

عنوان مقاله:

Improved image encryption using 3D logistic chaotic map and a diffusion strategy

محل انتشار:

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نویسنده:

Roohallah Fazli - Department of Electrical Engineering, Faculty of Engineering, Ardakan University Ardakan, Iran

خلاصه مقاله:

Simple and effective chaotic system combined with a diffusion technique for grayscale image encryption is introduced in this paper. First, the RGB image converted to the grayscale image to encrypt it using a pixel mixing method and then, a 3D logistic chaotic map used to form the cryptographic key sequences that performed on the ciphered image to obtain the initial encrypted image. Second, the new diffusion strategy performed on the initial ciphered image to improve the security of the image encryption. The simulation results show that the proposed method can improve the histogram uniformity of image encryption and it has superior confusion and diffusion properties compared to the other chaotic based algorithms, which strongly resist statistical attacks.

کلمات کلیدی:

image encryption; logistic; chaotic map; diffusion

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