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**Influence of Shock Wave Measurement Technique on the Determination of Hugoniot States** C.S. ALEXANDER, T.J. VOGLER, W.D. REINHART, D.E. GRADY, M.E. KIPP, L.C. CHHABILDAS, Sandia National Laboratories — In theory, a shock wave traveling through a material gives rise to a well defined Hugoniot state. However, in practice, the measurement technique used to probe the shocked state imparts on the data a unique set of experimental artifacts which can affect interpretation of this data. Two commonly used methods for acquiring shock wave data, VISAR and inclined-mirror measurements are examined to determine the effects of the measurement technique on the final Hugoniot determination. Recent plate impact experiments on the ceramic silicon carbide are used to calibrate a one-dimensional computer model, which is then used to simulate experimental VISAR and inclined mirror measurements. The results, which highlight potential pitfalls in interpretation of experimental data, will be discussed and solutions to the discrepancies will be proposed. \*Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under Contract DE-AC04-94AL85000.

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