Institut für Mathematik

Seminar zur Stochastik

Donnerstag, 19. Oktober 2023
16 Uhr s.t.
SR 122 Carl-Zeiss-Str. 3

Herr Prof. Dr. Andriy Pylypenko
(Ukrainian National Academy of Sciences, Kiev, Ukraine)

"On a skew stable Levy process"

Abstract: The skew Brownian motion is a strong Markov process which behaves like a Brownian motion until hitting zero and exhibits an asymmetry at zero. We address the following question: what is a natural counterpart of the skew Brownian motion in the situation that an underlying Brownian motion is replaced with a stable Lévy process with finite mean and infinite variance. We define a skew stable Lévy process X as a limit of a sequence of stable Lévy processes which are perturbed at zero. We derive a formula for the resolvent of X and show that X is a solution to a stochastic differential equation with a local time. Also, we provide a representation of X in terms of Itô′sexcursion theory.

Alle Interessierte sind herzlich eingeladen

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