ABSTRACT

Nowadays, there are so many digressions in digital file, its because digital file is easy to duplicate, and manipulate. One of solution for those problems is steganography technique.

Many method based steganography have attempted to provide better solutions. Plus Minus 1 (PM 1) is one of embedding method in steganography. In this paper, PM 1 implement adding/substracting 1 at non zero AC quantized DCT coefficient to change original value of coefficient without affect the visual quality significantly.

In this paper, I have been designed and analyzed PM 1 steganography using genetic algorithm for digital image. Genetic Algorithm (GA) is used to optimize performance, by choosing proper PM 1 solution. Scaling factor at quantization process affect the two conflicting requirements, capacity and robustness. For balancing those conflicting requirements, scaling factor is set about 0,5. Gaussian noise was used for testing simulation channel. Maximum value of noise variance allowed for extracting without error is 10^{-7}. Any addition over that level will crash the message.

Keywords : Steganography, Image, Plus Minus 1, Genetic Algorithm, DCT, Quantization