

Abstract Submitted  
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**Effect of M-band on ablation front stability in indirect-drive ICF implosions on NIF**<sup>1</sup> V. A. SMALYUK, C. WEBER, D. S. CLARK, O. L. LANDEN, A. MACPHEE, J. RALPH, LLNL — Hydrodynamic instabilities are major factor in degradation of spherical implosions in inertial confinement fusion (ICF). Instabilities at ablation front are some key contributors to overall stability of x-ray driven implosions. We present results of hydrodynamic instability experiments with high-density-carbon (HDC) ablaters on National Ignition Facility (NIF). The unstable growth of pre-imposed modulations at various mode numbers was measured with x-ray radiography using Hydrodynamic Growth Radiography (HGR) platform. The experiments were conducted with Au and U hohlraums with ~25% difference in M-band emission of x-ray drives. The dependence of the instability growth on M-band fraction will be presented.

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