ANTON MOROZ

Maria Skłodowska-Curie Fellow with AUFRANDE program

Bordeaux, France | morozantonr@gmail.com | morozanton

EXPERIENCE

Ph.D. Researcher — CELIA, CNRS

Jan 2025 – Present | Talence, France

- Researching **HEDP** and laser-matter interaction; performing **Petawatt-class laser** experiments.
- Developing particle transport simulations for fusion and **Warm Dense Matter (WDM)** physics.

Fluorescence Detector SOC — Pierre Auger Observatory

Jul 2023 – May 2024 | Malargue, Argentina

- Managed data acquisition shifts and performed precise detector calibration for **UHECR** research.
- Conducted staff training on **Fluorescence Detector** ops and reported status to the collaboration board.

Engineer Researcher — Saint Petersburg State University

Nov 2021 – Dec 2023 | Peterhof, Russia

- Optimized accelerator-driven **neutron source** targets and cooling systems; authored technical documentation based on experimental results.

Assistant Researcher — Petersburg Nuclear Physics Institute

Sep 2020 – Oct 2022 | Gatchina, Russia

- Performed **PHITS** calculations (neutron/gamma), shielding design, and reactor radiation heating modeling.
- Developed a correlation spectrometer model for polarized **ultra-cold neutron** decay experiments.

EDUCATION

PhD Physics | Electrical Engineering (On-going)

University of New South Wales | University of Bordeaux

Jan 2025 – present | Australia | France

MSc Neutron and Synchrotron Physics

Saint Petersburg State University

Sep 2020 – Jun 2022 | Russia

BSc Nuclear Physics and Technologies

Far Eastern Federal University

Sep 2016 – Jul 2020 | Russia

Numerical simulation of neutron experimental instruments

Saint Petersburg State University

2022 | Russia

HONORS & AWARDS

- **Marie Skłodowska-Curie Fellow**
  European Commission, 2024–2027
- **Research Grant (Ministry of Science, 2021)**
  R&D of compact neutron/photon sources based on new linear accelerator technologies.
- **Research Grant (RFBR, 2020)**
  Experiment development: Measuring ratio of axial/vector constants of weak interaction.

PUBLICATIONS

- **A. Moroz** and N. Kovalenko, “Choice of the target material for a compact neutron source at a proton energy of 20–100 MeV”, *Journal of Surface Investigation: X-ray, Synchrotron and Neutron Techniques*, vol. 17, no. 4, pp. 799–803, 2023.
- A. Serebrov, **A. Moroz**, et al., “New possibilities of measuring the ratio of axial-vector weak interaction constants”, *Journal of Surface Investigation X-ray Synchrotron and Neutron Techniques*, vol. 17, no. 1, pp. 116–129, 2023.
- P. Shvets, **A. Moroz**, et al., “Rotating water-cooled beryllium target for a compact neutron source”, *Journal of Surface Investigation: X-ray, Synchrotron and Neutron Techniques*, vol. 17, no. 4, pp. 792–798, 2023.
- Y. Titarenko, **A. Moroz**, et al., “Determination of the neutron flux induced by irradiation of a beryllium target with 21.3-MeV protons”, *Physics of Atomic Nuclei*, vol. 85, no. 6, pp. 520–527, 2023
- **A. Moroz**, N. Kovalenko, and S. Grigoriev, “Target cooling options for Daria compact neutron source”, *Journal of Neu- tron Research*, pp. 1–6, 2022.

SELECTED CONFERENCES

- **2025** - 5th International Workshop on Proton–Boron Fusion – Belgrade, Serbia **Poster**
- **2025** - 3rd International Workshop on the Proton-Boron Fusion Reaction and Applications - Langfang, China. **Speaker**
- **2024** - Pierre Auger collaboration meeting - Malargue, Argentina. **Speaker**
- **2023** - Pierre Auger collaboration meeting - Malargue, Argentina. **Speaker**
- **2022** - UCANS9 international symposium - Online. **Speaker + poster**
- **2022** - Numerical modelling of neutron experimental instruments - Peterhof, Russia. **Instructor**
- **2020** - IX School on Polarized Neutron Physics ’PNP-2020’ - Gatchina, Russia. **Speaker**