Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Investigating Ta strength across multiple platforms, strain rates, and pressures THOMAS MATTSSON, DAWN G. FLICKER, JOHN F. BENAGE, CORBETT BATTAILE, JUSTIN L. BROWN, J. MATTHEW D. LANE, HOJUN LIM, Sandia National Laboratories, THOMAS A. ARSENLIS, NATHAN R. BARTON, HYE-SOOK PARK, DAMIAN C. SWIFT, SHON T. PRISBREY, RYAN AUSTIN, DENNIS P. MCNABB, BRUCE A. REMINGTON, Lawrence Livermore National Laboratory, MICHAEL B. PRIME, GEORGE T. III GRAY, CURT A. BRONKHORST, SHUH-RONG CHEN, D.J. LUSCHER, ROBERT J. SCHARFF, SAYU J. FENSIN, MARK W. SCHRAAD, DANA M. DATTELBAUM, Los Alamos National Laboratory, STACI L. BROWN, National Nuclear Security Administration
— Ta is a metal with high density and strength. We are collaborating to understand the behavior across an unprecedented range of conditions comparing strength data from Hopkinson bar, Taylor cylinder, guns, Z, Omega and the NIF using Ta from a single lot up to 380 GPa and strain rates of 10^7. Experiments are ongoing to give more overlap between the platforms and are being simulated with models to determine the importance of specific physical processes. Sandia National Laboratories is a multi-mission laboratory managed and operated by National Technology and Engineering Solutions of Sandia, LLC., a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energys National Nuclear Security Administration under contract DE-NA-0003525.

Thomas Mattsson
Sandia National Laboratories

Date submitted: 14 Jul 2017 Electronic form version 1.4