

Abstract Submitted
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First re-emit experiments on the National Ignition Facility for early time symmetry tuning of indirect drive ignition implosions¹ EDUARD DEWALD, JOSE MILOVICH, CLIFF THOMAS, STEVEN GLENN, LLNL, JOHN KLINE, LANL, RAHUL PRASAD, OTTO LANDEN, LLNL — In indirect drive ignition experiments on the National Ignition Facility (NIF), the symmetry of the hohlraum radiation drive for the first 2 ns is tuned using the re-emit technique [1] which measures the instantaneous x-ray drive asymmetry based on soft (600-1200 eV) x-ray imaging of the re-emission of a high-Z sphere surrogate capsule. We performed multi-view re-emit symmetry experiments in 90% scale NIF ignition vacuum hohlraums at 90-110 eV NIF foot radiation temperatures at the Omega facility. Compared to [1] these experiments use a less perturbing off-axis stalk rather than a thin CH tent to hold the capsule and have an azimuthal laser beam illumination similar to NIF. 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. We will also report on the first re-emit experiments performed recently on the National Ignition Facility in full ignition scale gas filled hohlraums. These experiments assess the effects on radiation symmetry and expected uncertainties of the technique due to the additional effects given by the hohlraum gas fill. [1] E.L. Dewald, *et. al.*, Rev. Sci. Instrum. 79, 10E903, 2008.

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