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OBSERVATIONS OF THE FLARE STAR UV Cet
DURING THE 1970 SEPTEMBER 22-OCTOBER 9 INTER-
NATIONAL PATROL.

a) PHOTOELECTRIC OBSERVATIONS

The results of UV Cet observations carried out at the Auckland Observatory, N.Z. during the 1970 campaign arranged by the I.A.U. Working Group on Flare Stars are reported.

The observations were carried out in B light, except for September 22 when V filter used, with a 50 cm Cassegrain Zeiss reflector. The photomultiplier tube was an unrefrigerated EMI 9502 used with a capacitor integrating output and a digital readout. Each observation comprised one ten second integrating period.

In Table 1 the detailed coverage is given together with notes on sky conditions. Table 2 lists the characteristics of the six flares observed during 13.4 hours of monitoring. In this table the columns give data as defined in IBVS 326. Flares 2, 3 and 4 are depicted in Figures 1-3. The remaining three flares are considered very doubtful.

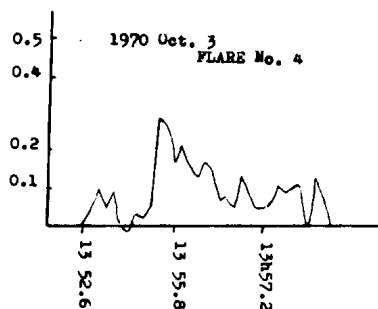
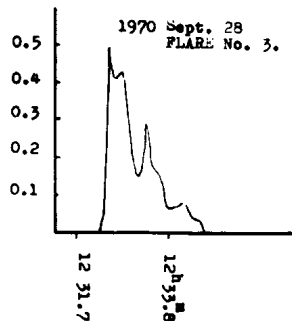
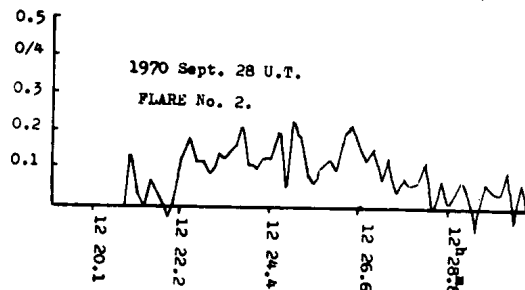


Table 1
Coverage (U.T.)

1970		Total	Sky
Sept	22 1021-1049; 1052-1100; 1108-1132		V. good
	1142-1224; 1229-1239; 1309-1320;		between
	1334-1409; 1415-1428.	2 ^h 51 ^m	cloudy
23	1108-1121; 1133-1138	0 18	patches.
26	1200-1234; 1238-1314; 1318-1331	1 23	Fair
			Haze and
			clouds.
28	1053-1055; 1118-1131; 1137-1157		Odd
	1159-1215; 1220-1252; 1301-1329;		showers
	1348-1401; 1406-1416.	2 14	from S.W
Oct.	2 1041-1045; 1049-1054	0 09	Cloudy
3	1344-1417; 1418-1434; 1444-1446;		
	1450-1503; 1504-1524; 1540-1542	1 26	Poor
4	1011-1058; 1105-1149.	1 31	Cloudy;
			poor
7	1032-1036; 1038-1039; 1106-1117;		
	1124-1200; 1202-1209; 1214-1222;		Passing
	1224-1237; 1243-1249; 1250-1251;		clouds;
	1255-1256; 1258-1259; 1304-1305	1 30	Poor.
8	1052-1117; 1120-1127; 1130-1146;		Inter-
	1150-1216; 1217-1306	2 03	mittent
			cloud;
			poor.

Table 2
Observed Flares

No.	t	Max(UT)	Duration		S.D.	Max.	Integr.	Air	Notes
	1970		d _b	d _a	3	Magn.	Intens.	Mas	
			Mins				mag/min		
Sept									
1	22	12 ^h 11 ^m 24	-	--	0.045	0.16V	0.003	1.144	(1)
2	28	12 25.0	4.5	5	0.1	0.23B	0.769?	1.089	(2)
3	28	12 32.5	0.3	2.5	0.1	0.47B	0.623	1.082	
Oct.									
4	3	13 55.6	0.2	3.0	0.1	0.29B	0.474	1.06	
5	3	14 20.6	Very doubtful because of cloud						
6	8	11 24.3	Very doubtful because of cloud.						

Notes:

- (1) Doubtful validity. May have been a recorder error.
- (2) Multiple activity.

FRANK M. BATESON
B.F. MARINO W.S.G. WALKER

b) PHOTOGRAPHIC OBSERVATIONS

During the 1970 campaign on UV Cet photographic monitoring was carried out with the Baker Nunn camera of the USAF Tracking Station at Mount John, N.Z. Exposure times varied and each film consisted of exposures of 3.2, 7, 15, 30 and 60 seconds. The periods covered by the monitoring are listed below together with the number of frames taken.

Coverage (U.T.)

1970	U.T.	No. of Frames
Oct. 1	08 ^h 39 ^m 40 ^s to 09 ^h 20 ^m 33 ^s	78
1	12 06 39 12 39 29	62
4	10 42 17 11 29 28	106
4	13 50 03 14 19 39	58

All observations were obtained under first class conditions with no cloud. A few frames could not be used through over exposure.

One minor flare, estimated at 0.4^m, was recorded on the frame exposed at 1970 Oct. 4 10^h56^m51^s (U.T.). There is a suggestion that flare activity had not completely died down when the succeeding frame was exposed at 10^h57^m25^s.

FRANK M. BATESON

c) VISUAL OBSERVATIONS

Visual monitoring of UV Cet was carried out at the Carter Observatory, Wellington, N.Z. with the 23 cm refractor. Summary of monitoring times is given in Table 1 with notes on sky conditions. Table 2 lists possible flares observed. These should be treated with reserve unless confirmed elsewhere.

Table 1
Coverage (U.T.)

1970		Total	Sky
Sept. 22	1149-1232,	0h43m	Some haze.
26	1108-1335; 1414-1514; 1550-1554; 1605-1640	4 06	Good.
27	0900-0904; 0921-1100; 1130-1230; 1245-1345; 1410-1440; 1455-1620; 1625-1645.	5 58	Cloud at times.
28	0905-1305; 1330-1400; 1405-1510; 1520-1640.	6 55	Good.
Oct. 7	1010-1045; 1120-1250; 1340-1440; 1450-1510.	3 25	Haze.
Total		21 07	

Table 2
Possible Flares

No.	Flare Max. 1970 (U.T.).		Duration (Minutes)		Max Mag V
	d _b	d _a	d _b	d _a	
1	Sept 22	12h15m0	2.0	3.5	0.6
2	28	10 55.7	1.2	2.3	0.5
3	Oct 7	10 28.5	0.5	0.5	0.3
4	7	11 34.0	1.0	1.0	0.4

VSS RASNZ
18 Pooles Road,
Greerton,
TAURANGA.
NEW ZEALAND

FRANK M. BATESON
D.J. CAMERON P.D. CAIN