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## The Multimission Archive at STScI Newsletter

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Space Telescope Science Institute

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The Multimission Archive at STScI (MAST) Newsletter disseminates information to users of the HST, IUE, Copernicus, EUVE, HUT, UIT, WUPPE and VLA-FIRST data archives supported by the MAST. Inquiries should be sent to [archive@stsci.edu](mailto:archive@stsci.edu).

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## Hubble Deep Field South Data Available November 23

A second Hubble Deep Field campaign was carried out with HST in October 1998. The observations are similar to those obtained during the original HDF but with several important differences:

1. The field is located in the southern Continuous Viewing Zone (J2000 coordinates 22:32:56.2 -60:33:02.7)
2. A moderate redshift quasar of  $z(\text{em}) = 2.24$ , identified by Boyle, Hewett, Weymann and colleagues, was placed in the STIS field for both imaging and spectroscopy so that correlations between quasar absorption redshifts and the redshifts of galaxies in the fields could be determined.
3. Simultaneous, parallel observations were made with the three HST instruments WFPC2, NICMOS, and STIS of separate, neighboring fields. The STIS and NICMOS data are a significant enhancement over what was possible for HDF-North.

The rationale for undertaking a second deep field follows from the wealth of information that has come out of HDF-North, and from the desire to provide a point of focus for similar studies of the distant universe from southern-hemisphere facilities. Choosing a field in the CVZ maximizes the efficiency of HST for such projects. The wide public access to the HDF-N data stimulated extensive follow-up observations across the electromagnetic spectrum, both from major ground-based observatories and from other satellites. HDF-South data, including derived object catalogs prepared by the STScI HDF-S team, will be available via anonymous FTP as of Nov 23 1998 20:00 GMT at

<ftp://archive.stsci.edu/pub/hdf-south>

Further details about the HDF-South, including flux limits and flanking field observations, can be found on the web at

<http://www.stsci.edu/ftp/science/hdf/hdfsouth/hdfs.html>

Marc Postman and Harry Ferguson

## MAST Cross-Correlations with Astronomical Catalogs

Our readers should be familiar by now with our cross-correlation Web page (<http://archive.stsci.edu/search/>), which allows the cross-correlation of astronomical catalogs with the archives available at MAST.

We have expanded on the available catalogs by including a cluster of galaxies and a star catalog. The Abell catalog of rich clusters of galaxies (Abell, Corwin & Olowin, 1989, ApJS, 70, 1), which includes 5,250 sources, can now be cross-correlated with HST and other MAST archives. The cluster selection can be done in terms of redshift, richness, magnitude of the tenth brightest cluster member, and Galactic coordinates. Since cluster of galaxies can cover a relatively large area of the sky, the search radius for Abell Clusters has been set to be the selected radius plus the projected radius of the cluster (evaluated for all clusters with redshift information by assuming a physical radius of  $1.5/(H_0/100)$  Mpc; the projected size is then independent of the value of the Hubble constant  $H_0$ ). The Hipparcos catalog (1997, ESA SP-1200), which includes 118,218 stars brighter than 14th magnitude, is also available for cross-correlation. In this case, stars can be selected on the basis of magnitude, B-V color, parallax, spectral type, and coordinates, and then cross-correlated with the MAST archives to look for objects with the relevant data. Users will be surprised at the number of bright stars with HST data!

All archival researchers are invited to use this new service and let us know how we can improve it. As usual, all comments and inquiries should be directed to [archive@stsci.edu](mailto:archive@stsci.edu).

Paolo Padovani and Tim Kimball

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## MAST Archive Data from the Astro Missions (HUT, UIT, WUPPE)

MAST is now supporting the archived data for both flights of all three ASTRO instrument projects: the Ultraviolet Imaging Telescope (UIT), the Hopkins Ultraviolet Telescope (HUT), and the Wisconsin Ultraviolet Photo-Polarimeter Experiment (WUPPE). The Astro Observatory was designed to use many of the spacelab components and flew on two different shuttle flights. The first Astro flight was on December 2-11, 1990, aboard the shuttle Columbia. The X-ray experiment Broad Band X-Ray Telescope (BBXRT) was also part of the Astro-1 flight and data from that instrument are archived at HEASARC. The second flight was on March 2-18, 1995, aboard the shuttle Endeavor.

HUT obtained ultraviolet spectra of a variety of astronomical objects such as quasars, active galactic nuclei, and supernova remnants, extending into the little-explored ultraviolet range below 1200 Angstroms. The instrument consisted of a telescope, prime focus spectrograph, and intensified photodiode array. Scientific studies have included research on the cores of active galaxies, the torus of gas around Jupiter created by its moon Io, the characteristics of the intergalactic medium, and the stellar population in elliptical galaxies.

UIT consisted of a telescope and two image intensifiers with 70 mm film transports. The instrument acquired images of faint objects in broad ultraviolet bands in the wavelength range of 1200 to 3200 Angstroms. Astronomers have investigated the present stellar content and history of star formation in galaxies, the nature of spiral structure, and non-thermal sources in galaxies using UIT data.

WUPPE obtained both ultraviolet spectra and polarimetry for celestial objects such as hot stars, galactic nuclei, and quasars. The instrument included a telescope, spectropolarimeter, and dual diode array detectors. Researchers have studied the interstellar medium, mass loss from hot stars, interacting binary stars, and active galaxies, among other topics.

In addition to the data, MAST provides access to documentation and software for these missions. The relevant URLs for the access to the ASTRO missions are:

<http://archive.stsci.edu/astro/>  
<http://archive.stsci.edu/hut/>  
<http://archive.stsci.edu/uit/>  
<http://archive.stsci.edu/wuppe/>

MAST is grateful for the support and cooperation of the [Astrophysics Data Facility](#) at NASA GSFC and to each of the Astro mission projects for their help in the transition of these datasets to MAST.

Karen Levay and Catherine Imhoff

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## New DSS Jukebox

We have installed a new jukebox for the Digitized Sky Survey web service at

<http://archive.stsci.edu/dss/>

Since the DSS web service opened in May 1995, usage has steadily increased to the current level of one to two thousand accesses per day. The jukebox we originally started with was reliable, and in the early days, fast enough, but as the usage level climbed above about a thousand accesses per day, we started seeing limitations in its capacity to handle the load.

The new jukebox is much faster than the older one, and since installation, we have already seen a dramatic difference in improvement. The older jukebox will get a tuneup, and will work alongside the new one. (The DSS is growing, and we will need the slots!)

Even with the new hardware, heavy users are reminded that they can purchase their own copy of the 10x-compressed First Generation DSS, or the more economical 100x-compressed version, RealSky, from the Astronomical Society of the Pacific. For more information about purchasing a copy of the DSS or RealSky, visit the following ASP web pages:

<http://www.aspsky.org/aspcat/sale/digisky.html>  
<http://www.aspsky.org/subpages/rsky.html>

Tim Kimball

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## Guest Account Discontinued

We have had to discontinue the guest account on the Archive host machine (archive.stsci.edu, also known as stdatu.stsci.edu). Formerly, this was the account you would use to run StarView from our machine and display the screens back to yours. We had originally announced that the guest account would be closing by the end of the year. However, we were compelled by security concerns to close the account for good.

We apologize for any inconvenience this will cause. However, if you are on a Solaris or Digital Unix system, you can install StarView on your machine. (StarView will run much faster if you run it locally, than to run it remotely and display the windows locally.) You can also run general science queries through the Web at

<http://archive.stsci.edu/cgi-bin/hst>

If neither of these solutions meets your needs, please contact us at [archive@stsci.edu](mailto:archive@stsci.edu) and let us know.

Tim Kimball

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## New Main MAST Page

A new main entry page for the MAST web site has been implemented and is at the following URL: <http://archive.stsci.edu/mast.html> (**Note: as of 2001, the main MAST page URL is <http://archive.stsci.edu/>**). A new form allows the user to locate available data sets according to wavelength range and data type. This is another step to make the MAST site relevant for those users not familiar with the individual missions and instruments and to focus on the scientific content of the archives. The page continues to provide links to the WWW pages of the various archives, the cross correlation search, and other general information.

Karen Levay

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## Y2K Testing of IUEDAC IDL Software

Although no further development is planned, the IUEDAC software was studied for Y2K-compliance. The study found that most of the programs dealing with dates were written specifically for analyzing IUE data sets, and since the IUE project ended in 1997, it was felt unnecessary to modify this group of programs for Y2K compliance. Projects modifying these routines to work with other data sets however may need to make the appropriate date changes. The same applies for the Copernicus-specific programs. Some of the lower-level programs and some FITS-handling routines are general enough to be of use to other projects, so these programs were modified.

As a result of the above study, 10 programs were modified and are now available for distribution. For a description of the modifications made and information on how to download the new programs, see the MAST IUEDAC WEB page at:  
<http://archive.stsci.edu/iue/iuedac.html>

Note the modified programs are also available via anonymous FTP from archive.stsci.edu under [pub/iue/software/iuedac/](ftp://pub/iue/software/iuedac/).

Randy Thompson

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## Tips for Using the HST Archive

Here are two tips for improving the efficiency of your retrieval of HST data from DADS from Archive Operations Supervisor Herb Kennedy.

If you want to retrieve a large number of datasets it is better to submit several smaller requests than one large one. A limited number of files or subrequests may be queued on the DADS system at any given time. The smaller requests have a better chance of being queued and completed during peak hours (9-5 EST). So try to keep the number of datasets in each of

your requests under 200.

If you have a large volume of data to retrieve and/or have a very slow electronic connection and you have access to an 8mm or DAT tape drive, the "tape" option may work better for you. These requests are retrieved automatically and a tape is generated and sent to the user usually the same business day that it is received (FEDX overnight if you are an external user).

If you have any problems please do not hesitate to send mail to the archive hotseat at [archive@stsci.edu](mailto:archive@stsci.edu). You may also call them at 410-338-4547. They will always be happy to assist you.

-Herb Kennedy

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## To Subscribe or Unsubscribe to the Newsletter

If you would like remove yourself from the mailing list send mail to [archive\\_news-request@stsci.edu](mailto:archive_news-request@stsci.edu) and put the single word unsubscribe in the BODY of the message. Information on the subject line will be ignored.

If someone would like to subscribe to the mailing list they should send mail to [archive\\_news-request@stsci.edu](mailto:archive_news-request@stsci.edu) and put the single word subscribe in the BODY of the message. Information on the subject line will be ignored. The subscriber will be asked to confirm the subscription.

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