

Abstract Submitted  
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**Effect of Ponderomotive Terms on Heat Flux in Laser-Produced Plasmas** G. LI, V.N. GONCHAROV, Laboratory for Laser Energetics, U. of Rochester — A laser electromagnetic field introduces ponderomotive terms<sup>1</sup> in the heat flux in a plasma. To account for the nonlocal effects in the ponderomotive terms, first, the kinetic equation coupled with the Maxwell equations is numerically solved for the isotropic part of the electron distribution function. Such an equation includes self-consistent electromagnetic fields and laser absorption through the inverse bremsstrahlung. Then, the anisotropic part is found by solving a simplified Fokker–Planck equation. Using the distribution function, the electric current and heat flux are obtained and substituted into the hydrocode *LILAC* to simulate ICF implosions. The simulation results are compared against the existing nonlocal electron conduction models<sup>2</sup> and Fokker–Planck simulations. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-92SF19460.

<sup>1</sup>V. N. Goncharov and G. Li, Phys. Plasmas **11**, 5680 (2004).

<sup>2</sup>G. P. Schurtz, P. D. Nicolaï, and M. Busquet, Phys. Plasmas **9**, 4238 (2000).

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