Local Times of Anisotropic Gaussian Random Fields

by
Dongsheng Wu
Department of Mathematical Sciences
University of Alabama in Huntsville
Huntsville, AL 35899, U.S.A.
dongsheng.wu@uah.edu

Abstract

People have increased interest in using anisotropic Gaussian random fields in modeling many phenomena to capture their anisotropic natures in various scientific areas such as image processing, hydrology and spatial statistics, just to mention a few. Several classes of anisotropic Gaussian random fields have been introduced and studied for theoretical and application purposes. In this talk, we will study the joint continuity of the local times for a large class of anisotropic Gaussian random fields, establish the sharp Hölder conditions for the local times, and apply these results to investigate the sample path properties of the Gaussian random fields.

This talk is based on a joint work with Yimin Xiao.