On the pheromone update rules of ant colony optimization approaches for the job shop scheduling problem

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Abstract: Ant Colony Optimization (ACO) system is an intelligent multi-agent system of the interacting artificial ants to solve the combinatorial optimization problems. Applying ACO approach in the typical NP-hard problem like job shop scheduling (JSS) problem is still an impressive and attractive challenge with the community. This paper proposes two improvements of ACO algorithm based on the convergence property of pheromone trails. Our improvements are better in both terms of accuracy and running time than the state-of-the-art Max-Min ant system by the simulation with the standard data sets. ?? 2008 Springer Berlin Heidelberg.

Author Keywords: ACO convergence; Ant colony optimization algorithm; Job shop scheduling problem

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