

FMS의 의사결정 모델을 이용한 FMS 운영에 관한 시뮬레이션 연구

(A Simulation Study on FMS Operation Using FMS
Decision-Making Models)

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Abstract

Flexible Manufacturing System (FMS) is an integrated, computer controlled complex of automated material handling devices and numerically controlled machine tools that can simultaneously process medium-sized volumes of a variety of part types.

This paper discusses planning problems that can be solved for efficient use of an FMS and present an integrated decision support system for FMS production planning and scheduling problems.

FMSDS (Flexible Manufacturing Systems Decision Support System) consists of data handling modules, part selection module, loading module, load adjusting module, scheduling module and simulation module etc.

This paper presents the solution methodology of each subproblems and integrated interfaces between subproblems using hierarchical approaches and loop controls considering the relationships between subproblems.

Six alternative models are made considering 3 loading objectives and 2 production order processing strategies.

Performance comparisons among alternatives are done using non-terminating simulation techniques.