Abstract

One of the most challenging scientific industrial problems in recent years is automatic defect
detection and characterization. Automatic defect detection can replace human operators who locate and identify defects. Detection of defects in the steam generating tubes through periodic in-service inspection is one of the most significant issues of the fast breeder reactors. Among various pipeline inspection technologies, Magnetic Flux Leakage (MFL) Non Destructive inspection is the most prevalent and perfect one. The image of the pipeline is obtained by MFL technique. The obtained image is undergone preprocessing. Then defect region is identified and detected by segmentation (K-means and Thresholding) techniques. The main aspire of this paper is to characterize the defects. A simple and efficient algorithm was developed to characterize the rectangular notch and flat bottom hole defects in MFL image. The length and width of the defect were obtained using the characterization algorithm.

References

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- Vit Setnicka, Rudolf Zubal, Mojmir Kollar, Sensing, scanning and Data Acquisition Tools for MFL Testing.

Index Terms

Computer Science

Image Processing
Characterization of Defects in Magnetic Flux Leakage Images

Keywords
Characterization  K-means Segmentation  Magnetic Flux Leakage  Thresholding.