

Comparative statistical analysis of encrypting methods using discrete chaotic systems in imaging transmission

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In this work, a comparative statistical analysis of some image encrypting methods using discrete-time chaotic systems (logistic map, Henon map, Chen system and trigonometric chaotic map) is proposed. For each one of the methods, a process of permutation, followed by a diffusion process is considered. For statistical analysis, some histograms for the encrypted and plane image are developed. For correlation, the behavior of two adjacent pixels on horizontal, vertical and diagonal directions are evaluated. Also is analyzed the performance of these algorithms for the most commons cryptographic attacks.