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STScI Archive News

Space Telescope Science Institute   April 7, 1998 - Volume 3

The STScI Archive Newsletter disseminates information to users of the HST, IUE, Copernicus, EUVE and VLA-FIRST data archives supported by the STScI Archive. Inquiries should be sent to archive@stsci.edu.

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Access to Copernicus Data

Ultraviolet spectroscopic data from the Orbiting Astronomical Observatory (OAO-3) mission, also known as Copernicus, are now available online from STScI. The Copernicus satellite, which operated from 1972 to 1981, obtained Far-UV (900-1560 A) and Near-UV (1650-3100 A) data for 551 targets.

The Copernicus data were originally delivered from Princeton to NSSDC on magnetic tape in a project-specific format. As a result of a NASA ADP grant awarded to PI George Sonneborn from Goddard Space Flight Center, the Copernicus data was converted to FITS format disk files, and contemporaneous U1 and U2 scans were coadded and stored as separate quick-look binary table FITS files. Roughly 25,000 coadded scan files are now available. Also archived were the data sets described in the six Copernicus spectral atlas papers published by Rogerson et al. between 1977 and 1989.

The Copernicus data sets and database files have now been transferred to STScI and are accessible from the Copernicus web page at http://archive.stsci.edu/copernicus . Current resources and capabilities include:

- database searches on both raw and coadded data sets,
- browse file display for all U1 and U2 coadded scans,
- display of both raw file FITS headers and plots showing spectral coverage in specific wavelength regions,
- downloading of all raw, coadded, and spectral atlas files.
- online documentation on the spacecraft, instrumentation, data formats, and data analysis techniques.

Inquiries about the access to the Copernicus archive should be sent to archive@stsci.edu.

Randy Thompson

EUVE Archive Support at STScI

Access to Extreme Ultraviolet Explorer (EUVE) data is now available through STScI. EUVE, launched by NASA in 1992 and still operational, covers the 70 - 760 Angstroms range, between the traditional UV and X-ray bands.

EUVE has been managed, starting from the design and construction, to the scientific mission and data archive, by the Center for Extreme Ultraviolet Astrophysics (CEA) of the University of California, Berkeley (http://www.cea.berkeley.edu).

Due to reduced resources, CEA is now terminating support to the EUVE archive. As a result of a collaborative effort between CEA and STScI, the National Space Science Data Center (NSSDC), and the High Energy Astrophysics Science Archive Research Center (HEASARC), the latter three centers have agreed to take responsibility of the EUVE archive. Namely, the

science archive data (images and event files) will be available both through STScI (http://archive.stsci.edu/euve) and HEASARC (http://euve.gsfc.nasa.gov). This is in keeping with the nature of EUVE data, complementary to both optical/UV and X-ray research, and with the fact that the optical/UV and X-ray communities will benefit from using interfaces with which they are already familiar. The data are currently held for network access at HEASARC (with links to them from STScI and NSSDC). STScI will support the IRAF-based EUVE software, after CEA completes the upgrade to IRAF V2.11. NSSDC, on the other hand, will provide a permanent archive of the science and the telemetry (raw) archive data (http://nssdc.gsfc.nasa.gov).

The EUVE archive contains proprietary and non-proprietary observations from the EUVE satellite from the beginning of the Guest Investigator Program through the end of 1997. The data in the HEASARC EUVE archive will be supplemented periodically with additional observations from CEA as they are processed. They currently comprise a total of 26 GB of compressed data on 244 distinct targets (including calibrations).

Access to EUVE data at STScI (http://archive.stsci.edu/euve) is available through the same WWW interfaces used for the Hubble Data Archive. Links are provided for users to search the EUVE catalog and retrieve the data, obtain help, and get information about data analysis. Once the search is done, the user is presented with a list of all datasets matching the query parameters. These can be then retrieved via ftp from HEASARC by "clicking" on two hyperlinks available in the "Data Files" column: EVT, which points to the event file, and IMG, which points to the image file.

Inquiries about access to the EUVE archive should be sent as usual to archive@stsci.edu.

Paolo Padovani

GHRS and FOS Data: Status Report

Major advances were made in the closeout calibrations for GHRS and FOS this past year. For FOS there were improved sensitivities and comprehensive flat field updates, and increased understanding of wavelength accuracies. Recalibration and rearchiving of all the FOS polarimetry data is planned for later this year. For GHRS there were improved incidence angle corrections for the Large Science Aperture in the medium resolution and echelle gratings, PSF characterization, improved sensitivities for G140M, Ech-A, and Ech-B.

In January 1998, the Data Handbook Volume II for the Legacy Instruments, including FOS and GHRS, was published. It is available upon request through the STScI help desk or from the WWW page (http://www.stsci.edu/documents/dhb/web/DHB.html).

GO and archival support for both spectrographs continues at a good pace. With the formal completion of the closeout calibrations, support for STIS, FOS, and GHRS has been amalgamated into a single functional entity at STScI, the Spectrographs Group, where we continue to provide support and calibration analysis for the legacy spectrographs as well as for STIS, our operational HST spectrograph. FOS and GHRS researchers should direct any questions they might have to help@stsci.edu, and their questions will be forwarded on to the Spectrograph Group for answering. We regularly describe new calibration and software information for FOS and GHRS in the HST Spectrographs Space Telescope Analysis Newsletter (STAN) and we encourage those working with FOS and GHRS to be sure to subscribe to that STAN, which is also available at http://www.stsci.edu/instruments/stis under "Documents". The FOS and GHRS WWW Instrument pages (http://www.stsci.edu/ftp/instrument_news/FOS/topfos.html and http://www.stsci.edu/ftp/instrument_news/GHRS/topghrs.html respectively) are also kept up to date and should be an important resource for archival researchers.

Stefi Baum

HST Archive Survey 1998

We conducted a user survey regarding Guest Observer services, including proprietary data access, media experiences and preferences, and use of recalibration resources. We invited 460 observers from Cycles 5 to the present as well as all authorized users to participate in our survey. We received 114 responses, which we have used to form our plans regarding future data media options, paper products, and a new ``on-the-fly'' recalibration service for HST data. We received a number of helpful comments and suggestions. We describe a partial list of results here. We determined some general recalibration patterns for the WFPC2, STIS and NICMOS instruments. Electronic retrieval of data is popular with GOs, and CDROMs were popular as a future media choice. User needs are very important to us, so we are grateful to everyone who participated in this survey! Thanks for taking the time to participate. You will be hearing more about future STScI user services, including ``on-the-fly'' recalibration, over the next 6 months.

Megan Donahue

Analysis of Apparent Velocities from NEWSIPS-Processed High Resolution IUE Data

The recent addition of NEWSIPS-processed echellograms to the IUE archives permits the analysis of apparent radial velocities (RVs) via cross-correlation techniques, both with respect to old-generation (IUESIPS) processings and relative to different instruments. We report here on a comparison of apparent RVs, mainly for the short-wavelength (SWP) camera with respect to time, wavelength, aperture-type, and cameras. We also compare RVs from IUE data relative to RVs from the Copernicus and Orfeus missions. (See also http://archive.stsci.edu/iue/newsips/radvel/.)

Although residual zeropoint errors still exist for NEWSIPS SWP data, both with respect to apparent RVs from images from the LWP and LWR cameras and relative to RVs derived from optical studies, most NEWSIPS-processed SWP images are to be greatly preferred over IUESIPS data because of their far greater stability with time. Differences in apparent RVs from large- and small- aperture images arise for all three cameras for *bright* stars because of a systematic centering error used by the IUE Project to guide on bright stars. The Large Aperture - Small Aperture difference amounts to -5 to -6 km/s for SWP images. In addition, RV differences for individual large-aperture images can sometimes be large due to centering errors.

One of the most interesting systematics found in our study is an apparent wavelength-dependent difference in NEWSIPS SWP images, both with respect to IUESIPS processings and the Copernicus atlas of tau Sco. This systematic is robust and is likely to arise from a 1990 revision of the laboratory wavelengths of the PtNe calibration source used by IUE and GHRS. This fact may have broad implications for comparisons of velocities from datellite data before and after this date.

Myron Smith

IUE NEWS

The NEWSIPS Information Manual (Version 2.0) has recently been published as NASA IUE Newsletter No. 57, the final newsletter published by the IUE Project. Most IUE users will receive a copy in the mail. We have several extra copies of this printed version of the manual, available upon request (please email archive@stsci.edu to request a copy). Please note that the web-based version of the NEWSIPS manual includes several appendices of additional information not included in the printed version. The URL for the manual and appendices is http://archive.stsci.edu/iue/manual/newsips/.

Cathy Imhoff

Although the IUE Data Analysis Center (IUEDAC) officially closed October 8th, 1997, there is continued support for the IUEDAC software and documentation from STScI. IUEDAC users will also continue to be supported and questions regarding IUEDAC software or IUE data analysis can be sent to archive@stsci.edu. See the IUEDAC page at http://archive.stsci.edu/iue/iuedac.html for information on retrieving the software and documentation. The latest IUEDAC software modifications are listed at URL: http://archive.stsci.edu/iue/rdafnews.html

The latest IUEDAC Users Guide was updated on February 5th, 1998, and is online at http://archive.stsci.edu/iue/manual/dacguide/ and can be downloaded in either Postscript (guide.ps), LateX (guide.tex), or PDF (guide.pdf) format.

Randy Thompson

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