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FAR ULTRAVIOLET PHOTOMETRIC VARIABILITY IN α Eri

The Be star α Eri has been observed with the ultraviolet spectrometers on board the Voyager 1 and 2 spacecraft. These spectrometers are sensitive in the 500 - 1700 Å wavelength region and have an effective resolution of 20 Å. The instruments and their calibration and performance have been described in Broadfoot et al. (1977) and Holberg et al. (1982).

Extensive observations of α Eri were obtained with the Voyager spectrometers in 1979 and 1980 with additional isolated observations obtained in 1983 and 1984. Figure 1 shows the integrated 950-1150 flux with 1σ error bars for the 1979-80 epoch. As can be seen from Figure 1 the Far-UV flux from α Eri was statistically constant until approximately JD 2444325 (Mar. 25, 1980). After that date significant variations in the UV flux level was observed. The 1983 and 1984 data have flux levels consistent with the mean of the pre-"outburst" 1979/80 data.

Spectroscopic observations of H α obtained by de Freitas Pacheco (1982) on JD2444243 (Jan. 2, 1980) show a "rotationally broadened photospheric profile with a slight central emission and a small central absorption" Slettebak (1982) reports an observation obtained in Oct, 1980 that shows H β to be "weak relative to standard star spectra, and filling in by emission likely".

Additional spectroscopic and/or photometric observations of α Eri during 1979-1981 would be appreciated. Voyager observations of this star are continuing.

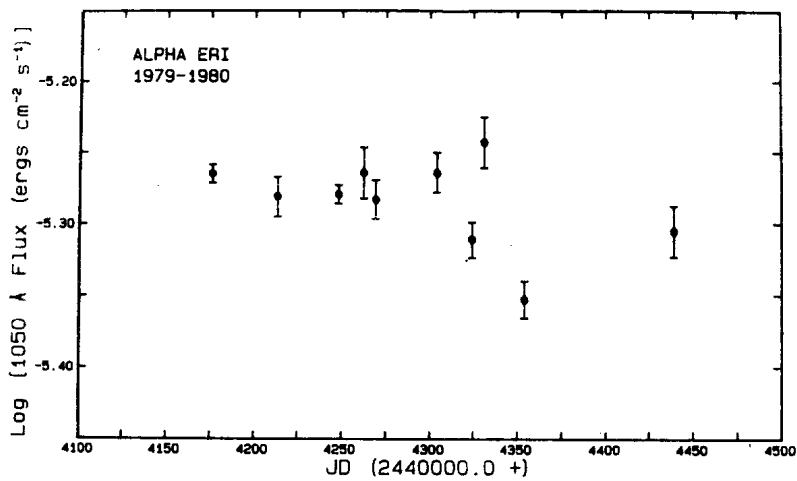


Fig. 1.—Far-UV (1050 Å \pm 100 Å) integrated flux measurements with $\pm 1 \sigma$ errors in α Eri for 1979/80. The logarithm of the weighed far-UV flux for the six observations prior to JD 2444325 is -5.273 ± 0.004 . Observations of α Eri in 1983 (JD 2445579.2) and 1984 (JD 2445894.2) yield $\log F_{1050}$ values of -5.252 ± 0.009 and -5.270 ± 0.013 respectively.

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