

Abstract Submitted  
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**First early time symmetry tuning experiments for indirect drive ignition implosions on the National Ignition Facility**<sup>1</sup> EDUARD DEWALD, JOSE MILOVICH, CLIFF THOMAS, STEVEN GLENN, Lawrence Livermore National Laboratory (LLNL), GEORGE KYRALA, JOHN KLINE, Los Alamos National Laboratory, KLAUS WIDMANN, ANDREW MACKINNON, OTTO LANDEN, LLNL — In 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]. To achieve this, the capsule is replaced by a high-Z “reemit” sphere so that the incident drive symmetry can be inferred by soft x-ray imaging of the sphere re-emission pattern [2]. We report on the first re-emit symmetry experiments performed on NIF in full ignition scale hohlraums that achieved 1% low mode accuracy. We will discuss results demonstrating the sensitivity of the radiation symmetry incident on the capsule to inner-to-outer laser beams wavelength shift that influences the inter-cone energy transfer, as well as to inner/outer beams power fraction that is used to tune the P2/P0 Legendre polynomial of the radiation flux at the capsule.

[1] E.L. Dewald, *et. al.*, Rev. Sci. Instrum. 79, 10E903 (2008).

[2] N. Delamater, G. Magelssen, A. Hauer, *Phys. Rev. E* **53**, 5241 (1996).

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