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Numerical analysis of non-Brownian particles in Stokes flow KENGO ICHIKI, Department of Mechanical Engineering, The Johns Hopkins University, ANDREA PROSPERETTI, Department of Mechanical Engineering, The Johns Hopkins University — An efficient implementation of many-body hydrodynamic interaction of particles in Stokes flow under periodic boundary condition is presented. This is an extension of the formulation for the non-periodic case [J. Fluid Mech. (2002) 452 p.231] based on the multipole expansion of the integral representation using an iterative scheme with the fast multipole method (FMM). This method is applied to the study of the statility of non-uniform suspension flows in which the particles are subject to external forces. [Supported by DOE grant FG02-99ER14966]

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- [X] Prefer Oral Session
- [ ] Prefer Poster Session

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