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A NEW BURST OF ACTIVITY IN U CEPHEI

After several years of relative inactivity, large disturbances have reappeared at all phases in the light curve of the totally-eclipsing Algol binary U Cephei. Five-color uvbyI observations made with the 1.0-m Prairie reflector at Mount Laguna Observatory show appreciable anomalies from 2/3 through 11/12 June 1986. Typical photometric anomalies in primary eclipse have included excess light near internal contacts, particularly in the ultraviolet (where the normal flat-bottomed eclipse turns partial in appearance). At the same time outside eclipse, light levels usually fell, by up to 0.6 or 0.7 mag near phase 0.6 (Olson, 1978, 1985).

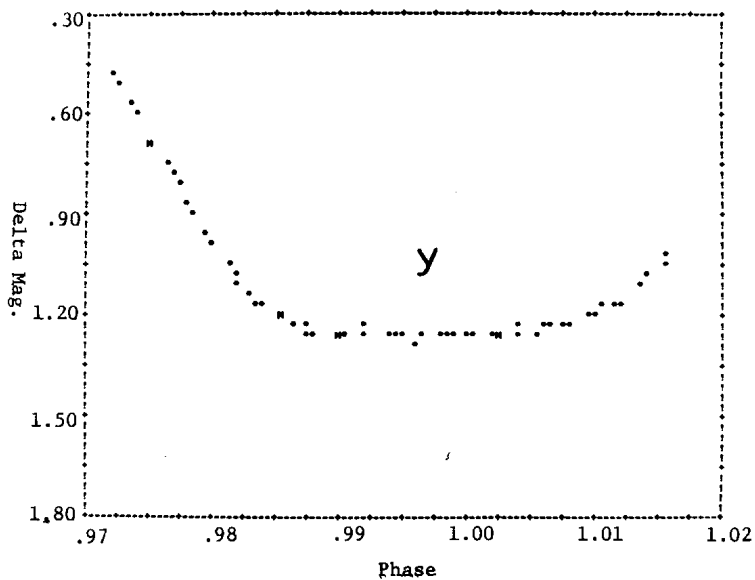


Figure 1/a

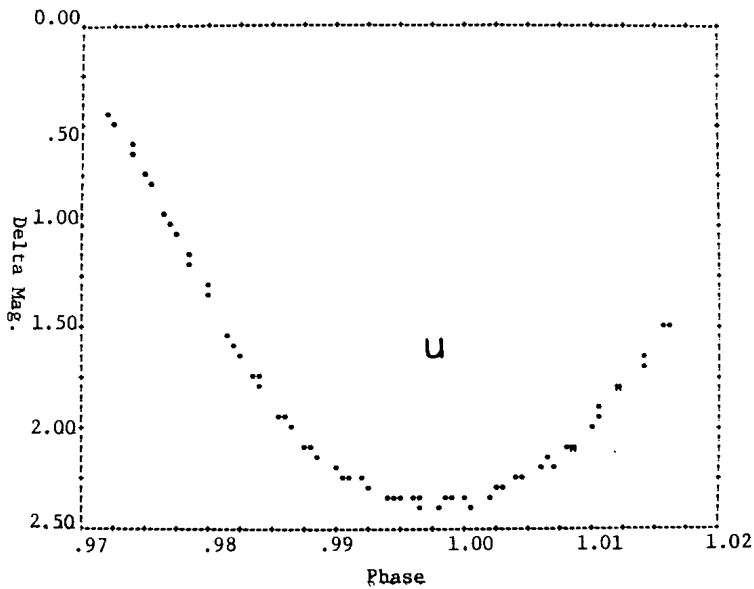


Figure 1/b

Spot checks on seven nights outside primary eclipse during the above run showed that the ultraviolet brightness closely matched the lower envelope of observations made in 1975, when activity was high (Olson, 1978, Figure 3a and 3b). Whatever photospheric changes give rise to these light losses, they appear to repeat in major bursts. Light curves of primary eclipses on 3/4 and 8/9 June were moderately to fairly highly disturbed, in the author's experience with this binary. A very slight decline in disturbance was noted in the later eclipse. Yellow and ultraviolet eclipses for 8/9 June are shown in the accompanying Figures. The ephemeris used to calculate orbital phases was taken from Olson et al. (1985).

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