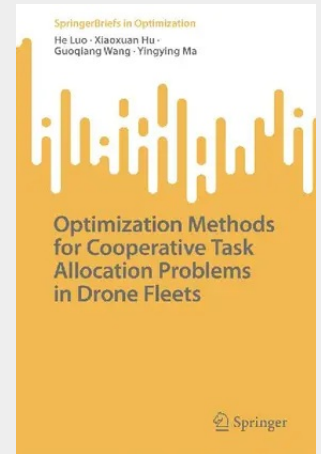


Optimization Methods for Cooperative Task Allocation Problems in Drone Fleets

This book provides the current research on optimization methods for cooperative task allocation problems in drone fleets. Drone fleets, with their advantages of low cost, small size, and strong maneuverability, have been widely used in logistics, inspections, and other fields. However, it is a great challenge to cooperative task allocation when drone fleets are in large-scale tasks with task time constraints, temporal relationships, and performance requirements. To avoid the waste of resources and the conflicts of task, time, and space in drone fleets, it is important to ensure scientific and efficient task allocation in drone fleets. Various optimization problems in practical application scenarios are presented, including the heuristic method for task allocation in multirotor drones under wind influence, a multi-objective optimization method for task allocation in heterogeneous drones, a game-theoretic method for task allocation in the drone fleet, and a cooperative task allocation method for drone fleets with the assistance of a vehicle.

This book provides a pedagogical lesson for students, particularly Ph.D. students in operational research, but also acts as a research reference for senior researchers. Non-experts who are interested in the management of drone fleets can also gain interesting insights from this book.

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