

Abstract Submitted  
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**Demonstration of high coupling efficiency to Al capsule in rugby hohlraum on NIF**<sup>1</sup> Y. PING, V. SMALYUK, P. AMENDT, D. BENNETT, H. CHEN, E. DEWALD, C. GOYON, F. GRAZIANI, S. JOHNSON, S. KHAN, O. LANDEN, A. NIKROO, J. PINO, J. RALPH, R. SEUGLING, D. STROZZI, R. TIPTON, R. TOMMASINI, M. WANG, LLNL, E. LOOMIS, E. MERRITT, D. MONTGOMERY, LANL — A new design of the double-shell approach predicts a high coupling efficiency from the hohlraum to the capsule, with  $\sim 700$  kJ in the capsule instead of  $\sim 200$  kJ in the conventional low-Z single-shell scheme, improving prospects of double-shell performance. A recent experiment on NIF has evaluated a first step toward this goal of energy coupling using 0.7x subscale Al capsule, Au rugby hohlraum and 1MJ drive. A shell velocity of  $150 \mu\text{m/ns}$  was measured, DANTE peak temperature of 255 eV was measured, and shell kinetic energy of 36 kJ was inferred using a rocket model, all close to predictions and consistent with 330kJ of total energy coupled to the capsule. Data analysis and more results from subsequent experiments will be presented. In the next step, an additional 2x increase of total coupled energy up to  $\sim 700$  kJ is projected for full-scale 2-MJ drive in U Rugby hohlraum.

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