

Abstract Submitted
for the DPP06 Meeting of
The American Physical Society

Effects of the Ion Viscosity on the Shock Yield and Hot-Spot Formation in ICF Targets D. LI, I.V. IGUMENSHCHEV, V.N. GONCHAROV, Laboratory for Laser Energetics, U. of Rochester — The formation of a central hot spot in direct-drive spherical implosions is investigated employing the hydrodynamic approach. The mean free path of ions in the hot spot could become comparable to the size of the hot spot, resulting in a violation of the hydrodynamic approximation. We treat such conditions by adding ion-viscous terms in hydrodynamic equations. These terms has been implemented in the 1-D hydrocode *LILAC*, which was used to simulate the neutron yield from hot spots in ICF spherical implosions. The results of such simulations and comparison with the experimental data will be presented. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-92SF19460.

D. Li
Laboratory for Laser Energetics, U. of Rochester

Date submitted: 20 Jul 2006

Electronic form version 1.4