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NEW PHOTOELECTRIC LIGHT CURVES OF BL ERIDANI

Photoelectric observations of BL Eri (=BD−12°0818) were carried out in December 1991 with the 1-m telescope at Yunnan Observatory in China. Differential measurements made on two nights in B and V resulted in 254 individual observations in each bandpass. The two stars BD−12°0814 and BD−12°0821 were chosen as the comparison star and the check star, respectively. The observational accuracy throughout the observing period as derived from the magnitude differences between the two comparison stars is $\pm 0\overset{m}{.}012$ (V) and $\pm 0\overset{m}{.}016$ (B).

The times of minimum light for BL Eri shown in Table I were determined by a least squares analysis. The O−C values in Table I were computed from the following ephemeris:

$$\text{Min.I (Hel. J.D.)} = 2444606.5884 + 0\overset{d}{.}41691591 \times E$$
$$\pm 3 \qquad \pm 12(\text{p.e.})$$

which was derived by a least squares analysis utilizing all the photoelectric times of minimum light.

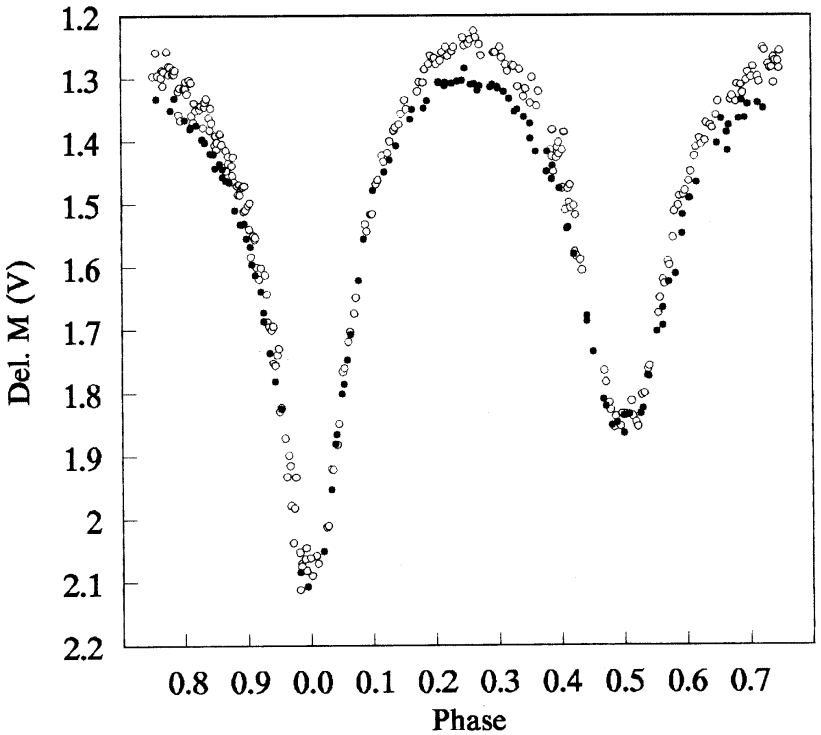

Figure 1. Light curves of BL Eri in V. The open circles show the present observations and the filled circles indicate Yamasaki et al.'s observations in 1982 and 1986.

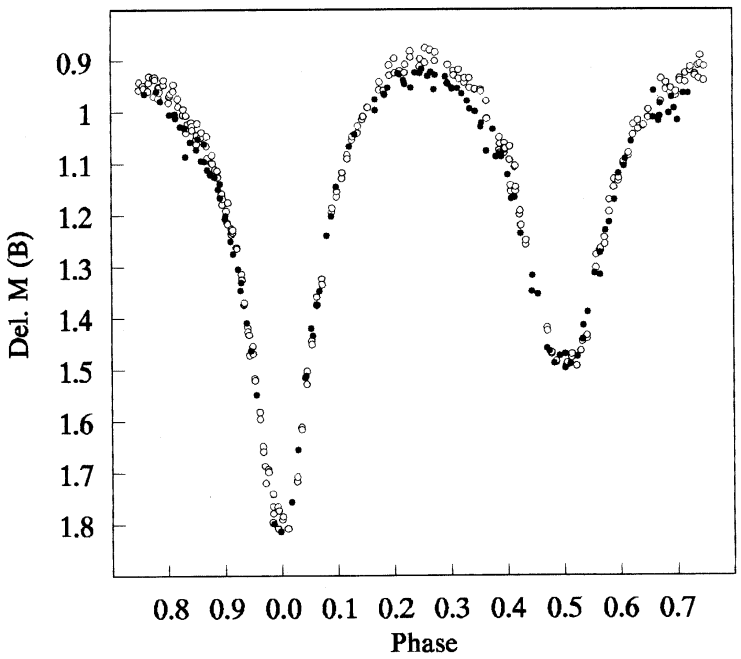

Figure 2. As Figure 1, but in B.

Table I. Times of minimum light for BL Eri

Hel. J.D.	Min.	Epoch	O−C
2448602.1026	II	9583.5	0.0006
2448603.1452	I	9586	0.0009

The light variations of BL Eri relative to BD−12°0814, magnitudes differences in the sense variable − comparison, are shown in Figure 1 (ΔV) and Figure 2 (ΔB) as open circles (the present observations) and filled circles (Yamasaki et al.'s observations in 1982 and 1986 (Yamasaki et al., 1988). The light curves indicate that significant stellar activity probably occurs in this binary.

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Reference:

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