Abstract

Region Based Coding (RBC) technique is significant for medical image compression and transmission. Lossless compression schemes with secure transmission play a key role in telemedicine applications that help in accurate diagnosis and research. In this paper we propose a lossless compression approach based on 3D integer wavelet transform, 3D SPIHT algorithm of MR images. The use of lifting scheme allows to generate truly lossless integer to integer wavelet transforms. The main objective of this work is rejects the noisy background and reconstructs the image portion losslessly. In this work different integer wavelet transforms will be used to compress the 3D MR images. The performance of the system has been evaluated based on bits-per-pixel and peak signal-to-noise ratio.
- Zandi A, Allen JD, Schwartz EL, and Boliek M: CREW: Compression with reversible embedded wavelets. in Proc of Data Compression Conference 1995; 212-221.

Index Terms

Computer Science Image Processing

Key words

3D SPIHT algorithm

Integer Wavelet Transform

Lossless compression

Medical Image Compression

Region Based Coding