Abstract

This M-file calculates the spectrum of Lyapunov exponents with minimum RMSE neural network. It uses "5+2\*ceil(log(length(y)))-2" and "5+2\*ceil(log(length(y)))+2" for determination minimum and maximum number of hidden units(neurons) in the neural networks, respectively. The code tries five neural networks with neurons ranging from the minimum number to the maximum number of neurons and the neural network with minimum The code selects the minimum RMSE neural network to calculate the spectrum of Lyapunov exponents. The number of embedding dimension and time lag is chosen automatically based on false nearest neighbors and autocorrelation.