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New Results for Fractional Brownian Motion

Mathematically Fractional Brownian Motion is a difficult process to define. We shall present a new approach to Fractional Brownian Motion extending recent work of Hu, Oksendal, Duncan and Pasik Duncan to include processes with Hurst parameters $0 < H < 1$. A central tool for fractional Brownian motion is the analog of the Ito formula. We give new proofs and results. We also answer some of the criticisms of the use of fractional Brownian motion in financial modeling.

This is joint work with John van der Hoek of the University of Adelaide, Australia.