

Abstract Submitted
for the DFD13 Meeting of
The American Physical Society

Liquid flow between hydrodynamically interacting particles in confined systems ALVARO GOMEZ MARIN, MASSIMILIANO ROSSI, CHRISTIAN J. KAEHLER, Bundeswehr University Munich — Particle suspensions in confined geometries are greatly complex systems since they introduce a high degree of complexity into the otherwise linear Stokes flows. Very recently, new mechanisms of instability have been identified in simulations in confined shear-flows of non-Brownian dilute particle solutions (Zurita-Gotor et al., *J. Fluid Mech.* 592, 2007, and *Phys. Rev. Lett.* 108, 2012). In this study we will focus on particle pairs interacting with walls, which requires the use of micro-confined systems. By the use of Astigmatism-PTV on particle solutions with different fluorescent characteristics, we will solve both the non-Brownian interacting particle trajectories and the flow around them in order to elucidate the details of the hydrodynamic particle-particle interactions.

Alvaro Gomez Marin
Bundeswehr University Munich

Date submitted: 01 Aug 2013

Electronic form version 1.4