

Abstract Submitted
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Testing of the First BLUE Linear Transformer Driver (LTD) Cavity at the University of Michigan¹ BRENDAN SPORER, NICHOLAS JORDAN, ROMAN SHAPOVALOV, DREW PACKARD, RONALD GILGENBACH, RYAN MCBRIDE, Univ of Michigan - Ann Arbor — BLUE is a 4-cavity linear transformer driver (LTD) system currently being constructed in the University of Michigan's Plasma, Pulsed Power, and Microwave Lab. The four 10-brick cavities were previously part of the Ursa Minor experiment at Sandia National Laboratories. When fully assembled, the BLUE system should be capable of delivering 8 kJ to a proper load in an 800-kV (open circuit), 100-ns pulse. Dual 100-kV, 12-kW Spellman power supplies allow a theoretical rep-rate of >1 Hz for high-power microwave experiments using a GW-class magnetically insulated line oscillator (MILO), also under development at UM. The first prototype cavity has been assembled and single-cavity testing has begun. A polycarbonate lid allows operation of the first BLUE cavity as an impedance-matched Marx generator (IMG), though a pre-magnetization pulse generator has also been developed for operation as a traditional LTD. The construction status of the BLUE system will be presented in addition to experimental results with the prototype cavity.

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