

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Comparison of Stopping Power Models in Shock Ignition Target Simulations¹ MATTHEW TERRY, GREGORY MOSES, University of Wisconsin-Madison — The calculation of alpha particle energy deposition is very important for the prediction of ignition and fusion burn in inertial confinement fusion targets. ICF ignition targets experience a large range of temperatures, densities and particle velocities. There are many stopping power models that cover various fractions of this phase space, but none cover it entirely. Our confidence in the accuracy of these stopping power models is related to the consistency of the plasma conditions assumed in developing the model and the actual conditions realized in the simulation. We present calculations comparing several stopping power models and their effect on shock ignition targets. We also show that the prediction of ignition is strongly dependent on the method in which one extrapolates a model beyond strictly consistent conditions.

¹This work funded by a National Physical Sciences Consortium Fellowship funding by Sandia National Laboratories.

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Date submitted: 16 Jul 2010

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