

Probabilistic and Stochastic Methods in Analysis, with Applications

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The book contains three exceptionally clear expositions on wavelets, frames and their applications. A further extremely active current research area, well covered here, is the relation between probability and partial differential equations, including probabilistic representations of solutions to elliptic and parabolic PDEs. New approaches, such as the PDE method for large deviation problems, and stochastic optimal control and filtering theory, are beginning to yield their secrets. Another topic dealt with is the application of probabilistic techniques to mathematical analysis. Finally, there are clear explanations of normal numbers and dynamic systems, and the influence of probability on our daily lives.

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