

A “DIRECT” METHOD TO PROVE THE GENERALIZED ITÔ–VENTTSEL’ FORMULA FOR A GENERALIZED STOCHASTIC DIFFERENTIAL EQUATION

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For the first time we present a complete proof (from the standpoint of stochastic analysis) of the generalized Itô–Venttsel’ formula whose ideas were adduced in [1]. The proposed proof is an approach to construct the generalized Itô–Venttsel’ formula based on the direct application of the generalized Itô formula and the theory of stochastic approximation in contrast to the proof presented in [2] and based on the method of the integral invariants of a stochastic differential equation.

Key words and phrases: Itô–Venttsel’ formula, generalized Itô equation, Poisson measure, δ -sequence, mean-square convergence.

References

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