

Abstract Submitted  
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**Stealthy Movements of Micro-Swimmer Flocks**<sup>1</sup> MEHDI MIRZAKHANLOO, MOHAMMAD-REZA ALAM, University of California, Berkeley — Here we unveil synergistic cooperation of micro-swimmers to form a stealth swarm that minimally disturbs the surrounding fluid. We call this mode of swarming the ‘concealed mode, which can be achieved when a group of swimmers actively collaborate to cancel out one another’s disturbing flows. We then demonstrate how such a concealed swarm can remain stealth while actively gathered around a favorite spot (e.g. a nutrient source), pointing toward a target (e.g. attacking a prey flock), or tracking a desired trajectory in space. Our findings also provide a clear road map to control and lead stealth flocks of swimming micro-robots formed through their active collaboration in minimally disturbing the host medium.

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