

Abstract Submitted  
for the DFD08 Meeting of  
The American Physical Society

**Characteristics of Geostrophically Balanced Convective Plumes from Simulations of Asymptotically Reduced Equations** IAN GROOMS, KEITH JULIEN, University of Colorado, Boulder, EDGAR KNOBLOCH, University of California, Berkeley — Reduced equations for rotating convection in a Boussinesq fluid are derived via multiscale asymptotics in the limit of tall aspect ratio and low Rossby number. Simulations of these equations reveal the presence of long lived convective plumes that span the depth of the layer and which transport the majority of the heat flux across the layer. The characteristics of these convective plumes are examined with particular attention paid to both the structure of individual plumes and the integral properties of plume ensembles.

Ian Grooms  
University of Colorado - Boulder

Date submitted: 05 Aug 2008

Electronic form version 1.4