COMMISSION 27 OF THE I.A.U.
INFORMATION BULLETIN ON VARIABLE STARS
NUMBER 95

Konkoly Observatory
Budapest
14 May 1965

CT TAURI

CT Tau is considered as belonging to the RW Aur type of variables. But this is inconsistent with the periodicity of its light variation, suspected from photographic observations obtained at the Tashkent Astronomical Observatory. To clear up the question, the star has been observed photoelectrically at the Crimean Astrophysical Observatory during some nights in December 1964 and January 1965.

The periodicity was confirmed and the following minima were observed:

J.D. hel. 2438755.384
763.392
785.397

The very small amplitude of the colour variations excludes the possibility that pulsations are the cause of the light variations of CT Tau. It seems reasonable to conclude that the star is of W UMa type with the elements:

$$\text{Min. hel.} = 2434310.315 + 0^{d}.6668276E$$

havint nearly equal minima, the limits of the light variations being 10.34-11.21 in V. The photographic observations are also in good agreement with these elements.

Determination of the luminosity and spectral type of CT Tau is very important. Mean values of its colour indices are: B-V = + 0.14, U-B = - 0.49. The colour excess, E_{B-V}, is about 0.4. Assuming the visual absorption in this direct-

ion to be about $1^m.2$ per kps, we obtain for CT Tau $m-M \sim 10$ and $M \sim 0$. The value of $Q = -0.59$ corresponds to spectral class B3 in good agreement with N.B. Kalandadze's result /Abastumany Bull. N. 31/. Other determinations of the spectral class were given by G.H. Herbig: B5:n /Trans. I.A.U., 8, 805/ and B2n /Ap.J., 131, 632/. It is probable that the luminosity of the star is abnormally low for its spectral class.

It is well known that there are no W UMa stars of spectral class B. We come to the conclusion that CT Tau, together with such stars as BH Cen, $P = 0^d.79$, Sp B5, and BZ Pyx, $P = 0^d.66$, Sp B7V, constitutes a special group of eclipsing variables. The data about these stars are taken from "A Finding List for Observers of Eclipsing Variables" by R.H. Koch et al. 1963.

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