Large deviations for the local and intersection local times of fractional Brownian motions

by

Xia Chen Department of Mathematics University of Tennessee xchen@math.utk.edu

Abstract

Large deviation principle for the non-linear functionals of non-Markovian models is a challenging subject. A class of such models are Gaussian processes. Among them, the fractional Brownian motions are perhaps the most important processes. In this talk, I will talk about some recent progress achieved in the large deviations for local times and intersection local times of fractional Brownian motions. The approach appears as the combinations of some existing tools well known by the group working on the Gaussian processes, such as Anderson inequality and Cameron-Martin formula, and the ideas developed along the study of large deviations, such as high moment asymptotics and sub-additivity.

The talk is based on a collaborating work with Jan Rosinski and Qiman Shao.