

Postdoctoral contract

Accelerator Physicist Theory and Simulations (M/F)

Workplace : CAEN

Type of Contract : FTC Scientist

Contract Period : 12 months

Expected date of employment : Novembre 1st, 2023

Proportion of work : Full time

Remuneration : 2805 € to 3963 € Gross monthly depending on experience

Desired level of education : Niveau 8 - (Doctorate)

Experience required : 1 to 4 years

Missions

To carry out beam dynamics simulations and tuning codes for the GANIL accelerator systems.

Activities

The person recruited will work on the tuning schemes of the SPIRAL2 linac, in particular in case of failure of one or several cavities.

The person recruited will also study the possibilities to optimize the settings to satisfy the needs of the experiments. She/He will be involved in the writing of codes to address these questions and to improve the existing codes used to tune the machine.

She/He will work with the members of the GPA (Groupe Physique des Accélérateurs), contributing to the establishment of collaborations with external laboratories (SACLAY, LPSC Grenoble and large foreign laboratories, e.g. ESS, FRIB...)

Skills

Field of expertise: accelerator physics

Know-how :

The person recruited should have experience in accelerator physics.

- Knowledge of transport and accelerator optics will be essential.
- Applied programming skills (C++, Java).
- Fluency in English required.
- Experience on accelerator in a project or in operation would be a plus
- Ability to work on several projects simultaneously

- Organization in her/his work
- Autonomy
- Ability to respect a schedule
- Ability to make innovative proposals.
- Ability to work in a team (accelerator physicists, spectrometer physicists, operators, room technicians, nuclear physicists, technical staff etc.)
- Flexibility in working hours for tunings related to the development of new methods/tools and machine studies (some tunings at night or on weekends/year possible)
- Ability to interact with teams outside GANIL.

Work Context

The "Grand Accélérateur National d'Ions Lourds" is a national research infrastructure based on the use of ion beams. The fields of research include fundamental research in nuclear physics and nuclear astrophysics, materials under irradiation and nanostructuration, molecular collisions and the interstellar medium, radiobiology and innovative techniques for dosimetry and therapy of some types of cancer.

GANIL (about 270 people) is located in Caen, Normandy, on the future EPOPEA science and innovation park of the urban community of Caen la Mer. As a research infrastructure, GANIL serves a national, European and international scientific community of about a thousand users. The supraconducting linear accelerator is in operation since 2019.

The person recruited on a one-year fixed-term contract, renewable once, will be attached to the Physics of Accelerators group (GPA), which is composed of 12 people. The mission of this group is to develop and share a broad and high level of expertise on accelerator systems. This expertise is expressed on the critical topics of beam dynamics, establishment of basic and high level beam optics, beam feasibility studies, definition and analysis of radiofrequency and pulsed systems, beam-cavity interaction, mastery of spectrometers and lines for physics, and more generally of acceleration systems (Linac, cyclotrons)

The contractual agent recruited by the CNRS will benefit from 53 days of leave (32 CA and 21 JRTT) with a weekly work cycle of 40h/week, i.e. 8.25am - 5.10pm with a 45 minutes lunch break, and the benefits of the social action committee for CNRS agents of GANIL.

Constraints and risks

As GANIL is classified as a Nuclear Installation (INB), the position is eligible for special work constraints related to potential exposure to ionizing radiation. The person shall be authorized to work in a supervised and controlled area in compliance with the regulations and procedures applicable to nuclear security and safety.



If you are interested you can apply on the following link:

<https://emploi.cnrs.fr/Offres/CDD/UAR3266-VIRLEF-059/Default.aspx>

For more information you can contact Mr Guillaume Normand : guillaume.normand@ganil.fr