Abstract Submitted
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Waltzing *Volvox*: Orbiting Bound States of Flagellated Multicellular Algae[1] K. DRESCHER, K. LEPTOS, T.J. PEDLEY, R.E. GOLDSTEIN, University of Cambridge, T. ISHIKAWA, Tohoku University — The spherical colonial alga *Volvox* swims by means of flagella on thousands of surface somatic cells. This geometry and its large size makes it a model organism for the fluid dynamics of multicellularity. Remarkably, when two nearby colonies swim close to a solid surface, they are attracted together and can form a stable bound state in which they continuously waltz around each other. A surface-mediated hydrodynamic attraction between colonies combined with the rotational motion of bottom-heavy *Volvox* are shown to explain the stability and dynamics of the bound state. This phenomenon is suggested to underlie observed clustering of colonies at surfaces.

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