Abstract Submitted
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Force v. force-free motion in colloids JOHN BRADY, California Institute of Technology — Consider a neutrally buoyant particle suspended in a fluid. Since the particle and fluid densities are the same there is no force on the particle and no motion. Now add a very large number of other particles to the fluid. These other particles are more dense than the fluid and so will settle due to gravity. Will the first particle move? In which direction and how fast? And viewed in a frame moving with the first particle what is the velocity disturbance caused by this force-free particle? These questions arise in the context of phoretic motion in colloidal dispersions.

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