

ON THE STARK BROADENING OF Cr II $3d^5 - 3d^4p$ LINES IN STELLAR ATMOSPHERES

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Chromium lines are interesting due to their presence in stellar atmospheres. They have been identified in stellar spectra, as for example o Peg, 7 Sex, and ϕ Aqu, in which spectrum Caliskan and Adelman identified 28 Cr II spectral lines and noted overabundance with value $\log \text{Cr}/\text{H} = -5.85 \pm 0.27$. Consequently, data on the Stark broadening of single ionized chromium spectral lines are of interest not only for laboratory but also for astrophysical plasma research. Of particular interest are resonance lines, since they are often present in stellar spectra.

We analyze here, the importance of Stark broadening effect for Cr II $3d^5 - 3d^4p$ transitions in stellar atmospheres.

STARK BROADENING OF B IV

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The light elements lithium, beryllium and boron are of particular interest since they undergo nuclear reactions at relatively low temperatures reached in the solar-type stars outside the core, so that their circulation and destruction can produce observable changes in abundances, providing informations on stellar structure and mixing by convection. Boron lines are observed in Sun and stars. For example Proffitt and Quigley (2001) studied B III 2065.8 Å resonance line in 44 early B type stars determining the abundance of boron. In this work we will determine within the impact approximation, by using the semiclassical perturbation theory, Stark broadening parameters for B IV lines,