

ABSTRACT

Medical image contains important information used by doctors to diagnose diseases. Thus, the image must always be stored and should not be eliminated. The size of the medical image can lead to difficult delivery and large storage media required. Therefore, it needs compression process to reduce the size of the medical image that does not reduce the information in the image.

The study compares the compression techniques of the Discrete Cosine Transform (DCT) and Dual-Tree Complex Wavelet Transform (DTCWT) methods based on Arithmetic Coding on medical image. The medical image is done preprocessing resize and grayscale. Further image preprocessing results are done compression with DCT based Arithmetic Coding and DTCWT-based Arithmetic Coding.

The imagery used in this research is 25 medical image consisting of chest image, pancreatic image, brain image, skin image, and body image. The test results using the DCT method get a compression ratio of 9.67, higher 0.55 points than DTCWT. As for PSNR, DTCWT gets 48.50 dB, higher 14.38 dB points than DCT which get 34.12 dB.

Keywords: Medical Image, Compression, DCT, DTCWT, Arithmetic Coding.