

Abstract Submitted  
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**Construction and Initial Tests of MAIZE: 1 MA LTD-Driven Z-Pinch** \* R.M. GILGENBACH, M.R. GOMEZ, J.C. ZIER, W. TANG, D.M. FRENCH, Y.Y. LAU, University of Michigan, M.G. MAZARAKIS, M.E. CUNEO, M.D. JOHNSTON, B.V. OLIVER, T.A. MEHLHORN, Sandia National Laboratories, A.A. KIM, V.A. SINEBRYUKHOV, Institute for High Current Electronics — We report construction and initial testing of a 1-MA Linear Transformer Driver (LTD), The Michigan Accelerator for Inductive Z-pinch Experiments, (MAIZE). This machine, the first of its type to reach the USA, is based on the joint HCEL, Sandia Laboratories, and UM development effort. The compact LTD uses 80 capacitors and 40 spark gap switches, in 40 “bricks”, to deliver 1 MA, 100 kV pulses with 70 ns risetime into a matched resistive load. Test results will be presented for a single brick and the full LTD. Design and construction will be presented of a low-inductance MITL. Experimental research programs under design and construction at UM include: a) Studies of Magneto-Raleigh-Taylor Instability of planar foils, and b) Vacuum convolute studies including cathode and anode plasma. Theory and simulation results will be presented for these planned experiments. Initial experimental designs and moderate-current feasibility experiments will be discussed. \*Research supported by U. S. DoE through Sandia National Laboratories award document numbers 240985, 768225, 790791 and 805234 to the UM. MRG supported by NNSA Fellowship and JCZ supported by NPSC Fellowship / Sandia National Labs.

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