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## Inverse problem resolution using sparse regularization method based on L<sub>1</sub> Norm. Application to X-rays tomographic reconstruction images

## Aicha ALLAG, Redouane DRAI, T. BOUTEKDJIRT

**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 L1 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, L1 norm, Tomography