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Fundamentals of Computation Theory

15th International Symposium, FCT 2005
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Proceedings



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Preface

This volume is dedicated to the 15th Symposium on Fundamentals of Computation Theory FCT 2005, held in Lübeck, Germany, on August 17–20, 2005.

The FCT symposium was established in 1977 as a biennial event for researchers interested in all aspects of theoretical computer science, in particular in algorithms, complexity, and formal and logical methods. The previous FCT conferences were held in the following places: Poznań (Poland, 1977), Wendisch-Rietz (Germany, 1979), Szeged (Hungary, 1981), Borgholm (Sweden, 1983), Cottbus (Germany, 1985), Kazan (Russia, 1987), Szeged (Hungary, 1989), Gosen-Berlin (Germany, 1991), Szeged (Hungary, 1993), Dresden (Germany, 1995), Kraków (Poland, 1997), Iasi (Romania, 1999), Riga (Latvia, 2001) and Malmö (Sweden, 2003). The FCT conference series is coordinated by a steering committee. Its current members are B. Chlebus (Denver/Warsaw), Z. Esik (Szeged), M. Karpinski (Bonn), A. Lingas (Lund), M. Santha (Paris), E. Upfal (Providence) and I. Wegener (Dortmund).

The call for papers for FCT 2005 sought contributions on original research in all aspects of theoretical computer science including *design and analysis of algorithms, abstract data types, approximation algorithms, automata and formal languages, categorical and topological approaches, circuits, computational and structural complexity, circuit and proof theory, computational biology, computational geometry, computer systems theory, concurrency theory, cryptography, domain theory, distributed algorithms and computation, molecular computation, quantum computation and information, granular computation, probabilistic computation, learning theory, rewriting, semantics, logic in computer science, specification, transformation and verification, and algebraic aspects of computer science*. A total of 105 papers were submitted – most of them focusing on fundamental questions in these areas of computing. Thanks to all the authors who gave the program committee the chance to select 46 top papers for presentation at the conference. An extended abstract of these results can be found in these proceedings.

Our thanks go to the 15 members of the program committee that took their duty very seriously. Each submitted paper was carefully reviewed by at least five members – some with the help of subreferees. The Easy-Chair evaluation system turned out to be of great help in our electronic discussion and decision process – many thanks to Andrei Voronkov for developing such a useful and professional tool.

In addition to the presentation of the accepted papers, invited lectures on current research topics in theoretical computer science were given by Martin Dyer (Leeds), Martin Grohe (Berlin), and Daniel Spielman (Cambridge, MA).

We are grateful to the German Science Foundation (DFG) and the *Gesellschaft der Freunde und Förderer der Universität zu Lübeck* for their financial

support, and all members of the Institute for Theoretical Computer Science (ITCS) of the University of Lübeck for their help in preparing and running this conference.

August 2005

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Table of Contents

Invited Talks

The Complexity of Querying External Memory and Streaming Data <i>Martin Grohe (invited speaker), Christoph Koch, Nicole Schweikardt</i>	1
The Smoothed Analysis of Algorithms <i>Daniel A. Spielman (invited speaker)</i>	17
Path Coupling Using Stopping Times <i>Magnus Bordewich, Martin Dyer (invited speaker), Marek Karpinski</i>	19

Circuits

On the Incompressibility of Monotone DNFs <i>Matthias P. Krieger</i>	32
Bounds on the Power of Constant-Depth Quantum Circuits <i>Stephen Fenner, Frederic Green, Steven Homer, Yong Zhang</i>	44

Automata I

Biautomatic Semigroups <i>Michael Hoffmann, Richard M. Thomas</i>	56
Deterministic Automata on Unranked Trees <i>Julien Cristau, Christof Löding, Wolfgang Thomas</i>	68

Complexity I

Decidable Membership Problems for Finite Recurrent Systems over Sets of Naturals <i>Daniel Meister</i>	80
Generic Density and Small Span Theorem <i>Philippe Moser</i>	92

Approximability

Logspace Optimization Problems and Their Approximability Properties <i>Till Tantau</i>	103
---	-----

A Faster and Simpler 2-Approximation Algorithm for Block Sorting <i>Wolfgang W. Bein, Lawrence L. Larmore, Linda Morales, Ivan Hal Sudborough</i>	115
--	-----

Computational and Structural Complexity

On the Power of Unambiguity in Alternating Machines <i>Holger Spakowski, Rahul Tripathi</i>	125
Translational Lemmas for Alternating TMs and PRAMs <i>Chuzo Iwamoto, Yoshiaki Nakashiba, Kenichi Morita, Katsunobu Imai</i>	137
Collapsing Recursive Oracles for Relativized Polynomial Hierarchies <i>Tomoyuki Yamakami</i>	149

Graphs and Complexity

Exact Algorithms for Graph Homomorphisms <i>Fedor V. Fomin, Pinar Hegghernes, Dieter Kratsch</i>	161
Improved Algorithms and Complexity Results for Power Domination in Graphs <i>Jiong Guo, Rolf Niedermeier, Daniel Raible</i>	172
Clique-Width for Four-Vertex Forbidden Subgraphs <i>Andreas Brandstädt, Joost Engelfriet, Hoàng-Oanh Le, Vadim V. Lozin</i>	185

Computational Game Theory

On the Complexity of Uniformly Mixed Nash Equilibria and Related Regular Subgraph Problems <i>Vincenzo Bonifaci, Ugo Di Iorio, Luigi Laura</i>	197
Simple Stochastic Games and P-Matrix Generalized Linear Complementarity Problems <i>Bernd Gärtner, Leo Rüst</i>	209

Visual Cryptography and Computational Geometry

Perfect Reconstruction of Black Pixels Revisited <i>Hans Ulrich Simon</i>	221
--	-----

Adaptive Zooming in Point Set Labeling <i>Sheung-Hung Poon, Chan-Su Shin</i>	233
---	-----

Query Complexity

On the Black-Box Complexity of Sperner's Lemma <i>Katalin Friedl, Gábor Ivanyos, Miklos Santha,</i> <i>Yves F. Verhoeven</i>	245
--	-----

Property Testing and the Branching Program Size of Boolean Functions <i>Beate Bollig</i>	258
---	-----

Distributed Systems

Almost Optimal Explicit Selectors <i>Bogdan S. Chlebus, Dariusz R. Kowalski</i>	270
--	-----

The Delayed k -Server Problem <i>Wolfgang W. Bein, Kazuo Iwama, Lawrence L. Larmore,</i> <i>John Noga</i>	281
---	-----

Automata and Formal Languages

Leftist Grammars and the Chomsky Hierarchy <i>Tomasz Jurdziński, Krzysztof Loryś</i>	293
---	-----

Shrinking Multi-pushdown Automata <i>Markus Holzer, Friedrich Otto</i>	305
---	-----

Graph Algorithms

A Simple and Fast Min-cut Algorithm <i>Michael Brinkmeier</i>	317
--	-----

(Non)-Approximability for the Multi-criteria $TSP(1, 2)$ <i>Eric Angel, Eiripidis Bampis, Laurent Gouvêas, Jérôme Monnot</i>	329
--	-----

Semantics

Completeness and Compactness of Quantitative Domains <i>Paweł Waszkiewicz</i>	341
--	-----

A Self-dependency Constraint in the Simply Typed Lambda Calculus <i>Aleksy Schubert</i>	352
--	-----

A Type System for Computationally Secure Information Flow <i>Peeter Laud, Varmo Vene</i>	365
---	-----

Approximation Algorithms

Algorithms for Graphs Embeddable with Few Crossings Per Edge <i>Alexander Grigoriev, Hans L. Bodlaender</i>	378
--	-----

Approximation Results for the Weighted P_4 Partition Problems <i>Jérôme Monnot, Sophie Toulouse</i>	388
--	-----

The Maximum Resource Bin Packing Problem <i>Joan Boyar, Leah Epstein, Lene M. Favrholdt, Jens S. Kohrt, Kim S. Larsen, Morten Monrad Pedersen, Sanne Wøhlk</i>	397
---	-----

Average-Case Complexity

Average-Case Non-approximability of Optimisation Problems <i>Birgit Schelm</i>	409
---	-----

Relations Between Average-Case and Worst-Case Complexity <i>Aduri Pavan, N. Variyam Vinodchandran</i>	422
--	-----

Algorithms

Reconstructing Many Partitions Using Spectral Techniques <i>Joachim Giesen, Dieter Mitsche</i>	433
---	-----

Constant Time Generation of Linear Extensions <i>Akimitsu Ono, Shin-ichi Nakano</i>	445
--	-----

Complexity II

On Approximating Real-World Halting Problems <i>Sven Köhler, Christian Schindelhauer, Martin Ziegler</i>	454
---	-----

An Explicit Solution to Post's Problem over the Reals <i>Klaus Meer, Martin Ziegler</i>	467
--	-----

The Complexity of Semilinear Problems in Succinct Representation <i>Peter Bürgisser, Felipe Cucker, Paulin Jacobé de Naurois</i>	479
---	-----

Graph Algorithms

On Finding Acyclic Subhypergraphs <i>Kouichi Hirata, Megumi Kuwabara, Masateru Harao</i>	491
An Improved Approximation Algorithm for TSP with Distances One and Two <i>Markus Bläser, L. Shankar Ram</i>	504
New Applications of Clique Separator Decomposition for the Maximum Weight Stable Set Problem <i>Andreas Brandstädt, Van Bang Le, Suhail Mahfud</i>	516

Automata II

On the Expressiveness of Asynchronous Cellular Automata <i>Benedikt Bollig</i>	528
Tree Automata and Discrete Distributed Games <i>Julien Bernet, David Janin</i>	540

Pattern Matching

A New Linearizing Restriction in the Pattern Matching Problem <i>Yo-Sub Han, Derick Wood</i>	552
Fully Incremental LCS Computation <i>Yusuke Ishida, Shunsuke Inenaga, Ayumi Shinohara, Masayuki Takeda</i>	563

Author Index	575
---------------------------	-----