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THE VARIABILITY OF BV 789

The eclipsing binary BV 789 was found by Strohmeier (IBVS no.225, 1967) to have the following ephemeris:

$$\text{Min.I} = \text{JD } 2425501.350 + 0^d558139 \text{ E.}$$

Photoelectric observations were made by the author at Cerro Tololo Inter-American Observatory in Chile on five nights during July and August of 1969. These observations cannot be fitted to the above ephemeris. It was found that the period is actually nearly one day instead of somewhat more than half a day as given in the above ephemeris. No times of primary minimum were observed at Cerro Tololo, but the previously observed times of minimum light yield the following ephemeris:

$$\text{Min.I} = \text{JD } 2425501.340 + 0^d9972646 \text{ E.}$$

Minimum	E	O-C
2425501.376	0	+0 ^d .036
6899.478	1402	-0.027
7666.370	2171	-0.031
7685.337	2190	-0.012
7984.509	2490	-0.020
8045.343	2551	-0.019
8078.286	2584	+0.015
8391.424	2898	+0.012
8396.426	2903	+0.027
2431651.498	6167	+0.028
8236.411	12770	+0.002
8264.315	12798	-0.017
8278.272	12812	-0.022
8283.269	12817	-0.011
8297.228	12831	-0.014
8580.478	13115	+0.013
8582.471	13117	+0.012
8587.431	13122	-0.015
8615.391	13150	+0.022
8634.310	13169	-0.007
8643.311	13178	+0.018
8662.240	13197	-0.001

Minimum (contd.)

2438994.321	13530	-0.009
9300.501	13837	+0.011
9321.464	13858	+0.032
9373.282	13910	-0.008
9377.285	13914	+0.006

BV 789 was observed together with a comparison star, HD 187952. The magnitudes and colors of these stars are as follows:

	V	B-V
BV 789 (at max.)	9.56	+0.31
HD 187952	9.29	+0.38

Although the spectral types of BV 789 (HD 188297) and HD 187952 are listed as A0 and A2, respectively, in the Henry Draper Catalogue, their colors correspond to those of main sequence stars with respective spectral types of F0 and F2.

BV 789 is practically constant in light during the portions of its light curve outside eclipses. The secondary minimum is about 0.07 deep in either yellow or blue light. From the photographic data, it is assumed that the primary minimum is at least 0.55 deep. Thus BV 789 is an Algol-type eclipsing binary rather than a W Ursae Majoris star. Since the period of BV 789 is very nearly equal to one day, it will not be easy to obtain a complete light curve of this star at only one observing site.

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