

ANNALS OF STATISTICS

Vol. 9

November

No. 6

Articles

- Estimation of the mean of a multivariate normal distribution  
CHARLES M. STEIN
- Parameter transformations for improved approximate confidence regions  
in nonlinear least squares.  
DOUGLAS M. BATES AND DONALD G. WATTS
- On the robustness and efficiency of some randomized designs  
CHIEN-FU WU
- Tests for independence in two-way contingency tables based on canonical  
correlation and on linear-by-linear interaction  
SHELBY J. HABERMAN
- On the asymptotic accuracy of Efron's bootstrap ..... KESAR SINGH
- Some asymptotic theory for the bootstrap  
PETER J. BICKEL AND DAVID A. FREEDMAN
- Bootstrapping regression models ..... D. A. FREEDMAN
- Asymptotic theory of triple sampling for sequential estimation of a  
mean ..... PETER HALL
- Inadmissibility of large classes of sequential tests  
L. D. BROWN AND ARTHUR COHEN
- Likelihood ratio tests for and against a stochastic ordering between  
multinomial populations ..... TIM ROBERTSON AND F. T. WRIGHT
- Invariant tests on covariance matrices ..... JOHN I. MARDEN
- Robustness of multivariate tests ..... TAKEAKI KARIYA
- Regression analysis with randomly right-censored data  
H. KOUL, V. SUSARLA AND J. VAN RYZIN
- A complete class theorem for statistical problems with finite sample  
spaces ..... LAWRENCE D. BROWN
- Minimax estimation of the mean of a normal distribution when the  
parameter space is restricted ..... P. J. BICKEL
- On the almost everywhere convergence of nonparametric regression  
function estimates ..... LUC DEVROYE
- On the asymptotic probability of error in nonparametric discrimi-  
nation ..... LUC DEVROYE

Short Communications

- A comparison of the Efron-Hinkley ancillary and the likelihood ratio  
ancillary in a particular example ..... BO V. PEDERSEN
- A necessary and sufficient condition for second order admissibility with  
applications to Berkson's bioassay problem  
J. K. GHOSH AND BIMAL K. SINHA
- On estimating the probability of discovering a new species  
ANNE CHAO



## CATALOG OF PUBLICATIONS OF THE INSTITUTE OF MATHEMATICAL STATISTICS

### ANNALS INDEX

*The Annals of Mathematical Statistics, Index to Volumes 1-31, 1930-60*, edited by J. Arthur Greenwood, Ingram Olkin and I. Richard Savage, 1962. Nonmember Subscriber Cost—\$15.00, Member Cost—\$10.00

*Current Index to Statistics: Applications, Methods and Theory*, edited by Brian L. Joiner. Volumes 2-5, 1975-77. Nonmember Subscriber Cost—\$22.00, per vol. Member Cost—\$11.00, per vol. Volumes 6-7, 1978-79. Nonmember Subscriber Cost—\$26.00, per vol. Member Cost—\$13.00, per vol.

Order directly from Heebok Park, Treasurer, Business Office, 3401 Investment Blvd., Suite 6, Hayward, California 94545.

### STATISTICAL RESEARCH MONOGRAPHS

This series is sponsored jointly by the Institute of Mathematical Statistics and the University of Chicago. Discount to members of IMS is 20 percent.

*The passage problem for a stationary Markov chain* by J. H. B. Kemperman, 1961, 127 pp. OUT OF PRINT.

*Statistical inference for Markov processes* by Patrick Billingsley, 1961, 75 pp. List price—\$5.50 (Midway Reprint paperback only).

*Sequential identification and ranking procedures* by Robert E. Bechhofer, Jack Kiefer and Milton Sobel, 1968, xvii + 420 pp. List price—\$20.00.

*The analysis of frequency data* by Shelby J. Haberman, 1974, 432 pp. List price—\$15.00 (Midway Reprint paperback only).

Order directly from the University of Chicago Press, 11030 S. Langley Ave., Chicago, Illinois 60637.

### SELECTED TABLES IN MATHEMATICAL STATISTICS

This series of volumes is prepared by the Committee of Mathematical Tables of the Institute of Mathematical Statistics and is published by the American Mathematical Society for the IMS. Discount to members of IMS is 50 percent.

*Selected tables in mathematical statistics, Vol. I*, edited by H. L. Harter and D. B. Owen, 1970, vi + 405 pp. \$13.20.

*Selected tables in mathematical statistics, Vol. II*, edited by H. L. Harter and D. B. Owen, 1974, viii + 388 pp. \$16.40.

*Selected tables in mathematical statistics, Vol. III*, edited by H. L. Harter and D. B. Owen with J. M. Davenport, vii + 424 pp. \$21.60.

*Selected tables in mathematical statistics, Vol. IV*, edited by D. B. Owen and R. E. Odeh with J. M. Davenport, x + 309 pp. \$18.00.

*Selected tables in mathematical statistics, Vol. VI*, edited by W. J. Kennedy and R. E. Odeh with J. M. Davenport, 1980, viii + 207 pp. \$12.80.

*Selected tables in mathematical statistics, Vol. VII*, edited by W. J. Kennedy and R. E. Odeh with J. M. Davenport, 1981, viii + 256 pp. \$12.40.

Send prepaid orders directly to the American Mathematical Society, P.O. Box 1571, Providence, Rhode Island 02901, Attention: Sales Department.