不規則物件排列問題解法之研究

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摘 要

不規則物件的切割與排列問題在工業界是很常見的的一個問題，諸如製鞋業、皮革業、鋼鐵業、成衣業等，雖各個工業的材料成本不相同，不過其物料成本均在總成本中佔有相當大的比例。而找到一個有效的排列方法以降低生產成本獲得較高利潤是各企業極力追求的目標之一。 本研究主要目的在於建立一模擬退火演算模式來求解不規則物件的排列問題，配合三個有效的移步法則，並依據各物件的不同特性與物料原片是否為一均質規則原片等相關問題，提出傳統型不規則物件排列與非均質及不規則外型原片的排列兩種不同的解題模式，在合適的起始溫度、馬可夫鍊、冷卻率與目標函數值的設定下，以求在最短的時間內找到在最理想的排列結果，希望本研究所建構之模擬退火演算模式，可提供工業界處理此類問題的參考，達到節省營運成本之企業目標。

關鍵詞 : 不規則物件排列問題、模擬退火法、非均質原片。

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