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Maximum Likelihood Curves for Multiple Objects Extraction: Application to Radiographic Inspection for Weld Defects Detection

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Abstract: This paper presents an adaptive probabilistic region-based deformable model using an explicit representation that aims to extract automatically defects from a radiographic film. To deal with the height computation cost of such model, an adaptive polygonal representation is used and the search space for the greedy-based model evolution is reduced. Furthermore, we adapt this explicit model to handle topological changes in presence of multiple defects.

Keywords : Explicit deformable model, adaptive contour representation, Maximum likelihood criterion