Regularisation by rough multiplicative noise

Máté Gerencsér

(TU Vienna)

Abstract

Differential equations driven by multiplicative fractional Brownian motions are considered. We will focus on the regime $1/3 < H < 1/2$, where on one hand the irregularity of the noise requires rough path theory to interpret the equation, on the other hand the regularisation effects are stronger than Brownian and one even expects that distributional drifts to be admissible. We discuss how these positive and negative sides of the noise can be reconciled. Based on joint works with K. Dareiotis and C. Ling.

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*Punctual, i.e. sine tempore!