Abstract Submitted
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Preliminary Study of Internal Interventions to Collective Behaviors of Insect Swarm DAN LIU, University of Hartford — Animal groups present impressive and interesting self-organized collective behaviors. The goal of this project is to explore the potential for controlling the motions of insect swarms by internal interventions. Internal intervention consists of introducing agents into an insect swarm in order to control the behaviors of the swarm. These agents are insects controlled by technical means or consist of tiny drones that influence the behavior of the swarm. The work will contribute to an alternative way to handle plagues such as locust infestation. This preliminary study presents the feasibility analysis of internal interventions based on previous studies on collective behaviors in active matter. The proposed model is built on active Ising Models with the integration of mutual expectation for the rule of alignment of individuals.

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