CONTENTS

DATABASES FOR ADVANCED APPLICATIONS

Statistics Metadata: Linear Regression Analysis S. P. Ghosh	3
Dynamic PATRICIA T. H. Merrett and B. Fayerman	19
Design of an Integrated DBMS to Support Advanced Applications V. Lum, P. Dadam, R. Erbe, J. Guenauer, P. Pistor, G. Walch, H. Werner and J. Woodfill	31
Use of the Relational Model for Data Representation in a Deductively Augmented Database Management System K. Yazdanian	51
HASHING	
Nech Beard File Organization Utilizing Lange Capacity	

Main MemoryI. Kambayashi	65
Trie Hashing: Further Properties and Performance	77
The Study of A Letter Oriented Minimal Perfect Hashing Scheme C. C. Chang	91

CONSECUTIVE RETRIEVAL PROPERTY

On the Relaxed Consecutive Retrieval Property in File Organization H. Inazumi and S. Hirasawa	103
Consecutive Retrieval Organization as a File Allocation Scheme on Multiple Disk Systems C. C. Chang and Jaw-Ji Shen	113
TRACER: Transposed File Organization Scheme with Consecutive Retrieval Property and Its Application to Statistical Database System H. Ikeda, Y. Ohzawa and K. Onaga	125
Multiple Query Processing in Local Area Database System ······ S. G. Shi	133

Bibliografische Informationen http://d-nb.info/977516741



FILE ALLOCATION AND DISTRIBUTED DATABASES

Management of Table Partitioning and Replication in a Distributed Relational Database System ······ Y. Masunaga	143
On Strict Optimality Property of Allocating Binary Cartesian Product Files on Multiple Disk Systems C. C. Chang and L. S. Lian	159
On the Complexity of File Allocation Problem C. C. Chang and J. C. Shieh	177
A Quantitative Evaluation of Scheduling Systems for the Physical Locking Scheme in a Database System Y. Matsushita, T.Tatsumi and K. Kawamura	183
Allocation of Documents in Two Level Memory for Information Retrieval Systems W. Ziarko and S. K. M. Wong	191

MATHEMATICAL FILE ORGANIZATION AND COMPUTATIONAL GEOMETRY

Further Results on Hyperclaw Decomposition and Balanced Filing Schemes S.Yamamoto	201
Placing Tiles in the Plane A. Broder and B. Simons	207
Mixed-Type Multiple-Valued Filing Scheme of Order One and Two ···· S. Tazawa	225
Space Partitioning and Its Application to Generalized Retrieval Problems D. Avis	237
On Computing and Updating Triangulations H. A. ElGindy and G. T. Toussaint	249

DATABASE MACHINES

VLSI Trees for File Organization ······ F. Luccio	265
The Inverted File Tree Machine: Efficient Multi-Key Retrieval for VLSI HP. Kriegel, R. Mannss and M. Overmars	279
Multidimensional Clustering Techniques for Large Relational Database Machines S. Fushimi, M. Kitsuregawa, H. Tanaka and T. Moto-oka	293
A Method for Realistic Comparisons of Sorting Algorithms for VLSI	309

DATABASE MODELS

Update	Propagat	ion :	in	the	IFO	Database	Model	• • • • • • • • • • • • • • • • • • • •	319
S. 1	Abiteboul	and	R.	Hul	1				

Computation-tuple Sequences and Object Histories: Extended Abstract S. Ginsburg and K. Tanaka	33 3
Projection of Object Histories S. Ginsburg and Chang-jie Tang	345
Functional Entity Relationship Model and Update Operations (Extended Abstract) M. Matsuo and L. M. Chirica	359
An Algebra for an Entity-Relationship Model and Its Application to Graphical Query Processing B. Czejdo and D. W. Embley	367
STRUCTURES AND PERFORMANCE OF PHYSICAL DATABASE MODE	LS
Record-to-Area Mapping in the CODASYL Environment L. A. Maciaszek	377
An Optimal Trie Construction Algorithm for Partial-Match QueriesNakatsu	391
FOPES: File Organization Performance Estimation System P. Zezula and J. Zizka	3 9 9
Empirical Comparison of Associative File Structures D. A. Beckley, M. W. Evens and V. K. Raman	407 [.]
Hybrid Sorting Techniques in Grid Structures K.P.Tan and H.W.Leong	415

CAD/VLSI DATABASES

A Model and Storage Technique for Versions of VLSI CAD Objects ··· W. Kim and D. S. Batory	427
Storage and Access Structures for Geometric Data Bases J. Nievergelt and K. Hinrichs	441
A Conceptual Basis for Graphics-Based Data Management (Extended Abstract) D. Bryce and R. Hull	457
Semantic Data Organization on a Generalized Data Management System G. T. Nguyen and J. Olivares	471
Frequency Separation Analysis for Object Oriented Databases ····· A. Kostovetsky	479
QUERY PROCESSING AND PHYSICAL STRUCTURES FOR RELATIONAL DATABASES	
Index Selection in Relational Databases	487
 A Physical Structure for Efficient Processing of Relational Queries E. Grazzini, R. Pinzani and F. Pippolini 	501

.

Data Organization Method for the Parallel Execution of Relational OperationsC. Thomas Wu	529
Implementation of Inferential Relational Database System T. Takagi, F. Matsuo, S. Futamura and K. Ushijima	539
DATABASE THEORY	

Towards a Basic Relational NF ² Algebra Processor ············. HJ. Schek	549
Two Classes of Easily Tested Integrity Constraints: Complacent and FD-complacent Integrity Constraints H. Katsuno	5 63
Semantic Constraints of Network Model (Extended Abstract) Y. Kambayashi and T. Furukawa	577
Join-Decomposition of MVD-Constraints Using the Characterization by "Bases" -An Introductive StudyY. Hanatani	585

DATABASE RESEARCH AND DEVELOPMENT IN THE PACIFIC AREA COUNTRIES

Database Research and Development in Taiwan
Database Research and Development in Korea
Database Research and Development in Australia ······ 611 L. A. Maciaszek
Database Research and Development in Japan: Its Past, Present and Future
Database Research and Development in China
Database Research and Development in Singapore

Author	index	••••••	627
Subject	index	•••••••••••••••••••••••••••••••••••••••	629