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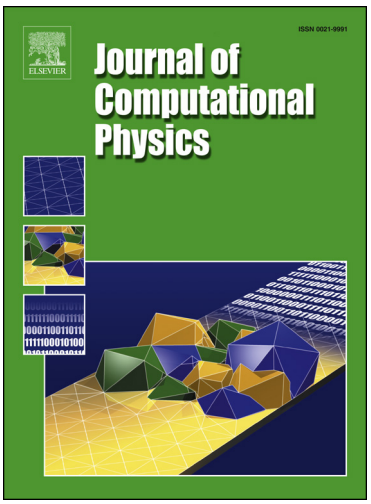

A continuous energy-based immersed boundary method for elastic shells

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Highlights

- New variational method for computing forces on thin elastic shells within the IB method is presented.
- Method gives a continuous force function on the entire surface of a hyperelastic shell.
- Comparison to a previous formulation where the surface and energy functional are first discretized is provided.
- Evidence of improved accuracy of elastic forces is presented.
- Method is applied to 3D models of a red blood cell in capillary flow and cellular blebbing.