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Descrizione fisica	1 online resource (XVIII, 391 p. 45 illus., 21 illus. in color.)
Collana	Springer Texts in Business and Economics, , 2192-4333
Disciplina	330.1
Soggetti	Economics Statistics Economics, Mathematical Macroeconomics Econometrics Game theory Economic Theory/Quantitative Economics/Mathematical Methods Statistics for Business, Management, Economics, Finance, Insurance Quantitative Finance Macroeconomics/Monetary Economics//Financial Economics Game Theory, Economics, Social and Behav. Sciences
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Part I Time Series Modeling -- Basic Concepts from Probability Theory -- Autoregressive Moving Average Processes (ARMA) -- Spectra of Stationary Processes -- Long Memory and Fractional Integration -- Processes with Autoregressive Conditional Heteroskedasticity (ARCH) -- Part II Stochastic Integrals -- Wiener Processes (WP) -- Riemann Integrals -- Stieltjes Integrals -- Ito Integrals -- Ito’s Lemma -- Part III Applications -- Stochastic Differential Equations (SDE) -- Interest Rate Models -- Asymptotics of Integrated Processes -- Trends, Integration Tests and Nonsense Regressions -- Cointegration Analysis.
Sommario/riassunto	This textbook gives a comprehensive introduction to stochastic

processes and calculus in the fields of finance and economics, more specifically mathematical finance and time series econometrics. Over the past decades stochastic calculus and processes have gained great importance, because they play a decisive role in the modeling of financial markets and as a basis for modern time series econometrics. Mathematical theory is applied to solve stochastic differential equations and to derive limiting results for statistical inference on nonstationary processes. This introduction is elementary and rigorous at the same time. On the one hand it gives a basic and illustrative presentation of the relevant topics without using many technical derivations. On the other hand many of the procedures are presented at a technically advanced level: for a thorough understanding, they are to be proven. In order to meet both requirements jointly, the present book is equipped with a lot of challenging problems at the end of each chapter as well as with the corresponding detailed solutions. Thus the virtual text - augmented with more than 60 basic examples and 40 illustrative figures - is rather easy to read while a part of the technical arguments is transferred to the exercise problems and their solutions.