Abstract

The science of cryptography has recently attracted significant attention, as more information is stored and transmitted in electronic form. Cryptography is the discipline of using codes to encrypt data into an unreadable format that only the targeted recipient can decrypt and read. Lossless Encryption for Color video using a Binary Key-image. The condition, the key image size is either same or less than the original images. The key image is either a bit plane or an edge map generated from another image. The lossless image encryption algorithms using this key image technique. The key is selected to the grayscale image for new/existing grayscale image and the key is selected to the color image for new/existing color image of video. The
code is done in both grayscale and color images using lossless encryption algorithms. The
execution of these algorithms is discussed against common attacks such as the plaintext
attacks, brute force attack and cipher text attacks. The security analysis and experimental
results show that the proposed algorithms can fully encrypt all types of images of video. This
makes them suitable for securing video surveillance systems, multimedia applications and
real-time applications such as mobile phone services.

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**Index Terms**

Computer Science  
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**Keywords**

Lossless Video Encryption  
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Plaintext Attack  
Brute Force Attack  
Ciphertext Attack  
Bit Plane  
Edge Map.