

Abstract Submitted  
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**High-Z Coatings Produce Significant Improvements in the Fusion Burn of Laser Driven ICF Implosions**<sup>1</sup> A. MOSTOVYCH, Enterprise Sciences, Inc., D. COLOMBANT, M. KARASIK, A. SCHMIDT, J. WEAVER, Naval Research Laboratory, J. KNAUER, LLE, University of Rochester — Recent experiments on the Omega Laser Facility have demonstrated that the absolute number of neutrons and the yield-over-clean parameters show significant increases for implosion targets that have ablaters with thin ( $\sim 200$ - $400$  Ang.) high-Z layers on the outer surface. In the experiment, 850 micron diameter, 20 micron thick, CD shells were imploded on a low adiabat. The laser pulses were shaped such that a low foot, first compressed the target and a subsequent one nanosecond high intensity top-hat pulse accelerated and imploded the target. As was demonstrated in earlier NRL experiments,<sup>2</sup> the reduction of laser imprint may be responsible for improving the performance of these implosions. Results from the latest implosion experiments, computer simulations, and their analysis will be reported.

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<sup>2</sup>S.P. Obenschain et al., Phys. Plasmas 9, 2234 (2002).

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