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УДК 524.3—355

## SPECTRAL CLASSIFICATIONS OF EMISSION-LINE STARS\*

A few years ago, a number of new emission-line stars in Cygnus were identified on an objective-prism plate obtained with the Byurakan 1 m Schmidt telescope [1]. Spectra of nine of these stars were obtained in August, 1982, with the 80 cm telescope of l'Observatoire de Haute-Provence (CNRS, France), using the "D" spectrograph. This spectrograph gives, equipped with a two-stage RCA image tube, a reciprocal dispersion of about  $92 \text{ \AA mm}^{-1}$ , and covers the wavelength range 3600—5400 Å.

The spectra were measured with the PDS machine of the Lund observatory, and the subsequent reductions were performed by means of the HP computer of the Uppsala observatory. As an aid to spectral classifications, spectra of a number of standard stars, taken with the same equipment, were used.

Throughout, the widening of the spectra was made by letting the stars transverse only about half the length of the slit. Thus a sky spectrum was obtained beside the stellar spectrum. In this way the influence of, e. g., emission in surrounding nebulae could be taken into account.

In the following, the stars are referred to by their number in the above-mentioned list.

Star No. 2: The spectral type is about A7. The lower Balmer lines ( $H_\beta$ ,  $H_\gamma$  and  $H_\delta$ ) are relatively broad, and have emission cores, which may, however, be due largely to emission from the H II region on which the star is superimposed.

\* Based on observations made at l'Observatoire de Haute-Provence, CNRS, France.

Star No. 3: Also this star, of spectral type A3, is seen against an emission nebula. The strength of line emission in the nebula does not, however, seem enough to account for the emission cores observed in the Balmer lines  $H_3$  to  $H_{10}$ .

Star No. 4: Of spectral type A7, this star has narrower hydrogen lines than No. 2. No emission is apparent in the stellar spectrum. The star lies projected onto faint emission nebulosity.

Star No. 6: The spectral type of this star is close to A9. The hydrogen lines  $H_3$  and  $H_7$  appear slightly too weak, and the calcium II K line is largely filled out by emission. The sky spectrum shows no signs of surrounding nebulosity.

Star No. 9: An apparently normal F0 star. Neither stellar, nor nebular emission is seen in the spectrum.

Star No. 10: The spectral type is A2. The surrounding H II region is likely to be fully responsible for the weak emission seen in  $H_3$ .

Star No. 11: Although also this star is projected onto an H II region, the total filling-in of the hydrogen lines  $H_3$  and  $H_7$  in the G5 type spectrum is probably only partly due to the nebulosity.

Star No. 26: This star is of spectral type C2 or slightly earlier. Neither stellar, nor nebular emission is seen in the spectrum.

Star No. 27: The spectral type is about F2. Very faint emission nebulosity can be traced in the sky spectrum. No emission is detected in the stellar spectrum.

## СПЕКТРАЛЬНАЯ КЛАССИФИКАЦИЯ ЗВЕЗД С ЭМИССИОННЫМИ ЛИНИЯМИ

По спектрам 80-см телескопа обсерватории От Прованс с обратной дисперсией 92 Å/мм, проведена спектральная классификация 9 звезд с эмиссионными линиями, обнаруженных ранее автором [1].

20 April 1983

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