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Record Nr.	UNINA9910824496603321
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Titolo	Stochastic processes : selected papers of Hiroshi Tanaka / / edited by Makoto Maejima, Tokuzo Shiga
Pubbl/distr/stampa	River Edge, N.J., : World Scientific, c2002
ISBN	981-277-855-1
Edizione	[1st ed.]
Descrizione fisica	1 online resource (xi, 430 p.) : port
Altri autori (Persone)	MaejimaMakoto ShigaTokuzo
Disciplina	519.2/3
Soggetti	Stochastic processes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	"Bibliography of Hiroshi Tanaka": p. 425-430. Includes bibliographical references.
Nota di contenuto	Machine generated contents note: Stochastic Differential Equations with Reflecting Boundary Condition in Convex Regions -- Some Probabilistic Problems in the Spatially Homogeneous Boltzmann Equation -- Limit Theorems for Certain Diffusion Processes with Interaction -- Central Limit Theorem for a System of Markovian Particles with Mean Field Interactions (with T. Shiga) -- Propagation of Chaos for Diffusing Particles of Two Types with Singular Mean Field Interaction (with M. Nagasawa) -- Stochastic Differential Equations for Mutually Reflecting Brownian Balls (with Y. Saisho) -- Limit Distribution for 1-Dimensional Diffusion in a Reflected Brownian Medium -- Limit Distributions for One-Dimensional Diffusion Processes in Self-Similar Random Environments -- Stochastic Differential Equation Corresponding to the Spatially Homogeneous Boltzmann Equation of Maxwellian and Non-Cutoff Type -- Limit Theorem for One-Dimensional Diffusion Process in Brownian Environment -- On the Maximum of a Diffusion Process in a Drifted Brownian Environment (with K. Kawazu) -- Recurrence of a Diffusion Process in a Multidimensional Brownian Environment -- Localization of a Diffusion Process in a One-Dimensional Brownian Environment -- Diffusion Processes in Random Environments -- Environment-Wise Central Limit Theorem for a Diffusion in a Brownian Environment with Large Drift -- A Diffusion Process in a Brownian Environment with Drift (with K. Kawazu) -- Limit Theorems for a

Brownian Motion with Drift in a White Noise Environment -- Invariance Principle for a Brownian Motion with Large Drift in a -- White Noise Environment (with K. Kawazu) -- Some Theorems Concerning Extrema of Brownian Motion with d-Dimensional Time.

Sommario/riassunto

Hiroshi Tanaka is noted for his discovery of the "Tanaka formula", which is a generalization of the Ito formula in stochastic analysis. This important book is a selection of his brilliant works on stochastic processes and related topics. It contains Tanaka's papers on (i) Brownian motion and stochastic differential equations (additive functionals of Brownian paths and stochastic differential equations with reflecting boundaries), (ii) the probabilistic treatment of nonlinear equations (Boltzmann equation, propagation of chaos and McKean-Vlasov limit), and (iii) stochastic processes in random environments (especially limit theorems on the stochastic processes in one-dimensional random environments and their refinements). The book also includes essays by Henry McKean, Marc Yor, Shinzo Watanabe and Hiroshi Tanaka on Tanaka's works.