

Rate of convergence for discretization of integrals with respect to Fractional Brownian motion

Lauri Viitasaari
Aalto University

Abstract:

We consider uniform discretization of stochastic integrals $\int_0^1 f'_-(B_t)dB_t$ with respect to fractional Brownian motion with Hurst parameter $H \in (\frac{1}{2}, 1)$ for a large class of convex functions f . We prove L^r -convergence of such discretization to stochastic integral and in addition, we obtain the rate of convergence. It turns out that the rate of convergence can be brought as closely as possible to $H - \frac{1}{2}$.