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PHOTOELECTRIC OBSERVATIONS OF THE FLARE ACTIVITY OF RED DWARFS

In 1969-1973 photoelectric observations have been carried out at the Crimean Astrophysical Observatory for a number of dM and dMe stars. Before there were no exhaustive informations on the flare activity of these stars. The patrol photoelectric observations at the 64 cm meniscus telescope are in a photometric system close to B, and those at the 70 cm reflector to U. Results of the observations are given in the Table. In the columns of this Table are inserted: 1) Serial number of the star from catalogue (1); 2) designations from other catalogues; 3) apparent magnitudes; 4) absolute magnitudes; 5) spectral types; 6) durations of the photoelectric patrol (hours) in B; 7) numbers of flares recorded in B; 8) duration of the photoelectric patrol hours in U; 9) numbers of flares recorded in U.

The periods of the photoelectric patrol of the stars are shown in Fig. 1. Open rectangulars note periods of observations in B, the solid rectangulars those in U. The triangles mark the moments of the registered flares.

1	2	3	4	5	6	7	8	9
N(1)		V	M <sub>v</sub>		T <sub>B</sub>	n <sub>B</sub>	T <sub>U</sub>	n <sub>U</sub>
a 29.1	FF And	10 <sup>m</sup> 38	8 <sup>m</sup> 7	dMOe	5 <sup>h</sup> 8	0	10 <sup>h</sup> 3	1
b 182		9,6	8,8	dM1e	28,5	0	6,3	1
c 207.1	V 371 Ori	11,68	10,8	dM3e	15,3	0		
d 447		11,10	13,50	dM5	29,7	0		
e 526	BD+15°2620	8,50	10,02	dM4Ye	27,1	0		
f 644A	V1054 Oph	9,76	10,79	dM4,5e	36,0	4		
g 905		12,29	14,80	dM6e	17,0	0		

The light curves of the observed flares in relative intensities,  $i = \frac{I_f - I_0}{I_0}$  versus UT are shown in Fig. 2,  $I_0$  is the intensity deflection due to the normal flux from a quiescent star,  $I_f$  is that during the flare. For each flare the following data, according to (2), are given:  $P = \int idt$ , the equivalent duration of the flare in minutes, and  $\sigma/I_0$ , where  $\sigma$  is the standard deviation in  $I_0$ .

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 Crimean Astrophysical Observatory

- (1.) W. Gliese, Veröff. astr. Rechen. Inst. Heidelberg, Nr. 24, 1971.  
 (2.) A. D. Andrews, P. E. Gershberg, V. S. Oskanjan, IBVS, 1969, No. 326.

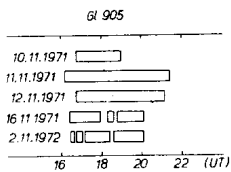
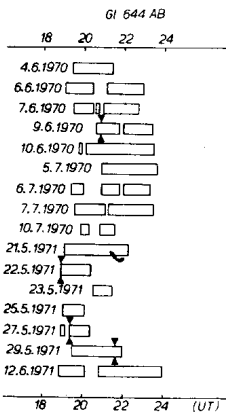
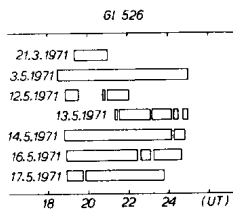
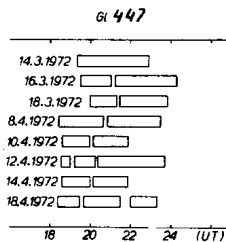
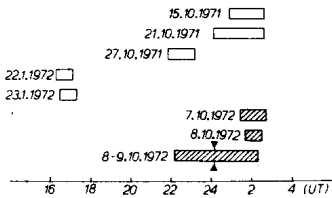
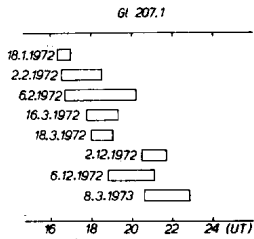
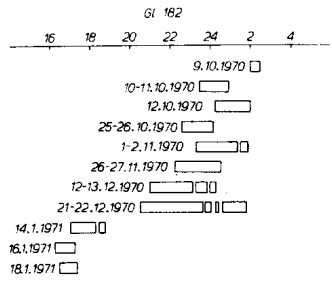
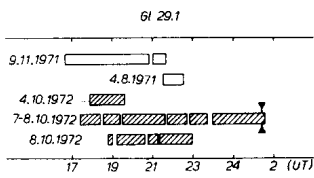


Fig.1.

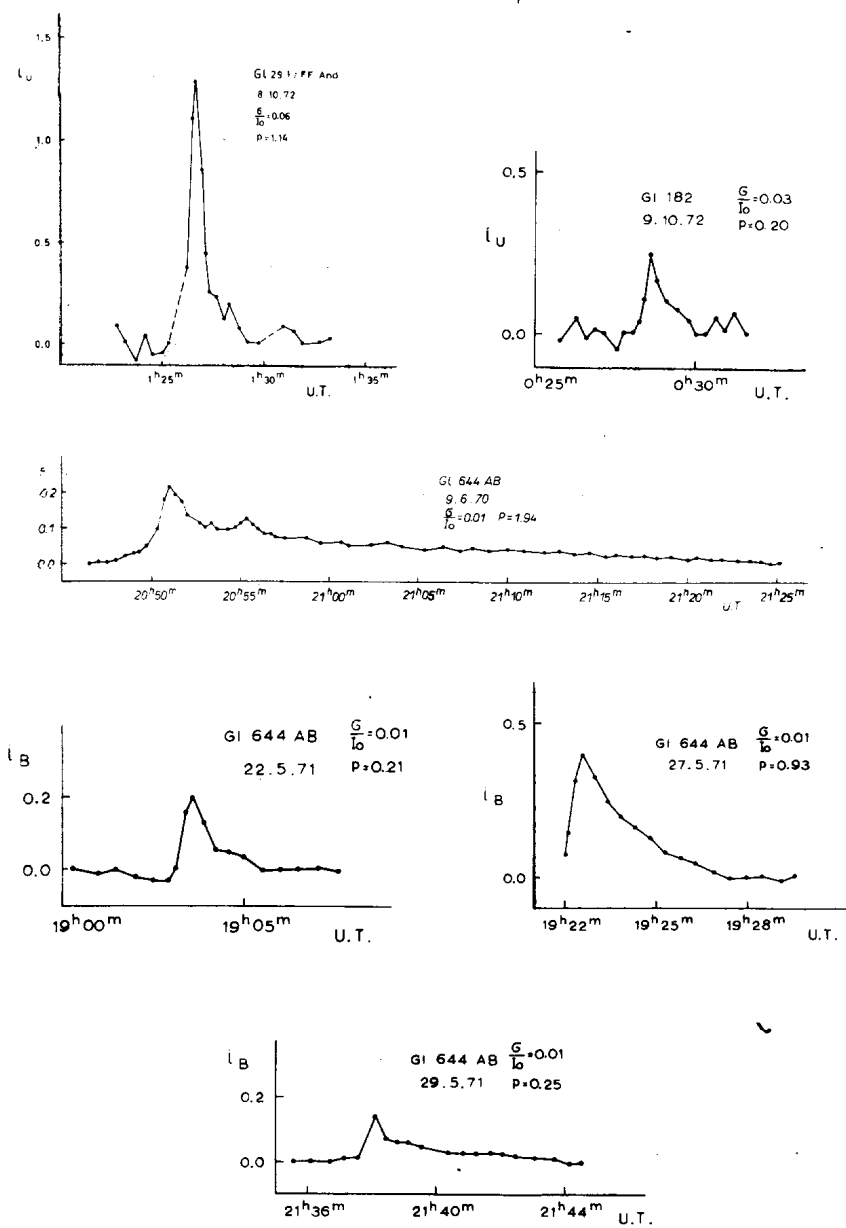


Fig. 2.