

# **Merging discrepancy measures for region-based segmentation results evaluation and comparison: Application to thresholded weld defect radiographic images**

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**Abstract :** This paper presents a new method for evaluating and comparing image segmentation results. This method consists of an association of measures that have the purpose to compute, in the sense of segmentation evaluation, the difference between two regions, one extracted from an ideal segmentation map and the same region obtained with a segmentation algorithm. Those measures take into account many aspects of the miss-segmented pixels as connectivity, compactness, location and their influence on the segmentation result. The new measure which rates the overall segmentation results, is easier to use comparatively to several measures, especially for a machine or an inexperienced user.

**Keywords :** Image segmentation evaluation, Discrepancy measures, radiographic images