

# Pathwise uniqueness and approximation of solutions of stochastic differential equations

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## Abstract :

We consider stochastic differential equations for which pathwise uniqueness holds. By using Skorokhod's selection theorem we establish various strong stability results under perturbation of the initial conditions, coefficients and driving processes. Applications to the convergence of successive approximations and to stochastic control of diffusion processes are also given. Finally, we show that in the sense of Baire, almost all stochastic differential equations with continuous and bounded coefficients have unique strong solutions.

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