

PREFACE

SPECIAL SECTION ON NONPARAMETRIC APPROACH TO TIME SERIES ANALYSIS

The analysis and prediction of complex nonlinear dynamic phenomena have become central topics of the current technical endeavors in the various fields of scientific research. A series of the international symposia on Frontiers of Time Series Modeling (FTSM), which started in 2000 under the sponsorship of the Institute of Statistical Mathematics (ISM), were intended to bring together and exchange new ideas and methods for challenging the problems on the frontiers of time series modeling and related fields.

The first one (7–9 February, 2000, at ISM) was devoted to a sharply focused area of time series analysis. The Special Issue on “Nonlinear non-Gaussian models and related filtering methods” (AISM Vol. 53 No. 1, 2001) was based on the revised version of the papers submitted to the first FTSM.

The second FTSM on “Nonparametric approach to knowledge discovery” emphasized the rather broader area of nonparametric and related approaches in time series analysis such as smoothness prior approach, wavelet analysis, independent component analysis, artificial neural network, support vector machine, and so on. These methods form indispensable tools for knowledge discovery in time series data sets which show complicated characteristics of nonlinearity and nonstationarity.

This symposium was held on December 14–17, 2000, at the Nara-ken New Public Hall, Nara-city, Nara, Japan. A total of twenty-four invited talks and twenty-two poster papers were presented. This special section of AISM is based on the presentations at the symposium, and contains three papers that were submitted for publication and reviewed under the regular reviewing procedure of AISM. We would like to thank the reviewers and all of the authors of the published papers. Finally, we are grateful for support of the Editorial Board of AISM, the Editorial Office and Kluwer Academic Publishers.

Tomoyuki Higuchi and Genshiro Kitagawa, Guest Editors