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TY MENSAE

The variability of TY Men (BV 457) was discovered on Bamberg patrol plates by Strohmeier et al. (1964). Later Schöffel and Mauder (1967), Austin et al. (1975), and more recently Naqvi and Grønbech (1976) studied this W UMA type binary in different photometric systems. We also observed TY Men between 1972 and 1975 at the Bosque Alegre Station of Cordoba Observatory with the 1.54 m reflecting telescope. From 363 photoelectric U, B, and V observations we obtained 15 times of minimum; they are listed in Table I together with three epochs of primary minima published by the authors quoted above. The residuals (O-C) and epochs E are from the following improved linear ephemeris:

$$\text{JD hel.Min.I} = 2442054^{\text{d}}7961 + 0^{\text{d}}46166602 \cdot \text{E} \\ \pm .0008 \pm .00000051$$

from which the phases of the observations were computed.

The differential light curves UB_V are shown in Figure 1; the magnitude differences are in the sense variable star-minus-comparison star (HD 37134). The three light curves show an asymmetry at the bottom of primary minimum and a clear difference between the maxima; the mean values of Max II - Max I for December 1974 - January 1975 are :

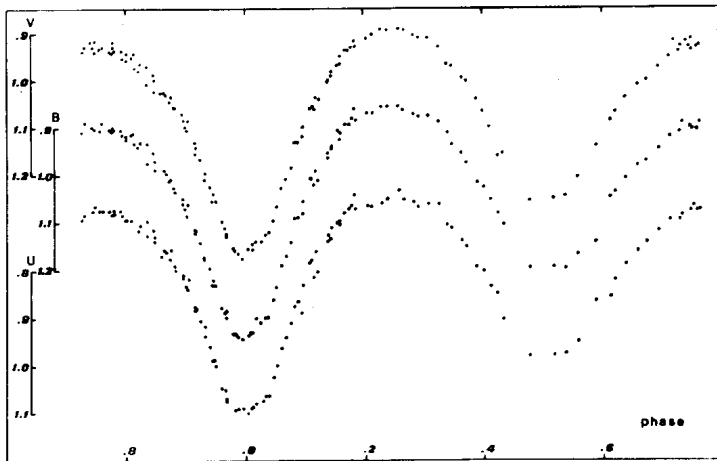
$$\Delta V = 0^{\text{m}}036 \quad \Delta B = 0^{\text{m}}041 \quad \Delta U = 0^{\text{m}}028$$

Naqvi and Grønbech (c/f above) observed variations in the maxima at different epochs. The system will be observed again in the next observing seasons in order to detect the behaviour of these asymmetries.

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Table I

| Min. | Color | Times of minimum of TY Mensae | | | Author |
|------|-------|-------------------------------|---------|---------|-----------------|
| | | JD hel. | E | (O-C) | |
| I | | 2439451.459 | -5639.0 | -0.002 | Schöffel&Mauder |
| I | | 2441353.986 | -1518.0 | -0.001 | Austin et al. |
| II | V | 1587.8250 | -1011.5 | 0.0041 | Lapasset |
| | B | 1587.8278 | -1011.5 | 0.0069 | " |
| | U | 1587.8267 | -1011.5 | 0.0058 | " |
| I | V | 1589.8952 | -1007.0 | -0.0032 | " |
| | B | 1589.8954 | -1007.0 | -0.0030 | " |
| | U | 1589.8981 | -1007.0 | -0.0003 | " |
| I | | 2054.797 | 0.0 | 0.001 | Naqvi&Grønbech |
| I | V | 2319.7909 | 574.0 | -0.0015 | Lapasset |
| | B | 2319.7880 | 574.0 | -0.0044 | " |
| | U | 2319.7903 | 574.0 | -0.0021 | " |
| I | V | 2403.8166 | 756.0 | 0.0010 | " |
| | B | 2403.8160 | 756.0 | 0.0004 | " |
| | U | 2403.8156 | 756.0 | 0.0000 | " |
| I | V | 2404.7387 | 758.0 | -0.0002 | " |
| | B | 2404.7382 | 758.0 | -0.0007 | " |
| | U | 2404.7385 | 758.0 | -0.0004 | " |



References:

- Austin, R.D., De George, M., and Fleck, R. 1975 IBVS No.1013
 Naqvi, S.I.H. and Grønbech, B. 1976 Astron. and Astrophys. 47, 2
 Schöffel, E. and Mauder, H. 1967 Veröff. Remeis-Sternw. Bamberg VII, 60
 Strohmeier, W., Knigge, R. and Ott, H. 1964 IBVS No. 66