1046-86-144 **Mayer Humi*** (mhumi@wpi.edu), Math Dept,WPI, 100 Institute Rd, Worcester, MA 01609-2247.
Long's Equation in Terrain Following Coordinates.

Long's equation describes two dimensional stratified atmospheric flow over terrain which is represented by the geometry of the domain. The solutions of this equation over simple topography were investigated analytically and numerically by many authors. In this paper we derive a new terrain following formulation of this equation which incorporates the terrain as part of the differential equation rather than the geometry of the domain. This leads to new analytic insights about the solutions of this equation and enable us to compute steady state gravity wave patterns over complex topography. (Received August 06, 2008)