CURRICULUM VITAE

Wei WANG

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Personal Data

Date of birth: 2000/2/29.
Gender: Male.
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Education and Studying Experiences

Ph.D in Theoretical Mathematics
Peking University, Beijing, P.R.China
2022/9–present
Advisor: Prof. Zhifei Zhang

Summer Research Program
The Hong Kong University of Science and Technology, HongKong, P.R.China
2021/6–2021/9
Advisor: Prof. Tianling Jin

B.S. in Mathematics and Applied Mathematics
Zhejiang University, Hangzhou, Zhejiang, P.R.China
2018/9–2022/6
Advisor: Prof. Thing Zhang
Thesis title: Homogenization Problem of Second Order Elliptic Systems with Lower Order Terms

Research Interests

- **Research areas:** geometric variational problems, elliptic equations, and parabolic equations.

- **Some specific topics:** homogenization theory, semilinear elliptic and parabolic equations, harmonic maps, liquid crystal theory, and nonlocal Laplacian operators.

Publications and Preprints

1. Fine structure of rupture set for semilinear elliptic equation with singular nonlinearity.
   W. Wang and Z. Zhang, *arXiv preprint arXiv:2411.16048.*

2. Quantitative stratification and sharp regularity estimates for supercritical semilinear elliptic equations.
   H. Fu, W. Wang, and Z. Zhang, *arXiv preprint arXiv:2408.06726.*

3. Landau-de Gennes model with sextic potentials: asymptotic behavior of minimizers.
   W. Wang and Z. Zhang, *arXiv preprint arXiv:2404.00677.*

4. On the sharp constants in the regional fractional Sobolev inequalities.
   R.L. Frank, T. Jin, and W. Wang, *arXiv preprint arXiv:2403.00357*.

5. Uniform estimates of resolvents in homogenization theory of elliptic systems.
   W. Wang. *Journal of Differential Equations*, **370** (2023), 1-65.

6. Homogenization theory of elliptic system with lower order terms for dimension two.
   W. Wang and T. Zhang, *Communications on Pure and Applied Analysis*, **22** (2023), 787-824.

Honors and Awards

- Third Prize in the Graduate Research Exhibition at the School of Mathematical Sciences, Peking University, 2024/4.

- Mathematics Graduate Student Excellence Program, Peking University, 2023/10.

- Excellence Award of ICCM Creative Undergraduate Thesis, 2022/8.

- Outstanding Graduate Student of Zhejiang University, 2022/6.

- Honored Degree of Chu Kochen College, Zhejiang University, 2022/6.

- Second Prize in the Exhibition of the Colloquium on "Questions and Conjectures", 2021/11.

Seminars Organized

- Reading Seminar on Geometric Measure Theory, Peking University, Fall 2024.

- Reading Seminar on Geometric Measure Theory and PDEs, Peking University, Fall 2023.

- Reading Seminar on Papers about Harmonic Maps, Peking University, Spring 2023.

- Reading Seminar on Elliptic Free Boundary Problems, Peking University, Fall 2022.

Talks and Presentations

- Year-End Seminar of PDEs Group, Peking University, Beijing, P.R.China, 2024/12/29.

- Seminar on Geometric Measure Theory and PDEs, Wuhan University, Wuhan, Hubei, P.R.China, 2024/12/3.

- Graduate Research Exhibition in Theoretic Mathematics, Peking University, Beijing, P.R.China, 2024/4/12.

- ICCM Creative Undergraduate Thesis, Southeast University, Nanjing, Jiangsu, P.R.China, 2022/8/2.

Teaching and Teaching Assistant Experiences

- Teaching Assistant, Advanced Mathematics (B) (II), Fall 2024, Peking University.

- Teaching Assistant, Advanced Mathematics (A) (I), Fall 2024, Peking University.

- Teaching Assistant, Advanced Mathematics (B) (II), Spring 2024, Peking University.

- Teaching Assistant, Harmonic Analysis, Fall 2023, Peking University.

- Teaching Assistant, Functional Analysis (I), Spring 2023, Peking University.

- Teaching Assistant, Advanced Mathematics (C) (I), Fall 2022, Peking University.

- Teaching Assistant, Mathematical Analysis (II), Spring 2022, Zhejiang University.

- Teaching Assistant, Mathematical Analysis (I), Fall 2021, Zhejiang University.