Fitted Finite Element Discretization of Two-Phase (Navier–) Stokes Flow

SIAM Student Chapter, PDE Theme Day
Imperial College London, London, UK

9 March 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://imperialsiam.com/events/themed-events/*