

Approximation and generic properties of McKean-Vlasov stochastic equations with continuous coefficients

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May 5, 2020

Abstract

We consider various approximation properties for systems driven by a McKean-Vlasov stochastic differential equations (MVSDEs) with continuous coefficients, for which pathwise uniqueness holds. We prove that the solution of such equations is stable with respect to small perturbation of initial conditions, parameters and driving processes. Moreover, the unique strong solutions may be constructed by an effective approximation procedure. Finally we show that the set of bounded uniformly continuous coefficients for which the corresponding MVSDE have a unique strong solution is a set of second category in the sense of Baire.

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