

The Photometry of Some Late-Type Emission Stars at 1.47—2.39 μ m.
The results of IR-observations of 7 emission variables are given. Some properties of observed energy distributions are discussed.

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NEW EMISSION-LINE STARS IN A REGION IN CYGNUS

A 11a-F objective-prism plate obtained on Sept. 17, 1974, with the Byurakan 1 m Schmidt telescope equipped with the 15 prism has been searched for emission-line stars. Spectra were widened to 0.1 mm. The plate covers the region $\alpha = 20^h 01^m - 20^h 21^m$, $\delta = +31^\circ 15' - +35^\circ 25'$ (1950). Part of the area has been surveyed earlier in the Vatican Emission Star (VES) program [1].

The dispersion of this plate is very low. The whole distance from the red end of the spectrum at about 6900 Å to the K line is only slightly less than 1 mm. In spite of this, and thanks to the excellent definition on the plate, H₂ emission lines could sometimes be clearly distinguished with a magnification of 40X. The emission lines must presumably be fairly strong to be discernible at this dispersion. 27 emission-line stars were found, which to my knowledge were not previously catalogued as such, as were a number of earlier known ones. The new emission-line stars are listed in Table 1.

In many cases previously known H₂-emission stars were not recognized as such. This may be due either to too weak emission, to the star's lying outside the useable magnitude limits, or to variable emission. The latter is probably the reason why many of the new-found stars were not discovered during, e. g., the VES survey.

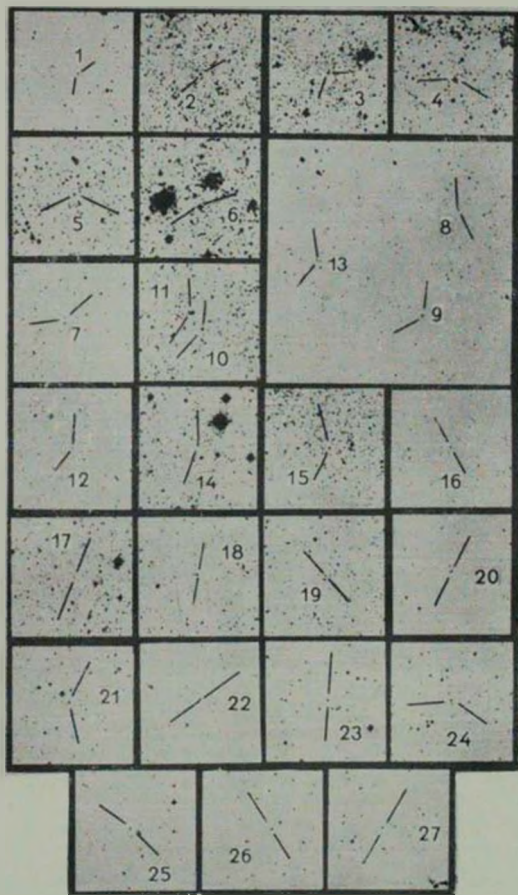


Fig. 1. Identification Charts for the new emission-line stars, reproduced from blue Palomar Sky Atlas prints. North is top, east to the left; each square is about $11 \times 11'$.

Due to the low dispersion absorption features are seldom useful as classification criteria. In principle tentative spectral types, based on the over-all appearance of spectra, can be assigned to adequately

Table 1
NEW EMISSION-LINE STARS IN CYGNUS

Star No.	Position 1950		Approx. PSS mag.	
	α	δ	δ	r
1	20 ^h 01 ^m 5	-32°41'	15 ^m 0	15 ^m 0
2	02.5	-33 50	14.0	12.5
3	04.0	+34 45	14.0	13.0
4*	06.4	+35 09	12.0	11.5
5	06.9	+33 15	15.5	14.0
6	06.9	+35 19	12.5	11.5
7	07.3	+31 47	16.0	14.0
8	07.7	+32 59	15.0	13.0
9	07.9	+32 50	13.0	12.5
10	07.9	+34 16	13.0	12.5
11	08.0	+34 18	13.5	12.0
12	08.2	+31 49	17.5	13.5
13	08.6	-32 54	15.5	14.5
14	08.8	+33 40	14.0	13.0
15	09.1	+35 19	14.0	13.0
16	11.6	+32 11	15.0	14.0
17	12.5	+33 30	18.0	14.0
18	12.5	+35 01	14.5	13.0
19	12.6	+34 20	16.0	12.5
20	13.8	-32 54	14.0	13.5
21	13.9	+34 10	14.0	13.0
22	14.1	+32 40	14.0	13.0
23	14.4	+35 02	14.0	13.0
24	16.0	+34 08	15.0	13.5
25	18.0	+34 32	15.0	14.0
26	19.8	+32 43	13.0	13.0
27	20.8	+33 07	13.5	13.5

* Red end of spectrum too dense for H₁ emission to be seen; several emission lines in the "blue" part.

exposed stars. As, however, interstellar reddening appears to affect many stars in this region rather strongly, it is often impossible to classify spectra in a reliable way. Thus, classes B and F are easily con-

fused, and faint, reddened B stars may even look like K stars. Hence no spectral types are given. It does seem probable, though, that the majority of the new emission-line stars belong to early spectral types, mostly class B.

Positions of the stars were determined from the blue Palomar Sky Atlas prints to the nearest tenth of a minute in right ascension, and to the nearest full minute of arc in declination. Approximate magnitudes, intended for identification purposes only, were measured on both colour prints with the help of the table of image diameter vs. magnitude given by King and Raff [2]. These data are given in Table 1. The identification charts were prepared from the blue Sky Atlas prints (Figure 1).

Новые эмиссионные звезды в области Лебедя. На пластинке, полученной на метровом телескопе системы Шмидта Бюраканской обсерватории с объективной призмой в 1.⁵, обнаружены 27 новых эмиссионных звезд в области $\alpha = 20^h 01^m - 20^h 21^m$, $\delta = +31^{\circ} 15' - +35^{\circ} 25'$. Приводятся список и карты отождествления этих звезд.

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ФОТОМЕТРИЧЕСКОЕ ИССЛЕДОВАНИЕ H₂O-ПОЛОС ПОГЛОЩЕНИЯ В БЛИЖНЕЙ ИК-ОБЛАСТИ СПЕКТРА У МОЛОДЫХ ЗВЕЗД С ОКОЛОЗВЕЗДНЫМИ ОБОЛОЧКАМИ

Предположение о возможном существовании полос поглощения водяного пара в спектрах молодых звезд сравнительно ранних спектральных классов с околозвездными оболочками было сделано в работе Ковна [1]. В ней приводятся результаты спектрофотометрии низкого разрешения в диапазоне $\lambda \lambda 2.1 - 4.1$ мкм ряда молодых ИК-звезд. В спектрах двух фуоров FU Ori и V 1057 Cyg в коротковолновой области наблюдается абсорбционная деталь, интерпретируемая как крыло широкой H₂O-полосы с центром на $\lambda = 1.9$ мкм.