

ROYAL ASTRONOMICAL SOCIETY OF NEW ZEALAND.

VARIABLE STAR SECTION.

CIRCULAR No. 139.

THE FLARE STAR UV CETI.

Frank M. Bateson.

SUMMARY:- UV Ceti was monitored for $27\frac{1}{2}$ hours during the international observing session 1968 October 14 to 28. All observations were visual except on October 27 1049.4 to 1314.1 (U.T.) when it was monitored photo electrically.

The international observing session coincided with a period of very bad weather over the whole country. As a result such suspected flares as were observed visually do not exceed the errors of observation under the sky conditions prevailing. Three suspected flares were recorded photoelectrically but are considered of low reliability because of observing conditions.

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INTRODUCTION:-

Details of UV Ceti have already been published (1). Charts Nos. 152 and 153 of Series 5 (2) were used together with the sequence shown thereon.

A large group of observers were organised to monitor UV Ceti during the period 1968 Oct. 14 to 28. The star was monitored for a total of $46\frac{1}{2}$ hours, which, allowing for overlapping observations, gave an effective coverage of 27hrs 36 mins.

OBSERVERS:- Table 1 lists, in the usual manner, the observers who contributed results.

COVERAGE:- Details of the effective coverage are given in Table 2.

PHOTO-ELECTRIC OBSERVATIONS.

F. Andrews and Mrs. A. Andrews used the photoelectric photometer mounted on the 40cm reflector at the West Melton Observatory. A read out system was used. The filter used was B.

Weather conditions permitted monitoring only on 1968 October 27 from 1049.4 to 1314.1 (U.T.) and then under very difficult conditions due to wind and moonlight. Three suspected flares were recorded and these are listed in Table 3. However they must be considered of low reliability because of the sky conditions prevailing. The magnitudes of these suspected flares is from a ten second integration related to a thirty second average before the suspected flare reading.

VISUAL OBSERVATIONS:-

There are indications of a number of suspected flares from the visual records. A careful examination of these indicates that, because of the poor seeing and changing transparency, the magnitudes of these possible flares did not exceed the errors of visual observations under the circumstances. It is likely that no

V. S. N. REGULAR No. 129 (colt).

major flares were involved although even this is doubtful at times.

ACKNOWLEDGEMENTS.

I would like to thank all observers who made such good efforts to monitor UV Ceti under disheartening conditions. Thanks are also due to the Auckland Observatory Trust Board for making their instrument available, and to the Canterbury Astronomical Society for making their instrument and photometer available for this programme. Appreciation is also due to the Director, Wanganui Observatory for making their refractor available.

Lake Tekapo,
New Zealand.

1969 May 28.

REFERENCES:--

- (1) Bateson, F.M. and Kohler, U. 1968. "The Flare Star UV Ceti" Southern Stars, 22, 5, pp 118-127.
- (2) BATESON, F.M., JONES, A.F. & STRANSON, I. 1968. "Charts for Southern Variables" Series 5. Published by F.M. Bateson, Lake Tekapo.

TABLE 1.

LIST OF OBSERVERS.

<u>NAME.</u>	<u>LOCATION.</u>	<u>ABB.</u>	<u>ESTIMATES.</u>
BATESON, F.M.	Lake Tekapo.	Bt.	654
CAMERON, D.J.	Wellington.	Ca.	112
CHRISTIE, G.W.	Auckland	Ci	151
BEASEY, R.	do	Fy	61
FISHER, D.C.	do	Fe	512
GOODFELLOW, A.	do	Gd	103
HOVELL, S.R.	do	Hv	113
LEWTHWAITE, D.	Oamaru	Le	73
LOFTUS, G.L.	Auckland	Lf	92
MARINO, B.F.	do	MA	683
MENZIES, B.	do	Mf	51
SALISBURY, J.V.	Oamaru	Sa	554
STOKER, M.F.	Auckland	Sk	58
VENIMORE, C.W.	Wanganui	Ve	571
WALKER, W.S.G.	Auckland	Wk	572
TOTAL (Visual)			4,365.
ANDREWS, Mr. & Mrs. F.	CHRISTCHURCH	pe	Photoelectric

TABLE 2--COVERAGES.

<u>1968</u>	<u>DATE</u>	<u>OBSERVERS.</u>	
Oct.	14	0943-1148; 1155-1300	Ca; MA; Sa; Ve.
	16	0809-1100; 1200-1320.	Bt; MA; Ve.
	17	0903-0912; 1101-1137	Ca; MA.
	19	1100-1200; 1205-1220; 1310-1405	Bt
	21	0945-1000; 1008-1021; 1026-1100	Ve
	23	1345-1350; 1353-1429	Sa
	24	0804-1131; 1224-1300.	Fe; Gd; Hv; Lf; MA; Ve; Wk.

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TABLE 2--COVERAGE (cont).

<u>1968</u>	<u>U.T.</u>	<u>OBSERVERS.</u>
Oct. 26	0813-0818; 0821-0836; 0840-0930 0934-1007; 1014-1100; 1200-1230 1300-1330.	Le; Sa; Ve
27	0800-0807; 1049-1318	MA; Sa; p.e.
28	0833-1400	Ci; Fe; Gd; MA; Wk.

Total effective coverage:- 27hrs 33 mins from 46hrs 36mins of monitoring.

TABLE 3---SUSPECTED FLARES.

<u>1968</u>	<u>MAX. U.T.</u>	<u>Diff. Mag.</u>	<u>DURATION (B)</u>	<u>REMARKS.</u>
		B.	mins.	
Oct. 27	10h 50.9m	1.5	0.5) p.e. of low
27	11 11.8	0.7	0.5) reliability due to
27	11 22.6	0.5	0.5) sky conditions.