

Photometric observations of RCB stars in the LMC

W.A. Lawson and P.L. Cottrell
 Mount John University Observatory,
 Department of Physics,
 University of Canterbury,
 Christchurch, New Zealand.

We present UBV photometric observations of two R Coronae Borealis (RCB) stars, W Mensae and HV12842, which are members of the Large Magallemic Cloud (LMC). These data have been obtained over the last two years using single-channel photometers on both the 0.6m and 1m telescopes at Mount John. They form part of an ongoing long-term program to investigate photometric and spectroscopic variations in the hydrogen-deficient carbon (HdC) stars both in the LMC and in our Galaxy.

These two stars show quite different properties, indicative of the nature of these objects. HV12842 (Fig.1) shows semi-regular pulsations not dissimilar to the bright southern RCB star, RY Sgr (see Lawson, Cottrell and Bateson 1988), whereas W Mensae has a V magnitude which seems to have no obvious periodic variations, similar to the variations in R Coronae Borealis itself. In addition, the V magnitude curve of HV12842 appears to show beating due to multiple mode pulsations, as the amplitude of the pulsations has changed from ≈ 0.5 mag. to < 0.05 mag. over a period of about 450 days. Further confirmation of this effect is shown by the recent observations (JD 2447300 onwards) which have a V amplitude of ≈ 0.1 mag.

Lawson, W.A., Cottrell, P.L. & Bateson, F.M. 1988, *Publ. Var. Star Sect. R.A.S.N.Z.*, **14**, 38.

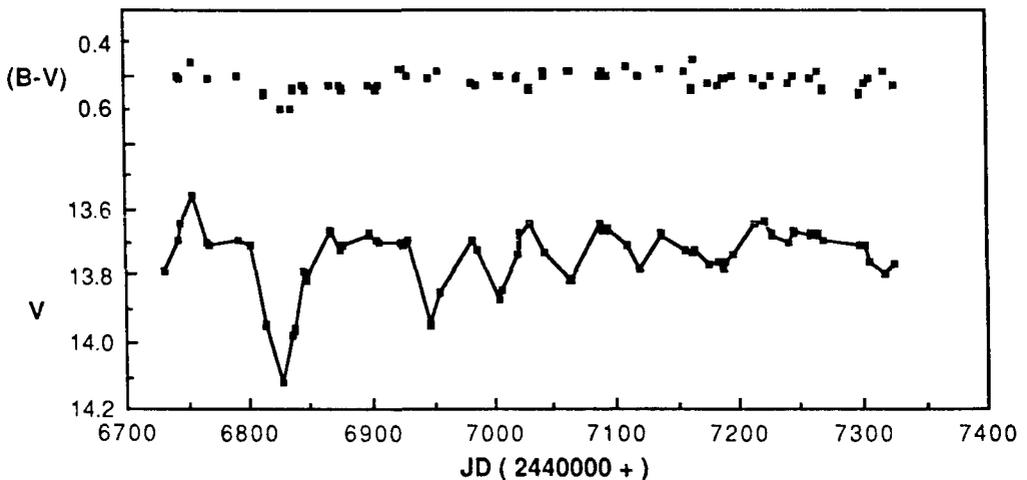


Figure 1. (B-V) and V curves for HV12842.