Calcul des variations

and wavelet methods, approximation theory and inverse problems to various concrete problems and applications in physics and engineering, and reflect Prössdorf's broad spectrum of research activities. The volume also contains articles describing the life and achievements of Siegfried Prössdorf and includes a list of his publications. The book is addressed to a wide audience in the mathematical and engineering sciences.

Juan GIL, Daniel GRIESER, Matthias LESCH, (Editors). — **Approaches to singular analysis: a volume of advances in partial differential equations.** — Operator theory advances and applications, vol. 125. — Un vol. relié, 17,5×24, de VI, 256 p. — ISBN 3-7643-6518-8. — Prix: SFr. 128.00. — Birkhäuser, Basel, 2001.

The purpose of this publication is to present, in one book, various approaches to analytic problems that arise in the context of singular spaces. It is based on the Workshop "Approaches to Singular Analysis" which was held at the Humboldt University Berlin in April 1999. The book contains articles by workshop participants as well as invited contributions. The former are expanded versions of talks given at the workshop; they offer introductions to various pseudodifferential calculi and discussions of relations between them. In addition, a limited number of invited papers from mathematicians who have made significant contributions to this field are included.

Calcul des variations

John CAGNOL, Michael P. POLIS, Jean-Paul ZOLÉSIO, (Editors). — **Shape optimization and optimal design: proceedings of the IFIP Conference.** — Lecture notes in pure and applied mathematics, vol. 216. — Un vol. broché, 18×26, de 442 p. — ISBN 0-8247-0556-4. — Prix: US$ 185.00. — Marcel Dekker, New York, 2001.

Based on selected papers presented at the 19th International Federation for Information Processing WG 7.2 and 7.4 Conference, held recently in Cambridge, England, and written by more than 25 specialists in various disciplines, this book illustrates boundary controllability of thermoelastic plates... shape derivative computations using a combinatorial strength approach to differential and intrinsic tangential differential calculus... Eulerian derivatives for noncylindrical functionals... shape gradients in singular geometries, such as cracks... effective quasioptimal control methods for nonstationary Navier-Stokes equations... sharp functional techniques in steady viscous flows... novel analyses of oxygen sensor models... and more.

Géométrie

Roger FENN. — **Geometry.** — Springer undergraduate mathematics series. — Un vol. broché, 17×23,5, de XII, 313 p. — ISBN 1-85233-058-9. — Prix: DM 59.00. — Springer, London, 2000.

Geometry is probably the most accessible branch of mathematics, and can provide an easy route to understanding some of the more complex ideas that mathematics can present. This book is intended to introduce readers to the major geometrical topics taught at undergraduate level, in a manner that is both accessible and rigorous. The author uses world measurement as a synonym for geometry — hence the importance of numbers, coordinates and their manipulation — and has included over 300 exercises, with answers to most of them. The text includes such topics as: Coordinates. — Euclidean plane geometry. — Complex numbers. — Solid geometry. — Conics and quadratic surfaces. — Spherical geometry. — Quaternions.