

# Fonctions d'une variable complexe

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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. Mitrinović, 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 continuous 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

hyperbolic 3-space; it can also be regarded as a subgroup of the group of Möbius transformations in the complex plane. The study of Kleinian groups has become an active area in mathematics and deals with many interesting theories. This book provides fundamental results and important theorems which are needed for access to the frontiers of the theory from a modern point of view.

## *Equations différentielles ordinaires*

V.K. DZYADYK. — **Approximation methods for solutions of differential and integral equations.** — Un vol. relié,  $16,5 \times 24,5$ , de 325 p. — ISBN 90-6764-194-4. — Prix: DM 259.00. — VSP, Utrecht, 1995.

This book is the result of 20 years of investigations, in order to bring closer and synthesize a number of well-known results, ideas and methods from the theory of function approximation, theory of differential and integral equations and numerical analysis. The book opens with an introduction on the theory of function approximation and is followed by a new approach to the Fredholm integral equations of the second kind. Several chapters are devoted to the construction of new methods for the effective approximation of solutions of several important integral, and ordinary and partial differential equations. In addition, new general results on the theory of linear differential equations with one regular singular point, as well as applications of the various new methods are discussed.

V. LAKSHMIKANTHAM, A.S. VATSALA. — **Generalized quasilinearization for nonlinear problems.** — Mathematics and its applications, vol. 440 — Un vol. relié,  $16,5 \times 24,5$ , de ix, 276 p. — ISBN 0-7923-5038-3. — Prix: Dfl. 260.00. — Kluwer Academic Publishers, Dordrecht, 1998.

The book provides a systematic development of the generalized quasilinearization indicating the notions and technical difficulties that are encountered in the unified approach. It enhances considerably the usefulness of the method of quasilinearization which has proved to be very effective in several areas of investigation and in applications. Further it includes the well known monotone iterative technique as a special case.

## *Equations aux dérivées partielles*

A. ASANOV and E.R. ATAMANOV. — **Nonclassical and inverse problems for pseudoparabolic equations.** — Inverse and ill-posed problems series. — Un vol. relié,  $16,5 \times 24$ , de 152 p. — ISBN 90-6764-235-5. — Prix: DM 150.00. — VSP, Utrecht, 1997.

The problems considered in this book are related to the theory of differential equations with partial derivatives from the ill-posed problem theory and are generally ill-posed in the Hadamard sense. The basic topic discussed is the conditional well-posedness of such problems. This represents the proof of uniqueness and stability theorems in the appropriate classes of functions. In some cases, existence theorems are also considered. The book opens with a chapter on the Cauchy problem with data in a time-like manifold for pseudoparabolic equations. Chapter 2 deals with interior problems for pseudoparabolic equations and the last chapter deals with inverse problems for operator pseudoparabolic equations.

E. BAINOV, V. COVACHEV, (Editors). — **Proceedings of the fifth International Colloquium on Differential Equations: Plovdiv, Bulgaria, 18-23 August, 1994.** — Un vol. relié,  $16,5 \times 24,5$ , de vii, 362 p. — ISBN 90-6764-192-8. — Prix: DM 210.00. — VSP, Utrecht, 1995.

The colloquium was organized by UNESCO and the Plovdiv Technical University, with the help of many international mathematical organizations. This proceedings volume contains