# 有中心孔多孔性介質應用於平板噴射熱傳增強的實驗探討


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**摘 要**

衝擊噴射在工業界是一個很重要的冷卻熱傳技術，如工業乾燥、金屬與玻璃退火、鑄鐵時的二次冷卻、雷射冷卻與電漿切割冷卻、氣渦輪葉片冷卻、微電子散熱。衝擊噴柱的熱傳增強技術，目前在學術界是正在積極探討的問題。　　本研究採用暫態液晶熱傳技術，探討衝擊熱傳目標平板上加裝多孔材料在無挖中心孔與有挖中心孔時，與平板噴射基本情形比較的熱傳增強效果。本研究先參考平板衝擊熱傳相關實驗文獻，在相同的實驗條件下比對，驗證實驗系統是可行的，以此系統再進行平板上加裝多孔材料的衝擊熱傳的實驗。　　實驗結果顯示加裝有中心孔的多孔材料可有效提升衝擊噴射之熱傳效果，加裝無中心孔的多孔介質對熱傳增強反而有反效果。此外，多孔介質挖孔幾何對熱傳性能有決定性的影響，最佳的中心孔幾何是讓流體可有效的穿入多介質進行熱傳。



關鍵詞 : 衝擊熱傳，熱傳增強，多孔材料，中心孔


**目錄**



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