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**Maximal inequalities and space-time regularity of stochastic convolutions.** (English)

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Math. Bohem. 123, No. 1, 7-32 (1998).

Summary: Space-time regularity of stochastic convolution integrals  $J = \int_0^\cdot S(\cdot - r)Z(r)dW(r)$  driven by a cylindrical Wiener process  $W$  in an  $L^2$ -space on a bounded domain is investigated. The semigroup  $S$  is supposed to be given by the Green function of a  $2m$ th order parabolic boundary value problem, and  $Z$  is a multiplication operator. Under fairly general assumptions,  $J$  is proved to be Hölder continuous in time and space. The method yields maximal inequalities for stochastic convolutions in the space of continuous functions as well.

**MSC:**

60H15 Stochastic partial differential equations (aspects of stochastic analysis)

Cited in 5 Documents

**Keywords:**

stochastic convolutions; maximal inequalities; regularity of stochastic partial differential equations

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