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CAII H AND K EMISSION OF RT Lac

Microdensitometer scans of 8 spectra of RT Lac, a $5^d.07$ period eclipsing binary similar to the RS CVn type binaries, were carried out at the University of Calgary. The spectra, all at the identical dispersion of 78 A mm^{-1} were obtained at the Dominion Astrophysical Observatory in 1974 between JD 2442068 and 2442287.

The light curve of this binary undergoes periodic changes due to a sinusoidal distortion wave which regresses through the light curve with a period of about 10^y. The location of the peak of the distortion wave relative to the orbital period was obtained from an unpublished relation found by Hall and Milone. At the time of the observations the peak corresponded to the primary minimum of the binary.

Our data (Fig. 1) suggest the preliminary result that the variation of the CaII K emission intensity, as indicated by the ratio of the K2 component to the continuum, with phase, apparently reached a maximum at primary minimum. The emission at CaII H defined in the same way was apparently more uniform in phase (Fig. 1). These results contrast with the findings of Weiler (1975) that the phases of maximum emission coincide with the minimum of the wavelike distortion in the systems RS CVn and UX Ari. Studies are continuing and a more complete discussion will appear elsewhere.

Rothney Astrophysical Observatory
Physics Department, University of Calgary
Calgary, Alberta, Canada
T2N 1N4

J.L. DROPPO
E.F. MILONE

Reference:

Weiler, E.J. 1975, I.B.V.S. No. 1014

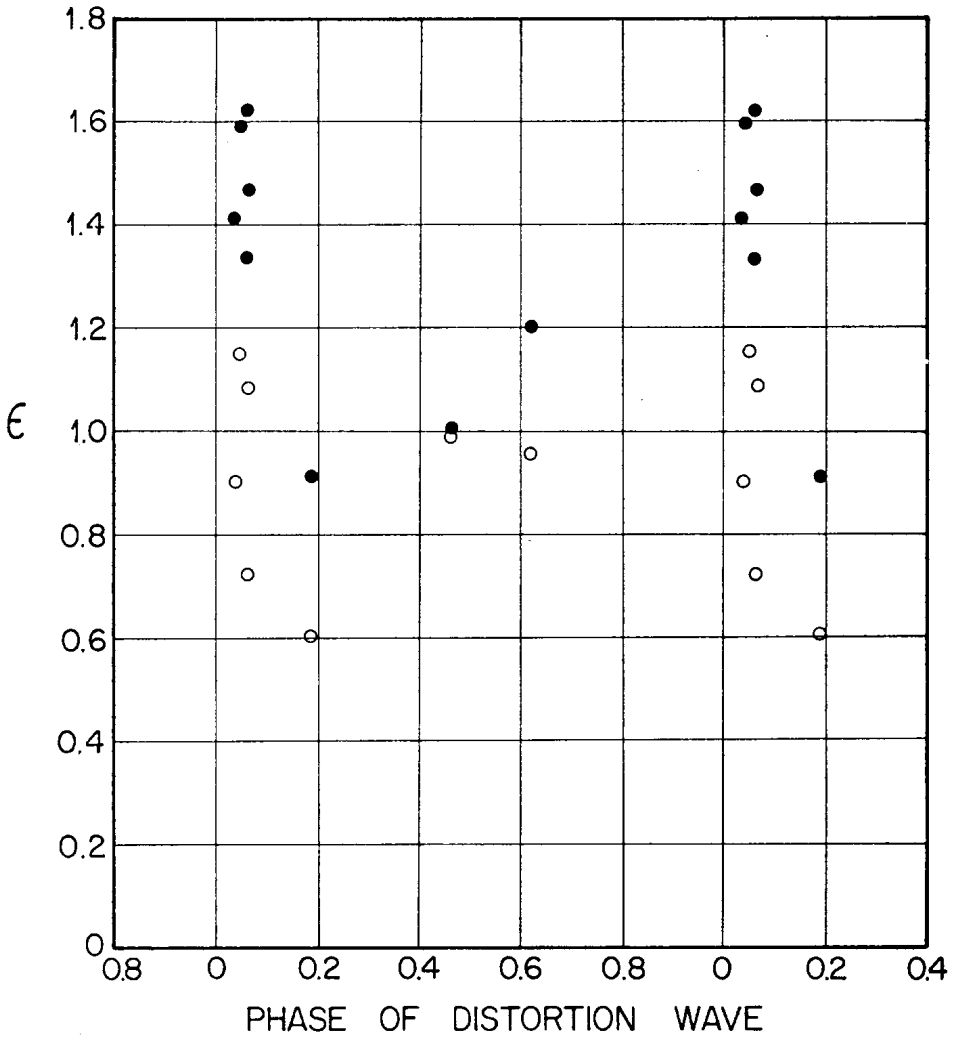

Fig. 1. A measure of the H (open circles) and K (filled circles) emission in RT Lacertae plotted against phase of the distortion wave. Phase 0.0 corresponds to the peak of the sinusoidal wave in 1974, and coincidentally with the primary minimum.