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Particle interaction in oscillatory Couette and Poiseuille flows¹ NIMA FATHI, The University of New Mexico, MARC INGBER, University of Colorado Denver, PETER VOROBIEFF, The University of New Mexico — In oscillating Poiseuille flows of relatively dense suspensions, the direction of particle migration changes with the amplitude of oscillation. High amplitudes produce migration toward low shear rate regions of the flow, and vice versa, low oscillation amplitude results in particle migration toward the high shear rate region. We demonstrate that a similar behavior can be observed in a two-particle system, where it can be physically interpreted more easily, and discuss numerical modeling and experimental studies of oscillatory Poiseuille and Couette flows.

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