

Inverse problem resolution using sparse regularization method based on L_1 Norm. Application to X-rays tomographic reconstruction images

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Abstract:

In this paper, a sparse regularization method in an orthogonal basis is studied and applied to X-rays tomographic reconstruction 2D images. This method is based on total variation algorithm associated to L_1 norm. The inverse problem can therefore be regularized by using primal dual formulation based on proximal functions. We applied this method to non-destructive evaluation of material in the case of 2D reconstruction of X-rays tomographic images containing real defects

Keywords : radiography, X Ray, L_1 norm, Tomography