Memorandum of Understanding
Between
The Multi-mission Archive at Space Telescope Science Institute
and
The National Space Science Data Center

December 3, 2004

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1. Introduction

This Memorandum of Understanding (MOU) between the National Space Science Data Center (NSSDC) and the Multi-mission Archive at STScI (MAST) documents the roles of those organizations in the acquisition, management, dissemination and preservation of data from NASA and NASA-collaborative astrophysical space missions (and selected ground-based programs). This MOU supersedes any prior agreements between NSSDC and MAST or STScI regarding the archiving and dissemination of relevant data.

MAST was created in 1997 as NASA's "active archive" for ultraviolet and optical data. It is a "Science Archive Research Center" (SARC) on a par with the High Energy Astrophysics SARC (HEASARC) whose responsibility is gamma ray and X-ray data and the SARCs supporting infrared and radio data [the InfraRed Science Archive - IRSA - at Caltech and LAMBDA at Goddard]. Issues related to management of data at the wavelength boundaries between SARCs will be resolved by the relevant SARCs. For instance, MAST archives near-IR data from HST. The MAST home page is at http://archive.stsci.edu/

NSSDC was created in 1966 as NASA's only archive for space and Earth science data. NSSDC's data management role has evolved with the emergence of a series of active archives in both space and Earth science. Presently it has permanent archiving responsibility for NASA space science mission data. It has active archiving responsibilities in certain space science discipline areas, not including UV and optical data. It has additional roles not germane to this MOU. The NSSDC home page is at http://nssdc.gsfc.nasa.gov/

This MOU will be reviewed by NSSDC and by MAST annually, and by their advisory groups as desired by them. Inconsistencies between current practices and MOU statements, or future modifications to this MOU, will be addressed and resolved/agreed by the Directors of NSSDC and MAST, with involvement of relevant NASA program managers when needed.

2. MAST as the Active Archive

MAST is the NASA active archive for astrophysical UV and optical data. As such -

It interfaces with NASA and NASA-collaborative UV/optical spaceflight missions (and with other relevant programs designated by NASA) in the creation of Project Data Management Plans (documents specifying what data in what formats and with what accompanying supporting material will be delivered to MAST, and on what schedules). MAST's signatures on PDMPs certify that it will be ready to manage the data cost effectively and user effectively on the needed schedule.

It interfaces with missions during their operational phases to ensure the flow of data and supporting material from the missions to MAST and, for some missions, directly to NSSDC-as-permanent-archive as per the conditions set in the PDMP.

It ensures that the data and supporting material are effectively findable, accessible and correctly usable by potential users from the NASA and international research communities and, for appropriate data sets, by the public. It is expected that most if not all user access will be electronic, but, for occasional requests for data to be sent offline, MAST will ensure that such requests are satisfied also.

It supports users of the data and supporting material (e.g., software tools) in their data use.

It provides a backup copy of the data to NSSDC for permanent archiving in formats acceptable to MAST and to NSSDC (and/or it ensures a parallel flow of data and supporting material directly from projects to NSSDC). As MAST releases new products for archive, these products will be transmitted to NSSDC in a mutually agreed manner. For data releases on CD, DVD, or similar media, MAST shall provide NSSDC with a set of these volumes. For data to be sent electronically, the details of such transfer shall be devised and agreed upon by MAST and NSSDC. These shall include quality assurance and remote storage of backups by NSSDC.

It provides a backup copy of such supporting material to NSSDC that would be needed to reestablish the management and dissemination of usable data at/from MAST in the event of a catastrophe at MAST.

It provides estimates to NSSDC annually of the data volumes it expects to provide to NSSDC for each of the coming three years, by mission.

It is understood that MAST and NSSDC (and their successors if any) have futures of equal longevity such that MAST's ensuring the MAST-independent usability of NSSDC-held MAST-provided data (against the possibility that NSSDC will outlive MAST and its possible successors) is not a requirement.

3. NSSDC as Permanent Archive

NSSDC receives NASA-sanctioned UV and optical data and supporting material from MAST and ensures their long term preservation against both media deterioration and technology obsolescence. The NSSDC permanent archive is not externally electronically accessible. NSSDC assumes (and MAST ensures) the correctness of the data and supporting material.

In general, NSSDC will hold both the media provided by MAST, offline, and a copy of the MAST data in its DIOnAS-enabled near-line permanent archive.

It provides back to MAST at its request copies of data and/or supporting material at the file level or at the media volume level, according to the level of file/media inventory information provided by MAST initially.

Upon request from MAST, it will replicate and mail data volumes to requesters. It will charge end users fees just sufficient to cover incremental costs of satisfying requests.

It will point to MAST from its high level, astrophysics-relevant web pages as the source of UV and optical data for researchers and the general public.

4. Pre-MAST UV and Optical data at NSSDC

NSSDC holds some UV and optical data from older missions that are not part of the current MAST holdings. These are in NSSDC's offline archive and are community-visible via the NSSDC Master Catalog (http://nssdc.gsfc.nasa.gov/nmc/sc-query.html/) and via NSSDC's paper astrophysics data catalog of 1988. MAST will identify and point to such NSSDC-only data from its high level pages also

NSSDC and MAST will work together, with the research community and with NASA to determine the best disposition of such data. Options are to upgrade to network accessibility from MAST, retention only in the NSSDC permanent archive, or disposal/release.