ROBUSTNESS OF THE SECRET MESSAGE IN STEGO FILE AGAINST FLIP AND ROTATION ATTACK

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This paper gives an overview of several types of active attacks against Stegofiles and the extent of the changes they cause is assessed. An algorithm for protection is proposed in extracting the secret message after the implementation of the reviewed Stego attacks.

This paper provides an algorithm to achieve robustness with the extraction of the secret message from a Stegofile after an applied attack from the ip, rotate type, or any random combination thereof. The LSB method is at the base of the algorithm, which is applied with a column modification when reading the matrix of pixels. Ratios are used, such as PSNR and embedding efficiency. To assess the results histogram and steganalytic analyses are applied as well. It is experimentally proved that the proposed method can be successfully applied to extract the secret message with these attacks, even if an LSB Inversion attack is attached to the file as well. An assessment and comparison have been made of the proposed algorithm with the help of a statistical and histogram analysis and ratios such as: efficiency coefficient and peak signal to noise ratio (PSNR).

It is experimentally proved that the proposed algorithm successfully extracts the secret message from all of the files after various types of attacks being made.