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Flux-conserving treatment of non-conformal interfaces for finite-volume discretization of conservation laws

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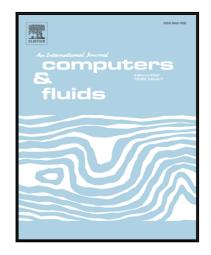
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#### ACCEPTED MANUSCRIPT

### **Highlights**

- New flux-conserving treatment of non-conformal mesh interfaces based on a supermesh
- Flux conservation is guaranteed by construction without any flux interpolation
- The order of accuracy of the gradient reconstruction deteriorates at the interface
- The interface method is stable with respect to time integration
- Successful verification for Navier-Stokes equations on stationary and moving grids



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