NTRL
NATIONAL TECHNICAL REPORTS LIBRARY
U.S. Department of Commerce

volume 9 • number 4 • January/February 2017 Newsletter
National Technical Reports Library
Developed by the Federal Science Repository Service

# Microgravity and the International Space Station

**N150012224**
Service Life Extension of the ISS Propulsion System Elements.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center
2015, 18p
**Related Categories/Subcategories**
84 - Space Technology
84G - Unmanned Spacecraft
84C - Manned Spacecraft
Keywords: Service life, International space station, Spacecraft propulsion, International cooperation, Russian space program, Mission planning, Project management, Nasa space programs, Probability theory, Reliability, Spacecraft modules, Performance tests, Failure analysis, Test facilities, Propellant tanks

**N140010195**
Current Content of the Microgravity Materials Program.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
2014, 38p
**Related Categories/Subcategories**
54 - Astronomy & Astrophysics
Keywords: Microgravity, Buoyancy-driven flow, Experiment design, Spaceborne experiments, Fluid flow, Solidification, Buoyancy, European space agency

**N140010952**
Enhanced International Space Station Ku-Band Telemetry Service.
NASA Marshall Space Flight Center; American Inst. of Aeronautics and Astronautics
2014, 7p
**Related Categories/Subcategories**
84 - Space Technology
Keywords: International space station, Telemetry, Superhigh frequencies, Payload integration, Flight control, Radio telemetry, Payloads, Protocol(Computers)

**N150016233**
International Space Station (ISS) 3D Printer Performance and Material Characterization Methodology.
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
2015, 31p
**Related Categories/Subcategories**
84 - Space Technology
84A - Astronautics
Keywords: International space station, Additive manufacturing, Rapid prototyping, Fabrication, Space processing, Lessons learned, Technology utilization, Space exploration, Recycling

**N150022318**
International Space Station (ISS) Environmental Control and Life Support (ECLS) System Overview of Events: 2010-2014.
Boeing Airplane Co., Seattle, WA.
2015, 12p
**Related Categories/Subcategories**
95E - Life Support Systems
84G - Unmanned Spacecraft
84C - Manned Spacecraft
Keywords: International space station, Environmental control, Heat exchangers, Water reclamation, Waste treatment, Life support systems, General overviews, Cabin atmospheres, Oxygen supply equipment, Water treatment, Temperature control, Humidity, Gas analysis, Extravehicular activity, NASA space programs, Fire extinguishers, Desiccators, Carbon dioxide removal, Scrubbers, Environmental monitoring

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.

**Director:** Avi Bender
**Deputy Director:** Gregory Capella
**Associate Director for Product Management & Acquisition:** Don Hagen
**Manager, Product & Program Management:** Wayne Strickland
**Technical Information Specialist:** Greg Guthrie
**Layout, 508 & Accessibility:** William H Joseph

This Newsletter is published twelve times a year, and delivered via e-mail on or about the 15th of each month. You may subscribe or unsubscribe by writing to **ntrnews@ntis.gov**. We can only unsubscribe you if you receive your copy from **ntrnews@ntis.gov**. Copies are also re-distributed through listservs and by other subscribers. For back issues to the Newsletter **click here**.

The ntrnews subscribers list is not shared with any other entities for any purpose. Your comments are always welcome. Write us at **ntrnews@ntis.gov**.

***Connect*** **with NTIS on** ***Facebook & Twitter***



**National Technical Information Service**
**U.S. Department of Commerce**
**5301 Shawnee Road**
**Alexandria, VA 22312**

**N160001104**
Space Technology Game Changing Development Astrobee: ISS Robotic Free Flyer.
Army Research Development and Engineering Command, Ames Research Center, Moffett Field, CA.
2015, 2p
**Related Categories/Subcategories**
84G - Unmanned Spacecraft
62 - Computers, Control & Information Theory
Keywords: Robotics, Free flight, Intravehicular activity, Aerospace engineering, Remote control, Robots, Microgravity, Acoustic measurement

**N160003139**
Strata-1: An International Space Station Experiment into Fundamental Regolith Processes in Microgravity.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2016, 2p
**Related Categories/Subcategories**
54 - Astronomy & Astrophysics
84B - Extraterrestrial Exploration
Keywords: International space station, Microgravity, Asteroids, Regolith, Granular materials, Particle size distribution, Particle density (concentration), Porosity, Asteroid missions, Spaceborne experiments, Surface properties, Mechanical properties

**N160006558**
Growth Chambers on the International Space Station for Large Plants.
National Aeronautics and Space Administration, Cocoa Beach, FL. John F. Kennedy Space Center.
2016, 8p
**Related Categories/Subcategories**
95E - Life Support Systems
Keywords: Vegetation growth, Food production (in space), Plant physiology, Phytotrons, Aerospace environments, Vegetables, Microorganisms, Light emitting diodes, Oxygen, Regeneration (physiology), Illuminating

## 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.

**N160006602**
Propellant Savings during Soyuz Undock from the International Space Station.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2016, 10p
**Related Categories/Subcategories**
84 - Space Technology
Keywords: International space station, Soyuz spacecraft, Spacecraft maneuvers, Control moment gyroscopes, Thrustors, Propellants, Fuel consumption, Spacecraft control, Consumables (spacecraft)

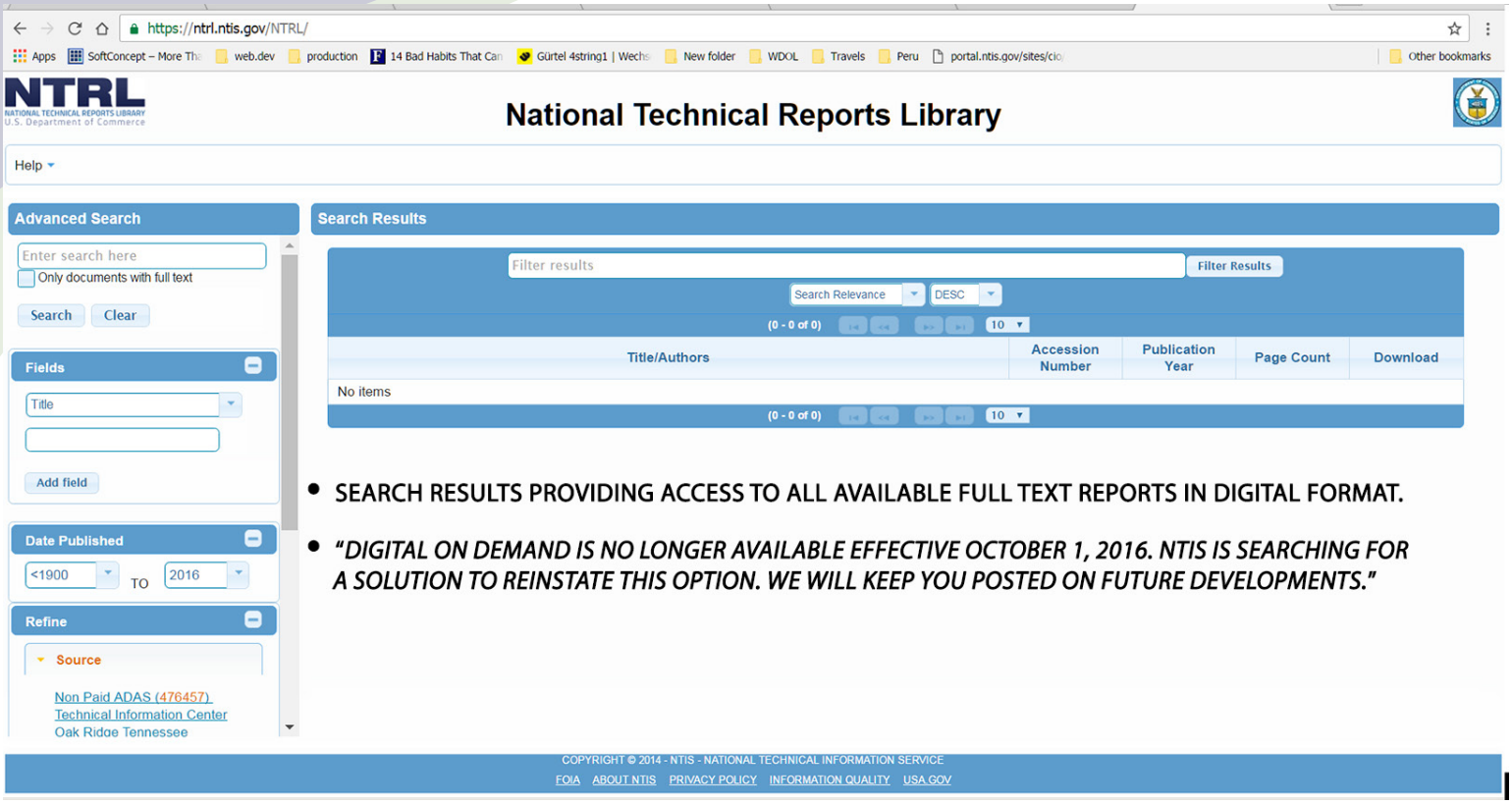
**N160008931**
Year in Space: Early Results and Lessons Learned from the First Year-Long Expedition Aboard the International Space Station.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2016, 2p
**Related Categories/Subcategories**
84 - Space Technology
57E - Clinical Medicine
Keywords: International space station, Lessons learned, Aerospace medicine, Health, Spacecrews, United states, Russian federation, Space flight, Physiological responses, Human tolerances, Human performance, Fluid shifts (biology), Weightlessness, Genetics, Astronauts, Cosmonauts

**N160009078**
ISS Payload Human Factors.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2016, 2p
**Related Categories/Subcategories**
95E - Life Support Systems
Keywords: International space station, Avionics, Payloads, Human factors engineering, Reliability engineering, Design analysis, Systems analysis

**N160011376**
International Space Station Status and a Look Forward From NASA's Perspective
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2016, 62p
**Related Categories/Subcategories**
54 - Astronomy & Astrophysics
Keywords: Space exploration, Extravehicular activity, International space station, Aerospace systems, Habitability, Exploration, Research



**N160011568**
Lightning Imaging Sensor (LIS) on the International Space Station (ISS).
National Aeronautics and Space Administration, Huntsville, AL. George C. Marshall Space Flight Center.
2016, 12p
**Related Categories/Subcategories**
54 - Astronomy & Astrophysics
Keywords: International space station, Space missions, Atmospheric chemistry, Imaging techniques, Remote sensing, Calibrating, Geophysics, Lightning, Radiant flux density, Payloads, Real time operation, Storms




- **SEARCH RESULTS PROVIDING ACCESS TO ALL AVAILABLE FULL TEXT REPORTS IN DIGITAL FORMAT.**
- ***"DIGITAL ON DEMAND IS NO LONGER AVAILABLE EFFECTIVE OCTOBER 1, 2016. NTIS IS SEARCHING FOR A SOLUTION TO REINSTATE THIS OPTION. WE WILL KEEP YOU POSTED ON FUTURE DEVELOPMENTS."***

## N160011570

Systems Analysis of In-Space Manufacturing Applications for the International Space Station and the Evolvable Mars Campaign.
Massachusetts Inst. of Tech., Cambridge.
2016, 17p

**Related Categories/Subcategories**
72 - Mathematical Sciences
84A - Astronautics
Keywords: Systems analysis, International space station, Space flight, Logistics management, Manufacturing, Mars missions, Probability theory, Maintenance, Mathematical models, Logistics, Space missions, Risk

## N160011588

International Research Results and Accomplishments from the International Space Station.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2016, 9p

**Related Categories/Subcategories**
54 - Astronomy & Astrophysics
Keywords: Biotechnology, International space station, Earth sciences, Physical sciences, Data bases, Education, Patents, Hypotheses

## N160012097

Observations of Transient ISS Floating Potential Variations During High Voltage Solar Array Operations.
Alabama Univ., Birmingham.
2016, 9p

**Related Categories/Subcategories**
84G - Unmanned Spacecraft
84C - Manned Spacecraft
Keywords: Aerospace environments, High voltages, Solar arrays, International space station, Floating, Ionospheric electron density, Spacecraft charging, Surges, Low earth orbits, Space plasmas, Solar cells, Time dependence, Sunlight, Variations

## N160012382

Practical Applications of Cables and Ropes in the ISS Countermeasures System
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2017, 21p

**Related Categories/Subcategories**
84 - Space Technology
57E - Clinical Medicine
Keywords: Countermeasures, International space station, Weightlessness, Cables (ropes), Physical exercise, Human body, Muscles, Bones, Long duration space flight, Lessons learned, Education

## N20010069674

Monitoring the Microgravity Environment Quality On-Board the International Space Station Using Soft Computing Techniques.
National Aeronautics and Space Administration, Cleveland, OH. NASA John H. Glenn Research Center at Lewis Field.
2001, 16p

**Related Categories/Subcategories**
84 - Space Technology
62 - Computers, Control & Information Theory
Keywords: Artificial intelligence, Environmental quality, Microgravity, Monitors, Vibration measurement, International space station, Microelectromechanical systems, Fuzzy systems, Vector quantization

## N20040070758

Microgravity Environment on the International Space Station.
NASA Glenn Research Center; NASA Glenn Research Center; American Inst. of Aeronautics and Astronautics
2004, 15p

**Related Categories/Subcategories**
84 - Space Technology
84A - Astronautics
Keywords: Gravitational effects, Microgravity, International space station, Real time operation, User requirements, Acceleration measurement

## The Genesis of NTIS

During the denouement of World War II, Allied teams scrambled to capture Nazi war secrets before they could be destroyed. Many Germans had ignored Hitler's dying orders to scuttle all equipment and documents, including secreting them away. In dynamited mountain caves, mine shafts, factories, labs, and hideaways. Allied search squads ferreted out tons of scientific documentation, German patents, Himmler's papers, machines, and even scientists themselves.

To process the flood of Nazi military, scientific, and industrial secrets, President Truman established the Office of Publication Board. Each week, some one thousand enemy documents were translated, abstracted, announced in the Bibliography of Scientific and Industrial Research Reports, and then sold without copyright restrictions at the cost of microfilm reproduction. The Russians reportedly bought everything, while American entrepreneurs "practically park[ed] on the … doorstep," vying to get a jump on production secrets for medicines, chemistry, aviation, plastics, textiles, synthetic rubber, rockets, insect repellants, and fire extinguishers.

The Office of Publication Board later became NTIS (but is memorialized in the PB-prefix of NTIS product IDs); its Bibliography of Scientific and Industrial Research Reports evolved into NTIS OrderNow; and technical reports became the predominant method for communicating research results.

*(from: "Tapping the Government Grapevine: The User Friendly Guide to U.S. Government Information Sources. Third edition, p 54. Oryx Press. 1998. By Judith Schiek Robinson.)*

## Important Notice: Beginning October 1, 2016 all subscribers to the National Technical Reports Library (NTRL) will have open and public access free of charge.

In October 2014 NTIS announced four levels of access to the **National Technical Reports Library (NTRL)**;

- **Public NTRL -** open access to all bibliographic and abstract content that linked to the NTIS Webstore for purchasing. (This will be discontinued).
- **Public NTRL with Customer Registration –** open access to bibliographic and abstract content plus access to all electronically available reports.
- **Premium NTRL for Individuals –** paid subscription that included more powerful search and results management as well as Digital-on-Demand Services for content that was not in digital format.
- **Premium NTRL for Institutions –** all the added benefits of Premium NTRL for individuals plus management tools.

The demand for **Premium NTRL Services** was much lower than forecast. Therefore, beginning October 1, 2016, NTIS will discontinue all **Premium NTRL Services**. NTIS will no longer accept new Premium NTRL subscription requests and beginning October 1, 2016, we will begin to process pro-rata refunds to current **Premium NTRL** subscribers. **Digital-on-Demand** services will be discontinued at that time.

**Public NTRL** will be relaunched on October 1 as **Open NTRL**. **Open NTRL** will include the following advanced search capabilities now available only in **Premium NTRL**:

- **Search by title words**
- **Search by source agency**
- **Search by author**
- **Search limited by year of publication**
- **Search limited to documents available in full text**
- **Search results providing access to all available full text reports in digital format.**

Customer registrations and password access features for all NTRL services will be discontinued for the **Open NTRL**.
**Open NTRL** will be freely available worldwide. We look forward to providing 21st century access. If you have additional questions regarding your future access to NTRL, feel free to contact me at gguthrie@ntis.gov.

Gregory G. Guthrie,
Program Manager
National Technical Reports Library
National Technical Information Service
gguthrie@ntis.gov

**N20050080940**
Interpreting the International Space Station Microgravity Environment.
NASA Glenn Research Center; NASA Glenn Research Center; American Inst. of Aeronautics and Astronautics
2005, 12p
**Related Categories/Subcategories**
84 - Space Technology
84A – Astronautics
Keywords: International space station, Microgravity, Spacecraft design, Acceleration measurement, Spaceborne experiments, Payloads, Gravitational effects, Quasi-steady states, Spacecraft antennas, Superhigh frequencies, Control moment gyroscopes, Design analysis

**N20130011664**
Development of the International Space Station Fine Water Mist Portable Fire Extinguisher.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2013, 8p
**Related Categories/Subcategories**
84C - Manned Spacecraft
84F - Space Safety
Keywords: Fire extinguishers, International space station, Extinguishing, Fires, Functional design specifications, Flight crews, Microgravity, Oxygen, Carbon dioxide, NASA programs

**PB2016104492** – Researcher's Guide to International Space Station: Technology Demonstration.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2013, 42p
**Related Categories/Subcategories**
84 - Space Technology
84C - Manned Spacecraft
84E - Space Launch Vehicles & Support Equipment
Keywords: Space exploration, Technology research, Capabilities, Technology development, Space missions, Space environments, In-space propulsion, Robotics, Navigation, Habitation, Thermal management, International Space Station (ISS), Low earth orbit (LEO)

**PB2016104493**
Researcher's Guide to International Space Station: Acceleration Environment.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 50p
**Related Categories/Subcategories**
84 - Space Technology
84E - Space Launch Vehicles & Support Equipment
46B - Fluid Mechanics
84A - Astronautics
Keywords: Space exploration, Acceleration (Physics), Microgravity, Technology development, Space missions, Space environments, Spacecraft, Disturbances, Vibrational frequencies, Vibration isolation, Microgravity environment components

**PB2016104494**
Researcher's Guide to International Space Station: Cellular Biology.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 50p
**Related Categories/Subcategories**
84 - Space Technology
84C - Manned Spacecraft
57Y - Toxicology
57F - Cytology, Genetics, & Molecular Biology
Keywords: Space exploration, Cells (Biology), Microbiology, Cell culture, Tissue culture, Microgravity, Flight experiments, Space missions, Toxicology, Human health, International Space Station (ISS)

**PB2016104495**
Researcher's Guide to International Space Station: Microbial Research.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2013, 44p
**Related Categories/Subcategories**
84 - Space Technology
57F - Cytology, Genetics, & Molecular Biology
57K - Microbiology
57S – Physiology
Keywords: Space exploration, Microbiology, Microbial cells, Microgravity, Space missions, Human physiology, Microorganisms, Pathogens, Infectious disease risk, Risk assessment, Microbial contamination, Microbial ecology, Genetics, Genotype, Phenotype

**PB2016104496**
Researcher's Guide to International Space Station: Combustion Science.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 56p
**Related Categories/Subcategories**
84 - Space Technology
84C - Manned Spacecraft
84F - Space Safety
68A - Air Pollution & Control
Keywords: Space exploration, Combustion, Safety, Human health, Flammability, Pollutant emissions, Gravity, Experiments, Microgravity, International Space Station (ISS)

**PB2016104497**
Researcher's Guide to International Space Station: Fluid Physics.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 40p
**Related Categories/Subcategories**
84 - Space Technology
84C - Manned Spacecraft
84A - Astronautics
46B - Fluid Mechanics
Keywords: Space exploration, Fluid dynamics, Fluid behavior, Liquid motions, Gas motions, Mass transport, Gravity, Experiments, Space environments, Buoyancy, Complex fluids, Multiphase flow, Heat transfer, Interfacial phenomena, International Space Station (ISS)

**PB2016104498**
Researcher's Guide to International Space Station: Fundamental Physics.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 50p
**Related Categories/Subcategories**
84C - Manned Spacecraft
84 - Space Technology
84E - Space Launch Vehicles & Support Equipment
46 - Physics
84G - Unmanned Spacecraft
Keywords: Space exploration, Physics, Microgravity, Space environment, Experiments, Gravity, Orbital motion, Complex fluids, Soft matter physics, International Space Station (ISS), Non-crew satellites

**PB2016104499**
Researcher's Guide to International Space Station: Human Research.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 30p
**Related Categories/Subcategories**
84 - Space Technology
84C - Manned Spacecraft
95D - Human Factors Engineering
84A – Astronautics
Keywords: Manned spacecraft, Space exploration, Behavioral health, Crew performance, Health effects, Biomedical research, Human research, Microgravity, Astronauts, Long-duration voyages, Space missions, Performance measures, International Space Station (ISS)

**PB2016104500**
Researcher's Guide to International Space Station: Earth Observations.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2013, 48p
**Related Categories/Subcategories**
84 - Space Technology
84C - Manned Spacecraft
84E - Space Launch Vehicles & Support Equipment
82B - Photographic Techniques & Equipment
Keywords: Manned spacecraft, Space exploration, Earth observations, Space missions, Orbiting, Earth images, Photography, Cameras, Payloads, Lessons learned, International Space Station (ISS), ISS Agricultural Camera (ISSAC), EarthKAM

**PB2016104501**
Researcher's Guide to International Space Station: Macromolecular Crystal Growth.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 48p
**Related Categories/Subcategories**
84 - Space Technology
84C - Manned Spacecraft
84E - Space Launch Vehicles & Support Equipment
46D - Solid State Physics
Keywords: Space exploration, Macromolecules, Crystals, Crystal growth, Crystallization, Microgravity, Proteins, Neutron diffraction, Depletion zones, International Space Station (ISS)

**PB2016104502**
Researcher's Guide to International Space Station: Microgravity Materials Research.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 48p
**Related Categories/Subcategories**
84 - Space Technology
84C - Manned Spacecraft
84E - Space Launch Vehicles & Support Equipment
57K - Microbiology
51A - Aerodynamics
Keywords: Manned spacecraft, Space exploration, Microgravity, Space missions, Orbiting, Weightlessness, Acceleration, G forces, Drag, Gravity, Flight experiments, International Space Station (ISS), Materials Science Research Rack (MSRR)

**PB2016104503**
Researcher's Guide to International Space Station: Plant Science.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 50p
**Related Categories/Subcategories**
84 - Space Technology
84E - Space Launch Vehicles & Support Equipment
57K - Microbiology
98D - Agronomy, Horticulture, & Plant Pathology
Keywords: Space exploration, Plant biology, Manned spacecraft, Space missions, Microgravity, Gravity, Horticulture, Terrestrial biology, Spaceflight experimentation, International Space Station (ISS)

**PB2016104504**
Researcher's Guide to International Space Station: Rodent Research.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 44p
**Related Categories/Subcategories**
84 - Space Technology
84E - Space Launch Vehicles & Support Equipment
84B - Extraterrestrial Exploration
68G - Environmental Health & Safety
Keywords: Space exploration, Microgravity, Rodents, Manned spacecraft, Space missions, Rats, Mice, Flight experiments, Bone loss, Mammalian physiology, Long-term exposure, Health effects, Space shuttles, Rodent habitat, International Space Station (ISS), Animal Access Unit (AAU)

**PB2016104505**
Researcher's Guide to International Space Station: Space Environmental Effects.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
2015, 40p
**Related Categories/Subcategories**
84E - Space Launch Vehicles & Support Equipment
84B - Extraterrestrial Exploration
97R - Environmental Studies
Keywords: Manned spacecraft, Space exploration, Environmental effects, Space missions, Space environment, Vacuum, Atomic oxygen, Ultraviolet radiation, Ionizing radiation, Space plasma, Thermal cycling, Orbital debris, Contamination,

**PB2017100216**
NASA Space Technology Roadmaps and Priorities Revisited.
National Research Council, Washington, DC. Div. of Engineering and Physical Sciences; National Aeronautics and Space Administration, Washington, DC.
2016, 114p
**Related Categories/Subcategories**
84 - Space Technology
70E - Research Program Administration & Technology Transfer
Keywords: Aerospace engineering, Priorities, Launch vehicles, Spacecraft, Space missions, Costs, Financial management, Risk, Technology development, Research and development, Design reference missions (DRMs)

# CENDI (Commerce, Energy, NASA, Defense Information Managers Group)

CENDI (Commerce, Energy, NASA, Defense Information Managers Group) is an interagency group of senior Scientific and Technical Information (STI) managers from 14 United States federal agencies.

CENDI traces its roots to the Committee on Scientific and Technical Information (COSATI) of the Federal Council on Science and Technology. COSATI was established in the early 1960s to coordinate the management of the results from the U.S. government's increasing commitment to scientific research and technology development. The scientific and technical information (STI) managers of the government's major research and development (R&D) agencies worked within COSATI to standardize guidelines for cataloging and indexing technical reports. COSATI ceased formal operations in the early 1970s.

To continue the cooperation begun under COSATI, managers of agency STI programs from Commerce (National Technical Information Service), Energy (Office of Scientific and Technical Information), NASA (HQ/STI Division), and Defense (Defense Technical Information Center) began meeting periodically to discuss common topics and stimulate more effective cooperation.

In 1985, a Memorandum of Understanding was signed by the four charter agencies and CENDI was established. From this small core of STI managers, CENDI has grown to its current membership, which represents the major science agencies, the national libraries, and agencies involved in the dissemination and long-term management of scientific and technical information.

# Public Access Plans of U.S. Federal Agencies

***Additional Public Access Plans will be posted as agencies release them.***

In a memo released by the Office of Science and Technology Policy (OSTP) on February 22, 2013, each Federal agency with over $100 million in annual conduct of research and development expenditures was directed to develop a plan to support increased public access to the results of research funded by the Federal Government. This included any results published in peer-reviewed scholarly publications that are based on research that directly arises from Federal funds, as defined in relevant OMB circulars (e.g., A-21and A-11).

The full memo can be viewed at *https://www2.icsu-wds.org/files/ostp-public-access-memo-2013.pdf*.

Some agencies not subject to the OSTP memo are voluntarily developing Public Access Plans and are included below.

# Available Plans

- **Agency for International Development (Oct. 1, 2014)**
  *http://blog.usaid.gov/2014/10/announcing-usaids-open-data-policy/*
- **Department of Agriculture (Nov. 7, 2014)**
  *http://www.usda.gov/documents/USDA-Public-Access-Implementation-Plan.pdf* **/ (PB2015102892)**
  **Department of Commerce**
  - **National Institute of Standards and Technology (Apr. 3, 2015)**
    *http://www.nist.gov/data/upload/NIST-Plan-for-Public-Access.pdf* **/ (PB2015104387)**
  - **National Oceanic and Atmospheric Administration (Feb. 2015)**
    *http://docs.lib.noaa.gov/noaa_documents/NOAA_Research_Council/NOAA_PARR_Plan_v5.04.pdf* **/ (PB2015102888)**
- **Department of Defense (Feb. 2015)**
  *http://www.dtic.mil/dtic/pdf/DoD_PublicAccessPlan_Feb2015.pdf*
- **Department of Energy (Jul. 24, 2014)**
  *http://energy.gov/sites/prod/files/2014/08/f18/DOE_Public_Access Plan_FINAL.pdf* **/ (PB2015101160)**
- **Department of Health and Human Services**
  *http://www.hhs.gov/open/public-access/guiding-principles.html*
  - **Agency for Healthcare Research and Quality (Feb. 2015)**
    *http://www.ahrq.gov/funding/policies/publicaccess/index.html*
  - **Centers for Disease Control (Jan. 2015)**
    *http://www.cdc.gov/od/science/docs/Final-CDC-Public-Access-Plan-Jan-2015_508-Compliant.pdf* **/ (PB2015102889)**
    **Food and Drug Administration (Feb. 27, 2015)**
    *http://www.fda.gov/downloads/ScienceResearch/AboutScienceResearchatFDA/UCM435418.pdf* **/ (PB2015102887)**
  - **National Institutes of Health (Feb. 26, 2015)**
    *http://grants.nih.gov/grants/NIH-Public-Access-Plan.pdf* **/ (PB2015102891)**
  - **Office of the Assistant Secretary for Preparedness and Response (Feb. 27, 2015)**
    *http://www.phe.gov/Preparedness/planning/science/Documents/AccessPlan.pdf* **/ (PB2015102888)**
- **Department of the Interior**
  - **US Geological Survey (Feb. 19, 2015)**
    *http://www.usgs.gov/usgs-manual/im/IM-OSQI-2015-01.html*
- **National Aeronautics and Space Administration (Nov. 21, 2014)**
  *http://science.nasa.gov/media/medialibrary/2014/12/05/NASA_Plan_for_increasing_access_to_results_of_federally_funded_research.pdf*
- **National Science Foundation (Mar. 18, 2015)**
  *http://www.nsf.gov/pubs/2015/nsf15052/nsf15052.pdf* **/ (PB2015102890)**
- **Veterans Administration (Feb. 1, 2015)**
  *http://www.research.va.gov/resources/policies/public_access.cfm*

**N20040070758**

## Microgravity Environment on the International Space Station

NASA Glenn Research Center; NASA Glenn Research Center; American Inst. of Aeronautics and Astronautics

2004, 15p.

The International Space Station was assembled on-orbit to serve as a research platform for the next twenty years. A primary feature of this research platform will be its microgravity environment – an environment in which the effects of gravity are drastically reduced. A physical environment with very low-levels of acceleration and vibration has been accomplished by both the free fall associated with orbital flight and the design of the International Space Station. The International Space Station design has been driven by a long-standing, high-level requirement for a microgravity mode of operation.

Various types of data are gathered when science experiments are conducted. The acceleration levels experienced during experiment operation should be factored into the analysis of the results of most microgravity experiments. To this end, the Space Acceleration Measurement System records the acceleration levels to support microgravity researchers for nearly three years of International Space Station operations. The Principal Investigator Microgravity Services project assists the experiments principal investigators with their analysis of the acceleration (microgravity) environment. The Principal Investigator Microgravity Services project provides cataloged data, periodic analysis summary reports, specialized reports for experiment teams, and real-time data in a variety of user-defined formats.



## Major Subject Categories

| Category Codes*/Title | New for July Quantity** |
|---|---|
| 41 Manufacturing Technology | 22 |
| 43 Problem Solving Information for State & Local Governments | 107 |
| 44 Health Care | 29 |
| 45 Communication | 45 |
| 46 Physics | 141 |
| 47 Ocean Sciences & Technology | 60 |
| 48 Natural Resources & Earth Sciences | 157 |
| 49 Electrotechnology | 39 |
| 50 Civil Engineering | 104 |
| 51 Aeronautics & Aerodynamics | 120 |
| 54 Astronomy & Astrophysics | 35 |
| 55 Atmospheric Sciences | 69 |
| 57 Medicine & Biology | 183 |
| 62 Computers, Control & Information Theory | 142 |
| 63 Detection & Countermeasures | 28 |
| 68 Environmental Pollution & Control | 147 |
| 70 Administration & Management | 126 |
| 71 Materials Sciences | 71 |
| 72 Mathematical Sciences | 38 |
| 74 Military Sciences | 159 |
| 75 Missile Technology | 1 |
| 76 Navigation, Guidance, & Control | 7 |
| 77 Nuclear Science & Technology | 17 |
| 79 Ordnance | 6 |
| 81 Combustion, Engines, & Propellants | 13 |
| 82 Photography & Recording Devices | 8 |
| 84 Space Technology | 106 |
| 85 Transportation | 162 |
| 88 Library & Information Sciences | 48 |
| 89 Building Industry Technology | 32 |
| 90 Government Inventions for Licensing | 1 |
| 91 Urban & Regional Technology & Development | 124 |
| 92 Behavior & Society | 128 |
| 94 Industrial & Mechanical Engineering | 48 |
| 95 Biomedical Technology & Human Factors Engineering | 23 |
| 96 Business & Economics | 66 |
| 97 Energy | 86 |
| 98 Agriculture & Food | 66 |
| 99 Chemistry | 34 |

**** Scope Notes define the specific topical content for each category;***
**https://classic.ntis.gov/assets/pdf/scopenotes.pdf**
***** Quantities represent each new report assigned on average to 3-5 categories.***

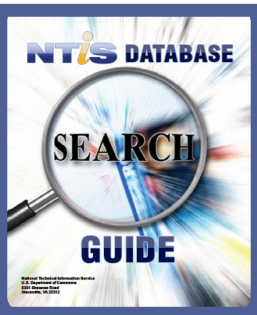
**NTRL**
NATIONAL TECHNICAL REPORTS LIBRARY
U.S. Department of Commerce

***The National Technical Reports Library (NTRL)* enhances accessibility to the NTIS technical reports collection. It provides access to:**

- Bibliographic records of more than 2,500,000 technical reports
- Downloadable full text of 850,000 of these reports in PDF format

The NTRL operates on a system interface that allows users to do queries on the large NTIS bibliographic database. The intent is to broadly expand and improve access to over 2 million bibliographic records (pre-1960 to present) and 800k full-text documents in PDF format that are directly linked to that bibliographic database.

For more information, go to:
***https://classic.ntis.gov/products/ntrl/***




**Just Revised: the NTIS Database Search Guide**

Gain an in-depth understanding of the NTIS database structure with this new guide:

- Comprehensive list of NTIS Categories
- Helpful information and search hints
- Reference Guide to online commercial services and the NTRL
- Great Reference Manual & Teaching Tool

**Free Download: https://classic.ntis.gov/pdf/dbguide.pdf**

### 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.

## 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.

| NTIS Number | Category | Title |
|---|---|---|
| N140010195 | Current Content of the Microgravity Materials Program. | 54 |
| N140010952 | Enhanced International Space Station Ku-Band Telemetry Service. | 84 |
| N150012224 | Service Life Extension of the ISS Propulsion System Elements. | 84 |
| N150016233 | International Space Station (ISS) 3D Printer Performance and Material Characterization Methodology. | 84 |
| N150022318 | International Space Station (ISS) Environmental Control and Life Support (ECLS) System Overview of Events: 2010-2014. | 95E |
| N160001104 | Space Technology Game Changing Development Astrobee: ISS Robotic Free Flyer. | 84G |
| N160003139 | Strata-1: An International Space Station Experiment into Fundamental Regolith Processes in Microgravity. | 54 |
| N160006558 | Growth Chambers on the International Space Station for Large Plants. | 95E |
| N160006602 | Propellant Savings during Soyuz Undock from the International Space Station. | 84 |
| N160008931 | Year in Space: Early Results and Lessons Learned from the First Year-Long Expedition Aboard the International Space Station. | 84 |
| N160009078 | ISS Payload Human Factors. | 95E |
| N160011376 | International Space Station Status and a Look Forward From NASA's Perspective | 54 |
| N160011568 | Lightning Imaging Sensor (LIS) on the International Space Station (ISS). | 54 |
| N160011570 | Systems Analysis of In-Space Manufacturing Applications for the International Space Station and the Evolvable Mars Campaign. | 72 |
| N160011588 | International Research Results and Accomplishments from the International Space Station. | 54 |
| N160012097 | Observations of Transient ISS Floating Potential Variations During High Voltage Solar Array Operations. | 84C |
| N160012382 | Practical Applications of Cables and Ropes in the ISS Countermeasures System | 84 |
| N20010069674 | Monitoring the Microgravity Environment Quality On-Board the International Space Station Using Soft Computing Techniques. | 84 |
| N20040070758 | Microgravity Environment on the International Space Station. | 84 |
| N20050080940 | Interpreting the International Space Station Microgravity Environment. | 84 |
| N20130011664 | Development of the International Space Station Fine Water Mist Portable Fire Extinguisher. | 84C |
| PB2016104492 | Researcher's Guide to International Space Station: Technology Demonstration. | 84 |
| PB2016104493 | Researcher's Guide to International Space Station: Acceleration Environment. | 84 |
| PB2016104494 | Researcher's Guide to International Space Station: Cellular Biology. | 84 |
| PB2016104495 | Researcher's Guide to International Space Station: Microbial Research. | 84 |
| PB2016104496 | Researcher's Guide to International Space Station: Combustion Science. | 84C |
| PB2016104497 | Researcher's Guide to International Space Station: Fluid Physics. | 84 |
| PB2016104498 | Researcher's Guide to International Space Station: Fundamental Physics. | 84C |
| PB2016104499 | Researcher's Guide to International Space Station: Human Research. | 84 |
| PB2016104500 | Researcher's Guide to International Space Station: Earth Observations. | 84 |

| NTIS Number | Category | Title |
|---|---|---|
| PB2016104501 | Researcher's Guide to International Space Station: Macromolecular Crystal Growth. | 84 |
| PB2016104502 | Researcher's Guide to International Space Station: Microgravity Materials Research. | 84 |
| PB2016104503 | Researcher's Guide to International Space Station: Plant Science. | 84 |
| PB2016104504 | Researcher's Guide to International Space Station: Rodent Research. | 84 |
| PB2016104505 | Researcher's Guide to International Space Station: Space Environmental Effects. | 84 |
| PB2017100216 | NASA Space Technology Roadmaps and Priorities Revisited. | 84 |