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Electronic Transport in High Energy-Density Matter LIAM STANTON, San Jose State University, MICHAEL MURILLO, Michigan State University — In the hydrodynamic description of plasmas, a large number of transport processes, such as thermal and electrical conductivity, temperature relaxation and stopping power are dominated by electrons, where the physics of these processes is captured in the corresponding transport coefficients. We present a model for these coefficients that have been numerically computed using an effective screening potential approach. Within the framework of the Boltzmann collision operator, accurate fits for the relevant cross sections and collision integrals are calculated. The results are then validated by both experimental results as well as simulations from higher-fidelity theoretical models.

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