

以影像處理技術為基礎之 X-Y 平台軌跡追蹤

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摘要

本文利用影像處理方法來做 X-Y 平台上的軌跡追蹤。使用 MATLAB 軟體模擬影像中物體的輪廓軌跡，影像處理的過程包括二值化、邊緣偵測、膨脹、侵蝕及輪廓掃描。在 X-Y 平台上結合圖形監控軟體 LabVIEW 和可程式邏輯控制器 PLC 來撰寫人機界面進行遠端監控。最後，輪廓追蹤實驗結果證實所提的設計方法確實能應用在實際上。

關鍵字：二值化;邊緣偵測;膨脹;侵蝕;遠端監控

The Trajectory Tracking of an X-Y Table by Using the Image Processing Methods

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Abstract

In this paper, a method of trajectory tracking of the X-Y table by using the image processing is presented. The MATLAB software is adopted to simulate the contour track of the object in the image. The image processing operation includes binarization, edge detection, dilation, erosion and contour scanning. The X-Y table of remote monitoring that integrates graphic monitoring software, LabVIEW, and PLC to construct human-machine interfaces. At last, some experimental results of the contour tracking demonstrate the validity of the proposed design for practical applications.

Key words : Binarization;Edge detection;Dilation;Erosion;

Remote monitoring