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DOI

[10.4233/uuid:89e0dda2-685d-459f-9d8a-472c6b1ba747](https://doi.org/10.4233/uuid:89e0dda2-685d-459f-9d8a-472c6b1ba747)

Publication date

2025

Document Version

Final published version

Citation (APA)

Wang, Q. (2025). *Artificial Kitaev chains in Two-Dimensional Electron Gases*. [Dissertation (TU Delft), Delft University of Technology]. <https://doi.org/10.4233/uuid:89e0dda2-685d-459f-9d8a-472c6b1ba747>

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Propositions

accompanying the dissertation

ARTIFICIAL KITAEV CHAINS IN TWO-DIMENSIONAL ELECTRON GASES

by

Qingzhen WANG

1. Bulk local tunneling spectroscopy, showing a closing and reopening of the band gap, should be included in the Topological Gap Protocol (*Chapter 4 of this thesis*).
2. Publishing negative results in peer-reviewed journals is difficult in quantum transport experiments, because statistical substantiation is limited by the time-intensive measurements and low data yield (*Chapter 4 of this thesis*).
3. The first demonstration of the non-Abelian statistics will occur with artificial Kitaev chains (*Chapter 6 and 7 of this thesis*).
4. Without early training in coding, experimental physicists are unlikely to thrive in a modern research environment, *especially* in the age of artificial intelligence.
5. In education and scientific research, intrinsic motivation driven by curiosity is more sustainable than reliance on willpower alone.
6. A researcher who cannot communicate the research clearly and persuasively through writing is not truly contributing to science.
7. Writing a doctoral dissertation requires more sustained mental endurance than completing the Paris 2024 Olympic marathon.
8. The greatest value of money lies in the control it offers over one's time, rather than in material consumption.
9. Everything that happens is in my favor.

These propositions are regarded as opposable and defensible, and have been approved as such by the promotors Prof. dr. ir. L. P. Kouwenhoven and Dr. S. Goswami.