

Pulsational Periodicities in R CrB

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R CrB has been placed on the program of the Automatic Photometric Telescope Service (Genet *et al.* Pub. A.S.P. 99, 660, 1987) for continual monitoring while near maximum light UBV data are obtained on almost every clear night during the star's season and will be published in batches every few years.

The data for the seasons of 1985, 86, and 87 have been Fourier analyzed by Deeming's method and reveal only one pulsational period. The ephemeris $JD\ 2446243.6 + 43.83\ E$ fits all five epochs of maximum V light seen during these years with an rms deviation of 1.1 days, which is the typical uncertainty of an epoch. Moreover, these three seasons included one deep light minimum and one moderately deep minimum; the fact that the pulsational phase was preserved through these minima adds to the evidence that the deep minima are probably due to a veiling effect and superficial to the star itself. However, while only one pulsational period seems present, there is strong amplitude modulation that gives the lightcurve a ragged appearance. A similar result has been found for GU Sgr by Lawson *et al.* (IBVS, No. 3178, 1988.) The physical cause of this amplitude modulation has not been found.

Photometry of R CrB in 1972/73 by Tempesti and De Santis (Mem. Soc. Ast. Italiana, 46, 443, 1975), however, reveal the presence of more than one period at that time. There is strong evidence for periods of 44 and 27 days, which might be interpreted as the fundamental and first harmonic modes of radial pulsation, and less strong evidence for a third period near 57 days, which is less easily interpreted. In any case, an attempt to synthesize the lightcurve from these three periods was unsuccessful, suggesting that once again strong amplitude modulation was present.