

Abstract Submitted
for the DFD13 Meeting of
The American Physical Society

Initial Condition Effects on Turbulent Rayleigh Taylor Instability under Variable Acceleration History DENIS ASLANGIL, Lehigh University, ANDREW LAWRIE, University of Bristol, ARINDAM BANERJEE, Lehigh University — Initial condition effects on Rayleigh Taylor Instability are investigated for various fixed and variable acceleration histories. A massively parallel high resolution code (MOBILE) is used to model incompressible flow using an Implicit Large Eddy simulation technique. The simulations are initialized to understand the effects of spectral index, spectral bandwidth and discrete banded spectra. This study will present both general low-order metrics such as mix widths and growth constants and will compare the results for different acceleration histories and initial conditions. Studies on higher order turbulence parameters such as second order moments, their dissipations, and production–dissipation ratios will also be presented and are important to identify the similarities and differences between the Rayleigh–Taylor turbulence and the more conventional stationary turbulence.

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Date submitted: 02 Aug 2013

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