

# Accepted Manuscript

A consistent solution of the re-initialization equation in the conservative level-set method

Tomasz Waławczyk

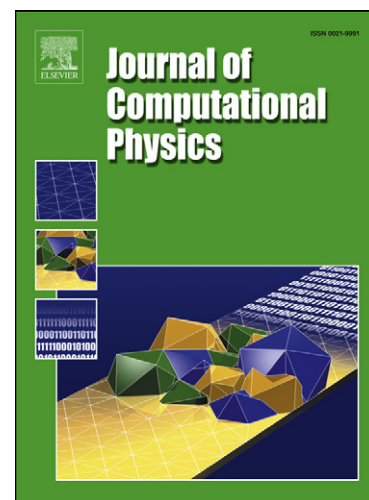
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## Highlights

- We derive the re-initialization equation of the signed-distance function.
- We show the analytical relation between the VOF and LS methods.
- We introduce the consistent method for computation of the interface curvature.
- The new re-initialization method does not deform interfaces and conserves mass.
- Second-order convergence of curvature is achieved in second-order accurate method.

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