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TWO-COLOUR PHOTOELECTRIC LIGHT CURVES  
OF THE ECLIPSING BINARY V367 Cyg

The light-variability of V367 Cyg, which was first suspected by Humason, was confirmed by Christie (1932). Here I present the latest light curves of the system.

The eclipsing binary V367 Cyg was observed in B and V colours at the Ege University Observatory from August 22 to December 9, 1984. The observations were made with the 48 cm cassegrain telescope equipped with an unrefrigerated EMI 9781A photomultiplier. BD + 38<sup>o</sup>4239 was used as comparison star. A total of 250 observations in each colour were obtained on 23 nights. The phases of the observations have been computed from the ephemeris given by Abt (1954):

$$\text{Primary minimum} = \text{JD } 2434\ 266.296 + 18^{\text{d}}.5972 \text{ E.}$$

The differential observations in the sense comparison minus variable were corrected for atmospheric extinction and the times of individual observations were reduced to the Sun's centre. Figure 1 and Figure 2 show the B and V light curves of V367 Cyg, respectively.

It can be seen from Figure 1 and Figure 2 :

- a) that the maxima preceding primary minima are brighter than the maxima following primary minima (this feature is well distinguished especially in the B light curve rather than the V light curve)
- b) that the ascending branches of the light curves are slightly steeper than the descending branches, particularly in the secondary minima.

These two characteristics of the present light curves of the system are in well conformity with those of Christie, Kukarkin and Parenago, Filin, Gaposchkin, and of Heiser (see Heiser, 1962).

Normalizing these new light curves to 0.0 mag at phase 0.75 a further approximate comparison with the earlier ones can be made. Doing so, it can be easily seen that both the primary and the secondary minima fall between those

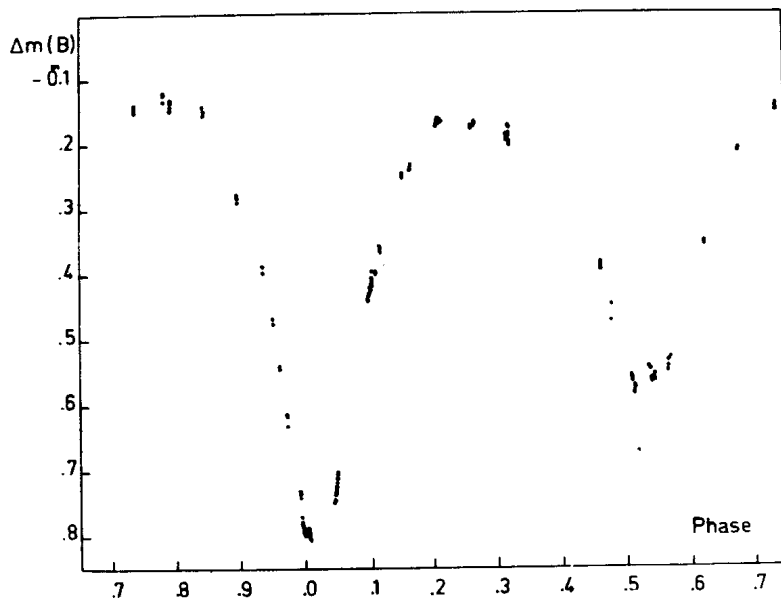


Figure 1 : The B light curve of V367 Cyg in 1984.

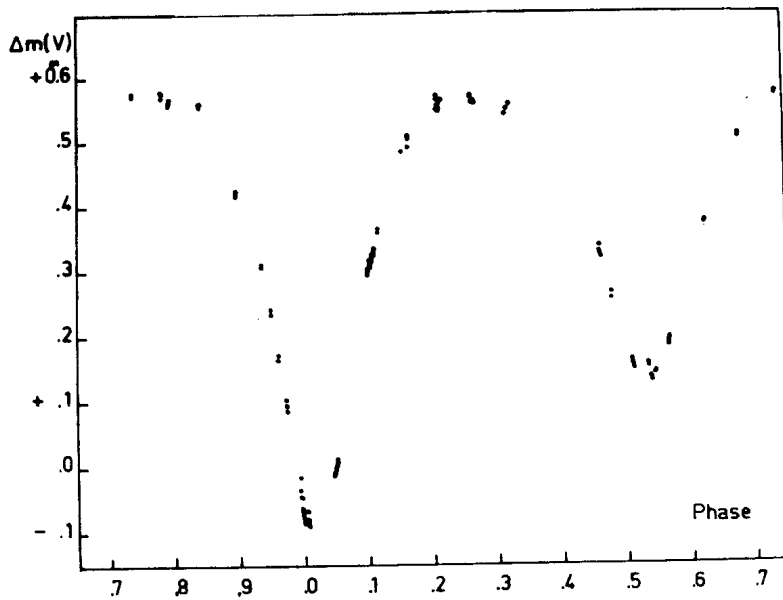


Figure 2 : The V light curve of V367 Cyg in 1984.

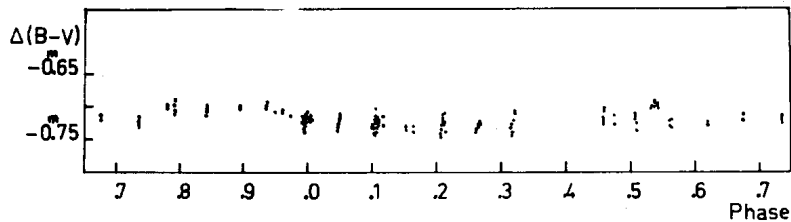


Figure 3 : The (B-V) curve of V367 Cyg in 1984.

of Filin and of Gaposchkin (see Heiser, 1962). This, once again proves the fact that the depths of the minima of V367 Cyg varies with time.

The colours of V367 Cyg as a function of phase, shown in Figure 3, have some slight variations of small amplitude. Considering the sudden reddening between phases 0.95 and 0.00, and the abrupt variation towards blue near the phase 0.54 which is coincident with the secondary minimum of the light curve, it is possible to say that the primary star is the hotter star.

It should be noted here that computation of a new time of primary minimum was especially avoided since the quantity of the observations at the mid-primary had been considered insufficient to permit such an attempt. The photoelectric observations of V367 Cyg will be continued in the coming observing season.

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