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RV CVn, A REMARKABLE SHORT PERIOD ECLIPSING BINARY

RV CVn, a W UMa system placed in the sky not far from the globular cluster M3, has been discovered by Larink (1921) and discussed by means of photographic observations by Szeidl (1973).

This object has been observed with the double beam photometer at the 1.06m telescope of Hoher List Observatory on May 14 and 15, 1980 in B and V with integration times of 180 seconds for each measurement. Comparison star has been BD+29°2444. The following minima times have been obtained:

Min. II JD 2444374.5045 O-C=+0.^d0101

Min. I JD 2444375.4430 O-C=+0.^d0051

The O-C's have been computed according to the period given by Szeidl:

Min. I = 2424642.587 + 0.^d2695671E

Considering the precision of the photographic minima determinations and a possible variability of the light curve shape which can be expected for a short period W UMa system, the period has remained constant to 10^{-7} within the last 60 years.

With the light elements given above the B and V measurements relative to BD+29°2444 have been plotted in Figs. 1 and 2.

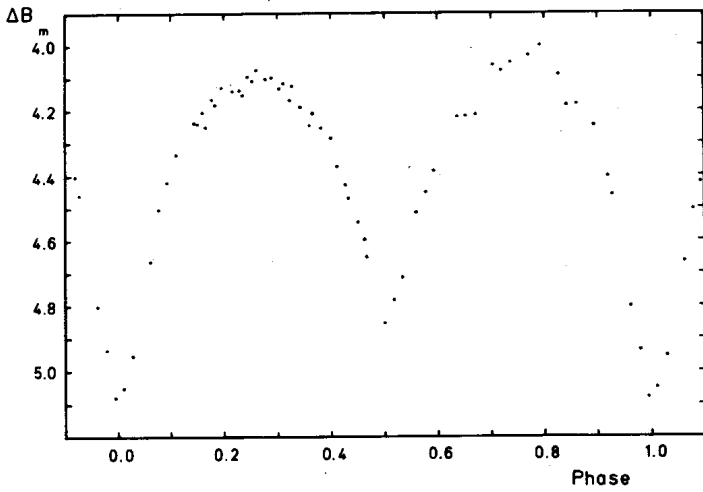


Fig. 1 B light curve of RV CVn

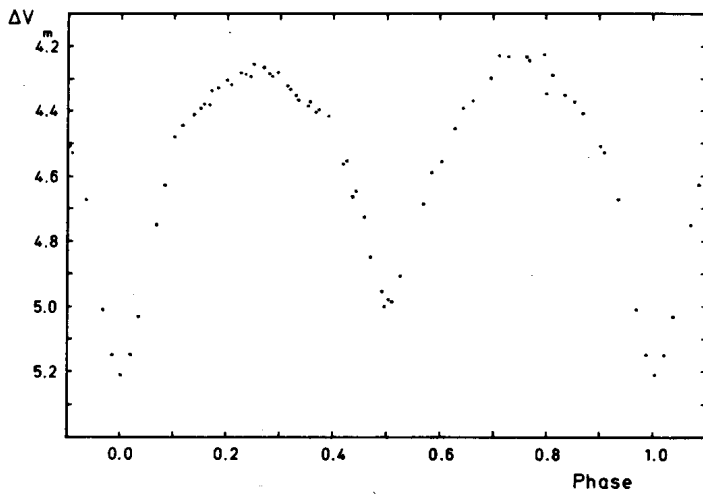


Fig. 2 V light curve of RV CVn

The light changes of RV CVn exceed $1^m.0$, which is quite rare among W UMa systems. The difference of the minima depths ($\Delta V^m.25$) is large for ordinary contact systems. At phase 0.35 in both nights a considerable "shoulder" has been found in the light curve indicating some activity in the system. The minima of RV CVn are apparently incomplete, but because of the not very densely covered light curves a detailed analysis has been omitted. With some reservation (e.g. is the contact model applicable?) the light curve atlas by Anderson and Shu (1979) indicates a mass ratio of 0.9 and an inclination of more than 80° .

These characteristics make RV CVn a favourable target for further more detailed investigations.

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