

Kexin Wang

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EDUCATION

Fudan University (FDU)

Sept 2017 - Present

- B.S., Physics (expected Jun 2021)
- GPA: **3.77**/4.0 · Rank: **5**/115
- Upper division (Junior year): **3.91**/4.0 · Rank: **3**/115
- Major courses: Solid Physics (A), Atomic Physics (Honors) (A), Low Temperature and Superconductivity (A), Electrodynamics (Honors) (A-)

University of California, Berkeley

Jan 2019 - May 2019

- Exchange student sponsored by Fudan University
- GPA: **3.91**/4.0
- Major courses: Quantum Mechanics (A+), Introduction to Mathematical Physics (A+), Introduction to Statistical and Thermal Physics (A-)

RESEARCH EXPERIENCE

❖ Dynamics of phase-mismatched dipole spin waves in atomic medium

Advisor: Prof. Saijun Wu, Department of Physics, Fudan University Jan 2020 - Present

- Study on the radiation pattern and collective behaviors of atom arrays
- Introduced close-by atom pairs into the coupled dipole model, in order to explain the unexpected decay rate of phase-mismatched atoms

❖ UCLA-CSST program (canceled due to COVID-19)

May 2020 - Sept 2020

Advisor: Prof. Wes Campbell, Department of Physics, University of California, Los Angeles

- Transformed ultra-cold atoms and molecules to quantum simulators, in order to solve intractable supercomputer simulations

❖ Abnormal reflection of electromagnetic waves with metasurface

May 2019 - Jan 2020

Advisor: Prof. Lei Zhou, Department of Physics, Fudan University

- Induced abrupt phase addition, facilitated by artificial atoms or metasurface, in order to produce any reflection angle at will
- Simulated methods to achieve abnormal reflection by CST and Comsol, under the hypothesis that near field effects would boost the efficiency

❖ Preparation of graphene with zigzag edge by hydrogen plasma etching

Feb 2019 - May 2019

Advisor: Prof. Michael Crommie, Department of Physics, UC Berkeley

- Exfoliation of 2D materials, including graphene and hexagonal boron nitride
- Vacuum annealing and Ar/H₂ annealing
- Introduced pits with zigzag edge on graphene by hydrogen plasma etching
- Conducted examinations and measurements under atom force microscopes (AFM)

❖ Production of gratings with fine structures by lithography

Aug 2018 - Jan 2019

Advisor: Wei-Tao Liu, Professor, Department of Physics, Fudan University

- Designed and set up the light path to produce fine gratings by optical lithography, for the use of sum-frequency vibrational spectroscopy

PUBLICATION

Yanshuang Chen¹, **Kexin Wang¹**, Zefang Ye¹, Hua Tong^{2,3}, Yuliang Jin², Peng Tan¹, *Revealing the freezing transition of beta-relaxation in glass phase*, submission be determined

Main Contribution: Coauthored and analyzed data of mean square displacement to test the assumption of the potential landscape in glass system, in good agreement with the prediction of the generalized random first order transition theory

SKILLS

- Simulation: Comsol (Advanced), CST (Basic)
- Laboratory: AFM, exfoliation, annealing
- Programming: Python (Advanced), Matlab (Advanced), Mathematica (Advanced), IDL (Basic), Labview (Basic)

HONOURS AND AWARDS

- Chinese National Scholarship (2020, 2018)
- Member, *Junzheng Program* - scholarship for outstanding undergraduate research (2020)
 - Supported by the Chinese Undergraduate Research Endowment (CURE) and Zhengdao Li, Nobel Prize Winner in Physics
- Outstanding Project, *Venus Innovative Scientific Research Program* at Fudan (2017 - 2019)
 - Thesis: Optimal ingredients for up-conversion nanophosphors in bioimaging
 - Advisor: Wei Feng, Professor, Department of Chemistry, Fudan University
- Physics Honor Roll, Fudan University (2020, 2019)
- Silver Medal, 200-meter individual medley in the Chinese Swimming Competition for College Non-Athletes (2019)
- Honor Student, Fudan University (2018)

STANDARDIZED TESTS

- TOEFL: **109**/120 (Reading 29, Listening 29, Speaking 26, Writing 25)
- GRE: **330**/340 (Verbal 160, Quantitative 170, Writing 3.5)

EXTRACURRICULAR ACTIVITIES

- Vice Chairman, Swimming Association of Fudan University (2018 - Present)
- Member, *Siyuan Program* (focus on social responsibility) (2018 - Present)
- Volunteer Physics Tutor - over 50 service hours during COVID-19 pandemic (Feb - Jun 2020)
- Cohort Representative, Department of Physics in Fudan University (2018 - 2019)
- Director of Academic Affairs, Physics Society in Fudan University (2018 Autumn Semester)