Audio Compression using Multiple Transformation Techniques

Abstract

The paper presents a comparative study of audio compression using multiple transformation techniques. Audio compression with different transform techniques like Discrete Cosine Transform, Wavelet Transform, Wavelet Packet Transform (W. P. T) & Cosine Packet Transform is analyzed and compression ratio for each of the transformation techniques is obtained. Mean Compression ratio is calculated for all of the techniques and compared. Performance measures like signal to noise ratio (SNR), normalized root mean square error (NRMSE), retained signal energy (RSE) are also calculated and compared for each transform technique. Transform based compressed signals are encoded with encoding techniques like Run-length Encoding (R. L. E) and Mu-Law Encoding to reduce the redundancies. From the comparison it is clear that Discrete wavelet transform gives better compression ratio of about 27. 8593 compared with the other three transforms. Mean SNR value is minimum for DCT 29. 2830, and comparatively higher mean SNR value 43. 4037 for CPT.

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**Index Terms**

Computer Science  
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**Keywords**

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