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1984 UBVR LIGHT CURVES OF ER Vul

The star ER Vul (SAO 089396) was discovered as a spectroscopic binary by Northcott and Bakos (1956), and included in the Hall (1976) list of short period RS CVn stars.

The system ER Vul was observed during 8 nights, on the 13th and from the 22nd to the 27th of August 1984, from the Observatorio del Roque de Los Muchachos at La Palma (Canary Islands), using the People's Photometer, a two channel photoelectric photometer and UBVR filters of Cousins system, (1976), at the Cassegrain focus of the 1m JK Telescope.

The stars SAO 089378 and SAO 089381 were used as comparisons. The results are given in Figures 1, 2, 3 and 4 where the differential magnitude is plotted against the phase, calculated using the ephemerides of Al-Naimiy (1981).

$$\text{HJD} = 2440182.3212 + 0^{\text{d}}.698082 \cdot E$$
$$\begin{array}{ccc} \pm & 8 & \pm \\ & & 2 \end{array}$$

The curves show irregularities which have already been commented in previous studies, Northcott and Bakos (1967), Al-Naimiy (1981), Kadouri (1981), Hrivnak (1982) and Zeilik et al. (1982).

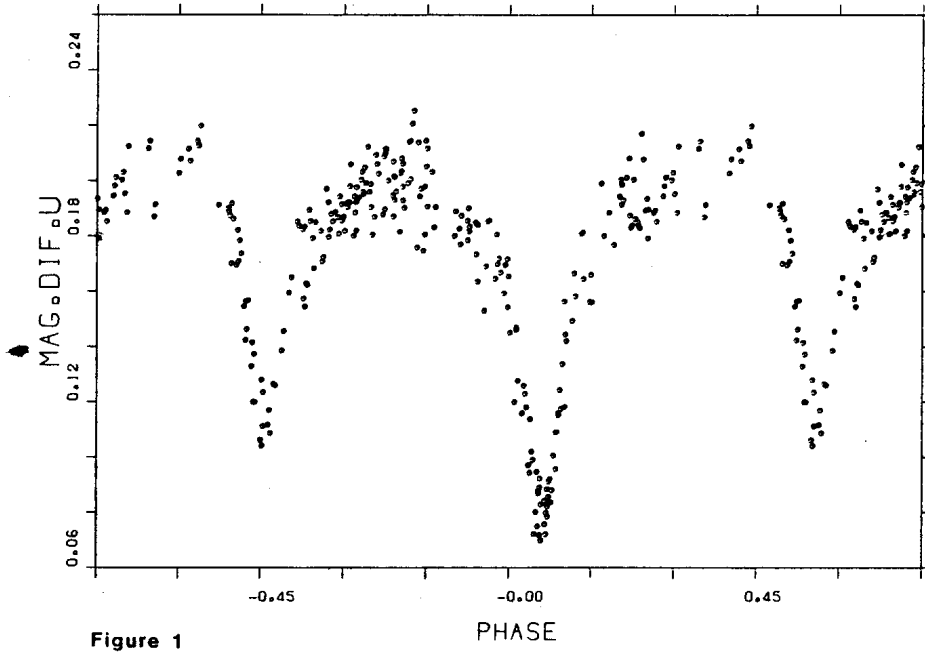


Figure 1

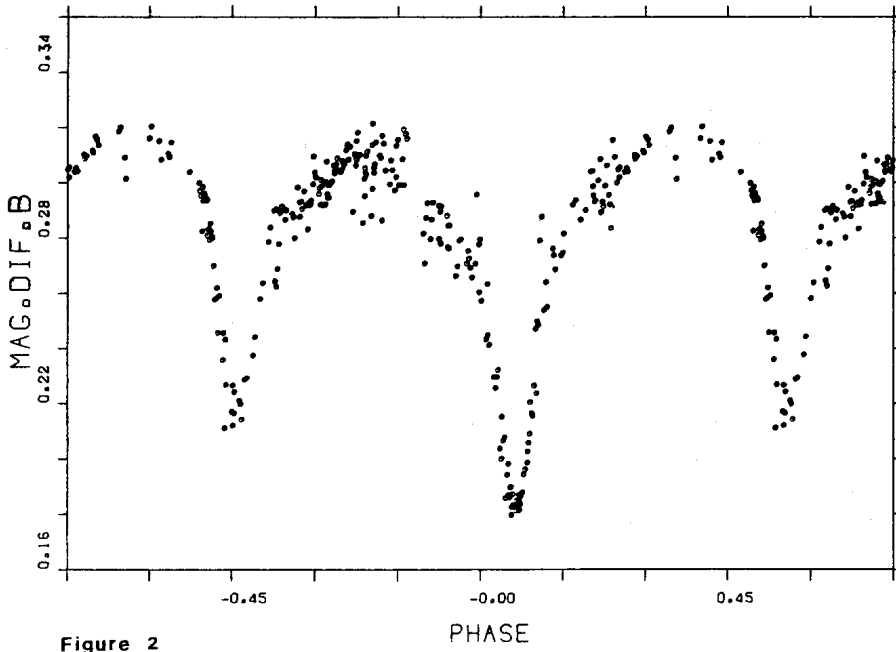


Figure 2

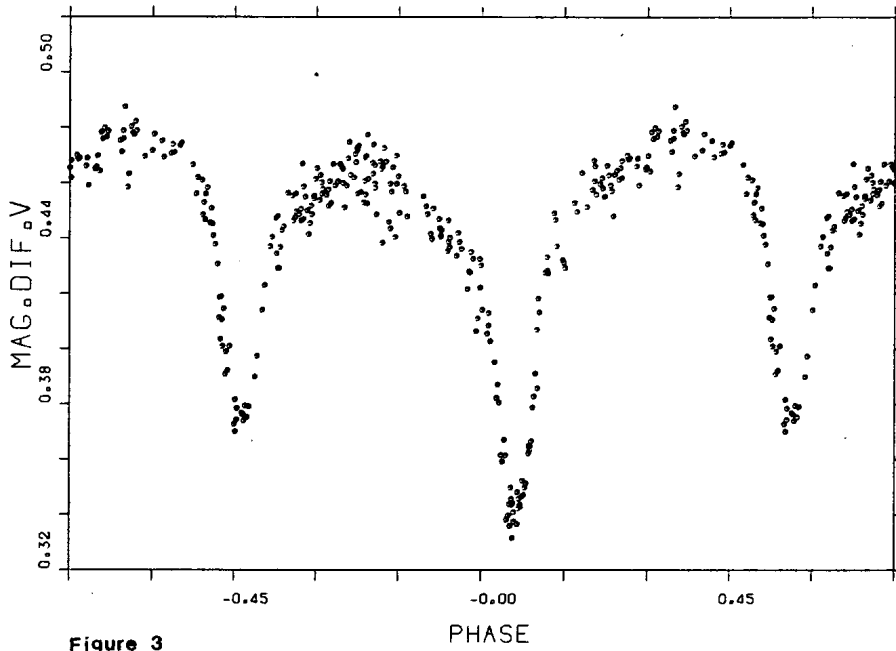


Figure 3

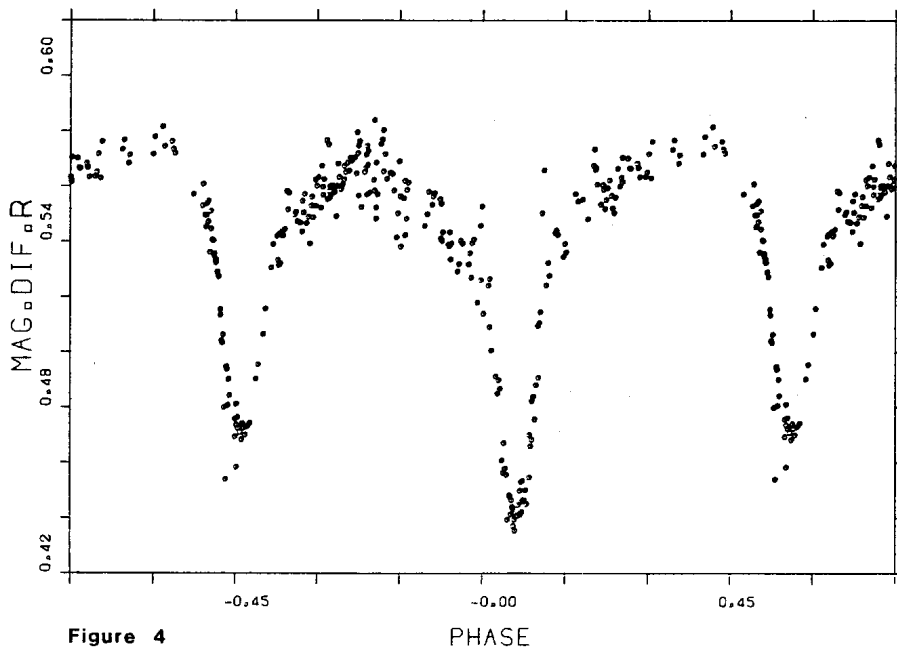


Figure 4

We agree with Zeilik et al. (1982) in the assumption that there is higher dispersion of the measurements outside the eclipses than during these. Second, the shoulder at phase 0.25 is still depressed and more symmetrical than that at 0.75, as well as variations shorter than one week. A more detailed study of these curves is being prepared for publication.

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