Abstract Submitted
for the DFD17 Meeting of
The American Physical Society

Large-Eddy Simulations of Rayleigh-Taylor Instability in a Convergent Geometry[1] BRANDON MORGAN, Lawrence Livermore National Laboratory, WOLFGANG BLACK, JACOB MCFARLAND, Department of Mechanical and Aerospace Engeering, University of Missouri — Large-eddy simulation (LES) is performed of a Rayleigh-Taylor mixing layer in a convergent geometry. The harmonic content of a multimode initial condition is varied, and effects of the initial condition on linear and non-linear growth rates are analyzed. Simulations are demonstrated to cover several bubble merger generations, and distance from self-similarity is quantified using the metric proposed by Morgan *et al.* [Morgan, B.E., Olson, B.J., White, J.E., and McFarland, J.A., "Self-similarity of a Rayleigh-Taylor mixing layer at low Atwood number with a multimode initial perturbation," *J. Turbul.*, 2017]. Finally, turbulence profiles are compared against LES from a planar mixing layer and against one-dimensional Reynolds-averaged Navier-Stokes simulation.

[1]This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.

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Date submitted: 27 Jul 2017 Electronic form version 1.4