

THE ANNALS of MATHEMATICAL STATISTICS

FOUNDED AND EDITED BY H. C. CARVER, 1930-1938

EDITED BY S. S. WILKS, 1938-1949

THE OFFICIAL JOURNAL OF THE INSTITUTE
OF MATHEMATICAL STATISTICS

Contents

	PAGE
Estimation by the Minimum Distance Method in Nonparametric Stochastic Difference Equations. J. WOLFOWITZ.....	203
Asymptotic Distribution of Serial Statistics and Applications to Problems of Nonparametric Tests of Hypotheses. M. N. GHOSH.....	218
On the Estimation of Regression Coefficients in the Case of an Autocorrelated Disturbance. ULF GRENANDER.....	252
A Single-Sample Multiple Decision Procedure for Ranking Variances of Normal Populations. ROBERT E. BECHHOFFER AND MILTON SOBEL.....	273
Some Theorems on Quadratic Forms Applied in the Study of Analysis of Vari- ance Problems, I. Effect of Inequality of Variance in the One-Way Classi- fication. G. E. P. BOX.....	290
Least-Squares Estimates Using Ordered Observations. F. DOWNTON.....	303
Estimation of the Mean and Standard Deviation by Order Statistics. A. E. SARHAN.....	317
On Multivariate Distribution Theory. I. OLKIN AND S. N. ROY.....	329
On the Computation of the Sampling Characteristics of a General Class of Se- quential Decision Problems. G. E. ALBERT.....	340
Sequential Procedures in Certain Component of Variance Problems. N. L. JOHNSON.....	357
On Quadratic Estimates of Variance Components. FRANKLIN A. GRAYBILL..	367
Some Theorems Relevant to Life Testing From an Exponential Distribution. B. EPSTEIN AND M. SOBEL.....	373
Notes:	
Approximation Methods Which Converge with Probability One. JULIUS R. BLUM.....	382
A Note on the Robbins-Monro Stochastic Approximation Method. GOPINATH KALLIANPUR.....	386
A Property of the Normal Distribution. EUGENE LUKACS AND EDGAR P. KING.....	389
On Optimal Systems. DAVID BLACKWELL.....	394
Density Unbiased Point Estimates. RAYMOND P. PETERSON.....	398
Some Properties of Beta and Gamma Distributions. M. V. JAMBUNA- THAN.....	401
On Some Functions Involving Mill's Ratio. D. F. BARROW AND A. C. COHEN, JR.....	405
Abstracts of Papers.....	408
News and Notices.....	414
Report of the Ithaca Meeting.....	418
Report of the Gainesville Meeting.....	420
Publications Received.....	421

Vol. 25, No. 2 — June, 1954

THE ANNALS OF MATHEMATICAL STATISTICS

EDITOR

E. L. LEHMANN

ASSOCIATE EDITORS

DAVID BLACKWELL
J. L. HODGES, JR.

WASSILY Hoeffding
WILLIAM G. MADOW

ALEXANDER M. MOOD
J. WOLFOWITZ

WITH THE COOPERATION OF

Z. W. BIRNBAUM
R. C. BOSE
HERMAN CHERNOFF
KAI LAI CHUNG
J. F. DALY
D. A. DARLING
J. L. DOOB

T. E. HARRIS
PAUL G. HOEL
J. KIEFER
WILLIAM H. KRUSKAL
SOLOMON KULLBACK
H. B. MANN
G. E. NOETHER

EDWARD PAULSON
M. PEISAKOFF
H. E. ROBBINS
S. N. ROY
L. J. SAVAGE
HERBERT SOLOMON
CHARLES M. STEIN

LIONEL WEISS

MAX A. WOODBURY

Published quarterly by the Institute of Mathematical Statistics in March, June, September and December at Baltimore, Maryland.

INSTITUTE OF MATHEMATICAL STATISTICS

General Office: Department of Mathematics, Michigan State College, East Lansing, Michigan

K. J. Arnold, Secretary-Treasurer

This address should be used for all communications concerning membership, subscriptions, changes of address, back numbers, etc., but *not* for editorial correspondence. Changes in mailing address which are to become effective for a given issue should be reported to the Secretary on or before the 15th of the month preceding the month of that issue.

Editorial Office: Statistical Laboratory, University of California, Berkeley 4, California

E. L. Lehmann, Editor

Manuscripts should be submitted to this address; each manuscript should be typewritten, double-spaced with wide margins, and the original copy should be submitted (preferably with one additional copy). Dittoed and mimeographed papers are acceptable if they are completely legible and printed on paper that will take corrections. Footnotes should be reduced to a minimum and whenever possible replaced by a bibliography at the end of the paper; formulae in footnotes should be avoided. Figures, charts, and diagrams should be professionally drawn on plain white paper or tracing cloth in black India ink twice the size they are to be printed. Authors are requested to keep in mind typographical difficulties of complicated mathematical formulae. Authors will ordinarily receive only galley proofs. Fifty reprints without covers will be furnished free. Additional reprints and covers furnished at cost.

Subscription Price: \$12 per year in the U. S. and Canada; \$10 elsewhere. Single issues \$3.50. Back numbers are available at \$12 per volume or \$3.50 per issue.

COMPOSED AND PRINTED AT THE
WAVERLY PRESS, INC., BALTIMORE, MARYLAND, U. S. A.