Abstract Submitted
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Generating net rotational motion at low Reynolds number via reinforcement learning[1] YUEXIN LIU, Department of Mathematical Sciences, New Jersey Institute of Technology, ZONGHAO ZOU, ON SHUN PAK, Department of Mechanical Engineering, Santa Clara University, YUAN-NAN YOUNG, Department of Mathematical Sciences, New Jersey Institute of Technology — Locomotion at the microscopic scale encounters stringent constraints due to the absence of inertia. Here we apply a recent framework based on reinforcement learning (Tsang et al., Phys. Rev. Fluids, **5**, 074101, 2020) to generate net rotational motion at low Reynolds numbers. Without prior knowledge of locomotion, the system develops effective policies based on its interactions with the surrounding environment. We compare the results with previously known strategies and remark on the possibility of more complex maneuvers.

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