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FLARES ON AD LEONIS AND YZ MINORIS

Four flares on AD Leo observed during 5^h25^m of patrolling on the nights of 23 and 24 December 1973 are herein reported. Another 20^m of observing on 3 January 1974 recorded no flare. Details of the observations and the flare characteristics are given in Tables 1 and 2, respectively. The latter have been computed by procedures adopted earlier (Kapoor and Sinvhal, IBVS. 750, 1972; Kapoor et al, IBVS 810, 1973). On the basis of the light curves (Figure 1) three of the flares belong to Oskanjan type I while the fourth is of type II.

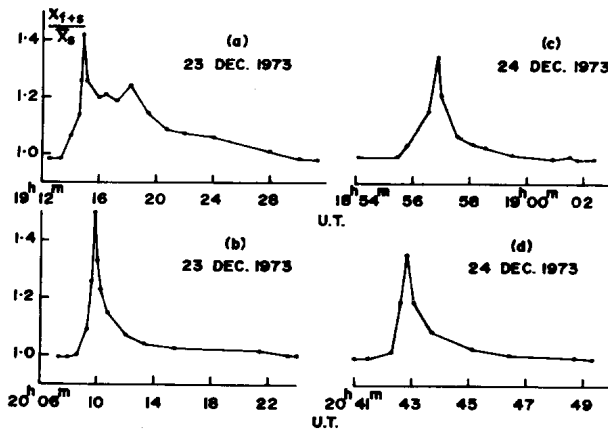


Fig. 1: FLARES OF AD Leo

Also YZ CMi was observed for 3^h59^m on 21 November 1973, but no flare was detected. Table 3 gives the details of the observations.

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Table 1: Coverage of AD Leo

Date	Filter	Sky conditions	Effective coverage, U.T.
23 Dec.1973	U	Moonless; seeing, good.	<u>19^h05^m-20^h13^m</u> ; <u>20^h15^m-21^h31^m</u>
24 Dec.1973	U	Moonless; seeing, good.	<u>18^h23^m-21^h24^m</u>
3 Jan.1974	B	Moonlit; seeing, good.	<u>18^h52^m-19^h12^m</u>

Notes: 1. Times have been rounded off to the nearest minute. Total coverage 5^h45^m. 2. Flare intervals are underlined. 3. Instrumentation: 104 cm. telescope; 1P21 Photomultiplier, unrefrigerated; d.c. amplifier; Honeywell - Brown Recorder; Time constant of the system, 1 sec. 4. Seeing (on a scale of 5): Excellent (4-5); Good (3-4); Fair (2-3); Poor (1-2).

Table 2

Characteristics of the Flares on AD Leonis (dm4e; v=9^m43;
U-V=2^m61)

Date	UT _{max}	Flare dura- tion (min.)	$\frac{X_{fm+s}}{X_s}$	Δm_u	$\frac{3\sigma}{X_s}$	P	F(z)	Energy re- leased at flare max.	Total em. during the flare-up
Dec.		t_b	t_a					(10 ²⁹ erg sec ⁻¹)	(10 ³⁰ ergs)

23	19 ^h 14 ^m 54 ^s	1.75	15.20	1.42	.38	.091	1.805	1.526	1.77	13.54
23	20 09 45	1.80	13.65	1.45	.40	.067	0.914	1.287	1.85	6.86
24	18 56 16	1.25	5.10	1.34	.32	.044	0.349	1.622	1.68	2.62
24	20 42 02	1.37	7.00	1.36	.33	.055	0.398	1.141	1.69	2.99

Note: $\overline{X_s}$ is the mean steady state intensity deflection above sky, X_{f+s} that due to flare plus $\overline{X_s}$, and X_{fm+s} the same corresponding to flare maximum.

Table 3

Date, 1973	Filter	Sky condition	Effective coverage, U.T.
21 November	B	Moonless; seeing, good.	<u>19^h16^m-20^h26^m</u> ; <u>20^h29^m-21^h51^m</u> ; 21 56 -22 49 ; 23 05 -23 39.
			Total coverage: 3 ^h 59

Notes: s. Table 1