Stochastic partial differential equations : a modeling, white noise functional approach /

Holden, H. (
Helge) (
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Monografía

"The first edition of Stochastic Partial Differential Equations: A Modeling, White Noise Functional Approach, gave a comprehensive introduction to SPDEs driven by space-time Brownian motion noise. In this, the second edition, the authors extend the theory to include SPDEs driven by space-time Levy process noise, and introduce new applications of the field." "Because the authors allow the noise to be in both space and time, the solutions to SPDEs are usually of the distribution type, rather than a classical random field. To make this study rigorous and as general as possible, the discussion of SPDEs is therefore placed in the context of Hida white noise theory. The key connection between white noise theory and SPDEs is that integration with respect to Brownian random fields can be expressed as integration with respect to the Lebesgue measure of the Wick product of the integrand with Brownian white noise, and similarly with Levy processes." "Graduate students in pure and applied mathematics as well as researchers in SPDEs, physics, and engineering will find this introduction indispensible. Useful exercises are collected at the end of each chapter"--Jacket

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