

Heliocentric Time Correction Added to Scale-Factor Record  
of IUE Data Files

Investigators who are interested in studying periodic variations using IUE data may find two recent additions to the scale-factor record (record sequence number zero) useful when comparing successive observations. The first of these additions is the Julian Date corresponding to the midpoint of observation. The second is a heliocentric light-travel time correction.

The Julian Date has been included for all IUE images which have been processed on or after 1 October 1985. This quantity is stored in record zero as the 38th and 39th halfword entries. Entry 38 contains the integral part of the J.D. less 2440000. Entry 39 contains the fractional part, scaled by multiplying it by  $10^4$  and rounding. Note that, with this scaling, the time resolution of the J.D. is less than 9 seconds. The Julian Date of observation was also added to the image processing history portion of the image header label starting on the date mentioned above.

The heliocentric time correction has been provided for all images processed at Goddard after 18 March 1986. This quantity is stored in halfword 40 of record zero. This entry represents the correction as a fraction of a day times  $10^4$ . Thus, entry 40, when added to entry 39, corrects the midpoint of observation to its heliocentric equivalent. That is,

$$JD_{\text{heliocentric}} = \text{Entry}(38) + [ \text{Entry}(39) + \text{Entry}(40) ] / 10000 + 2440000 .$$

The subroutine used to compute the heliocentric correction was adapted from a routine in the Basic Astronomical Subroutine Package of the former Laboratory for Optical Astronomy here at Goddard. Any questions or comments concerning the algorithm or output of this subroutine may be addressed to me.

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