

Zishuo ZHAO

PERSONAL INFORMATION

ADDRESS: 30 Shuangqing Road, Haidian District, 100084, Beijing, China
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EDUCATION

2021 - present Ph.D student in MATHEMATICS, **Tsinghua University**, China
Advisor: Zhengwei LIU

2017 - 2020 Undergraduate Degree in MATHEMATICS and STATISTICAL SCIENCE
University of California at Santa Barbara, U.S.

TEACHING EXPERIENCE

Fall 2023; **20420124-1: Advanced Linear Algebra (1)**, TA, Prof. Bangming Deng, Tsinghua University.

Spring 2023; **30420105-3: Advanced Calculus (2)**, TA, Profs. Wenming Zou, Tsinghua University.

Fall 2022; **10421324-11: Linear Algebra**, TA, Profs. Dingxin Zhang, Tsinghua University.

Spring 2022; **10421065-4: Calculus A(2)**, TA, Profs. Jiayan Yao, Tsinghua University.

Fall 2021; **10421324-2: Linear Algebra**, TA, Profs. Jie Du, Tsinghua University.

SCHOLARSHIP

- 2023 Comprehensive Scholarship at Tsinghua University

RESEARCH INTERESTS

My research interests center around operator algebras, in particular subfactor theory. I am interested in their interactions with the study of quantum information and quantum many-body theory, especially topological orders.

PREPRINTS

Yuguo Shao, Zishuo Zhao, Song Cheng, and Zhengwei Liu, Complexity of tensor network simulation for noisy quantum circuits. arXiv:2606.00474

Zhengwei Liu and Zishuo Zhao, Topological Orders from Reflection Positive Frustration-free Hamiltonians. arXiv:2510.20662

Jinsong Wu and Zishuo Zhao, Bimodule Quantum Markov Semigroups. arXiv:2504.09576

Zishuo Zhao, Relative Entropy for Quantum Channels. arXiv:2312.16576

Zishuo Zhao, Rios, M.A., Avetisyan, Z., Berlow, K. et al. Almost Abelian Lie groups, subgroups and quotients. arXiv:2004.04369

PUBLICATIONS

Z. Zhao, Rios, M.A., Avetisyan, Z., Berlow, K. et al. ALMOST ABELIAN LIE GROUPS, SUBGROUPS AND QUOTIENTS. J Math Sci 266, 42–65 (2022)

CONFERENCE TALKS

2026

June Topological quantum groups, quantum symmetries and related topics,
Harbin Institute of Technology, Chian

2025

October Great Plains Operator Theory Symposium 2025,
University of Puerto Rico, USA

August Quantum Theory and Operator Theory,
Beijing Institute of Mathematical Sciences and Applications, China

2024

January Mathematical Aspects of Quantum Theory,
Tsinghua Sanya International Mathematics Forum, China

SEMINAR TALKS

2026

January Subfactor Seminar,
Vanderbilt University, USA

2025

June BIMSA-Tsinghua Quantum Symmetry Seminar,
Beijing Institute of Mathematical Sciences and Applications, China

2023

December BIMSA-Tsinghua Quantum Symmetry Seminar, BIMSA, China

September Hebei Normal University, Shijiazhuang, China