

Abstract Submitted
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Proton Radiography of Polar-Drive Implosions on OMEGA L.
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STOECKL, T.C. SANGSTER, D.D. MEYERHOFER, Laboratory for Laser Energetics, U. of Rochester — Low-adiabat, polar-drive-implosion experiments performed on OMEGA are diagnosed for the first time with high-energy protons generated by the OMEGA EP laser. Warm D₂-gas-filled CH capsules are imploded with shaped laser pulses, keeping the main fuel layer on a low adiabat. The high-energy protons are used to radiograph the targets, with the goal of providing time-resolved two-dimensional images of the converging shell. The inferred shell shape and symmetry will be compared to those determined by x-ray radiography and radiation hydrodynamics modeling. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

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