

COMMISSION 27 OF THE I. A. U.
 INFORMATION BULLETIN ON VARIABLE STARS

Number 3291

Konkoly Observatory
 Budapest
 16 February 1989
 HU ISSN 0374 - 0676

TIMES OF MINIMA AND THE LIGHT CURVE OF VW CEPHEI

We made differential B and V photoelectric observations of the W UMa type eclipsing binary system VW Cephei during six nights (from 24 July to 7 August 1988) at the Baja Observatory with the 40 cm Cassegrain telescope. The comparison star was BD+75^o765. Times of minima and the full light curve was determined.

The times of minima were calculated by a least squares parabolic fitting program. The following ephemeris was used (Kreiner and Winiarski, 1981):

$$\text{Min I (Hel.J.D.)} = 2444157.4131 + 0.^d27831460 \cdot E \quad .$$

The moments of minima are listed in Table I.

The full light curves in B and V bands are shown in Figure 1. It can be seen that the scatter of the measured points near the maximum after the primary minimum is larger than near the other maximum or any minima. This fact indicates that the light curve is strongly asymmetric in contradiction with Glowina's (1988) note.

Table I. Times of minima of VW Cephei

hel.JD -2400000	type	filter
7367.4545	I	V
7367.4543	I	B
7368.4292	II	V
7368.4287	II	B
7368.5664	I	V
7368.5649	I	B
7374.4117	I	V
7374.4122	I	B
7374.5510	II	V
7374.5516	II	B
7375.3878	II	V
7375.3877	II	B
7379.5610	II	V
7379.5610	II	B
7380.3960	II	V
7380.3960	II	B
7380.5340	I	V
7380.5338	I	B

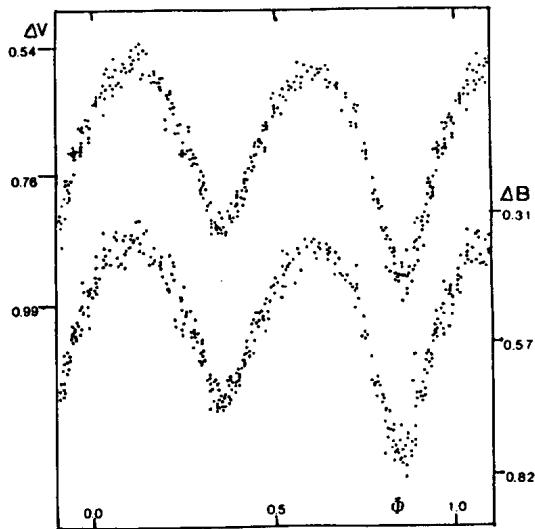


Figure 1. The light curves of VW Cephei

The light curves obtained in different nights show that the heights of the maxima are different ($\Delta h \approx 0.05$ mag) and this difference was varying during our observational period (see also Kreiner and Winiarski, 1981; Kotarska and Glowina, 1983). This behaviour may be explained by the starspot model described by Yamasaki (1982) or Bradstreet and Guinan (1988). The large scatter near the mentioned maximum may be caused by the large surface activity of the components.

The list of the individual observations can be requested from the author. The author wishes to express his thanks to T. Hegedüs for his help and advice in the measurements and the data reduction.

J. VINKÓ

JATE University
Department of Physics
Szeged, Dóm tér 9.
H-6720, Hungary

References:

- Bradstreet, D.H., Guinan, E.F. 1988, In: "A Decade of UV Astronomy with IUE", ESA SP-281, vol.1, 303.
Glowina, Z. 1988, Inf. Bull. Var. Stars, No.3258.
Kotarska, I., Glowina, Z. 1983, Astron. Nachr., 304, No.4, 181.
Kreiner, J.M., Winiarski, M. 1981, Acta Astr., 31, No.3, 351.
Yamasaki, A. 1982, In: "Binary and Multiple Stars as Tracers of Stellar Evolution", eds. Z. Kopal and J. Rahe, p.305.