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Kapitel: Mécanique quantique

Mécanique quantique

G. KALMBACH. — **Quantum measures and spaces.** — Mathematics and its applications, vol. 153. — Un vol. relié, 16,5×24,5, de XI, 343 p. — ISBN 0-7923-5288-2. — Prix: Dfl. 295.00. — Kluwer Academic Publishers, Dordrecht, 1998.

Noncommutative measure theory is the theme of the first part of the book. The relevant quantum structures are algebraically introduced. This is then used in the axiomatic, geometric model discussed in the second part of the book, where old and partly new groups and finite-dimensional **R**, **C**, **H**-spaces or spheres are studied for particle-series, a bag and the four basic interactions of physics. The third part investigates infinite dimensional spaces, particularly Archimedean and non-Archimedean orthomodular spaces, which generalize classical Herbert spaces. The last part of the book contains short reviews on related topics which are useful to have at hand.

Economie, recherche opérationnelle, jeux

Jean-Pierre CROUZEIX, Juan-Enrique MARTINEZ-LEGAZ, Michel VOLLE, (Editors). — **Generalized convexity, generalized monotonicity: recent results.** — Nonconvex optimization and its applications, vol. 27. — Un vol. relié, 17×25, de XV, 467 p. — ISBN 0-7923-5088-X. — Prix: Dfl. 385.00. — Kluwer Academic Publishers, Dordrecht, 1998.

The geometrical structure induced by convexity in mathematical programming induces a lot of nice properties: continuity and differentiability of the functions, separability and optimality conditions, duality, sensibility of the optimal solutions, etc. Several among the most interesting ones are preserved when convexity is relaxed in quasiconvexity or pseudoconvexity (a function is quasiconvex if its lower set levels are convex). This is still the case for variational inequality problems when the classical monotonicity assumption on the map is relaxed in quasimonotonicity or pseudomonotonicity. This volume contains 23 selected lectures presented at the last International Symposium on Generalized Convexity. It provides an up-to-date review of recent developments.

George B. DANTZIG. — **Linear programming and extensions.** — Princeton landmarks in mathematics and physics. — Un vol. broché, 15,5×23,5, de XVI, 627 p. — ISBN 0-691-05913-6. — Prix: US$29.95. — Princeton University Press, Princeton, 1993.

In real-world problems related to finance, business, and management, mathematicians and economists frequently encounter optimization problems. In this classic book, the author looks at a wealth of examples and develops linear programming methods for their solutions. He begins by introducing the basic theory of linear inequalities and describes the powerful simplex method used to solve them. Treatments of the price concept, the transportation problem, and matrix methods are also given, and key mathematical concepts such as the properties of convex sets and linear vector spaces are covered.

Mark M. MEERSCHAERT. — **Mathematical modeling.** — Second edition. — Un vol. relié, 16,5×23,5, de XVI, 351 p. — ISBN 0-12-487652-8. — Prix: US$49.95. — Academic Press, San Diego, CA, 1999.

The second edition of this text offers a unique approach to mathematical modeling. The author offers an inviting introduction and applies a problem-solving methodology in three major areas of optimization, dynamical systems, and stochastic processes. *Key features include:* A large collection of real-world problems. — An integration of computer outputs from the latest