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UBV PHOTOELECTRIC OBSERVATIONS OF UV PISCIIUM

The eclipsing binary UV Psc (=BD +6°189) has been listed by Hall (1976) in the table of short period group of the RS CVn-type binaries. This inclusion comes from discussion of Oliver (1974) who argued in favour of a subgiant companion to the main sequence G2 primary. According to Popper's spectroscopic observations (1969, 1976) the system is a double-lined binary with emission from both components present in the H and K line of CaII. Sadik (1978), Zeilik et al. (1981, 1982), Vive Kananda Rao and Sarma (1984), and finally Keskin et al. (1987) have presented photometric observations for this star. As in the light curves of all other RS CVn-type binaries, a continuous light variation due to the wave-like distortion has been recognized by most of the investigators. According to his light curve analysis Sadik (1979) stated that a locally hotter (rather than cooler) region was responsible for irregularities in the light curve. Extensive studies of this wave-like distortion have been carried out by Akan (1990) and a migration period towards the decreasing orbital phases of one year has been suggested. UBV photoelectric observations of UV Psc were made from September 1992 until November 1992 at Khadjeh Nassir Alddin Observatory of Tabriz University. The observations were carried out using a 40 cm Cassegrain-telescope. A photoelectric photometer equipped with an unrefrigerated

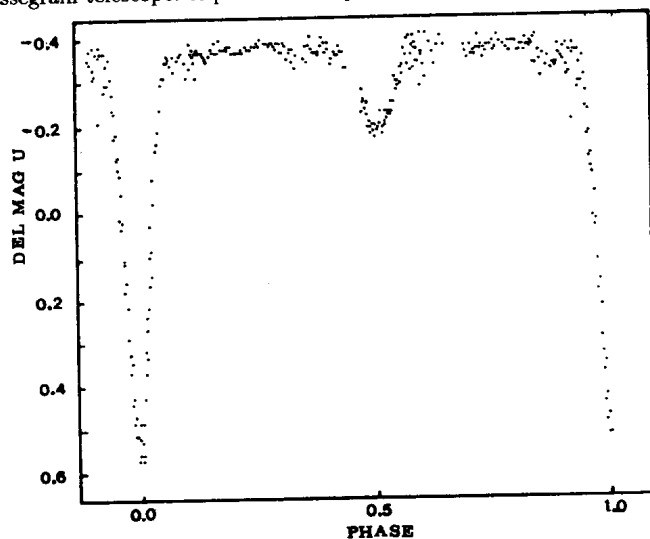


Figure 1

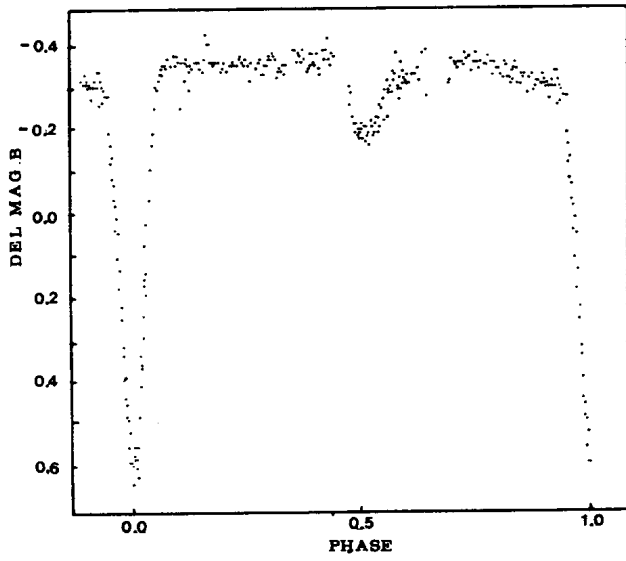


Figure 2

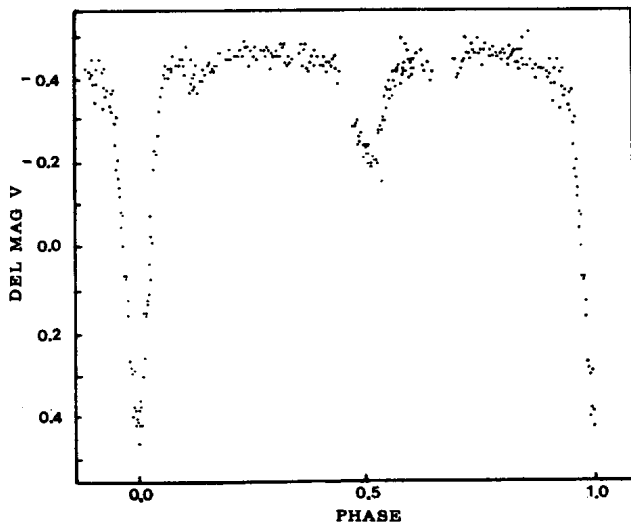


Figure 3

Table I

Date	Phase
22 Sept. 1992	0.45-0.63
24 Sept. 1992	0.82-0.02
1 Oct. 1992	0.89-0.11
3 Oct. 1992	0.10-0.44
17 Oct. 1992	0.45-0.59
19 Oct. 1992	0.68-0.86

Table II

JD Hel 2448000+	Filter	m. e.	rem.
888.3754	U	0.0006	II
888.3754	B	0.0007	II
888.3754	V	0.0007	II
897.4161	U	0.0007	I
897.4161	B	0.0006	I
897.4161	V	0.0007	I
913.3460	U	0.0006	II
913.3460	B	0.0007	II
913.3460	V	0.0008	II

photometer tube RCA 1P21 and Johnson's standard UB_V filters were employed during the observations. The stars BD+6°191 and BD+6°197 were used as comparison and check stars respectively. Phases were calculated using

$$\text{HJD} = 2444932.2985 + 0^{\text{d}}86104771 \times E$$

Table I lists the dates of observations and phases covered whereas Figures 1-3 summarize the results for U, B and V colours. Magnitudes are given in the instrumental UB_V system. The data has been folded so that both primary and secondary minima are clearly visible. These observations do indicate the presence of an asymmetrical distortion wave with a minimum amplitude near the mid point of the primary eclipse as well as the presence of asymmetry in the secondary eclipse.

The moments of minimum light determined with Kwee and Van Woerden's method are given in Table II.

In a further paper, we will present the results of the analysis of these light curves.

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