引擎爆震偵測方法之評估與影響爆震變因之探討

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摘 要

引擎爆震攸關引擎的性能與壽命，而引擎爆震偵測方法直接影響引擎爆震強度的計算，進而左右引擎爆震判別之正確性，往往文獻已提出許多種引擎偵測方法，然均未分析何種方法較為適用，亦未比較各種引擎爆震偵測方法間的相關性，本文將對七種引擎爆震偵測方法進行評估，以了解這些方法間的相關性，並找出最適當的引擎爆震偵測方法。 研究結果顯示，使用壓力傳感器量測爆震訊號的方式中，汽缸壓力波動平方值積分方法具有最高之敏感度，為壓力傳感器的偵測方法中，最適用的引擎爆震偵測的方法，而使用加速規量測的爆震訊號的方式中，加速規讀數絕對值積分方法與壓力波動各偵測方法間具有最高相關性，為加速規的偵測方法中，最適用的引擎爆震偵測方法，故基於經濟性與方便性的考量，以加速規固定於引擎體做為爆震感知器，應以所偵測到的加速規讀數絕對值積分做為爆震強度之判斷依據，較為適當。

關鍵詞 : 0

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