

Abstract Submitted
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Opacity Experiments At The National Ignition Facility (NIF)¹

T.S. PERRY, J.L. KLINE, K.A. FLIPPO, M.E. SHERRILL, E.S. DODD, B.G. DEVOLDER, T.J. URBATSCH, Los Alamos Natl Lab, R.F. HEETER, M.B. SCHNEIDER, D.A. LIEDAHL, B.G. WILSON, C.A. IGLESIAS, Lawrence Livermore Natl Lab, Y.P. OPACHICH, P.W. ROSS, National Security Technologies, J.E. BAILEY, G.A. ROCHAU, Sandia Natl Lab — X-ray opacities are essential to the radiation-hydrodynamic simulations used to model astrophysical systems or inertial confinement fusion experiments. Recent opacity experiments have shown up to a factor of two discrepancy between theory and experiment. To address this issue a new experimental opacity platform is being developed on the NIF to crosscheck the recent results. The first experiments, starting in 2017, will begin by measuring the opacity of iron at a temperature of ~ 160 eV and an electron density of $\sim 7 \times 10^{21}$ cm⁻³. This and several following presentations will describe this effort.

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