

ABSTRACT

In the minimum cost vertex–disjoint path cover problem (MCVDPCP), each vehicle serves customers directly from its location without having to start from or return to a depot. The aim of the MCVDPCP is to minimize the total vehicle travel cost without violating the vehicle capacity constraint and the maximum tour length. An application of the problem can be found in companies hiring freelance workers to serve customers to reduce operational costs. In this study, we propose a particle swarm optimization algorithm for solving the MCVDPCP with an aim at obtaining better results than the previous study.

Keywords: Particle Swarm Optimization, Capacitated Vehicle Routing Problem, Minimum Cost Vertex-Disjoint Path Cover Problem