

Abstract Submitted
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Molecular Dynamics (MD) simulations of electron-ion temperature relaxation in a classical Coulomb plasma GUY DIMONTE, JEROME DALIGAULT, Los Alamos National Laboratory — Molecular dynamics (MD) simulations are used to investigate temperature relaxation between electrons and ions in a fully ionized, classical Coulomb plasma with minimal assumptions. Recombination is avoided by using like charges. The relaxation rate is in excellent agreement with theory in the weak coupling limit ($g \equiv \text{potential/kinetic energy} \ll 1$) whereas it saturates at $g > 1$ due to correlation effects. The ‘Coulomb log’ is found to be independent of the ion charge and mass ratio > 25 .

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