NTIS Technical Reports Newsletter

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For more than 60 years, we have served as an innovative resource to Federal agencies, businesses and universities looking for high-caliber information. Our mission is straightforward: to support the nation's economic growth by providing access to information that stimulates innovation and discovery.

While you can find information on virtually any subject on the web, there's no guarantee that the information is accurate — or that it has been published by a legitimate source. NTIS undergoes a rigorous process to ensure that all the information we offer is authentic and credible. This integrity, along with the breadth and depth of our collection, is why NTIS is regarded as the nation's preeminent source of government information.

Highlighted Categories

Physics (46), Ocean Sciences & Technology (47), Mathematical Sciences (72) and Chemistry (99)

This month, we are featuring technical documents recently received and categorized in the NTIS Subject Categories listed above.

The diversity of the NTIS collection is demonstrated in the *Related Categories* listed for each document. Related categories listed this month include:

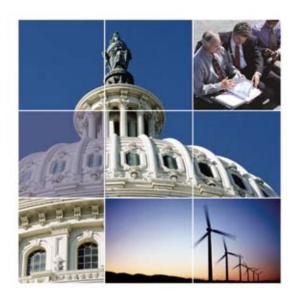|	
41 Manufacturing Technology	71 Materials Sciences
43 Problem Solving Information for State & Local Governments	74 Military Sciences
	77 Nuclear Science & Technology
48 Natural Resources & Earth Sciences	81 Combustion, Engines, & Propellants
49 Electrotechnology	84 Space Technology
50 Civil Engineering	85 Transportation
51 Aeronautics & Aerodynamics	88 Library & Information Sciences
54 Astronomy & Astrophysics	91 Urban & Regional Technology & Development
55 Atmospheric Sciences	
57 Medicine & Biology	92 Behavior & Society
62 Computers, Control & Information Theory	94 Industrial & Mechanical Engineering
	96 Business & Economics
63 Detection & Countermeasures	97 Energy
68 Environmental Pollution & Control	99 Chemistry
70 Administration & Management	

The list of new titles in these featured categories begins on the next page.

Subject Category Codes/Classification

NTIS classifies citations into 39 subject categories. Each of these subject categories is divided into subcategories. This method provides sorting categories for both hard and soft sciences. All subject categories consist of three character codes: two numerics and one alpha character. The numeric codes represent entire categories, the alpha codes are used to designate subcategories within these broad categories. The number of NTIS subcategories posted to an information product average from one to five, although there are some reports with more.

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The documents listed here are just some of the newest in the collection. Find information on other new items, legacy documents, as well as ordering and format options in the search area of **http://www.ntis.gov**.

Major Subject Categories

Category Codes*/Title	New for October Quantity**
41 Manufacturing Technology	34
43 Problem Solving Information for State & Local Governments	282
44 Health Care	93
45 Communication	146
46 Physics	192
47 Ocean Sciences & Technology	91
48 Natural Resources & Earth Sciences	196
49 Electrotechnology	37
50 Civil Engineering	75
51 Aeronautics & Aerodynamics	64
54 Astronomy & Astrophysics	48
55 Atmospheric Sciences	50
57 Medicine & Biology	399
62 Computers, Control & Information Theory	152
63 Detection & Countermeasures	33
68 Environmental Pollution & Control	180
70 Administration & Management	306
71 Materials Sciences	70
72 Mathematical Sciences	45
74 Military Sciences	402
75 Missile Technology	5
76 Navigation, Guidance, & Control	67
77 Nuclear Science & Technology	103
79 Ordnance	28
81 Combustion, Engines, & Propellants	44
82 Photography & Recording Devices	6
84 Space Technology	100
85 Transportation	223
88 Library & Information Sciences	29
89 Building Industry Technology	30
90 Government Inventions for Licensing	1
91 Urban & Regional Technology & Development	331
92 Behavior & Society	619
94 Industrial & Mechanical Engineering	134
95 Biomedical Technology & Human Factors	45
96 Business & Economics	358
97 Energy	108
98 Agriculture & Food	120
99 Chemistry	78

* For a listing of Scope Notes that defines the specific topical content for each category, go to **http://www.ntis.gov/pdf/scopenotes.pdf**

** Quantities represent each new report assigned on average to 3-5 categories.

Category: 46

Physics

ADA471613
Experiments in Sound and Structural Vibrations Using an Air-Analog Model Ducted Propulsion System
Department of Defense
2007, 104pages
UND-SM07-329
Related Categories/Sub-categories:
   46A (Acoustics)
   46B (Fluid Mechanics)
   46E (Structural Mechanics)

ADA471781
Modeling of Hurricane Impacts
Department of Defense
2007, 28 pages
Related Categories/Sub-categories:
   46B (Fluid Mechanics)
   47B (Dynamic Oceanography)

ADA476965
Laser Induced Shock Waves and Vaporization in Biological System and Material Science
Department of Defense
2008, 6 pages
Related Categories/Sub-categories:
   46C (Optics & Lasers)
   46E (Structural Mechanics)
   57V (Radiobiology)
   74D (Chemical, Biological, & Radiological Warfare)
   95B (Tissue Preservation & Storage)

ADA476627
Aerodynamic Influence of a Helicopter on a Jettisoned Missile
Department of Defense
2008, 26 pages
TR-AMR-SS-08-10
Related Categories/Sub-categories:
   46B (Fluid Mechanics)
   51A (Aerodynamics)
   51C (Aircraft)

DE2007920428
Distinction Between Difference and Differential Equations of Motion for Synchrotron Motion.
Department of Energy
2007, 9 pages
FERMILAB-FN-0811
Related Categories/Sub-categories:
   46B (Fluid Mechanics)

DE2008925793
Design of an Optical Diffraction Radiation Beam Size Monitor at SLAC FFTB
Department of Energy
2008, 3 pages
SLAC-PUB-13173
Related Categories/Sub-categories:
   46D (Solid State Physics)

N20080002268
Impact of Air Injection on Jet Noise
National Aeronautics and Space Administration
2007, 29 pages
Related Categories/Sub-categories:
   46A (Acoustics)

N20080023333
Aberrations for Grazing Incidence Optics
National Aeronautics and Space Administration
2008, 10 pages
Related Categories/Sub-categories:
   46C (Optics & Lasers)
   54C (Astrophysics)

N20080025729

Alternative Method of Specifying Shock Test Criteria

National Aeronautics and Space Administration
2008, 48 pages
NASA/TM-2008-215253
Related Categories/Sub-categories:
   46G (Plasma Physics)
   84C (Manned Spacecraft)

PB2008107650

Wave Forces on Bridge Decks: State of the Art and State of the Practice Review

Department of Transportation
2007, 95 pages
REPT-0-5516-1
Related Categories/Sub-categories:
   46B (Fluid Mechanics)
   50A (Highway Engineering)

PB2008109943

High Altitude Electromagnetic Pulse (HEMP) and High Power Microwave (HPM) Devices: Threat Assessments. (Updated March 26, 2008)

Library of Congress
2008, 19 pages
Related Categories/Sub-categories:
   46C (Optics & Lasers)
   46H (Radiofrequency Waves)

PB2008112570

Rock Mass Behavior and Support Response in a Longwall Panel Pre-Driven Recovery Room

Department of Health and Human Services
2008, 16 pages
Related Categories/Sub-categories:
   46E (Structural Mechanics)
   48A (Mineral Industries)
   57U (Public Health & Industrial Medicine)
   68A (Air Pollution & Control)
   68G (Environmental Health & Safety)

Category: 47

Ocean Sciences & Technology

ADA476537

Determination of Primary Spectral Bands for Remote Sensing of Aquatic Environments

Department of Defense
2007, 15 pages
NRL/JA/7330-07-8033
Related Categories/Sub-categories:
   47C (Physical & Chemical Oceanography)
   63A (Acoustic Detection)

ADA481033

SeaSpider: Automated Information Gathering on Vessel Movements in Support of Maritime Domain Awareness

Department of Defense
2007, 44 pages
Related Categories/Sub-categories:
   47A (Marine Engineering)
   62 (Computers, Control & Information Theory)
   88B (Information Systems)

DE2008932953

Neutralizing Carbonic Acid in Deep Carbonate Strata below the North Atlantic (Final Technical Report, July 14, 2004-January 14, 2008)

Department of Energy
2008, 22 pages
Related Categories/Sub-categories:
   47E (Marine Geophysics & Geology)
   68 (Environmental Pollution & Control)
   68D (Water Pollution & Control)

PB2008107727

Endangered, Threatened, and Depleted Marine Mammals in U.S. Waters. A Review of Species Classification Systems and Listed Species

Marine Mammal Commission
2007, 88 pages
Related Categories/Sub-categories:
   47D (Biological Oceanography)
   48B (Natural Resource Management)
   57H (Ecology)
   57Z (Zoology)

PB2008107942

Preliminary Assessment of Landslide-Induced Wave Hazards: Tidal Inlet, glacier Bay National Park, Alaska

Department of the Interior
2008, 62 pages
USGS/OFR-03-100
Related Categories/Sub-categories:
   47B (Dynamic Oceanography)
   47E (Marine Geophysics & Geology)
   85G (Marine & Waterway Transportation)

PB2008110762

Discovery and Investigation of an Early Nineteenth-Century Wooden Sailing Vessel in 2,000 Feet of Water

Department of the Interior
2008, 48 pages
Related Categories/Sub-categories:
   47A (Marine Engineering)
   85G (Marine & Waterway Transportation)

PB2008114337

NOAA Coral Reef Conservation Program. Roadmap for the Future. A Plan for Developing CRCP Direction through 2015

Department of Commerce
2008, 15 pages
Related Categories/Sub-categories:
   47D (Biological Oceanography)
   48B (Natural Resource Management)
   57H (Ecology)
   70F (Public Administration & Government)

Category: 72

Mathematical Sciences

ADA471819

Fast Randomized Algorithm for the Approximation of Matrices

Department of Defense
2007, 43 pages
Related Categories/Sub-categories:
   72B (Algebra, Analysis, Geometry, & Mathematical Logic)

ADA473001

Detection of Daytime Arctic Clouds using MISR and MODIS Data

Department of Defense
2006, 25 pages
Related Categories/Sub-categories:
   63C (Infrared & Ultraviolet Detection)
   72F (Statistical Analysis)
   94K (Laboratory & Test Facility Design & Operation Clouds)

ADA474154

Perceptual Issues of Augmented and Virtual Environments

Department of Defense
2007, 25 pages
Related Categories/Sub-categories:
   62B (Computer Software)
   72E (Operations Research)

ADA478920

Stochastic Stability of Regional Ocean Models with Uncertainty in Wind Forcing

Department of Defense
2007, 17 pages
Related Categories/Sub-categories:
   47C (Physical & Chemical Oceanography)
   55C (Meteorological Data Collection, Analysis, & Weather Forecasting)
   72E (Operations Research)
   72F (Statistical Analysis)

ADA483298

Visual Analysis of North Atlantic Hurricane Trends Using Parallel Coordinates and Statistical Techniques

Department of Defense
2008, 21 pages
Related Categories/Sub-categories:
   62B (Computer Software)
   72F (Statistical Analysis)
   95D (Human Factors Engineering)

DE2008932877
Elements of a Function Analytic Approach to Probability
Department of Energy
2008, 48 pages
SAND2008-0963
Related Categories/Sub-categories:
    72B (Algebra, Analysis, Geometry, & Mathematical Logic)

N20080023287
Arctic Sea Ice Variability and Trends, 1979-2006
National Aeronautics and Space Administration
2008, 30 pages
Related Categories/Sub-categories:
    47 (Ocean Sciences & Technology)
    47B (Dynamic Oceanography)
    55C (Meteorological Data Collection, Analysis, & Weather Forecasting)
    72F (Statistical Analysis)

PB2008102339
Effects of 'Math Pathways and Pitfalls' on Students' Mathematics Achievement
National Science Foundation
2007, 85 pages
Related Categories/Sub-categories:
    43C (Human Resources)
    92D (Education, Law, & Humanities)

PB2008106243
Standards for Statistical Surveys for Producing and Disseminating Survey Estimates in the U.S. Statistical System
Department of Labor
2008, 9 pages
Related Categories/Sub-categories:
    43 (Problem Solving Information for State & Local Governments)
    62 (Computers, Control & Information Theory)
    70E (Research Program Administration & Technology Transfer)
    72F (Statistical Analysis)

PB2008109341
Formulation and Solution of an Emergency Routing Problem
Department of Transportation
2008, 29 pages
Related Categories/Sub-categories:
    43D (Police, Fire, & Emergency Services)
    72B (Algebra, Analysis, Geometry, & Mathematical Logic)
    91I (Emergency Services & Planning)

PB2008107393
Estimating Price Relatives for the U.S. Consumer Price Index When Priced Items are Restratified
Department of Labor
2008, 6 pages
Related Categories/Sub-categories:
    96 (Business & Economics)
    96A (Domestic Commerce, Marketing, & Economics)

Category: 99

Chemistry

ADA477790
Effect of Teflon Emulsion on Hydrogen Electrode Properties and Performance in Nickel-Hydrogen Cells
Department of Defense
2008, 44 pages
Related Categories/Sub-categories:
49 (Electrotechnology)
97M (Batteries & Components)
99C (Polymer Chemistry)

ADA477942
Proteinated Subnano Particles of Elemental Selenium for the Treatment of Breast Cancer
Department of Defense
2007, 9 pages
Related Categories/Sub-categories:
57B (Biochemistry)
57F (Cytology, Genetics, & Molecular Biology)
57Q (Pharmacology & Pharmacological Chemistry)
99E (Photochemistry and Radiation Chemistry)

ADA478494
Atmospheric Transformation of Volatile Organic Compounds
Department of Defense
2008, 9 pages
Related Categories/Sub-categories:
55A (Aeronomy)
99D (Basic & Synthetic Chemistry)

ADA482626
Real-Time Detection of Trace Contaminants and Bio/Chemical Agents in ROWPU Processed Drinking Water Using Reagentless UV Laser-Induced-Fluorescence
Department of Defense
2007, 12 pages
Related Categories/Sub-categories:
46C (Optics & Lasers)
74D (Chemical, Biological, & Radiological Warfare)
99E (Photochemistry and Radiation Chemistry)
99F (Physical & Theoretical Chemistry)

DE2008924507
Background X-Ray Spectrum of Radioactive Samples
Department of Energy
2008, 3 pages
INL/CON-08-13770
Related Categories/Sub-categories:
    77B (Isotopes)
    77G (Radioactive Wastes & Radioactivity)
    99A (Analytical Chemistry)

DE2008921676
Spent Nuclear Storage Basin Water Chemistry: Electrochemical Evaluation of Aluminum Corrosion
Department of Energy
2008, 7 pages
Related Categories/Sub-categories:
    77I (Reactor Fuels & Fuel Processing)
    77G (Radioactive Wastes & Radioactivity)
    99F (Physical & Theoretical Chemistry)

PB2008107884
Method 1698: Steroids and Hormones in Water, Soil, Sediment, and Biosolids by HRGC/HRMS
U.S. Environmental Protection Agency
2007, 69 pages
EPA/821/R-08-003
Related Categories/Sub-categories:
    68C (Solid Wastes Pollution & Control)
    68D (Water Pollution & Control)
    99A (Analytical Chemistry)

PB2008109431
Carbon Dioxide Separation Technology: R and D Need for the Chemical and Petrochemical Industries
Department of Energy
2008, 147pages
Related Categories/Sub-categories:
    41E (Manufacturing, Planning, Processing & Control)
    41P (Research Program Administration & Technology Transfer)
    70E (Research Program Administration & Technology)
    99F (Physical & Theoretical Chemistry)

PB2008111693
Flammability of Polymer Composites
Department of Transportation
2008, 22 pages
DOT/FAA/AR-08/18
Related Categories/Sub-categories:
    51C (Aircraft)
    71F (Composite Materials)
    71O (Plastics)
    81A (Combustion & Ignition)
    85D (Transportation Safety)
    99C (Polymer Chemistry)

PB2008114162
Control of Ethanol Dehydration in the Supercritical Water Reforming of Ethanol into Hydrogen
Department of Transportation
2008, 13 pages
UTC-R166
Related Categories/Sub-categories:
    97K (Fuels)
    99F (Physical & Theoretical Chemistry)