

Table of Contents

- Preface
- Contents
- Committees, Referees, and Chairmen

Part I: Mathematical and statistical methods for classification and data analysis

Classification and clustering methods

<i>Th. Eckes, P. Orlik (Saarbrücken)</i>	
An agglomerative method for two-mode hierarchical clustering	3
<i>F. Gebhardt (St. Augustin)</i>	
Selection from overlapping classifications	9
<i>G. Herden (Essen)</i>	
On cluster methods for qualitative data II	14
<i>S. Krolak-Schwerdt, P. Orlik, A. Kohler (Saarbrücken)</i>	
A regression analytic modification of Ward's method:	
A contribution to the relation between cluster analysis and factor analysis	23
<i>B.G. Mirkin (Moscow, USSR)</i>	
The "partition with a structure" concept in biological data analysis	28
<i>A. Müller, J. Neumann (Göttingen)</i>	
Classification with neural networks	32

Statistical and probabilistic aspects of clustering and classifications

<i>E. Godehardt (Düsseldorf)</i>	
Multigraphs for the uncovering and testing of structures	43
<i>U. Kamps (Aachen)</i>	
Estimators and relative efficiencies in models of overlapping samples	53
<i>J. Krauth (Düsseldorf)</i>	
Lower bounds for the tail probabilities of the scan statistic	61
<i>D. Pfeifer (Oldenburg)</i>	
Poisson approximations of image processes in computer tomography	68

Statistical, geometrical and algebraic methods for data analysis

<i>G. Arminger (Wuppertal)</i>	
Some recent developments in linear models: A short survey (plenary lecture)	72
<i>J. Benz (Fulda)</i>	
Causal analysis in marketing research with LISREL or a combination of traditional multivariate methods?	83
<i>U. Halekoh (Dortmund), P.O. Degens (Düsseldorf)</i>	
Analysis of data measured on a lattice	91

<i>R. Mathar (Aachen)</i>	
Dual algorithms in multidimensional scaling	99
<i>N. Spangenberg, K.E. Wolff (Darmstadt)</i>	
Comparison of biplot analysis and formal concept analysis in the case of a repertory grid	104
<i>S. Strahringer, R. Wille (Darmstadt)</i>	
Convexity in ordinal data	113
<i>R. Streng (Regensburg)</i>	
Classification and seriation by iterative reordering of a data matrix	121
<i>F. Vogt, C. Wachter, R. Wille (Darmstadt)</i>	
Data analysis based on a conceptual file	131

Part II: Knowledge organization, data bases, and information retrieval

Modelling, representation and organization of conceptual knowledge

<i>H. Czap (Trier)</i>	
Decentralized modelling of data and relationships in enterprises	143
<i>R. Hammerl (Bochum)</i>	
A contribution to the examination of semantic relations between lexemes	149
<i>P. Luksch, R. Wille (Darmstadt)</i>	
A mathematical model for conceptual knowledge systems	156
<i>G. Rahmstorf (Heidelberg)</i>	
Compositional semantics and concept representation	163

Data bases, expert systems, information retrieval, and library systems

<i>S. Gradmann (Hamburg)</i>	
Small and beautiful? Some remarks on evaluating microcomputer based library systems	173
<i>R. Kiel, M. Schader (Hamburg)</i>	
A tool for validating PROLOG programs	183
<i>S. Marz, M. Schader (Hamburg)</i>	
On the database component in the knowledge-based system WIMDAS	189
<i>J. Panyr (München)</i>	
Information retrieval techniques in rule-based expert systems	196
<i>Chr. Wolters (Berlin)</i>	
Object databases and thesauri for small museums (plenary lecture)	204

Terminology and classification

<i>G. Budin (Wien, Austria)</i>	
The structure and role of specialized information in scientific and technical terminologies	216
<i>S. Hvalkof (Copenhagen, Denmark)</i>	
Terminology work in the World Health Organization: EUROTERM abbreviations	221

<i>R. Mayer (Stuttgart)</i>	
HyperTerm – A proposal for a user-friendly termbank	225
<i>W. Nedobity (Wien, Austria)</i>	
The role of classification in terminology documentation (plenary lecture)	233

Part III: Applications and methods for special subject fields

Classification, systematics, and evolution in biology

<i>O. Kraus (Hamburg)</i>	
The hierarchy of organisms: Systematics and classification in biology (plenary lecture)	241
<i>W.H.E. Day (St. John's, Canada)</i>	
Estimating phylogenies with invariant functions of data (plenary lecture)	248
<i>B. Lausen (Dortmund)</i>	
Statistical analysis of genetic distance data	254
<i>K. Wolf (Bayreuth), P.O. Degens (Düsseldorf)</i>	
Variance estimation in the additive tree model	262

Classification and documentation in medicine

<i>R.-J. Fischer (Münster)</i>	
Semi-automated classification of medical phrases using a personal computer	270
<i>E. Hultsch (Münster)</i>	
Structure of informations on medical trials	277
<i>R. Klar (Freiburg)</i>	
Recent problems and longterm activities in the classification of medical concepts	284
<i>H. Kurz, O. Leder (Freiburg)</i>	
Exploring three-dimensional image data with classification methods	291

Data analysis in the archeological and historical sciences

<i>K.W. Alt, W. Vach (Freiburg)</i>	
The reconstruction of "genetic kinship" in prehistoric burial complexes - Problems and statistics	299
<i>R.S. Elkar, R. Huthsteiner, R. Ostermann (Siegen)</i>	
An approach to a formal statistical analysis of historical data based on the town of Bamberg ..	311
<i>F. Hintze (Berlin)</i>	
Automatic syntax analysis of meroitic funeral inscriptions	318
<i>M. Kopp, D. Strauch, Ch. Wacker (Freiburg)</i>	
Application of computers in historical-topographical research: A database for travel reports on Greece (18th and 19th century)	325
<i>T. Madsen (Århus, Denmark)</i>	
The use of multivariate statistics in Scandinavian archeology	330
<i>K. Højlund Nielsen (Højbjerg, Denmark)</i>	
The application of correspondence analysis: some examples in archeology	343
<i>C. Theune-Vogt (Marburg)</i>	
An analysis of beads found in the Merovingian cemetery of Weingarten	352

Classification in industry: Coding systems and commodity description*H.-J. Friederich, J. Rieck (Frankfurt)*

Bank code numbers as defining arguments and controlling tools in automated payments 362

J. Hözl (Wien, Austria)

From commodity description to expert systems 369

F. Meinl (Mannheim)

Tabular layouts of article characteristics and formal concept analysis (in German) 374

H. Oppermann (Münster)

The postcode, a local and routing code for the transport of mail items 382

Subject index 387