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Abstract

The traditional chaos algorithm is based on the logistic maps and has some drawbacks. In order to enhance the security, improved chaos system is used. It is based on location Transform and pixel value alteration using random sequence. The proposed algorithm shuffles the image based on the chaotic sequence and change the value of each pixel. The key generates 16 chaotic sequences from given sequence using a secret look-up matrix. Key used for encryption improves efficiency by acting on n sub-parts of image. The Matlab is used for simulation of image encryption algorithm. The algorithm's safety is analyzed from different aspects such as histogram comparison, correlation coefficient and secret key sensitivity. The algorithm proposed is robust against statistical attack, brute force attack and plain text attack.

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Index Terms

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Keywords

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