BOOK REVIEWS / RESEÑAS

A BEGINNER'S GUIDE TO GRAPH THEORY
W.D. Wallis
Birkäuser
ISBN 0-8176-4176-9
ISBN 0-7643-4176-9
230 pag

La Teoría de Grafos es usada en las más diferentes y hasta contradictorias disciplinas. La química, la computación, la planificación de recursos, la dirección de empresas, la sicología, la sociología, la ingeniería y otras ramas del saber necesitan de los resultados de Teoría de Grafos.

El libro cuenta con 13 capítulos. Los comprendidos entre 1-4 y 10-12 (incluidos los extremos) se dedican a conceptos básicos: definición de grafo, rutas, ciclos, árboles, cortes y conexidad. Grafos orientados, ruta crítica y flujos en los capítulos 10, 11 y 12 respectivamente. Para asimilar esa parte del texto es necesario conocer Teoría de Conjuntos, Algebra Lineal e Inducción Matemática.

Los capítulos del 5 al 9 son más especializados. En el 5 se aplican los espacios vectoriales a la Teoría de Grafos. El capítulo 6 estudia la factorización en grafos, se dan ejemplos de aplicación y un teorema general de existencia de monofactorización. El capítulo 7 se dedica al estudio de la coloración en grafos. Se estudia el Teorema de Brook para relacionar el número cromático y el grado máximo de un grafo, pasando luego al estudio de las diferentes formas de colorear un grafo. Finalmente se estudia la coloración de aristas en lugar de vértices, como se venía haciendo hasta ese momento.

El capítulo 8 se dedica a los grafos planos, estudiándose condiciones necesarias para que un grafo sea plano. Se estudia la fórmula de Euler y la relación entre planaridad y coloración. También se da información sobre la conjetura de los cuatro colores y la coloración de mapas, e incluso, se propone un ejercicio para detectar el error cometido por Kempe en 1879, cómo lo descubrió Heawood en 1890 y como se probó finalmente esa conjetura por Appel y Haken en 1976.

El capítulo 9 da los resultados necesarios para acotar los números clásicos de Ramsey y también aplicaciones sobre esa teoría. Se acaba el capítulo, luego de ideas geométricas y casos particulares, enunciando el Teorema General de Ramsey.

Cada capítulo tiene ejercicios por epígrafes. Se dan las respuestas a los problemas propuestos, cosa no usual en grafos.

El capítulo 13 se dedica a consideraciones computacionales: complejidad e intratabilidad algorítmica.

Aunque el texto en su título hace referencia a "principiantes", puede ser utilizado por los que se inician en Teoría de Grafos y también por quienes deseen profundizar en el tema.

Dr. Alibeit Kakes
Universidad de La Habana

HYPERBOLIC PROBLEMS: THEORY, NUMERICS, APPLICATIONS

This book contain a set of refereed papers selected among the contributions to the 8th International Conference on Hyperbolic Problems celebrated in Magdeburg, Germany in the period the ending winter of 2000. Hyperbolic partial differential equations permit the study of different problems arising in technical and environmental areas such as wave transport, fluid mechanics, biology mainly. The conference was attended by more than 200 participants coming from Asia, Europe and North America.

Volume I contain 49 papers and Volume II 47. A list of authors is given in each book and in the second volume a list of participants is given.

The need of developing theoretical models spread by the set of open problem in equation systems in multispace dimensions. Real life problems spread the development of computationally efficient numerical procedures.

The theoretical papers developed new results in abstract theory of hyperbolic systems (viscous and relaxation approximations, stability of shock profiles, transport equations, etc)

The contributions from the application side are mainly in the areas of fluid flow (one phase and multiphase), phase transition, shallow water dynamics, electromagnetism, extended thermodynamics, magnetism hydrodynamics (classic and relativist) cosmology and elasticity.

The numerical contributions completed the stream of contributions. They were concerned with finite difference, element schemes multiresolution, artificial description methods and adaptiveness.

Persons with interests in mathematical or the engineering problems involved with hyperbolic problems will obtain an up dated information on what is going on in the theme.

J.D. Gupta
Institute of Advanced Technologies

AN INTRODUCTION TO STATISTICAL MODELING OF EXTREME VALUES

I recommend this book to those involved with extreme values problems. If you deal with Simulation and Stochastic search methods this is a needed book for you. It introduces and studies in detail concepts and methods and provides several computational procedures. Likelihood methods are reviewed (Chapter 2) and the kernel of the theory of Extreme values appears in Chapters 3 and 4. Time Series are studied in the next two chapters. Chapter 7 formulates extreme value theory for Point Processes. Chapter 8 is devoted to a similar task for multidimensional problems. The web site www.stas.bris.ac.uk/mascc/ismev/summary.html can be consulted for obtaining S-Plus codes and data sets used in the book.

B. N. Wilson
Cooper & Díaz Engineering and Quality Control Advisors

COMPLEX ANALYSIS IN ONE VARIABLE

R. Narasimham and Y. Nievergelt (2001)
Birkhäuser
ISBN 0-8176-4164-5   ISBN 3-7643-4164-5 SPIN 10749282   xiv+381

   This is a two-hand book and is divided into two parts. Part 1 was written by the 'first hand': R. Narasimham and deals with the theory of Complex Analysis in One variable. Part 2 was prepared by the 'second hand':

   Y. Nievergelt and is devoted to exercises. Each theme has a deep theoretical discussion in the first part (Elementary theory of holomorphic functions, Covering spaces & the Monodromy theorem, Windows Number & the residue number ,The residue theorem, Picard's theorem, Inhomogeneous Cauhchy-Riemann Equation & Runge theorem, Applications of Runge's theorem, Riemann mapping theorem & simple connectedness in the plane, Function of several complex variables, Compact Riemmann surface, The Corona theorem and Sub-harmonic functions & the Dirichlet Problem).This part includes an appendix that presents some particular aspects of Barke's theorem. The second part has a chapter with a review of complex number's theory. The notation is previously given as well a several notes and references dealing with the exercises. This is an addition to the first edition and represents a serious improvement. The collection of exercises is maqnifique and will be welcome by the teachers.

G. T. Chiu
Ishinomaki School of Business

ADVANCES IN STOCHASTIC SIMULATION METHODS

N. Balakrihsnan , V.B. Melas and S. Ermakov (Editors)
Birkhäuser
ISBN 0-8176-4107-6   ISBN 3-7643-4107-6 SPIN 10772170   xvvi+386

   This ouvre belongs to the collection "Statistics for Industry and Technology" and contains contributions presented at the 3rd San Petersburg Workshop on Simulation. Twenty two papers are published and are grouped in four parts: Simulation Models (5), Experimental Designs (8), Statistical Inference (4) and

   Applied Statistics & Related Topics (5). A list with the tables and figures generated in the papers is given. A subject index, which rarely appears in this Proceedings books, is also present in the book. This nicety is welcome.

   I recommend it for the large variety of specialist which deal with simulation specially for statisticians that need to support their models using empirical data.

A.M. Vega Terry
INMAT

THE ELEMENTS OF STATISTICAL LEARNING: DATA MINING, INFERENCE AND PREDICTION

T. Hastie, R. Tibsirani and J. Friedman   (2002)
Springer Verlag
vii+533

   This is the best first book on Data Mining [DM] for mathematician minded lectors and the second best book for non-mathematicians (business men, market researchers etc). It is clear that statistics is the basis of a lot of DM procedures. Unfortunately they are nor transparent in books and papers and the colors of the DM procedures destacate the new ways of thinking and in addition new names are given to old models and contribute mask their identity. Remember that DM is a melting pot and generally it is described by means of recipes. Then the beginner should follow some of the recipes and introduce from time to time changes which will produce a new recipe. But cookers should have some theory too!

   In the basis of DM theory is statistical methods and this book makes a point of this fact. The involved models are presented with a different level of detail making it clear that DM is used for learning form the data. Regression is discussed from different points of view which enhance to obtain acceptable predictions by using

for fitting the equation methods using polynomial, splines, smoothing splines, wavelets, no parametrics (kernel based), naive Bayesian, radial basis, multivariate regression splines, Ridge regression, projection pursuit . Such attention was expected as regression is the more popular prediction methodology in Statistics. The problem of consensus making is treated but lightly. Other procedures are based on optimization criteria and the common roots are placed on the stage by the use of MLH, weighted Least Squares, entropy, Bayes criteria for example. The neglected problem of how accurate are our results is studied and resampling is proposed as an universal solution, as it may be, for measuring the prediction error. The connection between statistical prediction's methods and Neural Networks is analyzed with fresh points of view. The role of clustering, Principal Components (linear and nonlinear), Factor Analysis, Multivariate Scaling and other technique used for deriving knowledge form the large data bases receives a similar treatment to regression but at a smaller extent. After discussing the predictive aspects and the hidden statistical methods in DM procedures the focus is placed on the problem of consensus making which is treated by lightly.

The connection of the abilities of well known statistical models and how they work in the unorthodox environment created by DM is for me the most remarkable quality of the book where the fuzzy notation of DM (coming from Statistics, Artificial Intelligence , Marketing etc) was overcome by the unified one produced by the authors. Last but no least: the algorithms in S-Plus of Matlab are available and the data sets used for illustrating are well documented in a web sites.

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J.L. Infanzón
Instituto de Estudios Económicos y Contables

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PRINCIPLES OF FORECASTING: A HANDBOOK FOR RESEARCHERS AND PRACTITIONERS

This book views forecasting in a very broad sense: not only Time Series and the related techniques .It includes 30 papers written by experts on the theme, some of them co-authored by the editor. They are grouped in 18 chapters plus an introduction and a broad summary. They are: Role-Playing, Intentions, Expert Opinion, Conjoint Analysis (gives a very good overview of the theme but lacks of new results), Judgmental Bootstrapping Analogies, Extrapolation, Rule-based Forecasts, Expert System, Economic Models (I recommend it for a good look at the common forecasting problem and the dilemma of forecasters), Selection Models, Integration-adjusting and Combining procedures, Evaluation Methods, Assessing Uncertainty, Gaining Acceptance, Monitoring Forecasts, Application of Principles, and Diffusion of Principles.

I am likely to use it as a source book for teaching in Time Series and Decision-Making.

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P.P.Bandhari
ORCON-Limited

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STOCHASTIC PROCESSES FOR INSURANCE AND FINANCE

The intention of the authors was to provide a text for graduate courses in stochastic for the Actuarial Sciences or Financial Mathematics. The contents and mathematical treatment are very modern. The book consists of 13 chapters, Tables with the needed probability distributions numerical characteristics as well as a good list of references. May be that the book be considered 'too large', and extensive it really is, but the authors tried to make it self-contained. Then some problems, which should be well known and then treated lightly, are discussed. Unfortunately it lacks of a treatment of some popularly used financial models as well as the statistical point of view of common problems in insurance. This aspect is very weak. Therefore if you look for a book for getting in Insurance and Financial coming from Stochastic this is not your book. If you are trying to get in the stochastic problems in finance for mastering them you should be prepared for dealing with hard

probability thinking.because they emphasized in the use of distribution theory. The large weight given to Stochastic Processes lessened the importance of the real problems that motivates its study in this book.

The book is valuable and gives mathematically rigorous presentations of the Stochastic Processes in Insurance and Finance. It is a good acquisition for the library of an institution for its use in graduate courses and in research.

R.R. Dasgupta
ORCON-Limited

ENVIRONMENTAL STATISTICS WITH S-PLUS
Steven P.Millard and Nagaraj K. Neerchal (2001)
CRC Press xv+830
ISBN 0-0893-7168-6

Statistical concepts in parametric and non-parametric statistics are given in relation with the description of known indexes used in environmental research.The conditions that determines that the underlying hypothesis hold are characterized from the point of view of the phenomena.This is an inducible merit of the book that makes a valuable piece in the practical modeling. The contents of statistical models are lognormal models, tolerance intervals, sample size determination, regression, inverse regression, risk assessment mainly.The treatment is comprehensive for a reader with a medium mastering of applied statistic. Particularly the book will provide a good help for preparing the data and analyzing the results of the appropriate statistical tools using S-Plus. It is clearly integrated with the package and provides the needed software for analyzing environmental data.

P.P. Bhat
Bhat-Sarkar Consultors

DISCRETE MATHEMATICS OF NEURAL NETWORKS
Martin Anthony (2001)
SIAM   xii+131
ISBN 0-89871-480-x

This book gives a concise exposition of Neural Networks and its applications. It is divided into 13 chapters: Artificial Neural Networks, Boolean Functions, Threshold Function, Number of threshold functions, Sizes of Weights for Threshold functions, Threshold Order, Threshold Networks and Boolean Function, Specifying Sets, Neural Network Learning VC-dimension of Neural Networks. The Complexity of Learning, Boltzmann Machines and Combinatorial Optimization. It will be useful in graduate courses in Discrete Mathematics as well as for and for researchers in computer science and Operations Research. Any one interested in going into the theme of the book should take into account the need of a basic preparation in Discrete Mathematics and Probability.

Amita D. Chakrvborty
Smith and King College

RESEARCH AND EVALUATION FOR BUSINESS
M.K.Pelosi, T.M. Sandifer and U. Sekaran (2001)
Wiley xvi+852+disk
ISBN 0-471-39088-9

This is a good book as an introductory oeuvre for businessmen involved in proactive and without much time to spend in a classroom. It places the role of statistics in marketing and business in a persuasively manner and discuss examples.The reader can work alone and obtain some statistical skills. The data of the examples appear in a disk that is included.

P.P. Bandhari
ORCON-LTD.

ELICITING AND ANALYZING EXPERT JUDGEMENT: A PRACTICAL GUIDE

This is the second version of a previous one published in 1991. The need of mathematizing the expert knowledge is a theme of key importance for Operations Research. A guided tour by the existing eliciting techniques, the modeling and analysis of expert judgement and the analysis of procedures is magisterially given. The result is a comprehensive and challenging exposition. Some methods for eliciting and constructing knowledge-systems are given. The applicability of them in Operations Research is thoroughly discussed.

S.K. Barava
Sakar Computer Science College

THE SUBJECTIVITY OF SCIENTISTS AND THE BAYESIAN APPROACH

This is a fine book for being read quietly and to meditate. It intends to give through a brief history of the development of scientifically thinking the premise: "Scientists look for data that support their subjective beliefs."(The premise is of my own). Through the histories this idea is illustrated and the connections with the acceptance of Bayesian approach to data analysis is evident for statisticians. The work of all eras twelve top scientists is presented. The pictured fact is **that they manipulated their data for establishing that their theories were OK**. That is, the phenomena produced data and a subjective model was placed for analysis. In general the models are not descriptable but in their minds but if they had used a subjective probability for the description a similar result could be obtained. The authors made a dissection of aspects of Aristotle's work, Galileo, Harvey, Newton, Lavoisier, Alexander von Humboldt, Faraday, Darwin, Pasteur, Freud, Marie Curie and Einstein. The Galileo's phrase "..search for the final causes..." is interpreted in a Bayesian way: he did not look for the results but for the mechanism that generates it. Clear, he would use the Bayes Principle. The actual data did not fit the real state of the nature and is why Lavoisier altered a little his experimental data for accomplishing his beliefs, clear he could have assumed an adequate prior. Darwin had observed results and prepared explanations, then the data used should support his theories. Clear he had a good Bayes instinct. What to say about Freud! The image of the picture suggests that Bayes thinking gives a frame for using probabilistic models if you are a really scientifically minded. Good for Bayes statistics. I appreciate and use Bayesian methods because of their performance in using all the information and not relying only in a random mechanism.

A questioning is why these scientists and no others? I have read somewhere that Mendel's servant has faked the data and gave him the beans according to what he believed his masters expected, but placing some differences for making no evident the falseness of his random selection. There was also an aprioristic information in the servant's well-trained brain? There is another point, what would happen if instead of a loving servant he would be a hater of Mendel?

The book is very enjoyable and I recommend, as it is a collection of histories on scientists and their method.

J.G.H. Mitar
Modern School of Computer Science and Administration.

WORKSHOP STATISTICS: DISCOVERY WITH DATA

Allan, F. Rosen and Bath. L. Chance (2001)
R. Key College Publishing-Springer Verlag,   xxxvi+605
ISBN 1-930-190-03-04

Contrary to the expected from the tittle this is not a report of a workshop. As statistics is a collection of tools you must have and know to use them. Then prepare your 'workshop' and do it at home as in Popular Mechanics. That is the message.

The book is for active statistical learning, that is the intention. It covers the basics and suggests using computer programs, none is advertised but used. You should decide which sets for your staff of tools. If you wish to 'learn' fast and by yourself this is a book. If you wish to learn real statistics take it as an aid but attend courses.

J.H.G. Golub
Modern School of Computer Sciences and Administration

COMPLEMENTARY THEORY: APPLICATIONS, ALGORITHMS AND EXTENSIONS

M.C. Ferris, O.L. Mangasarian and J.S. Pang, Editors (2001)
Klower Publishers Inc. viii+400
ISBN 0-7923-6816-9

This book contents the proceeding of the International Conference on Complexity, which took place in Madison, ISA in 1999. The papers are high quality and level. The set of authors contains a large list of well-known specialists in the theme. I recommended to have it a your library in the Operations Research Department.

Anita C. Bihar
School of Management and Bussiness

MATHEMATICAL STATISTICAL

K. Knight (2000)
Chapman Hall x+482
SBN 1-58488-178-X

This is a well-written textbook with an up-to date content. I feel that it should be a popular book in the future in the universities and colleges for Mathematicians. In is formally structured. A first cluster of chapters deals with the fundaments of theoretical statistics: probability, random variables, and convergence theorems. The second cluster is concerned with point estimation and gives a large space to the Maximum Likelihood method. The Decision Theory involved is presented in chapter 6 together with the study of Rao-Cramer lower bound, asymptotical efficiency and the related problems. The last cluster contains confidence interval estimation and hypothesis testing and includes a discussion on Generalized Linear Models. S-Plus is recommended and is used in the examples developed.

Diliup M. Halder
Smith and King College

TOPICS IN FINITE AND DISCRETE MATHEMATICS

S.M. Ross (2000)
Cambridge University Press   vii+266
ISBN 0-521-77571-X

This book covers a variety of topics: combinatory analysis, probability, statistics, mathematical finance, graphs, trees, linear programming, sorting-searching, groups and permutations. With a little of calculus and algebra you can go through it. To ensure understanding a lot of examples are developed. It is a book for

having in the library of the school and it is princeless for seminars and discussions for mathematicians, statisticians operations researchers and computists.

Aloke C. Das
Modern School of Computer Science and Administration

INTERNATIONAL CONFERENCE ON NON LINEAR PROGRAMMING AND VARIATION INEQUALITIES
Y. Yuan and J. Zhang (2000)
Gordon and Breach Science Publishers (2000)   iv+168

The book contains a selection of the papers presented in the homonymous conference held in Hong-Kong in 1998. The specialists will find in it a representation of the contributions and may find them as a good help for establishing in what is going on in the thematic.

Ruma R. Cox
Smith and King College

APPLIED STATISTICAL DECISION THEORY
H. Raiffa and R. Schlaiffer (2000)
Wiley xxviii+356
ISBN 0-471-38349-X

This is an addition to the Wiley Classics Library. This book seems to be an unabridged re-print of the original 1960's oeuvre of the same authors. It is an honored new title for the collection.

C.P.R. Roy
Sarkar Computer College

INTEGER PROGRAMMING AND NETWORK MODELING
H.A. Eiselt and C.L. Sandlom (2000)
Springer Verlag xii-504 ISBN 3-540-6719-9

This is an interesting book on the optimization´s modeling theme. The first four initial chapters present the basic problematic of linear programming, graphs, discrete programming and algorithms. The following chapters deal with path and shortest path models in networks, spanning tress, the travelling salesman, network flows mainly. Different models and their solution using computer packages are discussed in extent.

I recommend it as a valuable oeuvre to be included in libraries of specialized departments.

Robin R. Das
School of Management and Bussiness

ECONOMETRIC ANALYSIS OF COUNT DATA
A. Winkelman (2000)
Springer   xv+282 ISBN 3-540-67340-7

This book contains useful information of interest for everyone dealing with counting problems, not only econometricians. Chapter 1 is devoted to a critic of the common use of statistical models without considering the count nature and Chapter 3 presents probabilistic theory needed by the models. Chapter 3 discusses Poisson regression and the Least Squares method. In Chapter 4 the different methods are analyzed and criticized. Hardle count models appear as their champion.The following chapter deals with multivariate models: Poisson, Negative Binomial, Poisson-Gamma, Poisson-lognormal and latent Poisson-lognormal mainly. Chapter 6 treats the Bayesian approach for counting procedures. The last chapter contains the analysis of some applications.

I recommend it for the professionals involved with counting problems and its analysis, but for teaching it should be taken as a consult book in graduate and advanced courses.

J.H.G. Pereira
Modern School of Computer Sciences and Administration.

MANAGEMENT SCIENCE IN CHINA
H. Li S. Wang and L.D. Xu, editors (2000)
North Holland   ii+389

These book content 10 papers presented in the conference. The themes are related with the use, experiences and perspectives of OR-tools in the development of China. They deal with neural networks for linear programming control of processes mainly.

Anwar S. Mahmood
Smith and King College

STATISTICAL CONSULTING;
A GUIDE TO EFFECTIVE COMMUNICATION
J. Derr (2000)
Duxboury Thompson Learning x+200+CD ROM ISBN 0-534-36228-1

Overall this one of the books that any statistician must read. To read it, to confront the elaborated ideas of a successful consultant with yours and your experience is to grow up as a professional. The author is an expert in the subject. She had read many courses in consulting backed by her 20 years of experience as Director Manager of the Consulting Center of Pennsylvania State University.

Consulting is one of the more challenging activities for a statistician and no one receives a good training in the school for the main task of the work ahead the college. This book is good for filling this gap as well as for preparing a course. It is attached to a CD with videos where the interaction statistician-client illustrates the statements of the book.

I highly recommend it.

P.C.R. Bose
Bhat-Sarkar Consultors

A COURSE IN CATHEGORICAL DATA ANALYSIS
T. Leonard (2000)
Chapman and Hall-CRS x+184
ISBN 0-849-30323-0

This book is very good for practitioners and teachers. The author uses the frequencies for analysing the data without the need of thinking in the appropriateness of a parametric model. Chapter 3 deals with the distributions in finite population sampling and the previous one with 2x2 tables. Afterwards the Simpson's paradox is analyzed and the study of the drug-alcohol (Madison's) research and the generation of questions are examined. The Goodman's method for contingency tables is the theme of the Chapter 5, the next one presents different examples of tables of different sizes and Chapter 7 the problematic of two-way incomplete tables. Chapter 8 deals with logistic, Poisson regression and connected models.

S-Plus is used in the discussion of the examples.

S.P. Peres
Noskarhat Women's College

STATISTICS IN MANAGEMENT SCIENCE

A. Metcalff (2000)
Arnold X+224   ISBN 0-340-74075-2

A series on "Application of Statistics in ..." is being developed by the editorial. This is one of the volumes. It is prepared for managers and businessmen mainly. They should read the book being at home and the author makes the best. A lot of illustrating examples are worked out through friendly packages (Minitab, Excel). Decision making is the backbone of the book. It deals with Monte Carlo methods, survey sampling, prediction, model building (regression, clustering, multivariate methods, etc.), process control and a too little of optimization (Linear Programming and PERT), for my preference. A Web site contains the data of the examples and some others as well as some Mat Lab programs.

B.K.S. Bhat
ORCON-Lted.

FINITE POPULATION SAMPLING AND INFERENCE: A PREDICTION APPROACH

R. Vaillant, A.H. Dorfman and R.M. Royall (2000)
Wilry xvi + 504   ISBN 0-471-29341-5

This is another book, which present Sampling Theory from the point ov view of model-based sampling. R.M. Yoral is well known by his proposal of the Predictive Approach in the seventies. The book is composed of 11 chapters. The first two are introductory and the third is dedicated to the problem of the bias robustness of different methods including some design based ones. Chapter 4 is devoted to discuss the use of linear models in finite population sampling and the next chapter analyzes the variance estimation problem and the effects of miss-specification of the assumed superpopulation linear regression model.

Chapter 6 revisits stratification and the Chapter 8 clustering while the seventh gives a second look to results of the discussed models and their assumptions when the auxiliary variable are not quantitative. It is remarkable because in many Soft Sciences applications we deal with qualitative variables. Chapter 9 and 10 are devoted to study the robust estimation of the errors and the last chapter analizes some aspects that are of special interest for applied samplers: extreme observation, small area estimation, estimation of a density function and its functionals, non-parametric models, etc.

Though this book should not be considered a text it may be used as a complement in graduate of Ph. D. courses as well as in research.

A.P. Powell
Sarkar Computer Science College

WAVELET TRANSFORMS AND LOCALIZATION OPERATORS

Birkhäuser Verlag
ISBN 3-7643-6789-x vi+156

The prerequisites expected from the readers of this book are a majoring in Measure Theory, Functional Analysis, Group Theory, Topology and Pseudo-differential Operators. The author goes deep into the mathematics of wavelets and develops in a concise way the discussion of models putting the reader in conditions of doing some research using the contents.

The theory is presented in 26 chapters, which are very short: the largest has 12 pages and 12 chapters have no more than 5. As it is the result of specialized lectures of the author in graduate courses the fact is not surprising. The exposition is in the usual mathematical tradition: mathematical motivation-theorems-proof. Chapters 2-5 give the needed basic results in advanced topics in Schatten-von Neumann classes, Topology, Uniform Representation of Locally Hausdorff Groups, Separable Hilbert Spaces. The kernel of the discussion begins in chapter 6.The wavelets transforms are motivated through pseudo differential operators, which gives a support to the quantization rule used for passing from \Newton mechanics to quantum mechanics.

The integrable representations of locally compact and Hausdorff groups in infinite dimensional separable and complex Hilbert spaces. The book provides an account to Schaltten-von Neumann for localization operators and wavelet multipliers. A symbolic Calculi for Deauchalies operator and wavelet multipliers.

A large and actualized list of references (around 60 % dated between 1990 and 2001 is given. This book is the last of a saga, which began in 1998, of 4 oeuvres of the author on Weyl Transformation, Localization Operators and Pseudo Differential Operators.

J.B. Lou
Nosharkart Women's College

OPERATOR THEORY ADVANCES AND APPLICATIONS, Volume 135

A. Böttcher, I. Gohberg and P. Junghams [Editors]   (2002)
Toplitz Matrices and Singular Integral Equations
The Bernd Silbermann Anniversary Volume.
Birkhäuser Verlag
ISBN 3-7643-6877-2 viii+328

This new volume, of the series Operator Theory Advances and Applications, contains 19 papers contributed on the occasion of the 60th birthday of the well-known German mathematician Bernd Silbermann. Nine of them have been produced by ex-students of Prof. Silbermann. The meeting took place at his home university: Chemnitz University of Technology in Pobershaw during the period 8-12 April 2001. The book has a semblance of the work of the homaged professor who is author or co-author of more than 135 papers.

The contributors are first rate specialists in themes in Toeplitz matrices (8 papers), Operators (5 papers) and Singular Integral Equations (6 papers). Prof Silbermann has made important contributions in these themes which are having a growing interest due to their importance in physics and engineering. The articles are accessible to readers with a good mathematical background in Functional Analysis and Operator Theory.

J. Kato
Sarkar Computer Science College