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PHOTOELECTRIC OBSERVATIONS OF THE ECLIPSING VARIABLE
U CORONAE BOREALIS

Photoelectric observations of U Coronae Boreales in UBV system were made with the 24-inch reflector at the observing Station of the Laboratory of Astronomy of the University of Ioannina (longitude= $-1^{\text{h}}23^{\text{m}}$, latitude= $+39^{\circ}37'$) on eighteen nights between May and July 1972. The photometer was furnished with a 1P21 photomultiplier tube and yellow, blue and ultraviolet corning filters 3385, 5562 and 9863.

The comparison star used was BD + 32^o2578, the same one as previously used by Wood (1958).

The observations of UCrb in V are plotted in Figure 1, while the normal points of observations of UCrb in V,B and U are given in Table 1. The first column of Table 1 gives the phase in units of the period, while the second, third and fourth columns give the differences of the magnitude of UCrb minus that of the comparison star in V, B and U, correspondingly. The phases were determined by using the ephemeris of Dugan and Wright (1939):

$$\text{Primary Minimum} = \text{J.D. } 2416747,964 + 3.45220416 \text{ E.}$$

Using the observations through and near primary minimums we got the observed times of primary minimum included in Table 2. The second column of Table 2 gives the O-C of times of minima when the computed times of minima were determined by the Ephemeris of Dugan and Wright, while in the last column of Table 2 the O-C are determined by using the period given by S. Catalano, S. Cristaldi and C. Lacona (1966):

$$p = 3^{\text{d}}.4522027$$

Since Wood (1958) found O-C= $+0.008$ day using Dugan and Wright's formula given above the present data of Table 2 show that the period of UCrb continues to become smaller.

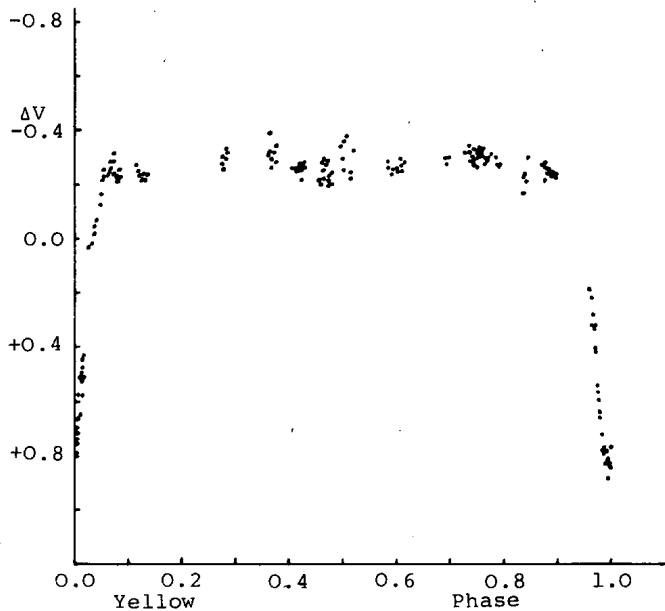
Table 1
Normal Points

Phase	ΔV	ΔB	ΔU	Number of Observation
0,0020	+ 0,743	+ 0,557	+ 0,123	3
0,0085	+ 0,673	+ 0,339	+ 0,006	4
0,0110	+ 0,650	+ 0,475	- 0,156	3
0,0153	+ 0,506	+ 0,345	- 0,242	4
0,0173	+ 0,478	+ 0,297	- 0,182	3
0,0347	+ 0,016	- 0,170	- 0,828	3
0,0431	- 0,079	- 0,436	- 0,998	3
0,0529	- 0,214	- 0,501	- 1,110	4
0,0682	- 0,267	- 0,573	- 1,184	6
0,0807	- 0,231	- 0,563	- 1,060	6
0,1262	- 0,194	- 0,565	- 1,027	7
0,2812	- 0,291	- 0,582	- 1,117	6
0,3648	-	- 0,608	- 1,110	-
0,3729	- 0,291	- 0,569	- 1,120	5
0,4113	- 0,249	- 0,565	- 1,029	5
0,4188	- 0,248	- 0,558	- 1,029	5
0,4262	- 0,256	- 0,563	- 1,060	6
0,4598	- 0,227	- 0,568	- 1,085	3
0,4652	- 0,249	- 0,553	- 1,024	3
0,4714	- 0,249	- 0,570	- 1,022	3
0,4777	- 0,217	- 0,544	- 1,084	4
0,5012	- 0,303	- 0,597	- 1,032	4
0,5147	- 0,287	- 0,561	- 1,080	4
0,5901	- 0,260	- 0,559	- 1,050	5
0,5987	- 0,254	- 0,586	- 1,175	5
0,6082	- 0,263	- 0,600	- 1,078	5
0,6957	- 0,285	- 0,641	- 1,097	3
0,7356	- 0,307	- 0,590	- 1,054	5
0,7472	- 0,302	- 0,635	- 1,035	4
0,7497	- 0,286	- 0,673	- 1,089	5
0,7575	- 0,306	- 0,634	- 1,059	4
0,7686	- 0,278	- 0,567	- 1,104	5
0,7894	- 0,270	- 0,584	- 1,143	4
0,8403	- 0,233	- 0,522	- 1,027	6
0,8766	- 0,248	- 0,565	- 1,033	5
0,8867	- 0,229	- 0,541	- 1,058	4
0,8942	- 0,222	- 0,556	- 1,040	4
0,9611	+ 0,236	- 0,040	- 0,508	3
0,9666	+ 0,358	+ 0,110	- 0,312	3
0,9724	+ 0,514	+ 0,262	- 0,574	3
0,9772	+ 0,636	+ 0,413	+ 0,002	3
0,9834	+ 0,765	+ 0,574	+ 0,151	3
0,9876	-	+ 0,631	+ 0,089	-
0,9910	+ 0,851	+ 0,672	+ 0,243	4
0,9920	+ 0,829	+ 0,672	+ 0,095	3
0,9974	+ 0,828	+ 0,655	+ 0,175	4

Table 2

Observed Times of Pr. Minimum	O-C	Weight	O-C
2441462.274 ± 0,002	- 0,020	2	- 0,009
486.436 ± 0,001	- 0,023	3	- 0,013
493.341 ± 0,001	- 0,022	4	- 0,012

Fig 1



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