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A novel approach on fractal Von-Koch Curve eccentricities in hill cipher techniques

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Message encryption has always been a vital role in the communication domain. To encode (or) decode a message, a number of techniques have been proposed. Some techniques were used in real-world situations. To be more specific, a lot of graph parameters are used for message encryption. This paper introduces a novel method for encrypting messages using the unique eccentricities which are derived from the cartesian product of pairs of the first Von-Koch Curve iteration. This work introduces a new way in encryption and decryption using the eccentricities of the Von-Koch Fractal Curve with self-similar and symmetric properties. By utilizing the cartesian product of iterations of this curve to generate eccentricities to enhance the encryption security. In addition to these, some more new techniques are introduced and explained with the relevant examples in two methods using symmetric key matrix to build the cryptographic robustness in the field of graph theory with fractals.

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