Zeitschrift: L'Enseignement Mathématique
Herausgeber: Commission Internationale de l'Enseignement Mathématique
Band: 44 (1998)
Heft: 3-4: L'ENSEIGNEMENT MATHÉMATIQUE

Kapitel: Groupes topologiques; groupes et algèbres de Lie

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application of finite groups, the Glauberman Z^*-theorem. Later chapters examine Brauer characters in more detail. The relationship between blocks and normal subgroups is also explored and the modular characters and blocks in p-solvable group are discussed. Finally, the character theory of groups with a Sylow p-subgroup of order p is studied. Each chapter concludes with a set of problems.

Groupes topologiques; groupes et algèbres de Lie

Roger W. CARTER and Meinolf GECK, (Editors). — **Representations of reductive groups.** — Publications of the Newton Institute. — Un vol. relié, 15,5×23, de VIII, 191 p. — ISBN 0-521-64325-2. — Prix: £35.00. — Cambridge University Press, Cambridge, 1998.

The articles in this volume provide introductions to various aspects of the representation theory of reductive algebraic groups and related finite reductive groups, including algebraic groups and Lie algebras, reflection groups, abelian and derived categories, the Deligne-Lusztig representation theory of finite reductive groups, Harish-Chandra theory and its generalizations, quantum groups, subgroup structure of algebraic groups, intersection cohomology, and Lusztig's conjectured character formula for irreducible representations in prime characteristic.

Roe GOODMAN, Nolan R. WALLACH. — **Representations and invariants of the classical groups.** — Encyclopedia of mathematics and its applications, vol. 68. — Un vol. relié, 16×24, de XVI, 685 p. — ISBN 0-521-58273-3. — Prix: £65.00. — Cambridge, Cambridge University Press, 1998.

An updated version of invariant theory together with many of the important recent developments are presented in this book. As a text for those new to the area, this book provides an introduction to the structure and finite-dimensional representation theory of the complex classical groups that requires only an abstract algebra course as a prerequisite. For the more advanced reader, the book presents an introduction to the structure and representations of complex reductive algebraic groups and their compact real forms. It also serves as a reference for the main results concerning tensor and polynomial invariants and the finite dimensional representation theory of the classical groups.

Joachim HILGERT, Jimmie D. LAWSON, Karl-Hermann NEEB, Ernest B. VINBERG, (Editors). — **Positivity in Lie theory: open problems.** — De Gruyter expositions in mathematics, vol. 26. — Un vol. relié, 18×24,5, de XII, 290 p. — ISBN 3-11-016112-5. — Prix: DM 258.00. — Walter de Gruyter, Berlin, 1998.

This book consists of 15 articles, each of which is an introduction to a set of open research problems in Lie theory. The unifying theme is "positivity", which means orderings on the level of manifolds, semigroups on the level of groups, and cones on the level of linear spaces and Lie algebras. The topics range from geometric and algebraic structure theory through harmonic analysis, representation theory as far as control theory and probability. The editors of this book have tried to put together a collection of problems with commentary that would serve as an invitation and a guide to the field.

B.P. KOMRAKOV, I.S. KRASIL'SHCHIK, G.L. LITVINOV and A.B. SOSSINSKY, (Editors). — **Lie groups and Lie algebras: their representations, generalisations and applications.** — Mathematics and its applications, vol. 433. — Un vol. relié, 16×25, de VIII, 442 p. — ISBN 0-7923-4916-4. — Prix: Dfl. 340.00. — Kluwer Academic Publishers, Dordrecht, 1998.

The present work reflects the interests of scientists associated with the International Sophus Lie Center, and provides up-to-date results in Lie groups and Lie algebras, quantum

mathematics, hypergroups, homogeneous spaces, Lie superalgebras, the theory of representations and applications to differential equations and integrable systems. Among the topics that are treated are quantization of Poisson structures, applications of multivalued groups, noncommutative aspects of hypergroups, homology invariants of homogeneous spaces, generalisations of the Godbillon-Vey invariant, relations between classical problems of linear analysis and representation theory and the geometry of current groups.

Fonctions de variables réelles

G.V. MILOVANOVIC, (Editor). — **Recent progress in inequalities.** — Mathematics and its applications, vol. 430. — Un vol. relié, 16×25, de XII, 519 p. — ISBN 0-7923-4845-1. — Prix: Dfl. 395.00. — Kluwer Academic Publishers, Dordrecht, 1998.

This volume provides an extensive survey of the most current topics in almost all subjects in the field of inequalities, written by 85 scientists from twenty countries. Some of the papers were presented at the International Memorial Conference dedicated to Professor D.S. Mitrinovič, which was held at the University of Niš, June 20-22, 1996. Inequalities are to be found everywhere and play an important and significant role in almost all subjects of mathematics.

Mesure et intégration

Wolfgang TOMÉ. — **Path integrals on group manifolds: the representation independent propagator for general Lie groups.** — Un vol. relié, 16×23, de XVIII, 213 p. — ISBN 981-02-3355-8. — Prix: £22.00. — World Scientific, Singapore, 1998.

It is shown in this work that it is possible to introduce a *representation independent propagator* for a real, separable, connected and simply connected Lie group with irreducible, square integrable representations. For a given set of kinematical variables this propagator is a single generalized function independent of any particular choice of fiducial vector and the irreducible representations of the Lie group generated by these kinematical variables, which nonetheless, correctly propagates each element of a continous representation based on the coherent states associated with these kinematical variables.

Fonctions d'une variable complexe

Helmut FLORIAN, Klaus HACKL, Franz Josef SCHNITZER, Wolfgang TUTSCHKE, (Editors). — **Generalized analytic functions: theory and applications to mechanics.** — International Society for analysis, applications and computation, vol. 1. — Un vol. relié, 16,5×24,5, de XXVI, 311 p. —ISBN 0-7923-5043-X. — Prix: Dfl. 260.00. — Kluwer Academic Publishers, Dordrecht, 1998.

The contributions on generalized analytic functions of these conference proceedings deal not only with problems in the complex plane but also related problems in higher dimensions which are investigated where both several complex variables and the technique of Clifford analysis are used. The second part of the proceedings is devoted to applications to mechanics. A substantial number of the papers of this part deal with problems in Ocean Acoustics.

Katsuhiko MATSUZAKI, Masahiko TANIGUCHI. — **Hyperbolic manifolds and Kleinian groups.** — Oxford mathematical monographs. — Oxford science publications. — Un vol. relié, 16×24, de IX, 253 p. — ISBN 0-19-850062-9. — Prix: £60.00. — Clarendon Press, Oxford, 1998.

This book is a comprehensive guide to the theory of Kleinian groups from the viewpoints of both geometry and analysis. A Kleinian group is a discrete subgroup of the isometry group of