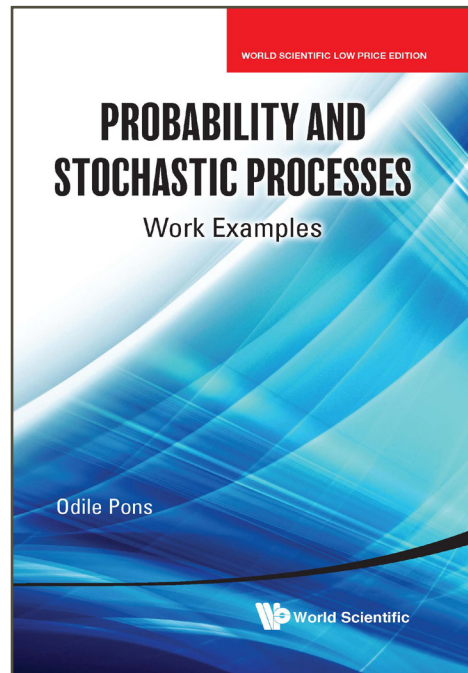# PROBABILITY AND STOCHASTIC PROCESSES
Work Examples

By
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ABOUT THE BOOK

The book is intended to undergraduate students, it presents exercices and problems with rigorous solutions covering the mains subject of the course with both theory and applications.

The questions are solved using simple mathematical methods: Laplace and Fourier transforms provide direct proofs of the main convergence results for sequences of random variables.

The book studies a large range of distribution functions for random variables and processes: Bernoulli, multinomial, exponential, Gamma, Beta, Dirichlet, Poisson, Gaussian, Chi2, ordered variables, survival distributions and processes, Markov chains and processes, Brownian motion and bridge, diffusions, spatial processes.

READERSHIP

Undergraduate students interested in more advanced statistics.

CONTENTS

- Probability Measures and Spaces
- Probability Distributions
- Generating Function and Discrete Distributions
- Laplace Transform and Characteristic Function
- Continuous Distributions
- Empirical Processes and Weak Convergence
- Discrete Martingales and Stopping Times
- Time-Continuous Martingales
- Jump Processes
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