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W. A. Adkins, Louisiana State University Department of Mathematics, Baton Rouge, LA, USA; **S. H. Weintraub**, Lehigh University Dept. Mathematics, Bethlehem, PA, USA

Algebra

This book is designed as a text for a first-year graduate algebra course. As necessary background we would consider a good undergraduate linear algebra course. An undergraduate abstract algebra course, while helpful, is not necessary (and so an adventurous undergraduate might learn some algebra from this book). Perhaps the principal distinguishing feature of this book is its point of view. Many textbooks tend to be encyclopedic. We have tried to write one that is thematic, with a consistent point of view. [...]

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A. Adem, University of Wisconsin Dept. Mathematics, Madison, WI, USA; **R. J. Milgram**, Stanford University Dept. Mathematics, Stanford, CA, USA

Cohomology of Finite Groups

Some Historical Background This book deals with the cohomology of groups, particularly finite ones. Historically, the subject has been one of significant interaction between algebra and topology and has directly led to the creation of such important areas of mathematics as homological algebra and algebraic K-theory. It arose primarily in the 1920's and 1930's independently in number theory and topology. In topology the main focus was on the work of H. Hopf, but B. Eckmann, S. Eilenberg, and S. MacLane (among others) made significant contributions. [...]

2nd ed. 2004. VIII, 324 p. (Grundlehren der mathematischen Wissenschaften, Volume 309) Hardcover

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W. A. Adkins, Louisiana State University Department of Mathematics, Baton Rouge, LA, USA; **M. G. Davidson**, Louisiana State University Department of Mathematics, Baton Rouge, LA, USA

Ordinary Differential Equations

Unlike most texts in differential equations, this textbook gives an early presentation of the Laplace transform, which is then used to motivate and develop many of the remaining differential equation concepts for which it is particularly well suited. For example, the standard solution methods for constant coefficient linear differential equations are immediate and simplified, and solution methods for constant coefficient systems are streamlined. [...]

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R. J. Adler, Technion -Israel Institute of Technology Fac. Industrial Engineering &, Technion City, Haifa, Israel; **J. E. Taylor**, Stanford University Dept. Statistics, Stanford, CA, USA

Random Fields and Geometry

Since the term "random field" has a variety of different connotations, ranging from agriculture to statistical mechanics, let us start by clarifying that, in this book, a random field is a stochastic process, usually taking values in a Euclidean space, and indexed over a parameter space of dimensionality at least 1. Consequently, random processes indexed on countable parameter spaces will not appear here. Indeed, even processes on \mathbb{R} will make only rare appearances and, from the point of view of this book, are almost trivial. [...]

2007. XVIII, 454 p. 21 illus. (Springer Monographs in Mathematics) Hardcover

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R. P. Agarwal, Texas A&M University Kingsville, Kingsville, TX, USA; **S. K. Sen**, GVP-Prof. V. Lakshmikantham Institute for Advanced Studies, Visakhapatnam, India

Creators of Mathematical and Computational Sciences

The book records the essential discoveries of mathematical and computational scientists in chronological order, following the birth of ideas on the basis of prior ideas ad infinitum. The authors document the winding path of mathematical scholarship throughout history, and most importantly, the thought process of each individual that resulted in the mastery of their subject. The book implicitly addresses the nature and character of every scientist as one tries to understand their visible actions in both adverse and congenial environments. [...]

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Dynamic Inequalities On Time Scales

This is a monograph devoted to recent research and results on dynamic inequalities on time scales. The study of dynamic inequalities on time scales has been covered extensively in the literature in recent years and has now become a major sub-field in pure and applied mathematics. In particular, this book will cover recent results on integral inequalities, including Young's inequality, Jensen's inequality, Holder's inequality, Minkowski's inequality, Steffensen's inequality, Hermite-Hadamard inequality and Čebyšev's inequality. [...]

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A Course in Enumeration

Combinatorial enumeration is a readily accessible subject full of easily stated, but sometimes tantalizingly difficult problems. This book leads the reader in a leisurely way from the basic notions to a variety of topics, ranging from algebra to statistical physics. Its aim is to introduce the student to a fascinating field, and to be a source of information for the professional mathematician who wants to learn more about the subject. The book is organized in three parts: Basics, Methods, and Topics. [...]

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Quadratic and Higher Degree Forms

In the last decade, the areas of quadratic and higher degree forms have witnessed dramatic advances. This volume is an outgrowth of three seminal conferences on these topics held in 2009, two at the University of Florida and one at the Arizona Winter School. [...]

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T. Andreescu, University of Texas at Dallas, Richardson, TX, USA

Essential Linear Algebra with Applications

Rooted in a pedagogically successful problem-solving approach to linear algebra, this work fills a gap in the literature that is sharply divided between, on the one end, elementary texts with only limited exercises and examples, and, at the other end, books too advanced in prerequisites and too specialized in focus to appeal to a wide audience. [...]

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T. Andreescu, University of Texas at Dallas Natural Sciences and Mathematics, Richardson, TX, USA; **B. Enescu**, "BP Hasdeu" National College Department of Mathematics, Buzau, Romania

Mathematical Olympiad Treasures

This second edition of Mathematical Olympiad Treasures contains a stimulating collection of problems in geometry and trigonometry, algebra, number theory, and combinatorics. It encourages readers to think creatively about techniques and strategies for solving real-world problems, with new sections, revisions, and many more Olympiad-like problems at various levels of difficulty. The problems are clustered by topic into three self-contained chapters. [...]

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T. M. Apostol, California Institute of Technology Dept. Mathematics 253-37, Pasadena, CA, USA

Modular Functions and Dirichlet Series in Number Theory

This is the second volume of a 2-volume textbook* which evolved from a course (Mathematics 160) offered at the California Institute of Technology during the last 25 years. The second volume presupposes a background in number theory comparable to that provided in the first volume, together with a knowledge of the basic concepts of complex analysis. Most of the present volume is devoted to elliptic functions and modular functions with some of their number-theoretic applications. [...]

2nd ed. 1990. X, 207 p. (Graduate Texts in Mathematics, Volume 41) Hardcover
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Probability on Compact Lie Groups

Probability theory on compact Lie groups deals with the interaction between "chance" and "symmetry," a beautiful area of mathematics of great interest in its own sake but which is now also finding increasing applications in statistics and engineering (particularly with respect to signal processing). The author gives a comprehensive introduction to some of the principle areas of study, with an emphasis on applicability. [...]

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Bernoulli Numbers and Zeta Functions

Two major subjects are treated in this book. The main one is the theory of Bernoulli numbers and the other is the theory of zeta functions. Historically, Bernoulli numbers were introduced to give formulas for the sums of powers of consecutive integers. The real reason that they are indispensable for number theory, however, lies in the fact that special values of the Riemann zeta function can be written by using Bernoulli numbers. [...]

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L. Arnold

Random Dynamical Systems

Background and Scope of the Book This book continues, extends, and unites various developments in the intersection of probability theory and dynamical systems. I will briefly outline the background of the book, thus placing it in a systematic and historical context and tradition. [...]

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This book presents the basic tools of modern analysis within the context of what might be called the fundamental problem of operator theory: to calculate spectra of c operators on finite-dimensional spaces, especially operators on Hilbert spaces. The tools are diverse, and they provide the basis for more refined methods that allow one to approach problems that go well beyond the computation of spectra; the mathematical foundations of quantum physics, noncommutative K -theory, and the cation of sim- ? [...]

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K. Atkinson, University of Iowa Department of Mathematics &, Iowa City, IA, USA; **W. Han**, University of Iowa City, Iowa City, IA, USA

Spherical Harmonics and Approximations on the Unit Sphere: An Introduction

These notes provide an introduction to the theory of spherical harmonics in an arbitrary dimension as well as an overview of classical and recent results on some aspects of the approximation of functions by spherical polynomials and numerical integration over the unit sphere. [...]

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This book presents a forecasting mechanism of the price intervals for deriving the SCR (solvency capital requirement) eradicating the risk during the exercise period on one hand and measuring the risk by computing the hedging exit time function associating with smaller investments the date until which the value of the portfolio hedges the liabilities on the other. [...]

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Fourier Analysis and Nonlinear Partial Differential Equations

In recent years, the Fourier analysis methods have experienced a growing interest in the study of partial differential equations. In particular, those techniques based on the Littlewood-Paley decomposition have proved to be very efficient for the study of evolution equations. The present book aims at presenting self-contained, state-of-the-art models of those techniques with applications to different classes of partial differential equations: transport, heat, wave and Schrödinger equations. [...]

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Analysis and Geometry of Markov Diffusion Operators

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Probabilistic Diophantine Approximation

This book gives a comprehensive treatment of random phenomena and distribution results in diophantine approximation, with a particular emphasis on quadratic irrationals. It covers classical material on the subject as well as many new results developed by the author over the past decade. A range of ideas from other areas of mathematics are brought to bear with surprising connections to topics such as formulae for class numbers, special values of L-functions, and Dedekind sums. [...]

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Variational Methods in Nonlinear Field Equations

The book analyzes the existence of solitons, namely of finite energy solutions of field equations which exhibit stability properties. The book is divided in two parts. In the first part, the authors give an abstract definition of solitary wave and soliton and we develop an abstract existence theory for hylomorphic solitons, namely for those solitons which minimize the energy for a given charge. [...]

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Topology Optimization

"The art of structure is where to put the holes" Robert Le Ricolais, 1894-1977 This is a completely revised, updated and expanded version of the book titled "Optimization of Structural Topology, Shape and Material" (Bends0e 1995). The field has since then developed rapidly with many new contributions to theory, computational methods and applications. This has that a simple editing of Bends0e (1995) had to be superseded by what meant is to a large extent a completely new book, now by two authors. [...]

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Large-Scale Networks in Engineering and Life Sciences

This edited volume provides insights into and tools for the modeling, analysis, optimization, and control of large-scale networks in the life sciences and in engineering. [...]

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Mean Field Games and Mean Field Type Control Theory

Mean field games and Mean field type control introduce new problems in Control Theory. The terminology "games" may be confusing. In fact they are control problems, in the sense that one is interested in a single decision maker, whom we can call the representative agent. [...]

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Pi: A Source Book

This book documents the history of pi from the dawn of mathematical time to the present. One of the beauties of the literature on pi is that it allows for the inclusion of very modern, yet accessible, mathematics. The articles on pi collected herein include selections from the mathematical and computational literature over four millennia, a variety of historical studies on the cultural significance of the number, and an assortment of anecdotal, fanciful, and simply amusing pieces. [...]

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R. A. Berk, University of Pennsylvania School of Arts & Sciences, Philadelphia, PA, USA

Statistical Learning from a Regression Perspective

Statistical Learning from a Regression Perspective considers statistical learning applications when interest centers on the conditional distribution of the response variable, given a set of predictors, and when it is important to characterize how the predictors are related to the response. As a first approximation, this can be seen as an extension of nonparametric regression. Among the statistical learning procedures examined are bagging, random forests, boosting, and support vector machines. Response variables may be quantitative or categorical. [...]

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A. Bermúdez de Castro, Universidade de Santiago de Compostela, Santiago de Compostela, Spain; **D. Gomez**, Universidade de Santiago de Compostela, Santiago de Compostela, Spain; **P. Salgado**, Universidade de Santiago de Compostela, City, Spain

Mathematical Models and Numerical Simulation in Electromagnetism

The book represents a basic support for a master course in electromagnetism oriented to numerical simulation. The main goal of the book is that the reader knows the boundary-value problems of partial differential equations that should be solved in order to perform computer simulation of electromagnetic processes. Moreover it includes a part devoted to electric circuit theory based on ordinary differential equations. [...]

2014. XVII, 432 p. (UNITEXT, Volume 74) Softcover

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R. Bhatia

Matrix Analysis

A good part of matrix theory is functional analytic in spirit. This statement can be turned around. There are many problems in operator theory, where most of the complexities and subtleties are present in the finite-dimensional case. My purpose in writing this book is to present a systematic treatment of methods that are useful in the study of such problems. This book is intended for use as a text for upper division and graduate courses. [...]

1997. XI, 349 p. (Graduate Texts in Mathematics, Volume 169) Hardcover

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P. J. Bickel; C. A.J. Klaassen;
Y. Ritov; J. A. Wellner

Efficient and Adaptive Estimation for Semiparametric Models

This book is about estimation in situations where we believe we have enough knowledge to model some features of the data parametrically, but are unwilling to assume anything for other features. Such models have arisen in a wide variety of contexts in recent years, particularly in economics, epidemiology, and astronomy. The complicated structure of these models typically requires us to consider nonlinear estimation procedures which often can only be implemented algorithmically. The theory of these procedures is necessarily based on asymptotic approximations.

1998. XXI, 588 p. Softcover

€ (D) 112,34 | € (A) 115,49 | *CHF 137,50
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€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-0-387-98473-5



9 780387 984735

Y. F. Bilu, University of Bordeaux and CNRS, Talence, France; **Y. Bugeaud**, University of Strasbourg and CNRS, Strasbourg, France; **M. Mignotte**, University of Strasbourg and CNRS, Strasbourg, France

The Problem of Catalan

In 1842 the Belgian mathematician Eugène Charles Catalan asked whether 8 and 9 are the only consecutive pure powers of non-zero integers. 160 years after, the question was answered affirmatively by the Swiss mathematician of Romanian origin Preda Mihăilescu. In other words, $32 - 23 = 1$ is the only solution of the equation $x^p - y^q = 1$ in integers x, y, p, q with $xy \neq 0$ and $p, q \geq 2$. In this book we give a complete and (almost) self-contained exposition of Mihăilescu's work, which must be understandable by a curious university student, not necessarily specializing in Number Theory. [...]

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J. R. Birge, University of Chicago, Chicago, IL, USA; **F. Louveaux**, University of Namur, Namur, Belgium

Introduction to Stochastic Programming

The aim of stochastic programming is to find optimal decisions in problems which involve uncertain data. This field is currently developing rapidly with contributions from many disciplines including operations research, mathematics, and probability. At the same time, it is now being applied in a wide variety of subjects ranging from agriculture to financial planning and from industrial engineering to computer networks. This textbook provides a first course in stochastic programming suitable for students with a basic knowledge of linear programming, elementary analysis, and probability. [...]

2nd ed. 2011. XXV, 485 p. 44 illus. (Springer Series in Operations Research and Financial Engineering) Hardcover

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€ 59,95 | £ 53,99

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

978-1-4614-0236-7



9 781461 402367

C. Birkenhake, Universität Erlangen-Nürnberg Mathematisches Institut, Erlangen, Germany; **H. Lange**, Universität Erlangen-Nürnberg Mathematisches Institut, Erlangen, Germany

Complex Abelian Varieties

2nd ed. 2004. XI, 638 p. (Grundlehren der mathematischen Wissenschaften, Volume 302) Hardcover

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978-3-540-20488-6



9 783540 204886

B. Blackadar, University of Nevada, Reno Department of Mathematics, Reno, NV, USA

Operator Algebras

This volume attempts to give a comprehensive discussion of the theory of operator algebras (C^* -algebras and von Neumann algebras.) The volume is intended to serve two purposes: to record the standard theory in the Encyclopaedia of Mathematics, and to serve as an introduction and standard reference for the specialized volumes in the series on current research topics in the subject. Since there are already numerous excellent treatises on various aspects of operator algebras, how does it differ from the other books in the subject? [...]

2006. XX, 528 p. (Encyclopaedia of Mathematical Sciences, Volume 122) Hardcover

€ (D) 160,49 | € (A) 164,99 | *CHF 169,00
€ 149,99 | £ 135,00

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€ (D) 80,24 | € (A) 82,49 | *CHF 82.50
€ 74,99 | £ 55,99

978-3-540-28486-4



9 783540 284864

T. Bodnár, Czech Technical University in Prague, Prague, Czech Republic; **G. P. Galdi**, University of Pittsburgh, Pittsburgh, PA, USA; **Š. Nečasová**, Academy of Sciences of the Czech Republic, Prague 1, Czech Republic (Eds)

Fluid-Structure Interaction and Biomedical Applications

This book presents, in a methodical way, updated and comprehensive descriptions and analyses of some of the most relevant problems in the context of fluid-structure interaction (FSI). Generally speaking, FSI is among the most popular and intriguing problems in applied sciences and includes industrial as well as biological applications. Various fundamental aspects of FSI are addressed from different perspectives, with a focus on biomedical applications. [...]

2014. XIV, 569 p. 101 illus., 54 illus. in color. (Advances in Mathematical Fluid Mechanics) Hardcover

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€ 61,99 | £ 46,99

978-3-0348-0821-7



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J. Bonnans; A. Shapiro

Perturbation Analysis of Optimization Problems

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2000. XVIII, 601 p. (Springer Series in Operations Research and Financial Engineering) Hardcover

€ (D) 181,89 | € (A) 186,99 | *CHF 191.50
€ 169,99 | £ 153,00

Yellow Sale Price

€ (D) 90,95 | € (A) 93,50 | *CHF 93.50
€ 85,00 | £ 63,99

978-0-387-98705-7



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J. Bonnans; A. Shapiro

Perturbation Analysis of Optimization Problems

The main subject of this book is perturbation analysis of continuous optimization problems. In the last two decades considerable progress has been made in that area, and it seems that it is time now to present a synthetic view of many important results that apply to various classes of problems. The model problem that is considered throughout the book is of the form $(P) \min_{x \in X} G(x)$ where X and Y are Banach spaces, K is a closed convex subset of Y , and $f: X \rightarrow \mathbb{R}$ and $G: X \rightarrow Y$ are called the objective function and the constraint mapping, respectively. [...]

2000. XVIII, 601 p. (Springer Series in Operations Research and Financial Engineering) Softcover

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978-1-4612-7129-1



9 781461 271291

A. Borel, Princeton University Inst. Advanced Study, Princeton, NJ, USA

Linear Algebraic Groups

This book is a revised and enlarged edition of "Linear Algebraic Groups", published by W.A. Benjamin in 1969. The text of the first edition has been corrected and revised. Accordingly, this book presents foundational material on algebraic groups, Lie algebras, transformation spaces, and quotient spaces. After establishing these basic topics, the text then turns to solvable groups, general properties of linear algebraic groups and Chevalley's structure theory of reductive groups over algebraically closed groundfields. [...]

2nd ed. 1991. XI, 290 p. (Graduate Texts in Mathematics, Volume 126) Hardcover

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€ 55,95 | £ 50,99

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€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-0-387-97370-8



9 780387 973708

A. N. Borodin; P. Salminen, Swedish University Abo Dept. Mathematics, Turku, Finland

Handbook of Brownian Motion - Facts and Formulae

There are two parts in this book. The first part is devoted mainly to the properties of linear diffusions in general and Brownian motion in particular. The second part consists of tables of distributions of functionals of Brownian motion and related processes. The primary aim of this book is to give an easy reference to a large number of facts and formulae associated to Brownian motion. We have tried to do this in a "handbook-style". By this we mean that results are given without proofs but are equipped with a reference where a proof or a derivation can be found. [...]

2nd ed. 2002. XVI, 685 p. (Probability and Its Applications) Hardcover

€ (D) 203,29 | € (A) 208,99 | *CHF 214.00
€ 189,99 | £ 171,00

Yellow Sale Price

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A. N. Borodin; P. Salminen, Swedish University Abo Dept. Mathematics, Turku, Finland

Handbook of Brownian Motion - Facts and Formulae

There are two parts in this book. The first part is devoted mainly to the properties of linear diffusions in general and Brownian motion in particular. The second part consists of tables of distributions of functionals of Brownian motion and related processes. The primary aim of this book is to give an easy reference to a large number of facts and formulae associated to Brownian motion. We have tried to do this in a "handbook-style". By this we mean that results are given without proofs but are equipped with a reference where a proof or a derivation can be found. [...]

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Convex Analysis and Nonlinear Optimization

Optimization is a rich and thriving mathematical discipline. The theory underlying current computational optimization techniques grows ever more sophisticated. The powerful and elegant language of convex analysis unifies much of this theory. The aim of this book is to provide a concise, accessible account of convex analysis and its applications and extensions, for a broad audience. It can serve as a teaching text, at roughly the level of first year graduate students. While the main body of the text is self-contained, each section concludes with an often extensive set of optional exercises. [...]

2nd ed. 2006. XII, 310 p. (CMS Books in Mathematics) Hardcover

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P. Borwein, Simon Fraser University Ctr Experimental & Constructive Math., Burnaby, BC, Canada; **S. Choi**, Simon Fraser University Ctr Experimental & Constructive Math., Burnaby, BC, Canada; **B. Rooney**, Burnaby, BC, Canada; **A. Weirathmueller**, Fredericton, NB, Canada (Eds)

The Riemann Hypothesis

2008. XIV, 533 p. (CMS Books in Mathematics) Hardcover

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978-0-387-72125-5



F. Botelho, Federal University of Pelotas, Pelotas, Brazil

Functional Analysis and Applied Optimization in Banach Spaces

This book introduces the basic concepts of real and functional analysis. It presents the fundamentals of the calculus of variations, convex analysis, duality, and optimization that are necessary to develop applications to physics and engineering problems. The book includes introductory and advanced concepts in measure and integration, as well as an introduction to Sobolev spaces. The problems presented are nonlinear, with non-convex variational formulation. [...]

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Yellow Sale Price

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

Theory of Sets

2004. VIII, 414 p. (Elements of Mathematics) Softcover

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F. Boyer, Centre de Mathematiques et Informatique, MARSEILLE, France; **P. Fabrie**, ENSEIRB-MATMECA, Institut Polytechnique, Talence, France

Mathematical Tools for the Study of the Incompressible Navier-Stokes Equations and Related Models

The objective of this self-contained book is two-fold. First, the reader is introduced to the modelling and mathematical analysis used in fluid mechanics, especially concerning the Navier-Stokes equations which is the basic model for the flow of incompressible viscous fluids. [...]

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€ (D) 139,09 | € (A) 142,99 | *CHF 149.50
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Sheaf Theory

This book is primarily concerned with the study of cohomology theories of general topological spaces with "general coefficient systems." Sheaves play several roles in this study. For example, they provide a suitable notion of "general coefficient systems." Moreover, they furnish us with a common method of defining various cohomology theories and of comparison between different cohomology theories. The parts of the theory of sheaves covered here are those areas important to algebraic topology. [...]

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€ 66,99 | £ 60,99

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€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
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978-0-387-94905-5



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G. E. Bredon

Topology and Geometry

The golden age of mathematics—that was not the age of Euclid, it is ours. C. J. KEYSER This time of writing is the hundredth anniversary of the publication (1892) of Poincaré's first note on topology, which arguably marks the beginning of the subject of algebraic, or "combinatorial," topology. There was earlier scattered work by Euler, Listing (who coined the word "topology"), Möbius and his band, Riemann, Klein, and Betti. Indeed, even as early as 1679, Leibniz indicated the desirability of creating a geometry of the topological type. [...]

2002. XXIII, 131 p. (Graduate Texts in Mathematics, Volume 139) Hardcover

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€ 59,95 | £ 53,99

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978-0-387-97926-7



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P. Brémaud, Inria, Paris, France

Fourier Analysis and Stochastic Processes

This work is unique as it provides a uniform treatment of the Fourier theories of functions (Fourier transforms and series, z-transforms), finite measures (characteristic functions, convergence in distribution), and stochastic processes (including arma series and point processes). It emphasises the links between these three themes. The chapter on the Fourier theory of point processes and signals structured by point processes is a novel addition to the literature on Fourier analysis of stochastic processes. [...]

2014. XIII, 385 p. 2 illus. (Universitext) Softcover

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€ 33,99 | £ 25,99

978-3-319-09589-9



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P. Bremaud

Markov Chains

In this book, the author begins with the elementary theory of Markov chains and very progressively brings the reader to the more advanced topics. He gives a useful review of probability that makes the book self-contained, and provides an appendix with detailed proofs of all the prerequisites from calculus, algebra, and number theory. A number of carefully chosen problems of varying difficulty are proposed at the close of each chapter, and the mathematics are slowly and carefully developed, in order to make self-study easier. [...]

1999. XVIII, 445 p. 3 illus. (Texts in Applied Mathematics, Volume 31) Hardcover

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978-0-387-98509-1



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M. Brešar, University of Ljubljana, Ljubljana, Slovenia

Introduction to Noncommutative Algebra

Providing an elementary introduction to noncommutative rings and algebras, this textbook begins with the classical theory of finite dimensional algebras. Only after this, modules, vector spaces over division rings, and tensor products are introduced and studied. This is followed by Jacobson's structure theory of rings. The final chapters treat free algebras, polynomial identities, and rings of quotients. Many of the results are not presented in their full generality. [...]

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978-3-319-08692-7



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P. C. Bressloff, University of Utah, Salt Lake City, UT, USA

Waves in Neural Media

Waves in Neural Media: From Single Neurons to Neural Fields surveys mathematical models of traveling waves in the brain, ranging from intracellular waves in single neurons to waves of activity in large-scale brain networks. The work provides a pedagogical account of analytical methods for finding traveling wave solutions of the variety of nonlinear differential equations that arise in such models. These include regular and singular perturbation methods, weakly nonlinear analysis, Evans functions and wave stability, homogenization theory and averaging, and stochastic processes. [...]

2014. XIX, 436 p. 151 illus., 18 illus. in color. (Lecture Notes on Mathematical Modelling in the Life Sciences) Softcover

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9 781461 488651

M. R. Bridson, University of Oxford Mathematical Institute, Oxford, UK; **A. Häflicher**, Université de Genève Section Mathématiques, Genève 24, Switzerland

Metric Spaces of Non-Positive Curvature

The purpose of this book is to describe the global properties of complete simply connected spaces that are non-positively curved in the sense of A. D. Alexandrov and to examine the structure of groups that act properly on such spaces by isometries. Thus the central objects of study are metric spaces in which every pair of points can be joined by an arc isometric to a compact interval of the real line and in which every triangle satisfies the CAT(O) inequality. [...]

1999. XXI, 643 p. (Grundlehren der mathematischen Wissenschaften, Volume 319) Hardcover

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E. Brieskorn, Eitorf, Germany; **H. Knörrer**, ETH Zürich, Zürich, Switzerland; **J. Stillwell**, University of San Francisco, San Francisco, CA, USA

Plane Algebraic Curves

In a detailed and comprehensive introduction to the theory of plane algebraic curves, the authors examine this classical area of mathematics that both figured prominently in ancient Greek studies and remains a source of inspiration and a topic of research to this day. Arising from notes for a course given at the University of Bonn in Germany, "Plane Algebraic Curves" reflects the authors' concern for the student audience through its emphasis on motivation, development of imagination, and understanding of basic ideas. As classical objects, curves may be viewed from many angles. [...]

2012. X, 721 p. 301 illus. (Modern Birkhäuser Classics) Softcover

€ (D) 85,55 | € (A) 87,95 | *CHF 106.50
€ 79,95 | £ 72,00

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€ 39,99 | £ 29,99

978-3-0348-0492-9



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R. F. Brown, Santa Monica, CA, USA

A Topological Introduction to Nonlinear Analysis

This third edition is addressed to the mathematician or graduate student of mathematics - or even the well-prepared undergraduate - who would like, with a minimum of background and preparation, to understand some of the beautiful results at the heart of nonlinear analysis. Based on carefully-expounded ideas from several branches of topology, and illustrated by a wealth of figures that attest to the geometric nature of the exposition, the book will be of immense help in providing its readers with an understanding of the mathematics of the nonlinear phenomena that characterize our real world. [...]

3rd ed. 2014. X, 240 p. 42 illus. Softcover

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€ 49,99 | £ 44,99

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978-3-319-11793-5



9 783319 117935

B. van Brunt, Massey University Dept. Mathematics, Palmerston North, New Zealand

The Calculus of Variations

The calculus of variations has a long history of interaction with other branches of mathematics such as geometry and differential equations, and with physics, particularly mechanics. More recently, the calculus of variations has found use in economics and electrical engineering. Much of the mathematics underlying control theory, for instance, can be regarded as part of the calculus of variations. This book is an introduction to the calculus of variations for mathematicians and scientists. The reader interested primarily in mathematics will find results of interest in geometry and [...]

2004. XIV, 292 p. (Universitext) Hardcover

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978-0-387-40247-5



9 780387 402475

F. Buekenhout, Université Libre de Bruxelles Dépt. Mathématique, Bruxelles, Belgium; **A. M. Cohen**, Eindhoven University of Technology Dept. Mathematics & Computer Science, Eindhoven, Netherlands

Diagram Geometry

This book provides a self-contained introduction to diagram geometry. Tight connections with group theory are shown. It treats thin geometries (related to Coxeter groups) and thick buildings from a diagrammatic perspective. Projective and affine geometry are main examples. [...]

2013. XIV, 594 p. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 57) Hardcover

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€ 109,95 | £ 99,00

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€ 55,99 | £ 41,99

978-3-642-34452-7



9 783642 344527

L. Bunimovich, Georgia Institute of Technology, Atlanta, USA; **B. Webb**, Brigham Young University, Provo, UT, USA

Isospectral Transformations

This book presents a new approach to the analysis of networks, which emphasizes how one can compress a network while preserving all information relative to the network's spectrum. Besides these compression techniques, the authors introduce a number of other isospectral transformations and demonstrate how, together, these methods can be applied to gain new results in a number of areas. This includes the stability of time-delayed and non time-delayed dynamical networks, eigenvalue estimation, pseudospectra analysis and the estimation of survival probabilities in open dynamical systems. [...]

2014. XVI, 175 p. 51 illus., 29 illus. in color. (Springer Monographs in Mathematics) Hardcover

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€ 84,99 | £ 76,50

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€ (D) 51,35 | € (A) 52,79 | *CHF 53.00
€ 47,99 | £ 35,99

978-1-4939-1374-9



F. Cakoni, University of Delaware, Newark, DE, USA; **D. Colton**, University of Delaware, Newark, DE, USA

A Qualitative Approach to Inverse Scattering Theory

Inverse scattering theory is an important area of applied mathematics due to its central role in such areas as medical imaging, nondestructive testing and geophysical exploration. Until recently all existing algorithms for solving inverse scattering problems were based on using either a weak scattering assumption or on the use of nonlinear optimization techniques. [...]

2014. X, 297 p. 15 illus. (Applied Mathematical Sciences, Volume 188) Hardcover

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

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€ 52,99 | £ 39,99

978-1-4614-8826-2



O. Calin, Eastern Michigan University, Ypsilanti, MI, USA; **C. Udriște**, University Politehnica of Bucharest, Bucharest, Romania

Geometric Modeling in Probability and Statistics

This book covers topics of Informational Geometry, a field which deals with the differential geometric study of the manifold probability density functions. This is a field that is increasingly attracting the interest of researchers from many different areas of science, including mathematics, statistics, geometry, computer science, signal processing, physics and neuroscience. It is the authors' hope that the present book will be a valuable reference for researchers and graduate students in one of the aforementioned fields. [...]

2014. XXIII, 375 p. 22 illus., 3 illus. in color. With online files/update. Hardcover

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

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-3-319-07778-9



J. J. Callahan, Smith College, Northampton, MA, USA

Advanced Calculus

A half-century ago, advanced calculus was a ned subject at the core of the undergraduate mathematics curriculum. The classic texts of Taylor [19], Buck [1], Widder [21], and Kaplan [9], for example, show some of the ways it was approached. Over time, certain aspects of the course came to be seen as more cant—those seen as giving a rigorous foundation to calculus—and they - came the basis for a new course, an introduction to real analysis, that eventually supplanted advanced calculus in the core. [...]

2010. XVI, 526 p. (Undergraduate Texts in Mathematics) Hardcover

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M. Capinski; T. J. Zastawniak, University of York Department of Mathematics, Heslington, York, UK

Probability Through Problems

This book of problems has been designed to accompany an undergraduate course in probability. It will also be useful for students with interest in probability who wish to study on their own. The only prerequisite is basic algebra and calculus. This includes some elementary experience in set theory, sequences and series, functions of one variable, and their derivatives. Familiarity with integrals would be a bonus. A brief survey of terminology and notation in set theory and calculus is provided. Each chapter is divided into three parts: Problems, Hints, and Solutions. [...]

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978-0-387-95063-1



M. Capinski; T. J. Zastawniak, University of York Department of Mathematics, Heslington, York, UK

Probability Through Problems

This book of problems has been designed to accompany an undergraduate course in probability. It will also be useful for students with interest in probability who wish to study on their own. The only prerequisite is basic algebra and calculus. This includes some elementary experience in set theory, sequences and series, functions of one variable, and their derivatives. Familiarity with integrals would be a bonus. A brief survey of terminology and notation in set theory and calculus is provided. Each chapter is divided into three parts: Problems, Hints, and Solutions. [...]

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Transportation Systems Analysis

Science is made of facts just as a house is made of bricks, but a collection of facts is no more science than a pile of bricks is a house. Henri Poincaré Theaimofthedisciplinesofpraxisisnottheoreticalknowledge. . Itistochange the forms of action. . Aristotle Transportation systems consist not only of the physical and organizational e- ments that interact with each other to produce transportation opportunities, but also of the demand that takes advantage of such opportunities to travel from one place to another. [...]

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S. Chatterjee, Stanford University, Stanford,
CA, USA

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A certain curious feature of random objects, introduced by the author as "super concentration," and two related topics, "chaos" and "multiple valleys," are highlighted in this book. Although super concentration has established itself as a recognized feature in a number of areas of probability theory in the last twenty years (under a variety of names), the author was the first to discover and explore its connections with chaos and multiple valleys. He achieves a substantial degree of simplification and clarity in the presentation of these findings by using the spectral approach. [...]

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9 783319 038858

W. Cheney

Analysis for Applied Mathematics

This book evolved from a course at our university for beginning graduate students in mathematics-particularly students who intended to specialize in applied mathematics. The content of the course made it attractive to other mathematics students and to graduate students from other disciplines such as engineering, physics, and computer science. Since the course was designed for two semesters duration, many topics could be included and dealt with in detail. Chapters 1 through 6 reflect roughly the actual nature of the course, as it was taught over a number of years. [...]

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Real Analysis on Intervals

The book targets undergraduate and postgraduate mathematics students and helps them develop a deep understanding of mathematical analysis. Designed as a first course in real analysis, it helps students learn how abstract mathematical analysis solves mathematical problems that relate to the real world. As well as providing a valuable source of inspiration for contemporary research in mathematics, the book helps students read, understand and construct mathematical proofs, develop their problem-solving abilities and comprehend the importance and frontiers of computer facilities and much more. [...]

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K. L. Chung; F. AitSahlia,

Elementary Probability Theory

In this edition two new chapters, 9 and 10, on mathematical finance are added. They are written by Dr. Farid AitSahlia, ancien eleve, who has taught such a course and worked on the research staff of several industrial and financial institutions. The new text begins with a meticulous account of the uncommon vocabulary and syntax of the financial world; its manifold options and actions, with consequent expectations and variations, in the marketplace. These are then expounded in clear, precise mathematical terms and treated by the methods of probability developed in the earlier chapters. [...]

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E. Çinlar, Princeton University Dept. Operations Research &, Princeton, NJ, USA

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This text is an introduction to the modern theory and applications of probability and stochastics. The style and coverage is geared towards the theory of stochastic processes, but with some attention to the applications. In many instances the gist of the problem is introduced in practical, everyday language and then is made precise in mathematical form. The first four chapters are on probability theory: measure and integration, probability spaces, conditional expectations, and the classical limit theorems. [...]

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A Course in Computational Algebraic Number Theory

With the advent of powerful computing tools and numerous advances in mathematics, computer science and cryptography, algorithmic number theory has become an important subject in its own right. Both external and internal pressures gave a powerful impetus to the development of more powerful algorithms. These in turn led to a large number of spectacular breakthroughs. [...]

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Mathematical Cardiac Electrophysiology

This book covers the main mathematical and numerical models in computational electrocardiology, ranging from microscopic membrane models of cardiac ionic channels to macroscopic bidomain, monodomain, eikonal models and cardiac source representations. These advanced multiscale and nonlinear models describe the cardiac bioelectrical activity from the cell level to the body surface and are employed in both the direct and inverse problems of electrocardiology. [...]

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Integer Programming

This book is an elegant and rigorous presentation of integer programming, exposing the subject's mathematical depth and broad applicability. Special attention is given to the theory behind the algorithms used in state-of-the-art solvers. An abundance of concrete examples and exercises of both theoretical and real-world interest explore the wide range of applications and ramifications of the theory. Each chapter is accompanied by an expertly informed guide to the literature and special topics, rounding out the reader's understanding and serving as a gateway to deeper study. [...]

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Sphere Packings, Lattices and Groups

We now apply the algorithm above to find the 121 orbits of norm -2 vectors from the (known) nann 0 vectors, and then apply it again to find the 665 orbits of nann -4 vectors from the vectors of nann 0 and -2. The neighbors of a strictly 24 dimensional odd unimodular lattice can be found as follows. If a norm -4 vector $v \in E_{II}$ corresponds to the sum 25 1 of a strictly 24 dimensional odd unimodular lattice A and a [...]

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J. B. Conway, Conway, USA

A Course in Functional Analysis

Functional analysis has become a sufficiently large area of mathematics that it is possible to find two research mathematicians, both of whom call themselves functional analysts, who have great difficulty understanding the work of the other. The common thread is the existence of a linear space with a topology or two (or more). Here the paths diverge in the choice of how that topology is defined and in whether to study the geometry of the linear space, or the linear operators on the space, or both. In this book I have tried to follow the common thread rather than any special topic. [...]

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G. Cornell, APress, Inc., Berkeley, CA, USA; **J. H. Silverman**, Brown University Department of Mathematics, Providence, RI, USA; **G. Stevens**, (Eds)

Modular Forms and Fermat's Last Theorem

This volume contains expanded versions of lectures given at an instructional conference on number theory and arithmetic geometry held August 9 through 18, 1995 at Boston University. Contributor's include The purpose of the conference, and of this book, is to introduce and explain the many ideas and techniques used by Wiles in his proof that every (semi-stable) elliptic curve over \mathbb{Q} is modular, and to explain how Wiles' result can be combined with Ribet's theorem and ideas of Frey and Serre to show, at long last, that Fermat's Last Theorem is true. [...]

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C. Costara, Ovidius University Dept. Mathematics, Constanta, Romania; **D. Popa**, Ovidius University of Constanta Dept. Mathematics, Constanta, Romania

Exercises in Functional Analysis

The understanding of results and notions for a student in mathematics requires solving exercises. The exercises are also meant to test the reader's understanding of the text material, and to enhance the skill in doing calculations. This book is written with these three things in mind. It is a collection of more than 450 exercises in Functional Analysis, meant to help a student understand much better the basic facts which are usually presented in an introductory course in Functional Analysis. [...]

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Using Algebraic Geometry

In recent years, the discovery of new algorithms for dealing with polynomial equations, coupled with their implementation on fast inexpensive computers, has sparked a minor revolution in the study and practice of algebraic geometry. These algorithmic methods have also given rise to some exciting new applications of algebraic geometry. This book illustrates the many uses of algebraic geometry, highlighting some of the more recent applications of Gröbner bases and resultants. [...]

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Direct Methods in the Calculus of Variations

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9 783319 081588

A. DasGupta, Purdue University Dept. Statistics & Mathematics, West Lafayette, IN, USA

Asymptotic Theory of Statistics and Probability

This book developed out of my year-long course on asymptotic theory at Purdue University. To some extent, the topics coincide with what I cover in that course. There are already a number of well-known books on asymptotics. This book is quite different. It covers more topics in one source than are available in any other single book on asymptotic theory. Numerous topics covered in this book are available in the literature in a scattered manner, and they are brought together under one umbrella in this book. Asymptotic theory is a central unifying theme in probability and statistics. [...]

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H.L. Montgomery; H. Davenport,

Multiplicative Number Theory

This book thoroughly examines the distribution of prime numbers in arithmetic progressions. It covers many classical results, including the Dirichlet theorem on the existence of prime numbers in arithmetical progressions, the theorem of Siegel, and functional equations of the L-functions and their consequences for the distribution of prime numbers. In addition, a simplified, improved version of the large sieve method is presented. The 3rd edition includes a large number of revisions and corrections as well as a new section with references to more recent work in the field.

3rd ed. 2000. XIV, 182 p. (Graduate Texts in Mathematics, Volume 74) Hardcover

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J. De Loera, University of California, Davis Dept. Mathematics, Davis, CA, USA; **J. Rambau**, Universität Bayreuth LS für Wirtschaftsmathematik, Bayreuth, Germany; **F. Santos**, Universidad de Cantabria, Santander, Spain

Triangulations

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978-3-642-12970-4



9 783642 129704

A. M. Dean; D. Voss, Wright State University Dept. Mathematics & Statistics, Dayton, OH, USA

Design and Analysis of Experiments

Our initial motivation for writing this book was the observation from various students that the subject of design and analysis of experiments can seem like "a bunch of miscellaneous topics. cationoftheob- jectivesoftheexperimentandthepractical considerations governing the design form the heart of the subject matter and serve as the link between the various analytical techniques. We also believe that learning about design and analysis of experiments is best achieved by the planning, running, and analyzing of a simple experiment. [...]

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9 780387 985619

P. Del Moral, Universite de Nice Sophia-Antipolis Dept. Mathématiques, Nice CX 02, France

Feynman-Kac Formulae

The central theme of this book concerns Feynman-Kac path distributions, interacting particle systems, and genealogical tree based models. This recent theory has been stimulated from different directions including biology, physics, probability, and statistics, as well as from many branches in engineering science, such as signal processing, telecommunications, and network analysis. Over the last decade, this subject has matured in ways that make it more complete and beautiful to learn and to use. [...]

2004. XVIII, 556 p. 6 illus. (Probability and Its Applications) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 141.50
€ 129,99 | £ 113,00

Yellow Sale Price

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

978-0-387-20268-6



9 780387 202686

K. Devlin

The Joy of Sets

This book provides an account of those parts of contemporary set theory of direct relevance to other areas of pure mathematics. The intended reader is either an advanced-level mathematics undergraduate, a beginning graduate student in mathematics, or an accomplished mathematician who desires or needs some familiarity with modern set theory. The book is written in a fairly easy-going style, with minimal formalism. In Chapter 1, the basic principles of set theory are developed in a 'naive' manner. [...]

2nd ed. 1993. X, 194 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 59,87 | € (A) 61,55 | *CHF 86.50
€ 55,95 | £ 50,99

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-0-387-94094-6



L. Devroye; L. Györfi; G. Lugosi, Universitat Pompeu Fabra Depto. Economía y Empresa, Barcelona, Spain

A Probabilistic Theory of Pattern Recognition

Pattern recognition presents one of the most significant challenges for scientists and engineers, and many different approaches have been proposed. The aim of this book is to provide a self-contained account of probabilistic analysis of these approaches. The book includes a discussion of distance measures, nonparametric methods based on kernels or nearest neighbors, Vapnik-Chervonenkis theory, epsilon entropy, parametric classification, error estimation, free classifiers, and neural networks. Wherever possible, distribution-free properties and inequalities are derived. [...]

1996. XV, 638 p. (Stochastic Modelling and Applied Probability, Volume 31) Hardcover

€ (D) 98,39 | € (A) 101,15 | *CHF 143.00
€ 91,95 | £ 82,50

Yellow Sale Price

€ (D) 49,21 | € (A) 50,59 | *CHF 50.50
€ 45,99 | £ 34,99

978-0-387-94618-4



M. M. Deza, Ecole Normale Supérieure, Paris CX 05, France; E. Deza, Moscow State Pedagogical University, Moskva, Russia

Encyclopedia of Distances

This updated and revised third edition of the leading reference volume on distance metrics includes new items from very active research areas in the use of distances and metrics such as geometry, graph theory, probability theory and analysis. Among the new topics included are, for example, polyhedral metric space, nearness matrix problems, distances between belief assignments, distance-related animal settings, diamond-cutting distances, natural units of length, Heidegger's de-severance distance, and brain distances. [...]

3rd ed. 2014. XX, 733 p. 3 illus. Hardcover

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

Yellow Sale Price

€ (D) 66,33 | € (A) 68,19 | *CHF 68.50
€ 61,99 | £ 46,99

978-3-662-44341-5



F. Diamond, King's College London Dept. Mathematics, London, UK; J. Shurman, Reed College Dept. Mathematics, Portland, OR, USA

A First Course in Modular Forms

2005. XVI, 436 p. 29 illus. (Graduate Texts in Mathematics, Volume 228) 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

978-0-387-23229-4



D. A. Di Pietro, IFP Energies nouvelles, Rueil-Malmaison, France; A. Ern, Université Paris Est, Marne la Vallée cedex 2, France

Mathematical Aspects of Discontinuous Galerkin Methods

This book introduces the basic ideas to build discontinuous Galerkin methods and, at the same time, incorporates several recent mathematical developments. The presentation is to a large extent self-contained and is intended for graduate students and researchers in numerical analysis. The material covers a wide range of model problems, both steady and unsteady, elaborating from advection-reaction and diffusion problems up to the Navier-Stokes equations and Friedrichs' systems. [...]

2012. XVII, 384 p. 34 illus. (Mathématiques et Applications, Volume 69) Softcover

€ (D) 96,25 | € (A) 98,95 | *CHF 120.00
€ 89,95 | £ 81,00

Yellow Sale Price

€ (D) 48,14 | € (A) 49,49 | *CHF 49.50
€ 44,99 | £ 33,99

978-3-642-22979-4



J. Dieudonné, Paris, France

A History of Algebraic and Differential Topology, 1900 - 1960

2009. XXII, 648 p. (Modern Birkhäuser Classics) Softcover

€ (D) 85,59 | € (A) 87,99 | *CHF 91.00
€ 79,99 | £ 73,00

Yellow Sale Price

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

978-0-8176-4906-7



D. Djukić, University of Toronto, Toronto, ON, Canada; **V. Janković**, University of Belgrade, Belgrade, Serbia; **I. Matić**, Duke University, Durham, NC, USA; **N. Petrović**, Texas A&M University, Doha, Qatar

The IMO Compendium

"The IMO Compendium" is the ultimate collection of challenging high-school-level mathematics problems and is an invaluable resource not only for high-school students preparing for mathematics competitions, but for anyone who loves and appreciates mathematics. The International Mathematical Olympiad (IMO), nearing its 50th anniversary, has become the most popular and prestigious competition for high-school students interested in mathematics. Only six students from each participating country are given the honor of participating in this competition every year. [...]

2nd ed. 2011. XIV, 809 p. (Problem Books in Mathematics) Hardcover

€ (D) 85,59 | € (A) 87,99 | *CHF 107.50
€ 79,99 | £ 73,00

Yellow Sale Price

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

978-1-4419-9853-8



C. Donati-Martin, Université de Versailles-St-Quentin Laboratoire de Mathématiques, Versailles, France; **A. Lejay**, Nancy-Université, Vandoeuvre-lès-Nancy, France; **A. Rouault**, Université de Versailles-St-Quentin, Versailles, France (Eds)

Séminaire de Probabilités XLVI

Providing a broad overview of the current state of the art in probability theory and its applications, and featuring an article coauthored by Mark Yor, this volume contains contributions on branching processes, Lévy processes, random walks and martingales and their connection with, among other topics, rough paths, semi-groups, heat kernel asymptotics and mathematical finance.

2014. VIII, 512 p. (Lecture Notes in Mathematics, Volume 2123) Softcover

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

Yellow Sale Price

€ (D) 41,72 | € (A) 42,89 | *CHF 43.00
€ 38,99 | £ 28,99

978-3-319-11969-4



A. L. Dontchev, Mathematical Reviews, Ann Arbor, MI, USA; **R. T. Rockafellar**, University of Washington, Seattle, WA, USA

Implicit Functions and Solution Mappings

The implicit function theorem is one of the most important theorems in analysis and its many variants are basic tools in partial differential equations and numerical analysis. This second edition of *Implicit Functions and Solution Mappings* presents an updated and more complete picture of the field by including solutions of problems that have been solved since the first edition was published, and places old and new results in a broader perspective. [...]

2nd ed. 2014. XXVIII, 466 p. 14 illus., 1 illus. in color. (Springer Series in Operations Research and Financial Engineering) Hardcover

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

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-1-4939-1036-6



R. G. Douglas

Banach Algebra Techniques in Operator Theory

Operator theory is a diverse area of mathematics which derives its impetus and motivation from several sources. It began with the study of integral equations and now includes the study of operators and collections of operators arising in various branches of physics and mechanics. The intention of this book is to discuss certain advanced topics in operator theory and to provide the necessary background for them assuming only the standard senior-first year graduate courses in general topology, measure theory, and algebra. [...]

2nd ed. 1998. XVI, 198 p. (Graduate Texts in Mathematics, Volume 179) Softcover

€ (D) 59,87 | € (A) 61,55 | *CHF 86.50
€ 55,95 | £ 50,99

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-0-387-98377-6



L. Duchateau, Rijksuniversiteit Gent Fac. Diergeneeskunde, Merelbeke, Belgium; **P. Janssen**, Hasselt University Center for Statistics, Diepenbeek, Belgium

The Frailty Model

Clustered survival data are encountered in many scientific disciplines including human and veterinary medicine, biology, epidemiology, public health and demography. Frailty models provide a powerful tool to analyse clustered survival data. In contrast to the large number of research publications on frailty models, relatively few statistical software packages contain frailty models. It is demanding for statistical practitioners and graduate students to grasp a good knowledge on frailty models from the existing literature. [...]

2008. XVII, 316 p. (Statistics for Biology and Health) Hardcover

€ (D) 117,69 | € (A) 120,99 | *CHF 147.00
€ 109,99 | £ 99,50

Yellow Sale Price

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

978-0-387-72834-6



J.J. Duistermaat, Utrecht University Department of Mathematics, Utrecht, Netherlands; **J. A.C. Kolk**, Utrecht University Department of Mathematics, Utrecht, Netherlands

Distributions

I am sure that something must be found. There must exist a notion of generalized functions which are to functions what the real numbers are to the rationals (G. Peano, 1912) Not that much effort is needed, for it is such a smooth and simple theory (F. Trèves, 1975) In undergraduate physics a lecturer will be tempted to say on certain occasions: "Let $x/$ be a function on the line that equals 0 away from 0 and is nite at 0 in such a way that its total integral is 1. The most important property of $x/$ is ed Z by the identity $1 \cdot x/ dx D \dots$ "

2010. XVI, 445 p. 41 illus. (Cornerstones) Hardcover

€ (D) 64,15 | € (A) 65,95 | *CHF 86.00
€ 59,95 | £ 49,99

Yellow Sale Price

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

978-0-8176-4672-1



B. I. Dundas, University of Bergen, Bergen, Norway; **T. G. Goodwillie**, Brown University, Providence, USA; **R. McCarthy**, University of Illinois, Urbana, IL, USA

The Local Structure of Algebraic K-Theory

Algebraic K-theory encodes important invariants for several mathematical disciplines, spanning from geometric topology and functional analysis to number theory and algebraic geometry. As is commonly encountered, this powerful mathematical object is very hard to calculate. Apart from Quillen's calculations of finite fields and Suslin's calculation of algebraically closed fields, few complete calculations were available before the discovery of homological invariants offered by motivic cohomology and topological cyclic homology. [...]

2012. XVI, 436 p. (Algebra and Applications, Volume 18) Hardcover

€ (D) 101,60 | € (A) 104,45 | *CHF 126.50
€ 94,95 | £ 85,50

Yellow Sale Price

€ (D) 52,42 | € (A) 53,89 | *CHF 54.00
€ 48,99 | £ 36,99

978-1-4471-4392-5



B. Duplantier, Institut de Physique Théorique, Gif-sur-Yvette Cedex, France; **V. Rivasseau**, Université Paris-Sud, Orsay, France (Eds)

Henri Poincaré, 1912–2012

This thirteenth volume of the Poincaré Seminar Series, Henri Poincaré, 1912-2012, is published on the occasion of the centennial of the death of Henri Poincaré in 1912. It presents a scholarly approach to Poincaré's genius and creativity in mathematical physics and mathematics. Its five articles are also highly pedagogical, as befits their origin in lectures to a broad scientific audience. [...]

2015. XIII, 233 p. 33 illus., 14 illus. in color. (Progress in Mathematical Physics, Volume 67) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 113.50
€ 84,99 | £ 76,50

Yellow Sale Price

€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-3-0348-0833-0



D. R. Durran, University of Washington Dept. Atmospheric Sciences, Seattle, WA, USA

Numerical Methods for Fluid Dynamics

2nd ed. 2010. XVI, 516 p. (Texts in Applied Mathematics, Volume 32) Hardcover

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

Yellow Sale Price

€ (D) 35,30 | € (A) 36,29 | *CHF 36.50
€ 32,99 | £ 24,99

978-1-4419-6411-3



H. Edelsbrunner, Institute of Science and Technology Austria, Klosterneuburg, Austria

A Short Course in Computational Geometry and Topology

This monograph presents a short course in computational geometry and topology. In the first part the book covers Voronoi diagrams and Delaunay triangulations, then it presents the theory of alpha complexes which play a crucial role in biology. The central part of the book is the homology theory and their computation, including the theory of persistence which is indispensable for applications, e.g. shape reconstruction. [...]

2014. IX, 110 p. 64 illus., 60 illus. in color. (SpringerBriefs in Applied Sciences and Technology) Softcover

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

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-3-319-05956-3



R. Durrett, Duke University Department of Mathematics, Durham, NC, USA

Probability Models for DNA Sequence Evolution

Our basic question is: Given a collection of DNA sequences, what underlying forces are responsible for the observed patterns of variability? To approach this question we introduce and analyze a number of probability models: the Wright-Fisher model, the coalescent, the infinite alleles model, and the infinite sites model. We study the complications that come from nonconstant population size, recombination, population subdivision, and three forms of natural selection: directional selection, balancing selection, and background selection. [...]

2nd ed. 2008. XII, 431 p. (Probability and Its Applications) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 141.50
€ 129,99 | £ 113,00

Yellow Sale Price

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

978-0-387-78168-6



S. Elyadi, Trinity University Dept. Mathematics, San Antonio, TX, USA

An Introduction to Difference Equations

In contemplating the third edition, I have had multiple objectives to achieve. The first and foremost important objective is to maintain the accessibility and readability of the book to a broad readership with varying mathematical backgrounds and sophistication. More proofs, more graphs, more explanations, and more applications are provided in this edition. The second objective is to update the contents of the book so that the reader stays abreast of new developments in this vital area of mathematics. [...]

3rd ed. 2005. XXII, 540 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 67,36 | € (A) 69,25 | *CHF 98.00
€ 62,95 | £ 56,99

Yellow Sale Price

€ (D) 34,23 | € (A) 35,19 | *CHF 35.50
€ 31,99 | £ 23,99

978-0-387-23059-7



L. Eleftheriadou, University of Florida,
Gainesville, FL, USA

An Introduction to Traffic Flow Theory

This text provides a comprehensive and concise treatment of the topic of traffic flow theory and includes several topics relevant to today's highway transportation system. It provides the fundamental principles of traffic flow theory as well as applications of those principles for evaluating specific types of facilities (freeways, intersections, etc.). Newer concepts of Intelligent transportation systems (ITS) and their potential impact on traffic flow are discussed. [...]

2014. XX, 251 p. 97 illus., 79 illus. in color.
(Springer Optimization and Its Applications,
Volume 84) Hardcover

€ (D) 53,49 | € (A) 54,99 | *CHF 67,00
€ 49,99 | £ 44,99

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31,00
€ 27,99 | £ 19,99

978-1-4614-8434-9



K. Engel, Università L'Aquila
Facoltà di Ingegneria, Roio Poggio,
Italy; **S. Brendle**; **R. Nagel**, Universität
Tübingen Mathematisches Institut, Tübingen,
Germany; **M. Campiti**; **T. Hahn**; **G. Metafuno**;
G. Nickel; **D. Pallara**; **C. Perazzoli**; **A. Rhandi**;
S. Romanelli; **R. Schnaubelt**

One-Parameter Semigroups for Linear Evolution Equations

2000. XXI, 589 p. (Graduate Texts in
Mathematics, Volume 194) Hardcover

€ (D) 71,64 | € (A) 73,65 | *CHF 104,50
€ 66,95 | £ 59,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37,50
€ 33,99 | £ 25,99

978-0-387-98463-6



H. W. Engl, Universität Linz
Inst. Industriemathematik, Linz,
Austria; **M. Hanke**; **A. Neubauer**, Universität
Linz Inst. Industriemathematik, Linz, Austria

Regularization of Inverse Problems

In the last two decades, the field of inverse problems has certainly been one of the fastest growing areas in applied mathematics. This growth has largely been driven by the needs of applications both in other sciences and in industry. In Chapter 1, we will give a short overview over some classes of inverse problems of practical interest. Like everything in this book, this overview is far from being complete and quite subjective. As will be shown, inverse problems typically lead to mathematical models that are not well-posed in the sense of Hadamard, i.e., to ill-posed problems. [...]

2000. VIII, 322 p. (Mathematics and Its
Applications, Volume 375) Hardcover

€ (D) 106,99 | € (A) 109,99 | *CHF 133,50
€ 99,99 | £ 90,00

Yellow Sale Price

€ (D) 53,49 | € (A) 54,99 | *CHF 55,00
€ 49,99 | £ 37,99

978-0-7923-4157-4



M. Epstein, University of Calgary, Calgary,
AB, Canada

Differential Geometry

Differential Geometry offers a concise introduction to some basic notions of modern differential geometry and their applications to solid mechanics and physics. Concepts such as manifolds, groups, fibre bundles and groupoids are first introduced within a purely topological framework. They are shown to be relevant to the description of space-time, configuration spaces of mechanical systems, symmetries in general, microstructure and local and distant symmetries of the constitutive response of continuous media. [...]

2014. XI, 139 p. 26 illus. (Mathematical
Engineering) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 113,50
€ 84,99 | £ 76,50

Yellow Sale Price

€ (D) 51,35 | € (A) 52,79 | *CHF 53,00
€ 47,99 | £ 35,99

978-3-319-06919-7



G. B. Ermentrout, University of Pittsburgh
Dept. Mathematics, Pittsburgh, PA,
USA; **D. H. Terman**, Ohio State University
Dept. Mathematics, Columbus, OH, USA

Mathematical Foundations of Neuroscience

2010. XV, 422 p. 38 illus. in color.
(Interdisciplinary Applied Mathematics,
Volume 35) Hardcover

€ (D) 64,15 | € (A) 65,95 | *CHF 93,00
€ 59,95 | £ 53,99

Yellow Sale Price

€ (D) 32,09 | € (A) 32,99 | *CHF 33,00
€ 29,99 | £ 22,99

978-0-387-87707-5



A. Ern, Université Paris VI CERMICS, Marne-
la-Vallée CX 2, France; **J. Guermond**, Texas A
& M University Dept. Mathematics, College
Station, TX, USA

Theory and Practice of Finite Elements

The origins of the finite element method can be traced back to the 1950s when engineers started to solve numerically structural mechanics problems in aeronautics. Since then, the field of applications has widened steadily and nowadays encompasses nonlinear solid mechanics, fluid/structure interactions, flows in industrial or geophysical settings, multicomponent reactive turbulent flows, mass transfer in porous media, viscoelastic flows in medical sciences, electromagnetism, wave scattering problems, and option pricing (to cite a few examples). [...]

2004. XIV, 526 p. (Applied Mathematical
Sciences, Volume 159) Hardcover

€ (D) 83,41 | € (A) 85,75 | *CHF 121,00
€ 77,95 | £ 70,00

Yellow Sale Price

€ (D) 41,72 | € (A) 42,89 | *CHF 43,00
€ 38,99 | £ 28,99

978-0-387-20574-8



L. Schneps; J. Escofier,

Galois Theory

2001. XIV, 283 p. (Graduate Texts in Mathematics, Volume 204) Hardcover

€ (D) 59,87 | € (A) 61,55 | *CHF 86.50
€ 55,95 | £ 50,99**Yellow Sale Price**€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-0-387-98765-1



9 780387 987651

H. M. Farkas, Hebrew University of Jerusalem, Jerusalem, Israel; I. Kra, University of Stony Brook, Stony Brook, NY, USA

Riemann Surfaces

It is gratifying to learn that there is new life in an old field that has been at the center of one's existence for over a quarter of a century. It is particularly pleasing that the subject of Riemann surfaces has attracted the attention of a new generation of mathematicians from (newly) adjacent fields (for example, those interested in hyperbolic manifolds and iterations of rational maps) and young physicists who have been convinced (certainly not by mathematicians) that compact Riemann surfaces may play an important role in their (string) universe. [...]

2nd ed. 1992. XVI, 366 p. (Graduate Texts in Mathematics, Volume 71) Hardcover

€ (D) 71,64 | € (A) 73,65 | *CHF 104.50
€ 66,95 | £ 59,99**Yellow Sale Price**€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-0-387-97703-4



9 780387 977034

Y. Felix; S. Halperin; J.-C. Thomas,

Rational Homotopy Theory

as well as by the list of open problems in the final section of this monograph. The computational power of rational homotopy theory is due to the discovery by Quillen [135] and by Sullivan [144] of an explicit algebraic formulation. In each case the rational homotopy type of a topological space is the same as the isomorphism class of its algebraic model and the rational homotopy type of a continuous map is the same as the algebraic homotopy class of the corresponding morphism between models. These models make the rational homology and homotopy of a space transparent. [...]

2001. XXXIII, 539 p. (Graduate Texts in Mathematics, Volume 205) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 92.00
€ 59,99 | £ 53,99**Yellow Sale Price**€ (D) 32,09 | € (A) 32,99 | *CHF 33.00
€ 29,99 | £ 22,99

978-0-387-95068-6



9 780387 950686

J. Fan, Princeton University Dept. Operations Research &, Princeton, NJ, USA; Q. Yao, London School Economics and Political Science, London, UK

Nonlinear Time Series

Among many exciting developments in statistics over the last two decades, nonlinear time series and data-analytic nonparametric methods have greatly advanced along seemingly unrelated paths. In spite of the fact that the application of nonparametric techniques in time series can be traced back to the 1940s at least, there still exists healthy and ed skepticism about the capability of nonparametric methods in time series analysis. As enthusiastic explorers of the modern nonparametric toolkit, we feel obliged to assemble together in one place the newly developed relevant techniques. [...]

2003. XX, 552 p. (Springer Series in Statistics) Softcover

€ (D) 117,69 | € (A) 120,99 | *CHF 124.50
€ 109,99 | £ 99,50**Yellow Sale Price**€ (D) 58,84 | € (A) 60,49 | *CHF 60.50
€ 54,99 | £ 40,99

978-0-387-26142-3



9 780387 261423

A. Favini, Università di Bologna, Bologna, Italy; G. Fragnelli, Università di Bari, Bari, Italy; R. M. Mininni, Università di Bari, Bari, Italy (Eds)

New Prospects in Direct, Inverse and Control Problems for Evolution Equations

This book, based on a selection of talks given at a dedicated meeting in Cortona, Italy, in June 2013, shows the high degree of interaction between a number of fields related to applied sciences. Applied sciences consider situations in which the evolution of a given system over time is observed, and the related models can be formulated in terms of evolution equations (EEs). These equations have been studied intensively in theoretical research and are the source of an enormous number of applications. [...]

2014. XII, 471 p. 37 illus. (Springer INdAM Series, Volume 10) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 126.50
€ 94,99 | £ 85,50**Yellow Sale Price**€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-3-319-11405-7



9 783319 114057

F. Ferraty, Université Toulouse III Lab. Statist. et Probabilités, Toulouse CX, France; P. Vieu, Université Toulouse III Unité associée C.N.R.S. 745, Toulouse CX, France

Nonparametric Functional Data Analysis

Modern apparatuses allow us to collect samples of functional data, mainly curves but also images. On the other hand, nonparametric statistics produces useful tools for standard data exploration. This book links these two fields of modern statistics by explaining how functional data can be studied through parameter-free statistical ideas. This book starts from theoretical foundations including functional nonparametric modeling, description of the mathematical framework, construction of the statistical methods, and statements of their asymptotic behaviors. [...]

2006. XX, 260 p. (Springer Series in Statistics) 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

978-0-387-30369-7



9 780387 303697

D. G. de Figueiredo, Cidade Universitaria Instituto de Matematica, Estatistica e C, Campinas, Brazil; **J. M. do Ó**, Universidade Federal da Paraíba, João Pessoa, Brazil; **C. Tomei**, Pontifícia Universidade Católica do Rio, Rio de Janeiro, Brazil (Eds)

Analysis and Topology in Nonlinear Differential Equations

This volume is a collection of articles presented at the Workshop for Nonlinear Analysis held in João Pessoa, Brazil, in September 2012. The influence of Bernhard Ruf, to whom this volume is dedicated on the occasion of his 60th birthday, is perceptible throughout the collection by the choice of themes and techniques. [...]

2014. X, 466 p. 17 illus., 6 illus. in color. (Progress in Nonlinear Differential Equations and Their Applications, Volume 85) Hardcover

€ (D) 128,39 | € (A) 131,99 | *CHF 160,00
€ 119,99 | £ 108,00

Yellow Sale Price

€ (D) 71,68 | € (A) 73,69 | *CHF 74,00
€ 66,99 | £ 49,99

978-3-319-04213-8



9 783319 042138

L. Formaggia, MOX - Politecnico di Milano, Milan, Italy; **A. Quarteroni**, École Polytechnique Fédérale de Lausanne Chaire de Modelisation, Lausanne, Switzerland; **A. Veneziani**, Emory University Dept. Mathematics &, Atlanta, GA, USA (Eds)

Cardiovascular Mathematics

Cardiovascular diseases have a major impact in Western countries. Mathematical models and numerical simulations can aid the understanding of physiological and pathological processes, complementing the information provided to medical doctors by medical imaging and other non-invasive means, and opening the possibility of a better diagnosis and more in-depth surgical planning. This book offers a mathematically sound and up-to-date foundation to the training of researchers, and serves as a useful reference for the development of mathematical models and numerical simulation codes. [...]

2009. XIII, 522 p. (MS&A, Volume 1) Hardcover

€ (D) 80,24 | € (A) 82,49 | *CHF 100,00
€ 74,99 | £ 67,99

Yellow Sale Price

€ (D) 40,65 | € (A) 41,79 | *CHF 42,00
€ 37,99 | £ 28,99

978-88-470-1151-9



9 788847 011519

W. Forst, Universität Ulm Institut für Numerische Mathematik, Ulm, Germany; **D. Hoffmann**, Universität Konstanz FB Mathematik und Statistik, Konstanz, Germany

Optimization—Theory and Practice

Optimization is a field important in its own right but is also integral to numerous applied sciences, including operations research, management science, economics, finance and all branches of mathematics-oriented engineering. Constrained optimization models are one of the most widely used mathematical models in operations research and management science. [...]

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9 780387 789767

S. Foss, Heriot-Watt University, Riccarton, Edinburgh, UK; **D. Korshunov**, Sobolev Institute of Mathematics of the Russian Academy of Sciences, Novosibirsk, Russia; **S. Zachary**, Heriot-Watt University, Riccarton, Edinburgh, UK

An Introduction to Heavy-Tailed and Subexponential Distributions

Heavy-tailed probability distributions are an important component in the modeling of many stochastic systems. They are frequently used to accurately model inputs and outputs of computer and data networks and service facilities such as call centers. [...]

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€ (D) 26,74 | € (A) 27,49 | *CHF 27,50
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M. W. Frazier

An Introduction to Wavelets Through Linear Algebra

Mathematics majors at Michigan State University take a "Capstone" course near the end of their undergraduate careers. The content of this course varies with each offering. Its purpose is to bring together different topics from the undergraduate curriculum and introduce students to a developing area in mathematics. This text was originally written for a Capstone course. Basic wavelet theory is a natural topic for such a course. By name, wavelets date back only to the 1980s. [...]

1999. XVI, 503 p. (Undergraduate Texts in Mathematics) Hardcover

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€ 59,95 | £ 53,99

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€ (D) 32,09 | € (A) 32,99 | *CHF 33,00
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978-0-387-98639-5



9 780387 986395

M. I. Freidlin, University of Maryland Department of Mathematics, College Park, USA; **J. Szűcs**; **A. D. Wentzell**, Tulane University Department of Mathematics, New Orleans, USA

Random Perturbations of Dynamical Systems

Many notions and results presented in the previous editions of this volume have since become quite popular in applications, and many of them have been "rediscovered" in applied papers. In the present 3rd edition small changes were made to the chapters in which long-time behavior of the perturbed system is determined by large deviations. Most of these changes concern terminology. [...]

3rd ed. 2012. XXVIII, 460 p. (Grundlehren der mathematischen Wissenschaften, Volume 260) Hardcover

€ (D) 117,65 | € (A) 120,95 | *CHF 146,50
€ 109,95 | £ 99,00

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9 783642 258466

E. Fridman, Tel Aviv University, Tel Aviv, Israel

Introduction to Time-Delay Systems

The beginning of the 21st century can be characterized as the "time-delay boom" leading to numerous important results. The purpose of this book is two-fold, to familiarize the non-expert reader with time-delay systems and to provide a systematic treatment of modern ideas and techniques for experts. This book is based on the course "Introduction to time-delay systems" for graduate students in Engineering and Applied Mathematics that the author taught in Tel Aviv University in 2011-2012 and 2012-2013 academic years. [...]

2014. XVIII, 362 p. 28 illus., 22 illus. in color. (Systems & Control: Foundations & Applications) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 126.50
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P. K. Friz, Technische Universität Berlin, Berlin, Germany; **M. Hairer**, The University of Warwick, Coventry, UK

A Course on Rough Paths

Lyons' rough path analysis has provided new insights in the analysis of stochastic differential equations and stochastic partial differential equations, such as the KPZ equation. This textbook presents the first thorough and easily accessible introduction to rough path analysis. When applied to stochastic systems, rough path analysis provides a means to construct a pathwise solution theory which, in many respects, behaves much like the theory of deterministic differential equations and provides a clean break between analytical and probabilistic arguments. [...]

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978-3-319-08331-5



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H. Fujiwara, Kinki University, Iizuka, Japan; **J. Ludwig**, Université de Metz, Metz, France

Harmonic Analysis on Exponential Solvable Lie Groups

This book is the first one that brings together recent results on the harmonic analysis of exponential solvable Lie groups. There still are many interesting open problems, and the book contributes to the future progress of this research field. As well, various related topics are presented to motivate young researchers. The orbit method invented by Kirillov is applied to study basic problems in the analysis on exponential solvable Lie groups. This method tells us that the unitary dual of these groups is realized as the space of their coadjoint orbits. [...]

2015. XI, 465 p. (Springer Monographs in Mathematics) Hardcover

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Yellow Sale Price

€ (D) 63,12 | € (A) 64,89 | *CHF 65.00
€ 58,99 | £ 43,99

978-4-431-55287-1



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C. Gaetan, Università Ca' Foscari di Venezia Dipto. Statistica, Venezia, Italy; **X. Guyon**, Université Paris I SAMOS, Paris CX 13, France

Spatial Statistics and Modeling

Spatial statistics are useful in subjects as diverse as climatology, ecology, economics, environmental and earth sciences, epidemiology, image analysis and more. This book covers the best-known spatial models for three types of spatial data: geostatistical data (stationarity, intrinsic models, variograms, spatial regression and space-time models), areal data (Gibbs-Markov fields and spatial auto-regression) and point pattern data (Poisson, Cox, Gibbs and Markov point processes). The level is relatively advanced, and the presentation concise but complete. [...]

2010. XIV, 302 p. (Springer Series in Statistics) Hardcover

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978-0-387-92256-0



9 780387 922560

J. Gallier, University of Pennsylvania, Philadelphia, PA, USA

Geometric Methods and Applications

This book is an introduction to the fundamental concepts and tools needed for solving problems of a geometric nature using a computer. It attempts to fill the gap between standard geometry books, which are primarily theoretical, and applied books on computer graphics, computer vision, robotics, or machine learning. [...]

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Yellow Sale Price

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978-1-4419-9960-3



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E. Garcia, Infoscitex Corporation, Dayton, OH, USA; **P. J. Antsaklis**, University of Notre Dame Department of Electrical Engineering, Notre Dame, IN, USA; **L. A. Montestruque**, EmNet, LLC, South Bend, IN, USA

Model-Based Control of Networked Systems

This monograph introduces a class of networked control systems (NCS) called model-based networked control systems (MB-NCS) and presents various architectures and control strategies designed to improve the performance of NCS. [...]

2014. XVI, 382 p. 127 illus., 85 illus. in color. (Systems & Control: Foundations & Applications) Hardcover

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€ 94,99 | £ 85,50

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€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-3-319-07802-1



9 783319 078021

C. Gasquet; R. Ryan; P. Witomski

Fourier Analysis and Applications

This book should have wide appeal, from those who are just getting into the area and wish to learn mathematical foundations and applications to those who are already experienced and wish to have a reference that provides a mathematically rigorous coverage of the state of the art [...] The coverage is thorough but not overwhelming, perhaps because the chapters are divided into lessons, allowing the reader a chance to pause and think. The authors work clearly to impart an understanding of the theory and applications, and not just offer an encyclopedic tome.

1999. XVIII, 442 p. (Texts in Applied Mathematics, Volume 30) Hardcover
 € (D) 83,41 | € (A) 85,75 | *CHF 121.00
 € 77,95 | £ 70,00

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€ (D) 41,72 | € (A) 42,89 | *CHF 43.00
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978-0-387-98485-8



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D. Gauld, University of Auckland, Auckland, New Zealand

Non-metrisable Manifolds

Manifolds fall naturally into two classes depending on whether they can be fitted with a distance measuring function or not. The former, metrisable manifolds, and especially compact manifolds, have been intensively studied by topologists for over a century, whereas the latter, non-metrisable manifolds, are much more abundant but have a more modest history, having become of increasing interest only over the past 40 years or so. [...]

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9 789812 872562

P. M. Gauthier, Université de Montréal, Montreal, QC, Canada

Lectures on Several Complex Variables

This monograph provides a concise, accessible snapshot of key topics in several complex variables, including the Cauchy Integral Formula, sequences of holomorphic functions, plurisubharmonic functions, the Dirichlet problem, and meromorphic functions. Based on a course given at Université de Montréal, this brief introduction covers areas of contemporary importance that are not mentioned in most treatments of the subject, such as modular forms, which are essential for Wiles' theorem and the unification of quantum theory and general relativity. [...]

2014. VIII, 110 p. 2 illus. Hardcover
 € (D) 74,89 | € (A) 76,99 | *CHF 93.50
 € 69,99 | £ 62,99

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978-3-319-11510-8



9 783319 115108

S. I. Gelfand; Y. I. Manin

Methods of Homological Algebra

Homological algebra first arose as a language for describing topological prospects of geometrical objects. As with every successful language it quickly expanded its coverage and semantics, and its contemporary applications are many and diverse. This modern approach to homological algebra, by two leading writers in the field, is based on the systematic use of the language and ideas of derived categories and derived functors. Relations with standard cohomology theory (sheaf cohomology, spectral sequences, etc.) are described. In most cases complete proofs are given. [...]

2nd ed. 2003. XX, 372 p. (Springer Monographs in Mathematics) Hardcover
 € (D) 88,80 | € (A) 91,29 | *CHF 93.50
 € 82,99 | £ 75,00

Yellow Sale Price

€ (D) 44,93 | € (A) 46,19 | *CHF 46.50
 € 41,99 | £ 31,99

978-3-540-43583-9



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M. I. Gil', Ben Gurion University of the Negev, Beer Sheva, Israel

Stability of Neutral Functional Differential Equations

In this monograph the author presents explicit conditions for the exponential, absolute and input-to-state stabilities including solution estimates of certain types of functional differential equations. The main methodology used is based on a combination of recent norm estimates for matrix-valued functions, comprising the generalized Bohl-Perron principle, together with its integral version and the positivity of fundamental solutions. A significant part of the book is especially devoted to the solution of the generalized Aizerman problem.

2014. XIII, 304 p. (Atlantis Studies in Differential Equations, Volume 3) Hardcover
 € (D) 101,64 | € (A) 104,49 | *CHF 126.50
 € 94,99 | £ 85,50

Yellow Sale Price

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 € 52,99 | £ 39,99

978-94-6239-090-4



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M. I. Gil', Ben Gurion University of the Negev, Beer Sheva, Israel

Stability of Vector Differential Delay Equations

Differential equations with delay naturally arise in various applications, such as control systems, viscoelasticity, mechanics, nuclear reactors, distributed networks, heat flows, neural networks, combustion, interaction of species, microbiology, learning models, epidemiology, physiology, and many others. This book systematically investigates the stability of linear as well as nonlinear vector differential equations with delay and equations with causal mappings. It presents explicit conditions for exponential, absolute and input-to-state stabilities. [...]

2013. X, 259 p. (Frontiers in Mathematics) Softcover
 € (D) 53,49 | € (A) 54,99 | *CHF 67.00
 € 49,99 | £ 44,99

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978-3-0348-0576-6



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S. Givant, Mills College Department of Mathematics, Oakland, CA, USA

Duality Theories for Boolean Algebras with Operators

In this new text, Steven Givant—the author of several acclaimed books, including works co-authored with Paul Halmos and Alfred Tarski—develops three theories of duality for Boolean algebras with operators. Givant addresses the two most recognized dualities (one algebraic and the other topological) and introduces a third duality, best understood as a hybrid of the first two. [...]

2014. XIV, 233 p. (Springer Monographs in Mathematics) Hardcover

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€ 84,99 | £ 76,50

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€ (D) 51,35 | € (A) 52,79 | *CHF 53.00
€ 47,99 | £ 35,99

978-3-319-06742-1



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M. Golasinski, Casimir the Great University, Bydgoszcz, Poland; **J. Mukai**, Shinshu University, Matsumoto, Japan

Gottlieb and Whitehead Center Groups of Spheres, Projective and Moore Spaces

This is a monograph that details the use of Siegel's method and the classical results of homotopy groups of spheres and Lie groups to determine some Gottlieb groups of projective spaces or to give the lower bounds of their orders. Making use of the properties of Whitehead products, the authors also determine some Whitehead center groups of projective spaces that are relevant and new within this monograph.

2014. XVII, 132 p. 7 illus. Hardcover

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

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€ (D) 41,72 | € (A) 42,89 | *CHF 43.00
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R. Gorenflo, Free University Berlin Mathematical Institute, Berlin, Germany; **A. A. Kilbas**, Belarusian State University Department of Mathematics and Mechanics, Minsk, Belarus; **F. Mainardi**, University of Bologna Department of Physics, Bologna, Italy; **S. V. Rogosin**, Belarusian State University Department of Economics, Minsk, Belarus

Mittag-Leffler Functions, Related Topics and Applications

As a result of researchers' and scientists' increasing interest in pure as well as applied mathematics in non-conventional models, particularly those using fractional calculus, Mittag-Leffler functions have recently caught the interest of the scientific community. [...]

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J. M. Gracia-Bondia; **J. C. Varilly**; **H. Figueroa**

Elements of Noncommutative Geometry

The material is collected from an enormous number of sources [...] All of it is carefully worked out and serves as a highly recommendable introduction to the vital field of noncommutative geometry. Zentralblatt Math

2001. XVIII, 686 p. (Birkhäuser Advanced Texts Basler Lehrbücher) Hardcover

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978-0-8176-4124-5



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G. Grätzer, University of Manitoba, Winnipeg, MB, Canada; **F. Wehrung**, University of Caen, Caen, France (Eds)

Lattice Theory: Special Topics and Applications

George Grätzer's Lattice Theory: Foundation is his third book on lattice theory (General Lattice Theory, 1978, second edition, 1998). In 2009, Grätzer considered updating the second edition to reflect some exciting and deep developments. He soon realized that to lay the foundation, to survey the contemporary field, to pose research problems, would require more than one volume and more than one person. So Lattice Theory: Foundation provided the foundation. [...]

2014. XIII, 468 p. 78 illus. (Wissenschaftsprogramm nur englisch(Birkhäuser)) Softcover

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€ 94,99 | £ 85,50

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€ 52,99 | £ 39,99

978-3-319-06412-3



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P. A. Grillet, Tulane University Dept. Mathematics, New Orleans, LA, USA

Abstract Algebra

About the first edition: "The text is geared to the needs of the beginning graduate student, covering with complete, well-written proofs the usual major branches of groups, rings, fields, and modules...[n] one of the material one expects in a book like this is missing, and the level of detail is appropriate for its intended audience." (Alberto Delgado, MathSciNet) "This text promotes the conceptual understanding of algebra as a whole, and that with great methodological mastery. [...]"

2nd ed. 2007. XII, 674 p. (Graduate Texts in Mathematics, Volume 242) Hardcover

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G. Ellingsrud; M. . Gross; D. Huybrechts,
Université Paris VII UFR de
Mathématiques, Paris CX 05,
France; **L. Olson; D. Joyce; K. Ranestad;**
S. A. Stromme, (Eds)

Calabi-Yau Manifolds and Related Geometries

This is an excellent and useful book [...] It will be popular with anyone trying to learn about Kähler manifolds with $c_1 = 0$ and mirror symmetry. (Richard P. Thomas, Mathematical Reviews, 2004 c)

2003. VIII, 244 p. 2 illus. (Universitext)
Softcover

€ (D) 58,80 | € (A) 60,45 | *CHF 85,50
€ 54,95 | £ 49,99

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P. M. Gruber, TU Wien Institut für Analysis
und, Wien, Austria

Convex and Discrete Geometry

Convex and Discrete Geometry is an area of mathematics situated between analysis, geometry and discrete mathematics with numerous relations to other areas. The book gives an overview of major results, methods and ideas of convex and discrete geometry and its applications. Besides being a graduate-level introduction to the field, it is a practical source of information and orientation for convex geometers. It should also be of use to people working in other areas of mathematics and in the applied fields.

2007. XIV, 580 p. 67 illus. (Grundlehren der
mathematischen Wissenschaften, Volume
336) Hardcover

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B. Grünbaum, University of Washington
Dept. Mathematics, Seattle, WA,
USA; **G. M. Ziegler**, Freie Universität Berlin
Institut für Mathematik, Berlin, Germany
(Eds)

Convex Polytopes

"The appearance of Grünbaum's book Convex Polytopes in 1967 was a moment of grace to geometers and combinatorialists. The special spirit of the book is very much alive even in those chapters where the book's immense influence made them quickly obsolete. Some other chapters promise beautiful unexplored land for future research. The appearance of the new edition is going to be another moment of grace. Kaibel, Klee and Ziegler were able to update the convex polytope saga in a clear, accurate, lively, and inspired way." [...]

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9 780387 004242

B. Grünbaum, University of Washington
Dept. Mathematics, Seattle, WA,
USA; **G. M. Ziegler**, Freie Universität Berlin
Institut für Mathematik, Berlin, Germany
(Eds)

Convex Polytopes

"The appearance of Grünbaum's book Convex Polytopes in 1967 was a moment of grace to geometers and combinatorialists. The special spirit of the book is very much alive even in those chapters where the book's immense influence made them quickly obsolete. Some other chapters promise beautiful unexplored land for future research. The appearance of the new edition is going to be another moment of grace. Kaibel, Klee and Ziegler were able to update the convex polytope saga in a clear, accurate, lively, and inspired way." [...]

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Mathematics, Volume 221) Softcover

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€ (D) 27,81 | € (A) 28,59 | *CHF 29,00
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978-0-387-40409-7



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O. Güler, University of Maryland, Baltimore
County Dept. Mathematics & Statistics,
Baltimore, MD, USA

Foundations of Optimization

This book is suitable as a textbook for a first or second course in optimization at the graduate level. It is also suitable for self-study or as a reference book for advanced readers.

2010. XVIII, 442 p. (Graduate Texts in
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€ 59,95 | £ 53,99

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€ (D) 32,09 | € (A) 32,99 | *CHF 33,00
€ 29,99 | £ 22,99

978-0-387-34431-7



9 780387 344317

S. Guo, Hunan University College of Math
and Econometrics, Changsha Hunan, China,
People's Republic; **J. Wu**, York University,
Toronto, ON, Canada

Bifurcation Theory of Functional Differential Equations

This book provides a crash course on various methods from the bifurcation theory of Functional Differential Equations (FDEs). FDEs arise very naturally in economics, life sciences and engineering and the study of FDEs has been a major source of inspiration for advancement in nonlinear analysis and infinite dimensional dynamical systems. The book summarizes some practical and general approaches and frameworks for the investigation of bifurcation phenomena of FDEs depending on parameters with chap. [...]

2013. IX, 289 p. (Applied Mathematical
Sciences, Volume 184) Hardcover

€ (D) 101,64 | € (A) 104,49 | *CHF 126,50
€ 94,99 | £ 85,50

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€ 47,99 | £ 35,99

978-1-4614-6991-9



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B. Gustafsson, KTH Royal Institute of Technology, Stockholm, Sweden; **R. Teodorescu**, University of South Florida, Tampa, FL, USA; **A. Vasil'ev**, University of Bergen, Bergen, Norway

Classical and Stochastic Laplacian Growth

This monograph covers a multitude of concepts, results, and research topics originating from a classical moving-boundary problem in two dimensions (idealized Hele-Shaw flows, or classical Laplacian growth), which has strong connections to many exciting modern developments in mathematics and theoretical physics. [...]

2014. XIV, 317 p. 52 illus., 13 illus. in color. (Advances in Mathematical Fluid Mechanics) Hardcover

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

Yellow Sale Price

€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-3-319-08286-8



9 783319 082868

W. Hackbusch, Max-Planck-Institute for Mathematics in the Sciences, Leipzig, Germany

Tensor Spaces and Numerical Tensor Calculus

Special numerical techniques are already needed to deal with $n \times n$ matrices for large n . Tensor data are of size $n \times n \times \dots \times n = n^d$, where n^d exceeds the computer memory by far. They appear for problems of high spatial dimensions. Since standard methods fail, a particular tensor calculus is needed to treat such problems. The monograph describes the methods how tensors can be practically treated and how numerical operations can be performed. Applications are problems from quantum chemistry, approximation of multivariate functions, solution of pde, e.g., with stochastic coefficients, etc.

2012. XXIV, 500 p. (Springer Series in Computational Mathematics, Volume 42) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 146.50
€ 129,99 | £ 117,00

Yellow Sale Price

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

978-3-642-28026-9



9 783642 280269

W. Hackbusch, Max-Planck-Institute for Mathematics in the Sciences, Leipzig, Germany

The Concept of Stability in Numerical Mathematics

In this book, the author compares the meaning of stability in different subfields of numerical mathematics. Concept of Stability in numerical mathematics opens by examining the stability of finite algorithms. A more precise definition of stability holds for quadrature and interpolation methods, which the following chapters focus on. The discussion then progresses to the numerical treatment of ordinary differential equations (ODEs). While one-step methods for ODEs are always stable, this is not the case for hyperbolic or parabolic differential equations, which are investigated next. [...]

2014. XV, 188 p. (Springer Series in Computational Mathematics, Volume 45) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 113.50
€ 84,99 | £ 76,50

Yellow Sale Price

€ (D) 51,35 | € (A) 52,79 | *CHF 53.00
€ 47,99 | £ 35,99

978-3-642-39385-3



9 783642 393853

E. Hairer, Université de Genève Section Mathématiques, Genève 24, Switzerland; **C. Lubich**, Universität Tübingen Inst. Mathematik, Tübingen, Germany; **G. Wanner**, Université de Genève Section de mathématiques, Genève 4, Switzerland

Geometric Numerical Integration

Numerical methods that preserve properties of Hamiltonian systems, reversible systems, differential equations on manifolds and problems with highly oscillatory solutions are the subject of this book. [...]

2nd ed. 2006. XVI, 644 p. (Springer Series in Computational Mathematics, Volume 31) Hardcover

€ (D) 155,14 | € (A) 159,49 | *CHF 163.50
€ 144,99 | £ 130,50

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€ (D) 78,10 | € (A) 80,29 | *CHF 80.50
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Solving Ordinary Differential Equations I

"[...] This book is a valuable tool for students of mathematics and specialists concerned with numerical analysis, mathematical physics, mechanics, system engineering, and the application of computers for design and planning[...]" Optimization

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4, Switzerland

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Paul Cohen, is explained in great detail. With
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Stony Brook University, New York, NY,
USA; **H. Hagen**, Technische Universität
Kaiserslautern, Kaiserslautern, Germany (Eds)

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Union College, Schenectady, NY, USA

The Mathematics of Coordinated Inference

Two prisoners are told that they will be brought to a room and seated so that each can see the other. Hats will be placed on their heads; each hat is either red or green. The two prisoners must simultaneously submit a guess of their own hat color, and they both go free if at least one of them guesses correctly. While no communication is allowed once the hats have been placed, they will, however, be allowed to have a strategy session before being brought to the room. Is there a strategy ensuring their release? [...]

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J. Harris,

Algebraic Geometry

This book is based on one-semester courses given at Harvard in 1984, at Brown in 1985, and at Harvard in 1988. It is intended to be, as the title suggests, a first introduction to the subject. Even so, a few words are in order about the purposes of the book. Algebraic geometry has developed tremendously over the last century. During the 19th century, the subject was practiced on a relatively concrete, down-to-earth level; the main objects of study were projective varieties, and the techniques for the most part were grounded in geometric constructions. [...]

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978-0-387-97716-4



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

Deformation Theory

In the fall semester of 1979 I gave a course on deformation theory at Berkeley. My goal was to understand completely Grothendieck's local study of the Hilbert scheme using the cohomology of the normal bundle to characterize the Zariski tangent space and the obstructions to deformations. At the same time I started writing lecture notes for the course. However, the writing project soon foundered as the subject became more intricate, and the result was no more than five of a projected thirteen sections, corresponding roughly to sections 1, 2, 3, 5, 6 of the present book. [...]

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A. HECK, Duttlenheim, France

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Introduction to the Foundations of Applied Mathematics

FOAM. This acronym has been used for over forty years at Rensselaer to designate an upper-division course entitled, Foundations of Applied Mathematics. This course was started by George Handelman in 1956, when he came to Rensselaer from the Carnegie Institute of Technology. His objective was to closely integrate mathematical and physical reasoning, and in the process enable students to obtain a qualitative understanding of the world we live in. FOAM was soon taken over by a young faculty member, Lee Segel. [...]

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This book on PDE Constrained Optimization contains contributions on the mathematical analysis and numerical solution of constrained optimal control and optimization problems where a partial differential equation (PDE) or a system of PDEs appears as an essential part of the constraints. The appropriate treatment of such problems requires a fundamental understanding of the subtle interplay between optimization in function spaces and numerical discretization techniques and relies on advanced methodologies from the theory of PDEs and numerical analysis as well as scientific computing. [...]

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F. C. Hoppensteadt; C. S. Peskin

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R. Howe, Yale University, New Haven, CT, USA; **M. Hunziker**, Baylor University, Waco, TX, USA; **J. F. Willenbring**, University of Wisconsin, Milwaukee, Milwaukee, WI, USA (Eds)

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K. Ireland; M. Rosen,

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S. Ishii, Graduate School of Mathematical Sciences, The University of Tokyo, Tokyo, Japan

Introduction to Singularities

This book is an introduction to singularities for graduate students and researchers. It is said that algebraic geometry originated in the seventeenth century with the famous work *Discours de la méthode pour bien conduire sa raison, et chercher la vérité dans les sciences* by Descartes. In that book he introduced coordinates to the study of geometry. After its publication, research on algebraic varieties developed steadily. Many beautiful results emerged in mathematicians' works. Most of them were about non-singular varieties. [...]

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T. Johnson, Paris, France; **F. Jedrzejewski**, Viroflay, France

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S. Joshi, Walchand College of Engineering, Sangli, India; **M. Dorff**, Brigham Young University, Provo, UT, USA; **I. Lahiri**, University of Kalyani, Kalyani, India (Eds)

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J. Kaipio, University of Kuopio Dept. of Applied Physics, Kuopio, Finland; **E. Somersalo**, Helsinki University of Technology Inst. Mathematics, Helsinki, Finland

Statistical and Computational Inverse Problems

This book is aimed at postgraduate students in applied mathematics as well as at engineering and physics students with a firm background in mathematics. The first four chapters can be used as the material for a first course on inverse problems with a focus on computational and statistical aspects. On the other hand, Chapters 3 and 4, which discuss statistical and nonstatistical inversion methods, can be used by students already having knowledge of classical inversion methods. [...]

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I. Karatzas, Columbia University Dept. Statistics, New York, NY, USA; **S. Shreve**, Carnegie Mellon University, Pittsburgh, PA, USA

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This book is intended for readers who are quite familiar with probability and stochastic processes but know little or nothing about nance. It is written in the nition/theorem/proof style of modern mathematics and attempts to explain as much of the nance motivation and terminology as possible. A mathematical monograph on nance can be written today only - cause of two revolutions that have taken place on Wall Street in the latter half of the twentieth century. [...]

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A. Karp, Columbia University, New York, NY, USA; **G. Schubring**, Universität Bielefeld Institut für Didaktik der Mathematik, Bielefeld, Germany (Eds)

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Categories and Sheaves

Categories and sheaves, which emerged in the middle of the last century as an enrichment for the concepts of sets and functions, appear almost everywhere in mathematics nowadays. This book covers categories, homological algebra and sheaves in a systematic and exhaustive manner starting from scratch, and continues with full proofs to an exposition of the most recent results in the literature, and sometimes beyond. [...]

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Topological Galois Theory

This book provides a detailed and largely self-contained description of various classical and new results on solvability and unsolvability of equations in explicit form. In particular, it offers a complete exposition of the relatively new area of topological Galois theory, initiated by the author. [...]

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An Introduction to the Mathematical Theory of Inverse Problems

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H. Kushner, Brown University Div. Applied Mathematics, Providence, RI, USA; **G. G. Yin**, Wayne State University Department of Mathematics, Detroit, MI, USA

Stochastic Approximation and Recursive Algorithms and Applications

The basic stochastic approximation algorithms introduced by Robbins and Monro and by Kiefer and Wolfowitz in the early 1950s have been the subject of an enormous literature, both theoretical and applied. This is due to the large number of applications and the interesting theoretical issues in the analysis of “dynamically ned” stochastic processes. [...]

2nd ed. 2003. XXII, 478 p. (Stochastic Modelling and Applied Probability, Volume 35) Hardcover

€ (D) 160,49 | € (A) 164,99 | *CHF 166.50
€ 149,99 | £ 133,00

Yellow Sale Price

€ (D) 80,24 | € (A) 82,49 | *CHF 82.50
€ 74,99 | £ 55,99

978-0-387-00894-3



9 780387 008943

Y. Kuznetsov, Rijksuniversiteit Utrecht Mathematisch Instituut, Utrecht, Netherlands

Elements of Applied Bifurcation Theory

The years that have passed since the publication of the first edition of this book proved that the basic principles used to select and present the material made sense. The idea was to write a simple text that could serve as a serious introduction to the subject. Of course, the meaning of “simplicity” varies from person to person and from country to country. The word “introduction” contains even more ambiguity. To start reading this book, only a moderate knowledge of linear algebra and calculus is required. [...]

3rd ed. 2004. XXII, 632 p. (Applied Mathematical Sciences, Volume 112) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 141.50
€ 129,99 | £ 113,00

Yellow Sale Price

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

978-0-387-21906-6



9 780387 219066

A. E. Kyprianou, University of Bath, Bath, UK

Fluctuations of Lévy Processes with Applications

Lévy processes are the natural continuous-time analogue of random walks and form a rich class of stochastic processes around which a robust mathematical theory exists. Their application appears in the theory of many areas of classical and modern stochastic processes including storage models, renewal processes, insurance risk models, optimal stopping problems, mathematical finance, continuous-state branching processes and positive self-similar Markov processes. [...]

2nd ed. 2014. XVIII, 455 p. 26 illus.

(Universitext) Softcover

€ (D) 64,19 | € (A) 65,99 | *CHF 80.00
€ 59,99 | £ 39,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-3-642-37631-3



9 783642 376313

J. LaFontaine; M. Katz; M. Gromov; S. M. Bates; P. Pansu; P. Pansu; S. Semmes, (Eds)

Metric Structures for Riemannian and Non-Riemannian Spaces

Metric theory has undergone a dramatic phase transition in the last decades when its focus moved from the foundations of real analysis to Riemannian geometry and algebraic topology, to the theory of infinite groups and probability theory. The new wave began with seminal papers by Svarc and Milnor on the growth of groups and the spectacular proof of the rigidity of lattices by Mostow. This progress was followed by the creation of the asymptotic metric theory of infinite groups by Gromov. [...]

2007. XX, 586 p. 100 illus. (Modern Birkhäuser Classics) Softcover

€ (D) 71,68 | € (A) 73,69 | *CHF 75.50
€ 66,99 | £ 60,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-0-8176-4582-3



9 780817 645823

T. Lam

A First Course in Noncommutative Rings

A First Course in Noncommutative Rings, an outgrowth of the author's lectures at the University of California at Berkeley, is intended as a textbook for a one-semester course in basic ring theory. The material covered includes the Wedderburn-Artin theory of semisimple rings, Jacobson's theory of the radical, representation theory of groups and algebras, prime and semiprime rings, local and semilocal rings, perfect and semiperfect rings, etc. [...]

2nd ed. 2001. XIX, 388 p. (Graduate Texts in Mathematics, Volume 131) Hardcover

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

Yellow Sale Price

€ (D) 39,58 | € (A) 40,69 | *CHF 41.00
€ 36,99 | £ 27,99

978-0-387-95183-6



9 780387 951836

T. Lam

A First Course in Noncommutative Rings

A First Course in Noncommutative Rings, an outgrowth of the author's lectures at the University of California at Berkeley, is intended as a textbook for a one-semester course in basic ring theory. The material covered includes the Wedderburn-Artin theory of semisimple rings, Jacobson's theory of the radical, representation theory of groups and algebras, prime and semiprime rings, local and semilocal rings, perfect and semiperfect rings, etc. [...]

2nd ed. 2001. XIX, 388 p. (Graduate Texts in Mathematics, Volume 131) Softcover

€ (D) 52,38 | € (A) 53,85 | *CHF 78.00
€ 48,95 | £ 43,99

Yellow Sale Price

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

978-0-387-95325-0



9 780387 953250

T. Lam, University of Michigan, Ann Arbor, MI, USA; L. Lapointe, Universidad de Talca, Talca, Chile; J. Morse, Drexel University, Philadelphia, PA, USA; A. Schilling, University of California, Davis, CA, USA; M. Shimozone, Virginia Tech, Blacksburg, VA, USA; M. Zabrocki, York University, Toronto, ON, Canada

k-Schur Functions and Affine Schubert Calculus

This book gives an introduction to the very active field of combinatorics of affine Schubert calculus, explains the current state of the art, and states the current open problems. Affine Schubert calculus lies at the crossroads of combinatorics, geometry, and representation theory. Its modern development is motivated by two seemingly unrelated directions. [...]

2014. VIII, 219 p. 126 illus. (Fields Institute Monographs, Volume 33) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 113.50
€ 84,99 | £ 76,50

Yellow Sale Price

€ (D) 51,35 | € (A) 52,79 | *CHF 53.00
€ 47,99 | £ 35,99

978-1-4939-0681-9



9 781493 906819

T. Lam

Lectures on Modules and Rings

Textbook writing must be one of the cruelest of self-inflicted tortures. - Carl Faith Math Reviews 54: 5281 So why didn't I heed the warning of a wise colleague, especially one who is a great expert in the subject of modules and rings? The answer is simple: I did not learn about it until it was too late! My writing project in ring theory started in 1983 after I taught a year-long course in the subject at Berkeley. My original plan was to write up my lectures and publish them as a graduate text in a couple of years. [...]

1999. XXIII, 557 p. (Graduate Texts in Mathematics, Volume 189) Hardcover

€ (D) 71,64 | € (A) 73,65 | *CHF 108.00
€ 66,95 | £ 59,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-0-387-98428-5



9 780387 984285

S. Lang, Yale University Dept. Mathematics, New Haven, CT, USA

Algebra

From April 1999 Notices of the AMS, announcing that the author was awarded the Leroy P. Steele Prize for Mathematical Exposition for his many mathematics books: "Lang's Algebra changed the way graduate algebra is taught, retaining classical topics but introducing language and ways of thinking from category theory and homological algebra. It has affected all subsequent graduate-level algebra books." [...]

3rd ed. 2002. XV, 914 p. In 2 volumes, not available separately. (Graduate Texts in Mathematics, Volume 211) Hardcover

€ (D) 64,15 | € (A) 65,95 | *CHF 92.00
€ 59,95 | £ 53,99

Yellow Sale Price

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

978-0-387-95385-4



9 780387 953854

S. Lang, Yale University Dept. Mathematics, New Haven, CT, USA

Algebraic Number Theory

The present book gives an exposition of the classical basic algebraic and analytic number theory and supersedes my Algebraic Numbers, including much more material, e. g. the class field theory on which I make further comments at the appropriate place later. [...]

2nd ed. 1994. XIII, 357 p. (Graduate Texts in Mathematics, Volume 110) 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

978-0-387-94225-4



9 780387 942254

S. Lang, Yale University Dept. Mathematics,
New Haven, CT, USA

Algebraic Number Theory

The present book gives an exposition of the classical basic algebraic and analytic number theory and supersedes my Algebraic Numbers, including much more material, e. g. the class field theory on which I make further comments at the appropriate place later. [...]

2nd ed. 1994. XIII, 357 p. (Graduate Texts in Mathematics, Volume 110) Softcover

€ (D) 58,80 | € (A) 60,45 | *CHF 80.50
€ 54,95 | £ 46,99

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-1-4612-6922-9



9 781461 269229

S. Lang, Yale University Dept. Mathematics,
New Haven, CT, USA

Fundamentals of Differential Geometry

The present book aims to give a fairly comprehensive account of the fundamentals of differential manifolds and differential geometry. The size of the book influenced where to stop, and there would be enough material for a second volume (this is not a threat). At the most basic level, the book gives an introduction to the basic concepts which are used in differential topology, differential geometry, and differential equations. [...]

1999. XVII, 540 p. (Graduate Texts in Mathematics, Volume 191) Hardcover

€ (D) 71,68 | € (A) 73,69 | *CHF 75.50
€ 66,99 | £ 60,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-0-387-98593-0



9 780387 985930

S. Lang, Yale University Dept. Mathematics,
New Haven, CT, USA

Fundamentals of Differential Geometry

The present book aims to give a fairly comprehensive account of the fundamentals of differential manifolds and differential geometry. The size of the book influenced where to stop, and there would be enough material for a second volume (this is not a threat). At the most basic level, the book gives an introduction to the basic concepts which are used in differential topology, differential geometry, and differential equations. [...]

1999. XVII, 540 p. (Graduate Texts in Mathematics, Volume 191) Softcover

€ (D) 64,15 | € (A) 65,95 | *CHF 86.50
€ 59,95 | £ 49,99

Yellow Sale Price

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

978-1-4612-6810-9



9 781461 268109

M. L. Lapidus, University of California,
Riverside Dept. Mathematics, Riverside, CA,
USA; **M. van Frankenhuisen**, Utah Valley
State College Department of Mathematics,
Orem, UT, USA

Fractal Geometry, Complex Dimensions and Zeta Functions

Number theory, spectral geometry, and fractal geometry are interlinked in this in-depth study of the vibrations of fractal strings, that is, one-dimensional drums with fractal boundary. [...]

2nd ed. 2013. XXVI, 570 p. (Springer Monographs in Mathematics) Hardcover

€ (D) 85,59 | € (A) 87,99 | *CHF 91.00
€ 79,99 | £ 73,00

Yellow Sale Price

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

978-1-4614-2175-7



9 781461 421757

P. H. Lauritzen, National Center for
Atmospheric Research, Boulder, CO,
USA; **C. Jablonowski**, University of Michigan
Dept. Atmospheric, Oceanic &, Ann Arbor,
MI, USA; **M. A. Taylor**, Sandia National
Laboratories Organization 1433, MS-0370,
Albuquerque, NM, USA; **R. D. Nair**, National
Center for Atmospheric Research (NCAR),
Boulder, CO, USA (Eds)

Numerical Techniques for Global Atmospheric Models

This book surveys recent developments in numerical techniques for global atmospheric models. It is based upon a collection of lectures prepared by leading experts in the field. The chapters reveal the multitude of steps that determine the global atmospheric model design. [...]

2011. XVI, 564 p. (Lecture Notes in Computational Science and Engineering, Volume 80) 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

978-3-642-11639-1



9 783642 116391

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)

Arithmetic and Geometry of K3 Surfaces and Calabi–Yau Threefolds

In recent years, research in K3 surfaces and Calabi–Yau varieties has seen spectacular progress from both arithmetic and geometric points of view, which in turn continues to have a huge influence and impact in theoretical physics—in particular, in string theory. [...]

2013. XXVI, 602 p. 41 illus., 16 illus. in color. (Fields Institute Communications, Volume 67) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 149.50
€ 129,99 | £ 119,50

Yellow Sale Price

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

978-1-4614-6402-0



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J. M. Lee

Riemannian Manifolds

This book is designed as a textbook for a one-quarter or one-semester graduate course on Riemannian geometry, for students who are familiar with topological and orientable manifolds. It focuses on developing an intimate acquaintance with the geometric meaning of curvature. In so doing, it introduces and demonstrates the uses of all the main technical tools needed for a careful study of Riemannian manifolds. I have selected a set of topics that can reasonably be covered in ten to fifteen weeks, instead of making any attempt to provide an encyclopedic treatment of the subject. [...]

1997. XV, 226 p. (Graduate Texts in Mathematics, Volume 176) Hardcover
 € (D) 67,36 | € (A) 69,25 | *CHF 99.50
 € 62,95 | £ 56,99

Yellow Sale Price

€ (D) 34,23 | € (A) 35,19 | *CHF 35.50
 € 31,99 | £ 23,99

978-0-387-98271-7



J. M. Lee

Riemannian Manifolds

This book is designed as a textbook for a one-quarter or one-semester graduate course on Riemannian geometry, for students who are familiar with topological and orientable manifolds. It focuses on developing an intimate acquaintance with the geometric meaning of curvature. In so doing, it introduces and demonstrates the uses of all the main technical tools needed for a careful study of Riemannian manifolds. I have selected a set of topics that can reasonably be covered in ten to fifteen weeks, instead of making any attempt to provide an encyclopedic treatment of the subject. [...]

1997. XV, 226 p. (Graduate Texts in Mathematics, Volume 176) Softcover
 € (D) 43,82 | € (A) 45,05 | *CHF 63.50
 € 40,95 | £ 36,99

Yellow Sale Price

€ (D) 22,46 | € (A) 23,09 | *CHF 23.50
 € 20,99 | £ 15,99

978-0-387-98322-6



G. Leugering, Universität Erlangen-Nürnberg, Germany; P. Benner, Max-Planck-Institut, Magdeburg, Germany; S. Engell, Technische Universität Dortmund, Germany; A. Griewank, Humboldt-Universität zu Berlin, Germany; H. Harbrecht, Universität Basel, Switzerland; M. Hinze, Universität Hamburg, Germany; R. Rannacher, Ruprecht-Karls-Universität Heidelberg, Germany; S. Ulbrich, Technische Universität Darmstadt, Germany (Eds)

Trends in PDE Constrained Optimization

Optimization problems subject to constraints governed by partial differential equations (PDEs) are among the most challenging problems in the context of industrial, economical and medical applications. [...]

2014. XIV, 543 p. 119 illus., 76 illus. in color. (International Series of Numerical Mathematics, Volume 165) Hardcover
 € (D) 117,69 | € (A) 120,99 | *CHF 146.50
 € 109,99 | £ 99,00

Yellow Sale Price

€ (D) 66,33 | € (A) 68,19 | *CHF 68.50
 € 61,99 | £ 46,99

978-3-319-05082-9



M. A. Lewis, University of Alberta Mathematical & Statistical Sciences, Edmonton, AB, Canada; P. K. Maini, University of Oxford Mathematical Institute, Oxford, UK; S. V. Petrovskii, University of Leicester Department of Mathematics, Leicester, UK (Eds)

Dispersal, Individual Movement and Spatial Ecology

Dispersal of plants and animals is one of the most fascinating subjects in ecology. It has long been recognized as an important factor affecting ecosystem dynamics. Dispersal is apparently a phenomenon of biological origin; however, because of its complexity, it cannot be studied comprehensively by biological methods alone. [...]

2013. XIV, 385 p. 96 illus., 49 illus. in color. (Lecture Notes in Mathematics, Volume 2071) Softcover
 € (D) 74,85 | € (A) 76,95 | *CHF 93.50
 € 69,95 | £ 62,99

Yellow Sale Price

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

978-3-642-35496-0



D. Liberzon

Switching in Systems and Control

Many systems encountered in practice involve a coupling between continuous dynamics and discrete events. Systems in which these two kinds of dynamics coexist and interact are usually called hybrid. [...]

Requiring only familiarity with the basic theory of linear systems, the book is suitable as a text for a graduate course on switched systems and switching control. It may also serve as an introduction to this active area of research for control theorists and mathematicians, as well as a useful reference for experts in the field.

2003. XIII, 233 p. (Systems & Control: Foundations & Applications) Hardcover
 € (D) 64,09 | € (A) 65,89 | *CHF 105.00
 € 59,90 | £ 47,99

Yellow Sale Price

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

978-0-8176-4297-6



W. Lickorish

An Introduction to Knot Theory

This account is an introduction to mathematical knot theory, the theory of knots and links of simple closed curves in three-dimensional space. Knots can be studied at many levels and from many points of view. They can be admired as artifacts of the decorative arts and crafts, or viewed as accessible intimations of a geometrical sophistication that may never be attained. The study of knots can be given some motivation in terms of applications in molecular biology or by reference to parallels in equilibrium statistical mechanics or quantum field theory. [...]

1997. X, 204 p. (Graduate Texts in Mathematics, Volume 175) Hardcover
 € (D) 64,15 | € (A) 65,95 | *CHF 92.00
 € 59,95 | £ 53,99

Yellow Sale Price

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

978-0-387-98254-0



S. L. Lipscomb, Emeritus Professor of Mathematics, University of Mary Washington, Fredericksburg, VA, USA

Art Meets Mathematics in the Fourth Dimension

To see objects that live in the fourth dimension we humans would need to add a fourth dimension to our three-dimensional vision. An example of such an object that lives in the fourth dimension is a hyper-sphere or "3-sphere." The quest to imagine the elusive 3-sphere has deep historical roots: medieval poet Dante Alighieri used a 3-sphere to convey his allegorical vision of the Christian afterlife in his Divine Comedy. In 1917, Albert Einstein visualized the universe as a 3-sphere, describing this imagery as "the place where the reader's imagination boggles. [...]"

2nd ed. 2014. XVII, 184 p. 147 illus., 28 illus. in color. Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 113.50
€ 84,99 | £ 76,50

Yellow Sale Price

€ (D) 51,35 | € (A) 52,79 | *CHF 53.00
€ 47,99 | £ 35,99

978-3-319-06253-2



9 783319 062532

J. Loday, IRMA, CNRS et Université de Strasbourg Inst. Recherche Mathématique Avancée, Strasbourg, France; **B. Vallette**, Université de Nice-Sophia Antipolis Lab. de Mathématiques J.A. Dieudonné, Nice cedex 02, France

Algebraic Operads

In many areas of mathematics some "higher operations" are arising. These have become so important that several research projects refer to such expressions. Higher operations form new types of algebras. The key to understanding and comparing them, to creating invariants of their action is operad theory. [...]"

2012. XXIV, 636 p. (Grundlehren der mathematischen Wissenschaften, Volume 346) Hardcover

€ (D) 117,65 | € (A) 120,95 | *CHF 146.50
€ 109,95 | £ 99,00

Yellow Sale Price

€ (D) 59,91 | € (A) 61,59 | *CHF 61.50
€ 55,99 | £ 41,99

978-3-642-30361-6



9 783642 303616

E. Lozansky; C. Rousseau, University of Memphis Dept. Mathematical Sciences, Memphis, TN, USA

Winning Solutions

Problem-solving competitions for mathematically talented secondary school students have burgeoned in recent years. The number of countries taking part in the International Mathematical Olympiad (IMO) has increased dramatically. In the United States, potential IMO team members are identified through the USA Mathematical Olympiad (USAMO), and most other participating countries use a similar selection procedure. Thus the number of such competitions has grown, and this growth has been accompanied by increased public interest in the accomplishments of mathematically talented young people. [...]"

1996. X, 260 p. (Problem Books in Mathematics) Softcover

€ (D) 71,68 | € (A) 73,69 | *CHF 89.00
€ 66,99 | £ 60,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-0-387-94743-3



9 780387 947433

K. Luoto, University of British Columbia, Vancouver, BC, Canada; **S. Mykytiuk**, York University, Toronto, ON, Canada; **S. van Willigenburg**, University of British Columbia, Vancouver, BC, Canada

An Introduction to Quasisymmetric Schur Functions

An Introduction to Quasisymmetric Schur Functions is aimed at researchers and graduate students in algebraic combinatorics. The goal of this monograph is twofold. The first goal is to provide a reference text for the basic theory of Hopf algebras, in particular the Hopf algebras of symmetric, quasisymmetric and noncommutative symmetric functions and connections between them.

2013. XIV, 89 p. 75 illus. (SpringerBriefs in Mathematics) 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

978-1-4614-7299-5



9 781461 472995

S. MacLane, Heidelberg, Germany; **I. Moerdijk**, Universiteit Nijmegen, Nijmegen, Netherlands

Sheaves in Geometry and Logic

We dedicate this book to the memory of J. Frank Adams. His clear insights have inspired many mathematicians, including both of us. In January 1989, when the first draft of our book had been completed, we heard the sad news of his untimely death. This has cast a shadow on our subsequent work. [...]"

1992. XII, 630 p. (Universitext) Softcover

€ (D) 71,64 | € (A) 73,65 | *CHF 104.00
€ 66,95 | £ 59,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-0-387-97710-2



9 780387 977102

B. B. Mandelbrot; P.H. Cootner; R.E. Gomory; E.F. Fama; W.S. Morris; H.M. Taylor

Fractals and Scaling in Finance

IN 1959-61, while the huge Saarinen-designed research laboratory at Yorktown Heights was being built, much of IBM's Research was housed nearby. My group occupied one of the many little houses on the Lamb Estate complex which had been a sanatorium housing wealthy alcoholics. The picture below was taken about 1960. It shows from right to left, T. e. Hu, now at the University of California, Santa Barbara. I am next, staring at a network I have just written on the blackboard. [...]"

1997. X, 551 p. (1+2-Pferdchen) Hardcover

€ (D) 96,29 | € (A) 98,99 | *CHF 99.50
€ 89,99 | £ 79,50

Yellow Sale Price

€ (D) 48,14 | € (A) 49,49 | *CHF 49.50
€ 44,99 | £ 33,99

978-0-387-98363-9



9 780387 983639

V. Mandrekar, Michigan State University, East Lansing, MI, USA; **B. Rüdiger**, University of Wuppertal, Wuppertal, Germany

Stochastic Integration in Banach Spaces

Considering Poisson random measures as the driving sources for stochastic (partial) differential equations allows us to incorporate jumps and to model sudden, unexpected phenomena. By using such equations the present book introduces a new method for modeling the states of complex systems perturbed by random sources over time, such as interest rates in financial markets or temperature distributions in a specific region. It studies properties of the solutions of the stochastic equations, observing the long-term behavior and the sensitivity of the solutions to changes in the initial data. [...]

2015. VIII, 211 p. (Probability Theory and Stochastic Modelling, Volume 73) Hardcover
 € (D) 74,89 | € (A) 76,99 | *CHF 93.50
 € 69,99 | £ 62,99

Yellow Sale Price
 € (D) 47,07 | € (A) 48,39 | *CHF 48.50
 € 43,99 | £ 32,99

978-3-319-12852-8



9 783319 128528

N. Koblitz, University of Washington Dept. Mathematics, Seattle, WA, USA; **B. Zilber**, University of Oxford Mathematical Institute, Oxford, UK; **Yu. I. Manin**, MPI für Mathematik, Bonn, Germany

A Course in Mathematical Logic for Mathematicians

1. The first edition of this book was published in 1977. The text has been well received and is still used, although it has been out of print for some time. In the intervening three decades, a lot of interesting things have happened to mathematical logic: (i) Model theory has shown that insights acquired in the study of formal languages could be used fruitfully in solving old problems of conventional mathematics. [...]

2nd ed. 2010. XVIII, 384 p. 12 illus. (Graduate Texts in Mathematics, Volume 53) 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

978-1-4419-0614-4



9 781441 906144

Yu. I. Manin, MPI für Mathematik, Bonn, Germany; **A. A. Panchishkin**, Université Grenoble Inst. Fourier, St. Martin d'Hères CX, France

Introduction to Modern Number Theory

"Introduction to Modern Number Theory" surveys from a unified point of view both the modern state and the trends of continuing development of various branches of number theory. Motivated by elementary problems, the central ideas of modern theories are exposed. Some topics covered include non-Abelian generalizations of class field theory, recursive computability and Diophantine equations, zeta- and L-functions. [...]

2nd ed. 2005. XVI, 514 p. (Encyclopaedia of Mathematical Sciences, Volume 49) Hardcover

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

Yellow Sale Price
 € (D) 74,89 | € (A) 76,99 | *CHF 77.00
 € 69,99 | £ 52,99

978-3-540-20364-3



9 783540 203643

M. Manzano, University of Salamanca, Salamanca, Spain; **I. Sain**, Hungarian Academy of Sciences, Budapest, Hungary; **E. Alonso**, Autonomous University of Madrid, Madrid, Spain (Eds)

The Life and Work of Leon Henkin

This is a comprehensive book on the life and works of Leon Henkin (1921–2006), an extraordinary scientist and excellent teacher whose writings became influential right from the beginning of his career with his doctoral thesis on "The completeness of formal systems" under the direction of Alonzo Church. [...]

2014. XXII, 351 p. 14 illus., 1 illus. in color. (Studies in Universal Logic) Softcover

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

Yellow Sale Price
 € (D) 36,37 | € (A) 37,39 | *CHF 37.50
 € 33,99 | £ 25,99

978-3-319-09718-3



9 783319 097183

G. Mason, University of California, Santa Cruz, Santa Cruz, CA, USA; **I. Penkov**, Jacobs University, Bremen, Germany; **J. A. Wolf**, University of California, Berkeley, Berkeley, CA, USA (Eds)

Developments and Retrospectives in Lie Theory Algebraic Methods

The Lie Theory Workshop, founded by Joe Wolf (UC, Berkeley), has been running for over two decades. These workshops have been sponsored by the NSF, noting the talks have been seminal in describing new perspectives in the field covering broad areas of current research. At the beginning, the top universities in California and Utah hosted the meetings which continue to run on a quarterly basis. [...]

2014. X, 397 p. 85 illus. (Developments in Mathematics, Volume 38) Hardcover

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

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 € 53,99 | £ 40,99

978-3-319-09803-6



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G. Mason, University of California, Santa Cruz, Santa Cruz, CA, USA; **I. Penkov**, Jacobs University, Bremen, Germany; **J. A. Wolf**, University of California, Berkeley, Berkeley, CA, USA (Eds)

Developments and Retrospectives in Lie Theory Geometric and Analytic Methods

The Lie Theory Workshop, founded by Joe Wolf (UC, Berkeley), has been running for over two decades. At the beginning, the top universities in California and Utah hosted the meetings, which continue to run on a quarterly basis. Experts in representation theory/Lie theory from various parts of the US, Europe, Asia (China, Japan, Singapore, Russia), Canada, and South and Central America were routinely invited to give talks at these meetings. Nowadays, the workshops are also hosted at universities in Louisiana, Virginia, and Oklahoma. [...]

2014. IX, 268 p. (Developments in Mathematics, Volume 37) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 113.50
 € 84,99 | £ 76,50

Yellow Sale Price
 € (D) 52,42 | € (A) 53,89 | *CHF 54.00
 € 48,99 | £ 36,99

978-3-319-09933-0



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P. Massart, Université Paris-Sud XI CNRS, Orsay CX, France; **J. Picard**, Université Clermont-Ferrand II Lab. Mathématiques Appliquées, Aubiere CX, France (Eds)

Concentration Inequalities and Model Selection

Since the impressive works of Talagrand, concentration inequalities have been recognized as fundamental tools in several domains such as geometry of Banach spaces or random combinatorics. They also turn out to be essential tools to develop a non-asymptotic theory in statistics, exactly as the central limit theorem and large deviations are known to play a central part in the asymptotic theory. An overview of a non-asymptotic theory for model selection is given here and some selected applications to variable selection, change points detection and statistical learning are discussed. [...]

2007. XIV, 343 p. (Lecture Notes in Mathematics, Volume 1896) Softcover
 € (D) 60,94 | € (A) 62,65 | *CHF 82.00
 € 56,95 | £ 51,99

Yellow Sale Price

€ (D) 31,02 | € (A) 31,89 | *CHF 32.00
 € 28,99 | £ 19,99

978-3-540-48497-4



V. Maz'ya, Linköping University Department of Mathematics, Linköping, Sweden; **T. O. Shaposhnikova**, Linköping University Dept. Mathematics, Linköping, Sweden

Sobolev Spaces

Sobolev spaces play an outstanding role in modern analysis, in particular, in the theory of partial differential equations and its applications in mathematical physics. They form an indispensable tool in approximation theory, spectral theory, differential geometry etc. The theory of these spaces is of interest in itself being a beautiful domain of mathematics. [...]

2nd ed. 2011. XXVIII, 866 p. 38 illus. (Grundlehren der mathematischen Wissenschaften, Volume 342) Hardcover
 € (D) 139,05 | € (A) 142,95 | *CHF 186.50
 € 129,95 | £ 117,00

Yellow Sale Price

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

978-3-642-15563-5



J. M. McCarthy, University of California, Irvine, Irvine, CA, USA; **G. S. Soh**, Singapore Institute of Manufacturing Tec, Singapore, Singapore

Geometric Design of Linkages

This book is an introduction to the mathematical theory of design for articulated mechanical systems known as linkages. The focus is on sizing mechanical constraints that guide the movement of a work piece, or end-effector, of the system. The function of the device is prescribed as a set of positions to be reachable by the end-effector; and the mechanical constraints are formed by joints that limit relative movement. The goal is to find all the devices that can achieve a specific task. Formulated in this way the design problem is purely geometric in character. [...]

2nd ed. 2011. XXVIII, 448 p. (Interdisciplinary Applied Mathematics, Volume 11) Hardcover
 € (D) 96,25 | € (A) 98,95 | *CHF 129.00
 € 89,95 | £ 81,00

Yellow Sale Price

€ (D) 48,14 | € (A) 49,49 | *CHF 49.50
 € 44,99 | £ 33,99

978-1-4419-7891-2



A. McFarland, Plock, Poland; **J. McFarland**, Plock, Poland; **J. T. Smith**, San Francisco State University, San Francisco, CA, USA; **I. Grattan-Guinness**, Bengeo, UK (Eds)

Alfred Tarski

Alfred Tarski (1901–1983) was a renowned Polish/American mathematician, a giant of the twentieth century, who helped establish the foundations of geometry, set theory, model theory, algebraic logic and universal algebra. Throughout his career, he taught mathematics and logic at universities and sometimes in secondary schools. Many of his writings before 1939 were in Polish and remained inaccessible to most mathematicians and historians until now. [...]

2014. XXIII, 499 p. 126 illus., 10 illus. in color. Hardcover
 € (D) 117,69 | € (A) 120,99 | *CHF 146.50
 € 109,99 | £ 99,00

Yellow Sale Price

€ (D) 66,33 | € (A) 68,19 | *CHF 68.50
 € 61,99 | £ 46,99

978-1-4939-1473-9



R. E. Megginson

An Introduction to Banach Space Theory

Many important reference works in Banach space theory have appeared since Banach's "Théorie des Opérations Linéaires", the impetus for the development of much of the modern theory in this field. While these works are classical starting points for the graduate student wishing to do research in Banach space theory, they can be formidable reading for the student who has just completed a course in measure theory and integration that introduces the L_p spaces and would like to know more about Banach spaces in general. [...]

1998. XIX, 599 p. (Graduate Texts in Mathematics, Volume 183) Hardcover
 € (D) 71,64 | € (A) 73,65 | *CHF 104.50
 € 66,95 | £ 59,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
 € 33,99 | £ 25,99

978-0-387-98431-5



P. R. Mercer, SUNY Buffalo State, Buffalo, NY, USA

More Calculus of a Single Variable

This book goes beyond the basics of a first course in calculus to reveal the power and richness of the subject. Standard topics from calculus — such as the real numbers, differentiation and integration, mean value theorems, the exponential function — are reviewed and elucidated before digging into a deeper exploration of theory and applications, such as the AGM inequality, convexity, the art of integration, and explicit formulas for π . Further topics and examples are introduced through a plethora of exercises that both challenge and delight the reader. [...]

2014. XVI, 411 p. 60 illus. (Undergraduate Texts in Mathematics) 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

978-1-4939-1925-3



E. Miller, University of Minnesota School of Mathematics, Minneapolis, MN, USA; **B. Sturmfels**, University of California, Berkeley, Berkeley, CA, USA

Combinatorial Commutative Algebra

Combinatorial commutative algebra is an active area of research with thriving connections to other fields of pure and applied mathematics. This book provides a self-contained introduction to the subject, with an emphasis on combinatorial techniques for multigraded polynomial rings, semigroup algebras, and determinantal rings. [...]

2005. XIV, 420 p. (Graduate Texts in Mathematics, Volume 227) Hardcover
 € (D) 80,20 | € (A) 82,45 | *CHF 116.50
 € 74,95 | £ 67,99

Yellow Sale Price
 € (D) 40,65 | € (A) 41,79 | *CHF 42.00
 € 37,99 | £ 28,99

978-0-387-22356-8



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W.S. Massey

Singular Homology Theory

The main purpose of this book is to give a systematic treatment of singular homology and cohomology theory. It is in some sense a sequel to the author's previous book in this Springer-Verlag series entitled Algebraic Topology: An Introduction. This earlier book is definitely not a logical prerequisite for the present volume. However, it would certainly be advantageous for a prospective reader to have an acquaintance with some of the topics treated in that earlier volume, such as 2-dimensional manifolds and the fundamental group. [...]

1991. XII, 268 p. (Graduate Texts in Mathematics, Volume 127) Hardcover
 € (D) 64,19 | € (A) 65,99 | *CHF 86.50
 € 59,99 | £ 50,99

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

978-0-387-97430-9



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I. Molchanov

Theory of Random Sets

Stochastic geometry is a relatively new branch of mathematics. Although its predecessors such as geometric probability date back to the 18th century, the formal concept of a random set was developed in the beginning of the 1970s. Theory of Random Sets presents a state of the art treatment of the modern theory, but it does not neglect to recall and build on the foundations laid by Matheron and others, including the vast advances in stochastic geometry, probability theory, set-valued analysis, and statistical inference of the 1990s. [...]

2005. XVI, 488 p. (Probability and Its Applications) Hardcover
 € (D) 106,99 | € (A) 109,99 | *CHF 133.50
 € 99,99 | £ 90,00

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

978-1-85233-892-3



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P. Morandi

Field and Galois Theory

In the fall of 1990, I taught Math 581 at New Mexico State University for the first time. This course on field theory is the first semester of the year-long graduate algebra course here at NMSU. In the back of my mind, I thought it would be nice someday to write a book on field theory, one of my favorite mathematical subjects, and I wrote a crude form of lecture notes that semester. Those notes sat undisturbed for three years until late in 1993 when I finally made the decision to turn the notes into a book. [...]

1996. XVI, 284 p. (Graduate Texts in Mathematics, Volume 167) 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

978-0-387-94753-2



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G. Molenberghs, Hasselt University Center for Statistics, Diepenbeek, Belgium; **G. Verbeke**, Katholieke Universiteit Leuven Biostatistisch Centrum, Leuven, Belgium

Models for Discrete Longitudinal Data

2005. XXII, 687 p. (Springer Series in Statistics) Hardcover
 € (D) 165,84 | € (A) 170,49 | *CHF 174.50
 € 154,99 | £ 139,50

Yellow Sale Price
 € (D) 83,45 | € (A) 85,79 | *CHF 86.00
 € 77,99 | £ 57,99

978-0-387-25144-8



9 780387 251448

M. R. Murty, Queen's University, Kingston, ON, Canada; **P. Rath**, Chennai Mathematical Institute, Siruseri, India

Transcendental Numbers

This book provides an introduction to the topic of transcendental numbers for upper-level undergraduate and graduate students. The text is constructed to support a full course on the subject, including descriptions of both relevant theorems and their applications. While the first part of the book focuses on introducing key concepts, the second part presents more complex material, including applications of Baker's theorem, Schanuel's conjecture, and Schneider's theorem. [...]

2014. XIV, 217 p. Softcover
 € (D) 53,49 | € (A) 54,99 | *CHF 67.00
 € 49,99 | £ 44,99

Yellow Sale Price
 € (D) 29,95 | € (A) 30,79 | *CHF 31.00
 € 27,99 | £ 19,99

978-1-4939-0831-8



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A. Nagurney, University of Massachusetts Isenberg School of Management, Amherst, MA, USA; **M. Yu**, University of Portland, Portland, OR, USA; **A. H. Masoumi**, University of Massachusetts Amherst, Amherst, MA, USA; **L. S. Nagurney**, University of Hartford, West Hartford, CT, USA

Networks Against Time

Despite significant achievements, the discipline of supply chain management is still unable to satisfactorily handle many practical real-world challenges. The authors of *Networks Against Time* claim that a unified supply chain network analytics framework is needed which should be able to handle optimization and competitive behavior while also maintain relevance to many industrial sectors in which perishable products are prominent, from healthcare to food and from fashion apparel to technology. [...]

2013. IX, 142 p. 25 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

978-1-4614-6276-7



M. B. Nathanson, City University of New York Lehman College, Bronx, NY, USA

Additive Number Theory The Classical Bases

[Hilbert's] style has not the terseness of many of our modern authors in mathematics, which is based on the assumption that printer's labor and paper are costly but the reader's effort and time are not. H. Weyl [143] The purpose of this book is to describe the classical problems in additive number theory and to introduce the circle method and the sieve method, which are the basic analytical and combinatorial tools used to attack these problems. This book is intended for students who want to ill additive number theory, not for experts who already know it. [...]

1996. XIV, 342 p. (Graduate Texts in Mathematics, Volume 164) Hardcover

€ (D) 96,29 | € (A) 98,99 | *CHF 99,50
€ 89,99 | £ 79,50

Yellow Sale Price

€ (D) 48,14 | € (A) 49,49 | *CHF 49,50
€ 44,99 | £ 33,99

978-0-387-94656-6



M. B. Nathanson, City University of New York Lehman College, Bronx, NY, USA

Elementary Methods in Number Theory

Elementary Methods in Number Theory begins with "a first course in number theory" for students with no previous knowledge of the subject. The main topics are divisibility, prime numbers, and congruences. There is also an introduction to Fourier analysis on finite abelian groups, and a discussion on the abc conjecture and its consequences in elementary number theory. In the second and third parts of the book, deep results in number theory are proved using only elementary methods. [...]

2000. XVIII, 514 p. (Graduate Texts in Mathematics, Volume 195) 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

978-0-387-98912-9



J. Necas, Academy of Sciences Inst. Mathematics, Prague, Czech Republic; **C. G. Simader**, Universität Bayreuth LS Mathematik III, Germany; **Š. Necasová**, Academy of Sciences, Prague, Czech Republic; **G. Tronel**, Université Pierre et Marie Curie Laboratoire Jacques-Louis Lions, Paris, France; **A. Kufner**, Academy of Sciences Institute of Mathematics, Prague, Czech Republic

Direct Methods in the Theory of Elliptic Equations

Nečas' book *Direct Methods in the Theory of Elliptic Equations*, published 1967 in French, has become a standard reference for the mathematical theory of linear elliptic equations and systems. This English edition, translated by G. Tronel and A. Kufner, presents Nečas' work essentially in the form it was published in 1967. [...]

2012. XVI, 372 p. (Springer Monographs in Mathematics) Hardcover

€ (D) 96,25 | € (A) 98,95 | *CHF 124,00
€ 89,95 | £ 81,00

Yellow Sale Price

€ (D) 48,14 | € (A) 49,49 | *CHF 49,50
€ 44,99 | £ 33,99

978-3-642-10454-1



J. Neukirch, Heidelberg, Germany; **N. Schappacher**, Université Strasbourg I Inst. Mathématiques, Strasbourg CX, France

Algebraic Number Theory

From the review: "The present book has as its aim to resolve a discrepancy in the textbook literature and ... to provide a comprehensive introduction to algebraic number theory which is largely based on the modern, unifying conception of (one-dimensional) arithmetic algebraic geometry. Despite this exacting program, the book remains an introduction to algebraic number theory for the beginner... The author discusses the classical concepts from the viewpoint of Arakelov theory.... The treatment of class field theory is ... [...]"

1999. XVII, 574 p. (Grundlehren der mathematischen Wissenschaften, Volume 322) Hardcover

€ (D) 117,65 | € (A) 120,95 | *CHF 158,00
€ 109,95 | £ 87,00

Yellow Sale Price

€ (D) 58,84 | € (A) 60,49 | *CHF 60,50
€ 54,99 | £ 40,99

978-3-540-65399-8



J. Neukirch, Heidelberg, Germany; **A. Schmidt**, Universität Heidelberg, Heidelberg, Germany; **K. Wingberg**, Universität Heidelberg, Heidelberg, Germany

Cohomology of Number Fields

This second edition will be a standard reference from the outset, continuing the success of the first one." (Cornelius Greither, Zentralblatt MATH, Vol. 1136 (14), 2008)

2nd ed. 2008. XV, 826 p. (Grundlehren der mathematischen Wissenschaften, Volume 323) Hardcover

€ (D) 139,05 | € (A) 142,95 | *CHF 173,00
€ 129,95 | £ 117,00

Yellow Sale Price

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

978-3-540-37888-4



D. Nicolay, London, UK

Asymptotic Chaos Expansions in Finance

Stochastic instantaneous volatility models such as Heston, SABR or SV-LMM have mostly been developed to control the shape and joint dynamics of the implied volatility surface. In principle, they are well suited for pricing and hedging vanilla and exotic options, for relative value strategies or for risk management. In practice however, most SV models lack a closed form valuation for European options. This book presents the recently developed Asymptotic Chaos Expansions methodology (ACE) which addresses that issue. [...]

2014. XXII, 491 p. 34 illus., 26 illus. in color. (Springer Finance) Softcover

€ (D) 106,99 | € (A) 109,99 | *CHF 133.50
€ 99,99 | £ 90,00

Yellow Sale Price

€ (D) 59,91 | € (A) 61,59 | *CHF 61.50
€ 55,99 | £ 41,99

978-1-4471-6505-7



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J. Noguchi, The University of Tokyo, Tokyo, Japan; J. Winkelmann, Ruhr-Universität Bochum, Bochum, Germany

Nevanlinna Theory in Several Complex Variables and Diophantine Approximation

The aim of this book is to provide a comprehensive account of higher dimensional Nevanlinna theory and its relations with Diophantine approximation theory for graduate students and interested researchers. This book with nine chapters systematically describes Nevanlinna theory of meromorphic maps between algebraic varieties or complex spaces, building up from the classical theory of meromorphic functions on the complex plane with full proofs in Chap. 1 to the current state of research. [...]

2014. XIV, 416 p. 6 illus. (Grundlehren der mathematischen Wissenschaften, Volume 350) Hardcover

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

Yellow Sale Price

€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-4-431-54570-5



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D. Nualart, University of Kansas Dept. Mathematics, Lawrence, KS, USA

The Malliavin Calculus and Related Topics

There have been ten years since the publication of the first edition of this book. Since then, new applications and developments of the Malliavin calculus have appeared. In preparing this second edition we have taken into account some of these new applications, and in this spirit, the book has two additional chapters that deal with the following two topics: Fractional Brownian motion and Mathematical Finance. The presentation of the Malliavin calculus has been slightly [...]

2nd ed. 2006. XIV, 382 p. (Probability and Its Applications) Hardcover

€ (D) 85,59 | € (A) 87,99 | *CHF 106.50
€ 79,99 | £ 72,00

Yellow Sale Price

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

978-3-540-28328-7



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R. E. O'Malley, University of Washington, Seattle, WA, USA

Historical Developments in Singular Perturbations

This engaging text describes the development of singular perturbations, including its history, accumulating literature, and its current status. While the approach of the text is sophisticated, the literature is accessible to a broad audience. A particularly valuable bonus are the historical remarks. These remarks are found throughout the manuscript. They demonstrate the growth of mathematical thinking on this topic by engineers and mathematicians. The book focuses on detailing how the various methods are to be applied. These are illustrated by a number and variety of examples. [...]

2014. X, 256 p. 17 illus. Hardcover

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

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-3-319-11923-6



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E. Pardoux, Université d'Aix-Marseille, Marseille, France; A. Răşcanu, Alexandru Ioan Cuza University, Iasi, Romania

Stochastic Differential Equations, Backward SDEs, Partial Differential Equations

This research monograph presents results to researchers in stochastic calculus, forward and backward stochastic differential equations, connections between diffusion processes and second order partial differential equations (PDEs), and financial mathematics. It pays special attention to the relations between SDEs/BSDEs and second order PDEs under minimal regularity assumptions, and also extends those results to equations with multivalued coefficients. [...]

2014. XVII, 667 p. (Stochastic Modelling and Applied Probability, Volume 69) Hardcover

€ (D) 149,79 | € (A) 153,99 | *CHF 186.50
€ 139,99 | £ 126,00

Yellow Sale Price

€ (D) 84,52 | € (A) 86,89 | *CHF 87.00
€ 78,99 | £ 58,99

978-3-319-05713-2



9 783319 057132

A. Pascucci, Bologna, Italy

PDE and Martingale Methods in Option Pricing

This book offers an introduction to the mathematical, probabilistic and numerical methods used in the modern theory of option pricing. The text is designed for readers with a basic mathematical background. The first part contains a presentation of the arbitrage theory in discrete time. In the second part, the theories of stochastic calculus and parabolic PDEs are developed in detail and the classical arbitrage theory is analyzed in a Markovian setting by means of PDEs techniques. [...]

2011. XVII, 721 p. (Bocconi & Springer Series) Hardcover

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

Yellow Sale Price

€ (D) 35,30 | € (A) 36,29 | *CHF 36.50
€ 32,99 | £ 24,99

978-88-470-1780-1



9 788847 017801

F. Paugam, Université Pierre et Marie Curie, Paris, France

Towards the Mathematics of Quantum Field Theory

This ambitious and original book sets out to introduce to mathematicians (even including graduate students) the mathematical methods of theoretical and experimental quantum field theory, with an emphasis on coordinate-free presentations of the mathematical objects in use. This in turn promotes the interaction between mathematicians and physicists by supplying a common and flexible language for the good of both communities, though mathematicians are the primary target. [...]

2014. XVI, 487 p. 77 illus., 1 illus. in color. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 59) Hardcover

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

Yellow Sale Price

€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-3-319-04563-4



G. Peccati, Luxembourg University, Luxembourg Ville, Luxembourg; **M. S. Taqqu**,

Wiener Chaos: Moments, Cumulants and Diagrams

The concept of Wiener chaos generalizes to an infinite-dimensional setting the properties of orthogonal polynomials associated with probability distributions on the real line. It plays a crucial role in modern probability theory, with applications ranging from Malliavin calculus to stochastic differential equations and from probabilistic approximations to mathematical finance. This book is concerned with combinatorial structures arising from the study of chaotic random variables related to infinitely divisible random measures. [...]

2011. XIII, 274 p. (Bocconi & Springer Series, Volume 1) Hardcover

€ (D) 106,99 | € (A) 109,99 | *CHF 133.50
€ 99,99 | £ 90,00

Yellow Sale Price

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

978-88-470-1678-1



E. Platen, University of Technology, Sydney Dept. Mathematical Sciences, Sydney, NSW, Australia; **N. Bruti-Liberati**, University of Technology, Sydney Dept. Mathematical Sciences, Broadway, NSW, Australia

Numerical Solution of Stochastic Differential Equations with Jumps in Finance

In financial and actuarial modeling and other areas of application, stochastic differential equations with jumps have been employed to describe the dynamics of various state variables. The numerical solution of such equations is more complex than that of those only driven by Wiener processes, described in Kloeden & Platen: Numerical Solution of Stochastic Differential Equations (1992). [...]

2010. XXVI, 856 p. 169 illus. (Stochastic Modelling and Applied Probability, Volume 64) 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

978-3-642-12057-2



A. Popov, Lomonosov Moscow State University, Moscow, Russia; **A. Iacob**, Mathematical Reviews, Ann Arbor, MI, USA

Lobachevsky Geometry and Modern Nonlinear Problems

This monograph presents the basic concepts of hyperbolic Lobachevsky geometry and their possible applications to modern nonlinear applied problems in mathematics and physics, summarizing the findings of roughly the last hundred years. The central sections cover the classical building blocks of hyperbolic Lobachevsky geometry, pseudo spherical surfaces theory, net geometrical investigative techniques of nonlinear differential equations in partial derivatives, and their applications to the analysis of the physical models. [...]

2014. VIII, 310 p. 103 illus. (Wissenschaftsprogramm nur englisch(Birkhäuser)) Hardcover

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

Yellow Sale Price

€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-3-319-05668-5



M. H. Protter, ; **C. B. Jr. Morrey**,

A First Course in Real Analysis

Many changes have been made in this second edition of A First Course in Real Analysis. The most noticeable is the addition of many problems and the inclusion of answers to most of the odd-numbered exercises. The book's readability has also been improved by the further clarification of many of the proofs, additional explanatory remarks, and clearer notation.

2nd ed. 1991. XVIII, 536 p. (Undergraduate Texts in Mathematics) Hardcover

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

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-0-387-97437-8



P. Protter, Columbia University Department of Statistics, New York, NY, USA

Stochastic Integration and Differential Equations

It has been 15 years since the first edition of Stochastic Integration and Differential Equations, A New Approach appeared, and in those years many other texts on the same subject have been published, often with connections to applications, especially mathematical finance. Yet in spite of the apparent simplicity of approach, none of these books has used the functional analytic method of presenting semimartingales and stochastic integration. Thus a 2nd edition seems worthwhile and timely, though it is no longer appropriate to call it "a new approach". [...]

2nd ed. 2005. XIII, 415 p. (Stochastic Modelling and Applied Probability, Volume 21) Hardcover

€ (D) 82,38 | € (A) 84,69 | *CHF 87.00
€ 76,99 | £ 69,99

Yellow Sale Price

€ (D) 41,72 | € (A) 42,89 | *CHF 43.00
€ 38,99 | £ 28,99

978-3-540-00313-7



P. Pudlák, ASCR, Praha 1, Czech Republic

Logical Foundations of Mathematics and Computational Complexity

The two main themes of this book, logic and complexity, are both essential for understanding the main problems about the foundations of mathematics. Logical Foundations of Mathematics and Computational Complexity covers a broad spectrum of results in logic and set theory that are relevant to the foundations, as well as the results in computational complexity and the interdisciplinary area of proof complexity. The author presents his ideas on how these areas are connected, what are the most fundamental problems and how they should be approached. [...]

2013. XIV, 695 p. 49 illus., 4 illus. in color. (Springer Monographs in Mathematics) Hardcover

€ (D) 149,79 | € (A) 153,99 | *CHF 186.50
€ 139,99 | £ 126,00

Yellow Sale Price

€ (D) 74,89 | € (A) 76,99 | *CHF 77.00
€ 69,99 | £ 52,99

978-3-319-00118-0



A. Quarteroni, Politecnico di Milano, Milano, Italy; **G. Rozza**, SISSA - International School for Advanced Studies, Trieste, Italy (Eds)

Reduced Order Methods for Modeling and Computational Reduction

This monograph addresses the state of the art of reduced order methods for modeling and computational reduction of complex parametrized systems, governed by ordinary and/or partial differential equations, with a special emphasis on real time computing techniques and applications in computational mechanics, bioengineering and computer graphics. [...]

2014. X, 334 p. (MS&A, Volume 9) Hardcover
€ (D) 101,64 | € (A) 104,49 | *CHF 126.50
€ 94,99 | £ 85,50

Yellow Sale Price

€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-3-319-02089-1



D. Ramakrishnan, California Institute of Technology, Pasadena, CA, USA; **R. J. Valenza**,

Fourier Analysis on Number Fields

This book grew out of notes from several courses that the first author has taught over the past nine years at the California Institute of Technology, and earlier at the Johns Hopkins University, Cornell University, the University of Chicago, and the University of Crete. Our general aim is to provide a modern approach to number theory through a blending of complementary algebraic and analytic perspectives, emphasizing harmonic analysis on topological groups. [...]

1999. XXII, 354 p. (Graduate Texts in Mathematics, Volume 186) Hardcover
€ (D) 79,13 | € (A) 81,35 | *CHF 114.00
€ 73,95 | £ 66,99

Yellow Sale Price

€ (D) 39,58 | € (A) 40,69 | *CHF 41.00
€ 36,99 | £ 27,99

978-0-387-98436-0



M. M. Rao, University of California, Riverside, CA, USA

Stochastic Processes - Inference Theory

This is the revised and enlarged 2nd edition of the authors' original text, which was intended to be a modest complement to Grenander's fundamental memoir on stochastic processes and related inference theory. The present volume gives a substantial account of regression analysis, both for stochastic processes and measures, and includes recent material on Ridge regression with some unexpected applications, for example in econometrics. The first three chapters can be used for a quarter or semester graduate course on inference on stochastic processes. [...]

2nd ed. 2014. XVII, 669 p. With XII, 638. (Springer Monographs in Mathematics) Hardcover

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

Yellow Sale Price

€ (D) 66,33 | € (A) 68,19 | *CHF 68.50
€ 61,99 | £ 46,99

978-3-319-12171-0



T. M. Rassias, National Technical University of Athens, Athens, Greece (Ed)

Handbook of Functional Equations

As Richard Bellman has so elegantly stated at the Second International Conference on General Inequalities (Oberwolfach, 1978), "There are three reasons for the study of inequalities: practical, theoretical, and aesthetic." On the aesthetic aspects, he said, "As has been pointed out, beauty is in the eye of the beholder. However, it is generally agreed that certain pieces of music, art, or mathematics are beautiful. [...]"

2014. XI, 555 p. 19 illus., 7 illus. in color. (Springer Optimization and Its Applications, Volume 95) Hardcover

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

Yellow Sale Price

€ (D) 66,33 | € (A) 68,19 | *CHF 68.50
€ 61,99 | £ 46,99

978-1-4939-1245-2



T. M. Rassias, National Technical University of Athens, Athens, Greece (Ed)

Handbook of Functional Equations

This handbook consists of seventeen chapters written by eminent scientists from the international mathematical community, who present important research works in the field of mathematical analysis and related subjects, particularly in the Ulam stability theory of functional equations. The book provides an insight into a large domain of research with emphasis to the discussion of several theories, methods and problems in approximation theory, analytic inequalities, functional analysis, computational algebra and applications. [...]

2014. X, 396 p. (Springer Optimization and Its Applications, Volume 96) Hardcover

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

Yellow Sale Price

€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-1-4939-1285-8



T. M. Rassias, National Technical University of Athens, Athens, Greece; **P. M. Pardalos**, University of Florida, Gainesville, FL, USA (Eds)

Mathematics Without Boundaries

The contributions in this volume have been written by eminent scientists from the international mathematical community and present significant advances in several theories, methods and problems of Mathematical Analysis, Discrete Mathematics, Geometry and their Applications. The chapters focus on both old and recent developments in Functional Analysis, Harmonic Analysis, Complex Analysis, Operator Theory, Combinatorics, Functional Equations, Differential Equations as well as a variety of Applications. [...]

2014. XIII, 781 p. 88 illus., 19 illus. in color. Hardcover

€ (D) 149,79 | € (A) 153,99 | *CHF 186,50
€ 139,99 | £ 126,00

Yellow Sale Price

€ (D) 84,52 | € (A) 86,89 | *CHF 87,00
€ 78,99 | £ 58,99

978-1-4939-1105-9



9 781493 911059

J. O. Rawlings; S. G. Pantula; D. A. Dickey

Applied Regression Analysis

Least squares estimation, when used appropriately, is a powerful research tool. A deeper understanding of the regression concepts is essential for achieving optimal benefits from a least squares analysis. This book builds on the fundamentals of statistical methods and provides appropriate concepts that will allow a scientist to use least squares as an effective research tool. Applied Regression Analysis is aimed at the scientist who wishes to gain a working knowledge of regression analysis. [...]

2nd ed. 1998. XVIII, 660 p. (Springer Texts in Statistics) Hardcover

€ (D) 102,67 | € (A) 105,55 | *CHF 148,50
€ 95,95 | £ 86,00

Yellow Sale Price

€ (D) 51,35 | € (A) 52,79 | *CHF 53,00
€ 47,99 | £ 35,99

978-0-387-98454-4



9 780387 984544

S. I. Resnick, Cornell University, Ithaca, NY, USA

A Probability Path

Many probability books are written by mathematicians and have the built-in bias that the reader is assumed to be a mathematician coming to the material for its beauty. This textbook is geared towards beginning graduate students from a variety of disciplines whose primary focus is not necessarily mathematics for its own sake. Instead, A Probability Path is designed for those requiring a deep understanding of advanced probability for their research in statistics, applied probability, biology, operations research, mathematical finance and engineering. [...]

2014. XIV, 453 p. 11 illus. (Modern Birkhäuser Classics) Softcover

€ (D) 64,19 | € (A) 65,99 | *CHF 80,00
€ 59,99 | £ 53,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37,50
€ 33,99 | £ 25,99

978-0-8176-8408-2



9 780817 684082

L. Ribes, Carleton University Dept. Mathematics & Statistics, Ottawa, ON, Canada; **P. Zalesskii**, Universidade de Brasília Depto. Matemática, Brasília, Brazil

Profinite Groups

The aim of this book is to serve both as an introduction to profinite groups and as a reference for specialists in some areas of the theory. The book is reasonably self-contained. Profinite groups are Galois groups. As such they are of interest in algebraic number theory. Much of recent research on abstract infinite groups is related to profinite groups because residually finite groups are naturally embedded in a profinite group. [...]

2nd ed. 2010. XIV, 483 p. 120 illus. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 40) Hardcover

€ (D) 149,75 | € (A) 153,95 | *CHF 201,00
€ 139,95 | £ 126,00

Yellow Sale Price

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

978-3-642-01641-7



9 783642 016417

P. d. M. Rios, Universidade de São Paulo, São Carlos, Brazil; **E. Straume**, Norwegian University of Science and Technology, Trondheim, Norway

Symbol Correspondences for Spin Systems

In mathematical physics, the correspondence between quantum and classical mechanics is a central topic, which this book explores in more detail in the particular context of spin systems, that is, SU(2)-symmetric mechanical systems. A detailed presentation of quantum spin-j systems, with emphasis on the SO(3)-invariant decomposition of their operator algebras, is first followed by an introduction to the Poisson algebra of the classical spin system and then by a similarly detailed examination of its SO(3)-invariant decomposition. [...]

2014. IX, 200 p. (Wissenschaftsprogramm nur englisch(Birkhäuser)) Hardcover

€ (D) 90,94 | € (A) 93,49 | *CHF 113,50
€ 84,99 | £ 76,50

Yellow Sale Price

€ (D) 51,35 | € (A) 52,79 | *CHF 53,00
€ 47,99 | £ 35,99

978-3-319-08197-7



9 783319 081977

H. Risken; T. Frank

The Fokker-Planck Equation

One of the central problems synergetics is concerned with consists in the study of macroscopic qualitative changes of systems belonging to various disciplines such as physics, chemistry, or electrical engineering. When such transitions from one state to another take place, fluctuations, i.e., random processes, may play an important role. [...]

2nd ed. 1996. XIV, 472 p. 3 illus. (Springer Series in Synergetics, Volume 18) Softcover

€ (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

978-3-540-61530-9



9 783540 615309

A. M. Robert

A Course in p-adic Analysis

Kurt Hensel (1861-1941) discovered the p-adic numbers around the turn of the century. These exotic numbers (or so they appeared at first) are now well-established in the mathematical world and used more and more by physicists as well. This book offers a self-contained presentation of basic p-adic analysis. The author is especially interested in the analytical topics in this field. [...]

2000. XVI, 438 p. (Graduate Texts in Mathematics, Volume 198) Hardcover

€ (D) 67,36 | € (A) 69,25 | *CHF 99.50
€ 62,95 | £ 56,99

Yellow Sale Price

€ (D) 34,23 | € (A) 35,19 | *CHF 35.50
€ 31,99 | £ 23,99

978-0-387-98669-2



9 780387 986692

D. J.S. Robinson

A Course in the Theory of Groups

A Course in the Theory of Groups is a comprehensive introduction to the theory of groups - finite and infinite, commutative and non-commutative. Presupposing only a basic knowledge of modern algebra, it introduces the reader to the different branches of group theory and to its principal accomplishments. While stressing the unity of group theory, the book also draws attention to connections with other areas of algebra such as ring theory and homological algebra. [...]

2nd ed. 1996. XVII, 502 p. (Graduate Texts in Mathematics, Volume 80) Hardcover

€ (D) 71,64 | € (A) 73,65 | *CHF 104.00
€ 66,95 | £ 59,99

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-0-387-94461-6



9 780387 944616

S. Roman, Irvine, CA, USA

Advanced Linear Algebra

For the third edition, the author has added a new chapter on associative algebras that includes the well known characterizations of the finite-dimensional division algebras over the real field (a theorem of Frobenius) and over a finite field (Wedderburn's theorem); polished and refined some arguments (such as the discussion of reflexivity, the rational canonical form, best approximations and the definitions of tensor products); upgraded some proofs that were originally done only for finite-dimensional/rank cases; added new theorems, including the spectral mapping theorem [...].

3rd ed. 2008. XVIII, 526 p. (Graduate Texts in Mathematics, Volume 135) Hardcover

€ (D) 59,87 | € (A) 61,55 | *CHF 86.50
€ 55,95 | £ 50,99

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-0-387-72828-5



9 780387 728285

A. Romano, Università degli Studi di Napoli "Federico II", Napoli, Italy

Classical Mechanics with Mathematica®

This textbook takes a broad yet thorough approach to mechanics, aimed at bridging the gap between classical analytic and modern differential geometric approaches to the subject. Developed by the author from 35 years of teaching experience, the presentation is designed to give students an overview of the many different models used through the history of the field—from Newton to Lagrange—while also painting a clear picture of the most modern developments. Throughout, it makes heavy use of the powerful tools offered by Mathematica. The volume is organized into two parts. [...]

2012. XIV, 506 p. 127 illus. (Modeling and Simulation in Science, Engineering and Technology) Hardcover

€ (D) 101,60 | € (A) 104,45 | *CHF 126.50
€ 94,95 | £ 85,50

Yellow Sale Price

€ (D) 52,42 | € (A) 53,89 | *CHF 54.00
€ 48,99 | £ 36,99

978-0-8176-8351-1



9 780817 683511

R. Rosen, (Deceased), Halifax, NS, Canada; J. Rosen, New York, NY, USA; J. J. Kineman, Boulder, CO, USA; M. Nadin, University of Texas at Dallas at 10 antÉ, Richardson, TX, USA

Anticipatory Systems

Robert Rosen was not only a biologist, he was also a brilliant mathematician whose extraordinary contributions to theoretical biology were tremendous. Founding, with this book, the area of Anticipatory Systems Theory is a remarkable outcome of his work in theoretical biology. [...]

2nd ed. 2012. LX, 472 p. (IFSR International Series on Systems Science and Engineering, Volume 1) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 149.50
€ 129,99 | £ 119,50

Yellow Sale Price

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

978-1-4614-1268-7



9 781461 412687

K. A. Ross, Eugene, OR, USA

Elementary Analysis

For over three decades, this best-selling classic has been used by thousands of students in the United States and abroad as a must-have textbook for a transitional course from calculus to analysis. It has proven to be very useful for mathematics majors who have no previous experience with rigorous proofs. Its friendly style unlocks the mystery of writing proofs, while carefully examining the theoretical basis for calculus. Proofs are given in full, and the large number of well-chosen examples and exercises range from routine to challenging. [...]

2nd ed. 2013. XII, 412 p. (Undergraduate Texts in Mathematics) Hardcover

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

Yellow Sale Price

€ (D) 24,60 | € (A) 25,29 | *CHF 25.50
€ 22,99 | £ 17,99

978-1-4614-6270-5



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J. J. Rotman, University of Illinois, Urbana-Champaign Dept. Mathematics, Urbana, IL, USA

An Introduction to the Theory of Groups

"Rotman has given us a very readable and valuable text, and has shown us many beautiful vistas along his chosen route."—
MATHEMATICAL REVIEWS

4th ed. 1995. XV, 517 p. (Graduate Texts in Mathematics, Volume 148) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 92.00
€ 59,99 | £ 53,99

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978-0-387-94285-8



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T. Roubíček, Charles University, Praha 8, Czech Republic

Nonlinear Partial Differential Equations with Applications

This book primarily concerns quasilinear and semilinear elliptic and parabolic partial differential equations, inequalities, and systems. The exposition leads the reader through the general theory based on abstract (pseudo-) monotone or accretive operators as fast as possible towards the analysis of concrete differential equations, which have specific applications in continuum (thermo-) mechanics of solids and fluids, electrically (semi-) conductive media, modelling of biological systems, or in mechanical engineering. [...]

2nd ed. 2013. XX, 476 p. (International Series of Numerical Mathematics, Volume 153) Hardcover

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

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

978-3-0348-0512-4



9 783034 805124

B. E. Sagan

The Symmetric Group

I have been very gratified by the response to the first edition, which has resulted in it being sold out. This put some pressure on me to come out with a second edition and now, finally, here it is. The original text has stayed much the same, the major change being in the treatment of the hook formula which is now based on the beautiful Novelli-Pak-Stoyanovskii bijection (NPS 97). I have also added a chapter on applications of the material from the first edition. [...]

2nd ed. 2001. XVI, 240 p. (Graduate Texts in Mathematics, Volume 203) 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

978-0-387-95067-9



9 780387 950679

E. Salinelli, Università degli Studi del Piemonte Orientale A. Avogadro, Novara, Italy; **F. Tomarelli**, Politecnico di Milano, Milano, Italy

Discrete Dynamical Models

This book provides an introduction to the analysis of discrete dynamical systems. The content is presented by an unitary approach that blends the perspective of mathematical modeling together with the ones of several disciplines as Mathematical Analysis, Linear Algebra, Numerical Analysis, Systems Theory and Probability. After a preliminary discussion of several models, the main tools for the study of linear and non-linear scalar dynamical systems are presented, paying particular attention to the stability analysis. [...]

2014. XVI, 394 p. (UNITEXT, Volume 76) Softcover

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

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€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-3-319-02290-1



9 783319 022901

T. J. Santner; B. J. Williams; W. I. Notz

The Design and Analysis of Computer Experiments

In the past 15 to 20 years, the computer has become a popular tool for exploring the relationship between a measured response and factors thought to affect the response. In many cases, scientific theories exist that implicitly relate the response to the factors by means of systems of mathematical equations. There also exist numerical methods for accurately solving such equations and appropriate computer hardware and software to implement these methods. [...]

2003. XII, 284 p. (Springer Series in Statistics) Hardcover

€ (D) 160,49 | € (A) 164,99 | *CHF 166.50
€ 149,99 | £ 133,00

Yellow Sale Price

€ (D) 80,24 | € (A) 82,49 | *CHF 82.50
€ 74,99 | £ 55,99

978-0-387-95420-2



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S. Sastry, University of California, Berkeley Dept. Civil & Environmental Engineering, Berkeley, CA, USA

Nonlinear Systems

There has been a great deal of excitement in the last ten years over the emergence of new mathematical techniques for the analysis and control of nonlinear systems: Witness the emergence of a set of simplified tools for the analysis of bifurcations, chaos, and other complicated dynamical behavior and the development of a comprehensive theory of geometric nonlinear control. [...]

1999. XXVI, 668 p. (Interdisciplinary Applied Mathematics, Volume 10) Hardcover

€ (D) 86,62 | € (A) 89,05 | *CHF 133.00
€ 80,95 | £ 72,50

Yellow Sale Price

€ (D) 43,86 | € (A) 45,09 | *CHF 45.00
€ 40,99 | £ 30,99

978-0-387-98513-8



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H. Schättler, Washington University, Saint Louis, MO, USA; **U. Ledzewicz**, Southern Illinois University Edwardsville, Edwardsville, IL, USA

Geometric Optimal Control

This book gives a comprehensive treatment of the fundamental necessary and sufficient conditions for optimality for finite-dimensional, deterministic, optimal control problems. The emphasis is on the geometric aspects of the theory and on illustrating how these methods can be used to solve optimal control problems. It provides tools and techniques that go well beyond standard procedures and can be used to obtain a full understanding of the global structure of solutions for the underlying problem. [...]

2012. XX, 640 p. (Interdisciplinary Applied Mathematics, Volume 38) Hardcover

€ (D) 74,85 | € (A) 76,95 | *CHF 93.50
€ 69,95 | £ 62,99

Yellow Sale Price

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

978-1-4614-3833-5



9 781461 438335

R. Schiffler, University of Connecticut, Storrs, CT, USA

Quiver Representations

This book is intended to serve as a textbook for a course in Representation Theory of Algebras at the beginning graduate level. The text has two parts. In Part I, the theory is studied in an elementary way using quivers and their representations. This is a very hands-on approach and requires only basic knowledge of linear algebra. The main tool for describing the representation theory of a finite-dimensional algebra is its Auslander-Reiten quiver, and the text introduces these quivers as early as possible. [...]

2014. XI, 230 p. 357 illus. (CMS Books in Mathematics) Hardcover

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

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
€ 27,99 | £ 19,99

978-3-319-09203-4



9 783319 092034

R. B. Schinazi, University of Colorado, Colorado Springs, CO, USA

Probability with Statistical Applications

This second edition of Probability With Statistical Applications offers a practical introduction to probability for undergraduates at all levels with different backgrounds and views towards applications. Calculus is a prerequisite for understanding the basic concepts, however the book is written with a sensitivity to students' common difficulties with calculus that does not obscure the thorough treatment of the probability content. The first six chapters of this text neatly and concisely cover the material traditionally required by most undergraduate programs for a first course in probability. [...]

2nd ed. 2012. XI, 347 p. 28 illus. 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

978-0-8176-8249-1



9 780817 682491

R. Schneider, Universität Freiburg Mathematisches Institut, Freiburg, Germany; **W. Weil**, Universität Karlsruhe Fak. Mathematik, Karlsruhe, Germany

Stochastic and Integral Geometry

Stochastic geometry deals with models for random geometric structures. Its early beginnings are found in playful geometric probability questions, and it has vigorously developed during recent decades, when an increasing number of real-world applications in various sciences required solid mathematical foundations. Integral geometry studies geometric mean values with respect to invariant measures and is, therefore, the appropriate tool for the investigation of random geometric structures that exhibit invariance under translations or motions. [...]

2008. XII, 694 p. (Probability and Its Applications) Hardcover

€ (D) 93,08 | € (A) 95,69 | *CHF 116.00
€ 86,99 | £ 78,50

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€ (D) 47,07 | € (A) 48,39 | *CHF 48.50
€ 43,99 | £ 32,99

978-3-540-78858-4



9 783540 788584

Z. Schuss, Tel Aviv University, Tel Aviv, Israel

Brownian Dynamics at Boundaries and Interfaces

Brownian dynamics serve as mathematical models for the diffusive motion of microscopic particles of various shapes in gaseous, liquid, or solid environments. The renewed interest in Brownian dynamics is due primarily to their key role in molecular and cellular biophysics: diffusion of ions and molecules is the driver of all life. Brownian dynamics simulations are the numerical realizations of stochastic differential equations that model the functions of biological micro devices such as protein ionic channels of biological membranes, cardiac myocytes, neuronal synapses, and many more. [...]

2013. XX, 322 p. (Applied Mathematical Sciences, Volume 186) Hardcover

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

Yellow Sale Price

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€ 29,99 | £ 22,99

978-1-4614-7686-3



9 781461 476863

I. V. Sergienko, National Academy of Sciences of Ukraine, Kiev, Ukraine; **M. Mikhalevich**, National Academy of Sciences of Ukraine, Kiev, Ukraine; **L. Koshlai**, National Academy of Sciences of Ukraine, Kiev, Ukraine

Optimization Models in a Transition Economy

This book opens new avenues in understanding mathematical models within the context of a transition economy. The exposition lays out the methods for combining different mathematical structures and tools to effectively build the next model that will accurately reflect real world economic processes. Mathematical modeling of weather phenomena allows us to forecast certain essential weather parameters without any possibility of changing them. [...]

2014. VIII, 334 p. 33 illus. (Springer Optimization and Its Applications, Volume 101) Hardcover

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

Yellow Sale Price

€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
€ 52,99 | £ 39,99

978-1-4899-7543-0



9 781489 975430

Y. Shtessel, University of Alabama, Huntsville Dept. Electrical & Computer Engineering, Huntsville, AL, USA; **C. Edwards**, College of Engineering, Mathematics University of Exeter, Exeter, UK; **L. Fridman**, Universidad Nacional Autonoma De Mexico Departamento De Control, Mexico, Mexico; **A. Levant**, Tel Aviv University School of Mathematical Sciences, Tel Aviv, Israel

Sliding Mode Control and Observation

The sliding mode control methodology has proven effective in dealing with complex dynamical systems affected by disturbances, uncertainties and unmodeled dynamics. Robust control technology based on this methodology has been applied to many real-world problems, especially in the areas of aerospace control, electric power systems, electromechanical systems, and robotics. [...]

2014. XVII, 356 p. 168 illus. (Control Engineering) Hardcover

€ (D) 71,68 | € (A) 73,69 | *CHF 75.50
€ 66,99 | £ 60,99

Yellow Sale Price

€ (D) 35,30 | € (A) 36,29 | *CHF 36.50
€ 32,99 | £ 24,99

978-0-8176-4892-3



L. Sigler

Fibonacci's Liber Abaci

First published in 1202, Fibonacci's "Liber abaci" was one of the most important books on mathematics in the Middle Ages, introducing Arabic numerals and methods throughout Europe. Its author, Leonardo Pisano, known today as Fibonacci, was a citizen of Pisa, an active maritime power, with trading outposts on the Barbary Coast and other points in the Muslim Empire. As a youth Fibonacci was instructed in mathematics in one of these outposts; he continued his study of mathematics while traveling extensively on business and developed contacts with scientists throughout the Mediterranean world. [...]

2002. VIII, 638 p. (Sources and Studies in the History of Mathematics and Physical Sciences) Softcover

€ (D) 80,24 | € (A) 82,49 | *CHF 98.00
€ 74,99 | £ 66,99

Yellow Sale Price

€ (D) 40,65 | € (A) 41,79 | *CHF 42.00
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978-0-387-40737-1



J.C. Simo; T.J.R. Hughes

Computational Inelasticity

This book goes back a long way. There is a tradition of research and teaching in inelasticity at Stanford that goes back at least to Wilhelm Flugge " and Erastus Lee. I joined the faculty in 1980, and shortly thereafter the Chairman of the Applied Mechanics Division, George Herrmann, asked me to present a course in plasticity. [...]

1998. XIV, 392 p. (Interdisciplinary Applied Mathematics, Volume 7) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 141.50
€ 129,99 | £ 113,00

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

978-0-387-97520-7



J.C. Simo; T.J.R. Hughes

Computational Inelasticity

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1998. XIV, 392 p. (Interdisciplinary Applied Mathematics, Volume 7) Softcover

€ (D) 96,29 | € (A) 98,99 | *CHF 117.50
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978-1-4757-7169-5



R. Sinha, Magadh University, Bodh Gaya, India

Smooth Manifolds

This book offers an introduction to the theory of smooth manifolds, helping students to familiarize themselves with the tools they will need for mathematical research on smooth manifolds and differential geometry. The book primarily focuses on topics concerning differential manifolds, tangent spaces, multivariable differential calculus, topological properties of smooth manifolds, embedded submanifolds, Sard's theorem and Whitney embedding theorem. It is clearly structured, amply illustrated and includes solved examples for all concepts discussed. [...]

2014. IX, 485 p. 10 illus. Hardcover

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

Yellow Sale Price

€ (D) 36,37 | € (A) 37,39 | *CHF 37.50
€ 33,99 | £ 25,99

978-81-322-2103-6



L. Smith, SUN Microsystems, Palo Alto, CA, USA

Linear Algebra

3rd ed. 1998. XII, 454 p. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 59,87 | € (A) 61,55 | *CHF 86.50
€ 55,95 | £ 50,99

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€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
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978-0-387-98455-1



H. H. Sohrab, Towson University, Towson, MD, USA

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This expanded second edition presents the fundamentals and touchstone results of real analysis in full rigor, but in a style that requires little prior familiarity with proofs or mathematical language. The text is a comprehensive and largely self-contained introduction to the theory of real-valued functions of a real variable. The chapters on Lebesgue measure and integral have been rewritten entirely and greatly improved. They now contain Lebesgue's differentiation theorem as well as his versions of the Fundamental Theorem(s) of Calculus. [...]

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9 781493 918409

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9 780387 984896

M. L. Stein

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Prediction of a random field based on observations of the random field at some set of locations arises in mining, hydrology, atmospheric sciences, and geography. Kriging, a prediction scheme defined as any prediction scheme that minimizes mean squared prediction error among some class of predictors under a particular model for the field, is commonly used in all these areas of prediction. This book summarizes past work and describes new approaches to thinking about kriging.

1999. XVII, 249 p. (Springer Series in Statistics) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 167.00
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978-0-387-98629-6



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A. Soifer, University of Colorado at Colorado Springs, Colorado Springs, CO, USA

The Scholar and the State: In Search of Van der Waerden

Bartel Leendert van der Waerden made major contributions to algebraic geometry, abstract algebra, quantum mechanics, and other fields. He liberally published on the history of mathematics. His 2-volume work Modern Algebra is one of the most influential and popular mathematical books ever written. It is therefore surprising that no monograph has been dedicated to his life and work. Van der Waerden's record is complex. [...]

2015. XXIX, 471 p. 60 illus., 15 illus. in color. Hardcover
 € (D) 117,69 | € (A) 120,99 | *CHF 146.50
 € 109,99 | £ 99,00

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€ (D) 72,75 | € (A) 74,79 | *CHF 75.00
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978-3-0348-0711-1



9 783034 807111

J. M. Steele, University of Pennsylvania Wharton School, Philadelphia, PA, USA

Stochastic Calculus and Financial Applications

This book is designed for students who want to develop professional skill in stochastic calculus and its application to problems in finance. The Wharton School course that forms the basis for this book is designed for energetic students who have had some experience with probability and statistics but have not had advanced courses in stochastic processes. Although the course assumes only a modest background, it moves quickly, and in the end, students can expect to have tools that are deep enough and rich enough to be relied on throughout their professional careers. [...]

2001. X, 302 p. (Stochastic Modelling and Applied Probability, Volume 45) Softcover
 € (D) 80,20 | € (A) 82,45 | *CHF 114.00
 € 74,95 | £ 66,99

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978-1-4419-2862-7



9 781441 928627

J. C.-E. Stén, Technical Research Center of Finland, VTT Espoo, Finland

A Comet of the Enlightenment

The Finnish mathematician and astronomer Anders Johan Lexell (1740–1784) was a long-time close collaborator as well as the academic successor of Leonhard Euler at the Imperial Academy of Sciences in Saint Petersburg. Lexell was initially invited by Euler from his native town of Abo (Turku) in Finland to Saint Petersburg to assist in the mathematical processing of the astronomical data of the forthcoming transit of Venus of 1769. A few years later he became an ordinary member of the Academy. This is the first-ever full-length biography devoted to Lexell and his prolific scientific output. [...]

2014. XVI, 300 p. 46 illus., 16 illus. in color. (Vita Mathematica, Volume 17) Hardcover
 € (D) 101,64 | € (A) 104,49 | *CHF 126.50
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Yellow Sale Price

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**J. Stoer; R. Bartels; W. Gautschi;
R. Bulirsch; C. Witzgall**

Introduction to Numerical Analysis

Mathematics is playing an ever more important role in the physical and biological sciences, provoking a blurring of boundaries between scientific 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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9 780387 954523

M. Struwe, ETH Zürich Dept. Mathematik, Zürich, Switzerland

Variational Methods

Hilbert's talk at the second International Congress of 1900 in Paris marked the beginning of a new era in the calculus of variations. A development began which, within a few decades, brought tremendous success, highlighted by the 1929 theorem of Ljusternik and Schnirelman on the existence of three distinct prime closed geodesics on any compact surface of genus zero, and the 1930/31 solution of Plateau's problem by Douglas and Radó. The book gives a concise introduction to variational methods and presents an overview of areas of current research in the field. [...]

4th ed. 2008. XX, 302 p. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 34) Hardcover

€ (D) 139,05 | € (A) 142,95 | *CHF 173.00
€ 129,95 | £ 117,00

Yellow Sale Price

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

978-3-540-74012-4



9 783540 740124

W. Sun, Nanjing University Dept. Mathematics, Nanjing, China, People's Republic; **Y. Yuan**, Chinese Academy of Sciences Inst. Computational Mathematics and, Beijing, China, People's Republic

Optimization Theory and Methods

2006. XII, 688 p. (Springer Optimization and Its Applications, Volume 1) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 149.50
€ 129,99 | £ 119,50

Yellow Sale Price

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

978-0-387-24975-9



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J. Suranyi; B. Guiduli; P. Erdős, Budapest, Hungary

Topics in the Theory of Numbers

Number theory, the branch of mathematics which studies the properties of the integers, is a repository of interesting and quite varied problems, sometimes impossibly difficult ones. The authors have gathered together a collection of problems from various topics in number theory that they find beautiful, intriguing, and from a certain point of view instructive. In addition to revealing the beauty of the problems themselves, they have tried to give glimpses into deeper, related mathematics. The book presents problems whose solutions can be obtained using elementary methods. [...]

2003. XVIII, 287 p. 3 illus. (Undergraduate Texts in Mathematics) Hardcover

€ (D) 64,19 | € (A) 65,99 | *CHF 86.50
€ 59,99 | £ 50,99

Yellow Sale Price

€ (D) 29,95 | € (A) 30,79 | *CHF 31.00
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978-0-387-95320-5



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A. Syropoulos, Xanthi, Greece

Theory of Fuzzy Computation

The book provides the first full length exploration of fuzzy computability. It describes the notion of fuzziness and present the foundation of computability theory. It then presents the various approaches to fuzzy computability. This text provides a glimpse into the different approaches in this area, which is important for researchers in order to have a clear view of the field. It contains a detailed literature review and the author includes all proofs to make the presentation accessible. Ideas for future research and explorations are also provided. [...]

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9 781461 483786

B. Sz Nagy, Szeged, Hungary; **C. Foias**, Texas A & M University Dept. Mathematics, College Station, TX, USA; **H. Bercovici**, Indiana University Dept. Mathematics, Bloomington, IN, USA; **L. Kérchy**, University of Szeged Bolyai Institute, Szeged, Hungary

Harmonic Analysis of Operators on Hilbert Space

The existence of unitary dilations makes it possible to study arbitrary contractions on a Hilbert space using the tools of harmonic analysis. The first edition of this book was an account of the progress done in this direction in 1950-70. Since then, this work has influenced many other areas of mathematics, most notably interpolation theory and control theory.

2nd ed. 2010. XIV, 478 p. 1 illus. (Universitext) Softcover

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9 781441 960931

K. Taira, University of Tsukuba, Tsukuba
Ibaraki, Japan

Semigroups, Boundary Value Problems and Markov Processes

A careful and accessible exposition of functional analytic methods in stochastic analysis is provided in this book. It focuses on the interrelationship between three subjects in analysis: Markov processes, semi groups and elliptic boundary value problems. The author studies a general class of elliptic boundary value problems for second-order, Waldenfel's integro-differential operators in partial differential equations and proves that this class of elliptic boundary value problems provides a general class of Feller semigroups in functional analysis. [...]

2nd ed. 2014. XIX, 716 p. 149 illus. (Springer Monographs in Mathematics) Hardcover

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€ (D) 66,33 | € (A) 68,19 | *CHF 68.50
€ 61,99 | £ 46,99

978-3-662-43695-0



M. Talagrand, Université Paris VI, Paris Cedex
05, France

Upper and Lower Bounds for Stochastic Processes

The book develops modern methods and in particular the "generic chaining" to bound stochastic processes. This methods allows in particular to get optimal bounds for Gaussian and Bernoulli processes. Applications are given to stable processes, infinitely divisible processes, matching theorems, the convergence of random Fourier series, of orthogonal series, and to functional analysis. The complete solution of a number of classical problems is given in complete detail, and an ambitious program for future research is laid out.

2014. XV, 626 p. (Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge / A Series of Modern Surveys in Mathematics, Volume 60) Hardcover

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€ 109,99 | £ 99,00

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978-3-642-54074-5



M. Kolster; G. Tamme

Introduction to Étale Cohomology

Étale Cohomology is one of the most important methods in modern Algebraic Geometry and Number Theory. It has, in the last decades, brought fundamental new insights in arithmetic and algebraic geometric problems with many applications and many important results. The book gives a short and easy introduction into the world of Abelian Categories, Derived Functors, Grothendieck Topologies, Sheaves, General Étale Cohomology, and Étale Cohomology of Curves.

1994. IX, 186 p. (Universitext) Softcover

€ (D) 85,55 | € (A) 87,95 | *CHF 106.50
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978-3-540-57116-2



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The first of three volumes on partial differential equations, this one introduces basic examples arising in continuum mechanics, electromagnetism, complex analysis and other areas, and develops a number of tools for their solution, in particular Fourier analysis, distribution theory, and Sobolev spaces. [...]

2nd ed. 2011. XXII, 654 p. (Applied Mathematical Sciences, Volume 115) Hardcover

€ (D) 106,95 | € (A) 109,95 | *CHF 143.50
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978-1-4419-7054-1



M. E. Taylor, University of North Carolina,
Chapel Hill, NC, USA

Partial Differential Equations II

This second in the series of three volumes builds upon the basic theory of linear PDE given in volume 1, and pursues more advanced topics. Analytical tools introduced here include pseudodifferential operators, the functional analysis of self-adjoint operators, and Wiener measure. The book also develops basic differential geometrical concepts, centred about curvature. Topics covered include spectral theory of elliptic differential operators, the theory of scattering of waves by obstacles, index theory for Dirac operators, and Brownian motion and diffusion.

2nd ed. 2011. XXII, 614 p. (Applied Mathematical Sciences, Volume 116) Hardcover

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Chapel Hill, NC, USA

Partial Differential Equations III

The third of three volumes on partial differential equations, this is devoted to nonlinear PDE. It treats a number of equations of classical continuum mechanics, including relativistic versions, as well as various equations arising in differential geometry, such as in the study of minimal surfaces, isometric imbedding, conformal deformation, harmonic maps, and prescribed Gauss curvature. In addition, some nonlinear diffusion problems are studied. [...]

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J.W. Thomas

Numerical Partial Differential Equations

Of the many different approaches to solving partial differential equations numerically, this book studies difference methods. Written for the beginning graduate student in applied mathematics and engineering, this text offers a means of coming out of a course with a large number of methods that provide both theoretical knowledge and numerical experience. The reader will learn that numerical experimentation is a part of the subject of numerical solution of partial differential equations, and will be shown some uses and taught some techniques of numerical experimentation. [...]

1999. XXII, 556 p. 11 illus. (Texts in Applied Mathematics, Volume 33) Hardcover

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978-0-387-98346-2



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J.W. Thomas

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This text will be divided into two books which cover the topic of numerical partial differential equations. Of the many different approaches to solving partial differential equations numerically, this book studies difference methods. Written for the beginning graduate student, this text offers a means of coming out of a course with a large number of methods which provide both theoretical knowledge and numerical experience. [...]

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Applied Multivariate Analysis

Univariate statistical analysis is concerned with techniques for the analysis of a single random variable. This book is about applied multivariate analysis. It was written to provide students and researchers with an introduction to statistical techniques for the analysis of continuous quantitative measurements on several random variables simultaneously. While quantitative measurements may be obtained from any population, the material in this text is primarily concerned with techniques useful for the analysis of continuous observations from multivariate normal populations with linear structure. [...]

2002. XXIV, 695 p. 7 illus. (Springer Texts in Statistics) Hardcover

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€ 44,99 | £ 33,99

978-0-387-95347-2



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Mathematica is today's most advanced technical computing system. It features a rich programming environment, two- and three-dimensional graphics capabilities and hundreds of sophisticated, powerful programming and mathematical functions using state-of-the-art algorithms. Combined with a user-friendly interface, and a complete mathematical typesetting system, Mathematica offers an intuitive, easy-to-handle environment of great power and utility. [...]

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A. Tveito, Simula Research Laboratory, Fornebu, Norway; H. P. Langtangen, Simula Research Laboratory, Lysaker, Norway; B. F. Nielsen, Norwegian Univ. of Life Sciences, Ås, Norway; X. Cai, University of Oslo Simula Research Laboratory, Lysaker, Norway

Elements of Scientific Computing

Science used to be experiments and theory, now it is experiments, theory and computations. The computational approach to understanding nature and technology is currently flowering in many fields such as physics, geophysics, astrophysics, chemistry, biology, and most engineering disciplines. This book is a gentle introduction to such computational methods where the techniques are explained through examples. [...]

2010. XII, 468 p. 86 illus. (Texts in Computational Science and Engineering, Volume 7) Hardcover

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€ 59,95 | £ 53,99

Yellow Sale Price

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€ 29,99 | £ 22,99

978-3-642-11298-0



9 783642 112980

A. van der vaart, Amsterdam Free University Dept. Pharmacochemistry, Amsterdam, Netherlands; **J. Wellner**, University of Washington Department of Statistics, Seattle, WA, USA

Weak Convergence and Empirical Processes

This book tries to do three things. The first goal is to give an exposition of certain modes of stochastic convergence, in particular convergence in distribution. The classical theory of this subject was developed mostly in the 1950s and is well summarized in Billingsley (1968). During the last 15 years, the need for a more general theory allowing random elements that are not Borel measurable has become well established, particularly in developing the theory of empirical processes. [...]

1996. XVI, 510 p. (Springer Series in Statistics) Hardcover

€ (D) 165,84 | € (A) 170,49 | *CHF 174.50
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A. van der vaart, Amsterdam Free University Dept. Pharmacochemistry, Amsterdam, Netherlands; **J. Wellner**, University of Washington Department of Statistics, Seattle, WA, USA

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€ 109,99 | £ 99,50

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978-1-4757-2547-6



R. J. Valenza

Linear Algebra

Based on lectures given at Claremont McKenna College, this text constitutes a substantial, abstract introduction to linear algebra. The presentation emphasizes the structural elements over the computational - for example by connecting matrices to linear transformations from the outset - and prepares the student for further study of abstract mathematics. Uniquely among algebra texts at this level, it introduces group theory early in the discussion, as an example of the rigorous development of informal axiomatic systems.

1993. XVIII, 237 p. (Undergraduate Texts in Mathematics) Hardcover

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€ 59,95 | £ 53,99

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978-0-387-94099-1



W. Venables, CSIRO Marine Laboratories, Cleveland, QLD, Australia; **B.D. Ripley**, University of Oxford Dept. Statistics, Oxford, UK

S Programming

S is a high-level language for manipulating, analysing and displaying data. It forms the basis of two highly acclaimed and widely used data analysis software systems, the commercial S-PLUS® and the Open Source R. This book provides an in-depth guide to writing software in the S language under either or both of those systems. It is intended for readers who have some acquaintance with the S language and want to know how to use it more effectively, for example to build re-usable tools for streamlining routine data analysis or to implement new statistical methods. [...]

2000. X, 265 p. 10 illus. (Statistics and Computing) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 167.00
€ 129,99 | £ 113,00

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978-0-387-98966-2



W.N. Venables; B.D. Ripley, University of Oxford Dept. Statistics, Oxford, UK

Modern Applied Statistics with S

S is a powerful environment for the statistical and graphical analysis of data. It provides the tools to implement many statistical ideas that have been made possible by the widespread availability of workstations having good graphics and computational capabilities. This book is a guide to using S environments to perform statistical analyses and provides both an introduction to the use of S and a course in modern statistical methods. Implementations of S are available commercially in S-PLUS(R) workstations and as the Open Source R for a wide range of computer systems. [...]

4th ed. 2002. XII, 498 p. (Statistics and Computing) Hardcover

€ (D) 139,09 | € (A) 142,99 | *CHF 149.50
€ 129,99 | £ 119,50

Yellow Sale Price

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

978-0-387-95457-8



G. Verbeke, Katholieke Universiteit Leuven Biostatistisch Centrum, Leuven, Belgium; **G. Molenberghs**, Hasselt University Center for Statistics, Diepenbeek, Belgium

Linear Mixed Models for Longitudinal Data

This book emphasizes practice rather than mathematical rigor and the majority of the chapters are explanatory rather than research oriented. In this respect, guidance and advice on practical issues are the main focus of the text. Hence it will be of interest to applied statisticians and biomedical researchers in industry, particularly in the pharmaceutical industry, medical public health organizations, contract research organizations, and academia.

2000. XXII, 568 p. (Springer Series in Statistics) Hardcover

€ (D) 112,34 | € (A) 115,49 | *CHF 116.00
€ 104,99 | £ 93,00

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€ (D) 56,70 | € (A) 58,29 | *CHF 58.50
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978-0-387-95027-3



G. Verbeke, Katholieke Universiteit Leuven Biostatistisch Centrum, Leuven, Belgium; **G. Molenaar**, Hasselt University Center for Statistics, Diepenbeek, Belgium

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2000. XXII, 568 p. (Springer Series in Statistics) Softcover

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€ 79,99 | £ 72,00

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€ 44,99 | £ 33,99

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J. W. Vick

Homology Theory

The 20 years since the publication of this book have been an era of continuing growth and development in the field of algebraic topology. New generations of young mathematicians have been trained, and classical problems have been solved, particularly through the application of geometry and knot theory. Diverse new resources for introductory coursework have appeared, but there is persistent interest in an intuitive treatment of the basic ideas. This second edition has been expanded through the addition of a chapter on covering spaces. [...]

2nd ed. 1994. XIV, 245 p. (Graduate Texts in Mathematics, Volume 145) Hardcover

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€ 29,99 | £ 22,99

978-0-387-94126-4



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A. Vretblad

Fourier Analysis and Its Applications

The classical theory of Fourier series and integrals, as well as Laplace transforms, is of great importance for physical and technical applications, and its mathematical beauty makes it an interesting study for pure mathematicians as well. I have taught courses on these subjects for decades to civil engineering students, and also mathematics majors, and the present volume can be regarded as my collected experiences from this work. [...]

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D. F. Walnut, George Mason University Dept. Mathematical Sciences, Fairfax, VI, USA

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An Introduction to Wavelet Analysis provides a comprehensive presentation of the conceptual basis of wavelet analysis, including the construction and application of wavelet bases. The book develops the basic theory of wavelet bases and transforms without assuming any knowledge of Lebesgue integration or the theory of abstract Hilbert spaces. The book motivates the central ideas of wavelet theory by offering a detailed exposition of the Haar series, and then shows how a more abstract approach allows us to generalize and improve upon the Haar series. [...]

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9 781461 265672

D. F. Walnut, George Mason University Dept. Mathematical Sciences, Fairfax, VI, USA

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Fac. Electrical Engineering,, Delft,
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Applied Functional Analysis

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