

IUE Image Processing News

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1. Final Archive ("NEWSIPS") Processing Update

The IPC has processed virtually all of the NASA SWP and LWP low-dispersion images taken before 1990. These data are available through the NSSDC NDADS system (see *NASA IUE Newsletter* No. 52, pg. 70, for instructions, or use the IUEDAC routine IUEFX). This week we will begin processing SWP low-dispersion images taken after 1990.

The *NEWSIPS Processing Information Manual* was published in *NASA IUE Newsletter* No. 53. It is also available on request. For a copy of the manual or for more information, please contact Cathy Imhoff (301-794-1470 or imhoff@iuegtc.gsfc.nasa.gov).

2. Priority Requests for NEWSIPS Processing

NEWSIPS data users may request to have specific images processed at high priority. This will allow you to have quick access to the Final Archive data that you need.

You may also request a status report for a list of images. This will provide up-to-date information noting whether each image has been processed, is available from NDADS, is in the processing queue, or can't be processed at this time.

A new keyword has been added to our user request (USRREQ) software to allow one to specify either processing or a status report. To request a status report, the entry for REPRT/PROCESS should be R; to request processing, enter P. A sample e-mail request follows. Note that the keyword values start in column 15.

```
NAME           Joe Astronomer
EMAIL_ADDRESS  joe@some.computer.edu
PHONE          555-555-5555
SPONSOR        University of Life
REPRT/PROCESS R
IMAGELIST
SWP01234L
SWP12345L
LWP09876L
ENDOFLIST
```

3. Chronology of Changes to the NEWSIPS Data Files

Some minor changes have occurred in our Final Archive Data Processing System that affect some of the output data. Most of these changes and corrections will not affect users, but there may be some instances where they are of interest. We have compiled a list of those changes below. Note that this list applies to data processed at NASA only.

1. NEWSIPS Version 2.3.1; implemented April 20, 1994.

Software was ported to run on updated software on the DECstations. This included updates in the Ultrix operating system, pMIDAS, and the Fortran compiler. Output data processed on this system have slight differences with data processed under earlier versions at NASA. The differences are a few pixels which differ by ± 1 FN in the LILO and SILO files, plus differences on the order of 10^{-6} for floating point values in the MXLO files (net, flux, and sigma arrays). These differences are not scientifically meaningful. Note that all VILSPA data have been processed on the updated system software and pMIDAS.

2. NEWSIPS Version 2.4; implemented September 8, 1994.

The software included the following corrections and changes.

- Fix VD NAXIS FITS keywords. Prior to this, the keywords were erroneously given as NAXIS1 = 2, NAXIS2 = 768, and NAXIS = 768. The correct values are NAXIS1 = 768, NAXIS2 = 768, and NAXIS3 = 2.
- Fix translation of binary header in VICAR label to ASCII. Prior to this, the translation from binary to hexadecimal to ASCII was incorrect.
- Drop MJD FITS keywords; add JD FITS keywords. The IUE Project decided to change from Modified Julian Date (JD - 2400000.5) to standard Julian Date. The keywords were likewise changed from LMJD-OBS, SMJD-OBS, LMJD-MID, and SMJD-MID, to LJD-OBS, SJD-OBS, LJD-MID, and SJD-MID for the large and small aperture start and midpoint of the exposures.

3. NEWSIPS Version 2.4.1; implemented October 27, 1994.

The capability to process LWP low-dispersion images was implemented at this time.

In addition, an error in certain FITS headers was corrected. If the VICAR label were exactly 100 lines long, several blank lines were inserted in the FITS headers.

This error affected only SWP low-dispersion images processed under Version 2.4. These images were later identified and reprocessed.

4. NEWSIPS Version 2.4.1.A; implemented December 15, 1994.

This software provides the capability to process LWP and SWP low-dispersion images on an Alpha AXP computer. Due to differences in the operating system and Fortran compiler from the DECstations, there are small differences in the output data files. The differences are a few pixels which differ by ± 1 FN in the LILO and SILO files, plus differences on the order of 10^{-6} for floating point values in the MXLO files (net, flux, and sigma arrays). These differences are not scientifically meaningful.

5. Correct processing time stamp; implemented January 24, 1995.

Prior to this, the processing time stamps in the FITS headers of images processed on the Alpha system (R2.4.1.A) were incorrectly given in local time. This was changed to compute the correct U.T.

6. Correct format for cross-correlation; implemented March 30, 1995.

Prior to this, if the cross-correlation were 100% successful, only asterisks were printed. This change corrects that format listing the successful cross-correlation percentage in the HISTORY section. Affected images were later identified and reprocessed.