

Lecture Notes in Computer Science

Edited by G. Goos and J. Hartmanis

495

B. Thalheim J. Demetrovics
H.-D. Gerhardt (Eds.)

MFDBS 91

3rd Symposium on
Mathematical Fundamentals of Database
and Knowledge Base Systems
Rostock, Germany, May 6–9, 1991
Proceedings



Springer-Verlag

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CR Subject Classification (1991): H.2, G.2.1, F.4.1

ISBN 3-540-54009-1 Springer-Verlag Berlin Heidelberg New York
ISBN 0-387-54009-1 Springer-Verlag New York Berlin Heidelberg

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Printed in Germany

Printing and binding: Druckhaus Beltz, Hemsbach/Bergstr.
2145/3140-543210 – Printed on acid-free paper

Preface

This volume constitutes the proceedings of the 1991 Symposium on Mathematical Fundamentals of Database and Knowledge Base Systems (MFDBS). MFDBS 91 is the third of a series of biannual conferences. The first two were held in Dresden in 1987 (Lecture Notes in Computer Science, Vol. 305) and Visegrád in 1989 (Lecture Notes in Computer Science, Vol. 364). The 1991 conference is organized by the Rostock University. The changes in Europe make it possible to integrate the two conferences on Database Theory in Europe (International Conference on Database Theory (ICDT) and MFDBS). Therefore, the next ICDT conference is also the continuation of the MFDBS conferences.

The conference will cover new developments in theoretical aspects of database and knowledge base systems and the design of databases and knowledge bases. Topics of the conference are: database and knowledge base models; deductive database and knowledge base systems; logical, algebraic and combinatorial fundamentals of database theory and design of databases; object-oriented databases and object-oriented modeling; fundamentals of query languages, transaction processing, distributed databases, concurrency control, access strategies, recovery, security, privacy, safety; fundamentals for integrity constraints and consistency in databases; models for database machines; models for user interfaces; design and implementation of non-standard databases.

There were 78 papers submitted, from 21 different nations in America, Asia, Australia and Europe. The papers were evaluated on the basis of originality, significance of contribution, quality of presentation, and technical quality. Of the papers submitted, 25 were selected during a meeting held in Rostock, December 10/11, 1990. The number and overall quality of the papers submitted reflect the vitality of the field and the continuing importance of database and knowledge base theory. The committee wishes to thank all who submitted papers for consideration.

The program is divided into nine sections. Additionally, during the conference the rationale of system developments is to be discussed. The discussion is based on the presentations on COSMOS (H.-J. Schek), DBPL (J.W. Schmidt) and O_2 (Chr. Lécluse). The conference is to be terminated by a Panel Discussion 'Relational, Nested, Deductive, Object-Oriented ... Databases or Knowledge Bases: Is there a common root ?' which is chaired by Francois Bry.

The program committee was chaired by Janos Demetrovics (Hungary) and Bernhard Thalheim (Germany). The member of the program committee were:

Serge Abiteboul (France),	Georgio Ausiello (Italy),	Paolo Atzeni (Italy),
Catriel Beerli (Israel),	Joachim Biskup (FRG),	Stefano Ceri (Italy)
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We would like to sincerely thank all the program committee members, as well as the external referees, for their care in evaluating the submitted papers and the time they invested in reading them.

We also acknowledge the continuous help of all members of the organizational committee: H.-D. Gerhardt (Chair), A. Heuer, R. Holm and H. Trebbin.

Springer-Verlag, in particular H. Wössner, was as always very helpful in preparing the proceedings.

Rostock
February 1991

Bernhard Thalheim
MFDBS 91 Chair

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