Hanmeng (Harmony) Zhan

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RESEARCH INTERESTS

Algebraic Graph Theory, Quantum Walks

EDUCATION

University of Waterloo, Waterloo, ON, Canada

- Ph.D. Candidate   May 2014 - Present
  Department of Combinatorics and Optimization, Faculty of Mathematics
  Supervisor: Chris Godsil

- Master of Mathematics   Sept 2012 - Apr 2014
  Department of Combinatorics and Optimization, Faculty of Mathematics
  Thesis: *Uniform Mixing on Cayley Graphs over $\mathbb{Z}_3^d$*
  Supervisor: Chris Godsil

- Bachelor of Arts   Jan 2010 - Aug 2012
  Department of Economics, Faculty of Arts
  Thesis: *Second-Price Auction with Resale*
  Supervisor: Philip Curry

Xiamen University, Xiamen, Fujian, China

- Bachelor of Economics   Sept 2008 - Jun 2014
  Department of Statistics, Faculty of Economics
  Thesis: *Multi-Player Multi-State Quantum Games*
  Supervisor: Zhengming Qian

RESEARCH EXPERIENCE

Publications

1. G. Coutinho, C. Godsil, M. Shirazi, H. Zhan, *Equiangular Lines and Covers of the Complete Graph*; 25 pages. arXiv:1504.00085 (2015). Submitted to Linear Algebra and its Applications.

2. C. Godsil, H. Zhan, *Uniform Mixing on Cayley Graphs*; 23 pages. arXiv:1504.00721 (2015). To be submitted to the International Journal of Linear Algebra.

3. R. Alvir, S. Dever, B. Lovitz, J. Myer, C. Tamon, Y. Xu, H. Zhan. *Perfect State Transfer in Laplacian Quantum Walk*; 26 pages. arXiv:1409.5840 (2014). Submitted to Journal of Algebraic Combinatorics.

4. C. Godsil, H. Zhan, *Mixing Time of Quantum Walks*. In preparation.

Presentations

1. *Lines and Covers of Complete Graphs 2.* In : Systems of Lines: Applications of Algebraic Combinatorics, Worcester Polytechnic Institute, Worcester, MA, August 10 - 14, 2015.

2. *Uniform Mixing in Continuous-Time Quantum Walks.* In: Summer Combo, Saint Michael's College, Burlington, VT, United States, July 21, 2015.

3. *Some Open Problems in Uniform Mixing.* Invited talk in: Summer Research Program, Clarkson University, Potsdam, NY, United States, July 20, 2015.

4. *Uniform Mixing on Cayley Graphs.* Invited talk in: Grad Seminar, University of Waterloo, Waterloo, ON, Canada, Oct 8, 2014.

5. *Laplacian Perfect State Transfer.* In: Algebraic Graph Theory Seminar, University of Waterloo, Waterloo, ON, Canada, Sept 16, 2014.

6. *Uniform Mixing in Quantum Walks.* In: 22nd Ontario Combinatorics Workshop, York University, Toronto, ON, May 16 - 17, 2014.

WORKING EXPERIENCE	
• Teaching Assistant	2012 – 2015
Graph Theory, Algebraic Enumeration, Coding Theory	
Special Topics in Mathematical Connections, Portfolio Optimization Models,	
Calculus for Honours Mathematics, Linear Algebra for Honours Mathematics	
• Research Assistant	2014 – 2015
Continuous-Time Quantum Walks	

AWARDS AND DISTICTIONS

University of Waterloo

• Outstanding Achievement in Graduate Studies	Spring 2015
• Cotton Family Women in Mathematics Graduate Scholarship	Spring 2014
• Nominated for the Best TA Award	Winter 2014
• Faculty of Arts Upper-Year Scholarship	2011-2012
• Robin K. Banks Scholarship	2011-2012
• Dean's Honours List	2011-2012

Xiamen University

• First-Class Scholarship	2009-2010