

**REPORT OF THE MULTI-MISSION ARCHIVE AT SPACE TELESCOPE
(MAST) USERS GROUP: JUNE 2007 MEETING**

December 2007

The MAST Users Group (MUG) met at the Space Telescope Science Institute in Baltimore on 29 June 2007. Present were committee members Leonidas Moustakas (Chair, JPL/Caltech), Christine Chen (NOAO, now at STScI), Duilia de Mello (GSFC/JHU), Jeff Newman (LBNL, now at U of Pittsburgh), Sandhya Rao (U of Pittsburgh), and Richard Wade (Penn State University).

MAST’s management of ever-increasing data volumes seems exceptional. Clearly a great deal of work has been accomplished since the last MUG meeting, both directed and innovative. We were particularly impressed with the deployment of the *Hubble* Legacy Archive (HLA). The power of MAST for scientific research is clear from the publication record alone, and is reinforced by the users’ survey results as well. The MAST team is commended for their hard work and results over the past year.

In the following we give comments and feedback on several issues that were raised during the MUG discussion after the June 2007 meeting.

Exposure of MAST Resources – MAST could do an even better job of promoting community awareness of its holdings and capabilities. It is not clear to the MUG how widely disseminated the MAST Newsletter actually is, and not everyone who could use MAST receives the STScI Newsletter with its articles about MAST. The AAS electronic newsletter likely reaches many potential new users of MAST. A brief note published there (once a year) summarizing the holdings of MAST and pointers to the MAST newsletters and other resources could help increase visibility, usage, and helpful feedback. The MUG also encourages MAST staff to consider a special session or “pre-meeting” event at some AAS meetings, as a way to give training, answer questions, and get focused feedback from the community. Several of the presentations to the MUG could serve as the core of such a special session.

Links organization – The MAST website home page is still difficult to navigate in any intuitive way – this has been a persistent problem in the MUG reviews. As a concrete example, while it has a great deal of detail at the top-most level, there is no obvious path to the HLA link... The Site Search feature is helpful, but even there the HLA link is not revealed for several more clicks. While the MUG appreciates that the webpage needs to accommodate the idiosyncracies of many very different missions, some concerted effort to deal with this issue is important. Previous suggestions have included simplifying the top-level webpage, possibly beginning with a straightforward version “Getting Started” page. Then the Search interface and other better-grouped links could follow in one or more (but still only a few) subpages. At the moment, there are still too many different ways of getting to the same data, which can be confusing. A final reiterated comment from last year would be to perhaps add a “Shopping Cart” for data.

The HLA – The HLA is impressive in its scope and execution, and represents real progress in

MAST’s core mission of ease of data perusal and access. The Footprints feature look very helpful for planning and dataset assessment purposes, as well as a convenient way to prepare for downloading datasets. This also has clear potential for savvy amateur astronomers. On a related outreach-type point, the Google Sky project was noted and appreciated, especially with the relative ease by which new and complex datasets may be interlaced into the program. Nice work.

National Virtual Observatory & Data-Searching– The MUG generally believes that MAST should not try to reproduce what the *National Virtual Observatory* (NVO) does, but to keep NVO requirements in consideration for ingestion of MAST databases into existing or future NVO distribution sites. On a related note, MAST should not expect that users will know SQL or will take a tutorial to learn. For a concrete example, it is not trivial to find GALEX data on specific objects, because of the specialized way the (catalog) data are organized. Searching for data on e.g. M81 with different search radii in NED returns highly-specific objects within M81. For this type of problem, but as a general recommendation, it would be valuable to allow for wild-card searches (in both the main search interface and the NED cross-correlation tool), and batch searches and downloads.

GALEX – The recently added GALEX browser map is a very nice tool for preliminary reconnaissance of the sky coverage and image quality. The GALEX browser is working well now. It would be very useful to have the capability of downloading specific *parts* of tiles (ie cutouts); the user should be allowed to provide coordinates and a box size for download. It would also be helpful to have the tile number be a default in the Output columns. At least that would make the user aware that different queries (or search-radii) may return data from the same pointings, to alleviate redundant downloading. As a general comment, it is also not useful to provide *such* an extensive list of possible output columns (close to the *Add* button) without linking them directly to some explanation of what they mean. Finally, it would helpful to have the icon *DOWNLOAD IMAGES* (which now only shows when one clicks *Explore*) shown in the GALEX Search Results page. Perhaps return this as one of the columns, or with an icon where one can select objects for download (or at least include directions for how one may obtain images).

Other – Other things that MAST users find useful – calibrated spectra in ascii format, error maps on images, and 3-sigma detection thresholds for extended and point-sources.