Abstract

In this article we consider the phenomena of chaos synchronization with bidirectional linear feedback coupling. The synchronized system can be used as a cryptosystem, where both the model can be considered as a transceiver. We have proposed an asymmetric cryptographic scheme for ensuring security of data being transmitted in the above manner. We utilize the recent disclosed \(AA\) public key cryptosystem which has implementation speed of \(O(n^2)\). It is an asymmetric cryptographic scheme that utilizes the factorization problem of two large primes and is implemented only by using the multiplication operation for both encryption and decryption. With this simple mathematical structure, it would have low computational requirements and would have minimal impact on the continuity of data being transferred through chaos synchronization.

References

Chaos Synchronization based Data Transmission with Asymmetric Encryption


Index Terms

Computer Science Security

Keywords

Chaotic encoding system asymmetric cryptosystem