

**THE FULLY RELATIVISTIC MULTI-CONFIGURATION
DIRAC-HARTREE-FOCK METHOD FOR ATOMIC
STRUCTURE CALCULATIONS FOR MULTIPLY
CHARGED IONS: THE EXAMPLE OF Ca XV**

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Abstract. In this work, fully relativistic multi-configuration Dirac-Hartree-Fock (MCDHF) approach (see Froese Fischer et al. 2019) for calculating atomic structure parameters has been presented and compared to other approaches as Hartree-Fock pseudo-Relativistic (HFR) method (see Kramida 2019). As an example of application, results of fully relativistic calculations for the ion Ca XV have been obtained and compared to Hartree-Fock pseudo-relativistic calculations (Alwadie et al. 2020) and to NIST database values (Kramida et al. 2019). This example is important for plasma diagnostic and astrophysical studies because Ca XV atomic data of high accuracy are still very scarce.

References

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