

## ABSTRACT

*The development of multimedia services and Internet technologies of today are very advanced and has provided greater convenience for its users to access and distribute information in digital format. Millions of digital information can be seen, retrieved and even manipulated independently for a specific purpose that is negative. It is certainly detrimental to the owner of such information, they need a protection against the ownership of digital data. Watermarking is one way to protect ownership of digital data by inserting or proprietary information called watermark into the digital data.*

*At the end of this task has been designed and implemented blind watermarking of digital video using Adaptive methods and detection sobel. In general, the insertion process can be described as follows. Host Video taken a few frames, then each frame are taken to determine the convolution Sobel edge pixels. From the results of convolution Sobel gradient values obtained from each frame. Watermark insertion performed on the results of Sobel gradient that has a value above the threshold. Watermark image used is the image of BW image. Each bit of pixel BW image will be row, this bits are used to modify each pixel in the frame of video hosts.*

*From the test results proved that the watermarking system by using adaptive methods and detection sobel have a high imperceptibility. Quality video watermarking with sobel detection was better than without detection sobel although the difference is only worth a little. It can be seen on the video quality used in testing that the average PSNR video watermarking using sobel detection  $\geq$  PSNR 73.3752 dB and video watermarking without using sobel detection is  $\leq$  73.3006 dB. Watermark image quality after compression of video watermarking subject to attacks. Rar, upload after re-download it, and sending emails does not change the quality at all, where the BER = 0.*

**Keywords:** *Watermarking, Video Watermarking, Adaptive Methods, Detection Sobel, BW Image*