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THE PHOTOELECTRIC MINIMA AND THE LIGHT CURVE  
 OF THE ECLIPSING BINARY HU TAURI (BV 312)

The eclipsing nature of HU Tau was first announced by Strohmeier and Knigge (1960). Strohmeier (1963) has given the light elements as

$$JD=24256.41+2^d056297 \cdot E \quad (1)$$

In GCVS's second supplement, a new set of light elements is given as

$$JD=42412.256+2^d056302 \cdot E \quad (2)$$

The spectroscopic orbital elements of the system were obtained by Mammano, Mannino and Margoni (1967). They have classified the spectral type of primary component as B9V. The system shows a single line spectrum.

So far, no photoelectric light curve of HU Tau has been obtained. During the period from October, 1978 to November, 1978 the eclipsing binary HU Tau was observed photoelectrically with the 48 cm reflector, attached with an unrefrigerated 1P21 phototube, at Ege University Observatory and the light curve of the system was secured in two colours B and V. BD+19<sup>o</sup>742 and BD+19<sup>o</sup>740 were used as comparison and check stars, respectively. No variation in the light of comparison star was detected. The light curve and the colour variation are shown in Figure 1 and 2, respectively.

The times of minima obtained during the observations made are shown in Table I. The O-C values were calculated with the help of Equation (2).

Table I

	JD (Hel)	O-C	E	Minimum
24	43833.3662	+0.0055	691	primary
	43834.3967	0.0079		secondary
	43835.4228	0.0058	692	primary
	43837.4797	0.0064	693	primary

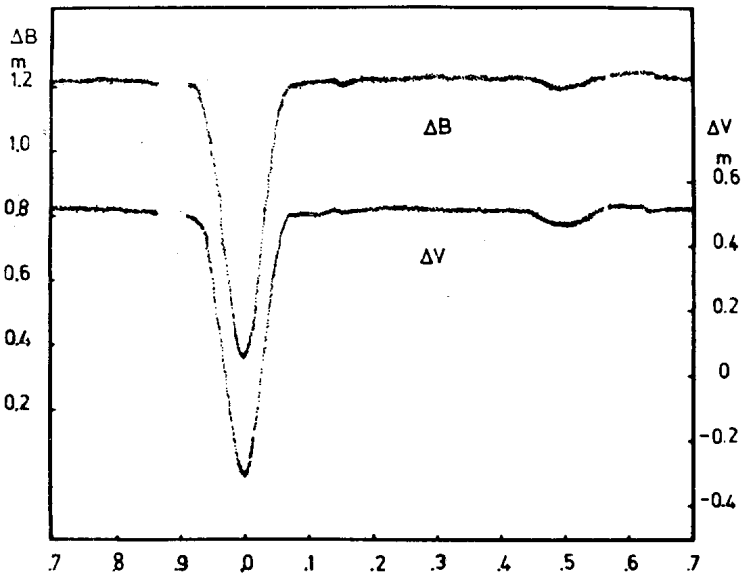


Figure 1

phase

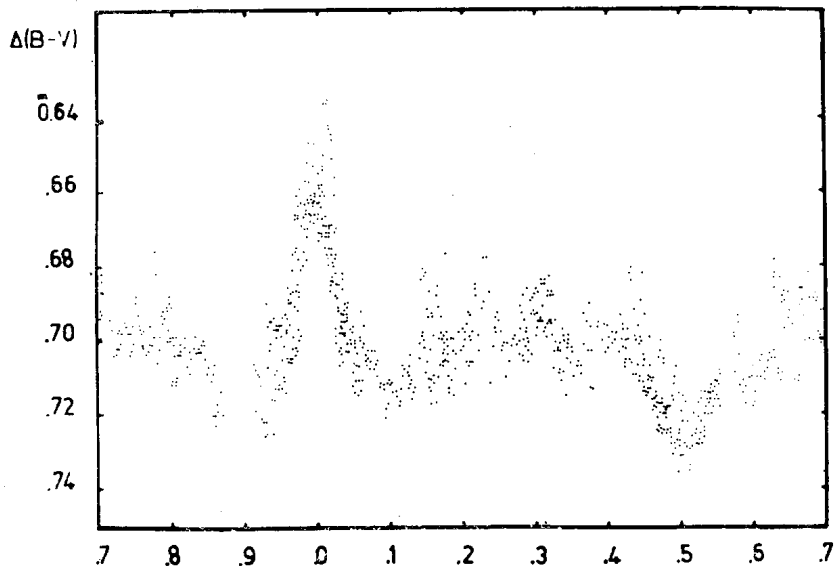


Figure 2

phase

The times of minima which have been obtained so far by other observers are listed in Table 2. The O-C values are computed again from Equation (2). The O-C values were plotted against E and are shown in Figure 3.

Table II

	JD(Hel.)	E	O-C	Ref.
24	37925.609	-2182	+0.004	1
	958.492	-2166	-0.014	1
	958.494	-2166	-0.012	1
	958.501	-2166	-0.005	1
	958.509	-2166	+0.003	1
	38770.754	-1771	+0.009	2
	805.696	-1754	-0.006	2
	39169.664	-1577	-0.004	3
	194.337	-1565	-0.006	4
	194.338	-1565	-0.005	5
	198.458	-1563	+0.002	6
	492.501	-1420	-0.006	5
	40985.368	-694	-0.014	7
	41244.476	-568	0	8
	248.595	-566	+0.006	7
	314.398	-534	+0.007	8
	688.637	-352	-0.001	7
	717.424	-338	-0.002	7
	42052.615	-175	+0.012	5
	375.454	- 18	+0.011	9
	404.244	- 4	+0.013	9
	408.343	- 2	-0.004	9
	410.391	- 1	-0.009	9
	412.452	0	-0.004	9
	412.459	0	+0.003	9
	412.462	0	+0.006	9
	414.514	1	+0.002	9
	445.360	16	+0.003	10
	445.362	16	+0.005	10
	447.409	17	-0.004	10
	449.464	18	-0.005	10
	449.476	18	+0.007	10
	451.508	19	-0.018	10
	739.410	159	+0.002	11
	774.357	176	-0.008	12
	774.361	176	-0.004	13
	776.442	177	+0.021	13
	786.715	182	+0.012	14
	807.274	192	+0.008	15
	43080.750	325	-0.004	16
	105.427	337	-0.003	17
	138.329	353	-0.002	17
	138.341	353	+0.011	17
	212.352	389	-0.005	18
	212.369	389	+0.012	18
	504.342	531	-0.010	19
	508.450	533	-0.015	19
	576.301	566	-0.022	19

Table II (cont.)

JD(Hel.)	E	O-C	Ref.
24 43578.353	567	-0.026	19
578.360	567	-0.019	19
578.363	567	-0.016	20
578.365	567	-0.014	19
578.366	567	-0.013	19
578.373	567	-0.006	19
732.597	642	-0.005	20

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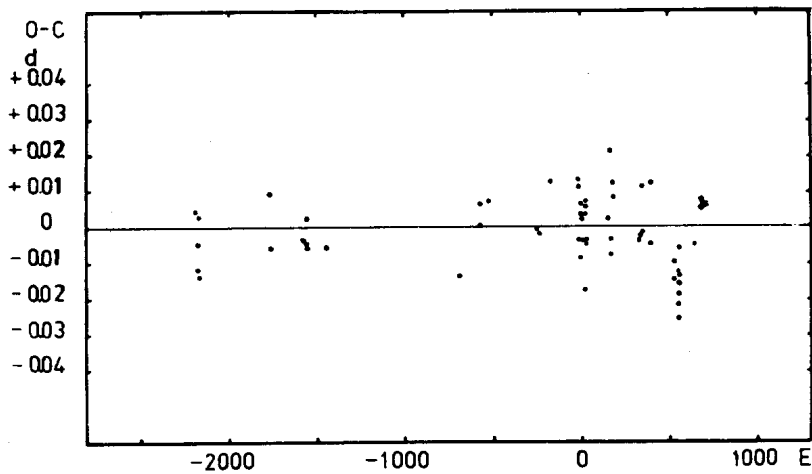


Figure 3

Since, the times of minima listed in Table II were all obtained visually, as is seen from Figure 3, the O-C values show a great scatter along the line corresponding to  $O-C=0$ . An attempt has been made to improve the values of epoch,  $T_0$ , and period,  $P$ , by representation of points with a straight line. However, this failed because the correlation coefficient turned out to be too small due to the great scattering of the points.

The analysis of the light curve is in progress.

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