Abstract

The code Calculates the largest Lyapunov exponent. The first version of this code was published in 2009. A function has recently been added in MATLAB named "lyapunovExponent" which is an efficient and accurate code. Advantages of this version our code is noise robustness, and automatic determination of all parameters except than dt, whereas in the Matlab built-in code for getting accurate results at least frequency(fs) and "Expansion range" should be determined by the user. The code is noise-robust because of using the method of Liu et al. (2005).

Keywords: Lyapunov Exponents, Chaos, Time Series, Direct Method, Full Automatic selection code, Autocorrelation, False nearest neighbors, MATLAB lyapunovExponent.

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