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RAPID VARIABILITY OF SYMBIOTIC STARS:
CH CYGNI AND EG ANDROMEDAE

Previous investigations of 12 symbiotic stars have shown that they do not exhibit flickering activity (Walker, 1977). Only for one star CH Cyg the presence of flickering similar in nature to that seen in the cataclysmic variables has been confirmed during the course of its outburst in 1977 (Slovak, Africano, 1978).

Two of the symbiotic stars were observed by us in September 1980 by using the 1 m telescope of the Konkoly Observatory of the Hungarian Academy of Sciences, equipped with an automatic one-channel photometer with an unrefrigerated photomultiplier EMI 9058. All the observations were made in standard U filter. Because all the observations were made near to the zenith so the differential atmospheric extinction could be neglected.

CH Cyg: BD +49°2994 was used as comparison star. The integration time of one measure was 3s. After every 15 measurements the comparison star and the background were observed with the same integration time. The mean standard error determined from measures for the comparison star was $0^m.005$. The results are shown in Fig.1. It seems that CH Cyg shows rapid variability with an amplitude above $0^m.1$ on time scales about 15-20^m similar to that described by Slovak and Africano (1978). Additional rapid flickering activity (about some hundredths of magnitude and on the time scales of some minutes) may also be present but it is not clearly discernable because of the method of observation.

EG And: BD +40°158 was used as comparison star. The method of observations was the same as in the case of CH Cyg. The in-

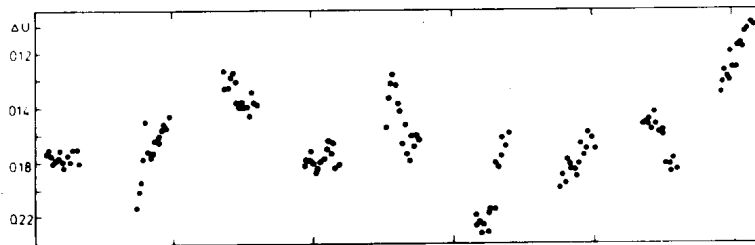


Fig.1. Rapid light variation of CH Cyg in the standard U filter. The observation was made on 4 September 1980. Time marks are 500s apart.

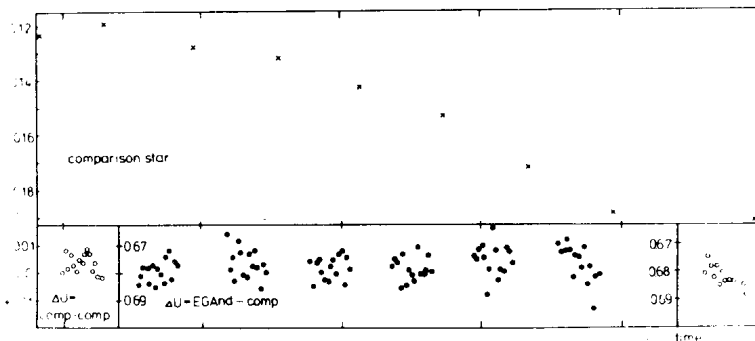


Fig.2. U observations of EG And. Crosses correspond to the comparison star; dark points to differences in magnitudes of EG And and comparison star; open circles to control series of measures of comparison star. The observation was made on 5 September 1980. Time marks are 500s apart.

tegration time was 5s. The mean standard error was about $0^m.005$. It seems that the quiescent symbiotic star EG And does not show any rapid variability with the amplitude above the noise (Fig.2). Small differences in brightness are caused rather by interpolation errors.

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