



Alesya Sokolova

Personal information

E-mail Sokolova.AA@phystech.edu
Phone +7 (915) 163 18 76
Languages English (fluent), Russian (native)

Education

Moscow Institute of Physics and Technology
Phystech School of Fundamental and Applied Physics

2019–Present MSc in Applied Mathematics and Physics, 1st-year student
Subdepartment of Russian Quantum Center
Average grade: 8.67/10

2015–2019 BSc in Applied Mathematics and Physics
Specialisation: Quantum Nanostructures, Materials and Devices

Research Experience

2019–Present Research assistant in **Laboratory of Artificial Quantum Systems** (MIPT, Russia):
- development of single-atom microwave laser based on transmon
Supervisor: Ivan Khrapach (PhD), scientific advisor: Gleb Fedorov

Jul–Sep 2019 Intern in **Laboratory of Photonics and Quantum Measurements** (EPFL, Switzerland):
- automation of optical micro-resonator frequency combs measurements using Matlab
Supervisor: Dr. habil. Tobias J. Kippenberg (PhD)

2018–2019 Research assistant in **Laboratory of Topological Quantum Phenomena in Superconducting Systems** (MIPT, Russia):
- work on superconducting hybrid structures based on ferromagnetic nanowires
Supervisor: Vasily Stolyarov (PhD)

Publications

Oct 2020 **A.A. Sokolova**, G.P. Fedorov, E.V. Il'ichev, and O.V. Astafiev, Single-atom maser with engineered circuit for population inversion, arXiv preprint (arXiv:2010.04975)

Skills

Computer Python (QuTiP, numpy, scipy, basic knowledge of machine learning using Torch), KLayout, Sonnet, Matlab (image processing, device communication), OOMMFC, \LaTeX , basic knowledge of LabVIEW and Wolfram Mathematica
Technology Wire bonding, soldering, basic knowledge of electron-beam lithography and photolithography
Experimental physics Superconducting qubit measurements (single-tone spectroscopy, two-tone spectroscopy), experience of work with dilution refrigerator, four-point resistivity measurements, atomic force microscopy, magnetic force microscopy, optical microscopy

Conferences and Awards

Mar 2020 Participation in the 3rd International School on Quantum Technologies, poster «Single-atom microwave laser based on transmon»
Arp 2019 Participation in the international scientific conference of students and young scientists «Lomonosov», oral presentation «Superconducting hybrid structures based on ferromagnetic nanowires»
2015–2017 Abramov's scholarship for excellent study (10% of students awarded)
Feb 2015 Participation in the International Student Scientific and Technical Conference «Start to the Science», oral presentation
Mar 2014 Winner of the Russian National Conference «Step to the Future: Astronautics»

Extracurricular Activity and Hobbies

- 2019–Present Development and technical support of Telegram-bot for speed dating startup
- 2017–Present Popularization of critical thinking and rationality in project "Street Epistemology" (streetepistemology.ru):
- writing and editing articles
 - giving lectures and leading workshops
- Jul 2017 Summer children camp mentor:
- leading a group of children
 - leisure activities for children
- Jul – Aug 2016 Participant of the Summer Biological White Sea Practice (MIPT):
- studying microbiology, botany, zoology, molecular biology and cell biology