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NEW B,V LIGHT CURVES OF LS DELPHINI

LS Del (BD+19^o 4574, HD199497) was discovered as a W UMa type eclipsing variable by Bond(1976) from photometric and spectroscopic observations. Bond gave a light curve, based on only 24 points, in the uvby photometric system and derived a period of 0.3638 days. According to the list published in the 4th edition of GCVS, the visual magnitude of the system varies from 8.61 to 8.76. The variable received its current name in 1981 (Kholopov et al., 1981).

New photoelectric observations of LS Del in B,V colors were made by us, with the 60-cm Cassegrain telescope at the Xinglong station of the Beijing Astronomical Observatory, on 4 nights of August 1986. In the observations, BD+19^o4576 and +19^o4590 were used as comparison and check stars, respectively. Data concerning them are summarized in Table I. One primary and two secondary minima were obtained. Those minima are listed in Table II, together with the time of minimum of LS Del obtained by Bond. The new light elements obtained as follows:

$$\text{Hel MinI} = 2,446,670.1658 + 0.^{\text{d}}3639207 \text{ E}$$

$\quad \quad \quad \underline{+22.} \quad \quad \quad \underline{+ 3}$

Table I

Data for variable, comparison and check stars

BD	Name	Sp.	V	B-V	
+19 4574	LS Del	MinI	G5IV	8.89	0.89
		MinII		8.87	0.90
		Max		8.73	0.89
+19 4576	Comparison	K0	8.50	1.00	
+19 4590	Check	F5V	7.40	0.50	

Table II
Times of minima of LS Del

JD hel 2440000.+	E	O-C
2687.418 *	-10944	+0.0003
6668.1609	-5.5	-0.0033
6670.1686	0	+0.0028
6671.0744	+2.5	-0.0012

* Bond (1976).

The period found by us is slightly longer than the old one. The light curves are shown in Figure 1 where the differential magnitudes $\Delta B, \Delta V$ for the system relative to the comparison star have been plotted against the phases which were calculated with the elements given in this article.

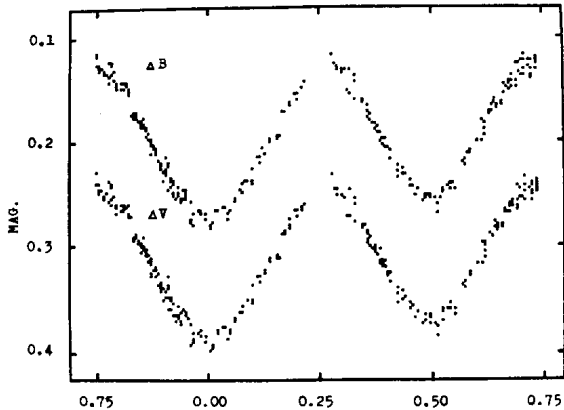


Figure 1

From the new observations, the depth of primary minimum is 0.16 mag. in V band, a little deeper than 0.15 mag. given by Bond. The difference between the depth of the primary and secondary minima is of 0.02 mag. The detailed discussion will be given elsewhere.

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