

ABSTRACT

The rapid development of technology today has a negative impact on the confidentiality and security of information owned by users when transmitting information. Therefore we need a system that can prevent the leaking of the secret message, and one way to maintain the confidentiality of the message is to use steganography techniques. In the steganography technique the message is inserted on the carrier media first, and to make the secret message more protected, the author tries to combine steganography techniques with cryptographic techniques.

In this study, the design and analysis of SWT-based video steganography using the SVD-CS technique and the RSA cryptographic algorithm will be carried out. The steganography process itself uses *Stationery Wavelet Transform* (SWT) and *Singular Value Decomposition* (SVD) as spaces to insert information. The cryptographic process itself uses the RSA algorithm for *chipering* text-based information. For comparison, the *Compressive Sensing* (CS) compression technique will be used to reduce the size of the information.

Based on the results of the tests that have been carried out, the most optimal system parameters have been obtained, including $P = 13$, $Q = 17$, red RGB layer, LL subband, mother wavelet db3, and the 11th frame with a BER percentage of 0%, the CER percentage is 0%, and the PSNR value is 87,033 on the uncompressed system. While the achievement for the compressed system gets a BER percentage of 6.956%, a CER percentage of 34.783% and a PSNR value of 92.673 dB.

Keywords: Steganography, Cryptography, RSA, SVD, CS.