



Yurinsha Book News

お知らせ

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さて、小社では創業以来 Book News（冊子体）発行を続けてまいりましたが、諸般の事情により、本号をもちまして終了させていただくことといたしました。皆様方の長い間のご愛読に心より感謝申し上げます。

今後は、小社ウェブサイトのさらなる充実を図りまして、新刊案内も含めました様々な書籍情報を発信して参ります。引き続き下記小社ウェブページをご高覧くださいませようご案内申し上げます。

なお、ウェブ環境をお持ちでないお客様向けに、速報版新刊案内（プリント版、隔月）も作成いたしますので、ご希望の方はお申し込みください。

小社では今後ともより一層のサービス向上に努めて参りますので、変わらぬご愛顧を賜りますようお願い申し上げます。

<http://www.yurinsha.com>
ホームページは毎月1日が更新予定日です

No. 522

Nov. - Dec. 2019

数理科学 **友隣社** 洋書専門

在庫書籍情報 ご提供のお知らせ

お客様各位

小社では
お客様のご希望の内容にて
リアルタイムの
在庫書籍 情報を
エクセル形式の添付ファイルにて
お送りいたします

併せましてご希望により、
シリーズ図書リスト、
ブックニュース、 各号掲載データも
エクセルファイルにて
お送りいたします。

小社ホームページ
「在庫目録オンデマンド」より
お申し込みください。

皆様のご利用、
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(株) 友 隣 社

*Contemporary Mathematics,***Vol. 738: Dani, S. /Jain, S. /**

No. 522-045

Verma, J. /Wasadikar, M. (eds.):**Contributions in Algebra and Algebraic Geometry**

This volume contains the proceedings of the Int'l Conference on Algebra, Discrete Mathematics and Applications, at Dr. Babasaheb Ambedkar Marathwada Univ.

Contemporary topics of research in algebra and its applications to algebraic geometry, Lie groups, algebraic combinatorics, and representation theory are covered.

The articles are devoted to Leavitt path algebras, roots of elements in Lie groups, Hilbert's Nullstellensatz, mixed multiplicities of ideals, singular matrices, rings of integers, injective hulls of modules, representations of linear, symmetric groups and Lie algebras, the algebra of generic matrices and almost injective modules.

Nov. 2019

147 pp.

9781470447359

19,030.

Vol. 737: Botelho, F.:

No. 522-093

Recent Trends in Operator Theory and Applications

This volume contains the proceedings of the workshop on Recent Trends in Operator Theory and Applications (RTOTA 2018), held at the University of Memphis, Memphis, Tennessee.

The articles introduce topics from operator theory to graduate students and early career researchers. Each such article provides insightful references, selection of results with articulation to modern research and recent advances in the area.

Topics addressed in this volume include: generalized numerical ranges and their application to study perturbation of operators, and connections to quantum error correction; a survey of results on Toeplitz operators, and applications of Toeplitz operators to the study of reproducing kernel functions; results on the 2-local reflexivity problem of a set of operators.

Dec. 2019

183 pp.

9781470448950

19,030.

Vol. 736: Hawkins, J. /Rossetti, R. /Wiseman, J.:

No. 522-107

Dynamical Systems and Random Processes

This volume contains the proceedings of the 16th Carolina Dynamics Symposium, held at Agnes Scott College, Decatur, Georgia.

The papers cover various topics in dynamics and randomness, including complex dynamics, ergodic theory, topological dynamics, celestial mechanics, symbolic dynamics, computational topology, random processes, and regular languages.

The intent is to provide a glimpse of the richness of the field and of the common threads that tie the different specialties together.

Oct. 2019

165 pp.

9781470448318

19,030.

*IAS/Park City Mathematics Series,***Vol. 26: Borodin, A. /Corwin, I. /Guionnet, A. (eds.):****Random Matrices**

No. 522-092

This book provides a snippet of this vast domain of study, with a particular focus on the notations of universality and integrability.

Universality shows that many systems behave the same way in their large scale limit, while integrability provides a route to describe the nature of those universal limits.

Nov. 2019

508 pp.

9781470452803

16,920.

A. M. S.

*Student Mathematical Library,***Vol. 90: Scoville, N.:**

No. 522-071

Discrete Morse Theory

This book, the first one devoted solely to discrete Morse theory, serves as an introduction to the subject. Since the book restricts the study of discrete Morse theory to abstract simplicial complexes, a course in mathematical proof writing is the only prerequisite needed.

Topics covered include simplicial complexes, simple homotopy, collapsibility, gradient vector fields, Hasse diagrams, simplicial homology, persistent homology, discrete Morse inequalities, the Morse complex, discrete Morse homology, and strong discrete Morse functions.

Students of computer science will also find the book beneficial as it includes topics such as Boolean functions, evasiveness, and has a chapter devoted to some computational aspects of discrete Morse theory.

Nov. 2019
9781470452988

273 pp.

8,950.

*Mathematical Surveys and Monographs,***Vol. 243: Isidro, J.:**

No. 522-111

Jordan Triple Systems in Complex and Functional Analysis

This book is a systematic account of the impressive developments in the theory of symmetric manifolds achieved over the past 50 years.

It contains detailed and friendly, but rigorous, proofs of the key results in the theory.

Milestones are the study of the group of holomomorphic automorphisms of bounded domains in a complex Banach space, Kaup's theorem on the equivalence of the categories of symmetric Banach manifolds and that of hermitian Jordan triple systems, and the culminating point in the process: the Riemann mapping theorem for complex Banach spaces (Kaup, 1982).

This led to the introduction of wide classes of Banach spaces known as JB^* -triples and JBW^* -triples whose geometry has been thoroughly studied by several outstanding mathematicians in the late 1980s.

Dec. 2019
9781470450830

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20,980.

*Graduate Studies in Mathematics,***Vol. 202: Taylor, M.:**

No. 522-150

Introduction to Complex Analysis

In this text, the reader will learn that all the basic functions that arise in calculus—such as powers and fractional powers, exponentials and logs, trigonometric functions and their inverses, as well as many new functions that the reader will meet—are naturally defined for complex arguments.

Furthermore, this expanded setting leads to a much richer understanding of such functions than one could glean by merely considering them in the real domain.

For example, understanding the exponential function in the complex domain via its differential equation provides a clean path to Euler's formula and hence to a self-contained treatment of the trigonometric functions.

Nov. 2019
9781470452865

480 pp.

13,830.

A. M. S

Rosen, A.:

No. 522-145

**Geometric Multivector Analysis:
From Grassmann to Dirac**

This book presents a step-by-step guide to the basic theory of multivectors and spinors, with a focus on conveying to the reader the geometric understanding of these abstract objects. Following in the footsteps of M. Riesz and L. Ahlfors, the book also explains how Clifford algebra offers the ideal tool for studying spacetime isometries and Mobius maps in arbitrary dimensions.

The book carefully develops the basic calculus of multivector fields and differential forms, and highlights novelties in the treatment of, e.g., pullbacks and Stokes's theorem as compared to standard literature.

It touches on recent research areas in analysis and explains how the function spaces of multivector fields are split into complementary subspaces by the natural first-order differential operators, e.g., Hodge splittings and Hardy splittings.

Much of the analysis is done on bounded domains in Euclidean space, with a focus on analysis at the boundary.

June 2020 18,480.
9783030314101

*Operator theory: Advances and Applications,***Vol. 276: Kurasov, P. /Laptev, A. /Naboko, S. (eds.):
Analysis as A Tool in Mathematical Physics:****In Memory of Boris Pavlov** No. 522-125

Boris Pavlov (1936-2016), to whom this volume is dedicated, was a prominent specialist in analysis, operator theory, and mathematical physics. As one of the most influential members of the St. Petersburg Mathematical School, he was one of the founders of the Leningrad School of Non-self-adjoint Operators. This volume collects research papers originating from two conferences that were organized in memory of Boris Pavlov: "Spectral Theory and Applications" held in Stockholm, Sweden, in March 2016, and "Operator Theory, Analysis and Mathematical Physics - OTAMP2016" held at the Euler Institute in St. Petersburg, Russia, in August 2016.

Feb. 2020 22,190.
9783030315306

*Research Perspectives CRM Barcelona,***Vol. 11: Korobeinikov, A. /Caubergh, M. /
Lazaro, T. /Sardanyes, J. (eds.):** No. 522-123**Extended Abstracts Spring 2018:
Singularly Perturbed Systems,
Multiscale Phenomena and Hysteresis**

This volume contains extended abstracts outlining selected presentations delivered by participants of the joint international multidisciplinary workshop MURPHYS-HSFS-2018, dedicated to the mathematical theory and applications of the multiple scale systems, the systems with hysteresis and general trends in the dynamical systems theory.

This was the ninth workshop continuing a series of biennial meetings started in Ireland in 2002, and the second workshop of this series held at the CRM. Earlier editions of the workshops in this series were held in Cork, Pechs, Suceava, Lutherstadt and Berlin.

Oct. 2019 19,800.
9783030252601 299 pp.

Birkhauser

*Cambridge Studies in Advanced Mathematics,***Vol. 188: Richter, B.:**

No. 522-176

From Categories to Homotopy Theory

Category theory provides structure for the mathematical world and is seen everywhere in modern mathematics.

With this book, the author bridges the gap between pure category theory and its numerous applications in homotopy theory, providing the necessary background information to make the subject accessible to graduate students or researchers with a background in algebraic topology and algebra.

The reader is first introduced to category theory, starting with basic definitions and concepts before progressing to more advanced themes.

Apr. 2020 360 pp. 10,230.
9781108479622

Vol. 187: Geck, M. /Malle, G.:

No. 522-053

**The Character Theory of
Finite Groups of Lie Type:
A Guided Tour**

Through the fundamental work of Deligne and Lusztig in the 1970s, further developed mainly by Lusztig, the character theory of reductive groups over finite fields has grown into a rich and vast area of mathematics.

It incorporates tools and methods from algebraic geometry, topology, combinatorics and computer algebra, and has since evolved substantially.

With this book, the authors meet the need for a contemporary treatment, complementing in core areas the well-established books of Carter and Digne-Michel.

Apr. 2020 406 pp. 9,990.
9781108489621

Vol. 186: Vasyunin, V. /Volberg, A.:

No. 522-156

**The Bellman Function Technique in
Harmonic Analysis**

The Bellman function, a powerful tool originating in control theory, can be used successfully in a large class of difficult harmonic analysis problems and has produced some notable results over the last 30 years.

This book by two leading experts is the first devoted to the Bellman function method and its applications to various topics in probability and harmonic analysis.

Mar. 2020 464 pp. 12,590.
9781108486897

Vol. 185: Barnes, D. /Roitzheim, C.:

No. 522-158

Foundations of Stable Homotopy

This comprehensive introduction to stable homotopy theory changes that.

It presents the foundations of the subject together in one place for the first time, from the motivating phenomena to the modern theory, at a level suitable for those with only a first course in algebraic topology.

Starting from stable homotopy groups and (co)homology theories, the authors study the most important categories of spectra and the stable homotopy category, before moving on to computational aspects and more advanced topics such as monoidal structures, localisations and chromatic homotopy theory.

Mar. 2020 432 pp. 10,990.
9781108482783

Cambridge

*Cambridge Tracts in Mathematics,***Vol. 220: Wendl, C.:**

No. 522-182

**Lectures on Contact 3-Manifolds,
Holomorphic Curves and Intersection Theory****Description Contents Resources Courses About the Authors**

Intersection theory has played a prominent role in the study of closed symplectic 4-manifolds since Gromov's famous 1985 paper on pseudoholomorphic curves, leading to myriad beautiful rigidity results that are either inaccessible or not true in higher dimensions.

Siefring's recent extension of the theory to punctured holomorphic curves allowed similarly important results for contact 3-manifolds and their symplectic fillings.

Based on a series of lectures for graduate students in topology, this book begins with an overview of the closed case, and then proceeds to explain the essentials of Siefring's intersection theory and how to use it, and gives some sample applications in low-dimensional symplectic and contact topology.

Apr. 2020 216 pp. 19,450.
9781108497404

Vol. 219: Agler, J. /McCarthy, J. /Young, N.:

No. 522-079

**Operator Analysis:
Holomorphic Functions as Functions of
an Operator Variable, Vol. 1**

This book shows how operator theory interacts with function theory in one and several variables.

It starts with a treatment of the theory of bounded holomorphic functions on the unit disc. Model theory and the network realization formula are used to solve Nevanlinna-Pick interpolation problems, and the same techniques are shown to work on the bidisc, the symmetrized bidisc, and other domains.

The techniques are powerful enough to prove the Julia-Caratheodory theorem on the bidisc, Lempert's theorem on invariant metrics in convex domains, the Oka extension theorem, and to generalize Loewner's matrix monotonicity results to several variables.

In Part II, the book gives an introduction to non-commutative function theory, and shows how model theory and the network realization formula can be used to understand functions of non-commuting matrices.

Mar. 2020 280 pp. 22,520.
9781108485449

*London Mathematical Society Lecture Note Series,***Vol. 460: Pankov, M.:**

No. 522-136

**Wigner-Type Theorems for
Hilbert Grassmannians**

Wigner's theorem is a fundamental part of the mathematical formulation of quantum mechanics. The theorem characterizes unitary and anti-unitary operators as symmetries of quantum mechanical systems, and is a key result when relating preserver problems to quantum mechanics.

At the heart of this book is a geometric approach to Wigner-type theorems, unifying both classical and more recent results.

Readers are initiated in a wide range of topics from geometric transformations of Grassmannians to lattices of closed subspaces, before moving on to a discussion of applications.

Feb. 2020 152 pp. 8,190.
9781108790918

Cambridge

*Encyclopedia of Mathematics and its Applications,***Vol. ***: Aguiar, M. /Mahajan, S.:**

No. 522-030

Bimonoids for Hyperplane Arrangements

The goal of this monograph is to develop Hopf theory in a new setting which features centrally a real hyperplane arrangement.

The new theory is parallel to the classical theory of connected Hopf algebras, and relates to it when specialized to the braid arrangement.

Joyal's theory of combinatorial species, ideas from Tits' theory of buildings, and Rota's work on incidence algebras inspire and find a common expression in this theory.

The authors introduce notions of monoid, comonoid, bimonoid, and Lie monoid relative to a fixed hyperplane arrangement.

They also construct universal bimonoids by using generalizations of the classical notions of shuffle and quasishuffle, and establish the Borel-Hopf, Poincare-Birkhoff-Witt, and Cartier-Milnor-Moore theorems in this setting.

This monograph opens a vast new area of research. It will be of interest to students and researchers working in the areas of hyperplane arrangements, semi-group theory, Hopf algebras, algebraic Lie theory, operads, and category theory.

Apr. 2020
9781108495806

700 pp.

25,590.

Vol. 172: McMullen, P.:**Geometric Regular Polytopes**

No. 522-017

Regular polytopes and their symmetry have a long history stretching back two and a half millennia, to the classical regular polygons and polyhedra.

Much of modern research focuses on abstract regular polytopes, but significant recent developments have been made on the geometric side, including the exploration of new topics such as realizations and rigidity, which offer a different way of understanding the geometric and combinatorial symmetry of polytopes.

This is the first comprehensive account of the modern geometric theory, and includes a wide range of applications, along with new techniques.

While the author explores the subject in depth, his elementary approach to traditional areas such as finite reflection groups makes this book suitable for beginning graduate students as well as more experienced researchers.

Mar. 2020
9781108489584

619 pp.

20,270.

*London Mathematical Society Student Texts,***Vol. 96: Pisier, G.:**

No. 522-138

Tensor Products of C^* -Algebras and Operator Spaces:**The Connes-Kirchberg Problem**

Based on the author's university lecture courses, this book presents the many facets of one of the most important open problems in operator algebra theory.

Central to this book is the proof of the equivalence of the various forms of the problem, including forms involving C^* -algebra tensor products and free groups, ultraproducts of von Neumann algebras, and quantum information theory.

The reader is guided through a number of results (some of them previously unpublished) revolving around tensor products of C^* -algebras and operator spaces, which are reminiscent of Grothendieck's famous Banach space theory work.

Mar. 2020 500 pp.
9781108479011/9781108749114

17,400./6,140. (Paper ed.)

Cambridge

Ayupov, S. /Omirov, B.:

No. 522-032

Leibniz Algebras: Structure and Classification

These algebras preserve a unique property of Lie algebras that the right multiplication operators are derivations.

They first appeared in papers of A. M Blokh in the 1960s, under the name D-algebras, emphasizing their close relationship with derivations.

The theory of D-algebras did not get as fulsome an examination as it deserve immediately after its introduction.

Later the same algebras were introduced by Jean-Louis Loday in 1993, who called them Leibniz algebras due to the identity they satisfy.

The main motivation for the introduction of Leibniz algebras was to study the periodicity phenomena in algebraic K-theory.

Nowadays, the theory of Leibniz algebras is one of actively developing areas of modern algebra. Along with (co)homological, structural and classification results on Leibniz algebras, some papers with various applications of the Leibniz algebras also now appear.

However, the focus of this book is mainly on the classification problems of Leibniz algebras. Particularly, the authors propose a method of classification of a subclass of Leibniz algebras based on algebraic invariants.

Nov. 2019 320 pp. 22,750.
9780367354817

Monographs and Research Notes in Mathematics

Banasiak, J. /Lamb, W. /Laurencot, P.:

No. 522-088

Analytic Methods for Coagulation -Fragmentation Models, Vol. I

Analytic Methods for Coagulation-Fragmentation Models is a two-volume set that provides a comprehensive exposition of the mathematical analysis of coagulation-fragmentation models. Initially, an in-depth survey of coagulation-fragmentation processes is presented, together with an account of relevant early results obtained on the associated model equations.

These provide motivation for the subsequent detailed treatment of more up-to-date investigations which have led to significant theoretical developments on topics such as solvability and the long-term behaviour of solutions.

The main theme of Volume I is the analysis of linear fragmentation models, with Volume II devoted to processes that involve the nonlinear contribution of coagulation.

Sep. 2019 354 pp. 22,750.
9781498772655

Herman, R.:

No. 522-110

An Introduction to Fourier Analysis

This introductory textbook was written with mathematics, science, and engineering students with a background in calculus and basic linear algebra in mind.

It can be used as a textbook for undergraduate courses in Fourier analysis or applied mathematics, which cover Fourier series, orthogonal functions, Fourier and Laplace transforms, and an introduction to complex variables.

These topics are tied together by the application of the spectral analysis of analog and discrete signals, and provide an introduction to the discrete Fourier transform.

Aug. 2016 386 pp. 14,550.
9781498773706

Chapman and Hall/CRC Press

*Grundlehren der mathematischen Wissenschaften,***Band 356: Barlet, D. /Magnusson, J.:**

No. 522-089

Complex Analytic Cycles, I:**Basic Results on Complex Geometry and
Foundations for the Study of Cycles**

The book consists of a presentation from scratch of cycle space methodology in complex geometry. Applications in various contexts are given.

A significant portion of the book is devoted to material which is important in the general area of complex analysis.

In this regard, a geometric approach is used to obtain fundamental results such as the local parameterization theorem, Lelong's Theorem and Remmert's direct image theorem. Methods involving cycle spaces have been used in complex geometry for some forty years.

The purpose of the book is to systematically explain these methods in a way which is accessible to graduate students in mathematics as well as to research mathematicians.

After the background material which is presented in the initial chapters, families of cycles are treated in the last most important part of the book.

Their topological aspects are developed in a systematic way and some basic, important applications of analytic families of cycles are given.

The present book is a translation of the French version that was published in 2014 by the French Mathematical Society.

Feb. 2020

525 pp.

9783030311629

19,800.

Band 355: Beggs, E. /Majid, S.:

No. 522-273

Quantum Riemannian Geometry

This book provides a comprehensive account of a modern generalisation of differential geometry in which coordinates need not commute.

This requires a reinvention of differential geometry that refers only to the coordinate algebra, now possibly noncommutative, rather than to actual points.

Such a theory is needed for the geometry of Hopf algebras or quantum groups, which provide key examples, as well as in physics to model quantum gravity effects in the form of quantum spacetime.

The mathematical formalism can be applied to any algebra and includes graph geometry and a Lie theory of finite groups. Even the algebra of 2×2 matrices turns out to admit a rich moduli of quantum Riemannian geometries.

Dec. 2019

670 pp.

9783030302931

15,300.

*Applied Mathematical Sciences,***Vol. 93: Colton, D. /Kress, R.:**

No. 522-228

Inverse Acoustic and Electromagnetic Scattering Theory

In this fourth edition, a number of significant additions have been made including a new chapter on transmission eigenvalues and a new section on the impedance boundary condition where particular attention has been made to the generalized impedance boundary condition and to nonlocal impedance boundary conditions.

Brief discussions on the generalized linear sampling method, the method of recursive linearization, anisotropic media and the use of target signatures in inverse scattering theory have also been added.

Dec. 2019

482 pp.

9783030303501

18,000.

Springer

Choi, Y. /Lee, M.-H.:

No. 522-042

**Jacobi-Like Forms, Pseudodifferential Operators,
and Quasimodular Forms**

This book explores various properties of quasimodular forms, especially their connections with Jacobi-like forms and automorphic pseudodifferential operators.

The material that is essential to the subject is presented in sufficient detail, including necessary background on pseudodifferential operators, Lie algebras, etc., to make it accessible also to non-specialists.

The book also covers a sufficiently broad range of illustrations of how the main themes of the book have occurred in various parts of mathematics to make it attractive to a wider audience.

The book is intended for researchers and graduate students in number theory.

Dec 2019	
9783030291228		15,300.

Cisinski, D.-C. /Deglise, F.:

No. 522-043

Triangulated Categories of Mixed Motives

The primary aim of this monograph is to achieve part of Beilinson's program on mixed motives using Voevodsky's theories of A_1 -homotopy and motivic complexes.

Historically, this book is the first to give a complete construction of a triangulated category of mixed motives with rational coefficients satisfying the full Grothendieck six functors formalism as well as fulfilling Beilinson's program, in particular the interpretation of rational higher Chow groups as extension groups.

Apart from Voevodsky's entire work and Grothendieck's SGA4, our main sources are Gabber's work on étale cohomology and Ayoub's solution to Voevodsky's cross functors theory.

We also thoroughly develop the theory of motivic complexes with integral coefficients over general bases, along the lines of Suslin and Voevodsky.

Dec. 2019	413 pp.	
9783030332419		18,000.

Hariri, P. /Klen, R. /Vuorinen, M.:

No. 522-106

**Conformally Invariant Metrics and
Quasiconformal Mappings**

This book is an introduction to the theory of quasiconformal and quasiregular mappings in the euclidean n -dimensional space, (where n is greater than 2).

There are many ways to develop this theory as the literature shows. The authors' approach is based on the use of metrics, in particular conformally invariant metrics, which will have a key role throughout the whole book.

The intended readership consists of mathematicians from beginning graduate students to researchers.

The prerequisite requirements are modest: only some familiarity with basic ideas of real and complex analysis is expected.

Dec. 2019	476 pp.	
9783030320676		18,000.

Springer

*Springer Proceedings in Mathematics and Statistics,***Vol. 304: Barlow, M. /Slade, G. (eds.):**

No. 522-188

**Random Graphs, Phase Transitions,
and the Gaussian Free Field:****PIMS-CRM Summer School in Probability, Vancouver, 2017**

The lecture notes contained in this volume provide introductory accounts of three of the most active and fascinating areas of research in modern probability theory, especially designed for graduate students entering research:

Scaling limits of random trees and random graphs (Christina Goldschmidt)

Lectures on the Ising and Potts models on the hypercubic lattice (Hugo Duminil-Copin)

Extrema of the two-dimensional discrete Gaussian free field (Marek Biskup)

Each of these contributions provides a thorough introduction that will be of value to beginners and experts alike.

Dec. 2019

356 pp.

9783030320102

27,000.

Vol. 298: Sidoravicius, V. (ed.):

No. 522-216

Sojourns in Probability Theory and Statistical Physics -I

Charles M. (Chuck) Newman has been a leader in Probability Theory and Statistical Physics for nearly half a century. This three-volume set is a celebration of the far-reaching scientific impact of his work.

It consists of articles by Chuck's collaborators and colleagues across a number of the fields to which he has made contributions of fundamental significance.

This publication was conceived during a conference in 2016 at NYU Shanghai that coincided with Chuck's 70th birthday. The sub-titles of the three volumes are: I. Spin Glasses and Statistical Mechanics

II. Brownian Web and Percolation

III. Interacting Particle Systems and Random Walks

The articles in these volumes, which cover a wide spectrum of topics, will be especially useful for graduate students and researchers who seek initiation and inspiration in Probability Theory and Statistical Physics.

Dec. 2019

340 pp.

9789811502934

27,000.

Vol. 297: Nathanson, M. (ed.):

No. 522-262

Combinatorial and Additive Number III:**Cant, New York, Usa, 2017 and 2018**

Based on talks from the 2017 and 2018 Combinatorial and Additive Number Theory (CANT) workshops at the City University of New York, these proceedings offer 17 peer-reviewed and edited papers on current topics in number theory.

Held every year since 2003, the workshop series surveys state-of-the-art open problems in combinatorial and additive number theory and related parts of mathematics.

Topics featured in this volume include sumsets, partitions, convex polytopes and discrete geometry, Ramsey theory, commutative algebra and discrete geometry, and applications of logic and nonstandard analysis to number theory.

Each contribution is dedicated to a specific topic that reflects the latest results by experts in the field. This selection of articles will be of relevance to both researchers and graduate students interested in current progress in number theory.

Oct. 2019

250 pp.

9783030311056

24,000.

Springer

Liu, Y.:

Combinatorial Functional Equations: No. 522-127**Basic Theory**

This two-volume set presents combinatorial functional equations using an algebraic approach, and illustrates their applications in combinatorial maps, graphs, networks, etc.

The first volume mainly presents basic concepts and the theoretical background. Differential (ordinary and partial) equations and relevant topics are discussed in detail.

Oct. 2019 283 pp. 21,770.
9783110623918

de Gruyter Proceedings in Mathematics

Emmanouil, I. / Fellouris, A. /

No. 522-004

Giannopoulos, A. / Lambropoulou, S. /:

First Congress of Greek Mathematicians:**Proceedings of the Congress held in Athens, Greece, 2018**

This interesting collection of up-to-date survey articles on various topics of current mathematical research presents extended versions of the plenary talks given by important Greek mathematicians at the congress held in Athens, Greece, on occasion of the celebration for the 100 years of the Hellenic Mathematical Society.

Oct. 2019 300 pp. 21,770.
9783110660166

Texts and Monographs in Theoretical Physics

Neumaier, A.:

No. 522-295

Coherent Quantum Physics:**A Reinterpretation of the Tradition**

The book demonstrates that the universe can be rationally and objectively understood from the smallest to the largest levels of modeling.

The thermal interpretation featured in this book succeeds without any change in the theory. It involves one radical step, the reinterpretation of an assumption that was virtually never questioned before - the traditional eigenvalue link between theory and observation is replaced by a q-expectation link:

Objective properties are given by q-expectations of products of quantum fields and what is computable from these.

Averaging over macroscopic spacetime regions produces macroscopic quantities with negligible uncertainty, and leads to classical physics.

Oct. 2019 281 pp. 26,450.
9783110667295

*de Gruyter Series in Nonlinear Analysis and Applications,***Vol. 32: Kogut, P. / Kuppenko, O.:**

No. 522-122

**Approximation Methods in
Optimization of Nonlinear Systems**

The monograph addresses some problems particularly with regard to ill-posedness of boundary value problems and problems where we cannot expect to have uniqueness of their solutions in the standard functional spaces.

Bringing original and previous results together, it tackles computational challenges by exploiting methods of approximation and asymptotic analysis and harnessing differences between optimal control problems and their underlying PDEs

Nov. 2019 380 pp. 23,220.
9783110668438

de Gruyter

Babusci, D. /Dattoli, G. /Licciardi, S. /Sabia, E.:

Mathematical Methods for Physicists

The book covers different aspects of mathematical methods for Physics. It is designed for graduate courses but a part of it can also be used by undergraduate students.

No. 522-270/271

The leitmotiv of the book is the search for a common mathematical framework for a wide class of apparently disparate physical phenomena.

An important role, within this respect, is provided by a nonconventional formulation of special functions and polynomials.

The proposed methods simplify the understanding of the relevant technicalities and yield a unifying view to their applications in Physics as well as other branches of science.

Nov. 2019 300 pp.
9789811201578/9789811202681 15,970./ 7,820. (Paper ed.)

Feng, Z.:

No. 522-007/008

**Sequences and Mathematical Induction:
In Mathematical Olympiad and Competitions**

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