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NO MAJOR PERIOD CHANGE FOR CT TAURI

Recently, Wlodarczyk and Drozd (1990) reported photoelectric observations of the B2 + B2 contact system CT Tau,  $P = 0^d.6668$ . From their times of primary and secondary minima, spanning 1.5 orbital cycles, they found an extraordinary period increase of 1.47 minutes. This result appeared to be confirmed by a photoelectric time of minimum earlier in the same season by J. Kaluzny, reported to them in a private communication.

However, numerous recent visual timings of minima do not support this period change. Figure 1 is an O-C plot of minima timings published by the Eclipsing Binary Observers of the Swiss Astronomical Society (BBSAG 1972 et seq.) and unpublished timings in the files of the AAVSO Eclipsing Binary Committee. The O-C residuals were calculated using the light elements in the General Catalogue of Variable Stars (Kholopov et al. 1985).

The diagram shows that the photoelectric timings by Wlodarczyk and Drozd and the visual timings are consistent, while Kaluzny's time of minimum is discordant. Perhaps a typographical error occurred in the communication of this timing, or a calculating error in the decimals of a Julian Day.

Least-squares analysis of the 39 visual timings after JD 2443000 results in a period identical with the GCVS value,  $0^d.6668303$ , but indicates that the initial epoch of the GCVS elements requires a small correction. The photoelectric time of primary minimum by Wlodarczyk and Drozd is within  $0^d.001$  of the time predicted by this analysis, so revised light elements can be based on this timing and the period confirmed by the visual data:

$$\text{Min I} = \text{HJD } 2447553.5464 + 0^d.6668303 \text{ E} \quad (1)$$

+4                      +8

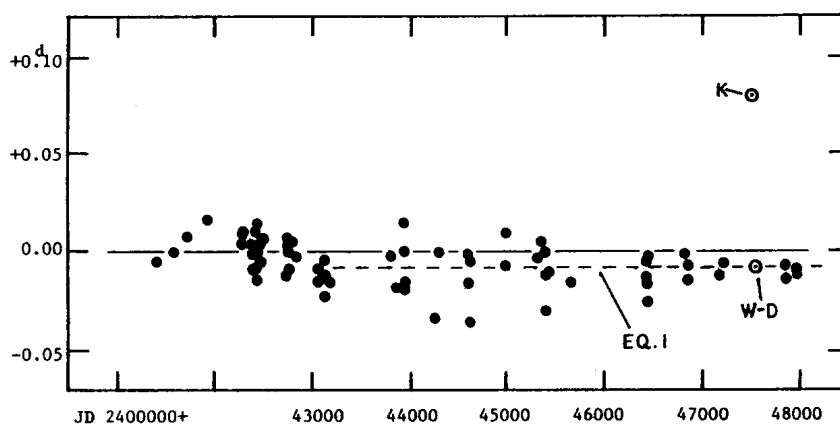


Figure 1. CT Tau, O-C diagram calculated from the GCVS  
light elements  $\text{Min. I} = \text{HJD } 2445404.359 + 0^{\text{d}}.6668303 \text{ E}$ .

The remarks section of the GCVS notes that the period of CT Tau is variable. Chugainov (1965) found  $P = 0^{\text{d}}.6668276$  beginning in 1952, and Ahnert (1965) found  $P = 0^{\text{d}}.6668274$ , a virtually identical value for 1948-1965. Figure 1 also suggests that the period was shorter than the current value before JD 2443500.

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