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PHOTOELECTRIC  $\gamma$  AND  $\lambda 6585$  OBSERVATIONS OF VW CEPHEI

The W UMa-type eclipsing binary, VW Cep (HD 197433), was observed for about 5 hours on 29 July 1977 U. T. using a photoelectric photometer mounted on the 51 cm Cassegrain reflector of Biruni Observatory. The photoelectric photometer is equipped with an unrefrigerated RCA 4509 multiplier photocell (similar to the commercially available RCA 8645 photocell), and a Leeds and Northrup Speedomax was used to record the amplified signal from the photomultiplier. The observations were made using a Strömberg  $\gamma$  filter and an intermediate bandpass interference filter with a maximum transmission of  $\lambda_{\max} = 6585\text{\AA}$  and a full width at half maximum transmission of FWHM =  $280\text{\AA}$ . A 40 arc second diaphragm was used and the observing sequence was the usual pattern of sky-comparison-variable-comparison-sky, with each observation lasting about 30 seconds.

BD + 76°809 (SAO 9836;  $m_v = 7.1$ ) was used as the comparison star and the effects of differential atmosphere extinction were removed using the extinction coefficients derived from the comparison star observations. The extinction corrections were, however, very small because of the angular proximity of the comparison star to the variable star. The differential magnitudes in the sense (variable minus comparison) are plotted in Figure 1 where the phases were computed according to the ephemeris of Cristescu (1978):

$$\text{MinI} = \text{HJD } 2443448.2663 + 0.2783176 \cdot E$$

A determination of the time of secondary minimum was obtained from the data yielding:  $\text{MinII} = \text{HJD } 2443354.3410 \pm 0.0008^d$ . This minimum occurs at 0.475 phase according to Cristescu's ephemeris and represents an O-C =  $-0.007^d$  when the secondary minimum is assumed to occur at the half period point. This timing is in good agreement with other minimum determinations made during the same observing season (Hopp *et al.* 1979).

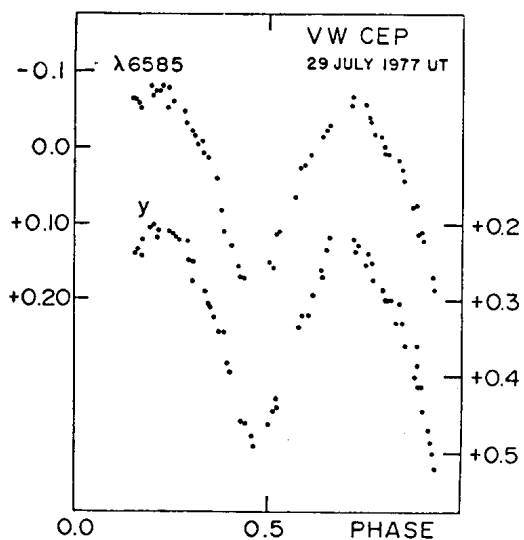


Figure 1. The  $\lambda 6585$  and  $\Delta y$  light curves of VW Cep as a function of orbital phase. The phases were computed according to the ephemeris of Cristescu(1978).

Although the light curve is only partially covered, the maxima are both defined by the observations and appear to have slightly different heights where the maxima near 0.25 phase are brighter than the corresponding maxima near 0.75 phase by about 0.015 mag in each bandpass. The light curve of VW Cep is intrinsically variable, at times showing asymmetries between adjacent maxima of 0.07 mag (Kwee, 1966).

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