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Long-range correlation character Investigation of SARS-CoV-2 Genbanks

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Coronavirus Method Development Community

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ABSTRACT

The main goal of this propotoc is to use the 1D Wavelet Transform Modulus Maxima lines (WTMM) method to investigate the Long-Range Correlation (LRC) through the estimation of the the so-called Hurst exponent of isolate SARS-CoV-2 coronavirus RNA sequence, the Knucleotidic, Purine, Pyramidine, Ameno, Keto and GC DNA coding are used.

PROTOCOL CITATION

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1 1-Gathering SARS-Cov-2 Genbanks
Step 1 includes a Step case.

step case

untitled case

2 DNA Coding using the Knucleotidic, Purine, Pyrimidine, Ameno, Keto and GC methods
1) The Knucleotidic DNA coding: T=2, G=-2, A=1, C=-1
2) Purine coding A=G=1 , C=T=-1
3) Pyrimidine C=T=1, A=G=-1.
4) Ameno groupe: A=C=1, G=T=-1.
5) Keto coding G=T=1, A=C=-1.
6) GC coding G=C=1, A=T=-1.

3 Continuous Wavelet transform calculation using the complex Morelet Analyzing wavelet

S(t) is the Coded Genbank

4 Maxima of the Modulus of the Continous Wavelet Transform Calculation

5 Partition Function Calculation

6 Calculation of Spectra of exponents and Singularities Calculation

7 Long-Range Correlation character Invertigation besed on the estmated Hurst Exponent