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W UMa PHOTOELECTRIC MINIMA: A NEW PERIOD INCREASE

Some new W Uma minima have been photoelectrically observed with the 400 mm ϕ , f=200 mm newtonian reflector of our observatory (1P21 photomultiplier unrefrigerated).

The list below contains heliocentric times of minima of this eclipsing binary, calculated by means of the Kwee and Van Woerden method. Observations have been carried out in 1977 and 1978 with a standard Johnson UBV filters system. Column "(O-C)₁" has been determined with the elements given in the "Rocznik Astronomiczny Observatorium Krakowskiego 1974", while "(O-C)₂" is referred to the elements:

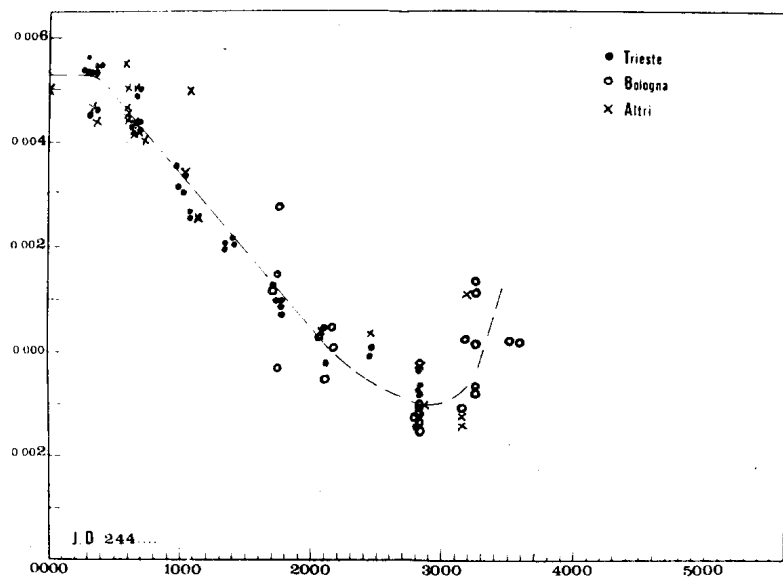
$$\text{Min} = 2435918.4154 + 0.33363808E(\text{Cester 1973}) \quad (1)$$

Column N denotes the number of observations, while "m.e" the mean error obtained by the above mentioned method.

filter	J.D.(hel.)	m.e	(O-C) ₁	(O-C) ₂	N
	2443.....				
V	161.3634	±0.0001	-0.0083	-0.0011	65
V	163.3712	.0003	.0070	+0.0003	47
V	248.4454	.0003	.0060	+0.0014	54
V	250.4452	.0003	.0080	-0.0007	46
B	250.4448	.0004	.0083	-0.0010	46
U	251.4474	.0002	.0062	+0.0011	40
U	254.4497	.0003	.0072	+0.0002	30
V	515.3547	.0002	.0074	+0.0002	20
V	533.4168	.0001	-0.0075	+0.0002	36

From 1973 to 1976 the period has been decreasing (Baldinelli, Ghedini 1977) with:

$$\frac{dp}{p} \approx -0.1 \times 10^{-5}$$



The O-C diagram, reported in the figure, contains the values indicated in the list and those of Mallama (1977) and Bønes, Mirabø (1977). All the O-C are referred to the elements (1). The diagram shows that the period has begun to increase again.

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References:

- Baldinelli, L., Ghedini, S. 1977, Mem.S.A.It., 48, 83.
 Bønes, J., Myrabø, H.K. 1977, I.B.V.S., 1316.
 Cester, B. Pucillo, M. 1973, Mem.S.A.It., 64, 201.
 Mallama, A.D. et al. 1977, I.B.V.S., 1249.