

A Novel Image Steganography Method Based on Mandelbrot Fractal

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Abstract : The growth of censorship and pervasive monitoring on the Internet, Steganography arises as a new means of achieving secret communication. Steganography is the art and science of embedding information within electronic media used by common applications and systems. Generally, hiding information of multimedia within images will change some of their properties that may introduce few degradation or unusual characteristics. This paper presents a new image steganography approach for hiding information of multimedia (images, text, and audio) using generated Mandelbrot Fractal image as a cover. The proposed technique has been extensively tested with different images. The results show that the method is a very secure means of hiding and retrieving steganographic information. Experimental results demonstrate that an effective improvement in the values of the Peak Signal to Noise Ratio (PSNR), Mean Square Error (MSE), Normalized Cross Correlation (NCC), and Image Fidelity (IF) over the pervious techniques.

Keywords : fractal image, information hiding, Mandelbrot set fractal, steganography

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