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Measurement of platinum phase to over 2 terapascals[1] JAMES MCNANEY, DAMIAN SWIFT, AMY LAZICKI, Lawrence Livermore National Laboratory, RYAN RYGG, University of Rochester, JOEL BERNIER, RICHARD KRAUS, CHRIS WEHRENBERG, JON EGGERT, Lawrence Livermore National Laboratory
— We have performed a series of experiments in which samples of platinum were compressed dynamically using ramp-shaped laser pulses, and the crystal structure was probed using x-ray diffraction. Up to 2.1 TPa, the measured diffraction patterns were consistent with the face centered cubic (fcc) structure. The results demonstrate the near-isentropic nature of the loading path obtained in a laser-driven multi-layer sample and the suitability of Pt as a single-phase standard for use in high pressure experiments.

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