Abstract Submitted
for the SHOCK09 Meeting of
The American Physical Society

Line-imaging ORVIS measurements of interferometric windows under quasi-isentropic compression TOMMY AO, RANDY J. HICKMAN, Sandia National Laboratories, SHERI L. PAYNE, National Security Technologies, WAYNE M. TROTT, Sandia National Laboratories — A line-imaging optically recording velocity interferometer system (ORVIS) has been implemented on the Veloce pulsed power generator to enable measurement of spatially resolved velocity histories of materials under dynamic compression. Interferometric windows are regularly used to maintain the high-pressure state of shock and ramp (quasi-isentropic) loaded materials. Although imaging through a shock or rapid ramp ($\leq$ 10 ns) loaded transparent window material has been reasonably successful, for slower ramp loading ($\sim$ 440 ns) experiments, the elastic-plastic yielding of the window has an adverse effect on return light to the line-imaging ORVIS. The results of quasi-isentropic loading experiments with various interferometric windows such as LiF, NaCl, SiO2, PMMA, and sapphire are presented. Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the U.S. Department of Energy's National Nuclear Security Administration under Contract No. DE-AC04-94AL85000.

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Date submitted: 20 Feb 2009 Electronic form version 1.4