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Sensitivity Study of Stopping Power Models in ICF Targets<sup>1</sup> MATTHEW TERRY, GREGORY MOSES, University of Wisconsin-Madison — Accurate treatment of fusion product charged particle transport (in particular the 3.5 MeV alpha particles) is very important for the accurate simulation of ICF ignition, bootstrap heating and burn. Many models have been proposed that focus on various aspects plasma conditions (collisionality, wave interaction, Fermi-degeneracy) which have various limitations. Here we present a comparison of several stopping power models, including the models of Trubnikov; Li and Petrasso; Brown, Preston and Singleton; Brysk; and Skupsky. Particular attention is given to regions of validity as they relate to ignition conditions. We present results that highlight the limitations of existing models to semi-Fermi-degenerate plasmas and models with explicit Coulomb logarithms. We also present initial results treating collisional effects in a semi-Fermi-degenerate plasma.

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