

Numerical Simulation of the Interface Moving and Growing Problems Using Small Mesh Deformation

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In this talk, we will present a simple cutting method in solving the moving and growing interface problems in 3D. This new method is able to resolve large displacement or deformation of the immersed object, by combining Arbitrary Lagrangian-Eulerian method with only small local mesh deformation defined on the reference domain, that is decomposed into the so-called macro elements. The arising linear system of equations after temporal and spatial discretization is solved by either the all-at-once or the segregated methods, that are based on the algebraic multigrid methods.

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