

Contents

Introduction	1
Bruno Benedetti, Emanuele Delucchi, and Luca Moci	
Part I	
Extremal Graph Theory and Face Numbers of Flag Triangulations of Manifolds	7
Michał Adamaszek	
Combinatorial Stratifications and Minimality of Two-Arrangements	11
Karim A. Adiprasito	
Random Triangular Groups	15
Sylwia Antoniuk, Tomasz Łuczak, and Jacek Świątkowski	
Generalized Involution Models of Projective Reflection Groups	19
Fabrizio Caselli and Eric Marberg	
Universal Gröbner Bases for Maximal Minors of Matrices of Linear Forms	25
Aldo Conca	
Torsion in the Homology of Milnor Fibers of Hyperplane Arrangements	31
Graham Denham and Alexander I. Suciu	
Decompositions of Betti Diagrams of Powers of Monomial Ideals: A Stability Conjecture	37
Alexander Engström	
Matroids Over a Ring	41
Alex Fink and Luca Moci	
A Minimal Irreducible Triangulation of \mathbb{S}^3	49
Florian Frick	

Tropical Oriented Matroids	53
Silke Horn	
Rota's Conjecture, the Missing Axiom, and Prime Cycles in Toric Varieties	59
June Huh	
A Combinatorial Classification of Buchsbaum Simplicial Posets	63
Jonathan Browder and Steven Klee	
Dimensional Differences Between Faces of the Cones of Nonnegative Polynomials and Sums of Squares	69
Grigoriy Blekherman, Sadik Ilman, and Martina Juhnke-Kubitzke	
On a Conjecture of Holtz and Ron Concerning Interpolation, Box Splines, and Zonotopes	79
Matthias Lenz	
Root Polytopes of Crystallographic Root Systems	85
Mario Marietti	
On Product Formulas for Volumes of Flow Polytopes	91
Karola Mészáros	
On the Topology of the Cambrian Semilattices	97
Myrto Kallipoliti and Henri Mühle	
cd-Index for CW-Posets	103
Satoshi Murai	
Bipartite Rigidity	107
Eran Nevo	
Balanced Manifolds and Pseudomanifolds	115
Isabella Novik	
Some Combinatorial Constructions and Relations with Artin Groups	121
Mario Salvetti	
Deterministic Abelian Sandpile and Square-Triangle Tilings	127
Sergio Caracciolo, Guglielmo Paoletti, and Andrea Sportiello	
A Special Feature of Quadratic Monomial Ideals	137
Matteo Varbaro	
Resonant Bands, Local Systems and Milnor Fibers of Real Line Arrangements	143
Masahiko Yoshinaga	
On Highly Regular Embeddings	149
Pavle V.M. Blagojević, Wolfgang Lück, and Günter M. Ziegler	

Part II

Positive Sum Systems	157
Anders Björner	
The S_{n+1} Action on Spherical Models and Supermaximal Models of Type A_{n-1}	173
Filippo Callegaro and Giovanni Gaiffi	
h-Vectors of Matroid Complexes	203
Alexandru Constantinescu and Matteo Varbaro	

Combinatorial Methods in Topology and Algebra

Benedetti, B.; Delucchi, E.; Moci, L. (Eds.)

2015, VII, 227 p., Hardcover

ISBN: 978-3-319-20154-2