

Schmuland, B.

Regularity of ℓ 2-valued Ornstein-Uhlenbeck processes. (English) Zbl 0645.60046
C. R. Math. Acad. Sci., Soc. R. Can. 10, No. 2, 119-124 (1988).

Let $X_i(t)$, $i = 1, \dots, t \geq 0$, be a family of independent one-dimensional and stationary Ornstein-Uhlenbeck processes with drift and diffusion coefficients $(-\lambda_i)$ and (δ_i) , respectively. Two properties of this family are proved.

1) Let $X(t) = (X_i(t))$ be an ℓ 2-valued stochastic process. Then the process $X(t)$ is continuous in ℓ 2 provided $\sum \sigma 4_i/\lambda_i < \infty$. 2) Let for every fixed $t \geq 0$, $X_i(t)$ tend to zero with probability one. Then there exists $x_0 \geq 0$ such that for some $t \geq 0$ the sequence $X_i(t)$ clusters at each point of the interval $[-x_0, x_0]$ with probability one.

Reviewer: [B.Goldys](#)

MSC:

[60G17](#) Sample path properties

[60H10](#) Stochastic ordinary differential equations (aspects of stochastic analysis)

[60G15](#) Gaussian processes

[60J60](#) Diffusion processes

Cited in **2** Documents

Keywords:

Hilbert space; continuity; Dirichlet form; Ornstein-Uhlenbeck processes