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Hydrodynamic interaction of elastic membranes in a stenosed microchannel

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Highlights

- The dynamics of elastic membranes in a stenosed microchannel is studied by a combined LB-IB method.
- Influences of shear elastic modulus and bending modulus on the membrane behavior are evaluated.
- By increasing the elastic modulus, the deformation and speed of the membrane decrease.
- As the rigidity of the membranes increases, pressure in the stenosis section increases.
- The results were found to be in good agreement with available numerical data.

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