

Parameter Estimation of Chaotic Time Series.

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Abstract

This paper is intended to present a brief overview of the research of the Research Student in the Department of Statistics since January 2002. The study is focused on several techniques of model parameter estimation from time series in particular of time series suspected to come from deterministic systems. The study principally approaches one based on nonlinear time series analysis such as cost functions approached to noise reduction techniques *Phys. Rev. E* **83** 2 (2001) and the other on Bayesian inference in particular Markov Chain Monte Carlo techniques *Phys. Rev. E* **62** p 2 (2000). Both techniques are exemplified for the chaotic Logistic map in one dimension which is rich in chaotic behaviour. Some preliminary results are shown and further work is stated.

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