Abstract Submitted
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Limits of Line VISAR data interpretation with large spatial velocity variations MICHAEL FURNISH, Sandia National Laboratories — Line-imaging velocimetry provides information on position dependence of velocity histories, and in turn on grain anisotropies, texture, variability, and nonplanar material motion. In recent experiments on copper bicrystals, strong position dependence of motion created complicated fringe patterns not amenable to conventional analysis methods (mock quadrature or FFT). The data were initially interpreted by hand. Subsequently, a Matlab-based program was prepared to reduce such records by a fringe-trace method, as well as to extract precise wave-transit time information. Limits and capabilities of such analyses will be discussed and set in the context of other methods, using experimental and synthetic data. Sandia National Laboratories is a multi-program laboratory managed and 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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