# 車輛撞擊曲線之研究


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**摘 要**

車輛撞擊曲線是碰撞測試中一個可以代表車輛撞擊運動過程 的重要量測數據，由反應車輛碰撞過程的撞擊曲線著手探討，除 可清楚了解車輛在撞擊過程中的動態反應與能量變化外，並可研 判乘員在撞擊過程中的損傷程度。本論文針對車輛的正面及側面 撞擊曲線進行研究，分析車輛撞擊測試中所量測的撞擊曲線特性 ，包含曲線形狀、振幅及時間歷程等參數，來探討撞擊曲線之形 狀趨勢對乘員損傷程度的影響，進而提出可有效減少乘員損傷的 撞擊曲線趨勢。本論文並將撞擊曲線之分析應用在車輛抗撞結構 設計上，包括車頭保險桿、前橫樑之抗正撞結構設計與車門防撞 鋼樑的抗側撞結構設計，由模擬所得到的撞擊曲線形狀趨勢進行 評估，以了解所設計抗撞結構是否能有效的降低乘員之損傷。撞 擊曲線形狀趨勢之研究可提供應用於車輛安全性評估與抗撞設計 的參考。



關鍵詞 : 撞擊曲線，抗撞結構，碰撞測試，損傷分析，LS-DYNA


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