

Preprints

- (33) A. Al Ahmadiéh and C. Vinzant. Determinantal representations and the image of the principal minor map. ([arXiv:2205.05267](#))
- (32) G. Blekherman, F. Rincón, R. Sinn, C. Vinzant, and J. Yu. Moments, Sums of Squares, and Tropicalization ([arXiv:2203.06291](#))
- (31) A. Al Ahmadiéh and C. Vinzant. Characterizing principal minors of symmetric matrices via determinantal multiaffine polynomials. ([arXiv:2105.13444](#))
- (30) F. P. Simon and C. Vinzant. Invariant hyperbolic curves: determinantal representations and applications to the numerical range. ([arXiv:2102.01726](#))
- (29) N. Anari, K. Liu, S. Oveis Gharan, and C. Vinzant. Log-Concave Polynomials III: Mason’s Ultra-Log-Concavity Conjecture for Independent Sets of Matroids. ([arXiv:1811.01600](#))

Publications

- (28) Z. Rosen, G. Scholten, and C. Vinzant. Sparse moments of univariate step functions and allele frequency spectra. *Vietnam J. Math.* 50 (2022), no. 2, 523–544.
- (27) N. Anari, K. Liu, S. Oveis Gharan, and C. Vinzant. Log-Concave Polynomials IV: Approximate Exchange, Tight Mixing Times, and Near-Optimal Sampling of Forests. 53rd Annual ACM Symposium on Theory of Computing (STOC 2021).
- (26) N. Anari, S. Oveis Gharan, and C. Vinzant. Log-concave polynomials, I: entropy and a deterministic approximation algorithm for counting bases of matroids. *Duke Math. J.* 170(16) (2021), 3459–3504.
- (25) F. Rincón, C. Vinzant, and J. Yu. Positively Hyperbolic Varieties, Tropicalization, and Positroids. *Advances in Mathematics* 383 (2021). No. 107677, 35 pp.
- (24) C. Vinzant. The geometry of spectrahedra. Sum of squares: theory and applications, 11–35, *Proc. Sympos. Appl. Math.*, 77, Amer. Math. Soc., Providence, RI, 2020.
- (23) G. Blekherman, M. Kummer, C. Riener, M. Schweighofer, and C. Vinzant. Generalized eigenvalue methods for Gaussian quadrature rules. *Ann. H. Lebesgue* 3 (2020), 1327–1341.
- (22) I. Kogan, M. Ruddy, and C. Vinzant. Differential signatures of algebraic curves. *SIAM J. Appl. Algebra Geom.* 4(1) (2020), 185–226.
- (21) N. Anari, K. Liu, S. Oveis Gharan, and C. Vinzant. Log-Concave Polynomials II: High-dimensional walks and an FPRAS for counting bases of a matroid. 51st Annual ACM Symposium on the Theory of Computing (STOC 2019). (*Best paper award.*)
- (20) G. Scholten and C. Vinzant. Semi-inverted linear spaces and an analogue of the broken circuit complex. *Algebraic Combinatorics*, 2(4) (2019), 645–661.
- (19) M. Kummer and C. Vinzant. The Chow form of a reciprocal linear space. *Michigan Math. J.*, 68 (2019), no. 4, 831–858
- (18) D. Brake, J. Hauenstein, and C. Vinzant. Computing complex and real tropical curves using monodromy. *J. Pure Appl. Algebra*, 223(12) (2019), 5232–5250.
- (17) G. Blekherman, D. Plaumann, R. Sinn, and C. Vinzant. Low-rank sum-of-squares representations on varieties of minimal degree. *International Mathematics Research Notices*, 1 (2019), 33–54.
- (16) N. Anari, S. Oveis Gharan, and C. Vinzant. Log-concave polynomials, entropy, and a deterministic approximation algorithm for counting bases of matroids. 59th Annual

- IEEE Symposium on Foundations of Computer Science – FOCS 2018, 35–46, IEEE Computer Soc., Los Alamitos, CA, 2018.
- (15) L. Chua, D. Plaumann, R. Sinn, and C. Vinzant. Gram spectrahedra. *Ordered algebraic structures and related topics, Contemp. Math.*, 697, (2017), 81–105.
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 - (13) C. Vinzant. A small frame and a certificate of its injectivity. *Sampling Theory and Applications (SampTA), Conference Proceedings.* (2015), 197 – 200.
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