

Abstract Submitted  
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**High-Density Carbon Ablator Experiments on the National Ignition Facility** JAMES ROSS, ANDREW MACPHEE, JAMES MCNANEY, TILO DOEPPNER, ART PAK, RYAN RYGG, ROBIN BENEDETTI, RICHARD TOWN, DAVID BRADLEY, EDWARD DEWALD, RICARDO TOMMASINI, JOSE MILOVICH, LAURA BERZAK-HOPKINS, JOHN MOODY, DEBBI CALLAHAN, ALEX HAMZA, JUERGEN BIENER, DARWIN HO, ERIC STORM, LLNL, JOE KILKENNY, General Atomics, OTTO LANDEN, JOHN LINDL, JOHN EDWARDS, NATHAN MEEZAN, ANDREW MACKINNO, LLNL — A series of experiments on the National Ignition Facility (NIF) have been performed to measure high-density carbon (HDC) ablator performance for indirect drive inertial confinement fusion (ICF). The NIF laser was used to generate a shaped laser pulse with a peak power of 360 TW and a total energy of 1.3 MJ. The total neutron yield, ion temperature, neutron bang time and x-ray bang time were measured and compared to simulations. A deuterium-tritium filled HDC capsule recently produced a neutron yield of  $1.6 \times 10^{15}$ , the current record for laser driven ICF. 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.

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