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PHOTOELECTRIC OBSERVATIONS OF δ CETI

A β CMa variable, δ Ceti was observed photoelectrically in yellow and blue lights at the Ege University Observatory in December 1974 and January 1975. The observations were carried out with the 48 cm Cassegrain telescope with an unrefrigerated 1P21 photomultiplier. The wavelength, maximum permeability, half width and thickness of the used filters 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 used as the comparison star.

In each colour 5 light curves were obtained which have 5 maxima. In the observed values, the necessary reduction and corrections were made.

Average amplitudes of light curves were calculated as follows:

$$\bar{A}_B = 0^m.034 \pm 2$$
$$\bar{A}_V = 0^m.032 \pm 2$$

The magnitude differences, measured on December 11, 1974, were transformed to the UBV system. We used the transformation coefficients given by Ibanoğlu* (1974). The light curve on this night is shown in Fig. 1. The magnitude which we found in UBV system, as follows:

* Ibanoğlu obtained the transformation coefficients in the same condition, like ours.

	m (B)	m (V)
max:	$3^m.919$	$4^m.127$
min:	$3^m.959$	$4^m.161$

$$(B-V) = -0^m.209 \pm 4$$

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

$$\text{Max.Blue Light JD Hel.} = 2438\ 385.6860 \pm 8 + 0^d.16113800\ E \pm 25$$

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

Table 2

Observed max. t.	Calculated max.t.	$(O-C)_{max.\ t.}$
2442 393.3543	2442 393.3492	$+0^d.0051$
419.2855	419.2924	-0.0069
428.3162	428.3161	+0.0001
430.2537	430.2498	+0.0039
431.2233	431.2166	+0.0067

(O-C) values given in Table 2, are plotted agains time, and the (O-C) variation fitted approximately to sinecurve, as given in Fig. 2.

The new light elements which found, are:

$$\text{Max.Blue Light JD Hel.} = 2442\ 428.3161 + 0^d.16113800\ E + a \sin 2\pi\frac{t}{P},$$

$$(\text{or, } a \sin 2\pi\frac{E}{236}).$$

Here, $a \simeq 0^d.007$ amplitude of (O-C) variation

$P \simeq 38^d \simeq 236\ E$ period " " " "

t = number of days after JD 2442 428.3161

We consider to study further on the same object for finding the reliability of our results.

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Fig. 1

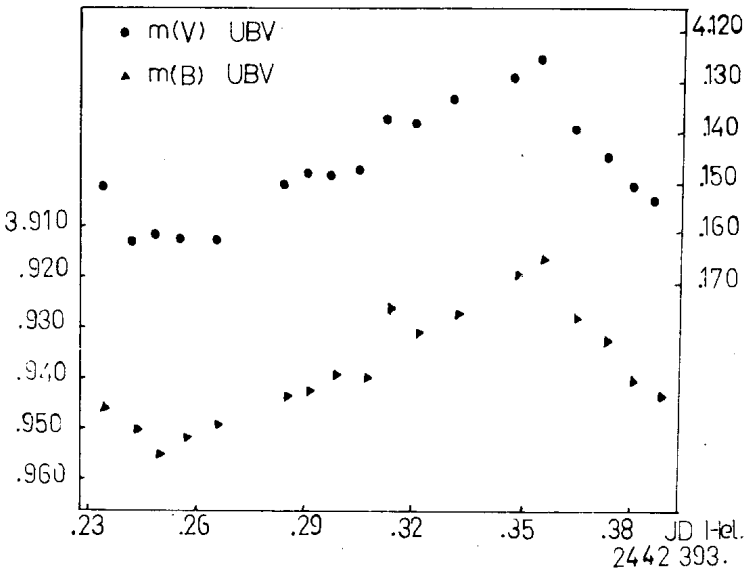
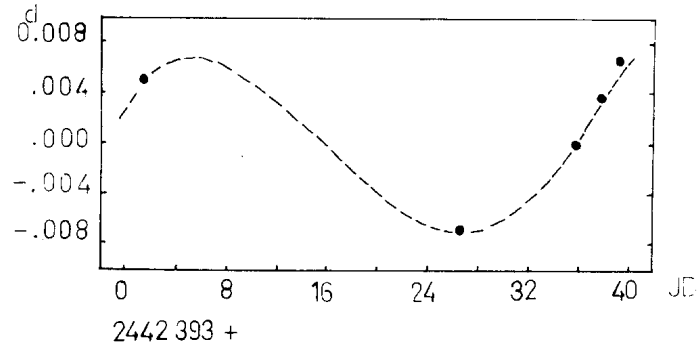


Fig. 2



References:

Ibanoğlu, C. 1974, A.Ap.Supp. 13, 119.
Jerzykiewicz, M. 1970, Lowell Obs. Bull. No. 155. 7, 189.