

Abstract Submitted
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Optimal navigation strategies for microswimmers¹ ABDALLAH DADDI-MOUSSA-IDER, University of Dusseldorf — The quest on how to navigate or steer to optimally reach a target is of paramount importance e.g. for airplanes to save fuel while facing complex wind patterns on their way toward a remote destination. Here, we show that the self-generated flow field induced by microswimmers in a low-Reynolds-number solvent can have a strong influence on the required navigation strategy to reach a target fastest. Accordingly, microswimmers follow swimming trajectories that are qualitatively different from those of dry active particles or motile macroagents. In particular, we demonstrate that the resulting optimal microswimming strategy is useful in the presence of fluctuations where it allows reaching a target up to 50

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