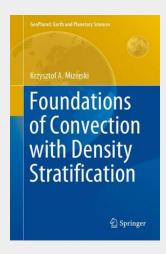
Foundations of Convection with Density Stratification

This book continues the process of systematization of knowledge about convection. It is important to put the current knowledge on weakly and strongly stratified convection in order, and provide a comprehensive description of the marginal, weakly nonlinear and fully developed stages of convective flow in both cases. The book provides a short compendium of knowledge on the linear and weakly nonlinear limits of the Boussinesq convection, and a review of the theory on fully developed Boussinesq convection. The third chapter is devoted to a detailed derivation and a study of the three aforementioned stages of stratified (anelastic) convection, with a full solution in the marginal stage provided for the first time. Detailed and systematic explanations are given. The book is intended mainly as a textbook for courses on hydrodynamics and convective flows, for the use of lecturers and students; however, it also serves for the entire scientific community as a practical reference.

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