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**Probability distributions of first hitting times of solutions to SDEs
w.r.t. the Hurst parameter of the driving fractional Brownian noise:
A sensitivity analysis**

Abstract :

In this joint work with Alexandre Richard (Ecole Centrale-Supelec, France) we consider solutions to stochastic differential equations driven by fractional Brownian motions.

We develop the sensitivity analysis of first hitting times of these solutions when the Hurst parameter H of the noise tends to the critical Brownian parameter $H = \frac{1}{2}$ from above or from below.

Our accurate estimates show that the Markov Brownian model is a good proxy model as long as the Hurst parameter remains close to $\frac{1}{2}$.