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PHOTOELECTRIC OBSERVATIONS OF VZ CANCRI 1988 - 1990
(BAV-Mitteilungen No. 58)

From spring 1988 to spring 1990 BAV members photoelectrically observed 16 maxima of this delta Scuti-star. Their heliocentric times are listed in Table I, column 1.

Column 2 and column 3 of this table contain epoch and O-C calculated with the linear elements of Todoran (1976).

$$\text{Max hel} = \text{JD } 24\ 33631.8655 + 0.178\ 36367 \cdot E.$$

Column 4 contains the phase ψ_b of the maxima calculated with Todoran's (1976) elements for the beat period P_b

$$\text{Max hel}(P_b) = \text{JD } 24\ 33631.8605 + 0.716\ 292 \cdot E_b.$$

Column 5 names the observers and column 6 is a literature source in case times of maxima have been previously published. Observers and their instruments are

QU = W. Quester, 200 mm Newton, 931B multiplier with GG495(1 mm) for V

RI, SH = P. Ringe and O. Schall, 150 mm Refr., EMI 9781B multiplier without filter

SG = P. Sterzinger, 200 mm Schmidt-Cassegr. with SSP-3, V filter

WU = E. Wunder, 345 mm Cassegrain, 1P21, V filter.

Ringe and Schall observed at the Dortmund Public Observatory, Wunder at the Nuremberg Observatory, and the two others with their private equipment.

The O-C values show that Todoran's elements still represent maximum times very well. To check the beat period, O-C's were plotted into Todoran's original Figure 1. This figure is duplicated here with crosses denoting the O-C from Table I. They deviate from the main track of older observations much more than those by Cester et al. (1977) who remarked that "the O-C's fall on the upper border of the strip shown in his (Todoran's) Fig. 1". Cester's O-C's are included here as open circles.

A period search with maximum times later than JD 24 40620 published by Popovici (1971), Hahn et al. (1975), Todoran (1976), Cester et al. (1977) and the observations from Table 1 resulted in a range in days for the beat period: $0.716\ 280 \leq P_b \leq 0.716\ 288$.

Table I

Max. hel. JD 2400000+	E	O-C	ψ_b	Obs.	Source
47205.5221	76101	0.0029	0.900	QU	BAV-Mitt 50 (1988)
47213.3708	76145	0.0036	0.857	QU	BAV-Mitt 50 (1988)
47240.2974	76296	-0.0027	0.449	SG	BAV-Mitt 50 (1988)
47530.4926	77923	-0.0052	0.584	QU	BAV-Mitt 52 (1989)
47555.4657	78063	-0.0030	0.449	QU	BAV-Mitt 52 (1989)
47565.4570	78119	-0.0000	0.397	QU	BAV-Mitt 52 (1989)
47566.5302	78125	0.0030	0.895	RI, SH	BAV-Mitt 52 (1989)
47591.3154	78264	-0.0044	0.498	QU	BAV-Mitt 52 (1989)
47591.4907	78265	-0.0074	0.742	QU	BAV-Mitt 52 (1989)
47612.3673	78382	0.0006	0.888	QU	BAV-Mitt 52 (1989)
47928.4400	80154	0.0129	0.150	QU	this note
47943.4192	80238	0.0095	0.062	QU	this note
47945.3705	80249	-0.0012	0.786	WU	this note
47968.3838	80378	0.0032	0.915	QU	this note
47974.4461	80412	0.0012	0.378	QU	this note
47975.3291	80417	-0.0077	0.611	QU	this note

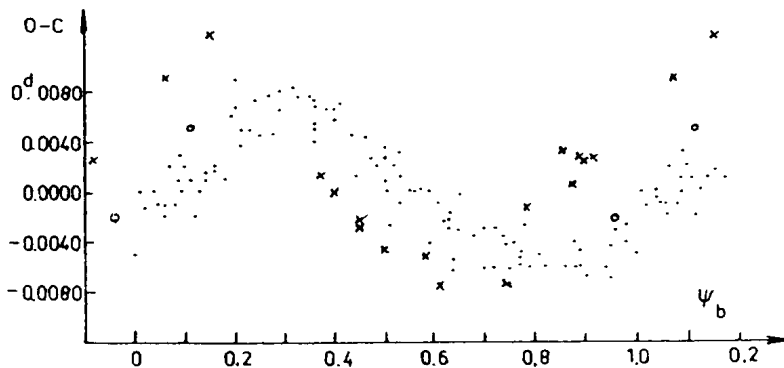


Figure 1

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References:

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Hahn, G., Lustig, G., Jasicek, H. and Klement, G.: 1975, IBVS No.1078.
Popovici, C.: 1971, IBVS No. 508.
Todoran, I.: 1976, IBVS No. 1141.