Abstract

Noise removal from magnetic resonance images is important for further processing and visual analysis. Bilateral filter is known for its effective performance in edge-preserved image denoising. Here, an iterative bilateral filter is proposed for filtering the Rician noise in the magnitude magnetic resonance images. It improves the denoising efficiency. It also preserves the fine structures of the image. It also reduces the bias due to Rician noise. Thus we can preserve the quality of image. The quantitative analysis based on the standard metrics like peak signal-to-noise ratio and mean structural similarity index matrix. It shows the proposed method which performs better than the other recently proposed denoising methods for MRI.

References

- Manjón, J. V., Carbonell-Caballero, J., Lull, J. J., García-Martí, G., Martí-Bonmatí, L.,

Index Terms

Computer Science
Image Processing

Keywords
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