

**Stochastic Orders and Decision Under Risk**

*edited by*  
**K. Mosler & M. Scarsini**

A selection of papers presented at the International Workshop on Stochastic Orders and Decision Under Risk, Hamburg, May 1989. The aim of this workshop was to contribute to the theory and applications of stochastic orders and to gather scientists from different disciplines who are using similar mathematical tools in their fields. The workshop gathered individuals from probability theory, statistics, reliability, queueing, economics, finance, insurance, and mathematical physics. The twenty-three papers in this volume represent a selection of those presented in Hamburg.

**Contents**

Remarks on a random surface *by D. B. Abraham & C. M. Newman*; Stochastic order and martingale dynamics in multivariate life length models: A review *by E. Arjas & I. Norros*; Preservation and attenuation of inequality as measured by the Lorenz order *by B. C. Arnold*; Lorenz ordering of order statistics *by B. C. Arnold & J. A. Villasenor*; Stochastic orders and their application to a unified approach to various concepts of dependence and association *by R. Bergmann*; Second order Bonferroni-type, product-type and setwise probability inequalities *by H. W. Block, T. Costigan, & A. R Sampson*; Optimal stopping of life testing: Use of stochastic orderings in the case of conditionally exponential lifetimes *by C. Costantini & F. Spizzichino*; Multivariate probability inequalities: Convolution theorems, composition theorems, and concentration inequalities *by M. L. Eaton & M. D. Perlman*; Stochastic orderings in reliability *by K.-W. Gaede*; Representation theorems for measures of location and for measures of dispersion *by A. Giovagnoli & G. Regoli*; Orderings of risks and their actuarial applications *by W.-R. Heilmann & K.-J. Schroter*; Applications of likelihood orderings in economics *by I. Jewitt*; Stochastic orders in welfare economics *by M. Le Breton*; Ordering regression models of Gaussian processes *by H. Luschgy*; Multivariate stochastic orderings and generating cones of functions *by A. W. Marshall*; Stochastic ordering for Markov processes on partially ordered spaces with applications to queueing networks *by W. A. Massey*; Some theory of stochastic dominance *by K. Mosler & M. Scarsini*; Bounds for distributions with multivariate marginals *by L. Ruschendorf*; Repair policies and stochastic order *by T. H. Savits*; Regular, sample path and strong convexity: A review *by M. Shaked & J. G. Shanthikumar*; Stochastic orders and comparison of experiments *by E. Torgersen*; Expectation inequalities from convex geometry *by R. A. Vitale*; Concentration indices and concentration curves *by S. Yitzhaki & I. Olkin*

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## Spatial Statistics and Imaging

*edited by A. Possolo*

Proceedings of the Joint IMS-AMS-SIAM Summer Research Conference on Spatial Statistics and Imaging, Brunswick, Maine, June 1988. The conference assembled an international and interdisciplinary panel of mathematicians, statisticians, astronomers, physicists, electrical engineers, geophysicists, and medical doctors. The twenty-eight papers in this volume report on advancements in the theory and practice of spatial statistics and the technology of digital image restoration and reconstruction.

### Contents

Inference for hidden Markov models *by L. S. Andersen*; Logistic regression for spatial pair-potential models *by M. Clyde & D. Strauss*; Modeling growth with random sets *by N. Cressie*; Inference about the shape of neighboring points in fields *by J. L. Denny & A. L. Wright*; On the choice of the regularization parameter: The case of binary images in the Bayesian restoration framework *by J. M. Dinten, X. Guyon & J. F. Yao*; Consistent parameter estimation for 2-D Ising fields corrupted by noise: Numerical experiments *by A. Frigessi & M. Piccioni*; Use of prior information in coded-aperture imaging *by T. A. Gooley, H. H. Barrett, T. J. Roney & W. E. Smith*; The spatial geometry of random networks and a problem in river basin hydrology *by V. Gupta & E. Waymire*; Linear discriminant analysis in image restoration and the prediction of error rate *by J. Haslett & G. Horgan*; Some estimation problems for Gibbs states *by C. Ji*; Moment estimation for stationary point processes in  $R^d$  *by E. Jolivet*; Aggregation and refinement in binary image restoration *by M. Jubb & C. Jennison*; A comparison of smoothing parameter choices in image restoration *by J. W. Kay*; Iterative Bayesian contextual classification of remotely sensed data *by R. Klein & S. J. Press*; Bayesian ART versus conjugate gradient methods in tomographic seismic imaging: An application at Mount St. Helens, Washington *by J. M. Lees & R. S. Crosson*; The use of stopping rule in iterative image reconstruction *by J. Llacer & E. Veklerov*; Solutions of underdetermined systems of linear equations *by W. R. Madych*; On the equivalence of regular grammars and stochastic constraints: Applications to image processing on massively parallel processors *by M. I. Miller, B. Roysam, K. Smith & J. T. Udding*; On the asymptotic behavior of some statistics based on morphological operations *by M. Moore & S. Archambault*; Multidimensional, multivariable smoothing *by D. E. Myers*; Subsampling a random field *by A. Possolo*; Testing association between spatial processes *by S. Richardson & P. Clifford*; The use of spatial models as image priors *by B. D. Ripley*; Bayesian maximum entropy image reconstruction *by J. Skilling & S. F. Gull*; A case study in statistical image processing: Positron-emission tomography *by D. L. Snyder, D. G. Politte & M. I. Miller*; Measure of similarity between two images *by C. C. Taylor*; Choosing the regularization parameter in image reconstruction *by D. M. Titterton*; Maximum likelihood estimation for Gibbs fields *by L. Younes*

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No. 1

## Special Invited Paper

Stochastic models for epidemics with special reference to AIDS . . . . . VALERIE ISHAM

## Articles

Processing networks with parallel and sequential tasks: Heavy traffic  
analysis and Brownian limits . . . . . VIÊN NGUYEN

Inequalities for the time constant in first-passage percolation  
J. VAN DEN BERG AND H. KESTEN

A note on some rates of convergence in first-passage percolation . KENNETH S. ALEXANDER

Rates of Poisson approximation to finite range random fields  
A. D. BARBOUR AND P. E. GREENWOOD

A variational method for estimating the parameters of MRF  
from complete or incomplete data . . . . . MURILO P. ALMEIDA AND BASILIS GIDAS

Convergence of some partially parallel Gibbs sampler with annealing  
PABLO A. FERRARI, ARNOLDO FRIGESSI AND ROBERTO H. SCHONMANN

Uniqueness of stationary ergodic fixed point for a  $\lambda$ -M/K node . . . . . V. ANANTHARAM

On a first passage problem for branching Brownian motions  
INGEMAR KAJ AND PAAVO SALMINEN

On the distribution of the integral of the absolute value  
of the Brownian motion . . . . . LAJOS TAKÁCS

On the Galton-Watson predator-prey process . . . . . GEROLD ALSMEYER

The Euler equation: A uniform nonstandard construction  
of a global flow, invariant measures and statistical solutions  
MAREK CAPIŃSKI AND NIGEL J. CUTLAND

Travel and sojourn times in stochastic networks  
KWANG HO KOOK AND RICHARD F. SERFOZO

On the spread-out limit for bond and continuum percolation . . . . . MATHEW D. PENROSE

# The Annals of Probability

Vol. 21

January 1993

No. 1

## Articles

- The Wiener sphere and Wiener measure . . . . . NIGEL CUTLAND AND SIU-AH NG
- The probability of small Gaussian ellipsoids and associated conditional moments . . . . . EDDY MAYER-WOLF AND OFER ZEITOUNI
- Rademacher's theorem for Wiener functionals . . . . . O. ENCHEV AND D. W. STROOCK
- Tail probabilities of the maxima of Gaussian random fields . . . . . JIAYANG SUN
- On the stochastic convergence of representations based on Wasserstein metrics . . . . . ARACELI TUERO
- A strong invariance principle concerning the  $J$ -upper order statistics for stationary Gaussian sequences . . . . . GEORGE HAIMAN AND MADAN L. PURI
- The existence of probability measures with given marginals . . . . . HEINZ J. SKALA
- Stochastic monotonicity and Slepian-type inequalities for infinitely divisible and stable random vectors . . . . . GENNADY SAMORODNITSKY AND MURAD S. TAQQU
- On the spectral SLN and pointwise ergodic theorem in  $L^\alpha$  . . . . . CHRISTIAN HOUDRÉ
- The Hausdorff metric of  $\sigma$ -fields and the value of information . . . . . TIMOTHY VAN ZANDT
- A law of the iterated logarithm for random geometric series . . . . . ANTON BOVIER AND PIERRE PICCO
- Central limit properties of GZH-semigroups and their applications in probability theory . . . . . YUANJIANG HE
- Large deviations for processes with independent increments . . . . . A. A. MOGULSKII
- Identifying a large deviation rate function . . . . . I. H. DINWOODIE
- Fixation results for threshold voter systems . . . . . RICHARD DURRETT AND JEFFREY E. STEIF
- The continuum random tree III . . . . . DAVID ALDOUS
- A variational approach to branching random walk in random environment . . . . . J.-B. BAILLON, PH. CLÉMENT, A. GREVEN AND F. DEN HOLLANDER
- Clusters of a random walk on the plane . . . . . P. RÉVÉSZ
- Local times, optimal stopping and semimartingales . . . . . S. D. JACKA
- An embedding of compensated compound Poisson processes with applications to local times . . . . . DAVAR KHOSHNEVISAN
- Regularity of infinitely divisible processes . . . . . MICHEL TALAGRAND
- Transience/recurrence and central limit theorem behavior for diffusions in random temporal environments . . . . . MARK PINSKY AND ROSS G. PINSKY
- A new approach to the Martin boundary via diffusions conditioned to hit a compact set . . . . . ROSS G. PINSKY
- Geometric properties of some familiar diffusions in  $\mathbb{R}^n$  . . . . . CHRISTER BORELL
- Brownian survival among Gibbsian traps . . . . . ALAIN-SOL SZNITMAN
- SDEs with oblique reflection on nonsmooth domains . . . . . PAUL DUPUIS AND HITOSHI ISHII

## Book Reviews

- Review of *Stochastic Flows and Stochastic Differential Equations* by H. Kunita . . . . . T. E. HARRIS
- Review of *Continuous Martingales and Brownian Motion* by D. Revuz and M. Yor . . . . . RICK DURRETT

# Weighted Empiricals and Linear Models

by Hira L. Koul

An empirical process that assigns possible different non-random (random) weights to different observations is called a *weighted (randomly weighted) empirical process*. These processes are as basic to linear regression and autoregression models as the ordinary process is to one sample models. However, their usefulness in studying linear regression and autoregression models has not been fully exploited. This monograph addresses this question to a large extent.

## Contents

### Introduction

Weighted empirical processes; M-, R-, and scale estimators; Minimum distance estimators and goodness-of-fit tests; Randomly weighted empirical processes

### Asymptotic Properties of Weighted Empiricals

Introduction; Weak convergence; Asymptotic uniform linearity (A.U.L.) of residual w.e.p.'s; Some further probabilistic results for w.e.p.'s

### Linear Rank and Signed Rank Statistics

Introduction; AUL of linear rank statistics; AUL of linear signed rank statistics; Weak convergence of rank and signed rank w.e.p.'s

### M, R, and Some Scale Estimators

Introduction; M-estimators; Distribution of some scale estimators; R-estimators; Estimation of  $Q(f)$

### Minimum Distance Estimators

Introduction; Definitions of M. D. estimators; Finite sample properties and existence; Asymptotics of minimum dispersion estimators: A general case; Asymptotic uniform quadraticity; Asymptotic distributions, efficiencies, and robustness

### Goodness-of-Fit Tests for the Errors

Introduction; The supremum distance tests;  $L_2$ -distance tests; Testing with unknown scale; Testing for symmetry of the errors

### Autoregression

Introduction; Asymptotic uniform linearity of  $W_n$  and  $F_n$ ; GM- and R-estimators; M.D. Estimation; Goodness-of-fit testing

### Appendix

### Bibliography

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