

# Chunxiao Liu

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Laboratoire de Physique des Solides,  
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CURRENT EMPLOYMENT Chargé de Recherche CNRS Oct. 1 2025 – present  
Laboratoire de Physique des Solides, Université Paris-Saclay

RESEARCH INTERESTS

- **Quantum magnetism:** frustrated magnets, quantum spin liquids, quantum paramagnets
- **Topological phases of matter:** symmetry protected topological (SPT) phases, topological order, topological quantum field theory
- **Correlated phases in electronic systems:** fractional quantum Hall effect, fractional Chern insulator, unconventional superconductivity, Mott insulators
- **Crystalline symmetry:** crystalline defects, topological response theory, crystalline SPTs, crystalline symmetry fractionalization
- **Non-equilibrium quantum dynamics:** quantum chaos, hydrodynamics, experimental prediction, entanglement dynamics
- **Quantum codes and circuits:** homological codes, quantum contextuality, measurement induced phase transition
- **Random matrix theory:** matrix models, spin glasses, enumerative geometry, combinatorics

PAST EMPLOYMENT Postdoctoral Scholar Oct 2024 – Sept 2025  
University of California, Berkeley  
Supervised by Joel Moore and Mike Zaletel

Gordon and Betty Moore Postdoctoral Fellow Oct 2021 – Sept 2024  
University of California, Berkeley

EDUCATION *Ph.D.* in Physics, 2021  
University of California, Santa Barbara, USA Sept. 1 2015 – Sept. 11 2021  
Advisor: Leon Balents  
Thesis: *Quantum Magnetism in 2D and 3D: Theory and Material Realization*

B.S. in Physics, 2015  
 in Math. & Applied Math. (2<sup>nd</sup> Major), 2014  
 Peking University, China Sept. 1 2011 – Aug. 1 2015

AWARDS Physics Summer Fellowship (\$1,650) Summer 2020  
 Graduate Division Dissertation Fellowship (\$8,000) Summer 2021

PROFESSIONAL SERVICES Reporter, CIFAR Quantum Materials Program May 2020  
 Referee for PRL, PRA, PRB, PRR, PRX, PRX Quantum,  
 and Nature Communications Since 2021

ACADEMIC EXPERIENCES Invited Researcher, Laboratoire de Physique Théorique de la  
 Matière Condensée (LPTMC), Paris, France Nov. 2024  
 Visiting Scholar, École Normale Supérieure, Paris, France Nov. 2023 – Jan. 2024  
 Visiting Scholar, École Normale Supérieure, Paris, France Dec. 2022 – Feb. 2023  
 Visiting Scholar, Fudan University, China July – Aug. 2018  
 Visiting Scholar, University of Illinois Urbana-Champaign, USA July – Sep. 2014  
 Research Intern, Laboratoire de Physique des Solides (LPS), France Jan. – Feb. 2014

TEACHING EXPERIENCES *Teaching Assistant*, the physics program, College of Creative Studies,  
 University of California, Santa Barbara  
 • CCS 34, Electromagnetism Fall 2015  
 • CCS 35, Electromagnetism and Optics Winter 2016  
 • CCS 36, Quantum Physics Spring 2016

CODE CONTRIBUTION

- Contribution to GAP (open source computer algebra system): [the Mod-2 cohomology ring of 3-dimensional crystallographic groups](#)
- Contribution to Mathematica Notebook Archive: [Mod-2 Cohomology of crystallographic space groups](#)
- Contribution to Github repository: [Space-Group-Cohomology-and-LSM](#)

PUBLICATIONS A complete list of publications and preprints is available on [my Google Scholar page](#).