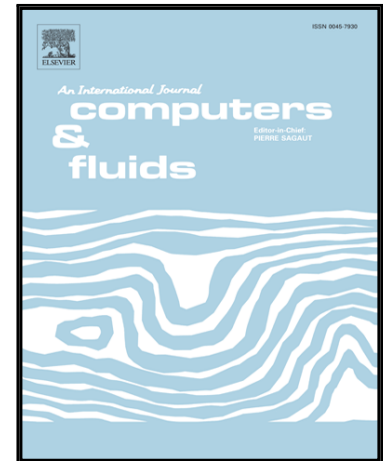


## Accepted Manuscript

Towards Direct Numerical Simulations of low-Mach number turbulent reacting and two-phase flows using Immersed Boundaries

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**Highlights**

- High-order DNS tool has been developed for computing turbulent reacting and two-phase flows
- Immersed boundaries implemented to describe complex geometries and moving particles
- Description of a comprehensive verification and validation campaign for DNS of reacting flows
- On-the-fly visualization and analysis using the ParaView Catalyst framework
- Efficient DNS simulation of spray combustion with a kinetic involving 44 species and 114 reactions

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