Peristaltic Transport of Solid Particles Suspended in a Viscoplastic Fluid: a Numerical Study

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Highlights

- Yield stress can have an accelerating effect on peristalsis of solid particle provided that the volume fraction is sufficiently large.
- Reynolds number can have an accelerating effect on a solid particle provided that it is sufficiently large and the Bingham number is sufficiently small.
- For viscoplastic fluids, peristaltic motion can induce larger velocity in the particle if the wave number is sufficiently large.