

Abstract Submitted  
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**Measurements of the release of alpha quartz: a new standard for impedance-match experiments** THOMAS BOEHLY, JOSHUA MILLER, Laboratory for Laser Energetics, U. of Rochester, JON EGGERT, PETER CELLIERS, LLNL, DAMIEN HICKS, STEPHANIE BRYGOO, LLNL, DAVID MEYERHOFER, Laboratory for Laser Energetics, U. of Rochester, GILBERT COLLINS, LLNL, LABORATORY FOR LASER ENERGETICS, U. OF ROCHESTER COLLABORATION, LLNL COLLABORATION — Previous laser-driven-shock measurements of the kinematic<sup>1</sup> and thermal<sup>2</sup> properties of alpha quartz at 200-1500 GPa enabled the use of quartz as a reshock ‘anvil’<sup>3</sup>, a pressure witness<sup>1</sup>, and a temperature reference<sup>4</sup>. We present measurements of the release of alpha quartz into SiO<sub>2</sub> aerogel whose EOS had been calibrated by direct measurements<sup>5</sup>. These results establish alpha quartz as an impedance-match standard which, because of its transparency, enables accurate measurements of the velocity (pressure) profile in the pusher. [1] Hicks, D. G., *et al.* Phys. Plasmas 12, 082702 (2005). [2] Hicks, D. G., *et al.* Phys Rev Lett 97, 025502 (2006) [3] Boehly, T. R *et al.* Phys. Plasmas 11(9): L49-L52 (2004). [4] Brygoo, S *et al.* Ph.D. thesis, publication in prep. [5] Knudson, M. *et al.* JAP 97, 073514 (2005) Supported by the USDOE Office of Inertial Confinement Fusion under Coop. Agreement No. DE-FC03-92SF19460, the U. of Rochester, and the NYSEDA. This support does not constitute an endorsement by DOE of the views expressed in this article.

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