Abstract Submitted
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Non-LTE modeling with non-thermal electrons[1] HAI LE, HOWARD SCOTT, Lawrence Livermore Natl Lab — We present a computational tool to simulate self-consistently the time evolution of the non-LTE kinetics and the electron energy distribution function (EEDF). The standard collisional-radiative rate equations for the atomic states[2] are solved together with a Boltzmann-Fokker-Planck (BFP) equation for the EEDF. Both elastic and inelastic processes as well as radiative transitions are included. The EEDF is discretized on a non-uniform grid in energy space, and the numerical solution of the BFP equation is based on a set of recently developed algorithms[3]. Several numerical examples are presented to demonstrate the capability of the code.

[2]H.A. Scott, *JQSRT* 71, pp. 689-701, 2001
[3]H.P. Le & J.-L. Cambier, *preprint*, 2017

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