Yurinsha Book News

*Ergebnisse der Mathematik und
ihrer Grenzgebiete 3 Folge*

Band 65: Huber, A. /Muller-Stach, S.:
Periods and Nori Motives

This book casts the theory of periods of algebraic varieties in the
natural setting of Madhav Nori's abelian category of mixed motives.
It develops Nori's approach to mixed motives from scratch, thereby
filling an important gap in the literature, and then explains
the connection of mixed motives to periods, including a detailed
account of the theory of period numbers in the sense of
Kontsevich-Zagier and their structural properties.   505-076
Period numbers are central to number theory and
algebraic geometry, and also play an important role in
other fields such as mathematical physics.
There are long-standing conjectures about their transcendence
properties, best understood in the language of cohomology of
algebraic varieties or, more generally, motives.
Readers of this book will discover that Nori's unconditional
construction of an abelian category of motives (over fields embeddable
into the complex numbers) is particularly well suited for this purpose.
Notably, Kontsevich's formal period algebra represents a torsor
under the motivic Galois group in Nori's sense, and the period
conjecture of Kontsevich and Zagier can be recast in this setting.

Feb. 2017	334 pp.
9783319509259	19,470.

Springer

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㈱ 友 隣 社

Contemporary Mathematics,

Vol. 680: Gukov, S. /Khovanov, M. /Walcher, J. (eds.):
Physics and Mathematics of Link Homology   No. 505-075

Throughout recent history, the theory of knot invariants has been a fascinating
melting pot of ideas and scientific cultures, blending mathematics and physics,
geometry, topology and algebra, gauge theory, and quantum gravity.
The 2013 Seminaire de Mathematiques Superieures in Montreal presented
an opportunity for the next generation of scientists to learn in one place
about the various perspectives on knot homology, from the mathematical
background to the most recent developments, and provided an access point to
the relevant parts of theoretical physics as well.

| Jan. 2017 | 177 pp. |
| 9781470414597 | 17,670. |

Vol. 679: Beneteau, C. /Condori, A. /   No. 505-104
Liaw, C. /Ross, C. /Sola, A. (eds.):
Recent Progress on Operator Theory and
Approximation in Spaces of Analytic Functions

The conference brought together experienced researchers and promising young
mathematicians from many countries to discuss recent progress made in
function theory, model spaces, completeness problems, and Carleson measures.

| Jan. 2017 | 217 pp. |
| 9781470423056 | 17,670. |

Vol. 676: Martinetti, P. /Wallet, J.-C. (eds.):   No. 505-184
Noncommutative Geometry and
Optimal Transport

The distance formula in noncommutative geometry was introduced by
Connes at the end of the 1980s.
It is a generalization of Riemannian geodesic distance that makes sense in
a noncommutative setting, and provides an original tool to study the geometry
of the space of states on an algebra.
It also has an intriguing echo in physics, for it yields a metric interpretation for
the Higgs field. In the 1990s, Rieffel noticed that this distance is
a noncommutative version of the Wasserstein distance of order 1 in
the theory of optimal transport. More exactly, this is a noncommutative
generalization of Kantorovich dual formula of the Wasserstein distance.
Connes distance thus offers an unexpected connection between an ancient
mathematical problem and the most recent discovery in high energy physics.
The meaning of this connection is far from clear. Yet, Rieffel's observation sug-
gests that Connes distance may provide an interesting starting point for a theory
of optimal transport in noncommutative geometry.

| Oct. 2016 | 223 pp. |
| 9781470422974 | 17,670. |

Vol. 675: Nabarroa, A. /Nuno-Ballesteros, J. /   No. 505-085
Oset Sinha, R. /Soares Ruas, M. (eds.):
Real and Complex Singularities

The volume contains the notes from two mini-courses taught during
the workshop: on intersection homology by J.-P. Brasselet, and on
non-isolated hypersurface singularities and Le cycles by D. Massey.

| Oct. 2016 | 355 pp. |
| 9781470422059 | 17,670. |

A.M.S.

Henry, J. /Ramos, A.:   No. 505-279
Factorization of Boundary Value Problems
Using the Invariant Embedding Method
Factorization Method for Boundary Value Problems by Invariant Embedding
presents a new theory for linear elliptic boundary value problems.
The authors provide a transformation of the problem in two initial value
problems that are uncoupled, enabling you to solve these successively.
This method appears similar to the Gauss block factorization of the matrix,
obtained in finite dimension after discretization of the problem.
This proposed method is comparable to the computation of optimal feedbacks
for linear quadratic control problems.

| Oct. 2016 | 256 pp. | |
| 9781785481437 | | 23,780. |

Mishura, Y. /Ragulina, O.:   No. 505-287
Ruin Probabilities:
Smoothness, Bounds, Supermartingale Approach
The first of them is the smoothness of the survival probabilities.
In particular, the book provides a detailed investigation of
the continuity and differentiability of the infinite-horizon and finite-horizon
survival probabilities for different risk models.
Next, it gives some possible applications of the results concerning
the smoothness of the survival probabilities.

| Oct. 2016 | 276 pp. | |
| 9781785482182 | | 28,700. |

Handbook of Numerical Analysis,

Vol. 18: **Abgrall, R. /Shu, C. (eds.):**
Handbook on   No. 505-250
Numerical Methods for Hyperbolic Problems:
Applied Modern Issues
THis book details the large amount of literature in the design, analysis, and
application of various numerical algorithms for solving hyperbolic equations that
has been produced in the last several decades.
This volume provides concise summaries from experts in different types of
algorithms, so that readers can find a variety of algorithms under different
situations and become familiar with their relative advantages and limitations.

| Jan. 2017 | 525 pp. | |
| 9780444639103 | | 37,720. |

Vol. 18: **Abgrall, R. /Shu, C. (eds.):**
Handbook on   No. 505-251
Numerical Methods for Hyperbolic Problems:
Basic and Fundamental Issues
This book explores the changes that have taken place in the past few decades
regarding literature in the design, analysis and application of various numerical
algorithms for solving hyperbolic equations.
This volume provides concise summaries from experts in different types of
algorithms, so that readers can find a variety of algorithms under different
situations and readily understand their relative advantages and limitations.

| Dec. 2016 | 674 pp. | |
| 9780444637895 | | 37,720. |

Academic Press / North Holland

Progress in Mathematics,

Vol. 322: **Turaev, V. /Virelizier, A.:**   No. 505-096
Monoidal Categories and Topological Field Theory

This monograph focuses on monoidal categories and their connection with three-dimensional topological field theories, guiding readers from basic definitions to the forefront of current research.

Part 1 starts by introducing various important classes of monoidal categories, including rigid, pivotal, spherical, fusion, braided, and modular categories.
It ends by stating two important theorems of M. Muger, establishing fundamental properties of the center of a pivotal fusion category.

The theorems are proved in Part 2 using Hopf monad techniques.

In the third part the authors introduce the notion of topological quantum field theory (TQFT) and formulate the Turaev-Viro-type state sum construction of 3-dimensional TQFTs from spherical fusion categories.

Part 4 extends this construction to 3-manifolds with colored ribbon graphs, which results in a so-called graph TQFT. In the last chapter the authors present a surgery computation of the graph TQFT and prove the main result of the monograph: the state sum TQFT derived from a spherical fusion category is isomorphic to the Reshetikhin-Turaev surgery TQFT derived from the center of that category.

May 2017	....	
9783319498331		23,010.

Vol. 310: **Bost, J.-B. /Hofer, H. /Labourie, F. /**
Le Jan, Y. /Ma, W. /Zhang, W. (eds.):
Global Analysis,   No. 505-061
Arithmetic Geometry, and Probability:
In Honor of Jean-Michel Bismut

This volume presents original research articles and extended surveys related to the mathematical interest and work of Jean-Michel Bismut.

His outstanding contributions to probability theory and global analysis on ma ifolds have had a profound impact on several branches of mathematics in the areas of control theory, mathematical physics and arithmetic geometry.

Contributions by: K. Behrend N. Bergeron S. K. Donaldson. Dubedat B. Duplantier G. Faltings E. Getzler G. Kings R. Mazzeo J. Millson C. Moeglin W. Muller R. Rhodes D. Rossler S. Sheffield A. Teleman G. Tian K.-I. Yoshikawa H. Weiss W. Werner

May 2017	....	
9783319496368		21,240.

Trends in Mathematics

Wong, M.-W. /Zhu, H. (eds.):   No. 505-164
Pseudo-Differential Operators:
Groups, Geometry and Applications

The twelve papers included present cutting-edge trends in pseudo-differential operators and applications from the perspectives of Lie groups (Chapters 1-2), geometry (Chapters 3-5) and applications (Chapters 6-12).

Many contributions cover applications in probability, differential equations and time-frequency analysis. A focus on the synergies of pseudo-differential operators with applications, especially real-life applications, enhances understanding of the analysis and theusefulness of these operators.

Jan. 2017	201 pp.	
9783319475110		12,390.

Birkhauser

Cambridge Mathematical Textbooks

Eilers, S. /Johansen, R.:   No. 505-008
Introduction to Experimental Mathematics

Mathematics is not, and never will be, an empirical science, but mathematicians
are finding that the use of computers and specialized software allows the
generation of mathematical insight in the form of conjectures and examples,
which pave the way for theorems and their proofs. In this way,
the experimental approach to pure mathematics is revolutionizing the way
research mathematicians work.

Dec. 2016   320 pp.
9781107156135   9,820.

Roy, R.:
Elliptic and Modular Functions From   No. 505-016
Gauss to Dedekind to Hecke

This thorough work presents the fundamental results of modular function theory
as developed during the nineteenth and early-twentieth centuries. It features
beautiful formulas and derives them using skillful and ingenious manipulations,
especially classical methods often overlooked today.
Starting with the work of Gauss, Abel, and Jacobi, the book then discusses
the attempt by Dedekind to construct a theory of modular functions
independent of elliptic functions.

Mar. 2017   ....
9781107159389   13,090.

Garcia, S. /Horn, R.:   No. 505-072
A Second Course in Linear Algebra

Linear algebra is a fundamental tool in many fields, including mathematics and
statistics, computer science, economics, and the physical and biological sciences.
This undergraduate textbook offers a complete second course in linear algebra,
tailored to help students transition from basic theory to advanced topics and
applications.
Concise chapters promote a focused progression through essential ideas,
and contain many examples and illustrative graphics.

May 2017   ....
9781107103818   11,450.

Cambridge Studies in Advanced Mathematics,

***Vol. 164:* Schneider, P.:**   No. 505-089
Galois Representations and (Phi, Gamma)-Module

Around 1990, Fontaine devised a strategy to compare such p-adic Galois
representations to seemingly much simpler objects of semi)linear algebra,
the so-called etale (phi,Gamma)-modules. This book is the first to provide a
detailed and self-contained introduction to this theory.
The close connection between the absolute Galois groups of local number fields
and local function fields in positive characteristic is established using
the recent theory of perfectoid fields and the tilting correspondence.
The author works in the general framework of Lubin-Tate extensions of
local number fields, and provides an introduction to Lubin-Tate formal groups
and to the formalism of ramified Witt vectors.

Apr. 2017   ....
9781107188587   価格未定

Cambridge

Ergebnisse der Mathematik und ihrer Grenzgebiete 3 Folge

Band 63: Hytonen, T. /   No. 505-132
van Neerven, J. /Veraar, M. /Weis, L.:
Analysis in Banach Spaces, Vol. I:
Martingales and Littlewood-Paley Theory

The present volume develops the theory of integration in Banach spaces,
martingales and UMD spaces, and culminates in a treatment of
the Hilbert transform, Littlewood-Paley theory and the vector-valued
Mihlin multiplier theorem.
Over the past fifteen years, motivated by regularity problems in
evolution equations, there has been tremendous progress in the analysis of
Banach space-valued functions and processes.
The contents of this extensive and powerful toolbox have been mostly scattered
around in research papers and lecture notes.
Collecting this diverse body of material into a unified and accessible
presentation fills a gap in the existing literature.

Dec. 2016   614 pp.
9783319485195   26,370.

Band 62: Benoist, Y. /Qint, J.-F.:   No. 505-168
Random Walks on Reductive Groups

The classical theory of Random Walks describes the asymptotic behavior of sums
of independent identically distributed random real variables.
This book explains the generalization of this theory to products of independent
identically distributed random matrices with real coefficients.
Under the assumption that the action of the matrices is semisimple --- or,
equivalently, that the Zariski closure of the group generated by these matrices is
reductive - and under suitable moment assumptions, it is shown that
the norm of the products of such random matrices satisfies a number of
classical probabilistic laws.

Dec. 2016   321 pp.
9783319477190   19,470.

Lecture Notes in Mathematics,

Vol. 2139: Fraczek, S.:   No. 505-071
Selberg Zeta Functions and Transfer Operators:
An Experimental Approach to Singular Perturbations

Studying zeros of Selberg zeta functions for character deformations allows us to
access the discrete spectra and resonances of hyperbolic Laplacians under both
singular and non-singular perturbations.
Areas in which the theory has not yet been sufficiently developed,
such as the spectral theory of transfer operators or the singular perturbation
theory of hyperbolic Laplacians, will profit from the numerical experiments
discussed in this book.
Detailed descriptions of numerical approaches to the spectra and
eigenfunctions of transfer operators and to computations of Selberg zeta
functions will be of value to researchers active in analysis, while those
researchers focusing more on numerical aspects will benefit from discussions of
the analytic theory, in particular those concerning the transfer operator method
and the spectral theory of hyperbolic spaces.

Apr. 2017   ....
9783319512945   12,390.
Springer

Lecture Notes in Mathematics,

Vol. 2178: Costenoble, R. /Waner, S. .:   No. 505-064
Equivariant Ordinary Homology
and Cohomology

Filling a gap in the literature, this book takes the reader to the frontiers of
equivariant topology, the study of objects with specified symmetries.
The discussion is motivated by reference to a list of instructive "toy" examples
and calculations in what is a relatively unexplored field.
The authors also provide a reading path for the first-time reader less
interested in working through sophisticated machinery but still desiring
a rigorous understanding of the main concepts.
The subject's classical counterparts, ordinary homology and cohomology,
dating back to the work of Henri Poincare in topology, are calculational and
theoretical tools which are important in many parts of mathematics and
theoretical physics, particularly in the study of manifolds.
Similarly powerful tools have been lacking, however, in the context of
equivariant topology.

     Jan. 2017   ....
     9783319504476   7,960.

Vol. 2177: Jensen, E. /Kiderlen, M. (eds.):   No. 505-179
Tensor Valuations and Their Applications in
Stochastic Geometry and Imaging

The purpose of this volume is to give an up-to-date introduction to tensor
valuations and their applications. Starting with classical results concerning
scalar-valued valuations on the families of convex bodies and convex polytopes,
itproceeds to the modern theory of tensor valuations.
Product and Fourier-type transforms are introduced and various integral
formulae are derived. New and well-known results are presented, together with
generalizations in several directions, including extensions to
the non-Euclidean setting and to non-convex sets.

     May 2017   440 pp.
     9783319519500   12,390.

Vol. 2176: Bigatti, A. /Gimenez, P. /   No. 505-057
Saenz-de-Cabezon, E. (eds.):
Computations & Combinatorics in Commutative Algebra:
EACA School, Valladolid 2013

Featuring up-to-date coverage of three topics lying at the intersection of
combinatorics and commutative algebra, namely Koszul algebras, primary
decompositions and subdivision operations in simplicial complexes,
this book has its focus on computations.
"Computations and combinatorics in commutative algebra" has been written by
experts in both theoretical and computational aspects of these three subjects and
is aimed at a broad audience, from experienced researchers who
want to have an easy but deep review of the topics covered to postgraduate
students who need a quick introduction to the techniques.
The computational treatment of the material, including plenty of examples
and code, will be useful for a wide range of professionals interested in
the connections between commutative algebra and combinatorics.

     Mar. 2017   432 pp.
     9783319513188   12,390.

Springer

Adachi Kohei :　　　　　　　　　　　No. 505-194
Matrix-Based
Introduction to Multivariate Data Analysis
This book enables readers who may not be familiar with matrices to
understand a variety of multivariate analysis procedures in matrix forms.
Another feature of the book is that it emphasizes what model underlies
a procedure and what objective function is optimized for fitting the model to
data. The author believes that the matrix-based learning of such models and
objective functions is the fastest way to comprehend multivariate data analysis.
The text is arranged so that readers can intuitively capture the purposes for
which multivariate analysis procedures are utilized: plain explanations of
the purposes with numerical examples precede mathematical descriptions in
almost every chapter.

　　　　　Oct. 2016　　　　　　　304 pp.
　　　9789811023408　　　　　　　　11,860.

Universitext

Borthwick, D.:　　　　　　　　　No. 505-108
Introduction to Partial Differential Equations
This modern take on partial differential equations does not require knowledge
beyond vector calculus and linear algebra.
The author focuses on the most important classical partial differential
equations, including conservation equations and their characteristics,
the wave equation, the heat equation, function spaces, and Fourier series,
draing on tools from analysis only as they arise.

　　　　　Jan. 2017　　　　　　　268 pp.
　　　9783319489346　　　　　　　　7,960.

Hinderer, K. /Rieder, U. /Stieglitz, M.:　　　No. 505-211
Dynamic Optimization:
Deterministic and Stochastic Models
This book explores discrete-time dynamic optimization and provides
a detailed introduction to both deterministic and stochastic models.
Covering problems with finite and infinite horizon, as well as Markov renewal
programs, Bayesian control models and partially observable processes,
the book focuses on the precise modelling of applications in a variety of areas,
including operations research, computer science, mathematics, statistics,
engineering, economics and finance.

　　　　　Jan. 2017　　　　　　　522 pp.
　　　9783319488134　　　　　　　　14,160.

Lanchier, N.:　　　　　　　　　No. 505-226
Stochastic Modeling
Three coherent parts form the material covered in this text, portions of whic
have not been widely covered in traditional textbooks. In this coverage
the reader is quickly introduced to several different topics enriched with
175 exercises which focus on real-world problems.
Intended for graduate students in mathematics and applied sciences,
the text provides the tools and training needed to write and use programs
for research purposes.

　　　　　Feb. 2017　　　　　　　394 pp.
　　　9783319500379　　　　　　　　12,390.
Springer

Universitext

Bhattacharya, R. /Waymire, E.:   No. 505-105

A Basic Course in Probability Theory, 2nd ed.

This text develops the necessary background in probability theory underlying
diverse treatments of stochastic processes and their wide-ranging applications.
In this second edition, the text has been reorganized for didactic purposes,
new exercises have been added and basic theory has been expanded.
General Markov dependent sequences and their convergence to
equilibrium is the subject of an entirely new chapter.
The introduction of conditional expectation and conditional probability very
early in the text maintains the pedagogic innovation of the first edition;
conditional expectation is illustrated in detail in the context of an expanded
treatment of martingales, the Markov property, and the strong Markov property.
Weak convergence of probabilities on metric spaces and Brownian motion are
two topics to highlight.

Dec. 2016	267 pp.	
9783319479729		10,090.

Springer Theses

Patrascu, A.-T.:

The Universal Coefficient Theorem and
Quantum Field Theory:
A Topological Guide for the Duality Seeker

This thesis describes a new connection between algebraic geometry,
topology, number theory and quantum field theory.
It offers a pedagogical introduction to algebraic topology, allowing readers to
rapidly develop basic skills, and it also presents original ideas to inspire new
research in the quest for dualities.

Oct. 2016	270 pp.	
9783319461427		17,700.

Taylor, A.:   No. 505-345

Analysis of Quantised Vortex Tangle

In this thesis, the author develops numerical techniques for tracking and
characterising the convoluted nodal lines in three-dimensional space,
analysing their geometry on the small scale, as well as their global fractality and
topological complexity---including knotting---on the large scale.
The work is highly visual, and illustrated with many beautiful diagrams
revealing this unanticipated aspect of the physics of waves.

Dec. 2016	240 pp.	
9783319485553		17,700.

Graduate Texts in Physics

Stauffer, D. /Stanley, E.:   No. 505-343

From Newton to Mandelbrot, 3rd ed.

This textbook takes the reader on a tour of the most important landmarks of
theoretical physics: classical, quantum, and statistical mechanics, relativity,
electrodynamics, as well as the most modern and exciting of all: elementary
particles and the physics of fractals. The second edition has been supplemented
with a new chapter devoted to concise though complete presentation of
dynamical systems, bifurcations and chaos theory.

Feb. 2017	252 pp.	
9783662536834		15,040.

Springer

Gabbay, D. /Schlechta, K.:
No. 505-032
A New Perspective on Nonmonotonic Logics
In this book the authors present new results on interpolation for
nonmonotonic logics, abstract (function) independence, the Talmudic Kal
Vachomer rule, and an equational solution of contrary-to-duty obligations.
The chapter on formal construction is the conceptual core of the book,
where the authors combine the ideas of several types of nonmonotonic logics and
their analysis of 'natural' concepts into a formal logic, a special preferential
construction that combines formal clarity with the intuitive advantages of
Reiter defaults, defeasible inheritance, theory revision, and
epistemic considerations.

Nov. 2016   365 pp.
9783319468150   19,470.

Springer Monographs in Mathematics

Kerr, D. /Li, H.:
No. 505-078
Ergodic Theory:
Independence and Dichotomies
This book provides an introduction to the ergodic theory and
topological dynamics of actions of countable groups.
It is organized around the theme of probabilistic and combinatorial
independence, and highlights the complementary roles of the asymptotic and
the perturbative in its comprehensive treatment of the core concepts of
weak mixing, compactness, entropy, and amenability.
The more advanced material includes Popa's cocycle superrigidity,
the Furstenberg-Zimmer structure theorem, and sofic entropy.
The structure of the book is designed to be flexible enough to serve
a variety of readers.
The discussion of dynamics is developed from scratch assuming some
rudimentary functional analysis, measure theory, and topology, and parts of
the text can be used as an introductory course.
Researchers in ergodic theory and related areas will also find
the book valuable as a reference.

Jan. 2017   396 pp.
9783319498454   19,470.

Fedorov, Yu. N. /Kozlov, V.:
No. 505-069
A Memoir on Integrable Systems
Integrable dynamical systems are usually associated with Hamiltonian ones.
The present book considers the bigger class of systems which are not
(at least a priori) Hamiltonian but possess tensor invariants, in particular,
an invariant measure.
Such systems are as rare as Hamiltonian ones that have additional first
integrals and therefore must be considered as number one candidates for
integrable problems. Several integrability theorems related to the existence of
tensor invariants are formulated.
The authors display the geometrical background of some classical and new
hierarchies of integrable systems and give their explicit solution in terms of
theta-functions. Most of the results discussed in this book have not been
published before, so that this book will be immensely useful both to specialists
in analytical dynamics who are interested in integrable problems and those in
algebraic geometry who are looking for applications.

Mar. 2017 << July 2005   280 pp.
9783540590002   15,040.
Springer

Wiley Series in Probability and Statistics

Hedeker, D. /Gibbons, R.:
No. 505-209
Longitudinal Data Analysis 2nd ed.

This book presents and describes methods for analysis of longitudinal data, with a strong emphasis on the application of these methods to problems in the biomedical and behavioral sciences.
This is an important book because longitudinal data are increasingly common in many areas of research, and methods of analysis of such data are not well understood by data analysts. Therefore, the book is geared more toward users, and not developers, of statistics.
The Second Edition features six new chapters on: Bivariate and Multivariate Models; Growth Mixture Models; Grouped and Discrete Time Survival Analysis Models; Mixed-effects Regression Models for Higher-Level Data; Intensive Longitudinal Data; and Sample Size and Power Determination in Longitudinal Studies.

| June 2017 | 448 pp. |
| 9780470889183 | 19,680. |

Tanaka Katsuto :
No. 505-240
Time Series Analysis, 2nd ed.

This revised and expanded edition reflects the developments and new directions in the field since the publication of the first edition.
In particular, sections on nonstationary panel data analysis and the discussion on the distinction between deterministic and stochastic trends have been add ed.
Three new chapters on long-memory discrete-time and continuous-time processes have also been created, whereas some chapters have been merged and some sections deleted.
The first eleven chapters of the first edition have been compressed into eight chapters and located under Part I: Analysis of Non-Fractional Time Series.
Chapters nine through eleven have been newly written under Part II: Analysis of Fractional Time Series.
The last chapter gives a complete set of solutions to problems posed at the end of most sections of each chapter.
Most of the problems are concerned with corroborating the results described in the text, so that one can gain a better understanding of details of the discussions.

| May 2017 | 960 pp. |
| 9781119132097 | 22,140. |

Vidakovic, B.:
No. 505-245
Engineering Biostatistics:
An Introduction Using MATLAB and WinBUGS.

Through its scope and depth of coverage, this book addresses the needs of the vibrant and rapidly growing bio-oriented engineering fields while implementing software packages that are familiar to engineers.
The book is heavily oriented to computation and hands-on approaches so readers understand each step of the programming.
Another dimension of this book is in parallel coverage of both Bayesian and frequentist approaches to statistical inference.
It avoids taking sides on the classical vs.
Bayesian approach, and many examples in this book are solved using both methods. The results are then compared and commented upon.

| Jan. 2017 | 968 pp. |
| 9781119168966 | 19,680. |

Blackwell / Wiley

Farmakis, I. /Moskowitz, M.:　　　　　　　No. 505-067/068
A Graduate Course in Algebra
2 Vols. Set

This comprehensive 2 volume book deals with algebra, broadly conceived.
Volume 1 (Chapters 1-6) comprises what should be taught in
a first year graduate course in algebra, offering the instructor a number of
options in designing such a course.
Moreover, Volume 1 provides an excellent basis for study for
the qualifying exam in algebra in most American and European universities.
Volume 2 (Chapters 7-13) forms the basis for a second year graduate coursein
topics in algebra.
As the table of contents shows (see inside), here we have provided ample material
to satisfy many diverse notions and ideas for the contents of such a course.
To facilitate matters for the reader, there is a chart showing
the interdependence of the chapters.

Dec. 2016　　　　　　　　700 pp.
9789813142602/ 9789813142619　　29,190./ 16,070. (Paper ed.)

Hida Takeyuki /Si, S.:　　　　　　　No. 505-210
White Noise:
Functionals of Gaaussian and Other Noises

We propose a new direction for stochastic analysis.
Starting with a noise which is a system of i.i.d. idealized elemental random
variables, we form polynomials in the noise and come to the space of
generalized functionals of the noise with special emphasis on
the Gaussian noise.
New tools of analyzing these functionals are introduced.
We further establish a harmonic analysis arising from
the infinite dimensional rotation group which plays significant roles in
white noise analysis.
Many applications, in particular to quantum dynamics, have been shown.
Functionals of other kind of noises are discussed. As a new approach, we discuss
functionals of a space noise. There one can find similarity and dissimilarity
as well as duality to the analysis of Poisson noise functionals.

Mar. 2017　　　　　　　　300 pp.
9789814713580　　　　　　　　18,700.

Botelho, L.-C.:　　　　　　　No. 505-319
Lecture Notes in Topics in
Path Integrals and String Representations

Functional Integrals is a well-established method in mathematical physics,
especially those mathematical methods used in modern non-perturbative
quantum field theory and string theory.
This book presents a unique, original and modern treatment of strings
representations on Bosonic Quantum Chromodynamics and Bosonization
theory on 2d Gauge Field Models, besides of rigorous mathematical studies
on the analytical regularization scheme on Euclidean quantum field path
integrals and stochastic quantum field theory.
It follows an analytic approach based on Loop space techniques, functional
determinant exact evaluations and exactly solubility of four dimensional
QCD loop wave equations through Elfin Botelho fermionic extrinsic self
avoiding string path integrals.

Jan. 2017　　　　　　　　250 pp.
9789813143463　　　　　　　　16,070.

World Scientific Publishing

Thas, K. (ed.):
No. 505-095

Absolute Arithmetic and \mathbb F_1 -Geometry

It has been known for some time that geometries over finite fields, their
automorphism groups and certain counting formulae involving these
geometries have interesting guises when one lets the size of the field go to 1.
On the other hand, the nonexistent field with one element, \mathbb F_1,
presents itself as a ghost candidate for an absolute basis in
Algebraic Geometry to perform the Deninger-Manin program,
which aims atsolving the classical Riemann Hypothesis.
This book, which is the first of its kind in the \mathbb F_1-world, covers
several areas in \mathbb F_1-theory, and is divided into four main parts
Combinatorial Theory, Homological Algebra, Algebraic Geometry and
Absolute Arithmetic.

July 2016	397 pp.	
9783037191576		12,240.

EMS Tracts in Mathematics,

Vol. 27: Raymond, N.:
No. 505-149

Bound State of
the Magnetic Schrodinger Operator

This book is a synthesis of recent advances in the spectral theory of
the magnetic Schrodinger operator. It can be considered a catalog of
concrete examples of magnetic spectral asymptotics.
Since the presentation involves many notions of spectral theory and
semiclassical analysis, it begins with a concise account of concepts and
methods used in the book and is illustrated by many elementary examples.
Assuming various points of view (power series expansions,
Feshbach-Grushin reductions, WKB constructions, coherent states
decompositions, normal forms) a theory of
Magnetic Harmonic Approximation is then established which allows, in
particular, accurate descriptions of the magnetic eigenvalues
and eigenfunctions.

Dec. 2016	242 pp.	
9783037191699		11,330.

Vol. 26: Guedj, V. /Zeriahi, A.:
No. 505-127

Degenerate Complex Monge-Amper Equations

A notable application is the construction of Kahler-Einstein metrics on
some compact Kahler manifolds.
In recent years degenerate complex Monge-Ampere equations have been
intensively studied, requiring more advanced tools.
The main goal of this book is to give a self-contained presentation of
the recent developments of pluripotential theory on compact Kahler manifolds
and its application to Kahler-Einstein metrics on mildly singular varieties.
After reviewing basic properties of plurisubharmonic functions,
Bedford-Taylor's local theory of
complex Monge-Ampere measures is developed.
In order to solve degenerate complex Monge-Ampere equations on
compact Kahler manifolds, fine properties of quasi-plurisubharmonic
functions are explored, classes of finite energies defined and
various maximum principles established.

Mar. 2017	490 pp.	
9783037191675		15,580.

Europeam Mathematical Society

EMS Series of Lectures in Mathematics,

Barilari, D. /Boscain, U. /Sigalotti, M. (eds.):   No. 505-167
Geometry, Analysis and Dynamics on
Sub-Riemannian Manifolds, Vol. II.

Sub-Riemannian manifolds model media with constrained dynamics:
motion at any point is only allowed along a limited set of directions,
which are prescribed by the physical problem.
From the theoretical point of view, sub-Riemannian geometry is
the geometry underlying the theory of hypoerliptic operators and
degenerate diffusions on manifolds.
In the last twenty years, sub-Riemannian geometry has emerged as
an independent research domain, with extremely rich motivations and
ramifications in several parts of pure and applied mathematics, such as
geometric analysis, geometric measure theory, stochastic calculus and evolution
equations together with applications in mechanics, optimal control and biology.
The aim of the Lectures collected here is to present sub-Riemannian structures
for the use of both researchers and graduate students.

<div align="center">

Nov. 2016   299 pp.

9783037191637   7,790.

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Dal'bo, F. /Ledrappier, F. /Wilkinson, A. (eds.):   No. 505-175
Dynamics Done with Your Bare Hands

The lecture of Diana Davis is devoted to billiard flows on polygons,
a simple-sounding class of continuous time dynamical system for
which many problems remain open.
Bryce Weaver focuses on the dynamics of a 2 x 2 matrix acting on
the flat torus. This example introduced by Vladimir Arnold illustrates
the wide class of uniformly hyperbolic dynamical systems,
including the geodesic flow for negatively curved, compact manifolds.
Roland Roeder considers a dynamical system on the complex plane governed by
a quadratic map with a complex parameter.
These maps exhibit complicated dynamics related to the Mandelbrot set
defined as the set of parameters for which the orbit remains bounded.
Pablo Lessa deals with a type of non-deterministic dynamical system - a simple
walk on an infinite graph, obtained by starting at a vertex and choosing
a random neighbor at each step.

<div align="center">

Dec. 2016   214 pp.

9783037191682   6,370.

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Zurich Lectures in Advanced Mathematics

Figalli, A.:
               No. 505-121
The Monge-Ampere Equations
and its Applications

The Monge-Ampere equation is one of the most important partial differential
quations appearing in many problems in analysis and geometry.
This monograph is a comprehensive introduction to the existence and
regularity theory of the Monge-Ampere equation and some selected applications;
the main goal is to provide the reader with a wealth of results and techniques he
or she can draw from to understand current research
related to this beautiful equation.

<div align="center">

Dec. 2016   195 pp.

9783037191705   6,020.

</div>

Europeam Mathematical Society

Asterisque,

Vol. 383: Guillermou, S. /Lebeau, G. /
Parusinski, A. /Schapira, P. /Schneiders, J.-P.:
Subanalytic Sheaves and Sobolev Spaces   No. 505-075

Sheaves on manifolds are perfectly suited to treat local problems, but many
spaces one naturally encounters, especially in Analysis, are not of local nature.
The subanalytic topology (in the sense of Grothendieck) on real analytic
manifolds allows one to partially overcome this difficulty and to define for example
sheaves of functions or distributions with temperate growth, but not to make the
growth precise.
In this volume, one introduces the linear subanalytic topology,
a refinement of the preceding one, and constructs various objects of
the derived category of sheaves on the subanalytic site with the help of
the Brown representability theorem.
In particular one constructs the Sobolev sheaves.
These objects have the nice property that the complexes of their sections on open
subsets with Lipschitz boundaries are concentrated in degree zero and coincide
with the classical Sobolev spaces.
Another application of this topology is that it allows one to functorially endow
regular holonomic D-modules with filtrations (in the derived sense).
In the course of the text, one also obtains some results on subanalytic geometry and
one makes a detailed study of the derived category of filtered objects in symmetric
monoidal categories.

Dec. 2016   120 pp.
9782856298442   価格未定

Vol. 382: Andreatta, F. /Bijakowski, S. /Iovita, A. / No. 505-097
Kassaei, P. /Pilloni, V. /Stroh, B. /Tian, Y. /Xiao, L.:
Arithmetique p-Adique des Formes de Hilbert

This volume is devoted to the study of Hilbert p-adic modular forms.
It contains classicality theorems for overconvergent forms which generalize on
the first hand Coleman criterion, which can be applied in big weights, and on the
second hand Buzzard-Taylor criterion, which can be applied in weight one.
We deduce applications to the Artin and Fontaine-Mazur conjectures.
We finally construct Hecke varieties for Hilbert modular forms.

Dec. 2016   266 pp.
9782856298435   価格未定

Panoramas et syntheses,

Vol. 50: Novotny, A. et al.:   No. 505-148
**Topics on
Compressible Navier-Stokes Equations**
Dec. 2016   ....
9782856298473   価格未定

Vol. 49: Saito, T. et al.:
Autour des Motifs, Vol. III: No. 505-087
Asian- French Summer School on
Algebraic Geometry and Number Theory
Dec. 2016   131 pp.
9782856298466   価格未定

Societe Mathematique de France

Vol. 197: Chen, G.-Q. /Feldman, M.: No. 505-112/113

The Mathematics of
Shock Reflection-Diffraction and
von Neumann's Conjectures

This book offers a survey of recent developments in the analysis of shock
reflection-diffraction, a detailed presentation of original mathematical proofs of
von Neumann's conjectures for potential flow, and a collection of related results
and new techniques in the analysis of partial differential equations (PDEs),
as well as a set of fundamental open problems for further development.
Shock waves are fundamental in nature.
They are governed by the Euler equations or their variants, generally in
the form of nonlinear conservation laws --- PDEs of divergence form.   When a
shock hits an obstacle, shock reflection-diffraction configurations take shape.
To understand the fundamental issues involved, such as the structure and
transition criteria of different configuration patterns, it is essential to
establish the global existence, regularity, and structural stability of
shock reflection-diffraction solutions.

Vol. 196: Isett, P.: No. 505-133/134

Holder Continuous Euler Flows in
Three Dimensions with Compact Support in Time

Motivated by the theory of turbulence in fluids, the physicist and chemist Lars
Onsager conjectured in 1949 that weak solutions to the incompressible
Euler equations might fail to conserve energy if their spatial regularity was
below 1/3-Holder.
In this book, Philip Isett uses the method of convex integration to
achieve the best-known results regarding nonuniqueness of
solutions and Onsager's conjecture.
Focusing on the intuition behind the method, the ideas introduced now play
a pivotal role in the ongoing study of weak solutions to fluid dynamics equations.
The construction itself --- an intricate algorithm with hidden symmetries mixes
together transport equations, algebra, the method of nonstationary phase,
underdetermined partial differential equations (PDEs), and specially designed
high-frequency waves built using nonlinear phase functions.

Vol. 195: Aschenbrenner, M. /van den Dries, L.:
Asymptotic Differential Algebra and
Model Theory of Transseries No. 505-052/053

Asymptotic differential algebra seeks to understand the solutions of
differential equations and their asymptotics from an algebraic point of view.
The differential field of transseries plays a central role in the subject.
Besides powers of the variable, these series may contain exponential and
logarithmic terms. Over the last thirty years, transseries emerged variously as
super-exact asymptotic expansions of return maps of analytic vector fields, in
connection with Tarski's problem on the field of reals with exponentiation,
and in mathematical physics. Their formal nature also makes them suitable for
machine computations in computer algebra systems.

Princeton University