

Abstract Submitted  
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**X-Ray Diffraction of Platinum at High Pressures** MARY KATE GINNANE, Laboratory for Laser Energetics, University of Rochester, AMY LAZICKI, Lawrence Livermore National Laboratory, DANAE POLSIN, XUCHEN GONG, Laboratory for Laser Energetics, University of Rochester, RICHARD KRAUS, JON EGGERT, DAYNE FRATANDUONO, Lawrence Livermore National Laboratory, CHAD MCCOY, CHRISTOPHER SEAGLE, JEAN-PAUL DAVIS, Sandia National Laboratories, TOM BOEHLI, J. RYAN RYGG, GILBERT COLLINS, Laboratory for Laser Energetics, University of Rochester — Laser-driven experiments at the University of Rochester’s Laboratory for Laser Energetics were performed to test theoretical predictions of a solid–solid phase transformation in platinum at high pressures and temperatures.<sup>1</sup> Platinum is of interest because it is often used as a calibration standard in high-pressure experiments. Powder x-ray diffraction<sup>2</sup> was used to measure the crystal structure of platinum shocked, then ramp compressed to pressures up to 300 GPa. These experiments serve as additional measurements of shock-ramped, shocked, and shock-released platinum completed at Sandia National Laboratories and the National Ignition Facility. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0003856, the University of Rochester, and the New York State Energy Research and Development Authority.

<sup>1</sup>L. Burakovsky *et al.*, J. Phys.: Conf. Ser. **500**, 162001 (2014).

<sup>2</sup>J. R. Rygg *et al.*, Rev. Sci. Instrum. **83**, 113904 (2012).

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