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CCD PHOTOMETRY OF V1500 CYGNI IN 1993

In a continuing program to monitor V1500 Cygni (Nova Cygni 1975), thirty "V" CCD images with an integration time of 300 seconds were obtained by J. R. Rohde, D. Pascu, and J. A. DeYoung using the U.S. Naval Observatory 1.55-meter astrometric reflector at Flagstaff, Arizona. The Caltech Mark IV 800x800 charge-coupled device camera, with a Space Telescope F569WV wide "V" filter was used to make the observations. The comparison star used was C1 as defined by (Kaluzny and Semeniuk, 1987).

Figure 1 shows the differential instrumental V magnitude versus phase light curve for September 14, 1993. Vertical bars are standard errors from DAOPHOT aperture photometry (Stetson, 1987), while the horizontal bars indicate the length of each 300-second exposure. The mean magnitude was $17^{m}.8$ ($\pm 0^{m}.1$) which is fainter by $0^{m}.07$ from our 1989 photometry with the same system (Schmidt, DeYoung, and Wagner, 1989). The maximum magnitude was $17^{m}.3$ ($\pm 0^{m}.1$) and the minimum magnitude was $18^{m}.3(\pm 0^{m}.1)$. This is a drop of $0^{m}.36$ magnitude in amplitude from our 1987 and 1989 observations. The general shape of the light curve is sinusoidal and shows no evidence of the flickering observed previously near minimum. The following linear ephemerides were used in the reductions:

$$\text{Max (HJD)} = 2443369.7116 + 0.1396131 * E \qquad (1)$$
$$\text{Min (HJD)} = 2443369.6490 + 0.1396131 * E \qquad (2)$$

The times of maximum and minimum were determined by the method of (Kwee and van Woerden, 1956) with the results shown in Table I. No correction is required at this time in the above ephemerides. The period continues to remain stable. A finder chart prepared from a 61-inch V band image is given in Figure 2.

Table I. The observed heliocentric times of maximum and minimum of V1500 Cygni.

HJD	Type	Cycle	(O-C)
2449244.7770	Max.	42081	$+0^{d}.0065$
2449244.8434	Min.	42082	$-0^{d}.0015$

The Sept. 14, 1993 V filter light curve of V1500 Cygni (V-C1)

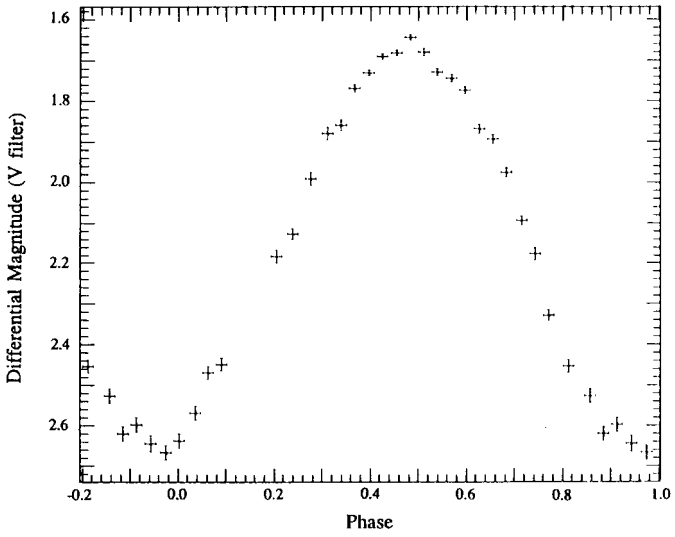

Figure 1

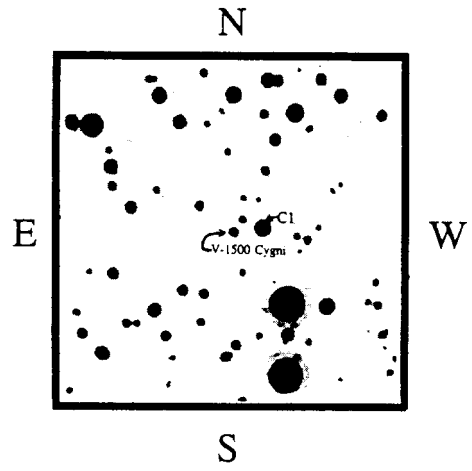

Figure 2. A two arc minute per side "V" band finder chart for V1500 Cygni.

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