

# 機車電子式冷卻恆溫控制系統之研究

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## 摘要

引擎汽缸溫度是影響引擎壽命、油耗以及排放污染重要的相關參數。而保持引擎工作溫度全都依賴冷卻系統的散熱量，研究中採用電動水泵和電動球閥，分別控制水箱散熱器與小循環之間的流量來達到恆溫控制，並採用MATLABSimulink Real-Time Windows Target與MATLABFuzzy Logic Toolbox，在電子式冷卻系統控制器在控制法則上則運用模糊邏輯，為了可以證明控制器與控制法則的可行性，所以利用ADVISOR冷卻系統模型進行分析，最終模擬結果與實車測試結果最多可以改善油耗分別為6.07 % 和5.01 %。

關鍵詞：恆溫控制、散熱量、散熱器、控制器、水泵、邏輯

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