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PHOTOELECTRIC OBSERVATIONS OF DELTA CETI

Delta Ceti, a β CMA variable, was observed photoelectrically in colours (B) and (V) for a total of seven nights at Ege University Observatory in December 1974, January 1975 and November 1976. The observations made in December 1974, January 1975 and their results were published by Tunca (1975).

The observations were carried out with the 48 cm Cassegrain telescope with an unrefrigerated 1P21 photomultiplier. The properties of the filters used are given in Table 1.

Table 1

Colour	Wavelength (Å)	Max. Per. (%)	HW (Å)	Thickness (mm)
B	4350	64	920	8
V	5550	53	860	7

BD -0° 378 was again used as the comparison star.

In this work all observations made in November 1976 and the previous ones, Tunca (1975), were again plotted and max. times calculated for each light curve.

The necessary reduction and corrections were made in all observed values. Moreover the systematic errors made in previous observational results were also removed.

The calculated average amplitudes and the (UBV) magnitudes measured on December 11, 1974 were found to be the same as those given by Tunca (1975) and are as follows:

$$\begin{aligned} \bar{A}(B) &= 0^m.034 & \bar{m}(B) &= 3^m.939 \\ &\pm 2 & \bar{m}(V) &= 4^m.144 \\ \bar{A}(V) &= 0.032 & \overline{(B-V)} &= -0^m.205 \\ &\pm 2 & & \end{aligned}$$

Jerzykiewicz (1970) has given the light element for this star as:

$$\text{Max. Blue Light JD Hel.} = 2438\ 385.6860 + 0.16113800 \cdot E \\ \pm 8 \qquad \qquad \qquad \pm 25$$

The calculated max. times due to Jerzykiewicz (1970), our observed max. times and the (O-C)_{max.t.} values in colour (B) are given in Table 2.

Table 2

Obs.max.times	Calc.max.times	(O-C) _{max.t.}
2442 393.3472	2442 393.3492	+ 0.00021
419.2921	419.2924	- .0003
428.3146	428.3161	- .0015
430.2497	430.2498	- .0001
431.2182	431.2166	+ .0016
2443 101.3885	2443 101.3897	- .0012
113.3121	113.3139	- .0018

We found no regular variation in the (O-C) values, because there were no sufficient observations available. However, it can be seen that the (O-C) values scatter irregularly about calculated max.times given by Jerzykiewicz (1970) with an approximate amplitude of 0.0025 day.

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References:

- Jerzykiewicz, M. 1970, Lowell Obs.Bull. No 155, 7, 198
Tunca, Z. 1975, I.B.V.S. No. 1103