

Abstract Submitted
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Kinetic Effects in Plasmas Relevant to Hot Spot Ignition¹ SCOTT WILKS, P. AMENDT, C. BELLEI, E. WILLIAMS, Lawrence Livermore National Laboratory, M.G. HAINES, Imperial College, D. WELCH, Voss Scientific, C. LI, R. PETRASSO, MIT — The use of radiation hydrodynamics codes to study laser-based Inertial Confinement Fusion and High Energy Density Physics is ubiquitous. In general, a single species fluid approximation is adequate during most of the interaction. However, there are critical times where electric fields, magnetic fields, or kinetic effects are potentially non-negligible. A number of examples where these effects are observed with the hybrid simulation code LSP will be presented. In particular, the effects of the tail of the electron and ion energy distributions on the fuel assembly and burn phases of hot spot ignition have been investigated in detail. The influence of electric and magnetic fields in 2-D will also be discussed.

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