

Abstract Submitted  
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**A Simple Ion-Ion Charge Exchange Model for Kinetic Plasma Simulations** DAVID FILLMORE, PETER MESSMER, PAUL MULLOWNEY, Tech-X Corporation — We present a simple modification of the semi-classical over-barrier model of ion-atom charge exchange for the case of electron transfer between positive ions. The charge exchange cross-sections have been incorporated into an electromagnetic particle-in-cell plasma model which also includes schemes for electron impact ionization and electron-ion recombination. The influence of charge exchange on the plasma ionization state is explored for selected light elements under various temperature and density regimes.

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