



Anastasiia Nikitina

Research assistant

January 31th, 2001

St. Petersburg, Russia

anastasia.nikitina@metalab.ifmo.ru

Social Network

ORCID Google Scholar

Scopus ResearchGate

Languages

Russian (mother) ●●●●●

English (C1) ●●●●●

German (C1) ●●●●●

Hard Skills

Numerical: COMSOL Multiphysics (Acoustics module, Wave Optics module);

Visual: Adobe Illustrator, Inkscape;

Programming: \LaTeX , Wolfram Mathematica

Soft Skills

Completed courses: communication and teambuilding, public speaking and presentation techniques, storytelling

Research Area

Acoustics and optics: symmetry and group analysis of eigenmodes of resonators and nonlinear circular dichroism in nanostructures;

Mathematical physics: Lie algebras, group representation

Working Experience

Research

2021 – present **Research assistant** ITMO University
Faculty of Physics, Dr. Mihail Petrov Group

Participation in Conferences and Seminars

Aug.2024 **Lorentz Group, Celestial Sphere, and Dipoles** Russia
Quantum Seminar

July.2024 **Nonlinear circular dichroism in achiral nanostructures irradiated by a vortex beam** Russia
Resonant Nanophotonics Educational Workshop

Oct.2022 **Nonlinear circular dichroism in dielectric nanoparticle dimers and trimers** Russia
XV Russian Conference on Physics of Semiconductors

May.2022 **Nonlinear circular dichroism in dielectric nanoparticle dimers and trimers** Russia
Saint-Petersburg OPEN

Education

2023 – present **Master** ITMO University
Advanced Quantum and Nanophotonic Systems
Supervisor: Dr. Kristina Frizyuk

2019 – 2023 **Bachelor** ITMO University
Applied and Theoretical Physics
Thesis title: "Circular dichroism in the second-harmonic signal of single dielectric nanostructures"
Supervisors: Dr. Kristina Frizyuk and Dr. Mihail Petrov
GPA: 4.87/5.0

2017 – 2019 High school Presidential Physics and Mathematics Lyceum No.239 student

Publications

Journal Articles

2024 **Achiral Nanostructures: Perturbative Harmonic Generation and Dichroism Under Vortex and Vector Beams Illumination**
Nikitina A. and Frizyuk K.
Adv. Opt. Mater. n/a, 2400732

2024 **Exceptional points in single open acoustic resonator due to the symmetry breaking**
Igoshin V., Tsimokha M., Nikitina A., Petrov M., Toftul I., and Frizyuk K.
Phys. Rev. B 109, 144102

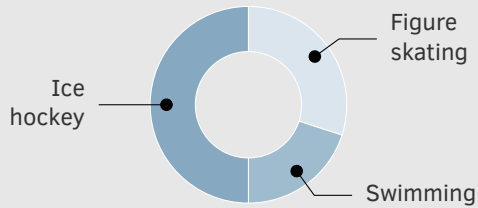
2023 **Nonlinear circular dichroism in achiral dielectric nanoparticles**
Nikitina A., Nikolaeva A., and Frizyuk K.
Phys. Rev. B 107, L041405

2022 **Acoustic resonators: Symmetry classification and multipolar content of the eigenmodes**
Tsimokha M., Igoshin V., Nikitina A., Toftul I., Frizyuk K., and Petrov M.
Phys. Rev. B 105, 165311

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Sport Experience



Conference Proceedings

- 2024 **Second harmonic Circular Dichroism in Achiral Nanostructures**
Frizyuk K., Nikitina A.
EPJ Web Conf. 309, 05001
- 2022 **Nonlinear circular dichroism in dielectric nanoparticle dimers and trimers**
Nikitina A., Nikolaeva A., Petrov M., and Frizyuk K.
St. Petersburg Polytechnic University Journal: Physics and Mathematics. 2022 Vol. 15, No. 3.2
- 2021 **High-Q states in acoustic apple-shaped resonators**
Igoshin V., Nikitina A., Tsimokha M., Toftul I., Petrov M., and Frizyuk K.
J. Phys.: Conf. Ser. 2015 012040

Awards

Academic Awards

- 2022 – present **Enhanced State Academic Scholarship** ITMO University
for achievements in the research field
- 2020 **X YOUTH AWARD** competition finale MISIS

Teaching Activities

- 2024 – present **Teaching assistant** ITMO University
Introduction to the profession. Bachelor course
- 2022 – 2023 **Teaching assistant** ITMO University
Group theory. Bachelor course

Referees

Dr. Mihail Petrov
Assistant Professor
Faculty of Physics
ITMO University
Saint Petersburg, Russia
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Dr. Kristina Frizyuk
Post-Doc
Department of Information Engineering
University of Brescia
Brescia, Italy
✉ frzyuk@gmail.com