

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Defect Implosion Experiments (DIME) at OMEGA¹ J.A. COBBLE, M.J. SCHMITT, I.L. TREGILLIS, K.D. OBREY, G.R. MAGELSSSEN, M.D. WILKE, LANL, V. GLEBOV, F.J. MARSHALL, University of Rochester, Y.H. KIM, P.A. BRADLEY, S.H. BATHA, LANL — The Los Alamos DIME campaign involves perturbed spherical implosions, driven by 60 OMEGA beams with uniform, symmetrical illumination. D-T-filled CH-shell targets with equatorial-plane defects are designed to produce a non-spherical neutron burn region. The objectives of the DIME series are to observe the non-spherical burn with the neutron imaging system (NIS) and to simulate the physics of the neutron and x-ray production. We have demonstrated adequate neutron yield for NIS imaging with targets of diameter 860 μm . All targets are filled with 5 atm of DT. We used two separate shell thicknesses: 8 μm and 15 μm , thus testing both exploding pusher and ablative designs. Defect channel depth ranges from 0 – 8 μm . Width is 20 – 40 μm . Perfect targets have no defect. Numerical simulations predict enhanced x-ray emission, that is suggested by experiment. Results from a recent DIME campaign will be discussed.

¹This work has been performed under the auspices of the United States Department of Energy, contract number DE-AC52-06NA25396.

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Date submitted: 23 Jul 2010

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