

Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

High-Density Carbon Ablators for Inertial Confinement Fusion

JAMES ROSS, PETER AMENDT, DEBBIE CALLAHAN, SHON PRISBREY, LARRY SUTER, SIEGFRIED GLENZER, LLNL — A series of experiments on the Omega laser have been performed to measure high-density carbon (HDC) ablator performance for indirect drive inertial confinement fusion (ICF). The Omega laser was used to generate shaped laser pulses with varying powers during the first nanosecond of the drive to investigate drive pressures between 1.7 Mb and 7.5 Mb. The total neutron yield, ion temperature, neutron bang time and x-ray bang time were measured and compared to simulations. Experiments using HDC ablaters are planned for the National Ignition Facility and will be discussed. This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344 and supported by LDRD-11-ERD-075.

James Ross
LLNL

Date submitted: 13 Jul 2012

Electronic form version 1.4