

Xiaowei Zheng

Email: 3576190949@qq.com | Phone: +86 15005998154 | Fujian, China

Education

M.S. in Physics – Quantum Computing (MSPQC), University of Wisconsin–Madison, USA Sep 2026 – Present

B.Sc. in Physics, Xi'an Jiaotong University, China Sep 2022 – Jun 2026
GPA: 3.0/4.3 (Xi'an Jiaotong University)
Selected Coursework:

- Mathematical Methods in Physics: 88/100
- Introduction to Quantum Optics and Quantum Information: 91/100
- Nonlinear Optics: 92/100
- Solid State Physics: 83/100

Exchange Program in Physics, University of California, Berkeley, USA Sep 2024 – Dec 2024

GPA: 3.3/4.0

Selected Coursework:

- Quantum Mechanics: A–
- Statistical and Thermal Physics: A–
- Graduate-level Partial Differential Equations: B

Research Experience

Undergraduate Research Assistant, Xi'an Jiaotong University 2024 – Present

- Proposing a theoretical scheme to conditionally accelerate the generation of entanglement between two coupled qubits by subjecting one of them to a strongly dissipative channel. In the no-jump case, dissipation provides an additional channel for balancing the excitation populations of the two qubits, thereby accelerating entanglement generation.
- Developing a scheme to enhance the measurement precision of the frequency shift of a field mode prepared in a photonic cat state. A phase-space rotation combined with a displacement operation generates a relative geometric phase between the two components of the cat state. This phase can be extracted using a qubit dispersively coupled to the field mode, eliminating the need to map the field state onto the qubit and thereby significantly reducing the sensing time.

Publications

1. **Xiaowei Zheng**, Juncong Zheng, Xuefeng Pan, Pengbo Li. “Conditional acceleration of entanglement generation enabled by dissipation.” *Phys. Rev. A* 111, 012402 (2025).
2. **Xiaowei Zheng**, Juncong Zheng, Xuefeng Pan, Pengbo Li. “Quantum-enhanced sensing of bosonic modes with cat states.” *Phys. Rev. A* 112, 032612 (2025).

Awards

- 2024–2025 Academic Year “Outstanding Individual in Social Activities” Award
- 2025–2026 Academic Year “Outstanding Individual in Social Activities” Award

Languages

IELTS 7.0 (Reading 8.0, Listening 7.5, Writing 6.5, Speaking 6.0)