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PHOTOELECTRIC EPHEMERIS OF THE EARLY-TYPE ECLIPSING  
BINARY V593 CENTAURI

The variability of the eleventh magnitude eclipsing binary V593 Cen (CoD -61° 3721, CPD -61° 3558) was first announced by Shapley and Swope (1940). Van Gent (1948) classified this star as a W UMa-type eclipsing binary and obtained the following ephemeris on the basis of his 19 photographic times of minima.

$$\text{Min I} = \text{J.D. hel } 2427621.2693 + 0.7553542 \text{ E} \quad (1)$$
$$\pm 0.0024 \pm 0.0000028 \text{ E}$$

New photoelectric observations of V 593 Cen were carried out with the 154 cm. reflector at the Bosque Alegre Astrophysical Station of the National University of Córdoba (Argentina) during observational seasons from 1984 until 1987. The f/21 Cassegrain reflector was equipped with a conventional design photometer; a 1P21 photomultiplier refrigerated with dry ice and a standard UBV set of filters were used. The measurements were made differentially with respect to the comparison star HD115071, whose spectral type is B1. All the UBV observations have been corrected for first and second order differential extinction. A total of 1165 individual observations in each band which completely cover the light curve were obtained and a preliminary photoelectric analysis of the system was realized (Lapasset et al., 1987). The location of the variable at maximum light in the color-color diagram is consistent with an unreddened main sequence star of spectral type B5. So V593 Cen is a new member of the early-type contact binary group.

In this note we present 18 times of minimum determined by means of the bisection-of-chords procedure. A linear least squares solution using our photoelectric data yields the following updated ephemeris:

$$\text{Min I} = \text{J.D. hel } 2445815.56344 + 0.75535990 \text{ E} \quad (2)$$
$$\pm 0.00017 \pm 0.0000018$$

The photoelectric minima, the epoch numbers and O-C residuals calculated from the ephemeris given in equation (2) are listed in Table I. As Van Gent (1948) noticed the choice of the primary minimum is somewhat arbitrary because the minima differ only by a few hundredths of a magnitude.

Table I

Photoelectric times of minimum light of V593 Centauri

Min	JDhel. 2440000.+	E	O-C
I	5815.5634	0.0	-0.00004
I	5815.5639	0.0	0.00046
I	5815.5648	0.0	0.00136
I	6170.5820	470.0	-0.00059
I	6170.5815	470.0	-0.00109
I	6170.5814	470.0	-0.00119
II	6582.6319	1015.5	0.00048
II	6582.6313	1015.5	-0.00012
II	6582.6312	1015.5	-0.00022
II	6613.6019	1056.5	0.00072
II	6613.6017	1056.5	0.00052
II	6613.6002	1056.5	-0.00098
I	6615.4894	1059.0	-0.00018
I	6615.4896	1059.0	-0.00002
I	6615.4899	1059.0	-0.00032
II	6887.7981	1419.5	-0.00127
II	6887.7968	1419.5	-0.00002
II	6887.7961	1419.5	-0.00076

Spectroscopic observations of this system will be carried out in the coming observing season. These observations together with the photoelectric ones will allow us to obtain a simultaneous solution of radial velocity and UBV light curves (Wilson, 1979, Van Hamme and Wilson, 1985).

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