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Konkoly Observatory
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FLARE PHOTOMETRY OF AD LEO

As part of the international co-operative programme, observations were made at Boyden Observatory of AD Leo over the period 9th-24th February, 1969.

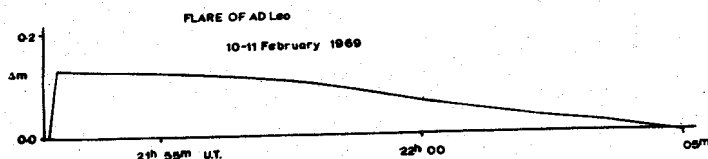
The instrument used in this monitoring was the 40 cm Nishimura reflector equipped with a Johnson B-filter and a solid CO₂ cooled E.M.I. 6256 photomultiplier tube feeding into a General Radio Company D.C. amplifier (Type 1230 - A).

Table I. Monitoring Time and Observed Flares

Date	U.T.	Total Hours per Night	Flare No.	U.T. of Flare	Duration (min)	Δm
Febr. 1969						
9	19 ^h 24 ^m -21 ^h 14 ^m	1 ^h 50 ^m				
10	19 50 -22 09	2 19	1	21 ^h 53 ^m	12	0.17
19	18 44 -21 35					
	21 45 -23 05					
	23 13 -23 25	4 23				
20	18 54 -22 22	3 28				
21	18 40 -21 37	2 57				
	Total	14 ^h 57 ^m				

As will be seen from Table I. the total monitoring time was 14^h57^m. During this time one event was recorded, a low magnitude flare with a relatively long duration of nearly 12 minutes (Fig.1).

Fig.1



Although this flare was a minor one so far as Δm was concerned, we consider it worthy of report as our equipment ensures an accuracy of better than 5%. Especially interesting is the very gradual decline after the flash phase.

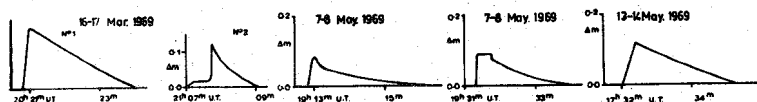
Further observations of AD Leo have been made since the February 1969 International co-operation period, the total additional monitoring time being 30^h20^m as shown in Table II. Five minor flares have been observed.

Table II. Monitoring Time and Observed Flares of AD Leo

Date	Universal Time of Coverage	Total Hours per Night	Flare No.	U.T. of Flares	Duration (mins)	Δm
Mar.						
16	17 ^h 50 ^m -19 ^h 17 ^m , 20 ^h -46 ^m -21 ^h 40 ^m	2 ^h 21 ^m	1	20 ^h 20 ^m 8	6.2	0.17
			2	21 07.0	4	0.12
19	18 45 -21 35, 21 45 -23 05 23 13 -23 25	4 22				
20	18 53 -22 22,	3 29				
21	18 40 -21 38	2 58				
	Total	13 ^h 10 ^m				
May						
7	17 ^h 33 ^m -18 ^h 58 ^m , 19 ^h 05 ^m -20 ^h 18 ^m	2 ^h 38 ^m	1	19 ^h 12 ^m 8	6.2	0.08
			2	19 31.3	5.1	0.09
13	16 52 -20 42	3 50	3	17 32.0	6.1	0.12
12	18 59 -20 40	1 41				
14	16 59 -19 44, 20 05 -20 30	3 10				
16	17 05 -18 01	0 56				
18	16 41 -18 11	1 30				
22	16 45 -20 10	3 25				
	Total	17 ^h 10 ^m				

The most interesting was flare No.2 on the night of 16th-17th March 1969 in that a gradual rise preceded the flash phase. The other flares showed the more usual initial rapid increase in intensity, followed by a fairly gentle decline.

Fig.2



Boyden Observatory, Bloemfontein, RSA. 1st July, 1969

A.H. JARRETT and J.P. EKSTEEN