The Institute of Mathematical Statistics

announces the publication of

Directions in Time Series

Table of Contents

Keynote Address

Can We Predict Where "Time Series" Should Go Next? John W. Tukev

Time Series Models

Parametric Time Series with Some Applications George E. P. Box Maximum Likelihood Estimation for Vector Autoregressive Moving Average Models T. W. Anderson

Computer Packages and Graphics

What Will Your Time Series Analysis Computer Package Do? David J. Pack Time Series Modeling, Spectral Analysis, and Forecasting Emanuel Parzen Some Remarks on Time Series Graphics William S. Cleveland and Douglas M. Dunn

Econometric Models

Some Recent Developments in Seasonal Adjustment David A. Pierce Comments. John Geweke

On the Synthesis of Time Series and Econometric Models C. W. J. Granger Comments. John Geweke Comments. Kenneth F. Wallis

Control Theory and Engineering Applications

On the Identification of State Space Models and Their Use in Control Hirotugu Akaike

System Identification, Kalman Filtering, and Stochastic Control M. B. Priestley

Self-Tuning Algorithms for Control, Prediction and Smoothing Bjorn Wittenmark

Robust Methods

Robust Estimation of Autoregressive Models R. Douglas Martin Comments. Robert B. Miller

Continuous Processes and Periodic Models

Continuous Model Fitting from Discrete Data P. M. Robinson Comments. David A. Dickey

Some Recent Advances in Autoregressive Processes Marcello Pagano Comments. Herbert T. Davis

Order Pre-paid from:

The Institute of Mathematical Statistics 3401 Investment Boulevard, Suite 6 Hayward, California 94545 (USA)

For those of you who need to know what's happening in statistics...

The Institute of Mathematical Statistics and

The American Statistical Association

announce publication of

CURRENT INDEX TO STATISTICS: APPLICATIONS, METHODS AND THEORY

An annual computerized index to the statistical literature

Coverage—Over 7,000 articles in "core" and "related" journals are indexed. Author index and index by key words. Example of subject index (complete reference to journal, volume, pages, etc., is given):

Asymptotic Properties of Non-linear Least Squares Estimators • R. I. Jennrich
Interval Estimation of Non-linear Parametric Functions • Halpern, Mantel
Interval Estimation of Non-linear Parametric Functions, II • M. Halpern
On a Problem in Non-linear Prediction Theory • J. B. Robertson
Convergence in Non-linear Regression • T. Tornheim
Non-linear Regression with Minimal Assumptions • H. M. Wagner
Non-linear
Discrimination Among Mechanistic Models • G.E.P. Box
New Analysis of Variance Model for Nonadditive Data • J. Mandel
Simplified Experimental Design • M. J. Box

Who should subscribe—All individuals who spend any significant fraction of their time doing statistics. Anyone who spends more than one hour per year looking for an article on a particular topic in statistics or redeveloping some technique that already exists in the literature will find it cost effective to have a personal copy of this index.

Editor-James E. Gentle, IMSL, Inc.

Subscription Rates—Vols. 2-6 (1976-1980) Nonmember \$ 26.00; Member \$ 13.00

Send orders and remittance to-

The Institute of Mathematical Statistics Business Office 3401 Investment Blvd. Suite 6 Hayward, California 94545 **EDITOR, SHANTI S. GUPTA**

Essays on the Prediction Process by Frank Knight

This work concerns a new approach to continuous time random processes due originally to the author, but extended and consolidated by P. A. Meyer and others. It is a fluid and subjective approach, in distinction to the rigid and objective one prevalent in other treatments. This leads to a broad unification of method, and consequently to a setting of almost universal applicability. Each of the four essays contains a different aspect of the subject, without being exhaustive.

Essay I. Int	roduction, Construction, and Fundamental Properties
 The Pre- Limits Prediction A View 	ction diction Process of a Right-Continuous Process with Left on Spaces and Ray Topologies Toward Applications ces
Essay II. Co	ontinuation of an Example of C. Dellacherie
 The Proc The Prec Connect 	cess R _t
Essay III. Probabilitie	Construction of Stationary Strong-Markov Transition
Referenc	ces
Essay IV. A	pplication of the Prediction Process to Martingales
 The Mar Transitio On Cont 	tion tingale Prediction Spaces n to the Initial Setting: The Levy System of a Process tinuous Local Martingales tes
	List Price

Order Pre-paid from:

The Institute of Mathematical Statistics 3401 Investment Boulevard, Suite 6 Hayward, California 94545 (USA)

August 1983

Special Invited Paper

Random walks on discrete groups: boundary and entropy V. A. KAIMANOVICH AND A. M. VERSHIK

Articles

On the maximum of a random walk with small negative drift MICHAEL J. KLASS Some results on LIL behavior J. KUELBS AND J. ZINN Renewal theory for m-dependent variables SVANTE JANSON Strong laws for independent identically distributed random variables indexed by a			
sector ALLAN GUT Exit times for symmetric stable processes in \mathbb{R}^n R. F. Bass and M. Cranston A uniform lower bound for Hausdorff dimension for transient symmetric Lévy by recesses \mathbb{R}^n W. I. Hendrick's			
processes W. J. Hendricks How big are the increments of the local time of a Wiener process? E. Csáki, M. Csörgö, A. Földes, and P. Révész			
Some results on increments of the Wiener process with applications to lag sums of I.I.D.			
Harmonic functions and the Dirichlet problem for revival Markov processes Kyle Siegrist			
Valeurs Prises par les Martingales Locales Continues a un Instant Donne M. Emery, C. Stricker and J. A. Yan			
Markov strategies for optimal control problems indexed by a partially ordered set G. F. LAWLER AND R. J. VANDERBEI			
Exponential moments for hitting times of uniformly ergodic Markov processes René Carmona and Abel Klein			
Estimate on moments of the solutions to stochastic differential equations in the plane			
Un theoreme ergodique presque sous-additif YVES DERRIENNIC Stationarity on finite strings and shift register sequences ARIF ZAMAN Gaussian measure of normal subgroups T. BYCZKOWSKI AND A. HULANICKI The binary contact path process David Griffeath Site recurrence for annihilating random walks on Z_d RICHARD ARRATIA Two critical exponents for finite reversible nearest particle systems			
Some Poisson approximations using compensators T. C. Brown Convergence of a class of empirical distribution functions of dependent random variables B. W. SILVERMAN			
variables Nariables B. W. SILVERMAN Exponential life functions with NBU components The reliability of k out of n systems PHILIP J. BOLAND AND FRANK PROSCHAN Sharp bounds on the absolute moments of a sum of two I.I.D. random variables D. C. COX AND J. H. B. KEMPERMAN			
Un theoreme de la limite locale pour une classe de transformations dilatantes et monotones par morceaux J. Rousseau-Egele Rotational representations of stochastic matrices STEVE ALPERN			
Short Communications			
On the almost sure convergence of randomly weighted sums of random elements			
R. L. TAYLOR AND C. A. CALHOUN Weak convergence to Brownian excursion R. M. BLUMENTHAL Some comments on the Erdós-Rényi Law and a theorem of Shepp JAMES LYNCH On the supremum of a certain Gaussian process D. A. DARLING An explicit formula for the C.D.F. of the L ₁ norm of the Brownian bridge B. MCK. JOHNSON AND T. KILLEEN			
Stationary strongly mixing sequences not satisfying the central limit theorem Norbert Herrndorf			
The Natural boundary problem for random power series with degenerate tail fields P. HOLGATE			
Calculations of the Laplace transform of the length of the busy period for the $M \mid G \mid 1$ Queue Via Martingales Walter A. Rosenkrantz On the splicing of measures G. Kallianpur and D. Ramachandran A characterization of rectangular distributions George R. Terrell On the Cesaro means of orthogonal sequences of random variables Ferenc Moricz			

Series Editor, Shanti S. Gupta

Survival Analysis edited by John Crowley and Richard A. Johnson

This volume contains invited papers from the Special Topics Meeting on Survival Analysis sponsored by the Institute of Mathematical Statistics, October 26–28, 1981 at the Ohio State University, Columbus, Ohio.

Table of Contents

Counting Processes and Survival Analysis

On the Application of the Theory of Counting Processes in the Statistical Analysis of Censored Survival Data by Per Kragh Andersen

Nonparametric Inference for a Single Sample

Spline Smooth Estimates of Survival by Jerome Klotz

A Nonparametric Estimator of the Survival Function Under Progressive Censoring by Joseph C. Gardiner and V. Susarla

Fourier Integral Estimate of the Failure Rate and Its Mean Square Error Properties by Nozer D. Singpurwalla and Man-Yuen Wong

Proportional Hazards and Log-Linear Models

Estimation of the Ratio of Hazard Functions by John Crowley, P.-Y. Liu, and Joseph G. Voelkel On the Performance of Estimates in Proportional Hazard and Log-Linear Models by Kjell A. Doksum

Multi-step Estimation of Regression Coefficients in a Linear Model with Censored Survival Data by Hira L. Koul, V. Susarla, and John Van Ryzin

Regression Approaches

Inverse Gaussian Regression and Accelerated Life Tests by Gouri K. Bhattacharyya and Arthur Fries

Transformation of Survival Data by Richard A. Johnson

Covariate Measurement Errors in the Analysis of Cohort and Case-Control Studies by Ross Prentice

Problems in System Reliability

Confidence Bounds for the Exponential Mean in Time-Truncated Life Tests by N.R. Mann, R.E. Schafer, and M.C. Han

Screen Testing and Conditional Probability of Survival by Janet Myhre and Sam Saunders Imperfect Maintenance by Mark Brown and Frank Proschan

A Limit Theorem for Testing with Randomly Censored Data by Hira L. Koul and V. Susarla

Multivariate Distributions and Competing Risks

Negative Dependence by Henry W. Block, Thomas H. Savits, and Moshe Shaked Some Recent Results in Competing Risks Theory by Asit P. Basu and John P. Klein Freund's Rivariate Exponential Distribution and Conserving by Sup Lougians, Wei Yang

Freund's Bivariate Exponential Distribution and Censoring by Sue Leurgans, Wei-Yann Tsai, and John Crowley

Asymptotic Properties of Several Nonparametric Multivariate Distribution Function Estimators Under Random Censorship by Gregory Campbell

Group Sequential Methods in Clinical Trials

Group Sequential Methods for Survival Analysis with Staggered Entry by Anastasio A. Tsiatis Procedures for Serial Testing in Censored Survival Data by D.P. Harrington, T.R. Fleming, and S.I. Green

Sequential Studies on Increments of the Two-Sample Logrank Score Test for Survival Time Data, with Application to Group Sequential Boundaries by Mitchell H. Gail, David L. DeMets, and Eric V. Slud

Order prepaid from:

List price \$25.00	The Institute of Mathematical Statistics
IMS member price \$15.00	3401 Investment Boulevard, Suite 6
	Hayward California 94545 (USA)