Mikhail Goloshchapov

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EDUCATION

Moscow Institute of Physics and Technology(MIPT) Expected Graduation: Jul 2024
Landau Phystech School of Physics and Research
Major: Applied Mathematics and Physics
- **GPA: 4.94/5.00**

WORK EXPERIENCE

MSU Quantum Technology Centre Sep 2022 - Present
QOTLabs - *Neutral atom quantum computing*
Modelled and optimised Raman excitation for single-qubit gates[1, 3]. Generated phase masks for SLM to improve optical excitation beams and traps. Stabilised lasers, assembled optics, worked with resonators. Currently modelling two-photon Rydberg excitation to improve two-qubit gates.

Russian Quantum Center - *Summer internship* Jun-Aug 2022
Laboratory of Ultracold Fermions
Worked with theoretical description of Λ-systems in atomic beam and doppler-free spectroscopy. Optimised parameters of oven for creating atomic beam of ^{6}Li to increase number of atoms in Zeeman slower[2].

CONFERENCES&PUBLICATIONS

1. International Conference on Quantum Technologies 2023 - Poster July 2023
   "Randomised benchmarking of single-qubit gates on a neutral atom quantum processor"
2. Abstracts on Conference on the Fundamentals of Physics of Ultracold Atoms and Ions,
   "Measurement of ^{6}*Li* atomic beam properties via spectroscopy" May 2023
3. Abstracts on the 65th Conference of Moscow Institute of Physics and Technology, Apr 2023
   "Modelling of single-qubit gates error on neutral atoms due to oscillations in optical tweezer"
4. Abstracts on the 65th Conference of Moscow Institute of Physics and Technology, Apr 2023
   "Framework for DOSY NMR data analysis"

AWARDS AND SCHOLARSHIPS

Abramov-Frolov scholarship Feb 2020 - Aug 2023
- Received 5-month scholarship for academic achievements**(x5)**

Moscow Institute of Physics and Technology scholarship Feb 2020 - Present
- Received 5-month scholarship for academic achievements**(x3)**
- Received 5-month scholarship for academic and scientific achievements**(x1)**

PROJECTS

Diffusion Ordered Spectroscopy(DOSY) data analysis Mar-Jun 2022
- Global and local optimisation, bootstrap, Monte-Carlo simulations were used to develop framework for data processing
- Worked with Scipy, Numpy, Pandas, Matplotlib

Hackathon - Naumen IT company Apr 2021
- Project scored 2nd place
- Developed telegram bot to support Naumen interns

Mini-*projects in physics*
- Ising model - used Monte-Carlo to simulate several variations of Ising model Jun 2023
- Acoustic levitator - combined Arduino and range finders to hover pieces of plastic Dec 2020

MORE

- Software: Python, Julia, Wolfram Mathematica, Latex, C++, SolidWorks, Git
- In my free time I like hiking, cycling, playing table soccer and strategic board games)