

Abstract Submitted
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First liquid-layer implosion experiments on the National Ignition Facility ALEX ZYLSTRA, R OLSON, R LEEPER, J KLINE, S.A. YI, R. PETERSON, P. BRADLEY, B. HAINES, L. YIN, D. WILSON, H. HERRMANN, R. SHAH, LANL, J. BIENER, T. BRAUN, B. KOZIOZIEMSKI, L. BERZAK HOPKINS, A. HAMZA, A. NIKROO, N. MEEZAN, M. BIENER, J. SATER, C. WALTERS, LLNL — Replacing the standard ice layer in an ignition design with a liquid layer allows fielding the target with a higher central vapor pressure, leading to reduced implosion convergence ratio (CR). At lower CR, the implosions are expected to be more robust to instabilities and asymmetries than standard ignition designs. The first liquid-layer implosions on the National Ignition Facility (NIF) have been performed by wicking the liquid fuel into a supporting foam. A 3-shot series has been conducted at CR=14-16 using a HDC ablator driven by a 3-shock pulse in a near-vacuum Au hohlraum; data and inferred quantities, such as pressure, show good agreement with expectations.

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