



Postdoctoral Programme in Simulations and Data Analysis of the MONUMENT Experiment

12-month contract, renewable for another max. 24 months

Your mission

The MONUMENT experiment is based to search/investigate the daughter nuclei of the neutrinoless double beta decay nuclei by the measuring muon capture process. The main idea is to extract partial muon capture probabilities in different measured targets. The goal of the search position is to help with simulations of the process and analysis of the data.

Your tasks

You will work with our MONUMENT experiment group. Your research program will focus on:

- Simulations of the process of the muon capture.
- Raw data analysis, constructing energy and time spectra.
- Making precise identification and sorting of the time cuts of the energy spectra.
- Making the analysis of the energy and time spectra, extracting total and partial muon capture probabilities.

Constraints and risks

The candidate is expected to undertake international business trips for periods varying from 1 to 2 weeks. Shift work and work on weekends may be necessary, remote work is allowed.

Depending on your citizenship, you may need to obtain a visa and this process can last several months. JINR offers all the necessary support for obtaining the entry permit for the Russian Federation.

Your profile

- Highly motivated candidate with a PhD (obtained less than 5 years ago) in physics.
- Age under 40, have not had more than 3 temporary positions.
- Strong background in experimental physics or materials science is a prerequisite.

- Practical experience in spectroscopy field, Geant4 and data analysis (ROOT, C++, Python).
- As an international intergovernmental research organization, we are particularly keen to ensure that we also attract applicants from outside of Russia. You must have good knowledge of English and be willing to learn Russian (a language course will be provided by JINR).

What we offer

High quality of life

Called the "Island of Stability", the city of Dubna is ideally located on the bank of Europe's largest waterway — the Volga River (only 2.5 hours from Moscow by train or bus and 1.5 hours by car from Sheremetyevo International Airport). It is important for us that our employees quickly and easily adapt to the new living conditions and have a healthy work-life balance. Therefore, we offer accommodation in comfortable guest-house rooms (for singles), or fully furnished flats owned by JINR, and annual paid leave.

Prospects

We guarantee you a **12-months postdoctoral contract, renewable for another max. 24 months (36 month in total)**, in a multicultural scientific environment.

Remuneration

2300 USD per month, paid in Russian rubles at the planned exchange rate (forecasted year-average), which is adopted with the JINR budget for the current year. In 2024, the exchange rate is 90.1 Russian rubles per 1 USD.

Income tax of 13% is applied. The employer shall pay no pension insurance.

Benefits

We offer considerable social benefits: settling-in allowance, air fare (except for family members), free local health insurance for you and your family members, relocation assistance (under certain conditions), free public school or kindergarten attendance for children. We also offer free Russian courses and subsidies for the use of JINR sports infrastructure (Olympic swimming pool, stadium, gym, etc.), as well as access to a variety of cultural activities.

[Apply now](#)



Joint Institute for Nuclear Research (JINR) — operates a large park of accelerators and a reactor based intense neutron source in Dubna (Russia). From the very foundation of the Institute, the implementation of the JINR motto “Science brings nations together” has grown into a special scientific atmosphere of mutual respect and support. Let's work together to better understand the fundamental properties of matter that might enable a quantum leap in the living standards of our society.

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