

THE ANNALS of STATISTICS

ISSN (0090-5364)

AN OFFICIAL JOURNAL OF
THE INSTITUTE OF MATHEMATICAL STATISTICS

The 1980 Wald Memorial Lectures

On adaptive estimation	P. J. BICKEL	647
Articles		
Small sample asymptotic expansions for multivariate M -estimates	CHRISTOPHER FIELD	672
Maximum likelihood estimation of isotonic modal regression	THOMAS W. SAGER AND RONALD A. THISTED	690
An algorithm for isotonic regression for two or more independent variables	RICHARD L. DYKSTRA AND TIM ROBERTSON	708
Optimal estimation of a general regression function	P. W. MILLAR	717
Towards a frequentist theory of upper and lower probability	PETER WALLEY AND TERRENCE L. FINE	741
Large sample point estimation: a large deviation theory approach	JAMES C. FU	762
Nonparametric estimation in renewal processes	Y. VARDI	772
Time series discrimination by higher order crossings	BENJAMIN KEDEM AND ERIC SLUD	786
On the estimation of a probability density function by the maximum penalized likelihood method	B. W. SILVERMAN	795
Consistency of two nonparametric maximum penalized likelihood estimators of the probability density function	V. K. KLONIAS	811
Towards a calculus for admissibility	ANDRZEJ KOZEK	825
General admissibility and inadmissibility results for estimation in a control problem	JAMES O. BERGER, L. MARK BERLINER AND ASAD ZAMAN	838
Improving upon standard estimators in discrete exponential families with applications to Poisson and negative binomial cases	JIUNN TZON HWANG	857
Minimax confidence sets for the mean of a multivariate normal distribution	JIUNN TZON HWANG AND GEORGE CASELLA	868
Tests with parabolic boundary for the drift of a Wiener process	BROOKS FEREBEE	882
Asymptotic expansions for the error probabilities of some repeated significance tests	MICHAEL WOODROOFE AND HAJIME TAKAHASHI	895
Bounded regret of a sequential procedure for estimation of the mean	Y. S. CHOW AND A. T. MARTINSEK	909
Analysis of time series from mixed distributions	P. M. ROBINSON	915
Autocorrelation, autoregression and autoregressive approximation	AN HONG-ZHI, CHEN ZHAO-GUO AND E. J. HANNAN	926
Minimaxity of the method of regularization on stochastic processes	KER-CHAU LI	937
Detection of multivariate normal outliers	STEVEN J. SCHWAGER AND BARRY H. MARGOLIN	943
Distributions of maximal invariants using quotient measures	STEEN ANDERSSON	955
Minimal complete classes of tests of hypotheses with multivariate one-sided alternatives	JOHN I. MARDEN	962
A comment on best invariant predictors	YOSHIKAZU TAKADA	971
An exponential subfamily which admits UMPU tests based on a single test statistic	SHAUL K. BAR-LEV AND BENJAMIN REISER	979
Quick consistency of quasi maximum likelihood estimators	THOMAS PFAFF	990
Short Communications		
Convergence of Simar's algorithm for finding the maximum likelihood estimate of a compound Poisson process	DANKMAR BÖHNING	1006
A note on the minimax estimation of the Poisson intensity function	ALBERT Y. LO	1009
Estimation of the non-centrality parameter of a Chi squared distribution	K. M. LAL SAXENA AND KHURSHED ALAM	1012
Stein's paradox is impossible in problems with finite sample space	SAM GUTMANN	1017
A characterization of the multivariate Pareto distribution	P. E. JUPP AND K. V. MARDIA	1021
A Bayes but not classically sufficient statistic	D. BLACKWELL AND R. V. RAMAMOORTHI	1025
On the E-optimality of PBIB designs with a small number of blocks	GREGORY M. CONSTANTINE	1027
Notes and Corrections		
Editor's correction to "Transformation theory: How normal is a family of distributions?"	BRADLEY EFRON	1032

Vol. 10, No. 3—September 1982