應用可回溯式門檻接受法結合GENIUS求解VRP問題之研究

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摘要

Backtracking Adaptive Threshold Accepting (BATA) is similar to Threshold Accepting (TA) but the values of threshold are lowered or raised, depending on if an acceptable solution can be found in a fixed number of iterations. This research used a BATA structure embedded with GENIUS and other traditional exchange methods for solving the Vehicle Routing Problem (VRP). And the 14 classic instances described by Christofides et al. (1979) were selected for the evaluation of our method. Results showed that the average deviation of 14 benchmark instances can be 1.2% using traditional BATA parameter b<1. We also tested the case of the threshold backtracking factor b>1 and found that this change could lead to even better results. The average of deviation of the 14 benchmark instances can be reduced to 0.87%. Overall, the average deviation is merely 0.26%.

關鍵字：Vehicle Routing Problem, GENIUS, BATA