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THE ECLIPSE OF THE SYMBIOTIC ECLIPSING BINARY
SYSTEM CI CYGNI IN 1982

Regular UBV photometry of CI Cyg ($P = 855^d_{.25}$) has been carried out at Crimean Astrophysical Observatory starting from 1973 (Belyakina, 1979 and 1983). The last eclipse of the hot component by the cold one in this binary system occurred in 1982. Ten measurements of CI Cyg in UBVR system were realized at the 125 cm reflector in addition to the usual UBV photometry carried out at the 64 cm meniscus telescope.

The results of all these observations are plotted in Figures 1 and 2. The brightness of CI Cyg had been rising before the eclipse in the U, B and V bands (Figure 1). The eclipse began on about JD 244 5190. The brightness in U, B, V and R bands decreased by $1^m.2$, $0^m.9$, $0^m.4$ and $0^m.1$, respectively till JD 244 5225. During that period the I-light remained constant. After the phase 0.0 (\approx JD 244 5250) the second light weakening occurred with the amplitudes $\Delta B = 0^m.2$, $\Delta V = 0^m.4$, $\Delta R = 0^m.3$ and $\Delta I = 0^m.2$. In this case the U-light remained constant. According to Figure 2 the durations of the 1980 and 1982 eclipses are compatible. But both colour-indices in 1982 minimum are redder than those in 1980.

Apparently, the second light weakening in the minimum is caused by the variations of the red component. From our total photometric data we inclined to conclude that the cold component of the CI Cyg binary system is an irregular variable red giant changing its light within some dozens of days with amplitudes $\Delta V \leq 0^m.4$. It is worth noting that, in this respect, it looks like single red giants investigated by Stokes (1971).

The IR photometry also showed the variations of the cold component of CI Cyg (Taranova and Yudin, 1981).

The observations of CI Cyg in the UBVR system were carried out during 1-3 hours with time resolution 25 sec in three nights indicated by the arrows in Figure 1. The obtained light variations did not exceed ± 0.01 .

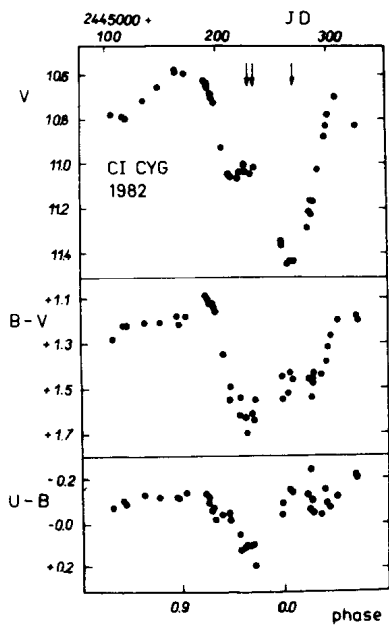


Figure 1

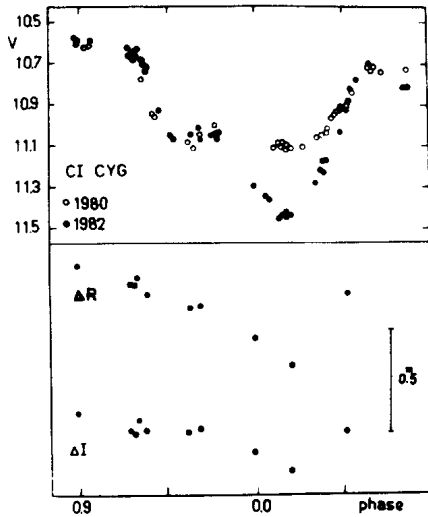


Figure 2

Apparently, in the 1982 eclipse of CI Cyg there were no light fluctuations observed by Burchi et al. (1983) in 1980.

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