

Townsend, Marjorie Rhodes, Papers

Marjorie Rhodes Townsend Papers

1960-1994, n.d.



Title Statement

Townsend, Marjorie Rhodes, PapersMarjorie Rhodes Townsend Papers, 1960-1994, n.d. Ms.1986.003

Author: Amy Vilelle, Archivist; Tyler Williams, Student Assistant; and LM Rozema, Archivist

Sponsor: Part of the processing, arrangement, and description of this collection was created as part of the project, "Piercing the Veil: Creating Access to the Archives of American Aerospace Exploration at Virginia Tech," funded by the National Historical Publications and Records Commission (NHPRC) from 2022 to 2024.

Publication Statement

Publisher: Special Collections and University Archives, Virginia Tech

Special Collections and University Archives, University Libraries (0434)
560 Drillfield Drive
Newman Library, Virginia Tech
Blacksburg, Virginia 24061
Business Number: 540-231-6308
specref@vt.edu
URL: <http://spec.lib.vt.edu>



2023 (CC0 1.0)

Profile Description

Creation: This finding aid was produced using ArchivesSpace on 2025-03-22 08:45:38 -0400.

Language Usage: Description is written in: English, Latin script.

Descriptive Rules: Describing Archives: A Content Standard

Revision Description

2025-03-21 Ella Winterling added Existence of Location and Copies.

Descriptive Summary

Unit ID

Ms.1986.003

Unit Date

1960-1994, n.d.

Language

The materials in the collection are in English and French.

Abstract

Marjorie Rhodes Townsend (1930-2015) was the first woman to earn an engineering degree at George Washington University, receiving her Bachelor of Electrical Engineering in 1951. After eight years at the Naval Research Laboratory, she moved to National Aeronautics and Space Administration (NASA)'s Goddard Space Flight Center in 1959, where she worked until 1980. Townsend was project manager for three Small Astronomy Satellites (SAS, 1966-1975) and for Applications Explorer Missions (1975-1976), and later had responsibility for all advanced mission planning for future scientific and applications satellites as well as NOAA's meteorological satellites. Townsend's papers, 1960-1994, n.d., focus on her professional career in aerospace engineering at NASA and include some of her later consulting work, mainly consisting of correspondence, meeting notes, project documents, and publications that Townsend wrote or that relate to her work. There are also materials about her numerous speaking engagements and articles about Townsend's professional accomplishments.

Creator

Townsend, Marjorie Rhodes, 1930-2015

Extent

4.6 Cubic Feet 7 boxes and 1 oversize folder

Repository

Special Collections and University Archives, Virginia Tech

Administrative Information

Conditions Governing Access

The collection is open for research.

Conditions Governing Reproduction and Use

The copyright status of this collection is unknown. Copyright restrictions may apply. Contact Special Collections and University Archives for assistance in determining the use of these materials.

Reproduction or digitization of materials for personal or research use can be requested using our reproduction/digitization form: <http://bit.ly/squareproduction>. Reproduction or digitization of materials for publication or exhibit use can be requested using our publication/exhibition form: <http://bit.ly/scuapublication>. Please contact Special Collections and University Archives (specref@vt.edu or 540-231-6308) if you need assistance with forms or to submit a completed form.

Source of Acquisition

The Marjorie Rhodes Townsend Papers were donated to the Archives of American Aerospace Exploration at the Special Collections and University Archives in 1986 and 2005. An addition was donated in 2015.

Processing Information

The processing, arrangement and description of the Marjorie Rhodes Townsend Papers began in December 2005 and was completed in March 2006. An addition was integrated and the description updated in June 2023.

Part of the processing, arrangement, and description of this collection was created as part of the project, "Piercing the Veil: Creating Access to the Archives of American Aerospace Exploration at Virginia Tech," funded by the National Historical Publications and Records Commission (NHPRC) from 2022 to 2024.

Preferred Citation

Researchers wishing to cite this collection should include the following information: [identification of item], [box], [folder], Marjorie Rhodes Townsend Papers, Ms1986-003, Special Collections and University Archives, Virginia Tech, Blacksburg, Va.

Biographical Note

Marjorie Rhodes Townsend, born in 1930, entered George Washington University engineering program at the age of 15. She took classes part time and worked full time after her marriage to doctor Charles Townsend in 1948, and was the first woman to earn an engineering degree at GWU, receiving her Bachelor of Electrical Engineering in 1951.

Her career began with eight years at the Naval Research Laboratory where she worked on sonar research. In 1959 she moved to National Aeronautics and Space Administration's Goddard Space Flight Center, where she worked until 1980. Noted for her project management skills, Townsend oversaw three satellite launches from foreign locations. She was project manager for all three Small Astronomy Satellites (1966-1975) and for the Applications Explorer Missions (1975-1976). She was granted a patent for a digital telemetry system that was aboard the NIMBUS satellite. Her last five years at NASA included responsibility for all advanced mission

planning for future scientific and applications satellites as well as NOAA's meteorological satellites. After her retirement, Townsend worked for private aerospace companies and provided consulting services to NASA and other aerospace entities.

Townsend was awarded the NASA Exceptional Service Medal in 1971 and the NASA Outstanding Leadership Medal in 1980. She was also named Knight of the Italian Republic Order in 1972. She is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) and served as a chair of the Washington chapter. She also served as chairman of the National Capital Section of the American Institute of Aeronautics and Astronautics and is a past president of the Washington Academy of Sciences.

Marjorie Rhodes Townsend died in 2015.

Scope and Content

The Marjorie Rhodes Townsend Papers, 1960-1994, n.d., focus on Townsend's professional career in aerospace engineering at NASA and her later consulting work. The bulk includes correspondence with scientists, notes from staff meetings, documentation about the NASA projects she worked on, and publications that Townsend wrote or that relate to her work. There are also drafts of speeches (mostly to engineering, student, and women's professional groups) and newspaper and magazine articles about Townsend's professional accomplishments.

The collection is divided into the following series and subseries:

Series I: Personal Data, Presentations, and NASA Film, 1960-1985, n.d., contains three subseries of records documenting Townsend's accomplishments, her presentations given to professional, civic, and student groups, and script drafts for a film about space in which she was involved.

Subseries A: Personal Data, 1965-1985, n.d., contains her curriculum vitae and photos and clippings about her accomplishments.

Subseries B: Presentations for NASA and for the Public, 1960-1983, n.d., contains correspondence and notes or entire texts of presentations that she presented at engineering conferences, science lectures, student classes, and meetings of women's professional groups.

Subseries C: Materials for the NASA Film *Beyond Our Sun* by John Larry Washburn, 1969-1972, includes four drafts of the script for the educational film made for NASA by Washburn. The collection is in chronological order.

Series II: NASA and Spacecraft Materials, 1961-1994, n.d., encompasses materials from her work at NASA and some consulting work thereafter. It is arranged in chronological order, with a few exceptions to keep related project materials together.

The following are common acronyms found in the collection:

- NASA - National Aeronautics and Space Administration
- GSFC - Goddard Space Flight Center
- IRLS - Interrogation, Recording and Location System, the first space data collection system
- SAS - acronym for all three Small Astronomy Satellites, known as A, B, and C, and the first of which was called Uhuru
- TIROS - Television InfraRed Observation Satellites
- APT - Automatic Picture Transmission

Keywords

Aerospace engineers

Archives of American Aerospace Exploration (AAAE)

Science and Technology

United States -- National Aeronautics and Space Administration -- Officials and employees

Women -- History

Townsend, Marjorie Rhodes, 1930-2015

United States. National Aeronautics and Space Administration

Existence and Location of Copies

Some of this collection has been digitized and is available online.

Rights Statement for Archival Description

The guide to the Marjorie Rhodes Townsend Papers by Special Collections and University Archives, Virginia Tech, is licensed under a CC0 (<https://creativecommons.org/share-your-work/public-domain/cc0/>).

Arrangement

The Marjorie Rhodes Townsend Papers are arranged in two series. There are areas of overlap between these two series, especially in regards to NASA.

Series I: Personal Data, Presentations, and NASA Film, 1960-1985, n.d., is divided into subseries by subject.

Subseries A: Personal Data, 1965-1985, n.d., which is in chronological order with undated materials at the end.

Subseries B: Presentations for NASA and for the Public, 1960-1983, n.d., is divided by subject and arranged in chronological order with undated materials at the end.

Subseries C: Materials for the NASA Film *Beyond Our Sun* by John Larry Washburn, 1969-1972, is in chronological order.

Series II: NASA and Spacecraft Materials, 1961-1994, n.d., is arranged in chronological order, with a few exceptions to keep related project materials together and undated materials at the end.

Description of Subordinate Components

Series I: Personal Data, Presentations, and NASA Film

Unit Date 1960-1985, n.d.

Subseries A: Personal Data

Unit Date 1965-1985, n.d.

Photographs of Townsend accepting Knight of the Italian Republic Order

Unit Date Oct 1972

box-folder 1 (box)

Container 2 (folder)

Program, The Life and Achievements of Dr. Robert H. Goddard, for a special engineering colloquium at Goddard Space Flight Center

Unit Date Oct 1973

box-folder 1 (box)

Container 3 (folder)

Articles and clippings about Townsend

Unit Date 1973-1984

box-folder 1 (box)

Container 5 (folder)

Program and article on George Washington University Alumni Achievement Award for Townsend

Unit Date Feb 1976

box-folder 1 (box)

Container 4 (folder)

Resume for Marjorie Townsend

Unit Date c.1985

box-folder 1 (box)

Container 1 (folder)

Subseries B: Presentations for NASA and for the Public

Unit Date 1960-1983, n.d.

Presentation about TIROS II and the PAM/FM/FM system

Unit Date Sept 1960

box-folder 1 (box)

Container 6 (folder)

A Medium Data Range Digital Telemetry System for a PTGSET meeting

Unit Date Oct 1963

box-folder 1 (box)

Container 7 (folder)

The NIMBUS Spacecraft for Rochester Section of the Instrument Society of America (ISA)

Unit Date Nov 1963

box-folder 1 (box)

Container 8 (folder)

Data Handling and Communications Problems for the Federal Council for Science and Technology, Interdepartmental Committee for Atmospheric Sciences

Unit Date Jan 1964

box-folder 1 (box)

Container 9 (folder)

Radiation Effects Experiment on Micropower Microelectronics for Office of Advanced Research and Technology, Charged Particle Radiation Effect Meeting

Unit Date Mar 1964

box-folder 1 (box)

Container 10 (folder)

Presentation for Conference on Career Guidance in Science and Engineering

Unit Date Mar 1966

box-folder 1 (box)

Container 11 (folder)

Notes for presentation at Space-Related Careers conference sponsored by NASA and Drexel Institute of Technology

Unit Date Mar 1966

box-folder 1 (box)

Container 12 (folder)

Materials for remarks at meeting for American Society of Engineering Education

Unit Date Dec 1966

box-folder 1 (box)

Container 13 (folder)

Women in Space Careers for Prince Georges County Science Fair

Unit Date Apr 1967

box-folder 1 (box)

Container 14 (folder)

Six presentations about SAS

Unit Date 1968, n.d.
box-folder 1 (box)
Container 15 (folder)

Materials for presentation about telemetry at Spacemobile Conference sponsored by NASA
Unit Date Sept 1968
box-folder 1 (box)
Container 16 (folder)

What Women Can Do notes for the Zonta Club of Metropolitan Washington
Unit Date Jan 1972
box-folder 1 (box)
Container 17 (folder)

Press Conference Prior to Launch of SAS-B
Unit Date Sept 1972
box-folder 1 (box)
Container 18 (folder)

Remarks for Federal Woman's Award Banquet
Unit Date Mar 1973
box-folder 1 (box)
Container 19 (folder)

Acknowledgement for speaking at Developing New Horizons for Women classes at George Washington University
Unit Date Oct 1973
box-folder 1 (box)
Container 20 (folder)

A Pioneer Woman Blazes a Trail in Engineering for the National Secretaries Association Banquet
Unit Date Feb 1974
box-folder 1 (box)
Container 21 (folder)

Acceptance for Honorary Membership in the Wives' Wing of the Aerospace Medical Association
Unit Date May 1974
box-folder 1 (box)
Container 22 (folder)

Discorso per il comitato promotore iniziative per la citta (PIC) in Maggio, Italy (in Italian)
Unit Date 1975
box-folder 1 (box)
Container 23 (folder)

Il lancio delli piccolo satellite astronomici (in Italian)
Unit Date May 1975
box-folder 1 (box)
Container 24 (folder)

Presentation for Women's Emphasis Day Luncheon at the Naval Supply Center

Unit Date Aug 1977

box-folder 1 (box)

Container 25 (folder)

Two presentations and a photo for Spacecraft Systems Design for the 80's seminar at Iowa State University

Unit Date Feb 1979

box-folder 1 (box)

Container 26 (folder)

Notes for panel discussion at the Orientation for the Presidential Management intern Program

Unit Date July 1979

box-folder 1 (box)

Container 27 (folder)

Space Flight in the 80's for the Zonta Club of New Jersey

Unit Date Jan 1980

box-folder 1 (box)

Container 28 (folder)

Notes for presentation at Non-Traditional Careers for Women program at The Catholic University of America

Unit Date Mar 1980

box-folder 1 (box)

Container 29 (folder)

Women in Management

Unit Date May 1980

box-folder 1 (box)

Container 30 (folder)

Space Flight in the 80's for Washington Academy of Sciences

Unit Date May 1981

box-folder 1 (box)

Container 31 (folder)

Notes for Speech for Rotary Club in Immokalee, Florida

Unit Date Dec 1983

box-folder 1 (box)

Container 32 (folder)

Presentation about the Orbiter shuttle and Manned Maneuvering Unit

Unit Date n.d.

box-folder 1 (box)

Container 33 (folder)

Presentation about women in engineering positions and Townsend's personal experience

Unit Date n.d.

box-folder 1 (box)

Container 34 (folder)

Subseries C: Materials for the NASA Film Beyond Our Sun by John Larry Washburn

Unit Date 1969-1972

Film treatment number one for Beyond the Moon

Unit Date 1969

box-folder 1 (box)

Container 35 (folder)

Revised film treatment copy number one and notes for Beyond Our Sun

Unit Date 1969

box-folder 1 (box)

Container 36 (folder)

Motion picture script copy number two, with final changes, for Beyond Our Sun

Unit Date c.1970

box-folder 1 (box)

Container 37 (folder)

Final shooting script for Beyond Our Sun

Unit Date 1972

box-folder 1 (box)

Container 38 (folder)

Series II: NASA and Spacecraft Materials

Unit Date 1961-1994, n.d.

Townsend's NASA Notebooks

Unit Date 1975-1980

Staff Meetings

Unit Date Nov 6, 1975 - Sept 2, 1980

box-folder 1 (box)

Container 39 (folder)

Unit Date Oct 28, 1975 - May 10, 1976

box-folder 1 (box)

Container 40 (folder)

Unit Date Sept 28, 1976 - Jan 12, 1977

box-folder 1 (box)

Container 41 (folder)

Unit Date Jan 13, 1977 - May 19, 1977

box-folder 1 (box)

Container 42 (folder)

Unit Date May 19, 1977 - Oct 13, 1977

box-folder 1 (box)

Container 43 (folder)

Unit Date Oct 17, 1977 - Mar 10, 1978

box-folder 1 (box)

Container 44 (folder)

Unit Date Mar 13, 1978 - Aug 31, 1978

box-folder 1 (box)

Container 45 (folder)

Unit Date Sept 1, 1978 - Apr 23, 1979

box-folder 1 (box)

Container 46 (folder)

Calculations, blueprint, and original manuscript for PGSET TIROS paper

Unit Date Sept 1961

box-folder 1 (box)

Container 47 (folder)

oversize 1 (folder)

Telemetry Infrared Data from the TIROS Meteorological Satellites by J.F. Davis, R.A. Hanel, R. A Stampfl, M.G. Strange, and M.R. Townsend (NASA TN D-1293)

Unit Date Aug 1962

box-folder 1 (box)

Container 48 (folder)

A Medium-Data-Range Digital Telemetry System, by M.R. Townsend, P.M. Feinberg, and J. G. Lesko, Jr. (GSCF, NASA Technical Note G-531)

Unit Date June 1964

box-folder 1 (box)

Container 49 (folder)

Three articles about NIMBUS and TIROS

Unit Date 1964-1965

box-folder 1 (box)

Container 50 (folder)

Birds-eye view of the weather by C.M. Hunter and E. Rich, Jr. (GSFC), reprint from Electronics

Unit Date July 27, 1964

Amateur Reception of Weather Satellite Picture Transmissions by W.G. Anderson, reprint from QST Magazine

Unit Date Nov 1965

NIMBUS Receiving Equipment Developed at WSM, Incorporated for Use on WSM-TV Weather Shows by J.H. DeWitt, Jr. and C. Burch

Unit Date c.1965

Some Facts About BIAC by the Bioinstrumentation Advisory Council

Unit Date c.1965

box-folder 1 (box)

Container 51 (folder)

Two similar articles about IRLS by G.D Hogan and M.R. Townsend

Unit Date c.1965

box-folder 1 (box)

Container 52 (folder)

The Interrogation, Recording and Location System (GSFC)

Unit Date c.1965

Data Collection and Position Fixing from a Satellite (GSFC)

Unit Date c.1965

GSFC Statement of Work and Specification for the X-Ray Explorer (SAS-A) Satellite Experiment

Unit Date June 1967

box-folder 1 (box)

Container 53 (folder)

Correspondence about IRLS research

Unit Date 1965-1973

IRLS on NIMBUS B - Participation

Unit Date July 1965-July 1967

box-folder 1 (box)

Container 54 (folder)

Correspondence with interested participants

Unit Date Aug 1965-Dec 1966

box-folder 1 (box)

Container 55 (folder)

International

Unit Date Nov 1965 - Feb 1968

box-folder 1 (box)

Container 56 (folder)

Trips and visits

Unit Date Mar-Dec 1968

box-folder 1 (box)

Container 57 (folder)

Correspondence about NIMBUS II and ESSA-2 satellites and APT with Carlos Bettencourt Faria in Angola

Unit Date May 1966-Nov 1973

box-folder 1 (box)

Container 58 (folder)

Publicity folder with clippings and articles about IRLS on NIMBUS 3

Unit Date 1966-1968

box-folder 1 (box)

Container 59 (folder)

The Migration of Polar Bears by V. Flyger and M.R. Townsend, reprint from Scientific American, Vol, 218, No. 2,

Unit Date Feb 1968

box-folder 1 (box)

Container 60 (folder)

System notes, blueprints, and photographs taken using NIMBUS II APT

Unit Date 1966-1967

box-folder 1 (box)

Container 61 (folder)

oversize 1 (folder)

Photographs of MOE collar for tracking migration

Unit Date c.1965

box-folder 1 (box)

Container 62 (folder)

Small Astronomy Satellite (SAS) Program (NASA, GSFC)

Unit Date Sept 1967

box-folder 1 (box)

Container 63 (folder)

Draft copy of The Small Astronomy Satellite (SAS) Program by M.R. Townsend (GSFC, NASA G-901)

Unit Date c.1967

box-folder 1 (box)

Container 64 (folder)

Small Astronomy Satellite (SAS) Safety Plan (GSFC)

Unit Date Oct 1970

box-folder 1 (box)

Container 65 (folder)

Execution Phase Project Plan for Small Astronomy Satellite (SAS-C) (GSFC, NASA) and Project Plan Change 1

Unit Date Aug 1971-Mar 1972

box-folder 1 (box)

Container 66 (folder)

Small Astronomy Satellite - 1; Selected Press Clippings of Launch and Initial Findings (GSFC Office of Public Affairs, NASA)

Unit Date Apr 1971

box-folder 1 (box)

Container 67 (folder)

NASA-GSFC Mission Operations Plan 5-72, Small Astronomy Satellite (SAS-B) (NASA X-513-72-380)

Unit Date Oct 1972

box-folder 1 (box)

Container 68 (folder)

Small Astronomy Satellite - B; Goddard's Small Astronomy Satellite Readied for Launch (GSFC Office of Public Affairs, NASA)

Unit Date Oct 1972

box-folder 1 (box)

Container 69 (folder)

Spacecraft Control Section for the Improved Small Astronomy Satellite (SAS-C) by M.R. Townsend, printed as part of Proceedings of the Tenth International Symposium on Space

Technology and Science**Unit Date** 1973**box-folder** 1 (box)**Container** 70 (folder)**The Standardized Functional Support Section for the Small Astronomy Satellite (SAS) by M.R. Townsend (NASA TN D-7725)****Unit Date** June 1974**box-folder** 1 (box)**Container** 71 (folder)**EGRET notebook and related materials****Unit Date** 1973-1974**Program X Spacecraft Users Guide (Boeing Aerospace Company)****Unit Date** 1973**box-folder** 2 (box)**Container** 1 (folder)**Notebook entitled EGRET****Unit Date** June-Sept 1974**box-folder** 2 (box)**Container** 2 (folder)**Materials enclosed in EGRET notebook****Unit Date** Aug-Dec 1974**box-folder** 2 (box)**Container** 3-5 (folder)**oversize** 1 (folder)**Materials from folder entitled Trip to Italy****Unit Date** Apr-May 1975**box-folder** 2 (box)**Container** 6 (folder)**Townsend reading file - SAS 1975 materials****Unit Date** 1975-1976**box-folder** 2 (box)**Container** 7 (folder)**The Mission of the SAS-C Satellite and La missione del satellite SAS-C (GSFC, NASA, in English and Italian),****Unit Date** 1975**box-folder** 2 (box)**Container** 8 (folder)**M.I.T. SAS-C Experiment Description****Unit Date** c.1975**box-folder** 2 (box)**Container** 9 (folder)

NASA Group Achievement Award for the Small Astronomy Satellites Project Team

Unit Date 1975

Nominations information and contractor citations list

box-folder 2 (box)

Container 10 (folder)

List of participants to receive commemorative packages

box-folder 2 (box)

Container 11 (folder)

Commemorative SAS objects

box 4

Box of unassembled parts for 1/20 scale model of SAS-A

box 4

Box of unassembled parts for 1/20 scale model of SAS-B

box 4

Two stickers commemorating the SAS-C

box 4

Small metal commemorative plaque and paper information sheet for SAS-C

box 4

Materials about satellite priorities and funding

Unit Date 1976

box-folder 2 (box)

Container 12 (folder)

NASA Project Management Shared Experience Program participant list

Unit Date May 1976

box-folder 2 (box)

Container 13 (folder)

Direct Delivery of Automated Spacecraft Using the Shuttle: Thoughts for the Designer by M.R. Townsend, from Astronautics & Aeronautics

Unit Date Apr 1977

box-folder 2 (box)

Container 14 (folder)

Remote Sensing of the Atmosphere from Environmental Satellites by L.J. Allison, R. Wexler, C.R. Laughlin, and W.R. Bandeen (GSFC X-901-77-132 preprint)

Unit Date June 1977

box-folder 2 (box)

Container 15 (folder)

Geostationary Operational Environmental Satellite (GOES): GOES D,E,F Data Book (NOAA, NASA, Hughes Aircraft Co.)

Unit Date Aug 1980

box-folder 2 (box)

Container 16 (folder)

OSSA Mission Plan for the IOC Time Frame of the Space Station Complex, first revision (NASA) with notes on payload and tools

Unit Date June 1985

box-folder 2 (box)

Container 17 (folder)

Four articles from Goddard Library supporting OSSA information

Unit Date ordered Mar 1985

box-folder 2 (box)

Container 18 (folder)

Maintainable Maintenance Disconnect Valve (MMDV) for On-Orbit Component Replacement by T.E. Burr, C.K. Boynton, and A.O. Brouillet in ASME report 80-ENAs-42, 1980

The Service Role of a Space Station: Satellite/Platform Service and Maintenance by H.T. Fisher and K.J. Forsberg, AAIA symposium paper 83-7094, July 1983

Orbital Operation of Co-orbiting Spacecraft with a Space Station by M. Nagatomo and K. Kuriki, IAF congress paper IAF-84-42, Oct 1984

Technology for Spacecraft Servicing On-Board the Space Shuttle by L. Kerstein and H. Wartenberg, IAF congress paper IAF-84-35, Oct 1984

Mission Operation Report for San Marco D/L Explorer (NASA E-898-88-05)

Unit Date Mar 1988

box-folder 2 (box)

Container 19 (folder)

Magellan Prelaunch Mission Operation Report (NASA E-844-89-30-01)

Unit Date 1989

box-folder 2 (box)

Container 20 (folder)

Mission Operation Report for Tracking and Data Relay Satellite TDRS-D (NASA T-313- 89-29-04)

Unit Date Jan 1989

box-folder 2 (box)

Container 21 (folder)

Mission Operations Report for Upper Atmosphere Research Satellite (UARS) (NASA S-678-48-91-01)

Unit Date c.1990

box-folder 2 (box)

Container 22 (folder)

Mission Operation Report for Hubble Space Telescope (NASA E-458-31-90-01)

Unit Date Mar 1990

box-folder 2 (box)

Container 23 (folder)

Gamma Ray Observatory (GRO) Prelaunch Mission Operations Report (NASA E-S-458-31-91-01)

Unit Date Mar 1991

box-folder 2 (box)

Container 24 (folder)

STS-48 Payload Operations Working Group #7 Flight Cycle Profile by L.K. Grubbs and L. Honeycutt, and STS-48/UARS Joint Integrated Simulations plan

Unit Date Mar 1991

box-folder 2 (box)

Container 25 (folder)

Proposal for Small Explorer Program: Wide-Field Infrared Explorer (WIRE)

Unit Date Oct 1992

box-folder 2 (box)

Container 26 (folder)

Astrophysics Missions and Payloads book (NASA)

Unit Date Nov 1992

box-folder 2 (box)

Container 27-28 (folder)

STS-51 Payload Handbook (NASA)

Unit Date 1993

box-folder 2 (box)

Container 29 (folder)

EDISON: The International Infrared Space Observatory: The M3 Proposal by H.A. Thronson, T.G. Hawarden, A.J. Penny, and J.K. Davies of the Rutherford Appleton Laboratory

Unit Date May 1993

box-folder 2 (box)

Container 30 (folder)

LISA (Laser Interferometer Space Antenna): Proposal for a Laser-Interferometric Gravitational Wave Detector in Space, by K. Danzmann, J. Hough, P. Bender, C.D. Edwards, and others, Max-Planck-Institut fuer Quantenoptik

Unit Date May 1993

box-folder 2 (box)

Container 31 (folder)

NASA payload classification information

Unit Date Sept 1993

box-folder 2 (box)

Container 32 (folder)

Hubble Space Telescope First Servicing Mission Contingency Plan (NASA)

Unit Date Oct 1993

box-folder 2 (box)

Container 33 (folder)

Current and upcoming missions and payloads, summaries and profiles

Unit Date Dec 1993

box-folder 2 (box)

Container 34 (folder)

A Comparison of ARIANE 5 (Solid) vs. Shuttle Advanced Solid Rocket Motor (ASRM) Development/Production by R. Bardos (NASA)

Unit Date Feb 1994

box-folder 2 (box)

Container 35 (folder)

Spacecraft Systems Technology Workshop Proceedings - NASA AstroTech 21 Workshops, Integrated Technology Planning, Series III, Vol. 4, (NASA)

Unit Date Feb 1994

box-folder 2 (box)

Container 36 (folder)

Technology for Small Spacecraft by the Panel on Small Spacecraft Technology, draft copy

Unit Date Mar 1994

box-folder 2 (box)

Container 37-38 (folder)

M.R. Townsend's notes and review of the draft report by the Panel on Small Spacecraft Technology

Unit Date Mar 1994

box-folder 2 (box)

Container 39 (folder)

Technology for Small Spacecraft by the Panel on Small Spacecraft Technology, published by the National Academy Press

Unit Date 1994

box-folder 2 (box)

Container 40 (folder)

Committee on Space Facilities - Aeronautics and Space Engineering Board

Unit Date 1993-1994

First committee meeting information

Unit Date Dec 1993

box-folder 2 (box)

Container 41 (folder)

Post-meeting binder of materials

Unit Date Dec 1993

box-folder 2 (box)

Container 42 (folder)

Major Space Test Facilities Outside the United States presentation by D.T. Jones (Boeing)

Unit Date Feb 1994

box-folder 2 (box)

Container 43 (folder)

Press coverage of committee work and thank-yous

Unit Date Feb-Nov 1994

box-folder 2 (box)

Container 44 (folder)

Space Facilities: Meeting future needs for research, development, and operations by the Committee on Space Facilities, published by the National Academy Press

Unit Date 1994

box-folder 2 (box)

Container 45 (folder)

Memo to the Committee on Space Facilities accompanying volumes 1, 3, 4, and 5 of the National Facilities Study

Unit Date 1994

box-folder 3 (box)

Container 1 (folder)

National Facilities Study

Unit Date Apr 1994

Vol. 1, Facilities Inventory

Unit Date Apr 1994

box-folder 3 (box)

Container 2 (folder)

Vol. 2, Mission and Requirements Model Report

Unit Date Apr 1994

box-folder 3 (box)

Container 3 (folder)

Vol. 4, Space Operations Facilities Task Group

Unit Date Apr 1994

box-folder 3 (box)

Container 4 (folder)

Vol. 5, Space Research and Development Facilities Task Group

Unit Date Apr 1994

box-folder 3 (box)

Container 5 (folder)