Abstract

This paper presents the hybrid image watermarking algorithm for color images based on Discrete Cosine Transform (DCT) and Discrete Wavelet Transform (DWT). The cover image is converted from RGB color space into YCbCr color space, then the luminance component is partitioned into non-overlapping blocks of pixels according to the number of bits of the original watermark; and DCT conversion is performed for each block separately. After DCT transformation, the DWT is performed and vertical component, LH is taken out for embedding the watermark. Finally, the watermark information is embedded using new mathematical formula. Simulation results show that this method is imperceptible and robust with respect to a wide variety of conventional attacks like noise addition, filtering, cropping and JPEG compression.

References

- Hui-fang, L.I., Ning, C., and Xiao-ming, C., "A study on image digital watermarking..."


Index Terms

Computer Science

Signal Processing
Keywords
Color Image Watermarking  Discrete Cosine Transform  Discrete Wavelet Restoration
Transform  Parameter