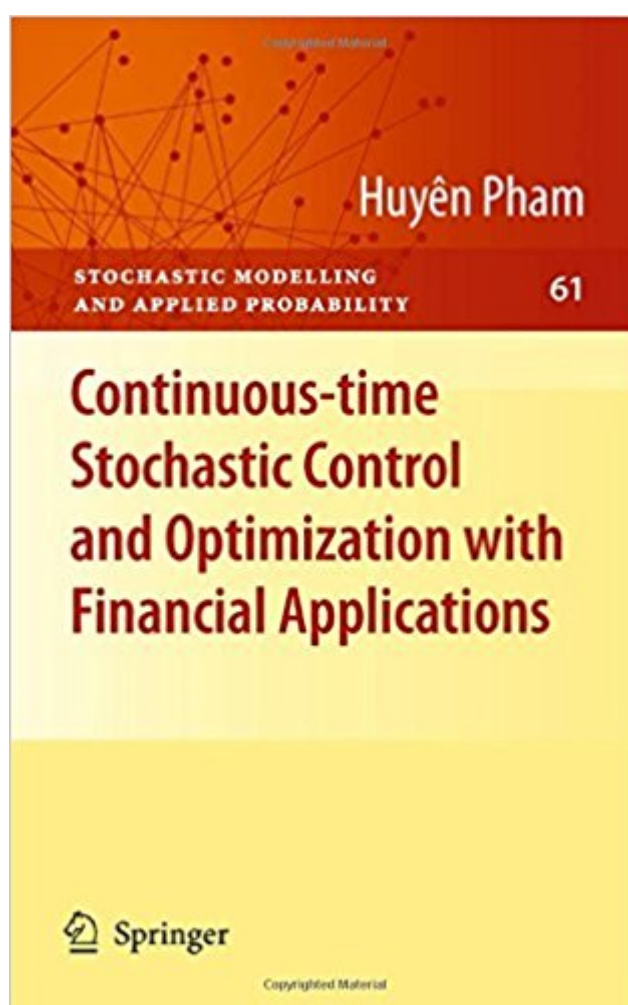


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# Continuous-time Stochastic Control And Optimization With Financial Applications (Stochastic Modelling And Applied Probability)



## Synopsis

Stochastic optimization problems arise in decision-making problems under uncertainty, and find various applications in economics and finance. On the other hand, problems in finance have recently led to new developments in the theory of stochastic control. This volume provides a systematic treatment of stochastic optimization problems applied to finance by presenting the different existing methods: dynamic programming, viscosity solutions, backward stochastic differential equations, and martingale duality methods. The theory is discussed in the context of recent developments in this field, with complete and detailed proofs, and is illustrated by means of concrete examples from the world of finance: portfolio allocation, option hedging, real options, optimal investment, etc. This book is directed towards graduate students and researchers in mathematical finance, and will also benefit applied mathematicians interested in financial applications and practitioners wishing to know more about the use of stochastic optimization methods in finance.

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1995: PhD in applied mathematics, University Paris Dauphine 1995: Assistant Professor, University Marne-la-Vallée 1999: Professor, University Paris 7 2006: Member Institut Universitaire de France

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