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Abstract
Most studies of Drum-Buffer-Rope(DBR) scheduling focus on the problems of static production systems. This research studies a dynamic production system with random processing time of work centers. The DBR approach is applied to the dynamic production system, and the rope schedule is immediately adjusted by monitoring the capacity constraint resource (CCR) . Four different scheduling methods and five dispatching rules are proposed, and simulation models are established to evaluate their performances.
The results show that the adjusted DBR approach by monitoring CCR has lower mean flow time than other three scheduling methods. However, mean tardiness and tardy percentage are not significantly different. EDD dispatching rule has lower mean tardiness and tardy percentage than other four dispatching rules.
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