結合模擬退火法與禁忌搜尋法在流程式生產排程之應用

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摘 要

在流程工廠裡，當我們對所有的工作進行排程時，會有N!個可行解，而這樣的問題為一NP-COMPLETE的問題，當工作數目和機器數目增大時，求解的複雜度變的相當高，因此要在有限時間內找到一個最佳解幾乎不太可能，故有許多學者以啟發式演算法來求得一近似解。 本研究發展結合模擬退火法（SIMULATED ANNEALING，SA）與禁忌搜尋法（TABU SEARCH，TS）求解以總完工時間（MAKESPAN）最小化為目標的流程式生產排程問題。演算法中以模擬退火法為主，加入「禁忌名單」及「強化和多樣化策略」二機制來改進模擬退火法之缺點，使得解品質能夠進一步提昇。 研究結果發現，本研究所提出之演算法，在求解流程式生產排程問題時，能夠快速的尋找到一近似解，具有不錯之求解效能。

關鍵詞 : 流程式生產排程、模擬退火法、禁忌搜尋法、啟發式演算法、總完工時間。

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