FRIEDRICH-SCHILLER-UNIVERSITÄT JENA

Fakultät für Mathematik und Informatik

Institut für Mathematik

Seminar zur Stochastik

Mittwoch, 1. Juni 2022
12 Uhr s. t.
HS 3 Abbeanum, Fröbelstieg 1

Herr Prof. Dr. Paulo Ruffino

(State University of Campinas, São Paulo, Brasil)

"A geometric decomposition of stochastic flows driven by semimartingales"

Abstract:
Among many interesting decomposition of stochastic flows, in this talk we explore the following geometrically motivated context: Let φ_t be a stochastic flow in a manifold *M* generated by an SDE driven by a (certain) class of semimartingale with jumps. Suppose that locally *M* is endowed with a pair of complementary foliations, say, e.g. a coordinate systems in a 2-dimensional space, or a surface of constant energy level and its orthogonal coordinates, etc. Then, locally, up to a stopping time, we have the following decomposition: $\varphi_t=\eta_t \circ \psi_t$ where η_t and ψ_t belong to the group of diffeomorphisms which preserve the leaves (coordinates, in the 2-dimensional case) of the corresponding foliation. This is a direct application of versions of the so called Itô-Kunita-Ventzel formula (or generalized Itô formula).

Alle Interessierte sind herzlich eingeladen

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