應用類神經網路及模糊控制與雷達系統

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摘 要

在現今的航空及國防科技，由於目標物的性能，數目及變異性等皆較以往複雜，為因應日益復雜的追蹤環境，追蹤系統的性能必須同步提昇。在追蹤系統上，追蹤多個目標時比較複雜，也會常常造成感測器判斷上的錯誤，或者造成追蹤上極大的誤差，本研究應用競爭性類神經網路(Competitive Hopfield Neural Network)及模糊控制運算法於追蹤系統，本研究擷取其特殊的運算架構，並結合適應性預估器追蹤架構，以達到最佳的追蹤效果。當感測器偵測到訊號之後，提供目標運動的資訊供追蹤系統參考判斷用，進而判別出正確的感測資料與目標軌跡關係。應用本研究所提之追蹤架構，將可得到較佳的追蹤結果。本論文以多個追蹤方程式來做比對，驗證此追蹤系統的效率確有提升，電腦模擬結果顯示，此法可以成功而精確地追蹤多目標。

關鍵詞 : 競爭性類、目標物、應用類、方程式、感測器

目錄

封面內頁 簽名頁 授權書iii 中文摘要iv 英文摘要v 謝誌vi 目錄vii 圖目錄ix 表目錄x 第一章　緒論1 1.1前言1 1.2研究動機2 1.3研究背景及目的2 1.4論文架構4 第二章　系統模型與卡門濾波器5 2.1前言5 2.2系統模式定義6 2.3卡門濾波器7 2.4擴展式卡門濾波器10 第三章　資料相關結合技術14 3.1前言14 3.2追蹤掃瞄區域預測技術14 3.3資料相關結合技術17 3.4模糊理論21 第四章　變速度估測24 4.1前言24 4.2變速度檢測與適應性程序25 第五章　模擬結果與分析28 5.1前言28 5.2模擬結果分析28 第六章　結論36 參考文獻37

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