Parameter Estimation.

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Abstract

This talk is intended to present a brief overview of the work as a Research Student part of the REMIND - Faraday Partnership research project on Non-Linear signals/Grid Frequency Modelling. 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.

We study principally two approaches, one based on non-linear time series analysis such as cost functions approach related to noise reduction techniques, [*Phys. Rev. E* **83** 21 (1999)]) and the other on Bayesian inference, in particular Markov Chain Monte Carlo techniques [*Phys. Rev. E* **62** p3535 (2000)]. Both techniques are exemplify for a simplify version of the Grid Frequency model develop by Liam Clarke. The examples use synthetic grid frequency data produced by the full model version as an input for the simplify version.

Further work is stated aiming to implement a hybrid technique which will involve both approaches as well as shadowing techniques in order to estimate parameters of the grid frequency model.

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