

# Statistique

Objektyp: **Chapter**

Zeitschrift: **L'Enseignement Mathématique**

Band (Jahr): **45 (1999)**

Heft 3-4: **L'ENSEIGNEMENT MATHÉMATIQUE**

PDF erstellt am: **13.09.2024**

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## **Statistique**

Yadolah DODGE. — **Analyse de régression appliquée: manuel et exercices corrigés.** — Avec la collaboration de Valentin ROUSSON — Collection Eco sup. — Un vol. broché, 15,5×24, de x, 278 p. — ISBN 2-10-004284-X. — Prix: FF 188.00. — Dunod, Paris, 1999, diffusé en Suisse par Havas Services Suisse, Fribourg.

Cet ouvrage propose une présentation complète des concepts et techniques de base de l'analyse de régression et de la méthode d'estimation des paramètres. La méthode des moindres carrés y est présentée en détail dans les premiers chapitres, pour l'analyse de régression simple et multiple, mais l'ouvrage s'ouvre également sur d'autres méthodes. S'appuyant sur l'expérience de son enseignement, l'auteur présente de façon très pédagogique, l'analyse de régression linéaire, la régression linéaire simple, la régression multiple, la corrélation, les diagnostics, le choix du modèle, l'analyse de variance et régression, la régression ridge, la régression LAD. Chaque chapitre est illustré de nombreux exemples et comporte des exercices dont les corrigés sont fournis en fin d'ouvrage.

Subir GHOSH, (Editor). — **Asymptotics, nonparametrics, and time series.** — Statistics: textbooks and monographs, vol. 158. — Un vol. relié, 16,5×23,5, de xviii, 833 p. — ISBN 0-8247-0051-1. — Prix: US\$225.00. — Marcel Dekker, New York, 1999.

This book illustrates uses of Fourier analysis in scientific problems, discusses lead-time-dependent model selection and parameter estimation for multistep prediction, explicates modeling and interference problems for periodically correlated time series, highlights parameter- and observation-driven Poisson regression models, elucidates modelling and interference problems for Seasonal/Cyclical Long Memory (SCLM) processes, outlines linearity tests, significant lags, asymptotics, and tests of independence for time series, provides efficient estimates of the finite dimensional parameters in semiparametric additive regression models, examines efficient estimation of stationary distribution of Markov chains of autoregression parameters and innovative distributions in AR- and ARCH models and general time series... etc..

Phillip I. GOOD. — **Resampling methods: a practical guide to data analysis.** — Un vol. relié, 16,5×24, de xii, 269 p. — ISBN 0-8176-4091-6. — Prix: SFr. 118.00. — Birkhäuser, Boston, 1999.

This new book is a practical guide to data analysis using the bootstrap, cross-validation, and permutation tests. It is an essential resource for industrial statisticians, statistical consultants, and research professionals in science, engineering, and technology. Requiring only minimal mathematics beyond algebra, it provides a table-free introduction to data analysis utilizing numerous exercises, practical data sets, and freely available statistical shareware.

D.C. IONESCU, N. LIMNIOS, (Editors). — **Statistical and probabilistic models in reliability.** — Statistics for industry and technology. — Un vol. relié, 19×26, de xxxvi, 352 p. — ISBN 0-8176-4068-1. — Prix: SFr. 148.00 — Birkhäuser, Boston, 1999.

This book presents twenty-four carefully edited chapters providing an up-to-date survey of new models and methods for reliability analysis and applications in science, engineering, and technology. The chapters contain broad coverage of relevant statistical methods, probabilistic methods and new, innovative techniques. Written in an accessible style, they employ many tables, data sets, and graphs to convey a clear and practical perspective for the methods. Topics and features: glossary of key technical terms, extensive examples and real data sets, latest reliability techniques, stress reliability, semi-Markov stochastic processes, tests and accelerated tests, asymptotic reliability.

Michel JANVIER. — **Statistique descriptive avec ou sans tableur: cours et exercices corrigés.** — Collection Sciences sup. — Un vol. broché, 17×24, de x, 276 p. — ISBN 2-10-004317-X. — Prix: FF 180.00. — Dunod, Paris, 1999, diffusé en Suisse par Havas Services Suisse, Fribourg.

Ce cours destiné en priorité aux étudiants de DEUG MASS, pourra également intéresser les étudiants du premier cycle universitaire en sciences économiques, géographie, sociologie ainsi que les auditeurs de la formation continue. Les thèmes abordés sont les suivants: organisation des données, étude d'une variable statistique: représentation graphique et paramètres de position et de dispersion, concentration, étude de distributions statistiques à deux caractères: décomposition des variances, corrélation, ajustements. L'ouvrage insiste sur le choix coordonné des différents paramètres. Il fournit les représentations graphiques les plus récentes à l'aide du logiciel Excel. De nombreux exercices entièrement corrigés permettent de mettre en œuvre les concepts et méthodes de la statistique descriptive dans des situations concrètes.

Samuel KOTZ, Campbell B. READ, David L. BANKS, (Editors). — **Encyclopedia of statistical sciences, Update volume 3.** — Un vol. relié, 18,5×26, de xvii, 898 p. — ISBN 0-471-23883-X. — Prix: US\$235.00. — John Wiley & Sons, New York, 1999.

*Encyclopedia of Statistical Sciences* is the number one source of information on statistical theory, methods, and applications for researchers and clinicians. This new volume is the last of three updates designed to bring the *Encyclopedia* in line with new and emerging topics and important advances in statistical science made over the past decade. Each self-contained entry is written by a leader in the field and easily understood by readers with a modest statistical background. Up-to-date bibliographies, thorough cross-referencing, and extensive indexing facilitate quick access to specific information and provide an indispensable platform for further study and research. A cumulative index and listing of all entries in the 13 volumes of the *Encyclopedia*, together with the corresponding authors, are included.

E.L. LEHMANN. — **Elements of large-sample theory.** — Springer texts in statistics. — Un vol. relié, 16,5×24,5 de xii, 631 p. — ISBN 0-387-98595-6. — Prix: DM 159.00. — Springer, New York, 1999.

This book provides a unified treatment of first-order large-sample theory. It discusses a broad range of applications including introductions to density estimation, the bootstrap, and the asymptotics of survey methodology. The book is written at an elementary level and is suitable for students at the master's level in statistics and in applied fields who have a background of two years of calculus.

Thomas LEONARD, John S.J. HSU. — **Bayesian methods: an analysis for statisticians and interdisciplinary researchers.** — Cambridge series in statistical and probabilistic mathematics. — Un vol. relié, 18,5×26 cm, de xiv, 333 p. — ISBN 0-521-59417-0. — Prix: £40.00. — Cambridge University Press, Cambridge, 1999.

A Bayesian "posterior distribution" or "predictive distribution" summarizes everything you need to know about an unknown parameter, or future observations. This unique book shows how to use Bayesian statistics in a sound and practically relevant manner. It will guide the reader on inferring scientific, medical, and social conclusions from numerical data. The authors explain the subtle assumptions needed for Bayesian methodology and show how to use them to obtain good-quality conclusions. The methods also perform remarkably well in terms of computer-simulated frequency properties. The book contains numerous worked examples, self-study exercises, and

practical applications. It provides essential reading for final-year undergraduates, Masters-degree and graduate students, statisticians, and other interdisciplinary researchers wishing to develop good-quality conclusions from their data and to pursue the notion of scientific truth.

Clive LOADER. — **Local regression and likelihood.** — Statistics and computing. — Un vol. relié, 16,5 × 24, de XIII, 290 p. — ISBN 0-387-98775-4. — Prix: DM 129.00. — Springer, New York, 1999.

This book provides an overview of the theory, methods, and application of local regression and likelihood. The first five chapters introduce the problems, first in the local regression setting, followed by extensions to likelihood-based regression models and density estimation. The remaining chapters cover a range of advanced topics and applications, including robust smoothing, survival analysis, classification, and model selection issues. The book emphasizes local regression as a generalization of standard least squares and likelihood methods. The most important tools used in the analysis of local regression are direct generalizations of those used in parametric analysis. Throughout, the book emphasizes understanding of methods, and in particular, what they do, and do not, imply.

John O. RAWLINGS, Sastry G. PANTULA, David A. DICKEY. — **Applied regression analysis: a research tool.** — Second edition. — Springer texts in statistics. — Un vol. relié, 19 × 24,5, de XVIII, 657 p. — ISBN 0-387-98454-2. — Prix: DM 168.00. — Springer, New York, 1998.

The book emphasizes the concepts and the analysis of data sets. It provides a review of the key concepts in simple linear regression, matrix operations, and multiple regression. Methods and criteria for selecting regression variables and geometric interpretations, as well as polynomial, trigonometric, analysis of variance, nonlinear, time series, logistic, random effects, and mixed effects models, are discussed. Several chapters are dedicated to problem areas in regression: Collinearity, non-normality, influential points, correlated errors, and heteroscedastic errors. Appropriate remedies, such as transformations and biased regression, are also covered. Detailed case studies and exercises based on real data sets are used to reinforce the concepts. The data sets used in the book are available on the Internet.

Lothar SACHS. — **Angewandte Statistik: Anwendung statistischer Methoden.** — Neunte, überarbeitete Aufl. — Un vol. broché, 16,5 × 24,5, de XXXIV, 881 p. — ISBN 3-540-65371-6. — Prix: DM 98.00. — Springer, Berlin, 1999.

Neben zahlreichen Hinweisen und Empfehlungen zur Planung und Auswertung von Studien, einer anschaulich und anwenderbezogenen Darstellung von Konzepten, Begriffen, Beziehungen, Fehlerquellen und Fallstricken, dienen Tips und Querverweise sowie ein sehr ausführliches und strukturiertes Sachverzeichnis mit einer Fülle erläuterter Stichworte auch zur Ergänzung von Statistik-Software-Handbüchern, insbesondere für Mediziner, Ingenieure und Naturwissenschaftler. Weiterführende Studien ermöglicht ein ausführliches Literaturverzeichnis.

## *Analyse numérique*

Thierry DUBOIS, François JAUBERTEAU, Roger TEMAM. — **Dynamic multilevel methods and the numerical simulation of turbulence.** — Un vol. relié, 16,5 × 24, de XIX, 289 p. — ISBN 0-521-62165-8. — Prix: £37.50. — Cambridge University Press, Cambridge, 1999.

This book describes the implementation of multilevel methods in a dynamical context, with application to the numerical simulation of turbulent flows. The general ideas for the algorithms presented stem from dynamical systems theory and are based on the decomposition of the