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PHOTOELECTRIC OBSERVATIONS OF THE FLARE STAR EV LAC  
DURING THE 1971, SEPTEMBER 11-27 INTERNATIONAL PATROL

The preliminary results for the photoelectric observations of EV Lac carried out at the Catania Astrophysical Observatory during the observing period proposed by the IAU Working Group on Flare Stars (Andrews et al. 1971, IBVS 516), are given. The observations were made with a synchronous three colour photometer fed by a 61 cm universal type reflector.

The patrol intervals in U.T. are given in Table 1. During the 20.5 hours of patrol time four flares were observed, the characteristics of which are given in Table 2. The U,B,V data were computed by means of mean transformation coefficients to the standard system. The light curves of the observed flares in the instrumental, u,b,v colours are shown in Figures 1-3.

The explanation of symbols and details of the observing equipment can be found in a preceding number of this Bulletin (Cristaldi and Rodonò, 1971, IBVS 525).

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Table 1. Detailed Coverage

Date	Light	Coverage (U.T.)	Total coverage	$\frac{3\sigma}{I_0}$
1971 Sept.				
11-12	b-v	2102 <sup>m</sup> -2109.	7 <sup>m</sup>	.04/.04
	u-b-v	2109-2140; 2152-2213; 2233-2312; 2313-2400; 0000-0042; 0105-0242; 0244-0252; 0258-0322; 0325-0330	314	.22/.04/.04
12	u-b-v	2015-2027; 2034-2048; 2112-2137; 2157-2208; 2214-2226	74	.20/.04/.04
17	u-b-v	1912-1925	13	.16/.04/.04
18	u-v	2057-2114; 2116-2126	27	.20/ / .04
19	u-b-v	2006-2052; 2119-2251; 2255-2339	182	.19/.04/.04
20-21	u-b-v	1900-1941; 1952-2036; 0008-0050; 0114-0246; 0302-0336	253	.20/.05/.03
21-22	u-b-v	2141-2224; 2250-2303; 2309-2400; 0000-0101; 0104-0130; 0149-0152	197	.17/.04/.03
24	b-v	0014 <sup>m</sup> -0033; 0035-0054	38	.04/.03
	u-b-v	0054-0132	38	.21/.04/.03
25	u-b-v	0039-0206	87	.17/.04/.03

Table 2. Characteristics of Flares

no.	Light	$t_{\max}$ (U.T.) September	JD. 244...	$d_b$	$d_a$	$\frac{3\sigma}{I_0}$ or $\frac{3\sigma}{I_0 \max}$	$\frac{I_f}{I_0}$ max	E n e r g y P erg	Air mass	f s k y
1/71b	b	11, 21 05.2	1206.3822	0.9	9.8	0.04	0.59	1.22	0.85	3 0
	v	21 05.2		0.2	4.8	0.04	0.18	0.21		
	B						0.53	1.09		
	V						0.13	0.13		
								$2.41 \times 10^{31}$		
								$6.80 \times 10^{30}$		
2/71a	u	11, 23 28.0	1206.4814	0.4	15.0	0.22	3.10	8.18	0.84	2 0
	b	23 28.1		0.7	7.0	0.04	0.45	0.98		
	v	23 27.8		0.1	5.0	0.04	0.11	0.20		
	U						2.81	7.51		
	B						0.40	6.88		
	V						0.10	0.13		
								$2.37 \times 10^{31}$		
								$1.94 \times 10^{31}$		
								$6.71 \times 10^{30}$		
3/71	u	20, 19 54.6	1215.3334	0.3	3.6	0.20	23.64	23.92	0.88	0 1
	b	19 54.6		0.2	2.4	0.05	2.38	1.34		
	v	19 54.6		0.2	2.4	0.03	0.76	0.46		
	U						20.44	20.41		
	B						2.12	1.21		
	V						0.63	0.37		
								$6.45 \times 10^{31}$		
								$2.68 \times 10^{31}$		
								$1.88 \times 10^{31}$		
4/71	u	22, 00 32.6	1216.5265	0.6	2.5	0.17	1.34	1.14	0.96	0 2
	b	00 32.6		0.4	1.1	0.04	0.21	0.13		
	v	(not detectable)								
	U						1.23	1.05		
	B						0.18	0.11		
								$3.35 \times 10^{30}$		
								$2.63 \times 10^{30}$		





