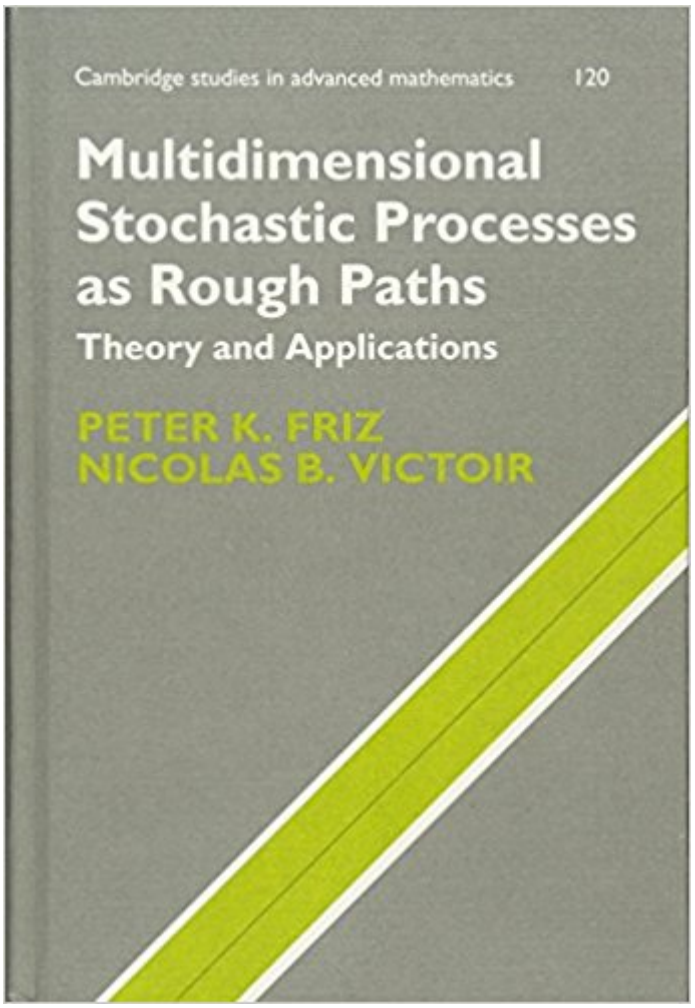
Multidimensional Stochastic Processes As Rough Paths: Theory And Applications (Cambridge Studies In Advanced Mathematics)



Synopsis

Rough path analysis provides a fresh perspective on Ito's important theory of stochastic differential equations. Key theorems of modern stochastic analysis (existence and limit theorems for stochastic flows, Freidlin-Wentzell theory, the Stroock-Varadhan support description) can be obtained with dramatic simplifications. Classical approximation results and their limitations (Wong-Zakai, McShane's counterexample) receive 'obvious' rough path explanations. Evidence is building that rough paths will play an important role in the future analysis of stochastic partial differential equations and the authors include some first results in this direction. They also emphasize interactions with other parts of mathematics, including Caratheodory geometry, Dirichlet forms and Malliavin calculus. Based on successful courses at the graduate level, this up-to-date introduction presents the theory of rough paths and its applications to stochastic analysis. Examples, explanations and exercises make the book accessible to graduate students and researchers from a variety of fields.

Book Information

Series: Cambridge Studies in Advanced Mathematics (Book 120)
Hardcover: 670 pages
Publisher: Cambridge University Press; 1 edition (March 15, 2010)
Language: English
ISBN-10: 0521876079
ISBN-13: 978-0521876070
Product Dimensions: 6 x 1.5 x 9 inches
Shipping Weight: 2.2 pounds (View shipping rates and policies)
Average Customer Review: 5.0 out of 5 stars 1 customer review
Best Sellers Rank: #723,640 in Books (See Top 100 in Books) #75 inÃ Â Books > Science & Math > Mathematics > Applied > Stochastic Modeling #2245 inÃ Â Books > Textbooks > Science & Mathematics > Mathematics > Statistics #3193 inÃ Â Books > Science & Math > Mathematics > Applied > Probability & Statistics

Customer Reviews

Rough paths may play an important role in the future analysis of stochastic partial differential equations. This up-to-date introduction presents the theory of rough paths and its applications to stochastic analysis. Examples, explanations and exercises make the book accessible to graduate students and researchers from a variety of fields.

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Very good buy !!!

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