The Existence and Uniqueness of Solutions to Stochastic Volterra Integral Equations with Jumps and Non-Lipschitz Coefficients

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Abstract:

Stochastic Volterra integral equations with jumps (SVIEs) have become very common and widely used in numerous branches of science because of their ties to mathematical finance, biology, engineering and so on. In this research, we apply the method of successive approximation to investigate the existence and the uniqueness of solutions to SVIEs driven by the Wiener process and compensated Poisson–random–measure (PRM) under non-Lipschitz coefficient.

Keywords:

Stochastic Differential Equations with jumps; L´evy process; Poisson random measure; Stochastic Volterra integral equations; Non-Lipschitz condition.