

REPORT OF THE MULTI-MISSION ARCHIVE AT SPACE TELESCOPE USERS GROUP (MUG): OCTOBER 2002 MEETING

The MAST Users Group (MUG) met at the Space Telescope Science Institute in Baltimore 16 October, 2001. Present were committee members Thomas Ayres (chair, Colorado), Luciana Bianchi (JHU), Jane Charlton (Penn State), Andy Fruchter (STScI), and Paula Szkody (Washington). Bob Nichol (CMU) participated via teleconference.

This was the second meeting since the inception of the MUG in 2001. After a series of presentations by MAST personnel concerning current operations, new staffing plans, and future projects, the committee discussed a number of issues, included several raised in a recent users' survey conducted by the MAST at the behest of the MUG. The MUG was very supportive of the current accomplishments and near term directions of the MAST, particularly the positive steps taken during the past year in carrying out the MUG's recommendations from last October.

We summarize our discussions in the form of the following findings and recommendations:

- **User Survey.** The User Survey generally expressed a high level of satisfaction with the MAST. However, there were several areas called out where improvement was desirable: (1) slow data retrieval times; (2) necessity to register on the system, even to access public data; (3) requirement to provide login information to retrieve proprietary data, so that it can be pushed to the user's site, rather than pulled from a staging disk with an "obscured" ftp address as is done, say, with *Chandra* proprietary observations; and (4) sometimes incomplete data sets for *FUSE* observations. Most of these concerns can be traced to the historical VMS-based DADS system: while state-of-the-art when introduced in the early 1990's, DADS has outlived its usefulness and now is being replaced by a much more capable software and hardware system (slated for spring 2003). The MUG recommends that priority be given to bringing the new system online, rather than attempting to make quick fixes to the existing DADS. A number of these concerns were echoed in the Space Telescope Users Committee (STUC) meeting held one week after the MUG, including the desire to have a priority scheme that would expedite requests for smaller data volumes. The most recent MAST Newsletter (22 November 2002) indicates that automated archive registration already has been implemented.
- **National Virtual Observatory.** Creation of the National Virtual Observatory is well underway. Because of the MAST's fundamental responsibility in the stewardship and distribution of key optical and ultraviolet space datasets, the MUG deems it imperative that the MAST continue to play a proactive role in the planning for NVO, in collaboration with the existing NVO effort at STScI.
- **Sloan Digital Sky Survey.** The SDSS is a valuable astronomical resource as well as a model of the large databases that are becoming commonplace in observational astronomy. Unfortunately, it has not been possible to obtain the necessary funding

to fully support the release of SDSS in MAST and develop a more user-friendly and efficient search interface than currently is provided by the SDSS team itself. At present, MAST simply mirrors the SDSS website. The MUG continues to urge the MAST to seek the necessary funds to support the SDSS storage and interface work.

- **Reconnaissance Tools.** The Spectral Scrapbook facility allows ready access and quick-look evaluation of spectral information concerning a wide variety of celestial sources collected by a number of NASA observatories. The committee felt that the utility of the browse facility could be improved by incorporating simple measuring tools (wavelengths, equivalent widths, continuum levels, etc.). The “SPEXVIEW” interface, designed for STARVIEW, might serve such a purpose.
- **STARVIEW.** STARVIEW is one of the original query tools developed to access *HST* archival data; now expanded to include other datasets under MAST’s purview. STARVIEW predated the Web interface, and must be installed on the user’s local system. The committee continues to question why there should be two separate portals into the MAST, and urges that migration of STARVIEW functionality to the Web be pursued. In this regard, the MUG recommends (1) a survey of STARVIEW users to ascertain which unique functions of STARVIEW are most in demand; and (2) an investigation into the possibility of replicating popular features—such as the Visual Target Tuner—into the Web interface. History aside, unifying the existing multiple interfaces with similar functionality will reduce “maintenance” costs and facilitate the ease of use by external users.
- **Key Words and High-Level Science Products.** Two other issues discussed by the MUG were a more unified, simplified set of “keywords” to describe each *HST* observation and the desirability to highlight in a query response the availability of high-level science products (HLSP) associated with a particular target and observing mode. The current set of *HST* keywords is quite extensive, and allows the Observer perhaps too much latitude in describing the intended observation: potentially, the same type of observation could be described by several different sets of keywords, which might prevent an association between the observations in a later query. A more restrictive, less verbose, set of keywords—such as used by *IUE* and *FUSE*—might enhance the power of future queries. As for the HLSPs, the MUG recommended that these be highlighted at the top of a query, rather than, say, at the very end; to alert the users that a refined data product exists that might well satisfy their scientific needs, avoiding unnecessary duplication of effort.

The next meeting of the MUG is tentatively scheduled for October 2003 at STScI. Issues concerning rotation of current members off the committee and selection of new members remain to be decided.