



PIMS



**2014 PIMS Publications**

## PIMS 2014 Publications

Below we list publications for PIMS CRG activities, PDFs and CNRS Researchers. Only publications dated 2014 are listed.

1. H. Afshar, T. Creutzig, D. Grumiller, Y. Hikida, and P. Ronne, Unitary W-algebras and three-dimensional higher spin gravities with spin one symmetry, *JHEP*, Vol. 63 (2014)
2. Z. Aghazadeh, W. M. Golab and P. Woelfel, Making objects writable, Proc. of PODC 2014, pp. 385-395 (2014)
3. M. Agueh, Local existence of weak solutions to kinetic models of granular media, preprint (2014)
4. A. Akbary, N. Ng, and M. Shahabi, Limiting distributions of the classical error terms of prime number theory, *Quarterly Journal of Mathematics*, pp. 1-38 (2014)
5. D. Alistarh, J. Aspnes, V. King and J. Saia, Communication-Efficient Randomized Consensus, Proc. of *DISC 2014*, pp. 61-75 (2014)
6. B. Antieau and B. Williams, The topological period-index problem over 6-complexes, *Journal of Topology* 7, pp. 617-640 (2014)
7. B. Antieau and B. Williams, Unramified division algebras do not always contain Azumaya maximal orders, *Inventiones Mathematicae*, Vol. 197 Issue 1, pp. 47-56 (2014)
8. B. Antieau and B. Williams, The Period-Index Problem for Twisted Topological K-Theory, *Geometry and Topology* 18, pp. 1115-1148 (2014)
9. B. Antieau and B. Williams, On the classification of oriented 3-plane bundles over a 6-complex, to appear in *Topology and its Applications* (2014)
10. B. Antieau and B. Williams, The prime divisors of the period and index of a Brauer class, to appear in the *Journal of Pure and Applied Algebra* (2014)
11. C. Anton, J. Deng and Y.S. Wong, High-order symplectic schemes for stochastic Hamiltonian systems, *Commun. Comput. Phys.*, Vol 16., pp. 169-200 (2014)
12. C. Anton, Y.S Wong and J. Deng, Symplectic schemes for stochastic Hamiltonian systems preserving Hamiltonian functions, *International Journal of Numerical Analysis & Modeling*, Vol. 11, No 3, pp 427-451 (2014)
13. P. Apkarian, and D. Noll, Optimization-based control design techniques and tools, *Encyclopedia of Systems and Control*, pp. 1-12 (2014)
14. T. Asano, D. G. Kirkpatrick, K. Nakagawa and O. Watanabe,  $\tilde{O}(\sqrt{n})$ -Space and Polynomial-Time Algorithm for Planar Directed Graph Reachability, Proc. of *MFCS 2014*, pp. 45-56 (2014)
15. T. Asano, D. G. Kirkpatrick, K. Nakagawa and O. Watanabe,  $O(\sqrt{n})$ -Space and Polynomial-time Algorithm for the Planar Directed Graph Reachability Problem, Math. Found. Of Comp. Sci., Lecture notes in *Comp. Sci.*, Vol. 8635, pp. 45-56 (2014)
16. V. Asimit, A. Badescu, T.K. Siu, and Y. Zinchenko, Capital requirements and optimal investment with solvency probability constraints, *IMA Journal of Management Mathematics*, Vol 25, Issue 4, pp. 1-31 (2014)
17. M Atapour, C Soteris, D. Sumners and S. Whittington, Counting closed 2-manifolds in tubes in hypercubic lattices, submitted to *J. Phys. A* (2014)
18. M. Aumüller, M. Dietzfelbinger and P. Woelfel, Explicit and Efficient Hash Families Suffice for

Cuckoo Hashing with a Stash, *Algorithmica* Vol. 70, Issue 3, pp. 428-456 (2014)

19. M. Ballard, D. Favero, and L. Katzarkov, A category of kernels for equivariant factorizations, II: further implications, *Journal de mathématiques pures et appliquées*, Vol. 102, Issue 4, pp. 702-757 (2014)
20. C. Bardos, L. Szekelyhidi, Jr., and E. Wiedemann, Non-uniqueness for the Euler equations: The effect of the boundary, *Russian Mathematical Surveys*, Vol 69, No 2 pp. 189-207 (2014)
21. H.H. Bauschke, J. Chen, and X. Wang, A projection method for approximating fixed points of quasi nonexpansive mappings without the usual demiclosedness condition, *Journal of Nonlinear and Convex Analysis*, Vol. 15, No 1 pp. 129-135 (2014)
22. H.H. Bauschke, D.R. Luke, H.M. Phan, and X. Wang, Restricted normal cones and sparsity optimization with affine constraints, *Foundations of Computational Mathematics*, Vol 14, Iss 1 pp. 63-83 (2014)
23. H.H. Bauschke, J.Y. Bello Cruz, H.M. Phan, and X. Wang, The rate of linear convergence of the Douglas-Rachford algorithm for subspaces is the cosine of the Friedrichs angle, *Journal of Approximation Theory*, Vol 185, pp. 63-79 (2014)
24. H.H. Bauschke, J. Chen, and X. Wang, A Bregman projection method for approximating fixed points of quasi-Bregman nonexpansive mappings, to appear in *Applicable Analysis* (2014)
25. H.H. Bauschke, W.L. Hare, and W.M. Moursi, A Derivative-Free CoMirror Algorithm, to appear in *Optimization Methods and Software* (2014)
26. H.H. Bauschke, W.L. Hare, and W.M. Moursi, Generalized solutions for the sum of two maximally monotone operators, *SIAM J. on Control and Optimization*, Vol 52, No. 2 pp. 1034-1047 (2014)
27. H. Bauschke, J. Sarada, and X. Wang, On moving averages, *Journal of Convex Analysis*, Vol 21, No 1 pp. 219-235 (2014)
28. H. Bauschke, J.Y. Bello-Cruz, T.T.A. Nghia, H.M. Phan, and X. Wang: The rate of linear convergence of the Douglas-Rachford algorithm for subspaces is the cosine of the Friedrichs angle, *J. Approx. Theory*, Vol. 185, pp. 63-79 (2014)
29. H. Bauschke, J.Y. Bello-Cruz, T.T.A. Nghia, H.M. Phan, and X. Wang: Optimal rates of convergence of matrices and applications, submitted (2014)
30. J. D. Benamou and G. Carlier, Augmented Lagrangian methods for transport optimization, mean-field games and degenerate elliptic equations, accepted to *J. Optimization Theory and Applications* (2014)
31. J.D. Benamou, G. Carlier, M. Cuturi, G.Peyre and L. Nenna, Iterative Bregman projections for regularized transportation problems, to appear in *SIAM J. Sci. Comp* (2014)
32. P. Berenbrink, B. Krayenhoff and F. Mallmann-Trenn, Estimating the number of connected components in sublinear time, *Inf. Process. Lett.* Vol. 114, Issue 11, pp. 639-642 (2014)
33. P. Berenbrink, A. Briedetzky and L. Nagel, Balls into non-uniform bins, *J. Parallel Distrib. Comput.*, Vol.74, Issue 2, pp. 2065-2076 (2014)
34. P. Berenbrink, M. Hoefer and T. Sauerwald, Distributed Selfish Load Balancing on Networks, *ACM Transactions on Algorithms*, Vol. 11 (2014)
35. P. Berenbrink, R. Elsässer, and T. Sauerwald, Randomised broadcasting: Memory vs. randomness, *Theor. Comput. Sci.*, Vol. 520, pp. 27-42 (2014)
36. P. Berenbrink, F. Ergün, F. Mallmann-Trenn and E. Sadeqi Azer, Palindrome Recognition In The Streaming Model, *Proc. of STACS 2014*, pp.149-161 (2014)

37. P. Berenbrink, F. Ergün, F. Mallmann-Trenn and E. Sadeqi Azer, Palindrome Recognition In The Streaming Model, *Proc. of STACS 2014* (2014)
38. M. Bergeron, The topology of nilpotent representations in reductive groups and their maximal compact subgroups, to appear in *Geometry and Topology*, (2014)
39. A. Berget and B. Rhoades, Extending the parking representation, *Journal of Combinatorial Theory Ser. A*, Vol. 123, Issue 1, pp. 43-56 (2014)
40. A. Berget and A. Fink, Equivariant K-classes of matrix orbit closures, submitted (2014)
41. A. Berget and Brendon Rhoades, Extending the parking representation, *J. Combinatorial Theory Ser. A*, Vol 123, Issue 1, pp. 43-56 (2014)
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45. F. Brown, O. Schnetz, and K. Yeats, Properties of  $c_2$  invariants of Feynman graphs, *Adv. in Theo. and Math. Phys.*, Vol. 18, No 2, pp. 323-362 (2014)
46. R. Budney and W. Sethares, Topology of musical data, *J. Math & Music*, Vol. 8, Issue 1, pp. 73-92 (2014)
47. R. Budney and J. Hillman, A small, infinitely-ended 2-knot group, preprint (2014)
48. R. Budney, D. Sinha, R. Koytcheff and J. Conant, Embedding calculus knot invariants are of finite type, submitted (2014)
49. S. Burrill, S. Melczer and M. Mishna, A Baxter class of a different kind, and other bijective results using tableau sequences ending with a row shape, submitted (2014)
50. D. Calegari and D. Rolfsen, Groups of PL homeomorphisms of cubes, to appear in *Annales de la Faculte des Sciences de Toulouse, special issue dedicated to Michel Boileau*, (2014)
51. M. Cariglia, G. W. Gibbons, D. Kubiznak, and C. M. Warnick, Hidden Symmetries of Dynamics in Classical and Quantum Physics, accepted to *Reviews in Modern Physics* (2014)
52. G. Carlier, A. Oberman and E. Oudet, Numerical methods for matching for teams and Wasserstein barycenters, to appear in *M2AN* (2014)
53. D. Chan and D. G. Kirkpatrick, Multi-Path Algorithms for minimum-colour path problems with applications to approximating barrier resilience, *Theor. Comput. Sci.*, Vol. 553, pp. 74-90 (2014)
54. K. Chan, C. Walton and J. Zhang, Hopf actions and Nakayama automorphisms, *Journal of Algebra* Vol. 409, pp. 26-53 (2014)
55. K. Chan, C. Walton, Y. Wang and J. Zhang, Hopf actions on filtered regular algebras, *Journal of Algebra*, Vol. 397, pp. 68-90 (2014)
56. K. Chan, E. Kirkman, C. Walton, and J. Zhang, Quantum binary polyhedral groups and their actions on quantum planes, *Journal Fur die Reine und Angewandte Mathematik (Crelle's Journal)* (2014)
57. Y. B. Chan and A. Rechnitzer, Accurate lower bounds on two-dimensional constraint capacities from corner transfer matrices, *IEEE Transactions*

- on Information Theory*, Vol. 60, pp. 3845-3858 (2014)
58. Y. B. Chan and A. Rechnitzer, Upper bounds on the growth rates of hard squares and related models via corner transfer matrices, submitted to *DMTCS* (2014)
  59. H. Chang and A. Karch, Entanglement Entropy for Probe Branes, *Journal of High Energy Physics*, Vol 2014, No 1, pp. 1-30 (2014)
  60. C. Chen, L. Zheng, A. Thomo, K. Wu and V. Srinivasan, Comparing the staples in latent factor models for recommender systems, *Proc. of SAC 2014*, pp. 91-96 (2014)
  61. S. Chester, B. M. Kapron, G. Srivastava, V. Srinivasan and A. Thomo, Anonymization and Deanonimization of Social Network Data, *Encyclopedia of Social Network Analysis and Mining*, pp. 48-56 (2014)
  62. M. Cheston, K. McGregor, C. Soteris and M. Szafron, New evidence on the asymptotics of knotted lattice polygons via local strand-passage models, *Journal of Statistical Mechanics: Theory and Experiment*, Issue. 2, Art. No. 02014 (2014)
  63. M. Clay and J. Mangahas, An algorithm to detect full irreducibility by bounding the volume of periodic free factors, to appear in *Michigan Math. J.* (2014)
  64. T. Creutzig and A. Milas, False Theta Functions and the Verlinde formula, *Advances in Mathematics*, Vol 262, pp. 520-545 (2014)
  65. T. Creutzig, D. Ridout, and S. Wood, Coset Constructions of Logarithmic  $(1,p)$ -Models, *Letters in Math. Physics*, Vol 104, Issue 5, pp. 553-583 (2014)
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  67. T. Creutzig and G. Hoehn, Mathieu Moonshine and the Geometry of K3 Surfaces, *Commun. Num. Theor. Phys.*, Vol 8, No 2, pp. 295-328 (2014)
  68. T. Creutzig, G. H. John, and T. Mieziaki, The McKay-Thompson series of Mathieu Moonshine modulo two, *The Ramanujan Journal*, Vol. 34, Issue 3, pp. 319-328 (2014)
  69. V. Dani, V. King, M. Movahedi and J. Saia, Quorums Quicken Queries: Efficient Asynchronous Secure Multiparty Computation, *Distributed Computing and Networking*, Vol. 8314, pp. 242-256 (2014)
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  75. C. Doran, S. Mendez-Diez and J. Rosenberg, T-duality for Orientifolds and Twisted KR-theory,

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76. C. Doran, K. Iga, G. Landweber and S. Méndez-Diez, Geometrization of N-Extended 1-Dimensional Supersymmetry Algebras, *Proc. of SACNAS National Conference* (2014)
  77. C. Doran, S. Mendez-Diez, J. Rosenberg, String Theory on Elliptic Curve Orientifolds and KR-theory, to appear in *Commun. Math. Phys.*, (2014)
  78. C. Doran, M. Kerr, Algebraic Cycles and Local Quantum Cohomology, to appear in *Commun. Num. Th. and Phys.* (2014)
  79. T. Duchamp, G. Xie, and T. Yu, On a new proximity conditions for manifold-valued subdivision schemes, *Springer Proceedings in Mathematics & Statistics*. Vol. 83, pp. 65-79 (2014)
  80. M. Elahi, C. Williamson and P. Woelfel, Decoupled speed scaling: Analysis and evaluation, *Perform. Eval.*, Vol. 73, pp. 3-17 (2014)
  81. M. Elder, G. Lee and A. Rechnitzer, Permutations generated by a stack of depth 2 and an infinite stack in series have an algebraic generating function, submitted (2014)
  82. D. Favero, A. Iliev, and L. Katzarkov, Griffiths Groups for Derived Categories with applications to Fano-Calabi-Yaus, *Pure and Applied Mathematics Quarterly*, Vol. 10, No. 1, pp. 1-55 (2014)
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  84. M. Fazly and N. Ghoussoub, On the Henon-Lane-Emden conjecture, *Disc. Cont. Dyn. Syst.*, Vol. 34, No 6, pp. 2513-2533 (2014)
  85. S. A. Filippini, H. Ruddat, and A. Thompson, An introduction to Hodge structures, to appear in *Lecture Notes of the Concentrated Graduate Courses for Calabi-Yau Varieties: Arithmetic, Geometry and Physics* (R. Laza, M. Schutt and N.Yui, eds.), forthcoming volume in the *Fields Institute Communications series*, Springer (2014)
  86. L. Gao and J. Zhou, New optimal design criteria for regression models with asymmetric errors, *J. of Stat. Plan. And Infer.*, Vol. 149, pp. 140-151 (2014)
  87. B. Gardiner, J. Khan, and Y. Lucet, Computing the partial conjugate of Convex Piecewise Linear-Quadratic Bivariate functions, *Comp. Optim. Appl.*, Vol. 58, pp. 249-272 (2014)
  88. E. Gethner, D. G. Kirkpatrick and N. Pippenger, Computational Aspects of M.C. Escher's Ribbon Patterns, *Theory Comput. Syst.*, Vol. 54, Issue. 4, pp. 640-658 (2014)
  89. S. Gilbert, V. King, S. Pettie, E. Porat, J. Saia and M. Young, (Near) optimal resource-competitive broadcast with jamming, *Proc. of SPAA 2014*, pp. 257-266 (2014)
  90. M. Greenberg and J. Voight, Lattice methods for algebraic modular forms on classical groups, *Computations with Modular Forms*, Vol. 6, pp. 147-179 (2014)
  91. L. Guo, G. Lin, J.J. Ye, and J. Zhang, Sensitivity analysis for parametric mathematical programs with equilibrium constraints, *SIAM Journal on Optimization*, Vol .24, No 3, pp. 1206-1237 (2014)
  92. O. Gurel-Gurevich, Y. Peres, and O. Zeitouni, Localization for controlled random walks and martingales, *Electron. Commun. Probab.*, Vol. 19 no 24, pp. 1-8 (2014)
  93. F. Hach, I. Sarrafi, F. Hormozdiari, C. Alkan, E. Eichler and S. C. Sahinalp, mrsFAST-Ultra: a compact, SNP-aware mapper for high performance sequencing applications, *Nucleic Acids Research* 42(*Webserver-Issue*), pp. 494-500 (2014)

94. A. Harder and A. Thompson, The geometry and moduli of K3 surfaces, to appear in Lecture Notes of the Concentrated Graduate Courses for Calabi-Yau Varieties: Arithmetic, Geometry and Physics (R. Laza, M. Schutt and N. Yui, eds.), forthcoming volume in the Fields Institute Communications series, *Springer* (2014)
95. W. Hare, S. Hossain, Y. Lucet, and F. Rahman, Models and strategies for efficiently determining an optimal vertical alignment of roads, *Journal of Computers & Operations Research*, Vol 44, pp. 161-173 (2014)
96. W. Hare, Y. Lucet, and F. Rahman, A mixed-integer linear programming model to optimize the vertical alignment considering blocks and side-slopes in road construction, to appear in the *European Journal of Operational Research* (2014)
97. W. Hare, Numerical approximations of v-  
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98. N. J. A. Harvey, R. Schwartz and M. Singh, Discrepancy Without Partial Colorings, *Proc. of APPROX-RANDOM 2014*, pp. 258-273 (2014)
99. N. J. A. Harvey and N. Olver, Pipage Rounding, Pessimistic Estimators and Matrix Concentration, *Proc. of SODA 2014*, pp. 926-945 (2014)
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101. F. Havet, A. D. King, M. Liedloff, and I. Todinca, (Circular) backbone colouring: tree backbones in planar graphs, *Discrete Applied Mathematics*, Vol, 169, pp. 119-134 (2014)
102. M. Helmi, L. Higham, E. Pacheco and P. Woelfel, The Space Complexity of Long-Lived and One-Shot Timestamp Implementations, *J. ACM*, Vol. 61, Issue 1, Art. No. 7 (2014)
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104. G. H. Holzegel and C. M. Warnick, Boundedness and growth for the massive wave equation on asymptotically anti-de Sitter black holes, *Journal for Functional Analysis*, Vol. 266, Issue 4, pp. 2436-2485 (2014)
105. M. Huruguen, Log homogeneous compactifications of some classical groups, accepted to *Documenta Mathematica* (2014)
106. M. Huruguen, Special reductive groups over an arbitrary field, submitted to *Algebra and Number Theory* (2014)
107. T. Hulshof, M. Heydenreich, and R. Hofstad, High-dimensional incipient infinite clusters revisited, *J. Stat. Phys.*, Vol. 155, pp. 966-1025 (2014)
108. T. Hulshof, M. Heydenreich and R. V.D. Hofstad, Random walk on the high-dimensional IIC, *Commun. Math. Phys.*, Vol. 329, Issue 1, pp. 57-155 (2014)
109. J. Hubicka, J Fiala and Y Long, Universality of intervals of line graph order, *European Journal of Combinatorics*, Vol. 41, pp. 221-231 (2014)
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111. H. Kammeyer, W. Lueck and H. Rueping, The Farrell-Jones conjecture for arbitrary lattices in virtually connected Lie Groups, submitted (2014)
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119. F. Krahmer, R. Saab, and O. Yilmaz, Sigma-Delta quantization of sub-Gaussian frame expansions and its application to compressed sensing, *Oxford Journals Science & Mathematics Information and Inference*, Vol. 3, pp. 40-58 (2014)
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124. M. Lin, A determinantal inequality for positive definite matrices, *Electronic Journal of Linear Algebra*, Vol. 27, pp. 821-826 (2014).
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  139. H. Movasati, K. M. Shokri, Automorphic forms for triangle groups: integrity properties, *Journal of Number Theory*, Vol. 145, pp. 67-78 (2014)
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