Math Matiques Dunod

COMPTON BOWERS

Mathematical Physics Springer Science & Business Media
Take an in-depth look at equity hybrid derivatives. Written by the quantitative research team of Deutsche Bank, the world leader in innovative equity derivative transactions, this book presents leading-edge thinking in modeling, valuing, and hedging for this market, which is increasingly used for investment by hedge funds. You'll gain a balanced, integrated presentation of theory and practice, with an emphasis on understanding new techniques for analyzing volatility and credit derivative transactions linked to equity. In every instance, theory is illustrated along with practical application. Marcus Overhaus, PhD, is Managing Director and Global Head of Quantitative Research and Equity Structuring. Ana Bermudez, PhD, is an Associate in Global Quantitative Research. Hans Buehler, PhD, is a Vice President in Global Quantitative Research. Andrew Ferraris, DPhil, is a Managing Director in Global Quantitative Research. Christopher Jordinson, PhD, is a Vice President in Global Quantitative Research. Aziz Lamnouar, DEA, is a Vice President in Global Quantitative Research. All are associated with Deutsche Bank AG, London.
Monographic Series Springer Science & Business Media
The objective of this self-contained book is two-fold. First, the reader is introduced to the modelling and mathematical analysis used in fluid mechanics, especially concerning the Navier-Stokes equations which is the basic model for the flow of incompressible viscous fluids. Authors introduce mathematical tools so that the reader is able to use them for studying many other kinds of partial differential equations, in particular nonlinear evolution problems. The background needed are basic results in calculus, integration, and functional analysis. Some sections certainly contain more advanced topics than others. Nevertheless, the authors' aim is that graduate or PhD students, as well as researchers who are not specialized in nonlinear analysis or in mathematical fluid mechanics, can find a detailed introduction to this subject. .
Analysis and Numerics of Partial Differential Equations Academic Press
This book collects the papers published by A. Borel from 1983 to 1999. About half of them are research papers, written on his own or in collaboration, on various topics pertaining mainly to algebraic or Lie groups, homogeneous spaces, arithmetic groups (L2-spectrum, automorphic forms, cohomology and covolumes), L2-cohomology of symmetric or locally symmetric spaces, and to the Oppenheim conjecture. Other publications include surveys and personal recollections (of D. Montgomery, Harish-Chandra, and A. Weil), considerations on mathematics in general and several articles of a historical nature: on the School of Mathematics at the Institute for Advanced Study, on N. Bourbaki and on selected aspects of the works of H. Weyl, C. Chevalley, E. Kolchin, J. Leray, and A. Weil. The book concludes with an essay on H. Poincaré and special relativity. Some comments on, and corrections to, a number of papers have also been added.
Collected Papers FeniXX
An introduction to the important areas of mathematical physics, this volume starts with basic ideas and proceeds (sometimes rapidly) to a more sophisticated level, often to the context of current research.All of the necessary functional analysis and differential geometry is included, along with basic calculus of variations and partial differential equations (linear and nonlinear). An introduction

to classical and quantum mechanics is given with topics in Feynman integrals, gauge fields, geometric quantization, attractors for PDE, Ginzburg-Landau Equations in superconductivity, Navier-Stokes equations, soliton theory, inverse problems and ill-posed problems, scattering theory, convex analysis, variational inequalities, nonlinear semigroups, etc. Contents: 1. Classical Ideas and Problems. Introduction. Some Preliminary Variational Ideas. Various Differential Equations and Their Origins. Linear Second Order PDE. Further Topics in the Calculus of Variations. Spectral Theory for Ordinary Differential Operators, Transmutation, and Inverse Problems. Introduction to Classical Mechanics. Introduction to Quantum Mechanics. Weak Problems in PDE. Some Nonlinear PDE. Ill-Posed Problems and Regularization. 2. Scattering Theory and Solitons. Introduction. Scattering Theory I (Operator Theory). Scattering Theory II (3-D). Scattering Theory III (A Medley of Themes). Scattering Theory IV (Spectral Methods in 3-D). Systems and Half Line Problems. Relations between Potentials and Spectral Data. Introduction to Soliton Theory. Solitons via AKNS Systems. Soliton Theory (Hamiltonian Structure). Some Topics in Integrable Systems. 3. Some Nonlinear Analysis: Some Geometric Formalism. Introduction. Nonlinear Analysis. Monotone Operators. Topological Methods. Convex Analysis. Nonlinear Semigroups and Monotone Sets. Variational Inequalities. Quantum Field Theory. Gauge Fields (Physics). Gauge Fields (Mathematics) and Geometric Quantization. Appendices: Introduction to Linear Functional Analysis. Selected Topics in Functional Analysis. Introduction to Differential Geometry. References. Index.

Handbook of Mathematics Springer Science & Business Media

The book, revised, consists of XI Parts and 28 Chapters covering all areas of mathematics. It is a tool for students, scientists, engineers, students of many disciplines, teachers, professionals, writers and also for a general reader with an interest in mathematics and in science. It provides a wide range of mathematical concepts, definitions, propositions, theorems, proofs, examples, and numerous illustrations. The difficulty level can vary depending on chapters, and sustained attention will be required for some. The structure and list of Parts are quite classical: I. Foundations of Mathematics, II. Algebra, III. Number Theory, IV. Geometry, V. Analytic Geometry, VI. Topology, VII. Algebraic Topology, VIII. Analysis, IX. Category Theory, X. Probability and Statistics, XI. Applied Mathematics. Appendices provide useful lists of symbols and tables for ready reference. Extensive cross-references allow readers to find related terms, concepts and items (by page number, heading, and objet such as theorem, definition, example, etc.). The publisher’s hope is that this book, slightly revised and in a convenient format, will serve the needs of readers, be it for study, teaching, exploration, work, or research.

Exercises in Applied Mathematics De Boeck Supérieur

A substantial amount of this book is devoted to general questions (including significant material from the history of science, allowing one to follow the formation of modern attitudes on the essence of mathematics and the methods of its applications): only chapters 5 and 6 are devoted to a survey of the basic algebraic structures and a more detailed analysis of a structure associated with some geometric considerations, are of a more concrete character.

Agrégation interne de mathématiques Springer Science & Business Media

This book focuses on some of the major developments in the history of contemporary (19th and 20th century) mathematics as seen in the broader context of the development of science and culture. Avoiding technicalities, it displays the breadth of contrasting images of mathematics favoured by different countries, schools and historical movements, showing how the conception and practice of mathematics changed over time depending on the cultural and national context. Thus it provides an original perspective for embracing the richness and variety inherent in the development of mathematics. Attention is paid to the interaction of mathematics with themes whose proper treatment have been neglected by the traditional historiography of the discipline, such as the relationship between mathematics, statistics and medicine.

Mathematical Reviews American Mathematical Soc.

This book contains some of the results presented at the mini-symposium titled Emerging Problems in the Homogenization of Partial Differential Equations, held during the ICIAM2019 conference in Valencia in July 2019. The papers cover a large range of topics, problems with weak regularity data involving renormalized solutions, eigenvalue problems for complicated shapes of the domain, homogenization of partial differential problems with strongly alternating boundary conditions of Robin type with large parameters, multiscale analysis of the potential action along a neuron with a myelinated axon, and multi-scale model of magnetorheological suspensions. The volume is addressed to scientists who deal with complex systems that presents several elements (characteristics, constituents...) of very different scales, very heterogeneous, and search for homogenized models providing an effective (macroscopic) description of their behaviors.

Catalog of Copyright Entries. Third Series Springer Science & Business Media

This book constitutes the refereed proceedings of the 8th International Symposium on Stabilization, Safety, and Security of Distributed Systems, SSS 2006, held in Dallas, TX, USA in November 2006. The 36 revised full papers and 12 revised short papers presented together with the extended abstracts of 2 invited lectures address all aspects of self-stabilization, safety and security, recovery oriented systems and programming.

Changing Images in Mathematics John Wiley & Sons

The primary objective of this essential text is to emphasize the deep relations existing between the semiring and dioïd structures with graphs and their combinatorial properties. It does so at the same time as demonstrating the modeling and problem-solving flexibility of these structures. In addition the book provides an extensive overview of the mathematical properties employed by "nonclassical" algebraic structures which either extend usual algebra or form a new branch of it.

Geometric Asymptotics Springer Science & Business Media

Cet ouvrage est une réédition numérique d’un livre paru au XXe siècle, désormais indisponible dans son format d’origine.

Partial Differential Equations and Functional Analysis Elsevier

The aim of this book is to present the mathematical theory and the know-how to make computer programs for the numerical approximation of Optimal Control of PDE's. The computer programs are presented in a straightforward generic language. As a consequence they are well structured, clearly explained and can be translated easily into any high level programming language. Applications and corresponding numerical tests are also given and discussed. To our knowledge, this is the first book to put together mathematics and computer programs for Optimal Control in order to bridge the gap between mathematical abstract algorithms and concrete numerical ones. The text is addressed to students and graduates in Mathematics, Mechanics, Applied Mathematics, Numerical Software, Information Technology and Engineering. It can also be used for Master and Ph.D. programs.

Mathematical Tools for the Study of the Incompressible Navier-Stokes Equations andRelated Models Springer Nature

Cet ouvrage est une réédition numérique d’un livre paru au XXe siècle, désormais indisponible dans son format d’origine.

Mathematical Analysis and Numerical Methods for Science and Technology Springer Nature

From the reviews of the first edition:"... Here ... a wealth of material is displayed for us, too much to even indicate in a review. ... Your reviewer was very impressed by the contents of both volumes (EMS 2 and 4), recommending them without any restriction." Mededelingen van het Wiskundig genootshap 1992

Mathematical and Numerical Foundations of Turbulence Models and Applications John Wiley & Sons

This volume is a selection of contributions offered by friends, collaborators, past students in memory of Enrico Magenes. The first part gives a wide historical perspective of Magenes' work in his 50-year mathematical career; the second part contains original research papers, and shows how ideas, methods, and techniques introduced by Magenes and his collaborators still have an impact on the current research in Mathematics.

Computation and Applied Mathematics Springer Science & Business Media

Cet ouvrage est une réédition numérique d’un livre paru au XXe siècle, désormais indisponible dans son format d’origine.

Mathematics for Informatics and Computer Science FeniXX

This Research Note presents several contributions and mathematical studies in fluid mechanics, namely in non-Newtonian and viscoelastic fluids and on the Navier-Stokes equations in unbounded domains. It includes review of the mathematical analysis of incompressible and compressible flows and results in magnetohydrodynamic and electrohydrodynamic stability and thermoconvective flow of Boussinesq-Stefan type. These studies, along with brief communications on a variety of related topics comprise the proceedings of a summer course held in Lisbon, Portugal in 1991. Together they provide a set of comprehensive survey and advanced introduction to problems in fluid mechanics and partial differential equations.

Canadian Mathematical Bulletin Editions Ellipses

Symplectic geometry and the theory of Fourier integral operators are modern manifestations of themes that have occupied a central position in mathematical thought for the past three hundred years--the relations between the wave and the corpuscular theories of light. The purpose of this book is to develop these themes, and present some of the recent advances, using the language of differential geometry as a unifying influence.

Graph-Theoretic Concepts in Computer Science Springer Nature

Mark Vishik was one of the prominent figures in the theory of partial differential equations. His ground-breaking contributions were instrumental in integrating the methods of functional analysis into this theory. The book is based on the memoirs of his friends and students, as well as on the recollections of Mark Vishik himself, and contains a detailed description of his biography: childhood in Lwów, his connections with the famous Lwów school of Stefan Banach, a difficult several year long journey from Lwów to Tbilisi after the Nazi assault in June 1941, going to Moscow and forming his own school of differential equations, whose central role was played by the famous Vishik Seminar at the Department of Mechanics and Mathematics at Moscow State University. The reader is introduced to a number of remarkable scientists whose lives intersected with Vishik’s, including S. Banach, J. Schauder, I. N. Vekua, N. I. Muskhelishvili, L. A. Lyusternik, I. G. Petrovskii, S. L. Sobolev, I. M. Gelfand, M. G. Krein, A. N. Kolmogorov, N. I. Akhiezer, J. Leray, J.-L. Lions, L. Schwartz, L. Nirenberg, and many others. The book also provides a detailed description of the main research directions of Mark Vishik written by his students and colleagues, as well as several reviews of the recent development in these directions.

Mathematical Topics in Fluid Mechanics CRC Press

Ce livre est un guide qui oriente le candidat vers des ouvrages et des documents de qualité. Il traite 41 thèmes à l’aide d’exemples et exercices commentés et référencés. Il s'adresse aux candidats préparant la deuxième épreuve orale de l’agrégation interne de mathématiques.