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THE SECONDARY PERIOD OF THE VARIABLE STAR SW PISCIUM

The variable star SW Piscium (of RR Lyrae type) has been observed photographically at the Observatory of the University of Cluj (telescope: D=50 cm., F=250 cm.), from September 1964 to October 1966. Fifteen light maxima were obtained showing sensible variations in phase.

In the table below, the first column contains the times of the observed maxima and the second column the O–C values computed with the following elements:

$$\text{Max.hel.} = \text{J.D.}2438652.443 + 0^d.521265.E$$

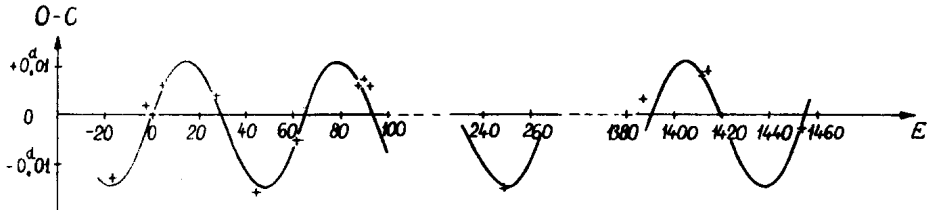
determined by the author, and published in (1)

J.D.max. hel.	O-C
2438643.568	$-0^d.013$
38651.402	+0.002
38652.443	0.000
38654.534	+0.006
38666.521	+0.004
38675.363	-0.016
38684.235	-0.005
38698.320	+0.006
38699.364	+0.007
38700.405	+0.006
38782.223	-0.015
39375.441	+0.003
39388.477	+0.008
39389.521	+0.009
39410.359	-0.003

In the Figure the O-C differences (crosses) are plotted against Epoch E. The oscillations of maxima in phase can be represented by a formula (the continuous line in Figure):

$$O\text{-}C = 0^d.0132 \sin 5^\circ.440(E+2) - 0^d.002$$

This formula suggests a secondary period $P_b = 34^d.5$.



The oscillations in height of maxima may be also present, but the accuracy of the photographic observations does not allow to determine their amplitude.

Further observations will be necessary in order to determine the secondary period more exactly and to study the Blashko-effect.

LITERATURE

1. Tsesevich,V.P.; Szczepanowska,A.: Rocznik Astronomiczny Obserw. Krakow No.39, 115, 1967.

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