YURY HOLUBEU

Physicist

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STRENGTHS

Goal oriented | Critical thinking | Analytical skills | Creativity | Time management | Presentation skills | Research skills | Business communication skills

FOCUS AREAS

Field theory | Superconductivity

LEARNING NOW

Advanced classical field theory | Quantum field theory | Quantum mechanics | Classical mechanics

LANGUAGES

English: C1, IELTS 7.0 (2022)

Russian: Native

Belarusian: Approximately native

EDUCATION

Master's Degree | KU Leuven

∼ Nov 2022 – January 2025 Leuven, Belgium

- I finished approximately 20 subjects in theoretical physics (by August 2024).
- The delay in obtaining Belgian visa lead to delay of start of studies.
- From October 2022 to December 2022 I worked as a general tutor in physics and mathematics, helped students with preparation for exams in theoretical physics.
- From January 2022 until June 2023 I worked as a tutor in classical field theory.
- Finished with "Cum laude" (with distinction)

Master's Degree | Moscow Institute of Physics and Technology (MIPT)

September 2021 – April 2022 Moscow, Russia

- I studied in Department of General and Applied Physics
- Studied mostly quantum information and gravitational wave detection.
- Left not to support russian war

Bachelor's Degree | Moscow Institute of Physics and Technology (MIPT)

September 2016 – June 2021 Moscow, Russia

- Department of General and Applied Physics
- GPA: 3,35
- Kafedra of string theory → Kafedra of JINR
- Studied a broad range of disciplines in physics, math and programming, especially theoretical physics
- Graduation Project "Gravitational Lensing in Binary Systems"

High School | Secondary School #54

September 2014 – May 2016 Minsk, Belarus

- Participated in Physics Olympiads at the national level.
- Finished with excellent marks.

MAIN RESEARCH PROJECTS IN PHYSICS

Green's function for Multiterminal Josephson Junctions

Sep 2023 – Nov 2023

- Analyzed the case of quantum dot Josephson junction.
- Understood special methods of Green's function and condensed matter better.
- The thesis is available here.

Waveguide QED

Oct 2024 – Jan 2025

- Studied methods of PhysRevA.104.023709
- Analyzed real-time dynamics of photons and their interaction with qubits.
- Learned better QFT and quantum optics.

Gravitational Lensing in Binary Systems

October 2020 – June 2021

- Bachelor's thesis.
- Analyzed lensing of binary systems, use computational methods to obtain their lensing properties.
- Studied Pickard-Lefschetz theory, wave optics, wolfram, computer modeling.

WORKING EXPERIENCE

Junior Researcher | Company "Terra Quantum"

July 2021 – April 2022 Moscow, Russia

- Studied gravitational waves and their detection and electrodynamics in a curved space-time
- Researched a possibility of gravitational wave detection in waveguide

MOST PROUD OF

Passed the Landau Theoretical Minimum Exam
Solved three hard problems on electrodynamics and general relativity on the exam of the field theory. Regularly I prepare myself for the rest of the exams.

Organised notes
Developed a system of organising notes of studied material and research findings in LaTeX files. Many of them are from 1000 to 2000 pages.

Do sports and lead a healthy lifestyle
Daily workout, weight control, healthy diet. In 2021 practiced martial arts (sambo).

LEARNED DISCIPLINES

Theoretical physics:
Classical Mechanics | Field Theory | General Relativity | Quantum Mechanics | Quantum Field Theory | Statistical Physics | Condensed Matter Physics | Thermodynamics | Physical Kinetics | Classical Electrodynamics | Optics | Quantum Information Theory | Gravitational lensing | Cosmology

Mathematics: Mathematical Analysis | Complex Analysis | Differential Equations | PDE-s | Linear algebra | Differential Geometry | Probability Theory | Computational mathematics

Programming: Latex | Git | Wolfram | C/C++ | Python