

1. Record Nr.	UNINA9910299988203321
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Titolo	Inference on the Hurst Parameter and the Variance of Diffusions Driven by Fractional Brownian Motion // by Corinne Berzin, Alain Latour, José R. León
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	3-319-07875-5
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (195 p.)
Collana	Lecture Notes in Statistics, , 0930-0325 ; ; 216
Disciplina	519.22
Soggetti	Statistics Probabilities Computer simulation Statistical Theory and Methods Probability Theory and Stochastic Processes Simulation and Modeling Statistics for Business, Management, Economics, Finance, Insurance Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	1. Introduction -- 2. Preliminaries -- 3. Estimation of the Parameters -- 4. Simulation Algorithms and Simulation Studies -- 5. Proofs of all the results -- A. Complementary Results -- A.1. Introduction -- A.2. Proofs -- B. Tables and Figures Related to the Simulation Studies -- C. Some Pascal Procedures and Functions -- References -- Index.
Sommario/riassunto	This book is devoted to a number of stochastic models that display scale invariance. It primarily focuses on three issues: probabilistic properties, statistical estimation and simulation of the processes considered. It will be of interest to probability specialists, who will find here an uncomplicated presentation of statistics tools, and to those statisticians who wants to tackle the most recent theories in probability in order to develop Central Limit Theorems in this context; both groups

will also benefit from the section on simulation. Algorithms are described in great detail, with a focus on procedures that is not usually found in mathematical treatises. The models studied are fractional Brownian motions and processes that derive from them through stochastic differential equations. Concerning the proofs of the limit theorems, the “Fourth Moment Theorem” is systematically used, as it produces rapid and helpful proofs that can serve as models for the future. Readers will also find elegant and new proofs for almost sure convergence. The use of diffusion models driven by fractional noise has been popular for more than two decades now. This popularity is due both to the mathematics itself and to its fields of application. With regard to the latter, fractional models are useful for modeling real-life events such as value assets in financial markets, chaos in quantum physics, river flows through time, irregular images, weather events, and contaminant diffusion problems.
