

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Diagnostics for Magnetically Driven Implosions on the 1-MA MAIZE Facility¹ PAUL CAMPBELL, DAVID YAGER-ELORRIAGA, STEPHANIE MILLER, JEFF WOOLSTRUM, Univ of Michigan - Ann Arbor, MICHAEL JONES, Sandia National Laboratories, NICHOLAS JORDAN, Y.Y. LAU, RONALD GILGENBACH, RYAN MCBRIDE, Univ of Michigan - Ann Arbor — The Michigan Accelerator for Inductive Z-pinch Experiments (MAIZE) is a 3-m-diameter Linear Transformer Driver (LTD) at the University of Michigan which supplies a fast electrical pulse (0–1 MA in 100 ns, for matched loads) to various experimental configurations. In order to better investigate these loads, new diagnostics are being developed. First, an EUV/XUV micro-channel plate pinhole camera and a UV laser imaging system are being implemented to better observe the instability structures that form during implosions. Second, an x-pinch radiography diagnostic is being developed to probe deeper into the plasma loads. Third, Rogowski coils are being developed for enhanced load current measurements. Finally, a bolometry system and photo-conducting diamond (PCD) detectors will be implemented to measure x-ray power and energy. These new systems, combined with the existing twelve-frame laser shadowgraphy, and b-dot current monitors, will be powerful tools for the investigation of imploding z-pinch experiments.

¹This research was supported by the DOE through award DE-SC0012328, Sandia National Laboratories contract DE-NA0003525, the National Science Foundation, and a Nuclear Regulatory Commission new-faculty development grant. D.Y.E. was supported by an NSF fello

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Date submitted: 18 Jul 2017

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