

Contents

Symmetry-Breaking for Pseudo-Boolean Formulas <i>Fadi A. Aloul, Arathi Ramani, Igor L. Markov and Karem A. Sakallah</i>	1
Detecting and breaking symmetries on specifications <i>Marco Cadoli and Toni Mancini</i>	13
Symmetries in Rectangular Block-Packing <i>Hay-Wai Chan and Igor L. Markov</i>	27
About Neighborhood Substitutability in CSPs <i>Assef Chmeiss and Lakhdar Saïs</i>	41
Constraints for Breaking All Row and Column Symmetries in a Three-by-Two Matrix <i>Alan Frisch and Warwick Harvey</i>	46
Conditional Symmetry in the All-Interval Series Problem <i>Ian P. Gent, Iain McDonald and Barbara M. Smith</i>	55
Symmetry and Propagation: Refining an AC algorithm <i>Ian P. Gent and Iain McDonald</i>	66
The Fully Social Golfer Problem <i>Warwick Harvey</i>	75
Symmetry Group Expression for CSPs <i>Warwick Harvey, Tom Kelsey and Karen Petrie</i>	86
Combining Symmetry Breaking with Other Constraints: lexicographic ordering with sums <i>Brahim Hnich, Zeynep Kiziltan and Toby Walsh</i>	97
Dynamic Detection and Exploitation of Value Symmetries for Non-Binary Finite CSPs <i>Anaugh Lal and Berthe Y. Choueiry</i>	112
Expressing Symmetry Breaking Constraints Using Multiple Viewpoints and Channeling Constraints <i>Y.C. Law and J.H.M. Lee</i>	127
Symmetries in Planning Problems <i>Derek Long and Maria Fox</i>	142
NuSBDS: Symmetry Breaking made Easy <i>Iain McDonald</i>	153
Comma-Free Codes <i>Justin Pearson</i>	161
Why SBDD can be worse than SBDS <i>Karen Petrie</i>	168

Using Constraint Programming to Compute Symmetries <i>Jean-François Puget</i>	177
Breaking of Partial Symmetries in the Photo and Alignment Problem <i>Sebastian Will and Rolf Backofen</i>	187