
An Iterated Local Search Algorithm for Multiple Traveling Repairman Problem with Profits

Mualla Gonca Avci*¹ and Mustafa Avci¹

¹Dokuz Eylül University – Turkey

Abstract

Multiple traveling repairman problem with profits (MTRPP) is a generalization of the traveling repairman problem (TRP). MTRPP generally arises as a multi-vehicle routing problem on relief supply. In MTRPP, a time-dependent profit is associated with each node, and there is no obligation to visit all nodes. The objective of the problem is to maximize total collected revenue. In this context, a mathematical model for MTRPP is developed. Additionally, a multi-start iterated local search algorithm is proposed for the solution of the MTRPP. The performance of the developed algorithm is tested on randomly generated problem instances. The results indicate the effectiveness of the proposed approach.

*Speaker