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A dynamic scheduling method for self-organized AGVs in production logistics systems

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Abstract

Automated guided vehicles (AGV) with different carrying capacities are required for complex material handling in smart factories, which causes resource waste. To minimize the delay and reduce the cost of logistics systems, this paper proposes a dynamic scheduling method for self-organized AGVs (SAGV) in production logistics systems, where multiple identical SAGVs can communicate and freely combine with others as one vehicle to perform one task. Using an improved gene expression programming to learning dynamic dispatching rules, experimental results show that dispatching rules learned are efficient and the cost of logistic systems by using SAGVs is significantly reduced.

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