CURRICULUM VITAE

Personal Data

Name: Jie Wang

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Date of Birth: 23/5/1990

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Education

- Bachelor of Mathematics (9/2008-7/2012)
- University of Science and Technology of China
- Doctor of Mathematics (9/2012-7/2017)
- Academy of Mathematics and Systems Science, Chinese Academy of Sciences
- Supervisor: Xiao-Shan Gao
- Dissertation: The research of certain problems in difference algebra

Work Experience

- 7/2017 – present, Postdoc, Peking University, Mentor: Bican Xia

Research Interests

Real Algebraic Geometry, Biological Mathematics, Polynomial Optimization, Difference Algebra

Publication List

Published papers

1. Jie Wang, Monomial difference ideals, *Proceedings of the American Mathematical Society*, 145(4):1481-1496, 2017.

2. XiaoShan Gao, Zhang Huang, Jie Wang and ChunMing Yuan, Toric difference variety, *Journal of Systems Science & Complexity*, 30(1):173-195, 2017.

3. Jie Wang, Difference indices of quasi-regular difference algebraic systems, *Journal of Mathematical Sciences: Advances and Applications*, 46:31-49, 2017.

4. Jie Wang, Difference indices of quasi-prime difference algebraic systems, *Journal of Symbolic Computation*, 87:1-13, 2018.

5. Jie Wang, Finite basis for radical well-mixed difference ideals generated by binomials, *Communications in Algebra*, 46(6):2589-2599, 2018.

6. Jie Wang, Toric P-difference varieties, online in *Science China Mathematics*, 2018.

Papers under review

7. Jie Wang, Nonnegative polynomials and circuit polynomials, 2018.

8. Jie Wang, On systems of polynomials with at least one positive real zero, 2018.

9. Jeffrey Uhlmann and Jie Wang, On the Nonnegativity of the Inverse RGA of Positive-Definite Matrices in Low Dimensions, 2019.

Conference papers

10. Jie Wang, Haokun Li and Bican Xia, A new sparse SOS decomposition algorithm based on term sparsity, ISSAC, 2019.

Preprints

11. Xiaoxian Tang and Jie Wang, Bistability of Fully Open Extension of Sequestration Networks, 2019.

Invited Talks (excluding conference presentations)

1. "The finitely generated property of binomial difference ideals", The 2nd workshop on combinatorial mathematics and symbolic computation, Tianjin, 6/2017

2. "On systems of polynomials with at least one positive zero", Youth Forum of National Center for Mathematics and Interdisciplinary Sciences, CAS, Beijing, 10/2018

3. "On bounds of numbers of real zeros for systems of polynomials", The 4nd workshop on combinatorial mathematics and symbolic computation, Zhenjiang, 4/2019

4. "Nonnegative polynomials and circuit polynomials", SIAM Conference on Applied Algebraic Geometry, Switzerland, 7/2019

5. "Exploiting Term Sparsity in SOS Programming and Sparse Polynomial Optimization", International Conference on Continuous Optimization, Berlin, 8/2019

Honor & Awards

2016, Gained the "Dean Special Prize" of Academy of Mathematics and Systems Science, CAS

2017, Gained the title of "Outstanding Graduates" of University of Chinese Academy of Sciences

Project Funding

The 64th China Postdoctoral Science Foundation