

MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

COLLOQUIUM

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Bounds on the support of the spectrum of singularities

Thursday, May 28, 2015
10:20 a.m. - 11:10 am
Refreshments 10:00 am
C405 Wells Hall

Abstract

Spectrum of singularities provides a way of characterizing the multifractal structure of the sample paths of a stochastic process. It is defined as the Hausdorff dimension of the sets of time points where sample path has a given value of the pointwise Hölder exponent. We derive bounds on the support of the spectrum providing new conditions for the regularity of the sample paths. Bounds are shown to be sharp on many examples. A motivation for the study comes from statistical analysis of multifractal processes and will be briefly discussed.

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