Abstract Submitted
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Hot Electrons in Shock Ignition[1] R.J. FAEHL, R.J. MASON, R.C. KIRKPATRICK, Research Applications Corp — With Shock Ignition [1] a series semi-adiabatic pulses compress pellet fuel to high densities but relatively low temperatures, while an intense final ∼0.1 ns scale ∼5 x 10^{15} W/cm^2 pulse is subsequently used to heat the fuel to burn conditions. Hot, 35-50 keV electrons can be generated by this final spike. We will discuss the coupling of such hot electrons to the fuel with the ePLAS implicit/hybrid simulation code. This model calculates self-consistent *E&B*-Fields by the Implicit Moment Method [2], and drags and scatters the hot electrons against the background plasma at Spitzer rates. It tracks laser light to the critical density where it launches hot electrons at a prescribed temperature. We will discuss the hot electron transport in the compressed fuel, and possible shock generation and fuel heating as a function of the hot electron emission conditions.

[1] R. Betti et al., PRL **98,** 155001 (2007)
[2] R. J. Mason, J. Comp. Phys. **71,** 429 (1987).

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