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MINIMA AND PERIOD OF THE ECLIPSING BINARY VW PEGASI

The star VW Peg was discovered by Williams (1914) who found this star to be an Algol-system with the period $P=5^d.26792$. Maggini (1916) derived the elements:

$$\text{Min JD hel} = 2420777^d.128 + 2^d.642758 \cdot E,$$

but later observations did not confirm them. Zinner (1922) suggested that VW Peg is rather a β -Lyrae-system.

VW Peg was observed at the Cracow Observatory and at the island Nios (Greece) in the years 1930-1950. These observations were collected by Szafraniec (1962), but not elaborated as yet.

The list below contains four minima obtained by Williams (1914), one minimum given by Maggini (1916) and four minima determined from Cracow Observations of Variable Stars (Szafraniec 1962). The columns contain: heliocentric time of minimum, (O-C)^I, (O-C)^{II}, name of observer and references.

JD hel	(O-C) ^I	(O-C) ^{II}	Observer	References
2415729 ^d .459	-0 ^d .006	-0 ^d .007	Williams	Williams(1914)
2416635.541	-0.008	-0.006	Williams	Williams(1914)
2417478.444	+0.031	+0.030	Williams	Williams(1914)
2417815.560	0.000	0.000	Williams	Williams(1914)
2420777.128	-0.171	-0.170	Maggini	Maggini (1916)
2426307.473	+0.032	+0.036	Kordylewski	this paper
2426307.475	+0.034	+0.038	Kordylewska	this paper
2426650.363	-0.077		Kordylewski	this paper
2428372.515	+0.051	+0.056	Kordylewski	this paper

The values of $(O-C)^I$ were obtained according to the following elements:

$$\text{Min JD hel} = 2417815^d.560 + 1^d.170648 \cdot E$$

and the values of $(O-C)^{II}$ were obtained according to the alternative elements:

$$\text{Min JD hel} = 2417815^d.560 + 2^d.341295 \cdot E.$$

In case of the latter elements the time of minimum JD 2426650.363 refers to the secondary minimum and its $(O-C)^{II} = -0^d.073$.

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References:

- Maggini, M. 1916 Arcetri Pubbl., fasc. 34,73
Szafraniec, R. 1962 Acta Astr. Suppl. 5, 651
Williams, A.S. 1914 MN 74, 215
Zinner, E. 1922 Astr.Abh.Erghefte zu AN, Band 4, No.3