

Abstract Submitted
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Re-emit experiments in NIF-scale vacuum hohlraums for foot symmetry tuning of indirect drive ignition implosions on the NIF¹ EDUARD DEWALD, JOSE MILOVICH, CLIFF THOMAS, JOHN EDWARDS, OGDEN JONES, ROBERT KIRKWOOD, NOBUHIKO IZUMI, OTTO LANDEN, Lawrence Livermore National Laboratory, LLNL-NIF ICF TEAM — In indirect drive ignition experiments on the National Ignition Facility (NIF), tuning of the symmetry of the hohlraum radiation drive for the first 2 ns will be assessed by the re-emit technique [1] which measures the instantaneous x-ray drive asymmetry based on soft (800-1200 eV) x-ray imaging of the re-emission of a high-Z sphere surrogate capsule. We performed multi-view re-emit symmetry experiments in 60% scale NIF ignition hohlraums using NIF-like 2 laser cone illumination at 90-110 eV NIF foot radiation temperatures at the Omega facility [2]. We measured radiation symmetry sensitivity to inner/outer beams power balance and we assessed the residual radiation asymmetry of the patched diagnostic holes and missing laser beams required for soft x-ray imaging based on orthogonal polar images. The experimental data accuracy validated that required for NIF. Finally, we will discuss the design of a 90% scale experiment planned for Omega and the implications of all results to our NIF symmetry tuning strategy. [1] N. Delamater, G. Magelssen, A. Hauer, *Phys. Rev. E* **53**, 5241 (1996). [2] E.L. Dewald, *et. al.*, submitted to *Rev. Sci. Instrum.*

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