Abstract

The good image quality and compression ratio of a Fractal image is degraded due to prolonging encoding time. This proposed paper presents a fast and efficient image coder used
that Curvelet Transform to the image quality of the fractal compression. For achieving the fast fractal encoding using Partitioned Iterations Functions (PIFs) is applied to the coarse scale (low pass subband) of Curvelet transformed image and a modified set partitioning in hierarchical trees (SPIHT) coding, on the remaining part of coefficients. The image details and Curvelet progressive transmission characteristics are maintained and the common encoding fidelity problem in fractal-Curvelet hybrid coders is solved. In this proposed scheme encoding and decoding time reduction is about 90%. The simulations compare with the results to the SPIHT wavelet coding.

References

- G. M. Davis “Implicit image models for fractal image compression,” presented at the SPIE Conf. on Wavelet Applications in Signal and Image Processing IV, Denver, CO, 1996.
A Fast Fractal-Curvelet Image Coder

Index Terms

Computer Science  Signal Processing

Keywords

Encoding/decoding time  Fractals
Wrapping FDCT (Fast Discrete curvelet Transform)
Wavelet transforms