等效平行機台考量之多階段流程型排程問題探討

蔡碧芳、駱景堯

E-mail: 9221539@mail.dyu.edu.tw

摘 要

在生產系統中，每一製程大多由一台以上同種類型的機器設備所組成，因此如何安排製程中各機台加工各項工作的排程，以提昇產出速率與機器的使用率。此類型問題即排程理論中所謂的等效平行機台排程問題。 有關平行機器排程，過去的研究常假設無整備時間或將整備時間納入處理作業時間中而未考慮，本研究欲探討具相依整備時間等效平行機台之流程型排程問題，在以總流程時間最小化之目標下，首先以數學規劃法建構此一問題之確切解模式，隨後因確切解模式之求解耗時，因此本研究建構模擬退火法(SA)為主之啟發式演算法(SATS)，以快速尋求到一近似解。 為了測試演算法之穩健性，本研究除了在參數分析部分找到最適合之參數組合外，並分別測試演算法中不同起始解之演算績效及SATS演算法及傳統模擬退火法(SA)及禁忌搜尋法(TS)之求解績效差異。研究結果顯示，本研究所提出之SATS演算法，能夠快速的尋找到一近似解，具有不錯之求解效能。

關鍵詞 : 流程型排程 ; 等效平行機台 ; 相依整備時間 ; 總流程時間 ; 模擬退火法

目錄

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