

概率论系列报告

报告题目 (Title): Brownian Motion on Spaces with Varying
Dimension

报告人 (Speaker): 陈振庆 教授 Univ. of Washington

时间 (Time): 6月17日(周一)下午 3:00-4:00

地点 (Venue): 北京大学理科一号楼 1479

摘要 (Abstract): Brownian motion is a building block of modern probability theory. It has important and intrinsic connections to analysis and partial differential equations as the infinitesimal generator of Brownian motion is the Laplace operator.

In real world, there are many examples of spaces with varying dimensions. For example, imagine an insect moves randomly in a plane with an infinite pole installed on it.

In this talk, I will introduce and discuss Brownian motion (or equivalently, "Laplace operator") on a state space with varying dimension. I will present sharp two-sided estimates on its transition density function (also called heat kernel). The two-sided estimates is of Gaussian type but the parabolic Harnack inequality fails for such process and the measure on the underlying state space does not satisfy volume doubling property.

欢迎参加