



Hauptvortrag/Plenary lecture

Donnerstag/Thursday, 12:00, Wolfgang-Paul-Hörsaal

Sample path properties of stochastic processes

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In recent years the study of stochastic processes has experienced a renaissance both in mathematical modelling and more theoretical research. While many applications use Lévy processes (i.e. processes with stationary and independent increments, which are one of the simplest classes of stochastic processes with jumps) we focus on Lévy-type processes which can be viewed as non-translation-invariant generalizations of Lévy processes. These processes can be characterized via their infinitesimal generators - non-classical pseudo-differential operators with rough symbols - and we give a brief introduction and survey on the construction and description of such processes. The main emphasis will be on the properties of the sample paths, e.g. *smoothness* and various fractal dimensions, and how to describe them in terms of the symbol of the pseudo differential operators.