

Abstract Submitted
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Plasma transport and absorption in multiple, overlapping, non-uniform laser beams MARK SHERLOCK, Lawrence Livermore Natl Lab — In inertial confinement fusion schemes, situations arise in which multiple laser beams overlap in a plasma. For example, on the National Ignition Facility, 96 laser beams overlap as they are focused into the hohlraum. We explore whether the complicated electromagnetic field patterns that arise can affect electron transport and energy absorption via non-linear phenomenon. A 3-dimensional particle-tracking code, which includes Coulomb collisions and 2nd-order magnetic forces, will be described. In particular, we will explore the effect of laser speckles on electron transport, including ponderomotive forces and the plasma response. This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344. .

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