

Yurinsha Book News

Mathematical Surveys and Monographs,

**Vol. 217: Fresse, B.: 2 Vols. Set
Homotopy of Operads and
Grothendieck-Teichmuller Groups:
Part 1. -2.**

506-073

The Grothendieck-Teichmuller group was defined by Drinfeld in quantum group theory with insights coming from the Grothendieck program in Galois theory.

The ultimate goal of this book set is to explain that this group has a topological interpretation as a group of homotopy automorphisms associated to the operad of little 2-discs, which is an object used to model commutative homotopy structures in topology.

The first part of this two-part set gives a comprehensive survey on the algebraic aspects of this subject.

The book explains the definition of an operad in a general context, reviews the definition of the little discs operads, and explains the definition of the Grothendieck-Teichmuller group from the viewpoint of the theory of operads. In the course of this study, the relationship between the little discs operads and the definition of universal operations associated to braided monoidal category structures is explained. Also provided is a comprehensive and self-contained survey of the applications of Hopf algebras to the definition of a rationalization process, the Malcev completion, for groups and groupoids.

May 2017

9781470434809

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43,410.

A. M. S.

<http://www.yurinsha.com>

ホームページは毎月25日更新予定です

No. 506

Mar. - Apr. 2017

敬理科学 **友 隣 社** 洋書専門

Yurinsha Book News

London Mathematical Society Student Texts,

*Vol. **: Holt, D. /Rees, S.:*

No. 506-085-086

Groups, Languages and Automata

Fascinating connections exist between group theory and automata theory, and a wide variety of them are discussed in this text.

Automata can be used in group theory to encode complexity, to represent aspects of underlying geometry on a space on which a group acts, and to provide efficient algorithms for practical computation.

There are also many applications in geometric group theory.

The authors provide background material in each of these related areas, as well as exploring the connections along a number of strands that lead to the forefront of current research in geometric group theory.

Examples studied in detail include hyperbolic groups, Euclidean groups, braid groups, Coxeter groups, Artin groups, and automata groups such as the Grigorchuk group.

Feb. 2017
9781107152359/97811316606520

304 pp
17,360./6,420. (Paper ed.)

Cambridge Studies in Advanced Mathematics,

Vol. 164: Schneider, P.:

No. 506-099

Galois Representations and (Phi, Gamma)-Modules

Understanding Galois representations is one of the central goals of number theory. 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 étale (ϕ, Γ) -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

154 pp.
10,070.

Cambridge Tracts in Mathematics,

*Vol. ***: Sogge, C.:*

No. 506-153

Fourier Integrals in Classical Analysis, 2nd ed.

The main theme of the book is the interplay between ideas used to study the propagation of singularities for the wave equation and their counterparts in classical analysis. In particular, the author uses microlocal analysis to study problems involving maximal functions and Riesz means using the so-called half-wave operator. To keep the treatment self-contained, the author begins with a rapid review of Fourier analysis and also develops the necessary tools from microlocal analysis.

This second edition includes two new chapters. The first presents Hörmander's propagation of singularities theorem and uses this to prove the Duistermaat-Guillemin theorem.

The second concerns newer results related to the Kakeya conjecture, including the maximal Kakeya estimates obtained by Bourgain and Wolff.

June 2017
9781107120075

348 pp.
21,700.

Cambridge

Butin, F.:

No. 506-057

Algebra:**Polynomials, Galois Theory and Applications**

Originally published in French as *Algebre - Polynomes, theorie de Galois et applications informatiques*, this 2017 Dover Aurora edition marks the volume's first English-language publication.

The three-part treatment begins by providing the essential introduction to Galois theory. The second part is devoted to the algebraic, normal, and separable Galois extensions that constitute the center of the theory and examines abelian, cyclic, cyclotomic, and radical extensions.

The third part deals with applications of Galois theory, including excellent discussions of several important real-world applications of these ideas, including cryptography and error-control coding theory.

Feb. 2017 288 pp. 6,130.
9780486810157

Johnson, I. /Henrich, A.:

No. 506-182

An Interactive Introduction to Knot Theory

This well-written and engaging volume, intended for undergraduates, introduces knot theory, an area of growing interest in contemporary mathematics.

The hands-on approach features many exercises to be completed by readers.

Prerequisites are only a basic familiarity with linear algebra and a willingness to explore the subject in a hands-on manner.

The opening chapter offers activities that explore the world of knots and links - including games with knots - and invites the reader to generate their own questions in knot theory.

Jan. 2017 192 pp. 3,500.
9780486804637

Velleman, D.:

No. 506-157

Calculus:**A Rigorous First Course**

Designed for undergraduate mathematics majors, this rigorous and rewarding treatment covers the usual topics of first-year calculus: limits, derivatives, integrals, and infinite series. Author Daniel J. Velleman focuses on calculus as a tool for problem solving rather than the subject's theoretical foundations. Stressing a fundamental understanding of the concepts of calculus instead of memorized procedures, this volume teaches problem solving by reasoning, not just calculation.

Jan. 2017 736 pp. 12,270.
9780486809366

Weintraub, S.:

No. 506-045

The Induction Book

Mathematical induction along with its equivalents, complete induction and well-ordering, and its immediate consequence, the pigeonhole principle constitute essential proof techniques.

Every mathematician is familiar with mathematical induction, and every student of mathematics requires a grasp of its concepts.

This volume provides an introduction and a thorough exposure to these proof techniques.

May 2017 176 pp. 4,380.
9780486811994

Dover

International Series of Monographs on Physics,

Vol. 166: Morgenstern Horing, N.: No. 506-311

**Quantum Statistical Field Theory:
An Introduction to Schwinger's Variational Method with
Green's Function Nanoapplications,
Graphene and Superconductivity**

This book provides an introduction to the methods of coupled quantum statistical field theory and Green's functions. The methods of coupled quantum field theory have played a major role in the extensive development of nonrelativistic quantum many-particle theory and condensed matter physics.

This introduction to the subject is intended to facilitate delivery of the material in an easily digestible form to advanced undergraduate physics majors at a relatively early stage of their scientific development. The main mechanism to accomplish this is the early introduction of variational calculus and the Schwinger Action Principle, accompanied by Green's functions.

Apr. 2017 448 pp. 12,010.
9780198791942

Manton, N. /Mee, N.: No. 506-024/025

The Physical World:**An Inspirational Tour of Fundamental Physics**

The Physical World offers a grand vision of the essential unity of physics that will enable the reader to see the world through the eyes of a physicist and understand their thinking.

The text follows Einstein's dictum that 'explanations should be made as simple as possible, but no simpler' to give an honest account of how modern physicists understand their subject, including the shortcomings of current theory.

The result is an up-to-date and engaging portrait of physics that contains concise derivations of the important results in a style where every step in a derivation is clearly explained, so that anyone with the appropriate mathematical skills will find the text easy to digest.

Mar. 2017 608 pp.
9780198795933/9780198796114 12,010./5,540. (Paper ed.)

Lecture Notes of the Les Houches Summer School,

Vol. 98: Bocquet, L. /Quere, D. (eds.): No. 506-290

Soft Interfaces:**Les Houches Summer School: Vol. 98, July 2012**

Many of the distinctive and useful phenomena of soft matter come from its interaction with interfaces.

Examples are the peeling of a strip of adhesive tape, the coating of a surface, the curling of a fiber via capillary forces, or the collapse of a porous sponge.

These interfacial phenomena are distinct from the intrinsic behavior of a soft material like a gel or a microemulsion.

Yet many forms of interfacial phenomena can be understood via common principles valid for many forms of soft matter.

Our goal in organizing this school was to give students a grasp of these common principles and their many ramifications and possibilities.

Feb. 2017 528 pp. 7,850.
9780198789352

Oxford University Press

Vol. 2183: Le, N. /Mitake Hiroyoshi : No. 506-138**Dynamical and Geometric Aspects of****Hamilton-Jacobi & Linearized Monge-Ampere Equations**

Consisting of two parts, the first part of this volume is an essentially self-contained exposition of the geometric aspects of local and global regularity theory for the Monge-Ampere and linearized Monge-Ampere equations.

As an application, we solve the second boundary value problem of the prescribed affine mean curvature equation, which can be viewed as a coupling of the latter two equations.

Of interest in its own right, the linearized Monge-Ampere equation also has deep connections and applications in analysis, fluid mechanics and geometry, including the semi-geostrophic equations in atmospheric flows, the affine maximal surface equation in affine geometry and the problem of finding Kahler metrics of constant scalar curvature in complex geometry.

Among other topics, the second part provides a thorough exposition of the large time behavior and discounted approximation of Hamilton-Jacobi equations, which have received much attention in the last two decades, and a new approach to the subject, the nonlinear adjoint method, is introduced.

Apr. 2017

9783319542072

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6,470.

Vol. 2182: Yang, D. /Liang, Y.: No. 506-158**Real-Variable Theory of Musielak-Orlicz Hardy Spaces**

The main purpose of this book is to give a detailed and complete survey of recent progress related to the real-variable theory of Musielak-Orlicz Hardy-type function spaces, and to lay the foundations for further applications. The real-variable theory of function spaces has always been at the core of harmonic analysis.

Recently, motivated by certain questions in analysis, some more general Musielak-Orlicz Hardy-type function spaces were introduced.

These spaces are defined via growth functions which may vary in both the spatial variable and the growth variable.

By selecting special growth functions, the resulting spaces may have subtler and finer structures, which are necessary in order to solve various endpoint or sharp problems.

May 2017

9783319543604

441 pp.

12,950.

Vol. 2179: Dacorogna, B. /Fusco, N. /Muller, S. /Sverak, V.:**Vector-Valued Partial Differential Equations and****Applications: Cetraro, Italy 2013** No. 506-122

Collating different aspects of Vector-valued Partial Differential Equations and Applications, this volume is based on the 2013 CIME Course with the same name which took place at Cetraro, Italy, under the scientific direction of John Ball and Paolo Marcellini.

It contains the following contributions: The pullback equation (Bernard Dacorogna), The stability of the isoperimetric inequality (Nicola Fusco), Mathematical problems in thin elastic sheets: scaling limits, packing, crumpling and singularities (Stefan Muller), and Aspects of PDEs related to fluid flows (Vladimir Sverak).

These lectures are addressed to graduate students and researchers in the field.

May 2017

9783319545134

215 pp.

8,320.

Springer

Caminha Muniz Neto, A: No. 506-115
An Excursion Through Elementary Mathematics, Vol. I:
Real Numbers and Functions

This book provides a comprehensive, in-depth overview of elementary mathematics as explored in Mathematical Olympiads around the world. It expands on topics usually encountered in high school and could even be used as preparation for a first-semester undergraduate course. This first volume covers Real Numbers, Functions, Real Analysis, Systems of Equations, Limits and Derivatives, and much more. As part of a collection, the book differs from other publications in this field by not being a mere selection of questions or a set of tips and tricks that applies to specific problems.

It starts from the most basic theoretical principles, without being either too general or too axiomatic.

Examples and problems are discussed only if they are helpful as applications of the theory.

Propositions are proved in detail and subsequently applied to Olympic problems or to other problems at the Olympic level.

Apr. 2017 622 pp. 11,100.
 9783319538709

Springer Monographs in Mathematics

Hadeler, K. /Muller, J.: No. 506-129
Cellular Automata:
Analysis And Applications

This book focuses on a coherent representation of the main approaches to analyze the dynamics of cellular automata.

Cellular automata are an inevitable tool in mathematical modeling.

In contrast to classical modeling approaches as partial differential equations, cellular automata are straightforward to simulate but hard to analyze.

In this book we present a review of approaches and theories that allow the reader to understand the behavior of cellular automata beyond simulations.

Apr. 2017 435 pp. 20,350.
 9783319530420

Kamada Seiichi : No. 506-183
Surface-Knots in 4-Space:
An Introduction

This introductory volume provides the basics of surface-knots and related topics, not only for researchers in these areas but also for

graduate students and researchers who are not familiar with the field.

Knot theory is one of the most active research fields in modern mathematics.

Knots and links are closed curves (one-dimensional manifolds) in

Euclidean 3-space, and they are related to braids and 3-manifolds.

These notions are generalized into higher dimensions.

Surface-knots or surface-links are closed surfaces (two-dimensional manifolds) in Euclidean 4-space, which are related to two-dimensional braids and 4-manifolds.

Surface-knot theory treats not only closed surfaces but also surfaces with boundaries in 4-manifolds

Aug. 2017 15,720.
 9789811040900

Springer

Algebra and Applications,

Vol. 22: Wang, F. /Kim, H.:

No. 506-107

**Foundations of
Commutative Rings and Their Modules**

This book provides an introduction to the basics and recent developments of commutative algebra.

A glance at the contents of the first five chapters shows that the topics covered are ones that usually are included in any commutative algebra text. However, the contents of this book differ significantly from most commutative algebra texts: namely, its treatment of the Dedekind-Mertens formula, the (small) finitistic dimension of a ring, Gorenstein rings, valuation overrings and the valuative dimension, and Nagata rings.

Feb. 2017

699 pp.

9789811033360

24,050.

Universitext

Godement, R. /Ray, U.:

No. 506-077

Introduction to the Theory of Lie Groups

This textbook covers the general theory of Lie groups. By first considering the case of linear groups (following von Neumann's method) before proceeding to the general case, the reader is naturally introduced to Lie theory. Written by a master of the subject and influential member of the Bourbaki group, the French edition of this textbook has been used by several generations of students.

This translation preserves the distinctive style and lively exposition of the original.

Requiring only basics of topology and algebra, this book offers an engaging introduction to Lie groups for graduate students and a valuable resource for researchers.

July 2017

275 pp.

9783319543734

7,400.

Graduate Texts in Mathematics,

Vol. 275: Tu, L.:

No. 505-190

Differential Geometry:**Connections, Curvature, and Characteristic Classes**

This text presents a graduate-level introduction to differential geometry for mathematics and physics students.

The exposition follows the historical development of the concepts of connection and curvature with the goal of explaining the Chern-Weil theory of characteristic classes on a principal bundle.

Along the way we encounter some of the high points in the history of differential geometry, for example, Gauss's Theorema Egregium and the Gauss-Bonnet theorem.

Exercises throughout the book test the reader's understanding of the material and sometimes illustrate extensions of the theory.

Initially, the prerequisites for the reader include a passing familiarity with manifolds. After the first chapter, it becomes necessary to understand and manipulate differential forms.

A knowledge of de Rham cohomology is required for the last third of the text.

May 2017

352 pp.

9783319550824

11,100.

Springer

Yurinsha Book News

Simons Symposia

Bogomolov, F. /Hassett, B. /Tschinkel, Y. (eds.): No. 506-162
Geometry Over Nonclosed Fields

Based on the Simons Symposia held in 2015, the proceedings in this volume focus on rational curves on higher-dimensional algebraic varieties and applications of the theory of curves to arithmetic problems.

There has been significant progress in this field with major new results, which have given new impetus to the study of rational curves and spaces of rational curves on K3 surfaces and their higher-dimensional generalizations.

Jan. 2017

230 pp.

9783319497624

22,200.

Developments in Mathematics,

Vol. 42: Lakshmibai, V. /Brown, J.: No. 506-090

**The Grassmannian Variety:
Geometric and Representation -Theoretic Aspects**

This book gives a comprehensive treatment of the Grassmannian varieties and their Schubert subvarieties, focusing on the geometric and representation-theoretic aspects of Grassmannian varieties.

Research of Grassmannian varieties is centered at the crossroads of commutative algebra, algebraic geometry, representation theory, and combinatorics.

Therefore, this text uniquely presents an exciting playing field for graduate students and researchers in mathematics, physics, and computer science, to expand their knowledge in the field of algebraic geometry.

Dec. 2016

172 pp.

9781493956081

12,390.

Fields Institute Monographs,

Vol. 35: Mingo, J. /Speicher, R.: No. 506-214

Free Probability and Random Matrices

This volume opens the world of free probability to a wide variety of readers. From its roots in the theory of operator algebras, free probability has intertwined with non-crossing partitions, random matrices, applications in wireless communications, representation theory of large groups, quantum groups, the invariant subspace problem, large deviations, subfactors, and beyond. This book puts a special emphasis on the relation of free probability to random matrices, but also touches upon the operator algebraic, combinatorial, and analytic aspects of the theory.

Apr. 2017

336 pp.

9781493969418

21,270.

Algorithms and Combinatorics,

Vol. 30: Barvinok, A.: No. 506-049

Combinatorics and Complexity of Partition Functions

The main focus of the book is on efficient ways to compute (approximate) various partition functions, such as permanents, hafnians and their higher-dimensional versions, graph and hypergraph matching polynomials, the independence polynomial of a graph and partition functions enumerating 0-1 and integer points in polyhedra, which allows one to make algorithmic advances in otherwise intractable problems.

Mar. 2017

138 pp.

9783319518282

14,240.

Springer

Mateos, M. /Alonso, P. (eds.):

No. 506-257

**Computational Mathematics,
Numerical Analysis and Applications:**

Lecture Notes of the XVII 'Jacques-Louis Lions' Spanish-French School

The first part of this volume gathers the lecture notes of the courses of the "XVII Escuela Hispano-Francesa", held in Gijon, Spain, in June 2016. Each chapter is devoted to an advanced topic and presents state-of-the-art research in a didactic and self-contained way.

Young researchers will find a complete guide to beginning advanced work in fields such as High Performance Computing, Numerical Linear Algebra, Optimal Control of Partial Differential Equations and Quantum Mechanics Simulation, while experts in these areas will find a comprehensive reference guide, including some previously unpublished results, and teachers may find these chapters useful as textbooks in graduate courses.

July 2017

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9783319496306

17,570.

Undergraduate Topics in Computer Science

Rahman, S.:

No. 506-028

Basic Graph Theory

This undergraduate textbook provides an introduction to graph theory, which has numerous applications in modeling problems in science and technology, and has become a vital component to computer science, computer science and engineering, and mathematics curricula of universities all over the world.

The author follows a methodical and easy to understand approach.

Beginning with the historical background, motivation and applications of graph theory, the author first explains basic graph theoretic terminologies.

From this firm foundation, the author goes on to present paths, cycles, connectivity, trees, matchings, coverings, planar graphs, graph coloring and digraphs as well as some special classes of graphs together with some research topics for advanced study.

Jan. 2017

250 pp.

9783319494746

8,320.

Ayala-Rincon, M. /de Moura, F.:

No. 506-040

**Applied Logic for Computer Scientists:
Computational Deduction and Formal Proofs**

This book provides an introduction to logic and mathematical induction which are the basis of any deductive computational framework.

A strong mathematical foundation of the logical engines available in modern proof assistants, such as the PVS verification system, is essential for computer scientists, mathematicians and engineers to increment their capabilities to provide formal proofs of theorems and to certify the robustness of software and hardware systems. The authors present a concise overview of the necessary computational and mathematical aspects of 'logic', placing emphasis on both natural deduction and sequent calculus. The authors present a concise overview of the necessary computational and mathematical aspects of 'logic', placing emphasis on both natural deduction and sequent calculus.

Mar. 2017

173 pp.

9783319516516

8,320.

Springer

Delbourgo, R.:

No. 506-065/066

Trigonometry:**Notes, Problems and Exercises**

This book provides a thorough, intermediate-level yet concise course in Trigonometry for use in colleges. There are 37 short chapters, each treating one specific theme and containing worked examples and easy exercises. Central to the work are the trigonometric properties of triangle ABC and its associated points. A small appendix contains some Spherical Trigonometry with interesting problems related to the earth; a larger one for enthusiastic students provides further lengthier exercises for extra practice, and full solutions are supplied in the conclusion.

Feb. 2017

9789813207103/9789813203112

10,090./4,870. (Paper ed.)

Vergados, J.:

No. 506-105

Group and Representation Theory

This volume goes beyond the understanding of symmetries and exploits them in the study of the behavior of both classical and quantum physical systems. Thus it is important to study the symmetries described by continuous (Lie) groups of transformations.

We then discuss how we get operators that form a Lie algebra. Of particular interest to physics is the representation of the elements of the algebra and the group in terms of matrices and, in particular, the irreducible representations.

Feb. 2017

9789813202443

344 pp.

13,050.

Farmakis, I. /Moskowitz, M.:

No. 506-070/071

A Graduate Course in Algebra 2 Vols. Set

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 course in 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

9789813142602/9789813142619

700 pp.

30,970./17,050. (Paper ed.)

Su, W.:

No. 506-032

Harmonic Analysis and Fractal Analysis over Local Fields and Applications

It is as reliable as Fourier Analysis on Local Fields published in 1975 which is regarded as the first monograph in this research field.

The book is self-contained, with wide scope and deep knowledge, taking modern mathematics (such as modern algebra, point set topology, functional analysis, distribution theory, and so on) as bases.

Specially, fractal analysis is studied in the viewpoint of local fields, and fractal calculus is established by pseudo-differential operators over local fields. A frame of fractal PDE is constructed based on fractal calculus instead of classical calculus.

Feb. 2017

9789813200494

336 pp.

20,530.

World Scientific Pub.

Yurinsha Book News

Sugaku Memoirs,

Vol. 8: 桑江一洋 / 塩谷隆 / 太田慎一 /
高津飛鳥 / 桑田和正 著 :

No. 506-001

最適輸送理論とリッチ曲率

本書は、最適輸送理論の始まりから最近の微分幾何学への応用に到る研究発展の主要部分を概説したものであり、中央大学で2015年に開催された Encounter with Mathematics の講演予稿に基づいている。

18世紀のモンジュの問題に始まる最適輸送理論の歴史と基本的結果から出発し、リーマン多様体の比較幾何と取束理論に関連する動機づけについて触れた後、最適輸送理論の微分幾何学への応用、特にリッチ曲率が下に有界な測度距離空間の幾何学・解析学のここ10年程の爆発的な研究の進展について紹介する。

必要な予備知識は測度論とリーマン幾何学の基礎のみであり、大学院生にとって良い入門書であるとともに、研究者にはこの分野の概要を知るための最適な講義録である。

Jan. 2017

154 pp.

9784864970440

2,343.

Mathematical Society of Japan

Monographs and Research Notes in Mathematics

Sofonea, M. / Migorski, S.:

No. 506-152

**Variational-Hemivariational Inequalities with/
without Unilateral Constraints**

Fixed points arguments are frequently used both in Nonlinear Analysis and Theory of PDEs. They allow us to obtain existence results in the study of operator and integral equations and various classes of PDEs. Variational and hemivariational inequalities play an important role in the study of both qualitative and quantitative analysis of nonlinear boundary value problems. The current book is divided in 3 parts; introduce a general fixed point principle in the study of nonlinear equations; complete the theory of variational and hemivariational inequalities with new and recent results; illustrate how the abstract results obtained could be useful to study new and nonstandard models of contact.

Nov. 2017

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9781498761581

16,790.

Chapman & Hall

Trends in Mathematics: Research Perspectives CRM Barcelona,

Vol. 6: Diaz, J. / Kirousis, L. /

No. 506-067

Ortiz-Gracia, L. / Serna, M. (eds.):

**Extended Abstracts Summer 2015:
Strategic Behavior in Combinatorial Structures;
Quantitative Finance**

The main research theme explores how atomic agents that act locally and microscopically lead to discontinuous macroscopic changes. Adopting this perspective has proven to be especially useful in studying the evolution of random and usually complex or large combinatorial objects (like networks or logic formulas) with respect to discontinuous changes in global parameters like connectivity, satisfiability etc.

Mar. 2017

139 pp.

9783319517520

22,200.

Birkhauser

Asterisque,

**Vol. 385: Braverman, A. /Finkelberg, M. /Nakajima Hiraku :
Instanton Moduli Spaces and W-Algebras**

We describe the (equivariant) intersection cohomology of certain moduli spaces ("framed Uhlenbeck spaces") together with some structures on them (such as e.g., the Poincaré pairing) in terms of representation theory of some vertex operator algebras ("W-algebras").

Dec. 2016 128 pp. 9782856298480 価格未定

**Vol. 384: Braden, T. /Licata, A. /Proudfoot, N. /Webster, B.:
Quantizations of conical symplectic resolutions**

We re-examine some topics in representation theory of Lie algebras and Springer theory in a more general context, viewing the universal enveloping algebra as an example of the section ring of a quantization of a conical symplectic resolution. While some modification from this classical context is necessary, many familiar features survive. We study how this approach applies to other quantized symplectic resolutions, including quiver varieties and hypertoric varieties. This provides a new context for known results about Lie algebras, Cherednik algebras, finite W-algebras, and hypertoric enveloping algebras, while also pointing to the study of new algebras arising from more general resolutions.

Dec. 2016 179 pp. 9782856298459 価格未定

Panoramas et synthèses,

**Vol. 50: Novotny, A. /Danchin, R. /Perepelitsa, M.: No. 506-144
Topics on Compressible Navier-Stokes Equations**

This national training session has been the opportunity to gather four internationally well known specialists allowing to present the major actual mathematical developments related to the well-posedness character problem for the compressible Navier-Stokes equations to non-subject specialists.

For the sake of unity, we have decided to collect in this special issue only the contributions dedicated to the non-degenerate viscosities case, hoping by this way to present a self-contained contribution on the subject: global weak-solutions a la Leray, intermediate solutions a la Hoff and strong solutions in critical spaces a la Fujita-Kato.

Dec. 2016 9782856298473 価格未定

**Vol. 49: Saito Takeshi /Clozel, L. /Wildeshaus, J.:
Autour des Motifs, Vol. III: No. 506-098
Asian- French Summer School on
Algebraic Geometry and Number Theory**

This volume contains the third part of the lectures notes of the Asian-French summer school on algebraic geometry and number theory, which was held at the Institut des Hautes Etudes Scientifiques (Bures-sur-Yvette) and the universite Paris-Sud XI (Orsay) in July 2006. This summer school was devoted to the theory of motives and its recent developments, and to related topics, notably Shimura varieties and automorphic representations.

Dec. 2016 131 pp. 9782856298466 価格未定

Societe Mathematique de France



visit us at: <http://www.worldscientific.com>

Non-commutative Analysis

by **Palle Jorgensen** (*The University of Iowa, USA*), **Feng Tian** (*Hampton University, USA*)

The book features new directions in analysis, with an emphasis on Hilbert space, mathematical physics, and stochastic processes. We interpret "non-commutative analysis" broadly to include representations of non-Abelian groups, and non-Abelian algebras; emphasis on Lie groups and operator algebras. A second theme is commutative and non-commutative harmonic analysis, spectral theory, operator theory and their applications. The list of topics includes shift invariant spaces, group action in differential geometry, and frame theory and their applications to engineering (signal processing and multiplexing), projective multi-resolutions, and free probability algebras.

Readership: Undergraduates, graduate students and researchers.

564pp
978-981-3202-11-5
978-981-3202-12-2(pbk)
Mar 2017

Statistical Data Fusion

by **Benjamin Kedem** (*University of Maryland, College Park, USA*), **Victor De Oliveira** (*University of Texas at San Antonio, USA*), **Michael Sverchkov**

This book comes up with estimates or decisions based on multiple data sources as opposed to more narrowly defined estimates or decisions based on single data sources. It contains numerous examples useful to practitioners from genomics. Topics range from sensors (radars), to small area estimation of body mass, to the estimation of small tail probabilities, to predictive distributions in time series analysis.

Readership: Graduate students, researchers, practitioners of statistics, engineers, scientists.

200pp
978-981-3200-18-0
Mar 2017

Problems and Solutions in Real Analysis

(2nd Edition)
by **Masayoshi Hata** (*Kyoto University, Japan*)

This book is a collection of advanced exercises by undergraduate students in calculus and linear algebra. It is also instructive for graduate students who are interested in analytic number theory. This edition introduces an additional set of new mathematical problems with their detailed solutions in real analysis. It also provides numerous improved solutions to the existing problems, and includes very useful tips and skills for the readers to master successfully. There are three more chapters that expand further on Bernoulli numbers, differential equations and metric spaces. Each chapter has a summary of basic points, in which some fundamental definitions and results are prepared.

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