

COMPARISON OF JPEG PERFORMANCES USING REGULAR AND MODIFIED QUANTIZATION TABLES

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Abstract: *The JPEG image compression standard is based on the Discrete Cosine Transform (DCT) and coefficient quantization. In this paper we'll discuss only grayscale image compression, and we'll only mention the case of color images. We'll also suppose that the test images are quadratic (256x256 pixels) and each pixel is represented using 8 bits (256 shades of gray). Compression starts by dividing the digital image into 8x8 blocks, and further operations are performed on these 8x8 blocks. The contribution of this paper is that different quantization matrices are used to determine the measure of degradation. In the end, after reconstruction, the degradation is evaluated using the most common measures: the Peak Signal to Noise Ratio (PSNR).*

Keywords: *digital image compression, discrete cosine transform, quantization, peak signal-to-noise ratio*