容器内成層流の熱対流

Thermal Convection in a Heated Cavity Filled with Two Fluids

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A numerical study is conducted in order to simulate the convective processes taking place in a 2D side-heated cavity filled with two Boussinesq fluid. The incompressible equations for continuity, Navier-Stokes and energy are used to model both fluids, and interface deformation is solved as part of the solution. The fluctuating flow and temperature fields resulting due to the presence of an oscillating wall temperature are investigated, and the occurrence of resonance in the cavity is analized in detail by analizing the intensification of the flow and thermal fields as a function of the forcing frequency.

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