ABSTRACT

Watermarking is a technology that works to change copyright by inserting an info, mark, or message within digital content. The info is called a watermark. The watermark can be an image, sound, text, etc. A good watermarking method should have four aspects such as disagreement, resilience, and planting capacity. The purpose of the watermark is by embedding information, for communication purposes or to detect multimedia information so as not to be stolen and manipulated by irresponsible person.

Watermarking can be done with many methods. In this study, a stereo based Lifting Wavelet Transform (LWT) based content and will use the Cepstrum, Compressive Sampling (CS) method and Sync support is available within it. And the insertion process with Statistical Mean Manipulation method (SMM)

At first, the audio file is added a bit to know the position of the watermark. After that audio must go through framing process with LWT method. The purpose of framing is to gather sound into multiple frames. Then, the process of the LWT process will be transformed using the Cepstrum method. The technique of inserting watermarks to the audio host using the SMM method. Then, a controlled watermark against a noise or attack attack - another gelatin quality can be seen.

The results of the audio watermarking method that has been designed and performed in this study resulted in average SNR of 31.30656 dB, average BER 0.248136219, average ODG -1,313586, and MOS 4.166667 to 5 types of audio which is tested. In methods that can be used as a watermarked audio can withstand several attacks such as LPF, BPF, Noise, Resampling, MP3 Compression, AAC Compression, MP4 Compression, linear velocity change and delay.

Keywords: *Audio Watermarking, Compressive Sampling (CS), Sinkronisasi (Sync), Lifting Wavelet Transform (LWT), Cepstrum*