

Zixuan Liu

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About

I am currently a PhD student of QICI (Quantum Information and Computation Initiative) at Department of Computer Science, The University of Hong Kong. My research interests include quantum information theory and quantum foundations. I have been developing works on quantum operations with indefinite input-output direction.

Education

- 2019–now **PhD**, *The University of Hong Kong*, Hong Kong
Supervised by Giulio Chiribella
- 2015–2019 **BEng in Computer Science**, *Zhejiang University*, Hangzhou
Chu Kochen Honors degree

Publications and preprints

- [1] Giulio Chiribella and Zixuan Liu. Quantum operations with indefinite time direction. *Communications Physics*, 5(1):1–8, 2022.
- [2] Yu Guo, Zixuan Liu, Hao Tang, Xiao-Min Hu, Bi-Heng Liu, Yun-Feng Huang, Chuan-Feng Li, Guang-Can Guo, and Giulio Chiribella. Experimental demonstration of input-output indefiniteness in a single quantum device. *arXiv preprint arXiv:2210.17046*, 2022.

Poster presentation

- 2021 24th Annual Conference on Quantum Information Processing, Munich (Online), Germany
Poster presentation on “Quantum operations with indefinite time direction”.

Expertise

- Quantum information theory
- Semidefinite programming
- Quantum resource theories
- Group representation theory

Honors and awards

- 2019 Excellent undergraduate thesis, Zhejiang University
- 2017 First prize of Zhejiang Province Physics Innovation Competition
- 2016 First-class scholarship for top students in basic sciences

Languages

Chinese native
English competent

Computer skills

Programming languages C/C++, Python, MATLAB, Julia, \LaTeX , Javascript
Operating systems macOS, Linux, Windows