

ON THE STARK BROADENING OF Cr II SPECTRAL LINES IN ATMOSPHERES OF DB WHITE DWARFS AND A TYPE STARS

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Recently, new Stark broadening parameters for 9 resonant Cr II multiplets have been determined within the semiclassical perturbation approach. Obtained results have been applied here, to the analysis of the Stark broadening influence on stellar spectral line shapes. We have demonstrated that Stark broadening is the principal broadening mechanism in DB white dwarf atmospheres, and may be non negligible in A-type star atmospheres, especially in the line wings and when the chromium is overabundant. The present analysis shows, that its neglectation may contribute to errors in chromium abundance determination.

STARK BROADENING DATA FOR SPECTRAL LINES OF RARE-EARTH ELEMENTS: Yb IV AND Nb III

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In order to provide a complete set of Stark broadening data for astrophysical purposes, we started a project to calculate such data for a number of spectral lines of the ionized rare-earth elements (REE). Here we present the Stark widths for ten Yb IV and Nb III spectral lines by using the modified semiempirical theory. Due to very complex spectra of ionized REE we have to improve the existing software. These results will be included in atomic data base for REE.