World Academy of Science, Engineering and Technology
International Journal of Physical and Mathematical Sciences
Vol:8, No:04, 2014

Evolutional Substitution Cipher on Chaotic Attractor

Authors : Adda Ali-Pacha, Naima Hadj-Said

Abstract : Nowadays, the security of information is primarily founded on the calculation of algorithms that confidentiality depend on the number of bits necessary to define a cryptographic key. In this work, we introduce a new chaotic cryptosystem that we call evolutional substitution cipher on a chaotic attractor. In this research paper, we take the Henon attractor. The evolutional substitution cipher on Henon attractor is based on the principle of monoalphabetic cipher and it associates the plaintext at a succession of real numbers calculated from the attractor equations.

Keywords : cryptography, substitution cipher, chaos theory, Henon attractor, evolutional substitution cipher
Conference Title : ICAPM 2014 : International Conference on Applied Physics and Mathematics
Conference Location : Istanbul, Türkiye
Conference Dates : April 22-23, 2014