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## BEATS IN THE BRIGHTNESS VARIATION OF $\tau$ ' LUPI

At his announcement in 1956 that  $\tau$ ' Lup was a  $\beta$  CMa star, B.E. Pagel (Monthly Notices, 116, 10, 1956,) communicated the following elements:

$$P = 0^{\text{d}}.177365 \pm 15$$

$$2K = 10.6 \pm 0.8 \text{ km/sec}$$

$$\overline{\Delta m_{\left(\frac{Y+B}{2}\right)}} = 0^{\text{m}}.03$$

Photoelectric observations carried out at the Boyden Observatory on 29 nights, spread over the interval 1964 March 19/20 - July 13/14 clearly reveal beats with a period of 8.0 days. J D 2438506 is the epoch of a well observed maximum in the amplitude.

In the course of a beat cycle the brightness variation in the short period cycle changes from

$$m_y = 0^{\text{m}}.025 \quad \text{to} \quad m_y = 0^{\text{m}}.035$$

in yellow light. The ratio of the amplitudes in yellow and in ultraviolet light is

$$m_y / m_u = 0.75 .$$

From the run in the epochs of maximum light there can be concluded that the stronger oscillation corresponds to the shorter of the two main periods, as is usually the case among  $\beta$  CMa stars. We find:

$$P_0 = 0^{\text{d}}.177353 \pm 6 \quad m_0 = 0^{\text{m}}.030$$

$$P_{02} = 0^{\text{d}}.181374 \pm 6 \quad m_{02} = 0^{\text{m}}.005$$

$$P_2 = 0^{\text{d}}.089670 \pm 9$$

Hence the ratio

$$\frac{P_2}{P_0} = 0.5056 .$$

The same ratio was found earlier for  $\gamma$  Eri, (A. Van Hoof, *Zeitschr. f. Astroph.*, 53, 124, 1961,) the main beat of which matches that of  $\tau$  Lup.

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