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Equation of State Measurements in Ta_2O_5 Foams J.E. MILLER, T.R. BOEHLY, D.D. MEYERHOFER, Laboratory for Laser Energetics, U. of Rochester, J.H. EGGERT, G.W. COLLINS, LLNL — The equation of state of Ta_2O_5 foam was measured using laser-driven shock compression at the OMEGA Laser Facility. Foams with densities in the range of 0.15 to 0.5 g/cc were shock-compressed with pressures of 100 to 400 GPa. Shock velocities and temperatures were measured on subnanosecond time scales. Comparisons between these experimental results and the existing QEOS model for this material will be discussed, as will the characterization of the foam samples. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-92SF19460.

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