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# Performance of some Variational Implicit Deformable Models on Segmenting Optical Microscopy Images

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**Abstract :** Industrial micrographs are used to evaluate a steel or alloys. This assessment consists of visualizing and describing the basic element (at the nanoscale) constituting the material. The information provided by the micrographic images needs to be highlighted by image processing methods. In this paper the performance of some region-based variational models are presented. Such study allows to choose best models that give them more accuracy segmentation in less processing time.

**Keywords :** Material microstructures, Microscopy images, segmentation, deformable models, region-based active contours