

Read Online Elliptic Curves And Arithmetic Invariants Springer Monographs In Mathematics Pdf For Free

Invariant Theory Elliptic Curves and Arithmetic Invariants Invariant Theory Symmetry, Representations, and Invariants Algebraic Geometry IV Computational Invariant Theory Algebraic Quotients. Torus Actions and Cohomology. The Adjoint Representation and the Adjoint Action Recent Progress on the Donaldson-Thomas Theory Geometric Invariant Theory Multiplicative Invariant Theory Algebraic Homogeneous Spaces and Invariant Theory Lie Groups Donaldson Type Invariants for Algebraic Surfaces Algebraic Quotients. Torus Actions and Cohomology. The Adjoint Representation and the Adjoint Action Algorithms in Invariant Theory Fourier Transforms of Invariant Functions on Finite Reductive Lie Algebras Algebraic Threefolds Probabilistic Symmetries and Invariance Principles Difference Spaces and Invariant Linear Forms L2-Invariants: Theory and Applications to Geometry and K-Theory

**Topological Invariants of Stratified Spaces
Invariant Theory 80 Years of Zentralblatt MATH
Invariant Manifolds Differential Geometry,
Differential Equations, and Mathematical Physics
Truth, Existence and Explanation Representation
Theory, Mathematical Physics, and Integrable
Systems Geometric Invariant Theory Petri Net
Algebra Kähler-Einstein Metrics and Integral
Invariants The Geometric Hopf Invariant and
Surgery Theory Mathematical Aspects of
Classical and Celestial Mechanics Conformally
Invariant Metrics and Quasiconformal Mappings
Knots and Primes Algebraic Geometry IV Circuits
and Systems for Security and Privacy Homotopy
Invariant Algebraic Structures on Topological
Spaces Algebraic Geometry IV Mathematical
Systems Theory I The Geometry of some special
Arithmetic Quotients**

**Donaldson Type Invariants for Algebraic Surfaces
Apr 16 2022 We are defining and studying an
algebro-geometric analogue of Donaldson
invariants by using moduli spaces of semistable
sheaves with arbitrary ranks on a polarized
projective surface. We are interested in relations
among the invariants, which are natural
generalizations of the "wall-crossing formula"**

and the "Witten conjecture" for classical Donaldson invariants. Our goal is to obtain a weaker version of these relations, by systematically using the intrinsic smoothness of moduli spaces. According to the recent excellent work of L. Goettsche, H. Nakajima and K. Yoshioka, the wall-crossing formula for Donaldson invariants of projective surfaces can be deduced from such a weaker result in the rank two case!

Recent Progress on the Donaldson-Thomas Theory Sep 21 2022 This book is an exposition of recent progress on the Donaldson-Thomas (DT) theory. The DT invariant was introduced by R. Thomas in 1998 as a virtual counting of stable coherent sheaves on Calabi-Yau 3-folds. Later, it turned out that the DT invariants have many interesting properties and appear in several contexts such as the Gromov-Witten/Donaldson-Thomas conjecture on curve-counting theories, wall-crossing in derived categories with respect to Bridgeland stability conditions, BPS state counting in string theory, and others. Recently, a deeper structure of the moduli spaces of coherent sheaves on Calabi-Yau 3-folds was found through derived algebraic geometry. These moduli spaces admit shifted

symplectic structures and the associated d-critical structures, which lead to refined versions of DT invariants such as cohomological DT invariants. The idea of cohomological DT invariants led to a mathematical definition of the Gopakumar-Vafa invariant, which was first proposed by Gopakumar-Vafa in 1998, but its precise mathematical definition has not been available until recently. This book surveys the recent progress on DT invariants and related topics, with a focus on applications to curve-counting theories.

Algebraic Geometry IV Feb 20 2020 Two contributions on closely related subjects: the theory of linear algebraic groups and invariant theory, by well-known experts in the fields. The book will be very useful as a reference and research guide to graduate students and researchers in mathematics and theoretical physics.

Conformally Invariant Metrics and Quasiconformal Mappings Jul 27 2020 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.

Lie Groups May 17 2022 Lie groups has been an increasing area of focus and rich research since the middle of the 20th century. In Lie Groups: An Approach through Invariants and Representations, the author's masterful approach gives the reader a comprehensive treatment of the classical Lie groups along with an extensive introduction to a wide range of topics associated with Lie groups: symmetric functions, theory of algebraic forms, Lie algebras, tensor algebra and symmetry, semisimple Lie algebras, algebraic groups, group representations, invariants, Hilbert theory, and binary forms with fields ranging from pure algebra to functional analysis. By covering sufficient background material, the book is made accessible to a reader with a relatively modest mathematical background. Historical

information, examples, exercises are all woven into the text. This unique exposition is suitable for a broad audience, including advanced undergraduates, graduates, mathematicians in a variety of areas from pure algebra to functional analysis and mathematical physics.

Invariant Manifolds May 05 2021

Algebraic Geometry IV Dec 24 2022 Two contributions on closely related subjects: the theory of linear algebraic groups and invariant theory, by well-known experts in the fields. The book will be very useful as a reference and research guide to graduate students and researchers in mathematics and theoretical physics.

Circuits and Systems for Security and Privacy Apr 23 2020 Circuits and Systems for Security and Privacy begins by introducing the basic theoretical concepts and arithmetic used in algorithms for security and cryptography, and by reviewing the fundamental building blocks of cryptographic systems. It then analyzes the advantages and disadvantages of real-world implementations that not only optimize power, area, and throughput but also resist side-channel attacks. Merging the perspectives of experts from industry and academia, the book

provides valuable insight and necessary background for the design of security-aware circuits and systems as well as efficient accelerators used in security applications.

Fourier Transforms of Invariant Functions on Finite Reductive Lie Algebras Jan 13 2022 The Fourier transforms of invariant functions on finite reductive Lie algebras are due to T.A. Springer (1976) in connection with the geometry of nilpotent orbits. In this book the author studies Fourier transforms using Deligne-Lusztig induction and the Lie algebra version of Lusztig's character sheaves theory. He conjectures a commutation formula between Deligne-Lusztig induction and Fourier transforms that he proves in many cases. As an application the computation of the values of the trigonometric sums (on reductive Lie algebras) is shown to reduce to the computation of the generalized Green functions and to the computation of some fourth roots of unity.

80 Years of Zentralblatt MATH Jun 06 2021 Founded in 1931 by Otto Neugebauer as the printed documentation service "Zentralblatt für Mathematik und ihre Grenzgebiete", Zentralblatt MATH (ZBMATH) celebrates its 80th anniversary in 2011. Today it is the most comprehensive and

active reference database in pure and applied mathematics worldwide. Many prominent mathematicians have been involved in this service as reviewers or editors and have, like all mathematicians, left their footprints in ZBMATH, in a long list of entries describing all of their research publications in mathematics. This book provides one review from each of the 80 years of ZBMATH. Names like Courant, Kolmogorov, Hardy, Hirzebruch, Faltings and many others can be found here. In addition to the original reviews, the book offers the authors' profiles indicating their co-authors, their favorite journals and the time span of their publication activities. In addition to this, a generously illustrated essay by Silke Göbel describes the history of ZBMATH.

Truth, Existence and Explanation Mar 03 2021
This book contains more than 15 essays that explore issues in truth, existence, and explanation. It features cutting-edge research in the philosophy of mathematics and logic. Renowned philosophers, mathematicians, and younger scholars provide an insightful contribution to the lively debate in this interdisciplinary field of inquiry. The essays look at realism vs. anti-realism as well as inflationary

vs. deflationary theories of truth. The contributors also consider mathematical fictionalism, structuralism, the nature and role of axioms, constructive existence, and generality. In addition, coverage also looks at the explanatory role of mathematics and the philosophical relevance of mathematical explanation. The book will appeal to a broad mathematical and philosophical audience. It contains work from FilMat, the Italian Network for the Philosophy of Mathematics. These papers collected here were also presented at their second international conference, held at the University of Chieti-Pescara, May 2016.

Differential Geometry, Differential Equations, and Mathematical Physics Apr 04 2021 This volume presents lectures given at the Wisła 19 Summer School: Differential Geometry, Differential Equations, and Mathematical Physics, which took place from August 19 - 29th, 2019 in Wisła, Poland, and was organized by the Baltic Institute of Mathematics. The lectures were dedicated to symplectic and Poisson geometry, tractor calculus, and the integration of ordinary differential equations, and are included here as lecture notes comprising the first three chapters. Following this, chapters

combine theoretical and applied perspectives to explore topics at the intersection of differential geometry, differential equations, and mathematical physics. Specific topics covered include: Parabolic geometry Geometric methods for solving PDEs in physics, mathematical biology, and mathematical finance Darcy and Euler flows of real gases Differential invariants for fluid and gas flow Differential Geometry, Differential Equations, and Mathematical Physics is ideal for graduate students and researchers working in these areas. A basic understanding of differential geometry is assumed.

Probabilistic Symmetries and Invariance Principles Nov 11 2021 "This is the first comprehensive treatment of the three basic symmetries of probability theory - contractability, exchangeability, and rotatability - defined as invariance in distribution under contractions, permutations, and rotations. Most chapters require only some basic, graduate level probability theory, and should be accessible to any serious researchers and graduate students in probability and statistics. Parts of the book may also be of interest to pure and applied mathematicians in other areas. The exposition is formally self-contained, with detailed references

provided for any deeper facts from real analysis or probability used in the book."--Jacket.

Algebraic Homogeneous Spaces and Invariant Theory Jun 18 2022 The invariant theory of non-reductive groups has its roots in the 19th century but has seen some very interesting developments in the past twenty years. This book is an exposition of several related topics including observable subgroups, induced modules, maximal unipotent subgroups of reductive groups and the method of U-invariants, and the complexity of an action. Much of this material has not appeared previously in book form. The exposition assumes a basic knowledge of algebraic groups and then develops each topic systematically with applications to invariant theory. Exercises are included as well as many examples, some of which are related to geometry and physics.

Mathematical Aspects of Classical and Celestial Mechanics Aug 28 2020 The main purpose of the book is to acquaint mathematicians, physicists and engineers with classical mechanics as a whole, in both its traditional and its contemporary aspects. As such, it describes the fundamental principles, problems, and methods of classical mechanics, with the emphasis firmly

laid on the working apparatus, rather than the physical foundations or applications. Chapters cover the n -body problem, symmetry groups of mechanical systems and the corresponding conservation laws, the problem of the integrability of the equations of motion, the theory of oscillations and perturbation theory.

Symmetry, Representations, and Invariants Jan 25 2023 Symmetry is a key ingredient in many mathematical, physical, and biological theories. Using representation theory and invariant theory to analyze the symmetries that arise from group actions, and with strong emphasis on the geometry and basic theory of Lie groups and Lie algebras, Symmetry, Representations, and Invariants is a significant reworking of an earlier highly-acclaimed work by the authors. The result is a comprehensive introduction to Lie theory, representation theory, invariant theory, and algebraic groups, in a new presentation that is more accessible to students and includes a broader range of applications. The philosophy of the earlier book is retained, i.e., presenting the principal theorems of representation theory for the classical matrix groups as motivation for the general theory of reductive groups. The wealth of examples and discussion prepares the reader

for the complete arguments now given in the general case. Key Features of Symmetry, Representations, and Invariants: (1) Early chapters suitable for honors undergraduate or beginning graduate courses, requiring only linear algebra, basic abstract algebra, and advanced calculus; (2) Applications to geometry (curvature tensors), topology (Jones polynomial via symmetry), and combinatorics (symmetric group and Young tableaux); (3) Self-contained chapters, appendices, comprehensive bibliography; (4) More than 350 exercises (most with detailed hints for solutions) further explore main concepts; (5) Serves as an excellent main text for a one-year course in Lie group theory; (6) Benefits physicists as well as mathematicians as a reference work.

Geometric Invariant Theory Aug 20 2022
Geometric Invariant Theory (GIT) is developed in this text within the context of algebraic geometry over the real and complex numbers. This sophisticated topic is elegantly presented with enough background theory included to make the text accessible to advanced graduate students in mathematics and physics with diverse backgrounds in algebraic and differential geometry. Throughout the book, examples are

emphasized. Exercises add to the reader's understanding of the material; most are enhanced with hints. The exposition is divided into two parts. The first part, 'Background Theory', is organized as a reference for the rest of the book. It contains two chapters developing material in complex and real algebraic geometry and algebraic groups that are difficult to find in the literature. Chapter 1 emphasizes the relationship between the Zariski topology and the canonical Hausdorff topology of an algebraic variety over the complex numbers. Chapter 2 develops the interaction between Lie groups and algebraic groups. Part 2, 'Geometric Invariant Theory' consists of three chapters (3-5). Chapter 3 centers on the Hilbert-Mumford theorem and contains a complete development of the Kempf-Ness theorem and Vinberg's theory. Chapter 4 studies the orbit structure of a reductive algebraic group on a projective variety emphasizing Kostant's theory. The final chapter studies the extension of classical invariant theory to products of classical groups emphasizing recent applications of the theory to physics.

Invariant Theory Feb 26 2023 This volume of expository papers is the outgrowth of a

conference in combinatorics and invariant theory. In recent years, newly developed techniques from algebraic geometry and combinatorics have been applied with great success to some of the outstanding problems of invariant theory, moving it back to the forefront of mathematical research once again. This collection of papers centers on constructive aspects of invariant theory and opens with an introduction to the subject by F. Grosshans. Its purpose is to make the current research more accessible to mathematicians in related fields.

L2-Invariants: Theory and Applications to Geometry and K-Theory Sep 09 2021 In algebraic topology some classical invariants - such as Betti numbers and Reidemeister torsion - are defined for compact spaces and finite group actions. They can be generalized using von Neumann algebras and their traces, and applied also to non-compact spaces and infinite groups. These new L2-invariants contain very interesting and novel information and can be applied to problems arising in topology, K-Theory, differential geometry, non-commutative geometry and spectral theory. The book, written in an accessible manner, presents a comprehensive introduction to this area of

research, as well as its most recent results and developments.

Computational Invariant Theory Nov 23 2022

This book is about the computational aspects of invariant theory. Of central interest is the question how the invariant ring of a given group action can be calculated. Algorithms for this purpose form the main pillars around which the book is built. There are two introductory chapters, one on Gröbner basis methods and one on the basic concepts of invariant theory, which prepare the ground for the algorithms. Then algorithms for computing invariants of finite and reductive groups are discussed. Particular emphasis lies on interrelations between structural properties of invariant rings and computational methods. Finally, the book contains a chapter on applications of invariant theory, covering fields as disparate as graph theory, coding theory, dynamical systems, and computer vision. The book is intended for postgraduate students as well as researchers in geometry, computer algebra, and, of course, invariant theory. The text is enriched with numerous explicit examples which illustrate the theory and should be of more than passing interest. More than ten years after the first

publication of the book, the second edition now provides a major update and covers many recent developments in the field. Among the roughly 100 added pages there are two appendices, authored by Vladimir Popov, and an addendum by Norbert A'Campo and Vladimir Popov.

Algebraic Quotients. Torus Actions and Cohomology. The Adjoint Representation and the Adjoint Action Oct 22 2022 This is the second volume of the new subseries "Invariant Theory and Algebraic Transformation Groups". The aim of the survey by A. Bialynicki-Birula is to present the main trends and achievements of research in the theory of quotients by actions of algebraic groups. This theory contains geometric invariant theory with various applications to problems of moduli theory. The contribution by J. Carrell treats the subject of torus actions on algebraic varieties, giving a detailed exposition of many of the cohomological results one obtains from having a torus action with fixed points. Many examples, such as toric varieties and flag varieties, are discussed in detail. W.M. McGovern studies the actions of a semisimple Lie or algebraic group on its Lie algebra via the adjoint action and on itself via conjugation. His contribution focuses primarily on nilpotent orbits

that have found the widest application to representation theory in the last thirty-five years.

Algorithms in Invariant Theory Feb 14 2022 This book is both an easy-to-read textbook for invariant theory and a challenging research monograph that introduces a new approach to the algorithmic side of invariant theory.

Students will find the book an easy introduction to this "classical and new" area of mathematics. Researchers in mathematics, symbolic computation, and computer science will get access to research ideas, hints for applications, outlines and details of algorithms, examples and problems.

Representation Theory, Mathematical Physics, and Integrable Systems Feb 02 2021 Over the course of his distinguished career, Nicolai Reshetikhin has made a number of groundbreaking contributions in several fields, including representation theory, integrable systems, and topology. The chapters in this volume - compiled on the occasion of his 60th birthday - are written by distinguished mathematicians and physicists and pay tribute to his many significant and lasting achievements. Covering the latest developments

at the interface of noncommutative algebra, differential and algebraic geometry, and perspectives arising from physics, this volume explores topics such as the development of new and powerful knot invariants, new perspectives on enumerative geometry and string theory, and the introduction of cluster algebra and categorification techniques into a broad range of areas. Chapters will also cover novel applications of representation theory to random matrix theory, exactly solvable models in statistical mechanics, and integrable hierarchies. The recent progress in the mathematical and physical aspects of deformation quantization and tensor categories is also addressed. Representation Theory, Mathematical Physics, and Integrable Systems will be of interest to a wide audience of mathematicians interested in these areas and the connections between them, ranging from graduate students to junior, mid-career, and senior researchers.

Mathematical Systems Theory I Jan 21 2020 This book presents the mathematical foundations of systems theory in a self-contained, comprehensive, detailed and mathematically rigorous way. It is devoted to the analysis of dynamical systems and combines features of a

detailed introductory textbook with that of a reference source. The book contains many examples and figures illustrating the text which help to bring out the intuitive ideas behind the mathematical constructions.

Topological Invariants of Stratified Spaces Aug 08 2021 The central theme of this book is the restoration of Poincaré duality on stratified singular spaces by using Verdier-self-dual sheaves such as the prototypical intersection chain sheaf on a complex variety. Highlights include complete and detailed proofs of decomposition theorems for self-dual sheaves, explanation of methods for computing twisted characteristic classes and an introduction to the author's theory of non-Witt spaces and Lagrangian structures.

Invariant Theory Apr 28 2023

Algebraic Threefolds Dec 12 2021

Petri Net Algebra Nov 30 2020 In modern society services and support provided by computer-based systems have become ubiquitous and indeed have started to fundamentally alter the way people conduct their business. Moreover, it has become apparent that among the great variety of computer technologies available to potential users a crucial role will be played by

concurrent systems. The reason is that many commonly occurring phenomena and computer applications are highly concurrent : typical examples include control systems, computer networks, digital hardware, business computing, and multimedia systems. Such systems are characterised by ever increasing complexity, which results when large numbers of concurrently active components interact. This has been recognised and addressed within the computing science community. In particular, several formal models of concurrent systems have been proposed, studied, and applied in practice. This book brings together two of the most widely used formalisms for describing and analysing concurrent systems: Petri nets and process algebras. On the one hand , process algebras allow one to specify and reason about the design of complex concurrent computing systems by means of algebraic operators corresponding to common programming constructs. Petri nets, on the other hand, provide a graphical representation of such systems and an additional means of verifying their correctness efficiently, as well as a way of expressing properties related to causality and concurrency in system behaviour.

Kähler-Einstein Metrics and Integral Invariants
Oct 30 2020 These notes present very recent results on compact Kähler-Einstein manifolds of positive scalar curvature. A central role is played here by a Lie algebra character of the complex Lie algebra consisting of all holomorphic vector fields, which can be intrinsically defined on any compact complex manifold and becomes an obstruction to the existence of a Kähler-Einstein metric. Recent results concerning this character are collected here, dealing with its origin, generalizations, sufficiency for the existence of a Kähler-Einstein metric and lifting to a group character. Other related topics such as extremal Kähler metrics studied by Calabi and others and the existence results of Tian and Yau are also reviewed. As the rudiments of Kählerian geometry and Chern-Simons theory are presented in full detail, these notes are accessible to graduate students as well as to specialists of the subject.

The Geometry of some special Arithmetic Quotients ***Dec 20 2019*** The book discusses a series of higher-dimensional moduli spaces, of abelian varieties, cubic and K3 surfaces, which have embeddings in projective spaces as very special algebraic varieties. Many of these were

known classically, but in the last chapter a new such variety, a quintic fourfold, is introduced and studied. The text will be of interest to all involved in the study of moduli spaces with symmetries, and contains in addition a wealth of material which has been only accessible in very old sources, including a detailed presentation of the solution of the equation of 27th degree for the lines on a cubic surface.

**Difference Spaces and Invariant Linear Forms
Oct 10 2021** Difference spaces arise by taking sums of finite or fractional differences. Linear forms which vanish identically on such a space are invariant in a corresponding sense. The difference spaces of $L^2(\mathbb{R}^n)$ are Hilbert spaces whose functions are characterized by the behaviour of their Fourier transforms near, e.g., the origin. One aim is to establish connections between these spaces and differential operators, singular integral operators and wavelets. Another aim is to discuss aspects of these ideas which emphasise invariant linear forms on locally compact groups. The work primarily presents new results, but does so from a clear, accessible and unified viewpoint, which emphasises connections with related work.

Multiplicative Invariant Theory Jul 19 2022

Multiplicative invariant theory, as a research area in its own right within the wider spectrum of invariant theory, is of relatively recent vintage. The present text offers a coherent account of the basic results achieved thus far.. Multiplicative invariant theory is intimately tied to integral representations of finite groups. Therefore, the field has a predominantly discrete, algebraic flavor. Geometry, specifically the theory of algebraic groups, enters through Weyl groups and their root lattices as well as via character lattices of algebraic tori. Throughout the text, numerous explicit examples of multiplicative invariant algebras and fields are presented, including the complete list of all multiplicative invariant algebras for lattices of rank 2. The book is intended for graduate and postgraduate students as well as researchers in integral representation theory, commutative algebra and, mostly, invariant theory.

Homotopy Invariant Algebraic Structures on Topological Spaces Mar 23 2020

The Geometric Hopf Invariant and Surgery Theory Sep 28 2020 ***Written by leading experts in the field, this monograph provides homotopy theoretic foundations for surgery theory on higher-dimensional manifolds. Presenting***

classical ideas in a modern framework, the authors carefully highlight how their results relate to (and generalize) existing results in the literature. The central result of the book expresses algebraic surgery theory in terms of the geometric Hopf invariant, a construction in stable homotopy theory which captures the double points of immersions. Many illustrative examples and applications of the abstract results are included in the book, making it of wide interest to topologists. Serving as a valuable reference, this work is aimed at graduate students and researchers interested in understanding how the algebraic and geometric topology fit together in the surgery theory of manifolds. It is the only book providing such a wide-ranging historical approach to the Hopf invariant, double points and surgery theory, with many results old and new.

Knots and Primes Jun 25 2020 This is a foundation for arithmetic topology - a new branch of mathematics which is focused upon the analogy between knot theory and number theory. Starting with an informative introduction to its origins, namely Gauss, this text provides a background on knots, three manifolds and number fields. Common aspects of both knot

theory and number theory, for instance knots in three manifolds versus primes in a number field, are compared throughout the book. These comparisons begin at an elementary level, slowly building up to advanced theories in later chapters. Definitions are carefully formulated and proofs are largely self-contained. When necessary, background information is provided and theory is accompanied with a number of useful examples and illustrations, making this a useful text for both undergraduates and graduates in the field of knot theory, number theory and geometry.

Algebraic Geometry IV May 25 2020

Algebraic Quotients. Torus Actions and Cohomology. The Adjoint Representation and the Adjoint Action Mar 15 2022 This is the second volume of the new subseries "Invariant Theory and Algebraic Transformation Groups". The aim of the survey by A. Bialynicki-Birula is to present the main trends and achievements of research in the theory of quotients by actions of algebraic groups. This theory contains geometric invariant theory with various applications to problems of moduli theory. The contribution by J. Carrell treats the subject of torus actions on algebraic varieties, giving a detailed exposition of many of

the cohomological results one obtains from having a torus action with fixed points. Many examples, such as toric varieties and flag varieties, are discussed in detail. W.M. McGovern studies the actions of a semisimple Lie or algebraic group on its Lie algebra via the adjoint action and on itself via conjugation. His contribution focuses primarily on nilpotent orbits that have found the widest application to representation theory in the last thirty-five years.

Invariant Theory Jul 07 2021

Elliptic Curves and Arithmetic Invariants Mar 27 2023 This book contains a detailed account of the result of the author's recent Annals paper and JAMS paper on arithmetic invariant, including μ -invariant, L-invariant, and similar topics. This book can be regarded as an introductory text to the author's previous book *p-Adic Automorphic Forms on Shimura Varieties*. Written as a down-to-earth introduction to Shimura varieties, this text includes many examples and applications of the theory that provide motivation for the reader. Since it is limited to modular curves and the corresponding Shimura varieties, this book is not only a great resource for experts in the field, but it is also

accessible to advanced graduate students studying number theory. Key topics include non-triviality of arithmetic invariants and special values of L-functions; elliptic curves over complex and p-adic fields; Hecke algebras; scheme theory; elliptic and modular curves over rings; and Shimura curves.

Geometric Invariant Theory Jan 01 2021

"Geometric Invariant Theory" by Mumford/Fogarty (the first edition was published in 1965, a second, enlarged edition appeared in 1982) is the standard reference on applications of invariant theory to the construction of moduli spaces. This third, revised edition has been long awaited for by the mathematical community. It is now appearing in a completely updated and enlarged version with an additional chapter on the moment map by Prof. Frances Kirwan (Oxford) and a fully updated bibliography of work in this area. The book deals firstly with actions of algebraic groups on algebraic varieties, separating orbits by invariants and construction of quotient spaces; and secondly with applications of this theory to the construction of moduli spaces. It is a systematic exposition of the geometric aspects of the classical theory of polynomial invariants.

- [Invariant Theory](#)
- [Elliptic Curves And Arithmetic Invariants](#)
- [Invariant Theory](#)
- [Symmetry Representations And Invariants](#)
- [Algebraic Geometry IV](#)
- [Computational Invariant Theory](#)
- [Algebraic Quotients Torus Actions And Cohomology The Adjoint Representation And The Adjoint Action](#)
- [Recent Progress On The Donaldson Thomas Theory](#)
- [Geometric Invariant Theory](#)
- [Multiplicative Invariant Theory](#)
- [Algebraic Homogeneous Spaces And Invariant Theory](#)
- [Lie Groups](#)
- [Donaldson Type Invariants For Algebraic Surfaces](#)
- [Algebraic Quotients Torus Actions And](#)

Cohomology The Adjoint Representation And The Adjoint Action

- **Algorithms In Invariant Theory**
- **Fourier Transforms Of Invariant Functions
On Finite Reductive Lie Algebras**
- **Algebraic Threefolds**
- **Probabilistic Symmetries And Invariance
Principles**
- **Difference Spaces And Invariant Linear
Forms**
- **L2 Invariants Theory And Applications To
Geometry And K Theory**
- **Topological Invariants Of Stratified
Spaces**
- **Invariant Theory**
- **80 Years Of Zentralblatt MATH**
- **Invariant Manifolds**
- **Differential Geometry Differential
Equations And Mathematical Physics**
- **Truth Existence And Explanation**
- **Representation Theory Mathematical
Physics And Integrable Systems**
- **Geometric Invariant Theory**
- **Petri Net Algebra**
- **Kahler Einstein Metrics And Integral
Invariants**
- **The Geometric Hopf Invariant And**

Surgery Theory

- **Mathematical Aspects Of Classical And Celestial Mechanics**
- **Conformally Invariant Metrics And Quasiconformal Mappings**
- **Knots And Primes**
- **Algebraic Geometry IV**
- **Circuits And Systems For Security And Privacy**
- **Homotopy Invariant Algebraic Structures On Topological Spaces**
- **Algebraic Geometry IV**
- **Mathematical Systems Theory I**
- **The Geometry Of Some Special Arithmetic Quotients**