Contents

CCAnr: A Configuration Checking Based Local Search Solver for Non-random Satisfiability ........................................... 1  
Shaowei Cai, Chuan Luo, and Kaile Su

PBLib – A Library for Encoding Pseudo-Boolean Constraints into CNF . . . . . 9  
Tobias Philipp and Peter Steinke

Speeding up MUS Extraction with Preprocessing and Chunking .......... 17  
Valeriy Balabanov and Alexander Ivrii

Improved Algorithms for Sparse MAX-SAT and MAX-k-CSP ............... 33  
Ruiwen Chen and Rahul Santhanam

Laissez-Faire Caching for Parallel #SAT Solving .............................. 46  
Jan Burchard, Tobias Schubert, and Bernd Becker

SATGraf: Visualizing the Evolution of SAT Formula Structure in Solvers . . . 62  
Zack Newsham, William Lindsay, Vijay Ganesh, Jia Hui Liang, Sebastian Fischmeister, and Krzysztof Czarnecki

Hints Revealed ............................................................................. 71  
Jonathan Kalechstain, Vadim Ryvchin, and Nachum Dershowitz

Mining Backbone Literals in Incremental SAT: A New Kind of Incremental Data .................................................................................. 88  
Alexander Ivrii, Vadim Ryvchin, and Ofer Strichman

Constructing SAT Filters with a Quantum Annealer ......................... 104  
Adam Douglass, Andrew D. King, and Jack Raymond

#∃SAT: Projected Model Counting .................................................. 121  
Rehan Abdul Aziz, Geoffrey Chu, Christian Muise, and Peter Stuckey

Computing Maximal Autarkies with Few and Simple Oracle Queries ...... 138  
Oliver Kullmann and Joao Marques-Silva

HordeSat: A Massively Parallel Portfolio SAT Solver ....................... 156  
Tomáš Balyo, Peter Sanders, and Carsten Sinz

Preprocessing for DQBF ................................................................ 173  
Ralf Wimmer, Karina Gitina, Jennifer Nist, Christoph Scholl, and Bernd Becker
Incrementally Computing Minimal Unsatisfiable Cores of QBFs via a Clause Group Solver API. ........................................ 191

Florian Lonsing and Uwe Egly

On Compiling CNFs into Structured Deterministic DNNFs .................. 199

Simone Bova, Florent Capelli, Stefan Mengel, and Friedrich Slivovsky

SpySMAC: Automated Configuration and Performance Analysis of SAT Solvers .................................................. 215

Stefan Falkner, Marius Lindauer, and Frank Hutter

Community Structure Inspired Algorithms for SAT and #SAT ............. 223

Robert Ganian and Stefan Szeider

Using Community Structure to Detect Relevant Learnt Clauses. ............ 238

Carlos Ansótegui, Jesús Giráldez-Cru, Jordi Levy, and Laurent Simon

Recognition of Nested Gates in CNF Formulas. .......................... 255

Markus Iser, Norbert Manthey, and Carsten Sinz

Exploiting Resolution-Based Representations for MaxSAT Solving ......... 272

Miguel Neves, Ruben Martins, Mikoláš Janota, Inês Lynce, and Vasco Manquinho

SAT-Based Formula Simplification ...................................... 287

Alexey Ignatiev, Alessandro Previti, and João Marques-Silva

Volt: A Lazy Grounding Framework for Solving Very Large MaxSAT Instances ..................................................... 299

Ravi Mangal, Xin Zhang, Aditya V. Nori, and Mayur Naik

Between SAT and UNSAT: The Fundamental Difference in CDCL SAT ... 307

Chanseok Oh

Efficient MUS Enumeration of Horn Formulae with Applications to Axiom Pinpointing ......................................................... 324

Muhammad Fareed Arif, Carlos Mencia, and João Marques-Silva

QELL: QBF Reasoning with Extended Clause Learning and Levelized SAT Solving ..................................................... 343

Kuan-Hua Tu, Tzu-Chien Hsu, and Jie-Hong R. Jiang

SMT-RAT: An Open Source C++ Toolbox for Strategic and Parallel SMT Solving ..................................................... 360

Florian Corzilius, Gereon Kremer, Sebastian Junges, Stefan Schupp, and Erika Ábrahám

Search-Space Partitioning for Parallelizing SMT Solvers .................. 369

Antti E.J. Hyvärinen, Matteo Marescotti, and Natasha Sharygina
A New Approach to Partial MUS Enumeration

Christian Zielke and Michael Kaufmann

Evaluating CDCL Variable Scoring Schemes

Armin Biere and Andreas Fröhlich

SAT-Based Horn Least Upper Bounds

Carlos Mencía, Alessandro Previti, and Joao Marques-Silva

Author Index
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

http://www.springer.com/978-3-319-24317-7