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HYDROGEN EMISSIONS ON LOW-DISPERSION SPECTROGRAMS OF B-STARS

The presence of hydrogen emission lines (often accompanied by emission lines of singly ionized metals) in the visible wavelength range of the B-type spectra is a rather frequent phenomenon. Nevertheless, its place in the context of stellar evolution theories is not yet definitely elucidated.

It is well known that in some cases a Be- or a B-shell star loses its emission and becomes a normal B-star, or vice versa. This is the reason why the detection of emission lines in B-spectra and the study of their variations with time is of particular interest.

The objective-prism surveys may appear rather useful in this kind of work. A sufficiently strong emission in the hydrogen lines can easily be detected at a nominal dispersion.

The observations presented here are obtained in the course of inspection of objective-prism Kodak-plates taken in 1974-75 on the 70-cm meniscus telescope of the Abastumani Astrophysical Observatory (USSR), supplied with an 8°-objective prism. The reciprocal dispersion of the spectra is 166 Å/mm at Hγ, their extent being from Hβ up to 3500 Å. We disposed of red plates too, so that we could observe the region of the Hα -line as well. The spectra are widened to 0.4 mm. No attempt has been made for assigning spectral classes to the stars in question. The emission features are observed on two or three plates taken in close periods of time.

The stars are listed below. When no identification numbers are available, we provide identification charts. As far as we know, five of the stars in our list have not yet been observed as emission line stars; three others are presented in the Catalogue of Be-stars (Jaschek and Egret, 1982).

LIST of the observed stars:

BD+61°0154. Sharp emissions in Hα , Hβ .

BD+59°0115. Hβ-emission; Be:

BD+61°0074. Hβ-emission; Be:
(the red spectra of BD+59°0115 and BD+61°0074 are overexposed, so that Hα is not observable)

BD+59°2829. Hβ-emission. (Jaschek and Egret, 1982).

BD+61°0122. Hβ-emission. (Jaschek and Egret, 1982).

BD+62°0001. Hβ-emission. (Jaschek and Egret, 1982).

No. 1 ident.chart (star A is BD+27°3400, star B is BD+26°3561).
Sharp emissions in Hα, Hβ , Hγ, Hδ.

No. 2 ident. chart (star A is BD+60°0117, star B is BD+59°0125).
Emissions in Hα, Hβ, Hγ.

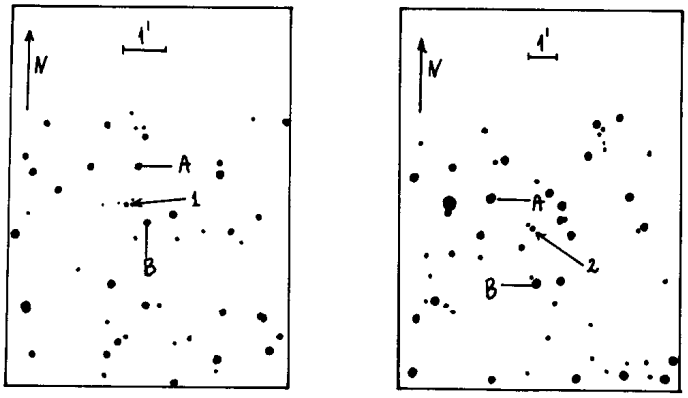

Figure 1. Identification charts

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Reference:

Jaschek, M., Egret, D., 1982 In:"Be Stars", Proc. IAU Symp. No.98, p.261