

CO 781 / QIC 890 Recent Advances in Quantum Information

Ashwin Nayak
University of Waterloo
Fall 2013

Project suggestions

- [1] Normand J. Beaudry and Renato Renner. An intuitive proof of the data processing inequality. *Quantum Information and Computation*, 12(5-6):432–441, May 2012.
- [2] Aleksandrs Belovs. Adversary lower bound for Element Distinctness. Technical Report arXiv:arXiv:1204.5074 [quant-ph], arXiv.org, <http://arxiv.org/>, 2012.
- [3] Aleksandrs Belovs. Span programs for functions with constant-sized 1-certificates. In *Proceedings of the 44th Symposium on Theory of Computing*, STOC '12, pages 77–84, New York, NY, USA, 2012. ACM.
- [4] Aleksandrs Belovs and Ansis Rosmanis. On the power of non-adaptive learning graphs. In *Proceedings of the 2013 IEEE Conference on Computational Complexity*, pages 44–55, 2013.
- [5] Gus Gutoski and John Watrous. Toward a general theory of quantum games. In *Proceedings of the Thirty-Ninth Annual ACM Symposium on Theory of Computing*, pages 565–574, New York, NY, USA, 2007. ACM.
- [6] Gus Gutoski and Xiaodi Wu. Parallel approximation of min-max problems. *Computational Complexity*, 22(2):385–428, 2013.
- [7] Rahul Jain and Penghui Yao. A parallel approximation algorithm for mixed packing and covering semidefinite programs. Technical Report arXiv:1201.6090 [cs.DS], arXiv.org, <http://arxiv.org/>, 2012.
- [8] Satyen Kale. *Efficient Algorithms using the Multiplicative Weights Update Method*. PhD thesis, Princeton University, Princeton, NJ, USA, 2007. Princeton Tech Report TR-804-07.
- [9] Alexei Kitaev. Quantum coin-flipping. Unpublished result. Talk in the 6th Annual workshop on Quantum Information Processing, QIP 2003, Berkeley, CA, USA, December 2002, 2001.
- [10] Alexei Kitaev and John Watrous. Parallelization, amplification, and exponential time simulation of quantum interactive proof systems. In *Proceedings of the Thirty-Second Annual ACM Symposium on Theory of Computing*, pages 608–617, New York, NY, USA, 2000. ACM.
- [11] Carlos Mochon. Quantum weak coin flipping with arbitrarily small bias. Technical Report arXiv:0711.4114 [quant-ph], arXiv.org, <http://arxiv.org/>, 2007.
- [12] John Watrous. Simpler semidefinite programs for completely bounded norms. Technical Report arXiv:1207.5726 [quant-ph], arXiv.org, <http://arxiv.org/>, 2012.