
Contents

Preface	vii
Photographs	xi
There Are Not Too Many Magic Configurations E. ACKERMAN, K. BUCHIN, C. KNAUER, R. PINCHASI, AND G. ROTE	1
Computing the Detour and Spanning Ratio of Paths, Trees, and Cycles in 2D and 3D P.K. AGARWAL, R. KLEIN, C. KNAUER, S. LANGERMAN, P. MORIN, M. SHARIR, AND M. SOSS	15
Robust Shape Fitting via Peeling and Grating Coresets P.K. AGARWAL, S. HAR-PELED, AND H. YU	36
Siegel’s Lemma and Sum-Distinct Sets I. ALIEV	57
Slicing Convex Sets and Measures by a Hyperplane I. BÁRÁNY, A. HUBARD, AND J. JERÓNIMO	65
A Centrally Symmetric Version of the Cyclic Polytope A. BARVINOK AND I. NOVIK	74
On Projections of Semi-Algebraic Sets Defined by Few Quadratic Inequalities S. BASU AND T. ZELL	98
Enumeration in Convex Geometries and Associated Polytopal Subdivisions of Spheres L.J. BILLERA, S.K. HSIAO, AND J.S. PROVAN	121
Isotopic Implicit Surface Meshing J.-D. BOISSONNAT, D. COHEN-STEINER, AND G. VEGTER	136
Line Transversals to Disjoint Balls C. BORCEA, X. GOAOC, AND S. PETITJEAN	156

Norm Bounds for Ehrhart Polynomial Roots B. BRAUN	172
Helly-Type Theorems for Line Transversals to Disjoint Unit Balls O. CHEONG, X. GOAOC, A. HOLMSEN, AND S. PETITJEAN	175
Grid Vertex-Unfolding Orthogonal Polyhedra M. DAMIAN, R. FLATLAND, AND J. O’ROURKE	194
Empty Convex Hexagons in Planar Point Sets T. GERKEN	220
Affinely Regular Polygons as Extremals of Area Functionals P. GRONCHI AND M. LONGINETTI	254
Improved Output-Sensitive Snap Rounding J. HERSHBERGER	279
Generating All Vertices of a Polyhedron Is Hard L. KHACHIYAN, E. BOROS, K. BORYS, K. ELBASSIONI, AND V. GURVICH	300
Pure Point Diffractive Substitution Delone Sets Have the Meyer Property J.-Y. LEE AND B. SOLOMYAK	317
Metric Combinatorics of Convex Polyhedra: Cut Loci and Nonoverlapping Unfoldings E. MILLER AND I. PAK	337
Empty Simplices of Polytopes and Graded Betti Numbers U. NAGEL	387
Rigidity and the Lower Bound Theorem for Doubly Cohen–Macaulay Complexes E. NEVO	409
Finding the Homology of Submanifolds with High Confidence from Random Samples P. NIYOGI, S. SMALE, AND S. WEINBERGER	417
Odd Crossing Number and Crossing Number Are Not the Same M.J. PELSMAJER, M. SCHAEFER, AND D. ŠTEFANKOVIČ	440
Visibility Graphs of Point Sets in the Plane F. PFENDER	453
Decomposability of Polytopes K. PRZESŁAWSKI AND D. YOST	458
An Inscribing Model for Random Polytopes R.M. RICHARDSON, V.H. VU, AND L. WU	467
An Optimal-Time Algorithm for Shortest Paths on a Convex Polytope in Three Dimensions Y. SCHREIBER AND M. SHARIR	498
General-Dimensional Constrained Delaunay and Constrained Regular Triangulations, I: Combinatorial Properties J.R. SHEWCHUK	578

Twentieth Anniversary Volume: Discrete &
Computational Geometry

Goodman, J.E.; Pach, J.; Pollack, R. (Eds.)

2009, XVIII, 635 p. 212 illus., Softcover

ISBN: 978-0-387-87362-6