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*Empirical Processes* by Peter Gaenssler

This volume is mainly concerned with Glivenko-Cantelli results for empirical measures and with functional Central Limit Theorems for empirical C-processes. Specifically, the functional Central Limit Theorems assume independent, identically distributed observations in arbitrary sample spaces and are derived using a general theory of weak convergence for non-Borel measures on a metric space. This theory, initiated by R.M. Dudley and further studied by M.J. Wichura, is developed here in full and in a context that leads to a broad unification and simplification of previous methods for obtaining functional Central Limit Theorems. The approach applies to results beginning with Donsker's famous theorem for the uniform empirical process up to the most general cases known today.

The basic point of view of this volume is probabilistic, but it is hoped that the presentation, with its set-indexed context, might also lead to new approaches to inference for spatial data.

The main topics covered are as follows:

**Glivenko-Cantelli convergence**

The Vapnik-Chervonenkis Theory with some extensions

**Weak convergence of non-Borel measures on a metric space**

Portmanteau Theorem

Continuous mapping theorems

Product spaces

Sequential compactness

Skorokhod-Dudley-Wichura Representation Theorem

The space  $D[0, 1]$

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# The Annals of Statistics

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No. 2

## Articles

- On the preservation of local asymptotic normality under information loss  
LUCIEN LE CAM AND GRACE L. YANG
- Comparing location experiments . . . . . ERICH L. LEHMANN
- Generalizations of ancillarity, completeness and sufficiency in an inference  
function space . . . . . CHRISTOPHER G. SMALL AND D. L. MCLEISH
- The "automatic" robustness of minimum distance functionals  
DAVID L. DONOHO AND RICHARD C. LIU
- Pathologies of some minimum distance estimators  
DAVID L. DONOHO AND RICHARD C. LIU
- Robustness of estimators for directional data . . . . . DAIJIN KO AND PETER GUTTORP
- The length of the shorth . . . . . R. GRÜBEL
- On weak convergence and optimality of kernel density estimates of the mode  
JOSEPH P. ROMANO
- A sieve estimator for the covariance of a Gaussian process . . . . . JAY H. BEDER
- Some representations of the nonparametric maximum likelihood estimators with  
truncated data . . . . . MIN-TE CHAO AND SHAW-HWA LO
- On the minimax value of the scale model with truncated data . . . . . LESLAW GAJEK
- Cox's periodic regression model . . . . . O. PONS AND E. DE TURCKHEIM
- Approximation of method of regularization estimators . . . . . DENNIS D. COX
- Approximation of least squares regression on nested subspaces . . . . . DENNIS D. COX
- Testing for lack of fit in nonlinear regression . . . . . JAMES W. NEILL
- Monotone nonparametric regression . . . . . HARI MUKERJEE
- Quadratic loss of order restricted estimators for treatment means with a control  
CHU-IN CHARLES LEE
- The asymptotic normal distribution of estimators in factor analysis under  
general conditions . . . . . T. W. ANDERSON AND YASUO AMEMIYA
- A multivariate two-sample test based on the number of nearest-neighbor-type  
coincidences . . . . . NORBERT HENZE
- Unit canonical correlations between future and past . . . . . E. J. HANNAN AND D. S. POSKITT
- On estimation of a regression model with long-memory stationary errors  
YOSHIHIRO YAJIMA
- Small sample effects in time series analysis: A new asymptotic theory and a  
new estimate . . . . . RAINER DAHLHAUS
- An ARMA type probability density estimator . . . . . JEFFREY D. HART
- Nearly optimal sequential tests of composite hypotheses . . . . . TZE LEUNG LAI
- 'Two-stage bandits' . . . . . MURRAY K. CLAYTON AND JEFFREY A. WITMER
- A quasirandom approach to integration in Bayesian statistics . . . . . J. E. H. SHAW
- Majorization, entropy and paired comparisons . . . . . HARRY JOE

## Acknowledgment of Priority

- An alternative regularity condition for Hájek's representation theorem . . . LUKE TIERNEY

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with the cooperation of I. Olkin, M.D. Perlman, F. Proschan and C.R. Rao

This volume comprises the proceedings of the Symposium on Inequalities in Statistics and Probability held in Lincoln, Nebraska during October 1982. (The Symposium was sponsored by the National Science Foundation, the Office of Naval Research, and the University of Nebraska. Typesetting of the volume was supported by the University of Nebraska.)

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*Invariant Ordering* by D.R. Jensen

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