

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

Number 1447

Konkoly Observatory
 Budapest
 1978 July 3

NEW H α -EMISSION STARS IN THE REGION OF NGC 7000

During July and August 1977 the search for H α -emission stars in the region of NGC 7000 was continued with the 40"/52" Schmidt-telescope of the Byurakan Astrophysical Observatory.

Ten spectral plates have been obtained by a 4 $^{\circ}$ objective prism (275 A/mm at H α) on Kodak II F emulsion through an RG 610 filter. The exposure times were between 20 sec and 100 min. In order to reach the highest limiting magnitude the spectra were not widened. The plates were hipersensitized by baking in dry air from 56 $^{\circ}$ C to 70 $^{\circ}$ C during 12 - 14 hours according to the method of Stepanian and Amirhanian (1977). The average limiting magnitude was about 19 m (pg) for the exposure time of 60 min.

19 new H α -emission stars have been found which were not on the lists of Merrill and Burwell (1949, 1950), Herbig (1958), Welin (1973) and Tsvetkov (1975).

The data of observed new H α -emission stars are presented in Table 1.

Table 1

Designation	RA 1950.0	D 1950.0	B _p	I _{Hα}
1	20 ^h 41. ^m 0	41 ^o 11'	14. ^m 8	3
2	41.2	43 13	19.1	4
3	41.4	42 36	18.3	3
4	42.9	43 44	14.5	4
5	44.9	41 48	16.1	2
6	47.0	43 32	20.5:	4
7	47.0	43 40	18.1	5
8	47.4	41 30	14.0	2
9	48.4	43 31	17.3	3
10	49.0	44 40	20.5:	4
11	49.6	44 02	20.5:	4
12	50.4	42 01	15.8	4
13	50.9	42 54	15.0	3
14	51.0	44 14	15.3	3
15	51.4	43 33	19.0	4
16	53.0	43 59	19.4	3
17	53.0	44 01	17.6	3
18	56.5	43 42	19.7	3
19	58.6	41 24	19.6	4

Column 1: Serial numbers of H α -emission stars.
Columns 2 and 3: Coordinates for 1950.O.
Column 4: Photographic magnitudes measured on the POSS blue prints (B_p) according to the method of stellar diameters.
Column 5: Intensity of H α -line in emission: 5-very strong, 4-strong, 3-medium, 2-weak.

The H α -emission star No 1 in this list was discovered by Tsvetkov et al. (1975) as a flare star No. B19.

A more detailed study including the identification charts of the H α -emission stars discovered will be published later on.

The authors thank Prof. L.V. Mirzoyan and Dr. M.D. Popova for helpful discussions and Mr. A. Amirhanian for the aid in the observations.

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References:

- Herbig, G.: 1958, ApJ, 128, 259.
Merrill, P.W., Burwell, C.G.: 1949, ApJ, 110, 387.
Merrill, P.W., Burwell, C.G.: 1950, ApJ, 112, 72.
Stepanian, J.A., Amirhanian, A.S.: 1977 (private communication)
Tsvetkov, M.K.: 1975, Astrofizika, 11, 579.
Tsvetkov, M.K., Erastova, L.K., Tsvetkova, K.P.: 1975, IBVS, No. 1002.
Welin, G.: 1973, Astron. Astrophys. Suppl. 9, 183.