

ROYAL ASTRONOMICAL SOCIETY OF NEW ZEALAND.

VARIABLE STAR SECTION.

CIRCULAR No. 152.

66 OPHIUCHI (B.D. +4° 3570).

Frank M. Bateson.

SUMMARY:

Attention was drawn to this star in Circular 142. A summary of the times during which 66 Oph was monitored during 1969 is now published. One unconfirmed flare of 0.8 magnitude was recorded.

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GENERAL:

Details of 66 Oph were published in Circular 142. The star was monitored by members of the VSS., RASNZ, during 1969 August and September photoelectrically, photographically and visually. A summary of the results is given below.

1. PHOTO-ELECTRIC.

A. Observations at the Auckland Observatory with 50cm Zeiss Cassegrain reflector and attached photometer. Blue filter used without a fabry lens. Observers were Marino, Walker, Menzies, White and Fisher.

1969 U.T.

August 28	09h 09m 00s	to	09h 21m 50s.
	09 22 50		09 31 50
	09 40 20		10 00 50
	10 07 30		10 29 50
	10 35 00		10 39 40
Sept. 30	07 25 30		08 11 15
3	09 07 40		09 23 46
	09 26 55		09 40 58
	09 45 17		09 57 26
	10 01 30		10 10 37
	10 11 13		10 23 23
7	08 16 00		08 29 09
	08 33 37		09 01 13
	09 05 54		09 23 17
	09 28 24		09 41 34
	09 48 53		10 00 01
	10 03 00		10 13 07

TOTAL COVERAGE 4h 31m 13s. No flares.

B. Observations at the West Melton Observatory with 40cm reflector and attached photometer. Blue filter. Observers were A and F. Andrews.

Sept. 18	08 30 00	to	10 10 00
26	07 55 00		10 30 00

TOTAL COVERAGE. 4h 15m. No flares.

V.S.S. CIRCULAR No. 152 (cont).

2. PHOTOGRAPHIC.

All these records were obtained by B. Ward, Tirau, using TRI-X film; camera 300mm F.L.

A. Exposures of 22 seconds followed by a drift for 8 seconds to separate the images.

1969 U.T.

September 12	08h 52m 36s	to	09h 02m 36s
	09 04 36		09 14 36
	09 18 36		09 28 36

B. Exposures of 10 seconds with images separated by a drift for 10 seconds.

September 14	07h 22m 09s	to	07h 28m 09s
	07 32 09		07 38 09
	07 41 09		07 47 09
	07 49 09		07 55 09
	07 57 09		08 03 09
	08 05 09		08 11 09
	08 15 09		08 21 09
16	07 29 11		07 35 11
	07 37 11		07 43 11
	07 47 11		07 53 11
	07 55 11		08 01 11

In all Ward secured 240 exposures covering 90 minutes. No flares were observed. Any flare would have to be greater than 0.3 magnitude for detection on these photographs.

3. VISUAL.

	<u>1969 U.T.</u>	<u>OBSERVER.</u>	<u>FLARES.</u>
August	30 08h 01m to 08h 59.5m	S. Clements.	NIL.
September	1 08 00 10 20	F. Andrews.	NIL.
	2 08 07 08 13.5	S. Clements.	NIL.
	5 09 20 10 33	B. Menzies.	10h 18m 0.8mag.
	7 07 20 07 47	S. Clements.	NIL.
	07 58.5 08 59.5	S. Clements.	NIL.
	08 25 10 10	F. Andrews.	NIL.
	08 57 09 38	G. Christie.	NIL.
	11 09 13 09 57	B. Menzies.	NIL.
	14 08 00 10 10	F. Andrews.	NIL.
	19 09 57 10 51	R. Feasey.	NIL.
	22 08 14 08 55	R. Feasey.	NIL.

NETT COVERAGE. 11h 45.5m

COMMENTS:-

Although unconfirmed from other sources, there appears little doubt that the flare recorded by Menzies on September 5 at 10h 18m U.T. was real. At the time the sky was clear and the transparency reasonably good. Prior to the outburst his records show a slight scatter of 0.1 to 0.2mag., which is normal for visual records of a star as bright as 66 Oph.

V.S.S. CIRCULAR No. 152 (cont).

At 10h 16m 00s on September 5 1969 Menzies recorded the magnitude of 66 Oph as 4.8. His subsequent observations of the rise in brightness were:-

10h 16m 30s U.T.	4.7
17 00	4.6
17 30	4.4
18 00	4.0
18 30	4.3
19 00	4.5
19 30	4.5
20 00	4.6
20 30	4.5
21 00	4.6
21 30	4.6
22 00	4.7

Therafter the observations are scattered between 4.6 and 4.7 with one observation of 4.5 at 10h 23.5m

ACKNOWLEDGEMENTS.

I would like to thank all observers for following this star at comparatively short notice. My appreciation is due to the Auckland Observatory Trust Board for making their 50cm Zeiss Cassegrain reflector and auxiliary equipment available for this programme. I am also indebted to the Canterbury Astronomical Society for use of their 40cm reflector and photometer in this programme. It is also pleasing to note the close co-operation on this programme with A. & B. Page, of Brisbane, who were the first to detect photographically a flare of 66 Oph.

1970 April 11

18 POOLES ROAD,
GREERTON,
TAURANGA.
NEW ZEALAND.