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FLARE STARS IN NGC 7000 REGION.II.

By the program of flare star observations in stellar aggregates systematic observations of the NGC 7000 nebula region were began at the Byurakan Astrophysical Observatory in 1972.

The method of the observations and first results have been already published [1]. Here we bring the results of a survey of the plates obtained by the observers of the Physics of Stars and Nebulae section of the Byurakan Observatory with the 40 in. and 21 in. telescopes in 1972-1973.

Table 1 gives the data for the plates, number of exposures and the effective time coverage of observations (Teff).

Table 1

Telescope	Number of plates	Number of exposures	Teff
40 in.	31	182	30 ^h 20 ^m
21 in.	56	320	51 ^h 20 ^m

Some of the plates (Teff = 4^h50^m) have been obtained by both telescopes simultaneously in ultraviolet (40 in.) and photographic (21 in.) light. The first plates obtained in 1972 (26 plates with the 40 in. and 8 plates with the 21 in. telescopes - total Teff= 30^h20^m) have V 1057 Cyg as a centre, while the others BD+41^o3922 (RA_{1950.0}=20^h51^m6, D_{1950.0}=+42^o13').

Total time of all multiple-exposure observations is 77^h20^m. Seven flares of 7 different stars have been found on these plates. In Table 2 we present the data on these flares. We continue the designations of flare stars, discovered in Byurakan [1] and in Tonantzintla [2].

Table 2

Designation	RA 1950.0	D 1950.0	m _{min} pg	Δm u/pg	Date	Telescope	Observer
B 12	20 ^h 56 ^m 2	43 ^o 41'	16.8	1.5 u	4.08.1972	40 in.	Chavushian
T 1	20 00,7	42 08	17.0	0.8 u	4.08.1972	40 in.	"
T 2	20 57,3	42 26	14.6	2.1 u	7.08.1972	40 in.	"
B 13	21 04,5	44 25	17.2	1.5 u	7.08.1972	20 in.	Ohanian
B 14	20 49,3	44 00	15.0	1.7 u	16.08.1972	40 in.	Chavushian
B 15	20 58,8	42 10	17.3	3.5 u	21.08.1972	40 in.	Parsamian
						21 in.	Mirzoyan
B 16	20 40,1	40 03	18.1	2.6 pg	24.06.1973	21 in.	Jankovics
						21 in.	Tsvetkov

Column 1-Designation

Column 2 and 3 - Coordinates for 1950.0

Column 4 - Photographic magnitudes at minimum. The standards in selected area SA 40 and method, described by Popova and Tsvetkov [3] have been used.

Column 5 - Amplitude of flares in ultraviolet (u) or photographic (pg) light.

Column 6 and 7 - Date and the telescope used

Column 8 - Observer

The flare stars T1 and T2 were discovered by Haro and Chavira [2] and have shown 4 [1] and 2 flares, respectively. The other flare stars listed have been discovered by us in the course of this work.

On the base of the known data on flare stars in the NGC 7000 region [1,2 and present work], the total number of the flare stars in this region has been estimated by Ambartsumian's formula [4]. The lower limit of the total number is equal to

$$N = \sum_k n_k = 221 \quad (k = 0, 1, 2, \dots)$$

The result of a more detailed study, including the identification charts of the flare stars discovered will be published later on.

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