

Abstract Submitted
for the DPP05 Meeting of
The American Physical Society

Rayleigh-Taylor Modal Interactions in Supernova-Relevant Experiments C.C. KURANZ, R.P. DRAKE, K.L. KILLEBREW, D.J. KREMER, M.J. GROSSKOPF, T. DONAJKOWSKI, M.R. TAYLOR, C. KRAULAND, D.C. MARION, University of Michigan, H.F. ROBEY, B. BLUE, H.F. HANSEN, A.R. MILES, Lawrence Livermore National Laboratory, J.F. KNAUER, University of Rochester, D. ARNETT, University of Arizona — We report the results of new experiments to observe, using the high-resolution of a backlit pinhole diagnostic, interactions among modes unstable to the Rayleigh-Taylor instability at an interface that is shocked and then decelerated by a planar blast wave. We will report observations of the interactions among a 3D “eggcrate” mode and an imposed, longer-wavelength, sinusoidal mode. The experiment is relevant to the degree of penetration of interior stellar material into the outer layers of an exploding star. This research was sponsored by the National Nuclear Security Administration under the Stewardship Science Academic Alliances program through DOE Research Grant DE-FG52-03NA00064, and through DE FG53 2005 NA26014 and other grants and contracts.

R Paul Drake
University of Michigan

Date submitted: 01 Aug 2005

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