Huawei Wu

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Vitry-sur-Seine, Paris, France

EDUCATION

Postdoc in Université Paris VIII in France (Working with Professor Sihem Mesnager)	2024 — present
Ph.D. in Mathematics at Tsinghua University of China	2018 — 2024
B.S. in Mathematics at Huazhong University of Science and Technology of China	2014 — 2018

RESEARCH

Accepted Papers

- **Wu, H.**, Yang, J. and Feng, K., 2023. The Weight Distributions of Two Classes of Linear Codes From Perfect Nonlinear Functions. IEEE Transactions on Information Theory.
- **Wu, H.**, Yang, J. and Feng, K., 2024. Circular external difference families: construction and non-existence. Designs, Codes and Cryptography, pp.1-14.
- Xu, G., Cao, X., Luo, G. and **Wu, H.**, 2024. Infinite families of 3-designs from special symmetric polynomials. Designs, Codes and Cryptography, pp.1-23.
- Mesnager, S. and **Wu, H.**, 2025. On the differential and Walsh spectra of x^{2q+1} over $\mathbb{F}_{q^2}$. Finite Fields and Their Applications, 103, p.102576.

Preprints

- Mesnager, S. and **Wu, H.**, 2024. The Differential and Boomerang Properties of a Class of Binomials. arXiv preprint arXiv:2409.14264.
- Mesnager, S. and **Wu, H.**, 2025. An In-depth Study of the Power Function x^{q+2} over the Finite Field $\mathbb{F}_{q^2}$: the Differential, Boomerang and Walsh Spectra, with an Application to Coding Theory. arXiv preprint arXiv:2407.07710.

RESEARCH INTERESTS

Algebra, Number Theory, Algebraic Geometry and Their Applications in Coding Theory, Combinatorics and Cryptography

PROGRAMMING SKILLS

- Programming Languages: Rust, JavaScript and Python
- Familiar Areas: Scientific Computation and Desktop Software Development

TEACHING EXPERIENCE

Teaching Assistant

- Calculus I, Undergrad, Tsinghua University, Spring 2021 & Fall 2023
- Algebraic Number Theory, Undergrad, Tsinghua University, Spring 2020
- Abstract Algebra, Undergrad, Tsinghua University, Fall 2019 & Fall 2020
- Advanced Linear Algebra II, Undergrad, Tsinghua University, Spring 2019
- Advanced Linear Algebra I, Undergrad, Tsinghua University, Fall 2018

HONORS AND AWARDS

Academic Awards

- First Place in "Cryptography and Mathematics" Summer School Mathematics Competition Organized by Institute of Information Engineering of Chinese Academy of Sciences, 2023
- National Second Prize of the 8th Mathematics Competition of Chinese College Students (16th Place), 2017

State-Level Awards

- National Scholarship (¥8,000), Twice
- National Encouragement Scholarship (¥5,000), 2015

Municipal Awards

- Title of Outstanding Graduates of Wuhan, 2018

School-Level Awards

- Tsinghua University Comprehensive Scholarship, 2022
- Title of Merit Student of Huazhong University of Science and Technology, 3 Times