

Abstract Submitted
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Studies of Adiabatic Shaping in Direct-Drive, Cryogenic-Target Implosions on OMEGA D.D. MEYERHOFER, T.C. SANGSTER, K.S. ANDERSON, R. BETTI, D.H. EDGELL, V.YU. GLEBOV, V.N. GONCHAROV, D.R. HARDING, J.P. KNAUER, S.J. LOUCKS, L.D. LUND, F.J. MARSHALL, R.L. MCCRORY, P.W. MCKENTY, P.B. RADHA, S.P. REGAN, W. SEKA, V.A. SMALYUK, S. SKUPSKY, Laboratory for Laser Energetics, U. of Rochester, J.A. FRENJE, C.K. LI, R.D. PETRASSO, F.H. SÉGUIN, PSFC, MIT — In recent years, techniques to shape the radial profile of the shell entropy in a direct-drive ICF implosion have been developed. The goal is to have a high entropy in the outer regions to reduce the Rayleigh–Taylor growth rate and a low entropy in the main fuel layer for high compressibility. This physics is being studied at the Laboratory for Laser Energetics using fully β -layered cryogenic DT and IR-layered D₂ capsule implosions on the OMEGA laser. This paper will summarize the status of this research. This work was supported by the U.S. D.O.E Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-92SF19460.

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