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PHOTOMETRIC CALIBRATION OF THE IUEVII. Joint US/UK/ESA Revision to the IUE Absolute Calibration

The correction of the SWP ITF tables (Holm, November 1979, NASA IUE Newsletter No. 7, p. 27-39) prompted a review of the absolute calibration for low dispersion, large aperture, which was officially adopted by the IUE Project (Bohlin and Snijders, November 1978, NASA IUE Newsletter No. 2, Memo VI and Bohlin, et al. 1980, Astronomy and Astrophysics, in press).

In summary, we recommend no change in the standard calibration for images processed with the corrected SWP ITF, because of the negligible effect of the ITF error on the high quality calibration spectra. The calibration spectra were well exposed with most of the signal above the exposure level where the error did occur. The background is generally near zero, well below the ITF error. Consequently, calibration errors due to the ITF fault are small. A substantial set of calibration images has now been reprocessed, and for $\lambda > 1250\text{\AA}$ the change in the calibration is less than the $\pm 5\%$ uncertainty present in the basis of the calibration. For $\lambda < 1250\text{\AA}$ larger changes, up to ± 10 percent, might be present. Since this is less than the uncertainty in the proposed flux for η UMa at these short wavelengths, we prefer to leave the calibration unchanged for the present. The accuracy of the IUE absolute calibration will continue to be studied, however.

In an additional review, a much larger set of long wavelength spectra has now been analyzed with an improved wavelength scale. We recommend the following changes at the shortest wavelengths of the LWR inverse sensitivity:

Recommended Changes in the LWR Calibration

λ (\AA)	$(10^{-14} \text{ S}^{-1} \text{ erg cm}^{-2} \text{ \AA}^{-1} \text{ FN}^{-1})$	Change (%)
1850	15:	-14
1900	5.2	- 6

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