

工程与应用

微粒群算法在印染企业车间调度中的研究应用

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摘要 在对某印染企业的生产状况进行了深入调研和分析的基础上, 对流水车间调度、混合流水车间调度和作业车间调度进行了对比研究。同时对微粒群算法进行了深入研究, 并根据实际情况对算法进行了部分改动和改进, 使之能适用于离散的生产调度问题。最后将改进后的微粒群算法应用到花布印染企业的车间调度中, 对加工任务进行优化调度, 并实现甘特图的动态生成。论文的结果可直接应用于企业流水车间调度和作业车间调度, 具有一定的实际应用价值。

关键词 [微粒群算法](#) [车间调度](#) [甘特图](#)

分类号

Study and application of PSO algorithm on shop scheduling at printing and dyeing enterprises

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Abstract

In this paper, the production status of some printing and dyeing corporation is researched and analyzed. Based on that, flow shop scheduling, hybrid flow shop scheduling and job shop scheduling are studied contrastively. At the same time, particle swarm optimization algorithm is researched in detail. In order to let it apply to discrete shop scheduling problem, PSO algorithm is modified and improved. At last, the improved PSO algorithm is applied to shop scheduling at printing and dyeing industries. Meanwhile, the dynamic generation of gantt chart is implemented. The result can be applied to flow shop scheduling and job shop scheduling problem directly.

Key words [particle swarm optimization algorithm](#) [shop scheduling](#) [Gantt chart](#)

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