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PHOTOELECTRIC OBSERVATIONS OF THE ECLIPSING BINARY V502 OPHIUCHI

Observations of the eclipsing variable star V502 Ophiuchi (HD 150484, GO) were made at the Stefanion Astronomical Station ($\lambda = 1^{\text{h}}31^{\text{m}}19^{\text{s}}$, $\phi = +37^{\circ}45'09''$) with the 40 cm Van Straten telescope of the Astronomical Institute at Utrecht, equipped with a photoelectric photometer. Three filters u, b, v were used which closely matched the U, B, V system. The observations were carried out on J.D. 244 1833, 44, 58, 59 and 60. The comparison stars were HD 150732 (GO) = BD+O³569 and HD 149933 (G5) = HD +O³555.

The magnitudes of the variable and the comparison stars were corrected for atmospheric extinction using different extinction coefficients for each night, whereafter both the differences between the magnitude of the variable and the magnitudes of the comparison stars were calculated in each point. The light curves were obtained by taking the mean of these differences without transforming them to the U, B, V system.

Individual observations are shown in the figure. The phase was calculated with the period as given in the GCVS, 3rd edition, 1st supplement, viz. $0^{\text{d}}45339304$, hence

$$\text{Phase} = 2^{\text{d}-1}205592 \text{ (heliocentric Julian Date } -244 \text{ 0000)}$$

The epochs of the minima were found to be

$$\text{minimum I} = \text{J.D. } 244 \text{ 1833.462}$$

$$1844.344:$$

$$1858.400$$

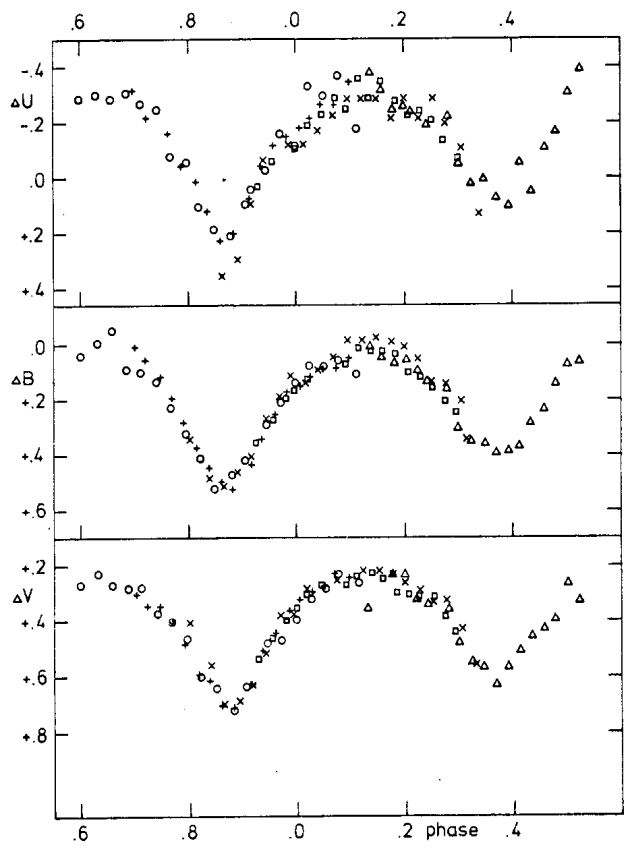
$$\text{minimum II} = \text{J.D. } 244 \text{ 1860.440}$$

The estimated mean error of a single epoch is about ± 0.003 days; the estimated mean error of a single observation is about ± 0.04 mag. for U, ± 0.02 for B, and ± 0.02 for V.

New accurate observations are needed to obtain a good idea on the behavior of the period; see L. Binnendijk, 1969, A.J. 74, 218.

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○ J.D. 244 1833
 × 1844
 + 1858
 □ 1859
 △ 1860