

Contents

CCAnr: A Configuration Checking Based Local Search Solver for Non-random Satisfiability	1
<i>Shaowei Cai, Chuan Luo, and Kaile Su</i>	
PBLib – A Library for Encoding Pseudo-Boolean Constraints into CNF	9
<i>Tobias Philipp and Peter Steinke</i>	
Speeding up MUS Extraction with Preprocessing and Chunking	17
<i>Valeriy Balabanov and Alexander Ivrii</i>	
Improved Algorithms for Sparse MAX-SAT and MAX- k -CSP	33
<i>Ruiwen Chen and Rahul Santhanam</i>	
Laissez-Faire Caching for Parallel #SAT Solving	46
<i>Jan Burchard, Tobias Schubert, and Bernd Becker</i>	
SATGraf: Visualizing the Evolution of SAT Formula Structure in Solvers. . .	62
<i>Zack Newsham, William Lindsay, Vijay Ganesh, Jia Hui Liang, Sebastian Fischmeister, and Krzysztof Czarnecki</i>	
Hints Revealed	71
<i>Jonathan Kalechstain, Vadim Ryvchin, and Nachum Dershowitz</i>	
Mining Backbone Literals in Incremental SAT: A New Kind of Incremental Data	88
<i>Alexander Ivrii, Vadim Ryvchin, and Ofer Strichman</i>	
Constructing SAT Filters with a Quantum Annealer	104
<i>Adam Douglass, Andrew D. King, and Jack Raymond</i>	
# \exists SAT: Projected Model Counting.	121
<i>Rehan Abdul Aziz, Geoffrey Chu, Christian Muise, and Peter Stuckey</i>	
Computing Maximal Autarkies with Few and Simple Oracle Queries.	138
<i>Oliver Kullmann and Joao Marques-Silva</i>	
HordeSat: A Massively Parallel Portfolio SAT Solver	156
<i>Tomáš Balyo, Peter Sanders, and Carsten Sinz</i>	
Preprocessing for DQBF	173
<i>Ralf Wimmer, Karina Gitina, Jennifer Nist, Christoph Scholl, and Bernd Becker</i>	

Incrementally Computing Minimal Unsatisfiable Cores of QBFs via a Clause Group Solver API.	191
<i>Florian Lonsing and Uwe Egly</i>	
On Compiling CNFs into Structured Deterministic DNNFs	199
<i>Simone Bova, Florent Capelli, Stefan Mengel, and Friedrich Slivovsky</i>	
SpySMAC: Automated Configuration and Performance Analysis of SAT Solvers	215
<i>Stefan Falkner, Marius Lindauer, and Frank Hutter</i>	
Community Structure Inspired Algorithms for SAT and #SAT	223
<i>Robert Ganian and Stefan Szeider</i>	
Using Community Structure to Detect Relevant Learnt Clauses.	238
<i>Carlos Ansótegui, Jesús Giráldez-Cru, Jordi Levy, and Laurent Simon</i>	
Recognition of Nested Gates in CNF Formulas.	255
<i>Markus Iser, Norbert Manthey, and Carsten Sinz</i>	
Exploiting Resolution-Based Representations for MaxSAT Solving	272
<i>Miguel Neves, Ruben Martins, Mikoláš Janota, Inês Lynce, and Vasco Manquinho</i>	
SAT-Based Formula Simplification	287
<i>Alexey Ignatiev, Alessandro Previti, and Joao Marques-Silva</i>	
Volt: A Lazy Grounding Framework for Solving Very Large MaxSAT Instances	299
<i>Ravi Mangal, Xin Zhang, Aditya V. Nori, and Mayur Naik</i>	
Between SAT and UNSAT: The Fundamental Difference in CDCL SAT. . . .	307
<i>Chanseok Oh</i>	
Efficient MUS Enumeration of Horn Formulae with Applications to Axiom Pinpointing.	324
<i>Muhammad Fareed Arif, Carlos Mencía, and Joao Marques-Silva</i>	
QELL: QBF Reasoning with Extended Clause Learning and Levelized SAT Solving	343
<i>Kuan-Hua Tu, Tzu-Chien Hsu, and Jie-Hong R. Jiang</i>	
SMT-RAT: An Open Source C++ Toolbox for Strategic and Parallel SMT Solving	360
<i>Florian Corzilius, Gereon Kremer, Sebastian Junges, Stefan Schupp, and Erika Ábrahám</i>	
Search-Space Partitioning for Parallelizing SMT Solvers	369
<i>Antti E.J. Hyvärinen, Matteo Marescotti, and Natasha Sharygina</i>	

A New Approach to Partial MUS Enumeration.	387
<i>Christian Zielke and Michael Kaufmann</i>	
Evaluating CDCL Variable Scoring Schemes	405
<i>Armin Biere and Andreas Fröhlich</i>	
SAT-Based Horn Least Upper Bounds.	423
<i>Carlos Mencía, Alessandro Previti, and Joao Marques-Silva</i>	
Author Index	435

Theory and Applications of Satisfiability Testing -- SAT
2015

18th International Conference, Austin, TX, USA,
September 24-27, 2015, Proceedings

Heule, M.; Weaver, S. (Eds.)

2015, XIX, 436 p. 94 illus. in color., Softcover

ISBN: 978-3-319-24317-7