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MAGNETOMETRIC MEASUREMENTS OF THE CARBON STAR Y CVn

There are three plausible mechanisms at least allowing to explain the causes of the light and radial velocity variations in carbon stars: radial pulsations, circulation of components in close binaries, and rotation of heterogeneous single stars. The last hypothesis could be well supported by measuring and detecting reasonably strong magnetic fields connected with these objects.

The dipole magnetic field of Y CVn was investigated on the Zeeman spectra taken with the grating spectrograph of the 6 meter telescope at Zelenchukskaja (Caucasus) using the dispersion of 1.3 nm/mm in the spectral region of 564 to 626 nm. The Zeeman splitting was measured on 236 absorption lines mostly of molecular origin. No systematic deviations were found among the various producers of the individual absorptions. The splitting was very small and completely drowned in the dispersion of the individual measurements. One can conclude from it that the magnetic field of Y CVn, if any, is very weak, and does not exceed the level of the measuring errors. The mean value of the magnetic induction was derived to be $B = (0.005 \pm 0.010)$ Tesla (in vacuum).

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