

Abstract Submitted  
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### **Shock**

**Compression of Iridium**<sup>1</sup> CHRISTOPHER SEAGLE, WILLIAM REINHART, SCOTT ALEXANDER, JUSTIN BROWN, JEAN-PAUL DAVIS, Sandia National Laboratories — Iridium is a non-reactive precious metal with one of the highest acoustic impedances of the elements making it an attractive impactor or pusher in dynamic compression experiments. The principal Hugoniot and shock release states of iridium have been investigated on a two-stage light gas gun in a symmetric impact configuration. High precision stress-density Hugoniot states were measured up to  $\sim 7.1$  km/s impact or  $\sim 6.8$  Mbar. Shocked iridium samples were released into lithium fluoride windows permitting a point on the release isentropes of iridium to be measured. This new data is compared to limited iridium compendium shock data and recent theoretical calculations. Experimental hints of a sub-solidus phase transition and melting on the Hugoniot will be discussed.

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