

Publications with references to Normaliz

- [1] ABBOTT, J., AND BIGATTI, A. M. What is new in CoCoA? In *Mathematical software – ICMS 2014. 4th international congress, Seoul, South Korea, August 5–9, 2014. Proceedings*. Berlin: Springer, 2014, pp. 352–358.
- [2] ABBOTT, J., AND BIGATTI, A. M. New in cocoa-5.2. 2 and cocoalib-0.99560 for sc-square. In *SC²@ ISSAC (2017)*.
- [3] AHMED, M., DE LOERA JESÚS, AND HEMMECKE, R. Polyhedral cones of magic cubes and squares. In *Discrete and computational geometry. The Goodman-Pollack Festschrift*. Berlin: Springer, 2003, pp. 25–41.
- [4] AHMED, M. M. *Algebraic combinatorics of magic squares*. PhD thesis, University of California, Davis, 2004.
- [5] AL-AYYOUB, I., JARADAT, I., AND AL-ZOUBI, K. On the normality of a class of monomial ideals via the newton polyhedron. *Mediterranean Journal of Mathematics* 16, 3 (2019), 77.
- [6] ALCÁNTAR, A. The equations of the cone associated to the rees algebra of the ideal of square-free k-products. *Morfismos* 5, 1 (2001), 17–27.
- [7] ALIEV, I., DE LOERA, J. A., AND LOUVEAUX, Q. Integer programs with prescribed number of solutions and a weighted version of Doignon-Bell-Scarf’s theorem. In *Integer programming and combinatorial optimization*, vol. 8494 of *Lecture Notes in Comput. Sci.* Springer, Cham, 2014, pp. 37–51.

- [8] ALIEV, I., DE LOERA, J. A., AND LOUVEAUX, Q. Semigroups of polyhedra with prescribed number of lattice points and the k -frobenius problem. *arXiv preprint arXiv:1409.5259* (2014).
- [9] ALIEV, I., DE LOERA, J. A., AND LOUVEAUX, Q. Parametric polyhedra with at least k lattice points: Their semigroup structure and the k -frobenius problem. In *Recent trends in Combinatorics*. Springer, 2016, pp. 753–778.
- [10] ALTMANN, K., AND KASTNER, L. Negative deformations of toric singularities that are smooth in codimension two. In *Deformations of surface singularities*. Berlin: Springer; Budapest: János Bolyai Mathematical Society, 2013, pp. 13–55.
- [11] ASSARF, B., GAWRILOW, E., HERR, K., JOSWIG, M., LORENZ, B., PAFFENHOLZ, A., AND REHN, T. Computing convex hulls and counting integer points with polymake. *Mathematical Programming Computation* 9, 1 (2017), 1–38.
- [12] ASSI, A., AND GARCÍA-SÁNCHEZ, P. A. *Numerical semigroups and applications*. Cham: Springer, 2016.
- [13] AVIS, D., AND JORDAN, C. mplrs: A scalable parallel vertex/facet enumeration code. *Mathematical Programming Computation* 10, 2 (2018), 267–302.
- [14] BÄCHLE, A., AND CAICEDO, M. On the prime graph question for almost simple groups with an alternating socle. *International Journal of Algebra and Computation* 27, 03 (2017), 333–347.
- [15] BÄCHLE, A., HERMAN, A., KONOVALOV, A., MARGOLIS, L., AND SINGH, G. The status of the zassenhaus conjecture for small groups. *Experimental Mathematics* (2017), 1–6.
- [16] BÄCHLE, A., KIMMERLE, W., AND MARGOLIS, L. Algorithmic aspects of units in group rings. In *Algorithmic and Experimental Methods in Algebra, Geometry, and Number Theory*. Springer, 2017, pp. 1–22.
- [17] BÄCHLE, A., AND MARGOLIS, L. On the prime graph question for integral group rings of 4-primary groups I. *Internat. J. Algebra Comput.* 27, 6 (2017), 731–767.

- [18] BÄCHLE, A., AND MARGOLIS, L. Help: a gap package for torsion units in integral group rings. *Journal of Software for Algebra and Geometry* 8, 1 (2018), 1–9.
- [19] BECK, M., HAASE, C., AND SAM, S. V. Grid graphs, Gorenstein polytopes, and domino stackings. *Graphs Comb.* 25, 4 (2009), 409–426.
- [20] BECK, M., ROBINS, S., AND SAM, S. V. Positivity theorems for solid-angle polynomials. *Beitr. Algebra Geom.* 51, 2 (2010), 493–507.
- [21] BERNSTEIN, D. I., AND SULLIVANT, S. Normal binary hierarchical models. *Exp. Math.* 26, 2 (2017), 153–164.
- [22] BIGDELI, M., HERZOG, J., HIBI, T., QURESHI, A. A., AND SHIKAMA, A. Isotonian algebras. *Nagoya Math. J.* 230 (2018), 83–101.
- [23] BOFFI, G., AND LOGAR, A. Computing Gröbner bases of pure binomial ideals via submodules of \mathbb{Z}^n . *J. Symb. Comput.* 47, 10 (2012), 1297–1308.
- [24] BOFFI, G., AND LOGAR, A. Border bases for lattice ideals. *Journal of Symbolic Computation* 79 (2017), 43–56.
- [25] BOGART, T., HAASE, C., HERING, M., LORENZ, B., NILL, B., PAFENHOLZ, A., ROTE, G., SANTOS, F., AND SCHENCK, H. Finitely many smooth d -polytopes with n lattice points. *Isr. J. Math.* 207 (2015), 301–329.
- [26] BOGART, T., RAYMOND, A., AND THOMAS, R. Small Chvátal rank. *Math. Program.* 124, 1-2 (B) (2010), 45–68.
- [27] BÖHM, J., DECKER, W., KEICHER, S., AND REN, Y. Current challenges in developing open source computer algebra systems. In *Mathematical aspects of computer and information sciences. 6th international conference, MACIS 2015, Berlin, Germany, November 11–13, 2015. Revised selected papers*. Cham: Springer, 2016, pp. 3–24.
- [28] BÖHM, J., EISENBUD, D., AND NITSCHKE, M. J. Decomposition of semi-group algebras. *Exp. Math.* 21, 4 (2012), 385–394.
- [29] BONANZINGA, V., ESCOBAR, C. A., AND VILLARREAL, R. H. On the normality of Rees algebras associated to totally unimodular matrices. *Result. Math.* 41, 3-4 (2002), 258–264.

- [30] BOROWKA, S., HEINRICH, G., JAHN, S., JONES, S., KERNER, M., AND SCHLENK, J. Numerical evaluation of two-loop integrals with pysecdec. *arXiv preprint arXiv:1712.05755* (2017).
- [31] BOROWKA, S., HEINRICH, G., JAHN, S., JONES, S., KERNER, M., AND SCHLENK, J. A gpu compatible quasi-monte carlo integrator interfaced to pysecdec. *Computer Physics Communications* (2019).
- [32] BOROWKA, S., HEINRICH, G., JAHN, S., JONES, S., KERNER, M., SCHLENK, J., AND ZIRKE, T. pysecdec: a toolbox for the numerical evaluation of multi-scale integrals. *Computer Physics Communications* 222 (2018), 313–326.
- [33] BOROWKA, S., HEINRICH, G., JONES, S., KERNER, M., SCHLENK, J., AND ZIRKE, T. Secdec-3.0: numerical evaluation of multi-scale integrals beyond one loop. *Computer Physics Communications* 196 (2015), 470–491.
- [34] BOUCKAERT, R., HEMMECKE, R., LINDNER, S., AND STUDENÝ, M. Efficient algorithms for conditional independence inference. *J. Mach. Learn. Res.* 11 (2010), 3453–3479.
- [35] BRANDT, F., GEIST, C., AND STROBEL, M. Analyzing the practical relevance of voting paradoxes via Ehrhart theory, computer simulations, and empirical data. In *Proceedings of the 2016 International Conference on Autonomous Agents & Multiagent Systems* (2016), International Foundation for Autonomous Agents and Multiagent Systems, pp. 385–393.
- [36] BRENNAN, J. P., DUPONT, L. A., AND VILLARREAL, R. H. Duality, a -invariants and canonical modules of rings arising from linear optimization problems. *Bull. Math. Soc. Sci. Math. Roum., Nouv. Sér.* 51, 4 (2008), 279–305.
- [37] BREUER, F. An invitation to Ehrhart theory: polyhedral geometry and its applications in enumerative combinatorics. In *Computer algebra and polynomials*. Springer International Publishing, 2015, pp. 1–29.
- [38] BREUER, F., AND ZAFEIRAKOPOULOS, Z. Polyhedral omega: a new algorithm for solving linear Diophantine systems. *Ann. Comb.* 21, 2 (2017), 211–280.

- [39] BRUNS, W. On the integral Carathéodory property. *Exp. Math.* 16, 3 (2007), 359–365.
- [40] BRUNS, W. The quest for counterexamples in toric geometry. In *Commutative algebra and algebraic geometry. Proceedings of the international conference (CAAG-2010), Bangalore, India, December 6–10, 2010, in honour of Balwant Singh, Uwe Storch and Rajendra V. Gurjar*. Mysore: Ramanujan Mathematical Society, 2013, pp. 45–61.
- [41] BRUNS, W. Binomial regular sequences and free sums. *Acta Math. Vietnam.* 40, 1 (2015), 71–83.
- [42] BRUNS, W., AND CONCA, A. Linear resolutions of powers and products. In *Singularities and Computer Algebra*. Springer, 2017, pp. 47–69.
- [43] BRUNS, W., AND CONCA, A. Products of Borel fixed ideals of maximal minors. *Adv. Appl. Math.* 91 (2017), 1–23.
- [44] BRUNS, W., GARCIA-SANCHEZ, P., O’NEILL, C., AND WILBURNE, D. Wilf’s conjecture in fixed multiplicity. *arXiv preprint arXiv:1903.04342* (2019).
- [45] BRUNS, W., GARCÍA-SÁNCHEZ, P. A., AND MOCI, L. The monoid of monotone functions on a poset and arithmetic multiplicities for uniform matroids. *arXiv preprint arXiv:1902.00864* (2019).
- [46] BRUNS, W., AND GUBELADZE, J. Normality and covering properties of affine semigroups. *J. Reine Angew. Math.* 510 (1999), 161–178.
- [47] BRUNS, W., AND GUBELADZE, J. *Polytopes, rings, and K-theory*. New York, NY: Springer, 2009.
- [48] BRUNS, W., GUBELADZE, J., HENK, M., MARTIN, A., AND WEISMANTEL, R. A counterexample to an integer analogue of Carathéodory’s theorem. *J. Reine Angew. Math.* 510 (1999), 179–185.
- [49] BRUNS, W., GUBELADZE, J., AND MICHAŁEK, M. Quantum jumps of normal polytopes. *Discrete Comput. Geom.* 56, 1 (2016), 181–215.
- [50] BRUNS, W., GUBELADZE, J., AND NGÔ VIỆT TRUNG. Problems and algorithms for affine semigroups. *Semigroup Forum* 64, 2 (2002), 180–212.

- [51] BRUNS, W., ICHIM, B., AND SÖGER, C. Computations of volumes and Ehrhart series in four candidates elections. *Annals of Operations Research* (2019), 1–25.
- [52] BRUNS, W., AND RESTUCCIA, G. Canonical modules of Rees algebras. *J. Pure Appl. Algebra* 201, 1-3 (2005), 189–203.
- [53] BUBBOLONI, D., DISS, M., AND GORI, M. Extensions of the simpson voting rule to the committee selection setting. <https://halshs.archives-ouvertes.fr/halshs-01827668/> (2017).
- [54] BURTON, B. A. Computational topology with Regina: algorithms, heuristics and implementations. In *Geometry and topology down under: A conference in honour of Hyam Rubinstein, Melbourne, Australia, July 11–22, 2011. Proceedings*. Providence, RI: American Mathematical Society (AMS), 2013, pp. 195–224.
- [55] BURTON, B. A., AND OZLEN, M. Computing the crosscap number of a knot using integer programming and normal surfaces. *ACM Trans. Math. Softw.* 39, 1 (2012), 18.
- [56] CABOARA, M., AND FARIDI, S. Odd-cycle-free facet complexes and the König property. *Rocky Mt. J. Math.* 41, 4 (2011), 1059–1079.
- [57] CAMERON, A., DINU, R., MICHĄLEK, M., AND SEYNNAEVE, T. Flag matroids: algebra and geometry. *arXiv preprint arXiv:1811.00272* (2018).
- [58] CASTILLO, F., LIU, F., NILL, B., AND PAFFENHOLZ, A. Smooth polytopes with negative ehrhart coefficients. *arXiv preprint arXiv:1704.05532* (2017).
- [59] CAVIGLIA, G., CHARDIN, M., MCCULLOUGH, J., PEEVA, I., AND VARBARO, M. Regularity of prime ideals. *Mathematische Zeitschrift* 291, 1-2 (2019), 421–435.
- [60] CHAHARSOOGHI, F. S., EMADI, M. J., ZAMANIGHOMI, M., AND AREF, M. R. A new method for variable elimination in systems of inequations. In *Information Theory Proceedings (ISIT), 2011 IEEE International Symposium on* (2011), IEEE, pp. 1215–1219.

- [61] COLMENAREJO, L., GALUPPI, F., AND MICHAŁEK, M. Toric geometry of path signature varieties. *Preprint arXiv:1903.03779* (2019).
- [62] COSTA, B., AND SIMIS, A. Cremona maps defined by monomials. *J. Pure Appl. Algebra* 216, 1 (2012), 202–215.
- [63] COX, D. A., LITTLE, J. B., AND SCHENCK, H. K. *Toric varieties*. Providence, RI: American Mathematical Society (AMS), 2011.
- [64] COYKENDALL, J., AND OMAN, G. Factorization theory of root closed monoids of small rank. *Communications in Algebra* 45, 7 (2017), 2795–2808.
- [65] CRAW, A., MACLAGAN, D., AND THOMAS, R. R. Moduli of McKay quiver representations. II: Gröbner basis techniques. *J. Algebra* 316, 2 (2007), 514–535.
- [66] CRAW, A., AND SMITH, G. G. Projective toric varieties as fine moduli spaces of quiver representations. *Am. J. Math.* 130, 6 (2008), 1509–1534.
- [67] DAO, H., AND MONTAÑO, J. Length of local cohomology of powers of ideals. *arXiv preprint arXiv:1705.05033* (2017).
- [68] DAVIS, B. Predicting the Integer Decomposition Property via Machine Learning. *ArXiv e-prints* (July 2018).
- [69] DAVIS, B. *Lattice Simplices: Sufficiently Complicated*. PhD thesis, University of Kentucky, 2019.
- [70] DE LOERA, J. A. Generating functions that count t -designs with given automorphism group: algorithms and structure. In *Mathematical software. Proceedings of the 1st international congress, Beijing, China, August 17–19, 2002*. Singapore: World Scientific, 2002, pp. 296–306.
- [71] DE LOERA, J. A., HEMMECKE, R., AND KÖPPE, M. *Algebraic and geometric ideas in the theory of discrete optimization*. Philadelphia, PA: Society for Industrial and Applied Mathematics (SIAM), 2013.
- [72] DE LOERA, J. A., HEMMECKE, R., TAUZER, J., AND YOSHIDA, R. Effective lattice point counting in rational convex polytopes. *J. Symb. Comput.* 38, 4 (2005), 1273–1302.

- [73] DELFINO, D., TAYLOR, A., VASCONCELOS, W., WEININGER, N., AND VILLARREAL, R. Monomial ideals and the computation of multiplicities. In *Commutative ring theory and applications. Proceedings of the fourth international conference, Fez, Morocco, June 7-12, 2001*. New York, NY: Marcel Dekker, 2003, pp. 87–106.
- [74] DELGADO, M., AND GARCÍA-SÁNCHEZ, P. A. numericalsgps, a GAP package for numerical semigroups. *ACM Commun. Comput. Algebra* 50, 1 (2016), 12–24.
- [75] DÍAZ-RAMÍREZ, J., GARCÍA-GARCÍA, J., MARÍN-ARAGÓN, D., AND VIGNERON-TENORIO, A. Characterizing affine \mathcal{C} -semigroups. *arXiv preprint arXiv:1907.03276* (2019).
- [76] DISS, M., KAMWA, E., AND TLIDI, A. The chamberlin-courant rule and the k-scoring rules: Agreement and condorcet committee consistency. <https://halshs.archives-ouvertes.fr/halshs-01817943/> (2018).
- [77] DISS, M., KAMWA, E., AND TLIDI, A. On some k-scoring rules for committee elections: agreement and Condorcet principle. <https://hal.univ-antilles.fr/hal-02147735> (2019).
- [78] DONTEN-BURY, M. *Constructing algebraic varieties via finite group actions*. PhD thesis, University of Warsaw, 2013.
- [79] DONTEN-BURY, M., AND KEICHER, S. Computing resolutions of quotient singularities. *Journal of Algebra* 472 (2017), 546–572.
- [80] DONTEN-BURY, M., AND MICHAŁEK, M. Phylogenetic invariants for group-based models. *J. Algebr. Stat.* 3, 1 (2012), 44–63.
- [81] DUPONT, L. A. *Rees algebras, Monomial Subrings and Linear Optimization Problems*. PhD thesis, Mexico City, 2010.
- [82] DUPONT, L. A., AND VILLARREAL, R. H. Symbolic Rees algebras, vertex covers and irreducible representations of Rees cones. *Algebra Discrete Math.* 10, 2 (2010), 64–86.
- [83] DUPONT, L. A., AND VILLARREAL, R. H. Algebraic and combinatorial properties of ideals and algebras of uniform clutters of TDI systems. *J. Comb. Optim.* 21, 3 (2011), 269–292.

- [84] ELIAS, J. On the computation of the Ratliff-Rush closure. *J. Symb. Comput.* 37, 6 (2004), 717–725.
- [85] EMIRIS, I. Z., AND FISIKOPOULOS, V. Practical polytope volume approximation. *ACM Transactions on Mathematical Software (TOMS)* 44, 4 (2018), 38.
- [86] EMIRIS, I. Z., KALINKA, T., KONAXIS, C., AND BA, T. L. Implicitization of curves and (hyper)surfaces using predicted support. *Theor. Comput. Sci.* 479 (2013), 81–98.
- [87] EPURE, R., REN, Y., AND SCHÖNEMANN, H. The polymake interface in singular and its applications. In *International Workshop on Computer Algebra in Scientific Computing* (2017), Springer, pp. 109–117.
- [88] ESCOBAR, C. A., MARTÍNEZ-BERNAL, J., AND VILLARREAL, R. H. Relative volumes and minors in monomial subrings. *Linear Algebra Appl.* 374 (2003), 275–290.
- [89] ESCOBAR, C. A., VILLARREAL, R. H., AND YOSHINO, Y. Torsion freeness and normality of blowup rings of monomial ideals. In *Commutative algebra: geometric, homological, combinatorial and computational aspects. Papers presented during the conference, Sevilla, Spain, June 18–21, 2003 and the conference on commutative algebra, Lisbon, Portugal, June 23–27, 2003*. Boca Raton, FL: Chapman & Hall/CRC, 2006, pp. 69–84.
- [90] FEI, J. Cluster algebras and semi-invariant rings I. Triple flags. *Proc. Lond. Math. Soc. (3)* 115, 1 (2017), 1–32.
- [91] FEI, J. Cluster algebras, invariant theory, and Kronecker coefficients I. *Adv. Math.* 310 (2017), 1064–1112.
- [92] FLORES-MÉNDEZ, A., GITLER, I., AND REYES, E. Implosive graphs: Square-free monomials on symbolic rees algebras. *Journal of Algebra and Its Applications* 16, 08 (2017), 1750145.
- [93] FONTANA, R., AND RAPALLO, F. Unions of orthogonal arrays and their aberrations via Hilbert bases. *arXiv preprint arXiv:1801.00591* (2018).
- [94] GARCÍA GARCÍA, J. I., MARÍN ARAGÓN, D., AND VIGNERON-TENORIO, A. An extension of Wilf’s conjecture to affine semigroups. *Semigroup Forum* 96, 2 (2018), 396–408.

- [95] GARCÍA-GARCÍA, J., MARÍN-ARAGÓN, D., AND MORENO-FRÍAS, M. On divisor-closed submonoids and minimal distances in finitely generated monoids. *Journal of Symbolic Computation* (2018).
- [96] GARCÍA-GARCÍA, J. I., MARÍN-ARAGÓN, D., AND VIGNERON-TENORIO, A. A characterization of some families of Cohen–Macaulay, Gorenstein and/or Buchsbaum rings. *Discrete Applied Mathematics* (2018).
- [97] GARCÍA-GARCÍA, J. I., MARÍN-ARAGÓN, D., AND VIGNERON-TENORIO, A. An extension of Wilfs conjecture to affine semigroups. *Semigroup Forum* 96, 2 (2018), 396–408.
- [98] GARCÍA-SÁNCHEZ, P. An overview of the computational aspects of nonunique factorization invariants. In *Multiplicative Ideal Theory and Factorization Theory*. Springer, 2016, pp. 159–181.
- [99] GARCÍA-SÁNCHEZ, P., MARÍN-ARAGÓN, D., AND ROBLES-PÉREZ, A. The tree of numerical semigroups with low multiplicity. *arXiv preprint arXiv:1803.06879* (2018).
- [100] GARCÍA-SÁNCHEZ, P. A., ONEILL, C., AND WEBB, G. The computation of factorization invariants for affine semigroups. *Journal of Algebra and Its Applications* 18, 01 (2019), 1950019.
- [101] GIMENEZ, P., MARTÍNEZ-BERNAL, J., SIMIS, A., VILLARREAL, R. H., AND VIVARES, C. E. Symbolic powers of monomial ideals and cohen-macaulay vertex-weighted digraphs. *arXiv preprint arXiv:1706.00126* (2017).
- [102] GITLER, I., REYES, E., AND VILLARREAL, R. H. Blowup algebras of square-free monomial ideals and some links to combinatorial optimization problems. *Rocky Mt. J. Math.* 39, 1 (2009), 71–102.
- [103] GITLER, I., VALENCIA, C., AND VILLARREAL, R. H. A note on the Rees algebra of a bipartite graph. *J. Pure Appl. Algebra* 201, 1-3 (2005), 17–24.
- [104] GITLER, I., AND VALENCIA, C. E. Multiplicities of edge subrings. *Discrete Math.* 302, 1-3 (2005), 107–123.
- [105] GITLER, I., VALENCIA, C. E., AND VILLARREAL, R. H. A note on Rees algebras and the MFMC property. *Beitr. Algebra Geom.* 48, 1 (2007), 141–150.

- [106] GODDYN, L., HUYNH, T., AND DESHPANDE, T. On Hilbert bases of cuts. *Discrete Math.* 339, 2 (2016), 721–728.
- [107] GRÄBE, H.-G. Semantic-aware fingerprints of symbolic research data. In *Mathematical software – ICMS 2016. 5th international conference, Berlin, Germany, July 11–14, 2016. Proceedings*. Cham: Springer, 2016, pp. 411–418.
- [108] GRÄBE, H.-G. 20 years symbolicdata. *ACM Communications in Computer Algebra* 52, 3 (2019), 45–54.
- [109] GREUEL, G.-M., LAPLAGNE, S., AND SEELISCH, F. Normalization of rings. *J. Symb. Comput.* 45, 9 (2010), 887–901.
- [110] GUARDO, E., HARBOURNE, B., AND VAN TUYL, A. Symbolic powers versus regular powers of ideals of general points in $\mathbb{P}^1 \times \mathbb{P}^1$. *Can. J. Math.* 65, 4 (2013), 823–842.
- [111] HÀ, H. T., AND LIN, K.-N. Normal 0-1 polytopes. *SIAM J. Discrete Math.* 29, 1 (2015), 210–223.
- [112] HAASE, C., PAFFENHOLZ, A., PIECHNIK, L. C., AND SANTOS, F. Existence of unimodular triangulations-positive results. *arXiv preprint arXiv:1405.1687* (2014).
- [113] HAMANO, G., HAYASHI, T., HIBI, T., HIRAYAMA, K., OHSUGI, H., SATO, K., SHIKAMA, A., AND TSUCHIYA, A. The smallest normal edge polytopes with no regular unimodular triangulations. In *Homological and Computational Methods in Commutative Algebra*. Springer, 2017, pp. 163–172.
- [114] HAWS, D., DEL CAMPO, A. M., TAKEMURA, A., AND YOSHIDA, R. Markov degree of the three-state toric homogeneous Markov chain model. *Beitr. Algebra Geom.* 55, 1 (2014), 161–188.
- [115] HEMMECKE, R. On the computation of Hilbert bases of cones. In *Mathematical software. Proceedings of the 1st international congress, Beijing, China, August 17–19, 2002*. Singapore: World Scientific, 2002, pp. 307–317.

- [116] HEMMECKE, R., MORTON, J., SHIU, A., STURMFELS, B., AND WIEN-AND, O. Three counter-examples on semi-graphoids. *Comb. Probab. Comput.* 17, 2 (2008), 239–257.
- [117] HEMMECKE, R., TAKEMURA, A., AND YOSHIDA, R. Computing holes in semi-groups and its applications to transportation problems. *Contrib. Discrete Math.* 4, 1 (2009), 81–91.
- [118] HERBIG, H.-C., AND SEATON, C. The Hilbert series of a linear symplectic circle quotient. *Exp. Math.* 23, 1 (2014), 46–65.
- [119] HERR, K., REHN, T., AND SCHÜRMAN, A. On lattice-free orbit polytopes. *Discrete Comput. Geom.* 53, 1 (2014), 144–172.
- [120] HERZOG, J., HIBI, T., AND TRUNG, N. V. Symbolic powers of monomial ideals and vertex cover algebras. *Adv. Math.* 210, 1 (2007), 304–322.
- [121] HIBI, T., AND TSUCHIYA, A. The depth of a reflexive polytope. *Archiv der Mathematik* (2018), 1–8.
- [122] HIRSCH, T. Computing the integral closure of an ideal using its Rees algebra. In *Computational commutative and non-commutative algebraic geometry. Proceedings of the NATO Advanced Research Workshop, Chisinau, Republic of Moldova, June 6–11, 2004*. Amsterdam: IOS Press, 2005, pp. 145–155.
- [123] HOŞTEN, S., AND THOMAS, R. R. Gomory integer programs. *Math. Program.* 96, 2 (B) (2003), 271–292.
- [124] ICHIM, B., KATTHÄN, L., AND MOYANO-FERNÁNDEZ, J. J. How to compute the Stanley depth of a module. *Math. Comput.* 86, 303 (2017), 455–472.
- [125] ICHIM, B., AND MOYANO-FERNÁNDEZ, J. J. On the score sheets of a round-robin football tournament. *Advances in Applied Mathematics* 91 (2017), 24–43.
- [126] JARRAH, A. S. Integral closures of Cohen-Macaulay monomial ideals. *Commun. Algebra* 30, 11 (2002), 5473–5478.
- [127] JEFFRIES, J., MONTAÑO, J., AND VARBARO, M. Multiplicities of classical varieties. *Proc. Lond. Math. Soc. (3)* 110, 4 (2015), 1033–1055.

- [128] JING, R.-J., AND MAZA, M. M. Computing the integer points of a polyhedron, ii: Complexity estimates. In *International Workshop on Computer Algebra in Scientific Computing* (2017), Springer, pp. 242–256.
- [129] JOSWIG, M., MÜLLER, B., AND PAFFENHOLZ, A. polymake and lattice polytopes. In *21st International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2009)*, Discrete Math. Theor. Comput. Sci. Proc., AK. Assoc. Discrete Math. Theor. Comput. Sci., Nancy, 2009, pp. 491–502.
- [130] JOSWIG, M., AND PAFFENHOLZ, A. Defect polytopes and counterexamples with polymake. *ACM Commun. Comput. Algebra* 45, 3-4 (2011), 177–179.
- [131] KAHLE, D., O’NEILL, C., AND SOMMARS, J. A computer algebra system for R: Macaulay2 and the m2r package. *arXiv preprint arXiv:1706.07797* (2017).
- [132] KALINKA, T. *Changing Representation of Curves and Surfaces: Exact and Approximate Methods*. PhD thesis, University of Athens, 2013.
- [133] KAPPL, R. *The superpotential in heterotic orbifold GUTs*. PhD thesis, Technische Universität München, 2011.
- [134] KAPPL, R., NILLES, H. P., AND SCHMITZ, M. R symmetries and a heterotic MSSM. *Nucl. Phys., B* 891 (2015), 482–498.
- [135] KAPPL, R., RATZ, M., AND STAUDT, C. The Hilbert basis method for D-flat directions and the superpotential. *J. High Energy Phys.* 2011, 10 (2011), 12.
- [136] KASHIWABARA, K. Scheduling partial round robin tournaments subject to home away pattern sets. *Electron. J. Comb.* 16, 1 (2009), research paper r55, 23.
- [137] KASTNER, L. Toric Ext and Tor in polymake and Singular: The two-dimensional case and beyond. In *Algorithmic and Experimental Methods in Algebra, Geometry, and Number Theory*. Springer, 2017, pp. 423–441.
- [138] KATTHÄN, L. *Algebraic theory of affine monoids*. PhD thesis, Philipps-Universität Marburg, 2013.

- [139] KIERS, J. On the saturation conjecture for $\text{Spin}(2n)$. *arXiv preprint arXiv:1804.09229* (2018).
- [140] KIM, D., KIM, S., AND PARK, E. Hive algebras and tensor product algebras for small $\text{GL}(n)$. *arXiv preprint arXiv:1712.02454* (2017).
- [141] KIMMERLE, W., AND KONOVALOV, A. On the Gruenberg–Kegel graph of integral group rings of finite groups. *International Journal of Algebra and Computation* 27, 06 (2017), 619–631.
- [142] KOHL, F. *Lattice Polytopes—Applications and Properties: Ehrhart Theory, Graph Colorings, and Level Algebras*. PhD thesis, FU Berlin, 2018.
- [143] KOHL, F., LI, Y., RAUH, J., AND YOSHIDA, R. Semigroups—a computational approach. *arXiv preprint arXiv:1608.03297* (2016).
- [144] KOHL, F., AND OLSEN, M. Level algebras and s-lecture hall polytopes. *arXiv preprint arXiv:1710.10892* (2017).
- [145] KOHL, F., AND OLSEN, M. Birkhoff polytopes of different type and the orthant-lattice property. *arXiv preprint arXiv:1903.12634* (2019).
- [146] KOHL, F., OLSEN, M., AND SANYAL, R. Unconditional reflexive polytopes. *arXiv preprint arXiv:1906.01469* (2019).
- [147] KÖPPE, M., AND ZHOU, Y. New computer-based search strategies for extreme functions of the Gomory–Johnson infinite group problem. *Math. Program. Comput.* 9, 3 (2017), 419–469.
- [148] KRONE, R., AND KUBJAS, K. Nonnegative rank four boundaries. *arXiv preprint arXiv:1902.02868* (2019).
- [149] KUBJAS, K. Hilbert polynomial of the Kimura 3-parameter model. *J. Algebr. Stat.* 3, 1 (2012), 64–69.
- [150] KUBJAS, K. Low degree minimal generators of phylogenetic semigroups. *Eur. J. Math.* 1, 1 (2015), 2–24.
- [151] LA BARBIERA, M., AND PARATORE, M. Normality of monomial ideals in two sets of variables. *An. Științ. Univ. Ovidius Constanța Ser. Mat* 13 (2005), 5–14.

- [152] LASOŃ, M., AND MICHAŁEK, M. Non-normal very ample polytopes—constructions and examples. *Experimental mathematics* 26, 2 (2017), 130–137.
- [153] LERCIER, R., AND OLIVE, M. Covariant algebra of the binary nonic and the binary decimic. In *Arithmetic, geometry, cryptography and coding theory*, vol. 686 of *Contemp. Math.* Amer. Math. Soc., Providence, RI, 2017, pp. 65–91.
- [154] LI, P. *Seminormality and the Cohen-Macaulay property*. PhD thesis, Queens University, 2004.
- [155] LÓPEZ, H. H., AND VILLARREAL, R. H. Computing the degree of a lattice ideal of dimension one. *J. Symb. Comput.* 65 (2014), 15–28.
- [156] LORENZ, B. Classification of smooth lattice polytopes with few lattice points. *arXiv preprint arXiv:1001.0514* (2010).
- [157] LORENZ, B., AND NILL, B. On smooth Gorenstein polytopes. *Tohoku Math. J. (2)* 67, 4 (2015), 513–530.
- [158] MA, Z., HE, Z., LI, Z., AND GIUA, A. Design of monitor-based supervisors in labelled Petri nets. *IFAC-PapersOnLine* 51, 7 (2018), 374–380.
- [159] MACLAGAN, D., AND SMITH, G. G. Multigraded Castelnuovo-Mumford regularity. *J. Reine Angew. Math.* 571 (2004), 179–212.
- [160] MARTÍNEZ-BERNAL, J., MOREY, S., AND VILLARREAL, R. H. Associated primes of powers of edge ideals. *Collect. Math.* 63, 3 (2012), 361–374.
- [161] MARTÍNEZ-BERNAL, J., O’SHEA, E., AND VILLARREAL, R. H. Ehrhart clutters: regularity and max-flow min-cut. *Electron. J. Comb.* 17, 1 (2010), research paper r52, 18.
- [162] MARTÍNEZ-BERNAL, J., RENTERÍA-MÁRQUEZ, C., AND VILLARREAL, R. H. Combinatorics of symbolic Rees algebras of edge ideals of clutters. In *Commutative algebra and its connections to geometry*, vol. 555 of *Contemp. Math.* Amer. Math. Soc., Providence, RI, 2011, pp. 151–164.
- [163] MICHAŁEK, M. Finite phylogenetic complexity of \mathbb{Z}_p and invariants for \mathbb{Z}_3 . *Eur. J. Comb.* 59 (2017), 169–186.

- [164] MICHAŁEK, M. Selected topics on toric varieties. *arXiv preprint arXiv:1702.03125* (2017).
- [165] MICHAŁEK, M., AND VENTURA, E. Phylogenetic complexity of the Kimura 3-parameter model. *ArXiv e-prints* (Apr. 2017).
- [166] MILNE, A. J., BULGER, D., AND HERFF, S. A. Exploring the space of perfectly balanced rhythms and scales. *J. Math. Music* 11, 2-3 (2017), 101–133.
- [167] MING, Z., ZHANG, L., QI, L., AND CHEN, Y. Minimal integrity bases and irreducible function bases of isotropic invariants of two-dimensional Eshelby tensors. *arXiv preprint arXiv:1803.06106* (2018).
- [168] MOREY, S., AND VILLARREAL, R. H. Edge ideals: algebraic and combinatorial properties. In *Progress in commutative algebra I. Combinatorics and homology*. Berlin: Walter de Gruyter, 2012, pp. 85–126.
- [169] MORTON, J. R. *Geometry of conditional independence*. ProQuest LLC, Ann Arbor, MI, 2007. Thesis (Ph.D.)—University of California, Berkeley.
- [170] MOYANO-FERNÁNDEZ, J. J., AND ULICZKA, J. Hilbert depth of graded modules over polynomial rings in two variables. *J. Algebra* 373 (2013), 130–152.
- [171] NILL, B., AND PAFFENHOLZ, A. Examples of Kähler-Einstein toric Fano manifolds associated to non-symmetric reflexive polytopes. *Beitr. Algebra Geom.* 52, 2 (2011), 297–304.
- [172] NILL, B., AND SCHEPERS, J. Gorenstein polytopes and their stringy E -functions. *Math. Ann.* 355, 2 (2013), 457–480.
- [173] O’CARROLL, L., PLANAS-VILANOVA, F., AND VILLARREAL, R. H. Degree and algebraic properties of lattice and matrix ideals. *SIAM J. Discrete Math.* 28, 1 (2014), 394–427.
- [174] OHSUGI, H. Normality of cut polytopes of graphs is a minor closed property. *Discrete Math.* 310, 6-7 (2010), 1160–1166.
- [175] OHSUGI, H., AND HIBI, T. Non-very ample configurations arising from contingency tables. *Ann. Inst. Stat. Math.* 62, 4 (2010), 639–644.

- [176] OLIVE, M. *Géométrie des espaces de tenseurs-Une approche effective appliquée à la mécanique des milieux continus*. PhD thesis, Aix Marseille université, 2014.
- [177] OLIVE, M. About Gordan’s algorithm for binary forms. *Found. Comput. Math.* 17, 6 (2017), 1407–1466.
- [178] OLIVE, M., KOLEV, B., AND AUFRAY, N. A minimal integrity basis for the elasticity tensor. *Arch. Ration. Mech. Anal.* 226, 1 (2017), 1–31.
- [179] OLSEN, M. Hilbert bases and lecture hall partitions. *The Ramanujan Journal* (2017), 1–23.
- [180] OLSEN, M. J. *Hilbert Bases, Descent Statistics, and Combinatorial Semi-group Algebras*. PhD thesis, University of Kentucky, 2018.
- [181] O’ SHEA, E., AND THOMAS, R. R. Toric initial ideals of Δ -normal configurations: Cohen-Macaulayness and degree bounds. *J. Algebr. Comb.* 21, 3 (2005), 247–268.
- [182] PAFFENHOLZ, A. polydb: A database for polytopes and related objects. In *Algorithmic and Experimental Methods in Algebra, Geometry, and Number Theory*. Springer, 2017, pp. 533–547.
- [183] PHAM, T., AND VASCONCELOS, W. V. On the computation of the jdeg of blowup algebras. *J. Pure Appl. Algebra* 214, 10 (2010), 1800–1807.
- [184] PINTYE, N., AND PRENDERGAST-SMITH, A. Effective cycles on some linear blowups of projective spaces. *arXiv preprint arXiv:1812.08476* (2018).
- [185] POPESCU, A. *Signature standard bases over principal ideal rings*. PhD thesis, PhD thesis, University of Kaiserslautern, 2016.
- [186] RAUH, J., AND SULLIVANT, S. Lifting Markov bases and higher codimension toric fiber products. *J. Symb. Comput.* 74 (2016), 276–307.
- [187] REID, L., ROBERTS, L. G., AND VITULLI, M. A. Some results on normal homogeneous ideals. *Commun. Algebra* 31, 9 (2003), 4485–4506.
- [188] RÖMER, T., AND MADANI, S. S. Retracts and algebraic properties of cut algebras. *European Journal of Combinatorics* 69 (2018), 214–236.

- [189] ROSSMANN, T. Computing topological zeta functions of groups, algebras, and modules. II. *J. Algebra* 444 (2015), 567–605.
- [190] ROSSMANN, T. A framework for computing zeta functions of groups, algebras, and modules. In *Algorithmic and Experimental Methods in Algebra, Geometry, and Number Theory*. Springer, 2017, pp. 561–586.
- [191] SÁNCHEZ-ROSELLY NAVARRO, A. *Linear Diophantine equations and applications*. PhD thesis, Universidad de Granada, 2016.
- [192] SCHEPERS, J., AND VAN LANGENHOVEN, L. Unimodality questions for integrally closed lattice polytopes. *Ann. Comb.* 17, 3 (2013), 571–589.
- [193] SCHLENK, J., AND ZIRKE, T. Calculation of multi-loop integrals with secdec-3.0. *arXiv preprint arXiv:1601.03982* (2016).
- [194] SCHMITZ, M. *R-symmetries from the Orbifolded Heterotic String*. PhD thesis, Universitt Bonn, 2014.
- [195] SCHÜRMAN, A. Exploiting polyhedral symmetries in social choice. *Soc. Choice Welfare* 40, 4 (2013), 1097–1110.
- [196] SEVESO, L., GOYENCHE, D., AND ŻYCKOWSKI, K. All orthogonal arrays from quantum states. *arXiv preprint arXiv:1709.05916* (2017).
- [197] SEVESO, L., GOYENCHE, D., AND ŻYCKOWSKI, K. Coarse-grained entanglement classification through orthogonal arrays. *Journal of Mathematical Physics* 59, 7 (2018), 072203.
- [198] SIMIS, A., VASCONCELOS, W. V., AND VILLARREAL, R. H. The integral closure of subrings associated to graphs. *J. Algebra* 199, 1 (1998), 281–289, art. no. ja977171.
- [199] SIMIS, A., AND VILLARREAL, R. H. Constraints for the normality of monomial subrings and birationality. *Proc. Am. Math. Soc.* 131, 7 (2003), 2043–2048.
- [200] SIMIS, A., AND VILLARREAL, R. H. Combinatorics of Cremona monomial maps. *Math. Comput.* 81, 279 (2012), 1857–1867.
- [201] SINGH, A. K., AND SWANSON, I. An algorithm for computing the integral closure. *Algebra Number Theory* 3, 5 (2009), 587–595.

- [202] SOMMARS, J. C. *Algorithms and Implementations in Computational Algebraic Geometry*. PhD thesis, University of Illinois at Urbana-Champaign, 2018.
- [203] SONG, Z., ELCORO, L., REGNAULT, N., AND BERNEVIG, B. A. Fragile phases as affine monoids: Full classification and material examples. *arXiv preprint arXiv:1905.03262* (2019).
- [204] STAGLIANÒ, P. L. Integral closure of monomial ideals. In *Communications to SIMAI Congress* (2009), vol. 3, pp. 305–1.
- [205] STAUDT, C. *Neutrino masses and spontaneously broken flavor symmetries*. PhD thesis, Technische Universität München, 2014.
- [206] ȘTEFAN, A. The cones associated to some transversal polymatroids. *An. Științ. Univ. “Ovidius” Constanța, Ser. Mat.* 15, 1 (2007), 139–158.
- [207] ȘTEFAN, A. *Classifications of Cohen-Macaulay modules-The base ring associated to a transversal polymatroid*. PhD thesis, Institute of Mathematics of the Romanian Academy, 2008.
- [208] ȘTEFAN, A. Intersections of base rings associated to transversal polymatroids. *Bull. Math. Soc. Sci. Math. Roum., Nouv. Sér.* 52, 1 (2009), 79–86.
- [209] ȘTEFAN, A. The type of the base ring associated to a product of transversal polymatroids. *Rom. J. Math. Comput. Sci.* 3, 2 (2013), 205–220.
- [210] STILLMAN, M., STURMFELS, B., AND THOMAS, R. Algorithms for the toric Hilbert scheme. In *Computations in algebraic geometry with Macaulay 2*. Berlin: Springer, 2002, pp. 179–214.
- [211] STURMFELS, B. Fitness, apprenticeship, and polynomials. In *Combinatorial algebraic geometry. Selected papers from the 2016 apprenticeship program, Ottawa, Canada, July–December 2016*. Toronto: The Fields Institute for Research in the Mathematical Sciences; New York, NY: Springer, 2017, pp. 1–19.
- [212] STURMFELS, B., AND SULLIVANT, S. Toric geometry of cuts and splits. *Mich. Math. J.* 57 (2008), 689–709.
- [213] STURMFELS, B., AND WELKER, V. Commutative algebra of statistical ranking. *J. Algebra* 361 (2012), 264–286.

- [214] SULLIVANT, S. Normal binary graph models. *Ann. Inst. Stat. Math.* 62, 4 (2010), 717–726.
- [215] SWANSON, I., AND HUNEKE, C. *Integral closure of ideals, rings, and modules*. Cambridge: Cambridge University Press, 2006.
- [216] TAKEMURA, A., AND YOSHIDA, R. A generalization of the integer linear infeasibility problem. *Discrete Optimization* 5, 1 (2008), 36–52.
- [217] TAKEMURA, A., AND YOSHIDA, R. Saturation points on faces of a rational polyhedral cone. In *Integer points in polyhedra—geometry, number theory, algebra, optimization, statistics. Proceedings of the AMS-IMS-SIAM joint summer research conference, Snowbird, UT, USA, June 11–15, 2006*. Providence, RI: American Mathematical Society (AMS), 2008, pp. 147–161.
- [218] TEITLER, Z. Software for multiplier ideals. *J. Softw. Algebra Geom.* 7 (2015), 1–8.
- [219] THIEL, M. On the H -triangle of generalised nonnesting partitions. *Eur. J. Comb.* 39 (2014), 244–255.
- [220] THIEL, M., AND WILLIAMS, N. Strange expectations and simultaneous cores. *J. Algebraic Combin.* 46, 1 (2017), 219–261.
- [221] TOTH, C. D., GOODMAN, J. E., AND O’ROURKE, J., Eds. *Handbook of discrete and computational geometry. 3rd revised and updated edition.*, 3rd revised and updated edition ed. Boca Raton, FL: CRC Press, 2017.
- [222] VALDEZ, H. H. L. *Algebraic Methods for Parameterized and Cartesian Codes*. PhD thesis, Mexico City, 2016.
- [223] VALENCIA, C. E., AND VILLARREAL, R. H. Canonical modules of certain edge subrings. *Eur. J. Comb.* 24, 5 (2003), 471–487.
- [224] VAN LANGENHOVEN, L., AND VEYS, W. Semigroup and Poincaré series for a finite set of divisorial valuations. *Rev. Mat. Complut.* 28, 1 (2015), 191–225.
- [225] VASCONCELOS, W. *Integral closure. Rees algebras, multiplicities, algorithms*. Berlin: Springer, 2005.

- [226] VEYS, W. Semigroup and poincaré series for divisorial valuations. In *Extended Abstracts February 2016*. Springer, 2018, pp. 51–56.
- [227] VILLARREAL, R. H. Monomial algebras and polyhedral geometry. In *Handbook of algebra. Volume 3*. Amsterdam: Elsevier, 2003, pp. 257–314.
- [228] VILLARREAL, R. H. Normality of semigroups with some links to graph theory. *Discrete Math.* 302, 1-3 (2005), 267–284.
- [229] VILLARREAL, R. H. Normalization of monomial ideals and Hilbert functions. *Proc. Am. Math. Soc.* 136, 6 (2008), 1933–1943.
- [230] VILLARREAL, R. H. Rees algebras and polyhedral cones of ideals of vertex covers of perfect graphs. *J. Algebr. Comb.* 27, 3 (2008), 293–305.
- [231] VILLARREAL, R. H. *Monomial algebras.*, 2nd ed. Boca Raton, FL: CRC Press, 2015.
- [232] VITULLI, M. A. Some normal monomial ideals. In *Topics in algebraic and noncommutative geometry. Proceedings in memory of Ruth Michler, Luminy, France, July 20–22, 2001 and Annapolis, MD, USA, October 25–28, 2001*. Providence, RI: American Mathematical Society (AMS), 2003, pp. 205–217.
- [233] VITULLI, M. A. Serre’s condition R_ℓ for affine semigroup rings. *Commun. Algebra* 37, 3 (2009), 743–756.
- [234] VODIČKA, M. Normality of the Kimura 3-parameter model. *arXiv preprint arXiv:1902.11057* (2019).
- [235] YOSHIDA, R. *Barvinok’s Rational Functions: Algorithms and Applications to Optimization, Statistics, and Algebra*. PhD thesis, University of California at Davis, 2004.
- [236] YOSHIDA, R., HARA, H., AND SALUKE, P. M. Sequential importance sampling for logistic regression model. In *Computational Models for Biomedical Reasoning and Problem Solving*. IGI Global, 2019, pp. 231–255.