

Abstract Submitted  
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**Numerical re-focusing of 2d-VISAR data**<sup>1</sup> DAVID ERSKINE, RAYMOND SMITH, Lawrence Livermore National Laboratory, CYNTHIA BOLME, Los Alamos National Laboratory, SUZANNE ALI, PETER CELLIERS, GILBERT COLLINS, Lawrence Livermore National Laboratory — Two dimensional velocity interferometer (2d-VISAR) data can be treated as a kind of hologram, since fringes recorded by the interferometer manifest both phase and magnitude information about changes in the optical field of the target, over an image. By the laws of diffraction, knowledge of the optical field at one focal plane can be used to calculate the optical field at another focal plane. Hence a numerical re-focusing operation can be performed on the data post-experiment, which can bring into focus narrow features that were recorded in an out of focus configuration. Demonstration on shocked Si data and theoretical models are shown.

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