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# 模擬退火法結合禁忌搜尋演算法求解協同配送問題

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## 摘要

本研究使用實際公司個案做為研究對象，以兩家公司進行協同配送下的車輛回程途徑問題為研究目標，透過本研究所使用之演算法尋找最低的車輛運輸成本，並與多種演算法相比較。應用模擬退火法結合禁忌搜尋演算法規劃車輛路徑成本的計算，協助物流業者改善現有的運輸路線規劃，增加營運利潤。本研究所提出之演算法在個案實驗中運行成本低於文獻中的實驗的結果，顯示模擬退火法結合禁忌搜尋演算法有優於文獻中所提出之兩種演算法的求解能力。

關鍵詞：協同配送、車輛回程途徑問題、模擬退火法、基因演算法、禁忌搜尋演算法

# Simulated Annealing with Tabu Search Algorithms for Coordination allocation Problem

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## Abstract

**The objective of this study is focused on the case study for the collaboratively distribution of vehicle routing problem with backhaul between two real companies. In this study, the proposed algorithm can find the lowest cost of vehicle transport among compared methods. In the proposed approach, Simulated Annealing with Tabu Search algorithms is used to obtain the cost of planned vehicle routing, and then can help logistics transportation to improve the existing transportation route and increase profits. From simulation results, the proposed approach can find lower operating cost than other methods in the literature. It shows that the proposed approach is better than other two methods in the literature.**

**Key words: Collaboration Allocation Problem, Vehicle Routing Problem with Backhaul, Simulated Annealing, Genetic Algorithms, Tabu Search**