

COMMISSION 27 OF THE I. A. U.  
 INFORMATION BULLETIN ON VARIABLE STARS  
 Number 1237

Konkoly Observatory  
 Budapest  
 1977 February 10

PERIOD CHANGES OF THE EARLY TYPE ECLIPSING  
 BINARY SZ CAMELOPARDALIS

Five new minima of the eclipsing binary SZ Cam (HD 25638, Sp. 09.5 V + B2?) were obtained photoelectrically with the 60cm telescope at Skalnaté Pleso Observatory in intermediate pass-band filters (halfwidth 195 Å) centered at 4700 and 5200 Å.

All available minima are listed in Table 1.

Table 1

J.D. hel. 2400000+	Minimum	E	O - C days	Observer
27533.5191	prim.	0	0	Wesselink
40897.5387	sec.	4952.5	0.1114	Olsen
40911.0264	sec.	4957.5	0.1070	Kitamura-Yamasaki
40915.0722	prim.	4959	0.1052	Kitamura-Yamasaki
40924.5237	sec.	4962.5	0.1122	Olsen
41666.6009	sec.	5237.5	0.1249	Chochol
42762.2083	sec.	5643.5	0.1751	Chochol
42775.7037	sec.	5648.5	0.1784	Chochol
43076.5917	prim.	5760	0.1930	Chochol
43134.6074	sec.	5781.5	0.1927	Chochol

Predicted times of minima were calculated according to Wesselink's ephemeris, (Wesselink, 1941):

$$\text{Min.} = \text{JD } 2427533.5191 + 2.6984166 \cdot E.$$

We assume that the secondary minimum is at the phase 0.5.

As it is seen in the Figure, the original Wesselink's period does not agree with our measurements. The same problem is with the revised period of Kitamura and Yamasaki (1972): 2.6984378 days. The new ephemeris as derived from Skalnaté Pleso measurements is:

$$\text{Min.} = \text{JD } 2441666.6009 + 2.69854365 (E + 0.5).$$

It seems that there occurred an abrupt change of the period

around the year 1972. The increase of the period is probably due to the change in the rate of mass transfer between the components. The effects of mass transfer are seen quite well on the spectrograms taken in the years 1972-1975 in coudé focus of the Ondřejov 2 m telescope.

The interpretation of spectroscopic and photometric observations will be published in a forthcoming paper.

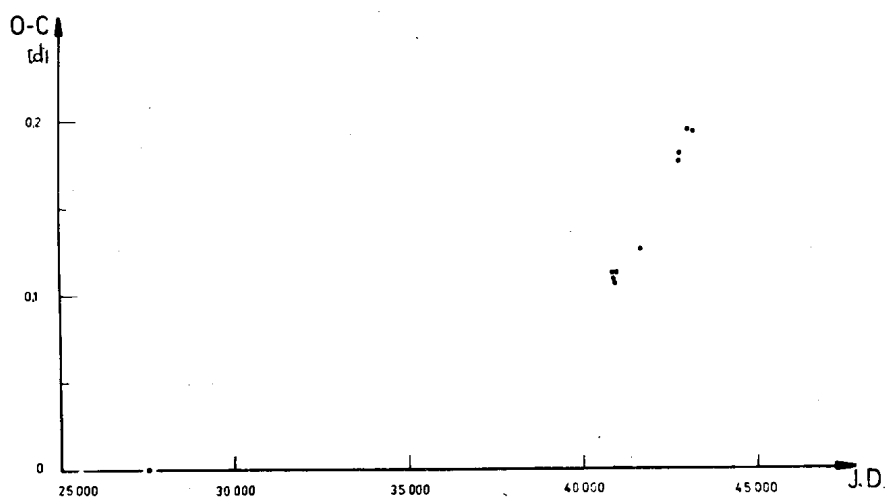


Fig. 1

O-C for SZ Cam based on the original Wesselink's period.

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References:

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2. Kitamura, M., Yamasaki, A., 1972, Tokyo Astr.Bull. 220, 2563