

Abstract Submitted  
for the DFD11 Meeting of  
The American Physical Society

**Direct numerical simulation of stationary homogeneous stratified sheared turbulence** DANIEL CHUNG, GEORGIOS MATHEOU, Jet Propulsion Laboratory/California Institute of Technology — Using direct numerical simulation (DNS), we investigate stationary and homogeneous driven turbulence in various stratifications, ranging from neutral to very stable. The Taylor Reynolds number is about 400, allowing an adequate separation of scales for the study of stratified turbulence dynamics. Analysis of the simulations is used to elucidate several aspects of stratified turbulence, including flux–gradient relations, length scales, spectra, the formation of layer, and criteria of turbulence collapse.

Georgios Matheou  
Jet Propulsion Laboratory/California Institute of Technology

Date submitted: 04 Aug 2011

Electronic form version 1.4