

Subjective versus Objective Assessment for Magnetic Resonance (MR) Images

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Abstract : Magnetic Resonance Imaging (MRI) is one of the most important medical imaging modality. Subjective assessment of the image quality is regarded as the gold standard to evaluate MR images. In this study, a database of 210 MR images which contains ten reference images and 200 distorted images is presented. The reference images were distorted with four types of distortions: Rician Noise, Gaussian White Noise, Gaussian Blur and DCT compression. The 210 images were assessed by ten subjects. The subjective scores were presented in Difference Mean Opinion Score (DMOS). The DMOS values were compared with four FR-IQA metrics. We have used Pearson Linear Coefficient (PLCC) and Spearman Rank Order Correlation Coefficient (SROCC) to validate the DMOS values. The high correlation values of PLCC and SROCC shows that the DMOS values are close to the objective FR-IQA metrics.

Keywords : medical resonance (MR) images, difference mean opinion score (DMOS), full reference image quality assessment (FR-IQA)

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