Mathematics, Statistics, and Computer Science   **@ UIC**

Statistics Seminar

Joint Estimation of Fractal Indices for Bivariate Gaussian Processes
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Abstract: Multivariate (or vector-valued) stochastic processes are important in probability, statistics and various scientific areas as stochastic models. In recent years, there has been increasing interest in investigating their statistical inference and prediction.

In this talk, we study the problem for estimating jointly the fractal indices of a bivariate Gaussian process. These indices not only determine the smoothness of each component process, fractal behavior of the whole process, but also play important roles in characterizing the dependence structure among the components.

Under the infill asymptotics framework, we establish joint asymptotic results for the increment-based estimators for bivariate fractal indices. Our main results show the effect of the cross dependence structure on the performance of the estimators.

This is a joint paper with Yuzhen Zhou.

Wednesday, October 4 at 4:00 PM in SEO 636