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Simultaneous visualization of hohlraum-wall motion and inner-cone beam transport using mid-Z tracers and thin-wall patches at the National Ignition Facility[1] NOBUHIKO IZUMI, N. MEEZAN, S. JOHNSON, O. JONES, O. JONES, O. L. LANDEN, J. J. KROLL, S. VONHOF, A. NIKROO, Lawrence Livermore Natl Lab, J. JAQUEZ, General Atomics, C. BAILEY, M. HARDY, R. EHRLICH, J. RALPH, R. PJ. TOWN, D. E. HINKEL, J. D. MOODY, Lawrence Livermore Natl Lab — The shorter drive of the High-density carbon (HDC) ablator design allows us to use Intermediate gas-Fill Hohlraums (IFH, 0.3 ˜0.6 mg/cc). Due to its reduced initial electron density, IFHs have lower backscatter, lower hot-electrons, and do not require CBET for radiation symmetry control. However, reduced tamping by the hohlraum gas allows more expansion of the hohlraum wall and the ablator. Therefore, the beam transport can be affected by the plasma filling of the hohlraum and the drive symmetry can be altered dynamically. We developed a method to visualize the energy deposition of the inner-cone beams by using thin-wall patches on the hohlraum. The inner-cone beams absorbed on the gold wall create ˜11 keV x-rays which are imaged though the thin-wall patches on the equator of the hohlraum. Clipping and absorption of the inner cone beams in the hohlraum is clearly observed with temporal resolution. Comparison of experimental data and rad-hydro simulation will be presented.

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