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CHANGES IN THE PERIOD OF XZ ANDROMEDAE

One of the hypotheses explains changes in the period of XZ And by the motion of apsidal line (cf. Todoran, 1967). Unfortunately, there are some difficulties in the determination of accurate times of secondary minima which are very shallow. Only photoelectrical observations are useful for this purpose.

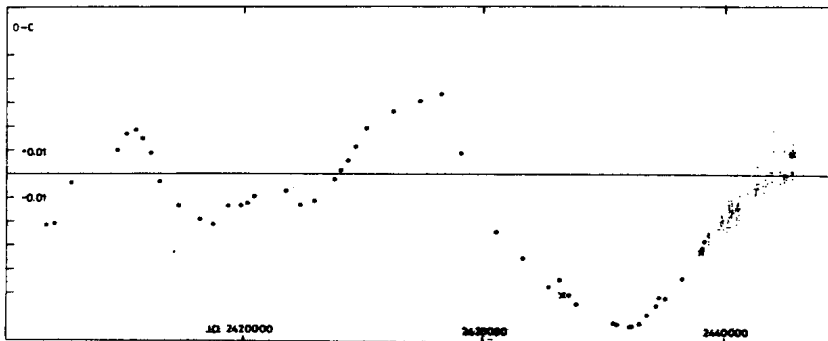
Table 1 contains the times of secondary minima obtained from photoelectrical observations published by Blitzstein (1954) and Reinhardt (1967). The last minimum was observed by the writer with the 50 cm Cassegrain-telescope of the Astronomical Observatory in Cracow. The values of O-C and E was computed from the linear elements:

$$\begin{aligned} \text{Primary minimum} &= 242\ 3977.1915 \\ \text{Secondary minimum} &= 242\ 3977.8701 + 19357278 \cdot E \end{aligned}$$

Table 1

| Secondary minima of XZ And | | | |
|----------------------------|--------|---------|------------|
| J.D. hel. | E | O-C | Observer |
| 243 3231.7415 | + 6818 | -0.0500 | Blitzstein |
| 243 9020.5507 | +11083 | -0.0315 | Reinhardt |
| 244 2742.2476 | +13825 | +0.0092 | Kreiner |

The O-C diagram of XZ And is given in Fig.1. The diagram is constructed on the basis of Todoran's paper (1967) and completed



with visual observations up to January 1976. The crosses on the O-C curve represent the secondary minima.

The position of secondary minima on the O-C diagram excludes the explanation of the observed changes in the period by apsidal motion.

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References:

- Blitzstein, W., 1954, A.J. 59, 251
Reinhardt, M., 1967, A.N. 290, 19
Todoran, I., 1967, B.A.C. 18, 328