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S. SUZUKI, (Editor). — **Lectures at knots '96.** — International Conference Center, Waseda University, Tokyo, 22-31 July 1996. — Series on knots and everything, vol. 15. — Un vol. relié, 16×22,5, de IX, 290 p. — ISBN 981-02-3094-X. — Prix: £40.00. — World Scientific, Singapore, 1997.

K. Morimoto: Tunnel number and connected sum of knots. — A. Kawauchi: Topological imitations. — S. Kamada: Surfaces in 4-space, a view of normal forms and braidings. — K. Motegi: Knot types of satellite knots and twisted knots. — T. Deguchi, K. Tsurusaki: Random knots and links and applications to polymer physics. — L.H. Kauffman: Knots and diagrams. — K. Taniyama: On spatial graphs. — G. Buck, J. Simon: Energy and length of knots. — T. Kohno: Chern-Simons perturbative invariants. — C. McA. Gordon: Combinatorial methods in Dehn surgery.

Probabilités et processus stochastiques

L. DECREUSEFOND, Jon GJERDE, B. ØKSENDAL, A.S. ÜSTÜNEL, (Editors). — **Stochastic analysis and related topics VI.** — Proceedings of the sixth Oslo-Silivri workshop, Geilo, 1996. — Progress in probability, vol. 42. — Un vol. relié, 16×25, de VI, 408 p. — ISBN 0-8176-4018-5. — Prix: SFr. 228.00. — Birkhäuser, Boston, 1998.

This workshop features lectures on stochastic differential systems with memory and lectures on backward stochastic differential equations with applications to viscosity solutions of semilinear PDEs. In addition, the contributed lectures present such mathematical topics as stochastic calculus of variations on Lie groups, boundary value problems, linear and nonlinear SDEs and SPDEs, non-Kolmogorov type probabilistic models, and some applications to fluid flow, population growth and economics. The selection of topics demonstrates the principle of the common interest among many researchers in these powerful stochastic techniques.

Hugh GORDON. — **Discrete probability.** — Undergraduate texts in mathematics. — Un vol. relié, 16×24, de XII, 266 p. — ISBN 0-387-98227-2. — Prix: DM 68.00. — Springer, New York, 1997.

This work is a post-calculus-level textbook for a first course in probability. Basic concepts, such as counting, independence, conditional probability, random variables, approximation of probabilities, generating functions, random walks, and Markov chains, are presented with clear explanations and many worked-out exercises. Throughout the book appear various comments on the history of the study of probability. The author presents biographical information about some of the well known contributors to probability, such as Fermat, Pascal, the Bernoullis, de Moivre, Bayes, Laplace, Poisson, Markov, and many others.

D. JEULIN, (Editor). — **Advances in theory and applications of random sets.** — Proceedings of the International Symposium. — Un vol. relié, 16,5×22,5, de X, 326 p. — ISBN 981-02-3001-X. — Prix: £61.00. — World Scientific, Singapore, 1997.

This volume contains the invited lectures given by leading scientists in this field. It shows the applications of the theory of random sets to many practical domains: models issued from this theory, by means of image simulation and analysis by computer, are applied in various fields such as biology or materials. On a different scale, they are used to simulate mineral ore deposits, oil reservoirs, or even astronomical data. Finally they provide sources of textures to encode or to generate artificial images.

Daniel A. KLAIN, Gian-Carlo ROTA. — **Introduction to geometric probability.** — Un vol. broché, 14×22, de XIV, 178 p. — ISBN 0-521-59654-8. — Prix: £12.95 (relié: £35.00). — Cambridge University Press, Cambridge, 1997.

In this book, the theory of intrinsic volumes due to Hadwiger, McMullen, Santaló and others is presented, along with a complete and elementary proof of Hadwiger's characterization theorem of invariant measures in Euclidean n-space. The theory of the Euler characteristic is developed from an integral-geometric point of view. The authors prove the fundamental theorem of integral geometry, namely the kinematic formula. Finally the analogies between invariant measures on polyconvex sets and measures on order ideals of finite partially ordered sets are investigated.

Isi MITRANI. — **Probabilistic modelling.** — Un vol. broché, 15×23, de X, 223 p. — ISBN 0-521-58530-9. — Prix: £16.95 (relié: £45.00). — Cambridge University Press, Cambridge, 1998.

Probabilistic modelling is the most cost-effective means of performance and reliability evaluation of complex dynamic systems. The necessary fundamentals of probability theory are included, as well as an introduction to renewal, Poisson and Markov processes. Models arising in the fields of manufacturing, computing and communications, involving single or multiple service stations and one or more customer classes, are examined in some detail. Both exact and approximate solution methods are discussed, including recent techniques such as spectral expansion. Special attention is devoted to models of systems subject to breakdowns and repairs.

Statistique

A.C. DAVISON, D.V. HINKLEY. — **Bootstrap methods and their application.** — Cambridge series in statistical and probabilistic mathematics. — Un vol. broché, 18×26, de X, 582 p. + 1 disquette d'accompagnement. — ISBN 0-521-57471-4. — Prix: £24.95 (relié: £70.00). — Cambridge University Press, Cambridge, 1997.

Bootstrap methods are computer-intensive methods of statistical analysis that use simulation to calculate standard errors, confidence intervals and significance tests. This book gives a broad and up-to-date coverage of bootstrap methods with numerous applied examples, together with the underlying general concepts and basic theory without emphasis on mathematical rigour, developed in a coherent way with the necessary theoretical basis. Each chapter includes both practical and theoretical exercises. A valuable supplement is a disk of purpose-written S-plus programs for implementing the methods described in the text.

Ruma FALK. — **Understanding probability and statistics: a book of problems.** — Un vol. broché, 15,5×23, de XIII, 239 p. — ISBN 1-56881-071-7. — Prix: US$25.00. — A.K. Peters, Wellesley, Massachusetts, 1997.

This is a book of creative statistical problems intended to allay the mathematical fears of the average student through "experiencing the revelation of understanding". The collection encompasses a range of problems from high-school to graduate level and takes the active, hands-on approach to the assimilation of basic concepts. Through the use of humor and the familiar, the author has made an often overwhelming subject less intimidating. Because neither calculus nor other techniques of higher mathematics are required for arriving at solutions, the book is quite appropriate for non-mathematicians.