Abstract

In recent years there has been an astronomical increase in the usage of computers for a variety of tasks. With the advent of digital cameras, one of the most common uses has been the storage, manipulation, and transfer of digital images. The files that comprise these images, however, can be quite large and can quickly take up precious memory space on the computer’s
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hard drive. In multimedia application, most of the images are in color. And color images contain lot of data redundancy and require a large amount of storage space. In this work, we are presenting the performance of different wavelets using SPIHT[1] algorithm for compressing color image. In this R, G and B component of color image are converted to YCbCr before wavelet transform is applied. Y is luminance component; Cb and Cr are chrominance components of the image. Lena color image is taken for analysis purpose. Image is compressed for different bits per pixel by changing level of wavelet decomposition. Matlab software is used for simulation. Results are analyzed using PSNR and HVS property. Graphs are plotted to show the variation of PSNR for different bits per pixel and level of wavelet decomposition.

Reference

- K.P.Soman,K.I.Ramachandran "Insight into Wavelets from theory to practice". Prentice-Hall of India Private Limited.
- Website:http://pagesperso-orangefr/polyvalens/Clemens/ezw/ezw.html

Index Terms

Computer Science
Signal Processing
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Key words

SPIHT

Color Image

Wavelet

luminance

chrominance