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Diagnostic Nuclear Medicine Springer Science & Business Media
One of the most exciting new subjects in Algebraic Number Theory and Arithmetic Algebraic Geometry is the theory of Euler systems. Euler systems are special collections of cohomology classes attached to p-adic Galois representations. Introduced by Victor Kolyvagin in the late 1980s in order to bound Selmer groups attached to p-adic representations, Euler systems have since been used to solve several key problems. These include certain cases of the Birch and Swinnerton-Dyer Conjecture and the Main Conjecture of Iwasawa Theory. Because Selmer groups play a central role in Arithmetic Algebraic Geometry, Euler systems should be a powerful tool in the future development of the field. Here, in the first book to appear on the subject, Karl Rubin presents a self-contained development of the theory of Euler systems. Rubin first reviews and develops the necessary facts from Galois cohomology. He then introduces Euler systems, states the main theorems, and develops examples and applications. The remainder of the book is devoted to the proofs of the main theorems as well as some further speculations. The book assumes a solid background in algebraic Number Theory, and is suitable as an advanced graduate text. As a research monograph it will also prove useful to number theorists and researchers in Arithmetic Algebraic Geometry.
Canonical Duality Theory Princeton University Press
This book constitutes the refereed proceedings of the 9th Extended Semantic Web Conference, ESWC 2012, held in Heraklion, Crete, Greece, in May 2012. The 53 revised full papers presented were carefully reviewed and selected from 212 submissions. They are organized in tracks on linked open data, machine learning, natural language processing and information retrieval, ontologies, reasoning, semantic data management, services, processes, and cloud computing, social Web and Web science, in-use and industrial, digital libraries and cultural heritage, and e-government. The book also includes 13 PhD papers presented at the PhD Symposium.
Small Groups Springer
Proceedings of the NATO Advanced Research Workshop, Bled, Slovenia, 26-30 April 2000
Classification. Class Q: Science ORLAB Analytics

This undergraduate textbook provides an elegant introduction to the arithmetic of quadratic number fields, including many topics not usually covered in books at this level. Quadratic fields offer an introduction to algebraic number theory and some of its central objects: rings of integers, the unit group, ideals and the ideal class group. This textbook provides solid grounding for further study by placing the subject within the greater context of modern algebraic number theory. Going beyond what is usually covered at this level, the book introduces the notion of modularity in the context of quadratic reciprocity, explores the close links between number theory and geometry via Pell conics, and presents applications to Diophantine equations such as the Fermat and Catalan equations as well as elliptic curves. Throughout, the book contains extensive historical comments, numerous exercises (with solutions), and pointers to further study. Assuming a moderate background in elementary number theory and abstract algebra, Quadratic Number Fields offers an engaging first course in algebraic number theory, suitable for upper undergraduate students.

Arkiv för matematik, astronomi och fysik Springer Science & Business Media

This book on canonical duality theory provides a comprehensive review of its philosophical origin, physics foundation, and mathematical statements in both finite- and infinite-dimensional spaces. A ground-breaking methodological theory, canonical duality theory can be used for modeling complex systems within a unified framework and for solving a large class of challenging problems in multidisciplinary fields in engineering, mathematics, and the sciences. This volume places a particular emphasis on canonical duality theory’s role in bridging the gap between non-convex analysis/mechanics and global optimization. With 18 total chapters written by experts in their fields, this volume provides a nonconventional theory for unified understanding of the fundamental difficulties in large deformation mechanics, bifurcation/chaos in nonlinear science, and the NP-hard problems in global optimization. Additionally, readers will find a unified methodology and powerful algorithms for solving challenging problems in complex systems with real-world applications in non-convex analysis, non-monotone variational inequalities, integer programming, topology optimization, post-buckling of large deformed structures, etc. Researchers and graduate students will find explanation and potential applications in multidisciplinary fields.

Real-time 3D Character Animation with Visual C++ Lippincott Williams & Wilkins

Founded in 1884, Annals of Mathematics publishes research papers in pure mathematics.

Advanced Programming in the UNIX Environment Springer Science & Business Media

This book is a broad review of the electronic structure of metals and alloys. It emphasises the way in which the behavior of electrons in these materials governs the thermodynamic and other properties of these conducting materials. The theoretical treatment proceeds from a wave mechanics approach to more sophisticated techniques for the description of the properties of metals and alloys.

Census Tract Papers IntraWEB, LLC and Claitor's Law Publishing

This second edition is a corrected and extended version of the first. It is a textbook for students, as well as a reference book for the working mathematician, on cohomological topics in number theory. In all it is a virtually complete treatment of a vast array of central topics in algebraic number theory. New material is introduced here on duality theorems for unramified and tamely ramified extensions as well as a careful analysis of 2-extensions of real number fields.

Transactions of the American Mathematical Society Springer Science & Business Media

Monthly journal devoted entirely to research in pure and applied mathematics, and, in general, includes longer papers than those in the Proceedings of the American Mathematical Society.

Open Problems in Strongly Correlated Electron Systems John Wiley & Sons

Equations are the lifeblood of mathematics, science, and technology, and this book examines equations of all kinds. With his masterful ability to convey the excitement and elegance of mathematics, author Boris Pritsker explores equations from the simplest to the most complex—their history, their charm, and their usefulness in solving problems. The Equations World bridges the fields of algebra, geometry, number theory, and trigonometry, solving more than 280 problems by employing a wide spectrum of techniques. The author demystifies the subject with efficient hints, tricks, and methods that reveal the fun and satisfaction of problem solving. He also demonstrates how equations can serve as important tools for expressing a problem's data, showing the ways in which they assist in fitting parts together to solve the whole puzzle. In addition, brief historical tours reveal the foundations of mathematical thought by tracing the ideas and approaches developed by mathematicians over the centuries. Both recreational mathematicians and ambitious students will find this book an ample source of enlightenment and enjoyment.

Cohomology of Number Fields Springer

This monograph introduces two approaches to studying Siegel modular forms: the classical approach as holomorphic functions on the Siegel upper half space, and the approach via representation theory on the symplectic group. By illustrating the interconnections shared by the two, this book fills an important gap in the existing literature on modular forms. It begins by establishing the basics of the classical theory of Siegel modular forms, and then details more advanced topics. After this, much of the basic local representation theory is presented. Exercises are featured heavily throughout the volume, the solutions of which are helpfully provided in an appendix. Other topics considered include Hecke theory, Fourier coefficients, cuspidal automorphic representations, Bessel models, and integral representation. Graduate students and young researchers will find this volume particularly useful. It will also appeal to researchers in the area as a reference volume. Some knowledge of GL(2) theory is recommended, but there are a number of appendices included if the reader is not already familiar.

Psychology as a Natural and Social Science Psychology Press

This book consists of contributions by the participants of the Fifth Conference on Function Spaces, held at Southern Illinois University in May of 2006. The papers cover a broad range of topics, including spaces and algebras of analytic functions of one and of many variables (and operators on such spaces), $L{p $-spaces, spaces of Banach-valued functions, isometries of function spaces, geometry of Banach spaces, and other related subjects. The goal of the conference was to bring together mathematicians interested in various problems related to function spaces and to facilitate the exchange of ideas between people working on similar problems. Hence, the majority of papers in this book are accessible to non-experts. Some articles contain expositions of known results and discuss open problems, others contain new results.

Fundamentals of Many-body Physics Taylor & Francis

The discrete logarithm problem based on elliptic and hyperelliptic curves has gained a lot of popularity as a cryptographic primitive. The main reason is that no subexponential algorithm for computing discrete logarithms on small genus curves is currently

available, except in very special cases. Therefore curve-based cryptosystems require much smaller key sizes than RSA to attain the same security level. This makes them particularly attractive for implementations on memory-restricted devices like smart cards and in high-security applications. The Handbook of Elliptic and Hyperelliptic Curve Cryptography introduces the theory and algorithms involved in curve-based cryptography. After a very detailed exposition of the mathematical background, it provides ready-to-implement algorithms for the group operations and computation of pairings. It explores methods for point counting and constructing curves with the complex multiplication method and provides the algorithms in an explicit manner. It also surveys generic methods to compute discrete logarithms and details index calculus methods for hyperelliptic curves. For some special curves the discrete logarithm problem can be transferred to an easier one; the consequences are explained and suggestions for good choices are given. The authors present applications to protocols for discrete-logarithm-based systems (including bilinear structures) and explain the use of elliptic and hyperelliptic curves in factorization and primality proving. Two chapters explore their design and efficient implementations in smart cards. Practical and theoretical aspects of side-channel attacks and countermeasures and a chapter devoted to (pseudo-)random number generation round off the exposition. The broad coverage of all- important areas makes this book a complete handbook of elliptic and hyperelliptic curve cryptography and an invaluable reference to anyone interested in this exciting field.

Computer Science – Theory and Applications Addison-Wesley

Overcome the risks to ensure safe anesthesia in your young patients The surgical options for children, from birth through adolescence, have mushroomed in recent years. The challenges to anesthetists have consequently increased in scope and complexity. The 5th edition of Gregory's Pediatric Anesthesia introduces you to the basics of pediatric anesthesia, and how they are applied to contemporary practice both in and out of the operating room. The evidence-based approach is supplemented by in-depth case studies that spotlight best-practice in action across all the major subspecialties. New to this edition are: Developmental physiology of individual organ systems Fetal surgery Spine surgery Post-anesthesia Care Unit management Complications Neurotoxicity Communication, databases and electronic records Purchase includes an enhanced Wiley Desktop Edition*. This is an interactive digital version featuring: all text and images in fully searchable form integrated videos of procedures highlighting and note taking facilities book marking linking to additional references Edited by true leaders in the field of pediatric anesthesia, with contributions from internationally renowned physicians, Gregory's Pediatric Anesthesia remains the most complete resource available for your training, practice and continuing education. *Full instructions for downloading your digital Wiley DeskTop Edition are inside the book.

The Quarterly Journal of Pure and Applied Mathematics Springer Science & Business Media

Research on small groups is highly diverse because investigators who study such groups vary in their disciplinary identifications, theoretical interests, and methodological preferences. The goal of this volume is to capture that diversity, and thereby convey the breadth and excitement of small group research by acquainting students with work on five fundamental aspects of groups. The volume also includes an introductory chapter by the editors which provides an overview of the history of and current state-of-the-art in the field. Together with introductions to each section, discussion questions and suggestions for further reading, make the volume ideal reading for senior undergraduate and graduate students interested in group dynamics.

Applied Quantitative Methods in Finance CRC Press

This book constitutes the proceedings of the 13th International Computer Science Symposium in Russia, CSR 2018, held in Moscow, Russia, in May 2018. The 24 full papers presented together with 7 invited lectures were carefully reviewed and selected from 42 submissions. The papers cover a wide range of topics such as algorithms and data structures; combinatorial optimization; constraint solving; computational complexity; cryptography; combinatorics in computer science; formal languages and automata; algorithms for concurrent and distributed systems; networks; and proof theory and applications of logic to computer science.

Geological Survey Water-supply Paper Springer

Automorphic forms are an important complex analytic tool in number theory and modern arithmetic geometry. They played for example a vital role in Andrew Wiles's proof of Fermat's Last Theorem. This text provides a concise introduction to the world of automorphic forms using two approaches: the classic elementary theory and the modern point of view of adeles and representation theory. The reader will learn the important aims and results of the theory by focussing on its essential aspects and restricting it to the 'base field' of rational numbers. Students interested for example in arithmetic geometry or number theory will find that this book provides an optimal and easily accessible introduction into this topic.

A Treatise on Higher Trigonometry CRC Press

The goal of the present course on “Fundamentals of Theoretical Physics” is to be a direct accompaniment to the lower-division study of physics, and it aims at providing the ph- ical tools in the most straightforward and compact form as needed by the students in order to master theoretically more complex topics and problems in advanced studies and in research. The presentation is thus intentionally designed to be suf?ciently detailed and self-contained – sometimes, admittedly, at the cost of a certain elegance – to permit in- vidual study without reference to the secondary literature. This volume deals with the quantum theory of many-body systems. Building upon a basic knowledge of quantum mechanics and of statistical physics, modern techniques for the description of interacting many-particle systems are developed and applied to various real problems, mainly from the area of solid-state physics. A thorough revision should guarantee that the reader can access the relevant research literature without experiencing major problems in terms of the concepts and vocabulary, techniques and deductive methods found there. The world which surrounds us consists of very many particles interacting with one another, and their description requires in principle the solution of a corresponding number ofcoupledquantum-mechanicalequationsofmotion(Schrodinger¨ equations),which,h-ever, is possible only in exceptional cases in a mathematically strict sense. The concepts of elementary quantum mechanics and quantum statistics are therefore not directly applicable in the form in which we have thus far encountered them. They require an extension and restructuring, which is termed “many-body theory”.

Automorphic Forms Springer

For more than twenty years, serious C programmers have relied on one book for practical, in-depth knowledge of the programming interfaces that drive the UNIX and Linux kernels: W. Richard Stevens’ Advanced Programming in the UNIX® Environment. Now, once again, Rich’s colleague Steve Rago has thoroughly updated this classic work. The new third edition supports today’s leading platforms, reflects new technical advances and best practices, and aligns with Version 4 of the Single UNIX Specification. Steve carefully retains the spirit and

approach that have made this book so valuable. Building on Rich’s pioneering work, he begins with files, directories, and processes, carefully laying the groundwork for more advanced techniques, such as signal handling and terminal I/O. He also thoroughly covers threads and multithreaded programming, and socket-based IPC. This edition covers more than seventy new interfaces, including POSIX asynchronous I/O, spin locks, barriers, and POSIX semaphores. Most obsolete interfaces have been removed, except for a few that are ubiquitous. Nearly all examples have been tested on four modern platforms: Solaris 10, Mac OS X version 10.6.8 (Darwin 10.8.0), FreeBSD 8.0, and Ubuntu version 12.04 (based on Linux 3.2). As in previous editions, you’ll learn through examples, including more than ten thousand lines of downloadable, ISO C source code. More than four hundred system calls and functions are demonstrated with concise, complete programs that clearly illustrate their usage, arguments, and return values. To tie together what you’ve learned, the book presents several chapter-length case studies, each reflecting contemporary environments. Advanced Programming in the UNIX® Environment has helped generations of programmers write code with exceptional power, performance, and reliability. Now updated for today’s systems, this third edition will be even more valuable.

Annals of Mathematics Courier Dover Publications

The gold standard text-reference Diagnostic Nuclear Medicine is now in its Fourth Edition--with a sharp clinical focus, a streamlined new single-volume format, and a very attractive price. Written by the top authorities in the specialty, this brand-new edition offers encyclopedic coverage of clinically relevant developments in nuclear medicine--including instrumentation, radiopharmaceuticals, and applications. Readers will find the latest on PET, molecular imaging, SPECT myocardial perfusion imaging, monoclonal antibody therapy, and the use of functional imaging studies in oncology. This edition has been trimmed from two volumes to one, so that readers can find exactly what they need quickly, without cross-checking between volumes.