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Bridging simulations and experiment in shock and ramp induced phenomena DAWN FLICKER, Sandia National Laboratories — The high pressure materials physics program at Sandia's Z facility includes strong collaboration between theory, simulations and experiments. This multi-disciplinary approach has led to new insights in many cases. Several examples will be discussed to illustrate the benefits of bridging simulations and experiments. Results will be chosen from recent work on the xenon equation of state, phase change in MgO, shock induced chemistry in CO2 and tantalum strength. Sandia National Laboratories is a multi-program laboratory operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

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