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Batching multiple products on parallel heterogeneous machines in a closed job shop. (English) [Zbl 0942.90507](#)

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Summary: In a closed job shop manufacturing environment, an effective batching of multiple products on heterogeneous machines is a highly complex task. This study investigates such batching decisions with the objective of minimizing the total flow time. We formulate the problem as a nonlinear mixed-integer program and test the impacts on flow time performances by factors such as the demand for each product, the number of parallel heterogeneous machines, the number of products, set-up times and the processing flexibility of each machine. From the experimental results, various insights into the problem, guidelines for batching-related decisions, and managerial implications are obtained.

MSC:

[90B30](#) Production models

Cited in **1** Document

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