

# On Constrained Pathwise Stochastic Differential Equations

*jeudi 19 octobre 2017 09:00 (45 minutes)*

Let  $C$  be a convex subset of  $\mathbb{R}^d$ . An interesting question is how to constrain the solution  $X$  to a stochastic differential equation, driven by a process  $B$ , to stay in  $C$ . When  $B$  is a Brownian motion, in Itô's calculus framework, this problem has been solved by several methods. One of them is to put an invariance condition on the vector field of the SDE. Another one is to define  $X$  as the solution of a Skorokhod reflexion problem. In this talk, we will extend these two methods when  $B$  is a fractional Brownian motion in the rough paths framework. Co-authors: Laure Coutin, Paul Raynaud de Fitte and Charles Castaing.

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