Research

Colloquium

Fokker-Planck equations for SPDE with Lévy noise

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摘　要：

Abstract. In this paper we consider a Kolmogorov operator $\mathscr{K}_0$ in a Hilbert space H, related to a SPDE with jumps. We show that $\mathscr{K}_0$ is essentially m-dissipatitive in the space $L^p([0,T]\times H;\nu), p\geq 1$, where $\nu(dt,dx)=\nu_t(dx)dt$ and the family $\{\nu_t\}_{t\in[0,T]}$ is a solution of the Fokker-Planck equation given by $\mathscr{K}_0$. We also prove that uniqueness of solutions to the Fokker-Planck equation. This result is a generalization of the SPDE considered in [V.Bogachev, G.Da Prato, M.Röcker, Fokker-Planck equations and maximal dissipativity for kolmogorov operators with time dependent singular drifts in Hilbert space, Journal of Functional Analysis, 256(2009) 1269-1298] to SPDE with jumps.