

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

Number 2683

Konkoly Observatory
Budapest
11 March 1985

HU ISSN 0374 - 0676

LIGHT VARIATION OF BW Dra

The W UMa type binary BW Dra is the fainter member of the visual binary system ADS 9537.

Yamasaki (1979) carried out UBV observations of this star between March 20, 1976 - May 16, 1977, and as in the case of BV Dra he found some scatter in the light curve, but gave no explanation for its origin.

During the years 1976-1980 Geyer et al. (1982) observed this star in BV and UBV systems. They found the light curve of BW Dra fairly symmetrical, with slight changes. The measurements of the individual nights have shown about 0.05 deviations from the mean light curve at all phases. The depths of the minima were also variable.

In 1975 Rucinski and Kaluzny (1982) observed the star on 5 consecutive nights and found no light curve variation.

BW Dra was observed in UBV colours on 3 nights (May 31, June 5, 8) in 1984 at Kottamia Observatory of the Helwan Institute for Astronomy and Geophysics. As comparison star BD + 62°1385 was chosen (see Table I of Geyer et al., 1981). The light curve is displayed in Figure 1. Magnitudes have been given in the instrumental system and the phases have been calculated using the elements of Yamasaki (1979):

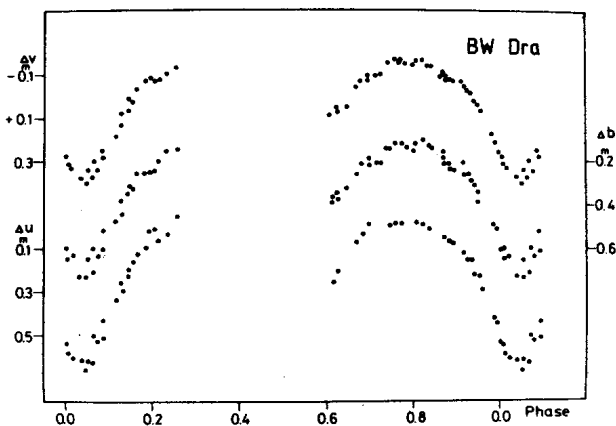


Figure 1

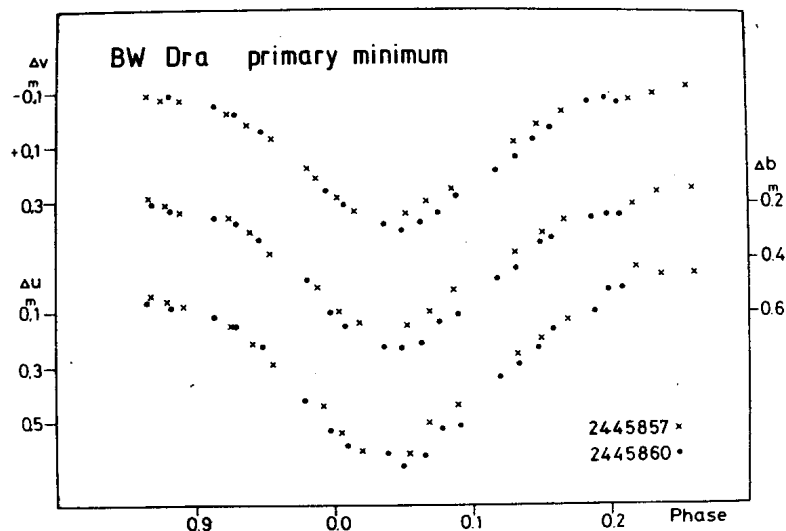


Figure 2

$$\text{phase} = \text{J.D. hel. } 2442858.27767 + 0.29216579 \text{ E}$$

Unfortunately only primary minima were obtained:

$$\begin{aligned} \text{Min I.: } & 2445857.3706 \\ & 2445860.2946 \text{ (in } \Delta b) \\ & .2958 \text{ (in } \Delta v) \end{aligned}$$

The two primary minima are drawn in details in Figure 2. The observations made at 2445857 and 244 5860 running together until about 0.0 phase. After that the two light curves deviate from each other by about $0^{\text{m}}.06$ – $0^{\text{m}}.08$ and produce minima of different depths. This behaviour of BW Dra was already noticed by Geyer et al. (1981).

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