Institut für Stochastik der HUB   Arbeitsgruppe Wahrscheinlichkeitstheorie der U Potsdam

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INTERNATIONAL RESEARCH TRAINING GROUP

Stochastic Models of Complex Processes

Wednesday, December 8, 2010 − 18:15

Speaker

Christoph Baumgarten (Technische Universität Berlin)

Title

The one-sided exit problem for weighted random walks

Abstract: We study the asymptotic behaviour of the probability that a weighted sum of centered i.i.d. random variables X_k does not exceed a constant barrier. First we discuss the case of a polynomial weight function and determine the rate of decay for Gaussian random variables X_k. This rate is shown to be universal over a larger class of distributions that obey suitable moment conditions.

Finally we briefly touch upon the case of an exponential weight function. The mentioned universality does not hold in this setup anymore so that the rate of decay has to be determined separately for different distributions of the X_k. We present some results in the Gaussian framework.

Location: MA 041, Straße des 17. Juni 136, TU Berlin

http://www2.math.tu-berlin.de/smcp/