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THREE-COLOUR PHOTOELECTRIC LIGHT CURVES
OF THE ECLIPSING BINARY RS VULPECULAE

The eclipsing binary RS Vul (BD+22^o3647) was observed photoelectrically between 19 June and 12 November, 1982 on 50 nights with the 30 cm Maksutov telescope of Ankara University Observatory. A total of 178 (181 in U colour) observations was obtained in ultraviolet, blue, and yellow lights. An RCA 1P21 photomultiplier and UBV filters, which are close to the standard UBV system, were used.

BD+21^o3740 and BD+21^o3719 were used as comparison and check stars, respectively. The light curves are shown in the Figures 1, 2, 3, where the individual magnitude differences were formed in the sense comparison minus variable, have been plotted against the phases which were calculated with the light elements given below :

$$\text{Min I} = \text{JD Hel. } 2445\ 229.298 + 4.4776635 \cdot E$$

where the value of T_0 was determined from the present observations, and the period was taken from G.C.V.S. (1969).

A glance at the light curves clearly indicates that the depth of the secondary minimum becomes more pronounced towards longer wavelengths. The observations are relatively deficient at about phases 0.94, 0.04, and 0.52. The depths of the primary minima are about 1.^m10, 1.^m07, and 1.^m00 in the U, B, V colours, respectively. Due to the relative scattering of the observations at U, the depth of the secondary minimum could not be determined properly. However, the depths of the secondary minima at B and V were observed to be 0.^m10 and 0.^m11, respectively. The observed depths of the primary minima of the system from the present light curves are in good agreement with the earlier ones except given by Popper (1957) (ΔB and $\Delta V \approx 0.^m65$).

Figures 4 and 5 show the colour variations of RS Vul with respect to the comparison star.

I would like to express my thanks to Dr. Zeki Aslan, for his helpful suggestions and valuable advice.

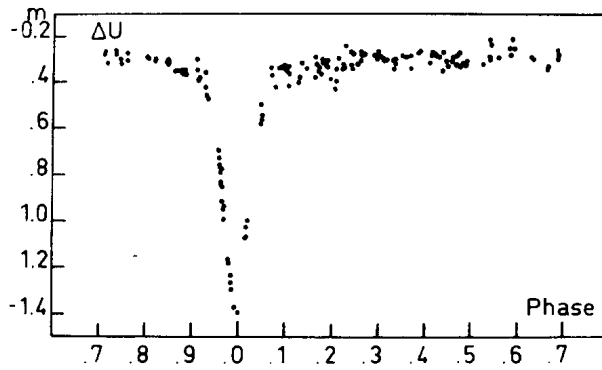


Figure 1. The U light curve of RS Vul

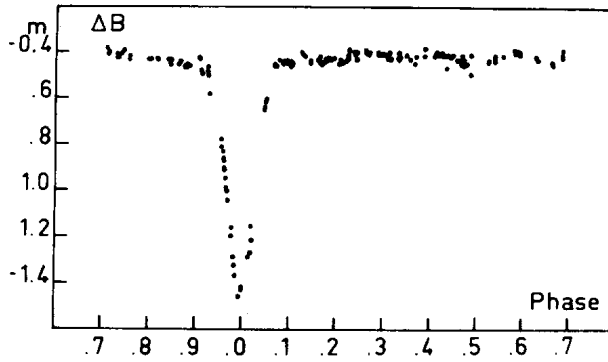


Figure 2. The B light curve of RS Vul

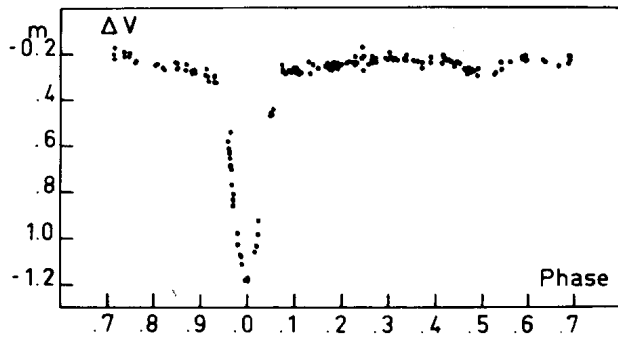


Figure 3. The V light curve of RS Vul

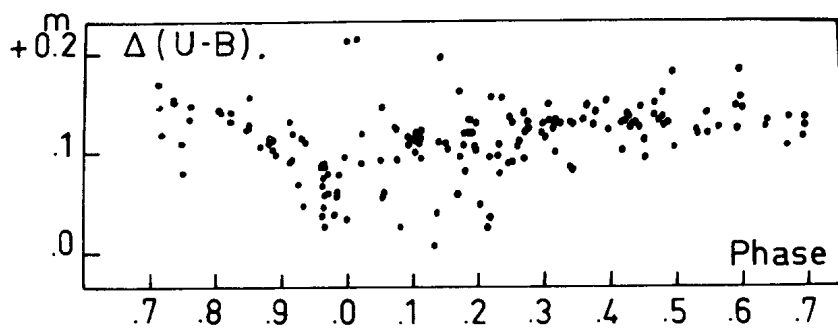


Figure 4. The (U-B) variation of RS Vul

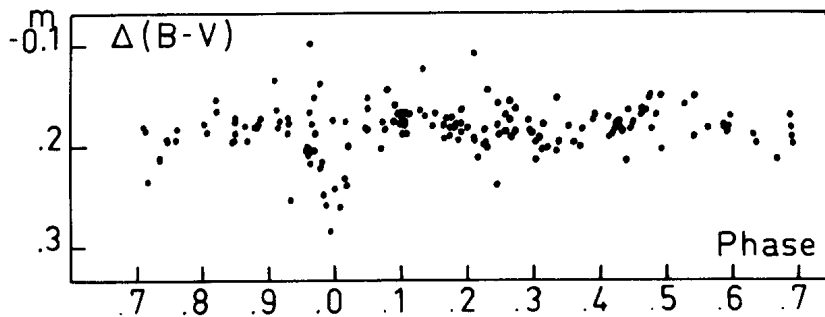


Figure 5. The (B-V) variation of RS Vul

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