

STARK BROADENING PARAMETERS FOR NEUTRAL OXYGEN SPECTRAL LINES

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Stark broadening parameters for neutral oxygen (OI) lines have been determined within the semiclassical perturbation method. The atomic data are taken from the NIST atomic database. The electron Stark widths and shifts results for 842 OI lines have been calculated. These Stark broadening parameters are calculated for electron density of 10^{16} cm^{-3} and for 6 different electron temperatures in the range of 5000 K to 50000 K.

Stark broadening parameters are compared with our previous results (Ben Nessib *et al.*, *Physica Scripta*, 1996), where we calculated Stark broadening parameters for only four OI spectral lines. The Stark widths and shifts are also compared with experimental and theoretical data available in the literature. New electron and proton impact line widths and shifts for some transitions have been obtained.

References

Ben Nessib, N., Ben Lakhdar, Z. and Sahal-Bréchet, S.: 1996, 'Stark broadening of neutral oxygen lines in the impact and quasistatic approximations', *Physica Scripta*, **54**, 608-613.