP-TR-1999-9002
Air Force Research Laboratory Success Stories: A Review of 1997/1998.
ADA286991REB PC A08/MF A02

AHCPR/PUB-99-0027
Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB PC A03/MF A01

AHCPR/PUB-99-0032
Nursing Home Trends, 1987 and 1996. MEPS Chartbook No. 3. Executive Summary.
PB99-154692REB PC A04/MF A01

AHCPR/PUB-99/E010
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB PC A12/MF A03

AHCPR-99-44
Patient-Centered Outcomes in Neurologic Disease. Abstract, Executive Summary and Final Report.
PB99-149809REB PC A04/MF A01

AIAA-97-0260
Engineering Model for Prediction of Waste Incineration in a Dump Combustor.
ADA363341REB PC A02/MF A01

AM-99-005
Hybrid Asymptotic-Numerical Methods in Scattering.
ADA363046REB PC A14/MF A03

AM-99-006
Shock Survivability of Dynamical Systems.
ADA363045REB PC A09/MF A02

ANAMET-ASIAC-884.1F
IRON BIRD Model for Agile Program Part 2.
ADA363115REB PC A03/MF A01

ANAMET-ASIAC-978.1B
Analysis of an Aircraft Tire.
ADA363105REB PC A04/MF A01

ANL/XFD/CP-96040
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB PC A02/MF A01

ANRCP-1999-15
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB PC A03/MF A01

ARCCB-TR-99005
Progress Report on X-Ray Diffraction Measurements on New Low-Thermal Conductivity Thermoelectric Materials.
ADA362756REB PC A03/MF A01

ARI-RN-99-23
Augmented Selection Criteria for Enlisted Personnel.
ADA363068REB PC A12/MF A03

ARI-TR-1093
Tacit Knowledge in the Workplace.
ADA362656REB PC A11/MF A03

ARL-CR-439
Upscaled Self-Propagating High-Temperature Synthesis (SHS)/Dynamic Compaction Processing.
ADA362636REB PC A05/MF A01

ARL-CR-441
ARL Intranet Analysis and Development Study.
ADA362869REB PC A04/MF A01

ARL-MR-430
Numerical Computation of the Radar Cross Section of the ZSU-23-4.
ADA363007REB PC A03/MF A01

ARL-MR-443
BuyIt Software Development Plan: A C-BASS Component.
ADA363051REB PC A03/MF A01

ARL-MR-444
BuyIt Prototype Software Requirements Analysis: A C-BASS Component.
ADA363050REB PC A05/MF A01

ARL-TN-114
Data Transfer Report - 30-mm Enhanced Alternate High-Energy Propellant Program (EAHEP): Evaluation of the Performance of an RDX-Based ARDEC-7994 Propellant and the Effect of Two Different Slug Projectile Designs.
ADA363101REB PC A04/MF A01

ARL-TR-1934
Condensation of Quasi-Two-Dimensional Biexcitons in a Single Heterojunction Quantum Well.
ADA362735REB PC A03/MF A01

ASIAC-RN-187.1A-VOL-1
Integrated Design and Manufacturing Methods Volume I - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363270REB PC A05/MF A01

ASIAC-RN-187.1A-VOL-2
Integrated Design and Manufacturing Methods. Volume II - New Heuristic and Artificial Intelligence Approaches to Production Scheduling in Flexible Manufacturing Systems.
ADA363269REB PC A06/MF A02

ASIAC-TR-94-23
Cross Flow Over Double Delta Wings.
ADA363041REB PC A03/MF A01

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Development of a Biaxial Test Fixture.
ADA363135REB PC A08/MF A02

ASIAC-677-1C
Load Time Dependent Relaxation of Residual Stresses in an Aluminum Test Specimen.
ADA363139REB PC A09/MF A02

ASIAC-679-1A
Analysis of a Pyroceram Radome Subjected to Aerodynamic Heating.
ADA363019REB PC A04/MF A01

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Static Structural Analysis of the Loreors Electronic Console Support Frame.
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Analysis of a Ceramic Radome.
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ASIAC-1090-1N
Preliminary Study of Sensitivity Analysis and its Applications to Structural Control Problems.
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Structural Analysis of the Lamars Assembly.
ADA363136REB PC A07/MF A02

ASIAC-1182-1C
Analysis of Damped Plates.
ADA363361REB PC A10/MF A02

ASIAC-1278-1A
Interim Report on the Development and Fabrication of a Biaxial Test Fixture.
ADA363137REB PC A03/MF A01

ASIAC-1280-1A
Research and Development Needs in Finite Element Analysis of Viscoelasticity Damped Structures.
ADA363134REB PC A03/MF A01

ASTRO-PH/9707322-VOL-2
RXTE Observation of Cygnus X-1, 1.
N19990042404REB PC A02/MF A01

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AVXM-99-1
Thin Film Growth Simulation Using Cellular Automata State Space, and Neural Nets Methods.
ADA362754REB PC A04/MF A01

BCLDP-093098
BCLDP site environmental report for calendar year 1997 on radiological and nonradiological parameters.
DE99002442REB PC A06/MF A01

C-98057
Optical Interconnect Technology (OIT) Multichip Module to Multichip Module.
ADA362637REB PC A05/MF A01

CAL-3093
Hard X-Ray Emission from X-Ray Bursters.
N19990042107REB PC A01/MF A01

CBP/TRS-220/99
Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
PB99-155418REB PC A03/MF A01

CBP/TRS-222/105
Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB PC A05/MF A01

CMU/SEI-99-TR-002
Software Acquisition Capability Maturity Model (SA-CMM) Version 1.02.
ADA362667REB PC A09/MF A02

CMU/SEI-99-TR-010
Why Reengineering Projects Fail.
ADA362725REB PC A04/MF A01

CNWRA-97-008-REV-2
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB PC A16/MF A03

CRC-A-188
Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models.
PB99-152829REB PC A05/MF A01

CRM-94-57.10
Tricare Baseline Analysis of Access and Satisfaction.
ADA362744REB PC A05/MF A01

CRM-94-69.20
Impact of Nuclear Proliferation: Final Report.
ADA362905REB PC A06/MF A02

CRM-94-111.10
By Example: The Impact of Recent Argentine Naval Activities on Southern Cone Naval Strategies.
ADA362685REB PC A05/MF A01

CRM-96-49-10
Getting the Most Out of Integrated Product Teams (IPTs).
ADA362638REB PC A06/MF A01

CSO-1300-S/7
Survey of Soviet Heavy Industry (7).
ADA362803REB PC A03/MF A01

CSO-3351-N
Main Source of Solar Corpuscular Streams --USSR--Translation.
ADA362791REB PC A02/MF A01

CSO-3449-D
Certain Problems on the Theory of Heat Resistance and the Development of New High-Strength Titanium Alloys -- USSR --Translation.
ADA362792REB PC A03/MF A01

CSO-3566-D
Selected Articles on Machine Industry in Communist China in 1959--Translation.
ADA362798REB PC A03/MF A01

CSO-3660-N
Growth of the Physics of Metals and Physical Metallography in the Chinese People's Republics for 10 years --USSR--Translation.
ADA362790REB PC A03/MF A01

CSO-3664-D
Possibility of Using as a Photogrammetric Base the 1:25,000 Map for Photogrammetric Mapping at Scales of 1:10,000 and 1:5,000 -- Czechoslovakia --Translation.
ADA362801REB PC A03/MF A01

CSO-4171-D
Draft for Two Bridges in the People's Republic of Korea--Translation.
ADA362813REB PC A03/MF A01

CSO-4192-D
Forward Flow at the Boundary of the Zone of Deformation -- USSR --Translation.
ADA362822REB PC A03/MF A01

Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation -- USSR --Translation.
ADA362823REB PC A03/MF A01

CSO-4207-D
Quasigeoid and the Standard Elevations -- East Germany -- --Translation.
ADA362811REB PC A03/MF A01

CSO-4233-D
Conference on the Problem of Sun-Troposphere -- USSR -- --Translation.
ADA362812REB PC A02/MF A01

CSO-4249-D
Some Perspectives of the Development of Television Broadcasting Technology -- USSR --Translation.
ADA362810REB PC A03/MF A01

CTG-MFA-001
Survey of Key Concepts and Issues for Electronic Recordkeeping.
ADA362864REB PC A03/MF A01

CTG.MFA-002
Introduction to Workflow Management Systems.
ADA362925REB PC A03/MF A01

DARPA/TEC MIPR-97-5039
Triangulation-Based L1-Fitting of Terrain Surfaces.
PB99-152779REB PC A04/MF A01

DE-FG22-93PC93205-12
Short Contact Time Direct Coal Liquefactionn Using a Novel Batch Reactor. Quarterly Report. May 16 - August 15, 1996.
DE00001726REB PC A01/MF A01

DE00001726REB
Short Contact Time Direct Coal Liquefactionn Using a Novel Batch Reactor. Quarterly Report. May 16 - August 15, 1996.
DE00001726REB PC A01/MF A01

DE00002622REB
Sandia National Laboratories Institutional Plan: FY 1999-2004.
DE00002622REB PC A12/MF A03

DE00002697REB
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DE00002697REB PC A01/MF A01

DE00002698REB
X-Ray Shawdowgraph Camera Design.
DE00002698REB PC A01/MF A01

DE00003027REB
Multiphase Flow Modeling - Validation and Application CRADA MC94-019, Final Report.
DE00003027REB PC A01/MF A01

DE00003034REB
Summary of Experiments in Converting Copper Oxide Process Regenerator Off-Gases to Elemental Sulfur, CRADA 97-F006, Final Report.
DE00003034REB PC A01/MF A01

DE00003202REB
New 1999 National Electrical Code Coupled with New Standards Clarify Requirements for Installations of Photovoltaic Systems in the U.S.;Progress in Photovoltaics - Research and Applications.
DE00003202REB PC A01/MF A01

DE00006694REB
New Technology Demonstration Program, Kennedy Space Center,.
DE00006694REB PC A01/MF A01

DE98004697REB
Fusion materials semiannual progress report for the period ending December 31, 1997.
DE98004697REB PC A18/MF A04

DE98053023REB
FY 1996 solid waste integrated life-cycle forecast characteristics summary. Volumes 1 and 2.
DE98053023REB PC A99/MF A06

DE98054292REB
Farinon microwave end of life cycle.
DE98054292REB PC A05/MF A01

DE98054293REB
Catch tank inhibitor addition 200-East and 200-West Areas.
DE98054293REB PC A05/MF A01

DE98054295REB
Summary of radioactive solid waste received in the 200 Areas during calendar year 1995.
DE98054295REB PC A17/MF A03

DE98054296REB
Listed waste history at Hanford facility TSD units.
DE98054296REB PC A05/MF A01

DE98054328REB
CO(sub 2) Huff-n-Puff process in a light oil shallow shelf carbonate reservoir.
DE98054328REB PC A02/MF A01

DE98054572REB
Microstructure and Physical Metallurgy in Melt-Dilute Treatment Technology for Al-Based Spent Nuclear Fuel.
DE98054572REB PC A02/MF A01

DE98054573REB
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DE98054573REB PC A02/MF A01

DE98054748REB
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DE98054750REB PC A01/MF A01

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Development of the Melt-Dilute Treatment Technology for Al-Based DOE Spent Nuclear Fuel.
DE98054756REB PC A02/MF A01

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Roles of Historical Photography in Waste Site Characterization, Closure, and Remediation.
DE98057841REB PC A03/MF A01

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Volumetric Radioactivity Viewed as Surface Radioactivity for Free Release Assessment Purposes.
DE98057850REB PC A02/MF A01

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New Neutron Multiplicity Counter for the Measurement of Impure Plutonium Metal at Westinghouse Savannah River Site.
DE98057852REB PC A03/MF A01

DE99000778REB
Proceedings of the 5. joint Russian-American computational mathematics conference.
DE99000778REB PC A15/MF A03

DE99001004REB
Proceedings of the workshop on nonlinear MHD and extended MHD.
DE99001004REB PC A05/MF A01

DE99001921REB
1995 Annual epidemiologic surveillance report for Brookhaven National Laboratory.
DE99001921REB PC A07/MF A02

DE99002096REB
Dynamic and static error analyses of neutron radiography testing.
DE99002096REB PC A03/MF A01

DE99002110REB
Sixth national stakeholder workshop summary report.
DE99002110REB PC A07/MF A02

DE99002146REB
Performance confirmation data acquisition system.
DE99002146REB PC A12/MF A03

DE99002148REB
Environmental management policy analysis using complex system simulation.
DE99002148REB PC A02/MF A01

DE99002150REB
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB PC A02/MF A01

DE99002167REB
Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
DE99002167REB PC A03/MF A01

DE99002177REB
Nontraditional inheritance: Genetics and the nature of science, now titled, The puzzle of inheritance: Genetics and the methods of science. Final report.
DE99002177REB PC A18/MF A04

DE99002182REB
Bayesian analysis of MEG visual evoked responses.
DE99002182REB PC A02/MF A01

DE99002183REB
Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB PC A02/MF A01

DE99002184REB
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB PC A02/MF A01

DE99002186REB
Low-level radioactive waste management at the Nevada Test Site -- Current status.
DE99002186REB PC A02/MF A01

DE99002187REB
Chemical synthesis of magnetic Fe-B and Fe-Co-B particles and chains.
DE99002187REB PC A03/MF A01

DE99002192REB
Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB PC A03/MF A01

DE99002193REB
Structure and dynamics of interactive documents.
DE99002193REB PC A03/MF A01

DE99002195REB
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB PC A02/MF A01

DE99002197REB
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB PC A03/MF A01

DE99002199REB
Need and options available for permanent CO(sub 2) disposal.
DE99002199REB PC A02/MF A01

DE99002200REB
First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
DE99002200REB PC A02/MF A01

DE99002201REB
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB PC A04/MF A01

DE99002202REB
Electron cyclotron resonance (ECR) plasma film deposition.
DE99002202REB PC A02/MF A01

DE99002205REB
R and D 100 market assessment.
DE99002205REB PC A01/MF A01

DE99002209REB
ARTI refrigerant database.
DE99002209REB PC A21/MF A04

DE99002218REB
Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
DE99002218REB PC A03/MF A01

DE99002219REB
Performance analysis of wavefront algorithms on very-large scale distributed systems.
DE99002219REB PC A03/MF A01

DE99002224REB
Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB PC A03/MF A01

DE99002225REB
Ab initio calculations of As-vacancy interactions in silicon.
DE99002225REB PC A03/MF A01

DE99002226REB
Plasma and ion barrier for electron beam spot stability.
DE99002226REB PC A02/MF A01

DE99002227REB
Fatigue crack nucleation in metallic materials.
DE99002227REB PC A03/MF A01

DE99002231REB
Advanced algorithms for information science.
DE99002231REB PC A01/MF A01

DE99002232REB
Application of new techniques for EOS data.
DE99002232REB PC A02/MF A01

DE99002233REB
Data mining.
DE99002233REB PC A02/MF A01

DE99002234REB
Development of a gamma ray spectroscopy capability at LANSCE.
DE99002234REB PC A01/MF A01

DE99002235REB
Dynamic fracture of heterogeneous materials.
DE99002235REB PC A03/MF A01

DE99002236REB
Advanced telemedicine development.
DE99002236REB PC A01/MF A01

DE99002237REB
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB PC A01/MF A01

DE99002238REB
Technologies for the oil and gas industry.
DE99002238REB PC A01/MF A01

DE99002240REB
Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB PC A02/MF A01

DE99002242REB
Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
DE99002242REB PC A04/MF A01

DE99002244REB
Influence of surface topography on the forming friction of automotive aluminum sheet.
DE99002244REB PC A07/MF A02

DE99002254REB
Error studies for SNS Linac. Part 1: Transverse errors.
DE99002254REB PC A03/MF A01

DE99002256REB
Diagnostic enhancements for plasma processing.
DE99002256REB PC A02/MF A01

DE99002257REB
Report on the testing of Raschig Rings.
DE99002257REB PC A05/MF A01

DE99002258REB
Analysis of thermal issues associated with the pre-amplifier modules in the National Ignition Facility.
DE99002258REB PC A03/MF A01

DE99002259REB
Numerical simulation of explosive volcanism and its effects on the atmosphere.
DE99002259REB PC A02/MF A01

DE99002260REB
Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB PC A01/MF A01

DE99002261REB
SNS Linac: Revised configuration.
DE99002261REB PC A02/MF A01

DE99002262REB
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB PC A03/MF A01

DE99002263REB
Quick-look eye-safety assessment for the short range lidar.
DE99002263REB PC A02/MF A01

DE99002269REB
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB PC A02/MF A01

DE99002271REB
Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB PC A03/MF A01

DE99002277REB
Optimal neural computations require analog processors.
DE99002277REB PC A03/MF A01

DE99002279REB
Introduction to radiation transport.
DE99002279REB PC A03/MF A01

DE99002280REB
Implementation of model predictive control on a hydrothermal oxidation reactor.
DE99002280REB PC A02/MF A01

DE99002282REB
Vector meson production and nuclear effects in FNAL E866.
DE99002282REB PC A02/MF A01

DE99002283REB
Nutritional supplements as radioprotectors -- A review and proposal.
DE99002283REB PC A03/MF A01

DE99002284REB
Creative PDB's (parts databases).
DE99002284REB PC A03/MF A01

DE99002285REB
Reaction of preshocked explosives.
DE99002285REB PC A04/MF A01

DE99002286REB
Micro fuel cell.
DE99002286REB PC A03/MF A01

DE99002289REB
Thermodynamics and sound speeds at the Chapman-Jouguet state.
DE99002289REB PC A02/MF A01

DE99002291REB
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB PC A02/MF A01

DE99002292REB
SI-Combiner: Making sense of results from multiple trained programs.
DE99002292REB PC A01/MF A01

DE99002293REB
Reliability of the nervous (Nv) nets.
DE99002293REB PC A02/MF A01

DE99002294REB
Larger bases and mixed analog/digital neural nets.
DE99002294REB PC A02/MF A01

DE99002295REB
Automatic synthesis of analog/digital circuits.
DE99002295REB PC A01/MF A01

DE99002297REB
Information barrier functional requirements.
DE99002297REB PC A01/MF A01

DE99002299REB
Rural telemedicine project in northern New Mexico.
DE99002299REB PC A02/MF A01

DE99002353REB
Decade of DIII-D research. Final report for the period of work, October 1, 1989–September 30, 1998.
DE99002353REB PC A18/MF A04

DE99002354REB
Yields of ten and eleven year-old hybrid poplars in the north central United States. Final report.
DE99002354REB PC A03/MF A01

DE99002358REB
LLE review, Volume 77. Quarterly report, October–December 1998.
DE99002358REB PC A05/MF A01

DE99002359REB
Simulated effects of climate change on the Death Valley regional ground- water flow system, Nevada and California.
DE99002359REB PC A04/MF A01

DE99002368REB
Disability rights in dialogue with clinical genetics conference, May 31 to June 2, 1996.
DE99002368REB PC A03/MF A01

DE99002382REB
Enhancement of photoassimilate utilization by manipulation of ADP-glucose pyrophosphorylase gene. Final progress report.
DE99002382REB PC A03/MF A01

DE99002385REB
Synthesis, characterization and reactivity of high oxidation state nickel fluorides.
DE99002385REB PC A09/MF A02

DE99002386REB
Effective temperatures and electron spin polarization in storage rings.
DE99002386REB PC A01/MF A01

DE99002387REB
High-resolution structural studies of ultra-thin magnetic, transition metal overlayers and two-dimensional transition metal oxides using synchrotron radiation.
DE99002387REB PC A08/MF A02

DE99002390REB
Role of statistics and thermodynamics in nuclear multifragmentation.
DE99002390REB PC A02/MF A01

DE99002391REB
Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
DE99002391REB PC A03/MF A01

DE99002392REB
Exploratory technology research program for electrochemical energy storage, annual report for 1997.
DE99002392REB PC A05/MF A01

DE99002399REB
Tracer modeling in an urban environment.
DE99002399REB PC A01/MF A01

DE99002404REB
Performance and scalability analysis of teraflop-scale parallel architectures using multidimensional wavefront applications.
DE99002404REB PC A03/MF A01

DE99002405REB
Evolution of microstructural changes in pressed HMX explosives.
DE99002405REB PC A02/MF A01

DE99002406REB
Detonation and combustion of explosives: A selected bibliography.
DE99002406REB PC A05/MF A01

DE99002407REB
Study of the overdriven behaviors of PBX 9501 and PBX 9502.
DE99002407REB PC A02/MF A01

DE99002408REB
Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
DE99002408REB PC A02/MF A01

DE99002410REB
Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946–1997.
DE99002410REB PC A02/MF A01

DE99002411REB
Application of nonlinear wave modulation spectroscopy to discern material damage.
DE99002411REB PC A02/MF A01

DE99002412REB
Dislocation accumulation at large plastic strains – An approach to the theoretical strength of materials.
DE99002412REB PC A04/MF A01

DE99002422REB
New 3D parallel GILD electromagnetic modeling and nonlinear inversion using global magnetic integral and local differential equation.
DE99002422REB PC A04/MF A01

DE99002423REB
Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB PC A03/MF A01

DE99002425REB
Hanford Site National Environmental Policy Act (NEPA) characterization. Revision 10.
DE99002425REB PC A09/MF A02

DE99002426REB
Environmental report 1996, Lawrence Livermore National Laboratory.
DE99002426REB PC A12/MF A03

DE99002427REB
Environmental report 1997, Lawrence Livermore National Laboratory.
DE99002427REB PC A12/MF A03

DE99002432REB
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB PC A12/MF A03

DE99002433REB
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB PC A03/MF A01

DE99002438REB
Investigation of pin-post monochromators for a wiggler beamline.
DE99002438REB PC A02/MF A01

DE99002439REB
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB PC A05/MF A01

DE99002442REB
BCLDP site environmental report for calendar year 1997 on radiological and nonradiological parameters.
DE99002442REB PC A06/MF A01

DE99002444REB
Application of hysteresis modeling to magnetic techniques for monitoring biaxial stress.
DE99002444REB PC A02/MF A01

DE99002446REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July–September 1996.
DE99002446REB PC A03/MF A01

DE99002447REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1996.
DE99002447REB PC A04/MF A01

DE99002454REB
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1997.
DE99002454REB PC A03/MF A01

DE99002705REB
Natural gas imports and exports. Fourth quarter report, 1998.
DE99002705REB PC A10/MF A03

DE99050111REB
International Atomic Energy Agency/Hanford Site shared use of calorimeters.
DE99050111REB PC A03/MF A01

DE99050133REB
Vapor and gas sampling of single-shell tank 241-BX-103 using the in situ vapor sampling system.
DE99050133REB PC A04/MF A01

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Vapor and gas sampling of single-shell tank 241-C-204 using the in situ vapor sampling system.
DE99050134REB PC A04/MF A01

DE99050135REB
Vapor and gas sampling of single-shell tank 241-TY-102 using the in situ vapor sampling system.
DE99050135REB PC A04/MF A01

DE99050136REB
Vapor and gas sampling of single-shell tank 241-B-105 using the in situ vapor sampling system.
DE99050136REB PC A04/MF A01

DE99050137REB
Vapor and gas sampling of single-shell tank 241-C-107 using the in situ vapor sampling system.
DE99050137REB PC A04/MF A01

DE99050138REB
Vapor and gas sampling of single-shell tank 241-BX-104 using the in situ vapor sampling system.
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DE99050140REB
Vapor and gas sampling of single-shell tank 241-C-107 using the vapor sampling system.
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Vapor and gas sampling of single-shell tank 241-BX-110 using the in situ vapor sampling system.
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DE99050142REB
Vapor and gas sampling of single-shell tank 241-B-102 using the in situ vapor sampling system.
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DE99050143REB
Vapor and gas sampling of single-shell tank 241-B-202 using the in situ vapor sampling system.
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DE99050144REB
Vapor and gas sampling of single-shell tank 241-BX-102 using the in situ vapor sampling system.
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DE99050145REB
Vapor and gas sampling of single-shell tank 241-U-104 using the in situ vapor sampling system.
DE99050145REB PC A04/MF A01

DE99050146REB
Vapor and gas sampling of single-shell tank 241-S-103 using the in situ vapor sampling system.
DE99050146REB PC A04/MF A01

DE99050147REB
Technical information for the relocation and treatment of Argonne National Laboratory drums.
DE99050147REB PC A03/MF A01

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Vapor and gas sampling of single-shell tank 241-C-201 using the in situ vapor sampling system.
DE99050148REB PC A04/MF A01

DE99050149REB
Vapor and gas sampling of single-shell tank 241-S-102 using the in situ vapor sampling system.
DE99050149REB PC A04/MF A01

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Vapor and gas sampling of single-shell tank 241-C-202 using the in situ vapor sampling system.
DE99050150REB PC A04/MF A01

DE99050151REB
Vapor and gas sampling of single-shell tank 241-T-104 using the in situ vapor sampling system.
DE99050151REB PC A04/MF A01

DE99050152REB
TWRS technical baseline database manager definition document.
DE99050152REB PC A06/MF A01

DE99050153REB
Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
DE99050153REB PC A16/MF A03

DE99050154REB
Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
DE99050154REB PC A05/MF A01

DE99050155REB
Sampling and analysis plan for sampling of liquid waste streams generated by 222-S Laboratory Complex operations.
DE99050155REB PC A04/MF A01

DE99050156REB
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB PC A13/MF A03

DE99050158REB
Waste management project technical baseline description.
DE99050158REB PC A24/MF A04

DE99050159REB
Hazard Analysis Database report.
DE99050159REB PC A99/MF E08

DE99050161REB
Data quality objective to support resolution of the organic solvent safety issue.
DE99050161REB PC A03/MF A01

DE99050164REB
Deployment of pollution prevention during design – a case study.
DE99050164REB PC A03/MF A01

DE99050165REB
Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB PC A03/MF A01

DE99050167REB
Application of environmental accounting to pollution prevention.
DE99050167REB PC A03/MF A01

DE99050181REB
Preliminary tank characterization report for single-shell tank 241-TX-112: Best-basis inventory.
DE99050181REB PC A04/MF A01

DE99050182REB
Preliminary tank characterization report for single-shell tank 241-TX-106: Best-basis inventory.
DE99050182REB PC A03/MF A01

DE99050183REB
Preliminary tank characterization report for single-shell tank 241-TX-114: Best-basis inventory.
DE99050183REB PC A04/MF A01

DE99050184REB
Preliminary tank characterization report for single-shell tank 241-TX-103: Best-basis inventory.
DE99050184REB PC A04/MF A01

DE99050185REB
Preliminary tank characterization report for single-shell tank 241-TX-111: Best-basis inventory.
DE99050185REB PC A03/MF A01

DE99050186REB
Preliminary tank characterization report for single-shell tank 241-TX-110: Best-basis inventory.
DE99050186REB PC A03/MF A01

DE99050187REB
Safety evaluation for packaging (onsite) depleted uranium waste boxes.
DE99050187REB PC A06/MF A01

DE99050188REB
Definition and means of maintaining the criticality detectors and alarms portion of the PFP safety envelope.
DE99050188REB PC A03/MF A01

DE99050194REB
Preliminary tank characterization report for single-shell tank 241-SX-105: Best-basis inventory.
DE99050194REB PC A03/MF A01

DE99050195REB
Preliminary tank characterization report for single-shell tank 241-SX-106: Best-basis inventory.
DE99050195REB PC A03/MF A01

DE99050196REB
Preliminary tank characterization report for single-shell tank 241-SX-107: Best-basis inventory.
DE99050196REB PC A03/MF A01

DE99050197REB
Preliminary tank characterization report for single-shell tank 241-SX-111: Best-basis inventory.
DE99050197REB PC A04/MF A01

DE99050198REB
Preliminary tank characterization report for single-shell tank 241-SX-112: Best-basis inventory.
DE99050198REB PC A04/MF A01

DE99050199REB
Tank characterization report for single-shell tank 241-BY-112.
DE99050199REB PC A10/MF A03

DE99050200REB
Tank characterization report for double-shell tank 241-AN-103.
DE99050200REB PC A15/MF A03

DE99050201REB
Project W-314 241-AN-A valve pit upgrade acceptance for beneficial use.
DE99050201REB PC A03/MF A01

DE99050202REB
Hanford Site Emergency Alerting System siren testing report.
DE99050202REB PC A05/MF A01

DE99050203REB
Waste management project fiscal year 1998 multi-year work plan WBS 1.2.
DE99050203REB PC A23/MF A04

DE99050205REB
222-S Laboratory maintenance implementation plan.
DE99050205REB PC A05/MF A01

DE99050206REB
Waste sampling and characterization facility (WSCF) maintenance implementation plan.
DE99050206REB PC A05/MF A01

DE99050207REB
Hanford spent nuclear fuel project update.
DE99050207REB PC A03/MF A01

DE99050230REB
Permitting plan for the immobilized low-activity waste project.
DE99050230REB PC A06/MF A01

DE99050231REB
Addendum 1 to CSER 97-025: PFP storage of 9.25/9.5 inch tall, 4.4 kg Pu cans on existing Vault 4 pedestals.
DE99050231REB PC A04/MF A01

DE99050232REB
Portable exhausters POR-004 SKID B, POR-005 SKID C, POR-006 SKID D storage plan.
DE99050232REB PC A04/MF A01

DE99050233REB
CSER 97-004: PFP production denitration calciner system.
DE99050233REB PC A07/MF A02

DE99050234REB
Safety evaluation for packaging (onsite) for cesium chloride capsules with type W overpacks.
DE99050234REB PC A08/MF A02

DE99050392REB
Radioisotope thermoelectric generator transportation system safety analysis report for packaging. Volumes 1 and 2.
DE99050392REB PC A99/MF E11

DE99050394REB
105-DR Large Sodium Fire Facility closure activities evaluation report.
DE99050394REB PC A06/MF A01

DE99050395REB
Waste Receiving and Processing Facility Module 1 Data Management System software requirements specification.
DE99050395REB PC A06/MF A01

DE99050396REB
Unit radiological doses for fuel retrieval preliminary safety evaluation.
DE99050396REB PC A05/MF A01

DE99050397REB
Development of radiological concentrations and unit liter doses for TWRS FSAR radiological consequence calculations.
DE99050397REB PC A08/MF A02

DE99050402REB
Technical work plan for the privatization waste characterization data quality objective process.
DE99050402REB PC A04/MF A01

DE99050410REB
Solid waste integrated forecast technical (SWIFT) report: FY1997 to FY 2070.
DE99050410REB PC A99/MF A06

DE99050411REB
Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
DE99050411REB PC A04/MF A01

DE99050414REB
Scoping assessment on medical isotope production at the Fast Flux Test Facility.
DE99050414REB PC A03/MF A01

DE99050488REB
Safety evaluation for packaging (onsite) 221 T sodium tanks.
DE99050488REB PC A04/MF A01

DE99050497REB
Summary of FY 1997 related to JAPC-U.S. DOE contract study on improvement of core safety -- study on GEM (III).
DE99050497REB PC A04/MF A01

DE99050498REB
Responses to additional JAPC questions.
DE99050498REB PC A05/MF A01

DE99050499REB
Indexing contamination surveys.
DE99050499REB PC A03/MF A01

DE99050550REB
Nonradioactive Air Emissions Notice of Construction use on a portable exhauster on 241-A-101 tank during salt well pumping.
DE99050550REB PC A04/MF A01

DE99050558REB
Estimated dose to in-tank equipment: Phase 1 waste feed delivery.
DE99050558REB PC A04/MF A01

DE99050560REB
283-E, 283-W, and 315 (water treatment plant) hazards assessment.
DE99050560REB PC A04/MF A01

DE99050561REB
Radioactive Air Emissions Notice of Construction for the 105-KW Basin integrated water treatment system filter vessel sparging vent.
DE99050561REB PC A04/MF A01

DE99050565REB
Immobilized low-activity waste interim storage facility, Project W-465 conceptual design report.
DE99050565REB PC A11/MF A03

DE99050568REB
Retrieved waste properties and high-level waste critical component ratios for privatization waste feed delivery.
DE99050568REB PC A04/MF A01

DE99050584REB
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050584REB PC A04/MF A01

DE99050588REB
Project W-320 high vacuum 241-AY-102 annulus ventilation system operability test report.
DE99050588REB PC A13/MF A03

DE99050592REB
324 Facility B-Cell quality process plan.
DE99050592REB PC A02/MF A01

DE99050595REB
1998 FFTF annual system assessment reports.
DE99050595REB PC A17/MF A03

DE99050597REB
Characterization of the 309 building fuel transfer pit and storage basin.
DE99050597REB PC A08/MF A02

DE99050622REB
Packaging and transportation system for K-Basin spent fuel.
DE99050622REB PC A04/MF A01

DE99050623REB
ALARA Center of Technology -- resource guide.
DE99050623REB PC A09/MF A02

DE99050625REB
Applied ALARA techniques.
DE99050625REB PC A03/MF A01

DE99050668REB
Conceptual design statement of work for the immobilized low-activity waste disposal facility, project W-520.
DE99050668REB PC A05/MF A01

DE99050699REB
Organic ion exchange resin separation methods evaluation.
DE99050699REB PC A04/MF A01

DE99050708REB
Resolution of Hanford tanks organic complexant safety issue.
DE99050708REB PC A02/MF A01

DE99050750REB
Kt -- jets and jet structure and fragmentation at the Tevatron.
DE99050750REB PC A02/MF A01

DE99050751REB
Light duty utility arm startup plan.
DE99050751REB PC A03/MF A01

DE99050823REB
1998 interim 242-A Evaporator tank system integrity assessment report.
DE99050823REB PC A06/MF A01

DE99050824REB
Data quality objectives for TWRS privatization Phase 1: Confirm tank T is an appropriate feed source for low-activity waste feed batch X.
DE99050824REB PC A04/MF A01

DE99050825REB
Waste feed delivery environmental permits and approvals plan.
DE99050825REB PC A07/MF A02

DE99050826REB
Tank 241-TX-104, cores 230 and 231 analytical results for the final report.
DE99050826REB PC A99/MF A06

DODA-AR-01-622
Primer of CORBA: A Framework for Distributed Applications in Defence.
ADA362761REB PC A05/MF A01

DODA-AR-010-510
Technique for Measuring the Gain of HF Antennas.
ADA362876REB PC A03/MF A01

DODA-AR-010-842
Flow Visualisation About the Helicopter Deck of the Hydrographic Ship.
ADA362877REB PC A08/MF A02

DODA-ARM-98-119
Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
ADA363348REB PC A03/MF A01

DOE/BC/14986-15
CO(sub 2) Huff-n-Puff process in a light oil shallow shelf carbonate reservoir.
DE98054328REB PC A02/MF A01

DOE/CE/23810-100
ARTI refrigerant database.
DE99002209REB PC A21/MF A04

DOE/EH-99001291
1995 Annual epidemiologic surveillance report for Brookhaven National Laboratory.
DE99001921REB PC A07/MF A02

DOE/ER-0313/23
Fusion materials semiannual progress report for the period ending December 31, 1997.
DE98004697REB PC A18/MF A04

DOE/ER/13699-T1
Enhancement of photoassimilate utilization by manipulation of ADP-glucose pyrophosphorylase gene. Final progress report.
DE99002382REB PC A03/MF A01

DOE/ER/61846-T2
Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
DE99002167REB PC A03/MF A01

DOE/ER/61999-T1
Nontraditional inheritance: Genetics and the nature of science, now titled, The puzzle of inheritance: Genetics and the methods of science. Final report.
DE99002177REB PC A18/MF A04

DOE/ER/62006-T1
Considerations of beta and electron transport in internal dose calculations. Final progress report, 1994--1998.
DE99002167REB PC A03/MF A01

DOE/FE-0388
Natural gas imports and exports. Fourth quarter report, 1998.
DE99002705REB PC A10/MF A03

DOE/FETC-99/1081
Multiphase Flow Modeling - Validation and Application CRADA MC94-019, Final Report.
DE00003027REB PC A01/MF A01

DOE/FETC-99/1085
Summary of Experiments in Converting Copper Oxide Process Regenerator Off-Gases to Elemental Sulfur, CRADA 97-F006, Final Report.
DE00003034REB PC A01/MF A01

DOE/NV/11718-261
Enabling field spectroscopies.
DE00002697REB PC A01/MF A01

DOE/NV/11718-279
X-Ray Shawdowgraph Camera Design.
DE00002698REB PC A01/MF A01

DOE/OR/21871-T1
Yields of ten and eleven year-old hybrid poplars in the north central United States. Final report.
DE99002354REB PC A03/MF A01

DOE/RL-96-28
Nonradioactive Air Emissions Notice of Construction use on a portable exhauster on 241-A-101 tank during salt well pumping.
DE99050550REB PC A04/MF A01

DOE/RL-96-77
Programmatic agreement among the USDOE/RL Operations Office, the Advisory Council on Historic Preservation, and the WA State Historic Preservation Office for the maintenance, deactivation, alteration and demolition of the built environment on the Hanford Site, Washington.
DE99050411REB PC A04/MF A01

DOE/RL-98-02
Radioactive Air Emissions Notice of Construction for the 105-KW Basin integrated water treatment system filter vessel sparging vent.
DE99050561REB PC A04/MF A01

DOE/RW-99002146
Performance confirmation data acquisition system.
DE99002146REB PC A12/MF A03

DOE/SF/19460-284
LLE review, Volume 77. Quarterly report, October--December 1998.
DE99002358REB PC A05/MF A01

DOE/WT-0007
Sixth national stakeholder workshop summary report.
DE99002110REB PC A07/MF A02

DOER-E6
Estimating Dredging Sediment Resuspension Sources.
ADA362892REB PC A02/MF A01

DOT/FAA/AM-99/13
GPS User-Interface Design Problems.
ADA363331REB PC A03/MF A01

DOT/FAA/AR-TN99/25
Beechcraft 1900C Vertical Impact Test.
PB99-149726REB PC A03/MF A01

DOT/FAA/AR-99/11
Large Engine Uncontained Debris Analysis.
PB99-154569REB PC A06/MF A02

DOT/FAA/AR-99/27
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB PC A09/MF A02

DOT/FAA/AR-99/40
Validating the Computer-Based Training Process for Aviation Security Screeners.
PB99-149585REB PC A03/MF A01

DOT/FAA/AR-99/42
Test and Evalution Plan for Determining Screener Training Effectiveness.
PB99-149692REB PC A03/MF A01

DOT/FAA/AR-99/43
Project Plan for the Baseline Measurment of Checkpoint Effectiveness and Efficiency.
PB99-149684REB PC A03/MF A01

DOT/FAA/CT-TN98/23
AWOS Data Acquisition System (ADAS), Automated Lightning Detection and Reporting System (ALDARS), Operational Test and Evaluation (OT & E) Final Test Report.
ADA362808REB PC A99/MF A06

DOT-T-99-19
Intermodal Cargo Transportation: Industry Best Security Practices.
PB99-152761REB PC A07/MF A02

DPG-WDTC-TR-99-015
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB PC A99/MF E08

Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB PC A07/MF A02

DSTO-GD-0192
Primer of CORBA: A Framework for Distributed Applications in Defence.
ADA362761REB PC A05/MF A01

DSTO-RR-0146
Transmission Availability Forecast Service for Internet Protocol Networks.
ADA363086REB PC A04/MF A01

DSTO-TR-0654
Technique for Measuring the Gain of HF Antennas.
ADA362876REB PC A03/MF A01

DSTO-TR-0762
Flow Visualisation About the Helicopter Deck of the Hydrographic Ship.
ADA362877REB PC A08/MF A02

DSTO-TR-0788
Material and Comfort Parameters of a New Chemical, Biological Combat Suit and its Components.
ADA363348REB PC A03/MF A01

DSWA-TR-96-77-V1
Dynamic Failure of Materials. Volume 1 - Experiments and Analyses.
ADA362713REB PC A16/MF A03

DSWA-TR-96-77-V2
Dynamic Failure of Materials. Volume 2 - Compilation of Russian Spall Data.
ADA362759REB PC A09/MF A02

DTP-98-32
Spin Correlations in e(sup +)e(sup -) Yields 4 Jets.
PB99-120370REB PC A04/MF A01

DTP-98-52
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB PC A03/MF A01

E-11408
Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB PC A03/MF A01

E-11580
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB PC A02/MF A01

E-11590
New Materials for EMI Shielding.
N19990042172REB PC A03/MF A01

E-11616
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB PC A08/MF A02

E-11618
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB PC A05/MF A01

E41000
Space Shuttle Main Engine: Part Number RS007001.
N19990041880REB PC A02/MF A01

ECBC-TR-010
Quantitative Analysis of Residul VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases.
ADA362643REB PC A06/MF A01

ECBC-TR-025
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Kappler CPF3 Coverall, Model 3T436.
ADA363275REB PC A04/MF A01

ECBC-TR-026
Domestic Preparedness Program: Liquid Sulfur Mustard and Sarin Challenge/Vapor Penetration Swatch Testing of Blue Max Hazmat Splash Clothing Model B.
ADA363349REB PC A03/MF A01

EEDP-02-26
Volatile Losses from Aged Field Sediments.
ADA362809REB PC A03/MF A01

EEDP-04-30
Interpreting Bioaccumulation Data with the Environmental Residue-Effects Database.
ADA362932REB PC A03/MF A01

EEDP-06-20
Documentation of the Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module.
ADA362729REB PC A03/MF A01

EEDP-06-21
ADDAMS Application: Hydrologic Evaluation of Leachate Production and Quality (HELPQ) Module in CDFs.
ADA362730REB PC A02/MF A01

ELI-0060REB
TSCA Deskbook.
ELI-0060REB PC$89.95

EOARD-SPC 98-4003
Prediction of Crack Initiation and Growth in Solid Propellants.
ADA363081REB PC A12/MF A03

EPA/315/B-99/011
Yellow Book: Guide to Environmental Enforcement and Compliance at Federal Facilities.
PB99-152530REB PC A17/MF A03

EPA/454/C-98/007
National Air Pollutant Emission Trends Update, 1970-1997.
PB99-150260REB PC A07/MF A02

EPA/456/F-99/004
Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB PC A04/MF A01

EPA-540-F-98-033
Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.
PB98-963305REB PC A02/MF A01

EPA 541-R98-120
Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB PC A03/MF A01

EPA 541-R98-181
Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB PC A07/MF A02

EPA 541-R98-190
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB PC A07/MF A02

EPA/600/A-98/143
Small Scale Biomass Fueled Gas Turbine Power Plant.
PB99-126450REB PC A02/MF A01

EPA/600/A-99/046
Current Methods and Research Strategies for Modeling Atmospheric Mercury.
PB99-149783REB PC A03/MF A01

EPA/600/A-99/544
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB PC A03/MF A01

EPA/903/R-99/002
Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
PB99-155418REB PC A03/MF A01

EPA/903/R-99/012
Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB PC A05/MF A01

ERS-AER-779REB
Moving Toward the Food Guide Pyramid: Implications for U.S. Agriculture.
ERS-AER-779REB PC$14.00/MF A01

ERS-AER-780REB
Food Cost Review, 1950-97.
ERS-AER-780REB PC$16.00/MF A01

ERS-AIB-752REB
Green Technologies for a More Sustainable Agriculture.
ERS-AIB-752REB PC$14.00/MF A01

ESA/OWCP/AR-97/6
OWCP (Office of Workers' Compensation Programs) Annual Report to Congress: FY 1997.
PB99-152985REB PC A06/MF A01

ESC-TR-98-045
Background Fluorescence in an Aerosol Biodetector Based on 266-nm Excitation.
ADA363355REB PC A03/MF A01

ESC-TR-99-002
Software Acquisition Capability Maturity Model (SA-CMM) Version 1.02.
ADA362667REB PC A09/MF A02

ESC-TR-99-010
Why Reengineering Projects Fail.
ADA362725REB PC A04/MF A01

ESRF-030
Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002432REB PC A12/MF A03

ESRF-031
In summary: Idaho National Engineering and Environmental Laboratory site environmental report for calendar year 1997.
DE99002433REB PC A03/MF A01

FACE-97-03
Fatality Assessment and Control Evaluation (FACE) Report: Mechanic Fatally Injured during Dismantling of Crane Boom at Scrap Metal Yard, Pennsylvania.
PB99-155657REB PC A02/MF A01

FACE-97-04
Fatality Assessment and Control Evaluation (FACE) Report: Floor Collapse in a Single Family Dwelling Fire Claims the Life of One Fire Fighter and Injures Another, Kentucky.
PB99-155665REB PC A03/MF A01

FACE-98-09
Fatality Assessment and Control Evaluation (FACE) Report: Tree Feller Killed When Struck by Chain Saw, West Virginia.
PB99-155640REB PC A03/MF A01

FACE-98-10
Fatality Assessment and Control Evaluation (FACE) Report: Temporary Laborer Crushed by Dump Truck at Landfill, South Carolina.
PB99-155624REB PC A03/MF A01

FACE-98-11
Fatality Assessment and Control Evaluation (FACE) Report: Electrical Mechanic Dies After 45-Foot Fall through Unguarded Floor Opening, North Carolina.
PB99-155632REB PC A03/MF A01

FEMA/SM-250-3
Disaster-Related Needs of Seniors and Persons with Disabilities. Student Manual.
PB99-130932REB PC A08/MF A02

FHWA/IF-99/003
Proceedings of the National Highway/Utility Conference (7th). Held in Louisville, Kentucky on October 28-30, 1998.
PB99-150120REB PC A17/MF A03

FHWA/IN/JTRP-96/22
Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements.
PB99-152993REB PC A10/MF A02

FHWA/ND/SPR-0003(025)
Tel8 Telecommnications Network: A Pooled Fund Study for Transportation Videoconferencing.
PB99-151433REB PC A04/MF A01

FHWA-PD-99-012
Bid Opening Report. Federal-Aid Highway Construction Contracts, First Six Months, 1998.
PB99-147340REB PC A03/MF A01

FHWA/TX-99/1722-2
Develop Maintenance Strategy Selection Procedures for Pavements Incorporating Semi-Rigid or Chemically Stabilized Layers.
PB99-149593REB PC A08/MF A02

FNAL/C-97/203-E
Kt -- jets and jet structure and fragmentation at the Tevatron.
DE99050750REB PC A02/MF A01

FSGTR-NE-259
ROMI-RIP 2.0 User's Guide: a ROugh MIII RIP-First Simulator.
PB99-152803REB PC A05/MF A01

FSGTR-NE-262
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
PB99-152795REB PC A04/MF A01

FSGTR-PNW-453
Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB PC A05/MF A01

FSGTR-PNW-455
Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB PC A03/MF A01

FSRB-PNW-230
Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997.
PB99-152845REB PC A08/MF A02

FSRN-PNW-538
Different Perspectives on Economic Base.
PB99-147639REB PC A03/MF A01

FSRP-PNW-515
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB PC A03/MF A01

FY99-96
Framework for Effective Algorithm Visualization Using Animation-Embedded Hypermedia.
ADA363104REB PC A13/MF A03

GA-A23028
Decade of DIII-D research. Final report for the period of work, October 1, 1989–September 30, 1998.
DE99002353REB PC A18/MF A04

GA-C22131(3Q/96)
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, July–September 1996.
DE99002446REB PC A03/MF A01

GA-C22131(4Q/96)
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1996.
DE99002447REB PC A04/MF A01

GA-C22131(4Q/97)
E-SMART system for in-situ detection of environmental contaminants. Quarterly technical progress report, October–December 1997.
DE99002454REB PC A03/MF A01

GAO/AIMD-GGD-99-67
Performance Budgeting: Initial Experiences Under the Results Act in Linking Plans With Budgets.
ADA363171REB PC A05/MF A01

GAO/GGD-98-125
Financial Services Institutions: Information for Assessing the Government's Potential Financial Exposure.
PB99-145849REB PC A05/MF A01

GAO/NSIAD-99-38
Agricultural Trade Changes Made to Market Access Program, but Questions Remain on Economic Impact.
ADA363397REB PC A04/MF A01

GAO/NSIAD-99-68
Cruise Missile Defense: Progress Made But Significant Challenges Remain.
ADA362742REB PC A03/MF A01

GAO/NSIAD-99-71
UNITED NATIONS: Progress of Procurement Reforms.
ADA363233REB PC A04/MF A01

GAO/NSIAD-99-76
WEAPONS OF MASS DESTRUCTION: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned.
ADA363201REB PC A03/MF A01

GAO/NSIAD-99-81
Satellite Control Systems: Opportunity for DOD to Implement Space Policy and Integrate Capabilities.
ADA363241REB PC A03/MF A01

GAO/NSIAD-99-87
DEFENSE REFORM INITIATIVE: Organization, Status, and Challenges.
ADA363206REB PC A06/MF A01

GAO/NSIAD-99-101
BALLISTIC MISSILE DEFENSE: More Common Systems and Components Could Result in Cost Savings.
ADA363345REB PC A03/MF A01

GAO/NSIAD-99-106BR
U.S. - JAPAN TRADE: The Japanese Insurance Market.
ADA363205REB PC A05/MF A01

GAO/NSIAD-99-120
GENDER ISSUES: Perceptions of Readiness in Selected Units.
ADA363204REB PC A04/MF A01

GAO/RCED/AIMD-99-68
Air Traffic Control: FAA's Modernization Investment Management Approach Could Be Strengthened.
ADA363174REB PC A05/MF A01

GAO/RCED-99-109
General Aviation Airports: Unauthorized Land Use Highlights Need for Improved Oversight and Enforcement.
ADA363173REB PC A03/MF A01

GAO/T-AIMD/NSIAD-99-145
DOD FINANCIAL MANAGEMENT: More Reliable Information Key to Assuring Accountability and Managing Defense Operations More Efficiently.
ADA363192REB PC A03/MF A01

GAO/T-NSIAD-99-106
Defense Transportation Efforts to Improve DOD's Personal Property Program.
ADA363398REB PC A03/MF A01

GAO/T-NSIAD-99-117
SPACE STATION: Status of Russian Involvement and Cost Control Efforts.
ADA363386REB PC A03/MF A01

GAO/T-RCED-99-159
Department of Energy: Key Factors Underlying Security Problems at DOE facilities.
ADA362670REB PC A03/MF A01

H-2186
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB PC A03/MF A01

HETA-95-0001-2679
Health Hazard Evaluation Report HETA 95-0001-2679, Caterpillar Inc., York, Pennsylvania.
PB99-152233REB PC A04/MF A01

HETA-96-0012-2652
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
PB99-152332REB PC A08/MF A02

HETA-96-0093-2685
Health Hazard Evaluation Report HETA 96-0093-2685, Microfibres, Inc. Pawtucket, RI.
PB99-152357REB PC A06/MF A01

HETA-96-0171-2692
Health Hazard Evaluation Report HETA 96-0171-2692, Bureau of Alcohol, Tobacco, and Firearms, Washington, DC.
PB99-152167REB PC A04/MF A01

HETA-96-0258-2673
Health Hazard Evaluation Report HETA 96-0258-2673, Foss Manufacturing Company, Inc., Hampton, New Hampshire.
PB99-152191REB PC A04/MF A01

HETA-96-0266-2702
Health Hazard Evaluation Report HETA 96-0266-2702, Cooper Engineered Products, Bowling Green, Ohio.
PB99-152175REB PC A03/MF A01

HETA-97-0153-2694
Health Hazard Evaluation Report HETA 97-0153-2694, The Grand Experience Salon, Chicago, Illinois.
PB99-152258REB PC A03/MF A01

HETA-97-0154-2693
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
PB99-152308REB PC A03/MF A01

HETA-97-0161-2706
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
PB99-152316REB PC A04/MF A01

HETA-97-0199-2680
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB PC A03/MF A01

HETA-97-0245-2696
Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152159REB PC A03/MF A01

HETA-98-0003-2698
Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB PC A03/MF A01

HETA-98-0017-2699
Health Hazard Evaluation Report HETA 98-0017-2699, United States Postal Service, Mail Processing and Distribution Center, Omaha, Nebraska.
PB99-152324REB PC A04/MF A01

HETA-98-0030-2697
Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
PB99-152217REB PC A03/MF A01

HGTL-3172-10
Diode-Laser Absorption Sensor System for Measurements of Combustion Pollutants.
ADA363265REB PC A03/MF A01

HNF-EP-0918-REV.1
Solid waste integrated forecast technical (SWIFT) report: FY1997 to FY 2070.
DE99050410REB PC A99/MF A06

HNF-SA-3170-FP
International Atomic Energy Agency/Hanford Site shared use of calorimeters.
DE99050111REB PC A03/MF A01

HNF-SA-3205-FP
Hanford spent nuclear fuel project update.
DE99050207REB PC A03/MF A01

HNF-SA-3229-FP
Deactivating a major nuclear fuels reprocessing facility cost effectively.
DE99050165REB PC A03/MF A01

HNF-SA-3230-FP
Application of environmental accounting to pollution prevention.
DE99050167REB PC A03/MF A01

HNF-SA-3231-FP
Deployment of pollution prevention during design – a case study.
DE99050164REB PC A03/MF A01

HNF-SD-CP-SDD-003-REV.5
Definition and means of maintaining the criticality detectors and alarms portion of the PFP safety envelope.
DE99050188REB PC A03/MF A01

HNF-SD-ENV-EE-003
Permitting plan for the immobilized low-activity waste project.
DE99050230REB PC A06/MF A01

HNF-SD-FF-EV-003
Test report for run-in acceptance testing of hydrogen mitigation retrieval Pump-3.
DE99050154REB PC A05/MF A01

HNF-SD-FF-RPT-010
Scoping assessment on medical isotope production at the Fast Flux Test Facility.
DE99050414REB PC A03/MF A01

HNF-SD-PRP-TRP-001
Hanford Site Emergency Alerting System siren testing report.
DE99050202REB PC A05/MF A01

HNF-SD-SQA-CSA-528
Addendum 1 to CSER 97-025: PFP storage of 9.25/9.5 inch tall, 4.4 kg Pu cans on existing Vault 4 pedestals.
DE99050231REB PC A04/MF A01

HNF-SD-SQA-CSA-529
CSER 97-004: PFP production denitration calciner system.
DE99050233REB PC A07/MF A02

HNF-SD-TP-SEP-065
Safety evaluation for packaging (onsite) for cesium chloride capsules with type W overpacks.
DE99050234REB PC A08/MF A02

HNF-SD-TP-SEP-066
Safety evaluation for packaging (onsite) depleted uranium waste boxes.
DE99050187REB PC A06/MF A01

HNF-SD-TWR-CSUD-001
TWRS technical baseline database manager definition document.
DE99050152REB PC A06/MF A01

HNF-SD-W314-ABU-002
Project W-314 241-AN-A valve pit upgrade acceptance for beneficial use.
DE99050201REB PC A03/MF A01

HNF-SD-WM-DP-227
Waste compatibility safety issues and final results for tank 241-SY-102 grab samples.
DE99050156REB PC A13/MF A03

HNF-SD-WM-DP-251
Double-contained receiver tank 244-TX, grab samples, 244TX-97-3 analytical results for the final report.
DE99050153REB PC A16/MF A03

HNF-SD-WM-DP-305
Tank 241-TX-104, cores 230 and 231 analytical results for the final report.
DE99050826REB PC A99/MF A06

HNF-SD-WM-DQO-026
Data quality objective to support resolution of the organic solvent safety issue.
DE99050161REB PC A03/MF A01

HNF-SD-WM-ER-644
Preliminary tank characterization report for single-shell tank 241-SX-105: Best-basis inventory.
DE99050194REB PC A03/MF A01

HNF-SD-WM-ER-645
Preliminary tank characterization report for single-shell tank 241-SX-106: Best-basis inventory.
DE99050195REB PC A03/MF A01

HNF-SD-WM-ER-656
Preliminary tank characterization report for single-shell tank 241-TX-106: Best-basis inventory.
DE99050182REB PC A03/MF A01

HNF-SD-WM-ER-658
Preliminary tank characterization report for single-shell tank 241-TX-110: Best-basis inventory.
DE99050186REB PC A03/MF A01

HNF-SD-WM-ER-659
Preliminary tank characterization report for single-shell tank 241-TX-111: Best-basis inventory.
DE99050185REB PC A03/MF A01

HNF-SD-WM-ER-671
Preliminary tank characterization report for single-shell tank 241-SX-107: Best-basis inventory.
DE99050196REB PC A03/MF A01

HNF-SD-WM-ER-682
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ADA362899REB PC A04/MF A01

JPRS-LAM-88-024
Latin America.
ADA362898REB PC A04/MF A01

JPRS-LAM-88-025
JPRS Report, Latin America--Translation.
ADA362837REB PC A05/MF A01

JPRS-MON-88-002
JPRS Report, East Asia, Mongolia, Biographic Information on Officials--Translation.
ADA362885REB PC A06/MF A01

JPRS-NEA-87-001
JPRS Report, Near East & South Asia, Table of Contents, JPRS-NEA-87-001, 2 January 1987-JPRS-NEA-87-041, 6 Apr 1987 Part 1--Translation.
ADA363013REB PC A10/MF A02

JPRS-NEA-88-026
Near East and South Asia.
ADA362846REB PC A04/MF A01

JPRS-NEA-88-043
JPRS Report, Near East & South Asia--Translation.
ADA362915REB PC A04/MF A01

JPRS-NEA-88-082
Near East and South Asia--Translation.
ADA362930REB PC A04/MF A01

JPRS-NEA-88-083
Near East and South Asia--Translation.
ADA362929REB PC A05/MF A01

JPRS-NEA-88-085
Near East and South Asia--Translation.
ADA362916REB PC A05/MF A01

JPRS-NEA-88-086
Near East and South Asia--Translation.
ADA362986REB PC A04/MF A01

JPRS-NEA-90-001
JPRS Report, Near East & South Asia.
ADA362647REB PC A06/MF A01

JPRS-NEA-90-002
JPRS Report, Near East & South Asia.
ADA362652REB PC A06/MF A01

JPRS-NEA-90-010
JPRS Report, Near East & South Asia.
ADA362654REB PC A06/MF A01

JPRS-NEA-90-011
JPRS Report, Near East & South Asia.
ADA362653REB PC A06/MF A01

JPRS-NEA-90-012
JPRS Report, Near East & South Asia.
ADA362651REB PC A05/MF A01

JPRS-NEA-90-013
JPRS Report, Near East & South Asia.
ADA362663REB PC A06/MF A01

JPRS-NEA-90-014
JPRS Report, Near East & South Asia.
ADA362665REB PC A06/MF A01

JPRS-NEA-90-015
JPRS Report, Near East & South Asia.
ADA362879REB PC A06/MF A01

JPRS-NEA-90-016
JPRS Report, Near East & South Asia--Translation.
ADA362886REB PC A06/MF A01

JPRS-NEA-90-017
JPRS Report, Near East & South Asia--Translation.
ADA362887REB PC A06/MF A01

JPRS-SEA-83-834
Southeast Asia Report No. 1308.
ADA363377REB PC A07/MF A02

JPRS-SEA-90-011
East Asia: Southeast Asia.
ADA362931REB PC A05/MF A01

JPRS-SEA-90-012
JPRS Report, East Asia Southeast Asia.
ADA362646REB PC A05/MF A01

JPRS-SEA-90-013
East Asia: Southeast Asia.
ADA363015REB PC A04/MF A01

JPRS-SEA-90-015
East Asia: Southeast Asia, Autobiography of Chamlong.
ADA362817REB PC A03/MF A01

JPRS-SEA-90-017
JPRS Report, East Asia Southeast Asia.
ADA362649REB PC A04/MF A01

JPRS-SEA-90-018
JPRS Report, East Asia Southeast Asia.
ADA362711REB PC A04/MF A01

JPRS-SEA-90-019
East Asia: Southeast Asia.
ADA362914REB PC A04/MF A01

JPRS-SEA-90-020
East Asia: Southeast Asia.
ADA362913REB PC A03/MF A01

JPRS-SEA-90-021
East Asia: Southeast Asia.
ADA362933REB PC A05/MF A01

JPRS-SEA-90-022
East Asia: Southeast Asia.
ADA362709REB PC A03/MF A01

JPRS-SEA-90-023
East Asia: Southeast Asia.
ADA362715REB PC A04/MF A01

JPRS-SEA-90-024
East Asia: Southeast Asia--Translation.
ADA362708REB PC A05/MF A01

JPRS-SEA-90-025
East Asia: Southeast Asia.
ADA362684REB PC A04/MF A01

JPRS-SEA-90-030
JPRS Report, East Asia Southeast Asia.
ADA362669REB PC A03/MF A01

JPRS-SEA-90-031
JPRS Report, East Asia: Southeast Asia.
ADA362664REB PC A04/MF A01

JPRS-SEA-90-032
JPRS Report, East Asia Southeast Asia.
ADA362666REB PC A04/MF A01

JPRS-SEA-90-033
JPRS Report, East Asia Southeast Asia.
ADA362655REB PC A04/MF A01

JPRS-SEA-90-034
JPRS Report, East Asia Southeast Asia--Translation.
ADA362941REB PC A04/MF A01

JPRS-UBB-85-010
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362988REB PC A06/MF A01

JPRS-UBB-85-011
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362987REB PC A06/MF A01

JPRS-UBB-85-013
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363002REB PC A08/MF A02

JPRS-UBB-85-014
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363004REB PC A08/MF A02

JPRS-UBB-85-015
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363003REB PC A10/MF A02

JPRS-UBB-85-016
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363108REB PC A08/MF A02

JPRS-UBB-85-017
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363109REB PC A08/MF A02

JPRS-UBB-85-018
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362998REB PC A08/MF A02

JPRS-UBB-85-019
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA362999REB PC A09/MF A02

JPRS-UBB-85-020
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363008REB PC A07/MF A02

JPRS-UBB-85-021
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363000REB PC A06/MF A01

JPRS-UBB-85-022
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363001REB PC A06/MF A02

JPRS-UBB-85-024
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363111REB PC A06/MF A01

JPRS-UBB-85-025
USSR Report, Life Sciences, Biomedical and Behavioral Sciences--Translation.
ADA363112REB PC A06/MF A01

JPRS-UBB-86-012
USSR Report, Life Sciences, Biomedical and Behavioral Sciences.
ADA363287REB PC A09/MF A02

JPRS-UMA-87-012
USSR Report, Military Affairs.
ADA362783REB PC A06/MF A01

JPRS-UMA-87-033
Soviet Union, Military Affairs.
ADA362804REB PC A06/MF A01

JPRS-UMA-87-034
Soviet Union, Military Affairs.
ADA362705REB PC A06/MF A01

JPRS-UMA-87-035
Soviet Union, Military Affairs.
ADA362702REB PC A06/MF A01

JPRS-UMA-87-036
Soviet Union, Military Affairs.
ADA362782REB PC A07/MF A02

JPRS-UMA-87-038
Soviet Union, Military Affairs. Data, Diagrams of Ground Forces Weaponry.
ADA362748REB PC A05/MF A01

JPRS-UMA-87-039
Soviet Union, Military Affairs.
ADA362781REB PC A07/MF A02

JPRS-UMA087-040
Soviet Union, Military Affairs.
ADA362747REB PC A07/MF A02

JPRS-UMA-87-041
Soviet Union, Military Affairs--Translation.
ADA362696REB PC A07/MF A02

JPRS-UMA-87-042
Soviet Union, Military Affairs.
ADA362704REB PC A07/MF A02

JPRS-USA-85-002
USSR Report, USA: Economics, Politics, Ideology--Translation.
ADA363295REB PC A05/MF A01

JPRS-USA-85-003
USSR Report, USA: Economics, Politics, Ideology No. 12, December 1984--Translation.
ADA363110REB PC A07/MF A02

JPRS-USA-85-004
USSR Report, USA: Economics, Politics, Ideology, No. 1, January 1985--Translation.
ADA363296REB PC A06/MF A01

JPRS-USA-85-005
USSR Report, USA: Economics, Politics, Ideology No. 2, February 1985--Translation.
ADA363114REB PC A04/MF A01

JPRS-USA-85-006
USSR Report, USA, Economics, Politics, Ideology, NO. 3, March 1985--Translation.
ADA363113REB PC A06/MF A01

JPRS-USA-85-007
USSR Report, USA, Economics, Politics, Ideology, No. 4, April 1985.
ADA363299REB PC A05/MF A01

JPRS-USA-85-008
USSR Report, USA, Economics, Politics, Ideology, NO. 5, May 1985.
ADA363298REB PC A05/MF A01

JPRS-USA-85-009
USSR Report, USA, Economics, Politics, Ideology, No. 6, June 1985.
ADA363297REB PC A05/MF A01

JPRS-USA-85-010
USSR Report, USA: Economics, Politics, Ideology, No. 7, July 1985.
ADA363304REB PC A06/MF A01

JPRS-USA-85-011
USSR Report, USA: Economics, Politics, Ideology, No. 8, August 1985.
ADA363303REB PC A05/MF A01

JPRS-USA-85-012
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1985.
ADA363302REB PC A05/MF A01

JPRS-USA-85-013
USSR Report, USA: Economics, Politics, Ideology, No. 10, October 1985.
ADA363300REB PC A05/MF A01

JPRS-WER-86-054
JPRS Report, West Europe Reference Aid Portuguese Military Terms.
ADA363301REB PC A07/MF A02

JPRS-2421
For the Welfare of Man Development of Medical Science in the USSR--Translation.
ADA362991REB PC A02/MF A01

JPRS-2425
Growth of the Physics of Metals and Physical Metallography in the Chinese People's Republics for 10 years --USSR--Translation.
ADA362790REB PC A03/MF A01

JPRS-2428
Recent Geographical Conferences in the Soviet Union, USSR--Translation.
ADA362768REB PC A03/MF A01

JPRS-2435
Selected Translations of Abstracts in Referativnyy Zhurnal - Biologiya, No. 6, 1959--Translation.
ADA362785REB PC A04/MF A01

JPRS-2437
Main Source of Solar Corpuscular Streams --USSR--Translation.
ADA362791REB PC A02/MF A01

JPRS-2438
Conference on the Control of the Colorado Beetle, USSR.
ADA362786REB PC A01/MF A01

JPRS-2441
Soviet Abstracts Biology, Section O, Plant Diseases, Book No. 23, 1958, Abstracts 104958 thru 105054--Translation.
ADA363310REB PC A03/MF A01

JPRS-3282
Award of Lenin Prizes in Science and Technology, USSR--Translation.
ADA362853REB PC A01/MF A01

JPRS-3298-OTS 60-31
Geophysical Prospecting in the People's Republic of China.
ADA362739REB PC A02/MF A01

JPRS-3308-OTS 60-31
Interaction of Weak Shock Waves With a Flame Front, USSR.
ADA362640REB PC A03/MF A01

JPRS-3320
General Meeting of the Siberian Affiliate of the Academy of Sciences USSR--Translation.
ADA362938REB PC A01/MF A01

JPRS-3326
Role of Persuasion and Coercion in the Soviet State USSR.
ADA363323REB PC A03/MF A01

JPRS-3368-OTS 60-31
Soviet Scientific and Engineering Personnel.
ADA362639REB PC A04/MF A01

JPRS-3381
Development of the Civil Air Fleet, Peoples Republic of China--Translation.
ADA362772REB PC A02/MF A01

JPRS-3382
Reorganization of Industrial Hygiene on a Scientific Basis, Ussr--Translation.
ADA362794REB PC A02/MF A01

JPRS-3383
Two Concepts and Two Tendencies of Statism, Yugoslavic.
ADA363317REB PC A02/MF A01

JPRS-3384
Selected Articles on Armed Forces in North Vietnam.
ADA363318REB PC A03/MF A01

JPRS-3390
Research and Development in Soviet Nonferrous Metallurgy--Translation.
ADA363316REB PC A07/MF A02

JPRS-3403
Ways to Solve Fuel Problems in North Korea.
ADA362784REB PC A02/MF A01

JPRS-3410
Possibility of Using as a Photogrammetric Base the 1:25,000 Map for Photogrammetric Mapping at Scales of 1:10,000 and 1:5,000 -- Czechoslovakia --Translation.
ADA362801REB PC A03/MF A01

JPRS-3411
Use of Vitamin E for Desensitization in Pregnancy Complications Due to Rh-Incompatibility Between Mother and Fetus, USSR.
ADA362843REB PC A02/MF A01

JPRS-3418
Problem of Radiological Protection, Poland.
ADA362600REB PC A03/MF A01

JPRS-3420
Central Asia, Physical Geography Handbook--Translation.
ADA362771REB PC A12/MF A03
Central Asia, Physical Geography Handbook.
ADA362787REB PC A12/MF A03

JPRS-3421
Communist China Digest, No. 16--Translation.
ADA362796REB PC A06/MF A01

JPRS-3423
Certain Problems on the Theory of Heat Resistance and the Development of New High-Strength Titanium Alloys -- USSR --Translation.
ADA362792REB PC A03/MF A01

JPRS-3429
Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB PC A03/MF A01

JPRS-3436
Selected Articles on Machine Industry in Communist China in 1959--Translation.
ADA362798REB PC A03/MF A01

JPRS-3439
Selected Soviet Military Translations (Air Force and Civil Defense Materials)--Translation.
ADA362789REB PC A04/MF A01

JPRS-3441
Regulations for the Technical Operation of Interurban Telephone- Telegraph Cable Lines, USSR.
ADA363281REB PC A08/MF A02

JPRS-3553
Awards to Soviet Women Medical Workers-USSR.
ADA363375REB PC A04/MF A01

JPRS-3864-OTS 60-31
Polish Long-Range Plan (1961-1975) and Five-Year Plan (1961-1965) for Scientific Research in Agricultural Technology--Translation.
ADA362736REB PC A03/MF A01

JPRS-3909
Technical Achievements in Communist China's Electrical Equipment Industry--Translation.
ADA362775REB PC A07/MF A02

JPRS-3911
Problem of Early Diagnosis of Cancer of the Uterine Cervix--Translation.
ADA362859REB PC A02/MF A01

JPRS-3912
Some Perspectives of the Development of Television Broadcasting Technology -- USSR --Translation.
ADA362810REB PC A03/MF A01

JPRS-3913
Quasigeoid and the Standard Elevations -- East Germany -- --Translation.
ADA362811REB PC A03/MF A01

JPRS-3917
Conference on the Problem of Sun-Troposphere -- USSR -- --Translation.
ADA362812REB PC A02/MF A01

JPRS-3918
Third Congress of the All-Union Astronomic-Geodetic Society, USSR.
ADA363319REB PC A02/MF A01

JPRS-3919
Draft for Two Bridges in the People's Republic of Korea--Translation.
ADA362813REB PC A03/MF A01

JPRS-3925
Forward Flow at the Boundary of the Zone of Deformation – USSR —Translation.
ADA362822REB PC A03/MF A01

JPRS-3927
Evaluation of the Factors Determining the Change in Diffusion Mobility During Deformation – USSR —Translation.
ADA362823REB PC A03/MF A01

JPRS-3934
Brief Report on a Scientific Mission to the United States, USSR.
ADA363311REB PC A03/MF A01

JPRS-4301
Survey of Soviet Heavy Industry (4).
ADA363314REB PC A03/MF A01

JPRS-4303
Attitudes on Physical and Mental Labor in Communist China–Translation.
ADA362795REB PC A03/MF A01

JPRS-4311
Some Timely Questions of the Clinical Course, Etiology and Pathogenesis of Multiple Sclerosis, USSR.
ADA362855REB PC A02/MF A01

JPRS-4372
Pantjasila, the Five Basic Principles of the Republic of Indonesia.
ADA363017REB PC A03/MF A01

JPRS-4377
Activities of Scientific Societies of the Tatar ASSR.
ADA363315REB PC A02/MF A01

JPRS-4378
Hungarian Symposium of Radiation Damage and Protection.
ADA363027REB PC A02/MF A01
Third All-Union Conference on the Electrophysiology of the Nervous System, USSR.
ADA363322REB PC A01/MF A01

JPRS-4380
Steel 'Mouse' and Automations, USSR.
ADA363321REB PC A01/MF A01

JPRS-4381
Methodology of Investigating Gas Metabolism in the Inspiration of Large Concentrations of Oxygen. -USSR-. (K metodike issledovaniya gazoobmena pri vdykhanii bol' shikh kontsentratsiy kisloroda)–Translation.
ADA362856REB PC A01/MF A01

JPRS-4384
Survey of Soviet Heavy Industry (7).
ADA362803REB PC A03/MF A01

JPRS-4387
Radiation Injury and Autolysis, USSR–Translation.
ADA363320REB PC A04/MF A01

JPRS-4389
Political Information on Indonesia–Translation.
ADA362990REB PC A03/MF A01

JPRS-4677
Japan Opposes US-Japanese Security Pact.
ADA363305REB PC A02/MF A01

JPRS-4693
Military News Items From Chinese Communist Press–Translation.
ADA362992REB PC A02/MF A01

JPRS-4696
Selected Soviet Military Translations (Recent Events in the Soviet Navy) No. 61–Translation.
ADA363306REB PC A03/MF A01

JPRS-69315
Translations on Eastern Europe. Political, Sociological, and Military Affairs, No. 1406–Translation.
ADA362695REB PC A05/MF A01

JPRS-82320
East Europe Report, Political, Sociological and Military Affairs, No. 2079–Translation.
ADA362830REB PC A10/MF A02

JPRS-82324
Worldwide Report: Environmental Quality, No. 379.
ADA362967REB PC A06/MF A01

JPRS-82325
USSR Report, Construction and Equipment, No. 78.
ADA362750REB PC A10/MF A03

JPRS-82332
Worldwide Report, Epidemiology, No. 303.
ADA362734REB PC A06/MF A01

JPRS-82336
Worldwide Report: Nuclear Development and Proliferation, No. 170.
ADA363329REB PC A05/MF A01

JPRS-82357
Worldwide Report, Telecommunications Policy, Research and Development, No. 250.
ADA362820REB PC A05/MF A01

JPRS-82361
USSR Report, Energy, No. 126.
ADA362819REB PC A04/MF A01

JPRS-82483
China Report, Political, Sociological and Military Affairs No. 374.
ADA363382REB PC A08/MF A02

JPRS-82488
Worldwide Report Telecommunications Policy, Research and Development No. 253.
ADA363271REB PC A05/MF A01

JPRS-82490
East Europe Report, Political, Sociological and Military Affairs No. 2087.
ADA363379REB PC A08/MF A02

JPRS-82491
USSR Report, Energy No. 129.
ADA363327REB PC A04/MF A01

JPRS-82500
Worldwide Report, Environmental Quality No. 381.
ADA363239REB PC A06/MF A01

JPRS-82507
East Europe Report: Political, Sociological and Military Affairs, No. 2088.
ADA362777REB PC A06/MF A01

JPRS-82509
Worldwide Report: Nuclear Development and Proliferation, No. 172.
ADA363282REB PC A05/MF A01

JPRS-82512
China Report, Economic Affairs, No. 296. Energy: Status and Development XII.
ADA363312REB PC A08/MF A02

JPRS-82549
USSR Report, Military Affairs, No. 1731. Military History Journal, No. 8, August 1982.
ADA362749REB PC A06/MF A01

JPRS-82551
USSR Report, USA: Economics, Politics, Ideology, No. 9, September 1982.
ADA362678REB PC A07/MF A02

JPRS-82552
USSR Report, Energy, No. 130.
ADA362741REB PC A05/MF A01

JPRS-82556
China Report, Political, Sociological and Military Affairs, No. 377.
ADA362679REB PC A06/MF A01

JPRS-82560
USSR Report, Military Affairs, No. 1732.
ADA362677REB PC A08/MF A02

JPRS-82564
East Europe Report, Political, Sociological and Military Affairs, No. 2090–Translation.
ADA362657REB PC A07/MF A02

JPRS-82568
USSR Report, Energy, No. 131.
ADA362738REB PC A04/MF A01

JPRS-82573
USSR Report, Military Affairs, No. 1733.
ADA362671REB PC A07/MF A02

JPRS-82575
Worldwide Report, Nuclear Development and Proliferation, No. 173.
ADA362724REB PC A04/MF A01

JPRS-83129
East Europe Report, Political, Sociological and Military Affairs, No. 2121.
ADA363294REB PC A08/MF A02

JPRS-83135
East Europe Report: Scientific Affairs, No. 772.
ADA362852REB PC A05/MF A01

JPRS-83136
USSR Report, Political, and Sociological Affairs, No. 1390.
ADA362845REB PC A04/MF A01

JPRS-83145
China Report, Science and Technology, No. 192–Translation.
ADA363107REB PC A05/MF A01

JPRS-83151
China Report, Political, Sociological and Military Affairs, No. 404–Translation.
ADA363326REB PC A07/MF A02

JPRS-83152
East Europe Report Political, Sociological and Military Affairs No. 2122–Translation.
ADA363367REB PC A07/MF A02

JPRS-83157
East Europe Report, Political, Sociological and Military Affairs, No. 2123–Translation.
ADA363325REB PC A09/MF A02

JPRS-83162
China Report, Economic Affairs No. 323 Energy: Status and Development– XV.
ADA363288REB PC A09/MF A02

JPRS-83282
East Europe Report, Political, Sociological and Military Affairs, No. 2130–Translation.
ADA362945REB PC A10/MF A02

JPRS-83285
China Report, Political, Sociological and Military Affairs, No. 412–Translation.
ADA362821REB PC A06/MF A01

JPRS-83332
East Europe Report, Political, Sociological and Military Affairs, No. 2133.
ADA362807REB PC A06/MF A01

JPRS-83333
Worldwide Report, Epidemiology, No. 316.
ADA362857REB PC A05/MF A01

JPRS-83346
USSR Report, Military Affairs, No. 1764.
ADA362805REB PC A05/MF A01

JPRS-83691
USSR Report, Machine Tools and Metalworking Equipment, No. 7.
ADA363140REB PC A04/MF A01

JPRS-83692
USSR Report, Military Affairs, No. 1775.
ADA362700REB PC A06/MF A01

JPRS-83697
China Report, Political, Sociological and Military Affairs, No. 431–Translation.
ADA362815REB PC A05/MF A01

JPRS-83700
East Europe Report, Political, Sociological and Military Affairs, No. 2153–Translation.
ADA362841REB PC A07/MF A02

JPRS-83702
Worldwide Report, Epidemiology, No. 322.
ADA362858REB PC A05/MF A01

JPRS-83708
USSR Report, Energy, No. 152.
ADA362802REB PC A05/MF A01

JPRS-83709
East Europe Report, Political, Sociological and Military Affairs, No. 2154–Translation.
ADA362686REB PC A06/MF A01

JPRS-83744
USSR Report, Science and Technology Policy, No. 14.
ADA362934REB PC A07/MF A02

JPRS-83760
East Europe Report, Scientific Affairs, No. 782.
ADA362949REB PC A06/MF A01

JPRS-83762
East Europe Report, Political, Sociological and Military Affairs No. 2157.
ADA363307REB PC A05/MF A01

JPRS-83764
Southeast Asia Report, No. 1304.
ADA363289REB PC A07/MF A02

JPRS-83765
East Europe Report, Political, Sociological and Military Affairs, No. 2158.
ADA363290REB PC A08/MF A02

JPRS-83766
Worldwide Report, Environmental Quality, No. 403, China Addresses Environmental Issues – V.
ADA363021REB PC A13/MF A03

JPRS-83829
USSR Report, Earth Sciences, No. 27.
ADA362860REB PC A05/MF A01

JPRS-83839
East Europe Report, Scinetific Affairs, No. 783–Translation.
ADA363368REB PC A05/MF A01

JPRS-83844
USSR Report, Engineering and Equipment, No. 95–Translation.
ADA363025REB PC A07/MF A02

JPRS-83845
Near East/South Asia Report, No. 2780–Translation.
ADA362828REB PC A07/MF A02

JPRS-83846
Latin America Report, No. 2704.
ADA362676REB PC A08/MF A02

JPRS-83847
West Europe Report, No. 2170.
ADA362849REB PC A05/MF A01

JPRS-83848
Worldwide Report, Epidemiology, No. 324.
ADA362997REB PC A05/MF A01

JPRS-83851
USSR Report, Construction and Related Industries, No. 93.
ADA363141REB PC A05/MF A01

JPRS-83854
China Report, Political, Sociological and Military Affairs No. 436.
ADA362780REB PC A10/MF A02

JPRS-83860
East Europe Report, Political, Sociological and Military Affairs, No. 2164–Translation.
ADA363324REB PC A08/MF A02

JPRS-83866
China Report: Political, Sociological and Military Affairs, No. 437.
ADA363014REB PC A11/MF A03

JPRS-83867
Southeast Asia Report, No. 1310.
ADA362842REB PC A05/MF A01

JPRS-83937
East Europe Report, Political, Sociological and Military Affairs, No. 2169.
ADA362698REB PC A05/MF A01

JPRS-83938
Latin America Report, No. 2710. Fighting in Nicaragua: Battles Along Two Borders.
ADA362680REB PC A08/MF A02

JPRS-83943
USSR Report, Military Affairs, No. 1781.
ADA362699REB PC A05/MF A01

JPRS-83946
China Report, Political, Sociological and Military Affairs, No. 438–Translation.
ADA362831REB PC A08/MF A02

JPRS-83954
USSR Report, Energy, No. 154.
ADA362740REB PC A06/MF A01

JPRS-83958
USSR Report, Life Sciences, Biomedical and Behavioral Sciences, No. 38.
ADA362755REB PC A08/MF A02

JPRS-84245
China Report: Political, Sociological and Military Affairs, No. 452–Translation.
ADA362890REB PC A08/MF A02

JPRS-84246
USSR Report: Life Sciences, Biomedical and Behavioral Sciences, No. 40–Translation.
ADA362835REB PC A07/MF A02

JPRS-84247
Worldwide Report: Telecommunications Policy, Research and Development, No. 285.
ADA362797REB PC A05/MF A01

JPRS-84253
Worldwide Report: Epidemiology, No. 330.
ADA362979REB PC A05/MF A01

JPRS-84254
Worldwide Report: Nuclear Development and Proliferation, No. 201–Translation.
ADA362891REB PC A05/MF A01

JPRS-84259
East Europe Report: Political, Sociological and Military Affairs, No. 2193.
ADA362778REB PC A10/MF A02

JPRS-84264
China Report: Political, Sociological and Military Affairs, No. 453–Translation.
ADA362893REB PC A05/MF A01

JPRS-84265
East Europe Report: Political, Sociological and Military Affairs, No. 2194.
ADA362779REB PC A07/MF A02

JPRS-84668
East Europe Report: Political, Sociological and Military Affairs, No. 2225.
ADA362774REB PC A05/MF A01

JPRS-84670
China Report: Political, Sociological and Military Affairs, No. 469.
ADA362767REB PC A06/MF A01

JPRS-84672
West Europe Report, Science and Technology, No. 182.
ADA362909REB PC A04/MF A01

JPRS-84677
East Europe Report: Political, Sociological and Military Affairs, No. 2226–Translation.
ADA362894REB PC A05/MF A01

JPRS-84679
Worldwide Report: Epidemiology, No. 337.
ADA362980REB PC A05/MF A01

JPRS-84684
USSR Report: Energy, No. 164.
ADA362966REB PC A06/MF A01

JPRS-84685
USSR Report: Military Affairs, No. 1810.
ADA362889REB PC A06/MF A01

JPRS-84693
China Report: Political, Sociological and Military Affairs, No. 470–Translation.
ADA362799REB PC A09/MF A02

JPRS-84695
China Report, Science and Technology No. 213.
ADA362902REB PC A04/MF A01

JPRS-84749
Worldwide Report, Telecommunications Policy, Research and Development, No. 293.
ADA363273REB PC A05/MF A01

JPRS-84758
USSR Report, Life Sciences Biomedical and Behavioral Sciences, No. 45–Translation.
ADA363373REB PC A06/MF A02

JPRS-84765
China Report, Political, Sociological and Military Affairs, No. 472–Translation.
ADA363372REB PC A06/MF A01

JPRS-84767
Worldwide Report, Nuclear Development and Proliferation No. 209–Translation.
ADA363237REB PC A06/MF A01

JPRS-84768
USSR Report, Military Affairs, No. 1814–Translation.
ADA362928REB PC A05/MF A01

JPRS-84770
China Report, Agriculture, No. 279.
ADA363285REB PC A06/MF A01

JPRS-84771
East Europe Report, Economic and Industrial Affairs, No. 2475.
ADA362895REB PC A07/MF A02

JPRS-84773
Sub-Saharan Africa Report, No. 2873–Translation.
ADA362993REB PC A08/MF A02

JPRS-84777
USSR Report, Chemistry, No. 110.
ADA363143REB PC A06/MF A01

JPRS-84778
Worldwide Report: Telecommunications Policy, Research and Development, No. 294.
ADA362868REB PC A07/MF A02

JPRS-84780
USSR Report, Agriculture, No. 1409.
ADA362961REB PC A04/MF A01

JPRS-84783
Worldwide Report, Nuclear Development and Proliferation No. 210.
ADA363328REB PC A05/MF A01

JPRS-84784
USSR Report: Political and Sociological Affairs, No. 1478.
ADA362827REB PC A06/MF A01

JPRS-84785
East Europe Report, Political, Sociological and Military Affairs, No. 2232–Translation.
ADA363369REB PC A05/MF A01

JPRS-84787
Southeast Asia Report, No. 1371.
ADA362825REB PC A06/MF A01

JPRS-84789
Southeast Asia Report, No. 1372.
ADA362854REB PC A06/MF A01

JPRS-84794
Southeast Asia Report, No. 1373–Translation.
ADA362844REB PC A06/MF A01

JPRS-84830
East Europe Report, Political, Sociological and Military Affairs No. 2234.
ADA363308REB PC A10/MF A02

JPRS-84831
China Report, Political, Sociological and Military Affairs No. 474.
ADA363309REB PC A09/MF A02

JPRS-84839
USSR Report, Electronics and Electrical Engineering, No. 118.
ADA363284REB PC A04/MF A01

JPRS-84841
East Europe Report, Political, Sociological and Military Affairs, No. 2235–Translation.
ADA362994REB PC A05/MF A01

JPRS-84844
China Report, Political, Sociological and Military Affairs, No. 475–Translation.
ADA362995REB PC A06/MF A01

JPRS-84845
West Europe Report: Science and Technology, No. 166.
ADA363028REB PC A06/MF A01

JPRS-84853
USSR Report, Military Affairs, No. 1817.
ADA363291REB PC A07/MF A02

JPRS-84854
Korean Affairs Report, No. 326 Kulloja No. 3, March 1983.
ADA363292REB PC A07/MF A02

JPRS-84857
China Report, Political, Sociological and Military Affairs, No. 476.
ADA363293REB PC A07/MF A02

JPRS-89143
Worldwide Report Nuclear Development and Proliferation No. 182.
ADA363283REB PC A04/MF A01

JSR-97-155
Characterization of Underground Facilities.
ADA363359REB PC A05/MF A01

JSR-98-145
Nondestructive Evaluation and Self-Monitoring Materials.
ADA363256REB PC A05/MF A01

L-17802
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB PC A14/MF A03

L-17809A
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB PC A20/MF A04

LA-SUB-98-36
R and D 100 market assessment.
DE99002205REB PC A01/MF A01

LA-SUB-98-6
Electron cyclotron resonance (ECR) plasma film deposition.
DE99002202REB PC A02/MF A01

LA-UR-96-1846
Field Demonstration and Commercialization of Silent Discharge Plasma Hazardous Air Pollutant Control Technology.
ADA363228REB PC A03/MF A01

LA-UR-97-2124
Non-Thermal Plasmas as Gas-Phase Advance Oxidation Processes.
ADA363247REB PC A02/MF A01

LA-UR-98-968
Advanced Oxidation and Reduction Processes in the Gas Phase Using Non- Thermal Plasmas.
ADA363128REB PC A05/MF A01

LA-UR-98-2706
Dynamic measurement of the influence of projectile radius and velocity on strain localization during impact of an energetic material.
DE99002408REB PC A02/MF A01

LA-UR-98-3247
Advanced algorithms for information science.
DE99002231REB PC A01/MF A01

LA-UR-98-3253
Summary of results for the uranium benchmark problem of the ANS Ad Hoc Committee on Reactor Physics Benchmarks.
DE99002269REB PC A02/MF A01

LA-UR-98-3257
Application of new techniques for EOS data.
DE99002232REB PC A02/MF A01

LA-UR-98-3261
Data mining.
DE99002233REB PC A02/MF A01

LA-UR-98-3262
Development of a gamma ray spectroscopy capability at LANSCE.
DE99002234REB PC A01/MF A01

LA-UR-98-3264
Pressure induced metallization of the perovskite Sr3Fe2O7.
DE99002271REB PC A03/MF A01

LA-UR-98-3266
Dynamic fracture of heterogeneous materials.
DE99002235REB PC A03/MF A01

LA-UR-98-3272
Advanced telemedicine development.
DE99002236REB PC A01/MF A01

LA-UR-98-3273
Hydrogen gas getters: Susceptibility to poisoning.
DE99002237REB PC A01/MF A01

LA-UR-98-3275
Technologies for the oil and gas industry.
DE99002238REB PC A01/MF A01

LA-UR-98-3301
Data/model integration for vertical mixing in the stable Arctic boundary layer.
DE99002240REB PC A02/MF A01

LA-UR-98-3325
Optimal neural computations require analog processors.
DE99002277REB PC A03/MF A01

LA-UR-98-3339
Cost benefit of caustic recycle for tank waste remediation at the Hanford and Savannah River Sites.
DE99002242REB PC A04/MF A01

LA-UR-98-3342
Working man's analysis of incidents and accidents with explosives at the Los Alamos National Laboratory, 1946–1997.
DE99002410REB PC A02/MF A01

LA-UR-98-3353
Introduction to radiation transport.
DE99002279REB PC A03/MF A01

LA-UR-98-3365
Study of the overdriven behaviors of PBX 9501 and PBX 9502.
DE99002407REB PC A02/MF A01

LA-UR-98-3367
Implementation of model predictive control on a hydrothermal oxidation reactor.
DE99002280REB PC A02/MF A01

LA-UR-98-3370
Vector meson production and nuclear effects in FNAL E866.
DE99002282REB PC A02/MF A01

LA-UR-98-3372
Error studies for SNS Linac. Part 1: Transverse errors.
DE99002254REB PC A03/MF A01

LA-UR-98-3400
Quick-look eye-safety assessment for the short range lidar.
DE99002263REB PC A02/MF A01

LA-UR-98-3405
Nutritional supplements as radioprotectors – A review and proposal.
DE99002283REB PC A03/MF A01

LA-UR-98-3408
Creative PDB's (parts databases).
DE99002284REB PC A03/MF A01

LA-UR-98-3414
Reaction of preshocked explosives.
DE99002285REB PC A04/MF A01

LA-UR-98-3415
Micro fuel cell.
DE99002286REB PC A03/MF A01

LA-UR-98-3423
Thermodynamics and sound speeds at the Chapman-Jouguet state.
DE99002289REB PC A02/MF A01

LA-UR-98-3431
Diagnostic enhancements for plasma processing.
DE99002256REB PC A02/MF A01

LA-UR-98-3434
Detonation and combustion of explosives: A selected bibliography.
DE99002406REB PC A05/MF A01

LA-UR-98-3441
Damage evolution and clustering in shock loaded tantalum.
DE99002291REB PC A02/MF A01

LA-UR-98-3450
Report on the testing of Raschig Rings.
DE99002257REB PC A05/MF A01

LA-UR-98-3453
SI-Combiner: Making sense of results from multiple trained programs.
DE99002292REB PC A01/MF A01

LA-UR-98-3460
Analysis of thermal issues associated with the pre-amplifier modules in the National Ignition Facility.
DE99002258REB PC A03/MF A01

LA-UR-98-3461
Reliability of the nervous (Nv) nets.
DE99002293REB PC A02/MF A01

LA-UR-98-3462
Larger bases and mixed analog/digital neural nets.
DE99002294REB PC A02/MF A01

LA-UR-98-3463
Automatic synthesis of analog/digital circuits.
DE99002295REB PC A01/MF A01

LA-UR-98-3469
Numerical simulation of explosive volcanism and its effects on the atmosphere.
DE99002259REB PC A02/MF A01

LA-UR-98-3473
Evolution of microstructural changes in pressed HMX explosives.
DE99002405REB PC A02/MF A01

LA-UR-98-3525
Information barrier functional requirements.
DE99002297REB PC A01/MF A01

LA-UR-98-3535
Rural telemedicine project in northern New Mexico.
DE99002299REB PC A02/MF A01

LA-UR-98-3538
Performance and scalability analysis of teraflop-scale parallel architectures using multidimensional wavefront applications.
DE99002404REB PC A03/MF A01

LA-UR-98-3563
Tracer modeling in an urban environment.
DE99002399REB PC A01/MF A01

LA-UR-98-3577
Production and storage of ultra cold neutrons in superfluid helium.
DE99002260REB PC A01/MF A01

LA-UR-98-3595
SNS Linac: Revised configuration.
DE99002261REB PC A02/MF A01

LA-UR-98-3598
Reactions of oxides of nitrogen (NOx) leading to the formation of nitric acid (HNO3) in non-thermal plasmas (NTPs). White paper for the Strategic Environmental Research and Development Program (SERDP) (Compliance Project CP-1038: Development of non-thermal plasma reactor technology for control of atmospheric emissions).
DE99002262REB PC A03/MF A01

LA-UR-98-4926
Cost Analysis and Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Processes for NOX Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363161REB PC A03/MF A01

LA-UR-98-5553
Development of Non-Thermal Plasma Reactor Technology for Control of Atmospheric Emissions: Interim Technical Report for SERDP Project CP-1038 (1998).
ADA363162REB PC A03/MF A01

LA-UR-99-101
Economic Assessment of Proposed Electric-Discharge Non-Thermal Plasma Field-Pilot Demonstration Units for NOx Removal in Jet-Engine Exhaust: White Paper for SERDP Project CP-1038.
ADA363225REB PC A03/MF A01

LA-UR-99-522
Evaluation of high-level waste pretreatment processes with an approximate reasoning model.
DE99002218REB PC A03/MF A01

LA-UR-99-527
Performance analysis of wavefront algorithms on very-large scale distributed systems.
DE99002219REB PC A03/MF A01

LA-UR-99-564
Explicit model of expanding cylindrical shells subjected to high explosive detonations.
DE99002224REB PC A03/MF A01

LA-UR-99-572
Ab initio calculations of As-vacancy interactions in silicon.
DE99002225REB PC A03/MF A01

LA-UR-99-582
Plasma and ion barrier for electron beam spot stability.
DE99002226REB PC A02/MF A01

LA-UR-99-594
Fatigue crack nucleation in metallic materials.
DE99002227REB PC A03/MF A01

LA-UR-99-605
Large-scale demonstration and deployment project at Los Alamos National Laboratory.
DE99002150REB PC A02/MF A01

LA-UR-99-630
Bayesian analysis of MEG visual evoked responses.
DE99002182REB PC A02/MF A01

LA-UR-99-638
Low-level radioactive waste management at the Nevada Test Site -- Current status.
DE99002186REB PC A02/MF A01

LA-UR-99-639
Intermediate depth burial of classified transuranic wastes in arid alluvium.
DE99002192REB PC A03/MF A01

LA-UR-99-644
Evidence for strong electron-lattice coupling in La(sub 2(minus)x)Sr(sub x)NiO(sub 4).
DE99002183REB PC A02/MF A01

LA-UR-99-646
Low temperature anomaly of LO phonons in La(sub 1.85)Sr(sub 0.15)CuO(sub 4) and YBa(sub 2)Cu(sub 3)O(sub 7).
DE99002184REB PC A02/MF A01

LA-UR-99-654
Structure and dynamics of interactive documents.
DE99002193REB PC A03/MF A01

LA-UR-99-684
Quasi-static multiaxial testing of PBX 9501: Creep effects on Estane molecular weight.
DE99002195REB PC A02/MF A01

LA-UR-99-686
Environmental management policy analysis using complex system simulation.
DE99002148REB PC A02/MF A01

LA-UR-99-706
Need and options available for permanent CO(sub 2) disposal.
DE99002199REB PC A02/MF A01

LA-UR-99-708
Spectrophotometric investigation of U(VI) chloride complexation in the NaCl/NaClO(sub 4) system.
DE99002201REB PC A04/MF A01

LA-UR-99-709
Microbial characterization for the Source-Term Waste Test Program (STTP) at Los Alamos.
DE99002197REB PC A03/MF A01

LA-UR-99-750
Dislocation accumulation at large plastic strains -- An approach to the theoretical strength of materials.
DE99002412REB PC A04/MF A01

LA-UR-99-753
Application of nonlinear wave modulation spectroscopy to discern material damage.
DE99002411REB PC A02/MF A01

LA-UR-99-759
First principles total energy study of NbCr(sub 2) + V Laves phase ternary system.
DE99002200REB PC A02/MF A01

LA-UR-972308
Experimental Results Comparing Pulsed Corona and Dielectric Barrier Discharges for Pollution Control.
ADA363246REB PC A02/MF A01

LBNL-41247
Synthesis, characterization and reactivity of high oxidation state nickel fluorides.
DE99002385REB PC A09/MF A02

LBNL-41750
Effective temperatures and electron spin polarization in storage rings.
DE99002386REB PC A01/MF A01

LBNL-41797
High-resolution structural studies of ultra-thin magnetic, transition metal overlayers and two-dimensional transition metal oxides using synchrotron radiation.
DE99002387REB PC A08/MF A02

LBNL-41936
Role of statistics and thermodynamics in nuclear multifragmentation.
DE99002390REB PC A02/MF A01

LBNL-41939
Z-dependent barriers in multifragmentation from Poissonian reducibility and thermal scaling.
DE99002391REB PC A03/MF A01

LBNL-41950
Exploratory technology research program for electrochemical energy storage, annual report for 1997.
DE99002392REB PC A05/MF A01

LBNL-41975
Influence of surface topography on the forming friction of automotive aluminum sheet.
DE99002244REB PC A07/MF A02

LBNL-42105
New 3D parallel GILD electromagnetic modeling and nonlinear inversion using global magnetic integral and local differential equation.
DE99002422REB PC A04/MF A01

LBNL-42188
Electron transport uniformity characterization of CdZnTe using alpha particles.
DE99002423REB PC A03/MF A01

LMI-AQ804T1
Acquisition Positions in the Department of Defense Update.
ADA362683REB PC A11/MF A03

LPI-CONTRIB-963
In Situ Resource Utilization (ISRU 3) Technical Interchange Meeting: Abstracts.
N19990042245REB PC A04/MF A01

LTRMP-99-R006
Annual and Local Variation in Reproduction in the Red-Eared Slider 'Trachemys scripta elagans'.
PB99-152183REB PC A03/MF A01

M0109-04
Doped PMN-PT Single Crystals.
ADA362908REB PC A02/MF A01

M-913/VOL2
General Public Space Travel and Tourism, Volume 2.
N19990041888REB PC A06/MF A01

MIC-99-03102REB
Soil fertility handbook.
MIC-99-03102REB PC E17/MF E01

MIC-99-03104REB
Managing identified wildlife: Procedures and measures, vol. I.
MIC-99-03104REB PC E12/MF E01

MIC-99-03105REB
Fraser Timber Supply Area: Rationale for Allowable Annual Cut (AAC) determination, effective April 1, 1999.
MIC-99-03105REB PC E07/MF E01

MIC-99-03106REB
Effects of modafinil, d-amphetamine and placebo on physiological and psychological stress during sleep deprivation.
MIC-99-03106REB PC E07/MF E01

MIC-99-03111REB
Drive clean guide: Emission standards, emissions test methods and technical information relating to Ontario Regulation 361/98 as amended.
MIC-99-03111REB PC E07/MF E01

MIC-99-03112REB
Aggregate resources inventory of the Regional Municipality of Durham: Townships of Brock, Uxbridge, Scugog; the Municipality of Clarington; the towns of Pickering, Ajax and Whitby and the City of Oshawa.
MIC-99-03112REB PC E07/MF E01

MIC-99-03113REB
Quaternary geology of the Separation Lake area, Northwestern Ontario.
MIC-99-03113REB PC E12/MF E01

MIC-99-03114REB
Graduated licensing system evaluation: Interim report '98.
MIC-99-03114REB PC E07/MF E01

MIC-99-03115REB
Aggregate resources inventory of Prince Edward County.
MIC-99-03115REB PC E07/MF E01

MIC-99-03116REB
Aggregate resources inventory of Wellington County: Townships of Minto, Arthur, West Luther, Maryborough, Peel, West Garafraxa, Pilkington, Nichol, Guelph, Eramosa, Erin, Puslinch and the City of Guelph.
MIC-99-03116REB PC E07/MF E01

MIC-99-03118REB
Birds of British Columbia: A taxonomic catalogue.
MIC-99-03118REB PC E17/MF E01

MIC-99-03120REB
Migratory birds environmental assessment guideline.
MIC-99-03120REB PC E07/MF E01

MIC-99-03121REB
Wetlands environmental assessment guideline.
MIC-99-03121REB PC E07/MF E01

MIC-99-03122REB
Environmental assessment guideline for forest habitat of migratory birds.
MIC-99-03122REB PC E07/MF E01

MIC-99-03123REB
Diseases of Populus in British Columbia: A diagnostic manual.
MIC-99-03123REB PC E12/MF E01

MIC-99-03125REB
Alberta heavy oil, oil sands and enhanced recovery: Alberta & Saskatchewan steam-assisted gravity drainage projects, a survey.
MIC-99-03125REB PC E07/MF E01

MIC-99-03128REB
Post-construction evaluation of stormwater exfiltration & filtration systems.
MIC-99-03128REB PC E12/MF E01

MIC-99-03131REB
Alberta heavy oil, oil sands and enhanced recovery: Experimental pilot projects, a survey.
MIC-99-03131REB PC E07/MF E01

MIC-99-03132REB
Annual report 1997-98.
MIC-99-03132REB PC E07/MF E01

MIC-99-03133REB
Formulating objectives for management on an ecosystem scale.
MIC-99-03133REB PC E07/MF E01

MIC-99-03134REB
Water quality assessment and objectives for the Fraser River from Hope to Sturgeon and Roberts banks: First update, technical appendix.
MIC-99-03134REB PC E99/MF E01

MIC-99-03135REB
Site index, a primer.
MIC-99-03135REB PC E07/MF E01

MIC-99-03138REB
Land capability classification for forest ecosystems in the oil sands region – Rev. ed. Revised edition.
MIC-99-03138REB PC E12/MF E01

MIC-99-03151REB
New Brunswick's mineral industry, 1997.
MIC-99-03151REB PC E12/MF E01

MIC-99-03154REB
Publications available from the Department of Natural Resources and Energy, Minerals and Energy Division (1995-): Supplementary list.
MIC-99-03154REB PC E12/MF E01

MIC-99-03159REB
Adaptive research reports, 1995, v. 17.
MIC-99-03159REB PC E17/MF E01

MIC-99-03164REB
Aquatic Toxicity Workshop: Proceedings 1998.
MIC-99-03164REB PC E12/MF E01

MIC-99-03167REB
Comparison of prethin densities in hardwood stands measured at 1 meter and 30 centimeters respectively, data measurements gathered during hardwood time & motion studies in 1996: Information report.
MIC-99-03167REB PC E07/MF E01

MIC-99-03171REB
Guidelines for estimating beef grassing costs based on 500 head.
MIC-99-03171REB PC E07/MF E01

MIC-99-03172REB
Phosphorus loading to Shellmouth Reservoir, Manitoba, Canada.
MIC-99-03172REB PC E17/MF E01

MIC-99-03182REB
Household equipment of Canadians, features of the 1993 stock & the 1994 & 1995 purchases: Analysis report.
MIC-99-03182REB PC E07/MF E01

MIC-99-03183REB
Survey of Canadian new household equipment purchases, 1994 & 1995: Statistical report.
MIC-99-03183REB PC E07/MF E01

MIC-99-03187REB
Guide to weed control, 1999.
MIC-99-03187REB PC E17/MF E01

MIC-99-03190REB
Canadian fertilizer quality assurance report: Plant ratings 1998.
MIC-99-03190REB PC E07/MF E01

MIC-99-03194REB
Manitoba food products directory, 1999.
MIC-99-03194REB PC E07/MF E01

MIC-99-03196REB
Annual report 1997-98.
MIC-99-03196REB PC E07/MF E01

MIC-99-03199REB
Dunbar community vision, city plan.
MIC-99-03199REB PC E07/MF E01

MIC-99-03200REB
Kensington-Cedar Cottage community vision, city plan.
MIC-99-03200REB PC E07/MF E01

MIC-99-03209REB
Smart communities: Report.
MIC-99-03209REB PC E07/MF E01

MIC-99-03210REB
Effects of contaminants on aquatic organisms in the Peace, Athabasca and Slave River basins.
MIC-99-03210REB PC E07/MF E01

MIC-99-03214REB
Flight recorder configuration standard, version 1.0.
MIC-99-03214REB PC E07/MF E01

MIC-99-03216REB
Guide for reporting to the National Pollutant Release Inventory, 1998.
MIC-99-03216REB PC E12/MF E01

MIC-99-03222REB
Field crop recommendations, 1999-2000.
MIC-99-03222REB PC E12/MF E01

MIC-99-03223REB
Mining and mineral processing operations in Canada, 1998.
MIC-99-03223REB PC E07/MF E01

MIC-99-03227REB
40Ar/39Ar dating of ribbon-textured veins and wall-rock material from Meguma lode gold deposits, Nova Scotia: Implications for timing and duration of vein formation in slate-belt hosted vein gold deposits.
MIC-99-03227REB PC E07/MF E01

MIC-99-03228REB
Carboniferous evolution of Nova Scotia.
MIC-99-03228REB PC E07/MF E01

MIC-99-03229REB
Origin and evolution of the Greisenizing fluid at the East Kemptville tin deposit, Nova Scotia, Canada.
MIC-99-03229REB PC E07/MF E01

MIC-99-03230REB
Wisconsinan glacial and sea-level history of Maritime Canada and the adjacent continental shelf: A correlation of land and sea events.
MIC-99-03230REB PC E07/MF E01

MIC-99-03231REB
Guidelines for manure management for Prince Edward Island.
MIC-99-03231REB PC E07/MF E01

MIC-99-03234REB
Regulatory barriers to on-site water reuse.
MIC-99-03234REB PC E07/MF E01

MIC-99-03240REB
Electronic village: Policy issues of the information economy.
MIC-99-03240REB PC E17/MF E01

MIC-99-03249REB
Annual report 1997-98.
MIC-99-03249REB PC E07/MF E01

MIC-99-03255REB
Annual report 1997-98.
MIC-99-03255REB PC E07/MF E01

MIC-99-03257REB
Annual report 1997-98.
MIC-99-03257REB PC E17/MF E01

MIC-99-03262REB
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ADA363389REB PC A12/MF A03

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Monographs in Aerospace History Series No. 11. Together in Orbit: The Origins of International Participation in the Space Station.
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N19990042443REB PC A03/MF A01

NAS 1.15:104332
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB PC A03/MF A01

NAS 1.15:209048
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB PC A02/MF A01

NAS 1.15:209054
New Materials for EMI Shielding.
N19990042172REB PC A03/MF A01

NAS 1.21:7011/SUPPL492
Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
N19990041598REB PC A03/MF A01

NAS 1.21:7037/SUPPL401
Aeronautical Engineering: A Continuing Bibliography With Indexes, Supplement 401.
N19990041594REB PC A05/MF A01

NAS 1.26:208191
Experimental Internet Environment Software Development.
N19990042214REB PC A02/MF A01

NAS 1.26:208192
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB PC A05/MF A01

NAS 1.26:208883
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB PC A08/MF A02

NAS 1.26:208884
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB PC A05/MF A01

NAS 1.26:209207
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB PC A04/MF A01

NAS 1.26:209213
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB PC A03/MF A01

NAS 1.26:209220
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB PC A06/MF A02

NAS 1.26:209223
Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB PC A10/MF A02

NAS 1.26:209227
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB PC A04/MF A01

NAS 1.26:209228
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB PC A08/MF A02

NAS 1.55:208986
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB PC A14/MF A03

NAS 1.55:209101/PT1
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB PC A20/MF A04

NAS 1.55:209146/VOL2
General Public Space Travel and Tourism, Volume 2.
N19990041888REB PC A06/MF A01

NAS 1.60:208693
Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB PC A03/MF A01

NAS 1.60:208856
Orbital Debris: A Chronology.
N19990041784REB PC A09/MF A02

NAS 1.83:1998-10-244-HQ
Monographs in Aerospace History Series No. 11. Together in Orbit: The Origins of International Participation in the Space Station.
N19990041803REB PC A05/MF A01

NASA/CP-1999-208986
Intelligent Agents and Their Potential for Future Design and Synthesis Environment.
N19990041500REB PC A14/MF A03

NASA/CP-1999-209101/PT1
First International Symposium on Strain Gauge Balances, Pt. 1.
N19990041515REB PC A20/MF A04

NASA/CP-1999-209146/VOL2
General Public Space Travel and Tourism, Volume 2.
N19990041888REB PC A06/MF A01

NASA/CR-1998-209213
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB PC A03/MF A01

NASA/CR-1998-209223
Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB PC A10/MF A02

NASA/CR-1998-209227
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB PC A04/MF A01

NASA/CR-1998-209228
Utilization of UARS Data in Validation of Photochemical and Dynamical Mechanisms in Stratospheric Models.
N19990041878REB PC A08/MF A02

NASA/CR-1999-208191
Experimental Internet Environment Software Development.
N19990042214REB PC A02/MF A01

NASA/CR-1999-208192
Structural Stiffness Characteristics of the Solid Rocket Booster Field Joint.
N19990041442REB PC A05/MF A01

NASA/CR-1999-208883
TFaNS Tone Fan Noise Design/Prediction System, Volume 2.
N19990041445REB PC A08/MF A02

NASA/CR-1999-208884
TFaNS Tone Fan Noise Design/Prediction System, Volume 3.
N19990041617REB PC A05/MF A01

NASA/CR-1999-209207
Coupling Processes between Atmospheric Chemistry and Climate.
N19990041152REB PC A04/MF A01

NASA/CR-1999-209220
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB PC A06/MF A02

NASA-NP-1998-10-244-HQ
Monographs in Aerospace History Series No. 11. Together in Orbit: The Origins of International Participation in the Space Station.
N19990041803REB PC A05/MF A01

NASA/SP-1999-7011/SUPPL492
Aerospace Medicine and Biology: A Continuing Bibliography with Indexes, Supplement 492.
N19990041598REB PC A03/MF A01

NASA/SP-1999-7037/SUPPL401
Aeronautical Engineering: A Continuing Bibliography With Indexes, Supplement 401.
N19990041594REB PC A05/MF A01

NASA-TM-1997-104332
Use of a Lidar Forward-Looking Turbulence Sensor for Mixed-Compression Inlet Unstart Avoidance and Gross Weight Reduction on a High Speed Civil Transport.
N19990042110REB PC A03/MF A01

NASA/TM-1999-209048
Comparison Tools for Assessing the Microgravity Environment of Orbital Missions, Carriers and Conditions.
N19990041197REB PC A02/MF A01

NASA/TM-1999-209054
New Materials for EMI Shielding.
N19990042172REB PC A03/MF A01

NASA/TP-1998-208693
Solution to the Fundamental Linear Fractional Order Differential Equation.
N19990041952REB PC A03/MF A01

NASA/TP-1999-208856
Orbital Debris: A Chronology.
N19990041784REB PC A09/MF A02

NASS-ZAG-99REB
Agricultural Statistics, 1999.
NASS-ZAG-99REB PC$28.00/MF A04

NASS-ZCP-99REB
Cherry Production (Released June 24, 1999).
NASS-ZCP-99REB PC$15.00/MF A01

NASS-ZFC-99REB
Floriculture Crops. 1998 Summary.
NASS-ZFC-99REB PC$20.00/MF A02

NAWS-CL-TP-011
Coso Monitoring Program, October 1997 through September 1998.
ADA362727REB PC A05/MF A01

NBL-345
Evaluation of kinetic phosphorescence analysis for the determination of uranium.
DE99002439REB PC A05/MF A01

NEFES/99-4
ROMI-RIP 2.0 User's Guide: a ROugh MIII RIP-First Simulator.
PB99-152803REB PC A05/MF A01

NEFES/99-5
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
PB99-152795REB PC A04/MF A01

NETCR-14
Full-Scale Crash Evaluation of the NETC 4-Bar Sidewalk-Mounted Steel Bridge Railing.
PB99-152720REB PC A09/MF A02

NFESC-TM-2226-ENV
Emissions from DOD Fuel Storage and Painting Operations.
ADA363200REB PC A03/MF A01

NFESC-TR-6012-OCN
U.S. Navy Heavy Weather Mooring Criteria.
ADA363085REB PC A03/MF A01

NIH/PUB-99-3973
NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
PB99-152878REB PC A10/MF A02

NIH/PUB-99-3978
NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
PB99-152886REB PC A10/MF A02

NISTIR-6330
Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
PB99-152373REB PC A04/MF A01

NISTIR-6338
Implementing a Standards-Based Distributed Measurement and Control Application on the Internet.
PB99-152712REB PC A04/MF A01

NISTIR-6339
Systems Integration for Manufacturing Applications, 1998 Annual Report.
PB99-152696REB PC A06/MF A01

NISTIR-6346
Triangulation-Based L1-Fitting of Terrain Surfaces.
PB99-152779REB PC A04/MF A01

NMSU-ECE-98-010
High Speed A/D DSP Interface for Carrier Doppler Tracking.
N19990041157REB PC A05/MF A01

NOAA-TM-ERL-ETL-296
Aerial Video of Smoke-Marked Wind Shifts Caused by Ocean Internal Waves.
PB99-154486REB PC A03/MF A01

NOAA-TM-NMFS-SWFSC-256
Marine Mammal Auditory Systems: A Summary of Audiometric and Anatomical Data and Its Implications for Underwater Acoustic Impacts.
PB99-154791REB PC A06/MF A02

NOAA-TM-NMFS-SWFSC-258
U.S. Pacific Marine Mammal Stock Assessments: 1998.
PB99-152837REB PC A04/MF A01

NOAA-TM-NMFS-SWFSC-261
Recent Developments in Population Viability Analysis, with Specific Reference to Pacific Salmon.
PB99-155426REB PC A04/MF A01

NOAO-PREPRINT-813
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB PC A04/MF A01

NPS-EC-99-006
Localization of Wireless Emitters Based on the Time Difference of Arrival (TDOA) and Wavelet Denoising.
ADA363100REB PC A05/MF A01

NPS-ME-99-002
Maritime Preposition Force Ship 2010.
ADA363180REB PC A13/MF A03

NRA-95-OSS-16
WFPC2 Observations of Star Clusters in the Magellanic Clouds, Report 2.
N19990042321REB PC A04/MF A01

NREL/SR-710-24738
New Technology Demonstration Program, Kennedy Space Center,.
DE00006694REB PC A01/MF A01

NRL/MR/5310--99-8378
Hybrid Version of Method of Moments Computer Code: IBC3D.
ADA363074REB PC A03/MF A01

NRL/MR/5580--99-8355
Perspective Splatting.
ADA363073REB PC A04/MF A01

NRL/MR/6180-99-8372
Experimental and Numerical Study of the Effects of Design Parameters on Water Mist Suppression of Liquid Pool Fires.
ADA362806REB PC A04/MF A01

NRL/MR/6720--99-8341
Advanced Radiation Theory, Support Annual Report 1998.
ADA362872REB PC A09/MF A02

NRL/MR/6750--99-8349
WIND-HAARP-HIPAS Interferometer Experiment.
ADA362758REB PC A03/MF A01

NRL/MR/6790--99-8317
Feasibility Experiments for Underwater Shock and Bubble Generation with a High-Power Laser.
ADA362880REB PC A03/MF A01

NSWCCD-TR-1999/007
Boundary Conditions for Magnetic Field Gradients Inside a Source-Free Volume.
ADA362760REB PC A03/MF A01

NSWCCD-61-TR-1999/04
Heat Treatment of Al 7075 for Ejection Seat Shear Wire.
ADA362873REB PC A03/MF A01

NSWCCD-65-TR-1998/21
Standardized Procedure for Experimental Vibration Testing of Damping Test Specimens.
ADA363069REB PC A03/MF A01

NSWCCD-70-TR--1999-120
Vibration Damping by a Nearly Continuous Distribution of Nearly Undamped Oscillators.
ADA362958REB PC A03/MF A01

NSWCDD/MP-98/118
Implementation of Successful Practices Using an Iterative Development Methodology for an AEGIS Configuration Management Software Application.
ADA363072REB PC A09/MF A02

NSWCDD/TR-98/113
Evaluation of Precise Absolute Navigation (PAN) Performance Under Dynamic Conditions.
ADA362733REB PC A04/MF A01

NTP-TR-483
NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
PB99-152878REB PC A10/MF A02

NTP-TR-488
NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
PB99-152886REB PC A10/MF A02

NUREG/CR-5500-V3REB
Reliability Study: General Electric Reactor Protection System, 1984-1995.
NUREG/CR-5500-V3REB PC A12/MF A03

NUREG/CR-5730REB
Paleoseismology Study Northwest of the New Madrid Seismic Zone.
NUREG/CR-5730REB PC A10

NUREG/CR-5751REB
Hanford Tank Waste Remediation System High-Level Waste Chemistry Manual.
NUREG/CR-5751REB PC A16/MF A03

NUREG/CR-6512REB
Dynamic Fracture Initiation Toughness of ASTM A533, Grade B Steel Plate.
NUREG/CR-6512REB PC A06/MF A02

NUREG/CR-6532REB
Systems Analysis Programs for Hands-on Integrated Reliability Evaluations (SAPHIRE) Version 6.0. System Overview Manual.
NUREG/CR-6532REB PC A05/MF A01

NUREG/CR-6587REB
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB PC A06/MF A01

NUWC-NPT-TD-11082
EMI Measurement Testing Performed at Hanscom Air Force Base and Fort Devens Reserve for the DARPA Hybrid Electric Vehicle Program.
ADA362952REB PC A03/MF A01

ORNL/TM-13342
Dynamic Fracture Initiation Toughness of ASTM A533, Grade B Steel Plate.
NUREG/CR-6512REB PC A06/MF A02

OSWER-9355.0-71P
Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.
PB98-963305REB PC A02/MF A01

OTS-60-11-439
Soviet Abstracts Biology, Section O, Plant Diseases, Book No. 23, 1958, Abstracts 104958 thru 105054--Translation.
ADA363310REB PC A03/MF A01

OTS-60-11-441
Conference on the Control of the Colorado Beetle, USSR.
ADA362786REB PC A01/MF A01

OTS-60-31-158
Research and Development in Soviet Nonferrous Metallurgy--Translation.
ADA363316REB PC A07/MF A02

OTS-60-31-175
Award of Lenin Prizes in Science and Technology, USSR--Translation.
ADA362853REB PC A01/MF A01

OTS-60-31-295
Scientists of the Academy of Sciences of Kazakh SSR Visit Communist China.
ADA363313REB PC A03/MF A01

OTS-60-31-404
Awards to Soviet Women Medical Workers-USSR.
ADA363375REB PC A04/MF A01

OTS-60-31-765
Problem of Early Diagnosis of Cancer of the Uterine Cervix--Translation.
ADA362859REB PC A02/MF A01

OTS-60-31-773
Third Congress of the All-Union Astronomic-Geodetic Society, USSR.
ADA363319REB PC A02/MF A01

OTS-60-31-779
Brief Report on a Scientific Mission to the United States, USSR.
ADA363311REB PC A03/MF A01

PA-98-006-91-072
Use of Waste Glass as Aggregate for Pipe Backfill and Embankment Material.
PB99-152399REB PC A03/MF A01

PA-98-010-90-63
Evaluation of Rubber-Modified Asphaltic Concrete.
PB99-152381REB PC A04/MF A01

PA-99-0001-94-05
Verification of Effectiveness of Epoxy-Coated Rebars.
PB99-152407REB PC A06

PA-99-005-91-77
Reclaimed Manufacturer Asphalt Roofing Shingles in Asphalt Mixtures.
PB99-152613REB PC A05/MF A01

PAT-APPL-8-012 016REB
Oily Waste Water Treatment System.
PAT-APPL-8-012 016REB PC N03/MF A04

PAT-APPL-8-137 870REB
Multiline Tow Cable Assembly Including Swivel and Slip Ring.
PAT-APPL-8-137 870REB PC N03/MF A04

PAT-APPL-8-226 614REB
Electrical Outlet Splash Protector.
PAT-APPL-8-226 614REB PC N03/MF A04

PAT-APPL-8-226 620REB
Illuminating Electrical Fuse.
PAT-APPL-8-226 620REB PC N03/MF A04

PAT-APPL-8-226 621REB
Non-Slip Safety Glasses.
PAT-APPL-8-226 621REB PC N03/MF A04

PAT-APPL-8-226 625REB
Acoustic Sound Speed Profiling System.
PAT-APPL-8-226 625REB PC N03/MF A04

PB98-963129REB
Superfund Explanation of Significant Difference for the Record of Decision (EPA Region 1): Loring Air Force Base, Operable Unit 2, Limestone, Maine, September 30, 1998.
PB98-963129REB PC A03/MF A01

PB98-963305REB
Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.
PB98-963305REB PC A02/MF A01

PB98-964029REB
Superfund Record of Decision (EPA Region 4): Savannah River Site (USDOE), F-Area Retention Basin (281-3F), Aiken, S.C., September 4, 1998.
PB98-964029REB PC A07/MF A02

PB98-964512REB
Superfund Record of Decision (EPA Region 9): Tucson International Airport Area, Operable Unit 3 (AFP 44), Tucson, AZ., September 28, 1998.
PB98-964512REB PC A07/MF A02

PB99-101719REB
Journal of The Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 5.
PB99-101719REB PC A08/MF A02

PB99-101727REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 20, No. 6.
PB99-101727REB PC A08/MF A02

PB99-101735REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 1.
PB99-101735REB PC A08/MF A02

PB99-101743REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 2.
PB99-101743REB PC A07/MF A02

PB99-101750REB
Journal of the Chinese Institute of Engineers: Transactions of the Chinese Institute of Engineers, Series A, Volume 21, No. 3.
PB99-101750REB PC A09/MF A02

PB99-101768REB
Proceedings of the National Science Council, Republic of China: Part A: Physical Science and Engineering, Volume 22, No. 2, March 1998.
PB99-101768REB PC A08/MF A02

PB99-102899REB
Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences.
PB99-102899REB PC A99/MF E08

PB99-103889REB
Healthy People 2010 Objectives: Draft for Public Comment.
PB99-103889REB PC A99/MF A06

PB99-105504REB
Mechanical Properties and Energy Absorption Characteristics of a Polyurethane Foam.
PB99-105504REB PC A04/MF A01

PB99-105520REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 1.
PB99-105520REB PC A99/MF A06

PB99-105538REB
Survey of Compounds Which Have Been Tested for Carcinogenic Activity. 1995-1996 Volume. Section 2.
PB99-105538REB PC A99/MF E08

PB99-113904REB
Answers to Questions about the National Flood Insurance Program.
PB99-113904REB PC A06/MF A01

PB99-116501REB
Benefit-Cost Assessment of the Commercial Vehicle Information Systems and Networks (CVISN) in Maryland.
PB99-116501REB PC A06/MF A02

PB99-117053REB
Road to Successful ITS Software Acquisition: Executive Summary.
PB99-117053REB PC A03/MF A01

PB99-117798REB
Advice of the Italian CCTN on the Health Risk Assessment Relative to Exposure to Automobile Emissions.
PB99-117798REB PC A07/MF A02

PB99-120297REB
Periodica Polytechnica, Chemical Engineering, Volume 42, No. 1, 1998.
PB99-120297REB PC A06/MF A01

PB99-120305REB
Periodica Polytechnica, Mechanical Engineering, Volume 42, No. 1, 1998.
PB99-120305REB PC A06/MF A01

PB99-120313REB
Periodica Polytechnica, Civil Engineering, Volume 42, No. 2, 1998.
PB99-120313REB PC A08/MF A02

PB99-120321REB
Periodica Polytechnica, Transportation Engineering, Volume 24, No. 1, 1998.
PB99-120321REB PC A06/MF A01

PB99-120339REB
Molecular Quantum States at Dissociation.
PB99-120339REB PC A06/MF A01

PB99-120347REB
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB PC A03/MF A01

PB99-120362REB
Six-Jet Production at Lepton Colliders.
PB99-120362REB PC A06/MF A01

PB99-120370REB
Spin Correlations in e(sup +)e(sup -) Yields 4 Jets.
PB99-120370REB PC A04/MF A01

PB99-122921REB
Ethanol Plant Feasibility Study for the Lower Kaskaskia River Valley Corn Wet Milling Facility.
PB99-122921REB PC A05/MF A01

PB99-126450REB
Small Scale Biomass Fueled Gas Turbine Power Plant.
PB99-126450REB PC A02/MF A01

PB99-130932REB
Disaster-Related Needs of Seniors and Persons with Disabilities. Student Manual.
PB99-130932REB PC A08/MF A02

PB99-130940REB
Hazardous Materials Operating Site Practices. Activities Manual.
PB99-130940REB PC A13/MF A03

PB99-142564REB
Impact of Firm Size on Dollar Amount of Penalties Assessed by Government Agencies.
PB99-142564REB PC A07/MF A02

PB99-142572REB
Statistics of U.S. Businesses: Microdata and Tables. SBA/Census Data on Establishments by Firm Size.
PB99-142572REB PC A04/MF A01

PB99-144487REB
Falling through the Net: Defining the Digital Divide. A Report on the Telecommunications and Information Technology Gap in America.
PB99-144487REB PC A08/MF A02

PB99-145849REB
Financial Services Institutions: Information for Assessing the Government's Potential Financial Exposure.
PB99-145849REB PC A05/MF A01

PB99-147092REB
BusinessLINC: Learning, Information, Networking and Collaboration. Business-to-Business Relationships That Increase the Economic Competitiveness of Firms. A Report to Vice President Al Gore.
PB99-147092REB PC A08/MF A02

PB99-147340REB
Bid Opening Report. Federal-Aid Highway Construction Contracts, First Six Months, 1998.
PB99-147340REB PC A03/MF A01

PB99-147639REB
Different Perspectives on Economic Base.
PB99-147639REB PC A03/MF A01

PB99-148736REB
Experimental Tests of Relativistic Gravity.
PB99-148736REB PC A03/MF A01

PB99-148769REB
k-Inflation.
PB99-148769REB PC A03/MF A01

PB99-148777REB
Effective One-Body Approach to General Relativistic Two-Body Dynamics.
PB99-148777REB PC A05/MF A01

PB99-148793REB
Polyhedral and Dihedral Caustics in the R(3).
PB99-148793REB PC A03/MF A01

PB99-148801REB
Symmetry and Topology of Energy Bands in Crystals.
PB99-148801REB PC A03/MF A01

PB99-149585REB
Validating the Computer-Based Training Process for Aviation Security Screeners.
PB99-149585REB PC A03/MF A01

PB99-149593REB
Develop Maintenance Strategy Selection Procedures for Pavements Incorporating Semi-Rigid or Chemically Stabilized Layers.
PB99-149593REB PC A08/MF A02

PB99-149627REB
Periodica Polytechnica Chemical Engineering, Volume 42, No. 2, 1998.
PB99-149627REB PC A07/MF A02

PB99-149635REB
Periodica Polytechnica Mechanical Engineering, Volume 42, No. 2, 1998.
PB99-149635REB PC A07/MF A02

PB99-149650REB
Method for Analyzing Piled Embankments.
PB99-149650REB PC A03/MF A01

PB99-149684REB
Project Plan for the Baseline Measurment of Checkpoint Effectiveness and Efficiency.
PB99-149684REB PC A03/MF A01

PB99-149692REB
Test and Evalution Plan for Determining Screener Training Effectiveness.
PB99-149692REB PC A03/MF A01

PB99-149700REB
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB PC A09/MF A02

PB99-149718REB
Investigation of Emission Factors in the California EMFAC7G Model.
PB99-149718REB PC A24/MF A04

PB99-149726REB
Beechcraft 1900C Vertical Impact Test.
PB99-149726REB PC A03/MF A01

PB99-149734REB
Estimation Procedures in the 1996 Medical Expenditure Panel Survey Household Component. Methodology Report 5.
PB99-149734REB PC A03/MF A01

PB99-149775REB
Choosing an Adsorption System for VOC: Carbon, Zeolite, or Polymers. CATC Technical Bulletin.
PB99-149775REB PC A04/MF A01

PB99-149783REB
Current Methods and Research Strategies for Modeling Atmospheric Mercury.
PB99-149783REB PC A03/MF A01

PB99-149791REB
Overview of the Ozark Isoprene Experiment (OZIE).
PB99-149791REB PC A03/MF A01

PB99-149809REB
Patient-Centered Outcomes in Neurologic Disease. Abstract, Executive Summary and Final Report.
PB99-149809REB PC A04/MF A01

PB99-150062REB
Proceedings of the National Joint Use Conference (5th). Held in Louisville, Kentucky on October 26-27, 1998.
PB99-150062REB PC A08/MF A02

PB99-150120REB
Proceedings of the National Highway/Utility Conference (7th). Held in Louisville, Kentucky on October 28-30, 1998.
PB99-150120REB PC A17/MF A03

PB99-150260REB
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PB99-150260REB PC A07/MF A02

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Tribal Environmental and Natural Resource Assistance Handbook.
PB99-150989REB PC A08/MF A02

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Education of Children and Youth with Special Needs: What Do the Laws Say.
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PB99-151235REB PC A04/MF A01

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Electronic Case Files in the Federal Courts: A Preliminary Examination of Goals, Issues, and the Road Ahead.
PB99-151243REB PC A05/MF A01

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Just Punishment: Public Perceptions and the Federal Sentencing Guidelines.
PB99-151250REB PC A03/MF A01

PB99-151268REB
Telemarketing Fraud Working Group: Report to the Commission, January 28, 1998.
PB99-151268REB PC A04/MF A01

PB99-151367REB
Waterborne Commerce of the United States. Calendar Year 1997. Part 2. Waterways and Harbors Gulf Coast, Mississippi River System and Antilles.
PB99-151367REB PC A18/MF A04

PB99-151375REB
Interagency Report on Orbital Debris, 1995.
PB99-151375REB PC A06/MF A01

PB99-151383REB
National Transportation Science and Technology Strategy.
PB99-151383REB PC A05/MF A01

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Transportation Strategic Research Plan.
PB99-151391REB PC A05/MF A01

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Meeting America's Needs for the Scientific and Technological Challenges of the Twenty-First Century. A White House Roundtable Dialogue for President Clinton's Initiative on Race. Proceedings of Panel Discussion and Position Papers.
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PB99-151433REB
Tel8 Telecommnications Network: A Pooled Fund Study for Transportation Videoconferencing.
PB99-151433REB PC A04/MF A01

PB99-152035REB
Reports of the Kyushu National Industrial Research Institute, No. 58, March 1997.
PB99-152035REB PC E04/MF E04

PB99-152043REB
Bulletin of the Electrotechnical Laboratory, Vol. 60, No. 12, 1996. Special Issue: Lithium Secondary Batteries.
PB99-152043REB PC E13/MF E13

PB99-152050REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 1, 1997. Special Issue: Solar Cells V.
PB99-152050REB PC E13/MF E13

PB99-152068REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 2, 1997.
PB99-152068REB PC E08/MF E08

PB99-152076REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No. 3, 1997. Special Issue: KrF Laser.
PB99-152076REB PC E08/MF E08

PB99-152084REB
Bulletin of the Electrotechnical Laboratory, Vol. 61, No.11, 1997.
PB99-152084REB PC E07/MF E07

PB99-152118REB
Reports of the Hokkaido National Industrial Research Institute, No. 71, 1998.
PB99-152118REB PC E08/MF E08

PB99-152126REB
Reports of the Hokkaido National Industrial Research Institute, No. 69, 1997.
PB99-152126REB PC E08/MF E08

PB99-152134REB
Assessment of Advanced Warning Signs for Flagging Operations.
PB99-152134REB PC A04/MF A01

PB99-152142REB
Health Hazard Evaluation Report HETA 98-0003-2698, Potlatch Corporation, Minnesota Pulp and Paper Division, Cloquet, Minnesota.
PB99-152142REB PC A03/MF A01

PB99-152159REB
Health Hazard Evaluation Report HETA 97-0245-2696, Library of Congress, Washington, DC.
PB99-152159REB PC A03/MF A01

PB99-152167REB
Health Hazard Evaluation Report HETA 96-0171-2692, Bureau of Alcohol, Tobacco, and Firearms, Washington, DC.
PB99-152167REB PC A04/MF A01

PB99-152175REB
Health Hazard Evaluation Report HETA 96-0266-2702, Cooper Engineered Products, Bowling Green, Ohio.
PB99-152175REB PC A03/MF A01

PB99-152183REB
Annual and Local Variation in Reproduction in the Red-Eared Slider 'Trachemys scripta elegans'.
PB99-152183REB PC A03/MF A01

PB99-152191REB
Health Hazard Evaluation Report HETA 96-0258-2673, Foss Manufacturing Company, Inc., Hampton, New Hampshire.
PB99-152191REB PC A04/MF A01

PB99-152217REB
Health Hazard Evaluation Report HETA 98-0030-2697, Pratt and Whitney TAPC, North Haven, Connecticut.
PB99-152217REB PC A03/MF A01

PB99-152233REB
Health Hazard Evaluation Report HETA 95-0001-2679, Caterpillar Inc., York, Pennsylvania.
PB99-152233REB PC A04/MF A01

PB99-152258REB
Health Hazard Evaluation Report HETA 97-0153-2694, The Grand Experience Salon, Chicago, Illinois.
PB99-152258REB PC A03/MF A01

PB99-152274REB
Health Hazard Evaluation Report HETA 97-0199-2680, U.S. Department of the Interior, Yosemite National Park, California.
PB99-152274REB PC A03/MF A01

PB99-152282REB
Public Health Assessment for Agriculture Street Landfill, New Orleans, Orleans Parish, Louisiana, Region 6. CERCLIS No. LAD981056997.
PB99-152282REB PC A06/MF A01

PB99-152290REB
Advanced Engineering Environments; Achieving the Vision. Phase 1.
PB99-152290REB PC A05/MF A01

PB99-152308REB
Health Hazard Evaluation Report HETA 97-0154-2693, Siemens Energy and Automation, Inc., Distribution Products Division, Urbana, Ohio.
PB99-152308REB PC A03/MF A01

PB99-152316REB
Health Hazard Evaluation Report HETA 97-0161-2706, Bananas, Gifts, Incorporated, Clarkdale, Arizona.
PB99-152316REB PC A04/MF A01

PB99-152324REB
Health Hazard Evaluation Report HETA 98-0017-2699, United States Postal Service, Mail Processing and Distribution Center, Omaha, Nebraska.
PB99-152324REB PC A04/MF A01

PB99-152332REB
Health Hazard Evaluation Report HETA 96-0012-2652, Brigham and Women's Hospital, Boston, Massachusetts.
PB99-152332REB PC A08/MF A02

PB99-152357REB
Health Hazard Evaluation Report HETA 96-0093-2685, Microfibres, Inc. Pawtucket, RI.
PB99-152357REB PC A06/MF A01

PB99-152365REB
Water Resources Data for New Hampshire and Vermont, Water Year 1998.
PB99-152365REB PC A10/MF A02

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Study of a Water-to-Water Heat Pump Using Hydrocarbon and Hydrofluorocarbon Zeotropic Mixtures.
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Networked Computing for the 21st Century; Supplement to the President's FY 1999 Budget: Computing, Information, and Communications.
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Report to the President on the Use of Technology to Strengthen K-12 Education in the United States.
PB99-152431REB PC A08/MF A02

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Program Guide to Federally Funded Environment and Natural Resources R and D.
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Synoptic Survey of Septic Indicators in Streams and Springs at Monte Sano Mountain, Madison County, Alabama, January 29-31, 1998.
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PB99-152621REB PC A14

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Assessing the Effects of Fire Disturbance on Ecosystems: A Scientific Agenda for Research and Management.
PB99-152647REB PC A03/MF A01

PB99-152654REB
Water Resources Data for New York, Water Year 1998. Volume 1. Eastern New York Excluding Long Island.
PB99-152654REB PC A21/MF A04

PB99-152662REB
Water Resources Data Texas, Water Year 1998. Volume 1. Arkansas River Basin, Red River Basin, Sabine River Basin, Neches River Basin, Trinity River Basin, and Intervening Coastal Basins.
PB99-152662REB PC A25/MF A04

PB99-152670REB
Water Resources Data for Texas, Water Year 1998. Volume 2. San Jacinot River Basin, Brazos River Basin, San Bernard River Basin, and Intervening Coastal Basins.
PB99-152670REB PC A16/MF A03

PB99-152688REB
Water Resources Data for Texas, Water Year 1998. Volume 3. Colorado River Basin, Lavaca River Basin, Guadalupe River Basin, Nueces River Basin, Rio Grande Basin, and Intervening Coastal Basins.
PB99-152688REB PC A23/MF A04

PB99-152696REB
Systems Integration for Manufacturing Applications, 1998 Annual Report.
PB99-152696REB PC A06/MF A01

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Implementing a Standards-Based Distributed Measurement and Control Application on the Internet.
PB99-152712REB PC A04/MF A01

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Full-Scale Crash Evaluation of the NETC 4-Bar Sidewalk-Mounted Steel Bridge Railing.
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Intermodal Cargo Transportation: Industry Best Security Practices.
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Triangulation-Based L1-Fitting of Terrain Surfaces.
PB99-152779REB PC A04/MF A01

PB99-152795REB
Bibliography of Surface-Mine Reclamation Research: 1976-1993.
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ROMI-RIP 2.0 User's Guide: a ROugh MIII RIP-First Simulator.
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Mechanism for Production of Secondary Organic Aerosols and Their Representation in Atmospheric Models.
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Production, Prices, Employment, and Trade in Northwest Forest Industries, Fourth Quarter, 1997.
PB99-152845REB PC A08/MF A02

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Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152860REB PC A04/MF A01

PB99-152878REB
NTP Technical Report on the Toxicology and Carcinogenesis Studies of Pentachlorophenol (CAS No. 87-86-5) in F344/N Rats (Feed Studies).
PB99-152878REB PC A10/MF A02

PB99-152886REB
NTP Technical Report on the Toxicology and Carcinogenesis Studies of 60-HZ Magnetic Fields in F344/N Rats and B6C3F1 Mice (Whole-Body Exposure Studies).
PB99-152886REB PC A10/MF A02

PB99-152902REB
Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe.
PB99-152902REB PC A03/MF A01

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Developing Measures of Socioeconomic Resiliency in the Interior Columbia Basin. Interior Columbia Basin Ecosystem Management Project: Scientific Assessment.
PB99-152910REB PC A05/MF A01

PB99-152928REB
Water Resources Data for Pennsylvania, Water Year 1998. Volume 3. Ohio River and St. Lawrence River Basins.
PB99-152928REB PC A17/MF A03

PB99-152936REB
Evaluation of Cervical Cytology. Evidence Report/Technology Assessment Number 5.
PB99-152936REB PC A12/MF A03

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Nonwork and Off-Peak Trips by Transit, Walk and Bicycle Modes: An Understanding of Existing and Potential Markets.
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Evaluation of Reflective Crack Control Policy.
PB99-152951REB PC A10/MF A03

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Estimating Intersection Turning Movements.
PB99-152977REB PC A08/MF A02

PB99-152985REB
OWCP (Office of Workers' Compensation Programs) Annual Report to Congress: FY 1997.
PB99-152985REB PC A06/MF A01

PB99-152993REB
Contributions of Performance-Graded Asphalt to Low Temperature Cracking Resistance of Pavements.
PB99-152993REB PC A10/MF A02

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Overview of the Quality and Quantity of Roadway Runoff and Current Status of Phase 2 Storm Water Rules.
PB99-153009REB PC A05/MF A01

PB99-153132REB
Hitachi Review, Volume 46, No. 5, October 1997. Hitachi's Multimedia Solutions.
PB99-153132REB PC E08/MF E08

PB99-153140REB
Hitachi Review, Volume 46, No. 4, August 1997. Electronic Commerce for a New Social Infrastructure.
PB99-153140REB PC E08/MF E08

PB99-153199REB
Fuji Electric Review, Volume 44, No. 2, 1998. Instrumentation and Control Technology.
PB99-153199REB PC E07/MF E07

PB99-153249REB
NKK Technical Report No. 158, June 1997.
PB99-153249REB PC E08/MF E08

PB99-154478REB
Prediction of Antisymmetric Buffet Loads on Horizontal Stabilizers in Massively Separated Flows. Phase 2.
PB99-154478REB PC A09/MF A02

PB99-154486REB
Aerial Video of Smoke-Marked Wind Shifts Caused by Ocean Internal Waves.
PB99-154486REB PC A03/MF A01

PB99-154551REB
YMCA Earth Service Corps Club Handbook.
PB99-154551REB PC A06/MF A01

PB99-154569REB
Large Engine Uncontained Debris Analysis.
PB99-154569REB PC A06/MF A02

PB99-154676REB
Solar-Geophysical Data Number 657, May 1999. Part 1 (Prompt Reports). Data for March, April 1999 and Late Data.
PB99-154676REB PC A09/MF A02

PB99-154684REB
Solar-Geophysical Data Number 657, May 1999. Part 2. (Comprehensive Reports). Data for November 1998 and Miscellaneous.
PB99-154684REB PC A05/MF A01

PB99-154692REB
Nursing Home Trends, 1987 and 1996. MEPS Chartbook No. 3. Executive Summary.
PB99-154692REB PC A04/MF A01

PB99-154791REB
Marine Mammal Auditory Systems: A Summary of Audiometric and Anatomical Data and Its Implications for Underwater Acoustic Impacts.
PB99-154791REB PC A06/MF A02

PB99-154833REB
Journal of Research of the National Institute of Standards and Technology, January/February 1999. Volume 104, Number 1.
PB99-154833REB PC A08/MF A02

PB99-154882REB
Journal of Research of the National Institute of Standards and Technology, March/April 1999. Volume 104, Number 2.
PB99-154882REB PC A07/MF A02

PB99-155012REB
Vegetation Responses to Natural Regulation of Elk in Rocky Mountain National Park.
PB99-155012REB PC A04/MF A01

PB99-155418REB
Riparian Forest Buffers: Linking Land and Water. The Chesapeake Bay Riparian Forest Buffer Initiative.
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Recent Developments in Population Viability Analysis, with Specific Reference to Pacific Salmon.
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Removing Impediments to Migratory Fishes in the Chesapeake Bay Watershed. Annual Progress Report 1997-1998.
PB99-155434REB PC A05/MF A01

PB99-155590REB
Public Health Assessment for Sherwin Williams, Emeryville, Alameda County, California, Region 9. CERCLIS No. CAD03934601.
PB99-155590REB PC A05/MF A01

PB99-155616REB
Public Health Assessment for Sandoval Zinc Company, Sandoval, Marion County, Illinois, Region 5. CERCLIS No. ILD053980454.
PB99-155616REB PC A04/MF A01

PB99-155624REB
Fatality Assessment and Control Evaluation (FACE) Report: Temporary Laborer Crushed by Dump Truck at Landfill, South Carolina.
PB99-155624REB PC A03/MF A01

PB99-155632REB
Fatality Assessment and Control Evaluation (FACE) Report: Electrical Mechanic Dies After 45-Foot Fall through Unguarded Floor Opening, North Carolina.
PB99-155632REB PC A03/MF A01

PB99-155640REB
Fatality Assessment and Control Evaluation (FACE) Report: Tree Feller Killed When Struck by Chain Saw, West Virginia.
PB99-155640REB PC A03/MF A01

PB99-155657REB
Fatality Assessment and Control Evaluation (FACE) Report: Mechanic Fatally Injured during Dismantling of Crane Boom at Scrap Metal Yard, Pennsylvania.
PB99-155657REB PC A02/MF A01

PB99-155665REB
Fatality Assessment and Control Evaluation (FACE) Report: Floor Collapse in a Single Family Dwelling Fire Claims the Life of One Fire Fighter and Injures Another, Kentucky.
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ACTG 240: Randomized Comparative Trial of Stavudine (d4T) versus Zidovudine (ZDV, AZT) in Children with Human Immunodeficiency Virus Infection (on Diskette).
PB99-501629REB CP D02

PB99-928002REB
Studies in Intelligence, Winter 1998-1999.
PB99-928002REB PC A08

PC/ICE/M-0058
YMCA Earth Service Corps Club Handbook.
PB99-154551REB PC A06/MF A01

PNNL-6415-REV.10
Hanford Site National Environmental Policy Act (NEPA) characterization. Revision 10.
DE99002425REB PC A09/MF A02

PNNL-12068
Environmental Dynamics of Carbon-14 Near a Low-Level Radioactive Waste Burial Ground.
NUREG/CR-6587REB PC A06/MF A01

PPRP-114
Validation of the Cormix Model Using Thermal Plume Data from Four Maryland Power Plants.
PB99-149700REB PC A09/MF A02

PPSE-T-42
Status Report on Investigations of Potential Human Health Effects Associated With Power Frequency Electric and Magnetic Fields.
PB99-152960REB PC A04/MF A01

QDV-99-0001
High-Power Laser Source Evaluation.
ADA362788REB PC A05/MF A01

RAL-TR-1998-035
Six-Jet Production at Lepton Colliders.
PB99-120362REB PC A06/MF A01

RAL-TR-1998-037
Spin Correlations in e(sup +)e(sup -) Yields 4 Jets.
PB99-120370REB PC A04/MF A01

RAL-TR-1998-061
Scheme Dependence, Leading Order and Higher Twist Studies of MRST Partons.
PB99-120347REB PC A03/MF A01

RAND/CF-146
RAND Forum on Cuba.
ADA363063REB PC A05/MF A01

RAND/MR-989-AF
Countering the New Terrorism.
ADA363163REB PC A09/MF A02

RAND/MR-1012-A
Consolidating Active and Reserve Component Training Infrastructure.
ADA363165REB PC A08/MF A02

REMR-CS-62
Performance Criteria for Concrete Repair Materials, Phase II Summary Report.
ADA362896REB PC A05/MF A01

REPT-98FTC0001
Millimeter-Wave Imaging Radiometer (MIR) Data Processing and Development of Water Vapor Retrieval Algorithms.
N19990041153REB PC A04/MF A01

REPT-10974A
Earth Observing System(EOS). Advanced Microwave Sounding Unit-A: Firmware Test Report.
N19990042066REB PC A10/MF A02

REPT-10976A
Earth Observing System (EOS) Advanced Microwave Sounding Unit: A (EOS/AMSU-A) Firmware Version Description Document.
N19990041148REB PC A03/MF A01

REPT-11317
Integrated Advanced Microwave Sounding Unit-A(AMSU-A). Performance Verification Report: METSAT AMSU-A2 Receiver Assembly, (P/N 1356441-1, S.N F04) S/N 107.
N19990041946REB PC A06/MF A02

RIA-R-TR-77-023
Modification and Analysis of the 40MM Selective Feed System.
ADA363145REB PC A05/MF A01

RIA-76-U565
Structural Optimization Technique.
ADA363330REB PC A04/MF A01

RIA-81-U147
Identification and Evaluation of Interfaces of IL Support Operations with the Army Logistics System.
ADA362962REB PC A14/MF A03

RIA-81-U1035
Modification and Analysis of the 40MM Selective Feed System.
ADA363145REB PC A05/MF A01

RSS-8559-1-1-1
Space Shuttle Main Engine: Part Number RS007001.
N19990041880REB PC A02/MF A01

RTO-MP-16
RTO Meeting Proceedings 16, Aircraft Weapon System Compatibility and Integration held in Chester, United Kingdom, 28-30 September, 1998.
ADA363078REB PC A12/MF A03

SAND97-8490
Mechanical Properties and Energy Absorption Characteristics of a Polyurethane Foam.
PB99-105504REB PC A04/MF A01

SAND-98-1591
Proceedings of the 5. joint Russian-American computational mathematics conference.
DE99000778REB PC A15/MF A03

SAND98-2257
Sandia National Laboratories Institutional Plan: FY 1999-2004.
DE00002622REB PC A12/MF A03

SAND99-0054J
New 1999 National Electrical Code Coupled with New Standards Clarify Requirements for Installations of Photovoltaic Systems in the U.S.;Progress in Photovoltaics - Research and Applications.
DE00003202REB PC A01/MF A01

SBAHQ-95-C-0026
Impact of Firm Size on Dollar Amount of Penalties Assessed by Government Agencies.
PB99-142564REB PC A07/MF A02

SBAHQ-97-M-0577
Statistics of U.S. Businesses: Microdata and Tables. SBA/Census Data on Establishments by Firm Size.
PB99-142572REB PC A04/MF A01

SERDP-CS-758
Spatially Explicit Ecological Models for Land-Use Decisions: Examples for Military Land Management.
ADA363352REB PC A04/MF A01

SERDP-CS-758-4567
Ecological Modeling for Military Land Use Decision Support: Interim Progress Report for Ecological Modeling (Project CS/758/4567).
ADA363353REB PC A03/MF A01

SERDP-CS-1082
Project CS-1082, Information and Technology Tools for Assessment and Prediction of the Potential Effects of Military Noise on Marine Mammals.
ADA363354REB PC A02/MF A01

SERDP-CS-1083
Assessment of Training Noise Impacts on the Red-Cockaded Woodpecker: Preliminary Results.
ADA363336REB PC A06/MF A02

SERIE RELAZIONI-98/3
Advice of the Italian CCTN on the Health Risk Assessment Relative to Exposure to Automobile Emissions.
PB99-117798REB PC A07/MF A02

SFIM-AEC-EC-TR-98034
For Want of a Home - A Study of Wherry and Capehan Military Family Housing.
ADA362706REB PC A10/MF A02

SFIM-AEC-ET-CR-99013-V1
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 1, Appendix 1-A Through 1-D.
ADA362907REB PC A07/MF A02

SFIM-AEC-ET-CR-99013-V2
Sampling Results for AEC Phase 1 Training Ordnance Emission Characterization. Volume 2, Appendix 2-A Through 1-K.
ADA362906REB PC A99/MF E08

SGD-657-PT-1
Solar-Geophysical Data Number 657, May 1999. Part 1 (Prompt Reports). Data for March, April 1999 and Late Data.
PB99-154676REB PC A09/MF A02

SGD-657-PT-2
Solar-Geophysical Data Number 657, May 1999. Part 2. (Comprehensive Reports). Data for November 1998 and Miscellaneous.
PB99-154684REB PC A05/MF A01

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Latest Environmental Protection Agency Update Describes Clean Up Needs

Numerous Business Opportunities Outlined in New Report at NTIS

Nearly a quarter of a million U. S. sites with potential contamination from hazardous waste and petroleum products are identified in a new report from EPA's Office of Solid Waste and Emergency Response. The study, *Cleaning Up the Nation's Waste Sites: Markets and Technology Trends,* is available from the National Technical Information Service.

Invaluable information on site characteristics, market size, and other factors is backed by liberal use of charts for quick grasp of demand. The estimated cost for all future work is about $187 million or higher.

According to the study, it will take several decades of planned investment from federal, state, and local government agencies and private industry to meet the continuing demand for site remediation services and technologies. But, with information provided in the report, technology vendors, developers and investors, and government officials can assess the demand for cleanup services. And, from that assessment, they may better identify business opportunities and plan technology research and development efforts.

The report covers all the major cleanup programs in the United States, including:

- Superfund
- Underground storage tanks
- U.S. Departments of Defense and Energy
- Resource Conservation and Recovery Act (RCRA)
- State programs
- Many others

In addition to updating the previous issue, the report includes significant new information on cleanup needs related to underground storage tanks, RCRA corrective actions, and sites administered by DOD, DOE, and other federal agencies.

Cleaning Up the Nation's Waste Sites: Markets and Technology Trends is available from NTIS, 1-800-553-NTIS (6847), for $44 plus $4 handling fee, no additional charge for shipping; quote order number PB96-178041KLS. Most major credit cards accepted. Order via e-mail: **orders@ntis.fedworld.gov**. Fax order to: (703) 321-8547.

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EPA's Solid Waste Test Methods on CD-ROM

Official SW-846 Product Contains Latest Update

The National Technical Information Service has just made available the Environment Protection Agency's official CD-ROM version of SW-846 methods. This valuable information product provides test procedures and guidance, recommended by EPA's Office of Solid Waste, to conduct evaluations and measurements required by the Resource Conservation and Recovery Act.

The material includes procedures for (1) field and laboratory quality control, (2) sampling, (3) determining hazardous constituents in wastes, (4) determining hazardous characteristics of wastes, and (5) determining physical properties of wastes.

The CD-ROM contains the very latest EPA information, the Third Edition Basic Manual with Final Updates I, II, IIA, IIB, and III already integrated. User-friendly with many search choices, the CD allows the operator to:

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SW-846 Version 2.0 on CD-ROM (Integrated Updates Through III) is available from NTIS, 1-800-553-NTIS (6847) for $125 plus $4 handling fee for a single user, PB97-501928KLY; $320 plus $4 handling fee for 5 LAN users, PB97-502512KLY; $1,250 plus $4 handling fee for unlimited users, PB97-502520KLY. There are no additional charges for shipping. Most major credit cards accepted. Order via e:mail: **orders@ntis.fedworld.gov**. Fax order to: (703) 321-8547.

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D09	$1,132.00	T09	$2,634.00
D10	$1,292.00	T10	$2,910.00
D11	$1,408.00	T11	$3,186.00
D12	$1,568.00	T12	$3,484.00
D13	$1,706.00	T13	$3,760.00
D14	$1,844.00	T14	$4,060.00
D15	$1,960.00	T15	$4,358.00
D16	$2,074.00	T16	$4,634.00
D17	$2,212.00	T17	$4,888.00
D18	$2,350.00	T18	$5,210.00
D19	$2,488.00	T19	$5,486.00
D99	Contact NTIS	T99	Contact NTIS

Out-of-Print Surcharge

Standard A-code priced documents announced by NTIS over 3 years ago are subject to a 25% out-of print surcharge. The out-of-print price for such items is shown to the right of the standard price in these price schedules. Frequently, these reports have an NTIS order number of 95 or earlier (e.g., N95-xxxxx; PB94-xxxxx; DE93xxxxx; etc.). If the NTIS order number for an A-code priced report does not show an identifiable year (e.g., most AD-prefixed items), contact the NTIS Sales Desk 1-800-553-NTIS (6847) or (703) 605-6000 or fax (703) 605-6900 for the correct price.

Prices are subject to change.

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STREET ADDRESS

CITY | STATE | ZIP CODE

PROVINCE / TERRITORY | INTERNATIONAL POSTAL CODE

COUNTRY

PHONE NUMBER (—) | FAX NUMBER ( )

CONTACT NAME | INTERNET E-MAIL ADDRESS

METHOD OF PAYMENT (please print or type)

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CREDIT CARD NUMBER | EXPIRATION DATE

CARDHOLDER'S NAME

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❑ Check / Money Order enclosed for $ (PAYABLE TO NTIS IN U.S. DOLLARS)

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NTIS will gladly bill your order, for an additional fee of $10.00. A request to be billed must be on a purchase order or company letterhead. An authorizing signature, contact name, and telephone number should be included with this request. Requests may be mailed or faxed.

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NTIS PRODUCT NUMBER	INTERNAL CUSTOMER ROUTING (OPTIONAL) UP TO 8 CHARACTERS	UNIT PRICE	QUANTITY: PAPER COPY	MICRO-FICHE	MAGNETIC TAPE *	DISKETTE	CD-ROM	OTHER	INTERNATIONAL AIRMAIL FEES (SEE BELOW)	TOTAL PRICE
REB		$							$	$
REB		$							$	$
REB		$							$	$
REB		$							$	$
REB		$							$	$
REB		$							$	$

*CIRCLE REQUIREMENTS	3480 CARTRIDGE	1600 BPI	6250 BPI	LABELING: STANDARD	NONLABELED	FORMAT: EBCDIC	ASCII

TOTAL	$
HANDLING FEE PER TOTAL ORDER	$ 5.00
Outside North America–$10.00	$
GRAND TOTAL	$

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Product Announcement

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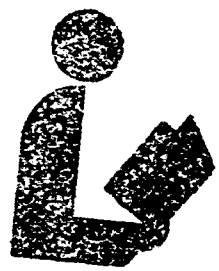

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