

直流無刷馬達驅動器設計與製作

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摘要

本研究提出直流無刷馬達(PMBLDCM)之驅動器設計方法及其負載測試，其架構包括一組將交流電轉成直流電的橋式整流電路及提供馬達正常運轉之換流器，經由PWM訊號調變技術進行轉速控制。控制核心採用單晶片，並搭配類比與數位控制，調整PWM模組，進行直流無刷馬達驅動模組設計的整合。本驅動器已成功應用於750W的工業用PMBLDCM，馬達在動力計平台上進行測試，於額定轉速4200rpm下進行負載試驗及波形量測，由量測的波形顯示此馬達驅動系統之優異性。

關鍵詞：永磁直流無刷馬達、換流器、馬達驅動器

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