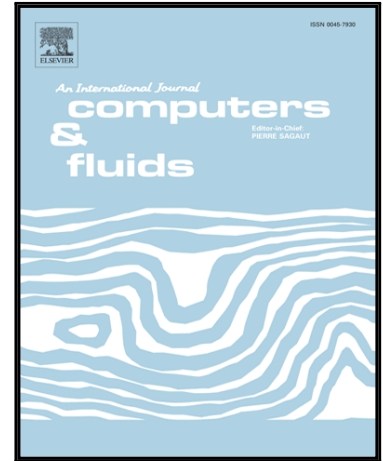


Accepted Manuscript

Combined Lattice-Boltzmann and Rigid-Body Method for Simulations of Shear-Thickening Dense Suspensions of Hard Particles

Eric Lorenz, Vishnu Sivadasan, Daniel Bonn, Alfons G. Hoekstra

PII: S0045-7930(18)30160-9
DOI: [10.1016/j.compfluid.2018.03.056](https://doi.org/10.1016/j.compfluid.2018.03.056)
Reference: CAF 3817



To appear in: *Computers and Fluids*

Received date: 31 October 2017
Revised date: 13 March 2018
Accepted date: 16 March 2018

Please cite this article as: Eric Lorenz, Vishnu Sivadasan, Daniel Bonn, Alfons G. Hoekstra, Combined Lattice-Boltzmann and Rigid-Body Method for Simulations of Shear-Thickening Dense Suspensions of Hard Particles, *Computers and Fluids* (2018), doi: [10.1016/j.compfluid.2018.03.056](https://doi.org/10.1016/j.compfluid.2018.03.056)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlights

- coupled fully-resolved LBM & rigid-body model for flowing dense suspensions proposed
- Multiple Lees Edwards layers to overcome Ma limit of LBM in boundless shear flows
- Adaptive particle timestep refinement improves numerical stability near-jamming
- shear thickening in polydisperse spherical particle suspensions observed
- Shear thickening is more pronounced in suspensions of non-spherical particles

ACCEPTED MANUSCRIPT

Download English Version:

<https://daneshyari.com/en/article/7155851>

Download Persian Version:

<https://daneshyari.com/article/7155851>

[Daneshyari.com](https://daneshyari.com)