

# Nonparametric estimation of the local Hurst function of multifractional Gaussian processes

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A new nonparametric estimator of the local Hurst function of a multifractional Gaussian process based on the increment ratio (IR) statistic is defined. In a general frame, the point-wise and uniform weak and strong consistency and a multidimensional central limit theorem for this estimator are established. Similar results are obtained for a refinement of the generalized quadratic variations (QV) estimator. The case of the multifractional Brownian motion is studied in detail. A simulation study is included showing that the IR-estimator is more accurate than the QV-estimator.

The talk is based on a joint work with Jean-Marc Bardet.