

Curriculum Vitae - Ziqing Xiang

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Education

Sep. 2010 - Jun. 2014 B.Sc. in Computer Science, Shanghai Jiao Tong University.
Aug. 2014 - now Mathematics, University of Georgia.

Publications

- Support varieties for Hecke algebras,
joint work with Dan Nakano, accepted, 2018.
- Nonexistence of nontrivial tight 8-designs,
Journal of Algebraic Combinatorics, 47(2), 301-318, 2018.
- Hamiltonian decomposition of prisms over cubic graphs,
joint work with Moshe Rosenfeld,
Discrete Mathematics & Theoretical Computer Science, 16(2):111-124, 2014.
- A Fisher type inequality for weighted regular t -wise balanced designs,
Journal of Combinatorial Theory A, 119(7):1523-1527, 2012.

Papers submitted

The preprints are available on my personal homepage.

- Rational designs, joint work with Zhen Cui and Jiacheng Xia, 2017.
- Explicit spherical designs, 2018.

Preprints

- Integral points on variable separated curves, joint work with Dino Lorenzini.
- Classification problem of certain spherical embeddings of strongly regular graphs,
joint work with Eiichi Bannai, Etsko Bannai, Wei-Hsuan Yu and Yan Zhu, 2018.
Supplemental material: Mathematica code to solve a certain degree 10 Diophantine equation in 3 variables under some conditions.

Papers in preparation

The abstracts are available on my personal homepage.

- On q -Schur algebras corresponding to Hecke algebras of type B, joint work with Chun-Ju Lai and Dan Nakano.

- Hamiltonian thickness and spanning topological minors, joint work with Yaokun Wu and Yinfeng Zhu.
- Nonexistence of s -distance $2s$ -designs on unitary groups.
- Lit-only σ -game, joint work with Yaokun Wu.
- Inferring phylogenies from incomplete metric information, joint work with Yaokun Wu, Zeying Xu and Yinfeng Zhu.
- Positive matrices, primitive matrices, scrambling matrices, contractible matrices, joint work with Xin-mao Wang and Yaokun Wu.
- Product of P-polynomial association schemes.
- On s -distance sets in real hyperbolic space.

Conference Talks

The slides are available on my personal homepage.

- Support varieties for Hecke algebras,
Southeastern Lie Theory Workshop X,
University of Georgia, Jun. 11, 2018.
- An explicit construction of spherical designs,
International workshop on Bannai-Ito theory,
Zhejiang University, Nov. 25, 2017.
- The lit-only σ -game,
2015 Workshop on Combinatorics and Applications at SJTU,
Shanghai Jiao Tong University, Apr. 25, 2015.
- Spherical designs over a number field,
2015 Workshop on Combinatorics and Applications at SJTU,
Shanghai Jiao Tong University, Apr. 24, 2015.
- Tight block designs,
Sphere Packings, Lattices, and Designs,
Erwin Schrödinger International Institute, Oct 27, 2014.
- Product of P-polynomial association schemes,
Workshop on Algebraic Combinatorics,
Hebei Normal University, Nov. 19, 2013.
- Lit-only σ -game,
The 2nd Pacific Rim Mathematical Association Congress,
Shanghai Jiao Tong University, Jun. 24, 2013.
- Some s -distance set,
Mini-Workshop on Spherical Designs and Related Topics,
Shanghai Jiao Tong University, Nov. 21, 2012.
- Incidence matrix and cover matrix,
The 2nd Japan-Taiwan Conference on Combinatorics and its Applications,
Nagoya University, Nov. 11, 2012.
- Nonexistence of nontrivial tight 8-design,
2012 Shanghai Conference on Algebraic Combinatorics,
Shanghai Jiao Tong University, Aug. 18, 2012.

- Fisher type inequality,
Workshop on Algebraic Combinatorics,
Shanghai Jiao Tong University, Sep. 16, 2011.

Seminar Talks

- Good subsets of the unit circle,
Graduate student summer conference,
University of Georgia, Jul. 27, 2018.
- Support varieties for Hecke algebras,
Algebra Seminar,
University of Georgia, Feb. 5, 2018.
- An introduction to Soergel bimodules,
Algebra Seminar,
University of Georgia, Nov. 6, 2017.
- Dimensions of Specht modules,
Graduate student summer conference,
University of Georgia, Jul. 26, 2017.
- An explicit construction of spherical designs,
Combinatorics Seminar,
Shanghai Jiao Tong University, May 29, 2017.
- Support varieties of Iwahori-Hecke algebras of type A,
Graduate student summer conference,
University of Georgia, Jul. 28, 2016.
- Sphere packings, spherical codes and spherical designs,
Number Theory Seminar,
University of Georgia, Apr. 13, 2016.
- Nonexistence of tight 8-design,
Number Theory Seminar,
University of Georgia, Jan. 28, 2015.
- Structure of strongly connected digraphs,
Combinatorics Seminar,
Shanghai Jiao Tong University, Jul. 9, 2014.
- Laplacians,
Combinatorics Seminar,
Shanghai Jiao Tong University, Apr. 12, 2014.
- Relative designs, totally positive sequence and zero distribution,
Combinatorics Seminar,
Shanghai Jiao Tong University, Jun. 13, 2013.
- Some s -distance sets in hyperbolic space,
Combinatorics Seminar,
Shanghai Jiao Tong University, Nov. 21, 2012.
- On the nonexistence of nontrivial tight 8-design,
Combinatorics Seminar,
Shanghai Jiao Tong University, Jun. 6, 2012.

- Rational spherical t -semidesign,
Combinatorics Seminar,
Shanghai Jiao Tong University, Apr. 22, 2012.
- A glimpse at P -polynomial association schemes,
Combinatorics Seminar,
Shanghai Jiao Tong University, Mar. 4, 2012.

Teaching

- Precalculus - MATH 1113 - Sections 20571,
University of Georgia, 2018 Spring.
- Precalculus - MATH 1113 - Sections 15369 and 29605,
University of Georgia, 2017 Fall.
- Calculus I - MATH 2250 - Section 40630,
University of Georgia, 2017 Spring.
- Precalculus - MATH 1113 - Section 15218,
University of Georgia, 2016 Fall.
- Computational Number Theory,
Shanghai Jiao Tong University, 2012 Summer.
- Real Analysis,
Shanghai Jiao Tong University, 2011 Spring.
- Calculus,
Shanghai Jiao Tong University, 2010 Fall.

Grant

- Chun-Tsung program, Shanghai Jiao Tong University, Sep. 2013 - Jun. 2014.