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论文

单机排序中关于完工前总损失的应急管理

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摘要:

该文研究了扰动环境下的关于完工前总损失的单机排序问题, 也就是这样一个问题: 在时刻 t , 一部分工件已经完工了, 一个扰动发生了, 在这种情形下, 原来的排序已经不是最优排序甚至是不可行排序了. 因此就需要对未完成的工件找一个新的排序. 作者采用的方法与大多数重新排序问题所不同的是: 模型里包含了原始排序与新排序之间的偏差所造成的损失. 作者主要研究了在原始排序中加权最短加工时间规则(WSPT)是最优排序的情形. 根据扰动的类型, 应急管理策略的类型以及目标函数, 研究了几个问题. 对于每个问题, 作者找到了最优排序或者得出了一些重要结果.

关键词: 机器排序 应急管理 WSPT规则 总损失

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Disruption Management for Single Machine Scheduling on Total Loss before Completion

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Abstract:

This article addresses the problem of single machine scheduling on total loss before completion that arises under disruption environment. Such a problem deals with a situation when, at time t, a disruption unexpectedly occurs after a subset of jobs processed. In such cases continuing with the original schedule is likely to be suboptimal and may be even infeasible. Therefore, a new schedule is needed to process the uncompleted jobs. The approach taken here differs from most rescheduling analysis in that the loss associated with the deviation between
the original and the new schedule is included in the model. The authors concentrate on the case in which the weighted shortest processing time (WSPT) rule is optimal for the original problem. According to type of disruption, type of disruption management policy, and objective function, several problems are studied in the paper. In each problem, the authors either find the optimal schedule or obtain some important results.

Keywords: Machine rescheduling Disruption management WSPT rule Total loss

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