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Simulation of alternate hohlraum shapes for improved inner beam propagation in indirectly-driven ICF implosions[1] H. F. ROBEY, L. F. BERZAK HOPKINS, Lawrence Livermore National Security, LLC — Recent indirectly-driven ICF experiments performed on the National Ignition Facility have shown that the propagation of the inner beam cones is impeded late in the laser pulse by the growth of a gold bubble, which is initiated at the location where the outer beams hit the hohlraum wall and which expands radially inward into the hohlraum as the implosion progresses. Late in time, this gold bubble intercepts a significant portion of the inner beams reducing the available energy reaching the waist of the hohlraum and affecting the implosion symmetry. Integrated hohlraum simulations of alternate hohlraum shapes using HYDRA are performed to explore options for reducing the impact of the gold bubble on inner beam propagation. The simulations are based on recent NIF implosions using High-Density Carbon (HDC) ablators, which have shown good performance, but which could benefit from improved inner beam propagation.

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Harry Robey
Lawrence Livermore National Security, LLC

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