

<<时间序列分析及其应用>>

图书基本信息

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前言

The goals of this book are to develop an appreciation for the richness and versatility of modern time series analysis as a tool for analyzing data, and still maintain a commitment to theoretical integrity, as exemplified by the seminal works of Brillinger (1981) and Hannan (1970) and the texts by Brockwell and Davis (1991) and Fuller (1995). The advent of more powerful computing, especially in the last three years, has provided both real data and new software that can take one considerably beyond the fitting of simple time domain models, such as have been elegantly described in the landmark work of Box and Jenkins (see Box et al., 1994). This book is designed to be useful as a text for courses in time series on several different levels and as a reference work for practitioners facing the analysis of time-correlated data in the physical, biological, and social sciences. We believe the book will be useful as a text at both the undergraduate and graduate levels. An undergraduate course can be accessible to students with a background in regression analysis and might include Sections 1.1-1.8, 2.1-2.9, and 3.1-3.8. Similar courses have been taught at the University of California (Berkeley and Davis) in the past using the earlier book on applied time series analysis by Shumway (1988). Such a course is taken by undergraduate students in mathematics, economics, and statistics and attracts graduate students from the agricultural, biological, and environmental sciences. At the master's degree level, it can be useful to students in mathematics, environmental science, economics, statistics, and engineering by adding Sections 1.9, 2.10-2.14, 3.9, 3.10, 4.1-4.5, to those proposed above. Finally, a two-semester upper-level graduate course for mathematics, statistics and engineering graduate students can be crafted by adding selected theoretical sections from the last sections of Chapters 1, 2, and 3 for mathematics and statistics students and some advanced applications from Chapters 4 and 5. For the upper-level graduate course, we should mention that we are striving for a less rigorous level of coverage than that which is attained by Brockwell and Davis (1991), the classic entry at this level.

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内容概要

The goals of this book are to develop an appreciation for the richness and versatility of modern time series analysis as a tool for analyzing data, and still maintain a commitment to theoretical integrity, as exemplified by the seminal works of Brillinger (1981) and Hannan (1970) and the texts by Brockwell and Davis (1991) and Fuller (1995). The advent of more powerful computing, especially in the last three years, has provided both real data and new software that can take one considerably beyond the fitting of simple time domain models, such as have been elegantly described in the landmark work of Box and Jenkins (see Box et al., 1994). This book is designed to be useful as a text for courses in time series on several different levels and as a reference work for practitioners facing the analysis of time-correlated data in the physical, biological, and social sciences.

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