

Abstract Submitted  
for the DFD15 Meeting of  
The American Physical Society

**Large Eddy Simulations of Kelvin Helmholtz instabilities at high Reynolds number stratified flows** DANA BROWN, LOU GOODMAN, MEHDI RAESSI, University of Massachusetts Dartmouth — Simulations of Kelvin Helmholtz Instabilities (KHI) at high Reynolds numbers are performed using the Large Eddy Simulation technique. Reynolds numbers up to 100,000 are achieved using our model. The resulting data set is used to examine the effect of Reynolds number on various statistics, including dissipation flux coefficient, turbulent kinetic energy budget, and Thorpe length scale. It is shown that KHI are qualitatively different at high Re, up to and including the onset of vortex pairing and billow collapse and quantitatively different afterward. The effect of Richardson number is also examined. The results are discussed as they apply to ocean experiments.

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Date submitted: 28 Jul 2015

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