LES of a stratified bottom boundary layer

SUTANU SARKAR, JOHN TAYLOR, UC San Diego — The response of a bottom boundary layer (BBL) to stratification imposed from above is studied using LES. The effect on near-wall turbulence is found to be weaker than that in stable atmospheric boundary layers. The entrainment decreases with increasing values of external $N$. Outer layer properties are modified. The effect of $N$ on mean flow and turbulence properties will be quantified in the talk. The possibility of using the gradient Richardson number to parameterize momentum and buoyancy transport will be examined.