

Table of Contents

Invited Papers

Circuit Complexity before the Dawn of the New Millennium	1
ERIC ALLENDER	

A Lambda Calculus with Letrecs and Barriers	19
ARVIND, JAN-WILLEM MAESSEN, RISHIYUR S. NIKHIL, JOSEPH STOY	

Tables	37
J. IAN MUNRO	

Mechanized Formal Methods: Progress and Prospects	43
JOHN RUSHBY	

Computational Geometry I

The Parameter Space of the d -step Conjecture	52
J.C. LAGARIAS, N. PRABHU, J.A. REEDS	

On the Complexity of Approximating Euclidean Traveling Salesman Tours and Minimum Spanning Trees	64
G. DAS, S. KAPOOR, M. SMID	

Efficient Computation of Rectilinear Geodesic Voronoi Neighbor in Presence of Obstacles	76
P. MITRA, S.C. NANDY	

Process Algebras

Weak Bisimulation and Model Checking for Basic Parallel Processes	88
R. MAYR	

Testing Processes for Efficiency	100
K. JAIN, S. ARUN-KUMAR	

Regularity is Decidable for Normed PA Processes in Polynomial Time	111
A. KUČERA	

Computational Geometry II

Dynamic Maintenance of Shortest Path Trees in Simple Polygons	123
S. KAPOOR, T. SINGH	

Close Approximations of Minimum Rectangular Coverings	135
C. LEVCOPoulos, J. GUDMUNDSSON	

A New Competitive Algorithm for Agent Searching in Unknown Streets	147
P. DASGUPTA, P.P. CHAKRABARTI, S.C. DESARKAR	

Semantics

On the Design of Hybrid Control Systems Using Automata Models.....	156
D.V. HUNG, W. JI	
Constraint Retraction in FD	168
P. CODOGNET, D. DIAZ, F. ROSSI	
Winskel is (Almost) Right: Towards a Mechanized Semantics Textbook	180
T. NIPKOW	

Algorithms

An Optimal Deterministic Algorithm for Online b-Matching	193
B. KALYANASUNDARAM, K. PRUHS	
Tight Bounds for Prefetching and Buffer Management Algorithms for Parallel I/O Systems	200
P.J. VARMAN, R.M. VERMA	
Complexity of the Gravitational Method for Linear Programming	212
T.L. MORIN, N. PRABHU, Z. ZHANG	
Optimal and Information Theoretic Syntactic Pattern Recognition Involving Traditional and Transposition Errors	224
B.J. OOMMEN, R.K.S. LOKE	

Rewriting/Equational-Temporal Logics

Minimal Relative Normalization in Orthogonal Expression Reduction Systems.....	238
J. GLAUERT, Z. KHASIDASHVILI	
Trace Consistency and Inevitability	250
R. RAMANUJAM	
Finite State Implementations of Knowledge-Based Programs	262
R. VAN DER MEYDEN	
Higher-Order Proof by Consistency	274
H. LINNESTAD, C. PREHOFER, O.LYSNE	

Complexity Theory

Advocating Ownership	286
H. FERNAU, K.-J. LANGE, K. REINHARDT	
Non-cancellative Boolean Circuits: A Generalization of Monotone Boolean Circuits.....	298
R.SENGUPTA, H. VENKATESWARAN	
Limitations of the QRQW and EREW PRAM Models	310
M. KUTYŁOWSKI, K. LORYŚ	
Pinpointing Computation with Modular Queries in the Boolean Hierarchy	322
M. AGRAWAL, R. BEIGEL, T. THIERAUF	

Type Theory

Characterization of Principal Type of Normal Forms in an Intersection Type System	335
E. SAYAG, M. MAUNY	
Correcting Type Errors in the Curry System.....	347
M. GANDHE, G. VENKATESH, A. SANYAL	
Immediate Fixpoints and Their Use in Groundness Analysis	359
H. SØNDERGAARD	
Graph Types for Monadic Mobile Processes	371
N. YOSHIDA	
Author Index	387