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Michigan Fabrication and Assembly Techniques for Rayleigh-Taylor Modal Supernova-Relevant Experiments K.L. KILLEBREW, R.P. DRAKE, C.C. KURANZ, D.J. KREMER, M. GROSSKOPF, T.L. DONAJKOWSKI, M.R. TAYLOR, C.M. KRAULAND, D.C. MARION, University of Michigan, J.L. KAAE, J. SMITH, General Atomics, H.F. ROBEY, B. BLUE, J.F. HANSEN, A.R. MILES, Lawrence Livermore National Laboratory, J.P. KNAUER, University of Rochester, D. ARNETT, University of Arizona — We show the design and build of experiments created to model aspects of the Rayleigh-Taylor instability during supernova explosions. The experiments utilize an advanced micro-machined polyimide/CHBr surface. The surface has been machined in an egg crate sinusoidal pattern and is flush against a low-density, carbonized resorcinol formaldehyde foam. The complexity of these targets is increased with the use of a dual axis backlit pinhole radiographic diagnostic. We will discuss the difficulties associated with the design, fabrication and assembly of these targets. 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.

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