

Abstract Submitted  
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**Spike morphology in supernova-relevant hydrodynamics experiments**<sup>1</sup> C. DI STEFANO, C.C. KURANZ, R.P. DRAKE, M.J. GROSSKOPF, C.M. KRAULAND, D.C. MARION, S.R. KLEIN, B. FRYXELL, A. BUDDE, University of Michigan, T. PLEWA, Florida State University, P. NILSON, University of Rochester — This presentation describes experiments performed on the Omega and Omega EP lasers exploring the 3D Rayleigh-Taylor instability at a blast-wave-driven interface. These experiments are well-scaled to the He-H interface during the explosion phase of SN1987A. Laser energy is used to create a planar blast wave in a plastic disk, which then crosses the interface between the disk and a lower-density foam, inducing the RT instability. The plastic disk has an intentional pattern machined at this interface. This seed perturbation is three-dimensional with a basic structure of two orthogonal sine waves with a wavelength of  $71\text{ }\mu\text{m}$  and amplitude of  $2.5\text{ }\mu\text{m}$ . Interface structure has been detected under these conditions using dual, orthogonal radiography, and some of the resulting data will be shown. Current experiments are further examining the features of the unstable interface using proton radiography.

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Carlos Di Stefano  
Univ. of Michigan

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