

Deriving an Optimal Dwell Point of the Storage/Retrieval Machine in an Automated Storage/Retrieval System

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This paper deals with the selection of the dwell point of the storage/retrieval(S/R)machine when it becomes idle in an automated storage/retrieval system(AS/RS).

Two existing models for dynamic control of the S/R machine are adopted for the analysis and represented as the single facility location problem with Tchebyshev distance and the Tchebyshev minimax facility location problem respectively. Algorithms are presented utilizing the location theory and minimax theory. Through computational tests, the algorithms are shown to be substantially better than existing linear programming formulation approach and quite suitable for real-world applications.