

STARK BROADENING PARAMETERS OF S II SPECTRAL LINES FOR STELLAR PLASMA CONDITIONS

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Spectral lines of ionized sulfur have been observed in stellar spectra (see e.g. Adelman and Pintaldo (2000), Adelman et al. (2001)), so that their Stark broadening parameters are needed for sulfur abundance determination, radiative transfer calculations as well as for stellar spectra analysis and synthesis. Stark broadening is particularly significant for white dwarfs, post AGB stars, pre-white dwarfs and for A type stars. By using semiclassical perturbation method, we have determined widths and shifts for 12 spectral lines of ionized sulfur, broadened by collisions with electrons, protons and helium ions, for plasma conditions of interest for stellar atmospheres. The obtained results will be compared with published experimental and theoretical data and also included in the STARK-B database (<http://stark-b.obspm.fr> – Sahal-Bréchet et al., 2015), a part of Virtual Atomic and Molecular Data Center (VAMDC - <http://www.vamdc.org> – Dubernet et al., 2010).

References

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