

Abstract Submitted
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Performance and operational characteristics of the WSU compact pulser power machine for shockless compression T. JAGLINSKI, C.J. BAKEMAN, J.R. ASAY, J. LAFOLLETT, K. ZIMMERMAN, Y.M. GUPTA, Wash. State Univ. — A compact pulsed power machine (CPPM) is now operational at the Institute for Shock Physics. Development of this capability, to carry out shockless compression, was closely coordinated with similar developments at Sandia Laboratories. In preparation for dynamic material property experiments, the performance and operational aspects of the CPPM were characterized by considering two panel materials (aluminum and copper), two panel widths (15 mm and 20 mm) utilizing the Sandia design, and two charging voltages (65 and 70 kV). Free surface velocities were monitored to determine the input pulse into the samples of interest. Results from these experiments have provided an envelope of peak stresses and rise times that can be obtained using the present configuration of the CPPM. Results regarding uniformity and wave shapes will be presented. Work supported by ONR and DOE. Discussions with colleagues at Sandia National Laboratories are acknowledged.

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