Abstract

It was known to us from decades it is been a factual challenge for us to transfer the privileged data specially images to transfer over a unsecured channel. In this paper we propose a novel image encryption technique using DNA interwearing based Hybridization along with chaotic maps to transfer image data over a unsecured channel. In the early stages we apply Duffing map(chaotic map) on the original image, the resultant image we obtain will be the scrambled original image, where pixel position will be scattered over the image plain. And in the next phase we apply the technique of modified DNA hybridization based on the interwearing on the resultant image. Finally encrypted using a modified hill cipher. By doing so we attain chaotic behavior(Butterfly effect with small change in initial condition leads to big change in resultant outcome) by using Duffing map and we achieve highly security with less processing by using DNA Hybridization based image encryption. The security analysis of proposed techniques has achieved satisfactory outcome and results were presented.

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Index Terms

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Keywords

Duffing map DNA NucleoBase Interwearing DNA Hybridization cipher