Stratified flow past a bell-shaped hill

Masahiro Suzuki
Institute of Computational Fluid Dynamics, 1-16-5 Haramachi, Meguro-ku, Tokyo 152, Japan

Kunio Kuwahara
The Institute of Space and Astronautical Science, 3-1-1 Yoshinodai, Sagamihara-shi, Kanagawa 229, Japan

Received 09-MAR-90

A numerical study of the stratified flow past a bell-shaped hill is presented. The three-dimensional unsteady Navier–Stokes equations under the Boussinesq approximation are solved by a finite difference method in a generalized coordinate system. The characteristic phenomena of the stratified flow with various Froude numbers are successfully simulated. The results are compared with theoretical and experimental data and good agreement is obtained.

Copyright (c) 1998 Elsevier Science B.V. All rights reserved.