

Publications & Preprints

Preprints

1. Olivier Fercoq, **Zheng Qu**. Restarting the accelerated coordinate descent method with a rough strong convexity estimate, *arXiv :1803.05771*, 2018.
URL : <https://arxiv.org/abs/1803.05771>
2. Olivier Fercoq, **Zheng Qu**. Adaptive restart of accelerated gradient methods under local quadratic growth condition, *arXiv :1709.02300*, 2017.
URL : <https://arxiv.org/abs/1709.02300>
3. Olivier Fercoq, **Zheng Qu**. Restarting accelerated gradient methods with a rough strong convexity estimate, *arXiv :1609.07358*, 2016.
URL : <https://arxiv.org/abs/1609.07358>

Journal Publications

4. Yassamine Seladji, **Zheng Qu**. Polyhedron overapproximation for complexity reduction in static analysis, *International Journal of Computer Mathematics : Computer Systems Theory*, 2018.
URL : <https://doi.org/10.1080/23799927.2018.1535525>
5. Jakub Konečný, **Zheng Qu** and Peter Richtárik. S2CD : Semi-stochastic coordinate descent, *Optimization Methods and Software*, 32 :993-1005, 2017.
URL : <https://doi.org/10.1080/10556788.2017.1298596>
6. Stephane Gaubert, **Zheng Qu**. Checking strict positivity of Kraus maps is NP-hard, *Information Processing Letters*, 118 :35-43, 2017.
URL : <https://doi.org/10.1016/j.ipl.2016.09.008>
7. **Zheng Qu**, Peter Richtárik. Coordinate descent with arbitrary sampling I : algorithms and complexity, *Optimization Methods and Software*, 31(5) :829-857, 2016.
URL : <https://doi.org/10.1080/10556788.2016.1190360>
8. **Zheng Qu**, Peter Richtárik. Coordinate descent with arbitrary sampling II : expected separable overapproximation, *Optimization Methods and Software*, 31(5) :858-884, 2016.
URL : <https://doi.org/10.1080/10556788.2016.1190361>
9. Stephane Gaubert, **Zheng Qu** and Srinivas Sridharan. Maximizing concave piecewise affine functions on the unitary group, *Optimization Letters*, 10(4) :655-665 , 2016.
URL : <https://doi.org/10.1007/s11590-015-0951-y>
10. Stephane Gaubert, **Zheng Qu**. Dobrushin ergodicity coefficient for Markov operators on cones, *Integral Equations and Operator Theory*, 81(1) :127-150, 2014.
URL : <https://doi.org/10.1007/s00020-014-2193-2>
11. **Zheng Qu**. Contraction of Riccati flows applied to the convergence analysis of a max-plus curse of dimensionality free method, *SIAM Journal on Control and Optimization*, 52(5) :2677-2706, 2014.
URL : <https://doi.org/10.1137/130906702>
12. Stephane Gaubert, **Zheng Qu**. The contraction rate in Thompson metric of order-preserving flows on a cone - application to generalized Riccati equations, *Journal of Differential Equations*, 256(8) :2902-2948, 2014.
URL : <https://doi.org/10.1016/j.jde.2014.01.024>

Refereed Conference Publications

13. Zeyuan Allen-Zhu, **Zheng Qu**, Peter Richtárik and Yang Yuan. Even Faster Accelerated Coordinate Descent Using Non-Uniform Sampling, *ICML*, 2016.
URL : <https://arxiv.org/abs/1512.09103>
14. **Zheng Qu**, Peter Richtárik, Martin Takáč and Olivier Fercoq. SDNA : Stochastic Dual Newton Ascent for Empirical Risk Minimization, *ICML*, 2016.
URL : <https://arxiv.org/abs/1502.02268>

15. Dominik Csiba, **Zheng Qu** and Peter Richtárik. Stochastic Dual Coordinate Ascent with Adaptive Probabilities, *ICML*, 2015.
URL : <https://arxiv.org/abs/1502.08053>
16. **Zheng Qu**, Peter Richtárik and Tong Zhang. Randomized dual coordinate ascent with arbitrary sampling, *NIPS*, 2015.
URL : <https://arxiv.org/abs/1411.5873>
17. Olivier Fercoq, **Zheng Qu**, Peter Richtárik and Martin Takáč. Fast distributed coordinate descent for non-strongly convex losses, *IEEE International Workshop on Machine Learning for Signal Processing*, 2014.
URL : <https://arxiv.org/abs/1405.5300>
18. **Zheng Qu**. A max-plus based randomized algorithm for solving a class of HJB PDEs, *CDC*, 2014.
URL : <https://ieeexplore.ieee.org/document/7039624>
19. Stephane Gaubert, **Zheng Qu** and Srinivas Sridharan. Bundle-based pruning in the max-plus curse of dimensionality free method, *MTNS*, 2014.
URL : <https://arxiv.org/abs/1402.1436>
20. **Zheng Qu**. Contraction of Riccati flows applied to the convergence analysis of the max-plus curse of dimensionality free method. *ECC*, pp.2226-2231, 2013.
URL : <https://arxiv.org/abs/1301.4777>
21. Stephane Gaubert, **Zheng Qu**. Markov operators on cones and non-commutative consensus. *ECC*, pp.2693-2700, 2013.
URL : <https://ieeexplore.ieee.org/document/6669486>
22. Stephane Gaubert, William M. McEneaney and **Zheng Qu**. Curse of dimensionality reduction in max-plus based approximation methods : theoretical estimates and improved pruning algorithms. *CDC*, pp.1054-1061, 2011.
URL : <https://arxiv.org/abs/1109.5241>