Abstract Submitted for the DFD06 Meeting of The American Physical Society

Measurement of Entrainment from an Oceanic Overflow Facility JUN CHEN, MPA-CMTP & CNLS, Los Alamos National Laboratory, PHILIPPE ODIER, ENS Lyon, France, MICHAEL RIVERA, MPA-CMTP & CNLS, Los Alamos National Laboratory, ROBERT ECKE, CNLS & MPA-CMTP, Los Alamos National Laboratory — The mixing and entrainment process existing in oceanic overflow, e.g. Denmark Strait Overflow (DSO), affects the global thermohaline circulation. Due to limited spatial resolution in global climate prediction simulations, the small-scale dynamics of oceanic mixing must be properly modeled. A laboratory oceanic overflow simulation facility is built to investigate the fine structure of the entrainment and mixing. Inside a water tank, a flow injection is introduced along an inclined plate into a denser environment. Simultaneous PIV and PLIF measurements are conducted to visualize and quantify the flow structure. The obtained data is used to examine the entrainment assumption and the relevant entrainment constant.

Jun Chen Los Alamos National Laboratory

Date submitted: 04 Aug 2006 Electronic form version 1.4