

Abstract Submitted
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Flight Forces Control Strategy in Insects¹ SAMANE ZEYGHAMI,
HAIBO DONG, Wright State University — Introducing a new point of view to steering muscles activity in insects, we are proposing a new flight forces control strategy that shows strong compatibility with many experimental observations. We have proven that the flight forces alternations can be controlled without direct control of wing's kinematic parameters. According to the proposed method choosing appropriate phase shift in steering muscles' activity between bilateral wings, insect is able to do desired maneuver. In fact correlation between the wing's motion and aerodynamic forces could give the insect high level of control on the flight forces magnitude and direction while requiring much simpler control system and lower power input.

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