

Continuity in the Hurst parameter of certain functionals of fractional Gaussian noises.

Alexandre Richard

EPI TOSCA, INRIA Sophia-Antipolis Mediterannee.

October 24 th, 2015

Abstract: Fractional Brownian motion (fBm) extends classical Brownian motion in several aspects: given a Hurst parameter $H \in (0, 1)$, the fBm of parameter H is H -selfsimilar, has Hölder continuity of order H ,... It is useful in many models, and although the (statistical) determination of H is a common problem, the sensitivity in the Hurst parameter in the model is in general unknown. In this talk, we will present several examples where the continuity (in law, or pathwise Hölder continuity) in the Hurst parameter can be established. In particular, we will be interested in the sample path properties of a family of fractional Brownian fields. Another application concerns the law of the hitting times of fractional diffusions.