

工程与应用

求解VRP问题的混合鱼群遗传优化算法

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摘要 首先对物流配送中的一般车辆优化调度问题(VRP)进行了分析,并为之建立了相应的数学模型。随后设计了一个人工混合鱼群算法,并研究了如何应用该算法解决车辆优化调度问题,该算法在初期阶段应用人工鱼群算法迅速获得阶段最优解,在后期阶段应用遗传算法寻求最优解。最后通过仿真实验验证了该算法具有求解速度快,性能稳定等优点。

关键词 [物流配送](#) [车辆优化调度问题](#) [人工鱼群算法](#) [遗传算法](#)

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Hybrid artificial fish school algorithm to solve Vehicle Routing Problem (VRP)

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Abstract

This paper analyzes the general Vehicle Routing Problem (VRP) in logistics distribution, and establishes its mathematic model. Then, it designs a hybrid artificial fish school algorithm, and researches how to use the algorithm to solve the general vehicle routing problem. In the early phases it can get the optimal solution by artificial fish school algorithm quickly and in the final stage find the global optimal solution by genetic algorithm. Finally, some experiments are executed to show that this algorithm has convergent ability and is stable.

Key words [logistics distribution](#) [Vehicle Routing Problem \(VRP\)](#) [artificial fish school algorithm](#) [genetic algorithm](#)

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