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P. Abramenko, University of Virginia Dept. Mathematics, Charlottesville, VA, USA; **K. S. Brown**, Cornell University Dept. Neurobiology & Behavior, Ithaca, NY, USA

Buildings

This text started out as a revised version of Buildings by the second-named author [53], but it has grown into a much more voluminous book. The earlier book was intended to give a short, friendly, elementary introduction to the theory, accessible to readers with a minimal background. Moreover, it approached buildings from only one point of view, sometimes called the "old-fashioned" approach: A building is a simplicial complex with certain properties. The current book includes all the material of the earlier one, but we have added a lot. [...]

2008. XXII, 754 p. 100 illus. (Graduate Texts in Mathematics, Volume 248) Hardcover

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9 780387 788340

M. Adams; V. Guillemin

Measure Theory and Probability

"...the text is user friendly to the topics it considers and should be very accessible... Instructors and students of statistical measure theoretic courses will appreciate the numerous informative exercises; helpful hints or solution outlines are given with many of the problems. All in all, the text should make a useful reference for professionals and students."—The Journal of the American Statistical Association

1996. XVI, 206 p. (The Wadsworth & Brooks/Cole Mathematics Series) Hardcover

€ (D) 53,49 | € (A) 54,99 | *CHF 58.50
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[978-0-8176-3884-9](https://doi.org/10.1007/978-0-8176-3884-9)



9 780817 638849

D. Adams, University of Kentucky, Lexington, KY, USA

Morrey Spaces

In this set of lecture notes, the author includes some of the latest research on the theory of Morrey Spaces associated with Harmonic Analysis. There are three main claims concerning these spaces that are covered: determining the integrability classes of the trace of Riesz potentials of an arbitrary Morrey function; determining the dimensions of singular sets of weak solutions of PDE (e.g. The Meyers-Elcart System); and determining whether there are any "full" interpolation results for linear operators between Morrey spaces. [...]

2015. XVII, 124 p. 1 illus. in color. (Applied and Numerical Harmonic Analysis) Softcover

€ (D) 42,80 | € (A) 44,00 | *CHF 44.00
€ 40,00 | £ 29,99

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[978-3-319-26679-4](https://doi.org/10.1007/978-3-319-26679-4)



9 783319 266794

R. P. Agarwal, Texas A&M University-Kingsville, Kingsville, TX, USA; **E. KARAPINAR**, Atılım University, Incek, Ankara, Turkey; **D. O'Regan**, National University of Ireland, Galway, Ireland; **A. F. Roldán-López-de-Hierro**, University of Granada, Granada, Spain

Fixed Point Theory in Metric Type Spaces

Written by a team of leading experts in the field, this volume presents a self-contained account of the theory, techniques and results in metric type spaces (in particular in G-metric spaces); that is, the text approaches this important area of fixed point analysis beginning from the basic ideas of metric space topology. [...]

2015. XVII, 385 p. Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 104.50
€ 94,99 | £ 71,00

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-3-319-24080-0](https://doi.org/10.1007/978-3-319-24080-0)



9 783319 240800

R. P. Agarwal, Texas A&M University - Kingsville, Kingsville, TX, USA; **K. Perera**, Florida Institute of Technology, Melbourne, FL, USA; **S. Pinelas**, Academia Militar, Amadora, Portugal

An Introduction to Complex Analysis

This textbook introduces the subject of complex analysis to advanced undergraduate and graduate students in a clear and concise manner. [...]

2011. XIV, 331 p. Hardcover

€ (D) 64,15 | € (A) 65,95 | *CHF 86.00
€ 59,95 | £ 53,99

Yellow Sale Price

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€ 29,99 | £ 22,99

[978-1-4614-0194-0](https://doi.org/10.1007/978-1-4614-0194-0)



9 781461 401940

M. S. Agranovich, Moscow, Russia

Sobolev Spaces, Their Generalizations and Elliptic Problems in Smooth and Lipschitz Domains

This book, which is based on several courses of lectures given by the author at the Independent University of Moscow, is devoted to Sobolev-type spaces and boundary value problems for linear elliptic partial differential equations. Its main focus is on problems in non-smooth (Lipschitz) domains for strongly elliptic systems. The author, who is a prominent expert in the theory of linear partial differential equations, spectral theory and pseudodifferential operators, has included his own very recent findings in the present book. [...]

2015. XIII, 331 p. (Springer Monographs in Mathematics) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 126.50
€ 94,99 | £ 85,50

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-3-319-14647-8](https://doi.org/10.1007/978-3-319-14647-8)



9 783319 146478

D. Aita, Associazione Edoardo Benvenuto, Genova, Italy; **O. Pedemonte**, Università di Genova, Genova, Italy; **K. Williams**, Kim Williams Books, Torino, Italy (Eds)

Masonry Structures: Between Mechanics and Architecture

The book aims to provide an overview of the state of the art on the mechanics of arches and masonry structures. It is addressed to an international audience, arising from the international context in which the Associazione Edoardo Benvenuto has carried out its activities in recent years, under the honorary presidency of Jacques Heyman. [...]

2015. XII, 327 p. Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 96.00
€ 84,99 | £ 76,50

Yellow Sale Price

€ (D) 50,28 | € (A) 51,69 | *CHF 52.00
€ 46,99 | £ 34,99

[978-3-319-13002-6](#)



9 783319 130026

J. Akiyama, Tokai University Research Institute, Shibuya-ku, Japan; **M. Kano**, Ibaraki University Computer and Information Sciences, Hitachi, Japan

Factors and Factorizations of Graphs

This book chronicles the development of graph factors and factorizations. It pursues a comprehensive approach, addressing most of the important results from hundreds of findings over the last century. One of the main themes is the observation that many theorems can be proved using only a few standard proof techniques. This stands in marked contrast to the seemingly countless, complex proof techniques offered by the extant body of papers and books. [...]

2011. XII, 353 p. 153 illus. (Lecture Notes in Mathematics, Volume 2031) Softcover

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€ 69,95 | £ 62,99

Yellow Sale Price

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€ 34,99 | £ 26,99

[978-3-642-21918-4](#)



9 783642 219184

J. Akiyama, Tokyo University of Science, Tokyo, Japan; **K. Matsunaga**, Yokohama, Japan

Treks into Intuitive Geometry

This book is written in a style that uncovers the mathematical theories buried in our everyday lives such as examples from patterns that appear in nature, art, and traditional crafts, and in mathematical mechanisms in techniques used by architects. The authors believe that through dialogues between students and mathematicians, readers may discover the processes by which the founders of the theories came to their various conclusions—their trials, errors, tribulations, and triumphs. [...]

2015. XV, 425 p. Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 66.00
€ 59,99 | £ 44,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-4-431-55841-5](#)



9 784431 558415

A. G. Aksoy, Claremont McKenna College Dept. Mathematics & Computer Science, Claremont, CA, USA; **M. A. Khamisi**, University of Texas, El Paso (UTEP) Dept. Mathematical Sciences, El Paso, TX, USA

A Problem Book in Real Analysis

Education is an admirable thing, but it is well to remember from time to time that nothing worth knowing can be taught. Oscar Wilde, "The Critic as Artist," 1890. Analysis is a profound subject; it is neither easy to understand nor summarize. However, Real Analysis can be discovered by solving problems. This book aims to give independent students the opportunity to discover Real Analysis by themselves through problem solving. [...]

2010. X, 254 p. (Problem Books in Mathematics) Hardcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
€ 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-1-4419-1295-4](#)



9 781441 912954

J. Albert, Bowling Green State University Dept. Mathematics & Statistics, Bowling Green, OH, USA

Bayesian Computation with R

There has been dramatic growth in the development and application of Bayesian inference in statistics. Berger (2000) documents the increase in Bayesian activity by the number of published research articles, the number of books, and the extensive number of applications of Bayesian articles in applied disciplines such as science and engineering. One reason for the dramatic growth in Bayesian modeling is the availability of computational algorithms to compute the range of integrals that are necessary in a Bayesian posterior analysis. [...]

2nd ed. 2009. XII, 300 p. (Use R!) Softcover

€ (D) 48,10 | € (A) 49,45 | *CHF 64.50
€ 44,95 | £ 42,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
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[978-0-387-92297-3](#)



9 780387 922973

M. M. Alexandrino, Instituto de Matemática e Estatística, Universidade de São Paulo, São Paulo, Brazil; **R. G. Bettiol**, University of Pennsylvania, Philadelphia, PA, USA

Lie Groups and Geometric Aspects of Isometric Actions

This book provides quick access to the theory of Lie groups and isometric actions on smooth manifolds, using a concise geometric approach. After a gentle introduction to the subject, some of its recent applications to active research areas are explored, keeping a constant connection with the basic material. The topics discussed include polar actions, singular Riemannian foliations, cohomogeneity one actions, and positively curved manifolds with many symmetries. [...]

2015. X, 213 p. 14 illus. Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 96.00
€ 84,99 | £ 76,50

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[978-3-319-16612-4](#)



9 783319 166124

M. Al-Gwaiz, King Saud University College of Science, Riyadh, Saudi Arabia

Sturm-Liouville Theory and its Applications

Developed from a course taught to senior undergraduates, this book provides a unified introduction to Fourier analysis and special functions based on the Sturm-Liouville theory in L2. The treatment relies heavily on the convergence properties of sequences and series of numbers as well as functions, and assumes a solid background in advanced calculus and an acquaintance with ordinary differential equations and linear algebra. Familiarity with the relevant theorems of real analysis, such as the Ascoli–Arzelà theorem, is also useful for following the proofs. [...]

2008. X, 264 p. (Springer Undergraduate Mathematics Series) Softcover

€ (D) 37,40 | € (A) 38,45 | *CHF 47,00
€ 34,95 | £ 24,95

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€ (D) 18,18 | € (A) 18,69 | *CHF 19,00
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[978-1-84628-971-2](#)



9 781846 289712

K. T. Alligood; T. D. Sauer; J. A. Yorke

Chaos

Chaos: An Introduction to Dynamical Systems, was developed and class-tested by a distinguished team of authors at two universities through their teaching of courses based on the material. Intended for courses in nonlinear dynamics offered either in Mathematics or Physics, the text requires only calculus, differential equations, and linear algebra as prerequisites. [...]

1996. XVII, 603 p. (Textbooks in Mathematical Sciences) Softcover

€ (D) 53,45 | € (A) 54,95 | *CHF 77,50
€ 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27,50
€ 24,99 | £ 18,99

[978-0-387-94677-1](#)



9 780387 946771

D. Alpay, Ben-Gurion University of the Negev Dept of Math, Bldg 37, Beer-Sheva, Israel

An Advanced Complex Analysis Problem Book

This is an exercises book at the beginning graduate level, whose aim is to illustrate some of the connections between functional analysis and the theory of functions of one variable. A key role is played by the notions of positive definite kernel and of reproducing kernel Hilbert space. A number of facts from functional analysis and topological vector spaces are surveyed. Then, various Hilbert spaces of analytic functions are studied.

2015. IX, 521 p. Softcover

€ (D) 74,89 | € (A) 76,99 | *CHF 77,00
€ 69,99 | £ 52,99

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€ (D) 37,44 | € (A) 38,49 | *CHF 38,50
€ 34,99 | £ 26,99

[978-3-319-16058-0](#)



9 783319 160580

R. Alvarado, University of Missouri, Columbia, MO, USA; **M. Mitrea**, University of Missouri, Columbia, MO, USA

Hardy Spaces on Ahlfors-Regular Quasi Metric Spaces

Systematically constructing an optimal theory, this monograph develops and explores several approaches to Hardy spaces in the setting of Ahlfors-regular quasi-metric spaces. [...]

2015. VIII, 486 p. 17 illus., 12 illus. in color. (Lecture Notes in Mathematics, Volume 2142) Softcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79,00
€ 69,99 | £ 62,99

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€ (D) 37,44 | € (A) 38,49 | *CHF 38,50
€ 34,99 | £ 26,99

[978-3-319-18131-8](#)



9 783319 181318

J.L. Alperin; R. B. Bell

Groups and Representations

The aim of this book is to provide a concise treatment of some topics from group theory and representation theory for a one term course. It focuses on the non-commutative side of the field emphasizing the general linear group as the most important group and example. The book will enable graduate students from every mathematical field, as well as strong undergraduates with an interest in algebra, to solidify their knowledge of group theory. The reader should have a familiarity with groups, rings, and fields, along with a solid knowledge of linear algebra. [...]

1995. X, 196 p. (Graduate Texts in Mathematics, Volume 162) Softcover

€ (D) 48,10 | € (A) 49,45 | *CHF 69,00
€ 44,95 | £ 40,99

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€ 24,99 | £ 18,99

[978-0-387-94526-2](#)



9 780387 945262

S. Amari, RIKEN Brain Science Institute, Wako

Information Geometry and Its Applications

This is the first comprehensive book on information geometry, written by the founder of the field. It begins with an elementary introduction to dualistic geometry and proceeds to a wide range of applications, covering information science, engineering, and neuroscience. It consists of four parts, which on the whole can be read independently. A manifold with a divergence function is first introduced, leading directly to dualistic structure, the heart of information geometry. This part (Part I) can be apprehended without any knowledge of differential geometry. [...]

2016. XIII, 373 p. 94 illus. (Applied Mathematical Sciences, Volume 194) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 104,50
€ 94,99 | £ 71,00

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€ (D) 69,54 | € (A) 71,49 | *CHF 71,50
€ 64,99 | £ 48,99

[978-4-431-55977-1](#)



9 784431 559771

L. Ambrosio, Scuola Normale Superiore Department of Mathematics, Pisa, Italy; **N. Gigli**, Scuola Normale Superiore Dipto. Matematica, Pisa, Italy; **G. Savare**, University of Pavia Department of Mathematics, Pavia, Italy

Gradient Flows

2nd ed. 2008. IX, 334 p. (Lectures in Mathematics. ETH Zürich) Softcover
€ (D) 53,45 | € (A) 54,95 | *CHF 66.50
€ 49,95 | £ 44,99

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[978-3-7643-8721-1](https://doi.org/10.1007/978-3-7643-8721-1)



9 783764 387211

D. F. Anderson, University of Wisconsin, Madison, Madison, WI, USA; **T. G. Kurtz**, University of Wisconsin, Madison, WI, USA

Stochastic Analysis of Biochemical Systems

This book focuses on counting processes and continuous-time Markov chains motivated by examples and applications drawn from chemical networks in systems biology. The book should serve well as a supplement for courses in probability and stochastic processes. While the material is presented in a manner most suitable for students who have studied stochastic processes up to and including martingales in continuous time, much of the necessary background material is summarized in the Appendix. [...]

2015. X, 84 p. 4 illus. (Mathematical Biosciences Institute Lecture Series, Volume 1.2) Softcover

€ (D) 42,79 | € (A) 43,99 | *CHF 53.50
€ 39,99 | £ 35,99

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[978-3-319-16894-4](https://doi.org/10.1007/978-3-319-16894-4)



9 783319 168944

T. Andreescu, University of Texas at Dallas Natural Sciences and Mathematics, Richardson, TX, USA; **R. Gelca**, Texas Tech University Dept. Mathematics & Statistics, Lubbock, TX, USA

Mathematical Olympiad Challenges

Why Olympiads? Working mathematicians tell us that results in the field are achieved after long experience and a deep familiarity with mathematical objects, that progress is made slowly and collectively, and that ashes of inspiration are mere punctuation in periods of sustained effort. The Olympiad environment, in contrast, demands relatively brief periods of intense occasions, and requires a concentrated but isolated effort. Yet we have found that participants in mathematics Olympiad shave [...]

2nd ed. 2009. XVII, 283 p. 108 illus.

(Wissenschaftsprogramm nur englisch (Birkhäuser)) Softcover

€ (D) 37,34 | € (A) 38,39 | *CHF 59.90
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9 780817 645281

T. Andreescu, University of Texas at Dallas Natural Sciences and Mathematics, Richardson, TX, USA; **D. Andrica**, Babeş-Bolyai University Faculty of Mathematics and Computer Scie, Cluj-Napoca, Romania

Number Theory

Number theory, an ongoing rich area of mathematical exploration, is noted for its theoretical depth, with connections and applications to other fields from representation theory, to physics, cryptography, and more. While the forefront of number theory is replete with sophisticated and famous open problems, at its foundation are basic, elementary ideas that can stimulate and challenge beginning students. This lively introductory text focuses on a problem-solving approach to the subject. [...]

2009. XVIII, 384 p. 2 illus.

(Wissenschaftsprogramm nur englisch (Birkhäuser)) Hardcover

€ (D) 53,39 | € (A) 54,89 | *CHF 89.90
€ 49,90 | £ 44,99

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9 780817 632458

T. Andreescu, University of Texas at Dallas, Richardson, TX, USA; **D. Andrica**, "Babeş-Bolyai" University, Cluj-Napoca, Romania

Quadratic Diophantine Equations

This monograph treats the classical theory of quadratic Diophantine equations and guides the reader through the last two decades of computational techniques and progress in the area. These new techniques combined with the latest increases in computational power shed new light on important open problems. The authors motivate the study of quadratic Diophantine equations with excellent examples, open problems and applications. Moreover, the exposition aptly demonstrates many applications of results and techniques from the study of Pell-type equations to other problems in number theory. [...]

2015. XVIII, 211 p. (Developments in Mathematics, Volume 40) Hardcover

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[978-0-387-35156-8](https://doi.org/10.1007/978-0-387-35156-8)



9 780387 351568

M. Arkowitz, Dartmouth College Department of Mathematics, Hanover, NH, USA

Introduction to Homotopy Theory

This is a book in pure mathematics dealing with homotopy theory, one of the main branches of algebraic topology. The principal topics are as follows: Basic Homotopy; H-spaces and co-H-spaces; fibrations and cofibrations; exact sequences of homotopy sets, actions, and coactions; homotopy pushouts and pullbacks; classical theorems, including those of Serre, Hurewicz, Blakers-Massey, and Whitehead; homotopy Sets; homotopy and homology decompositions of spaces and maps; and obstruction theory. The underlying theme of the entire book is the Eckmann-Hilton duality theory. [...]

2011. XIII, 344 p. 333 illus. (Universitext) Softcover

€ (D) 64,15 | € (A) 65,95 | *CHF 86.00
€ 59,95 | £ 53,99

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€ 29,99 | £ 22,99

[978-1-4419-7328-3](https://doi.org/10.1007/978-1-4419-7328-3)



9 781441 973283

V. I. Arnold, Russian Academy of Sciences
Steklov Mathematical Institute, Moscow,
Russia

Lectures on Partial Differential Equations

Choice Outstanding Title! (January 2006)
Like all of Vladimir Arnold's books, this book
is full of geometric insight. Arnold illustrates
every principle with a figure. This book aims
to cover the most basic parts of the subject
and confines itself largely to the Cauchy
and Neumann problems for the classical
linear equations of mathematical physics,
especially Laplace's equation and the wave
equation, although the heat equation and
the Korteweg-de Vries equation are also dis-
cussed. Physical intuition is emphasized. [...]

2004. X, 162 p. (Universitext) Softcover
€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

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€ 24,99 | £ 18,99

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9 783540 404484

K. Arwini, Al-Fateh University Fac. Sciences,
Tripoli, Libya; **C. T. J. Dodson**, University
of Manchester Mathematical Institute,
Manchester, UK

Information Geometry

2008. X, 260 p. 103 illus. (Lecture Notes in
Mathematics, Volume 1953) Softcover
€ (D) 48,10 | € (A) 49,45 | *CHF 64.50
€ 44,95 | £ 40,99

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€ 24,99 | £ 18,99

[978-3-540-69391-8](#)



9 783540 693918

S. Asmussen, University of Aarhus
Dept. Mathematical Sciences, Aarhus C,
Denmark; **P. W. Glynn**, Stanford University
Huang Engineering Center 357, Stanford, CA,
USA

Stochastic Simulation: Algorithms and Analysis

Sampling-based computational methods
have become a fundamental part of the
numerical toolset of practitioners and
researchers across an enormous number
of different applied domains and academic
disciplines. This book provides a broad
treatment of such sampling-based methods,
as well as accompanying mathematical
analysis of the convergence properties of
the methods discussed. The reach of the
ideas is illustrated by discussing a wide
range of applications and the models
that have found wide usage. [...]

2007. XIV, 476 p. (Stochastic Modelling and
Applied Probability, Volume 57) Hardcover
€ (D) 53,45 | € (A) 54,95 | *CHF 75.00
€ 49,95 | £ 43,99

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€ 24,99 | £ 18,99

[978-0-387-30679-7](#)



9 780387 306797

I. Avramidi, New Mexico Tech, Socorro, NM

Heat Kernel Method and its Applications

The heart of the book is the development
of a short-time asymptotic expansion for
the heat kernel. This is explained in detail
and explicit examples of some advanced
calculations are given. In addition some
advanced methods and extensions,
including path integrals, jump diffusion and
others are presented. The book consists of
four parts: Analysis, Geometry, Perturbations
and Applications. The first part shortly
reviews of some background material
and gives an introduction to PDEs. [...]

2015. XIX, 390 p. 17 illus. in color. Hardcover
€ (D) 101,64 | € (A) 104,49 | *CHF 104.50
€ 94,99 | £ 71,00

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-3-319-26265-9](#)



9 783319 262659

J. Awrejcewicz, Technical University of Łódź
Department of Automatics & Biomechanics,
Łódź, Poland; **Z. Koruba**, Kielce University of
Technology, Kielce, Poland

Classical Mechanics

This is the last book of three devoted
to Mechanics, and uses the theoretical
background presented in Classical
Mechanics: Kinematics and Statics and
Classical Mechanics: Dynamics. It focuses
on exhibiting a unique approach, rooted
in the classical mechanics, to study
mechanical and electromagnetic processes
occurring in Mechatronics. Contrary to
the majority of the books devoted to
Applied Mechanics, this volume places a
particular emphasis on theory, modeling,
analysis, and control of gyroscopic devices,
including the military applications. [...]

2012. XXI, 250 p. 173 illus., 146 illus. in color.
(Advances in Mechanics and Mathematics,
Volume 30) Hardcover

€ (D) 117,69 | € (A) 120,99 | *CHF 121.00
€ 109,99 | £ 82,00

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-1-4614-3977-6](#)



9 781461 439776

J. Awrejcewicz, Technical University of Łódź
Department of Automatics & Biomechanics,
Łódź, Poland

Classical Mechanics

This is the second volume of three books
devoted to Mechanics. In this book,
dynamical and advanced mechanics
problems are stated, illustrated, and
discussed, including a few novel concepts
in comparison to standard text books and
monographs. Apart from being addressed
to a wide spectrum of graduate students,
postgraduate students, researchers, and
teachers from the fields of mechanical
and civil engineering, this volume is also
intended to be used as a self-contained
material for applied mathematicians and
physical scientists and researchers.

2012. XIV, 466 p. (Advances in Mechanics and
Mathematics, Volume 29) Hardcover

€ (D) 187,24 | € (A) 192,49 | *CHF 192.50
€ 174,99 | £ 130,50

Yellow Sale Price

€ (D) 93,08 | € (A) 95,69 | *CHF 96.00
€ 86,99 | £ 64,99

[978-1-4614-3739-0](#)



9 781461 437390

J. Awrejcewicz, Technical University of Łódź
Department of Automatics & Biomechanics,
Łódź, Poland

Classical Mechanics

This is the first volume of three, devoted to Mechanics. This book contains classical mechanics problems including kinematics and statics. It is recommended as a supplementary textbook for undergraduate and graduate students from mechanical and civil engineering, as well as for physical scientists and engineers. It contains a basic introduction to classical mechanics, including fundamental principles, statics, and the geometry of masses, as well as thorough discussion on kinematics.

2012. XIII, 440 p. 260 illus., 258 illus. in color. (Advances in Mechanics and Mathematics, Volume 28) Hardcover

€ (D) 187,24 | € (A) 192,49 | *CHF 192.50
€ 174,99 | £ 130,50

Yellow Sale Price

€ (D) 93,08 | € (A) 95,69 | *CHF 96.00
€ 86,99 | £ 64,99

[978-1-4614-3790-1](https://doi.org/10.1007/978-1-4614-3790-1)



9 781461 437901

N. Bacaër, IRD, Bondy Cedex, France

A Short History of Mathematical Population Dynamics

As Eugene Wigner stressed, mathematics has proven unreasonably effective in the physical sciences and their technological applications. The role of mathematics in the biological, medical and social sciences has been much more modest but has recently grown thanks to the simulation capacity offered by modern computers. This book traces the history of population dynamics—a theoretical subject closely connected to genetics, ecology, epidemiology and demography—where mathematics has brought significant insights. [...]

2011. X, 160 p. 60 illus. Softcover

€ (D) 26,70 | € (A) 27,45 | *CHF 36.00
€ 24,95 | £ 22,99

Yellow Sale Price

€ (D) 16,04 | € (A) 16,49 | *CHF 16.50
€ 14,99 | £ 11,99

[978-0-85729-114-1](https://doi.org/10.1007/978-0-85729-114-1)



9 780857 291141

B. Bajnok, Gettysburg College, Gettysburg,
PA, USA

An Invitation to Abstract Mathematics

This undergraduate textbook is intended primarily for a transition course into higher mathematics, although it is written with a broader audience in mind. The heart and soul of this book is problem solving, where each problem is carefully chosen to clarify a concept, demonstrate a technique, or to enthuse. The exercises require relatively extensive arguments, creative approaches, or both, thus providing motivation for the reader. With a unified approach to a diverse collection of topics, this text points out connections, similarities, and differences among subjects whenever possible. [...]

2013. XIV, 406 p. (Undergraduate Texts in Mathematics) Softcover

€ (D) 48,14 | € (A) 49,49 | *CHF 60.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-1-4899-9560-5](https://doi.org/10.1007/978-1-4899-9560-5)



9 781489 995605

A. A. Balinsky, Cardiff University, Cardiff, UK; **W. D. Evans**, Cardiff University, Cardiff, UK; **R. T. Lewis**, University of Alabama at Birmingham, Birmingham, AL, USA

The Analysis and Geometry of Hardy's Inequality

This volume presents advances that have been made over recent decades in areas of research featuring Hardy's inequality and related topics. The inequality and its extensions and refinements are not only of intrinsic interest but are indispensable tools in many areas of mathematics and mathematical physics. Hardy inequalities on domains have a substantial role and this necessitates a detailed investigation of significant geometric properties of a domain and its boundary. [...]

2015. XV, 263 p. 3 illus. (Universitext) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 29,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-22869-3](https://doi.org/10.1007/978-3-319-22869-3)



9 783319 228693

T. Banchoff, Brown University Dept.
Mathematics, Providence, RI, USA; **J. Wermer**,

Linear Algebra Through Geometry

Linear Algebra Through Geometry introduces the concepts of linear algebra through the careful study of two and three-dimensional Euclidean geometry. This approach makes it possible to start with vectors, linear transformations, and matrices in the context of familiar plane geometry and to move directly to topics such as dot products, determinants, eigenvalues, and quadratic forms. The later chapters deal with n-dimensional Euclidean space and other finite-dimensional vector space. Topics include systems of linear equations in n variable, inner products, symmetric matrices, and quadratic forms. [...]

2nd ed. 1992. XII, 308 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 58,80 | € (A) 60,45 | *CHF 86.50
€ 54,95 | £ 49,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

[978-0-387-97586-3](https://doi.org/10.1007/978-0-387-97586-3)



9 780387 975863

M. Bardi, Università di Padova
Dipto. Matematica, Padova,
Italy; **I. Capuzzo-Dolcetta**, Università di
Roma Dipto. Matematica, Roma, Italy

Optimal Control and Viscosity Solutions of Hamilton-Jacobi-Bellman Equations

The purpose of the present book is to offer an up-to-date account of the theory of viscosity solutions of first order partial differential equations of Hamilton-Jacobi type and its applications to optimal deterministic control and differential games. [...]

1997. XVII, 574 p. 16 illus. (Modern Birkhäuser Classics) Softcover

€ (D) 48,14 | € (A) 49,49 | *CHF 59.50
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-8176-4754-4](https://doi.org/10.1007/978-0-8176-4754-4)



9 780817 647544

J. Barnes, John Barnes Informatics, Reading, UK

Gems of Geometry

Based on a series of lectures for adult students, this lively and entertaining book proves that, far from being a dusty, dull subject, geometry is in fact full of beauty and fascination. The author's infectious enthusiasm is put to use in explaining many of the key concepts in the field, starting with the Golden Number and taking the reader on a geometrical journey via Shapes and Solids, through the Fourth Dimension, finishing up with Einstein's Theories of Relativity. [...]

2nd ed. 2012. XIII, 325 p. 337 illus., 139 illus. in color. Hardcover

€ (D) 42,75 | € (A) 43,95 | *CHF 53.50
€ 39,95 | £ 22,95

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-3-642-30963-2](#)



9 783642 309632

M. Barot, Universidad Nacional Autónoma de México, Mexico City, Mexico

Introduction to the Representation Theory of Algebras

This book gives a general introduction to the theory of representations of algebras. It starts with examples of classification problems of matrices under linear transformations, explaining the three common setups: representation of quivers, modules over algebras and additive functors over certain categories. [...]

2015. X, 179 p. 109 illus. Softcover

€ (D) 42,79 | € (A) 43,99 | *CHF 53.50
€ 39,99 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-3-319-11474-3](#)



9 783319 114743

S. Bartels, Albert-Ludwigs-Universität Freiburg, Freiburg, Germany

Numerical Methods for Nonlinear Partial Differential Equations

The description of many interesting phenomena in science and engineering leads to infinite-dimensional minimization or evolution problems that define nonlinear partial differential equations. While the development and analysis of numerical methods for linear partial differential equations is nearly complete, only few results are available in the case of nonlinear equations. [...]

2015. X, 393 p. 122 illus. (Springer Series in Computational Mathematics, Volume 47) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 126.50
€ 94,99 | £ 85,50

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-3-319-13796-4](#)



9 783319 137964

N. Bäuerle, Karlsruhe Institute of Technology, Karlsruhe, Germany; **U. Rieder**, University of Ulm, Ulm, Germany

Markov Decision Processes with Applications to Finance

The theory of Markov decision processes focuses on controlled Markov chains in discrete time. The authors establish the theory for general state and action spaces and at the same time show its application by means of numerous examples, mostly taken from the fields of finance and operations research. By using a structural approach many technicalities (concerning measure theory) are avoided. They cover problems with finite and infinite horizons, as well as partially observable Markov decision processes, piecewise deterministic Markov decision processes and stopping problems. [...]

2011. XVI, 388 p. 24 illus. (Universitext) Softcover

€ (D) 64,15 | € (A) 65,95 | *CHF 86.00
€ 59,95 | £ 39,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-642-18323-2](#)



9 783642 183232

O. Baumgart

The Quadratic Reciprocity Law

This book is the English translation of Baumgart's thesis on the early proofs of the quadratic reciprocity law ("Über das quadratische Reziprocitätsgesetz. Eine vergleichende Darstellung der Beweise"), first published in 1885. It is divided into two parts. The first part presents a very brief history of the development of number theory up to Legendre, as well as detailed descriptions of several early proofs of the quadratic reciprocity law. The second part highlights Baumgart's comparisons of the principles behind these proofs. [...]

2015. XIV, 172 p. 1 illus. Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 93.50
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-16282-9](#)



9 783319 162829

A. F. Beardon

Iteration of Rational Functions

This book makes available a comprehensive, detailed, and organized treatment of the foundations of the theory of iteration of rational functions of a complex variable. The material covered extends from the original memoirs of Fatou and Julia to the recent and important results and methods of Sullivan and Shishikura. Many of the details of the proofs have not occurred in print before. The theory of dynamical systems and chaos has recently undergone a rapid growth in popularity, in part due to the spectacular computer graphics of Julia sets, fractals, and the Mandelbrot set. [...]

1991. XVI, 280 p. 1 illus. (Graduate Texts in Mathematics, Volume 132) Softcover

€ (D) 48,10 | € (A) 49,45 | *CHF 69.00
€ 44,95 | £ 40,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-95151-5](#)



9 780387 951515

M. Beck, San Francisco State University, San Francisco, CA, USA; **S. Robins**, Department of Mathematics, Brown University, Providence, RI, USA

Computing the Continuous Discretely

This richly illustrated textbook explores the amazing interaction between combinatorics, geometry, number theory, and analysis which arises in the interplay between polyhedra and lattices. Highly accessible to advanced undergraduates, as well as beginning graduate students, this second edition is perfect for a capstone course, and adds two new chapters, many new exercises, and updated open problems. For scientists, this text can be utilized as a self-contained tooling device. [...]

2nd ed. 2015. XX, 285 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 48,14 | € (A) 49,49 | *CHF 51.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-1-4939-2968-9](https://doi.org/10.1007/978-1-4939-2968-9)



9 781493 929689

R. A. Beeler, East Tennessee State University, Johnson City, TN, USA

How to Count

Providing a self-contained resource for upper undergraduate courses in combinatorics, this text emphasizes computation, problem solving, and proof technique. In particular, the book places special emphasis the Principle of Inclusion and Exclusion and the Multiplication Principle. To this end, exercise sets are included at the end of every section, ranging from simple computations (evaluate a formula for a given set of values) to more advanced proofs. [...]

2015. XV, 361 p. 61 illus., 2 illus. in color. Hardcover

€ (D) 48,14 | € (A) 49,49 | *CHF 60.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-13843-5](https://doi.org/10.1007/978-3-319-13843-5)



9 783319 138435

C. M. Bender, Washington University Dept. Physics, St. Louis, MO, USA; **S. A. Orszag**, Yale University Dept. Mathematics, New Haven, CT, USA

Advanced Mathematical Methods for Scientists and Engineers I

The triumphant vindication of bold theories—are these not the pride and justification of our life's work? -Sherlock Holmes, The Valley of Fear Sir Arthur Conan Doyle The main purpose of our book is to present and explain mathematical methods for obtaining approximate analytical solutions to differential and difference equations that cannot be solved exactly. [...]

1999. XIV, 593 p.
(Bender,C.M.;Orszag,S.A.:Adv.Math.Methods Scientists,Eng.) Hardcover

€ (D) 79,13 | € (A) 81,35 | *CHF 116.50
€ 73,95 | £ 66,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-0-387-98931-0](https://doi.org/10.1007/978-0-387-98931-0)



9 780387 989310

R. Benedetti, Università di Pisa Dipto. Matematica, Pisa, Italy; **C. Petronio**, Università di Pisa Dipto. Matematica, Pisa, Italy

Lectures on Hyperbolic Geometry

In recent years hyperbolic geometry has been the object and the preparation for extensive study that has produced important and often amazing results and also opened up new questions. The book concerns the geometry of manifolds and in particular hyperbolic manifolds; its aim is to provide an exposition of some fundamental results, and to be as far as possible self-contained, complete, detailed and unified. [...]

1992. XIV, 330 p. (Universitext) Softcover

€ (D) 42,75 | € (A) 43,95 | *CHF 57.50
€ 39,95 | £ 34,99

Yellow Sale Price

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€ 19,99 | £ 14,99

[978-3-540-55534-6](https://doi.org/10.1007/978-3-540-55534-6)



9 783540 555346

B. Benedetti, University of Miami, Coral Gables, FL, USA; **E. Delucchi**, Université de Fribourg, Fribourg, Switzerland; **L. Moci**, IMJ-PRG, Paris 7, France (Eds)

Combinatorial Methods in Topology and Algebra

Combinatorics plays a prominent role in contemporary mathematics, due to the vibrant development it has experienced in the last two decades and its many interactions with other subjects. [...]

2015. VII, 227 p. (Springer INdAM Series, Volume 12) Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-20154-2](https://doi.org/10.1007/978-3-319-20154-2)



9 783319 201542

B. Bercu, Institut de Mathématiques de Bordeaux, Université de Bordeaux, Talence, France; **B. Delyon**, Institut de Recherche Mathématique de Rennes, Université de Rennes, Rennes, France; **E. Rio**, Laboratoire de Mathématiques de Versailles, Université de Versailles, St. Quentin en Yvelines, Versailles, France

Concentration Inequalities for Sums and Martingales

The purpose of this book is to provide an overview of historical and recent results on concentration inequalities for sums of independent random variables and for martingales. The first chapter is devoted to classical asymptotic results in probability such as the strong law of large numbers and the central limit theorem. [...]

2015. X, 120 p. 9 illus. in color. (SpringerBriefs in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-22098-7](https://doi.org/10.1007/978-3-319-22098-7)



9 783319 220987

M. Berger, Institut des Hautes Études Scientifiques (IHES), Bures-sur-Yvette, France

Geometry Revealed

Both classical geometry and modern differential geometry have been active subjects of research throughout the 20th century and lie at the heart of many recent advances in mathematics and physics. The underlying motivating concept for the present book is that it offers readers the elements of a modern geometric culture by means of a whole series of visually appealing unsolved (or recently solved) problems that require the creation of concepts and tools of varying abstraction. [...]

2010. XII, 860 p. 666 illus. Hardcover
 € (D) 64,15 | € (A) 65,95 | *CHF 86,00
 € 59,95 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
 € 29,99 | £ 22,99

[978-3-540-70996-1](https://doi.org/10.1007/978-3-540-70996-1)



9 783540 709961

G. M. Bergman, University of California, Berkeley, Berkeley, CA, USA

An Invitation to General Algebra and Universal Constructions

Rich in examples and intuitive discussions, this book presents General Algebra using the unifying viewpoint of categories and functors. Starting with a survey, in non-category-theoretic terms, of many familiar and not-so-familiar constructions in algebra (plus two from topology for perspective), the reader is guided to an understanding and appreciation of the general concepts and tools unifying these constructions. Topics include: set theory, lattices, category theory, the formulation of universal constructions in category-theoretic terms, varieties of algebras, and adjunctions. [...]

2nd ed. 2015. X, 572 p. 90 illus. (Universitext) Softcover
 € (D) 74,89 | € (A) 76,99 | *CHF 93,50
 € 69,99 | £ 49,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
 € 34,99 | £ 26,99

[978-3-319-11477-4](https://doi.org/10.1007/978-3-319-11477-4)



9 783319 114774

B. Bergmann, Universität Frankfurt Historisches Seminar, Frankfurt, Germany (Ed)

Transcending Tradition: Jewish Mathematicians in German Speaking Academic Culture

A companion publication to the international exhibition "Transcending Tradition: Jewish Mathematicians in German-Speaking Academic Culture", the catalogue explores the working lives and activities of Jewish mathematicians in German-speaking countries during the period between the legal and political emancipation of the Jews in the 19th century and their persecution in Nazi Germany. [...]

2012. XI, 289 p. Hardcover
 € (D) 39,58 | € (A) 40,69 | *CHF 41,00
 € 36,99 | £ 27,99

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
 € 16,99 | £ 12,99

[978-3-642-22463-8](https://doi.org/10.1007/978-3-642-22463-8)



9 783642 224638

N. Berline, Ecole Polytechnique Palaiseau URA/CNRS D 0169, Palaiseau CX, France; **E. Getzler**, Northwestern University Dept. Mathematics, Evanston, IL, USA; **M. Vergne**, Ecole Polytechnique Centre de Mathématiques, Palaiseau Cedex, France

Heat Kernels and Dirac Operators

The first edition of this book presented simple proofs of the Atiyah-Singer Index Theorem for Dirac operators on compact Riemannian manifolds and its generalizations (due to the authors and J.-M. Bismut), using an explicit geometric construction of the heat kernel of a generalized Dirac operator; the new edition makes this popular book available to students and researchers in an attractive softcover. [...]

2004. IX, 363 p. (Grundlehren Text Editions) Softcover
 € (D) 53,45 | € (A) 54,95 | *CHF 72,00
 € 49,95 | £ 39,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
 € 24,99 | £ 18,99

[978-3-540-20062-8](https://doi.org/10.1007/978-3-540-20062-8)



9 783540 200628

A. Bermúdez de Castro, Universidade de Santiago de Compostela, Santiago de Compostela, Spain; **A. Valli**, Università di Trento, Povo (Trento), Italy (Eds)

Computational Electromagnetism

Presenting topics that have not previously been contained in a single volume, this book offers an up-to-date review of computational methods in electromagnetism, with a focus on recent results in the numerical simulation of real-life electromagnetic problems and on theoretical results that are useful in devising and analyzing approximation algorithms. [...]

2015. VII, 240 p. 37 illus., 21 illus. in color. (Lecture Notes in Mathematics, Volume 2148) Softcover

€ (D) 48,14 | € (A) 49,49 | *CHF 51,00
 € 44,99 | £ 40,99

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 € 24,99 | £ 18,99

[978-3-319-19305-2](https://doi.org/10.1007/978-3-319-19305-2)



9 783319 193052

D. J. Bernstein, University of Illinois, Chicago Dept. Computer Science, Chicago, IL, USA; **J. Buchmann**, TU Darmstadt FB Informatik, Darmstadt, Germany; **E. Dahmen**, TU Darmstadt FB Informatik, Darmstadt, Germany (Eds)

Post-Quantum Cryptography

Quantum computers will break today's most popular public-key cryptographic systems, including RSA, DSA, and ECDSA. This book introduces the reader to the next generation of cryptographic algorithms, the systems that resist quantum-computer attacks: in particular, post-quantum public-key encryption systems and post-quantum public-key signature systems. Leading experts have joined forces for the first time to explain the state of the art in quantum computing, hash-based cryptography, code-based cryptography, lattice-based cryptography, and multivariate cryptography. [...]

2009. X, 246 p. Hardcover
 € (D) 85,59 | € (A) 87,99 | *CHF 90,50
 € 79,99 | £ 72,00

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€ (D) 42,79 | € (A) 43,99 | *CHF 44.00
 € 39,99 | £ 29,99

[978-3-540-88701-0](https://doi.org/10.1007/978-3-540-88701-0)



9 783540 887010

C. Besse, Université Toulouse 3, Toulouse, France; **J. Garreau**, PhLAM, Université de Lille 1, Villeneuve d'Ascq Cedex, France (Eds)

Nonlinear Optical and Atomic Systems

Focusing on the interface between mathematics and physics, this book offers an introduction to the physics, the mathematics, and the numerical simulation of nonlinear systems in optics and atomic physics. [...]

2015. XIII, 338 p. 46 illus., 41 illus. in color. (Lecture Notes in Mathematics, Volume 2146) Softcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-19014-3](https://doi.org/10.1007/978-3-319-19014-3)



9 783319 190143

G. Biau, Université Pierre et Marie Curie, Paris Cedex 05; **L. Devroye**, McGill University, Montreal, QC, Canada

Lectures on the Nearest Neighbor Method

This text presents a wide-ranging and rigorous overview of nearest neighbor methods, one of the most important paradigms in machine learning. Now in one self-contained volume, this book systematically covers key statistical, probabilistic, combinatorial and geometric ideas for understanding, analyzing and developing nearest neighbor methods. Gérard Biau is a professor at Université Pierre et Marie Curie (Paris). Luc Devroye is a professor at the School of Computer Science at McGill University (Montreal).

2015. IX, 290 p. 4 illus. in color. (Springer Series in the Data Sciences) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 93.50
€ 84,99 | £ 63,99

Yellow Sale Price

€ (D) 50,28 | € (A) 51,69 | *CHF 52.00
€ 46,99 | £ 34,99

[978-3-319-25386-2](https://doi.org/10.1007/978-3-319-25386-2)



9 783319 253862

N. H. Bingham, Imperial College London, London, UK; **J. M. Fry**, University of East London, London, UK

Regression

Regression is the branch of Statistics in which a dependent variable of interest is modelled as a linear combination of one or more predictor variables, together with a random error. The subject is inherently two- or higher- dimensional, thus an understanding of Statistics in one dimension is essential. Regression: Linear Models in Statistics fills the gap between introductory statistical theory and more specialist sources of information. In doing so, it provides the reader with a number of worked examples, and exercises with full solutions. [...]

2010. XIII, 284 p. 50 illus. (Springer Undergraduate Mathematics Series) Softcover

€ (D) 37,40 | € (A) 38,45 | *CHF 47.00
€ 34,95 | £ 24,95

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€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-1-84882-968-8](https://doi.org/10.1007/978-1-84882-968-8)



9 781848 829688

M. Biskup, University of California in Los Angeles, Los Angeles, CA, USA; **J. Černý**, University of Vienna, Vienna, Austria; **R. Kotecký**, University of Warwick, Warwick, UK (Eds)

Random Walks, Random Fields, and Disordered Systems

Focusing on the mathematics that lies at the intersection of probability theory, statistical physics, combinatorics and computer science, this volume collects together lecture notes on recent developments in the area. The common ground of these subjects is perhaps best described by the three terms in the title: Random Walks, Random Fields and Disordered Systems. [...]

2015. XIII, 239 p. 14 illus., 3 illus. in color. (Lecture Notes in Mathematics, Volume 2144) Softcover

€ (D) 48,14 | € (A) 49,49 | *CHF 51.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-19338-0](https://doi.org/10.1007/978-3-319-19338-0)



9 783319 193380

R. Bix, University of Michigan at Flint Dept. Mathematics, Flint, MI, USA

Conics and Cubics

Conics and Cubics is an accessible introduction to algebraic curves. Its focus on curves of degree at most three keeps results tangible and proofs transparent. Theorems follow naturally from high school algebra and two key ideas, homogeneous coordinates and intersection multiplicities. By classifying irreducible cubics over the real numbers and proving that their points form Abelian groups, the book gives readers easy access to the study of elliptic curves. It includes a simple proof of Bezout's Theorem on the number of intersections of two curves. The book is a text for a one-semester course. [...]

2nd ed. 2006. VIII, 347 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 53,45 | € (A) 54,95 | *CHF 77.50
€ 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-31802-8](https://doi.org/10.1007/978-0-387-31802-8)



9 780387 318028

P. Blanchard, Universität Bielefeld Fak. Physik, Bielefeld, Germany; **E. Brüning**, University of KwaZulu-Natal, Durban, South Africa

Mathematical Methods in Physics

The second edition of this textbook presents the basic mathematical knowledge and skills that are needed for courses on modern theoretical physics, such as those on quantum mechanics, classical and quantum field theory, and related areas. The authors stress that learning mathematical physics is not a passive process and include numerous detailed proofs, examples, and over 200 exercises, as well as hints linking mathematical concepts and results to the relevant physical concepts and theories. [...]

2nd ed. 2015. XXVII, 598 p. 4 illus. (Progress in Mathematical Physics, Volume 69) Hardcover

€ (D) 117,69 | € (A) 120,99 | *CHF 146.50
€ 109,99 | £ 99,00

Yellow Sale Price

€ (D) 64,19 | € (A) 65,99 | *CHF 66.00
€ 59,99 | £ 44,99

[978-3-319-14044-5](https://doi.org/10.1007/978-3-319-14044-5)



9 783319 140445

F. Blanchini, University of Udine, Udine, Italy; **S. Miani**, University of Udine, Udine, Italy

Set-Theoretic Methods in Control

The second edition of this monograph describes the set-theoretic approach for the control and analysis of dynamic systems, both from a theoretical and practical standpoint. This approach is linked to fundamental control problems, such as Lyapunov stability analysis and stabilization, optimal control, control under constraints, persistent disturbance rejection, and uncertain systems analysis and synthesis. [...]

2nd ed. 2015. XVI, 630 p. 169 illus., 18 illus. in color. (Systems & Control: Foundations & Applications) Hardcover

€ (D) 117,69 | € (A) 120,99 | *CHF 124.00
€ 109,99 | £ 99,00

Yellow Sale Price

€ (D) 64,19 | € (A) 65,99 | *CHF 66.00
€ 59,99 | £ 44,99

[978-3-319-17932-2](https://doi.org/10.1007/978-3-319-17932-2)



9 783319 179322

A.M. Bloch, University of Michigan Dept. Mathematics, Ann Arbor, MI, USA (Eds)

Nonholonomic Mechanics and Control

This book explores some of the connections between control theory and geometric mechanics; that is, control theory is linked with a geometric view of classical mechanics in both its Lagrangian and Hamiltonian formulations and in particular with the theory of mechanical systems subject to motion constraints. The synthesis of the topic is appropriate as there is a particularly rich connection between mechanics and nonlinear control theory. [...]

2nd ed. 2015. XXI, 565 p. 59 illus., 18 illus. in color. (Interdisciplinary Applied Mathematics, Volume 24) Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-1-4939-3016-6](https://doi.org/10.1007/978-1-4939-3016-6)



9 781493 930166

E. D. Bloch, Bard College Dept. Mathematics, Annandale, NY, USA

The Real Numbers and Real Analysis

This text is a rigorous, detailed introduction to real analysis that presents the fundamentals with clear exposition and carefully written definitions, theorems, and proofs. It is organized in a distinctive, flexible way that would make it equally appropriate to undergraduate mathematics majors who want to continue in mathematics, and to future mathematics teachers who want to understand the theory behind calculus. [...]

2011. XXVIII, 554 p. Hardcover

€ (D) 69,50 | € (A) 71,45 | *CHF 93.50
€ 64,95 | £ 58,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-0-387-72176-7](https://doi.org/10.1007/978-0-387-72176-7)



9 780387 721767

B. Bollobas, University of Memphis, Memphis, TN, USA

Modern Graph Theory

The time has now come when graph theory should be part of the education of every serious student of mathematics and computer science, both for its own sake and to enhance the appreciation of mathematics as a whole. This book is an in-depth account of graph theory, written with such a student in mind; it reflects the current state of the subject and emphasizes connections with other branches of pure mathematics. [...]

1998. XIV, 394 p. 3 illus. (Graduate Texts in Mathematics, Volume 184) Softcover

€ (D) 52,38 | € (A) 53,85 | *CHF 75.00
€ 48,95 | £ 43,99

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€ 24,99 | £ 18,99

[978-0-387-98488-9](https://doi.org/10.1007/978-0-387-98488-9)



9 780387 984889

S. Bodine, University of Puget Sound, Tacoma, WA, USA; **D. A. Lutz**, San Diego State University, San Diego, CA, USA

Asymptotic Integration of Differential and Difference Equations

This book presents the theory of asymptotic integration for both linear differential and difference equations. This type of asymptotic analysis is based on some fundamental principles by Norman Levinson. While he applied them to a special class of differential equations, subsequent work has shown that the same principles lead to asymptotic results for much wider classes of differential and also difference equations. [...]

2015. XI, 402 p. (Lecture Notes in Mathematics, Volume 2129) Softcover

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€ 69,99 | £ 62,99

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€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-18247-6](https://doi.org/10.1007/978-3-319-18247-6)



9 783319 182476

A. Bondy, Université Lyon I LaPCS-Domaine de Gerland, Lyon CX, France; **U.S.R. Murty**, University of Waterloo Department of Pure Mathematics, Waterloo, ON, Canada

Graph Theory

2008. XII, 655 p. (Graduate Texts in Mathematics, Volume 244) Hardcover

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[978-1-84628-969-9](https://doi.org/10.1007/978-1-84628-969-9)



9 781846 289699

J. Bonnans, Ecole Polytechnique INRIA-Saclay ile de France et, Palaiseau, France; **J. C. Gilbert**, INRIA Domaine de Voluceau-Rocquencourt, Le Chesnay CX, France; **C. Lemarechal**, INRIA Rhône-Alpes, St. Ismier CX, France; **C. A. Sagastizábal**, Instituto de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil

Numerical Optimization

Just as in its 1st edition, this book starts with illustrations of the ubiquitous character of optimization, and describes numerical algorithms in a tutorial way. It covers fundamental algorithms as well as more specialized and advanced topics for unconstrained and constrained problems. Most of the algorithms are explained in a detailed manner, allowing straightforward implementation. [...]

2nd ed. 2006. XIV, 494 p. (Universitext) Softcover

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€ 49,95 | £ 44,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-35445-1](https://doi.org/10.1007/978-3-540-35445-1)



9 783540 354451

S. Bosch, Westfälische Wilhelms-Universität Mathematisches Institut, Münster, Germany

Algebraic Geometry and Commutative Algebra

Algebraic geometry is a fascinating branch of mathematics that combines methods from both, algebra and geometry. It transcends the limited scope of pure algebra by means of geometric construction principles. Moreover, Grothendieck's schemes invented in the late 1950s allowed the application of algebraic-geometric methods in fields that formerly seemed to be far away from geometry, like algebraic number theory. The new techniques paved the way to spectacular progress such as the proof of Fermat's Last Theorem by Wiles and Taylor. [...]

2013. X, 504 p. (Universitext) Softcover

€ (D) 74,85 | € (A) 76,95 | *CHF 93.50
€ 69,95 | £ 49,99

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€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-1-4471-4828-9](https://doi.org/10.1007/978-1-4471-4828-9)



9 781447 148289

S. Bosch, Westfälische Wilhelms-Universität Mathematisches Institut, Münster, Germany

Lectures on Formal and Rigid Geometry

The aim of this work is to offer a concise and self-contained 'lecture-style' introduction to the theory of classical rigid geometry established by John Tate, together with the formal algebraic geometry approach launched by Michel Raynaud. These Lectures are now viewed commonly as an ideal means of learning advanced rigid geometry, regardless of the reader's level of background. Despite its parsimonious style, the presentation illustrates a number of key facts even more extensively than any other previous work. [...]

2014. VIII, 254 p. (Lecture Notes in Mathematics, Volume 2105) Softcover

€ (D) 48,14 | € (A) 49,49 | *CHF 60.00
€ 44,99 | £ 40,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-04416-3](https://doi.org/10.1007/978-3-319-04416-3)



9 783319 044163

N. Bourbaki, Ecole normale supérieure, Paris Cedex 05, France

General Topology. Chapters 1–4

This is the softcover reprint of the English translation of 1971 (available from Springer since 1989) of the first 4 chapters of Bourbaki's *Topologie générale*. It gives all the basics of the subject, starting from definitions. Important classes of topological spaces are studied, uniform structures are introduced and applied to topological groups. Real numbers are constructed and their properties established. Part II, comprising the later chapters, Ch. 5-10, is also available in English in softcover.

1995. VII, 437 p. 1 illus. (Elements of Mathematics) Softcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
€ 49,95 | £ 39,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
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[978-3-540-64241-1](https://doi.org/10.1007/978-3-540-64241-1)



9 783540 642411

N. Bourbaki, Ecole normale supérieure, Paris Cedex 05, France

General Topology. Chapters 5–10

1989. IV, 363 p. (Elements of Mathematics) Softcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
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€ 24,99 | £ 18,99

[978-3-540-64563-4](https://doi.org/10.1007/978-3-540-64563-4)



9 783540 645634

N. Bouleau, Université Paris-Est L'École des Ponts ParisTech, Marne la Vallée, France; **L. Denis**, Université du Maine, Le Mans, France

Dirichlet Forms Methods for Poisson Point Measures and Lévy Processes

A simplified approach to Malliavin calculus adapted to Poisson random measures is developed and applied in this book. Called the "lent particle method" it is based on perturbation of the position of particles. Poisson random measures describe phenomena involving random jumps (for instance in mathematical finance) or the random distribution of particles (as in statistical physics). [...]

2015. XVIII, 323 p. 3 illus. in color. (Probability Theory and Stochastic Modelling, Volume 76) Hardcover

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€ 46,99 | £ 34,99

[978-3-319-25818-8](https://doi.org/10.1007/978-3-319-25818-8)



9 783319 258188

A. Bovier, Rheinische Friedrich-Wilhelms Universität Bonn, Bonn, Germany; **F. den Hollander**, Universiteit Leiden Mathematisch Instituut, Leiden, The Netherlands

Metastability

This monograph provides a concise presentation of a mathematical approach to metastability, a wide-spread phenomenon in the dynamics of non-linear systems - physical, chemical, biological or economic - subject to the action of temporal random forces typically referred to as noise, based on potential theory of reversible Markov processes. [...]

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978-3-319-24775-5



9 783319 247755

R. E. Bradley, Adelphi University, Garden City, NY, USA; **S. J. Pettrilli**, Adelphi University, Garden City, NY, USA; **C. E. Sandifer**, Newtown, CT, USA

L'Hôpital's Analyse des infiniments petits

This monograph is an annotated translation of what is considered to be the world's first calculus textbook, originally published in French in 1696. That anonymously published textbook on differential calculus was based on lectures given to the Marquis de l'Hôpital in 1691-2 by the great Swiss mathematician, Johann Bernoulli. In the 1920s, a copy of Bernoulli's lecture notes was discovered in a library in Basel, which presented the opportunity to compare Bernoulli's notes, in Latin, to l'Hôpital's text in French. [...]

2015. LIV, 311 p. 244 illus., 9 illus. in color. (Science Networks. Historical Studies, Volume 50) Hardcover
€ (D) 128,39 | € (A) 131,99 | *CHF 160,00
€ 119,99 | £ 108,00

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€ 64,99 | £ 48,99

978-3-319-17114-2



9 783319 171142

F. Brauer, University of British Columbia Dept. Mathematics, Vancouver, BC, Canada; **C. Castillo-Chavez**, Arizona State University Dept. Mathematics & Statistics, Tempe, AZ, USA

Mathematical Models in Population Biology and Epidemiology

This textbook provides an introduction to the field of mathematical biology through the integration of classical applications in ecology with more recent applications to epidemiology, particularly in the context of spread of infectious diseases. [...]

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€ 34,99 | £ 26,99

978-1-4614-1685-2



9 781461 416852

S. Brenner, Louisiana State University Dept. Mathematics &, Baton Rouge, LA, USA; **R. Scott**, University of Chicago Dept. Mathematics, Chicago, IL, USA

The Mathematical Theory of Finite Element Methods

Mathematics is playing an ever more important role in the physical and biological sciences, provoking a blurring of boundaries between disciplines and a resurgence of interest in the modern as well as the classical techniques of applied mathematics. This renewal of interest, both in research and teaching, has led to the establishment of the series Texts in Applied Mathematics (TAM). [...]

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D. M. Bressoud

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€ 26,99 | £ 19,99

978-0-387-97606-8



9 780387 976068

H. Brezis, Rutgers University, Piscataway, NJ, USA

Functional Analysis, Sobolev Spaces and Partial Differential Equations

This textbook is a completely revised, updated, and expanded English edition of the important Analyse fonctionnelle (1983). In addition, it contains a wealth of problems and exercises (with solutions) to guide the reader. Uniquely, this book presents in a coherent, concise and unified way the main results from functional analysis together with the main results from the theory of partial differential equations (PDEs). Although there are many books on functional analysis and many on PDEs, this is the first to cover both of these closely connected topics. [...]

2011. XIV, 600 p. 9 illus. (Universitext) Softcover
€ (D) 69,50 | € (A) 71,45 | *CHF 93,50
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€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
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978-0-387-70913-0



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D. Brigo, Fitch Ratings DerivativeFitch, London, UK; **F. Mercurio**, Banca IMI San Paolo IMI Group, Milano, Italy

Interest Rate Models - Theory and Practice

The 2nd edition of this successful book has several new features. The calibration discussion of the basic LIBOR market model has been enriched considerably, with an analysis of the impact of the swaptions interpolation technique and of the exogenous instantaneous correlation on the calibration outputs. A discussion of historical estimation of the instantaneous correlation matrix and of rank reduction has been added, and a LIBOR-model consistent swaption-volatility interpolation technique has been introduced. [...]

2nd ed. 2006. LVI, 982 p. (Springer Finance) Hardcover

€ (D) 85,55 | € (A) 87,95 | *CHF 115.00
€ 79,95 | £ 62,99

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[978-3-540-22149-4](#)



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J.H. Bruinier et al., G. van der Geer, et al.

The 1-2-3 of Modular Forms

2008. X, 266 p. 2 illus. (Universitext) Softcover

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9 783540 741176

J. Buchmann, TU Darmstadt FB Informatik, Darmstadt, Germany

Introduction to Cryptography

Cryptography is a key technology in electronic key systems. It is used to keep data secret, digitally sign documents, access control, and so forth. Users therefore should not only know how its techniques work, but they must also be able to estimate their efficiency and security. Based on courses taught by the author, this book explains the basic methods of modern cryptography. It is written for readers with only basic mathematical knowledge who are interested in modern cryptographic algorithms and their mathematical foundation. Several exercises are included following each chapter. [...]

2nd ed. 2004. XVI, 338 p. (Undergraduate Texts in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 58.50
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[978-0-387-20756-8](#)



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R. Bulajich Manfrino, Universidad Autónoma del Estado de Morelos, Cuernavaca, Mexico; **J. A. Gómez Ortega**, Universidad Nacional Autónoma de México, México, Mexico; **R. Valdez Delgado**, Universidad Autónoma del Estado de Morelos, Cuernavaca, Mexico

Topics in Algebra and Analysis

The techniques presented here are useful for solving mathematical contest problems in algebra and analysis. Most of the examples and exercises that appear in the book originate from mathematical Olympiad competitions around the world. In the first four chapters the authors cover material for competitions at high school level. The level advances with the chapters. [...]

2015. IX, 311 p. 40 illus., 1 illus. in color. (Wissenschaftsprogramm nur englisch(Birkhäuser)) Softcover

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[978-3-319-11945-8](#)



9 783319 119458

P. Bussotti, University of Udine , Udine

The Complex Itinerary of Leibniz's Planetary Theory

This book presents new insights into Leibniz's research on planetary theory and his system of pre-established harmony. Although some aspects of this theory have been explored in the literature, others are less well known. In particular, the book offers new contributions on the connection between the planetary theory and the theory of gravitation. It also provides an in-depth discussion of Kepler's influence on Leibniz's planetary theory and more generally, on Leibniz's concept of pre-established harmony. [...]

2015. X, 188 p. (Science Networks. Historical Studies, Volume 52) Hardcover

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[978-3-319-21235-7](#)



9 783319 212357

H. Bühlmann, ETH Zurich Risklab, Switzerland, Zurich, Switzerland; **A. Gisler**, Winterthur Versicherungen, Winterthur, Switzerland

A Course in Credibility Theory and its Applications

The topic of credibility theory has been for many years — and still is — one of our major interests. This interest has led us not only to many publications, but also has been the motivation for teaching many courses on this topic over more than 20 years. These courses have undergone considerable changes over time. What we present here, "A Course in Credibility Theory and its Applications", is the final product of this evolution. Credibility theory can be seen as the basic paradigm underlying the pricing of insurance products. [...]

2005. XVIII, 338 p. 31 illus., 22 illus. in color. (Universitext) Softcover

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A. Cabada, Universidade de Santiago de Compostela Departamento de Análise Matemática, Santiago de Compostela, Spain; **F. A. F. Tojo**, Universidade de Santiago de Compostela Departamento de Análise Matemática, Santiago de Compostela

Differential Equations with Involutions

This monograph covers the existing results regarding Green's functions for differential equations with involutions (DEI). The first part of the book is devoted to the study of the most useful aspects of involutions from an analytical point of view and the associated algebras of differential operators. [...]

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[978-94-6239-120-8](https://doi.org/10.1007/978-94-6239-120-8)



9 789462 391208

P. Cannarsa, Università degli Studi di Roma "Tor Vergata", Roma, Italy; **T. D'Aprile**, Università degli Studi di Roma "Tor Vergata", Roma, Italy

Introduction to Measure Theory and Functional Analysis

This book introduces readers to theories that play a crucial role in modern mathematics, such as integration and functional analysis, employing a unifying approach that views these two subjects as being deeply intertwined. This feature is particularly evident in the broad range of problems examined, the solutions of which are often supported by generous hints. If the material is split into two courses, it can be supplemented by additional topics from the third part of the book, such as functions of bounded variation, absolutely continuous functions, and signed measures. [...]

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€ 29,99 | £ 22,99

[978-3-319-17018-3](https://doi.org/10.1007/978-3-319-17018-3)



9 783319 170183

E. L. Cano, Rey Juan Carlos University, Madrid, Spain; **J. Martinez Moguerza**, Rey Juan Carlos University, Madrid, Spain; **M. Prieto**, ENUSA Industrias Avanzadas, Madrid, Spain

Quality Control with R

Presenting a practitioner's guide to capabilities and best practices of quality control systems using the R programming language, this volume emphasizes accessibility and ease-of-use through detailed explanations of R code as well as standard statistical methodologies. In the interest of reaching the widest possible audience of quality-control professionals and statisticians, examples throughout are structured to simplify complex equations and data structures, and to demonstrate their applications to quality control processes, such as ISO standards. [...]

2015. XXVIII, 349 p. 126 illus., 64 illus. in color. (Use R!) Softcover

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€ 29,99 | £ 22,99

[978-3-319-24044-2](https://doi.org/10.1007/978-3-319-24044-2)



9 783319 240442

V. Capasso, Università degli Studi di Milano, Milan, Italy; **D. Bakstein**, Università degli Studi di Milano, Milan, Italy

An Introduction to Continuous-Time Stochastic Processes

This textbook, now in its third edition, offers a rigorous and self-contained introduction to the theory of continuous-time stochastic processes, stochastic integrals, and stochastic differential equations. Expertly balancing theory and applications, the work features concrete examples of modeling real-world problems from biology, medicine, industrial applications, finance, and insurance using stochastic methods. No previous knowledge of stochastic processes is required. [...]

3rd ed. 2015. XVI, 482 p. 14 illus. (Modeling and Simulation in Science, Engineering and Technology) Hardcover

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[978-1-4939-2756-2](https://doi.org/10.1007/978-1-4939-2756-2)



9 781493 927562

M. Capinski; **P. E. Kopp**

Measure, Integral and Probability

Measure, Integral and Probability is a gentle introduction that makes measure and integration theory accessible to the average third-year undergraduate student. The ideas are developed at an easy pace in a form that is suitable for self-study, with an emphasis on clear explanations and concrete examples rather than abstract theory. For this second edition, the text has been thoroughly revised and expanded. [...]

2nd ed. 2004. XV, 311 p. 3 illus. (Springer Undergraduate Mathematics Series) Softcover

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€ 34,95 | £ 24,95

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€ 16,99 | £ 12,99

[978-1-85233-781-0](https://doi.org/10.1007/978-1-85233-781-0)



9 781852 337810

V. Capraro, CWI, Amsterdam, The Netherlands; **M. Lupini**, California Institute of Technology, Pasadena, CA, USA

Introduction to Sofic and Hyperlinear Groups and Connes' Embedding Conjecture

This monograph presents some cornerstone results in the study of sofic and hyperlinear groups and the closely related Connes' embedding conjecture. These notions, as well as the proofs of many results, are presented in the framework of model theory for metric structures. This point of view, rarely explicitly adopted in the literature, clarifies the ideas therein, and provides additional tools to attack open problems. [...]

2015. VIII, 151 p. With an appendix by Vladimir Pestov. (Lecture Notes in Mathematics, Volume 2136) Softcover

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[978-3-319-19332-8](https://doi.org/10.1007/978-3-319-19332-8)



9 783319 193328

F. Cardin, Dipartimento di Matematica, Padova, Italy

Elementary Symplectic Topology and Mechanics

This is a short tract on the essentials of differential and symplectic geometry together with a basic introduction to several applications of this rich framework: analytical mechanics, the calculus of variations, conjugate points & Morse index, and other physical topics. A central feature is the systematic utilization of Lagrangian submanifolds and their Maslov-Hörmander generating functions. [...]

2015. XVII, 222 p. 44 illus., 11 illus. in color. (Lecture Notes of the Unione Matematica Italiana, Volume 16) Softcover

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[978-3-319-11025-7](https://doi.org/10.1007/978-3-319-11025-7)



9 783319 110257

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9 783319 181370

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[978-1-4939-3245-0](https://doi.org/10.1007/978-1-4939-3245-0)



9 781493 932450

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[978-0-8176-4943-2](https://doi.org/10.1007/978-0-8176-4943-2)



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Ideals, Varieties, and Algorithms

This text covers topics in algebraic geometry and commutative algebra with a strong perspective toward practical and computational aspects. The first four chapters form the core of the book. A comprehensive chart in the Preface illustrates a variety of ways to proceed with the material once these chapters are covered. In addition to the fundamentals of algebraic geometry—the elimination theorem, the extension theorem, the closure theorem and the Nullstellensatz—this new edition incorporates several substantial changes, all of which are listed in the Preface. [...]

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[978-0-387-23946-0](#)



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representative problems, are included. [...]

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In 1977 the Mathematics Department at the University of California, Berkeley, instituted a written examination as one of the first major requirements toward the Ph.D. degree in Mathematics. Its purpose was to determine whether first-year students in the Ph.D. program had successfully mastered basic mathematics in order to continue in the program with the likelihood of success. Since its inception, the exam has become a major hurdle to overcome in the pursuit of the degree. [...]

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€ (D) 80,24 | € (A) 82,49 | *CHF 83.00
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Constructible and perverse sheaves are the algebraic counterpart of the decomposition of a singular space into smooth manifolds, a great geometrical idea due to R. Thom and H. Whitney. These sheaves, generalizing the local systems that are so ubiquitous in mathematics, have powerful applications to the topology of such singular spaces (mainly algebraic and analytic complex varieties). This introduction to the subject can be regarded as a textbook on modern algebraic topology, treating the cohomology of spaces with sheaf (as opposed to constant) coefficients. [...]

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Differential Forms and Applications

This is a free translation of a set of notes published originally in Portuguese in 1971. They were translated for a course in the College of Differential Geometry, ICTP, Trieste, 1989. In the English translation we omitted a chapter on the Frobenius theorem and an appendix on the nonexistence of a complete hyperbolic plane in euclidean 3-space (Hilbert's theorem). For the present edition, we introduced a chapter on line integrals. In Chapter 1 we introduce the differential forms in \mathbb{R}^n . [...]

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Discontinuous Galerkin Method

The subject of the book is the mathematical theory of the discontinuous Galerkin method (DGM), which is a relatively new technique for the numerical solution of partial differential equations. The book is concerned with the DGM developed for elliptic and parabolic equations and its applications to the numerical simulation of compressible flow. It deals with the theoretical as well as practical aspects of the DGM and treats the basic concepts and ideas of the DGM, as well as the latest significant findings and achievements in this area. [...]

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Modern Geometry — Methods and Applications

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978-0-387-97663-1



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Up until recently, Riemannian geometry and basic topology were not included, even by departments or faculties of mathematics, as compulsory subjects in a university-level mathematical education. The standard courses in the classical differential geometry of curves and surfaces which were given instead (and still are given in some places) have come gradually to be viewed as anachronisms. [...]

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An Introduction to Laplace Transforms and Fourier Series

Laplace transforms continue to be a very important tool for the engineer, physicist and applied mathematician. They are also now useful to financial, economic and biological modellers as these disciplines become more quantitative. Any problem that has underlying linearity and with solution based on initial values can be expressed as an appropriate differential equation and hence be solved using Laplace transforms. In this book, there is a strong emphasis on application with the necessary mathematical grounding. There are plenty of worked examples with all solutions provided. [...]

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Aachen University LS für Informatik 7,
Thomas, Germany

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What is a mathematical proof? How can proofs be justified? Are there limitations to provability? To what extent can machines carry out mathematical proofs? Only in this century has there been success in obtaining substantial and satisfactory answers. The present book contains a systematic discussion of these results. The investigations are centered around first-order logic. [...]

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Measure, Topology, and Fractal Geometry

From reviews of the first edition: "In the world of mathematics, the 1980's might well be described as the "decade of the fractal". Starting with Benoit Mandelbrot's remarkable text *The Fractal Geometry of Nature*, there has been a deluge of books, articles and television programmes about the beautiful mathematical objects, drawn by computers using recursive or iterative algorithms, which Mandelbrot christened fractals. Gerald Edgar's book is a significant addition to this deluge. [...]

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Ergodic Theory

This text is a rigorous introduction to ergodic theory, developing the machinery of conditional measures and expectations, mixing, and recurrence. Beginning by developing the basics of ergodic theory and progressing to describe some recent applications to number theory, this book goes beyond the standard texts in this topic. Applications include Weyl's polynomial equidistribution theorem, the ergodic proof of Szemerédi's theorem, the connection between the continued fraction map and the modular surface, and a proof of the equidistribution of horocycle orbits. [...]

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Geometric Measure Theory

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2nd ed. 2007. XXVI, 466 p. 7 illus.

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G. Fibich, Tel Aviv University, Tel Aviv, Israel

The Nonlinear Schrödinger Equation

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2015. XXXI, 862 p. 202 illus., 100 illus. in color. (Applied Mathematical Sciences, Volume 192) Hardcover

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[978-3-319-12747-7](https://doi.org/10.1007/978-3-319-12747-7)



D. R. Finston, Brooklyn College of the City University of New York, Brooklyn, NY, USA; **P. J. Morandi**, New Mexico State University, Las Cruces, NM, USA

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[978-3-319-04497-2](https://doi.org/10.1007/978-3-319-04497-2)



W. H. Fleming, Brown University Div. Applied Mathematics, Providence, RI, USA; **H. M. Soner**, ETH Zürich, Zürich, Switzerland

Controlled Markov Processes and Viscosity Solutions

2nd ed. 2006. XVII, 429 p. (Stochastic Modelling and Applied Probability, Volume 25) Hardcover

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[978-0-387-26045-7](https://doi.org/10.1007/978-0-387-26045-7)



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Lectures on Functor Homology

This book features a series of lectures that explores three different fields in which functor homology (short for homological algebra in functor categories) has recently played a significant role. For each of these applications, the functor viewpoint provides both essential insights and new methods for tackling difficult mathematical problems. In the lectures by Aurélien Djament, polynomial functors appear as coefficients in the homology of infinite families of classical groups, e.g. general linear groups or symplectic groups, and their stabilization. [...]

2015. VI, 149 p. 140 illus., 1 illus. in color. (Progress in Mathematics, Volume 311) Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 77.00
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€ 34,99 | £ 26,99

[978-3-319-21304-0](https://doi.org/10.1007/978-3-319-21304-0)



E. Freitag, Universität Heidelberg Inst. Mathematik, Heidelberg, Germany; **R. Busam**, Universität Heidelberg Inst. Mathematik, Heidelberg, Germany

Complex Analysis

2nd ed. 2009. X, 532 p. 112 illus., 2 illus. in color. (Universitext) Softcover

€ (D) 48,10 | € (A) 49,45 | *CHF 64.50
€ 44,95 | £ 35,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-93982-5](https://doi.org/10.1007/978-3-540-93982-5)



E. Freitag, Universität Heidelberg Inst. Mathematik, Heidelberg, Germany

Complex Analysis 2

The book contains a complete self-contained introduction to highlights of classical complex analysis. New proofs and some new results are included. All needed notions are developed within the book: with the exception of some basic facts which can be found in the first volume. There is no comparable treatment in the literature.

2nd ed. 2011. XIII, 506 p. 51 illus. (Universitext) Softcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-642-20553-8](https://doi.org/10.1007/978-3-642-20553-8)



L. Fuchs, Tulane University, New Orleans, LA, USA

Abelian Groups

Written by one of the subject's foremost experts, this book focuses on the central developments and modern methods of the advanced theory of abelian groups, while remaining accessible, as an introduction and reference, to the non-specialist. It provides a coherent source for results scattered throughout the research literature with lots of new proofs. [...]

2015. XXI, 747 p. (Springer Monographs in Mathematics) Hardcover

€ (D) 149,79 | € (A) 153,99 | *CHF 158.00
€ 139,99 | £ 126,00

Yellow Sale Price

€ (D) 82,38 | € (A) 84,69 | *CHF 85.00
€ 76,99 | £ 57,99

[978-3-319-19421-9](https://doi.org/10.1007/978-3-319-19421-9)



9 783319 194219

P. A. Fuhrmann, Ben-Gurion University of the Negev, Beer-Sheva, Israel; **U. Helmke**, Universität Würzburg, Institute of Mathematics, Würzburg, Germany

The Mathematics of Networks of Linear Systems

This book provides the mathematical foundations of networks of linear control systems, developed from an algebraic systems theory perspective. This includes a thorough treatment of questions of controllability, observability, realization theory, as well as feedback control and observer theory. The potential of networks for linear systems in controlling large-scale networks of interconnected dynamical systems could provide insight into a diversity of scientific and technological disciplines. [...]

2015. XIV, 662 p. 53 illus. (Universitext) Softcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 49,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-16645-2](https://doi.org/10.1007/978-3-319-16645-2)



9 783319 166452

K. Fujii, Graduate School of Science, Kyoto

Quantum Computation with Topological Codes

This book presents a self-consistent review of quantum computation with topological quantum codes. The book covers everything required to understand topological fault-tolerant quantum computation, ranging from the definition of the surface code to topological quantum error correction and topological fault-tolerant operations. The underlying basic concepts and powerful tools, such as universal quantum computation, quantum algorithms, stabilizer formalism, and measurement-based quantum computation, are also introduced in a self-consistent way. [...]

2015. X, 138 p. 131 illus., 113 illus. in color. (SpringerBriefs in Mathematical Physics, Volume 8) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 55.00
€ 49,99 | £ 37,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-981-287-995-0](https://doi.org/10.1007/978-981-287-995-0)



9 789812 879950

T. Fujiwara-Greve, Keio University, Minato-ku, Japan

Non-Cooperative Game Theory

This is a textbook for university juniors, seniors, and graduate students majoring in economics, applied mathematics, and related fields. Each chapter is structured so that a core concept of that chapter is presented with motivations, useful applications are given, and related advanced topics are discussed for future study. Many helpful exercises at various levels are provided at the end of each chapter. Therefore, this book is most suitable for readers who intend to study non-cooperative game theory rigorously for both theoretical studies and applications. [...]

2015. XI, 260 p. 64 illus. (Monographs in Mathematical Economics, Volume 1) Hardcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-4-431-55644-2](https://doi.org/10.1007/978-4-431-55644-2)



9 784431 556442

W. Fulton

Algebraic Topology

To the Teacher. This book is designed to introduce a student to some of the important ideas of algebraic topology by emphasizing the relations of these ideas with other areas of mathematics. Rather than choosing one point of view of modern topology (homotopy theory, simplicial complexes, singular theory, axiomatic homology, differential topology, etc.), we concentrate our attention on concrete problems in low dimensions, introducing only as much algebraic machinery as necessary for the problems we meet. [...]

1995. XVIII, 430 p. 13 illus. (Graduate Texts in Mathematics, Volume 153) Softcover

€ (D) 42,75 | € (A) 43,95 | *CHF 57.50
€ 39,95 | £ 33,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-94327-5](https://doi.org/10.1007/978-0-387-94327-5)



9 780387 943275

W. Fulton

Intersection Theory

From the ancient origins of algebraic geometry in the solutions of polynomial equations, through the triumphs of algebraic geometry during the last two centuries, intersection theory has played a central role. The aim of this book is to develop the foundations of this theory, and to indicate the range of classical and modern applications. Although a comprehensive history of this vast subject is not attempted, the author points out some of the striking early appearances of the ideas of intersection theory. [...]

2nd ed. 1998. XIII, 470 p. Softcover
€ (D) 93,08 | € (A) 95,69 | *CHF 96.00
€ 86,99 | £ 64,99

Yellow Sale Price

€ (D) 46,00 | € (A) 47,29 | *CHF 47.50
€ 42,99 | £ 31,99

[978-0-387-98549-7](https://doi.org/10.1007/978-0-387-98549-7)



9 780387 985497

W. Fulton; J. Harris**Representation Theory**

The primary goal of these lectures is to introduce a beginner to the finite dimensional representations of Lie groups and Lie algebras. Since this goal is shared by quite a few other books, we should explain in this Preface how our approach differs, although the potential reader can probably see this better by a quick browse through the book. Representation theory is simple to define: it is the study of the ways in which a given group may act on vector spaces. It is almost certainly unique, however, among such clearly delineated subjects, in the breadth of its interest to mathematicians. [...]

2004. XV, 551 p. (Graduate Texts in Mathematics, Volume 129) Softcover

€ (D) 48,10 | € (A) 49,45 | *CHF 69.00
€ 44,95 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-97495-8](https://doi.org/10.1007/978-0-387-97495-8)



9 780387 974958

T. W. Gamelin**Complex Analysis**

The book provides an introduction to complex analysis for students with some familiarity with complex numbers from high school. It consists of sixteen chapters. The first eleven chapters are aimed at an Upper Division undergraduate audience. The remaining five chapters are designed to complete the coverage of all background necessary for passing PhD qualifying exams in complex analysis. Topics studied in the book include Julia sets and the Mandelbrot set, Dirichlet series and the prime number theorem, and the uniformization theorem for Riemann surfaces. [...]

2001. XVIII, 478 p. 18 illus. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 90,90 | € (A) 93,45 | *CHF 122.00
€ 84,95 | £ 67,99

Yellow Sale Price

€ (D) 46,00 | € (A) 47,29 | *CHF 47.50
€ 42,99 | £ 31,99

[978-0-387-95093-8](https://doi.org/10.1007/978-0-387-95093-8)



9 780387 950938

T. W. Gamelin**Complex Analysis**

The book provides an introduction to complex analysis for students with some familiarity with complex numbers from high school. It consists of sixteen chapters. The first eleven chapters are aimed at an Upper Division undergraduate audience. The remaining five chapters are designed to complete the coverage of all background necessary for passing PhD qualifying exams in complex analysis. Topics studied in the book include Julia sets and the Mandelbrot set, Dirichlet series and the prime number theorem, and the uniformization theorem for Riemann surfaces. [...]

2001. XVIII, 478 p. 18 illus. (Undergraduate Texts in Mathematics) Softcover

€ (D) 48,10 | € (A) 49,45 | *CHF 70.00
€ 44,95 | £ 39,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-95069-3](https://doi.org/10.1007/978-0-387-95069-3)



9 780387 950693

I. M. Gelfand, Rutgers State University of New Jersey Dept. Mathematics, New Brunswick, NJ, USA; **M. Kapranov**, Yale University Dept. Mathematics, New Haven, CT, USA; **A. Zelevinsky**, Northeastern University Dept. Mathematics, Boston, MA, USA

Discriminants, Resultants, and Multidimensional Determinants

"This book revives and vastly expands the classical theory of resultants and discriminants. Most of the main new results of the book have been published earlier in more than a dozen joint papers of the authors. [...]

1994. X, 523 p. 8 illus. (Modern Birkhäuser Classics) Softcover

€ (D) 42,75 | € (A) 43,95 | *CHF 57.50
€ 39,95 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-8176-4770-4](https://doi.org/10.1007/978-0-8176-4770-4)



9 780817 647704

W. Gander, ETH, Zürich, Switzerland**Learning MATLAB**

This comprehensive and stimulating introduction to Matlab, a computer language now widely used for technical computing, is based on an introductory course held at Qian Weichang College, Shanghai University, in the fall of 2014. Teaching and learning a substantial programming language aren't always straightforward tasks. [...]

2015. XIV, 149 p. 49 illus., 7 illus. in color. (UNITEXT, Volume 95) Softcover

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€ 39,99 | £ 29,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-3-319-25326-8](https://doi.org/10.1007/978-3-319-25326-8)



9 783319 253268

S. G. Georgiev, University of Sofia "St. Kliment Ohridski", Sofia, Bulgaria

Theory of Distributions

This book explains many fundamental ideas on the theory of distributions. The theory of partial differential equations is one of the synthetic branches of analysis that combines ideas and methods from different fields of mathematics, ranging from functional analysis and harmonic analysis to differential geometry and topology. This presents specific difficulties to those studying this field. This book, which consists of 10 chapters, is suitable for upper undergraduate/graduate students and mathematicians seeking an accessible introduction to some aspects of the theory of distributions. [...]

2015. VIII, 218 p. Softcover

€ (D) 42,79 | € (A) 43,99 | *CHF 45.50
€ 39,99 | £ 35,99

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€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-3-319-19526-1](https://doi.org/10.1007/978-3-319-19526-1)



9 783319 195261

H. U. Gerber

Life Insurance Mathematics

From the reviews: "The highly esteemed 1990 first edition of this book now appears in a much expanded second edition. The difference between the first two English editions is entirely due to the addition of numerous exercises. The result is a truly excellent book, balancing ideally between theory and practice. As already hinted at above, this book provides the ideal bridge between the classical (deterministic) life insurance theory and the emerging dynamic models based on stochastic processes and the modern theory of finance. [...]"

3rd ed. 1997. XVII, 217 p. (1+2-Pferdchen)
Hardcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
€ 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-62242-0](#)



9 783540 622420

D. Gilbarg; N. S. Trudinger

Elliptic Partial Differential Equations of Second Order

From the reviews: "This is a book of interest to any having to work with differential equations, either as a reference or as a book to learn from. The authors have taken trouble to make the treatment self-contained. It (is) suitable required reading for a PhD student. Although the material has been developed from lectures at Stanford, it has developed into an almost systematic coverage that is much longer than could be covered in a year's lectures". [...]"

2nd ed. 2001. XIII, 518 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-41160-4](#)



9 783540 411604

S. Givant, Mills College Dept. Mathematics, Oakland, CA, USA; P. Halmos, Los Gatos, CA, USA

Introduction to Boolean Algebras

2009. XIV, 574 p. 10 illus. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 45,96 | € (A) 47,25 | *CHF 62.00
€ 42,95 | £ 38,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-40293-2](#)



9 780387 402932

P. Glasserman

Monte Carlo Methods in Financial Engineering

Monte Carlo simulation has become an essential tool in the pricing of derivative securities and in risk management. These applications have, in turn, stimulated research into new Monte Carlo methods and renewed interest in some older techniques. This book develops the use of Monte Carlo methods in finance and it also uses simulation as a vehicle for presenting models and ideas from financial engineering. It divides roughly into three parts. [...]"

2003. XIII, 596 p. 4 illus. (Stochastic Modelling and Applied Probability, Volume 53) Hardcover

€ (D) 58,80 | € (A) 60,45 | *CHF 86.50
€ 54,95 | £ 49,99

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€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

[978-0-387-00451-8](#)



9 780387 004518

R. Godement, Paris, France

Analysis I

Functions in \mathbb{R} and \mathbb{C} , including the theory of Fourier series, Fourier integrals and part of that of holomorphic functions, form the focal topic of these two volumes. Based on a course given by the author to large audiences at Paris VII University for many years, the exposition proceeds somewhat nonlinearly, blending rigorous mathematics skilfully with didactical and historical considerations. It sets out to illustrate the variety of possible approaches to the main results, in order to initiate the reader to methods, the underlying reasoning, and fundamental ideas. [...]"

2004. XXI, 430 p. 1 illus. (Universitext) Softcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
€ 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-05923-3](#)



9 783540 059233

R. Godement, Paris, France

Analysis II

Functions in \mathbb{R} and \mathbb{C} , including the theory of Fourier series, Fourier integrals and part of that of holomorphic functions, form the focal topic of these two volumes. Based on a course given by the author to large audiences at Paris VII University for many years, the exposition proceeds somewhat nonlinearly, blending rigorous mathematics skilfully with didactical and historical considerations. It sets out to illustrate the variety of possible approaches to the main results, in order to initiate the reader to methods, the underlying reasoning, and fundamental ideas. [...]"

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9 783540 209218

R. Godement, Paris, France

Analysis III

Volume III sets out classical Cauchy theory. It is much more geared towards its innumerable applications than towards a more or less complete theory of analytic functions. Cauchy-type curvilinear integrals are then shown to generalize to any number of real variables (differential forms, Stokes-type formulas). The fundamentals of the theory of manifolds are then presented, mainly to provide the reader with a "canonical" language and with some important theorems (change of variables in integration, differential equations). [...]

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€ 59,99 | £ 39,99

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€ 29,99 | £ 22,99

[978-3-319-16052-8](#)



9 783319 160528

R. Godement, Paris, France

Analysis IV

Analysis Volume IV introduces the reader to functional analysis (integration, Hilbert spaces, harmonic analysis in group theory) and to the methods of the theory of modular functions (theta and L series, elliptic functions, use of the Lie algebra of SL_2). As in volumes I to III, the inimitable style of the author is recognizable here too, not only because of his refusal to write in the compact style used nowadays in many textbooks. [...]

2015. XI, 527 p. 4 illus. (Universitext) Softcover

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[978-3-319-16906-4](#)



9 783319 169064

C. Godsil; G. F. Royle

Algebraic Graph Theory

2001. XIX, 443 p. (Graduate Texts in Mathematics, Volume 207) Hardcover

€ (D) 86,62 | € (A) 89,05 | *CHF 125.50
€ 80,95 | £ 72,50

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€ (D) 42,79 | € (A) 43,99 | *CHF 44.00
€ 39,99 | £ 29,99

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9 780387 952413

C. Godsil; G. F. Royle

Algebraic Graph Theory

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€ (D) 42,75 | € (A) 43,95 | *CHF 63.50
€ 39,95 | £ 36,99

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€ 19,99 | £ 14,99

[978-0-387-95220-8](#)



9 780387 952208

P. G. Goerss, Northwestern University Dept. Mathematics, Evanston, IL, USA; J. F. Jardine, University of Western Ontario Mathematics Department, London, ON, Canada

Simplicial Homotopy Theory

Since the beginning of the modern era of algebraic topology, simplicial methods have been used systematically and effectively for both computation and basic theory. With the development of Quillen's concept of a closed model category and, in particular, a simplicial model category, this collection of methods has become the primary way to describe non-abelian homological algebra and to address homotopy-theoretical issues in a variety of fields, including algebraic K-theory. This book supplies a modern exposition of these ideas, emphasizing model category theoretical techniques. [...]

2009. XVI, 510 p. (Modern Birkhäuser Classics) Softcover

€ (D) 64,19 | € (A) 65,99 | *CHF 68.00
€ 59,99 | £ 53,99

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€ 29,99 | £ 22,99

[978-3-0346-0188-7](#)



9 783034 601887

D. Goldrei, Open University in the South Faculty of Mathematics and Computing, Oxford, UK

Propositional and Predicate Calculus: A Model of Argument

At the heart of the justification for the reasoning used in modern mathematics lies the completeness theorem for predicate calculus. This unique textbook covers two entirely different ways of looking at such reasoning. [...]

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€ 19,99 | £ 14,99

[978-1-85233-921-0](#)



9 781852 339210

J. Gomes, BOZANO Investimentos, Rio de Janeiro, Brazil; **L. Velho**, Instituto de Matemática Pura e Aplicada, Rio de Janeiro, Brazil

From Fourier Analysis to Wavelets

This text introduces the basic concepts of function spaces and operators, both from the continuous and discrete viewpoints. Fourier and Window Fourier Transforms are introduced and used as a guide to arrive at the concept of Wavelet transform. The fundamental aspects of multiresolution representation, and its importance to function discretization and to the construction of wavelets is also discussed. Emphasis is given on ideas and intuition, avoiding the heavy computations which are usually involved in the study of wavelets. [...]

2015. XIII, 210 p. 77 illus. (IMPA Monographs, Volume 3) Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

Yellow Sale Price

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€ 34,99 | £ 26,99

[978-3-319-22074-1](https://doi.org/10.1007/978-3-319-22074-1)



9 783319 220741

E. A. González-Velasco, University of Massachusetts at Lowell, Lowell, MA, USA

Journey through Mathematics

This book offers an accessible and in-depth look at some of the most important episodes of two thousand years of mathematical history. Beginning with trigonometry and moving on through logarithms, complex numbers, infinite series, and calculus, this book profiles some of the lesser known but crucial contributors to modern day mathematics. It is unique in its use of primary sources as well as its accessibility; a knowledge of first-year calculus is the only prerequisite. [...]

2011. XI, 466 p. Hardcover

€ (D) 93,08 | € (A) 95,69 | *CHF 96.00
€ 86,99 | £ 64,99

Yellow Sale Price

€ (D) 46,00 | € (A) 47,29 | *CHF 47.50
€ 42,99 | £ 31,99

[978-0-387-92153-2](https://doi.org/10.1007/978-0-387-92153-2)



9 780387 921532

R. Goodman, Rutgers University Dept. Mathematics, Piscataway, NJ, USA; **N. R. Wallach**, University of California, San Diego Dept. Mathematics, La Jolla, CA, USA

Symmetry, Representations, and Invariants

Symmetry is a key ingredient in many mathematical, physical, and biological theories. Using representation theory and invariant theory to analyze the symmetries that arise from group actions, and with strong emphasis on the geometry and basic theory of Lie groups and Lie algebras, Symmetry, Representations, and Invariants is a significant reworking of an earlier highly-acclaimed work by the authors. [...]

2009. XX, 716 p. 10 illus. (Graduate Texts in Mathematics, Volume 255) Hardcover

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€ 59,95 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-0-387-79851-6](https://doi.org/10.1007/978-0-387-79851-6)



9 780387 798516

C. Goodrich, Creighton Preparatory School, Omaha, NE, USA; **A. C. Peterson**, University of Nebraska-Lincoln, Lincoln, NE, USA

Discrete Fractional Calculus

This text provides the first comprehensive treatment of the discrete fractional calculus. Experienced researchers will find the text useful as a reference for discrete fractional calculus and topics of current interest. Students who are interested in learning about discrete fractional calculus will find this text to provide a useful starting point. Several exercises are offered at the end of each chapter and select answers have been provided at the end of the book. [...]

2015. XIII, 556 p. Hardcover

€ (D) 53,49 | € (A) 54,99 | *CHF 55.00
€ 49,99 | £ 37,99

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€ 24,99 | £ 18,99

[978-3-319-25560-6](https://doi.org/10.1007/978-3-319-25560-6)



9 783319 255606

B. Goodwine, University of Notre Dame Department of Aerospace and Mechanical E, Notre Dame, IN, USA

Engineering Differential Equations

This book is a comprehensive treatment of engineering undergraduate differential equations as well as linear vibrations and feedback control. While this material has traditionally been separated into different courses in undergraduate engineering curricula. This text provides a streamlined and efficient treatment of material normally covered in three courses. Ultimately, engineering students study mathematics in order to be able to solve problems within the engineering realm. [...]

2011. XIX, 745 p. Hardcover

€ (D) 74,85 | € (A) 76,95 | *CHF 100.50
€ 69,95 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-1-4419-7918-6](https://doi.org/10.1007/978-1-4419-7918-6)



9 781441 979186

H. Grant, Department of Mathematics and Statistics York University, Toronto, ON; **I. Kleiner**, Department of Mathematics and Statistics York University, Toronto, ON

Turning Points in the History of Mathematics

This book explores some of the major turning points in the history of mathematics, ranging from ancient Greece to the present, demonstrating the drama that has often been a part of its evolution. Studying these breakthroughs, transitions, and revolutions, their stumbling-blocks and their triumphs, can help illuminate the importance of the history of mathematics for its teaching, learning, and appreciation. [...]

2015. IX, 109 p. 51 illus., 13 illus. in color. (Compact Textbooks in Mathematics) Softcover

€ (D) 42,79 | € (A) 43,99 | *CHF 44.00
€ 39,99 | £ 29,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-1-4939-3263-4](https://doi.org/10.1007/978-1-4939-3263-4)



9 781493 932634

G. Grätzer, University of Manitoba Dept. Mathematics, Winnipeg, MB, Canada

Lattice Theory: Foundation

This book started with Lattice Theory, First Concepts, in 1971. Then came General Lattice Theory, First Edition, in 1978, and the Second Edition twenty years later. Since the publication of the first edition in 1978, General Lattice Theory has become the authoritative introduction to lattice theory for graduate students and the standard reference for researchers. The First Edition set out to introduce and survey lattice theory. [...]

2011. XXX, 614 p. Softcover

€ (D) 69,50 | € (A) 71,45 | *CHF 93.50
€ 64,95 | £ 58,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-0348-0017-4](#)



9 783034 800174

J. Gray, The Open University, Milton Keynes, UK

The Real and the Complex: A History of Analysis in the 19th Century

This book contains a history of real and complex analysis in the nineteenth century, from the work of Lagrange and Fourier to the origins of set theory and the modern foundations of analysis. It studies the works of many contributors including Gauss, Cauchy, Riemann, and Weierstrass. This book is unique owing to the treatment of real and complex analysis as overlapping, inter-related subjects, in keeping with how they were seen at the time. [...]

2015. XVI, 350 p. 71 illus. (Springer Undergraduate Mathematics Series) Softcover

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 24,99

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€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-3-319-23714-5](#)



9 783319 237145

Z. Grbac, Université Paris–Diderot (Paris 7), Paris Cedex 13, France; **W. Runggaldier**, University of Padova, Padova, Italy

Interest Rate Modeling: Post-Crisis Challenges and Approaches

Filling a gap in the literature caused by the recent financial crisis, this book provides a treatment of the techniques needed to model and evaluate interest rate derivatives according to the new paradigm for fixed income markets. Concerning this new development, there presently exist only research articles and two books, one of them an edited volume, both being written by researchers working mainly in practice. [...]

2015. XIII, 140 p. 5 illus., 1 illus. in color. (SpringerBriefs in Quantitative Finance) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 55.00
€ 49,99 | £ 37,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-25383-1](#)



9 783319 253831

P. E. Greenwood, University of British Columbia, VANCOUVER, ; **L. M. Ward**, University of British Columbia, VANCOUVER,

Stochastic Neuron Models

This book describes a large number of open problems in the theory of stochastic neural systems, with the aim of enticing probabilists to work on them. This includes problems arising from stochastic models of individual neurons as well as those arising from stochastic models of the activities of small and large networks of interconnected neurons. The necessary neuroscience background to these problems is outlined within the text, so readers can grasp the context in which they arise. [...]

2016. X, 75 p. 25 illus., 12 illus. in color. (Mathematical Biosciences Institute Lecture Series, Volume 1.5) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 55.00
€ 49,99 | £ 37,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-26909-2](#)



9 783319 269092

D. F. Griffiths, University of Dundee, Fife; **J. W. Dold**, The University of Manchester, Manchester; **D. J. Silvester**, The University of Manchester, Manchester, UK

Essential Partial Differential Equations

This volume provides an introduction to the analytical and numerical aspects of partial differential equations (PDEs). It unifies an analytical and computational approach for these; the qualitative behaviour of solutions being established using classical concepts: maximum principles and energy methods. Notable inclusions are the treatment of irregularly shaped boundaries, polar coordinates and the use of flux-limiters when approximating hyperbolic conservation laws. [...]

2015. XI, 368 p. 106 illus., 1 illus. in color. (Springer Undergraduate Mathematics Series) Softcover

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 24,99

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-3-319-22568-5](#)



9 783319 225685

D. F. Griffiths, University of Dundee, Dundee, UK; **D. J. Higham**, University of Strathclyde Dept. Mathematics, Glasgow, UK

Numerical Methods for Ordinary Differential Equations

Numerical Methods for Ordinary Differential Equations is a self-contained introduction to a fundamental field of numerical analysis and scientific computation. Written for undergraduate students with a mathematical background, this book focuses on the analysis of numerical methods without losing sight of the practical nature of the subject. It covers the topics traditionally treated in a first course, but also highlights new and emerging themes. Chapters are broken down into 'lecture' sized pieces, motivated and illustrated by numerous theoretical and computational examples. [...]

2010. XIV, 271 p. 69 illus. (Springer Undergraduate Mathematics Series) Softcover

€ (D) 37,40 | € (A) 38,45 | *CHF 47.00
€ 34,95 | £ 24,95

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-0-85729-147-9](#)



9 780857 291479

E. Grigorieva, Texas Woman's University, Denton, TX, USA

Methods of Solving Nonstandard Problems

This book, written by an accomplished female mathematician, is the second to explore nonstandard mathematical problems – those that are not directly solved by standard mathematical methods but instead rely on insight and the synthesis of a variety of mathematical ideas. It promotes mental activity as well as greater mathematical skills, and is an ideal resource for successful preparation for the mathematics Olympiad. Numerous strategies and techniques are presented that can be used to solve intriguing and challenging problems of the type often found in competitions. [...]

2015. XXI, 327 p. 11 illus., 2 illus. in color. Hardcover

€ (D) 42,79 | € (A) 43,99 | *CHF 45.50
€ 39,99 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

978-3-319-19886-6



9 783319 198866

F. A. Grünbaum, University of California, Berkeley, CA, USA; **P. van Moerbeke**, Universit_e catholique de Louvain, Louvain-la-Neuve, Belgium, & Brandeis University, Waltham, MA, USA; **V. H. Moll**, Tulane University, New Orleans, LA, USA (Eds)

Henry P. McKean Jr. Selecta

This volume presents a selection of papers by Henry P. McKean, which illustrate the various areas in mathematics in which he has made seminal contributions. Topics covered include probability theory, integrable systems, geometry and financial mathematics. Each paper represents a contribution by Prof. McKean, either alone or together with other researchers, that has had a profound influence in the respective area.

2015. VII, 418 p. 59 illus. (Contemporary Mathematicians) Hardcover

€ (D) 105,93 | € (A) 108,90 | *CHF 109.00
€ 99,00 | £ 74,00

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

978-3-319-22236-3



9 783319 222363

K. Guo, Fudan University, Shanghai, China; **H. Huang**, East China University of Science and Technology, Shanghai, China

Multiplication Operators on the Bergman Space

This book deals with various aspects of commutants and reducing subspaces of multiplication operators on the Bergman space, along with relevant von Neumann algebras generated by these operators, which have been the focus of considerable attention from the authors and other experts in recent years. The book reviews past developments and offers insights into cutting-edge developments in the study of multiplication operators. It also provides commentary and comparisons to stimulate research in this area.

2015. VIII, 322 p. 11 illus., 1 illus. in color. (Lecture Notes in Mathematics, Volume 2145) Softcover

€ (D) 48,14 | € (A) 49,49 | *CHF 51.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

978-3-662-46844-9



9 783662 468449

S. J. Gustafson, University of British Columbia Dept. Mathematics, Vancouver, BC, Canada; **I. M. Sigal**, University of Toronto, Toronto, ON, Canada

Mathematical Concepts of Quantum Mechanics

The book gives a streamlined introduction to quantum mechanics while describing the basic mathematical structures underpinning this discipline. Starting with an overview of key physical experiments illustrating the origin of the physical foundations, the book proceeds with a description of the basic notions of quantum mechanics and their mathematical content. It then makes its way to topics of current interest, specifically those in which mathematics plays an important role. [...]

2nd ed. 2011. XIII, 382 p. 37 illus. (Universitext) Softcover

€ (D) 64,15 | € (A) 65,95 | *CHF 86.00
€ 59,95 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

978-3-642-21865-1



9 783642 218651

P. Guyenne, University of Delaware, Newark, DE, USA; **D. Nicholls**, University of Illinois at Chicago, Chicago, IL, USA; **C. Sulem**, University of Toronto, Toronto, ON, Canada (Eds)

Hamiltonian Partial Differential Equations and Applications

This book is a unique selection of work by world-class experts exploring the latest developments in Hamiltonian partial differential equations and their applications. Topics covered within are representative of the field's wide scope, including KAM and normal form theories, perturbation and variational methods, integrable systems, stability of nonlinear solutions as well as applications to cosmology, fluid mechanics and water waves. [...]

2015. X, 449 p. 47 illus., 19 illus. in color. (Fields Institute Communications, Volume 75) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 107.00
€ 94,99 | £ 85,50

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

978-1-4939-2949-8



9 781493 929498

W. Hackbusch, MPI für Mathematik in den, Leipzig, Germany

Hierarchical Matrices: Algorithms and Analysis

This self-contained monograph presents matrix algorithms and their analysis. The new technique enables not only the solution of linear systems but also the approximation of matrix functions, e.g., the matrix exponential. Other applications include the solution of matrix equations, e.g., the Lyapunov or Riccati equation. The required mathematical background can be found in the appendix. The numerical treatment of fully populated large-scale matrices is usually rather costly. [...]

2015. XXV, 511 p. 87 illus., 27 illus. in color. (Springer Series in Computational Mathematics, Volume 49) Hardcover

€ (D) 117,69 | € (A) 120,99 | *CHF 121.00
€ 109,99 | £ 82,00

Yellow Sale Price

€ (D) 64,19 | € (A) 65,99 | *CHF 66.00
€ 59,99 | £ 44,99

978-3-662-47323-8



9 783662 473238

P. Hackney, Stockholm University, Stockholm, Sweden; **M. Robertson**, University of California, Los Angeles, CA, USA; **D. Yau**, Ohio State University, Newark Campus, Newark, OH, USA

Infinity Properads and Infinity Wheeled Properads

The topic of this book sits at the interface of the theory of higher categories (in the guise of $(\infty, 1)$ -categories) and the theory of properads. Properads are devices more general than operads and enable one to encode bialgebraic, rather than just (co) algebraic, structures. The text extends both the Joyal-Lurie approach to higher categories and the Cisinski-Moerdijk-Weiss approach to higher operads, and provides a foundation for a broad study of the homotopy theory of properads. [...]

2015. XV, 358 p. 213 illus. (Lecture Notes in Mathematics, Volume 2147) Softcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-20546-5](#)



9 783319 205465

B. Hall, University of Notre Dame, Notre Dame, IN, USA

Lie Groups, Lie Algebras, and Representations

This textbook treats Lie groups, Lie algebras and their representations in an elementary but fully rigorous fashion requiring minimal prerequisites. In particular, the theory of matrix Lie groups and their Lie algebras is developed using only linear algebra, and more motivation and intuition for proofs is provided than in most classic texts on the subject. [...]

2nd ed. 2015. XIII, 451 p. 79 illus. (Graduate Texts in Mathematics, Volume 222) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 68.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-319-13466-6](#)



9 783319 134666

B. C. Hall, University of Notre Dame, Notre Dame, IN, USA

Quantum Theory for Mathematicians

Although ideas from quantum physics play an important role in many parts of modern mathematics, there are few books about quantum mechanics aimed at mathematicians. This book introduces the main ideas of quantum mechanics in language familiar to mathematicians. [...]

2013. XVI, 554 p. (Graduate Texts in Mathematics, Volume 267) Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 93.50
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-1-4614-7115-8](#)



9 781461 471158

E. Häusler, University of Giessen, Giessen, Germany; **H. Luschgy**, University of Trier, Trier, Germany

Stable Convergence and Stable Limit Theorems

The authors present a concise but complete exposition of the mathematical theory of stable convergence and give various applications in different areas of probability theory and mathematical statistics to illustrate the usefulness of this concept. Stable convergence holds in many limit theorems of probability theory and statistics – such as the classical central limit theorem – which are usually formulated in terms of convergence in distribution. Originated by Alfred Rényi, the notion of stable convergence is stronger than the classical weak convergence of probability measures. [...]

2015. X, 228 p. (Probability Theory and Stochastic Modelling, Volume 74) Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-18328-2](#)



9 783319 183282

R. Hartshorne, Department of Mathematics University of California at Berkeley, Berkeley, CA, USA

Geometry: Euclid and Beyond

In recent years, I have been teaching a junior-senior-level course on the classical geometries. This book has grown out of that teaching experience. I assume only high-school geometry and some abstract algebra. The course begins in Chapter 1 with a critical examination of Euclid's Elements. Students are expected to read concurrently Books I-IV of Euclid's text, which must be obtained separately. The remainder of the book is an exploration of questions that arise naturally from this reading, together with their modern answers. To shore up the foundations we use Hilbert's axioms. [...]

2000. XII, 528 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 53,45 | € (A) 54,95 | *CHF 77.50
€ 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-98650-0](#)



9 780387 986500

D. Hestenes, Arizona State University, Tempe, AZ, USA

Space-Time Algebra

This small book started a profound revolution in the development of mathematical physics, one which has reached many working physicists already, and which stands poised to bring about far-reaching change in the future. At its heart is the use of Clifford algebra to unify otherwise disparate mathematical languages, particularly those of spinors, quaternions, tensors and differential forms. [...]

2nd ed. 2015. XXIV, 102 p.

(Wissenschaftsprogramm nur englisch (Birkhäuser)) Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-18412-8](#)



9 783319 184128

J. S. Hesthaven, Ecole Polytechnique Fédérale de Lausanne EPFL, Lausanne, Switzerland; **G. Rozza**, International School for Advanced Studies, Trieste, Italy; **B. Stamm**, Sorbonne Universités, UPMC Univ Paris 06, CNRS, Paris Cedex 05, France

Certified Reduced Basis Methods for Parametrized Partial Differential Equations

This book provides a thorough introduction to the mathematical and algorithmic aspects of certified reduced basis methods for parametrized partial differential equations. Central aspects ranging from model construction, error estimation and computational efficiency to empirical interpolation methods are discussed in detail for coercive problems. [...]

2016. XIII, 131 p. 32 illus., 27 illus. in color. (SpringerBriefs in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-22469-5](#)



9 783319 224695

J. S. Hesthaven, Brown University, Providence, RI, USA; **T. Warburton**, Rice University Dept. Computational & Houston, TX, USA

Nodal Discontinuous Galerkin Methods

Mathematics is playing an ever more important role in the physical and biological sciences, provoking a blurring of boundaries between disciplines and a resurgence of interest in the modern as well as the classical techniques of applied mathematics. This renewal of interest, both in research and teaching, has led to the establishment of the series Texts in Applied Mathematics (TAM). [...]

2008. XIV, 502 p. (Texts in Applied Mathematics, Volume 54) Hardcover

€ (D) 55,59 | € (A) 57,15 | *CHF 80.50
€ 51,95 | £ 46,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-72065-4](#)



9 780387 720654

M. Hindry; J. H. Silverman, Brown University Department of Mathematics, Providence, RI, USA

Diophantine Geometry

This is an introduction to diophantine geometry at the advanced graduate level. The book contains a proof of the Mordell conjecture which will make it quite attractive to graduate students and professional mathematicians. In each part of the book, the reader will find numerous exercises.

2000. XIII, 561 p. (Graduate Texts in Mathematics, Volume 201) Hardcover

€ (D) 79,13 | € (A) 81,35 | *CHF 116.50
€ 73,95 | £ 66,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-0-387-98975-4](#)



9 780387 989754

M. Hindry; J. H. Silverman, Brown University Department of Mathematics, Providence, RI, USA

Diophantine Geometry

This is an introduction to diophantine geometry at the advanced graduate level. The book contains a proof of the Mordell conjecture which will make it quite attractive to graduate students and professional mathematicians. In each part of the book, the reader will find numerous exercises.

2000. XIII, 561 p. (Graduate Texts in Mathematics, Volume 201) Softcover

€ (D) 52,38 | € (A) 53,85 | *CHF 75.00
€ 48,95 | £ 43,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-98981-5](#)



9 780387 989815

J. Hirschfeld, University of Sussex, Brighton, UK; **J. A. Thas**, Ghent University, Gent, Belgium

General Galois Geometries

This book is the second edition of the third and last volume of a treatise on projective spaces over a finite field, also known as Galois geometries. This volume completes the trilogy comprised of plane case (first volume) and three dimensions (second volume). This revised edition includes much updating and new material. It is a mostly self-contained study of classical varieties over a finite field, related incidence structures and particular point sets in finite n-dimensional projective spaces. [...]

2016. XVII, 409 p. 4 illus. in color. (Springer Monographs in Mathematics) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 104.50
€ 94,99 | £ 71,00

Yellow Sale Price

€ (D) 69,54 | € (A) 71,49 | *CHF 71.50
€ 64,99 | £ 48,99

[978-1-4471-6788-4](#)



9 781447 167884

W. Hochstättler, Fernuniversität Hagen FB Mathematik, Hagen, Germany; **A. Schliep**, Max-Planck-Gesellschaft Molekulare Genetik, Berlin, Germany

CATBox

Graph algorithms are easy to visualize and indeed there already exists a variety of packages to animate the dynamics when solving problems from graph theory. Still it can be difficult to understand the ideas behind the algorithm from the dynamic display alone. CATBox consists of a software system for animating graph algorithms and a course book which we developed simultaneously. The software system presents both the algorithm and the graph and puts the user always in control of the actual code that is executed. [...]

2010. XII, 190 p. 36 illus. Softcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
€ 49,95 | £ 44,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-14887-6](#)



9 783540 148876

H. Hofer, Institute for Advanced Study (IAS), Princeton, NJ, USA; **E. Zehnder**, ETH Zürich, Zürich, Switzerland

Symplectic Invariants and Hamiltonian Dynamics

The discoveries of the last decades have opened new perspectives for the old field of Hamiltonian systems and led to the creation of a new field: symplectic topology. Surprising rigidity phenomena demonstrate that the nature of symplectic mappings is very different from that of volume preserving mappings. This raises new questions, many of them still unanswered. On the other hand, analysis of an old variational principle in classical mechanics has established global periodic phenomena in Hamiltonian systems. As it turns out, these seemingly different phenomena are mysteriously related. [...]

2011. XIV, 341 p. 49 illus. (Modern Birkhäuser Classics) Softcover

€ (D) 64,15 | € (A) 65,95 | *CHF 86.00
€ 59,95 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-0348-0103-4](https://doi.org/10.1007/978-3-0348-0103-4)



9 783034 801034

H. Holden, Norwegian University of Science and Technology, Trondheim, Norway; **N. H. Risebro**, University of Oslo, Oslo, Norway

Front Tracking for Hyperbolic Conservation Laws

This is the second edition of a well-received book providing the fundamentals of the theory hyperbolic conservation laws. Several chapters have been rewritten, new material has been added, in particular, a chapter on space dependent flux functions and the detailed solution of the Riemann problem for the Euler equations. Hyperbolic conservation laws are central in the theory of nonlinear partial differential equations and in science and technology. [...]

2nd ed. 2015. XIV, 517 p. 1240 illus. in color. (Applied Mathematical Sciences, Volume 152) Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-662-47506-5](https://doi.org/10.1007/978-3-662-47506-5)



9 783662 475065

M. H. Holmes, Rensselaer Polytechnic Institute Academic Science of the Material, Troy, NY, USA

Introduction to Perturbation Methods

This introductory graduate text is based on a graduate course the author has taught repeatedly over the last ten years to students in applied mathematics, engineering sciences, and physics. Each chapter begins with an introductory development involving ordinary differential equations, and goes on to cover such traditional topics as boundary layers and multiple scales. However, it also contains material arising from current research interest, including homogenisation, slender body theory, symbolic computing, and discrete equations. [...]

2nd ed. 2013. XVIII, 438 p. (Texts in Applied Mathematics, Volume 20) Hardcover

€ (D) 64,15 | € (A) 65,95 | *CHF 80.00
€ 59,95 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-1-4614-5476-2](https://doi.org/10.1007/978-1-4614-5476-2)



9 781461 454762

L. Hörmander, Lund, Sweden

The Analysis of Linear Partial Differential Operators II

This volume is an expanded version of Chapters III, IV, V and VII of my 1963 book "Linear partial differential operators". In addition there is an entirely new chapter on convolution equations, one on scattering theory, and one on methods from the theory of analytic functions of several complex variables. The latter is somewhat limited in scope though since it seems superfluous to duplicate the monographs by Ehrenpreis and by Palamodov on this subject. [...]

2005. XI, 395 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-22516-4](https://doi.org/10.1007/978-3-540-22516-4)



9 783540 225164

L. Hörmander, Lund, Sweden

The Analysis of Linear Partial Differential Operators I

The main change in this edition is the inclusion of exercises with answers and hints. This is meant to emphasize that this volume has been written as a general course in modern analysis on a graduate student level and not only as the beginning of a specialized course in partial differential equations. In particular, it could also serve as an introduction to harmonic analysis. Exercises are given primarily to the sections of general interest; there are none to the last two chapters. [...]

2nd ed. 2003. XI, 440 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-00662-6](https://doi.org/10.1007/978-3-540-00662-6)



9 783540 006626

From the reviews: "Volumes III and IV complete L. Hörmander's treatise on linear partial differential equations. They constitute the most complete and up-to-date account of this subject, by the author who has dominated it and made the most significant contributions in the last decades....It is a superb book, which must be present in every mathematical library, and an indispensable tool for all - young and old - interested in the theory of partial differential operators." [...]

2007. VIII, 525 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-49937-4](https://doi.org/10.1007/978-3-540-49937-4)



9 783540 499374

L. Hörmander, Lund, Sweden

The Analysis of Linear Partial Differential Operators IV

From the reviews: "Volumes III and IV complete L. Hörmander's treatise on linear partial differential equations. They constitute the most complete and up-to-date account of this subject, by the author who has dominated it and made the most significant contributions in the last decades....It is a superb book, which must be present in every mathematical library, and an indispensable tool for all - young and old - interested in the theory of partial differential operators." [...]

2009. VII, 352 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

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€ 24,99 | £ 18,99

978-3-642-00117-8



9 783642 001178

R. Hotta, Okayama University of Science Fac. Sciences, Okayama, Japan; **K. Takeuchi**, University of Tsukuba, Tsukuba, Ibaraki, Japan; **T. Tanisaki**, Osaka City University Graduate School of Science, Osaka, Japan

D-Modules, Perverse Sheaves, and Representation Theory

D-modules continues to be an active area of stimulating research in such mathematical areas as algebra, analysis, differential equations, and representation theory. Key to D-modules, Perverse Sheaves, and Representation Theory is the authors' essential algebraic-analytic approach to the theory, which connects D-modules to representation theory and other areas of mathematics. [...]

2008. XI, 412 p. (Progress in Mathematics, Volume 236) Hardcover

€ (D) 83,46 | € (A) 85,80 | *CHF 128.00
€ 78,00 | £ 70,00

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€ (D) 42,79 | € (A) 43,99 | *CHF 44.00
€ 39,99 | £ 29,99

978-0-8176-4363-8



9 780817 643638

S. Huggett, University of Plymouth School of Mathematics & Statistics, Plymouth, Devon, UK; **D. Jordan**, Hull, UK

A Topological Aperitif

Topology has been referred to as "rubber-sheet geometry". The name is apt, for the subject is concerned with properties of an object that would be preserved, no matter how much it is stretched, squashed, or distorted, so long as it is not in any way torn apart or glued together. One's first reaction might be that such an imprecise-sounding subject could hardly be part of serious mathematics, and would be unlikely to have applications beyond the amusement of simple parlour games. This reaction could hardly be further from the truth. Topology is one of the most important and broad-ranging disciplines of modern mathematics. [...]

2nd ed. 2009. IX, 152 p. 135 illus. Softcover

€ (D) 28,84 | € (A) 29,65 | *CHF 39.00
€ 26,95 | £ 16,99

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€ (D) 16,04 | € (A) 16,49 | *CHF 16.50
€ 14,99 | £ 11,99

978-1-84800-912-7



9 781848 009127

E. Husserl, Dordrecht, Netherlands

Philosophy of Arithmetic

In his first book, Philosophy of Arithmetic, Edmund Husserl provides a carefully worked out account of number as a categorial or formal feature of the objective world, and of arithmetic as a symbolic technique for mastering the infinite field of numbers for knowledge. It is a realist account of numbers and number relations that interweaves them into the basic structure of the universe and into our knowledge of reality. [...]

2003. LXIV, 515 p. (Husserliana: Edmund Husserl – Collected Works, Volume 10) Softcover

€ (D) 46,00 | € (A) 47,29 | *CHF 47.50
€ 42,99 | £ 31,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

978-1-4020-1603-5



9 781402 016035

D. Huybrechts, Université Paris VII UFR de Mathématiques, Paris CX 05, France

Complex Geometry

Complex geometry studies (compact) complex manifolds. It discusses algebraic as well as metric aspects. The subject is on the crossroad of algebraic and differential geometry. Recent developments in string theory have made it an highly attractive area, both for mathematicians and theoretical physicists. The author's goal is to provide an easily accessible introduction to the subject. The book contains detailed accounts of the basic concepts and the many exercises illustrate the theory. Appendices to various chapters allow an outlook to recent research directions. [...]

2005. XII, 309 p. (Universitext) Softcover

€ (D) 60,94 | € (A) 62,65 | *CHF 82.00
€ 56,95 | £ 51,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

978-3-540-21290-4



9 783540 212904

S. Ikeda, Tohoku University, Sendai, Japan; **M. Kotani**, Miyagi

A New Direction in Mathematics for Materials Science

This book is the first volume of the SpringerBriefs in the Mathematics of Materials and provides a comprehensive guide to the interaction of mathematics with materials science. The anterior part of the book describes a selected history of materials science as well as the interaction between mathematics and materials in history. The emergence of materials science was itself a result of an interdisciplinary movement in the 1950s and 1960s. Materials science was formed by the integration of metallurgy, polymer science, ceramics, solid state physics, and related disciplines. [...]

2015. X, 86 p. 38 illus., 4 illus. in color. (SpringerBriefs in the Mathematics of Materials, Volume 1) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 67.00
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

978-4-431-55862-0



9 784431 558620

K. Itô, Kyoto University, Kyoto, Japan

Poisson Point Processes and Their Application to Markov Processes

An extension problem (often called a boundary problem) of Markov processes has been studied, particularly in the case of one-dimensional diffusion processes, by W. Feller, K. Itô, and H. P. McKean, among others. In this book, Itô discussed a case of a general Markov process with state space S and a specified point $a \in S$ called a boundary. The problem is to obtain all possible recurrent extensions of a given minimal process (i.e., the process on $S \setminus \{a\}$ which is absorbed on reaching the boundary a). [...]

2015. XI, 43 p. 3 illus. (SpringerBriefs in Probability and Mathematical Statistics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 55.00
€ 49,99 | £ 37,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-981-10-0271-7](https://doi.org/10.1007/978-981-10-0271-7)



9 789811 002717

K. Iwasawa, Princeton University, Princeton, NJ, USA; **G. Fujisaki**, The University of Tokyo, Meguro, Japan; **K. Kazuya**, The University of Chicago, Chicago, IL, USAM. Kurihara, Keio University, Mita, Japan; **S. Nakajima**, Gakushuin University, Toshima, Japan (Eds)

Collected Papers

Kenkichi Iwasawa was one of the most original and influential mathematicians of the twentieth century. He made a number of fundamental contributions in group theory and algebraic number theory. In group theory, he created the theory of (L)-groups (including the structure theorem called "Iwasawa decomposition"), which played an important role in the solution of Hilbert's Fifth Problem. [...]

2001. XXV, 872 p. 3 illus. With Reprint 2014 from the 2001 edition. (Springer Collected Works in Mathematics) Softcover

€ (D) 64,19 | € (A) 65,99 | *CHF 80.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-4-431-55055-6](https://doi.org/10.1007/978-4-431-55055-6)



9 784431 550556

J. Jacod, Université Paris VI - Pierre et Marie Curie, Paris, Cedex 05, France; **P. Protter**, Columbia University, Protter, NY, USA

Probability Essentials

We have made small changes throughout the book, including the exercises, and we have tried to correct if not all, then at least most of the typos. We wish to thank the many colleagues and students who have commented constructively on the book since its publication two years ago, and in particular Professors Valentin Petrov, Esko Valkeila, Volker Priebe, and Frank Knight. Jean Jacod, Paris Philip Protter, Ithaca March, 2002 Preface to the Second Printing of the Second Edition We have learned greatly from the long list of typos and small suggestions sent to us by Professor Luis Tenorio. [...]

2nd ed. 2004. X, 254 p. (Universitext) Softcover

€ (D) 37,40 | € (A) 38,45 | *CHF 50.50
€ 34,95 | £ 27,99

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-3-540-43871-7](https://doi.org/10.1007/978-3-540-43871-7)



9 783540 438717

J. F. Jardine, University of Western Ontario Mathematics Department, London, ON, Canada

Local Homotopy Theory

This monograph on the homotopy theory of topologized diagrams of spaces and spectra gives an expert account of a subject at the foundation of motivic homotopy theory and the theory of topological modular forms in stable homotopy theory. Beginning with an introduction to the homotopy theory of simplicial sets and topos theory, the book covers core topics such as the unstable homotopy theory of simplicial presheaves and sheaves, localized theories, cocycles, descent theory, non-abelian cohomology, stacks, and local stable homotopy theory. [...]

2015. IX, 508 p. 514 illus. (Springer Monographs in Mathematics) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 126.50
€ 94,99 | £ 85,50

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-1-4939-2299-4](https://doi.org/10.1007/978-1-4939-2299-4)



9 781493 922994

M. Jarnicki, Jagiellonian University, Kraków, Poland; **P. Pflug**, Carl von Ossietzky University Oldenburg, Oldenburg, Germany

Continuous Nowhere Differentiable Functions

This book covers the construction, analysis, and theory of continuous nowhere differentiable functions, comprehensively and accessibly. After illuminating the significance of the subject through an overview of its history, the reader is introduced to the sophisticated toolkit of ideas and tricks used to study the explicit continuous nowhere differentiable functions of Weierstrass, Takagi-van der Waerden, Bolzano, and others. [...]

2015. XII, 299 p. 15 illus. in color. (Springer Monographs in Mathematics) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 104.50
€ 94,99 | £ 71,00

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-3-319-12669-2](https://doi.org/10.1007/978-3-319-12669-2)



9 783319 126692

F. Jarvis, University of Sheffield, Sheffield, UK

Algebraic Number Theory

The technical difficulties of algebraic number theory often make this subject appear difficult to beginners. This undergraduate textbook provides a welcome solution to these problems as it provides an approachable and thorough introduction to the topic. Algebraic Number Theory takes the reader from unique factorisation in the integers through to the modern-day number field sieve. The first few chapters consider the importance of arithmetic in fields larger than the rational numbers. [...]

2014. XIII, 292 p. 3 illus. (Springer Undergraduate Mathematics Series) Softcover

€ (D) 37,44 | € (A) 38,49 | *CHF 47.00
€ 34,99 | £ 24,99

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-3-319-07544-0](https://doi.org/10.1007/978-3-319-07544-0)



9 783319 075440

N. Jeevanjee, University of California at Berkeley, Department of Physics, Berkeley, CA, USA

An Introduction to Tensors and Group Theory for Physicists

The second edition of this highly praised textbook provides an introduction to tensors, group theory, and their applications in classical and quantum physics. Both intuitive and rigorous, it aims to demystify tensors by giving the slightly more abstract but conceptually much clearer definition found in the math literature, and then connects this formulation to the component formalism of physics calculations. [...]

2nd ed. 2015. XVI, 305 p. 23 illus. Hardcover

€ (D) 53,49 | € (A) 54,99 | *CHF 67.00
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-14793-2](https://doi.org/10.1007/978-3-319-14793-2)



9 783319 147932

G. A. Jennings

Modern Geometry with Applications

This book is an introduction to the theory and applications of "modern geometry" ~ roughly speaking, geometry that was developed after Euclid. It covers three major areas of non-Euclidean geometry and their applications: spherical geometry (used in navigation and astronomy), projective geometry (used in art), and spacetime geometry (used in the Special Theory of Relativity). In addition it treats some of the more useful topics from Euclidean geometry, focusing on the use of Euclidean motions, and includes a chapter on conics and the orbits of planets. [...]

1994. VIII, 204 p. 150 illus. (Universitext) Softcover

€ (D) 52,38 | € (A) 53,85 | *CHF 75.00
€ 48,95 | £ 43,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-94222-3](https://doi.org/10.1007/978-0-387-94222-3)



9 780387 942223

G. A. Jones, University of Southampton School of Mathematics, Southampton, UK; **J. M. Jones**,

Elementary Number Theory

Our intention in writing this book is to give an elementary introduction to number theory which does not demand a great deal of mathematical background or maturity from the reader, and which can be read and understood with no extra assistance. Our first three chapters are based almost entirely on A-level mathematics, while the next five require little else beyond some elementary group theory. [...]

1998. XIV, 302 p. (Springer Undergraduate Mathematics Series) Softcover

€ (D) 37,40 | € (A) 38,45 | *CHF 47.00
€ 34,95 | £ 24,95

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-3-540-76197-6](https://doi.org/10.1007/978-3-540-76197-6)



9 783540 761976

M. Joshi, University of Melbourne, Melbourne, VIC, Australia

Proof Patterns

This innovative textbook introduces a new pattern-based approach to learning proof methods in the mathematical sciences. Readers will discover techniques that will enable them to learn new proofs across different areas of pure mathematics with ease. The patterns in proofs from diverse fields such as algebra, analysis, topology and number theory are explored. Specific topics examined include game theory, combinatorics and Euclidean geometry, enabling a broad familiarity. [...]

2015. XIII, 190 p. 24 illus. Softcover

€ (D) 42,79 | € (A) 43,99 | *CHF 53.50
€ 39,99 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-3-319-16249-2](https://doi.org/10.1007/978-3-319-16249-2)



9 783319 162492

J. Jost, Max Planck Institut für Mathematik in den Naturwissenschaften, Leipzig, Germany

Geometry and Physics

"Geometry and Physics" addresses mathematicians wanting to understand modern physics, and physicists wanting to learn geometry. It gives an introduction to modern quantum field theory and related areas of theoretical high-energy physics from the perspective of Riemannian geometry, and an introduction to modern geometry as needed and utilized in modern physics. Jürgen Jost, a well-known research mathematician and advanced textbook author, also develops important geometric concepts and methods that can be used for the structures of physics. [...]

2009. XIV, 217 p. Hardcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
€ 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-642-00540-4](https://doi.org/10.1007/978-3-642-00540-4)



9 783642 005404

J. Jost, Max Planck Society, Leipzig, Germany

Mathematical Concepts

The main intention of this book is to describe and develop the conceptual, structural and abstract thinking of mathematics. Specific mathematical structures are used to illustrate the conceptual approach; providing a deeper insight into mutual relationships and abstract common features. These ideas are carefully motivated, explained and illustrated by examples so that many of the more technical proofs can be omitted. [...]

2015. XV, 312 p. 130 illus., 16 illus. in color. Softcover

€ (D) 64,19 | € (A) 65,99 | *CHF 68.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-319-20435-2](https://doi.org/10.1007/978-3-319-20435-2)



9 783319 204352

V. Kac; P. Cheung**Quantum Calculus**

In one sentence, quantum calculus is the ordinary calculus without taking limits. This undergraduate text develops two types of quantum calculi, the q -calculus and the h -calculus. As this book develops quantum calculus along the lines of traditional calculus, we discover, with a remarkable inevitability, many important notions and results of classical mathematics. This book is written at the level of a first course in calculus and linear algebra and is aimed at undergraduate and beginning graduate students in mathematics, computer science, and physics. [...]

2002. IX, 112 p. (Universitext) Softcover

€ (D) 40,61 | € (A) 41,75 | *CHF 57.50
€ 37,95 | £ 33,99**Yellow Sale Price****€ (D) 21,39 | € (A) 21,99 | *CHF 22.00**
€ 19,99 | £ 14,99[978-0-387-95341-0](#)

9 780387 953410

A. Kanamori, Boston University Dept. Manufacturing Engineering, Boston, MA, USA**The Higher Infinite**

The higher infinite refers to the lofty reaches of the infinite cardinalities of set theory as charted out by large cardinal hypotheses. These hypotheses posit cardinals that prescribe their own transcendence over smaller cardinals and provide a superstructure for the analysis of strong propositions. As such they are the rightful heirs to the two main legacies of Georg Cantor, founder of set theory: the extension of number into the infinite and the investigation of notable sets of reals. [...]

2nd ed. 2003. XXII, 538 p. (Springer Monographs in Mathematics) Softcover

€ (D) 93,08 | € (A) 95,69 | *CHF 96.00
€ 86,99 | £ 64,99**Yellow Sale Price****€ (D) 46,00 | € (A) 47,29 | *CHF 47.50**
€ 42,99 | £ 31,99[978-3-540-88866-6](#)

9 783540 888666

S. Kantorovitz, Bar-Ilan University Dept. Mathematics & Computer Science, Ramat Gan, Israel**Topics in Operator Semigroups**

This book is based on lecture notes from a second-year graduate course, and is a greatly expanded version of our previous monograph [K8]. We expose some aspects of the theory of semigroups of linear operators, mostly (but not only) from the point of view of its meeting with that part of spectral theory which is concerned with the integral representation of families of operators. This approach and selection of topics differentiate this book from others in the general area, and reflect the author's own research directions. [...]

2010. XIV, 266 p. (Progress in Mathematics, Volume 281) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 167.00
€ 129,99 | £ 113,00**Yellow Sale Price****€ (D) 69,54 | € (A) 71,49 | *CHF 71.50**
€ 64,99 | £ 48,99[978-0-8176-4931-9](#)

9 780817 649319

I. Karatzas, Columbia University Dept. Statistics, New York, NY, USA; **S. Shreve**, Carnegie Mellon University, Pittsburgh, PA, USA**Brownian Motion and Stochastic Calculus**

This book is designed as a text for graduate courses in stochastic processes. It is written for readers familiar with measure-theoretic probability and discrete-time processes who wish to explore stochastic processes in continuous time. The vehicle chosen for this exposition is Brownian motion, which is presented as the canonical example of both a martingale and a Markov process with continuous paths. In this context, the theory of stochastic integration and stochastic calculus is developed. [...]

2nd ed. 1998. XXIII, 470 p. (Graduate Texts in Mathematics, Volume 113) Softcover

€ (D) 53,45 | € (A) 54,95 | *CHF 77.50
€ 49,95 | £ 44,99**Yellow Sale Price****€ (D) 26,74 | € (A) 27,49 | *CHF 27.50**
€ 24,99 | £ 18,99[978-0-387-97655-6](#)

9 780387 976556

M. Karoubi, Université Paris VII UFR de Mathématiques, Paris CX 05, France**K-Theory**

From the Preface: K-theory was introduced by A. Grothendieck in his formulation of the Riemann-Roch theorem. For each projective algebraic variety, Grothendieck constructed a group from the category of coherent algebraic sheaves, and showed that it had many nice properties. Atiyah and Hirzebruch considered a topological analog defined for any compact space X , a group $K(X)$ constructed from the category of vector bundles on X . It is this "topological K-theory" that this book will study. Topological K-theory has become an important tool in topology. [...]

2008. XVIII, 316 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99**Yellow Sale Price****€ (D) 26,74 | € (A) 27,49 | *CHF 27.50**
€ 24,99 | £ 18,99[978-3-540-79889-7](#)

9 783540 798897

C. Kassel, Univ. Louis Pasteur et CNRS Inst. Rech. Math. Avancée, Strasbourg CX, France; **V. Turaev**, Indiana University Dept. Mathematics, Bloomington, IN, USA**Braid Groups**

Braids and braid groups, the focus of this text, have been at the heart of important mathematical developments over the last two decades. Their association with permutations has led to their presence in a number of mathematical fields and physics. As central objects in knot theory and 3-dimensional topology, braid groups has led to the creation of a new field called quantum topology. [...]

2008. X, 338 p. 60 illus. (Graduate Texts in Mathematics, Volume 247) Hardcover

€ (D) 52,38 | € (A) 53,85 | *CHF 75.00
€ 48,95 | £ 43,99**Yellow Sale Price****€ (D) 26,74 | € (A) 27,49 | *CHF 27.50**
€ 24,99 | £ 18,99[978-0-387-33841-5](#)

9 780387 338415

T. Kato

Perturbation Theory for Linear Operators

In view of recent development in perturbation theory, supplementary notes and a supplementary bibliography are added at the end of the new edition. Little change has been made in the text except that the paragraphs V-§ 4.5, VI-§ 4.3, and VIII-§ 1.4 have been completely rewritten, and a number of minor errors, mostly typographical, have been corrected. The author would like to thank many readers who brought the errors to his attention. Due to these changes, some theorems, lemmas, and formulas of the first edition are missing from the new edition while new ones are added. [...]

2nd ed. 1995. XXI, 623 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

978-3-540-58661-6



9 783540 586616

A. Kechris, California Institute of Technology
Dept. Mathematics, Pasadena, CA, USA

Classical Descriptive Set Theory

Descriptive set theory has been one of the main areas of research in set theory for almost a century. This text attempts to present a largely balanced approach, which combines many elements of the different traditions of the subject. It includes a wide variety of examples, exercises (over 400), and applications, in order to illustrate the general concepts and results of the theory. [...]

1995. XVIII, 404 p. (Graduate Texts in Mathematics, Volume 156) Hardcover

€ (D) 64,15 | € (A) 65,95 | *CHF 93.50
€ 59,95 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

978-0-387-94374-9



9 780387 943749

W. G. Kelley, University of Oklahoma,
Norman, OK, USA; A. C. Peterson, University
of Nebraska-Lincoln Dept. Mathematics,
Lincoln, NE, USA

The Theory of Differential Equations

For over 300 years, differential equations have served as an essential tool for describing and analyzing problems in many scientific disciplines. This carefully-written textbook provides an introduction to many of the important topics associated with ordinary differential equations.

Unlike most textbooks on the subject, this text includes nonstandard topics such as perturbation methods and differential equations and Mathematica. In addition to the nonstandard topics, this text also contains contemporary material in the area as well as its classical topics. [...]

2nd ed. 2010. XI, 423 p. 68 illus. (Universitext) Softcover

€ (D) 58,80 | € (A) 60,45 | *CHF 109.00
€ 54,95 | £ 39,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

978-1-4419-5782-5



9 781441 957825

G. Kemper, Technische Universität Zentrum
Mathematik - M11, Garching, Germany

A Course in Commutative Algebra

This textbook offers a thorough, modern introduction into commutative algebra. It is intended mainly to serve as a guide for a course of one or two semesters, or for self-study. The carefully selected subject matter concentrates on the concepts and results at the center of the field. The book maintains a constant view on the natural geometric context, enabling the reader to gain a deeper understanding of the material. Although it emphasizes theory, three chapters are devoted to computational aspects. Many illustrative examples and exercises enrich the text.

2011. XII, 248 p. (Graduate Texts in Mathematics, Volume 256) Hardcover

€ (D) 58,84 | € (A) 60,49 | *CHF 62.00
€ 54,99 | £ 49,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

978-3-642-03544-9



9 783642 035449

V. Kharchenko, Universidad Nacional
Autónoma de México, Cuautitlán Izcalli

Quantum Lie Theory

This is an introduction to the mathematics behind the phrase "quantum Lie algebra". The numerous attempts over the last 15-20 years to define a quantum Lie algebra as an elegant algebraic object with a binary "quantum" Lie bracket have not been widely accepted. In this book, an alternative approach is developed that includes multivariable operations. [...]

2015. XIII, 302 p. (Lecture Notes in Mathematics, Volume 2150) Softcover

€ (D) 48,14 | € (A) 49,49 | *CHF 51.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

978-3-319-22703-0



9 783319 227030

P. E. Kloeden, Universität Frankfurt FB 12
Mathematik, Frankfurt, Germany; E. Platen,
University of Technology, Sydney Dept.
Mathematical Sciences, Sydney, NSW,
Australia; H. Schurz, Southern Illinois
University Dept. Mathematics, Carbondale,
IL, USA

Numerical Solution of SDE Through Computer Experiments

The numerical solution of stochastic differential equations is becoming an indispensable worktool in a multitude of disciplines, bridging a long-standing gap between the well advanced theory of stochastic differential equations and its application to specific examples. This has been made possible by the much greater accessibility to high-powered computers at low-cost combined with the availability of new, effective higher order numerical schemes for stochastic differential equations. [...]

1994. XIV, 294 p. (Universitext) Softcover

€ (D) 50,24 | € (A) 51,65 | *CHF 78.00
€ 46,95 | £ 37,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

978-3-540-57074-5



9 783540 570745

P. E. Kloeden; E. Platen, University of Technology, Sydney Dept. Mathematical Sciences, Sydney, NSW, Australia

Numerical Solution of Stochastic Differential Equations

The aim of this book is to provide an accessible introduction to stochastic differential equations and their applications together with a systematic presentation of methods available for their numerical solution. During the past decade there has been an accelerating interest in the development of numerical methods for stochastic differential equations (SDEs). This activity has been as strong in the engineering and physical sciences as it has in mathematics, resulting inevitably in some duplication of effort due to an unfamiliarity with the developments in other disciplines. [...]

1992. XXXVI, 636 p. (Stochastic Modelling and Applied Probability, Volume 23) Hardcover

€ (D) 85,55 | € (A) 87,95 | *CHF 115.00
€ 79,95 | £ 63,99

Yellow Sale Price

€ (D) 42,79 | € (A) 43,99 | *CHF 44.00
€ 39,99 | £ 29,99

[978-3-540-54062-5](#)



9 783540 540625

A. W. Knap, State University of New York Dept. Mathematics, Stony Brook, NY, USA

Advanced Real Analysis

Advanced Real Analysis systematically develops those concepts and tools in real analysis that are vital to every mathematician, whether pure or applied, aspiring or established. Along with a companion volume Basic Real Analysis (available separately or together as a Set), these works present a comprehensive treatment with a global view of the subject, emphasizing the connections between real analysis and other branches of mathematics. [...]

2005. XXIV, 466 p. (Cornerstones) Hardcover

€ (D) 74,85 | € (A) 76,95 | *CHF 109.00
€ 69,95 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-0-8176-4382-9](#)



9 780817 643829

A. W. Knap, State University of New York Dept. Mathematics, Stony Brook, NY, USA

Basic Real Analysis

Basic Real Analysis systematically develops those concepts and tools in real analysis that are vital to every mathematician, whether pure or applied, aspiring or established. Along with a companion volume Advanced Real Analysis (available separately or together as a Set), these works present a comprehensive treatment with a global view of the subject, emphasizing the connections between real analysis and other branches of mathematics. [...]

2005. XXIV, 656 p. (Cornerstones) Hardcover

€ (D) 71,68 | € (A) 73,69 | *CHF 75.50
€ 66,99 | £ 60,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-0-8176-3250-2](#)



9 780817 632502

N. Koblitz, University of Washington Dept. Mathematics, Seattle, WA, USA

A Course in Number Theory and Cryptography

... both Gauss and lesser mathematicians may be justified in rejoicing that there is one science [number theory] at any rate, and that their own, whose very remoteness from ordinary human activities should keep it gentle and clean. - G. H. Hardy, A Mathematician's Apology, 1940 G. H. Hardy would have been surprised and probably displeased with the increasing interest in number theory for application to "ordinary human activities" such as information transmission (error-correcting codes) and cryptography (secret codes). [...]

2nd ed. 1994. X, 235 p. (Graduate Texts in Mathematics, Volume 114) Hardcover

€ (D) 53,45 | € (A) 54,95 | *CHF 75.00
€ 49,95 | £ 43,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-94293-3](#)



9 780387 942933

K. Kodaira

Complex Manifolds and Deformation of Complex Structures

From the reviews: "The author, [...], has written a book which will be of service to all who are interested in this by now vast subject. [...] This is a book of many virtues: mathematical, historical, and pedagogical. Parts of it could be used for a graduate complex manifolds course. J.A. Carlson in Mathematical Reviews, 1987 "There are many mathematicians, or even physicists, who would find this book useful and accessible, but its distinctive attribute is the insight it gives into a brilliant mathematician's work. [...]"

2005. XIV, 465 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-22614-7](#)



9 783540 226147

B. Korte, Universität Bonn Forschungsinstitut für, Bonn, Germany; **J. Vygen**, Universität Bonn Forschungsinstitut für, Bonn, Germany

Combinatorial Optimization

This comprehensive textbook on combinatorial optimization places special emphasis on theoretical results and algorithms with provably good performance, in contrast to heuristics. It is based on numerous courses on combinatorial optimization and specialized topics, mostly at graduate level. This book reviews the fundamentals, covers the classical topics (paths, flows, matching, matroids, NP-completeness, approximation algorithms) in detail, and proceeds to advanced and recent topics, some of which have not appeared in a textbook before. [...]

5th ed. 2012. XX, 660 p. (Algorithms and Combinatorics, Volume 21) Hardcover

€ (D) 69,50 | € (A) 71,45 | *CHF 86.50
€ 64,95 | £ 58,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-642-24487-2](#)



9 783642 244872

Y. Kosmann-Schwarzbach, École Polytechnique Centre de Mathématiques, Palaiseau Cedex, France

Groups and Symmetries

2010. XVI, 196 p. 44 illus. (Universitext) Softcover

€ (D) 42,75 | € (A) 43,95 | *CHF 57.50
€ 39,95 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-78865-4](#)



9 780387 788654

M. R. Kosorok, University of North Carolina Dept. Biostatistics, Chapel Hill, NC, USA

Introduction to Empirical Processes and Semiparametric Inference

The goal of this book is to introduce statisticians, and other researchers with a background in mathematical statistics, to empirical processes and semiparametric inference. These powerful research techniques are surprisingly useful for studying large sample properties of statistical estimates from realistically complex models as well as for developing new and - proved approaches to statistical inference. This book is more of a textbook than a research monograph, although a number of new results are presented. [...]

2008. XIV, 483 p. (Springer Series in Statistics) Hardcover

€ (D) 176,54 | € (A) 181,49 | *CHF 181.50
€ 164,99 | £ 123,00

Yellow Sale Price

€ (D) 85,59 | € (A) 87,99 | *CHF 88.00
€ 79,99 | £ 59,99

[978-0-387-74977-8](#)



9 780387 749778

H. Kragh, Niels Bohr Institute, Copenhagen, Denmark

Varying Gravity

The main focus of this book is on the interconnection of two unorthodox scientific ideas, the varying-gravity hypothesis and the expanding-earth hypothesis. As such, it provides a fascinating insight into a nearly forgotten chapter in both the history of cosmology and the history of the earth sciences. [...]

2016. XI, 185 p. 16 illus., 4 illus. in color. (Science Networks. Historical Studies, Volume 54) Hardcover

€ (D) 106,99 | € (A) 109,99 | *CHF 110.00
€ 99,99 | £ 74,50

Yellow Sale Price

€ (D) 69,54 | € (A) 71,49 | *CHF 71.50
€ 64,99 | £ 48,99

[978-3-319-24377-1](#)



9 783319 243771

S. G. Krantz, Washington University in St. Louis, St. Louis, MO, USA; **H. R. Parks**, Oregon State University, Corvallis, OR, USA

A Mathematical Odyssey

Mathematics is a poem. It is a lucid, sensual, precise exposition of beautiful ideas directed to specific goals. It is worthwhile to have as broad a cross-section of mankind as possible be conversant with what goes on in mathematics. Just as everyone knows that the Internet is a powerful and important tool for communication, so everyone should know that the Poincaré conjecture gives us important information about the shape of our universe. [...]

2014. XVI, 382 p. 199 illus., 78 illus. in color. Hardcover

€ (D) 48,14 | € (A) 49,49 | *CHF 60.00
€ 44,99 | £ 24,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-1-4614-8938-2](#)



9 781461 489382

S. G. Krantz, Washington University in St. Louis, St. Louis, MO, USA; **H. R. Parks**, Oregon State University, Corvallis, OR, USA

Geometric Integration Theory

Geometric measure theory has roots going back to ancient Greek mathematics, for considerations of the isoperimetric problem (to find the planar domain of given perimeter having greatest area) led naturally to questions about spatial regions and boundaries. In more modern times, the Plateau problem is considered to be the well-spring of questions in geometric measure theory. Named in honor of the nineteenth century Belgian physicist Joseph Plateau, who studied surface tension phenomena in general, the question (in its original formulation) was to show that a [...]

2008. XVI, 340 p. 33 illus. (Cornerstones) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 67.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-0-8176-4676-9](#)



9 780817 646769

S. G. Krantz, Washington University in St. Louis, St. Louis, MO, USA

The Proof is in the Pudding

Krantz takes the reader on a journey around the globe and through centuries of history, exploring the many transformations that mathematical proof has undergone from its inception at the time of Euclid and Pythagoras to its versatile, present-day use. The author elaborates on the beauty, challenges and metamorphisms of thought that have accompanied the search for truth through proof. The first two chapters examine the early beginnings of concept of proof and the creation of its elegant structure and language, touching on some of the logic and philosophy behind these developments. [...]

2011. XVII, 264 p. 88 illus., 5 illus. in color. Hardcover

€ (D) 42,79 | € (A) 43,99 | *CHF 49.50
€ 39,99 | £ 33,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-48908-7](#)



9 780387 489087

C. S. Kubrusly, Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil

Essentials of Measure Theory

Classical in its approach, this textbook is thoughtfully designed and composed in two parts. Part I is meant for a one-semester beginning graduate course in measure theory, proposing an “abstract” approach to measure and integration, where the classical concrete cases of Lebesgue measure and Lebesgue integral are presented as an important particular case of general theory. Part II of the text is more advanced and is addressed to a more experienced reader. [...]

2015. XIII, 279 p. Hardcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-22505-0](https://doi.org/10.1007/978-3-319-22505-0)



9 783319 225050

C. Kuehn, Vienna University of Technology, Vienna, Austria

Multiple Time Scale Dynamics

This book provides an introduction to dynamical systems with multiple time scales. The approach it takes is to provide an overview of key areas, particularly topics that are less available in the introductory form. The broad range of topics included makes it accessible for students and researchers new to the field to gain a quick and thorough overview. The first of its kind, this book merges a wide variety of different mathematical techniques into a more unified framework. The book is highly illustrated with many examples and exercises and an extensive bibliography. [...]

2015. XIII, 814 p. 196 illus., 48 illus. in color. (Applied Mathematical Sciences, Volume 191) Hardcover

€ (D) 85,59 | € (A) 87,99 | *CHF 106.50
€ 79,99 | £ 72,00

Yellow Sale Price

€ (D) 46,00 | € (A) 47,29 | *CHF 47.50
€ 42,99 | £ 31,99

[978-3-319-12315-8](https://doi.org/10.1007/978-3-319-12315-8)



9 783319 123158

H. Kuo, Louisiana State University
Department of Mathematics, Baton Rouge,
LA, USA

Introduction to Stochastic Integration

In the Leibniz–Newton calculus, one learns the differentiation and integration of deterministic functions. A basic theorem in differentiation is the chain rule, which gives the derivative of a composite of two differentiable functions. The chain rule, when written in an integral form, yields the method of substitution. In advanced calculus, the Riemann–Stieltjes integral is defined through the same procedure of “partition-evaluation-summation-limit” as in the Riemann integral. [...]

2006. XIII, 279 p. 2 illus. (Universitext) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 58.50
€ 49,99 | £ 46,99

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€ 24,99 | £ 18,99

[978-0-387-28720-1](https://doi.org/10.1007/978-0-387-28720-1)



9 780387 287201

M. Laczkovich, Eötvös Loránd University, Budapest, Hungary; **V. T. Sós**, Alfréd Rényi Institute of Mathematics, Budapest, Hungary

Real Analysis

Based on courses given at Eötvös Loránd University (Hungary) over the past 30 years, this introductory textbook develops the central concepts of the analysis of functions of one variable — systematically, with many examples and illustrations, and in a manner that builds upon, and sharpens, the student’s mathematical intuition. The book provides a solid grounding in the basics of logic and proofs, sets, and real numbers, in preparation for a study of the main topics: limits, continuity, rational functions and transcendental functions, differentiation, and integration. [...]

2015. X, 483 p. 94 illus. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 48,14 | € (A) 49,49 | *CHF 51.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-1-4939-2765-4](https://doi.org/10.1007/978-1-4939-2765-4)



9 781493 927654

J. Lafontaine, Université Montpellier 2, Montpellier, France

An Introduction to Differential Manifolds

This book is an introduction to differential manifolds. It gives solid preliminaries for more advanced topics: Riemannian manifolds, differential topology, Lie theory. It presupposes little background: the reader is only expected to master basic differential calculus, and a little point-set topology. The book covers the main topics of differential geometry: manifolds, tangent space, vector fields, differential forms, Lie groups, and a few more sophisticated topics such as de Rham cohomology, degree theory and the Gauss–Bonnet theorem for surfaces. Its ambition is to give solid foundations. [...]

2015. XIX, 395 p. 49 illus. Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 68.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-319-20734-6](https://doi.org/10.1007/978-3-319-20734-6)



9 783319 207346

V. Lakshmibai, Northeastern University, Boston, MA, USA; **J. Brown**, Olivet Nazarene University, Bourbonnais, IL, USA

The Grassmannian Variety

This book gives a comprehensive treatment of the Grassmannian varieties and their Schubert subvarieties, focusing on the geometric and representation-theoretic aspects of Grassmannian varieties. Research of Grassmannian varieties is centered at the crossroads of commutative algebra, algebraic geometry, representation theory, and combinatorics. Therefore, this text uniquely presents an exciting playing field for graduate students and researchers in mathematics, physics, and computer science, to expand their knowledge in the field of algebraic geometry. [...]

2015. X, 172 p. 123 illus., 39 illus. in color. (Developments in Mathematics, Volume 42) Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

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€ 34,99 | £ 26,99

[978-1-4939-3081-4](https://doi.org/10.1007/978-1-4939-3081-4)



9 781493 930814

V. Lakshmikantham, formerly Florida Institute of Technology, Melbourne, FL, USA; **S. Leela**, State University of New York, Geneseo, Geneseo, NY, USA; **A. A. Martynyuk**, S.P. Timoshenko Institute of Mechanics of NAS of Ukraine, Kiev, Ukraine

Stability Analysis of Nonlinear Systems

The book investigates stability theory in terms of two different measure, exhibiting the advantage of employing families of Lyapunov functions and treats the theory of a variety of inequalities, clearly bringing out the underlying theme. It also demonstrates manifestations of the general Lyapunov method, showing how this technique can be adapted to various apparently diverse nonlinear problems. [...]

2nd ed. 2015. XI, 329 p. (Systems & Control: Foundations & Applications) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 104.50
€ 94,99 | £ 71,00

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-3-319-27199-6](#)



9 783319 271996

S. Lang, Yale University Dept. Mathematics, New Haven, CT, USA

Real and Functional Analysis

This book is meant as a text for a first year graduate course in analysis. Any standard course in undergraduate analysis will constitute sufficient preparation for its understanding, for instance, my Undergraduate Analysis. I assume that the reader is acquainted with notions of uniform convergence and the like. In this third edition, I have reorganized the book by covering integration before functional analysis. Such a rearrangement fits the way courses are taught in all the places I know of. [...]

3rd ed. 1993. XIV, 580 p. (Graduate Texts in Mathematics, Volume 142) Hardcover

€ (D) 58,80 | € (A) 60,45 | *CHF 86.50
€ 54,95 | £ 49,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

[978-0-387-94001-4](#)



9 780387 940014

S. Lang, Yale University Dept. Mathematics, New Haven, CT, USA

Short Calculus

Praise for the first edition: "...Lang's present book is a source of interesting ideas and brilliant techniques." Acta Scientiarum Mathematicarum "...It is an admirable straightforward introduction to calculus." Mathematika This is a reprint of A First Course in Calculus, which has gone through five editions since the early sixties. It covers all the topics traditionally taught in the first-year calculus sequence in a brief and elementary fashion. [...]

2002. XII, 260 p. (Undergraduate Texts in Mathematics) Softcover

€ (D) 42,75 | € (A) 43,95 | *CHF 63.50
€ 39,95 | £ 36,99

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€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-95327-4](#)



9 780387 953274

S. Lang, Yale University Dept. Mathematics, New Haven, CT, USA

Undergraduate Algebra

This book, together with Linear Algebra, constitutes a curriculum for an algebra program addressed to undergraduates. The separation of the linear algebra from the other basic algebraic structures fits all existing tendencies affecting undergraduate teaching, and I agree with these tendencies. I have made the present book self contained logically, but it is probably better if students take the linear algebra course before being introduced to the more abstract notions of groups, rings, and fields, and the systematic development of their basic abstract properties. [...]

3rd ed. 2005. XII, 389 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 58,80 | € (A) 60,45 | *CHF 86.50
€ 54,95 | £ 49,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

[978-0-387-22025-3](#)



9 780387 220253

H. P. Langtangen, Simula Research Laboratory, Lysaker, Norway

Python Scripting for Computational Science

Numerous readers of the second edition have ed me about misprints and possible improvements of the text and the associated computer codes. The resulting cations have been incorporated in this new edition and its accompanying software. The major change between the second and third editions, however, is caused by the new implementation of Numerical Python, now called numpy. The new numpy package encourages a slightly erent syntax compared to the old Numeric implementation, which was used in the previous editions. [...]

3rd ed. 2008. XXVI, 756 p. (Texts in Computational Science and Engineering, Volume 3) Hardcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
€ 49,95 | £ 44,99

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€ 24,99 | £ 18,99

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9 783540 739159

S. Larsson, Chalmers University of Technology Dept. Mathematics, Göteborg, Sweden; **V. Thomee**, Chalmers University of Technology Dept. Mathematics, Göteborg, Sweden

Partial Differential Equations with Numerical Methods

2003. X, 262 p. (Texts in Applied Mathematics, Volume 45) Hardcover

€ (D) 71,64 | € (A) 73,65 | *CHF 96.00
€ 66,95 | £ 60,99

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€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
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9 783540 017721

S. Larsson, Chalmers University of Technology Dept. Mathematics, Göteborg, Sweden; **V. Thomee**, Chalmers University of Technology Dept. Mathematics, Göteborg, Sweden

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 € (D) 32,09 | € (A) 32,99 | *CHF 34.00
 € 29,99 | £ 26,99

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 € 14,99 | £ 11,99

[978-3-540-88705-8](#)



9 783540 887058

D. Laugwitz, FH Darmstadt FB Maschinenbau, Darmstadt, Germany

Bernhard Riemann 1826–1866

1999. XVII, 357 p. 40 illus. (Modern Birkhäuser Classics) Softcover
 € (D) 53,49 | € (A) 54,99 | *CHF 69.50
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 € 24,99 | £ 18,99

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9 780817 647766

K. Law, Computer Science and Mathematics Division, Oak Ridge, , USA; **A. Stuart**, University of Warwick, Coventry, UK; **K. Zygalakis**, University of Southampton, Southampton, UK

Data Assimilation

This book provides a systematic treatment of the mathematical underpinnings of work in data assimilation, covering both theoretical and computational approaches. Specifically the authors develop a unified mathematical framework in which a Bayesian formulation of the problem provides the bedrock for the derivation, development and analysis of algorithms; the many examples used in the text, together with the algorithms which are introduced and discussed, are all illustrated by the MATLAB software detailed in the book and made freely available online. [...]

2015. XVIII, 242 p. 61 illus., 41 illus. in color. (Texts in Applied Mathematics, Volume 62) Hardcover

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9 783319 203249

G.C. Layek, The University of Burdwan Department of Mathematics, Burdwan, India

An Introduction to Dynamical Systems and Chaos

The book discusses continuous and discrete systems in systematic and sequential approaches for all aspects of nonlinear dynamics. The unique feature of the book is its mathematical theories on flow bifurcations, oscillatory solutions, symmetry analysis of nonlinear systems and chaos theory. The logically structured content and sequential orientation provide readers with a global overview of the topic. A systematic mathematical approach has been adopted, and a number of examples worked out in detail and exercises have been included. [...]

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 € 69,99 | £ 52,99

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 € 34,99 | £ 26,99

[978-81-322-2555-3](#)



9 788132 225553

R. Laza, Stony Brook University, Stony Brook, NY, USA; **M. Schütt**, Leibniz Universität Hannover, Hannover, Germany; **N. Yui**, Queen's University, Kingston, ON, Canada (Eds)

Calabi-Yau Varieties: Arithmetic, Geometry and Physics

This volume presents a lively introduction to the rapidly developing and vast research areas surrounding Calabi–Yau varieties and string theory. With its coverage of the various perspectives of a wide area of topics such as Hodge theory, Gross–Siebert program, moduli problems, toric approach, and arithmetic aspects, the book gives a comprehensive overview of the current streams of mathematical research in the area. [...]

2015. X, 547 p. 71 illus., 12 illus. in color. (Fields Institute Monographs, Volume 34) Hardcover

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9 781493 928293

R.K. Lazarsfeld, University of Michigan Dept. Mathematics, Ann Arbor, MI, USA

Positivity in Algebraic Geometry I

This two volume work on Positivity in Algebraic Geometry contains a contemporary account of a body of work in complex algebraic geometry loosely centered around the theme of positivity. Topics in Volume I include ample line bundles and linear series on a projective variety, the classical theorems of Lefschetz and Bertini and their modern outgrowths, vanishing theorems, and local positivity. Volume II begins with a survey of positivity for vector bundles, and moves on to a systematic development of the theory of multiplier ideals and their applications. [...]

2004. XVIII, 387 p. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 48) Hardcover

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 € 74,99 | £ 55,99

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9 783540 225331

R.K. Lazarsfeld, University of Michigan Dept. Mathematics, Ann Arbor, MI, USA

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2004. XVIII, 387 p. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 48) Softcover

€ (D) 42,79 | € (A) 43,99 | *CHF 45.50
€ 39,99 | £ 35,99

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€ 19,99 | £ 14,99

[978-3-540-22528-7](#)



9 783540 225287

R.K. Lazarsfeld, University of Michigan Dept. Mathematics, Ann Arbor, MI, USA

Positivity in Algebraic Geometry II

This two volume work on "Positivity in Algebraic Geometry" contains a contemporary account of a body of work in complex algebraic geometry loosely centered around the theme of positivity. Topics in Volume I include ample line bundles and linear series on a projective variety, the classical theorems of Lefschetz and Bertini and their modern outgrowths, vanishing theorems, and local positivity. Volume II begins with a survey of positivity for vector bundles, and moves on to a systematic development of the theory of multiplier ideals and their applications. [...]

2004. XVII, 385 p. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 49) Hardcover

€ (D) 165,80 | € (A) 170,45 | *CHF 222.50
€ 154,95 | £ 139,50

Yellow Sale Price

€ (D) 80,24 | € (A) 82,49 | *CHF 82.50
€ 74,99 | £ 55,99

[978-3-540-22534-8](#)



9 783540 225348

R.K. Lazarsfeld, University of Michigan Dept. Mathematics, Ann Arbor, MI, USA

Positivity in Algebraic Geometry II

This two volume work on "Positivity in Algebraic Geometry" contains a contemporary account of a body of work in complex algebraic geometry loosely centered around the theme of positivity. Topics in Volume I include ample line bundles and linear series on a projective variety, the classical theorems of Lefschetz and Bertini and their modern outgrowths, vanishing theorems, and local positivity. Volume II begins with a survey of positivity for vector bundles, and moves on to a systematic development of the theory of multiplier ideals and their applications. [...]

2004. XVII, 385 p. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 49) Softcover

€ (D) 37,40 | € (A) 38,45 | *CHF 47.00
€ 34,95 | £ 31,99

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€ 16,99 | £ 12,99

[978-3-540-22531-7](#)



9 783540 225317

H. Le Dret, Sorbonne Universités UPMC Université Paris 06, UMR 7598, Paris, France; **B. Lucquin**, Sorbonne Universités UPMC Université Paris 06, UMR 7598, Paris, France

Partial Differential Equations: Modeling, Analysis and Numerical Approximation

This book is devoted to the study of partial differential equation problems both from the theoretical and numerical points of view. After presenting modeling aspects, it develops the theoretical analysis of partial differential equation problems for the three main classes of partial differential equations: elliptic, parabolic and hyperbolic. [...]

2016. XI, 395 p. 140 illus., 21 illus. in color. (International Series of Numerical Mathematics, Volume 168) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 66.00
€ 59,99 | £ 44,99

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€ 39,99 | £ 29,99

[978-3-319-27065-4](#)



9 783319 270654

M. Ledoux, Université Toulouse III Lab. Statist. et Probabilités, Toulouse CX, France; **M. Talagrand**, Université Paris VI Dépt. Mathématiques, Paris CX 05, France

Probability in Banach Spaces

Isoperimetric, measure concentration and random process techniques appear at the basis of the modern understanding of Probability in Banach spaces. Based on these tools, the book presents a complete treatment of the main aspects of Probability in Banach spaces (integrability and limit theorems for vector valued random variables, boundedness and continuity of random processes) and of some of their links to Geometry of Banach spaces (via the type and cotype properties). Its purpose is to present some of the main aspects of this theory, from the foundations to the most important achievements. [...]

2011. XII, 480 p. 2 illus. (Classics in Mathematics) Softcover

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[978-3-642-20211-7](#)



9 783642 202117

B. Leimkuhler, University of Edinburgh School of Mathematics, Edinburgh, UK; **C. Matthews**, University of Chicago, Chicago, IL, USA

Molecular Dynamics

This book describes the mathematical underpinnings of algorithms used for molecular dynamics simulation, including both deterministic and stochastic numerical methods. Molecular dynamics is one of the most versatile and powerful methods of modern computational science and engineering and is used widely in chemistry, physics, materials science and biology. [...]

2015. XXII, 443 p. 95 illus., 71 illus. in color. (Interdisciplinary Applied Mathematics, Volume 39) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 68.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-319-16374-1](#)



9 783319 163741

S. Lie, J. Merker, Université Paris-Sud 11
Faculté des Sciences d'Orsay, Orsay, France
(Ed)

Theory of Transformation Groups I

This modern translation of Sophus Lie's and Friedrich Engel's "Theorie der Transformationsgruppen I" will allow readers to discover the striking conceptual clarity and remarkably systematic organizational thought of the original German text. Volume I presents a comprehensive introduction to the theory and is mainly directed towards the generalization of ideas drawn from the study of examples. The major part of the present volume offers an extremely clear translation of the lucid original. [...]

2015. XV, 643 p. 7 illus. in color. Hardcover
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9 783662 462102

J. Liesen, Technical University of Berlin,
Berlin, Germany; **V. Mehrmann**, Technical
University of Berlin, Berlin, Germany

Linear Algebra

This self-contained textbook takes a matrix-oriented approach to linear algebra and presents a complete theory, including all details and proofs, culminating in the Jordan canonical form and its proof. Throughout the development, the applicability of the results is highlighted. Additionally, the book presents special topics from applied linear algebra including matrix functions, the singular value decomposition, the Kronecker product and linear matrix equations. [...]

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9 783319 243443

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Angeles Dept. Mathematics, Los Angeles,
CA, USA

Interacting Particle Systems

From the reviews "[...] This book presents a complete treatment of a new class of random processes, which have been studied intensively during the last fifteen years. None of this material has ever appeared in book form before. ...The high quality of this work, [...], makes a fascinating subject and its open problem as accessible as possible. [...]

2005. I, 496 p. (Classics in Mathematics)
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9 783540 226178

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Linear Stochastic Systems

This book presents a treatise on the theory and modeling of second-order stationary processes, including an exposition on selected application areas that are important in the engineering and applied sciences. The foundational issues regarding stationary processes dealt with in the beginning of the book have a long history, starting in the 1940s with the work of Kolmogorov, Wiener, Cramér and his students, in particular Wold, and have since been refined and complemented by many others. [...]

2015. XV, 781 p. 37 illus. (Series in
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9 783662 457498

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Santa Barbara College of Letters & Science,
Santa Barbara, CA, USA

Introduction to Nonlinear Dispersive Equations

This textbook introduces the well-posedness theory for initial-value problems of nonlinear, dispersive partial differential equations, with special focus on two key models, the Korteweg–de Vries equation and the nonlinear Schrödinger equation. [...]

2nd ed. 2015. XIV, 301 p. 1 illus. (Universitext)
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9 781493 921805

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9 781493 926503

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9 783319 223537

J. D. Logan, University of Nebraska--Lincoln, Lincoln, NE, USA

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3rd ed. 2015. XIII, 369 p. 101 illus., 13 illus. in color. (Undergraduate Texts in Mathematics) Hardcover

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Commutative Algebra: Constructive Methods

Translated from the popular French edition, this book offers a detailed introduction to various basic concepts, methods, principles, and results of commutative algebra. It takes a constructive viewpoint in commutative algebra and studies algorithmic approaches alongside several abstract classical theories. Indeed, it revisits these traditional topics with a new and simplifying manner, making the subject both accessible and innovative. [...]

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A. Lubotzky, Hebrew University of Jerusalem Einstein Institute of Mathematics, Jerusalem, Israel

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In the last fifteen years two seemingly unrelated problems, one in computer science and the other in measure theory, were solved by amazingly similar techniques from representation theory and from analytic number theory. One problem is the explicit construction of expanding graphs («expanders»). These are highly connected sparse graphs whose existence can be easily demonstrated but whose explicit construction turns out to be a cult task. Since expanders serve as basic building blocks for various distributed networks, an explicit construction is highly desirable. [...]

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Bicomplex Holomorphic Functions

The purpose of this book is to develop the foundations of the theory of holomorphicity on the ring of bicomplex numbers. Accordingly, the main focus is on expressing the similarities with, and differences from, the classical theory of one complex variable. The result is an elementary yet comprehensive introduction to the algebra, geometry and analysis of bicomplex numbers. [...]

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Introduction to Quantum Groups

According to Drinfeld, a quantum group is the same as a Hopf algebra. This includes as special cases, the algebra of regular functions on an algebraic group and the enveloping algebra of a semisimple Lie algebra. The quantum groups discussed in this book are the quantized enveloping algebras introduced by Drinfeld and Jimbo in 1985, or variations thereof. Although such quantum groups appeared in connection with problems in statistical mechanics and are closely related to conformal field theory and knot theory, we will regard them purely as a new development in Lie theory. [...]

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This book presents some of the most important aspects of rigid geometry, namely its applications to the study of smooth algebraic curves, of their Jacobians, and of abelian varieties - all of them defined over a complete non-archimedean valued field. The text starts with a survey of the foundation of rigid geometry, and then focuses on a detailed treatment of the applications. In the case of curves with split rational reduction there is a complete analogue to the fascinating theory of Riemann surfaces. [...]

2016. XVIII, 386 p. 1 illus. in color. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 61) Hardcover

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R. C. Lyndon; P. E. Schupp

Combinatorial Group Theory

From the reviews: "This book (...) defines the boundaries of the subject now called combinatorial group theory. (...)it is a considerable achievement to have concentrated a survey of the subject into 339 pages. This includes a substantial and useful bibliography; (over 1100 (items)). ...the book is a valuable and welcome addition to the literature, containing many results not previously available in a book. It will undoubtedly become a standard reference." Mathematical Reviews, AMS, 1979

2001. XIV, 339 p. (Classics in Mathematics, Volume 89) Softcover

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Biology undergraduates, medical students and life-science graduate students often have limited mathematical skills. Similarly, physics, math and engineering students have little patience for the detailed facts that make up much of biological knowledge. Teaching computational neuroscience as an integrated discipline requires that both groups be brought forward onto common ground. This book does this by making ancillary material available in an appendix and providing basic explanations without becoming bogged down in unnecessary details. [...]

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9 780387 955261

S. MacLane, Heidelberg, Germany

Homology

In presenting this treatment of homological algebra, it is a pleasure to acknowledge the help and encouragement which I have had from all sides. Homological algebra arose from many sources in algebra and topology. Decisive examples came from the study of group extensions and their factor sets, a subject I learned in joint work with OTTO SCHIL LING. A further development of homological ideas, with a view to their topological applications, came in my long collaboration with SAMUEL EILENBERG; to both collaborators, especial thanks. [...]

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M. Manetti, Sapienza - Università di Roma, Roma, Italy

Topology

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Fundamentals of the Mechanics of Solids

This distinctive textbook aims to introduce readers to the basic structures of the mechanics of deformable bodies, with a special emphasis on the description of the elastic behavior of simple materials and structures composed by elastic beams. The authors take a deductive rather than inductive approach and start from a few first, foundational principles. A wide selection of exercises, many with hints and solutions, are provided throughout and organized in a way that will allow readers to form a link between abstract mathematical concepts and real-world applications. [...]

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Model Theory : An Introduction

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Counting is hard. "Counting" is short for "Enumerative Combinatorics," which certainly doesn't sound easy. This book provides an introduction to discrete mathematics that addresses questions that begin, How many ways are there to... At the end of the book the reader should be able to answer such nontrivial counting questions as, How many ways are there to stack n poker chips, each of which can be red, white, blue, or green, such that each red chip is adjacent to at least 1 green chip? There are no prerequisites for this course beyond mathematical maturity. [...]

2001. XII, 252 p. (Undergraduate Texts in Mathematics) Hardcover

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J. Matousek, Charles University, Prague, Cambodia; **B. Gärtner**,

Understanding and Using Linear Programming

This is an introductory textbook of linear programming, written mainly for students of computer science and mathematics. Our guiding phrase is, "what every theoretical computer scientist should know about linear programming." The book is relatively concise, in order to allow the reader to focus on the basic ideas. For a number of topics commonly appearing in thicker books on the subject, we were seriously tempted to add them to the main text, but we decided to present them only very briefly in a separate glossary. At the same time, we aim at covering the main results with complete proofs and in [...]

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9 783540 306979

J. Matousek, Charles University, Prague, Cambodia

Using the Borsuk-Ulam Theorem

A number of important results in combinatorics, discrete geometry, and theoretical computer science have been proved using algebraic topology. While the results are quite famous, their proofs are not so widely understood. They are scattered in research papers or outlined in surveys, and they often use topological notions not commonly known among combinatorialists or computer scientists. This book is the first textbook treatment of a significant part of such results. It focuses on so-called equivariant methods, based on the Borsuk-Ulam theorem and its generalizations. [...]

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Discrete geometry investigates combinatorial properties of configurations of geometric objects. To a working mathematician or computer scientist, it offers sophisticated results and techniques of great diversity and it is a foundation for fields such as computational geometry or combinatorial optimization. This book is primarily a textbook introduction to various areas of discrete geometry. In each area, it explains several key results and methods, in an accessible and concrete manner. [...]

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9 780387 953731

J. Matoušek

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Discrete geometry investigates combinatorial properties of configurations of geometric objects. To a working mathematician or computer scientist, it offers sophisticated results and techniques of great diversity and it is a foundation for fields such as computational geometry or combinatorial optimization. This book is primarily a textbook introduction to various areas of discrete geometry. In each area, it explains several key results and methods, in an accessible and concrete manner. [...]

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9 780387 953748

R. D. Mauldin, University of North Texas, San Diego, CA, USA (Ed)

The Scottish Book

The second edition of this book updates and expands upon a historically important collection of mathematical problems first published in the United States by Birkhäuser in 1981. These problems serve as a record of the informal discussions held by a group of mathematicians at the Scottish Café in Lwów, Poland, between the two world wars. Many of them were leaders in the development of such areas as functional and real analysis, group theory, measure and set theory, probability, and topology. [...]

2nd ed. 2015. XVIII, 322 p. 23 illus., 4 illus. in color. Hardcover

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9 783319 228969

V. C. Mavron; T. N. Phillips

Elements of Mathematics for Economics and Finance

Based on over 15 years' experience in the design and delivery of successful first-year courses, this book equips undergraduates with the mathematical skills required for degree courses in economics, finance, management and business studies. The book starts with a summary of basic skills and takes its readers as far as constrained optimisation helping them to become confident and competent in the use of mathematical tools and techniques that can be applied to a range of problems in economics and finance. [...]

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€ 19,99 | £ 14,99

[978-1-84628-560-8](https://doi.org/10.1007/978-1-84628-560-8)



9 781846 285608

A. Mele, University of Lugano, Lugano, Switzerland; **Y. Obayashi**, Applied Academics LLC, New York, NY, USA

The Price of Fixed Income Market Volatility

Fixed income volatility and equity volatility evolve heterogeneously over time, co-moving disproportionately during periods of global imbalances and each reacting to events of different nature. While the methodology for options-based "model-free" pricing of equity volatility has been known for some time, little is known about analogous methodologies for pricing various fixed income volatilities. [...]

2015. XI, 250 p. 52 illus., 7 illus. in color. (Springer Finance) Hardcover
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 € 29,99 | £ 22,99

[978-3-319-26522-3](https://doi.org/10.1007/978-3-319-26522-3)



9 783319 265223

S. Meleard, École Polytechnique CNRS, Palaiseau Cedex, France; **V. Bansaye**, École Polytechnique CNRS, Palaiseau Cedex, France

Stochastic Models for Structured Populations

In this contribution, several probabilistic tools to study population dynamics are developed. The focus is on scaling limits of qualitatively different stochastic individual based models and the long time behavior of some classes of limiting processes. Structured population dynamics are modeled by measure-valued processes describing the individual behaviors and taking into account the demographic and mutational parameters, and possible interactions between individuals. [...]

2015. X, 107 p. 4 illus. (Mathematical Biosciences Institute Lecture Series, Volume 1.4) Softcover
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[978-3-319-21710-9](https://doi.org/10.1007/978-3-319-21710-9)



9 783319 217109

A. N. Michel, University of Notre Dame, Notre Dame, IN, USA; **L. Hou**, St. Cloud State University Dept. Electrical & Computer Engineering, St. Cloud, MN, USA; **D. Liu**, University of Illinois at Chicago, Chicago, IL, USA

Stability of Dynamical Systems

The second edition of this textbook provides a single source for the analysis of system models represented by continuous-time and discrete-time, finite-dimensional and infinite-dimensional, and continuous and discontinuous dynamical systems. For these system models, it presents results which comprise the classical Lyapunov stability theory involving monotonic Lyapunov functions, as well as corresponding contemporary stability results involving non-monotonic Lyapunov functions. [...]

2nd ed. 2015. XVIII, 653 p. 60 illus., 14 illus. in color. (Systems & Control: Foundations & Applications) Hardcover
 € (D) 117,69 | € (A) 120,99 | *CHF 146.50
 € 109,99 | £ 99,00

Yellow Sale Price

€ (D) 64,19 | € (A) 65,99 | *CHF 66.00
 € 59,99 | £ 44,99

[978-3-319-15274-5](https://doi.org/10.1007/978-3-319-15274-5)



9 783319 152745

A. Mielke, Angewandte Analysis und Stochastik, Berlin, Germany; **T. Roubíček**, Mathematical Institute, Prague, Czech Republic

Rate-Independent Systems

This monograph provides both an introduction to and a thorough exposition of the theory of rate-independent systems, which the authors have been working on with a lot of collaborators over 15 years. The focus is mostly on fully rate-independent systems, first on an abstract level either with or even without a linear structure, discussing various concepts of solutions with full mathematical rigor. [...]

2015. XXII, 660 p. 75 illus., 13 illus. in color. (Applied Mathematical Sciences, Volume 193) Hardcover
 € (D) 117,69 | € (A) 120,99 | *CHF 124.00
 € 109,99 | £ 99,00

Yellow Sale Price

€ (D) 64,19 | € (A) 65,99 | *CHF 66.00
 € 59,99 | £ 44,99

[978-1-4939-2705-0](https://doi.org/10.1007/978-1-4939-2705-0)



9 781493 927050

T. Mikosch, University Copenhagen Inst. Mathematical Sciences, Copenhagen, Denmark

Non-Life Insurance Mathematics

The second edition of this book contains both basic and more advanced material on non-life insurance mathematics. Parts I and II of the book cover the basic course of the first edition; this text has changed very little. It aims at the undergraduate (bachelor) actuarial student as a first introduction to the topics of non-life insurance mathematics. Parts III and IV are new. They can serve as an independent course on stochastic models of non-life insurance mathematics at the graduate (master) level. [...]

2nd ed. 2009. XV, 432 p. 55 illus. (Universitext) Softcover
 € (D) 53,45 | € (A) 54,95 | *CHF 72.00
 € 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
 € 24,99 | £ 18,99

[978-3-540-88232-9](https://doi.org/10.1007/978-3-540-88232-9)



9 783540 882329

R. S. Millman, Georgia Institute of Technology, Atlanta, GA, USA; **P. J. Shiue**, University of Nevada, Las Vegas, Las Vegas, NV, USA; **E. B. Kahn**, Bloomsburg University, Bloomsburg, PA, USA

Problems and Proofs in Numbers and Algebra

Focusing on an approach of solving rigorous problems and learning how to prove, this volume is concentrated on two specific content themes, elementary number theory and algebraic polynomials. The benefit to readers who are moving from calculus to more abstract mathematics is to acquire the ability to understand proofs through use of the book and the multitude of proofs and problems that will be covered throughout. This book is meant to be a transitional precursor to more complex topics in analysis, advanced number theory, and abstract algebra. [...]

2015. X, 223 p. 9 illus. Hardcover
 € (D) 42,79 | € (A) 43,99 | *CHF 53.50
 € 39,99 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
 € 19,99 | £ 14,99

[978-3-319-14426-9](https://doi.org/10.1007/978-3-319-14426-9)



9 783319 144269

T. Mochizuki, Kyoto University, Kyoto, Japan

Mixed Twistor D-modules

We introduce mixed twistor D-modules and establish their fundamental functorial properties. We also prove that they can be described as the gluing of admissible variations of mixed twistor structures. In a sense, mixed twistor D-modules can be regarded as a twistor version of M. Saito's mixed Hodge modules. Alternatively, they can be viewed as a mixed version of the pure twistor D-modules studied by C. Sabbah and the author. [...]

2015. XX, 487 p. (Lecture Notes in Mathematics, Volume 2125) Softcover
 € (D) 74,89 | € (A) 76,99 | *CHF 79.00
 € 69,99 | £ 62,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
 € 34,99 | £ 26,99

[978-3-319-10087-6](https://doi.org/10.1007/978-3-319-10087-6)



9 783319 100876

M. Morishita, Kyushu University Graduate School of Mathematics, Fukuoka, Japan

Knots and Primes

This is a foundation for arithmetic topology - a new branch of mathematics which is focused upon the analogy between knot theory and number theory. Starting with an informative introduction to its origins, namely Gauss, this text provides a background on knots, three manifolds and number fields. Common aspects of both knot theory and number theory, for instance knots in three manifolds versus primes in a number field, are compared throughout the book. These comparisons begin at an elementary level, slowly building up to advanced theories in later chapters. [...]

2012. XI, 191 p. 42 illus. (Universitext) Softcover
 € (D) 53,45 | € (A) 54,95 | *CHF 64.95
 € 49,95 | £ 29,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
 € 24,99 | £ 18,99

[978-1-4471-2157-2](https://doi.org/10.1007/978-1-4471-2157-2)



9 781447 121572

F. Mukhamedov, International Islamic University Malaysia, Kuantan, Malaysia; **N. Ganikhodjaev**, International Islamic University Malaysia, Kuantan, Malaysia

Quantum Quadratic Operators and Processes

Covering both classical and quantum approaches, this unique and self-contained book presents the most recent developments in the theory of quadratic stochastic operators and their Markov and related processes. The asymptotic behavior of dynamical systems generated by classical and quantum quadratic operators is investigated and various properties of quantum quadratic operators are studied, providing an insight into the construction of quantum channels. [...]

2015. XIV, 231 p. 1 illus. (Lecture Notes in Mathematics, Volume 2133) Softcover
 € (D) 48,14 | € (A) 49,49 | *CHF 51.00
 € 44,99 | £ 40,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
 € 24,99 | £ 18,99

[978-3-319-22836-5](https://doi.org/10.1007/978-3-319-22836-5)



9 783319 228365

A. Mukherjee, Indian Statistical Institute Statistics and Mathematics Unit, Calcutta, India

Differential Topology

This book presents a systematic and comprehensive account of the theory of differentiable manifolds and provides the necessary background for the use of fundamental differential topology tools. The text includes, in particular, the earlier works of Stephen Smale, for which he was awarded the Fields Medal. Explicitly, the topics covered are Thom transversality, Morse theory, theory of handle presentation, h-cobordism theorem and the generalised Poincaré conjecture. [...]

2nd ed. 2015. XIII, 349 p. 25 illus. Hardcover
 € (D) 64,19 | € (A) 65,99 | *CHF 68.00
 € 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
 € 29,99 | £ 22,99

[978-3-319-19044-0](https://doi.org/10.1007/978-3-319-19044-0)



9 783319 190440

D. Mumford, Brown University Div. Applied Mathematics, Providence, RI, USA

Algebraic Geometry I

Let me begin with a little history. In the 20th century, algebraic geometry has gone through at least 3 distinct phases. In the period 1900-1930, largely under the leadership of the 3 Italians, Castelnuovo, Enriques and Severi, the subject grew immensely. In particular, what the late 19th century had done for curves, this period did for surfaces: a deep and systematic theory of surfaces was created. Moreover, the links between the "synthetic" or purely "algebro-geometric" techniques for studying surfaces, and the topological and analytic techniques were thoroughly explored. [...]

1995. X, 186 p. (Classics in Mathematics) Softcover
 € (D) 53,49 | € (A) 54,99 | *CHF 56.50
 € 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
 € 24,99 | £ 18,99

[978-3-540-58657-9](https://doi.org/10.1007/978-3-540-58657-9)



9 783540 586579

D. Mumford, Brown University Div. Applied Mathematics, Providence, RI, USA; **J. Fogarty**, University of Massachusetts Dept. Mathematics, Amherst, MA, USA; **F. Kirwan**, University of Oxford Mathematical Institute, Oxford, UK

Geometric Invariant Theory

"Geometric Invariant Theory" by Mumford/Fogarty (the first edition was published in 1965, a second, enlarged edition appeared in 1982) is the standard reference on applications of invariant theory to the construction of moduli spaces. This third, revised edition has been long awaited for by the mathematical community. [...]

3rd ed. 1994. XIV, 294 p. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 2. Folge, Volume 34) Hardcover
 € (D) 160,45 | € (A) 164,95 | *CHF 215.50
 € 149,95 | £ 135,00

Yellow Sale Price

€ (D) 80,24 | € (A) 82,49 | *CHF 82.50
 € 74,99 | £ 55,99

[978-3-540-56963-3](https://doi.org/10.1007/978-3-540-56963-3)



9 783540 569633

K. Murasugi, University of Toronto Dept.
Mathematics, Toronto, ON, Canada

Knot Theory and Its Applications

Knot theory is a concept in algebraic topology that has found applications to a variety of mathematical problems as well as to problems in computer science, biological and medical research, and mathematical physics. This book is directed to a broad audience of researchers, beginning graduate students, and senior undergraduate students in these fields. [...]

1996. X, 341 p. (Modern Birkhäuser Classics)
Softcover

€ (D) 37,40 | € (A) 38,45 | *CHF 59,90
€ 34,95 | £ 31,99

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-0-8176-4718-6](#)



9 780817 647186

G. L. Naber, Drexel University Department of
Mathematics, Philadelphia, PA, USA

The Geometry of Minkowski Spacetime

This book offers a presentation of the special theory of relativity that is mathematically rigorous and yet spells out in considerable detail the physical significance of the mathematics. It treats, in addition to the usual menu of topics one is accustomed to finding in introductions to special relativity, a wide variety of results of more contemporary origin. [...]

2nd ed. 2012. XVI, 324 p. (Applied
Mathematical Sciences, Volume 92)
Hardcover

€ (D) 64,15 | € (A) 65,95 | *CHF 80.00
€ 59,95 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-1-4419-7837-0](#)



9 781441 978370

U.S.R. Murty, University of Waterloo
Department of Pure Mathematics, Waterloo,
ON, Canada

Problems in Analytic Number Theory

2nd ed. 2008. XXII, 506 p. (Graduate Texts in
Mathematics, Volume 206) Hardcover

€ (D) 58,80 | € (A) 60,45 | *CHF 79.00
€ 54,95 | £ 49,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

[978-0-387-72349-5](#)



9 780387 723495

G. L. Naber, Drexel University Department of
Mathematics, Philadelphia, PA, USA

Topology, Geometry and Gauge fields

This is a book on topology and geometry and, like any books on subjects as vast as these, it has a point-of-view that guided the selection of topics. Naber takes the view that the rekindled interest that mathematics and physics have shown in each other of late should be fostered and that this is best accomplished by allowing them to cohabit. The book weaves together rudimentary notions from the classical gauge theory of physics with the topological and geometrical concepts that became the mathematical models of these notions. [...]

2nd ed. 2011. XX, 437 p. (Texts in Applied
Mathematics, Volume 25) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 67.00
€ 59,99 | £ 53,99

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€ 29,99 | £ 22,99

[978-1-4419-7253-8](#)



9 781441 972538

M. Nevins, University of Ottawa, Ottawa, ON, Canada; **P. E. Trapa**, University of Utah, Salt Lake City, UT, USA (Eds)

Representations of Reductive Groups

Over the last forty years, David Vogan has left an indelible imprint on the representation theory of reductive groups. His groundbreaking ideas have led to deep advances in the theory of real and p -adic groups, and have forged lasting connections with other subjects, including number theory, automorphic forms, algebraic geometry, and combinatorics. [...]

2015. XIX, 532 p. 7 illus., 1 illus. in color. (Progress in Mathematics, Volume 312) Hardcover

€ (D) 117,69 | € (A) 120,99 | *CHF 121.00
€ 109,99 | £ 82,00

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€ 59,99 | £ 44,99

[978-3-319-23442-7](https://doi.org/10.1007/978-3-319-23442-7)



9 783319 234427

H. Niederreiter, Johann Radon Inst. for Computational and Applied Mathematics (RICAM), Linz, Austria; **A. Winterhof**, Johann Radon Inst. for Computational and Applied Mathematics (RICAM), Linz, Austria

Applied Number Theory

This textbook effectively builds a bridge from basic number theory to recent advances in applied number theory. It presents the first unified account of the four major areas of application where number theory plays a fundamental role, namely cryptography, coding theory, quasi-Monte Carlo methods, and pseudorandom number generation, allowing the authors to delineate the manifold links and interrelations between these areas. [...]

2015. X, 442 p. 20 illus., 7 illus. in color. Hardcover

€ (D) 48,14 | € (A) 49,49 | *CHF 51.00
€ 44,99 | £ 40,99

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€ 24,99 | £ 18,99

[978-3-319-22320-9](https://doi.org/10.1007/978-3-319-22320-9)



9 783319 223209

G. Nierhaus, Universität für Musik und darstellende Kunst, Graz, Austria

Algorithmic Composition

Algorithmic composition – composing by means of formalizable methods – has a century old tradition not only in occidental music history. This is the first book to provide a detailed overview of prominent procedures of algorithmic composition in a pragmatic way rather than by treating formalizable aspects in single works. In addition to an historic overview, each chapter presents a specific class of algorithm in a compositional context by providing a general introduction to its development and theoretical basis and describes different musical applications. [...]

2009. X, 287 p. With 20 tables. (Pflichtexemplare STM int. Wien) Hardcover

€ (D) 58,84 | € (A) 60,49 | *CHF 62.00
€ 54,99 | £ 49,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
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[978-3-211-75539-6](https://doi.org/10.1007/978-3-211-75539-6)



9 783211 755396

M. Nisio, Kobe University, Kobe, Japan

Stochastic Control Theory

This book offers a systematic introduction to the optimal stochastic control theory via the dynamic programming principle, which is a powerful tool to analyze control problems. First we consider completely observable control problems with finite horizons. Using a time discretization we construct a nonlinear semigroup related to the dynamic programming principle (DPP), whose generator provides the Hamilton–Jacobi–Bellman (HJB) equation, and we characterize the value function via the nonlinear semigroup, besides the viscosity solution theory. [...]

2nd ed. 2015. XV, 250 p. (Probability Theory and Stochastic Modelling, Volume 72) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 113.50
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€ 46,99 | £ 34,99

[978-4-431-55122-5](https://doi.org/10.1007/978-4-431-55122-5)



9 784431 551225

H. Ockendon, University of Oxford Mathematical Institute, Oxford, UK; **J. R. Ockendon**, University of Oxford Mathematical Institute, Oxford, UK

Waves and Compressible Flow

Now in its second edition, this book continues to give readers a broad mathematical basis for modelling and understanding the wide range of wave phenomena encountered in modern applications. New and expanded material includes topics such as elastoplastic waves and waves in plasmas, as well as new exercises. Comprehensive collections of models are used to illustrate the underpinning mathematical methodologies, which include the basic ideas of the relevant partial differential equations, characteristics, ray theory, asymptotic analysis, dispersion, shock waves, and weak solutions. [...]

2nd ed. 2016. VII, 243 p. 60 illus. in color. (Texts in Applied Mathematics, Volume 47) Hardcover

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€ 49,99 | £ 37,99

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€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-1-4939-3379-2](https://doi.org/10.1007/978-1-4939-3379-2)



9 781493 933792

E. Ohlsson, Länsförsäkringar Alliance, Stockholm, Sweden; **B. Johansson**, Länsförsäkringar Alliance, Stockholm, Sweden

Non-Life Insurance Pricing with Generalized Linear Models

Non-life insurance pricing is the art of setting the price of an insurance policy, taking into consideration various properties of the insured object and the policy holder. Introduced by British actuaries generalized linear models (GLMs) have become today a the standard approach for tariff analysis. The book focuses on methods based on GLMs that have been found useful in actuarial practice and provides a set of tools for a tariff analysis. Basic theory of GLMs in a tariff analysis setting is presented with useful extensions of standard GLM theory that are not in common use. [...]

2010. XIII, 174 p. (EAA Series) Softcover

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€ 24,99 | £ 18,99

[978-3-642-10790-0](https://doi.org/10.1007/978-3-642-10790-0)



9 783642 107900

T. Ohsawa, Nagoya University, Nagoya, Japan

L^2 Approaches in Several Complex Variables

The purpose of this monograph is to present the current status of a rapidly developing part of several complex variables, motivated by the applicability of effective results to algebraic geometry and differential geometry. Highlighted are the new precise results on the L^2 extension of holomorphic functions. [...]

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€ 34,99 | £ 26,99

[978-4-431-55746-3](#)



9 784431 557463

B. Øksendal, University of Oslo CMA, Oslo, Norway; **A. Sulem**, INRIA Domaine de Voluceau-Rocquencourt, Le Chesnay CX, France

Applied Stochastic Control of Jump Diffusions

2nd ed. 2007. XIV, 262 p. 27 illus. (Universitext) Softcover

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€ 19,99 | £ 14,99

[978-3-540-69825-8](#)



9 783540 698258

A. Olivieri, Università di Parma, Parma, Italy; **E. Pitacco**, Università di Trieste, Trieste, Italy

Introduction to Insurance Mathematics

This second edition expands the first chapters, which focus on the approach to risk management issues discussed in the first edition, to offer readers a better understanding of the risk management process and the relevant quantitative phases. In the following chapters the book examines life insurance, non-life insurance and pension plans, presenting the technical and financial aspects of risk transfers and insurance without the use of complex mathematical tools. [...]

2nd ed. 2015. XVIII, 508 p. 195 illus., 21 illus. in color. (EAA Series) Softcover

€ (D) 74,89 | € (A) 76,99 | *CHF 79.00
€ 69,99 | £ 62,99

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P. J. Olver

Applications of Lie Groups to Differential Equations

Symmetry methods have long been recognized to be of great importance for the study of the differential equations. This book provides a solid introduction to those applications of Lie groups to differential equations which have proved to be useful in practice. The computational methods are presented so that graduate students and researchers can readily learn to use them. Following an exposition of the applications, the book develops the underlying theory. Many of the topics are presented in a novel way, with an emphasis on explicit examples and computations. [...]

2nd ed. 1993. XXVIII, 513 p. (Graduate Texts in Mathematics, Volume 107) Softcover

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[978-0-387-95000-6](#)



9 780387 950006

O. M. O'Reilly, University of California, Berkeley Dept. Mechanical Engineering, Berkeley, CA, USA

Engineering Dynamics

2nd ed. 2010. X, 240 p. Softcover

€ (D) 53,45 | € (A) 54,95 | *CHF 77.50
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€ 24,99 | £ 18,99

[978-1-4419-6359-8](#)



9 781441 963598

N. Ortner, University of Innsbruck, Innsbruck, Austria; **P. Wagner**, University of Innsbruck, Innsbruck, Austria

Fundamental Solutions of Linear Partial Differential Operators

This monograph provides the theoretical foundations needed for the construction of fundamental solutions and fundamental matrices of (systems of) linear partial differential equations. Many illustrative examples also show techniques for finding such solutions in terms of integrals. Particular attention is given to developing the fundamentals of distribution theory, accompanied by calculations of fundamental solutions. [...]

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[978-3-319-20139-9](#)



9 783319 201399

M. S. Osborne, University of Washington, Seattle, WA, USA

Locally Convex Spaces

For most practicing analysts who use functional analysis, the restriction to Banach spaces seen in most real analysis graduate texts is not enough for their research. This graduate text, while focusing on locally convex topological vector spaces, is intended to cover most of the general theory needed for application to other areas of analysis. Normed vector spaces, Banach spaces, and Hilbert spaces are all examples of classes of locally convex spaces, which is why this is an important topic in functional analysis. [...]

2014. VIII, 213 p. 5 illus. (Graduate Texts in Mathematics, Volume 269) Hardcover

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€ 49,99 | £ 44,99

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[978-3-319-02044-0](https://doi.org/10.1007/978-3-319-02044-0)



9 783319 020440

S. . Osher; R. Fedkiw

Level Set Methods and Dynamic Implicit Surfaces

Scope, Aims, and Audiences This book, Level Set Methods and Dynamic Implicit Surfaces is designed to serve two purposes: Parts I and II introduce the reader to implicit surfaces and level set methods. We have used these chapters to teach introductory courses on the material to students with little more than a fundamental math background. No prior knowledge of partial differential equations or numerical analysis is required. These first eight chapters include enough detailed information to allow students to create working level set codes from scratch. [...]

2003. XIII, 273 p. 153 illus., 47 illus. in color. (Applied Mathematical Sciences, Volume 153) Hardcover

€ (D) 71,64 | € (A) 73,65 | *CHF 103,50
€ 66,95 | £ 59,99

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€ (D) 37,44 | € (A) 38,49 | *CHF 38,50
€ 34,99 | £ 26,99

[978-0-387-95482-0](https://doi.org/10.1007/978-0-387-95482-0)



9 780387 954820

Kim Williams Books, Torino, Italy; **M. J. Ostwald**, The University of Newcastle, Callaghan, Australia (Eds)

Architecture and Mathematics from Antiquity to the Future

Every age and every culture has relied on the incorporation of mathematics in their works of architecture to imbue the built environment with meaning and order. Mathematics is also central to the production of architecture, to its methods of measurement, fabrication and analysis. This two-volume edited collection presents a detailed portrait of the ways in which two seemingly different disciplines are interconnected. Over almost 100 chapters it illustrates and examines the relationship between architecture and mathematics. [...]

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€ (D) 64,19 | € (A) 65,99 | *CHF 66,00
€ 59,99 | £ 44,99

[978-3-319-00136-4](https://doi.org/10.1007/978-3-319-00136-4)



9 783319 001364

Kim Williams Books, Torino, Italy; **M. J. Ostwald**, The University of Newcastle, Callaghan, NSW, Australia (Eds)

Architecture and Mathematics from Antiquity to the Future

Every age and every culture has relied on the incorporation of mathematics in their works of architecture to imbue the built environment with meaning and order. Mathematics is also central to the production of architecture, to its methods of measurement, fabrication and analysis. This two-volume edited collection presents a detailed portrait of the ways in which two seemingly different disciplines are interconnected. Over almost 100 chapters it illustrates and examines the relationship between architecture and mathematics. [...]

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€ 109,99 | £ 99,00

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€ 59,99 | £ 44,99

[978-3-319-00142-5](https://doi.org/10.1007/978-3-319-00142-5)



9 783319 001425

S. Pedersen, Wright State University, Dayton, OH, USA

From Calculus to Analysis

This textbook features applications including a proof of the Fundamental Theorem of Algebra, space filling curves, and the theory of irrational numbers. In addition to the standard results of advanced calculus, the book contains several interesting applications of these results. The text is intended to form a bridge between calculus and analysis. It is based on the authors' lecture notes used and revised nearly every year over the last decade. The book contains numerous illustrations and cross references throughout, as well as exercises with solutions at the end of each section.

2015. XIX, 342 p. 48 illus., 14 illus. in color. Hardcover

€ (D) 53,49 | € (A) 54,99 | *CHF 67,00
€ 49,99 | £ 44,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27,50
€ 24,99 | £ 18,99

[978-3-319-13640-0](https://doi.org/10.1007/978-3-319-13640-0)



9 783319 136400

B. Perthame, Université Pierre et Marie Curie, Paris

Parabolic Equations in Biology

This book presents several fundamental questions in mathematical biology such as Turing instability, pattern formation, reaction-diffusion systems, invasion waves and Fokker-Planck equations. These are classical modeling tools for mathematical biology with applications to ecology and population dynamics, the neurosciences, enzymatic reactions, chemotaxis, invasion waves etc. The book presents these aspects from a mathematical perspective, with the aim of identifying those qualitative properties of the models that are relevant for biological applications. [...]

2015. XII, 199 p. 39 illus., 13 illus. in color. (Lecture Notes on Mathematical Modelling in the Life Sciences) Softcover

€ (D) 42,80 | € (A) 44,00 | *CHF 45,50
€ 40,00 | £ 36,99

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€ (D) 26,74 | € (A) 27,49 | *CHF 27,50
€ 24,99 | £ 18,99

[978-3-319-19499-8](https://doi.org/10.1007/978-3-319-19499-8)



9 783319 194998

T. K. Petersen, DePaul University, Chicago, IL, USA

Eulerian Numbers

This text presents the Eulerian numbers in the context of modern enumerative, algebraic, and geometric combinatorics. The book first studies Eulerian numbers from a purely combinatorial point of view, then embarks on a tour of how these numbers arise in the study of hyperplane arrangements, polytopes, and simplicial complexes. Some topics include a thorough discussion of gamma-nonnegativity and real-rootedness for Eulerian polynomials, as well as the weak order and the shard intersection order of the symmetric group. [...]

2015. XVIII, 456 p. 78 illus., 4 illus. in color. (Birkhäuser Advanced Texts Basler Lehrbücher) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 68.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-1-4939-3090-6](#)



9 781493 930906

J. Peypouquet, Universidad Técnica Federico, Valparaíso, Chile

Convex Optimization in Normed Spaces

This work is intended to serve as a guide for graduate students and researchers who wish to get acquainted with the main theoretical and practical tools for the numerical minimization of convex functions on Hilbert spaces. Therefore, it contains the main tools that are necessary to conduct independent research on the topic. It is also a concise, easy-to-follow and self-contained textbook, which may be useful for any researcher working on related fields, as well as teachers giving graduate-level courses on the topic. [...]

2015. XIV, 124 p. 17 illus. (SpringerBriefs in Optimization) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 67.00
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-13709-4](#)



9 783319 137094

G. E. Pfander, Jacobs University Bremen, Bremen, Germany (Ed)

Sampling Theory, a Renaissance

Reconstructing or approximating objects from seemingly incomplete information is a frequent challenge in mathematics, science, and engineering. A multitude of tools designed to recover hidden information are based on Shannon's classical sampling theorem, a central pillar of Sampling Theory. The growing need to efficiently obtain precise and tailored digital representations of complex objects and phenomena requires the maturation of available tools in Sampling Theory as well as the development of complementary, novel mathematical theories. [...]

2015. XIV, 532 p. 69 illus., 40 illus. in color. (Applied and Numerical Harmonic Analysis) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 107.00
€ 94,99 | £ 85,50

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-3-319-19748-7](#)



9 783319 197487

M. L. Pinedo, New York University Stern School of Business, New York, NY, USA

Scheduling

This new edition provides an up-to-date coverage of important theoretical models in the scheduling literature as well as significant scheduling problems that occur in the real world. It again includes supplementary material in the form of slide-shows from industry and movies that show implementations of scheduling systems. The main structure of the book as per previous edition consists of three parts. [...]

5th ed. 2016. XX, 670 p. 124 illus., 21 illus. in color. Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 77.00
€ 69,99 | £ 52,99

Yellow Sale Price

€ (D) 50,28 | € (A) 51,69 | *CHF 52.00
€ 46,99 | £ 34,99

[978-3-319-26578-0](#)



9 783319 265780

E. Pitacco, University of Trieste, Trieste, Italy

Health Insurance

Health Insurance aims at filling a gap in actuarial literature, attempting to solve the frequent misunderstanding in regards to both the purpose and the contents of health insurance products (and 'protection products', more generally) on the one hand, and the relevant actuarial structures on the other. [...]

2014. XII, 162 p. 77 illus., 14 illus. in color. (EAA Series) Softcover

€ (D) 42,79 | € (A) 43,99 | *CHF 53.50
€ 39,99 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-3-319-12234-2](#)



9 783319 122342

M. Podolskij, University of Aarhus, Aarhus, Denmark; **R. Stelzer**, Ulm University, Ulm, Germany; **S. Thorbjørnsen**, University of Aarhus, Aarhus C; **A. E. D. Veraart**, Imperial College London, London, UK (Eds)

The Fascination of Probability, Statistics and their Applications

Collecting together twenty-three self-contained articles, this volume presents the current research of a number of renowned scientists in both probability theory and statistics as well as their various applications in economics, finance, the physics of wind-blown sand, queueing systems, risk assessment, turbulence and other areas. [...]

2016. XVIII, 527 p. 60 illus., 34 illus. in color. Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 104.50
€ 94,99 | £ 71,00

Yellow Sale Price

€ (D) 69,54 | € (A) 71,49 | *CHF 71.50
€ 64,99 | £ 48,99

[978-3-319-25824-9](#)



9 783319 258249

B. Polster, Monash University School of Mathematical Sciences, Clayton, VIC, Australia

The Mathematics of Juggling

As a juggler the author likes to finish his performances with a stunt that combines props and techniques from a variety of juggling disciplines. Imagine him idling on a giraffe unicycle, while balancing a spinning basketball on a mouth stick, and toss-juggling a sword, a toilet plunger, and a rubber chicken. As a mathematician he is also interested in the treasure trove of beautiful mathematics used to model the different activities in a juggler's repertoire. [...]

2003. XVII, 226 p. (1+2-Pferdchen) Softcover

€ (D) 39,54 | € (A) 40,65 | *CHF 57.50
€ 36,95 | £ 26,99

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-0-387-95513-1](#)



9 780387 955131

G. Polya, G. Szegő

Problems and Theorems in Analysis I

From the reviews: "The work is one of the real classics of this century; it has had much influence on teaching, on research in several branches of hard analysis, particularly complex function theory, and it has been an essential indispensable source book for those seriously interested in mathematical problems. These volumes contain many extraordinary problems and sequences of problems, mostly from some time past, well worth attention today and tomorrow. [...]"

1998. XIX, 393 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-63640-3](#)



9 783540 636403

G. Polya, G. Szegő

Problems and Theorems in Analysis II

1998. XII, 392 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-63686-1](#)



9 783540 636861

C. Pomerance, Dartmouth College, Hanover, NH, USA; **M. Th. Rassias**, ETH-Zürich, Zürich, Switzerland (Eds)

Analytic Number Theory

This volume contains a collection of research and survey papers written by some of the most eminent mathematicians in the international community and is dedicated to Helmut Maier, whose own research has been groundbreaking and deeply influential to the field. [...]

2015. VIII, 379 p. Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 107.00
€ 94,99 | £ 85,50

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-3-319-22239-4](#)



9 783319 222394

A. Pratelli, Universität Erlangen-Nürnberg, Erlangen, Germany; **G. Leugering**, Universität Erlangen-Nürnberg, Erlangen, Germany (Eds)

New Trends in Shape Optimization

This volume reflects "New Trends in Shape Optimization" and is based on a workshop of the same name organized at the Friedrich-Alexander University Erlangen-Nürnberg in September 2013. During the workshop senior mathematicians and young scientists alike presented their latest findings. The format of the meeting allowed fruitful discussions on challenging open problems, and triggered a number of new and spontaneous collaborations. [...]

2015. VIII, 314 p. 52 illus., 29 illus. in color. (International Series of Numerical Mathematics, Volume 166) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 93.50
€ 84,99 | £ 63,99

Yellow Sale Price

€ (D) 50,28 | € (A) 51,69 | *CHF 52.00
€ 46,99 | £ 34,99

[978-3-319-17562-1](#)



9 783319 175621

C. Procesi, Università di Roma "La Sapienza", Roma, Italy

Lie Groups

Lie groups has been an increasing area of focus and rich research since the middle of the 20th century. [...]

2007. XXIV, 600 p. 18 illus. (Universitext) Softcover

€ (D) 53,45 | € (A) 54,95 | *CHF 75.00
€ 49,95 | £ 43,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-26040-2](#)



9 780387 260402

C. C. Pugh, University of California, Berkeley, Berkeley, CA, USA

Real Mathematical Analysis

Based on an honors course taught by the author at UC Berkeley, this introduction to undergraduate real analysis gives a different emphasis by stressing the importance of pictures and hard problems. Topics include: a natural construction of the real numbers, four-dimensional visualization, basic point-set topology, function spaces, multivariable calculus via differential forms (leading to a simple proof of the Brouwer Fixed Point Theorem), and a pictorial treatment of Lebesgue theory. Over 150 detailed illustrations elucidate abstract concepts and salient points in proofs. [...]

2nd ed. 2015. XI, 478 p. 163 illus. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 48,14 | € (A) 49,49 | *CHF 51.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

978-3-319-17770-0



9 783319 177700

A. Quarteroni, École Polytechnique Fédérale de Lausanne Chaire de Modelisation, Lausanne, Switzerland; **A. Valli**, Università di Trento Dipto. Matematica, Povo, Italy

Numerical Approximation of Partial Differential Equations

Everything is more simple than one thinks but at the same time more complex than one can understand Johann Wolfgang von Goethe To reach the point that is unknown to you, you must take the road that is unknown to you St. John of the Cross This is a book on the numerical approximation of partial differential equations (PDEs). [...]

1994. XVI, 544 p. 59 illus. (Springer Series in Computational Mathematics, Volume 23) Softcover

€ (D) 82,38 | € (A) 84,69 | *CHF 85.00
€ 76,99 | £ 57,99

Yellow Sale Price

€ (D) 39,58 | € (A) 40,69 | *CHF 41.00
€ 36,99 | £ 27,99

978-3-540-85267-4



9 783540 852674

A. Quarteroni, École Polytechnique Fédérale de Lausanne Chaire de Modelisation, Lausanne, Switzerland; **R. Sacco**, Politecnico di Milano MOX, Milano, Italy; **F. Saleri**, Politecnico di Milano MOX, Milano, Italy

Numerical Mathematics

Numerical mathematics proposes, develops, analyzes and applies methods from scientific computing to several fields including analysis, linear algebra, geometry, approximation theory, functional equations, optimization and differential equations. This book provides the mathematical foundations of numerical methods and demonstrate their performance on examples, exercises and real-life applications. This is done using the MATLAB software environment, which allows an easy implementation and testing of the algorithms for any specific class of problems. [...]

2nd ed. 2007. XVIII, 657 p. 135 illus. (Texts in Applied Mathematics, Volume 37) Hardcover

€ (D) 69,50 | € (A) 71,45 | *CHF 93.50
€ 64,95 | £ 58,99

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€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

978-3-540-34658-6



9 783540 346586

A. Quarteroni, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; **A. Manzoni**, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; **F. Negri**, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

Reduced Basis Methods for Partial Differential Equations

This book provides a basic introduction to reduced basis (RB) methods for problems involving the repeated solution of partial differential equations (PDEs) arising from engineering and applied sciences, such as PDEs depending on several parameters and PDE-constrained optimization. [...]

2016. XI, 296 p. (UNITEXT, Volume 92) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

978-3-319-15430-5



9 783319 154305

J. Ratcliffe, Vanderbilt University Dept. Mathematics, Nashville, TN, USA

Foundations of Hyperbolic Manifolds

2nd ed. 2006. XII, 782 p. (Graduate Texts in Mathematics, Volume 149) Hardcover

€ (D) 58,80 | € (A) 60,45 | *CHF 86.50
€ 54,95 | £ 49,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

978-0-387-33197-3



9 780387 331973

J. Remmel, University of California at San Die, LA JOLLA, CA; **A. Mendes**, California Polytechnic State University, San Luis Obispo, CA, USA

Counting with Symmetric Functions

This monograph provides a self-contained introduction to symmetric functions and their use in enumerative combinatorics. It is the first book to explore many of the methods and results that the authors present. Numerous exercises are included throughout, along with full solutions, to illustrate concepts and also highlight many interesting mathematical ideas. The text begins by introducing fundamental combinatorial objects such as permutations and integer partitions, as well as generating functions. [...]

2015. X, 292 p. 209 illus. (Developments in Mathematics, Volume 43) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 93.50
€ 84,99 | £ 63,99

Yellow Sale Price

€ (D) 50,28 | € (A) 51,69 | *CHF 52.00
€ 46,99 | £ 34,99

978-3-319-23617-9



9 783319 236179

M. Renardy; R. C. Rogers**An Introduction to Partial Differential Equations**

Partial differential equations are fundamental to the modeling of natural phenomena, arising in every field of science. Consequently, the desire to understand the solutions of these equations has always had a prominent place in the efforts of mathematicians; it has inspired such diverse fields as complex function theory, functional analysis and algebraic topology. Like algebra, topology, and rational mechanics, partial differential equations are a core area of mathematics. [...]

2nd ed. 2004. XIV, 434 p. 21 illus. (Texts in Applied Mathematics, Volume 13) Hardcover
 € (D) 79,13 | € (A) 81,35 | *CHF 116.50
 € 73,95 | £ 66,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
 € 34,99 | £ 26,99

978-0-387-00444-0



9 780387 004440

D. Revuz, Université Paris VII U.E.R. Mathématiques, Paris CX 05, France; **M. Yor**, Université Paris VI CNRS UMR 7599, Paris CX 05, France

Continuous Martingales and Brownian Motion

From the reviews: "This is a magnificent book! Its purpose is to describe in considerable detail a variety of techniques used by probabilists in the investigation of problems concerning Brownian motion. The great strength of Revuz and Yor is the enormous variety of calculations carried out both in the main text and also (by implication) in the exercises. [...]"

3rd ed. 1999. XIII, 602 p. (Grundlehren der mathematischen Wissenschaften, Volume 293) Hardcover
 € (D) 106,95 | € (A) 109,95 | *CHF 143.50
 € 99,95 | £ 79,00

Yellow Sale Price

€ (D) 53,49 | € (A) 54,99 | *CHF 55.00
 € 49,99 | £ 37,99

978-3-540-64325-8



9 783540 643258

C. Robert, Université Paris IX UMR CNRS 7534, Paris CX 16, France; **G. Casella**, University of Florida, Gainesville, FL, USA

Introducing Monte Carlo Methods with R

Computational techniques based on simulation have now become an essential part of the statistician's toolbox. It is thus crucial to provide statisticians with a practical understanding of those methods, and there is no better way to develop intuition and skills for simulation than to use simulation to solve statistical problems. Introducing Monte Carlo Methods with R covers the main tools used in statistical simulation from a programmer's point of view, explaining the R implementation of each simulation technique and providing the output for better understanding and comparison. [...]

2010. XX, 284 p. (Use R!) Softcover
 € (D) 58,80 | € (A) 60,45 | *CHF 79.00
 € 54,95 | £ 49,99

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€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
 € 26,99 | £ 19,99

978-1-4419-1575-7



9 781441 915757

S. Roman, California State University, Fullerton, IRVINE, CA

An Introduction to Catalan Numbers

This textbook provides an introduction to the Catalan numbers and their remarkable properties, along with their various applications in combinatorics. Intended to be accessible to students new to the subject, the book begins with more elementary topics before progressing to more mathematically sophisticated topics. Each chapter focuses on a specific combinatorial object counted by these numbers, including paths, trees, tilings of a staircase, null sums in Z_{n+1} , interval structures, partitions, permutations, semiorders, and more. [...]

2015. XII, 121 p. 44 illus. (Compact Textbooks in Mathematics) Hardcover
 € (D) 42,79 | € (A) 43,99 | *CHF 45.50
 € 39,99 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
 € 19,99 | £ 14,99

978-3-319-22143-4



9 783319 221434

D. Rosenthal, University of Toronto, Toronto, ON, Canada; **D. Rosenthal**, St. John's University, Jamaica, NY, USA; **P. Rosenthal**, University of Toronto, Toronto, ON, Canada

A Readable Introduction to Real Mathematics

Designed for an undergraduate course or for independent study, this text presents sophisticated mathematical ideas in an elementary and friendly fashion. The fundamental purpose of this book is to engage the reader and to teach a real understanding of mathematical thinking while conveying the beauty and elegance of mathematics. The text focuses on teaching the understanding of mathematical proofs. The material covered has applications both to mathematics and to other subjects. [...]

2014. XII, 161 p. 50 illus. (Undergraduate Texts in Mathematics) Hardcover
 € (D) 42,79 | € (A) 43,99 | *CHF 53.50
 € 39,99 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
 € 19,99 | £ 14,99

978-3-319-05653-1



9 783319 056531

J. Rotman**Galois Theory**

There are too many errors in the first edition, and so a "corrected nth print ing" would have been appropriate. However, given the opportunity to make changes, I felt that a second edition would give me the flexibility to change any portion of the text that I felt I could improve. The first edition aimed to give a geodesic path to the Fundamental Theorem of Galois Theory, and I still think its brevity is valuable. Alas, the book is now a bit longer, but I feel that the changes are worthwhile. [...]

2nd ed. 1998. XIV, 176 p. (Universitext) Softcover
 € (D) 48,10 | € (A) 49,45 | *CHF 69.00
 € 44,95 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
 € 24,99 | £ 18,99

978-0-387-98541-1



9 780387 985411

V. Runde, University of Alberta, Edmonton, AB, Canada

A Taste of Topology

If mathematics is a language, then taking a topology course at the undergraduate level is cramming vocabulary and memorizing irregular verbs: a necessary, but not always exciting exercise one has to go through before one can read great works of literature in the original language. The present book grew out of notes for an introductory topology course at the University of Alberta. It provides a concise introduction to set theoretic topology (and to a tiny little bit of algebraic topology). [...]

2005. X, 182 p. 17 illus. (Universitext) Softcover

€ (D) 40,61 | € (A) 41,75 | *CHF 57.50
€ 37,95 | £ 33,99

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€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-25790-7](#)



9 780387 257907

F. Russo, Università degli Studi di Catania, Catania

On the Geometry of Some Special Projective Varieties

Providing an introduction to both classical and modern techniques in projective algebraic geometry, this monograph treats the geometrical properties of varieties embedded in projective spaces, their secant and tangent lines, the behavior of tangent linear spaces, the algebro-geometric and topological obstructions to their embedding into smaller projective spaces, and the classification of extremal cases. [...]

2016. XXVI, 232 p. (Lecture Notes of the Unione Matematica Italiana, Volume 18) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 55.00
€ 49,99 | £ 37,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-26764-7](#)



9 783319 267647

L. Ryvkin, Ruhr-Universität Bochum, FB Mathematik, Bochum, Germany

Observables and Symmetries of n-Plectic Manifolds

Leonid Ryvkin gives a motivated and self-sustained introduction to n-plectic geometry with a special focus on symmetries. The relevant algebraic structures from scratch are developed. The author generalizes known symplectic notions, notably observables and symmetries, to the n-plectic case, culminating in solving the existence question for co-moment maps for general pre-n-plectic manifolds. Finally partial results scattered along the literature are derived from our general result.

2016. VII, 50 p. 1 illus. in color. (BestMasters) Softcover

€ (D) 59,99 | € (A) 61,68 | *CHF 62.00
€ 56,07 | £ 41,99

Yellow Sale Price

€ (D) 39,58 | € (A) 40,69 | *CHF 41.00
€ 36,99 | £ 27,99

[978-3-658-12389-5](#)



9 783658 123895

B. Said-Houari, Alhosn University, Abu Dhabi, United Arab Emirates

Differential Equations: Methods and Applications

This book presents a variety of techniques for solving ordinary differential equations analytically and features a wealth of examples. Focusing on the modeling of real-world phenomena, it begins with a basic introduction to differential equations, followed by linear and nonlinear first order equations and a detailed treatment of the second order linear equations. After presenting solution methods for the Laplace transform and power series, it lastly presents systems of equations and offers an introduction to the stability theory. [...]

2015. X, 212 p. 30 illus. (Compact Textbooks in Mathematics) Softcover

€ (D) 42,79 | € (A) 43,99 | *CHF 44.00
€ 39,99 | £ 29,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-3-319-25734-1](#)



9 783319 257341

K. Saitô, Sendai, Japan; **J. D. M. Wright**, University of Aberdeen, Aberdeen

Monotone Complete C*-algebras and Generic Dynamics

This monograph is about monotone complete C*-algebras, their properties and the new classification theory. A self-contained introduction to generic dynamics is also included because of its important connections to these algebras. Our knowledge and understanding of monotone complete C*-algebras has been transformed in recent years. This is a very exciting stage in their development, with much discovered but with many mysteries to unravel. This book is intended to encourage graduate students and working mathematicians to attack some of these difficult questions. [...]

2015. XI, 257 p. (Springer Monographs in Mathematics) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 93.50
€ 84,99 | £ 63,99

Yellow Sale Price

€ (D) 50,28 | € (A) 51,69 | *CHF 52.00
€ 46,99 | £ 34,99

[978-1-4471-6773-0](#)



9 781447 167730

S. Salsa, Politecnico di Milano, Milano, Italy; **G. Verzini**, Politecnico di Milano, Milano, Italy

Partial Differential Equations in Action

This textbook presents problems and exercises at various levels of difficulty in the following areas: Classical Methods in PDEs (diffusion, waves, transport, potential equations); Basic Functional Analysis and Distribution Theory; Variational Formulation of Elliptic Problems; and Weak Formulation for Parabolic Problems and for the Wave Equation. Thanks to the broad variety of exercises with complete solutions, it can be used in all basic and advanced PDE courses.

2015. VIII, 431 p. (UNITEXT, Volume 87) Softcover

€ (D) 64,19 | € (A) 65,99 | *CHF 80.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-319-15415-2](#)



9 783319 154152

F. Santambrogio, Université Paris-Sud, Orsay cedex, France

Optimal Transport for Applied Mathematicians

This monograph presents a rigorous mathematical introduction to optimal transport as a variational problem, its use in modeling various phenomena, and its connections with partial differential equations. Its main goal is to provide the reader with the techniques necessary to understand the current research in optimal transport and the tools which are most useful for its applications. [...]

2015. XXVII, 353 p. 30 illus., 19 illus. in color. (Progress in Nonlinear Differential Equations and Their Applications, Volume 87) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 68.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-319-20827-5](https://doi.org/10.1007/978-3-319-20827-5)



9 783319 208275

T. Schlick, New York University Courant Inst. Mathematical Sciences, New York, NY, USA

Molecular Modeling and Simulation: An Interdisciplinary Guide

2nd ed. 2010. XLV, 723 p. (Interdisciplinary Applied Mathematics, Volume 21) Hardcover

€ (D) 80,24 | € (A) 82,49 | *CHF 83.00
€ 74,99 | £ 66,99

Yellow Sale Price

€ (D) 39,58 | € (A) 40,69 | *CHF 41.00
€ 36,99 | £ 27,99

[978-1-4419-6350-5](https://doi.org/10.1007/978-1-4419-6350-5)



9 781441 963505

A. S. Schulz, Technische Universität München, Munich, Germany; **M. Skutella**, Technische Universität Berlin, Berlin, Germany; **S. Stiller**, Technische Universität Braunschweig, Braunschweig, Germany; **D. Wagner**, Karlsruher Institut für Technologie (KIT), Karlsruhe, Germany (Eds)

Gems of Combinatorial Optimization and Graph Algorithms

Are you looking for new lectures for your course on algorithms, combinatorial optimization, or algorithmic game theory? Maybe you need a convenient source of relevant, current topics for a graduate student or advanced undergraduate student seminar? [...]

2015. X, 150 p. 51 illus., 24 illus. in color. Hardcover

€ (D) 74,89 | € (A) 76,99 | *CHF 77.00
€ 69,99 | £ 52,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-3-319-24970-4](https://doi.org/10.1007/978-3-319-24970-4)



9 783319 249704

C. J. Scriba, University Hamburg, Hamburg, Germany; **P. Schreiber**, University Greifswald, Greifswald, Germany

5000 Years of Geometry

The present volume provides a fascinating overview of geometrical ideas and perceptions from the earliest cultures to the mathematical and artistic concepts of the 20th century. It is the English translation of the 3rd edition of the well-received German book "5000 Jahre Geometrie," in which geometry is presented as a chain of developments in cultural history and their interaction with architecture, the visual arts, philosophy, science and engineering. [...]

2015. XII, 626 p. 313 illus., 156 illus. in color. Hardcover

€ (D) 117,69 | € (A) 120,99 | *CHF 146.50
€ 109,99 | £ 99,00

Yellow Sale Price

€ (D) 64,19 | € (A) 65,99 | *CHF 66.00
€ 59,99 | £ 44,99

[978-3-0348-0897-2](https://doi.org/10.1007/978-3-0348-0897-2)



9 783034 808972

M. R. Sepanski, Baylor University Dept. Mathematics, Waco, TX, USA

Compact Lie Groups

Blending algebra, analysis, and topology, the study of compact Lie groups is one of the most beautiful areas of mathematics and a key stepping stone to the theory of general Lie groups. Assuming no prior knowledge of Lie groups, this book covers the structure and representation theory of compact Lie groups. Included is the construction of the Spin groups, Schur Orthogonality, the Peter-Weyl Theorem, the Plancherel Theorem, the Maximal Torus Theorem, the Commutator Theorem, the Weyl Integration and Character Formulas, the Highest Weight Classification, and the Borel-Weil Theorem. [...]

2007. XIII, 201 p. (Graduate Texts in Mathematics, Volume 235) Hardcover

€ (D) 43,82 | € (A) 45,05 | *CHF 66.50
€ 40,95 | £ 36,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-30263-8](https://doi.org/10.1007/978-0-387-30263-8)



9 780387 302638

J. Serre, Collège de France Paris Chaire d'Algebre et Geometrie, Paris CX 05, France

Galois Cohomology

This volume is an English translation of "Cohomologie Galoisienne". The original edition (Springer LN5, 1964) was based on the notes, written with the help of Michel Raynaud, of a course I gave at the Collège de France in 1962-1963. In the present edition there are numerous additions and one suppression: Verdier's text on the duality of profinite groups. The most important addition is the photographic reproduction of R. Steinberg's "Regular elements of semisimple algebraic groups", Publ. Math. L.H.E.S., 1965. I am very grateful to him, and to L.H.E.S., for having authorized this reproduction. [...]

1997. X, 211 p. (Springer Monographs in Mathematics) Hardcover

€ (D) 53,49 | € (A) 54,99 | *CHF 67.00
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-42192-4](https://doi.org/10.1007/978-3-540-42192-4)



9 783540 421924

R. U. Seydel, Universität zu Köln
Mathematisches Institut, Köln, Germany

Tools for Computational Finance

The disciplines of financial engineering and numerical computation differ greatly, and however computational methods are used in a number of ways across the field of finance. It is the aim of this book to explain how such methods work in financial engineering; specifically the use of numerical methods as tools for computational finance. By concentrating on the field of option pricing, a core task of financial engineering and risk analysis, this book explores a wide range of computational tools in a coherent and focused manner and will be of use to the entire field of computational finance. [...]

5th ed. 2012. XVII, 429 p. 98 illus.
(Universitext) Softcover

€ (D) 64,15 | € (A) 65,95 | *CHF 80.00
€ 59,95 | £ 39,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-1-4471-2992-9](https://doi.org/10.1007/978-1-4471-2992-9)



9 781447 129929

R. Shakarchi

Problems and Solutions for Undergraduate Analysis

The present volume contains all the exercises and their solutions for Lang's second edition of Undergraduate Analysis. [...]

1998. XII, 368 p. (1+2-Pferdchen) Softcover

€ (D) 59,87 | € (A) 61,55 | *CHF 86.50
€ 55,95 | £ 50,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

[978-0-387-98235-9](https://doi.org/10.1007/978-0-387-98235-9)



9 780387 982359

R.W. Sharpe

Differential Geometry

Cartan geometries were the first examples of connections on a principal bundle. They seem to be almost unknown these days, in spite of the great beauty and conceptual power they confer on geometry. The aim of the present book is to fill the gap in the literature on differential geometry by the missing notion of Cartan connections. [...]

1997. XX, 426 p. (Graduate Texts in Mathematics, Volume 166) Hardcover

€ (D) 64,15 | € (A) 65,95 | *CHF 93.50
€ 59,95 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-0-387-94732-7](https://doi.org/10.1007/978-0-387-94732-7)



9 780387 947327

A. Shen, Laboratoire d'Informatique
Fondamentale de Marseille (LIF) CNRS,
Marseille CX 13, France

Algorithms and Programming

Algorithms and Programming is primarily intended for use in a first-year undergraduate course in programming. It is structured in a problem-solution format that requires the student to think through the programming process, thus developing an understanding of the underlying theory. The book is easily readable by a student taking a basic introductory course in computer science as well as useful for a graduate-level course in the analysis of algorithms and/or compiler construction. [...]

2nd ed. 2010. XII, 272 p. (Springer Undergraduate Texts in Mathematics and Technology) Hardcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
€ 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-1-4419-1747-8](https://doi.org/10.1007/978-1-4419-1747-8)



9 781441 917478

Z. Shi, Université Pierre et Marie Curie, Paris,
France

Branching Random Walks

Providing an elementary introduction to branching random walks, the main focus of these lecture notes is on the asymptotic properties of one-dimensional discrete-time supercritical branching random walks, and in particular, on extreme positions in each generation, as well as the evolution of these positions over time. Starting with the simple case of Galton-Watson trees, the text primarily concentrates on exploiting, in various contexts, the spinal structure of branching random walks. The notes end with some applications to biased random walks on trees.

2015. X, 133 p. 8 illus., 6 illus. in color.
(Lecture Notes in Mathematics, Volume 2151)
Softcover

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-3-319-25371-8](https://doi.org/10.1007/978-3-319-25371-8)



9 783319 253718

R. W. Shonkwiler, Georgia Institute of Technology, Palmetto, GA, USA; **F. Mendivil**, Acadia University Dept. Mathematics, Wolfville, NS, Canada

Explorations in Monte Carlo Methods

Monte Carlo methods are among the most used and useful computational tools available today, providing efficient and practical algorithms to solve a wide range of scientific and engineering problems. Explorations in Monte Carlo Methods provides a hands-on approach to learning this subject. Each new idea is carefully motivated by a realistic problem, thus leading from questions to theory via examples and numerical simulations. Programming exercises are integrated throughout the text as the primary vehicle for learning the material. [...]

2009. XII, 243 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 53,45 | € (A) 54,95 | *CHF 72.00
€ 49,95 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-87836-2](#)



9 780387 878362

J. H. Silverman, Brown University Department of Mathematics, Providence, RI, USA

Advanced Topics in the Arithmetic of Elliptic Curves

In the introduction to the first volume of The Arithmetic of Elliptic Curves (Springer-Verlag, 1986), I observed that "the theory of elliptic curves is rich, varied, and amazingly vast," and as a consequence, "many important topics had to be omitted." I included a brief introduction to ten additional topics as an appendix to the first volume, with the tacit understanding that eventually there might be a second volume containing the details. You are now holding that second volume. [...]

1994. XIII, 528 p. (Graduate Texts in Mathematics, Volume 151) Softcover

€ (D) 48,10 | € (A) 49,45 | *CHF 70.00
€ 44,95 | £ 39,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-94328-2](#)



9 780387 943282

J. H. Silverman, Brown University, Providence, RI, USA; **J. T. Tate**, Harvard University, Cambridge, MA, USA

Rational Points on Elliptic Curves

The theory of elliptic curves involves a pleasing blend of algebra, geometry, analysis, and number theory. This volume stresses this interplay as it develops the basic theory, thereby providing an opportunity for advanced undergraduates to appreciate the unity of modern mathematics. At the same time, every effort has been made to use only methods and results commonly included in the undergraduate curriculum. [...]

2nd ed. 2015. XXII, 332 p. 37 illus. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 48,14 | € (A) 49,49 | *CHF 51.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-319-18587-3](#)



9 783319 185873

J.H. Silverman, Brown University Dept. Mathematics, Providence, RI, USA

The Arithmetic of Dynamical Systems

This book is designed to provide a path for the reader into an amalgamation of two venerable areas of mathematics, Dynamical Systems and Number Theory. Many of the motivating theorems and conjectures in the new subject of Arithmetic Dynamics may be viewed as the transposition of classical results in the theory of Diophantine equations to the setting of discrete dynamical systems, especially to the iteration theory of maps on the projective line and other algebraic varieties. [...]

2007. XVI, 511 p. 11 illus. (Graduate Texts in Mathematics, Volume 241) Hardcover

€ (D) 48,14 | € (A) 49,49 | *CHF 50.50
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-69903-5](#)



9 780387 699035

J. G. Simmonds

A Brief on Tensor Analysis

There are three changes in the second edition. First, with the help of readers and colleagues thanks to all-I have corrected typographical errors and made minor changes in substance and style. Second, I have added a few more Exercises, especially at the end of Chapter 4. Third, I have appended a section on Differential Geometry, the essential mathematical tool in the study of two-dimensional structural shells and four-dimensional general relativity. [...]

2nd ed. 1994. XIV, 114 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 43,82 | € (A) 45,05 | *CHF 63.50
€ 40,95 | £ 36,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-94088-5](#)



9 780387 940885

S. F. Singer, Philadelphia, PA, USA

Symmetry in Mechanics

"And what is the use," thought Alice, "of a book without pictures or conversations in it?" -Lewis Carroll This book is written for modern undergraduate students - not the ideal students that mathematics professors wish for (and who occasionally grace our campuses), but the students like many the author has taught: talented but appreciating review and reinforcement of past course work; willing to work hard, but demanding context and motivation for the mathematics they are learning. [...]

2004. XII, 193 p. 4 illus. (Wissenschaftsprogramm) Softcover

€ (D) 42,75 | € (A) 43,95 | *CHF 62.00
€ 39,95 | £ 35,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-8176-4145-0](#)



9 780817 641450

C. G. Small, University of Waterloo Dept. Statistics & Actuarial Science, Waterloo, ON, Canada

Functional Equations and How to Solve Them

Over the years, a number of books have been written on the theory of functional equations. However, very little has been published which helps readers to solve functional equations in mathematics competitions and mathematical problem solving. This book fills that gap. The student who encounters a functional equation on a mathematics contest will need to investigate solutions to the equation by finding all solutions, or by showing that all solutions have a particular property. [...]

2007. XII, 131 p. (Problem Books in Mathematics) Hardcover

€ (D) 58,80 | € (A) 60,45 | *CHF 86.50
€ 54,95 | £ 49,99

Yellow Sale Price

€ (D) 28,88 | € (A) 29,69 | *CHF 30.00
€ 26,99 | £ 19,99

[978-0-387-34534-5](#)



9 780387 345345

C. G. Small, University of Waterloo Dept. Statistics & Actuarial Science, Waterloo, ON, Canada

Functional Equations and How to Solve Them

Over the years, a number of books have been written on the theory of functional equations. However, very little has been published which helps readers to solve functional equations in mathematics competitions and mathematical problem solving. This book fills that gap. The student who encounters a functional equation on a mathematics contest will need to investigate solutions to the equation by finding all solutions, or by showing that all solutions have a particular property. [...]

2007. XII, 131 p. (Problem Books in Mathematics) Softcover

€ (D) 40,61 | € (A) 41,75 | *CHF 57.50
€ 37,95 | £ 33,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-34539-0](#)



9 780387 345390

K. E. Smith; L. Kahanpää; P. Kekäläinen, W. Traves

An Invitation to Algebraic Geometry

The aim of this book is to describe the underlying principles of algebraic geometry, some of its important developments in the twentieth century, and some of the problems that occupy its practitioners today. It is intended for the working or the aspiring mathematician who is unfamiliar with algebraic geometry but wishes to gain an appreciation of its foundations and its goals with a minimum of prerequisites. Few algebraic prerequisites are presumed beyond a basic course in linear algebra.

2000. XVI, 164 p. (Universitext) Hardcover

€ (D) 53,49 | € (A) 54,99 | *CHF 58.50
€ 49,99 | £ 46,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-98980-8](#)



9 780387 989808

G. C. Smith

Introductory Mathematics: Algebra and Analysis

1998. XVI, 215 p. 1 illus. (Springer Undergraduate Mathematics Series) Softcover

€ (D) 37,40 | € (A) 38,45 | *CHF 47.00
€ 34,95 | £ 24,95

Yellow Sale Price

€ (D) 18,18 | € (A) 18,69 | *CHF 19.00
€ 16,99 | £ 12,99

[978-3-540-76178-5](#)



9 783540 761785

G. Sommaruga, ETH Zurich, Zurich, Switzerland; **T. Strahm**, University of Bern, Bern, Switzerland (Eds)

Turing's Revolution

This book provides an overview of the confluence of ideas in Turing's era and work and examines the impact of his work on mathematical logic and theoretical computer science. It combines contributions by well-known scientists on the history and philosophy of computability theory as well as on generalised Turing computability. By looking at the roots and at the philosophical and technical influence of Turing's work, it is possible to gather new perspectives and new research topics which might be considered as a continuation of Turing's working ideas well into the 21st century.

2015. XXIV, 329 p. 18 illus., 1 illus. in color. (Wissenschaftsprogramm nur englisch (Birkhäuser)) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 104.50
€ 94,99 | £ 71,00

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

[978-3-319-22155-7](#)



9 783319 221557

S. B. Sontz, Centro de Investigacion en Matematicas, Guanajuato, Mexico

Principal Bundles. The Classical Case

This introductory graduate level text provides a relatively quick path to a special topic in classical differential geometry: principal bundles. While the topic of principal bundles in differential geometry has become classic, even standard, material in the modern graduate mathematics curriculum, the unique approach taken in this text presents the material in a way that is intuitive for both students of mathematics and of physics. [...]

2015. XV, 280 p. 85 illus., 64 illus. in color. (Universitext) Softcover

€ (D) 64,19 | € (A) 65,99 | *CHF 80.00
€ 59,99 | £ 39,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-319-14764-2](#)



9 783319 147642

S. B. Sontz, Centro de Investigacion en Matematicas, Guanajuato, Mexico

Principal Bundles. The Quantum Case

This introductory text is the first book about quantum principal bundles and their quantum connections which are natural generalizations to non-commutative geometry of principal bundles and their connections in differential geometry. To make for a more self-contained book there is also much background material on Hopf algebras, (covariant) differential calculi, braid groups and compatible conjugation operations. The approach is slow paced and intuitive in order to provide researchers and students in both mathematics and physics ready access to the material.

2015. XV, 350 p. (Universitext) Softcover
€ (D) 64,19 | € (A) 65,99 | *CHF 80.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-319-15828-0](#)



9 783319 158280

E. J. Specht, Indiana University South Bend, SOUTH BEND, IN; **H. T. Jones**, Andrews University, Berrien Springs, MI, USA; **K. G. Calkins**, Andrews University, Berrien Springs, MI, USA; **D. H. Rhoads**, Andrews University, Bloomington, IN, USA

Euclidean Geometry and its Subgeometries

In this monograph, the authors present a modern development of Euclidean geometry from independent axioms, using up-to-date language and providing detailed proofs. The axioms for incidence, betweenness, and plane separation are close to those of Hilbert. This is the only axiomatic treatment of Euclidean geometry that uses axioms not involving metric notions and that explores congruence and isometries by means of reflection mappings. [...]

2015. XIX, 527 p. 59 illus. Hardcover
€ (D) 117,69 | € (A) 120,99 | *CHF 121.00
€ 109,99 | £ 82,00

Yellow Sale Price

€ (D) 64,19 | € (A) 65,99 | *CHF 66.00
€ 59,99 | £ 44,99

[978-3-319-23774-9](#)



9 783319 237749

P. Spector, University of California, Berkeley Dept. Statistics & Mathematics, Berkeley, CA, USA

Data Manipulation with R

The R language provides a rich environment for working with data, especially data to be used for statistical modeling or graphics. Coupled with the large variety of easily available packages, it allows access to both well-established and experimental statistical techniques. However techniques that might make sense in other languages are often very efficient in R, but, due to R's [...]

2008. X, 154 p. (Use R!) Softcover
€ (D) 74,89 | € (A) 76,99 | *CHF 77.00
€ 69,99 | £ 52,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-0-387-74730-9](#)



9 780387 747309

H. Stichtenoth, Sabanci University Fac. Engineering & Natural Sciences, Istanbul, Turkey

Algebraic Function Fields and Codes

15 years after the first printing of Algebraic Function Fields and Codes, the mathematics editors of Springer Verlag encouraged me to revise and extend the book. Besides numerous minor corrections and amendments, the second edition differs from the first one in two respects. Firstly I have included a series of exercises at the end of each chapter. Some of these exercises are fairly easy and should help the reader to understand the basic concepts, others are more advanced and cover additional material. [...]

2nd ed. 2009. XIV, 360 p. (Graduate Texts in Mathematics, Volume 254) Hardcover
€ (D) 48,14 | € (A) 49,49 | *CHF 51.00
€ 44,99 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-3-540-76877-7](#)



9 783540 768777

V. Srinivas, Tata Institute of Fundamental Research Dept. Theoretical Physics, Mumbai, India

Algebraic K-Theory

Algebraic K-Theory has become an increasingly active area of research. With its connections to algebra, algebraic geometry, topology, and number theory, it has implications for a wide variety of researchers and graduate students in mathematics. The book is based on lectures given at the author's home institution, the Tata Institute in Bombay, and elsewhere. A detailed appendix on topology was provided in the first edition to make the treatment accessible to readers with a limited background in topology. [...]

2nd ed. 1996. XVII, 341 p. (Modern Birkhäuser Classics) Softcover
€ (D) 42,79 | € (A) 43,99 | *CHF 42.00
€ 39,99 | £ 33,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-8176-4736-0](#)



9 780817 647360

J. Stillwell, University of San Francisco, San Francisco, CA, USA

Classical Topology and Combinatorial Group Theory

In recent years, many students have been introduced to topology in high school mathematics. Having met the Mobius band, the seven bridges of Königsberg, Euler's polyhedron formula, and knots, the student is led to expect that these picturesque ideas will come to full flower in university topology courses. What a disappointment "undergraduate topology" proves to be! In most institutions it is either a service course for analysts, on abstract spaces, or else an introduction to homological algebra in which the only geometric activity is the completion of commutative diagrams. [...]

2nd ed. 1993. XII, 336 p. (Graduate Texts in Mathematics, Volume 72) Hardcover
€ (D) 71,64 | € (A) 73,65 | *CHF 104.00
€ 66,95 | £ 59,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-0-387-97970-0](#)



9 780387 979700

J. Stillwell, Department of Mathematics
University of San Francisco, San Francisco,
CA, USA

Elements of Algebra

Algebra is abstract mathematics - let us make no bones about it - yet it is also applied mathematics in its best and purest form. It is not abstraction for its own sake, but abstraction for the sake of efficiency, power and insight. Algebra emerged from the struggle to solve concrete, physical problems in geometry, and succeeded after 2000 years of failure by other forms of mathematics. It did this by exposing the mathematical structure of geometry, and by providing the tools to analyse it. [...]

1994. XII, 184 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 55,59 | € (A) 57,15 | *CHF 80.50
€ 51,95 | £ 46,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-94290-2](https://doi.org/10.1007/978-0-387-94290-2)



9 780387 942902

J. Stillwell, University of San Francisco, San Francisco, CA, USA

Elements of Number Theory

This book is intended to complement my Elements of Algebra, and it is similarly motivated by the problem of solving polynomial equations. However, it is independent of the algebra book, and probably easier. In Elements of Algebra we sought solution by radicals, and this led to the concepts of fields and groups and their fusion in the celebrated theory of Galois. In the present book we seek integer solutions, and this leads to the concepts of rings and ideals which merge in the equally celebrated theory of ideals due to Kummer and Dedekind. [...]

2003. XII, 256 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 48,10 | € (A) 49,45 | *CHF 71.50
€ 44,95 | £ 40,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-95587-2](https://doi.org/10.1007/978-0-387-95587-2)



9 780387 955872

J. Stillwell, University of San Francisco, San Francisco, CA, USA

Naive Lie Theory

In this new textbook, acclaimed author John Stillwell presents a lucid introduction to Lie theory suitable for junior and senior level undergraduates. In order to achieve this, he focuses on the so-called "classical groups" that capture the symmetries of real, complex, and quaternion spaces. These symmetry groups may be represented by matrices, which allows them to be studied by elementary methods from calculus and linear algebra. [...]

2008. XV, 217 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 43,82 | € (A) 45,05 | *CHF 63.50
€ 40,95 | £ 36,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-78214-0](https://doi.org/10.1007/978-0-387-78214-0)



9 780387 782140

J. Stillwell, Department of Mathematics
University of San Francisco, San Francisco,
CA, USA

Numbers and Geometry

NUMBERS AND GEOMETRY is a beautiful and relatively elementary account of a part of mathematics where three main fields--algebra, analysis and geometry--meet. The aim of this book is to give a broad view of these subjects at the level of calculus, without being a calculus (or a pre-calculus) book. Its roots are in arithmetic and geometry, the two opposite poles of mathematics, and the source of historic conceptual conflict. The resolution of this conflict, and its role in the development of mathematics, is one of the main stories in the book. [...]

1998. XIV, 343 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 52,38 | € (A) 53,85 | *CHF 75.00
€ 48,95 | £ 43,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

[978-0-387-98289-2](https://doi.org/10.1007/978-0-387-98289-2)



9 780387 982892

J. Stillwell, University of San Francisco, San Francisco, CA, USA

The Four Pillars of Geometry

Many people think there is only one "right" way to teach geometry. For two millennia, the "right" way was Euclid's way, and it is still good in many respects. But in the 1950s the cry "Down with " was heard in France and new geometry books appeared, packed with linear algebra but with no diagrams. Was this the new "right" way, or was the "right" way something else again, perhaps transformation groups? In this book, I wish to show that geometry can be developed in four fundamentally different ways, and that all should be used if the subject is to be shown in all its splendor. [...]

2005. XII, 228 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 42,75 | € (A) 43,95 | *CHF 63.50
€ 39,95 | £ 34,99

Yellow Sale Price

€ (D) 21,39 | € (A) 21,99 | *CHF 22.00
€ 19,99 | £ 14,99

[978-0-387-25530-9](https://doi.org/10.1007/978-0-387-25530-9)



9 780387 255309

T.J. Sullivan, University of Warwick,
Coventry, UK

Introduction to Uncertainty Quantification

This text provides a framework in which the main objectives of the field of uncertainty quantification (UQ) are defined and an overview of the range of mathematical methods by which they can be achieved. Complete with exercises throughout, the book will equip readers with both theoretical understanding and practical experience of the key mathematical and algorithmic tools underlying the treatment of uncertainty in modern applied mathematics. [...]

2015. XII, 342 p. 28 illus. (Texts in Applied Mathematics, Volume 63) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 68.00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

[978-3-319-23394-9](https://doi.org/10.1007/978-3-319-23394-9)



9 783319 233949

R. M. Switzer

Algebraic Topology — Homotopy and Homology

From the reviews: "The author has attempted an ambitious and most commendable project. He assumes only a modest knowledge of algebraic topology on the part of the reader to start with, and he leads the reader systematically to the point at which he can begin to tackle problems in the current areas of research centered around generalized homology theories and their applications. The author has sought to make his treatment complete and he has succeeded. The book contains much material that has not previously appeared in this format. [...]"

2002. XIII, 526 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
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€ 24,99 | £ 18,99

978-3-540-42750-6



9 783540 427506

Y. Tani, Saitama University, Saitama, Japan

Introduction to Supergravity

This book is a pedagogical introduction to supergravity, a gravitational field theory that includes supersymmetry (symmetry between bosons and fermions) and is a generalization of Einstein's general relativity. Supergravity provides a low-energy effective theory of superstring theory, which has attracted much attention as a candidate for the unified theory of fundamental particles, and it is a useful tool for studying non-perturbative properties of superstring theory such as D-branes and string duality. [...]"

2014. IX, 130 p. (SpringerBriefs in Mathematical Physics, Volume 1) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 67.00
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 26,74 | € (A) 27,49 | *CHF 27.50
€ 24,99 | £ 18,99

978-4-431-54827-0



9 784431 548270

A. Terras, University of California at San Diego, La Jolla, CA, USA

Harmonic Analysis on Symmetric Spaces—Euclidean Space, the Sphere, and the Poincaré Upper Half-Plane

This unique text is an introduction to harmonic analysis on the simplest symmetric spaces, namely Euclidean space, the sphere, and the Poincaré upper half plane. This book is intended for beginning graduate students in mathematics or researchers in physics or engineering. Written with an informal style, the book places an emphasis on motivation, concrete examples, history, and, above all, applications in mathematics, statistics, physics, and engineering. Many corrections and updates have been incorporated in this new edition. [...]"

2nd ed. 2013. XVII, 413 p. 83 illus., 32 illus. in color. Softcover

€ (D) 64,19 | € (A) 65,99 | *CHF 80.00
€ 59,99 | £ 53,99

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€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
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978-1-4939-5013-3



9 781493 950133

V. V. Tkachuk, Universidad Autonoma Metropolitana-Iztap, Iztapalapa, Mexico

A Cp-Theory Problem Book

This work is a continuation of the first volume published by Springer in 2011, entitled "A Cp-Theory Problem Book: Topological and Function Spaces." The first volume provided an introduction from scratch to Cp-theory and general topology, preparing the reader for a professional understanding of Cp-theory in the last section of its main text. This present volume covers a wide variety of topics in Cp-theory and general topology at the professional level bringing the reader to the frontiers of modern research. The volume contains 500 problems and exercises with complete solutions. [...]"

2014. XIV, 583 p. (Problem Books in Mathematics) Hardcover

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Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

978-3-319-04746-1



9 783319 047461

G. Toth, Rutgers University, Camden, NJ, USA

Measures of Symmetry for Convex Sets and Stability

This textbook treats two important and related matters in convex geometry: the quantification of symmetry of a convex set—measures of symmetry—and the degree to which convex sets that nearly minimize such measures of symmetry are themselves nearly symmetric—the phenomenon of stability. By gathering the subject's core ideas and highlights around Grünbaum's general notion of measure of symmetry, it paints a coherent picture of the subject, and guides the reader from the basics to the state-of-the-art. [...]"

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978-3-319-23732-9



9 783319 237329

L. W. Tu, Tufts University, Medford, MA, USA

An Introduction to Manifolds

Manifolds, the higher-dimensional analogs of smooth curves and surfaces, are fundamental objects in modern mathematics. Combining aspects of algebra, topology, and analysis, manifolds have also been applied to classical mechanics, general relativity, and quantum field theory. In this streamlined introduction to the subject, the theory of manifolds is presented with the aim of helping the reader achieve a rapid mastery of the essential topics. [...]"

2nd ed. 2011. XVIII, 410 p. 124 illus., 1 illus. in color. (Universitext) Softcover

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9 781441 973993

R. G. Underwood, Auburn University at Montgomery, Montgomery, AL, USA

Fundamentals of Hopf Algebras

This text aims to provide graduate students with a self-contained introduction to topics that are at the forefront of modern algebra, namely, coalgebras, bialgebras and Hopf algebras. The last chapter (Chapter 4) discusses several applications of Hopf algebras, some of which are further developed in the author's 2011 publication, *An Introduction to Hopf Algebras*. The book may be used as the main text or as a supplementary text for a graduate algebra course. [...]

2015. XIV, 150 p. 21 illus. (Universitext) Softcover

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[978-3-319-18990-1](https://doi.org/10.1007/978-3-319-18990-1)



9 783319 189901

E. Vandendriessche, Université Paris Diderot, Sorbonne Paris Cité, Paris, France

String Figures as Mathematics?

This book addresses the mathematical rationality contained in the making of string figures. It does so by using interdisciplinary methods borrowed from anthropology, mathematics, history and philosophy of mathematics. The practice of string figure-making has long been carried out in many societies, and particularly in those of oral tradition. It consists in applying a succession of operations to a string (knotted into a loop), mostly using the fingers and sometimes the feet, the wrists or the mouth. This succession of operations is intended to generate a final figure. [...]

2015. XIX, 392 p. 1234 illus., 134 illus. in color. (Studies in History and Philosophy of Science, Volume 36) Hardcover

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[978-3-319-11993-9](https://doi.org/10.1007/978-3-319-11993-9)



9 783319 119939

W.D. Wallis, Southern Illinois University, Evansville, IN, USA

The Mathematics of Elections and Voting

This title takes an in-depth look at the mathematics in the context of voting and electoral systems, with focus on simple ballots, complex elections, fairness, approval voting, ties, fair and unfair voting, and manipulation techniques. The exposition opens with a sketch of the mathematics behind the various methods used in conducting elections. The reader is lead to a comprehensive picture of the theoretical background of mathematics and elections through an analysis of Condorcet's Principle and Arrow's Theorem of conditions in electoral fairness. [...]

2014. X, 96 p. Softcover

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[978-3-319-09809-8](https://doi.org/10.1007/978-3-319-09809-8)



9 783319 098098

W. Walter, Universität Karlsruhe Mathematisches Institut I, Karlsruhe, Germany

Ordinary Differential Equations

Develops the theory of initial-, boundary-, and eigenvalue problems, real and complex linear systems, asymptotic behavior and stability. Using novel approaches to many subjects, the book emphasizes differential inequalities and treats more advanced topics such as Caratheodory theory, nonlinear boundary value problems and radially symmetric elliptic problems. New proofs are given which use concepts and methods from functional analysis. Applications from mechanics, physics, and biology are included, and exercises, which range from routine to demanding, are dispersed throughout the text. [...]

1998. XI, 384 p. (Graduate Texts in Mathematics, Volume 182) Hardcover
€ (D) 71,64 | € (A) 73,65 | *CHF 104.00
€ 66,95 | £ 59,99

Yellow Sale Price

€ (D) 37,44 | € (A) 38,49 | *CHF 38.50
€ 34,99 | £ 26,99

[978-0-387-98459-9](https://doi.org/10.1007/978-0-387-98459-9)



9 780387 984599

A. Weil

Basic Number Theory

The first part of this volume is based on a course taught at Princeton University in 1961-62; at that time, an excellent set of notes was prepared by David Cantor, and it was originally my intention to make these notes available to the mathematical public with only quite minor changes. Then, among some old papers of mine, I accidentally came across a long-forgotten manuscript by Chevalley, of pre-war vintage (forgotten, that is to say, both by me and by its author) which, to my taste at least, seemed to have aged very well. [...]

3rd ed. 1995. XVIII, 316 p. (Classics in Mathematics) Softcover

€ (D) 53,49 | € (A) 54,99 | *CHF 56.50
€ 49,99 | £ 44,99

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€ 24,99 | £ 18,99

[978-3-540-58655-5](https://doi.org/10.1007/978-3-540-58655-5)



9 783540 586555

S. H. Weintraub, Lehigh University Dept. Mathematics, Bethlehem, PA, USA

Galois Theory

This is a textbook on Galois theory. Galois theory has a well-deserved re- tation as one of the most beautiful subjects in mathematics. I was seduced by its beauty into writing this book. I hope you will be seduced by its beauty in reading it. This book begins at the beginning. Indeed (and perhaps a little unusually for a mathematics text), it begins with an informal introductory chapter, Chapter 1. In this chapter we give a number of examples in Galois theory, even before our terms have been properly ned. [...]

2nd ed. 2009. XIV, 212 p. (Universitext) Softcover

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9 780387 875743

R. O. Wells, Universität Bremen Abt. Mathematik, Bremen, Germany

Differential Analysis on Complex Manifolds

In developing the tools necessary for the study of complex manifolds, this comprehensive, well-organized treatment presents in its opening chapters a detailed survey of recent progress in four areas: geometry (manifolds with vector bundles), algebraic topology, differential geometry, and partial differential equations. [...]

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9 780387 738918

R. Wilson, Queen Mary University of London, London, UK

The Finite Simple Groups

nitesimplegroups. During nitesimplegroups (and indeed since), a huge amount of information about these groups has been accumulated.

Conveying this information to the next generation of students and researchers, not to mention those who might wish to apply this knowledge, has become a major challenge. With the publication of the two volumes by Aschbacher and Smith [12, 13] in 2004 we can reasonably regard the proof of the classification Theorem for Finite Simple Groups (usually abbreviated CFSG) as complete. [...]

2009. XV, 298 p. (Graduate Texts in Mathematics, Volume 251) Hardcover

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T. Witelski, Duke University, Durham, NC, USA; **M. Bowen**, Waseda University, Tokyo, Japan

Methods of Mathematical Modelling

This book presents mathematical modelling and the integrated process of formulating sets of equations to describe real-world problems. It describes methods for obtaining solutions of challenging differential equations stemming from problems in areas such as chemical reactions, population dynamics, mechanical systems, and fluid mechanics. Chapters 1 to 4 cover essential topics in ordinary differential equations, transport equations and the calculus of variations that are important for formulating models. [...]

2015. XVIII, 305 p. 50 illus., 45 illus. in color. (Springer Undergraduate Mathematics Series) Softcover

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[978-3-319-23041-2](#)



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I. Yengui, University of Sfax, Sfax, Tunisia

Constructive Commutative Algebra

The main goal of this book is to find the constructive content hidden in abstract proofs of concrete theorems in Commutative Algebra, especially in well-known theorems concerning projective modules over polynomial rings (mainly the Quillen-Suslin theorem) and syzygies of multivariate polynomials with coefficients in a valuation ring. Simple and constructive proofs of some results in the theory of projective modules over polynomial rings are also given, and light is cast upon recent progress on the Hermite ring and Gröbner ring conjectures. [...]

2015. VII, 271 p. 5 illus. (Lecture Notes in Mathematics, Volume 2138) Softcover

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[978-3-319-19493-6](#)



9 783319 194936

K. Yosida

Functional Analysis

The present book is based on lectures given by the author at the University of Tokyo during the past ten years. It is intended as a textbook to be studied by students on their own or to be used in a course on Functional Analysis, i. e., the general theory of linear operators in function spaces together with salient features of its application to diverse fields of modern and classical analysis. Necessary prerequisites for the reading of this book are summarized, with or without proof, in Chapter 0 under titles: Set Theory, Topological Spaces, Measure Spaces and Linear Spaces. [...]

6th ed. 1995. XVI, 504 p. (Classics in Mathematics, Volume 123) Softcover

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9 783540 586548

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Mathematical Analysis I

This second English edition of a very popular two-volume work presents a thorough first course in analysis, leading from real numbers to such advanced topics as differential forms on manifolds; asymptotic methods; Fourier, Laplace, and Legendre transforms; elliptic functions; and distributions. Especially notable in this course are the clearly expressed orientation toward the natural sciences and the informal exploration of the essence and the roots of the basic concepts and theorems of calculus. [...]

2nd ed. 2015. XX, 616 p. 66 illus. in color. (Universitext) Hardcover

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9 783662 487907

V. A. Zorich, Moscow State University Dept.
Mathematics & Mechanics, Moscow, Russia

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2nd ed. 2016. XX, 720 p. 42 illus. in color.
(Universitext) Hardcover

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[978-3-662-48991-8](https://doi.org/10.1007/978-3-662-48991-8)



9 783662 489918

M. Audin, Université de Strasbourg et CNRS
Inst. Recherche Mathématiques Avancées,
Strasbourg CX, France

Fatou, Julia, Montel,

Comment Fatou et Julia ont inventé ce que l'on appelle aujourd'hui les ensembles de Julia, avant, pendant et après la première guerre mondiale? L'histoire est racontée, avec ses mathématiques, ses conflits, ses personnalités. Elle est traitée à partir de sources nouvelles, et avec rigueur. On pourra s'y initier à l'itération des fractions rationnelles et à la dynamique complexe (ensembles de Julia, de Mandelbrot, ensembles-limites). Qui étaient Pierre Fatou, Gaston Julia, Paul Montel? On y trouvera en particulier des informations sur un mathématicien mal connu, Pierre Fatou. [...]

2009. VI, 276 p. (French Mathematics titles)
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[978-3-642-00445-2](https://doi.org/10.1007/978-3-642-00445-2)



9 783642 004452

N. Bourbaki

Algèbre Chapitres 4 à 7

Les Éléments de mathématique de Nicolas Bourbaki ont pour objet une présentation rigoureuse, systématique et sans prérequis des mathématiques depuis leurs fondements. Ce deuxième volume du Livre d'Algèbre, deuxième Livre des Éléments de mathématique, traite notamment des extensions de corps et de la théorie de Galois. Il comprend les chapitres: 4. Polynômes et fractions rationnelles; 5. Corps commutatifs; 6. Groupes et corps ordonnés; 7. Modules sur les anneaux principaux. Il contient également des notes historiques. Ce volume est une nouvelle édition parue en 1981.

2007. VIII, 422 p. (French Mathematics titles)
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€ 47,39 | £ 37,99

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[978-3-540-34398-1](https://doi.org/10.1007/978-3-540-34398-1)



9 783540 343981

N. Bourbaki, Ecole normale supérieure, Paris
Cedex 05, France

Algèbre Chapitre 8

Ce huitième chapitre du Livre d'Algèbre, deuxième Livre des Éléments de mathématique, est consacré à l'étude de certaines classes d'anneaux et des modules sur ces anneaux. Il couvre les notions de module et d'anneau noethérien et artinien, ainsi que celle de radical. Ce chapitre décrit également la structure des anneaux semi-simples. Nous y donnons aussi la définition de divers groupes de Grothendieck qui jouent un rôle universel pour les invariants de modules et plusieurs descriptions du groupe de Brauer qui intervient dans la classification des anneaux simples. [...]

2nd ed. 2012. X, 489 p. (French Mathematics titles)
Softcover

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€ 24,99 | £ 18,99

[978-3-540-35315-7](https://doi.org/10.1007/978-3-540-35315-7)



9 783540 353157

N. Bourbaki

Algèbre Chapitres 1 à 3

Faire de l'Algèbre, c'est essentiellement calculer, c'est-à-dire effectuer, sur des éléments d'un ensemble, des (, par exemple aux permutations d'un - semble (voir Note historique de chap. 1). [...]

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9 783540 338499

C. Brezinski, Université Lille 1 UFR IEEA/Lab.
d'Analyse, Villeneuve d'Ascq CX, France

Acceleration de la convergence en analyse numérique

1977. IV, 313 p. (Lecture Notes in
Mathematics, Volume 584) Softcover

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[978-3-540-08241-5](https://doi.org/10.1007/978-3-540-08241-5)



9 783540 082415

N. Caspard, ; **B. Leclerc**, EHESS CAMS, Paris CX 06, France; **B. Monjardet**,

Ensembles ordonnés finis : concepts, résultats et usages

Les notions d'ordre, de classement, de rangement sont présentés dans de multiples activités et situations humaines. La formalisation mathématique de ces notions a permis d'abord le grand développement de la théorie des treillis, puis celui de structures ordonnées plus générales, notamment celles relevant des mathématiques discrètes. [...]

2007. XVIII, 342 p. 62 ill. (Mathématiques et Applications, Volume 60) Softcover

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J.-P. Caubet

Le mouvement brownien relativiste

1976. IX, 212 p. (Lecture Notes in Mathematics, Volume 559) Softcover

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9 783540 080527

A. Chenciner, IMCCE - Observatoire de Paris Institut de Mécanique Céleste, Paris, France

Courbes Algébriques Planes

Issu d'un cours de maîtrise de l'Université Paris VII, ce texte est réédité tel qu'il était paru en 1978. A propos du théorème de Bézout sont introduits divers outils nécessaires au développement de la notion de multiplicité d'intersection de deux courbes algébriques dans le plan projectif complexe. Partant des notions élémentaires sur les sous-ensembles algébriques affines et projectifs, on définit les multiplicités d'intersection et interprète leur somme entières du résultant de deux polynômes. [...]

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[978-3-540-33707-2](#)



9 783540 337072

J. Dedieu, Université Toulouse III Dept. Mathématiques, Toulouse CX, France

Points fixes, zéros et la méthode de Newton

Cet ouvrage est consacré aux points fixes d'applications différentiables, aux zéros de systèmes non-linéaires et à la méthode de Newton. Il s'adresse à des étudiants de mastère ou préparant l'agrégation de mathématique et à des chercheurs confirmés. La première partie est consacrée à la méthode des approximations successives et confronte un point de vue «systèmes dynamiques» (théorèmes de Grobman-Hartman, de la variété stable) à des exemples issus de l'analyse numérique. [...]

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[978-3-540-30995-6](#)



9 783540 309956

J.-E. Dies

Chaines de Markov sur les Permutations

1983. IX, 226 p. (Lecture Notes in Mathematics, Volume 1010) Softcover

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9 783540 126690

H. Gianella; **R. Krust**; **F. Taieb**; **N. Tosel**

Problèmes choisis de mathématiques supérieures

Ce livre rassemble des énoncés de problèmes de mathématiques proposés par les auteurs à leurs étudiants en classe préparatoire MPSI au Lycée Louis-Le-Grand à Paris. Il se divise en sept chapitres, correspondants aux principaux thèmes généralement abordés dans une première année d'études scientifiques. Les problèmes sont de difficulté progressive, pour la plupart originaux, et parfois établissent des résultats mathématiques récents. Une brève introduction permet de les situer dans un contexte mathématique plus vaste. [...]

2001. VIII, 267 p. 19 ill. (SCOPOS, Volume 14) Softcover

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9 783540 423355

A. Henrot, Nancy Université Institut Élie Cartan IECN, Vandoeuvre-les-Nancy CX, France; **M. Pierre**, ENS de Cachan Antenne de Bretagne, Bruz, France

Variation et optimisation de formes

Ce livre est une initiation aux approches modernes de l'optimisation mathématique de formes. On y développe la méthodologie ainsi que les outils d'analyse mathématique et de géométrie nécessaires à l'étude des variations de domaines. [...]

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 € (D) 63,90 | € (A) 65,69 | *CHF 86.00
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