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PHOTOELECTRIC LIGHT CURVES OF RR LEPORIS

The eclipsing binary system RR Lep (BD-13°1086) was first discovered by Hoffmeister (1931). Although there have been subsequent visual and photographic reports, no photoelectric work has been done on the system. For this reason, RR Lep was selected for observation on seven nights during December, 1979. The number two 41cm telescope at Cerro Tololo Inter-American Observatory was used with standard B, V filters and an RCA 1P21. The comparison and check stars were BD-13°1090 and BD-12°1091, respectively. Approximately 700 observations were obtained at each effective wavelength. Two epochs of minimum light were determined from the observations made during one primary and one secondary eclipse. These are shown in Table I.

TABLE I

JD Hel 2444200+	Minimum	(O-C)
26.66347	I	+0.0000
31.69675	II	-0.0015

The times of minimum light in Table I along with 27 other epochs by Erleiksova (1953, 1966), Orion 122, 124 and 129 (1971, 1972) and BBSAG #6 (1973) were introduced with varying weights into a least squares solution to obtain the ephemeris:

$$\text{JD Hel Min.I} = 2444226.6634 + 0.91542787 E$$

$$\pm \quad \quad \quad 44 \pm \quad \quad \quad 42 \text{ p.e.}$$

This was used to calculate the O-C's in Table I.

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

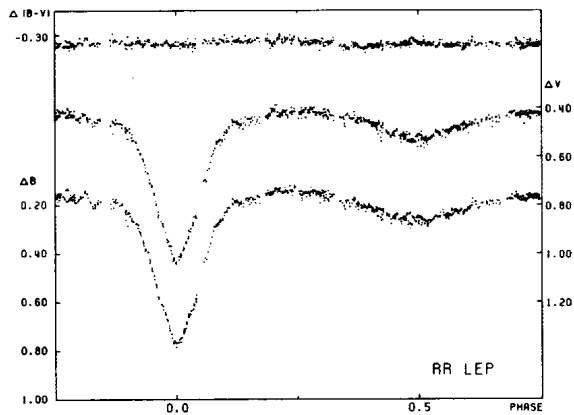


Fig. 1 - Light curve of RR Lep defined by the individual observations.

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