

Abstract Submitted
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Hohlraum calculations for the NIF opacity platform¹ E.S. DODD, T.S. PERRY, I.L. TREGILLIS, J.L. KLINE, LANL, R.F. HEETER, D.A. LIEDAHL, LLNL, Y.P. OPACHICH, NST — A summary of initial hohlraum calculations for planned opacity experiments at the National Ignition Facility (NIF) will be given. The purpose of these experiments is to make LTE opacity measurements of iron at the same conditions as previous experiments on Sandia's Z facility: 156 eV [1] and 190 eV [2]. Ongoing discrepancies between opacity data and theory make corroborating data highly important. The target considered in these calculations is a standard cylindrical hohlraum, with diameter 5.75 mm, but baffles have been placed between the laser hot spot and the sample to maintain the iron in LTE. The hohlraum is driven with a 3 ns flat top laser pulse, but limited to 500 kJ and only the outer beams. The inner beams will be used to drive a capsule implosion, which backlights the iron for the absorption measurements. The iron itself is a thin disk, mixed with magnesium as a spectroscopic tracer, and tamped with beryllium to minimize expansion. A description of the experimental set-up will be given.

[1] J. E. Bailey, et al., *Phys. Rev. Lett.*, **99** 265002 (2007).

[2] J. E. Bailey, et al., *Nature*, **517** 56 (2015).

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