



Expectiles for subordinated Gaussian processes with applications

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(Submitted on 4 Jul 2011)

In this paper, we introduce a new class of estimators of the Hurst exponent of the fractional Brownian motion (fBm) process. These estimators are based on sample expectiles of discrete variations of a sample path of the fBm process. In order to derive the statistical properties of the proposed estimators, we establish asymptotic results for sample expectiles of subordinated stationary Gaussian processes with unit variance and correlation function satisfying $\rho(i) \sim |\kappa|i|^{-\alpha}$ ($\kappa \in \mathbb{R}$) with $\alpha > 0$. Via a simulation study, we demonstrate the relevance of the expectile-based estimation method and show that the suggested estimators are more robust to data rounding than their sample quantile-based counterparts.

Subjects: **Statistics Theory (math.ST)**

Cite as: **arXiv:1107.0540 [math.ST]**

(or **arXiv:1107.0540v1 [math.ST]** for this version)

Submission history

From: Jean-Francois Coeurjolly [[view email](#)]

[v1] Mon, 4 Jul 2011 06:19:55 GMT (702kb)

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