

CIRCULAR DISCONTINUITIES DETECTION IN WELDED JOINTS USING CIRCULAR HOUGH TRANSFORM

Abstract

Conventional radiography is one of the common non-destructive testing which employs manual image interpretation. The interpretation is very subjective and depends much on the inspector experience and working conditions. It is therefore useful to have pattern recognition system in order to assist human interpreter in evaluating the quality of the radiographed sample, especially radiographic image of welded joint. This paper describes a system to detect circular discontinuities that are present in the joints. The system utilizes together two different algorithms, which are separability filter to identify the best object candidate and Circular Hough Transform to detect the presence of circular shape. The result of the experiment shows a promising output in recognition of circular discontinuities in a radiographic image. This is based on 81.82-100% of radiography film with successful circular detection by using template movement of 10 pixels

Author Keywords

Algorithm; Circular Hough Transform; Non-destructive testing; Separability filter; Welded joints