

Addendum to Image Processing Information Packet

Special Wavelength Calibrations

IUE Guest Observers who desire to obtain their own high dispersion wavelength calibration images in order to improve the accuracy of the wavelength scale on their extracted spectra are advised to also obtain either a separate TFLOOD exposure or a low dispersion platinum lamp-plus-TFLOOD exposure. This is necessitated by the fact that the high dispersion platinum spectrum used for wavelength calibration contains numerous lines, some of which lie extremely close to, or even superimposed upon, a number of reseau marks. When this occurs, the reseau-finding algorithm does not accurately calculate the positions of the affected reseaux, which in turn results in a bad geometric correction. The extent of this affect depends on the exact placement of the spectral format at the time the image is taken (it is known to shift by up to several pixels), and is by far worse in the SWP camera than in the LWR camera.

Since reseaux are known to move (i.e., the geometric distortion is not immutable at the sub-pixel level), the purpose of taking a separate wavelength calibration may be largely defeated if reliable reseau positions cannot also be computed for the same time frame as the wavelength calibration, and in order to do this the separate TFLOOD or low dispersion standard calibration image (on which reseaux are not contaminated) is strongly recommended.

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