

# Ze Ouyang

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## EDUCATION

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- The University of Texas at Austin** Austin, U.S.  
Ph.D. student in Physics, Advisor: [Mike Downer](#) Fall 2022–Current
- Huazhong University of Science and Technology** Wuhan, China  
B.Sc. in Physics, Advisor: [Pengshun Luo](#) Fall 2018–Summer 2022
- Thesis: “Experimental search for exotic spin-spin interactions at the micrometer range”

## RESEARCH INTEREST

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- Laser-driven wakefield acceleration
- Experimental search for new physics

## EXPERIENCE

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- The University of Texas at Austin** Austin, U.S.  
Research Assistant in [LWFA Group](#) (Experimental laser physics) Fall 2022–Current
- Huazhong University of Science and Technology** Wuhan, China  
Research Assistant in [ENP Group](#) (Experimental condensed matter physics) Spring 2019–Summer 2022
- Simulation of condensed matter phenomenon by finite element analysis
  - Proposal of an experiment to search for exotic spin-spin interactions
  - Theoretical motivation of the axion
- The Chinese University of Hong Kong** Hong Kong, China  
Honorary Research Assistant in [The Jianfang Wang Group](#) (Nanophotonics) Summer 2021
- Synthesis of nanoparticles including nanospheres, nanoplates, nanorods, and et al
  - Optical characterization of the nanoparticles

## SKILLS

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- **Programming:** C++, Python, Fortran
- **Simulating:** COMSOL
- **Data processing:** MATLAB, Mathematica, Origin
- **Other:**  $\LaTeX$ , Github

## PUBLICATIONS

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1. Proposal for the search for exotic spin-spin interactions at the micrometer scale using functionalized cantilever force sensors.  
Qian Wang, **Ze Ouyang**, Pengshun Luo et al, [Phys. Rev. D](#), 107, 015005 (2023)

2. Reconstruction, Analysis of the Process  $ggH$  Decay to  $ll\nu\nu$  Monte Carlo with  $MH=125$  GeV and Introduction of the Physical Background.

Fanli Zeng✉, Yiwei Liu, **Ze Ouyang** et al, *J. Phys.: Conf. Ser.*, 2287 012030 (2022)

## TEACHING

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- **Teaching Assistant (Grader)** at The University of Texas at Austin Fall 2022  
Modern Physics and Introduction to Thermodynamics (PHY 355, Unique number: 57430)  
Instructor: [Prof. Onyisi](#)
- **Teaching Assistant** at The University of Texas at Austin Spring 2023  
Quantum Mechanics I (PHY 373, Unique number: 57005)  
Instructor: [Prof. Onyisi](#)
- **Teaching Assistant** at The University of Texas at Austin Spring 2023  
Modern Physics and Thermodynamics (PHY 355, Unique number: 56965)  
Instructor: [Prof. Raizen](#)
- **Lab Teaching Assistant** at The University of Texas at Austin Summer 2023  
Lab for PHY 302K/303K/317K (PHY F105M, Unique number: 86935)  
Instructor: [Prof. Loveridge](#)
- **Lab Teaching Assistant** at The University of Texas at Austin Fall 2023  
Lab for PHY 302L/303L/317L (PHY 105N, Unique number: 57430)  
Instructor: [Prof. Loveridge](#)
- **Lab Teaching Assistant** at The University of Texas at Austin Fall 2023  
Lab for PHY 302L/303L/317L (PHY 105N, Unique number: 57460)  
Instructor: [Prof. Loveridge](#)
- **Lab Teaching Assistant** at The University of Texas at Austin Spring 2024  
Lab for PHY 302L/303L/317L (PHY 105N, Unique number: 55575)  
Instructor: [Prof. Loveridge](#)
- **Lab Teaching Assistant** at The University of Texas at Austin Spring 2024  
Lab for PHY 302L/303L/317L (PHY 105N, Unique number: 55710)  
Instructor: [Prof. Loveridge](#)

## LANGUAGES

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- **Mandarin Chinese:** Native or bilingual proficiency
- **English:** Professional working proficiency