



Guide to the
Michael W. Werner Spitzer Space Telescope Development Project Files
ARC23.15

NASA Ames Research Center Archives

Contact Information:

NASA Ames Research Center Archives

Mail-Stop 207-1

Moffett Field, CA 94035-1000

Phone: (650) 604-1032

Email: ARC-DL-archives@mail.nasa.gov

URL: <https://www.nasa.gov/archives/arc-archives/>

Collection processed by:

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Table of Contents

Descriptive Summary.....	1
Administrative Information	1
Administrative History.....	2
Biographical Note	2
Scope and Content	2
System of Arrangement	3
Indexing Terms	3
Container List.....	4

Descriptive Summary

Title: Michael W. Werner Spitzer Space Telescope Development Project Files

Collection Number: ARC23.15

Creator: Werner, Michael W.

Dates:

Inclusive: 1963-1990

Bulk: 1977-1990

Extent: 1.40 cubic feet

Repository: NASA Ames Research Center Archives, Moffett Field, California 94035

Abstract:

This collection of Michael W. Werner's project files primarily relates to the project management and development of the Spitzer Space Telescope (formerly the Shuttle Infrared Telescope Facility and Space Infrared Telescope Facility) at Ames Research Center, where he was Project Scientist and Science Working Group Chairman for the telescope. The collection includes project plans, reviews, reports, requirements, presentations, correspondence, notes, assessments, design and mission studies, science objectives, and other technical documentation.

Administrative Information

Access: Collection is open for research. Access to some materials is restricted.

Publication Rights: Copyright does not apply to United States government records. For non-governmental material, researchers must contact the original creator.

Languages and Scripts: All records are in English.

Preferred Citation:

Expanded:

NASA Ames Research Center Archives. Moffett Field, California. ARC23.15, Michael W.

Werner Spitzer Space Telescope Development Project Files, [Container number] :

[Folder number]. [Identification of item]. [Date, if available].

Abbreviated:

NASA ARC Archives. Michael W. Werner Spitzer Space Telescope Development Project

Files, [Container number] : [Folder number]. [Identification of item]. [Date, if available].

Acquisition Information: Transferred by the NASA Jet Propulsion Laboratory Archives on June 22, 2023 (Acc. 2023-015).

Administrative History

The Spitzer Space Telescope originated as a Space Shuttle payload concept following substantial development efforts at Ames Research Center starting in 1971, and later evolved into a free flyer. While under development, early versions of the telescope were called the Shuttle Infrared Telescope Facility (SIRTF) and Space Infrared Telescope Facility (SIRTF), among others. In the fall of 1989, NASA transferred the management of SIRTF from Ames to the California Institute of Technology's Jet Propulsion Laboratory (JPL). In late August 2003, the telescope was launched from Cape Canaveral as the final space-based astronomical telescope of NASA's Great Observatories Program.

Biographical Note

Michael W. Werner is a JPL-based American scientist who is internationally recognized for his contributions to astronomy. He has been Project Scientist and Science Working Group Chairman for the Spitzer Space Telescope from 1984 to the present.

Prior to his post at JPL, Werner worked in the Astrophysics Experiments Branch at Ames Research Center. In 1984, he became SIRTF Project Scientist at Ames and chair of the Science Working Group for the telescope. When the SIRTF project moved from Ames to JPL in the fall of 1989, Werner moved with it in order to continue his work.

Werner earned a BA in Physics from Haverford College in 1963 and a PhD in Astronomy from Cornell University in 1968. He has published over 275 refereed journal articles and co-wrote the book *"More Things in the Heavens: How Infrared Astronomy is Expanding our View of the Universe."* Some of the honors bestowed on him include Outstanding Leadership and Distinguished Public Service medals from NASA, the Carl Sagan Memorial Award from the American Astronautical Society, the Space Sciences medal from the American Institute of Aeronautics and Astronautics (AIAA), Pickering Lecturer of the AIAA, and George Darwin Lecturer of the Royal Astronomical Society.

For a personal, historical account of the development of this telescope, see Werner's 2006 article entitled *A Short and Personal History of the Spitzer Space Telescope*.

Sources Consulted

Werner, Michael W. Michael Werner - August 2022 (Curriculum Vitae). 2022. Accessed August 11, 2023, from https://science.jpl.nasa.gov/documents/832/Werner_cv202022mw.pdf

Werner, Michael W. A Short and Personal History of the Spitzer Space Telescope. 2006. *Astron. Soc. Pac. Conf. Ser.* 357, 7-18. Accessed August 11, 2023, from https://authors.library.caltech.edu/24255/1/Werner2006p9116Spitzer_Space_Telescope_New_Views_Of_The_Cosmos.pdf

Scope and Content

The bulk of Michael W. Werner's project files document management and development efforts for the Spitzer Space Telescope (formerly the Shuttle Infrared Telescope Facility and Space Infrared Telescope Facility) at Ames Research Center from 1978 through 1989, as it

evolved from a Space Shuttle payload to a free flyer. The collection presents a partial view into the center's contributions to this project.

Types of materials in the collection include science working group and program management documents in the form of project plans, reviews, reports, requirements, presentations, correspondence, notes, assessments, design and mission studies, science objectives, and other technical documentation.

System of Arrangement

This collection is arranged by subject, then chronologically and alphabetically by file titles.

Indexing Terms

The following terms may be used to index this collection.

Corporate Name

Ames Research Center
Jet Propulsion Laboratory (U.S.)

Personal Name

Werner, Michael W.

Subjects

Infrared astronomy
Infrared telescopes
Space Infrared Telescope Facility (U.S.)
Spitzer Space Telescope (Spacecraft)

Separated Material

The following publications were separated from this collection. (The SIRTf and ABE documents are available in the ARC Archives Reference Collection, AFS1070.8A.)

Ames Research Center. *SIRTf Free Flyer Phase A System Concept Description Document No. PD-1006*. Moffett Field, CA: NASA Ames Research Center, May 3, 1984.

Ames Research Center and Ball Aerospace and Technologies Corp. *The Astrobiology Explorer (ABE) MIDEX Mission: Understanding Organic Molecules in Space*. October 30, 2001.

Isenhardt, Peter. *The SIRTf Concept and its Realization*. Moffett Field, CA: NASA Ames Research Center, November 17, 1988.

Maloney, Philip R., Hollenbach, David H., and Townes, Charles H. *Heating of H II Regions with Application to the Galactic Center*. undated. Note on cover: "To appear in the *Astrophysical Journal*."

Walker, Russell G. and Cohen, Martin. *An Atlas of Selected Calibrated Stellar Spectra*. NASA Contractor report 177604, September 1992.

Related Collections

AFS1070.8A: Archives Reference Collection (NASA Ames Research Center Archives)
PP05.04: Larry A. Manning Papers, 1967-1988 (NASA Ames Research Center Archives)

PP08.18: Lawrence J. Caroff Notebooks, 1986-2001 (NASA Ames Research Center Archives)

JPL609, The Space Infrared Telescope Facility (SIRTF)/Spitzer Space Telescope Project Collection, 1977-2022 (NASA Jet Propulsion Laboratory Archives)

Container List

Box	Folder	Folder Title
1	1	SIRTF Appendices. Focal Plane Instruments and Requirements Science Team Ames Research Center. April 14, 1978 (1 of 2)
1	2	SIRTF Appendices. Focal Plane Instruments and Requirements Science Team Ames Research Center. April 14, 1978 (2 of 2)
1	3	Perkin-Elmer In-House SIRTF Design Study Final Report ER-409 (Prepared under Contract No. NAS 2-1066 by Perkin-Elmer Corporation). September 1979
1	4	SIRTF Technology Assessment Final Report ER-414 Report No. 13667 and portion of ER-408, title/date unidentified (Prepared under Contract No. NAS 2-1066 by Perkin-Elmer Corporation). January 1980
1	5	SIRTF Phase B Program/ Cost Review. NASA Ames Research Center. May 24-26, 1983 (1 of 2). NASA internal, Proprietary
1	6	SIRTF Phase B Program/ Cost Review. NASA Ames Research Center. May 24-26, 1983 (2 of 2). NASA internal, Proprietary
1	7	SIRTF Announcement of Opportunity Pre-Proposal Conference. Ames Research Center. July 11, 1983
2	1	Study of Applications of Space Telescope Science Operations Software for SIRTF Use. NASA Contractor Report 177337 (Prepared under Contract No. NAS2-11938 by TRW). F. Dignam, E. Stetson, W. Allendoerfer. February 1985
2	2	SIRTF Presentation to the Astrophysics Council. Ames Research Center. March 25, 1985 (2 copies)
2	3	SIRTF Project Review for Headquarters. Ames Research Center. June 21, 1985
2	4	SIRTF Project Review for Headquarters. Ames Research Center. December 1985
2	5	SIRTF Review, NASA Headquarters. May 28, 1986 (1 of 2)
2	6	SIRTF Review, NASA Headquarters. May 28, 1986 (2 of 2)
2	7	SIRTF to the L2 Halo Orbit. February 28, 1989
2	8	SIRTF Alternative Mission Study Spacecraft Status Review. Jet Propulsion Laboratory. February 28, 1989
2	9	SIRTF Mission Options Study Final Report. Ames Research Center. February 28, 1989 (1 of 2)
3	1	SIRTF Mission Options Study Final Report. Ames Research Center. February 28, 1989 (2 of 2)

- 3 2 Space Infrared Telescope Facility Mission Options Presentation to Dr. Fisk. March 24, 1989
- 3 3 Personal correspondence from Philip E. Culbertson to Dr. Dale L. Compton regarding a SIRTf meeting to be held at Ames on April 17, 18, or 21, 1989 with team comments and handwritten notes by Michael Werner and Culbertston. March 29, 1989
- 3 4 SIRTf Science Support Center. Prepared by John Stauffer and Fred Witteborn, Ames Research Center. April 15, 1989
- 3 5 SIRTf Project Institutional Readiness Review. Philip E. Culbertson, Alton Jones, William Horton, Bud Schurmeier, John Boeckel. May 3-5, 1989 (1 of 2)
- 3 6 SIRTf Project Institutional Readiness Review. Philip E. Culbertson, Alton Jones, William Horton, Bud Schurmeier, John Boeckel. May 3-5, 1989 (2 of 2)
- 3 7 SIRTf Project Plan Volumes I, II, III, and IV. Ames Research Center. May 26, 1989 (1 of 2)
- 3 8 SIRTf Project Plan Volumes I, II, III, and IV. Ames Research Center. May 26, 1989 (2 of 2)
- 3 9 An Assessment of the Institutional and Programmatic Capability of NASA's Ames Research Center to Manage the Space Infrared Telescope Facility (SIRTf) Project for the NASA Office of Space Science and Applications (OSSA). Philip E. Culbertson. June 21, 1989
- 3 10 Space Infrared Telescope Facility Industry Briefing. Ames Research Center. September 15, 1989
- 4 1 SIRTf Project Science Objectives Document STF-09 (Replacing PD-1009) draft. October 26, 1989
- 4 2 A Proposal for a Preliminary Design Study of an Infrared Orbiting Astronomical Observatory. Jacob H. Miller and Gordon C. Augason, Ames Research Center. October 1963
- 4 3 Symposium on Recent Results in Infrared Astrophysics. NASA Technical Memorandum (NASA TM X-73,190). January 1977, Revised August 1977
- 4 4 Infrared Receivers for Low Background Astronomy Incoherent Detectors and Coherent Devices from One Micrometer to One Millimeter Final Report. NASA Technical Memorandum 78598. June 1979
- 4 5 Passive Orbital Disconnect Strut (PODS III), Structural and Thermal Test Program. NASA Contractor Report 166473 (Prepared under Contract Number NAS2-10848 by Lockheed Missiles & Space Company). R.T. Parmley. March 1983
- 4 6 Cool Circumstellar Matter Around Nearby Main Sequence Stars. H.J. Walker and R.D. Wolstencroft. August 26, 1988
- 4 7 Progress Report: Evaluation of Hughes Si:Sb DRO Array in Proton Environment. M. McKelvey, M. Savage, R. McHugh Ames Research Center. November 2, 1989

- 4 8 An Infrared Sky Model Based on the IRAS Point Source Data. NASA Contractor Report 177526 (Prepared under NASA Contract NAS2-12515 by Jamieson Science and Engineering and SETI Institute). Martin Cohen, Russell Walker, Richard Wainscoat, Kevin Volk, Helen Walker, Deborah Schwartz. February 1990 (1 of 2)
- 4 9 An Infrared Sky Model Based on the IRAS Point Source Data. NASA Contractor Report 177526 (Prepared under NASA Contract NAS2-12515 by Jamieson Science and Engineering and SETI Institute). Martin Cohen, Russell Walker, Richard Wainscoat, Kevin Volk, Helen Walker, Deborah Schwartz. February 1990 (2 of 2)