

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

Number 2986

Konkoly Observatory
Budapest
18 February 1987
HU ISSN 0374-0676

PHOTOELECTRIC LIGHT CURVES OF V523 CASSIOPEIAE

The very short period eclipsing binary system V523 Cas was discovered by Weber (1957). V523 Cas and CC Com have the shortest orbital periods, $0^d.234$ and $0^d.221$, respectively, of any of the known eclipsing systems. Subsequent photoelectric light curves have been published by Lavrov and Zhukov (1976), Bradstreet (1981) and Hoffman (1981). Zhukov (1985) studied all available light curves and reported both long term and short term cyclic variations.

The present observations of V523 Cas were made on three nights during October, 1986. The 24 inch F/13.5 reflector at Lowell Observatory was used with standard Johnson B,V filters and a thermoelectrically cooled EMI 6256 photomultiplier tube. The comparison and check stars were BD 49°0160 and BD 49°0151, respectively. Approximately 460 observations were obtained at each effective wavelength.

Six epochs of minimum light were determined, using the Hertzsprung technique (1928), from observations made during three primary and three secondary eclipses. These are given in Table I.

Table I

JD Hel. 2446700+	Minimum	Cycles	(O-C)
6.66816	I	-9.0	0.0002
7.71907	II	-4.5	-0.0005
7.83668	I	-4.0	0.0003
7.95309	II	-3.5	-0.0002
8.65443	II	-0.5	0.0001
8.77141	I	0.0	0.0002

The B and V light curves of V523 Cas defined by the individual observations are shown in Figure 1 as Δm versus phase. The analysis of the observations is underway.

RONALD G. SAMEC
BEVERLY B. BOOKMYER
Dept. of Physics & Astronomy
Clemson University
Clemson, SC 29634-1911, USA

References:

- Bradstreet, David H. 1981, *Astron. Journal* 86 (1), 98.
Hertzsprung, E. 1928, *Bull. Astron. Inst. Neth.* 4, 179.
Hoffman, M. 1981, *Inf. Bull. Var. Stars* No. 1976.
Lavrov, M. I. and Zhukov, G. V. 1976, *Trudy Kazan. Gorod. Astron. Obs.*
Nos. 42-43, 46.
Weber, R. 1957, *Bull. Soc. Astron. Fr.* 71, 36.
Zhukov, G. V. 1985, *Sov. Astron. Lett.* 11 (1), 42.