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An improved direct-forcing immersed boundary method with inward retraction of Lagrangian points for simulation of particle-laden flows

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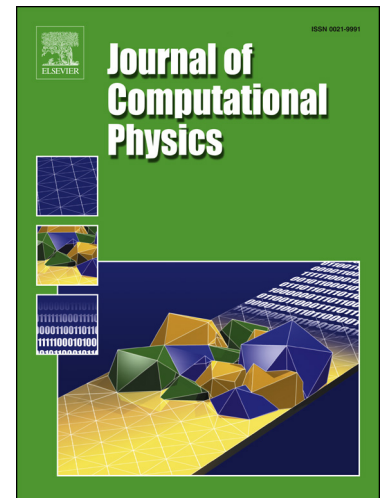
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Highlights

- Optimal retraction distance of Lagrangian points is proposed for direct-forcing immersed boundary method.
- The effective hydrodynamic diameter is dynamically corrected.
- Higher accuracy is achieved for both drag force and flow field.
- The improved method is less sensitive to grid resolution.

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