

Haotian WEI

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EDUCATION

Ph. D. in Theoretical Physics , Rice University, <i>Houston, TX</i> Research in Quantum Science and Engineering	Expected May 2025
M. Sc. in Theoretical Physics , Rice University, <i>Houston, TX</i>	Dec 2024
B.Sc. in Physics , Fudan University, <i>Shanghai, China</i> Outstanding Graduate of Class 2020 (top 10%)	Jun 2020
Visiting Student , University of California, <i>Berkeley, CA</i>	Aug - Dec 2017

RESEARCH EXPERIENCE

Doctoral Researcher , <i>Rice University, Houston, TX</i> Advisor: Dr. Kaden Hazzard	Jun 2021 - Present
Research Assistant , <i>Fudan University, Shanghai, China</i> Advisor: Dr. Yang Qi	Sep 2018 – Jun 2020

PUBLICATIONS

6 articles, 240+ citations and 6 h-index from Google Scholar profile: scholar.google.com/citations?user=mu--7-UAAAAJ

- **Hao-Tian Wei**, Eduardo Ibarra-García-Padilla, Michael L. Wall, and Kaden R. A. Hazzard. “Hubbard Parameters for Programmable Tweezer Arrays” *Physical Review A [Editors' Suggestion]* **109**, 013318 (2024).
- Dasom Kim, Sohail Dasgupta, Xiaoxuan Ma, Joong-Mok Park, **Hao-Tian Wei**, Liang Luo, Jacques Doumani, Xinwei Li, Wanting Yang, Di Cheng, Richard HJ Kim, Henry O Everitt, Shojiro Kimura, Hiroyuki Nojiri, Jigang Wang, Shixun Cao, Motoaki Bamba, Kaden RA Hazzard and Junichiro Kono. “Observation of the magnonic Dicke superradiant phase transition” *Science Advances [Featured in news]* **11**, eadt1691 (2025).
- Zoe Z. Yan, Benjamin M. Spar, Max L. Prichard, Sungjae Chi, **Hao-Tian Wei**, Eduardo Ibarra-García-Padilla, Kaden R. A. Hazzard, and Waseem S. Bakr. “Two-Dimensional Programmable Tweezer Arrays of Fermions” *Physical Review Letters [Editors' Suggestion] [Featured in news]* **129**.123201 (2022).
- Shintaro Taie, Eduardo Ibarra-García-Padilla, Naoki Nishizawa, Yosuke Takasu, Yoshihito Kuno, **Hao-Tian Wei**, Richard T. Scalettar, Kaden R. A. Hazzard, and Yoshiro Takahashi. “Observation of Antiferromagnetic Correlations in an Ultracold SU(N) Hubbard Model” *Nature Physics [Featured in news]* **18**.1356–61 (2022).
- Ibarra-García-Padilla, Eduardo, Sohail Dasgupta, **Hao-Tian Wei**, Shintaro Taie, Yoshiro Takahashi, Richard T. Scalettar, and Kaden R. A. Hazzard. “Universal Thermodynamics of an SU(N) Fermi-Hubbard Model” *Physical Review A [Editors' Suggestion]* **104**.043316 (2021).
- Yuan Da Liao, Han Li, Zheng Yan, **Hao-Tian Wei**, Wei Li, Yang Qi, and Zi Yang Meng. “Phase Diagram of the Quantum Ising Model on a Triangular Lattice under External Field” *Physical Review B* **103**.104416 (2021).

PROFESSIONAL SKILLS

Proficient Programming Languages: Python (NumPy/SciPy/PyTorch), C/C++, MATLAB, Mathematica & Julia
Application Skills: High-performance computing (HPC), cloud computing, code development workflow based on Git, LaTeX, Microsoft Office, data visualizations
Languages: English (fluent), Mandarin (native)
Interests: Linguistics (phonetics and phonology), Saxophone

LEADERSHIP SERVICES

Physics & Astronomy Graduate student Association , <i>Rice University, Houston, TX</i> Treasurer & Journal club coordinator	Jun 2022 – Jun 2024
Academic Reviewer , <i>Physical Review Applied, Physical Review A&B</i>	Aug 2024 - Present