

An Extraordinary Early-Type Eclipsing Binary*

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HR 2680 (B5V) was used as a comparison star in a multi-site (ESO & SAAO) campaign organised in 1988 to observe Be stars. We found that the star is an eclipsing binary with a period of 8.1 days. The eclipse is partial with a depth of 0.18 mag. Radial velocity observations confirmed the period.

A light variation with an amplitude of as much as 0.03 mag was seen outside the eclipse (Fig. 1). This variation can be interpreted as two oscillations with approximate periods of 1.19 and 1.28 days. Further photometric observations were obtained in 1989, 1990 and 1991 at SAAO. The multiperiodicity was confirmed, but the periods were not constant from season to season.

We suspect that the star is a pulsator of the 53 Per class of line-profile variables. Being an eclipsing binary, this unique system is of potentially great importance as a test bed for stellar dynamics and nonradial pulsations.

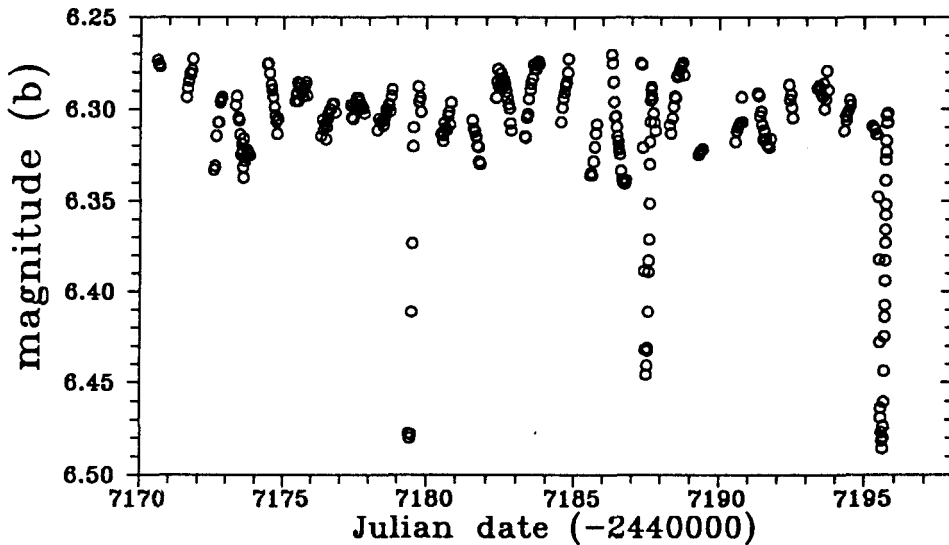


Figure 1. Photometric variability of HR 2680 during January 1988 showing the eclipses and variation between the eclipses.

* Based on observations obtained at the European Southern Observatory and the South African Astronomical Observatory.

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