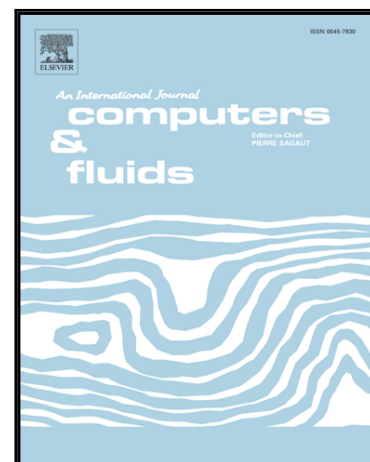


## Accepted Manuscript

Solving Phase Appearance/Disappearance Two-Phase Flow Problems with High Resolution Staggered Grid and Fully Implicit Schemes by Jacobian-Free Newton-Krylov Method

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**Highlights**

- Extension of a high-resolution spatial scheme in solving two-phase flow problems
- Fully implicit methods in solving phase appearance/disappearance problems
- Numerical treatments allowing for void fraction being extremely close to 0 and 1
- Successful application of JFNK method in solving the discretized nonlinear equations

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