

Abstract Submitted
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Proton radiography of electromagnetic fields generated by laser-driven plastic foils C.K. LI, F.H. SEGUIN, J.R. RYGG, J.A. FRENJE, R.D. PETRASSO, MIT, T.C. SANGSTER, V.A. SMALYUK, J.A. DELETTREZ, J.P. KNAUER, S.P. REGAN, J. SOURES, F.J. MARSHALL, P.W. MCKENTY, D.D. MEYERHOFER, C. STOECKL, LLE, R.P. TOWN, P. PATEL, A.J. MACKINNON, P. AMENDT, N. IZUMI, O. LANDEN, LLNL — We are conducting the first experiments using proton radiography to study electromagnetic fields generated by OMEGA laser-driven plastic foils. Transient E and B fields will be probed using proton deflectometry. Monoenergetic DD and D³He protons are generated from direct-drive implosions of D³He-filled glass micro-balloons. Using various mesh grids, both face-on and side-on proton images are recorded on CR-39 track detectors. The magnitude and shape of proton deflections will provide quantitative information about these fields as well as laser-solid interactions. The details of these experiments will be reported and discussed. This work was supported in part by LLE, LLNL, the U.S. DoE, the Univ. of Rochester, and the N.Y.State Energy Research and Development Authority.

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