

Mesure et intégration

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simplifying all the various notions of limit, the author has successfully presented a unique and novel approach to the subject matter that has not previously appeared in book form. The author defines what is meant by a limit just once, and all of the subsequent limiting processes are viewed as special cases of this one definition. In this way the subject matter attains a unity and coherence that is missing in the traditional approach.

Douglas S. BRIDGES. — **Foundations of real and abstract analysis.** — Graduate texts in mathematics, vol. 174. — Un vol. relié, 16 × 24, de XIV, 322 p. — ISBN 0-387-98239-6. — Prix: DM 79.00. — Springer, New York, 1997.

The core chapters of this volume provide a complete course on metric, normed, and Hilbert spaces, and include many results and exercises seldom found in texts on analysis at this level. The author covers an unusually wide range of material in a clear and concise format, including elementary real analysis, Lebesgue integration on \mathbf{R} , and an introduction to functional analysis. This makes a versatile text suited for courses on real analysis, metric spaces, and abstract analysis. Of special interest is the unique collection of nearly 750 exercises, many with guidelines for their solutions.

Shouchuan HU and Nikolas S. PAPAGEORGIOU. — **Handbook of multivalued analysis, vol. 1: Theory.** — Mathematics and its applications, vol. 419. — Un vol. relié, 16,5 × 24,5, de xv, 964 p. — ISBN 0-9723-4682-3. — Prix: Dfl. 695.00. — Kluwer Academic Publishers, Dordrecht, 1997.

Multivalued analysis is a remarkable mixture of many different fields of mathematics, such as topology, measure theory, nonlinear functional analysis and applied mathematics. This two-volume work provides a comprehensive survey of the general theory and applications of set-valued analysis. The existing books on the subject deal with either one particular domain of the subject or present primarily the finite dimensional aspects of the theory. In contrast, this volume gives a complete picture of the subject, including important new developments that occurred in recent years and detailed bibliography. Although the presentation of the subject assumes some knowledge from various areas of mathematical analysis, the authors have made every effort, including the addition of an appendix, to keep the work self-contained.

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Gerhard KELLER. — **Equilibrium states in ergodic theory.** — London Mathematical Society student texts, vol. 42. — Un vol. broché, 15 × 23, de IX, 178 p. — ISBN 0-521-59534-7. — Prix: £ 13.95 (relié: £37.50). — Cambridge University Press, Cambridge, 1998.

This book provides a detailed introduction to the ergodic theory of equilibrium states giving equal weight to two of its most important applications, namely to equilibrium statistical mechanics on lattices and to (time discrete) dynamical systems. — *Contents:* Elementary examples of equilibrium states. Some basic ergodic theory. Entropy. Equilibrium states and pressure. Gibbs measures. Equilibrium states and derivatives. Appendix, collecting a number of facts from analysis, measure theory and probability theory used throughout the book.

Mark POLLICOTT, Michiko YURI. — **Dynamical systems and ergodic theory.** — London Mathematical Society student texts, vol. 40. — Un vol. broché, 15 × 23, de XIII, 179 p. — ISBN 0-521-57599-0. — Prix: £ 14.95 (relié: £40.00). — Cambridge University Press, Cambridge, 1998.

This book is an essentially self-contained introduction to topological dynamics and ergodic theory. It is divided into a number of relatively short chapters with the intention that each may be

used as a component of a lecture course tailored to the particular audience. Parts of the book are suitable for a final year undergraduate course or for a master's level course. A number of applications are given, principally to number theory and arithmetic progressions (through Van der Waerden's theorem and Szemerédi's theorem).

H.A. PRIESTLEY. — **Introduction to integration.** — Oxford science publications. — Un vol. relié, $16,5 \times 24$, de x, 306 p. — ISBN 0-19-850124-2. — Prix: £40.00. — Clarendon Press, Oxford, 1997.

The book begins with a simplified Lebesgue-style integral (in lieu of the more traditional Riemann integral), intended for a first course in integration. This suffices for elementary applications, and serves as an introduction to the core of the book. The final chapters present selected applications, mostly drawn from Fourier analysis. The emphasis throughout is on integrable functions rather than on measure. Prerequisites are the rudiments of integral calculus and a first course in real analysis.

Beloslav RIECAN and Tibor NEUBRUNN. — **Integral, measure, and ordering.** — Mathematics and its application, vol. 411. — Un vol. relié, $16,5 \times 24,5$, de XIII, 378 p. — ISBN 0-7923-4566-5. — Prix: Dfl. 285.00. — Kluwer Academic Publishers, Dordrecht, 1997.

This book is concerned with three main themes. The first deals with ordering structures such as Riesz spaces and lattice ordered groups and their relation to measure and integration theory. The second is the idea of fuzzy sets, which is quite new, particularly in measure theory. The third subject is the construction of models of quantum mechanical systems, mainly based on fuzzy sets. In this way some recent results are systematically presented. This volume is suitable not only for specialists in measure and integration theory, ordered spaces, probability theory and ergodic theory, but also for students of theoretical and applied mathematics.

Fonctions d'une variable complexe

Srishti D. CHATTERJI. — **Cours d'analyse, vol. 2: Analyse complexe.** — Un vol. broché, 16×24 , de XX, 536 p. — ISBN 2-88074-346-X. — Prix: SFr. 89.00. — Presses polytechniques et universitaires romandes, Lausanne, 1997.

L'objectif principal de ce volume est de donner une introduction à la théorie classique des fonctions holomorphes d'une variable complexe. Les fonctions holomorphes sont présentées en utilisant les équations de Cauchy-Riemann et leurs développements en séries entières. Les théorèmes principaux de la théorie de Cauchy ainsi que leur utilisation pour l'étude des séries de Taylor et de Laurent sont présentés en détail. Quelques fonctions spéciales (comme gamma, zêta) sont introduites avec soin. Les applications conformes (y compris le théorème de Riemann) sont traitées en détail. Une introduction à la théorie des fractions continues complexes est donnée comme illustration de différents modes de présentation des fonctions holomorphes. Le livre termine avec une courte introduction rigoureuse aux surfaces de Riemann.

Fonctions de plusieurs variables complexes

Fausto DI BIASE. — **Fatou type theorems: maximal functions and approach regions.** — Progress in mathematics, vol. 147. — Un vol. relié, 16×25 , de VIII, 152 p. — ISBN 0-8176-3976-4. — Prix: SFr. 78.00. — Birkhäuser, Boston, 1998.

One of the basic issues involved in the understanding of the boundary behavior of harmonic (holomorphic) functions, defined on domains in real (complex) Euclidean spaces and subject to