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PHOTOELECTRIC OBSERVATIONS OF THE FLARE STAR UV Cet  
DURING THE 1970 SEPTEMBER 22 - OCTOBER 9  
INTERNATIONAL PATROL

The preliminary results of UV Cet observations carried out at the Catania Astrophysical Observatory during the 1970 campaign arranged by the IAU Working Group on Flare Stars are here reported.

The observations were performed in b light with a 91 cm cassegrain reflector which fed a single channel photometer equipped with an EMI 6256 A (S13) photomultiplier and the following combination of Schott filters: RG12/1+GG13/2.

In Table 1 the detailed coverage and in Table 2 the characteristics of the 59 flares observed in 46.8 hours of patrol are presented. The meaning of symbols used is the same as in I.B.V.S. No.525. Assuming that the observed flares have been produced in the atmosphere of the B component of UV Cet (L 726-8 AB), the observed intensities have been corrected as follows:  $I_0 = 0.38 I$  (observed).

The light curves of the observed flares are shown in the accompanying Figures Nos.1 - 16. The meaning of the "uncertainty" bars close at each flare light curve is also explained in I.B.V.S. Nos.525.

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February 13, 1971

Table 1  
DATE

COVERAGE (U.T.)

36/I<sub>0</sub>

1970										
Sep.	00h10m-00h21m;	0026-0119;	0121-0158;	0201-0331;	0333-0343.					.07
22	2300-2308;	2314-2329;	2338-2340;							.07
23	0103-0115;	0208-0222;	0225-0249;	0315-0342.						.07
23	2250-2348;									.07
24	0007-0015;	0037-0045;	0050-0250;	0252-0310;	0312-0334.					.07
24	2207-2320;	2337-2400;								.07
25	0000-0013;	0015-0030;	0041-0127;	0129-0132;	0204-0249;					.07
26	0251-0309;	0312-0334.								.07
	2201-2213;	2216-2228;	2256-2313;	2315-2327;	2329-2331;					.07
	2333-2344;									.07
27	0007-0026;	0028-0046;	0049-0055;	0131-0145;	0149-0305;	0310-0343.				.07
27	2345-2357;	2359-2400;								.05
28	0000-0014;	0027-0032;	0052-0150;	0207-0212;	0249-0345.					.05
28	2120-2134;	2136-2155;	2157-2159;	2208-2214;	2217-2220;					.05
29	2222-2244;	2247-2306;	2314-2318;	2356-2400;						.03
29	0000-0037;	0039-0100;	0102-0119;	0121-0137;	0140-0236;					.03
29	0238-0249;	0251-0312;	0315-0324;	0326-0334;	0336-0342;	0345-0347.				.03
30	2329-2335;	2343-2358;								.03
30	0000-0027;	0029-0032;	0035-0106;	0108-0122;	0124-0149;					.03
	0150-0205;	0210-0233;	0248-0308.							.03
Oct.										.03
1	0001-0014;	0016-0017;	0030-0035;	0037-0056;	0058-0103;	0244-0343.				.03
3	0118-0131;	0149-0200;	0202-0230;	0232-0238;	0240-0246;					.03
4	0248-0253;	0304-0335.								.03
4	0102-0120;	0122-0126;	0132-0139;	0145-0148.						.03
4	2130-2212;	2216-2231;	2257-2306;	2309-2324;	2326-2356;					.03
5	0030-0046;	0049-0100;	0105-0120;	0122-0134;	0135-0148;	0151-0204;				.03
	0212-0223;	0226-0242;	0244-0257;	0302-0319;	0321-0342;	0344-0348.				.03

Table 1 (cont.)

DATE	COVERAGE (U.T.)	3 $\sigma$ / I <sub>0</sub>
1970 Oct.		
5	21 <sup>h</sup> 27 <sup>m</sup> -21 <sup>h</sup> 47 <sup>m</sup> ; 2150-2158; 2211-2215; 2253-2308; 2334-2349; 2351-2400;	
6	0000-0006; 0040-0102; 0104-0121; 0125-0138; 0140-0153; 0155-0219; 0221-0235; 0242-0300.	.04
6	2124-2130; 2140-2154.	.05
7	2125-2201; 2205-2238; 2243-2247; 2254-2259; 2300-2305; 2309-2321;	.04
8	0127-0205; 0216-0250; 0258-0311; 0333-0341.	.04
9	0106-0119; 0121-0128; 0202-0218; 0225-0248; 0250-0302; 0305-0315; 0317-0328; 0330-0344.	.04
10	0037-0052; 0054-0113; 0116-0134; 0136-0156; 0157-0207; 0212-0215; 0217-0220; 0221-0226; 0229-0231; 0236-0244.	.02

I.B.V.S. no.525. For the explanation of symbols see the footnotes to the Tables in

no.	t <sub>max</sub> (U.T.)	d <sub>p</sub>	d <sub>a</sub>	3σ/I <sub>0</sub> (I <sub>p</sub> /I <sub>0</sub> ) <sub>max</sub>	P	a	b
1	1970 Sep. 22:00h48.2 <sup>m</sup>	0.0 <sup>m</sup>	6.3 <sup>m</sup>	.08	0.62	0.78	2
2	01 13.4	0.0	0.1	.08	0.82	0.04	2
3	02 20.4	0.1	10.0	.08	4.53	2.88	2
4	23:02 09.3	0.3	5.8	.08	0.75	0.86	3
5	02 16.6	0.1	0.8	.08	1.03	0.42	3
6	02 40.1	0.3	8.9	.08	2.90	3.63	3
7a	23 19.1		(secondary maximum)				
7b	23 20.7		(secondary maximum)				
7c	23 21.0		(secondary maximum)				
7d	23 24.5		(secondary maximum)				
7e	23 26.2		(secondary maximum)				
7f	23 31.0		(secondary maximum)				
8	24:01 29.2	0.2	11.6	.07	6.90	8.72	3
9	02 18.3	0.1	4.8	.07	0.73	0.66	2
10	02 42.6	0.1	2.4	.07	3.61	1.05	2
11	22 16.3	0.2	1.6	.07	2.76	0.55	2
12a	22 24.9	0.2	7.6	.08	1.06	1.12	2
12b	22 30.5		19.5	.08	2.17	5.84	2
12c	22 31.3		(secondary maximum)				
13a	25:02 07.3		(secondary maximum)				
13b	02 13.6	0.1	10.6	.04	1.53	5.20	3
13c	02 18.9		(secondary maximum)				
14a	02 33.8	0.1	7.4	.05	3.82	4.22	2
14b	02 34.7		(secondary maximum)				
15	03 19.9	0.1	7.8	.07	2.58	2.84	2
16a	26:22 57.2		5.3	.04	1.57	1.82	3
16b	22 57.6		(secondary maximum)				
17	23 22.1	0.0	1.0	.07	1.40	0.34	3
18	27:00 43.9	0.0	5.6	.07	0.40	0.60	3
19	02 50.0		1.5	.05	2.14		2
20a	23 50.4	0.7	3.7	.08	2.10	1.92	2
20b	23 52.0		(secondary maximum)				

Table 2 (cont.)

no.	$t_{max}$ (U.T.)	$d_b$	$d_a$	$3\sigma/I_0$	$(I_f/I_0)_{max}$	P	a	b
1970 Sep.								
21	28:01 <sup>h</sup> 09.6 <sup>m</sup>	0.1	0.1	.03	3.65	20.52	3	2
22	01 22.1	0.4	6.7	.03	7.23	20.52	3	2
23	01 39.8	0.1	9.4	.03	4.54	7.06	1	2
24	03 24.6	0.2	2.6	.03	0.92	0.56	3	2
25	23 57.4	0.1	1.6	.02	2.24	?	3	2
26	29:00 09.2	0.1	0.6	.02	0.63	0.08	2	2
27	00 47.1	0.1	1.8	.02	1.23	0.76	2	2
28	01 23.8	0.0	2.1	.02	0.86	0.34	2	2
29	02 01.3	0.1	0.9	.02	0.59	0.22	2	2
30a	02 06.9	0.2	7.2	.02	3.39	3.66	3	2
30b	02 12.5	(secondary maximum)						
31a	02 42.4	0.0	6.1	.03	2.66	1.50	2	2
31b	02 43.4	0.0	0.6	.04	0.57	0.06	1	2
32	30:00 23.8	0.1	0.1	.04	0.73	0.07	2	2
33	00 29.6	0.0	0.5	.04	0.69	0.12	2	2
34	00 50.1	0.0	0.5	.04	1.17	0.20	4	4
35	01 18.2	0.2	0.5	.04	2.49	0.55	4	4
36	01 50.6	0.1	1.0	.04	1.17	0.20	4	4
37	03 03.2	0.6	1.1	.04	0.77	0.25	4	4
Oct.								
38	1:00 02.1	0.2	5.5	.03	2.69	2.48	4	2
39	02 46.3	0.5	1.6	.07	1.68	1.29	2	2
40	03 07.5	0.0	1.5	.07	5.00	0.48	2	2
41	03 09.2	0.0	0.3	.07	1.14	0.15	4	2
42	4:21 42.3	0.1	4.5	.04	2.83	0.68	2	3
43a	22 03.0	0.1	13.1	.03	5.49	7.54	2	3
43b	22 03.2	(secondary maximum)						
44a	5:01 25.8	0.0	14.4	.03	6.79	10.40	3	3
44b	01 28.3	(secondary maximum)						
44c	01 30.3	(secondary maximum)						
45	02 34.9	0.3	6.2	.04	1.27	1.56	3	3

no.	$t_{max}$ (U.P.)	$d_b$	$d_a$	$3G/I_0$	$(I_f/I_0)_{max}$	P	a	b
1970 Oct.								
46	5:02h54.6m	0.2	1.3	.04	0.83	0.40		3
47	03 27.3	0.1	0.4	.04	1.70	0.12		3
48	23 02.1	0.1	3.0	.03	1.50	0.68		4
49a	6:00 56.4							
49b	00 56.8							
49c	00 58.1	0.3	6.5	.04	1.69	2.22		4
50	01 15.6	0.2	3.4	.04	0.76	0.74	3	4
51	02 05.9	0.2	1.1	.04	2.11	0.46		4
52	21 52.8	0.1	0.1	.04	0.97	0.10		2
53	8:01 39.0	0.1	1.3	.04	2.18	0.60		2
54	01 42.1	0.2	0.1	.04	1.74	0.22		2
55	02 45.4	0.0	0.8	.07	1.18	0.12		2
56	9:02 43.9	0.1	1.1	.04	3.84	0.66		2
57	03 26.4	0.1	0.4	.07	1.28	0.24		2
58	10:01 02.4	0.0	1.0	.03	0.79	0.14		1
59a	01 21.8							
59b	01 24.6	0.2	13.4	.03	18.11	14.10	3	1
59c	01 28.9							

Table 2 (cont.)  
 For the explanation of symbols see the footnotes to the Tables in I.B.V.S.  
 no. 525.



































