**Title and Subtitle:**
Applied Statistics Reports 412-454

**Authors:**
Herbert Solomon, et. al.

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Sequoia Hall
Stanford University
Stanford, CA 94305

**Sponsoring/Monitoring Agency Name(s) and Address(es):**
Office of Naval Research
Mathematical Sciences Division
800 N. Quincy St., BCT No. 1
Arlington, VA 22217-5000

**Abstract:**
A summary listing of 42 technical reports on a wide variety of topics developed in applied statistics and applied probability
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Office of Naval Research
800 N. Quincy Street
Arlington, VA 22217

Attention: Mathematical Sciences Division

Re: Final Report N00014-89-J-1627

Dear Sirs:

This letter, the attached list of technical reports issued under the captioned contract, some discussion of the technical memoranda developed under the contract constitute the final report of this contract. The list of technical reports issued in the contract period served by this report, January 1, 1989 – June 30, 1992, begins with Technical Report #412 dated 02-23-89 and ends with Technical Report #454 dated 06-22-92.

The titles of the 42 technical reports indicate the wide variety of the topics developed in applied statistics and applied probability issued under the contract. In addition a number of technical memoranda were developed in response to technical queries from defense department agencies, principally the National Security Agency. A sample of 20 topics studied is attached.

In late March 1992 a conference on Moments and Signal Processing was held at the U.S. Naval Postgraduate School in Monterey. This conference was supported mainly by the National Security Agency and by this contract. A Proceedings volume will be issued containing the eight papers presented in Monterey.

We wish to thank the Office of Naval Research and other contributing defense agencies for their support of this program in “applied statistics.”

Sincerely,

Herbert Solomon
Principal Investigator
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Leading to Technical Memoranda

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2. Measures of Homogeneity of Covariance in Pattern Recognition
3. Urn Problem
4. Single Outlier Detection vs. None or Many
5. The Question of Ancillarity when Dealing with the Distribution of Length of Longest Monotone Subsequence
6. Urn Discrimination Problem
7. A Fortran Program to Generate Sequence of Random Variables from an Arbitrary Unimodel Distribution
8. A Bayesian Problem
9. Multivariate Normal Mean Shift Detection
10. Interference and Prediction in Nonparametric Regression
11. Maximum Excursion of a Random Walk
12. Recovering a Specific Distribution from its Moments
13. Speech Clustering Problems
14. Markov Change Points
15. Approaches Based on Multivariate Nonparametric Density Estimation
16. Justification of Non-Gaussian F-like Statistic
17. Simulation Approaches to Estimating Tail Probabilities for the Sum of the k Smallest Chi-square Order Statistics
18. Conditional Distribution of Top $k + 1$ Gamma Order Statistics Given the Sum of the Top $k$
19. Nonstationarity Measures
20. Distribution of Index of Number of Clusters
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91H – M.A. Stephens

91P *Measures of Homogeneity of Covariance in Pattern Recognition* – Hani Doss & Thomas Sellke

91R *Urn Problem* – John Overdeck & Thomas Sellke

91V *Single Outlier Detection vs. None or Many* – Satish Iyengar

91Y *The Question of Ancillarity when Dealing with the Distribution of Length of Longest Monotone Subsequence* – Hani Doss

91Z *Urn Discrimination Problem* – Alan Gelfand

90H *A Fortran Program to Generate Sequence of Random Variables from an Arbitrary Unimodel Distribution* – Hani Doss & Deborah Burr

90S-3 – Thomas Sellke

90S-4 *A Bayesian Problem* – Alan Gelfand

90S-5 – Satish Iyengar

90S-6 *Multivariate Normal Mean Shift Detection* – Alan Gelfand

90S-7 *Interference and Prediction in Nonparametric Regression* – Hani Doss

90S-8 *Maximum Excursion of a Random Walk* – Hani Doss

90S-10 *Recovering a Specific Distribution from its Moments* – M.A. Stephens

89SB-1 *Speech Clustering Problems* – Satish Iyengar

89SB-2 *Markov Change Points* – Alan Gelfand

89S-3, 89S-10 *Approaches Based on Multivariate Nonparametric Density Estimation* – Hani Doss

89S-4 *Justification of Non-Gaussian F-like Statistic* – Satish Iyengar

89S-5 *Simulation Approaches to Estimating Tail Probabilities for the Sum of the k Smallest Chi-square Order Statistics* – Fred Huffer

89S-6 *Conditional Distribution of Top k + l Gamma Order Statistics Given the Sum of the Top k* – Hani Doss

89S-8 – M.A. Stephens

89S-9 *Nonstationarity Measures* – Fred Huffer

89S-? *Distribution of Index of Number of Clusters* – Satish Iyengar