

Abstract Submitted
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Hot electron coupling to dense plasma for fast ignition¹ ANDREAS KEMP, Lawrence Livermore National Laboratory, HARTMUT RUHL, Universitaet Bochum, YASUHIKO SENTOKU, EMMANUEL DHUMIERES, University of Nevada, Reno, MAX TABAK, Lawrence Livermore National Laboratory — Critical issues for the fast ignition of inertial confinement fusion targets, where pre-compressed fuel is ignited by injection of an intense short laser pulse, are (i) the coupling efficiency of the short pulse to the hot electrons that heat the core and (ii) the transverse beam divergence of those electrons inside the dense plasma, i.e., determining the fraction of hot electron energy that will reach the core. We address these issues using one-, two- and three-dimensional kinetic computer models that include the effect of collisions.

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