

**Zeitschrift:** L'Enseignement Mathématique  
**Herausgeber:** Commission Internationale de l'Enseignement Mathématique  
**Band:** 48 (2002)  
**Heft:** 3-4: L'ENSEIGNEMENT MATHÉMATIQUE

**Kapitel:** Fonctions de variables réelles

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## *Fonctions de variables réelles*

Emmanuelle DiBENEDOTTO. — **Real analysis.** — Birkhäuser advanced texts — Basler Lehrbücher. — Un vol. relié, 16×24, de xxiv, 485 p. — ISBN 0-8176-4231-5. — Prix: SFr. 158.00. — Birkhäuser, Boston, 2002.

The focus of this modern graduate text in real analysis is to prepare the potential researcher to a rigorous “Way of thinking” in applied mathematics and partial differential equations. The book will provide excellent foundations and serve as a solid building block for research in analysis, PDEs, the calculus of variations, probability, and approximation theory. All the core topics of the subject are covered, from a basic introduction to functional analysis, to measure theory, integration and weak differentiation of functions, and in a presentation that is hands-on, with little or no unnecessary abstractions. A number of excellent problems, as well as some remarkable features of the exercises, occur at the end of every chapter, which point to additional theorems and results. Stimulating open problems are proposed.

R.M. DUDLEY. — **Real analysis and probability.** — Cambridge studies in advanced mathematics, vol. 74. — Un vol. broché, 15,5×23,5, de x, 555 p. — ISBN 0-521-00754-2 (relié: 0-521-80972-X). — Prix: £32.95 (relié: £90.00). — Cambridge University Press, Cambridge, 2002.

The first half of the book gives an exposition of real analysis: basic set theory, general topology, measure theory, integration, an introduction to functional analysis in Banach and Hilbert spaces, convex sets and functions, and measure on topological spaces. The second half introduces probability based on measure theory, including laws of large numbers, ergodic theorems, the central limit theorem, conditional expectations, and martingale convergence. A chapter on stochastic processes introduces Brownian motion and the Brownian bridge. The new edition has been made even more self-contained than before; it now includes early in the book a foundation of the real number system and the Stone-Weierstrass theorem on uniform approximation in algebras of functions. Several other sections have been revised and improved, and the extensive historical notes have been further amplified. A number of new exercises, and hints for solution of old and new ones, have been added.

Donald ESTEP. — **Practical analysis in one variable.** — Undergraduate texts in mathematics. — Un vol. relié, 16×24, de xx, 621 p. — ISBN 0-387-95484-8. — Prix: €59.95. — Springer, New York, 2002.

This book attempts to place the basic ideas of real analysis and numerical analysis together in an applied setting that is both accessible and motivational to young students. The essentials of real analysis are presented in the context of a fundamental problem of applied mathematics, which is to approximate the solution of a physical model. The book includes background and review material, numerous examples, visualizations and alternate explanations of some key ideas, and a variety of exercises ranging from simple computations to analysis and estimates to computations on a computer.

## *Fonctions d'une variable complexe*

Jürgen JOST. — **Compact Riemann surfaces: an introduction to contemporary mathematics.** — Second edition. — Universitext. — Un vol. broché, 15,5×24, de xi, 278 p. — ISBN 3-540-43299-X. — Prix: SFr. 68.50. — Springer, Berlin, 2002.

Although Riemann surfaces are a time-honoured field, this book is novel in its broad perspective that systematically explores the connection with other fields of mathematics. It can