

Abstract Submitted  
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**Using Exploding Pusher Targets to Commission Diagnostics for the National Ignition Facility** A. MACKINNON, S. LEPAPE, R. WALLACE, M. SCHNEIDER, K. LAFORTUNE, LLNL, P. MCKENTY, S. CRAXTON, R. JANEZIC, W. SHMAYDA, C. SANGSTER, LLE, A. NIKROO, M. HOPPE, B. FARREL, J.D. KILKENNY, GA, LAWRENCE LIVERMORE NATIONAL LABORATORY COLLABORATION, LABORATORY FOR LASER ENERGETICS COLLABORATION, GENERAL ATOMICS COLLABORATION — The National Ignition Campaign is preparing to start cryogenic Deuterium-Tritium (DT) implosions on the National Ignition Facility (NIF) in the Fall of 2010. Before these experiments can take place the diagnostic suite must be commissioned. This will be achieved using exploding pusher targets to produce MeV neutrons, protons and x-rays from gas filled capsules that are directly illuminated by NIF laser beams using Polar Direct Drive (PDD). Simulations predict neutron yields in range of  $1e13$  –  $1e15$  for DT gas fills. This talk will describe the first PDD exploding pusher experiments on the NIF and discuss progress in commissioning the NIC diagnostics. LLNL-ABS-442792. This work was performed under the auspices of the U.S. Department of Energy by the Lawrence Livermore National Laboratory under contract DE-AC52-07NA27344.

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