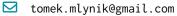
# Tomasz Partryk Młynik

Born in 1992, living in Gdańsk, Poland





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in Tomek Młynik

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#### **Education**

Ph.D., Physics Science, University of Gdansk 2019 - 2024

Thesis title: Odwzorowania k-dodatnie w Fizyce (eng. k-positive maps in physics).

2015 - 2019 M.Sc. Physics Science, University of Gdansk

> Thesis title: Nierozkładalne odwzorowania k-dodatnie na algebrach macierzowych (eng. kpositive indecomposable maps on matrix algebras).

B.A. Physics Science, University of Gdansk 2012 - 2015

Thesis title: Badanie krzywej rotacji galaktyki (eng. Study of the galaxy's rotation curve).

# **Employment History**

2016 - 2018 Assistant - Translation Agency

2015 - 2016 Instructor - Roboty i Spółka

2013 - 2015 Chef - North Fish

2012 - 2013 Customer Consultant - Gabor

#### **Selected Presentations & Invited Talks**

Sep 2023 **Tokyo University, Japan** PBT with k copies of the input state.

> Yukawa International Seminar 2023 Foundations and Developments of Quantum **Information Theory in Kyoto, Japan** Transformation of an unknown unitary operation: complex conjugation.

Aug 2023 **23rd Asian Quantum Information Science Conference in Seoul, Korea** Transformation of an unknown unitary operation: complex conjugation.

Quantum Fundaments and Quantum Information Theory seminar in Kyoto, Japan Nov 2022 Construction and characterization of 1-parameter (non)decomposable maps.

QUANTUMSPEEDUP in Gdansk, Poland Reversing unknown unitary operation via Dec 2021 quantum combs.

# **Research Publications**

#### **Journal Articles**

D. Ebler, M. Horodecki, M. Marciniak, T. Młynik, M. T. Quintino, and M. Studziński, "Optimal universal quantum circuits for unitary complex conjugation," *IEEE Transactions on Information Theory*, vol. 69, no. 8, pp. 5069–5082, Aug. 2023, ISSN: 1557-9654. ODOI: 10.1109/tit.2023.3263771.

P. Gnaciński and T. Młynik, "Keplerian rotation of our galaxy?" *Publications of the Astronomical Society of the Pacific*, vol. 129, no. 974, p. 044 101, Feb. 2017. O DOI: 10.1088/1538-3873/aa5c9b.

#### **Pre-published**

- F. Grosshans, M. Horodecki, M. Murao, et al., Multicopy quantum state teleportation with application to storage and retrieval of quantum programs, 2024. arXiv: 2409.10393 [quant-ph]. URL: https://arxiv.org/abs/2409.10393.
- T. Młynik, H. Osaka, and M. Marciniak, *Characterization of k-positive maps*, 2024. arXiv: 2104.14058 [quant-ph]. Ourl: https://arxiv.org/abs/2104.14058.

## **Skills**

Languages Polish (native), English (reading, writing, and speaking B2+).

Coding Python, MATLAB, Wolfram Mathematica, Lagran.

Misc. Academic research, teaching, training, consultation, LaTeX typesetting, and publishing.

# Miscellaneous Experience

# **Projects and Grands**

2021-2024 Sonata 16 - PhD student position, Symmetries and Entanglement in Quantum Circuits.

NAVA - PI, Academic Exchange "International scholarship exchange of PhD candidates and academic staff".

#### Certification

**English Language Certification**. Awarded by the University of Gdańsk.

#### References

Available on Request