

SPECTROSCOPY OF VIRGINIDS

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ABSTRACT. Spectroscopic observations of 10 W Vir-type stars were obtained at 6-m telescope by using the Echelle spectrometers ESPAC and Lynx. By using the method of model atmospheres the chemical composition was determined for V 351 Cep, BL Her, TX Del. Positional measurements of the lines formed in different layers were obtained for V 351 Cep.

Preliminary conclusions are the following: the sample of the observed virginids is not homogeneous. The objects of solar chemical composition were discovered for which the usage of the dependence "period-luminosity" (obtained for the halo cepheids) leads to the anomalous low luminosity values. These stars are

not representatives of the II-nd type population. Few short-period virginids have secondaries seen in variability of the radial velocities. From the whole set of parameters, we may not classify these objects also as classical disk cepheids, because the light curve does not correspond to the dependence "period-phase curve" for classical cepheids.

Possible explanation of the observed properties of some short-period virginids is a hypothesis of their possible binarity. Or they belong to a class of "anomalous cepheids" which we propose to discuss as a result of the coalescence of the components in a close binary system.

Key words: Stars: Cepheids, Binaries

NEW DATA ON FAST VARIABILITY OF THE $H\alpha$ PROFILE IN THE SPECTRA OF YOUNG Ae-Be HERBIG STARS FROM "P CYG" SUBGROUP

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ABSTRACT. The variability of the $H\alpha$ profile of 2 A0e Herbig stars HD 163296 (ESO, CAT+CES, July, 1991, 1992, 35 spectra) and AB Aur (CrAO, ZTSh + Coude-spectrograph, January 1993, 45 spectra). Significant variability of the P Cyg-type profile of both objects was detected with time scales from hours to months. Two main types of hour-scale variability are found: a) monotonous changes of arbitrary intensity of different parts of the line (both stars), b) episodic appearance of local

spectral details at variable wavelength which may be owed to inhomogeneities of the circumstellar medium (HD 163296 only).

Periodicity of the profile of the absorption component in AB Aur with $P = 70^h$ and 35^h is suspected.

A simple geometric model of the circumstellar shell is proposed for similar objects with variable equator-concentrated stellar wind and a relatively quiet outer shell.

Key words: Stars: Herbig, HD 163296, AB Aur