

CONTACT INFORMATION	Telegram: @konstantgr konstantin.grotov@metalab.ifmo.ru	GitHub: konstantgr Saint Petersburg, Russia
RESEARCH INTERESTS	Data Engineering, Data Science, Applied Science, Optimization Methods.	
EDUCATION	<b>ITMO University</b> , Russia B.S., Physics, September 2019 – now. <ul style="list-style-type: none"> <li>• Research Project Supervisor: Prof. Konstantin Ladutenko, Prof. Pavel Belov,</li> </ul>	
WORKING EXPERIENCE	<b>JetBrains Research</b> <span style="float: right;">Jul.2021 – now</span> <b>Role:</b> Intern in Machine Learning For Software Engineering laboratory.  <b>ITMO University</b> <span style="float: right;">Jun.2021 – now</span> <b>Role:</b> Undergraduate student in School Of Physics And Engineering.	
RESEARCH EXPERIENCE	<b>A Large-Scale Comparison of Python Code in Jupyter Notebooks and Scripts</b> <span style="float: right;">Sep.2021 – Mar. 2022</span>  <b>Paper:</b> Accepted for the MSR-2022 [arXiv].  <b>Topic:</b> Structural and stylistic comparison of scripts and Jupyter notebooks. Investigation of the causes of differences and further reasoning about their applicability in software engineering. <b>Supervisor:</b> Sergey Titov <b>Role:</b> Researcher, SE, DE. <b>Technologies:</b> PostgreSQL, Pandas, Statistics.  <b>Genetic wire-bundle superscatterer</b> <span style="float: right;">Apr.2021 – Sep. 2021</span>  <b>Topic:</b> Using stochastic optimization algorithms to optimize geometries of thin-wires and achieve super scattering properties. <b>Supervisor:</b> Konstantin Ladutenko, Pavel Belov, Pavel, Ginzburg <b>Role:</b> Researcher, System design, SE, DE, Modelling, Data validation, Data visualisation. <b>Technologies:</b> , CMA-ES, CST  <b>Circular wire-bundle superscatterer</b> <span style="float: right;">Feb.2021 – Jul. 2021</span>  <b>Paper:</b> Published in Journal of Quantitative Spectroscopy and Radiative Transfer.  <b>Topic:</b> Research of superscattering in circular wire-bundles. <b>Supervisor:</b> Konstantin Ladutenko, Pavel Belov, Pavel, Ginzburg <b>Role:</b> Researcher, Data validation, Data visualisation.	

**JetBrains Research internship**

Jul.2021 – Aug. 2021

**Topic:** Developing library (**Matroskin**) for processing big corpus (8TB) of raw Jupyter notebooks using multiprocessing and storing data to remote PostgreSQL database.

**Supervisor:** Sergey Titov

**Role:** SE, System design.

**Technologies:** PostgreSQL, Ray, AST, Pandas.

**Bachelors 2-year research project**

Sep.2020 – Dec. 2020

**Topic:** Medium of dipole antennas: study of matter's polarization at the micro-level (Russian)

**Supervisor:** Alexei Dmitriev

**Bachelors 1-year research project**

Apr.2020 – Jun. 2020

**Topic:** PT-symmetry in coupled waveguides (Russian)

**Supervisor:** Alexei Dmitriev

AWARDS

**XI CONGRESS OF YOUNG SCIENTISTS**

4 – 8 Apr. 2022

**Prize Winner in** Physics of radio frequency technologies

**Prize Winner in** Advanced Quantum and Nanophotonic Systems

**Prize Winner in** Photonics and spintronics

HARD  
SKILLS

- Python, Kotlin,  $\text{\LaTeX}$ ,
- CST, COMSOL, MATLAB, Mathematica,
- Linear Algebra, Calculus, Optimization Methods

LANGUAGES

Advanced in English