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Konkoly Observatory
Budapest
1976 February 26

FLARE SUMMARY FOR UV CETI
SEPTEMBER 27 - OCTOBER 14, 1975

At the end of September and for two weeks in October 1975, the flare star UV Ceti (RA = $01^h37^m12^s$, decl.=$-18^o08'$ (1966.0)), visual magnitude 12.9, spectral type dM5.5e) was monitored from Boyden Observatory with the 41 cm aperture Nishimura Reflector. The detector was a dry ice cooled EMI6256A photomultiplier tube. A standard Johnson B. filter was used throughout the observations.

The Table gives details of the observations over a total monitoring time of $77^h04^m24^s$.

Throughout the period level of activity was reasonably high, twenty-six flares being noted. There were many other which are marked as uncertain due to unfavourable observing conditions. Especially interesting is the very intense flare peaking at $01^h35^m21^s$ U.T. on the 10th October. Although we have recorded larger flares from UV Ceti, this one was very prominent with an $\frac{I_{o+f}-I_o}{I_o}$ value of approximately 17.7.

Also on the 10th another relatively intense flare of $\frac{I_{o+f}-I_o}{I_o}$ value 8.3 peaked at $23^h39^m48^s$. Both these flares showed the characteristic flash phase followed by the gradual decline of UV Ceti type flare stars. They are similar in contour to those recorded on previous occasions from UV Ceti by A.H. Jarrett, J.P. Eksteen and J.B. Gibson.

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References:
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5. Jarrett A.H. and Eksteen J.P. 1970, MNASSA, 29, p.115
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Flare Summary for UV Ceti - September 27 - 14 October 1975

Date	Total Hours	Rise	Max. (U.T.)	Ends	Comments	$\frac{I_{o+f}-I_o}{I_o}$	Air Mass Max.
27th	$3^h20^m30^s$	$20^h36^m02^s$	$20^h36^m06^s$	$20^h36^m36^s$	Possibly a small flare	0.26±0.092	1.3172
		20 38 51	20 38 57	20 39 11	Possibly a small spike	0.45±0.082	1.3052
	This is probably one event.	21 03 46	21 03 48	21 04 30	Small spike	0.81±0.09	1.2150
		21 04 46	21 04 51	21 05 18	Poss. a small slow flare	0.31±0.09	1.2117
		21 05 18	21 05 36	21 06 00	Poss.a small slow flare	0.25±0.09	1.2094
		22 53 38	22 53 40	22 54 00	Small spike	0.69±0.10	1.0281
		23 52 17	23 52 18	23 52 20	Probably a narrow spike	4.09±0.15	1.0236

Monitoring Times (U.T.)

$20^h18^m48^s$ - $22^h57^m24^s$ There was apparently distant lightning throughout night.
22 59 36 - 23 05 18
23 10 36 - 23 23 12 $23^h36^m24^s$ - $24^h00^m00^s$

28th	$6^h53^m36^s$	00 05 45	00 05 52	-	Spike	3.60±0.14	1.0307
		-	00 06 02	00 09 06	Spike with exponential decay.	1.36±0.14	
		00 41 07	00 41 09	00 41 17	Low intensity spike	0.91±0.15	1.0648
		01 27 19	01 28 09	01 32 48	Flare	1.51±0.14	1.1507
		20 02 02	20 02 19	-	Spike	3.53±0.13	1.4697
		-	20 02 31	20 20 -	Exponential decay	0.86±0.13	-
		20 24 -	20 26 -	20 34 -	Probably a slow flare	0.13±0.08	1.3446
		20 38 03	20 38 07	20 38 28	Spike	1.99±0.10	1.2925

Monitoring Times (U.T.)

$00^h00^m00^s$ - $01^h01^m18^s$ $19^h54^m18^s$ - $23^h20^m24^s$
01 07 12 - 02 21 54 23 26 42 - 23 31 18
02 23 12 - 03 02 48 23 32 42 - 24 00 00

29th	$7^h03^m30^s$	00 26 30	00 27 54	00 30 06	Slow flare	0.69±0.11	1.0535
		00 30 17	00 30 20	00 32 00	Spike	1.00±0.11	1.0563
		02 03 54	02 04 24	02 06 -	Slow flare	0.53±0.11	1.2740
		20 31 26	20 31 28	20 31 36	Low intensity spike	0.84±0.10	1.3036

Table (continued)

Date	Total Hours	Rise	Max. (U.T.)	Ends	Comments	$\frac{I_{o+f}-I_o}{I_o}$	Air Mass Max.
29th	$7^h03^m30^s$	$20^h46^m58^s$	$20^h47^m01^s$	-	Spike	0.75±0.10	1.2445
		-	20 47 06	$20^h48^m48^s$	Exponential decay	0.31±0.10	
		20 49 30	20 49 40	20 51 06	Probably a slow flare	0.45±0.10	1.2354
		20 53 24	20 53 30	20 53 42	A low intensity spike	0.75±0.12	1.2228
		-	20 54 10	20 57 30	Slow flare	0.63±0.12	1.2206
		21 10 30	21 11 01	21 13 06	Flare	1.00±0.11	1.1713
		21 18 46	21 18 50	-	Spike	1.73±0.11	1.1514
		-	21 18 52	21 19 55	Exponential decay	0.93±0.11	
		21 25 51	21 25 54	-	Spike	2.47±0.11	1.1350
		-	21 25 59	21 27 30	Exponential decay	1.33±0.11	

Monitoring Times (U.T.)

$00^h00^m00^s$ - $01^h09^m36^s$	$19^h38^m24^s$ - $20^h07^m24^s$
01 27 42 - 03 02 36 (dawn)	20 09 30 - 23 16 18
19 31 06 - 19 37 00	23 22 42 - 24 00 00

30th	$4^h41^m18^s$	00 08 27	00 08 44	00 09 42	Small flare	0.22±0.11	1.0387
		00 16 33	00 16 38	-	Spike	2.47±0.11	1.0458
		-	00 16 45	00 19 36	Decay	1.33±0.11	
		00 20 29	00 20 30	00 20 34	Narrow spike	1.28±0.11	1.0497
		00 46 48	00 46 52	-	Spike	1.10±0.11	1.0844
		-	00 47 00	00 47 36	Decay	0.39±0.11	
		01 31 46	01 31 51	-	Spike	1.40±0.11	1.1807
		-	01 31 59	01 32 54	Decay	0.33±0.11	
		01 49 27	01 49 32	01 52 12	Flare (noisy trace)	1.20±0.19	1.2348
		02 34 30	02 35 18	02 37 42	Probably a slow flare	0.29±0.12	1.4363
		21 14 29	21 14 30	21 15 00	Possibly a flare	1.00±0.15	1.1524
		22 03 41	22 03 43	22 04 30	Possibly a flare. Noisy trace.	0.90±0.22	1.0628
		22 23 30	22 23 33	22 23 43	Spike	1.82±0.20	1.0414

Table (continued)

Date	Total Hours	Rise	Max. (U.T.)	Ends	Comments	$\frac{I_{o+f}-I_o}{I_o}$	Air Mass Max.
Monitoring Times (U.T.)							
$00^h00^m00^s$ - $03^h02^m06^s$							
20 48 42 - 21 52 18							
21 53 30 - 22 12 00							
22 14 54 - 22 32 00							
1st	$0^h47^m06^s$				No flares observed. The sky was good after clouds.		
Monitoring Times (U.T.)							
$23^h09^m54^s$ - $23^h25^m30^s$							
23 27 18 - 23 45 18							
23 46 30 - 24 00 00							
2nd	$7^h56^m30^s$	$00^h08^m43^s$	$00^h08^m53^s$	-	Spike	0.92±0.14	1.0459
		-	00 08 58	$00^h10^m30^s$	Decay	0.37±0.14	
		01 28 50	01 29 11	01 34 30	Flare	1.90±0.12	1.1955
		01 34 37	01 34 53	01 36 30	Flare	0.95±0.11	1.2127
		01 59 01	01 59 18	01 59 31	Possibly a flare	0.78±0.10	1.3005
		19 07 24	19 07 32	-	Flare	0.67±0.13	1.7728
		19 08 47	19 10 00	19 16 00	Slow flare	0.72±0.13	1.7488
		22 48 35	22 48 37	22 48 57	Possibly a precursor	0.29±0.09	1.0216
		22 50 00	22 51 01	22 51 48	Probably a slow flare	0.43±0.08	1.0209
		23 54 56	23 54 58	23 55 12	Possibly a spike	0.50±0.10	1.0370
Monitoring Times (U.T.)							
$00^h00^m00^s$ - $03^h00^m00^s$							
18 55 30 - 23 02 36							
23 10 36 - 24 00 00							
3rd	$8^h11^m30^s$	19 11 52	19 11 53	-	Narrow spike	1.57±0.10	1.6953
		19 12 02	19 12 03	19 12 15	event	1.04±0.10	1.6938
		20 40 49	20 40 56	20 41 06	Possibly a precursor	0.53±0.10	1.2127
		20 45 05	20 45 17	20 49 06	Flare	1.06±0.08	1.1994
		20 57 43	20 57 44	20 57 54	Possibly a precursor	0.63±0.12	1.1649

Table (continued)

Date	Total Hours	Rise	Max. (U.T.)	Ends	Comments	$\frac{I_{o+f}-I_o}{I_o}$	Air Mass Max.
3rd	$8^h11^m30^s$	$20^h58^m28^s$	$20^h58^m42^s$	$21^h02^m12^s$	Flare	1.74±0.12	1.1624
		21 52 22	21 52 25	-	Flare	1.10±0.09	1.0622
		21 52 45	21 52 49	-	Spike	1.47±0.11	1.0617
		-	21 53 01	21 54 42	Decay	0.74±0.11	
		22 29 03	22 02 08	22 30 18	Maybe a small flare	0.38±0.08	1.0286
		22 34 53	22 34 53	22 35 01	Narrow spike	1.00±0.11	1.0255
		23 49 06	23 49 11	23 49 54	Flare	0.56±0.10	1.0356

Monitoring Times (U.T.)

$00^h00^m00^s$ - $00^h29^m00^s$	$23^h06^m18^s$ - $23^h29^m30^s$
00 32 54 - 02 58 00	23 31 42 - 24 00 00
18 33 06 - 18 54 42	23 36 00 - 23 37 30
18 56 06 - 23 00 24	23 55 24 - 23 58 18

4th	$3^h57^m48^s$	$02^h11^m32^s$	$02^h11^m34^s$	$02^h11^m36^s$	Possibly a narrow spike	1.69±0.17	1.3931
		02 13 13	02 13 24	02 14 24	Spike	1.25±0.17	1.4027
		18 57 03	18 57 05	18 57 24	Possibly a flare	0.54±0.13	1.7988
		19 02 24	19 02 36	-	Probably weak slow flares	0.31±0.12	1.7444
		19 03 35	19 03 38	19 05 00		0.23±0.12	1.7346
		19 05 14	19 05 16	19 06 00	Possibly a flare	0.54±0.18	1.7195
		19 10 18	19 10 48	19 27 -	Possibly a slow flare	0.31±0.13	1.6706

Monitoring Times (U.T.)

$00^h00^m00^s$ - $00^h25^m00^s$	$00^h47^m24^s$ - $01^h32^m00^s$
00 26 06 - 00 36 24	01 35 30 - 02 32 48
00 38 12 - 00 45 48	18 28 06 - 19 30 24
	19 31 48 - 20 02 30

8th	$5^h29^m24^s$	18 21 52	18 21 54	18 21 57	Spike	1.21±0.18	2.0285
		18 22 02	18 22 03	-	Probably a spike	1.57±0.18	2.0264
		18 22 10	18 22 10	18 22 15	Probably associated with previous event	1.43±0.18	2.0248
		18 30 24	18 30 32	18 30 48	A spike-like flare	0.69±0.14	1.9185

Table (continued)

Date	Total Hours	Rise	Max. (U.T.)	Ends	Comments	$\frac{I_{o+f}-I_o}{I_o}$	Air Mass Max.
8th	$5^h29^m24^s$	$18^h52^m08^s$	$18^h52^m11^s$	$18^h52^m17^s$	Signal scarcely distinguished above noise	0.60±0.17	1.6957
		18 59 56	18 59 57	19 00 01	Spike	1.27±0.15	1.6303
		19 00 11	19 00 12	19 00 26	A low intensity spike	0.40±0.15	1.6283
		19 24 18	19 24 25	19 25 18	Probably a flare	0.53±0.17	1.4612
		21 11 48	21 12 00	-	Possibly a spike	0.53±0.14	1.0928
		-	21 12 37	21 16 00	Possibly a slow flare	0.41±0.14	1.0918
		21 21 19	21 21 24	21 24 00	Maybe a flare	0.22±0.10	1.0778
		22 24 41	22 24 46	22 24 53	Maybe a spike	1.06±0.13	1.0217
		23 40 58	23 41 10	-	Spike	0.74±0.07	1.0457
	One	23 41 19	23 41 25	-	Spike	1.37±0.09	1.0460
	event	23 41 46	23 42 00	-	Slow flare	0.63±0.09	1.0466
		23 42 48	23 43 42	23 59 30	Slow flare	0.44±0.14	1.0483

Monitoring Times (U.T.)

$18^h19^m48^s$ - $22^h40^m30^s$
22 45 18 - 23 29 54
23 35 54 - 24 00 00

9th	$7^h20^m42^s$	01 04 13	01 04 22	01 07 00	Flare	0.96±0.13	1.2035
		02 29 56	02 29 57	02 30 42	Flare	0.56±0.12	1.6406
		19 05 20	19 05 22	19 05 36	Probably a spike	0.54±0.15	1.5596
		20 41 29	20 41 30	20 41 39	Probably a spike	0.64±0.15	1.1467
		21 56 08	21 56 09	21 56 16	Probably a spike	0.56±0.12	1.0349
		23 11 26	23 11 37	-	Spike	1.47±0.11	1.0266
		-	23 11 51	23 14 30	Decay	0.40±0.11	

Monitoring Times (U.T.)

$00^h00^m00^s$ - $01^h45^m42^s$
01 49 24 - 02 41 48
18 10 06 - 19 13 48
19 15 00 - 19 29 42
19 39 42 - 19 59 36
20 00 48 - 20 04 12

$20^h05^m48^s$ - $20^h37^m48^s$
20 39 00 - 21 42 18
21 43 30 - 22 12 18
22 18 18 - 22 37 18
22 49 12 - 22 56 18
23 08 12 - 23 28 18
23 49 24 - 24 00 00

Table (continued)

Date	Total Hours	Rise	Max. U.T.	Ends	Comments	$\frac{I_{o+f}-I_o}{I_o}$	Air Mass Max.
10th	$7^h20^m42^s$	$01^h14^m22^s$	$01^h14^m25^s$	$01^h18^m48^s$	Flare	1.89±0.16	1.2493
		01 35 11	01 35 21	02 00 00	Flare	17.74±0.12	1.3326
		01 42 22	01 42 39	01 43 36	Slow flare (after previous one)	0.50±0.18	1.3665
		02 10 16	02 10 18	02 11 00	Probably a flare	0.48±0.11	1.5244
		19 18 52	19 18 59	19 22 30	Probably a flare	0.35±0.13	1.4470
		19 40 20	19 40 21	19 40 28	Narrow spike	2.57±0.18	1.3376
		19 41 42	19 41 58	19 43 18	Probably a flare (noisy trace)	0.44±0.18	1.3304
		20 32 43	20 32 57	20 33 54	Flare	0.50±0.12	1.1579
		21 26 58	21 27 07	21 28 30	Flare	0.53±0.11	1.0594
		21 21 00	21 31 13	21 33 18	Probably a flare	0.45±0.12	1.0546
		23 39 46	23 39 48	-	Noisy trace Spike flare	8.31±0.17	1.0525
		-	23 40 11	23 47 00	Decay	0.58±0.09	
		23 49 55	23 49 56	23 49 58	Narrow spike	1.50±0.12	1.0646

Monitoring Times (U.T.)

$00^h00^m00^s$ - $00^h04^m06^s$	$18^h20^m00^s$ - $18^h53^m42^s$
00 05 30 - 00 39 54	18 54 48 - 22 09 42
00 41 24 - 02 50 00	22 11 30 - 22 33 18
	22 36 48 - 24 00 00

12th	$4^h04^m48^s$	20 01 30	20 01 48	20 07 30	Flare	0.70±0.17	1.2247
		21 12 31	21 12 32	21 12 37	Narrow spike	1.27±0.11	1.0680
		21 56 48	21 57 04	22 01 00	Probably a slow flare	0.33±0.13	1.0268
		22 54 18	22 54 34	-	Spike flare	5.33±0.14	1.0241
		-	22 55 00	23 03 00	Decay	0.57±0.09	

Monitoring Times (U.T.)

$19^h51^m06^s$ - $22^h25^m30^s$
22 28 36 - 24 00 00

13th	$4^h13^m24^s$	00 29 00	00 29 14	00 29 39	Probably a weak spike	0.26±0.09	1.1509

Table (continued)

Date	Total Hours	Rise	Max. (U.T.)	Ends	Comments	$\frac{I_{o+f}-I_o}{I_o}$	Air Mass Max.
13th	$4^h13^m24^s$	$00^h29^m39^s$	$00^h30^m00^s$	$00^h31^m48^s$	Probably a slow flare	0.32±0.10	1.1528
		00 34 08	00 34 12	00 36 42	Weak flare	0.53±0.06	1.1633
		23 10 47	23 10 48	23 10 50	Possibly a precursor (spike)	1.17±0.13	1.0363
		23 12 30	23 12 32	-	Spike	3.08±0.13	1.0377
		-	23 12 52	23 14 30	Decay	0.42±0.13	

Monitoring Times (U.T.)

$00^h00^m00^s$ - $02^h04^m36^s$
02 07 12 - 02 40 00
22 21 12 - 22 49 00
22 50 24 - 23 44 45
23 46 06 - 24 00 00

14th	$5^h42^m36^s$	01 43 02	01 43 06	01 43 14	Spike	1.00±0.14	1.4527
		20 45 02	20 45 14	-	Spike	12.00±0.13	1.0984
		-	20 45 20	21 02 00	Decay	6.15±0.18	

Monitoring Times (U.T.)

$00^h00^m00^s$ - $00^h52^m18^s$	$21^h28^m12^s$ - $21^h32^m00^s$
00 53 30 - 01 47 48	21 33 12 - 22 03 18
01 48 54 - 02 40 00	22 05 30 - 22 18 00
20 35 30 - 21 20 36	22 22 18 - 22 32 12
21 25 06 - 21 26 42	22 33 24 - 23 55 18