

Mesh adaptive Variational Level Set

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We consider finite-element level set for the motion of an interface between incompressible fluids. Variational statements are used for improving conservation. Stability and accuracy are validated by combining the new scheme with a mesh adaptation unsteady method relyin on anisotropic unstructured meshes.

This is a joint work with Anne-Cecile Lesage, Damien Guegan and Frederic Alauzet

References:

- [1] A.C. Lesage, A. Dervieux, O. Allain, A local mass conservation Method for the Level Set Method applied to capillary incompressible flow. Paper presented to Eccomas CFD 2006. The Netherlands. September 5-8, 2006
- [2] F. Alauzet, P. Frey, P.L. George and B. Mohammadi, 3D transient fixed point mesh adaptation for time dependent problems. Application to CFD simulations, J. Comp. Phys., accepted, 2006.