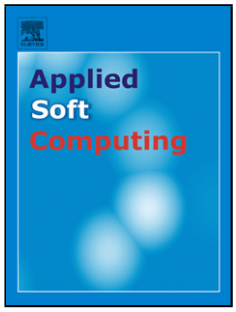

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Autonomous Task Allocation for Multi-UAV Systems Based on the Locust Elastic Behavior

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Highlights

- A new algorithm for autonomous task allocation in multi-UAVs missions is proposed.
- The algorithm optimizes the net throughput and the mean time for task completion.
- The modeling is easily applicable to other types of multi-UAVs missions.
- Four task allocation heuristics are tested.
- Results show notable improvements in all considered measures based on this method.

Abstract- Task allocation is a grand challenge facing researches and practitioners in multiple unmanned aerial vehicles (multi-UAVs) missions. This paper proposes a new autonomous bio-inspired approach for efficiently allocating tasks among multiple UAVs during a mission. Task assignments are dynamically adjusted by each UAV on the basis of criteria related to the individual