

Walsh, John B.

An introduction to stochastic partial differential equations. (English) Zbl 0608.60060
École d'été de probabilités de Saint-Flour XIV - 1984, Lect. Notes Math. 1180, 265-437 (1986).

[For the entire collection see [Zbl 0579.00013](#).]

This introduction to stochastic partial differential equations (SPDE's) is based on multiparameter processes. Accordingly, the Brownian sheet and martingale measures are the stochastic driving terms of the SPDE's, with a particular emphasis on space-time white noise (Brownian sheet) and its generalization to martingale measures. Apart from interesting applications the paper deals with integration theory (w.r.t. martingale measures), weak convergence of SPDE's, regularity of solutions, distribution valued solutions, and the space-time Markov property.

Reviewer: P.Kotelenez

MSC:

[60H15](#) Stochastic partial differential equations (aspects of stochastic analysis)
[60G60](#) Random fields

Cited in **20** Reviews
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Keywords:

[multiparameter processes](#); [Brownian sheet](#); [martingale measures](#); [space-time Markov property](#)