

Abstract Submitted
for the DFD12 Meeting of
The American Physical Society

Studies of Ciliated Microorganism Swimming with and against a Magnetic Field Tuned Apparent Weight Force ILYONG JUNG, HARRY MICKALIDE, JAMES M. VALLES JR., Brown University — There is a class of microorganisms that are small enough to swim at low Reynolds number but large enough for gravity to influence their behavior. Remarkably, *Paramecia* exert a stronger (weaker) propulsion force when swimming against (with) their apparent weight force, \vec{W} . To investigate the source of the swimming speed response, we are examining how the trajectories of single swimmers change when they reverse their direction relative to \vec{W} . We characterize their helical trajectories with three parameters that we can relate to their beating of their cilia using a simple model. The latest results will be described.

Ilyong Jung
Brown University

Date submitted: 07 Aug 2012

Electronic form version 1.4