

SoCG 2014 Accepted Papers

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| Marek Elias, Jiri Matousek, Edgardo Roldán-Pensado and Zuzana Safernova. Lower bounds on geometric Ramsey functions |
| Imre Barany, Jiri Matousek and Attila Por. Curves in \mathbb{R}^d intersecting every hyperplane at most $d+1$ times |
| Tal Kaminker and Micha Sharir . Finding the Largest Disk Containing a Query Point in Logarithmic Time with Linear Storage |
| Hiba Abdallah and Quentin Merigot . On the reconstruction of convex sets from random normal measurements |
| Ulrich Bauer , Xiaoyin Ge and Yusu Wang . Measuring Distance between Reeb Graphs |
| Frederic Chazal, Brittany Terese Fasy , Fabrizio Lecci , Alessandro Rinaldo and Larry Wasserman . Stochastic Convergence of Persistence Landscapes and Silhouettes |
| Ulrich Bauer and Herbert Edelsbrunner . The Morse theory of Čech and Delaunay filtrations |
| Frederic Chazal and Jian Sun . Gromov-Hausdorff Approximation of Filament Structure Using Reeb-type Graph |
| Sariel Har-Peled and Benjamin Raichel . On the Complexity of Randomly Weighted Voronoi Diagrams |
| Adrian Dumitrescu and Minghui Jiang . THE OPAQUE SQUARE |
| Sariel Har-Peled . Quasi-Polynomial Time Approximation Scheme for Sparse Subsets of Polygons |
| Luis Barba, Jean Lou De Carufel, Otfried Cheong, Michael Dobbins, Rudolf Fleischer, Akitoshi Kawamura, Matias Korman, Yoshio Okamoto, Janos Pach, Yuan Tang, Takeshi Tokuyama , Sander Verdonschot and Tianhao Wang. Weight Balancing on Boundaries and Skeletons |
| Jiri Matousek, Eric Sedgwick, Martin Tancer and Uli Wagner. Embeddability in the 3-sphere is decidable |
| Pedro Machado Manhães de Castro , Quentin Merigot and Boris Thibert . Intersection of paraboloids and application to Minkowski-type problems |
| Kevin Verbeek and Subhash Suri. Metric Embedding, Hyperbolic Space, and Social Networks |
| Anna Gundert and May Szedlak. Higher Dimensional Cheeger Inequalities |
| Ulrich Bauer and Michael Lesnick . Induced Matchings of Barcodes and the Algebraic Stability of Persistence |
| Isaac Mabillard and Uli Wagner. Eliminating Tverberg Points, I. An Analogue of the Whitney Trick |
| Ljubomir Perkovic , Nicolas Bonichon , Iyad Kanj and Ge Xia. There are Plane Spanners of Maximum Degree 4 |
| Manuel Wettstein. Counting and Enumerating Crossing-free Geometric Graphs |
| Sergio Cabello , Josef Cibulka, Jan Kyncl, Maria Saumell and Pavel Valtr. Peeling potatoes near-optimally in near-linear time |
| Sylvester Eriksson-Bique, Valentin Polishchuk and Mikko Sysikaski. Optimal Geometric Flows via Dual Programs |
| Janos Pach and Frank de Zeeuw. Distinct distances on algebraic curves in the plane |
| Maike Buchin , Anne Driemel and Bettina Speckmann . Computing the Fréchet distance with shortcuts is NP-hard |
| Hu Ding and Jinhui Xu . Sub-linear Time Hybrid Approximations for Least Trimmed Squares Estimator and Related Problems |
| Micha Sharir and Noam Solomon. Incidences between points and lines in \mathbb{R}^4 |
| Yair Bartal, Lee-Ad Gottlieb and Ofar Neiman . On the Impossibility of Dimension Reduction for Doubling Subsets of ℓ_p |
| Oswin Aichholzer , Luis Barba, Thomas Hackl , Alexander Pilz and Birgit Vogtenhuber. Linear transformation distance for bichromatic matchings |
| Nicolas Chevallier, Augustin Fruchard, Dominique Schmitt and Jean-Claude Spehner. Separation by Convex Pseudo-Circles |

Arnaud Padrol and [Louis Theran](#). Delaunay triangulations with disconnected realization spaces

Rinat Ben Avraham, Omrit Filtser, Haim Kaplan, [Matthew Katz](#) and [Micha Sharir](#). The Discrete Fréchet Distance with Shortcuts via Approximate Distance Counting and Selection

Suyi Wang, [Yusu Wang](#) and [Rephael Wenger](#). Merge Graphs of Join and Split Trees

Alexandre Rok and Bartosz Walczak. Outerstring graphs are chi-bounded

[Don Sheehy](#). The Persistent Homology of Distance Functions under Random Projection

[Jeff Erickson](#) and [Anastasios Sidiropoulos](#). A near-optimal approximation algorithm for Asymmetric TSP on embedded graphs

[Pankaj K. Agarwal](#) and [Jiangwei Pan](#). Near-Linear Algorithms for Geometric Hitting Sets and Set Covers

Zachary Abel, Robert Connelly, Sarah Eisenstat, Radoslav Fulek, [Filip Morić](#), [Yoshio Okamoto](#), Tibor Szabo and [Csaba Toth](#). Free Edge Lengths in Plane Graphs

[Zachary Abel](#), [Erik D. Demaine](#), [Martin Demaine](#), Jin-Ichi Itoh, [Anna Lubiw](#), Chie Nara and [Joseph O'Rourke](#). Continuously Flattening Polyhedra Using Straight Skeletons

Andreas Baertschi, Thomas Tschager, Subir Kumar Ghosh, Matus Mihalak and Peter Widmayer. Improved bounds for the conflict-free chromatic art gallery problem

[Sunil Arya](#) and [Timothy M. Chan](#). Better ϵ -Dependencies for Offline Approximate Nearest Neighbor Search, Euclidean Minimum Spanning Trees, and ϵ -Kernels

[Timothy M. Chan](#) and Patrick Lee. On Constant Factors in Comparison-Based Geometric Algorithms and Data Structures

Lee-Ad Gottlieb and Shay Solomon. Light spanners for snowflake metrics

Shay Solomon. Euclidean Steiner Shallow-Light Trees

[Bernd Gaertner](#). Sampling with Removal in LP-type Problems

[Dániel Marx](#) and [Anastasios Sidiropoulos](#). The limited blessing of low dimensionality: when $1-1/d$ is the best possible exponent for d -dimensional geometric problems

Orit E. Raz, Micha Sharir and Jozsef Solymosi. On triple intersections of three families of unit circles

Orit E. Raz, Micha Sharir and Jozsef Solymosi. Polynomials vanishing on grids: The Elekes-Ronyai problem revisited

Ciprian Borcea and [Ileana Streinu](#). Liftings and stresses for planar periodic frameworks

Sander Alewijnse, Timur Bagautdinov, [Mark De Berg](#), Quirijn Bouts, Alex Ten Brink, Kevin Buchin and Michel Westenberg. Progressive Geometric Algorithms

[Danny Z. Chen](#), Rajasekhar Inkulu and [Haitao Wang](#). Two-Point L_1 Shortest Path Queries in the Plane

[Cynthia Dwork](#), Aleksandar Nikolov and Kunal Talwar. Using Convex Relaxations for Efficiently and Privately Releasing Marginals

[Éric Colin de Verdière](#), Alfredo Hubard and [Arnaud de Mesmay](#). Discrete systolic inequalities and decompositions of triangulated surfaces

[Luis Barba](#), [Prosenjit Bose](#), [Mirela Damian](#), [Rolf Fagerberg](#), Wah Loon Keng, [Joseph O'Rourke](#), [André van Renssen](#), [Perouz Taslakian](#), [Sander Verdonschot](#) and [Ge Xia](#). New and Improved Spanning Ratios for Yao Graphs

[Tamal Dey](#), Fengtao Fan and [Yusu Wang](#). Computing Topological Persistence for Simplicial Maps

Quirijn Bouts, Alex Ten Brink and [Kevin Buchin](#). A Framework for Computing the Greedy Spanner

[Alexander Munteanu](#), [Christian Sohler](#) and [Dan Feldman](#). Smallest enclosing ball for probabilistic data

[Ioannis Emiris](#) and [Vissarion Fisikopoulos](#). Efficient Random-Walk Methods for Approximating Polytope Volume

Andrea Francke and [Csaba Toth](#). A Census of Plane Graphs with Polyline Edges

Arturs Backurs and Piotr Indyk. Better embeddings for planar Earth-Mover Distance over sparse sets

[Jonathan Shewchuk](#) and [Hang Si](#). Higher-Quality Tetrahedral Mesh Generation for Domains with Small Angles by Constrained Delaunay Refinement