

Fonctions spéciales

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with respect to various families of holomorphic functions. Therefore, there is emphasis on a detailed presentation of holomorphic convexity and pseudoconvexity of Riemann domains over \mathbb{C}^n . Our interest in this area of complex analysis started directly after our studies when both of us were interested in continuation of holomorphic functions. During the years we got the impression that there is a need to have a source where the main results could be found. We hope this book can serve as such a source. The choice of topics obviously reflects our personal preferences. Most of the results have not yet been published in book form. The text will be of interest both to students and experts.

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George E. ANDREWS, Richard ASKEY, Ranjan ROY. — **Special functions.** — Encyclopedia of mathematics and its applications, vol. 71. — Un vol. broché, $16,5 \times 23,5$, de xvi, 661 p. — ISBN 0-521-78988-5 (relié: 0-521-62321-9). — Prix: £22.95 (relié: £60.00). — Cambridge University press, Cambridge, 2001.

This book presents an overview of special functions, focusing primarily on hypergeometric functions and the associated hypergeometric series, including Bessel functions and classical orthogonal polynomials. The basic building block of the functions studied in this book is the gamma function. In addition to relatively new work on gamma and beta functions, such as Selberg's multidimensional integrals, a number of important but relatively unknown nineteenth century results are included. The authors discuss Wilson's beta integral and the associated orthogonal polynomials. Some q -extensions of beta integrals and of hypergeometric series are presented with Bailey chains employed to derive some results. An introduction to spherical harmonics and applications of special functions to combinatorial problems are included. The book also deals with finite field versions of some beta integrals.

Charles F. DUNKL, Yuan XU. — **Orthogonal polynomials of several variables.** — Encyclopedia of mathematics and its applications, vol. 81. — Un vol. relié, 16×24 , de xv, 390 p. — ISBN 0-521-80043-9. — Prix: £55.00. — Cambridge University Press, Cambridge, 2001.

This is the first modern book on orthogonal polynomials of several variables, which are interesting both as objects of study and as tools used in multivariate analysis, including approximations and numerical integration. The book, which is intended both as an introduction to the subject and as a reference, presents the theory in elegant form and with modern concepts and notation. It introduces the general theory and emphasizes the classical types of orthogonal polynomials whose weight functions are supported on standard domains such as the cube, the simplex, the sphere and the ball, or those of Gaussian type, for which fairly explicit formulae exist. The approach is a blend of classical analysis and symmetry-group-theoretic methods.

Equations différentielles ordinaires

Jon H. DAVIS. — **Differential equations with Maple: an interactive approach.** — Un vol. relié, $16,5 \times 24$, de xiv, 409 p. + 1 CD-ROM. — ISBN 0-8176-4181-5. — Prix: SFr. 108.00. — Birkhäuser, Boston, 2001.

What this book offers: coverage of all essential topics, including some classical ones not generally found in differential equations courses at this level. Discussion of all standard solutions methods; numerous graphical interpretations of solutions. A careful introduction to MAPLE fundamentals; students become familiar with MAPLE commands to simplify calculations, solve difficult problems, and experience MAPLE's power as a research tool. An