TIME SERIES ANALYSIS IN ASTROPHYSICS

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The book brings together in a coherent way the results from the Time Series studies in mathematics, astronomy, geophysics and other branches of science, where periodicity, power spectra and underlying model for the observational data should be investigated. Emphasized are irregularly spaced data analysis, searching for the periodicity and the events counting, which is widely used now in the physical measurements. The computational algorithms are given for the described methods, as well as a number of model and real cases. The same data examples are used throughout the analysis to illustrate various approaches.

The book intends to a wide circle of the readers, both students and investigators.

CONTENTS

Preface

Chapter 1. Basic concepts
1.1 An introductory example
1.2 General discussion of the problem
1.3 Fourier integral
1.4 Periodic functions
1.5 Spectral analysis of stationary stochastic functions
1.6 Real processes
1.7 Two approaches to the search for the periodicity

Chapter 2. Equidistant time series
2.1 Basic relations
2.2 Sampling theorem
2.3 Statistical properties of the periodogram
2.4 Smoothing of the periodogram
2.5 Spectrum estimations with the aid of the Maximum Entropy method
2.6 Autoregression models
2.7 Variations of the solar activity
2.8 Quasar 3C 273 light curve analysis
2.9 Mutual spectral density of two processes

Chapter 3. Spectral theory of non-equidistant time series
3.1 LS_m-spectrum
3.2 Randomly spaced observations
3.3 Whitening of time series
3.4 The CLEAN algorithm
3.5 Detection of trend
3.6 Flicker-noise. Flux variability of Seyfert nuclei
3.7 Optical analogies
3.8 Some general methods of the solution of inverse problems

Chapter 4. Nonparametric research for possible periodicity
4.1 The Abbe-Lafler-Kinman statistics
4.2 Phase binning of data (Whittaker-G. Robinson's, Warner-E. Robinson's, and Stellingwerf's methods)
4.3 Methods that retain efficiency for sparse measurements (“string length”, Renson's and Pelt's)
4.4 Autocorrelation methods
4.5 Aliasing problem
4.6 A comparative study of various methods for investigation of periodicity

Chapter 5. Pulse random sequences
5.1 The Poissonian process
5.2 Spectral analysis of pulse processes
5.3 Methods based on binning of counts
5.4 Model cases
5.5 Photon counting
5.6 Dead-time effects. Signal-to-noise ratio for events counting

Afterward
Appendices
A1. Some useful sums
A2. Basic formulae with the Dirac's function
A3. Properties of sinc(x), $\phi_N(x)$ and $tr(x)$ functions
A4. Characteristics of random variables
A5. Percentage points for the ratio of maximum value of the periodogram to its mean value
A6. Percentage points for the Abbe test
A7. Numerical data

List of literature
Subject index

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Time Series Analysis. Lecture Notes for 475.726. Ross Ihaka Statistics Department University of Auckland. Obviously, not all time series that we encounter are stationary. Indeed, non-stationary series tend to be the rule rather than the exception. However, many time series are related in simple ways to series which are stationary. Two important examples of this are: Trend models: The series we observe is the sum of a deterministic trend series and a stationary noise series.