The Bayesian formulation for radiographic imagesegmentation of welding defect

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Abstract: In this paper, we propose to use the method of piecewise constant level set (biphasic and multiphase) with the Mumford-Shah model. For image segmentation, the Mumford-Shah model needs to find the regions and the constant values inside the regions for the segmentation. For this purpose, we need to use a variational approach generally used in image segmentation which allow the extraction of the regional information (mean and variance) in an adaptive manner. Finally, we validate the proposed models by numerical results for radiographic imagesegmentation.

Keywords: Level set, radiography image segmentation, Bayesian formulation