PUBLICATION LIST (1995- June 2022)

Jesús A. De Loera

ALL SCHOLARLY PUBLICATIONS

Books

(1) (with F. Santos and J. Rambau) "Triangulations: Structure for Algorithms and Applications", No. 25 of the series "Algorithms and Computation in Mathematics" Springer Verlag, 2010, 545 pages.

(2) (with R. Hemmecke and M. Köppe) Algebraic and Geometric ideas in Discrete Optimization, volume 14 in SIAM-MOS series on Optimization books. SIAM 2013, ISBN 978-1-61197-243-6, pp. I-XIX, 322 pages.

Refereed Articles (Published or to Appear only)

(1) (with B. Sturmfels, and R. R. Thomas), "Gröbner bases and triangulations of the second hypersimplex", *Combinatorica.* 15, (3), 1995, 409-424.

(2) "Gröbner bases and graph colorings", *Beiträge zur Algebra und Geometrie.* 36, (1), 1995, 89-96.

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(17) (with M. Ahmed and R. Hemmecke) "Polyhedral Cones for Magic Cubes and Squares" in "New directions in Combinatorial Geometry: The Goodman-Pollack Festschrift volume" (edited by Aronov et al), Springer, 2003, 25–41.

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Finished work submitted for publication (preprints available on math ArXiv)

(104) (with A. E. Black) *Monotone Paths of Cross-Polytopes*, submitted to *Discrete and Computational Geometry.*

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SOFTWARE

The original *LattE* was first developed in 2001 as C++ software to study lattice points of convex polytopes, primarily counting them and computation of Ehrhart functions (see paper (23)). The algorithms used combinations of geometric and symbolic computation. The key data structures are rational generating functions and cone decompositions. It was the first ever implementation of Barvinok's algorithm. The latest *Latte Integrale 1.7.2* incorporates the ability to integrate a polynomial over a polytope.

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