

COMMISSION 27 OF THE I. A. U.  
INFORMATION BULLETIN ON VARIABLE STARS  
NUMBER 403

Konkoly Observatory  
Budapest  
1969 November 12

OBSERVATIONS OF EV Lac DURING THE INTERNATIONAL CAMPAIGN  
SEPTEMBER 4-19, 1969

The results obtained from our photoelectric observations of EV Lac carried out at the Catania Observatory stellar station in Serra La Nave during the international patrol planned for the period September 4-19, are given below.

A quasi-cassegrain reflector of 61 cm aperture, a photometer employing an EMI 6256 S photomultiplier (spectral response S 13) and a BG 12 (1 mm thick) plus a GG13 (2 mm thick) Schott filters were used. The resulting effective wave length was 4300 Å.

The total light of EV Lac plus its optical companion was measured. In order to eliminate the light contribution of the optical companion, the observed intensities were corrected with the following equation:  $I_{EV Lac} = 0.70 I_{observed}$ , deduced according to the B magnitudes of the two above mentioned stars given by Andrews (1969).

The obtained data are given in Table 1 and 2. No transformations to the standard UBV system were applied, therefore the b lights quoted in the Tables are those of our natural system. The graphs show the light curves of the observed flares.

In the least column the sky condition is given by the following standards:

0 = very clear	2 = with some thin layers
1 = clear	3 = extended thin stratus

The following people have collaborated in the observations: A.Cali, R.Barbagallo and V.Stancanelli.

Table 1

Intervals of the effective time coverage.  
(Interruptions shorter than 1<sup>m</sup> are not noted)

Sept	Coverage (U.T.)	T.C	$\overline{m_{lim} - m_0}$
04	00 <sup>h</sup> 00 <sup>m</sup> -0112; 0114-0228; 0237-0308; 0311-0329.	195 <sup>m</sup>	4 <sup>m</sup> 10 <sup>s</sup>
04-05	1956-2019; 2030-2042; 2050-2056; 2102-2114; 2154-2159; 2207-2214; 2216-2220; 2223-2333; 2337-2417; 2427-2626; 2628-2710; 2712-2714;	342	4.39
05-06	1907-1913; 1950-2022; 2027-2132.	103	4.20
06-07	1901-2016; 2023-2032; 2040-2209; 2213-2243; 2317-2338; 2352-0011; 0013-0110; 0117-0302; 0306-0313.	412	4.04
07-08	2322-0014.	52	4.01
11-12	1918-1928; 1931-1951; 2016-2108; 2128-2135; 2137-2202; 0129-0134; 0136-0213; 0215-0245; 0247-0300; 0312-0325.	212	4.24
12-13	1936-2019; 2027-2109; 2137-2222; 2228-2248; 2250-2330; 0034-0101; 0113-0130; 0205-0231; 0236-0249; 0251-0301; 0306-0330.	307	4.38
15-16	1945-2029; 2036-2114; 2123-2136; 2139-2159; 2218-2301; 2308-2346; 2350-0015; 0034-0038; 0055-0134; 0137-0142; 0144-0212; 0235-0257; 0259-0331.	351	4.47
16	1910-1919; 1921-1952; 1954-1956; 2004-2046; 2056-2134; 2141-2154; 2202-2211.	144	4.63
17-18	1936-2020; 2034-2117; 2126-2213; 2216-2227; 2240-2325; 2332-0016; 0049-0100; 0130-0214; 0227-0312; 0320-0335.	349	4.67
18-19	2011-2100; 2107-2204; 2217-2302; 2313-2323; 2331-0015; 0023-0118; 0123-0207; 0214-0258; 0305-0316; 0318-0334.	375	4.91
19	1926-2012; 2025-2110; 2118-2203; 2216-2225.	145	4.08

T.C = total coverage per night;

$\overline{m_{lim} - m_0} = -2.5 \log (3 \overline{\sigma} / \overline{I_0})$ , where  $\overline{\sigma}$  represents the standard deviation of the random noise fluctuation for a night, and  $\overline{I_0}$  represents the mean intensity of the quiet star during the same night.

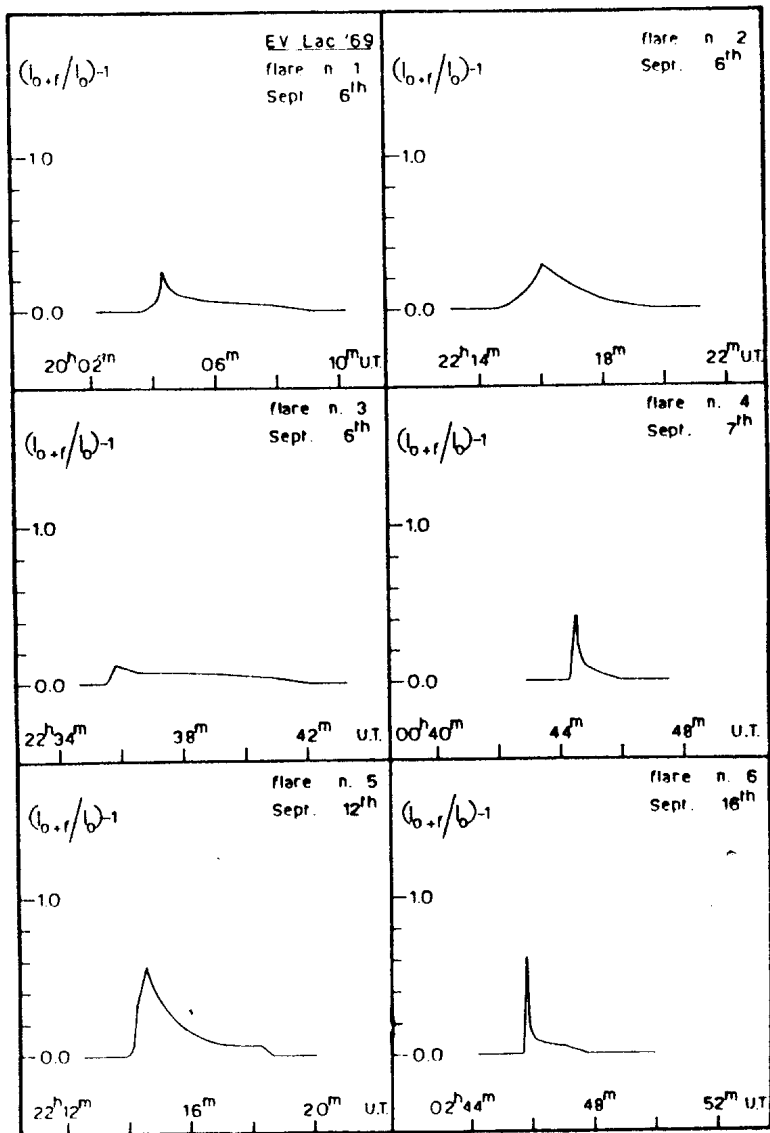


Table 2

Observed flares

No	Sep.	$t_b$	$t_{max}$	$t_e$	$m_1 - m_0$	$(m_f - m_0)_m$	P	secz	sky
1	06	20h03m47	20h04m43	20h09m40	4.10	1.46	0.33	1.3180	0
2	06	22 14.6	22 16.05	22 19.5	4.16	1.38	0.51	1.0458	1
3	06	22 35.5	22 35.8	22 42.0	4.17	2.30	0.35	1.0288	1
4	07	00 44.3	00 44.5	00 46.0	4.11	0.97	0.17	1.0294	2
5	12	22 13.9	22 14.5	22 18.6	4.72	0.65	0.80	1.0379	0
6	16	02 45.7	02 45.8	02 47.8	4.37	0.55	0.19	1.3384	1

$t_b$  = U.T. of the beginning;  $t_{max}$  = U.T. of the maximum intensity;  $t_e$  = U.T. of the end;  $m_1 - m_0 = -2.5 \log (3 \sigma / I_0)$  where  $\sigma$  and  $I_0$  indicate the standard deviation of the random noise fluctuation and the mean intensity of the quiet star, near the observed flare, respectively;  $(m_f - m_0)_m = -2.5 \log [(I_{o+f} - I_0) / I_0]_{max}$ , where  $I_{o+f}$  is the intensity deflection due to EV Lac ( $I_0$ ) plus that of flare ( $I_f$ ) at maximum;  $P = \int (I_{o+f} - I_0) / I_0 dt$ , integrated intensity in minutes.

Catania Astrophysical Observatory, Italy  
October 25, 1969

S.CRISTALDI and M.RODONO

Reference

Andrews, A.D. 1969, Comm. 27 IAU, Inf. Bull. var. Stars, No. 370.