Abstract Submitted
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Tuning the early-time radiation flux symmetry in indirect drive implosion experiments at the National Ignition Facility[1] ARTHUR PAK, EDWARD DEWALD, JOSE MILOVICH, STEVE GLENN, PIERRE MICHEL, OTTO LANDEN, RICHARD TOWN, DAVID BRADLEY, Lawrence Livermore National Laboratory, LAWRENCE LIVERMORE NATIONAL LABORATORY TEAM — At the National Ignition Facility, experiments to enhance the implosion performance by changing the hohlraum length, implosion adiabat and ablator material have been conducted. For each experiment the uniformity of the x-ray radiation flux at the capsule surface is crucial for ensuring a symmetric compression of the fusion target capsule. Of particular importance is the early-time symmetry of the x-ray radiation flux created by the first pulse or picket of the laser. Asymmetries in the early-time radiation flux can lead to uncorrectable asymmetries in the fuel assembly and hot spot shape that can degrade implosion performance. This work will describe the changes to the early-time radiation flux and detail the tuning necessary to ensure a symmetric early-time radiation flux at the capsule surface as the hohlraum length, implosion adiabat and ablator material are changed. Results from reemission experiments conducted to tune the symmetry in 10.13 mm long hohlraums, implosions with an adiabat of $\sim$2.8 and capsules with high density carbon ablator material will be presented and compared to results from three dimensional radiation hydrodynamic calculations.

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