Asymptotic expansion theorem for functionals of a Poisson random measure.

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The asymptotic expansion theorem for Wiener functionals was obtained by S.Watanabe. Using this, he studied the short time behavior of the fundamental solution to the heat equation. N.Yoshida, N,Kunitomo and A.Takahashi have applied this theorem to mathematical finance.

In this talk, we shall discuss the asymptotic expansion theorem on the Poisson space. As an application, we shall give the asymptotic expansion formula of N.Yoshida, N,Kunitomo and A.Takahashi for stochastic differential equation driven by the Poisson random measure.