

電流變液擠流划動軸頸軸承之研究

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摘要

本研究主要是在探討電流變液在外加電場作用下，控制流體之在軸頸軸承的擠壓流動特性。首先，電流變液以雙黏度流體模型，推導軸頸軸承在週期激振下之承載力與消耗扭矩。其次，經由我們自行設計製作的實驗測試系統，在改變外加電場與旋轉軸之轉速兩實驗參數進行研究，量測並整理自行調配電流變液在軸頸軸承間的基本的機械參數特性。模擬與實驗結果趨勢上具有相當一致性，但電流變液材料性質之不確定性造成可能之結果差異。

關鍵詞：電流變液、擠壓流動、軸頸軸承

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