This paper presents an efficient chaotic image encryption cipher that is designed with the aim of improving the security and enhancing the encryption efficiency. In this paper, a chaotic tent map (CTM) is utilized to build a new digital chaotic image cryptosystem. The characteristics of CTM are very suitable for the design of encryption schemes. The security estimation of the proposed CTM-based image cryptosystem against brute-force, statistical, and differential attacks is investigated from strict cryptographic viewpoint. Experimental tests are performed with detailed analysis confirming the high security of the proposed CTM-based image cryptosystem.

References


Index Terms

Computer Science Security

Keywords