아주대 수학과 특강(special lecture)

Sharp estimates on the Dirichlet heat kernels of subordinate Brownian motions

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초록:
A subordinate Brownian motion can be obtained by replacing the time parameter of a Brownian motion by an increasing Levy process (i.e.,subordinator). Subordinate Brownian motions are very important in various applications. If the Laplace exponent of the subordinator is ϕ, then the generator of the subordinate Brownian motion is $-\phi(-\Delta)$. The transition density $p(t,x,y)$ of the subordinate Brownian motion is given by the fundamental solution of $\partial_t u = -\phi(-\Delta)u$.

In this talk, I will give a survey of some recent results in the study of subordinate Brownian motions. In particular, I will present results on sharp two-sided estimates of the Dirichlet heat kernel estimates of subordinate Brownian motions.