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Detection of defects in weld radiograph imagesby using the Gradient Vector Flow active contour

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Abstract : In this paper we use the active contour gradient vector flow models for edge detection and segmentation of weld radiographic defects. These models are widely used in many applications, including edge, shape modeling, segmentation and motion tracking. Active contour is a method which deforms a closed contour to the boundary of an object in an image. This deformation is made under the influence of internal forces, image forces and external constraint forces. Gradient Vector Flow (GVF) is an external force for active contour model which replaces the image force.We have chosen this model among many other models of active contours because this one gives a best convergence to concave boundaries compared with the traditional snake.

Keywords : Active contour models, Edge detection, gradient vector flow, weld radiographic defects