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Bryan P. RYNNE, Martin A. YOUNGSON. — **Linear functional analysis.** — Springer undergraduate mathematics series. — Un vol. broché,  $17 \times 23,5$ , de x, 273 p. — ISBN 1-85233-257-3. — Prix : DM 59.00. — Springer, London, 2000.

Providing an introduction to the ideas and methods of linear functional analysis, this book shows how familiar and useful concepts from finite-dimensional linear algebra can be extended or generalized to infinite-dimensional spaces. In the initial chapters the theory of infinite-dimensional normed spaces (in particular Hilbert spaces) is developed, while in later chapters the emphasis shifts to studying operators between such spaces. Functional analysis has applications to a vast range of areas of mathematics; the final chapter discusses the two particularly important areas of integral and differential equations.

## *Calcul des variations*

Richard VINTER. — **Optimal control.** — Systems & control: foundations & applications. — Un vol. relié,  $16 \times 24$ , de xv, 507 p. — ISBN 0-8176-4075-4. — Prix : SFr. 138.00. — Birkhäuser, Boston, 2000.

Optimal control emerged as a distinct field of research only in recent decades. It provides a unified perspective of optimization problems, arising in scheduling and the control of engineering devices, that are beyond the reach of traditional analytical and computational techniques. In addition, the field has contributed significant advances to branches of applied mathematics and broad applications in process control, scheduling, robotics, resource economics, and other areas. This book brings together many of the important advances in 'nonsmooth' optimal control over the last two decades concerning necessary conditions, minimizer regularity and global optimality conditions associated with the Hamilton-Jacobi equation. The book's development and analysis is largely self-contained and incorporates many simplifications and unifying features for subjects' key concepts and foundations. This new book is an essential resource for an authoritative and comprehensive presentation of the foundations and applications of nonsmooth optimal control.

## *Géométrie*

Claude-Alain FAURE and Alfred FRÖLICHER. — **Modern projective geometry.** — Mathematics and its applications, vol. 521. — Un vol. relié,  $16,5 \times 24,5$ , de xvii, 363 p. — ISBN 0-7923-6525-9. — Prix : Dfl. 270.00. — Kluwer Academic Publishers, Dordrecht, 2000.

This monograph develops projective geometries and provides a systematic treatment of morphisms. It is unique in that it does not confine itself to isomorphisms. This work introduces a new fundamental theorem and its applications describing homogeneous co-ordinates as morphisms of projective geometries by semilinear maps. Other topics treated include three equivalent definitions of projective geometries and isomorphism theorems, recent results in dimension theory, morphisms and homomorphisms of projective geometries, special morphisms, duality theory, morphisms of affine geometries, polarities, orthogonalities, Hilbertian geometries and propositional systems. The book concludes with a large section of exercises.

Richard HARTLEY, Andrew ZISSERMAN. — **Multiple view geometry in computer vision.** — Un vol. relié,  $18 \times 25$ , de xvi, 607 p. — ISBN 0-521-62304-9. — Prix : £60.00. — Cambridge University Press, Cambridge, 2000.

A basic problem in computer vision is to reconstruct a real world scene given several images of it. This book describes techniques for solving this problem which have been developed from projective geometry and photogrammetry. Recent major developments in the theory and practice