

Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

Effects of Coulomb and Fermi corrections on the equation of state of dense plasmas¹ IGOR SOKOLOV, ERIC MYRA, ALEXANDER POTASHEV, University of Michigan — In this presentation, we derive corrections for two frequently neglected or poorly approximated components of the equation of state for dense plasmas: (i) the Coulomb correction, which accounts for electron-electron interactions and (ii) the Fermi correction, which accounts for (frequently important) quantum-mechanical behavior of electrons. We demonstrate a more accurate approach to these calculations and discuss their effects on thermodynamic properties, ionization, and emissivity of dense plasmas.

¹This work was supported in part by the US DOE NNSA under the Predictive Science Academic Alliance Program by grant DE-FC52-08NA28616.

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Date submitted: 17 Jul 2009

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