

# A New Particle Swarm Optimization for Multi-objective Open Shop Scheduling

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## Abstract

Multi-objective open-shop scheduling is definitely significant in practical. However, the research focused on multi-objective open-shop scheduling was relatively scarce. This article proposed a particle swarm optimization to address open-shop scheduling problems with multiple objectives. Originally, particle swarm optimization was invented to treat continuous optimization problems. In this paper, the particle position representation, particle velocity and particle movement are modified due to the discrete essence of the scheduling problem. The modified PSO was tested on solving various benchmark problems to evaluate its performance. The results demonstrated that the algorithm dividing the swarm into three sub-swarms for each object performs better than using only one swarm for all three objectives

Keyword : Open Shop; Multi-objective