News Notes

Personnel Changes

Computer Science Corporation, the contractor which operates the IUE Science Operation Center, has promoted two of the Resident Astronomers, Barry Turnrose and Charlie Wu, to Section Manager positions. Turnrose is responsible for the tasks of IUE data production, improvements to data reduction, data management, and software and GO support. Wu is responsible for the tasks of science operations, ANS studies, IUE scientific studies and a galactic plane survey. Turnrose has moved into a new office (phone number 301-344-7445). Wu will continue working as an RA until a replacement can be hired and trained.

Peter Perry, a former RA for image processing, has been promoted to Department Manager.

Fred Bruhweiler is retiring from his Resident Astronomer duties on June 31st. He will be devoting full time to scientific studies.

Tom Ake joined our staff as a Resident Astronomer for operations at the end of March. Dr. Ake had previously been a research fellow at CalTech and a staff member at Hale Observatories where he had worked with Jesse Greenstein to observe and analyze subluminous cool stars.

Bob Panek will join our staff in early June as another Resident Astronomer for operations. Dr. Panek will come to us from Pennsylvania State University where he has been responsible for setting up a computerized system of data acquisition and analysis at the observatory. He has analyzed OAO-2 spectra and is a Guest Observer with the IUE for the third epoch.

Meetings and Symposia

During the past two months Goddard has hosted a meeting of the IUE Users' Committee (March 24 and 25), a Three Agency Project coordination meeting (May 6, 12, and 13), and the NASA symposium on the first two years of IUE (May 7, 8, and 9). The first two meetings gave us the opportunity to discuss the nuts and bolts of IUE capabilities and plans for the future with a sub set of IUE Guest Observers and with our colleagues from the UK and ESA. The symposium, described in detail elsewhere in this issue, was a pleasant opportunity to learn what you have been doing with your spectra.

The Europeans also hosted an IUE symposium at Tubingen, Germany, on March 25, 26, 27, and 28.

At the GSFC IUE Symposium, Dr. K. Rakos announced that a symposium on IUE Data Reduction would be held in Vienna during the week of November 17th.

Caveat

Contributors at the assorted meetings this spring described potential problems that might affect your spectra.

C. Grady of the University of Colorado found that at the shortwave length of high dispersion spectra the background spectrum often is extracted at a location that lies partially on a spectral order. When this erroneous background is subtracted from the gross spectrum, it produces spurious spectral features and the appearance of time variation. Grady recommends that users derive their own net spectrum after smoothing the background. She and her colleagues have used 30 passes with a mean filter to eliminate spectral features from the background spectrum. Presumably a median filter such as described in Schiffer and Holm (Feb. 1980, IUE Newsletter No. 8 p. 41) would require fewer passes.

S. Heap of NASA/Goddard stated that the correction for the echelle ripple can vary from image to image and even from order to order within a given image. At the present the echelle ripple is corrected emperically by dividing the observed net signal by

$$(1 + A X^2) \left(\frac{\sin X}{X}\right)^2$$

where

$$X = \frac{\pi m}{K} (m\lambda - K)$$

and

m = order number

λ = wavelength

A and K are adjustable parameters whose values are given in Turnrose and Harvel (1980, IUE Image Processing Information Manual, Version 1.0).

Heap has found that the K parameter may vary from 137650 to 137800 for the SWP camera. Similar variations occur for the LWR camera. She advises users of high dispersion spectra to derive their own K parameters for each high dispersion spectrum.

R. Bohlin of NASA/Goddard showed that the low dispersion absolute calibration (Bohlin et al., 1980, A & A, in press or 1979, NASA X-681-79-19) produces a discontinuity in the flux distributions derived from the SWP and LWR cameras. A revised calibration is published elsewhere in this newsletter.

A. Holm of CSC pointed out that although an error in the SWP Intensity Transfer Function was eliminated last summer the 10 percent photometric non-linearity of LWR camera that was documented in Bohlin et al. (1980, A & A, in press) still exists. Moreover, there may still be some non-linearity at the lowest exposure levels for the SWP.

Satellite Power

Because of the policy of turning off the LWR camera before the spacecraft entered the earth's shadow during this spring's eclipse season, the battery loads were reduced substantially over what they were during the eclipse season last fall. As a result, the spacecraft engineers are now hoping for another 4 or 5 years of operations from the power subsystem, barring a catastrophic and unpredicted failure of some component. However, the degradation of the solar paddles is continuing so that by next summer we might expect observations within 10^{o} of the anti-sun or 55^{o} of the sun to be restricted severely.

Satellite Heating

As a result of a change in policy by the IUE project management to allow operation at elevated spacecraft temperatures, constraints on observing targets for long periods of time between 85^{o} and 125^{o} from the sun have been alleviated. None the less, the problems have not gone away and operation at elevated temperatures for extended times (8-16 hours) have been known to create spacecraft problems and subsequent losses of attitude control. This temperature problem will likely be aggravated in the future due to a degradation in the thermal shielding which has been noted during the last year. We can expect limitations in the scheduling of observers if this trend continues, particularily for targets between 95^{o} and 115^{o} from the sun.

Al Holm

Francis Schiffer, III