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THE PHOTOMETRIC ACTIVITY OF  $\alpha$  And FROM OCTOBER '75 TO JANUARY '76

The shell star  $\alpha$  And ejected a new shell in July 1975 (I.A.U. Circ.No.2802). From that time the star's spectrum has shown a remarkable activity. Following that, we decided to monitor photoelectrically this star.

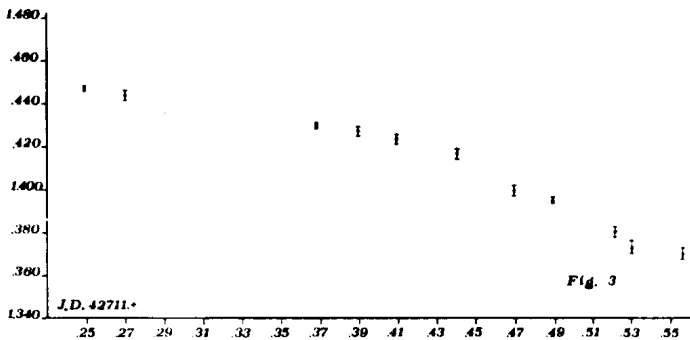
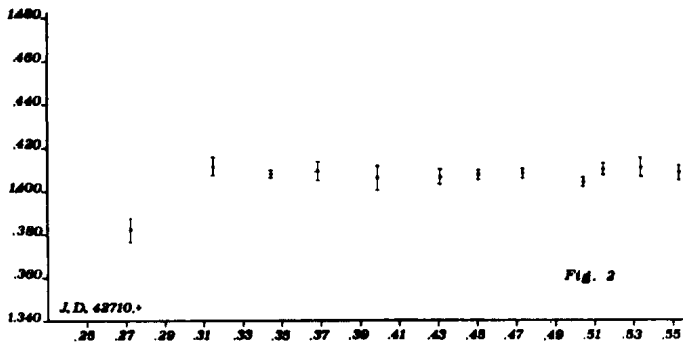
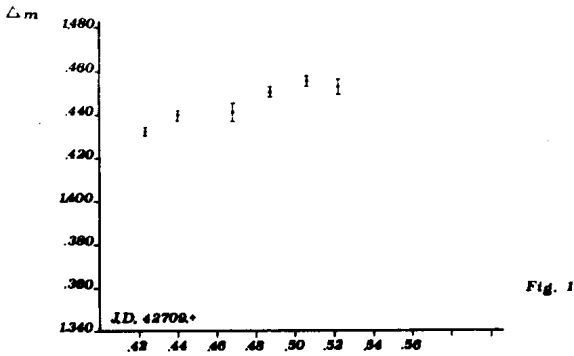
We observed it from October 1975 to January 1976 for 28 nights in the U,B,V system. For 13 nights we made uninterrupted observations for several hours. The comparison star was 2 And.

The star showed brightness variations on timescales of about one day. The times of maxima and minima suggested us a probable quasi-period of about 0.77 days, but the shape and the amplitude of the light curves are different from cycle to cycle.

The U, B, V curves have the same phase, but while in B and V the largest amplitude is of about 0.09 mag., in U is about 0.03 mag. larger. As example in Fig. from 1 to 6 are plotted the differences of magnitudes (comparison star minus variable star) obtained in the V light for 6 consecutive nights.

It will be interesting to see if these variations are correlated with the spectral variations reported by Bolton and Gulliver (I.A.U.Circ.No.2899).

Moreover  $\alpha$  And displays light variations on longer timescales; these are represented in Fig. 7, where the V observations are plotted for all the nights (the dots represent the mean of the normals of the same night and the bar the range in magnitudes covered by these when they are spanned over a time interval longer than one hour). Also for these variations the behaviour in the three colours is similar.



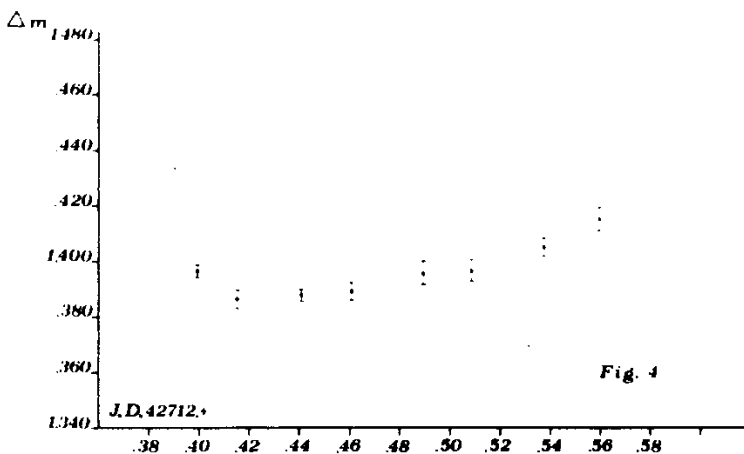


Fig. 4

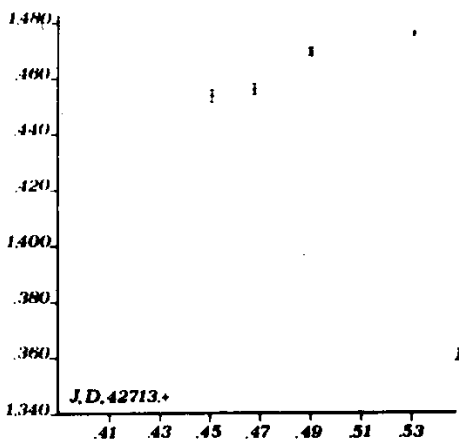


Fig. 5

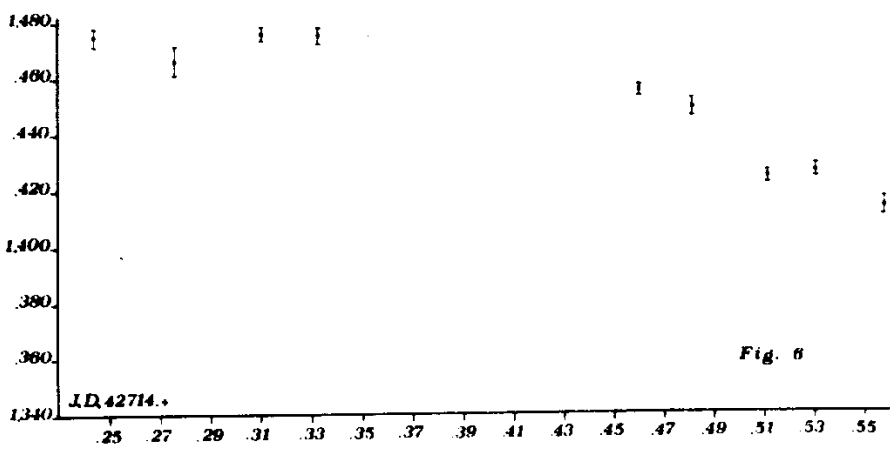
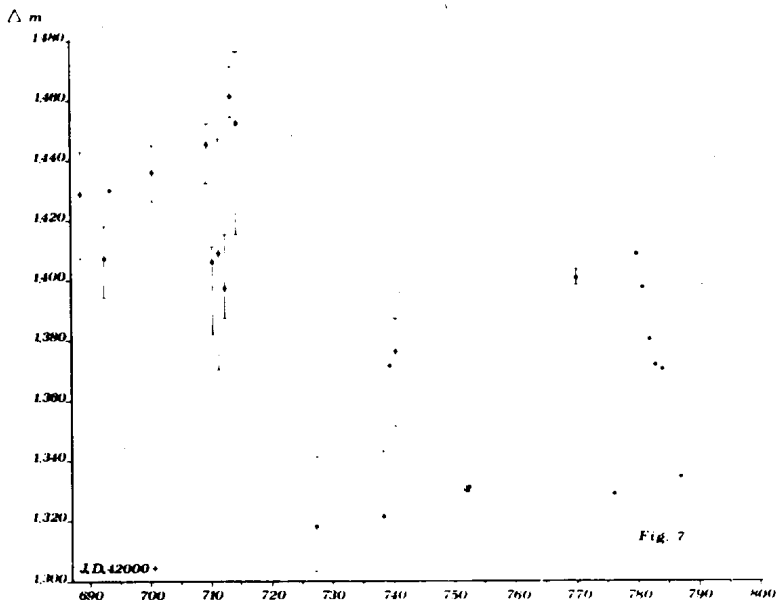


Fig. 6



Remarkable is the sudden decrease of about 0.1 mag. occurred between Oct. 29 and Nov. 10, which apparently is not correlated with spectral variations, since there are not communications concerning them. Likewise there are not remarkable light variations connected with the spectral ones reported by Fracassini and Pasinetti (I.A.U.Circ.No.2881).

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