Penguins Search Optimization Algorithm for Chaotic Synchronization System

Authors : Sofiane Bououden, Ilyes Boulkaibet

Abstract : In terms of security of the information signal, the meta-heuristic Penguins Search Optimization Algorithm (PeSOA) is applied to synchronize chaotic encryption communications in the case of sensitive dependence on initial conditions in chaotic generator oscillator. The objective of this paper is the use of the PeSOA algorithm to exploring search space with random and iterative processes for synchronization of symmetric keys in both transmission and reception. Simulation results show the effectiveness of the PeSOA algorithm in generating symmetric keys of the encryption process and synchronizing.

Keywords : meta-heuristic, PeSOA, chaotic systems, encryption, synchronization optimization

Conference Title : ICCTDSSC 2022 : International Conference on Control Theory, Deterministic and Stochastic Systems Control

Conference Location : Paris, France

Conference Dates : January 21-22, 2022