

COMMISSION 27 OF THE I. A. U.
 INFORMATION BULLETIN ON VARIABLE STARS
 NUMBER 659

Konkoly Observatory
 Budapest
 1972 April 12

W UMa

PHOTOELECTRIC MINIMA AND A NEW PERIOD VARIATION

The period of W UMa was retained constant since 1951 and the light elements were:

$$\text{Min I} = \text{J.D.}2435918.4154 + 0.33363808 \text{ E.}$$

The figure shows the residuals referred to these elements, starting only from 1961. Between the end of 1963 and 1964 a delay of about 7 minutes occurred in the epochs of minimum without change of period: the observations till 1969 were well represented by only adding a constant term of +0.00525 to the zero epoch. A trend to a slightly shorter period was suspected after the observations of 1969 (Cester 1969, 1971) but the correction to the period amounted to only $-7 \cdot 10^{-8}$. The observations of 1971 and 1972 confirm the suspicion and now the period is decidedly shorter. The new provisional elements deduced from the observations from 1970 to 1972 should be

$$\text{Min I} = \text{J.D.}2440652.4107 + 0.3336369 \text{ E.}$$

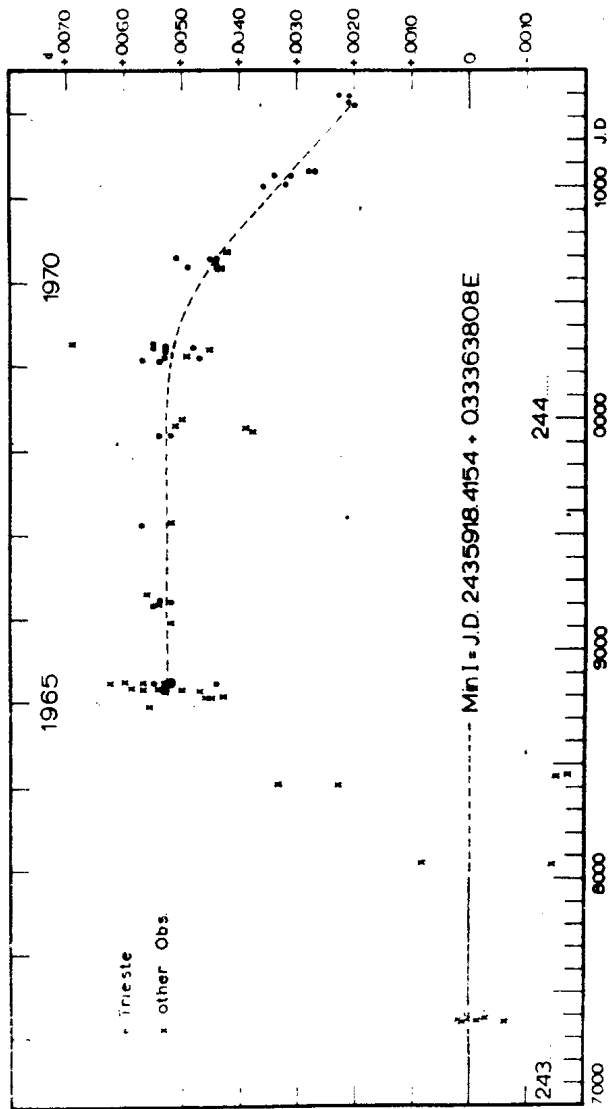
i.e. the period variation begun after 1968-69 is of the order of 10^{-6} days.

The unpublished recent photoelectric minima obtained at Trieste are collected in the table: $(O-C)_1$ refers to the first light elements and $(O-C)_2$ to the latter ones.

Hel.J.D.	m.e.	$(O-C)_1$	$(O-C)_2$
2441000 +			
004.3979	± 0.0003	+0.0036	+0.0003
008.40114	0.00006	+0.0032	-0.0001
048.4376	0.0014	+0.0032	-0.0001
057.44612	0.00005	+0.0034	+0.0002
061.4492	0.0002	+0.0028	-0.0003
061.4491	0.0001	+0.0027	-0.0004
351.3799	0.0008	+0.0020	-0.0001
363.3910	0.0001	+0.0021	+0.0001
392.4175	0.0010	+0.0021	+0.0002
396.421313	0.00004	+0.0023	+0.0003

Ref.: B. Cester, 1969 Mem SAIt 40, 489

B. Cester, 1971 Mem SAIt 42, 61.



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