



Alexey Khudorozhkov

Postdoctoral Scholar, Physics

Bio

PROFESSIONAL EDUCATION

- PhD, Boston University , Physics (2026)
- MSc, ETH Zurich , Physics (2020)
- BSc, Moscow Institute of Physics and Technology , Applied Physics and Mathematics (2017)

STANFORD ADVISORS

- Vedika Khemani, Postdoctoral Faculty Sponsor

LINKS

- My Google Scholar profile: <https://scholar.google.com/citations?user=8haXgmIAAAAJ&hl=en>
- My arXiv profile: https://arxiv.org/search/?query=Khudorozhkov%2C+Alexey&searchtype=all&abstracts=show&order=-announced_date_first&size=50

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Alexey Khudorozhkov works at the intersection of quantum many-body physics, quantum information, mathematics, and theoretical computer science. He is particularly interested in using mathematical tools, such as geometric group theory and graph theory, to answer questions about quantum dynamics, information, and computation. His recent work has focused on nonequilibrium quantum dynamics, nonergodic many-body systems, and reversible computation. His advisor is Vedika Khemani.

Publications

PUBLICATIONS

- **Strong Hilbert space fragmentation and fractons from subsystem and higher-form symmetries** *PHYSICAL REVIEW B*
Stahl, C., Hart, O., Khudorozhkov, A., Nandkishore, R.
2025; 112 (10)
- **Glassy Word Problems: Ultraslow Relaxation, Hilbert Space Jamming, and Computational Complexity** *PHYSICAL REVIEW X*
Balasubramanian, S., Gopalakrishnan, S., Khudorozhkov, A., Lake, E.
2024; 14 (2)
- **$U(1)$ symmetry enriched toric code** *PHYSICAL REVIEW B*
Wu, K., Khudorozhkov, A., Delfino, G., Green, D., Chamon, C.
2023; 108 (11)

- **Spin-torque diode frequency tuning via soft exchange pinning of both magnetic layers** *PHYSICAL REVIEW B*
Khudorozhkov, A. A., Skirdkov, P. N., Zvezdin, K. A., Vetoshko, P. M., Popkov, A. F.
2017; 96 (21)