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Planar Foil MRT Instability Measurements Using a 1-MA LTD¹ J.C. ZIER², D.A. CHALENSKI, S.G. PATEL, D.M. FRENCH³, R.M. GILGEN-BACH, M.R. GOMEZ⁴, Y.Y. LAU, A.M. STEINER, I.M. RITTERSDORF, M.R. WEIS, University of Michigan, M.G. MAZARAKIS, M.R. LOPEZ, M.E. CUNEO, Sandia National Labs — Initial dynamic load experiments were performed on UM's 1-MA linear transformer driver (LTD) facility, MAIZE, to characterize magneto-Rayleigh-Taylor (MRT) instability growth and plasma dynamics on planar-foil plasmas. The loads utilized a double current return plate geometry with a 400 nm-thick Al foil positioned between the return plates. Magnetic pressure accelerated the foil plasma to drive MRT instability that was measured using shadowgraphy. Plasma dynamics were observed to be dominated by an initial expansion phase where both foil interfaces were found to be MRT unstable with 85-105 ns e-folding times.

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