

Manthey, Ralf**The long-time behaviour of the solutions to semilinear stochastic partial differential equations on the whole space.** (English) [Zbl 0982.60055](#)

Math. Bohem. 126, No. 1, 15-39 (2001).

Summary: The Cauchy problem for a stochastic partial differential equation with a spatial correlated Gaussian noise is considered. The “drift” is continuous, one-sided linearly bounded and of at most polynomial growth while the “diffusion” is globally Lipschitz continuous. Statements on existence and uniqueness of solutions, their pathwise spatial growth and on their ultimate boundedness as well as on asymptotical exponential stability in mean square in a certain Hilbert space of weighted functions are proved.

MSC:**60H15** Stochastic partial differential equations (aspects of stochastic analysis)**35R60** PDEs with randomness, stochastic partial differential equationsCited in **3** Documents**Keywords:**

Cauchy problem; nuclear and cylindrical noise; existence and uniqueness of the solution; spatial growth; ultimate boundedness; asymptotic mean square stability

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