PEMFC氣體擴散層質傳之研究

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摘 要

質子交換膜燃料電池中氣體擴散層的質傳對燃料電池性能影響甚大，若反應氣體的質傳效果不佳，則燃料電池的性能必然無法提升；燃料電池運轉時，反應氣體向觸媒層方向傳遞，而觸媒層電化學反應的生成物則沿相反方向離開觸媒層，致使燃料電池的質傳現象甚為複雜。 本研究以數值模擬方法，探討質子交換膜燃料電池中，氣體擴散層的質量傳遞情形，並進行實驗量測，藉以檢視數值模擬結果與氣體擴散層實驗結果是否相符。此外，本研究亦探討氣體擴散層的有效擴散係數D^eff與統體擴散係數D之間的關係。

關鍵詞 : 質子交換膜燃料電池、氣體擴散層、質量傳遞

目錄

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