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Abstract

In this paper properties of number theoretic transforms are investigated and it is found that they can be used to compress the regular image effectively. NTT variants namely Fermat and Mersenne transforms are applied on test images of size 16x16 and the results are analyzed and a compression scheme is developed. The algorithm is implemented in MATLAB and results are analyzed and compared with DCT in terms of total number of zero coefficients and total number of pixels in error when inverse transform is applied. The study shows that the transform is error free and can compress regular data effectively. Further investigations on these transforms are to be carried out and algorithms need to be developed to compress other images as well in order to achieve lossless compression.

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