

# Curriculum Vitae

I am a Mathematician by training (PhD) who is now a software developer. I can come with mathematical ideas, implementation, debugging, operational runs. I have proven over the years my ability to adapt to any kind of scientific or engineering endeavour and come up with original ideas.

## Personnal

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<https://github.com/MathieuDutSik/>

## EDUCATION

1997-1999: Ph.D. thesis at Université Paris 11 Orsay, France.  
Title: *Bifurcation vers l'état d'Abrikosov et diagramme des phases*  
1996-1998: Masters student in École Normale Supérieure, France  
1994-1996: Undergraduate student in École Normale Supérieure, France  
(25th on 500+ candidates)

## EMPLOYMENT

- **2006-now**: Researcher in “Laboratory for satellite oceanography” at Institute Rudjer Bošković. I am responsible for operational models, publications of articles, debugging of existing programs, comparison with satellite, stations and radar measurements.
- **2002-2004**: Postdoc at “Hebrew University” of Jerusalem, Israel (Work with Gil Kalai).
- **1998-2002**: Professor agrégé de mathématique in Classe Préparatoire aux Grandes Écoles.
- **1994-1998**: Paid Student at École Normale Supérieure, Paris (Most prestigious French academic institution).

## PROGRAMMING CAREER

### Technical skills

#### 1. Work flow:

- Versioning: GIT, SVN, Mercurial.
- Git: Github, Gitlab, Git-flow (Branches, Pull Request, Reviewing).

- Environments: Linux, Windows.
- Debugging skills: Gdb, valgrind, sanitizers, TotalView, perf, oprofile.
- Cloud: Docker, Google cloud platform, AWS.
- Tests: Unit tests, Stochastic, Asserts, Continuous Integration, etc.
- Performance optimization of software.
- Styles: Functional programming, Object Oriented Programming, Imperative Programming.

## 2. Programing languages:

- C, C++ (C++11, C++14, C++17, 20 years) and Boost.
- GAP (15 years, an algebraic programming language)
- Fortran 90 (13 years )
- Perl (17 years), Matlab (13 years)
- Python (5 years), Java (2 years)
- OCaml, Rust, Solidity, Javascript (1 year)
- Go, Elixir, Scala (some practice)

## 3. Parallel programming:

- Parallel framework: Distributed, Shared memory, lock-free data structure.
- Distributed parallel programming: MPI, Actor formalism, Network systems.
- Shared memory parallel programming: OpenMP, Threading Building Blocks, Posix threads, Qt-threads, C++11 threads.

## 4. Optimization:

- Optimization: Linear Programming (CDD, GLPK), Semidefinite Programming (CSDP), Integer Programming (GLPK).
- Satisfiability: SAT (Minisat), SMT (Z3).
- Enumeration: perfect cover, perfect matchings, ordered enumeration, clique enumeration, colorings,

## 5. Cryptography:

- Blockchain: Ethereum, solidity, EVM, consensus, smart contract.
- Cryptography: Elliptic Curve Cryptography, ECDSA, RSA, symmetric key, hash functions, zero knowledge proofs, multisignature.

## 6. Machine Learning:

- Statistics & Machine Learning: PCA, LASSO, L1-methods
- Computer graphics: OpenCV.
- Spectral clustering, Non-Negative Matrix Factorization.

## 7. Graphics & Data:

- GUI: Qt.
- Graphics: SVG, OpenSCAD, Ncar Graphics Language, Matplotlib.
- Data formats: Netcdf, Grib, Protocol Buffer, XML, GIS, Latex, Html.

## 8. Mathematics:

- Geometry: Computational, Mesh, Polyhedral, Discrete, Differential.
- Numerical Techniques: Finite difference, Finite elements, Redistribution, Implicit/Explicit.
- Discrete Geometric structure in physics, mobile systems, etc.

#### 9. Economics:

- Equilibrium theory: Ricardo theory, aggregate demand,  $MV = PT$ .
- Price determination: Pareto, Marginal theory.
- High Frequency Trading: exchange simulator, order types.

#### 10. Compiler:

- Compiler technology: Lexer/Parser, compiler passes, AST, SSA, ANF.
- LLVM Toolchain and its use with the Numba library.

### Other skills

1. Driving license B of cars.
2. Technical publishing.
3. Languages:
  - Mother tongue: French
  - Very good knowledge: English
  - Good knowledge: Croat

### Open source packages

1. *ocean\_works*, a set of C++ programs for plots and computation related to oceanography, [https://github.com/MathieuDutSik/ocean\\_works](https://github.com/MathieuDutSik/ocean_works). Functionalities:
  - Comparison between measurement of wave height and wind speed and altimeter estimates
  - Input data from ROMS, WWM, SCHISM, ALADIN, WAM, COSMO, UNRUNOFF, WAVEWATCH and NEMO.
  - Can read data from any model and do plots (with ncl or python) or export to any other model.
  - Can create forcing file for any model.
2. *polyhedral*, a package for polyhedral and lattice computations in GAP, <http://mathieudutour.altervista.org/Polyhedral/>. Functionalities:
  - Computation of lattice periodic Delaunay tessellation and all things related to them.
  - Computation of  $L$ -type domain over  $T$ -spaces.
  - Computation of Lorentzian perfect forms.
  - Can compute homology of groups by using polyhedral actions.
3. *polyhedral\_common*, a set of C++ programs for polyhedral computations ([https://github.com/MathieuDutSik/polyhedral\\_common](https://github.com/MathieuDutSik/polyhedral_common)):
  - All kind of computation with polytopes: faces, linear programming, etc.
  - Computation of dual description equivariantly, using multithread parallelism and lock-free data structures.
  - Copositive programming.

- Computation of shortest vectors and in the perfect form complex.
  - Computation with the C-types, that is edges of lattice Delaunay polytopes.
4. *permutalib*, a C++ library for working with permutation groups (<https://github.com/MathieuDutSik/permutalib>):
    - Implementation of Stability Chain algorithms
    - Implementation of partition backtrack (from GAP) for computing set stabilizers.
  5. *ChemicalReact*, a windows program for computing chemical equilibrium, <http://mathieudutour.altervista.org/ChemicalReact/index.html>
  6. *Plot\_OrientedMap*, a C++ program for plotting oriented map on the plane or torus, [https://github.com/MathieuDutSik/Plot\\_orientedmap](https://github.com/MathieuDutSik/Plot_orientedmap)
  7. *LatexScript*, a set of perl scripts for manipulating LaTeX documents, <https://github.com/MathieuDutSik/LatexScript>

## Professional software development

I am a member of the developing team (though far from the only one) of following professional oceanography programs (in Fortran 90):

1. *MKB* (OCaml, <https://github.com/AlacrisIO/mkb>) the Mutual Knowledge Base, a distributed ledger for storing data.
2. *Legicash-Facts* (Rust, <https://github.com/AlacrisIO/legicash-facts>) a side-chain system for the ethereum blockchain.
3. *SCHISM* (Fortran, <http://ccrm.vims.edu/schismweb/>) a circulation program that can forecast temperature, salinity and currents in the sea.
4. *Wave Watch III* (Fortran, <http://polar.ncep.noaa.gov/waves/index2.shtml>) a third generation ocean surface wave program used at NOAA. It can forecast waves in ocean and near coastlines.
5. *WAM* (Fortran, <http://www.ecmwf.int/en/research/modelling-and-prediction/marine>) a third generation ocean surface wave program used at ECMWF. It can forecast waves in ocean and near coastlines.
6. *WWM III* (Fortran) an experimental third generation ocean surface wave model used at DHMZ.
7. *UNRUNOFF* (Fortran) a shallow water equations model at <http://www.bgsite.de/> for civil engineering purposes.

## SCIENTIFIC CAREER

### Diplomas and/or titles

- **2007**: Scientific Advisor in Mathematics in Croatia
- **1999**: Ph.D. in Mathematics (mention très honorable)  
**Bifurcation vers l'état d'Abrikosov et diagramme des phases**  
 Defended at l'Université Paris XI, Orsay, France.  
 Thesis advisor: Prof. **B. Helffer**
- **1996**: B.Sc. Thesis, (mention très honorable)  
**Asymptotic Analysis and Inverse Scattering**  
 Defended at l'Université Paris VI, Paris, France.  
 Thesis advisor: **G. Henkine**

- **1997:** Agrégation de mathématique (rank 32 on 2138 candidates)
- **1997:** B.Sc. in mathematics École Normale Supérieure, France.
- **1998:** M.Sc. in Mathematics and Computer Science, École Normale Supérieure, France.

## Advising

- Comentor (with Sebastian Casalaina-Martin) of Josh Frinak PhD thesis “Degeneration of Prym varieties: A computational approach to the indeterminacy locus of the Prym map and degenerations of cubic threefolds”, University of Colorado Boulder, United States, 2016-2018.
- Reviewer of PhD thesis “Combinatorial Algorithms for Packings, Coverings and Tilings of Hypercubes” by Ashik Mathew Kizhakkepallath, Aalto University, Finland, 2015.
- Examiner of PhD thesis “Geometry of Communication Channels” by Rafael Gregorio Lucas D’Oliveira, University of Campinas IMECC, Brazil, 2017.

## Projects

- Ministry of Science Sports & Education project: “Mathematical Modelling of circulation and satellite detection of boundary processes” (2007-2014) directed by M. Kuzmić.
- HRZZ project: “Exploring the Adriatic Sea Dynamics using Advanced Data Assimilation Methods and Measurements (ADAM-ADRIA)” IP-11-2013-5928,(2014-2018), directed by I. Janeković.
- HRZZ projekt: “Marine lake (Rogoznica) as a model for Ecosystem functioning in a changing environment (MARRES)” IP-2018-01-1717, directed by dr. I. Ciglencečki-Jušić.
- Humboldt project "Computational Discrete Geometry and Applications" (2012-2014) in University of Rostock, Germany.
- Collaborations with ECMWF (European Center for Medium range Weather Forecasting), NOAA (National Oceanic and Atmospheric Administration), DHMZ (Državni hidrometeorološki zavod: National Department of HydroMeteorology).

## Scientific short stays

- **2018.2.1-2018.4.30:** Invited researcher at Institute for Computational and Experimental Research in Mathematics (Work with Philippe Moustrou, Daniel Dadush, Paul Gunnells, Leo Ducas)
- **2012.1.1-2014.5.23:** Humboldt fellow in Rostock University (3 times 4 months, 1 year in total) (Work with Achill Schürmann, Klaus Hulek and Alexey Garber)
- **2009.5.7-2009.5.21:** Invited researcher at Oberwolfach institute in a “research in pair” (Work with Achill Schürmann and Frank Vallentin)
- **2008.2.1-2008.4.30:** Invited researcher at HIM Hausdorff Institute for Mathematics, Bonn (Work with Achill Schürmann and Frank Vallentin)
- **2007.9.1-2007.10.31** and **2009.11.1-2009.11.30:** Invited researcher in National University of Galway (Work with Ellis Graham)
- **2006.12.1-2007.3.10:** Tenure track professor at Nagoya University (Resigned for personal reasons)
- **2006.1.1-3.31:** Invited professor in Institut of Statistical Mathematics, Tokyo. (Work with Yoshiaki Itoh)

## Professional Activities

1. More than 140 referees done.
2. Former reviewer for Mathematical reviews.
3. Member of editorial board of European J. of Combinatorics from 2004 to 2007.
4. More than 100 presentations in Seminar and Conferences all over the world.

## Publication list

4 books published.

54 articles in journals indexed in current contents.

73 articles in journals with impact factor in fields of Mathematics, Applied Mathematics, Computer Science, Crystallography, Oceanography, Meteorology and Chemistry.

70 articles in mathematical reviews.

103 articles published.

### Books

1. E. Deza, M. Deza, M. Dutour Sikirić, *Generalizations of Finite Metrics and Cuts*, World Scientific 2016.
2. M. Deza, M. Dutour Sikirić, M. Shtogrin, *Geometric Structure of Chemistry-relevant Graphs: zigzags and central circuits*, Springer, Forum for Interdisciplinary Mathematics 2015
3. M. Dutour Sikirić, Y. Itoh, *Random sequential packing of cubes*, World Scientific 2011
4. M. Deza and M. Dutour Sikirić, *Geometry of chemical graphs: polycycles and two-faced maps*, Cambridge University Press, Encyclopedia of mathematics and its applications, 119, 2008

### Papers in journals

1. Mathieu Dutour Sikirić Magdalena Lysakowska, *On the structure of two-periodic cube tilings of the 4-dimensional Euclidean space*, Utilitas Mathematica 114 (2020) 181–219.
2. Irena Ciglenečki, Paolo Paliaga, Andrea Budiša, Milan Čanković, Jelena Dautović, Tamara Djakovac, Mathieu Dutour-Sikirić, Romina Kraus, Nataša Kužat, Davor Lučić, Daniela Marić Pfannkuchen, Jakica Njire, Zoran Pasarić, Nastjenka Supić, *Dissolved organic carbon accumulation during a bloom of invasive gelatinous zooplankton Mnemiopsis leidyi in the northern Adriatic Sea; case of the anomalous summer in 2017*, to appear in Journal of Marine Systems
3. Paolo Paliaga, Andrea Budiša, Jelena Dautović, Tamara Djakovac, Hrvoje Mihanović, Nastjenka Supić, Mathieu Dutour-Sikirić, Igor Celić, Neven Iveša, Moira Buršić, Ivan Balković, Lara Jurković, Irena Ciglenečki, *Microbial response to the presence of invasive ctenophore Mnemiopsis leidyi in the coastal waters of the northeastern Adriatic*, to appear in Estuarine, Coastal and Shelf Science
4. Mathieu Dutour Sikirić, David Madore, Philippe Moustrou, Frank Vallentin, *Coloring the Voronoi tessellation of lattices*, to appear in Journal of the London Mathematical Society
5. Mathieu Dutour Sikirić, Alexey Garber, Alexander Magazinov, *On the Voronoi Conjecture for combinatorially Voronoi parallelehedra*, SIAM Journal Discrete Mathematics 34(4) (2020) 2481–2501
6. Mathieu Dutour Sikirić, Alexey Garber, *Periodic triangulations of  $\mathbb{Z}^n$* , Electronic Journal of Combinatorics 27 (2020) P2.36
7. Palma Orlović-Leko, Kristijan Vidović, Irena Ciglenečki, Dario Omanović, Mathieu Dutour Sikirić, Ivan Šimunić, *Physico-Chemical Characterization of an Urban Rainwater (Zagreb, Croatia)*, Atmospheres 11-2 (2020) 144
8. Ali Abdolali, Aron Roland, Andre Van Der Westhuysen, Jessica Meixner, Arun Chawla, Tyler J. Hesser, Jane M. Smith, Mathieu Dutour Sikirić, *Large-scale Hurricane Modeling Using Domain Decomposition Parallelization and Implicit Scheme Implemented in WAVEWATCH III Wave Model*, Coastal Engineering 157 (2020) 103656
9. Mathieu Dutour Sikirić, Achill Schürmann, Frank Vallentin, *A simplex algorithm for rational CP-factorization*, accepted in Mathematical Programming.
10. M. Dutour Sikirić, *The hypermetric cone and polytope on graphs*, Chebyshevskii Sbornik, 20-2 (2019) 160–168
11. E. Deza, M. Dutour Sikirić, P. Solé, *Preface*, European Journal of Combinatorics, 80 (2019) 1–2
12. R. Krauss, F. Grilli, A. Campanelli, M. Marini, M. Pansera, S. Cozzi, A. Santucci, R. D'Adamo, A. Specchiulli, M. Kralj, M. Giani, K. Klun, V. Flander Putrle, T. Dakovac, R. Precali, I. Janeković, M. Dutour Sikirić, D. A. Kalic, F. Matic, G. Kušpilić, Z. Nincevic, J. Mikuš, M. Pečarević, D. Joksimović, *Oceanographical characteristics of the Adriatic Sea - support to secondary spread of HAOP by natural dispersal*, Marine Pollution Bulletin 147 (2019) 59–85
13. M. Deza, M. Dutour Sikirić, *Generalized cut and metric polytopes of graphs and simplicial complexes*, Optimization Letters 14 (2020) 273–289
14. H. Gangl, P.E. Gunnells, J. Hanke, A. Schürmann, M. Dutour Sikirić, *On  $K_4$  of the Gaussian and Eisenstein Integers*, Journal of Homotopy and Related Structures 14-1 (2019) 281–291
15. M. Dutour Sikirić, Damir Ivanković, Aron Roland, Stjepan Ivatek-Šahdran, Martina Tudor, *Operational Wave modelling in the Adriatic Sea*, Pure and Applied Geophysics 175-11 (2018) 3801–3815
16. A. Alahmadi, M. Deza, M. Dutour Sikirić, Patrick Solé, *The joint weight enumerator of an LCD code and its dual*, Discrete Applied Mathematics 257 (2019) 12–18
17. A. Alahmadi, M. Deza, M. Dutour Sikirić, Patrick Solé, *Covering aspects of the Niemeier lattices*, European Journal of Combinatorics 80 (2019) 102–106
18. W. Perrie, B. Toulany, A. Roland, M. Dutour Sikirić, C. Chen, R.C. Beardsley, J. Qi, Y. Hu, *Modeling North Atlantic Nor'easters with Modern Wave Forecast Models*, Journal of Geophysical Research - Oceans 122 (2017) C012868
19. M. M. Dutour Sikirić, A. Schuermann, F. Vallentin, *Rational Factorizations of Completely Positive Matrices*, Linear Algebra and its Applications 523 (2017) 46–51
20. M. Deza, M. Dutour Sikirić, *Lego-like spheres and tori*, Journal of Mathematical Chemistry 55-3 (2017) 752–798
21. M. Dutour Sikirić, A. Garber, A. Schürmann, C. Waldmann, *The complete classification of five-dimensional Dirichlet-Voronoi polyhedra of translational lattices*, Acta Crystallographica A 72 (2016) 673–683
22. M. Dutour Sikirić, *The seven dimensional perfect Delaunay polytopes and Delaunay simplices*, Canadian Journal of Mathematics 69 (2017) 1143–1168
23. M. Deza, M. Dutour Sikirić, *The hypermetric cone on eight vertices and some generalizations*, Journal of Symbolic Computations 88 (2018) 67–84

24. H. Gangl, P.E. Gunnells, J. Hanke, A. Schürmann, M. Dutour Sikirić, D. Yasaki, *On the cohomology of linear groups over imaginary quadratic fields*, Journal of Pure and Applied Algebra **220-7** (2016) 2564–2589
25. A. Alahmadi, H. Alhazmi, S. Ali, M. Deza, M. Dutour Sikirić, Patrick Solé, *Hypercube emulation of interconnection networks topologies*, Mathematical Methods in the Applied Sciences **39-16** (2016) 4856–4865
26. M. Deza, I. Deza, M. Dutour Sikirić, *Polyhedral structures associated with quasi-metrics*, Chebyshevskii Sbornik **16-2** (2015) 79–92
27. M. Deza, M. Dutour Sikirić, *Enumeration of the facets of cut polytopes over some highly symmetric graphs*, International Transactions in Operational Research **23-5** (2016) 853–860
28. M. Dutour Sikirić, K. Hulek, A. Schürmann, *Smoothness and singularities of the perfect form compactification of  $A_g$* , Algebraic Geometry **2-5** (2015) 642–653
29. M. Dutour Sikirić, I. Janeković, I. Tomažić, M. Kuzmić, A. Roland, *Wind comparison of atmospheric products over the Adriatic*, Acta Adriatica **56-1** (2015) 67–82
30. L. Fenoglio-Marc, S. Dinardo, R. Scharroo, A. Roland, B. Lucas, R. Weiss, M. Dutour Sikirić, M. Becker, J. Benveniste, *A Validation Exercise for CryoSat-2 in SAR mode in the German Bight Area*, Advances in Space Research **11** (2015) 2641–2656
31. S. Casalaina-Martin, S. Grushevsky, K. Hulek, R. Laza, *Extending the Prym map to toroidal compactifications of the moduli space of abelian varieties (with an appendix by M. Dutour Sikirić)*, Journal of the European Mathematical Society **19-3** (2017) 659–723
32. A. Roland, R. Rausch, T. Huxhorn, T. Kraus, S. Wallisch, M. Dutour-Sikirić, Y.J. Zhang, U. Zanke, *Hochauflösende Simulation von urbanen Sturzfluten Anwendungsbeispiel: Überflutungsprüfung für die Stadt Worms*, Korrespondenz Abwasser Abfall **62-3** (2015) 215–22
33. M. Dutour Sikirić, Y. Itoh, *New results on torus cube packings and tilings*, Proceedings of the Steklov Institute of Mathematics **288** (2015) 243–246
34. M. Dutour Sikirić, V. Grishukhin, *Zonotopes and Parallelotopes*, Southeast Asian Bulletin of Mathematics **41-2** (2017) 197–207
35. D. Bremner, M. Dutour Sikirić, D.V. Pasechnik, T. Rehn, A. Schürmann, *Computing symmetry groups of polyhedra*, LMS Journal of Computation and Mathematics **17-1** (2014) 565–581
36. M. Deza, M. Dutour Sikirić, *Voronoi Polytopes for Polyhedral Norms on Lattices*, Discrete Applied Mathematics **197** (2015) 42–52
37. M. Dutour Sikirić, V. Grishukhin, A. Magazinov, *On the sum of a parallelootope and a zonotope*, European Journal of Combinatorics **42** (2014) 49–73
38. M. Dutour Sikirić, A. Roland, I. Janeković, I. Tomažić, M. Kuzmić, *Coupling of the Regional Ocean Modelling System and Wind Wave Model*, Ocean Modelling **72** (2013) 59–73
39. M. Dutour Sikirić, K. Rybnikov, *Delaunay polytopes derived from the Leech lattice*, Journal de Théorie des Nombres de Bordeaux **26-1** (2014) 85–101
40. M. Deza, M. Dutour Sikirić, M. Shtogrin, *Fullerenes and disk-fullerenes*, Uspekhi Matematicheskikh Nauk **412** (2013) 69–128
41. M. Dutour Sikirić, *Torus square tilings*, Applicable Algebra in Engineering, Communication and Computing **23** (2012) 251–261
42. M. Dutour Sikirić, A. Roland, I. Tomažić, I. Janeković, *Hindcasting the Adriatic Sea near-surface motions with a coupled wave-current model*, Journal of Geophysical Research - Oceans **117** (2012) C00J36
43. A. Roland, Y.J. Zhang, H.V. Wang, Y. Meng, Y.-C. Teng, V. Maderich, I. Brovchenko, M. Dutour Sikirić, U. Zanke, *A fully coupled 3D wave-current interaction model on unstructured grids*, Journal of Geophysical Research - Oceans **117** (2012) C00J33
44. M. Dutour Sikirić, M. Deza, *Space fullerenes: computer search for new Frank-Kasper structures II*, Structural Chemistry **23-4** (2012) 1103–1114
45. M. Dutour Sikirić, *Complex parametrization of triangulations on oriented maps*, Ars Mathematica Contemporanea **6** (2013) 69–81
46. M. Dutour Sikirić, M. Knor, P. Potočník, J. Širan, R. Škrekovski, *Hyperbolic analogues of fullerenes on orientable surfaces*, Discrete mathematics **312** (2012) 729–736
47. M. Dutour Sikirić, A. Schürmann, F. Vallentin, *Inhomogeneous extreme forms*, Annales de l'Institut Fourier **62-6** (2012) 2227–2255
48. M. Dutour Sikirić, E. Graham, A. Schürmann, *On the integral homology of  $PSL_4(\mathbb{Z})$  and other arithmetic groups*, Journal of Number Theory **131** (2011) 2368–2375
49. M. Deza, M. Dutour Sikirić, *Zigzag and central circuit structure of  $(\{1, 2, 3\}, 6)$ -spheres*, Taiwanese Journal of Mathematics **16-3** (2012) 913–940
50. W. Keller, J. Martinet, A. Schürmann, *On classifying Minkowskian sublattices (with an appendix by M. Dutour Sikirić)*, Mathematics of Computation **81** (2012) 1063–1092
51. M. Dutour Sikirić, P. Fowler, *Cubic polyhedral Ramanujan graph with face size no larger than 6*, Journal of Mathematical Chemistry **49** (2011) 843–858
52. M. Dutour Sikirić, A. Felikson, P. Tumarkin, *Automorphism group of root systems matroids*, European journal of combinatorics **32** (2011) 383–389
53. M. Dutour Sikirić, O. Delgado Friedrichs, M. Deza, *Space fullerenes: computer search for new Frank-Kasper structures*, Acta crystallographica A **66** (2010) 602–615
54. I. Janeković, M. Dutour Sikirić, I. Tomažić, M. Kuzmić, *Hindcasting the Adriatic Sea surface temperature and salinity: A recent modeling experience*, Geofizika **27** (2010) 85–100
55. M. Dutour Sikirić, A. Schürmann, F. Vallentin, *The contact polytope of the Leech lattice*, Discrete and Computational Geometry **44** (2010) 904–911
56. M. Dutour Sikirić, K. Rybnikov, *Perfect but not generating Delaunay polytopes*, Symmetry Culture and Science, Tesselation II, **22** (2011) 317–325
57. M. Dutour, G. Ellis, *Wythoff polytopes and low-dimensional homology of Mathieu groups*, Journal of Algebra **322** (2009) 4143–4150
58. M. Dutour Sikirić, I. Janeković, M. Kuzmić, *A new approach to bathymetry smoothing in sigma-coordinate ocean models*, Ocean Modelling **29** (2009) 128–136
59. M. Deza, M. Dutour Sikirić and P. Fowler, *The symmetries of cubic polyhedral graphs with face size no larger than 6*, MATCH **61** (2009) 589–602
60. M. Dutour Sikirić, A. Schürmann and F. Vallentin, *Complexity and algorithms for computing Voronoi cells of lattices*, Mathematics of computation **78** (2009) 1713–1731
61. M. Dutour Sikirić, Y. Itoh, *Combinatorial cube packings in the cube and the torus*, European Journal of Combinatorics **31** (2010) 517–534
62. M. Dutour Sikirić and V. Grishukhin, *A decomposition of the hypermetric cone into L-type domains*, European Journal of Combinatorics **30** (2009) 853–865
63. M. Dutour Sikirić and W. Myrvold, *The special cuts of 600-cell*, Beiträge zur algebra und geometrie **49** (2008) 269–275
64. M. Deza, M. Dutour Sikirić, S. Shpectorov, *Hypercube Embedding of Wythoffians*, Ars Mathematica Contemporanea **1** (2008) 99–111
65. M. Dutour, M. Deza and M. Shtogrin, *Filling of a given boundary by p-gons and related problems*, Discrete Applied Mathematics **156** (2008) 1518–1535
66. M. Dutour Sikirić, A. Schürmann and F. Vallentin, *A generalization of Voronoi's reduction theory and applications*, Duke Mathematical journal **142** (2008) 127–164
67. M. Dutour Sikirić, Y. Itoh and A. Poyarkov, *Cube packings, second moment and holes*, European Journal of Combinatorics **28** (2007) 715–725
68. M. Dutour, R. Erdahl and K. Rybnikov, *Perfect Delaunay Polytopes in Low Dimension*, Integers **7** (2007) A39
69. M. Dutour Sikirić, F. Vallentin and A. Schürmann, *Classification of eight-dimensional perfect forms*, Electronic Research Announcements of the AMS **13** (2007) 21–32
70. M. Dutour Sikirić and V. Grishukhin, *How to compute the rank of a Delaunay polytope*, European Journal of Combinatorics **28** (2007) 762–773
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72. M. Dutour, *Infinite series of extreme Delaunay polytope*, European Journal of Combinatorics **26** (2005) 129–132
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