Arbitaray Lagrangian-Eulerian Finite -element Method For Computation Of Two-phase Flows

shweta raturi[1], B.VR KUMAR[1]

[1]Indian Institute of Technology, Kanpur, India

Abstract

A finite-element scheme based on a coupled arbitrary Lagrangian-Eulerian and Lagrangian approach is developed for the computation of interface flows. The numerical scheme is designed to solve the Navier-Stokes equation and an evolution equation in the bulk phase and simultaneously, an evolution equation on the interface. The numerical scheme is validated for the problem with known analytical solutions. COMSOL Multiphysics® is used to solve the problem.