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EU TAURI

Three colour photoelectric observations were made on the star EU Tauri (BD +18^o955, HD 38321, S 3736, Wood 197) on seven nights beginning in Oct., 1966 and continuing to the present time, Dec., 1966. The observations were made on the 28 inch reflector at Flower and Cook Observatory using BD +18^o959 and BD +18^o966 as the comparison and check stars respectively.

The results of the partially reduced observations show that EU Tauri is definitely not an eclipsing variable star as described in The Finding List for Observers of Eclipsing Variables (Wood et al, University of Pennsylvania Astro. Series, Vol. IX, 1963.). In this list EU Tauri appears as star No. 197 and is classified as a W Ursae Majoris type eclipsing variable with a period of 0.5954 days. This data was originally obtained by Azarnova from photographic observations in 1950-1951 (Azarnova, Variable Stars Vol. 9, p. 45, 1953.). The results of my observations indicate, rather, that EU Tauri is a classical cepheid with a period of about 2.105 days, having a light curve typical of that of a cepheid of this short period.

Observations made at maximum and minimum light yield the following amplitudes for this star:

$$\Delta V' = 0.35, \quad \Delta B' = 0.46, \quad \Delta U' = 0.53$$

The preliminary elements are given at this time as:

Elements: Blue max. JD 2439450.665 + 2^d.105 E

Ptg. mag. about 8.6 - 9.1

The completion of the remainder of the light curve will hopefully be made in the next few months with additional data from future observations and from observations made here on the same telescope in 1963-1964 by L. Binnendijk. Publication of the complete light curve in U, B, V magnitudes with a refined Ephemeris and other photometric parameters characterizing this star will be made in the near future. The data from all previous observations (those of Azarnova and Binnendijk) will be studied in detail for any real period and light changes that may have taken place.

Flower and Cook Observatories

December 8, 1966

EDWARD F. GUINAN