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Konkoly Observatory
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FLARES OBSERVED FROM UV CETI

During January 1975 the flare star UV Ceti [R.A.=01^h37^m12^s, Declination= -18°08' (1966.0), visual magnitude 12.9, spectral type dM5.5e] was monitored from Boyden Observatory, using the 41 cm aperture Nishimura Reflector. A Johnson B filter was used for these observations along with an uncooled EMI6256A photomultiplier tube.

The table gives details of the observations for a total monitoring time of 33^h59^m42^s.

The level of activity over the period was very high, eight definite flares being recorded. Additionally the Table indicates others which were uncertain due to unfavourable observing conditions.

In all cases the flares showed the typical characteristic flash phase of UV Ceti type flare stars followed by a gradual decline in activity.

The flare peaking at 20^h02^m57^s on the 10-11th January was of particular interest in that it was confirmed visually at the Observatory.

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FLARE SUMMARY FOR UV CETI - JANUARY 1975

Date	Total hours	Rise	U.T. Max.	Ends	Comments	$\frac{I_{off-I_0}}{I_0}$	Air mass Max.
01-02	1 ^h 19 ^m 00 ^s	20 ^h 10 ^m 48 ^s	20 ^h 10 ^m 50 ^s	20 ^h 11 ^m 06 ^s	Noisy signal at end. Very probably a small flare	0.30 [±] 0.08	1.3640
Monitoring Time: 18 ^h 53 ^m 18 ^s - 20 ^h 14 ^m 18 ^s U.T.							
02-03	1 ^h 38 ^m 12 ^s	19 ^h 10 ^m 42 ^s	20 ^h 40 ^m 42 ^s		No flares. Conditions windy with slight cloud		
Monitoring Time: 20 ^h 51 ^m 42 ^s - 20 ^h 59 ^m 54 ^s U.T.							
03-04	2 ^h 15 ^m 18 ^s	19 ^h 47 ^m 54 ^s	19 ^h 47 ^m 57 ^s	19 ^h 48 ^m 12 ^s	Fairly noisy signal probably a precursor	0.38 [±] 0.13	1.2973
Monitoring Time: 19 ^h 54 ^m 42 ^s - 20 ^h 04 ^m 30 ^s U.T.							
19 ^h 56 ^m 12 ^s - 19 ^h 56 ^m 24 ^s U.T.							
20 ^h 25 ^m 19 ^s - 20 ^h 25 ^m 30 ^s U.T.							
Monitoring Time: 19 ^h 19 ^m 42 ^s - 21 ^h 35 ^m 00 ^s U.T.							
04-05	2 ^h 57 ^m 00 ^s	19 ^h 01 ^m 30 ^s	19 ^h 13 ^m 10 ^s		No flares	4.62 [±] 0.16	1.3288
Monitoring Time: 19 ^h 16 ^m 42 ^s - 22 ^h 02 ^m 06 ^s U.T.							
05-06	1 ^h 08 ^m 00 ^s	20 ^h 10 ^m 00 ^s	20 ^h 21 ^m 06 ^s		No flares. Scattered cloud throughout observational period	0.3	1.3334
Monitoring Time: 20 ^h 31 ^m 54 ^s - 21 ^h 17 ^m 48 ^s U.T.							
21 ^h 19 ^m 06 ^s - 21 ^h 35 ^m 36 ^s U.T.							
Monitoring Time: 20 ^h 25 ^m 19 ^s - 20 ^h 26 ^m 12 ^s U.T.							
Monitoring Time: 19 ^h 19 ^m 42 ^s - 21 ^h 35 ^m 00 ^s U.T.							

Date	Total hours	Rise	U.T. Max.	Ends	Comments	$\frac{I_{off} - I_o}{I_o}$	Air mass Max.
06-07	3 ^h 21 ^m 48 ^s	20 ^h 11 ^m 18 ^s	20 ^h 11 ^m 20 ^s	20 ^h 11 ^m 48 ^s	Possibly a flare but could be a spike. Noisy signal	0.47 [±] 0.10	1.4731
		20 28 56	20 29 05	20 30 00	Flare. Dip in trace precedes flare	0.92 [±] 0.15	1.5934
Monitoring Time:		18 ^h 38 ^m 24 ^s - 22 ^h 00 ^m 12 ^s		Too windy to continue			
U.T.							
09-10	3 ^h 22 ^m 24 ^s	19 28 06	19 28 14	19 30 00	Flare	2.00 [±] 0.22	1.3134
		20 15 06	20 15 12	20 16 24	This could be an electronic spike	3.22 [±] 0.31	1.5779
		20 59 37	20 59 51	21 05 00	Flare. Sky brightness rising rapidly at end	2.17 [±] 0.34	2.0254
Monitoring Time:		18 ^h 40 ^m 24 ^s - 22 ^h 02 ^m 48 ^s					
U.T.							
10-11	3 ^h 31 ^m 24 ^s	20 01 49	20 01 56		Complex spike	2.53 [±] 0.15	1.5134
		20 02 22	20 02 40		Spike. Flat topped	4.74 [±] 0.15	1.5183
		20 02 50	20 02 57		Spike. Flare visually confirmed	4.63 [±] 0.15	1.5202
		20 05 24	20 06 42	20 25 00	Slow rising flare. Signal was very noisy towards end due to rise in sky brightness		1.5456
Monitoring Time:		18 ^h 32 ^m 24 ^s - 22 ^h 03 ^m 48 ^s					
U.T.							

Date	Total hours	Rise	U.T. Max.	Ends	Comments	$\frac{I_{\text{off}} - I_{\text{O}}}{I_{\text{O}}}$	Air mass Max.
11-12	3 ^h 23 ^m 00 ^s	21 ^h 20 ^m 42 ^s	21 ^h 20 ^m 52 ^s	21 ^h 21 ^m 00 ^s	Spike ?	0.67 [±] 0.14	2.6147
		21 36 43	21 36 50	21 38 00	Precursor	1.17 [±] 0.25	3.0620
Monitoring Time: 18 ^h 40 ^m 00 ^s - 22 ^h 03 ^m 00 ^s							
12-13	3 ^h 30 ^m 42 ^s	19 34 42	19 34 48	Lost in background measurements	Small slow flare?	0.19 [±] 0.17	1.4001
		19 37 12	19 37 42	19 54 00	Slow flare	0.43 [±] 0.20	1.4155
		21 14 24	21 14 42	Lost in noise	Slow flare	0.41 [±] 0.33	2.4767
Monitoring Time: 18 ^h 32 ^m 24 ^s - 22 ^h 03 ^m 06 ^s							
15-16	1 ^h 20 ^m 30 ^s				Very cloudy. No flare distinguishable		
Monitoring Time: 18 ^h 39 ^m 54 ^s - 20 ^h 00 ^m 24 ^s							
16-17	3 ^h 02 ^m 48 ^s				Star very low in sky. No flare distinguishable		
Monitoring Time: 18 ^h 55 ^m 48 ^s - 21 ^h 58 ^m 54 ^s							
18-19	3 ^h 09 ^m 36 ^s				No flare distinguishable above noise. Star setting at end of run. Some moonlit clouds present		
Monitoring Time: 18 ^h 41 ^m 00 ^s - 21 ^h 50 ^m 48 ^s							