# An Edge-based Registration Method for Locating Defects on PCB Films

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## Abstract

To increase flaw detection rate and decrease false alarm rate, this paper proposed an edge-based image comparison method to detect flaws on PCB films. The detection procedures can be best described as follows: First, histogram equalization is applied to the original image to resolve the problems caused by the variances in illumination. Second, the spatial relationship between test image and golden image is obtained using image registration. Third, transform golden image to register with tested image using spatial coordinate transformation. Finally, subtract golden image from test image to show candidate defects on the result image. The experiment results show that it takes 0.123 second on average for the developed film inspection system to inspect a 780 X 582 image.

Keyword：Golden Template Matching, Image Registration, Feature Matching, Flaw Detection