

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

Number 2642

Konkoly Observatory
Budapest
11 December 1984
HU ISSN 0374 - 0676

HD 208496 (HR8369): A DOUBLE - LINED ECLIPSING BINARY

In a recent IBVS, Manfroid and Mathys (1984) presented a partial light curve of HD 208496 (HR8369, $m_v = 6.12$, $Sp = F3V$), which the fourth edition of the Bright Star Catalogue (Hoffleit, 1982) mentions as a possible eclipsing binary. Manfroid and Mathys confirmed the eclipsing nature of the star and established an orbital period of 1.464047 ± 0.000011 days.

HR8369 was included in our radial velocity survey at ESO, La Silla, of previously unobserved stars in the Bright Star Catalogue. Two spectrograms were obtained in June 1983 with the ESO 1.5m telescope and coudé spectrograph (20 Å/mm). The plates immediately showed spectral lines of two components of rather similar spectral types, the lines of one component (the primary) being noticeably stronger and broader than those of the secondary. We estimate the rotational velocities to be rather large, 70 and 50 kms^{-1} , which explains why initial attempts to observe the star with the CORAVEL scanner were unsuccessful.

Radial velocity measurements of the two plates indicate a mass ratio of about 0.85 ± 0.05 and a systemic velocity around 40 kms^{-1} . Since Manfroid and Mathys gave no zero-point for their ephemeris, we cannot calculate the precise phases of our observations. If, however, we assume that the largest velocities measured approximate the maximum values, we derive masses of approx. 1.4 and 1.2 M_{\odot} . The observed rotations correspond to radii of the order of 2.0 and 1.5 R_{\odot} .

These figures are consistent with expectations for F3V stars, depending on the age of the system. However, being based on only two plates, they are obviously not by themselves of sufficient precision to add significantly to our knowledge of the absolute dimensions of early F stars. The purpose of this

note is to point out that HR8369 is a bright system of favourable period which may yield good data if light and radial velocity curves are carefully determined, and to encourage such observations. Our own individual radial velocity measurements will appear in a catalogue to be published soon (Nordström and Andersen, 1984).

J. ANDERSEN
K.S. JENSEN
B. NORDSTRÖM
Copenhagen University Observatory
Brorfeldevej 23
DK-4340 Tølløse
Denmark.

References:

- Hoffleit, D.: 1982, The Bright Star Catalogue, Yale Univ.Obs.
Manfroid, J., Mathys, D.: 1984, IAU Inf. Bull. Var. Stars, No. 2616.
Nordström, B., Andersen, J.: 1984, Astron. Astrophys. Suppl. to be submitted.