

Séminaire de Probabilités et Statistique

Mardi 12 Mars 2024 à 14h00

Salle de réunion Fizeau

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*Estimation of several parameters in discretely observed SDEs
driven by fractional Brownian motion*

In this talk, we consider the SDE $dX_t = b_\xi(X_t)dt + \sigma dB_t^H$ driven by a fractional Brownian motion B^H , and present a joint statistical estimator of the drift parameter ξ , the diffusion parameter σ and the Hurst parameter H . This estimator is constructed using discrete-time observations of a single trajectory of X and its stationary measure. We give consistency of this estimator, as well as a rate of convergence under stronger conditions on the drift. This procedure is based on the assumption that the stationary measure permits to identify several parameters simultaneously, which will be discussed with examples.

Joint work with E.M. Haess.