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# A CRITERION OF STILL IMAGE QUALITY ASSESSMENT IN SPATIAL DOMAIN USING STRUCTURAL AND BOUNDARY CORRELATION BASED APPROACH

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**Abstract**

Image quality metrics have been widely used in imaging systems to maintain and improve the quality of images being processed and transmitted. A new objective image quality index is proposed, which is easy to calculate and applicable to various image processing applications. Instead of using traditional error summation methods, the proposed index is designed as a combination of three factors: correlation, contrast difference and mean absolute error. In this, local image statistics are used to define a similarity between input and enhanced images. Although the new index is mathematically defined and no human visual system model is explicitly employed, our experiments on various image distortion types indicate that it performs significantly better than the widely used distortion metric mean squared error and peak signal-to-noise ratio.

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**Keywords:** Image quality measurement, mean absolute error (MAE), Structural similarity index metric (SSIM), peak signal-to-noise ratio (PSNR), mean squared error (MSE)