И ЕЕ ПРИМЕНЕНИЯ



THEORY OF PROBABILITY

AND ITS APPLICATIONS

Volume XIII Number 1 1968

THEORY OF PROBABILITY AND ITS APPLICATIONS

Volume XIII - Number 1 - 1968

CONTENTS

nuity of Transition Probabilities of a Multidimensional Generalized A. D. Winizhte ultidimensional Markov Processes from Incomplete Data

R. S. LIPCER and A. N. SIRYM V

Variables $u_s(n)$ to Gaussian and Poisson Processes in the Classical Foundation and Balls - - - - - V. Yu. Bot of Nikov Some Results on the Behavior of Branching Processes - - - - W. J. Buill R Approximation of Probability Measures in Variation and Products of Random Matrices

On Properties of Branching Processes with an Arbitrary Set of Types of Particles B. P. HARLAMOV

On Verifiable Functions - - - - - -- V. P. PALAMODOV Contributions to a Problem of D. van Dantzig -- L. LUKAGS Conditioned Branching Processes and Their Limiting Diffusions

J. LAMPIRII and P. NIY On Games on the Unit Square with a "Roof" Payoff -

SHORT NOTES

Sufficient Statistics for the Optimal Stopping Problem - - - E. B. DYNKIN The Stochastic Field of P. Levy - - - - F. A. Morasova and N. N. Cincov Some Inequalities for Sums of Multidimensional Random Variables - A. A. Borovkov An Estimation of a Convergence Rate for the Absorption Probability in Case of a Null Expectation Null I spectation - - - - - - - - - - - - - - NAGALY
On the Multidimensional Central Limit Theorem - - - - - - S. M. SADIKOVA
On the Martin Boundary for a Class of Markov Processes - - - - M. G. SUR

On Connection Between the Local and Integral Theorems for Latticed Distributions On Service Processes in Multi-Channel Systems - - - - A. A. Robovs on The Local Limit Thousand Control of the C The Local I imit Theorem for Markov Chains and Regularity Conditions - B. M. GURI VIC On the Speed of Convergence in the Multi-Dimensional Central Limit Theorem

THEORY OF PROBABILITY AND ITS APPLICATIONS is a translation of the Russian Journal, Teoriya Veroyatnostei ii ee Primeneniya, prepared and published by SIAM under a grant-in-aid from the National Science Foundation. This journal contains papers on theory and application of probability, statistics, and stochastic processes, Published quarterly: \$37.50 per volume (\$25.50 to SIAM members), Add \$3.00 for overseas orders. Send orders to:

SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS

33 South 17th Street . Philadelphia, Pennsylvania 19103

THE INSTITUTE OF MATHEMATICAL STATISTICS

(Organized September 12, 1935)

OFFICERS

President:

Wassily Hoeffding, Department of Statistics, University of North Carolina, Chapel Hill, North Carolina 27514

President-Elect:

Jack C. Kiefer, Department of Mathematics, Cornell University, Ithaca, New York 14850

Executive Secretary:

Leo Katz, Statistical Laboratory, Michigan State University, East Lansing, Michigan 48823

Program Secretary:

R. V. Hogg, Department of Statistics, University of Iowa, Iowa City, Iowa 52240

Treasurer:

George J. Resnikoff, Department of Statistics, California State College, Hayward, California 94542

Editor:

Z. W. Birnbaum, Department of Mathematics, University of Washington, Seattle, Washington 98105

Managing Editor:

Paul L. Meyer, Department of Mathematics, Washington State University, Pullman, Washington 99163

The purpose of the Institute of Mathematical Statistics is to encourage the development, dissemination, and application of mathematical statistics.

Membership dues including a subscription to the ANNALS of MATHE-MATICAL STATISTICS are \$20.00 per year for residents of the United States or Canada and \$12.00 per year for residents of other countries. Special student rates of \$10.00 per year are available to students residing in the U.S. and Canada. Inquiries regarding membership in the Institute should be sent to the Treasurer of the Institute.

Membership in the Institute of Mathematical Statistics is not required of authors of papers in the Annals of Mathematical Statistics and the fact of membership or non-membership is given no weight in the consideration of submitted manuscripts.

Contents (Continued)

Weak convergence and a Chernoff-Savage theorem for random sample sizes	1675
RONALD PYKE AND GALEN R. SHORACK	10/0
Unbiasedness of some text criteria for the equality of one or two covariance matrices	1000
Nariaki Sugiura and Hisao Nagao	1686
On slippage test—(I) A generalization of Neyman Pearson's lemma	
Irving J. Hall and Akio Kudô	1693
How to minimize or maximize the probabilities of extinction in a Galton-Watson	
process and is some related multiplicative population processes	
Leo A. Goodman	1700
Calculation of zonal polynomial coefficients by the use of the Laplace-Beltrami	
operator	1711
Bounds on moments of martingales	
S. W. Dharmadhikari, V. Fabian and K. Jogdeo	1719
Asymptotic normality of sample quantiles for m-dependent processes	_,_,
Prana Kumar Sen	1724
Nonparametric tests for shift at unknown time point	1121
G. K. Bhattacharyya and Richard A. Johnson	1731
Notes	1101
A note on the admissibility of pooling in the analysis of variance	
A note on the admissionity of pooring in the analysis of variance Arthur Cohen	1744
	1/44
On the robustness of some characterizations of the normal distribution	1747
L. K. Meshalkin	1747
Exact distribution of the product of independent generalized gamma variables	
with the same shape parameterHENRICK JOHN MALIK	1751
with the same shape parameter	1753
On the monotonicity of $E_p(S_t/t)$	1755
Ancillary statistics and prediction of the loss in estimation problems	
ELSE SANDVED	1756
Some results on Pólya type 2 distributions	1759
An inequality for the ratio of two quadratic forms in normal variates	
Koteswara Rao Kadiyala	1762
Correction note	1764
Book Reviews	
Jaroslav Hájek and Sbyněk Šidák: Theory of Rank Tests	
Wassily Hoeffding	1765
J. Keilson: Green's Function Methods in Probability TheoryJ. G. Wendel	1769
Abstracts	1770
News And Notices.	1796
Publications Received.	1798
A MULLUMULUM ANDROLUTUM	1100

MEETINGS OF THE INSTITUTE

ANNUAL MEETING—New York, New York, late August, 1969
Laramie, Wyoming, late August, 1970
CENTRAL REGIONAL—Iowa City, Iowa, April 23-25, 1969
Dallas, Texas, Spring, 1970
WESTERN REGIONAL—Monterey, California, Spring, 1969

Abstracts should be submitted in duplicate to the Managing Editor, P. L. Meyer, Department of Mathematics, Washington State University, Pullman, Washington, on abstract blanks which may be obtained from him or from any Secretary or Associate Secretary. Abstracts must be received at least 50 days before the first day of the meeting at which they are to be presented, indicating whether presented by title or in person. (Only one contributed paper may be given in person at any one meeting.) They may be printed prior to the publication of the report of the meeting. Ordinarily, each issue will contain those abstracts received at least 75 days before it appears. Abstracts should be limited to 200 words or the equivalent and should avoid displayed expressions and complicated formulae. They can be accepted from non-members of the IMS only if introduced by members. Abstracts must follow the stylistic requests on the abstract blank, or they may be returned.