

**Zeitschrift:** L'Enseignement Mathématique  
**Band:** 47 (2001)  
**Heft:** 3-4: L'ENSEIGNEMENT MATHÉMATIQUE  
  
**Kapitel:** Fonctions d'une variable complexe

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## *Mesure et intégration*

Solomon LEADER. — **The Kurzweil-Henstock integral and the differentials: a unified theory of integration on  $\mathbf{R}$  and  $\mathbf{R}^n$** . — Pure and applied mathematics, vol. 242. — Un vol. relié,  $16 \times 24$ , de VIII, 355 p. — ISBN 0-8247-0535-1. — Prix: US\$150.00. — Marcel Dekker, New York, 2001.

This reference/text provides a comprehensive review of the Kurzweil-Henstock integration process on the real line and in higher dimensions – presenting a unified theory of integration that highlights Riemann-Stieltjes, and Lebesgue integrals as well as integrals of elementary calculus. Offering current versions of classical theorems in real analysis with new contributions to fundamental aspects of integral calculus, the book covers integration of summants... Riesz spaces of differentials... Archimedean properties and Hahn decomposition for differentials... the fundamental theorem of calculus... Banach's indicatrix theorem and change of variables... Green's theorem... and more.

## *Fonctions d'une variable complexe*

Theodore W. GAMELIN. — **Complex analysis**. — Un vol. broché,  $15,5 \times 23,5$ , de XVIII, 478 p. — ISBN 0-387-95069-9. — Prix: DM 69.00. — Springer, New York, 2001.

The book consists of three parts. The first part comprises the basic core of a course in complex analysis for junior and senior undergraduates. The second part includes various more specialized topics as the argument principle, the Schwarz lemma and hyperbolic geometry, the Poisson integral, and the Riemann mapping theorem. The third part consists of a selection of topics designed to complete the coverage of all background necessary for passing PhD qualifying exams in complex analysis. Topics selected include Julia sets and the Mandelbrot set, Dirichlet series and the prime number theorem, and the uniformization theorem for Riemann surfaces. The three geometries, spherical, euclidean, and hyperbolic, are stressed. Exercises range from the very simple to the quite challenging, in all chapters.

David SHOIKHET. — **Semigroups in geometrical function theory**. — Un vol. relié,  $16,5 \times 25$ , de XII, 222 p. — ISBN 0-7923-7111-9. — Prix: US\$76.00. — Kluwer Academic Publishers, Dordrecht, 2001.

This manuscript provides an introduction to the generation theory of nonlinear one-parameter semigroups on a domain of the complex plane in the spirit of the Wolff–Denjoy and Hille–Yoshida theories. Special attention is given to evolution equations reproduced by holomorphic vector fields on the unit disk. A dynamic approach to the study of geometrical properties of univalent functions is emphasized. The book will be of interest to graduate students and research specialists working in the fields of geometrical function theory, iteration theory, fixed point theory, semigroup theory, theory of composition operators and complex dynamical systems.

## *Équations différentielles ordinaires*

Lambertus A. PELETIER, William C. TROY. — **Spatial patterns: higher order models in physics and mechanics**. — Progress in nonlinear differential equations and their applications, vol. 45. — Un vol. relié,  $16 \times 24$ , de xv, 341 p. — ISBN 0-8176-4110-6. — Prix: SFr. 98.00. — Birkhäuser, Boston, 2001.

This text offers a study of nonlinear fourth order model equations that are central to description and analysis of spatio-temporal pattern formation in the natural sciences. In a unique combination of results obtained by rigorous mathematical analysis, and by computational studies, it