

Anticipating Linear Stochastic Differential Equations Driven by a Lévy Process

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Abstract

In this paper we study the existence of a unique solution for linear stochastic differential equations driven by a Lévy process, where the initial condition and the coefficients are random and not necessarily adapted to the underlying filtration. Towards this end, we extend the method based on Girsanov transformation on Wiener space and developed by Buckdahn [1] to the canonical Lévy space, which is introduced in [2].

Key words: Canonical Lévy space, Girsanov transformations, Lévy and Poisson measures, Malliavin calculus, Pathwise integral, Skorohod integral

AMS subject classifications: primary 60H10; secondary 60H05, 60H07, 60G51

References

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