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Autore	Fuller Wayne A
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Nota di contenuto	Introduction to Statistical Time Series; Contents; Preface to the First Edition; Preface to the Seeond Edition; List of Principal Results; List of Examples; 1. Introduction; 1.1 Probability Spaces; 1.2 Time Series; 1.3 Examples of Stochastic Processes; 1.4 Properties of the Autocovariance and Autocorrelation Functions; 1.5 Complex Valued Time Series; 1.6 Periodic Functions and Periodic Time Series; 1.7 Vector Valued Time Series; References; Exercises; 2. Moving Average and Autoregressive Processes; 2.1 Moving Average Processes; 2.2 Absolutely Summable Sequences and Infinite Moving Averages 2.3 An Introduction to Autoregressive Time Series2.4 Difference Equations; 2.5 The Second Order Autoregressive Time Series; 2.6 Alternative Representations of Autoregressive and Moving Average Processes; 2.7 Autoregressive Moving Average Time Series; 2.8 Vector Processes; 2.9 Prediction; 2.10 The Wold Decomposition; 2.11 Long Memory Processes; References; Exercises; 3. Introduction to Fourier Analysis; 3.1 Systems of Orthogonal Functions-Fourier Coefficients; 3.2 Complex Representation of Trigonometric Series; 3.3 Fourier

Transform-Functions Defined on the Real Line
3.4 Fourier Transform of a ConvolutionReferences; Exercises; 4. Spectral Theory and Wtering; 4.1 The Spectrum; 4.2 Circulants-Diagonalization of the Covariance Matrix of Stationary Process; 4.3 The Spectral Density of Moving Average and Autoregressive Time Series; 4.4 Vector Processes; 4.5 Measurement Error-Signal Detection; 4.6 State Space Models and Kalman Filtering; References; Exercises; 5. Some Large Sample Theory; 5.1 Order in Probability; 5.2 Convergence in Distribution; 5.3 Central Limit ""heorems; 5.4 Approximating a Sequence of Expectations; 5.5 Estimation for Nonlinear Models
5.5.1 Estimators that Minimize an Objective Function5.5.2 One-Step Estimation; 5.6 Instrumental Variables; 5.7 Estimated Generalized Least Squares; 5.8 Sequences of Roots of Polynomials; References; Exercises; 6. Estimation of the Mean and Autoeorrelations; 6.1 Estimation of the Mean; 6.2 Estimators of the Autocovariance and Autoconelation Functions; 6.3 Central Limit Theorems for Stationary Time Series; 6.4 Estimation of the Cross Covariances; References; Exercises; 7. The Periodogram, Estimated Spectrum; 7.1 The Periodogram; 7.2 Smoothing, Estimating the Spectrum
7.3 Other Estimators of the Spectrum7.4 Multivariate Spectral Estimates; References; Exercises; 8. Parameter Wmation; 8.1 First Order Autoregressive Time Series; 8.2 Higher Order Autoregressive Time Series; 8.2.1 Least Squares Estimation for Univariate Processes; 8.2.2 Alternative Estimators for Autoregressive Time Series; 8.2.3 Multivariate Autoregressive Time Series; 8.3 Moving Average Time Series; 8.4 Autoregressive Moving Average Time Series; 8.5 Prediction with Estimated Parameters; 8.6 Nonlinear Processes; 8.7 Missing and Outlier Observations; 8.8 Long Memory Processes; References
Exercises

Sommario/riassunto

The subject of time series is of considerable interest, especially among researchers in econometrics, engineering, and the natural sciences. As part of the prestigious Wiley Series in Probability and Statistics, this book provides a lucid introduction to the field and, in this new Second Edition, covers the important advances of recent years, including nonstationary models, nonlinear estimation, multivariate models, state space representations, and empirical model identification. New sections have also been added on the Wold decomposition, partial autocorrelation, long memory processes, and th