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	Titolo	Semiclassical Analysis for Diffusions and Stochastic Processes / / by Vassili N. Kolokoltsov
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2000
	ISBN	3-540-46587-1
	Edizione	[1st ed. 2000.]
	Descrizione fisica	1 online resource (VIII, 356 p.)
	Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 1724
	Disciplina	519.23
	Soggetti	Mathematical analysis
		Analysis (Mathematics)
		Probabilities
		Analysis
		Probability Theory and Stochastic Processes
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Includes index.
	Nota di contenuto	Gaussian diffusions -- Boundary value problem for Hamiltonian systems -- Semiclassical approximation for regular diffusion -- Invariant degenerate diffusion on cotangent bundles -- Transition probability densities for stable jump-diffusions -- Semiclassical asymptotics for the localised Feller-Courrège processes -- Complex stochastic diffusion or stochastic Schrödinger equation -- Some topics in semiclassical spectral analysis -- Path integration for the Schrödinger, heat and complex diffusion equations.
	Sommario/riassunto	The monograph is devoted mainly to the analytical study of the differential, pseudo-differential and stochastic evolution equations describing the transition probabilities of various Markov processes. These include (i) diffusions (in particular,degenerate diffusions), (ii) more general jump-diffusions, especially stable jump-diffusions driven by stable Lévy processes, (iii) complex stochastic Schrödinger equations which correspond to models of quantum open systems. The main results of the book concern the existence, two-sided estimates, path integral representation, and small time and semiclassical asymptotics for the Green functions (or fundamental solutions) of these equations,

which represent the transition probability densities of the corresponding random process. The boundary value problem for Hamiltonian systems and some spectral asymptotics ar also discussed. Readers should have an elementary knowledge of probability, complex and functional analysis, and calculus. .