

Abstract Submitted  
for the SHOCK11 Meeting of  
The American Physical Society

**Precision EOS measurements on NIF ablators** M.A. BARRIOS, D.E. FRANTANDUONO, Lawrence Livermore National Laboratory, T.R. BOEHLY, Laboratory for Laser Energetics, D.G. HICKS, J. EGGERT, Lawrence Livermore National Laboratory, P.M. CELLIERS, G. COLLINS, Lawrence Livermore National Laboratory, D.D. MEYERHOFER, Laboratory for Laser Energetics, LAWRENCE LIVERMORE NATIONAL LABORATORY COLLABORATION, LABORATORY FOR LASER ENERGETICS COLLABORATION — The high-pressure ( $> 1$  Mbar) behavior of hydrocarbons is essential for understanding inertial-confinement-fusion target ablaters. In particular, one design for NIF ignition targets calls for glow-discharge-polymer (GDP) ( $CH_{1.3}O_{0.02}$ ) with various level of germanium doping (Ge-GDP). We report on EOS measurements on GDP and Ge-GDP driven to shock pressures  $\sim 1$ -10 Mbar, presenting the first high-pressure measurements for both materials. Experiments used laser driven shock waves to drive impedance match measurements with quartz standard. Shock velocities were measured using VISAR, determining shock velocities with an uncertainty of  $\sim 1\%$  precision in these transparent materials.

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Date submitted: 23 Feb 2011

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