



Contribution ID: 53

Type: not specified

On Determining the Prediction Limits of Mathematical Models for Time Series

Prediction is one of the main objectives of scientific analysis. Prediction in this sense refers to both modelling and forecasting. The determination of the limits of predictability is an important issue of both theoretical and practical relevance. In the case of modelling time series, reached a certain level in performance in either modelling or prediction, it is often important to assess whether all the information available in the data has been exploited or whether there are still margins for improvement of the tools being developed. In this paper, a new information theoretic approach is proposed to address this issue and quantify the quality of the models and/or predictions. The excellent properties of the developed indicators have been proved with the help of a systematic series of numerical tests

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