

Mars



N20110008113

Comparing Apollo and Mars Exploration Rover (MER) Operations
Paradigms for Human Exploration during NASA Desert-Rats Science Operations.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.**National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center. 2011. 2p

Related Categories/Sub-Categories:

54B (Astronomy & Celestial Mechanics)

84B (Extraterrestrial Exploration)

Keywords: Mars exploration, Mars roving vehicles, Apollo project.

PB2012104029

Vision and Voyages for Planetary Science in the Decade 2013-2022.

National Research Council, Washington, DC. Div. of Engineering and Physical Sciences. 2011, 398p

Related Categories/Sub-Categories:

54C (Astrophysics), 84 (Space Technology)

Keywords: Space exploration, Planetary science, Solar system.

PB2004106030

Journey to Inspire, Innovate, and Discover. Moon, Mars and Beyond.

President's Commission on Implementation of United States Space Exploration Policy, Washington, DC.

2004, 68p

Related Categories/Sub-Categories:

84 (Space Technology),

54 (Astronomy & Astrophysics)

70F (Public Administration & Government)

92D (Education, Law, & Humanities)

Keywords: *Space exploration, *Government policies, *NASA space programs.

N20110007830

Dust Removal on Mars Using Laser-Induced Breakdown Spectroscopy.

National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center. 2011, 2p

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics)

84B (Extraterrestrial Exploration)

99F (Physical & Theoretical Chemistry)

Keywords: Dust, Laser-induced breakdown spectroscopy, Mars surface.

N20110008730

Electrostatic Environments of Mars and the Moon.

National Aeronautics and Space Administration, Cocoa Beach, FL. John F. Kennedy Space Center. 2011, 6p

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics)

84B (Extraterrestrial Exploration)

Keywords: Lunar environment, Electrostatic charge, Photoelectric effect.

N20110012167

Mars Exploration Rover Heat Shield Recontact Analysis.

National Aeronautics and Space Administration, Langley Station, VA. Langley Research Center. 2011, 17p

Related Categories/Sub-Categories:

84G (Unmanned Spacecraft)

84C (Manned Spacecraft)

Keywords: Mars exploration, Mars roving vehicles, Probability theory.

Newsletter

National Technical Reports Library

Purpose: To bring you a sampling of the latest documents added to the NTIS Database and to help you gain a greater understanding of the wealth of scitech information available from the National Technical Information Service.

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N20110013204

Entry Guidance for the 2011 Mars Science Laboratory Mission.

National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center. 2011, 22p

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics)

Keywords: Mars missions, Command modules, Trajectory control.

N20120003776

Nuclear Thermal Propulsion (NTP): A Proven Growth Technology for Human NEO/Mars Exploration Missions.

National Aeronautics and Space Administration, Cleveland, OH. NASA John H. Glenn Research Center at Lewis Field.

2012, 20p

Related Categories/Sub-Categories:

84 (Space Technology)

Keywords: Nuclear propulsion, Liquid rocket propellants, Nuclear fuels.

N20120006581

Multi-Mission Radioisotope Thermoelectric Generator Heat Exchangers for the Mars Science Laboratory Rover.

California Inst. of Tech., Pasadena. Jet Propulsion Lab.

2012, 2p

Related Categories/Sub-Categories:

84G (Unmanned Spacecraft)

84C (Manned Spacecraft)

Keywords: Heat exchangers, Heat transfer, Honeycomb cores.

Key to Database Fields Used

The following NTIS database fields are used in this short listing of recently acquired technical reports.

- **NTIS Order Number**
- **Title**
- **Source**
- **Report Year, Page Count**
- **Report Number/ISBN13** (if available)
- **Related Categories/Sub-categories** (where the document is also indexed)
- **Keywords**

RSS Feeds are available in your choice of NTIS Subject Category. For information use the RSS link on the NTIS Homepage and look for the Category RSS Feeds button.

**PB2004106573**

Terminology for Specifying the Autonomy Levels for Unmanned Systems: Version 1.0.

National Inst. of Standards and Technology (MEL), Gaithersburg, MD. Intelligent Systems Div. 2004, 38p

Related Categories/Sub-Categories:

74 (Military Sciences)

84 (Space Technology)

76D (Navigation Systems)

62B (Computer Software)

Keywords: Autonomy, Unmanned systems, Control systems design.

N20100017229

Analysis of Shroud Options in Support of the Human Exploration of Mars.

National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.

2010, 26p

Related Categories/Sub-Categories:

84E (Space Launch Vehicles & Support Equipment)

Keywords: Ares 5 cargo launch vehicle, Shrouds, Encapsulating.

N20120004036

Design Study for a Mars Geyser Hopper.

National Aeronautics and Space Administration, Cleveland, OH. NASA John H. Glenn Research Center at Lewis Field.

2012, 16p

Related Categories/Sub-Categories:

84G (Unmanned Spacecraft), 84C (Manned Spacecraft)

Keywords: Stirling cycle, Space missions, Mission planning.

PB2008103965

NASA: Agency Has Taken Steps Toward Making Sound Investment Decisions for Ares I but Still Faces Challenging Knowledge Gaps.

Government Accountability Office, Washington, DC.

2007, 33p

Related Categories/Sub-Categories:

84 (Space Technology)

84E (Space Launch Vehicles & Support Equipment)

70B (Management Practice)

Keywords: NASA programs, Management planning and control, Decision making.

N20120004103

Mars Surface Mobility Leading to Sustainable Exploration.

National Aeronautics and Space Administration, Cleveland, OH. NASA John H. Glenn Research Center at Lewis Field.

2012, 22p

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics)

84B (Extraterrestrial Exploration)

Keywords: High pressure, Sample return missions, Mars surface.

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www.federalallabs.org

N20120004297

Heatshield Shapes for Mars Entry Capsules.

National Aeronautics and Space Administration, Moffett Field, CA. Ames Research Center.

2012, 35p

Related Categories/Sub-Categories:

84G (Unmanned Spacecraft)

84C (Manned Spacecraft)

Keywords: Curvature, Heat shielding, Nose cones.

PB2005105755

New Age of Exploration: NASA's Direction for 2005 and Beyond.

National Aeronautics and Space Administration, Washington, DC.

2005, 28p

Related Categories/Sub-Categories:

84 (Space Technology), 85D (Transportation Safety),

70F (Public Administration & Government)

Keywords: Space exploration, Programs, Vision.

N20120006135

Mars as a Destination in a Capability-Driven Framework.

National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.

2012, 24p

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics),

84B (Extraterrestrial Exploration)

Keywords: Mars (Planet), Manned mars missions, Mars exploration.

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Category Codes*/Title	New for August Quantity**
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44 Health Care.....	248
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48 Natural Resources & Earth Sciences	218
49 Electrotechnology.....	37
50 Civil Engineering.....	114
51 Aeronautics & Aerodynamics	73
54 Astronomy & Astrophysics.....	92
55 Atmospheric Sciences.....	75
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63 Detection & Countermeasures.....	20
68 Environmental Pollution & Control.....	305
70 Administration & Management.....	259
71 Materials Sciences.....	103
72 Mathematical Sciences.....	29
74 Military Sciences	292
75 Missile Technology	4
76 Navigation, Guidance, & Control	7
77 Nuclear Science & Technology	87
79 Ordnance.....	19
81 Combustion, Engines, & Propellants.....	34
82 Photography & Recording Devices.....	5
84 Space Technology	119
85 Transportation	200
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89 Building Industry Technology.....	40
90 Government Inventions for Licensing.....	0
91 Urban & Regional Technology & Development.....	290
92 Behavior & Society.....	345
94 Industrial & Mechanical Engineering	96
95 Biomedical Technology & Human Factors Engineering.....	69
96 Business & Economics.....	209
97 Energy	245
98 Agriculture & Food	97
99 Chemistry.....	64

* *Scope Notes define the specific topical content for each category;*

<http://www.ntis.gov/pdf/scopenotes.pdf>

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

PB2011103121

Grading NASA's Solar System Exploration Program: A Midterm Report.

National Research Council, Washington, DC. Div. of Engineering and Physical Sciences. 2010, 100p

Related Categories/Sub-Categories:

84A (Astronautics)
84B (Extraterrestrial Exploration)
97N (Solar Energy)
97O (Miscellaneous Energy Conversion & Storage)

Keywords: *Technology development, *Space exploration, Data analysis.

N20040085794

Flight Reconstruction of the Mars Pathfinder Disk-Gap-Band Parachute Drag Coefficient.

*NASA*American Inst. of Aeronautics and Astronautics
2003, 7p one CD-ROM contains 7 page document

Related Categories/Sub-Categories:

84G (Unmanned Spacecraft)
84C (Manned Spacecraft)
84B (Extraterrestrial Exploration)

Keywords: Aerodynamic coefficients, Aerodynamic drag, Mars pathfinder.

N20040090463

Prediction and Validation of Mars Pathfinder Hypersonic Aerodynamic Data Base.

National Aeronautics and Space Administration, Hampton, VA. Langley Research Center. 2004, 16p

Related Categories/Sub-Categories:

84D (Spacecraft Trajectories & Flight Mechanics)
51A (Aerodynamics)

Keywords: Mars pathfinder, Aerodynamic characteristics, Trajectory analysis.

PB2011103122

Constrained Space Exploration Technology Program: A Review of NASA's Exploration Technology Development Program.

National Research Council, Washington, DC. Div. of Engineering and Physical Sciences. 2010, 154p

Related Categories/Sub-Categories:

84A (Astronautics)
84B (Extraterrestrial Exploration)
97N (Solar Energy)
97O (Miscellaneous Energy Conversion & Storage)

Keywords: Technology development, Space exploration, Program execution.

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 three to five, although there are some reports with more.

N20040105591

Dsmc Simulations of Blunt Body Flows for Mars Entries: Mars Pathfinder and Mars Microprobe Capsules.

National Aeronautics and Space Administration, Hampton, VA. Langley Research Center. 2004, 26p

Related Categories/Sub-Categories:

84 (Space Technology)
51A (Aerodynamics)

Keywords: Aerodynamics, Mars Pathfinder, Simulation.

N20040110335

Navigation Flight Operations for Mars Pathfinder. Jet Propulsion Lab., California Inst. of Tech. 2004, 20p

Related Categories/Sub-Categories:

84 (Space Technology)
84G (Unmanned Spacecraft)

Keywords: Flight operations, Mars pathfinder, Mars surface.

N20050182095

Correlation of Rock Spectra with Quantitative Morphologic Indices: Evidence for a Single Rock Type at the Mars Pathfinder Landing Site.

Jet Propulsion Lab., Pasadena, CA.**Geological Survey, Flagstaff, AZ.**Wisconsin Univ.-Madison. Natural and Applied Sciences. 2005, 6p

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics)

Keywords: Rocks, Morphology, Mars(Planet).

PB2008105596

Abstracts of the Annual Meeting of Planetary Geologic Mappers, Tucson, AZ 2007.

Geological Survey, Reston, VA. 2007, 74p

Related Categories/Sub-Categories:

54A (Astrogeology)

Keywords: Planetary mapping, Planetary geology, Meetings.

PB2009110803

Assessment of Planetary Protection Requirements for Mars Sample Return Missions.

National Academy of Sciences, Washington, DC. 2009, 90p

Related Categories/Sub-Categories:

54C (Astrophysics)
84A (Astronautics)

Keywords: Planetary evolution, Space missions, Mars.

N19960053279

Workshop on Evolution of Martian Volatiles, Part 2. Lunar and Planetary Inst., Houston, TX.

1996, 28p

LPI/TR-96-01-PT-2

Related Categories/Sub-Categories:

54A (Astrogeology)
84B (Extraterrestrial Exploration)

Keywords: Mars(Planet), Conferences, Mars atmosphere.

N19970003266

Search for Past Life on Mars: Possible Relict Biogenic Activity in Martian Meteorite ALH84001.

National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center. 1996, 10p

Related Categories/Sub-Categories:

84B (Extraterrestrial Exploration)

Keywords: Meteorites, Mars(Planet), Extraterrestrial life, Carbonates.

N19980010660

Planetary Habitability.

Pennsylvania State Univ., University Park. 1997, 2p

Related Categories/Sub-Categories:

84 (Space Technology)
84C (Manned Spacecraft)

Keywords: Oxygen, Ozone, Atmospheric composition.

PB2001103760

Report on Conceptual Systems Analysis of Drilling Systems for 200-m-Depth Penetration and Sampling of the Martian Subsurface.

Los Alamos National Lab., NM. 2000, 91p

LA-UR-00-4742

Related Categories/Sub-Categories:

84G (Unmanned Spacecraft)
84B (Extraterrestrial Exploration)
54A (Astrogeology)

Keywords: Systems analysis, Drilling, Mars(Planet).

N19990087432

Mars Sample Quarantine Protocol Workshop.

National Aeronautics and Space Administration, Moffett Field, CA. Ames Research Center. 1999, 62p

Related Categories/Sub-Categories:

54C (Astrophysics)

Keywords: Contamination, Mars surface samples, Conferences.



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- Agriculture and Food
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- Engineering
- Building Industry Technology
- Business & Economics
- Civil Engineering
- Communication
- Computers, Control & Information Theory
- Electrotechnology
- Energy
- Environmental Pollution and Control
- Government Inventions for Licensing
- Health Care
- Manufacturing Technology
- Materials Sciences
- Ocean Sciences and Technology
- Transportation

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PB2009102974

Astrobiology Strategy for the Exploration of Mars.
2008, 130p

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics)

57 (Medicine & Biology)

84B (Extraterrestrial Exploration)

Keywords: Mars(Planet), Exploration, Strategic planning.

N20000033843

Physical and Chemical Study of Minerals and Rocks Containing Low-Z Compounds of Interest to Astrobiology and Origin of Life.

Search for Extraterrestrial Intelligence Inst.,
Mountain View, CA.

1999, 14p

Related Categories/Sub-Categories:

55A (Aeronomy)

Keywords: Biological evolution, Life sciences, Exobiology.

N20010019278

First Landing Site Workshop for the 2003 Mars Exploration Rovers.

Lunar and Planetary Inst., Houston, TX.

2001, 82p

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics)

84B (Extraterrestrial Exploration)

Keywords: Mars exploration, Roving vehicles, Landing sites.

PB2005105752

National Aeronautics and Space Administration Summary of FY2005 Budget Request.

National Aeronautics and Space Administration,
Washington, DC.

2004, 34p

Related Categories/Sub-Categories:

84 (Space Technology)

84G (Unmanned Spacecraft)

84C (Manned Spacecraft)

70B (Management Practice)

Keywords: NASA programs, Budget request, Space exploration.

N20120002640

Fluid Expulsion, Habitability, and the Search for Life on Mars.

National Aeronautics and Space Administration,
Houston, TX. Lyndon B. Johnson Space Center.

2012, 2p

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics)

84B (Extraterrestrial Exploration)

Keywords: Extraterrestrial life, Habitability, Potential energy.

N20110008446

Carbon Dioxide Control System for a Mars Space Suit Life Support System.

National Aeronautics and Space Administration,
Houston, TX. Lyndon B. Johnson Space Center.

2011, 11p

Related Categories/Sub-Categories:

95E (Life Support Systems)

Keywords: Carbon dioxide, Mars atmosphere, Life support systems.

PB2009115581

Sensitivity of Rocky Planet Structures to the Equation of State.

Lawrence Livermore National Lab., CA

2009, 12p

DE-AC52-07NA27344

Related Categories/Sub-Categories:

54 (Astronomy & Astrophysics)

54C (Astrophysics)

Keywords: Planetary structure, Equations of state, Mercury.

ADA289106

LEO on the Cheap. Methods for Achieving Drastic Reductions in Space Launch Costs.

Air Univ., Maxwell AFB, AL. Airpower Research Inst.

1994, 233p

AU-ARI-93-8

Related Categories/Sub-Categories:

84C (Manned Spacecraft)

Keywords: Cost analysis, Space Shuttles, Manned Spacecraft.

N20000002827

NASA's Myriad Uses of Digital Video.

National Aeronautics and Space Administration,
Huntsville, AL. George C. Marshall Space Flight Center.

1999, 14p

Related Categories/Sub-Categories:

45 (Communication)

Keywords: Digital television, Image analysis, Video communication.

N20060022061

Crystal-Clear Communication a Sweet-Sounding Success.

NASA.

2005, 4p

Related Categories/Sub-Categories:

45B (Radio & Television Equipment)

84C (Manned Spacecraft)

84B (Extraterrestrial Exploration)

Keywords: Broadcasting, Television systems, Messages.

N20050082118

Requesting Distant Robotic Action: An Ontology of Work, Naming and Action Identification for Planning on the Mars Exploration Rover Mission.

Science Applications International Corp.

2004, 12p

NAS2-00065

Related Categories/Sub-Categories:

70 (Administration & Management)

Keywords: Mars missions, Project management, Mission planning.

N20050082136

Working on Mars: Understanding How Scientists, Engineers and Rovers Interacted Across Space and Time during the Mars Exploration Rover (MER) Mission.

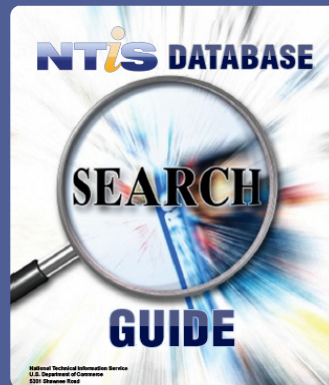
Science Applications International Corp.

2005, 12p

Related Categories/Sub-Categories:

70 (Administration & Management)

Keywords: Mission planning, Management planning, Scheduling.

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If your organization is a subscriber to the National Technical Reports Library, most of the reports listed can be downloaded free there. For information on how to subscribe to NTRL, go to <http://www.ntis.gov/products/ntrl.aspx>.

Title Index - For NTRL Users

The following is a list of the titles included in this month's issue, without links to the NTIS Web site. The list is in alphabetical order by title.

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N20100017229	84	Analysis of Shroud Options in Support of the Human Exploration of Mars.
PB2009-110803	54	Assessment of Planetary Protection Requirements for Mars Sample Return Missions.
PB2009-102974	54	Astrobiology Strategy for the Exploration of Mars.
N20110008446	95	Carbon Dioxide Control System for a Mars Space Suit Life Support System.
N2011-0008113	54	Comparing Apollo and Mars Exploration Rover (MER) Operations Paradigms for Human Exploration during NASA Desert-Rats Science Operations.
PB2011-103122	84	Constrained Space Exploration Technology Program: A Review of NASA's Exploration Technology Development Program.
N20050182095	54	Correlation of Rock Spectra with Quantitative Morphologic Indices: Evidence for a Single Rock Type at the Mars Pathfinder Landing Site.
N20060022061	45	Crystal-Clear Communication a Sweet-Sounding Success.
N20120004036	84	Design Study for a Mars Geyser Hopper.
N20040105591	84	Dsmc Simulations of Blunt Body Flows for Mars Entries: Mars Pathfinder and Mars Microprobe Capsules.
N2011007830	54	Dust Removal on Mars Using Laser-Induced Breakdown Spectroscopy.
N20110008730	54	Electrostatic Environments of Mars and the Moon.
N20110013204	54	Entry Guidance for the 2011 Mars Science Laboratory Mission.
N20010019278	54	First Landing Site Workshop for the 2003 Mars Exploration Rovers.
N20040085794	84	Flight Reconstruction of the Mars Pathfinder Disk-Gap-Band Parachute Drag Coefficient.
N20120002640	54	Fluid Expulsion, Habitability, and the Search for Life on Mars.
PB2011-103121	84	Grading NASA's Solar System Exploration Program: A Midterm Report.
N20120004297	84	Heatshield Shapes for Mars Entry Capsules.
PB2004-106030	84	Journey to Inspire, Innovate, and Discover. Moon, Mars and Beyond.
ADA289106	84	LEO on the Cheap. Methods for Achieving Drastic Reductions in Space Launch Costs.
PB2008-113965	84	Managing Space Radiation Risk in the New Era of Space Exploration.
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N20110012167	84	Mars Exploration Rover Heat Shield Recontact Analysis.
N19990087434	54	Mars Sample Quarantine Protocol Workshop.
N20120004103	54	Mars Surface Mobility Leading to Sustainable Exploration.
N20120006581	84	Multi-Mission Radioisotope Thermoelectric Generator Heat Exchangers for the Mars Science Laboratory Rover.
PB2008-103965	84	NASA: Agency Has Taken Steps Toward Making Sound Investment Decisions for Ares I but Still Faces Challenging Knowledge Gaps.
N20010043986	84	NASA Kennedy Space Center Scientific and Technical Information Output-2001: A Wind Tunnel Study on the Mars Pathfinder (MPF) Lander Descent Pressure Sensor.
N20000002827	45	NASA's Myriad Uses of Digital Video.
PB2005-105752	84	National Aeronautics and Space Administration Summary of FY2005 Budget Request.
N20040110335	84	Navigation Flight Operations for Mars Pathfinder.
PB2005-105755	84	New Age of Exploration: NASA's Direction for 2005 and Beyond.

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N20120003776	84	Nuclear Thermal Propulsion (NTP): A Proven Growth Technology for Human NEO/Mars Exploration Missions.
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N19980010660	84	Planetary Habitability.
N20040090463	84	Prediction and Validation of Mars Pathfinder Hypersonic Aerodynamic Data Base.
PB2001-103760	84	Report on Conceptual Systems Analysis of Drilling Systems for 200-m-Depth Penetration and Sampling of the Martian Subsurface.
N20050082118	70	Requesting Distant Robotic Action: An Ontology of Work, Naming and Action Identification for Planning on the Mars Exploration Rover Mission.
N19970003266	84	Search for Past Life on Mars: Possible Relict Biogenic Activity in Martian Meteorite ALH84001.
PB2009-115581	54	Sensitivity of Rocky Planet Structures to the Equation of State.
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N20050082136	70	Working on Mars: Understanding How Scientists, Engineers and Rovers Interacted Across Space and Time during the Mars Exploration Rover (MER) Mission.
N19960053279	54	Workshop on Evolution of Martian Volatiles, Part 2.