# Stochastic Tools in Mathematics and Science (Hardback)

By Alexandre J. Chorin, Ole H. Hald

Springer-Verlag New York Inc., United States, 2013. Hardback. Condition: New. 3rd ed. 2013. Language: English . Brand New Book. Stochastic Tools in Mathematics and Science covers basic stochastic tools used in physics, chemistry, engineering and the life sciences. The topics covered include conditional expectations, stochastic processes, Brownian motion and its relation to partial differential equations, Langevin equations, the Liouville and Fokker-Planck equations, as well as Markov chain Monte Carlo algorithms, renormalization, basic statistical mechanics, and generalized Langevin equations and the Mori-Zwanzig formalism. The applications include sampling algorithms, data assimilation, prediction from partial data, spectral analysis, and turbulence. The book is based on lecture notes from a class that has attracted graduate and advanced undergraduate students from mathematics and from many other science departments at the University of California, Berkeley. Each chapter is followed by exercises. The book will be useful for scientists and engineers working in a wide range of fields and applications. For this new edition the material has been thoroughly reorganized and updated, and new sections on scaling, sampling, filtering and data assimilation, based on recent research, have been added. There are additional figures and exercises. Review of earlier edition: This is an excellent concise textbook which can...

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## Reviews

This is an awesome publication i have at any time read. Of course, it is play, still an interesting and amazing literature. You will like just how the author write this book.
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Extremely helpful to all category of individuals. I have got go through and that i am confident that i will likely to read through once again again later on. Once you begin to read the book, it is extremely difficult to leave it before concluding.
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