Abstract

In this paper, a new image encryption scheme for colour BMP images using a secret key of 120-bits is proposed. Initially, image is divided into blocks subsequently into color components. Each color component is modified by performing bitwise operation which depends on secret key used in algorithm as well as a few most significant bits of its previous and next color component. Three rounds are taken to complete this process. To make cipher more robust, a feedback mechanism is applied by modifying the used secret key after encrypting each block. The propose scheme is simple, fast and sensitive to the secret key. Due to high order of substitution, common attacks like linear and differential cryptanalysis are infeasible. The experimental results show that the proposed encryption technique is efficient and has high security features.

Reference
A Symmetric Encryption Scheme for Colour BMP Images


**Index Terms**

Computer Science  
Security
Key words

Encryption

Substitution

Secret key

Image cipher