Time Series Analysis and Its Applications (Springer Texts in Statistics)

Robert H. Shumway, David S. Stoffer
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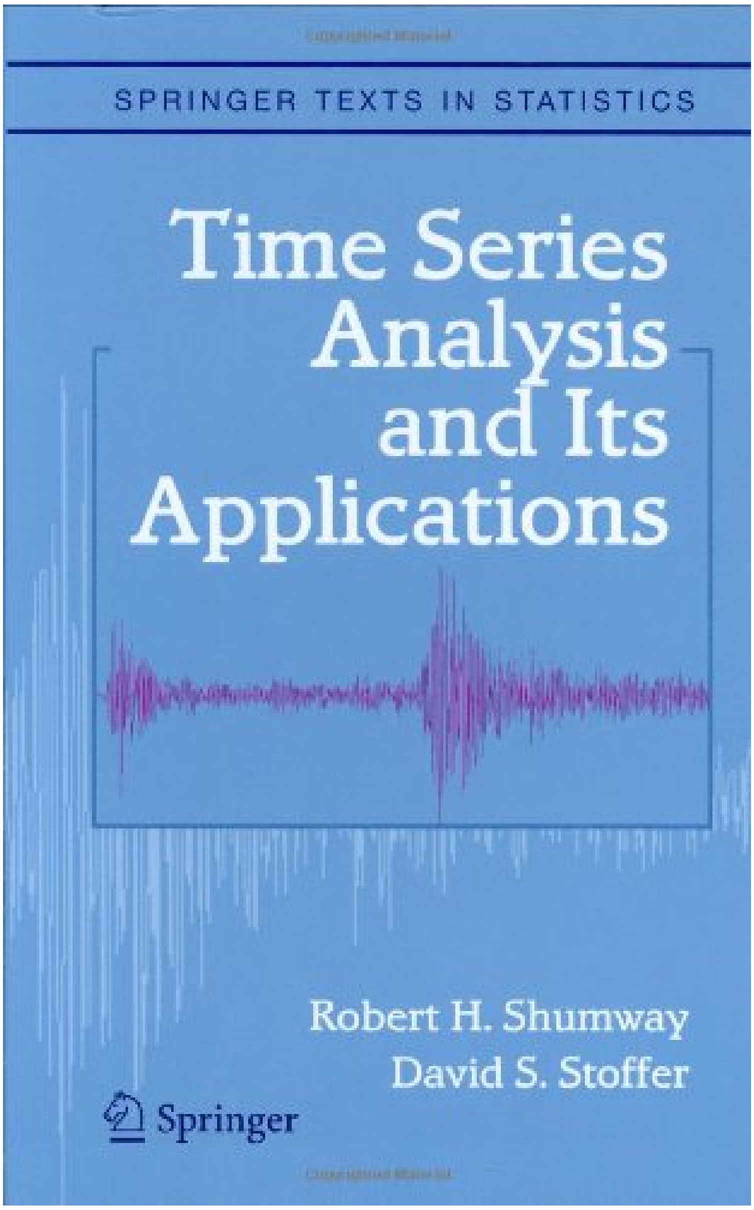

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Robert H. Shumway, David S. Stoffer : Time Series Analysis and Its Applications (Springer Texts in Statistics) before purchasing it in order to gage whether or not it would be worth my time, and all praised Time Series Analysis and Its Applications (Springer Texts in Statistics):

10 of 12 people found the following review helpful. Very good bookBy PeterI don't believe that the book deserves an oscar, but it is very good. I learned time series from Brockwell Davis, and this book is less rigorous, but easier to understand and well motivated. The touches on the more modern stuff (long memory, bootstrap, etc) are slight, and a reader seeking info on these topics will need to turn to other sources, but an in depth treatment of long memory in an introductory book can not be expected.I have not found any typos yet, and it reads very well.Strongly recommended for anybody who wants to learn mathematical time series analysis (I say mathematical, because it still has a decent amount of rigour, theorems, proofs, definitions, etc.), but does not intend to become a PhD in the field (in which case Brockwell Davis might be a better choice).7 of 10 people found the following review helpful. A great book for studentsBy Nick PI had a course from this text last year and I think this is a great book for students. We covered parts of Chapters 1-4 including ARMA models, spectral analysis and state-space models. It seems like most texts on time series explain a concept and then use a trite example to demonstrate the concept. With this text, the emphasis is on the applications. Concepts are presented as part of an analysis of a substantive data set. In addition to fundamental ideas, the authors discuss topics in modern time series analysis such as modern regression, long memory, GARCH, and MCMC. I found the material easy to read and I thought the problems were at an appropriate level.I found most texts on time series to be either theory oriented or watered down and simple. Many texts concentrate on only the time domain or only the spectral domain. This text is somewhere in the middle, giving enough theory about a wide scope of topics to understand concepts at a deep enough level to apply the material with confidence.I wouldn't usually post a review, but I liked this book so much that I felt a duty to rebut some of the nasty things said about the text by other students. For example, the time domain is basically difference equations. One reviewer said that difference equations are spread out throughout the text. Well, since three chapters are on time domain topics I would guess that difference equation ideas would be spread out in the three chapters. Also, the trend in time series texts, maybe starting with Box and Jenkins, is to use lower case letters for random variables. And who cares if you use a lower case letter an upper case letter or a picture of a dog to represent a random variable? If the notation is consistent, that is all that is needed. I do agree that you have to fill in some of the details in problems yourself. But isn't that what education is all about? You don't want everything spoonfed to you- you won't learn anything that way!Finally, this is a wonderful text that covers a wide range of modern topics at an accessible level for most students with a basic knowledge of mathematical statistics. I agree with the reviewer who said this book deserves an oscar!33 of 38 people found the following review helpful. modern time series with applicationsBy Michael R. ChernickThis is a modern book on time series analysis with many interesting and useful examples. It has a practical orientation much like Shumway's earlier book. The material has been tested in courses given by the authors at UC Berkeley and UC Davis. Good for both undergraduate and graduate level students. It covers most of the basics from both the time and frequency domain approaches. Although one reviewer suggests that it is light on theory compared to the Brockwell and Davis book, there is an adequate amount of theory presented which makes the level intermediate. It does require some advanced mathematics. Interesting topics not commonly found in competitor books include long memory ARMA models, the multivariate ARMAX models and their state space representation, applications of ARMAX models to longitudinal data analysis, bootstrapping state space models and the use of frequency domain time series methods applied to discriminant analysis, clustering and various other common multivariate statistical techniques. It also has a nice list of references. It definitely deserves 5 stars and possibly an oscar!

Time Series Analysis and Its Applications presents a balanced and comprehensive treatment of both time and frequency domain methods with accompanying theory. Numerous examples using non-trivial data illustrate solutions to problems such as evaluating pain perception experiments using magnetic resonance imaging or monitoring a nuclear test ban treaty. The book is designed to be useful as a text for graduate level students in the physical, biological and social sciences and as a graduate level text in statistics. Some parts may also serve as an undergraduate introductory course. Theory and methodology are separated to allow presentations on different levels. Material from the earlier 1988 Prentice-Hall text Applied Statistical Time Series Analysis has been updated by adding modern developments involving categorical time sries analysis and the spectral envelope, multivariate spectral methods, long memory series, nonlinear models, longitudinal data analysis, resampling techniques, ARCH models, stochastic volatility, wavelets and Monte Carlo Markov chain integration methods. These add to a classical coverage of time series regression, univariate and multivariate ARIMA models, spectral analysis and state-space models. The book is complemented by ofering accessibility, via the World Wide Web, to the data and an exploratory time series analysis program ASTSA for Windows that can be downloaded as Freeware. Robert H. Shumway is Professor of Statistics at the University of California, Davis. He is a Fellow of the American Statistical Association and a member of the Inernational Statistical Institute. He won the 1986 American Statistical Association Award for Outstanding Statistical Application and the 1992 Communicable Diseases Center Statistics Award; both awards were for joint papers on time series applications. He is the author of a previous 1988 Prentice-Hall text on applied time series analysis and is currenlty a Departmental Editor for the Journal of Forecasting. David S. Stoffer is Professor of Statistics at the University of Pittsburgh. He has made seminal contributions to the analysis of categorical time series and won the

1989 American Statistical Association Award for Outstanding Statistical Application in a joint paper analyzing categorical time series arising in infant sleep-state cycling. He is currently an Associate Editor of the Journal of Forecasting and has served as an Associate Editor for the Journal fo the American Statistical Association.

About the AuthorRobert H. Shumway is Professor of Statistics at the University of California, Davis. He is a Fellow of the American Statistical Association and a member of the Inernational Statistical Institute. He won the 1986 American Statistical Association Award for Outstanding Statistical Application and the 1992 Communicable Diseases Center Statistics Award; both awards were for joint papers on time series applications.