ABSTRACT

Theft of copyright that includes data in the form of audio, as well as images is one of the problems encountered in this era. One way to prevent theft of this copyright is the use of watermarking techniques on a work in the form of audio and images.

The research conducted an analysis of the effect of Compressive Sensing on image watermarking process. Compressive Sensing is also paired with the method of Discrete Wavelet Transform (DWT) and Discrete Cosine Transform (DCT) as its insertion method. The topic is chosen because Compressive Sensing is expected to be used as a compression method so that the output of the system can perform better than similar research that does not use CS. Software used is Matlab R2015a.

The process of analyzing the effect of Compressive Sensing consist of several steps. First, a watermark image is inserted into a host in the form of a digital image after compression using Compressive Sensing. The host image is then attacked to test its durability. The next step is to do the extraction process to take back the watermark image. The results of the experiments are then compared with results obtained from similar processes without using Compressive Sensing to determine what are the effects of Compressive Sensing on a watermarking process. The results of this study are expected to produce good quality watermarking technique determined from 4 main parameters, ie SSIM is more than -1, MOS is more than 3, BER value is at least close to 0.3, and minimum PSNR value is 25.

Keywords : Image watermarking, Compressive sensing, Discrete wavelet transform, Discrete cosine transform.