Basic Data Analysis for Time Series with R

Description: Presents modern methods to analyzing data with multiple applications in a variety of scientific fields. Written at a readily accessible level, Basic Data Analysis for Time Series with R emphasizes the mathematical importance of collaborative analysis of data used to collect increments of time or space. Balancing a theoretical and practical approach to analyzing data within the context of serial correlation, the book presents a coherent and systematic regression–based approach to model selection. The book illustrates these principles of model selection and model building through the use of information criteria, cross validation, hypothesis tests, and confidence intervals. Focusing on frequency– and time–domain and trigonometric regression as the primary themes, the book also includes modern topical coverage on Fourier series and Akaike's Information Criterion (AIC). In addition, Basic Data Analysis for Time Series with R also features:

- Real–world examples to provide readers with practical hands–on experience
- Multiple R software subroutines employed with graphical displays
- Numerous exercise sets intended to support readers understanding of the core concepts
- Specific chapters devoted to the analysis of the Wolf sunspot number data and the Vostok ice core data sets

Basic Data Analysis for Time Series with R is an ideal textbook for upper–undergraduate and beginning graduate–level courses using time series analysis as well as a useful reference for practicing statisticians and scientists.

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