

Thresholding Techniques and their Performance Evaluation for Weld Defect Detection in Radiographic Testing

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Abstract:

In nondestructive testing by radiography, a perfect knowledge of the weld defect shape is an essential step to appreciate the quality of the weld and make decision on its acceptability or rejection. Because of the complex nature of the considered images, and in order that the detected defect region represents the most accurately possible the real defect, the choice of thresholding methods must be done judiciously. In this paper, performance criteria are used to conduct a comparative study of thresholding methods based on gray level histogram, 2D histogram and locally adaptive approach for weld defect detection in radiographic images.

Keywords: 1D and 2D histogram, locally adaptive approach, performance criteria, radiographic image, thresholding, weld defect.