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**Kolmogorov equation and large-time behaviour for fractional Brownian motion driven linear SDE's.** (English) Zbl 1099.60040

Appl. Math., Praha 50, No. 1, 63-81 (2005).

Summary: We consider a stochastic process $X_t^x$ which solves an equation

$$dX_t^x = AX_t^x\,dt + \Phi\,dB_t^H, \quad X_0^x = x,$$

where $A$ and $\Phi$ are real matrices and $B^H$ is a fractional Brownian motion with Hurst parameter $H \in (1/2, 1)$. The Kolmogorov backward equation for the function $u(t,x) = \mathbb{E}f(X_t^x)$ is derived and exponential convergence of probability distributions of solutions to the limit measure is established.

**MSC:**

60H05 Stochastic integrals
60H10 Stochastic ordinary differential equations (aspects of stochastic analysis)

**Keywords:**

Kolmogorov backwards equation; linear stochastic equation

**Full Text:** DOI EuDML Link

**References:**

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