

COMMISSION 27 OF THE I. A. U.  
INFORMATION BULLETIN ON VARIABLE STARS  
Number 1854

Konkoly Observatory  
Budapest  
1980 October 13  
HU ISSN 0374-0676

UBV PHOTOMETRY OF SZ Lyn

Between December 1979 and March 1980 about 350 photoelectric observations of the short-periodic variable SZ Lyn were carried out with the aid of 64 cm reflector of the Crimean Astrophysical Observatory.

The observations were made in the UBV system with a photometer employing uncooled EMI 6256B tube. The standard techniques of differential photometry were employed both in the observations and reduction procedures.

The comparison star was BD +45°1544 ( $V=9^m.43$ ;  $B-V=+0^m.46$ ;  $U-B=+0^m.03$ ).

The light and colour variations are shown in Figure 1.

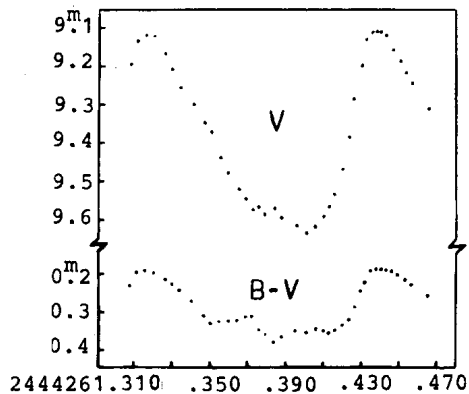


Figure 1

From the observed light curves 6 heliocentric moments of maxima and corresponding magnitudes were determined (see Table 1).

Differences O-C refer to the following linear elements:

$$\text{Max. hel. JD} = 2438124.3977 + 0^d.12053481 \cdot E$$

given by Barnes and Moffet (1975).

Table I

JD <sub>hel</sub>	O-C	B <sub>max</sub>	V <sub>max</sub>	(B-V) <sub>max</sub>
2444222.3817	+0. <sup>d</sup> 0074	9. <sup>m</sup> 330	9. <sup>m</sup> 105	+0. <sup>m</sup> 225
257.4574	.0075	9.316	9.095	0.221
261.3156	.0086	9.325	9.126	0.199
261.4359	.0083	9.312	9.115	0.197
262.2787	.0074	9.315	9.100	0.215
269.2711	.0088	9.323	9.121	0.202

As it follows from this Table there are small variations of maximum brightness. However, we do not confirm radical changes in the shape of maximum claimed by van Genderen (1967) and Wisse and Wisse (1969).

The maximum brightness changes with the phase  $\psi$  of 1146 days period. Our observations are shown by open circles in Figure 2 taken from the paper by Barnes and Moffet (1975).

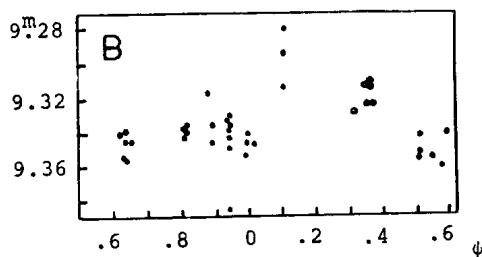


Figure 2

The scattering in values of B<sub>max</sub>, V<sub>max</sub> and O-C shows the existence of more rapid changes.

All individual B and V light curves at the 0<sup>P</sup>4-0<sup>P</sup>6 of the pulsation period phases show the wave, whose amplitude varies in appreciable limits. The wave is also observed on the (B-V) curve.

On the basis of radial velocity determinations McNamara et al. (1976) consider that stellar radius reaches maximum at phase 0<sup>P</sup>4. Consequently the wave is the result of the processes taking place at the initial stage of the stellar compression.

We wish to thank the authorities of the Crimean Astrophysical Observatory for giving us the chance to get the observations.

References:

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