Fitted Finite Element Discretization of Two-Phase Navier-Stokes Flow

CDT Fluids Student Symposium 2016
Imperial College London, London, UK

28 June 2016

We propose a novel fitted finite element method for two-phase Navier-Stokes flow problems that uses piecewise linear finite elements to approximate the moving interface. The meshes describing the discrete interface in general do not deteriorate in time, which means that in numerical simulations a smoothing or a remeshing of the interface mesh is not necessary. We present several numerical experiments for our numerical method, which demonstrate the accuracy and robustness of the proposed algorithm.

Link: *http://www.imperial.ac.uk/fluids-cdt/symposium/*