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PHOTOELECTRIC OBSERVATIONS OF EV Lac

Photoelectric monitoring of EV Lac was carried out at the Byurakan Observatory with the 50 cm reflector in the time interval 23 August - 9 September 1970, proposed by the "working group" (IBVS 416). The observations were made with a standard B filter.

From the experience achieved during a statistical investigation of flare data, we thought it more opportune to present our observational data in a form which seems to be more convenient from the point of view of further statistical and other investigations.

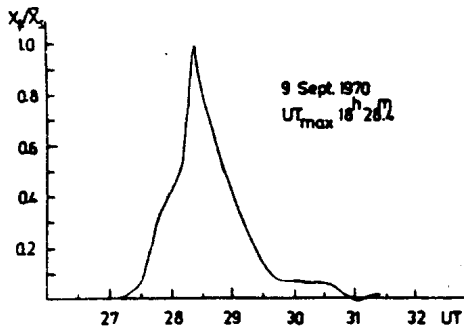
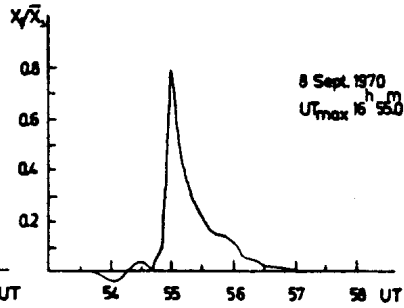
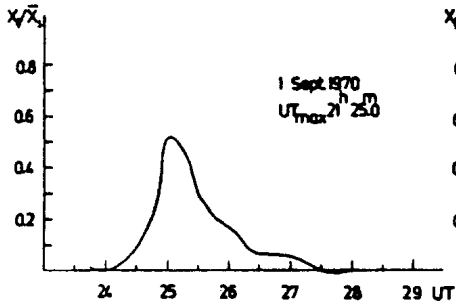
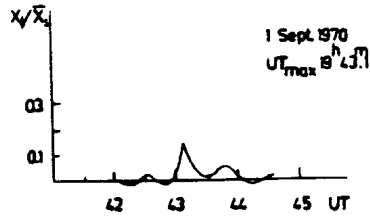
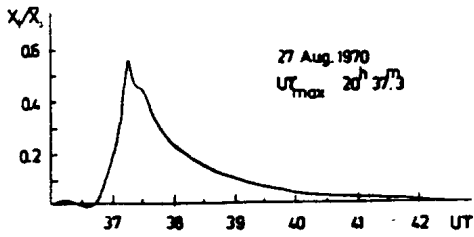
Denoting by

- UT_{max} - the UT of the maximum
- t_b - the duration of the light increase in minutes,
- t_a - the duration of the light decrease in minutes,
- X_s - the deflection - for a fixed sampling time interval - due to the normal radiation of the star,
- \bar{X}_s - the mean value of X_s (in the case of a flare this value is calculated from the X_s immediately preceding the flare),
- σ - the standard deviation of X_s ,
- X_f - the deflection due to the radiation of the flare itself,
- X_{fM} - the maximum deflection of the flare,
- P - the value of $\int_{t_1}^{t_2} (X_f/\bar{X}_s) dt$ in minutes (t_1 and t_2 being the moments of the beginning and the end of the flare),
- $F(z)$ - the air mass at the moment of the flare,

we can present the observational data in the following form:

Table I

Data UT 1970	Coverage UT	UT_{max}	t_b	t_a	$\frac{X_{fM}}{X_s}$	$\frac{\sigma}{X_s}$	P	F(z)	Re- marks
Aug.									
23	1731-2045 2100-2220								1
24	1800-2200 2209-2309								1 2
25	1700-2200 2208-2400								1
26	0000-0008								1
27	1745-1855 1912-2130 2145-2200	20 ^h 37 ^m 3	0.63	3.33	0.56	0.026 0.026 0.026	0.74	1.03	2 4
28	1811-2133 2135-2310					0.021 0.021			2
31	1849-1915 1920-2120 2125-2207					0.019 0.019 0.019			2
Sept.									
1	1647-2110 2116-2400	19 43.1 21 24.9	0.21 1.04	0.29 2.50	0.15 0.51	0.028 0.018	0.03 0.63	1.04 1.01	3
2	0000-0033					0.018			
3	1826-1904 1915-2019 2155-2230					0.011 0.011 0.011			2
4	1630-1713 1718-1726 1918-1954 2210-2310					0.019 0.019 0.019 0.019			2
5	1633-2100 2105-2309					0.016 0.016			
6	0000-0120					0.019			2
7	1748-2050 2055-2308					0.019 0.019			
8	1623-2040 2055-2400	16 55.0	0.66	0.94	0.79	0.026 0.026	0.39	1.32	
9	0000-0100 1624-1820 1824-2040 2049-2400	18 28.4	1.12	2.23	0.99	0.020 0.020 0.020 0.020	0.97	1.09	
10	0000-0100					0.020			



Remarks

1. - The instability of the measuring device did not allow the detection of flares with $X_{fM}/\bar{X}_s < 0.45$
2. - Cloudy.
3. - Possible flare.
4. - The connection between Δm and X_f/\bar{X}_s is given by $\Delta m = 2.5 \log (X_f/\bar{X}_s + 1)$

Total coverage 4296 minutes.

The light curves of observed flares are presented in the figures. The ordinate is given in the units of X_f/\bar{X}_s

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Correction to IBVS No.176:

Star name	Printed	Correctly
RW CMa	28201.83+5.72941 E	27021.68+5.72906 E
RW Cas	37168.23	37158.23
UX Per	4.97247 E	4.56581 E