

عنوان مقاله:

An Efficient Bi-Objective Genetic Algorithm for the Single Batch- Processing Machine Scheduling Problem with Sequence-Dependent Family Setup Time and Non-Identical Job Sizes

محل انتشار:

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خلاصه مقاله:

This paper considers the problem of minimizing make-span and maximum tardiness simultaneously for scheduling jobs under non-identical job sizes, dynamic job arrivals, incompatible job families, and sequence-dependent family setup time on the single batch- processor, where split size of jobs is allowed between batches. At first, a new Mixed Integer Linear Programming (MILP) model is proposed for this problem; then, it is solved by constraint method. Since this problem is NP-hard, a bi-objective genetic algorithm (BOGA) is offered for real-sized problems. The efficiency of the proposed BOGA is evaluated to be compared with many test problems by -constraint method based on performance measures. The results show that the proposed BOGA is found to be more efficient and faster than the -constraint method in generating Pareto fronts in most cases.

کلمات کلیدی:

Batch Processing; Incompatible Job Family; Release Date; Split Job Size; Family Setup Time

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