

## SEMICLASSICAL PERTURBATION STARK WIDTHS FOR DOUBLY CHARGED ARGON SPECTRAL LINES

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Argon in various ionization stage is observed in many astrophysical object. Doubly charged argon (Ar III) spectral lines are observed in high-resolution ultraviolet spectra of five sdB stars [1]. Ar III spectral lines are also observed in laboratory plasma [2]. As for diagnostics of stellar plasmas, Stark broadening parameters are used in the determination of temperature and density of laboratory plasmas.

Using semiclassical perturbation approach in the impact approximation, we have determined Stark widths for 20 Ar III spectral lines. Oscillator strengths needed for this calculation are obtained using Hartree-Fock relativistic (HFR) approach [3] and an atomic model including twelve configurations. Our widths are compared with experimental results of Djurović et al. [4], Bukvić et al. [5] and Djeniže et al. [6]. Stark widths of Ar III spectral lines can be useful for modelling and investigation of stellar atmospheres. Our results will be inserted in STARK-B database (<http://vamdc.obspm.fr/>) which is a part of Virtual Atomic and Molecular Data Center (VAMDC-<http://vamdc.org/>).

### References

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