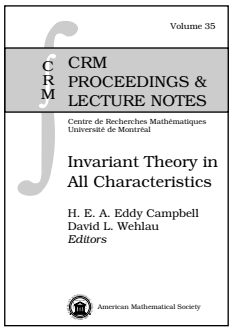
New Publications Offered by the AMS

Algebra and Algebraic Geometry



Invariant Theory in All Characteristics

H. E. A. Eddy Campbell, *Queen's University, Kingston, ON, Canada*, and **David L. Wehlau**, *Royal Military College, Kingston, ON, Canada*, Editors

This volume includes the proceedings of a workshop on Invariant Theory held at Queen's University (Ontario). The workshop was part of the theme year held under the auspices of the Centre de recherches mathématiques (CRM) in Montreal. The gathering brought together two communities of researchers: those working in characteristic 0 and those working in positive characteristic.

The book contains three types of papers: survey articles providing introductions to computational invariant theory, modular invariant theory of finite groups, and the invariant theory of Lie groups; expository works recounting recent research in these three areas and beyond; and open problems of current interest.

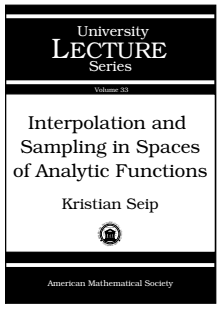
The book is suitable for graduate students and researchers working in invariant theory.

Contents: G. Bousquet and **L. Moser-Jauslin**, A local study of embeddings of complexity one; **H. Derksen**, Constructive invariant theory; **H. Derksen** and **G. Kemper**, On global degree bounds for invariants; **P. Fleischmann**, On invariant theory of finite groups; **A. G. Helminck**, Combinatorics related to orbit closures of symmetric subgroups in flag varieties; **F. Hivert** and **N. M. Thiéry**, Deformation of symmetric functions and the rational Steenrod algebra; **W. van der Kallen**, Cohomology with Grosshans graded coefficients; **D. B. Karagueuzian** and **P. Symonds**, The module structure of a group action on a polynomial ring: examples, generalizations, and applications; **N. E. Kechagias**, An invariant theoretic description of the primitive elements of the mod$-p$ cohomology of a finite loop space which are annihilated by Steenrod operations; **F. Knop**, On Noether's and Weyl's bound in positive characteristic; **M. D. Neusel**, Comparing the depths of rings of invariants; **V. L. Popov**, Moment polytopes of nilpotent orbit closures; dimension and isomorphism of simple modules; and variations on the theme of J. Chipalkatti; **Z. Reichstein**, Compressions of group actions; **L. G. Rybnikov**, Commutativity of weakly commutative Riemannian homogeneous spaces; **G. W. Schwarz**, Group actions and quotients for compact Lie groups and algebraic groups; **J. Segal**, Notes on invariant rings of divided powers; **R. J. Shank**, Classical covariants and modular invariants; **A. V. Smirnov**, Classification of nearly closed orbits for the action of semisimple complex linear groups on the projective spaces; **N. M. Thiéry** and **S. Thomassé**, Convex cones and SAGBI bases of permutation invariants; **D. L. Wehlau**, Some problems in invariant theory; **R. M. W. Wood**, The Peterson conjecture for algebras of invariants; **O. Yakimova**, Weakly symmetric and weakly commutative spaces.

CRM Proceedings & Lecture Notes, Volume 35

May 2004, 287 pages, Softcover, ISBN 0-8218-3244-1, 2000 *Mathematics Subject Classification*: 13A50, 14L24, 14L30, 14L35, 13P99, 20C20, 54H15, **All AMS members $71**, List $89, Order code CRMP/35N

Analysis



Interpolation and Sampling in Spaces of Analytic Functions

Kristian Seip, *Norwegian University of Science and Technology, Trondheim*

This book contains the latest developments in a central theme of research on analysis of one complex variable. The material is based on lectures at the University of Michigan.

The exposition is about understanding the geometry of interpolating and sampling sequences in classical spaces of analytic functions. The subject can be viewed as arising from three classical topics: Nevanlinna–Pick interpolation, Carleson's interpolation theorem for H^∞, and the sampling theorem, also known as the Whittaker–Kotelnikov–Shannon theorem.

The author clarifies how certain basic properties of the space at hand are reflected in the geometry of interpolating and sampling sequences. Key words for the geometric descriptions are Carleson measures, Beurling densities, the Nyquist rate, and the Helson-Szegő condition.

Seip writes in a relaxed and fairly informal style, successfully blending informal explanations with technical details. The result is a very readable account of this complex topic.

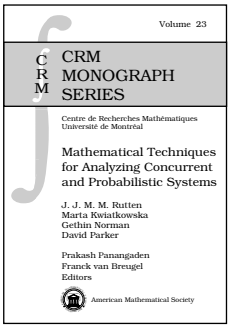
Prerequisites are a basic knowledge of complex and functional analysis. Beyond that, readers should have some familiarity with the basics of H^p theory and BMO.

Contents: Carleson's interpolation theorem; Interpolating sequences and the Pick property; Interpolation and sampling in Bergman spaces; Interpolation in the Bloch space; Interpolation, sampling, and Toeplitz operators; Interpolation and sampling in Paley-Wiener spaces; Bibliography; Index.

University Lecture Series, Volume 33

April 2004, 139 pages, Softcover, ISBN 0-8218-3554-8, LC 2003070914, 2000 *Mathematics Subject Classification*: 30D45, 30D50, 30D55, 30E05, 42A99, 46E15, 46E20, 47A57, **All AMS members $23**, List $29, Order code ULECT/33N

Applications



Mathematical Techniques for Analyzing Concurrent and Probabilistic Systems

J. J. M. M. Rutten, *Centrum voor Wiskunde en Informatica (CWI), Amsterdam, Netherlands*, **Marta Kwiatkowska**, **Norman Gethin**, and **David Parker**, *University of Birmingham, England*

The book consists of two sets of lecture notes devoted to slightly different methods of analysis of concurrent and probabilistic computational systems.

The first set of lectures develops a calculus of streams (a generalization of the set of natural numbers) based on the coinduction principle coming from the theory of coalgebras. It is now well understood that the interplay between algebra (for describing structure) and coalgebra (for describing dynamics) is crucial for understanding concurrent systems. There is a striking analogy between streams and formula calculus reminiscent of those appearing in quantum calculus. These lecture notes will appeal to anyone working in concurrency theory but also to algebraists and logicians.

The other set of lecture notes focuses on methods for automatically verifying probabilistic systems using techniques of model checking. The unique aspect of these lectures is the coverage of both theory and practice. The authors have been responsible for one of the most successful experimental systems for probabilistic model checking. These lecture notes are of interest to software engineers, real-time programmers, researchers in machine learning and numerical analysts who may well be interested to see how standard numerical techniques are used in a novel context.

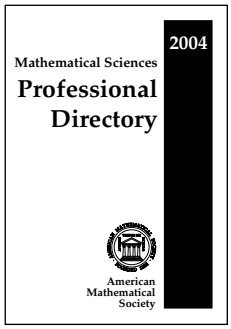
Both sets of lectures are expository and suitable for graduate courses in theoretical computer science and for research mathematicians interested in design and analysis of concurrent and probabilistic computational systems.

Contents: *On streams and coinduction:* Preface; Acknowledgments; Streams and coinduction; Stream calculus; Analytical differential equations; Coinductive counting; Component connectors; Key differential equations; Bibliography; *Modelling and verification of probabilistic systems:* Preface; Introduction; Discrete-time Markov chains; Markov decision processes; Continuous-time Markov chains; Probabilistic timed automata; Implementation; Measure theory and probability; Iterative solution methods; Bibliography.

CRM Monograph Series, Volume 23

April 2004, 215 pages, Hardcover, ISBN 0-8218-3571-8, LC 2004041069, 2000 *Mathematics Subject Classification*: 68Q60; 68Q85, **All AMS members $47**, List $59, Order code CRMM/23N

General and Interdisciplinary



Mathematical Sciences Professional Directory, 2004

From a review of a previous edition:

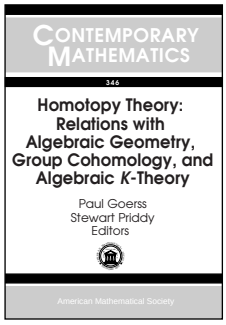
In the sections concerning the AMS and other professional organizations, users will find officers, staff, various committees, publication information, services, and other activities. The mathematician or student seeking information on the structure and scope of activities of mathematics-related organizations will find these sections useful and convenient. The section on government agencies provides information specifically geared to funding in the mathematics fields. This is probably the most useful section.

—American Reference Books Annual

This annual directory provides a handy reference to various organizations in the mathematical sciences community. Listed in the directory are the following: officers of over thirty professional mathematical organizations; addresses of selected government agencies; academic departments in the mathematical sciences; and alphabetic listings of colleges and universities.

May 2004, approximately 169 pages, Softcover, ISBN 0-8218-3473-8, List $55, Institutional member $44, Order code PRODIR/2004N

Geometry and Topology



Homotopy Theory: Relations with Algebraic Geometry, Group Cohomology, and Algebraic K-Theory

Paul Goerss and **Stewart Priddy**, *Northwestern University, Evanston, IL*, Editors

As part of its series of Emphasis Years in Mathematics, Northwestern University hosted an International Conference on Algebraic Topology. The purpose of the conference was to develop new connections between homotopy theory and other areas of mathematics.

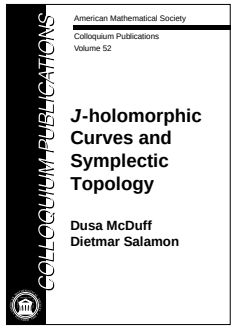
This proceedings volume grew out of that event. Topics discussed include algebraic geometry, cohomology of groups, algebraic K-theory, and $\mathbb{A}^1$ homotopy theory. Among the contributors to the volume were Alejandro Adem, Ralph L. Cohen, Jean-Louis Loday, and many others.

The book is suitable for graduate students and research mathematicians interested in homotopy theory and its relationship to other areas of mathematics.

Contents: A. Adem, Constructing and deconstructing group actions; **M. Behrens** and **S. Pemmaraju**, On the existence of the self map ν_2^9 on the Smith-Toda complex $V(1)$ at the prime 3; **C. Broto**, **R. Levi**, and **B. Oliver**, The theory of p-local groups: a survey; **R. L. Cohen** and **A. Stacey**, Fourier decompositions of loop bundles; **D. Dugger** and **D. C. Isaksen**, Weak equivalences of simplicial presheaves; **B. Fresse**, Koszul duality of operads and homology of partitions posets; **W. Gajda**, On $K_*(\mathbb{Z})$ and classical conjectures in the arithmetic of cyclotomic fields; **G. Gutman**, Finite group actions in elliptic cohomology; **L. Hesselholt**, Topological Hochschild homology and the de Rham-Witt complex for $\mathbb{Z}_{(p)}$-algebras; **M. Hovey**, Homotopy theory of comodules over a Hopf algebroid; **J. F. Jardine**, Bousfield's E_2 model theory for simplicial objects; **Y. Kamiya** and **K. Shimomura**, A relation between the Picard group of the $E(n)$-local homotopy category and $E(n)$-based Adams spectral sequence; **A. Libman**, Homotopy limits of monad algebras; **J.-L. Loday** and **M. Ronco**, Trialgebras and families of polytopes; **M. A. Mandell**, Equivariant symmetric spectra; **B. Richter** and **A. Robinson**, Gamma homology of group algebras and of polynomial algebras; **L. Scull**, Formality and S^1-equivariant algebraic models; **B. Shipley**, A convenient model category for commutative ring spectra; **P. Symonds**, The Tate-Farrell cohomology of the Morava stabilizer group S_{p-1} with coefficients in E_{p-1}; **J. M. Turner**, Characterizing simplicial commutative algebras with vanishing André-Quillen homology.

Contemporary Mathematics, Volume 346

May 2004, approximately 512 pages, Softcover, ISBN 0-8218-3285-9, LC 2004041148, 2000 *Mathematics Subject Classification*: 55–XX, 57–XX, 20Cxx; 20J06, **All AMS members $95**, List $119, Order code CONM/346N



J-holomorphic Curves and Symplectic Topology

Dusa McDuff, *SUNY at Stony Brook, NY*, and **Dietmar Salamon**, *Eidgen Technische Hochschule, Zurich, Switzerland*

The theory of J-holomorphic curves has been of great importance since its introduction by Gromov in 1985. Its mathematical applications include many key results in symplectic topology. It was also one of the main inspirations for the creation of Floer homology. In mathematical physics, it provides a natural context in which to define Gromov–Witten invariants and quantum cohomology—two important ingredients of the mirror symmetry conjecture.

This book establishes the fundamental theorems of the subject in full and rigorous detail. In particular, the book contains complete proofs of Gromov's compactness theorem for spheres, of the gluing theorem for spheres, and of the associativity of quantum multiplication in the semipositive case. The book can also serve as an introduction to current work in symplectic topology: There are two long chapters on applications, one concentrating on classical results in symplectic topology and the other concerned with quantum cohomology. The last chapter sketches some recent developments in Floer theory. The five appendices of the book provide necessary background related to the classical theory of linear elliptic operators, Fredholm theory, Sobolev spaces, as well as a discussion of the moduli space of genus zero stable curves and a proof of the positivity of intersections of J-holomorphic curves in four dimensional manifolds.

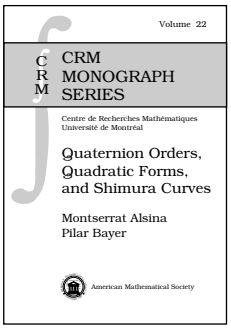
The book is suitable for graduate students and researchers interested in symplectic geometry and its applications, especially in the theory of Gromov–Witten invariants.

Contents: Introduction; J-holomorphic curves; Moduli spaces and transversality; Compactness; Stable maps; Moduli spaces of stable maps; Gromov–Witten invariants; Hamiltonian perturbations; Applications in symplectic topology; Gluing; Quantum cohomology; Floer cohomology; Fredholm theory; Elliptic regularity; The Riemann–Roch theorem; Stable curves of genus zero; Singularities and intersections (written with Laurent Lazzarini); Bibliography; List of symbols; Index.

Colloquium Publications, Volume 52

May 2004, 669 pages, Hardcover, ISBN 0-8218-3485-1, LC 2004043714, 2000 *Mathematics Subject Classification*: 53D05, 53D45, 53D35, 57R17, 37J05, 32Q65; 53D12, 53D40, 58J05, 14N35, **All AMS members $79**, List $99, Order code COLL/52N

Number Theory



Quaternion Orders, Quadratic Forms, and Shimura Curves

Montserrat Alsina, *Universitat Politècnica de Catalunya, Manresa, Spain*, and **Pilar Bayer**, *Universitat de Barcelona, Spain*

Shimura curves are a far-reaching generalization of the classical modular curves. They lie at the crossroads of many areas, including complex analysis, hyperbolic geometry, algebraic geometry, algebra, and arithmetic. This monograph presents Shimura curves from a theoretical and algorithmic perspective.

The main topics are Shimura curves defined over the rational number field, the construction of their fundamental domains, and the determination of their complex multiplication points. The study of complex multiplication points in Shimura curves leads to the study of families of binary quadratic forms with algebraic coefficients and to their classification by arithmetic Fuchsian groups. In this regard, the authors develop a theory full of new possibilities that parallels Gauss' theory on the classification of binary quadratic forms with integral coefficients by the action of the modular group.

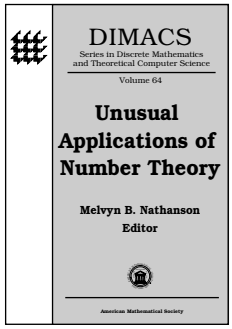
This is one of the few available books explaining the theory of Shimura curves at the graduate student level. Each topic covered in the book begins with a theoretical discussion followed by carefully worked-out examples, preparing the way for further research.

This item will also be of interest to those working in algebra and algebraic geometry.

Contents: Quaternion algebras and quaternion orders; Introduction to Shimura curves; Quaternion algebras and quadratic forms; Embeddings and quadratic forms; Hyperbolic fundamental domains for Shimura curves; Complex multiplication points in Shimura curves; The Poincare package; Tables; Further contributions to the study of Shimura curves; Applications of Shimura curves; Bibliography; Index.

CRM Monograph Series, Volume 22

March 2004, 196 pages, Hardcover, ISBN 0-8218-3359-6, LC 2004040995, 2000 *Mathematics Subject Classification*: 11R52, 11S45, 11F06, 11G18, 11E16, 11E20; 30F35, 51M10, **All AMS members $47**, List $59, Order code CRMM/22N



Unusual Applications of Number Theory

Melvyn B. Nathanson, *Herbert H. Lehman College, CUNY, New York*, Editor

This volume contains the proceedings of the workshop held at the DIMACS Center of Rutgers University (Piscataway, NJ) on Unusual Applications of Number Theory. Standard applications of number theory are to computer science and cryptology. In this volume, well-known number theorist, Melvyn B. Nathanson, gathers articles from the workshop on other, less standard applications in number theory, as well as topics in number theory with potential applications in science and engineering.

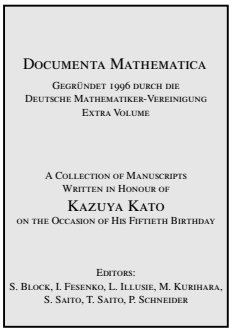
The material is suitable for graduate students and researchers interested in number theory and its applications.

Contents: K. Alladi, **G. E. Andrews**, and **A. Berkovich**, A four parameter generalization of Göllnitz's (big) partition theorem; **G. E. Andrews**, The Friedman-Joichi-Stanton monotonicity conjecture at primes; **I. Anshel**, **M. Anshel**, **B. Fisher**, and **D. Goldfeld**, A group theoretic approach to public-key cryptography; **M. Beck** and **S. Robins**, Dedekind sums: A combinatorial-geometric viewpoint; **P. B. Cohen**, Noncommutative number theory; **J.-M. Deshouillers**, **G. A. Freiman**, and **A. A. Yudin**, An application of structure theory of set addition to a question in ergodic theory; **J. A. Dias da Silva**, Linear algebra and additive theory; **J. B. Friedlander**, **J. S. d. Hansen**, and **I. E. Shparlinski**, On the distribution of the power generator modulo a prime power; **C. S. Güntürk**, Number theoretical error estimates in a quantization scheme for bandlimited signals; **D. Hensley** and **F. E. Su**, Random walks with badly approximable numbers; **J. Holden**, Distribution of values of real quadratic zeta functions; **R. Jin**, Standardizing nonstandard methods for upper Banach density problems; **B. Kalantari**, On homogeneous linear recurrence relations and approximation of zeros of complex polynomials; **M. B. Nathanson**, Formal power series arising from multiplication of quantum integers; **J. Shallit**, Formal languages and number theory; **J. H. Silverman**, Lattices, cryptography, and the NTRU public key cryptosystem; **H. M. Stark** and **A. A. Terras**, Zeta functions of graph coverings; **A. Terras**, Comparison of Selberg's trace formula with its discrete analogues; **C. J. Moreno** and **A. Wan**, Unusual applications of quadratic Gaussian sums.

DIMACS: Series in Discrete Mathematics and Theoretical Computer Science, Volume 64

May 2004, 264 pages, Hardcover, ISBN 0-8218-2703-0, LC 2004043691, 2000 *Mathematics Subject Classification*: 11Z05, **All AMS members $71**, List $89, Order code DIMACS/64N

More Publications Available from the AMS



A Collection of Manuscripts Written in Honour of Kazuya Kato on the Occasion of His Fiftieth Birthday

S. Bloch, *University of Chicago, IL*, **I. Fesenko**, *University of Nottingham, England*, **L. Illusie**, *University of Paris-Sud, Orsay*, **M. Kurihara**, *Tokyo Metropolitan University*, **S. Saito**, *Nagoya University, Japan*, **T. Saito**, *University of Tokyo*, and **P. Schneider**, *Westfalische Wilhems University, Muenster, Germany*, Editors

This volume is dedicated to Professor Kazuya Kato in acknowledgement of his deep and seminal contribution to number theory and algebraic geometry.

The book contains papers on a wide range of topics on the cutting edge of research in arithmetic algebraic geometry, number theory, algebraic geometry, and analysis. Topics covered are zeta functions, L-functions, higher class field theory, ramification theory, local explicit formulas, p-adic Hodge theory, p-adic Galois representation theory, arithmetic of elliptic curves, Iwasawa theory, K-theory of algebraic numbers, algebraic cycles, polylogarithms, logarithmic geometry, Riemann-Hilbert correspondence, rigid cohomology, and anabelian geometry. The volume also contains a short poem on prime numbers written by Kazuya Kato.

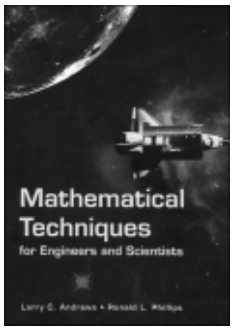
The material will be of interest to researchers and students in these and neighboring fields.

This item will also be of interest to those working in number theory.

Published by Documenta Mathematica (Bielefeld, Germany). Available from the AMS exclusively in the Americas.

Contents: A. Abbes and **T. Saito**, Ramification of local fields with imperfect residue fields. II; **K. Bannai**, Specialization of the p-adic polylogarithm to p-th power roots of unity; **L. Berger**, Bloch and Kato's exponential map: Three explicit formulas; **S. Bloch** and **H. Esnault**, The additive dilogarithm; **D. Burns** and **C. Greither**, Equivariant Weierstrass preparation and values of L-functions at negative integers; **J. Coates**, **P. Schneider**, and **R. Sujatha**, Links between cyclotomic and GL_2 Iwasawa theory; **R. F. Coleman**, Stable maps of curves; **C. Deninger**, Two-variable zeta functions and regularized products; **I. Fesenko**, Analysis on arithmetic schemes. I; **J.-M. Fontaine**, Presque C_p-représentations; **T. Fukaya**, Coleman power series for K_2 and p-adic zeta functions of modular forms; **Y. Hachimori** and **O. Venjakob**, Completely faithful Selmer groups over Kummer extensions; **U. Jannsen** and **S. Saito**, Kato homology of arithmetic schemes and higher class field theory over local fields; **M. Kurihara**, On the structure of ideal class groups of CM-fields; **N. Kurokawa**, **H. Ochiai**, and **M. Wakayama**, Absolute derivations and zeta functions; **B. Mazur** and **K. Rubin**, Studying the growth of Mordell-Weil; **S. Mochizuki**, The absolute anabelian geometry of canonical curves; **H. Moon** and **Y. Taguchi**, Refinement of Tate's discriminant bound and non-existence theorems for mod p Galois representations; **A. Ogus**, On the logarithmic Riemann-Hilbert correspondence; **B. Perrin-Riou**, Groupes de Selmer et accouplements; cas particulier des courbes elliptiques; **C. Soulé**, A bound for the torsion in the K-theory of algebraic integers; **A. Tamagawa**, Unramified Skolem problems and unramified arithmetic Bertini theorems in positive characteristic; **T. Tsuji**, On the maximal unramified quotients of p-adic Étale cohomology groups and logarithmic Hodge–Witt sheaves; **N. Tsuzuki**, On base change theorem and coherence in rigid cohomology.

December 2003, 918 pages, Hardcover, 2000 *Mathematics Subject Classification*: 00B30, 11–XX, **All AMS members $90**, List $113, Order code DOCMAT



Mathematical Techniques for Engineers and Scientists

Larry C. Andrews, *University of Central Florida, Orlando*, and **Ronald L. Phillips**, *Florida Space Institute, University of Florida, Orlando*

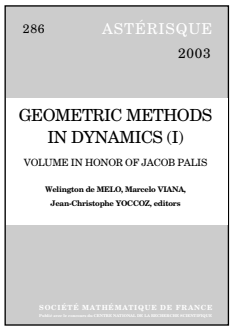
The demands of current technology call upon engineers and scientists in all fields to solve difficult mathematical problems, some of which require an understanding of advanced concepts that they may not have mastered in school. This book bridges the gap between formal mathematical education and real-world applications.

Designed as a self-study text as well as a useful reference, the book takes readers from ordinary differential equations to more sophisticated mathematics, such as Fourier analysis, vector and tensor analysis, complex variables, partial differential equations, and random processes. The emphasis is on the use of mathematical tools and techniques; each chapter includes exercises and a suggested reading list for further information. The assumed formal training of the reader is at the undergraduate or beginning graduate level. Although it requires little or no experience with the subjects covered, those who are already working in the field will find this book to be a useful reference and review text.

Published by the SPIE Press—The International Society for Optical Engineers and Scientists. Distributed non-exclusively worldwide by the American Mathematical Society.

Contents: Ordinary differential equations; Special functions; Matrix methods and linear vector spaces; Vector analysis; Tensor analysis; Complex variables; Complex integration, Laurent series, and residues; Fourier series, eigenvalue problems, and Green's function; Fourier and related transforms; Laplace, Hankel, and Mellin transforms; Calculus of variations; Partial differential equations; Probability and random variables; Random processes; Applications; References; Index.

April 2003, 797 pages, Hardcover, ISBN 0-8194-4506-1, 2000 *Mathematics Subject Classification*: 00A69, 78–01, **All AMS members $70**, List $88, Order code MTES



Geometric Methods in Dynamics (I): Volume in Honor of Jacob Palis

Welington de Melo and **Marcelo Viana**, *Institute for Pure and Applied Mathematics, Rio de Janeiro, Brazil*, and **Jean-Christophe Yoccoz**, *University of Paris-Sud, Orsay*, Editors

This is the first of two volumes collecting original research articles on several aspects of dynamics, mostly by participants in the International Mathematics Conference on Dynamical Systems held at the Institute for Pure and Applied Mathematics (Rio de Janeiro) in celebration of Jacob Palis' 60th birthday.

The volume is suitable for graduate students and researchers interested in dynamical systems.

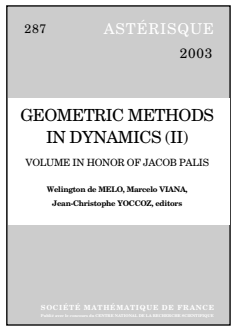
This item will also be of interest to those working in analysis.

A publication of the Société Mathématique de France, Marseilles (SMF), distributed by the AMS in the U.S., Canada, and Mexico. Orders from other countries should be sent to the SMF. Members of the SMF receive a 30% discount from list.

Contents: S. Newhouse, On the mathematical contributions of Jacob Palis; **J. F. Alves** and **V. Araújo**, Random perturbations of nonuniformly expanding maps; **J. W. Anderson** and **G. P. Paternain**, The minimal entropy problem for 3-manifolds with zero simplicial volume; **A. Avila** and **C. G. Moreira**, Statistical properties of unimodal maps: smooth families with negative Schwarzian derivative; **P. Bálint**, **N. Chernov**, **D. Szász**, and **I. P. Tóth**, Geometry of multi-dimensional dispersing billiards; **P. Bernard**, **C. G. Ragazzo**, and **P. A. S. Salomão**, Homoclinic orbits near saddle-center fixed points of Hamiltonian systems with two degrees of freedom; **G. Birkhoff**, **M. Martens**, and **C. Tresser**, On the scaling structure for period doubling; **Ch. Bonatti**, **L. J. Díaz**, **E. R. Pujals**, and **J. Rocha**, Robustly transitive sets and heterodimensional cycles; **H. Broer**, Coupled Hopf-bifurcations: Persistent examples of n-quasiperiodicity determined by families of 3-jets; **L. A. Bunimovich**, Walks in rigid environments: symmetry and dynamics; **A. Chenciner**, Perverse solutions of the planar n-body problem; **E. Colli** and **V. Pinheiro**, Chaos versus renormalization at quadratic S-unimodal Misiurewicz bifurcations.

Astérisque, Number 286

May 2003, 308 pages, Softcover, ISBN 2-85629-138-4, 2000 *Mathematics Subject Classification*: 37–XX, 34–XX, 60–XX, 35–XX, **Individual member $71**, List $79, Order code AST/286



Geometric Methods in Dynamics (II): Volume in Honor of Jacob Palis

Welington de Melo and **Marcelo Viana**, *Institute for Pure and Applied Mathematics, Rio de Janeiro, Brazil*, and **Jean-Christophe Yoccoz**, *University of Paris-Sud, Orsay*, Editors

This is the second of two volumes collecting original research articles on several aspects of dynamics, mostly by participants in the International Mathematics Conference on Dynamical Systems held at the Institute for Pure and Applied Mathematics (Rio de Janeiro) in celebration of Jacob Palis' 60th birthday.

The volume is suitable for graduate students and researchers interested in dynamical systems.

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