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Table of Contents

Preface

I. A Tutorial on Empirical Process Techniques for Dependent Data

Dehling / Philipp – *Empirical Process Techniques for Dependent Data*

II. Techniques for the Empirical Process of Stationary Sequences

Ango Nze / Doukhan – *Weak Dependence: Models and Applications*
Dedecker / Louhichi – *Maximal Inequalities and Empirical Central Limit Theorems*
Van de Geer – *On Hoeffding's Inequality for Dependent Random Variables and Applications*
Merlevède / Peligrad – *On the Coupling of Dependent Random Variables and Applications*
Berkes / Horváth – *Empirical Processes of Residuals*

Part III: The Empirical Process of Long-Range Dependent Processes

Koul / Surgailis – *Asymptotic Expansion of the Empirical Process of Long Memory Moving Averages*
Giraitis / Surgailis **–** *The Reduction Principle for the Empirical Process of a Long Memory Linear Process*
Arcones – *Distributional Limit Theorems for Empirical Processes Generated by Functions of a Stationary Gaussian Process*

Part IV: Empirical Spectral Process Techniques

Dahlhaus / Polonik – *Empirical Spectral Processes and Nonparametric Maximum Likelihood Estimation for Time Series*
Soulier – *Empirical Processes Techniques for the Spectral Estimation of Fractional Processes*

V: The Tail Empirical Process in Extreme Value Theory

Drees **–** *Tail Empirical Processes Under Mixing Conditions*

VI: Bootstrap Techniques

Radulović – *On the Bootstrap and Empirical Processes for Dependent Sequences*
Paparoditis – *Frequency Domain Bootstrap for Time Series*

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Empirical Process Techniques for Dependent Data

H. Dehling, *Ruhr-Universität Bochum, Germany*
T. Mikosch, *University of Copenhagen, Denmark*
M. Sørensen, *University of Copenhagen, Denmark*

Empirical process techniques for independent data have been used for many years in statistics and probability theory. The need to model the dependence structure in data sets from many different subject areas such as finance, insurance, and telecommunications has led to new developments concerning the empirical process for dependent sequences. This work gives an introduction to this new theory of empirical process techniques, which has so far been scattered widely in the statistical and probabilistic literature, and surveys the most recent developments in various related fields.

Key features:

- A thorough and comprehensive introduction to the existing theory of empirical process techniques for dependent data,
- Accessible surveys by leading experts of the most recent developments in various related fields,
- Examines empirical process techniques for dependent data, useful for studying parametric and non-parametric statistical procedures,
- Comprehensive bibliographies,
- An overview of applications in various fields related to empirical processes: e.g., spectral analysis of time series, the bootstrap for stationary sequences, extreme value theory, and the empirical process for mixing dependent observations, including the case of strong dependence.

To date this book is the only comprehensive treatment of the topic in book literature. It is an ideal introductory text that will serve as a reference or resource for classroom use in the areas of statistics, time series analysis, extreme value theory, point process theory, and applied probability theory.

Contributors: P. Ango Nze, M.A. Arcones, I. Berkes, R. Dahlhaus, J. Dedecker, H.G. Dehling, H. Drees, P. Doukhan, L. Giraitis, L. Horváth, H.L. Koul, S. Louhichi, F. Merlevède, E. Paparoditis, M. Peligrad, W. Polonik, W. Philipp, D. Radulović, D. Surgailis, P. Soulier, and S. van de Geer.

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