

Abstract Submitted
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The surprising strength of hydrodynamic attraction BLAISE DELMOTTE, Courant Institute, NYU, MICHELLE DRISCOLL, NYU Physics, ALEXANDAR DONEV, Courant Institute, NYU, PAUL CHAIKIN, NYU Physics — Self-assembly in colloidal systems often requires finely tuning the interactions between particles. When colloids are active, or moving due to an external drive, the assembly is even harder to achieve. In this talk, we will focus on an experimental system made of colloids rotating parallel to a floor. We will show how hydrodynamic interactions alone can generate compact motile structures. These structures are persistent, robust to thermal diffusion and are an attractor of the system. Combining experiments, large scale simulations and theory, we will explain the origin of such hydrodynamic attraction and how it could be used for practical applications.

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