

COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS

Number 3377

Konkoly Observatory
Budapest
3 October 1989
HU ISSN 0374 - 0676

1989 BV PHOTOELECTRIC OBSERVATIONS OF BV Dra

BV Dra was detected as an eclipsing binary by Batten and Hardie (1965). Photoelectric observations by Wood (1970), Rucinski (1976), Yamasaki (1979), Rovithis and Rovithis-Livaniou (1982) indicate that the star is a normal W UMa system. BV Dra, which forms a visual binary (ADS 9535) with BW Dra, was observed from 20 May through 29 May 1989 with the 1.2m Kryonerion telescope and a single channel photon counting photometer described by Dapergolas and Korakitis (1987). The photometer employs a high gain 9789QB phototube and conventional BV filters. Its output is fed directly to a microcomputer enabling rapid data access.

The data reduction method is the standard one. The comparison star is the BD +62° 1395 and the accuracy of observations is ± 0.02 mag.

Table I lists the dates of observations and phases covered whereas Figures 1 and 2 summarize the results for B and V colours.

Table I

| Date | Phase |
|-------------|---------|
| 20 May 1989 | .11 .38 |
| | .55 .73 |
| 21 May 1989 | .11 .72 |
| 25 May 1989 | .33 .11 |
| 29 May 1989 | .03 .26 |

In Table II the times of minima and the O-C values are listed for the B and V bands respectively. Times of minima are calculated using the method described by Kwee and van Woerden (1956) whereas the O-C values were determined from the linear ephemeris $T = J.D.2442878.372 + 0.3500663E$ (Geyer et al., 1982).

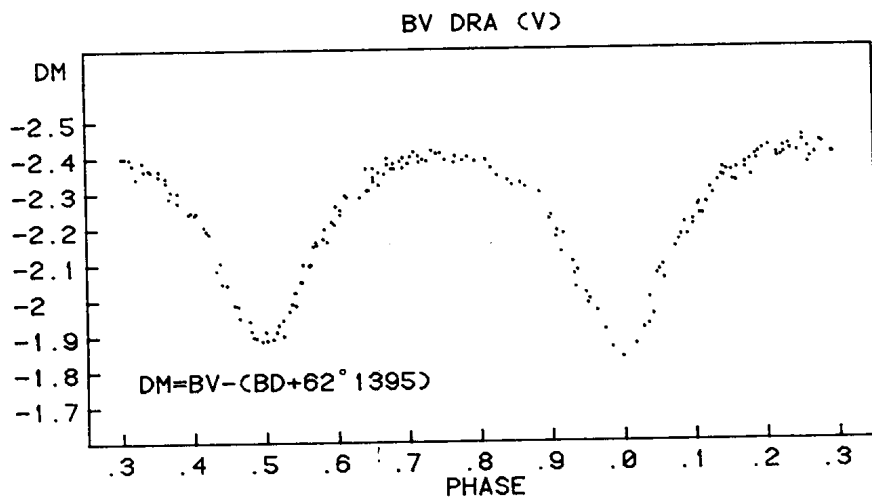


Figure 1

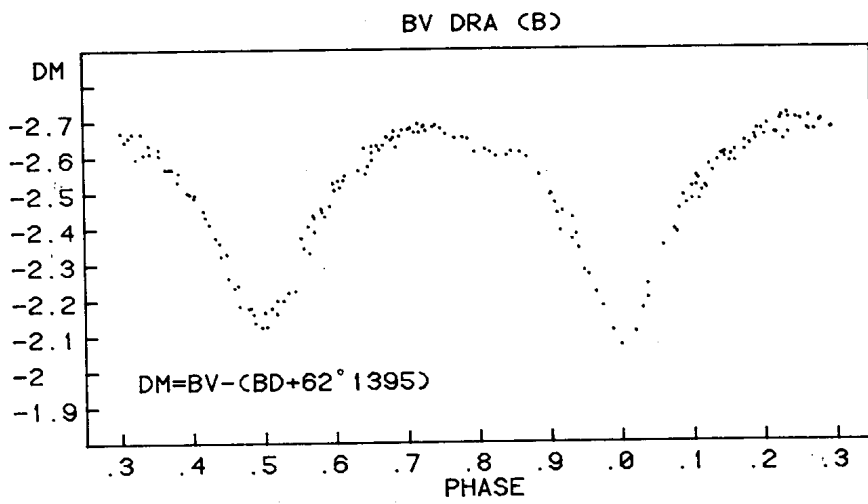


Figure 2

Table II

| Type of minima | V COLOUR | | B COLOUR | |
|----------------|-------------------------|----------------|-------------------------|----------------|
| | Heliocentric Jul. Day | (O-C) phase | Heliocentric Jul. Day | (O-C) phase |
| Secondary | 2447668.5063 ±0.0002 | 0.506 ±.001 | 2447668.5069 ±0.0005 | 0.507 ±.001 |
| Secondary | 2447672.3573 ±0.0002 | 0.507 ±.001 | 2447672.3549 ±0.0005 | 0.500 ±.002 |
| Primary | 2447672.5316 ±0.0006 | 0.005 ±.002 | 2447672.5337 ±0.0005 | 0.010 ±.002 |
| Primary | 2447676.3799 ±0.0006 | 0.998 ±.002 | | |

From the Figures 1 and 2 it can be seen that the light curve is not fully symmetric, and the differences between primary and secondary minima are ~ 0.05 mag in B and ~ 0.02 mag in V.

A. DAPERGOLAS and E. KONTIZAS
National Observatory of Athens
Astronomical Institute
P.O. Box 20048
GR Athens 118-10
Greece

M. KONTIZAS
University of Athens
Laboratory of Astrophysics
Panepistimiopolis
GR Athens 151-71
Greece

References:

- Batten, A.H. and Hardie, R.H.: 1965, *Astron.J.*, 70, 666.
 Dapergolas, A. and Korakitis, R.: 1987, *Publ. Nat. Obs. of Athens, Ser II*, No.28.
 Geyer, E.H., Hoffmann, M. and Karimie, M.T.: 1982, *Astron. Astrophys. Suppl. Ser.*, 48, 85.
 Kwee, K.K. and van Woerden, H.: 1956, *Bull. Astr. Inst. Netherlands*, 12, 327.
 Rucinski, S.M.: 1976, *IAU Symp.*, No.73, 349, eds. P.Eggleton and J.Whelan.
 Rovithis, P. and Rovithis-Livaniou, H.: 1982, *Astrophys. Space Sci.*, 82, 229.
 Wood, D.B.: 1970. *Bull. American Astron. Soc.*, 2, 357.
 Yamasaki, A.: 1979, *Astrophys. Space Sci.*, 60, 173.