

Fractional Brownian motion

Definition

Fractal dimension of the sample path

$$B(x) = (1 - \frac{1}{x})^{\alpha} B(1)$$

Fractal dimension

$$g(x) = \frac{C}{x^{\alpha}}$$

g(x)

$$\mathbb{E}(B(x))^2 = e^{-2\alpha x}$$

$\mathbb{E}(B(x))$

$\mathbb{E}(B(x)^2)$