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26 NEW H α EMISSION OBJECTS

Between 1950 and 1953 Haro found a fair number of stars with strong emission in the H α line of hydrogen in the region of the Orion Nebula. He also observed the occurrence of flares in some of these emission stars, as well as temporal variations in the intensity of the H α lines. Further analysis of a large number of variable and flare stars detected in this region shows that many of the possible members of the Orion association are characterized by this flare activity and the presence of the intense emissions in H α .

The present paper is based on a review of plates of the Tonantzintla collection that covers several regions. The set analyzed consists of six Eastman Kodak plates taken with the Schmidt telescope at Tonantzintla; all star images were dispersed with a 4 objective prism and catalogued as "H α " in the files of the Tonantzintla Observatory. Table 1 lists the identification and characteristics of these plates as well as their corresponding regions on the plates of the Palomar Sky Survey and the number of objects with H α in emission.

Each one was analyzed with a microscope to find conspicuous intensity in emission of the H α line in each of the hundreds of registered spectra.

Several objects with the desired characteristics were found and in order to determine if these were "new" or had been previously reported, their counterparts in the Palomar Sky Survey were identified in order to accurately determine the coordinates of all objects found with H α in emission. As references, at least twenty stars with well-determined positions were identified on each plate and both reference and problem stars were measured in the Zeiss stereo-comparator at the INAOE. The precision attained with such an instrument is of seven microns which corresponds, in arcsec, to 0.7 on the Tonantzintla plates. The positions were transformed from the measured x-y coordinates into equatorial coordinates by means of the RPLAS computational program (Salazar, 1989).

In Table 2 the 26 newly determined objects with strong H α emission are listed along with their inferred 1950 coordinates. These objects were checked in the Herbig and Robbin Bell (1988) catalogue and have not yet been listed.

Table 1. Schmidt plates reviewed and the number of H α objects found on each one.

Tonantzintla	Palomar	H α objects on each plate
S.T. 6272	E-406 +24 5 38	1
A.C. 3102	E-1314 +30 4 46	3
S.T. 7934	E-668 +42 5 00	1
S.T. 7934	E-644 +42 4 30	3
S.T. 6245	E-1297 +12 5 12	4
A.C. 3738	E-1455 +30 5 38	12
A.C. 3738	E-1459 +30 5 12	2
S.T. 6319	No H α objects found	

Table 2. Coordinates of the newly determined objects with H α emission.

ID	R.A. (1950)	DEC
1	4 ^h 51 ^m 47.4	41°32'36".3
2	4 53 41.9	27 38 26.2
3	4 56 52.3	29 56 43.3
4	5 00 24.5	27 32 52.6
5	4 55 36.6	44 46 13.6
6	4 53 33.1	43 09 54.5
7	4 46 40.7	41 35 31.2
8	4 42 46.2	44 08 08.3
9	5 18 17.6	14 41 12.3
10	5 09 48.8	14 53 52.0
11	5 07 27.0	14 17 54.4
12	5 08 44.5	10 28 46.4
13	5 40 28.9	28 13 22.1
14	5 40 37.8	28 45 37.7
15	5 44 26.5	31 11 49.1
16	5 33 49.4	31 42 11.9
17	5 37 12.1	30 38 52.6
18	5 36 49.5	28 41 21.0
19	5 35 46.7	27 58 29.3
20	5 35 47.3	28 26 02.1
21	5 34 51.1	28 46 19.2
22	5 35 08.2	29 02 30.6
23	5 31 57.6	31 38 44.9
24	5 32 59.7	32 55 18.9
25	5 24 14.5	31 21 30.0
26	5 23 58.0	30 11 32.0

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 Salazar, G., 1989, Thesis. Benemerita Universidad Nacional Autónoma de Puebla, Mexico.