

# Automatic Detection and Features Computation of Weld Defects for Radiographic Inspection

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**Abstract :** In the present paper a part of an automated vision system is introduced. It allows an assessment and features computation of weld defects on digital x-rays images. The vision system contain several steps, the primordial ones are segmentation and feature computation. The segmentation is assured by using a powerful implicit active contour called Local Binary Fitting LBF. In addition the curve is represented implicitly via binary level set function. Such representation has many advantages over the others ones especially in our context. Weld defect features are computed from the segmentation result (final binary level set). We have computed several features; they are ranked in two categories: Geometric features and Statistic features. Such features are very useful in the classification of weld defects and consequently in the radiographic inspection. To validate the implemented algorithm, experiment results on three different images are presented in this paper.

**Keywords :** Radiographic inspection, image segmentation, LBF model, Features computation.