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SYNCHRONOUS UBV FLARE OBSERVATIONS ON UV CETI

The flare observations on UV Ceti have been done at the high altitude Maidanak station of Tashkent Astronomical Institute. In the period from 20th to 29th of September 60 flares were detected on UV Ceti. Some of them were observed simultaneously in three colours. The effective time of these observations was about 42 hours. In fact these observations present the continuation of the ones done in 1978. (1,2).

The UBV colours were observed with the 60 cm, 60 cm and 48 cm telescopes, respectively. The measurements have been made by photon counting method. The duration of each measurement was 2.0 second, and the time interval between two measurements was 0.4 second. The precision of synchronization of observations was 0.001 second.

The data of observed flares are presented in Table I. The columns of Table I represent respectively: the number of flare up, data (September 1979), the time of maximum in UT, the rise time ( $t_1$ ) and the decay time ( $t_2$ ) in seconds, amplitudes  $\Delta U$ ,  $\Delta B$ ,  $\Delta V$ , and the colours  $(U-B)_f$  and  $(B-V)_f$  of the flare. The data presented in the Table I show that the average frequency of flares of this observations is about  $1.5 \text{ flare} \cdot \text{hour}^{-1}$ , and that the  $(U-B)_f$  and  $(B-V)_f$  colours of the flares, and especially the  $(U-B)_f$  colours, are very blue.

For illustration the light curves of two flares are presented in Figures 1 and 2.

Table I

N	Date	The time of maximum (UT)	$t_1$ (sec)	$t_2$ (sec)	$\Delta U$	$\Delta B$	$\Delta V$	$(U-B)_f$	$(B-V)_f$
1	20	21 <sup>h</sup> 01 <sup>m</sup> 15 <sup>s</sup>	9.2	345.0	3. <sup>m</sup> 49	2. <sup>m</sup> 20	0. <sup>m</sup> 94	-	0. <sup>m</sup> 16
2	23	19 00 32	13.8	105.2	1.51	0.37	0.24	-0.78	1.31
3		19 23 53	13.8	793.0	4.03	1.94	0.88	-0.87	0.35
4a		20 05 32	6.9	16.1	2.17	0.18	-	-	-
4b		20 05 58	9.2	9.2	2.11	0.20	-	-	-

Table I (cont.)

N	Date	The time of maximum (UT)	$t_1$ (sec)	$t_2$ (sec)	$\Delta U$	$\Delta B$	$\Delta V$	$(U-B)_f$	$(B-V)_f$
4c		20 07 15	6.9	16.1	2.86	0.57	-	-1.79	-
4d		20 08 53	2.3	9.2	2.33	0.37	-	-1.77	-
4e		20 09 49	27.6	27.6	1.73	0.48	0.22	-0.72	0.80
5		20 13 32	6.9	149.5	2.44	0.72	0.36	-1.00	0.92
6		20 19 05	9.2	32.2	1.63	0.23	0.29	-1.52	-
7		20 32 48	16.1	43.9	2.72	-	-	-	-
8		20 37 00	4.6	36.8	2.00	-	-	-	-
9		20 41 30	16.1	66.7	1.79	0.26	0.16	-1.59	1.28
10		21 08 28	4.6	20.8	1.69	0.21	0.13	-1.74	1.33
11		21 57 45	6.9	182.3	2.36	0.55	0.29	-1.29	1.03
12		22 09 30	13.8	69.2	2.57	0.58	0.24	-1.40	0.72
13	24	19 11 40	2.3	11.5	2.27	-	-	-	-
14		19 15 47	2.3	11.5	1.49	-	-	-	-
15a		20 48 37	2.3	9.2	1.97	-	-	-	-
15b		20 49 32	2.3	9.2	2.60	-	-	-	-
16	25	18 35 57	13.8	663.0	4.12	1.15	-	-2.02	-
17		18 51 12	18.4	39.3	1.84	-	-	-	-
17		18 52 49	6.9	23.1	2.34	-	-	-	-
18		19 25 37	13.8	20.8	1.53	0.16	0.06	-	-
19		19 51 14	2.3	43.8	-	0.32	0.18	-	1.15
20		21 03 21	6.9	55.2	2.02	0.28	0.15	-1.79	1.13
21		21 58 58	4.6	9.2	2.62	-	-	-	-
22		22 08 53	6.9	207.7	3.06	0.77	0.24	-1.57	0.31
23		22 20 18	2.3	11.5	2.66	-	0.27	-	-
24		23 04 37	23.0	159.3	1.60	0.22	0.16	-	-
25		23 36 39	6.9	60.0	0.97	0.36	0.19	-	1.04
26	26	20 11 15	9.2	80.8	1.97	0.32	0.22	-1.56	1.38
27		21 13 00	4.6	64.6	3.27	0.93	0.33	-1.49	0.58
28		22 55 21	13.8	29.9	1.41	0.20	0.13	-1.42	1.38
29	27	18 45 10	16.1	225.1	1.30	0.79	-	-	-
30		19 05 46	11.5	59.8	1.48	0.25	0.07	-1.23	0.43
31a		19 26 46	9.2	83.1	4.35	1.86	0.72	-1.29	0.14
31b		19 28 42	39.1	463.1	2.46	0.50	0.18	-1.50	0.58
32		20 48 42	2.3	23.0	2.43	0.51	0.17	-1.47	0.48
33		21 22 56	2.3	16.1	1.98	0.20	0.22	-	-
34		22 00 55	13.8	23.0	1.16	0.20	0.16	-1.06	1.61
35		22 22 00	9.2	36.6	1.40	0.20	-	-1.40	-
36		23 30 32	2.3	13.8	1.85	0.23	-	-1.79	-
37		23 33 16	6.9	18.4	1.63	0.32	-	-	-
38	28	18 10 00	?	400.0	-	0.45	-	-	-
39		18 23 15	2.3	73.2	-	0.35	-	-	-
40		18 59 56	6.9	36.8	2.54	0.66	0.23	-1.23	0.62
41		19 06 42	2.3	13.8	1.79	-	0.22	-	-
42		19 15 56	18.4	25.3	2.03	0.52	0.18	-1.00	0.53
43		20 13 30	6.9	43.8	2.88	0.83	0.28	-1.22	0.35
44		21 28 32	6.9	60.0	1.70	0.16	0.13	-	1.63
45a		21 47 33	4.6	4.6	2.32	-	-	-	-
45b		21 47 40	2.3	19.5	3.05	-	-	-	-
46		21 56 32	6.9	60.0	2.06	0.23	-	-	-
47		21 59 42	4.6	90.4	3.33	0.96	0.37	-1.51	0.50
48		22 02 39	6.9	191.6	4.81	1.96	0.83	-1.64	0.24
49a		22 27 05	16.1	30.0	1.89	0.44	0.39	-1.00	1.70
49b		22 29 10	108.1	800.0	2.23	0.58	0.54	-1.10	1.70
50		23 34 35	16.1	126.9	-	-	0.60	-	-
51	29	20 05 00	6.9	25.3	-	0.26	-	-	-

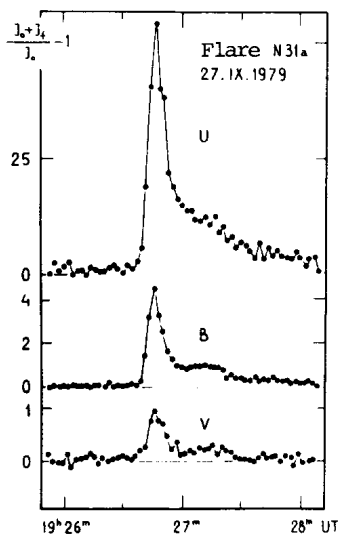


Figure 1

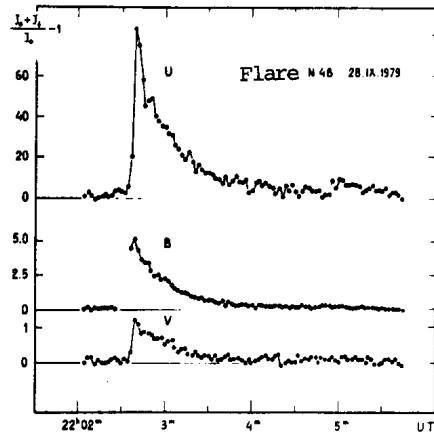


Figure 2

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