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Kapitel: Equations différentielles ordinaires

the essentials. The most basic type of domain examined is the bounded symmetric domain originally described and classified by Cartan and Harish-Chandra. *Contents:* Function spaces on complex semi-groups, by Jacques Faraut. — Graded Lie algebras and pseudo-Hermitian symmetric spaces, by Soji Kaneyuki. — Function spaces on bounded symmetric domains, by Adam Korányi. — The heat kernels of non compact symmetric spaces, by Qi-keng Lu. — Jordan triple systems, by Guy Roos.

Jiji KAJIWARA, Zhong LI, Kwang Ho SHON, (Editors). — **Finite or infinite dimensional complex analysis.** — Proceedings of the seventh international colloquium. — Lecture notes in pure and applied mathematics, vol. 214. — Un vol. broché, 17,5×25,5, de XIV, 630 p. — ISBN 0-8247-0442-8. — Prix: US$ 195.00. — Marcel Dekker, New York, 2000.

Presenting the proceedings from the Seventh International Colloquium on Finite or Infinite Dimensional Complex Analysis held in Fukuoka, Japan, this state-of-the-art reference offers multiple perspectives and numerous research examples on complex variables, Clifford algebra variables, hyperfunctions, and numerical analysis. Exhibiting exclusive contributions by over 80 specialists in the field, *Finite or Infinite Dimensional Complex Analysis...* discusses the main branches of complex analysis and its applications... explores a variety of dimensions in Clifford algebra such as quaternionic and octonionic variables... covers polynomials including the Pisier-Schütt theorem... investigates various aspects of holomorphic functions—extensions, ideals, mappings, and Schauder decompositions... details research on Hardy and Chern classes... applies the Hamiltonian Algorithm to acoustics... and much more.

Thomas PETERNELL, Frank-Olaf SCHREYER, (Editors). — **Complex analysis and algebraic geometry: a volume in memory of Michael Schneider.** — Un vol. relié, 17×25, de X, 406 p. — ISBN 3-11-016204-0. — Prix: DM 298.00. — Walter de Gruyter, Berlin, 2000.

The volume consists of invited refereed papers dedicated to the memory of Michael Schneider. The contributions cover a wide spectrum in complex analysis and algebraic geometry; the main focus is on: higher dimensional varieties and Kähler geometry, moduli spaces and deformation theory, surfaces and 4-manifolds, real algebraic geometry. A part of the articles grew out of a symposium in honour of Michael Schneider (18.5.1942-29.8.1997), held in Bayreuth in June 1998 with about 80 participants.

Equations différentielles ordinaires

Werner BALSER. — **Formal power series and linear systems of meromorphic ordinary differential equations.** — Universitext. — Un vol. relié, 16,5×24,5, de XVIII, 299 p. — ISBN 0-387-98690-1. — Prix: DM 94.00. — Springer, New York, 2000.

Simple ordinary differential equations may have solutions in terms of power series whose coefficients grow at such a rate that the series has a radius of convergence equal to zero. In fact, every linear meromorphic system has a formal solution of a certain form, which can be relatively easily computed, but which generally involves such power series diverging everywhere. In this book, the author presents the classical theory of meromorphic systems of ODEs in the new light shed upon it by the recent achievements in the theory of summability of formal power series.

Peter E. HYDON. — **Symmetry methods for differential equations: a beginner's guide.** — Cambridge texts in applied mathematics. — Un vol. broché, 15,5×23, de XI, 213 p. — ISBN 0-521-49786-8. — Prix: £18.95 (relié: £50.00). — Cambridge University Press, Cambridge, 2000.

Symmetry is the key to solving differential equations. There are many well-known techniques for obtaining exact solutions, but most of them are merely special cases of a few powerful

symmetry methods. These methods can be applied to differential equations of an unfamiliar type; they do not rely on special tricks. Instead, a given differential equation can be made to reveal its symmetries, which are then used to construct exact solutions. This book is a straightforward introduction to symmetry methods. The presentation is informal with many worked examples. The text contains several new methods. In particular, methods for obtaining discrete symmetries and first integrals are described.

Equations aux dérivées partielles

Jürgen M. APPELL, Anatolij S. KALITVIN, Petr P. ZABREJKO. — **Partial integral operators and integro-differential equations.** — Pure and applied mathematics. Monographs and textbooks in pure and applied mathematics, vol. 230. — Un vol. relié, 16×23,5, de X, 560 p. — ISBN 0-8247-0396-0. — Prix: US$ 195.00. — Marcel Dekker, New York, 2000.

With results and methods ranging from abstract functional-analytic approaches to specific uses in continuum mechanics and engineering, this monograph discusses the theory and applications of partial integral operators as well as linear and nonlinear equations... unifies the classical theory of differential equations in Banach spaces with the latest findings on integral operators... makes nonlinear partial integral equations more accessible... contains a wealth of details on the analytical, topological, and spectral properties of partial integral operators in spaces of continuous and measurable functions... and gathers a comprehensive list of about 400 references, many in Russian, which have been scattered throughout specialized research journals until now.

Heinrich G.W. BEGEHR, A. Okay CELEBI and Wolfgang TUTSCHKE, (Editors). — **Complex methods for partial differential equations.** — International Society for Analysis, Applications and Computation, vol. 6. — Un vol. relié, 16×25, de X, 331 p. — ISBN 0-7923-6000-1. — Prix: Dfl. 260.00. — Kluwer Academic Publishers, Dordrecht, 1999.

This book contains survey chapters as well as state-of-the art research chapters on topics ranging from complex elliptic first order systems with regular or singular coefficients to overdetermined systems in several complex variables and partial differential equations in Clifford analysis. Different boundary value problems are studied. Applications to crack problems in elasticity theory to cusped bars, plates, and shells are given. Wavelets transformations are constructed in Banach spaces and used to identify complex analysis from the viewpoint of geometry. Fixed-point problems even in abstract Banach spaces are investigated with respect to an optimal domain of existence for the solution.

Jan W. CHOLEWA, Tomasz DLOTKO. — **Global attractors in abstract parabolic problems.** — In cooperation with Nathaniel Chaffee. — London Mathematical Society lecture note series, vol. 278. — Un vol. broché, 15×23, de XII, 235 p. — ISBN 0-521-79424-2. — Prix: £27.95. — Cambridge University Press, Cambridge, 2000.

The study of dissipative equations is an area that has attracted substantial attention over many years. Much progress has been achieved using a combination of both finite dimensional and infinite dimensional techniques, and in this book the authors exploit these same ideas to investigate the asymptotic behavior of dynamical systems corresponding to parabolic equations. In particular the theory of global attractors is presented in detail. Extensive auxiliary material and rich references make this self contained book suitable as an introduction for graduate students, and experts from other areas, who wish to enter this field.