JOB POSITIONS LIST 2026

Contents

Part I Accelerate Technology and Physics

No.1. Researcher - Radiation Shielding Design and Research

Major Duties/Responsibilities:

1. Responsible for research on intelligent optimization design of radiation field shielding;
2. Responsible for research on intelligent rapid identification of induced radioactive gamma spectrum;
3. Participate in on-site work such as measurement duty shifts;
4. Complete other tasks assigned by leader.

Basic Qualifications:

- Ph.D. degree with **postdoctoral experience**;
- Professional background in Nuclear Science and Technology or related field;
- Proficient in Monte Carlo simulation software and programming languages such as C and Python;
- Experience in shielding design is preferred;
- Strong English communication and writing skill.

No.2. Medical Researcher - Radioisotope Measurement and Research

Major Duties/Responsibilities:

1. Participate in shielding design and induced radioactivity analysis tasks;
2. Responsible for research on internal exposure from radioactive gaseous effluents;
3. Lead the R&D of air activation monitoring systems and conduct radioisotope measurement activities;
4. Engage in measurement duty shifts;
5. Complete other assignments assigned by leader.

Basic Qualifications:

- Ph.D. degree with **postdoctoral experience**;
- Professional background in Nuclear Science and Technology or related field;
- Proficient in using Monte Carlo simulation software and radioisotope measurement tools;
- Experience in radionuclide monitoring and radionuclide exposure dose research.
- Strong English communication and writing skills.

No.3. Researcher – Accelerator Power Source Technology

Major Duties/Responsibilities:

1. Participate in the construction of CSNS-II power supply;
2. Participate in the R&D of projects related to the upgrade and localization of power supply digital control system;
3. Engage in the operation and maintenance of CSNS;
4. Complete other tasks assigned by leader.

Basic Qualifications:

- Ph.D degree;
- Professional background in Power Electronics and Power Transmission or Automatic Control and related field;
- Possess knowledge of power conversion topologies and automatic control theory, be proficient in relevant simulation software, and experience in design is preferred.;
- Have the spirit of teamwork, work conscientiously and responsibly, and be positive.

No.4. Researcher - Magnetic Measurement Technology

Major Duties/Responsibilities:

1. Undertake the development and research of accelerator multi-pole magnet magnetic measurement technology;
2. Responsible for the design and development of advanced magnetic measurement system of Southern Photon Source;
3. Responsible for the upgrading and transformation of the existing magnetic measurement system;
4. Complete other tasks assigned by leadership.

Basic Qualifications:

- Ph.D. degree;
- Professional background in nuclear technology;
- Proficient in the use of LabVIEW and other professional software;
- Experience in magnet design and magnetic field measurement is preferred;
- Strong English communication and writing skills.

No.5. Researcher – Radio-frequency Power Source System R&D

Major Duties/Responsibilities:

1. Undertake the operation and maintenance of CSNS linear Radio-frequency system;
2. Undertake the research and development of CSNS-II high-voltage solid-state modulator;
3. Participate in the design and debugging of CSNS-II Radio-frequency power source;
4. Complete other tasks assigned by leader.

Basic Qualifications:

- Ph.D. degree **with postdoctoral experience**;
- Professional background in Power Electronics, High Voltage and Insulation Technology;
- Proficient in circuit simulation tools such as Altium, Matlab, or Pspice;
- Experience in the design of high-voltage power supply and modulator is preferred;
- Proactive attitude and strong sense of teamwork.

No.6. Researcher - Accelerator Physics

Major Duties/Responsibilities:

1. Participate in the physical design of CSNS-II accelerator;
2. Participate in the physical design of accelerator for South China Advanced Photon Source;
3. Responsible for CSNS beam experiment and beam adjustment;
4. Cutting-edge research work in accelerator physics;
5. Complete other tasks assigned by leader.

Basic Qualifications:

- Ph.D. degree **with postdoctoral experience;**
- Major in Particle Physics and Nuclear Physics or Nuclear Science and Technology;
- Professional background in accelerator physics and have participated in related projects;
- Proficient in the use of beam dynamics simulation software;
- Strong English communication skills and writing skills;
- Experience in accelerator physics design is preferred.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.7. Researcher - Charged Ion Source and Radio-frequency Acceleration Technology

Major Duties/Responsibilities:

1. Undertake the R&D of high-current Radio-frequency Quadrupole (RFQ) accelerator;
2. Undertake the R&D of high-current ion sources;
3. Participate in applied research on ion source technology, such as in ion implanters and neutron generators;
4. Responsible for the assembly, commissioning, operation and maintenance of the CSNS accelerator front-end system;
5. Complete other assignments assigned by leader.

Basic Qualifications:

- Ph.D. degree **with postdoctoral experience**;
- Professional background in plasma physics, accelerator physics, atomic and molecular physics, or electronic information engineering;
- Experience in ion source and RF accelerator design is preferred;
- Strong English communication skills and writing skills.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position

No.8. Researcher - Proton Application

Major Duties/Responsibilities:

1. Conduct applied research on proton beam utilization in irradiation and isotope production experiments;
2. Lead the physical design of new mid-to-high energy proton irradiation terminals;
3. Participate in the construction of ongoing proton terminal engineering projects;
4. Support and assist in the operation of associated proton beam experimental terminals;
5. Complete other tasks assigned by leader.

Basic Qualifications:

- Ph.D. degree **with postdoctoral or special research assistant experience**;
- Professional background in Particle physics and Nuclear physics, or Nuclear Technology and Applications;
- Proficient in simulation software such as FLUKA and GEANT4;
- Experience in experimental terminal design is preferred;
- Strong English communication skills and writing skills.

No.9. Researcher - Beam Detector R&D

Major Duties/Responsibilities:

1. Undertake the R&D of proton beam detectors or electronic systems for CSNS;
2. Undertake the exploration of novel beam detection technologies for high-intensity proton accelerators;
3. Complete other assignments assigned by leader.

Basic Qualifications:

- Ph.D. **with postdoctoral experience**;
- Professional background in detectors or nuclear electronics and related majors;
- Experience in beam detector design and laser applications is preferred;
- Strong English communication skills and writing skills.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.10. Researcher - Accelerator Control

Major Duties/Responsibilities:

1. Conduct research on FPGA-based fast control and communication technologies for accelerator control systems;
2. Develop underlying drivers for embedded systems and upper-level interface software;
3. Participate in the development, debugging, and performance testing/analysis of key control system modules;
4. Support and assist the operation team in system debugging, and fault diagnosis;
5. Complete other scientific research and engineering tasks assigned by leader.

Basic Qualifications:

- Ph.D. ;
- Proficient in FPGA development (Verilog/VHDL) with experience in the Xilinx platform;
- Familiar with embedded systems and driver development of Linux;
- Skilled in using development tools such as Vivado and Quartus, with strong debugging capabilities.;
- Experience in relevant project is preferred;
- Excellent teamwork, communication, and learning abilities.

No.11. Postdoctoral Fellow - High-Frequency Technology

Major Duties/Responsibilities:

1. Conduct research on strong current load effects in the high-frequency system of circle accelerator for CSNS-II;
2. Participate in the development of the high-frequency system of circle accelerator for CSNS-II;
3. Assist in the operation and maintenance of CSNS;
4. Engage in other scientific research tasks.

Basic Qualifications:

- Ph.D. degree;
- Professional background in high-frequency and microwave technology;
- Knowledge of accelerator physics is preferred;
- Strong English communication and writing skills.

No.12. Postdoctoral Fellow - Compact High-Current Accelerator Structures

Major Duties/Responsibilities:

1. Conduct research on compact accelerator structures;
2. Participate in the development and testing of the CSNS-II beamline debunching cavity;
3. Engage in the installation and commissioning of superconducting cavities for the CSNS-II linear accelerator.

Basic Qualifications:

- Ph.D. degree;
- Professional background in RF and Microwave Technology or related field;
- Proficient in using CST software;
- Experience in high-frequency cavity design is preferred;
- Strong English communication and writing skills.

No.13. Postdoctoral Fellow - Pulsed Power Technology

Major Duties/Responsibilities:

1. Participate in the R&D of fast pulsed power supply technology for the injection system of the Southern Advanced Photon Source;
2. Contribute to the operation and maintenance of CSNS;
3. Engage in other scientific research tasks within the research group.

Basic Qualifications:

- Ph.D. degree;
- Professional background in high voltage engineering, electromagnetic field design, or related fields.;
- Proficient in using CST software;
- Experience in fast pulsed power supply design is preferred;
- Strong English communication and writing skills.

No.14. Postdoctoral Fellow - Digital Control Technology and Intelligent Research

Major Duties/Responsibilities:

1. Participate in R&D projects related to software upgrades (e.g., digital controllers for power supply systems) and intelligent control of power supplies.
2. Contribute to the operation and maintenance of CSNS.
3. Engage in other scientific research tasks within the research group.

Basic Qualifications:

- Ph.D. degree;
- Professional background in electrical engineering, automatic control, or related fields;
- Proficient in using CST software;
- Experience in FPGA chip development is preferred;
- Strong English communication and writing skills.

No.15. Postdoctoral Fellow - High-Frequency Cavity Technology

Major Duties/Responsibilities:

1. Conduct research on RF breakdown of microwave ceramic materials OR performance enhancement of magnetic alloy materials.
2. Develop novel accelerating structures OR high-gradient loaded cavities.
3. Participate in the operation and maintenance of CSNS.
4. Engage in other scientific research tasks within the research group.

Basic Qualifications:

- Ph.D. degree;
- Background in microwave technology, microwave dielectric materials, or nanocrystalline soft magnetic alloy materials.
- Proficient in microstructural characterization methods for metallic materials and strong theoretical foundation in materials science.
- Have knowledge of particle accelerator technology is preferred.
- Strong English communication and writing skills.

No.16. Postdoctoral Fellow - Vacuum Systems and Materials R&D

Major Duties/Responsibilities:

Conduct R&D on key technologies for new vacuum systems in accelerator of CSNS and explore new research directions.

Basic Qualifications:

- Ph.D. degree;
- Professional background in accelerator vacuum technology.
- Proficient in vacuum system design software.
- Experience in accelerator vacuum system design is preferred.
- Strong English communication and writing skills.

No.17. Postdoctoral Fellow - Control Research

Major Duties/Responsibilities:

1. Conduct research on the application of AI algorithms in particle accelerators, including but not limited to: fault diagnosis, operational optimization, and intelligent control.
2. Conduct modeling and predictive analysis using operational data from accelerator to enhance efficiency and stability.
3. Write research reports and academic publications, and participate in grant applications and project management.
4. Assist in mentoring graduate students and contribute to the team's research capacity building.

Basic Qualifications:

- Ph.D. degree;
- Professional background in accelerator physics, artificial intelligence, nuclear technology, control engineering, or related interdisciplinary fields;
- Proficient in at least one mainstream AI development framework (e.g., TensorFlow, PyTorch);
- Experience in design, simulation, or control of particle accelerator system is preferred;
- Familiar with programming languages such as Python or Java;
- Skilled in data modeling and analysis;
- Strong English communication and writing skills.

No.18. Postdoctoral Fellow - Neutron Resonance Imaging Technology

Major Duties/Responsibilities:

1. Develop and test boron-doped MCP neutron imaging detector systems.
2. Conduct simulations for neutron resonance imaging experiments and develop data analysis programs.
3. Conduct algorithm research on image analysis and nuclide composition analysis methods.
4. Perform simulation studies on neutron source and beamline performance parameters.

Basic Qualifications:

- Ph.D. degree;
- Skilled in particle detector development and testing;
- Proficient in data analysis and algorithm development
- Familiar with Linux systems, C++, and ROOT software development;
- Experience in particle imaging or neutron beamline research is preferred;
- Strong English communication and writing skills.

No.19. Postdoctoral Fellow - Neutron Nuclear Physics and Nuclear Data

Major Duties/Responsibilities:

1. Conduct neutron-induced nuclear reaction experiments and perform data analysis.
2. Develop and apply computational programs for neutron reaction calculations and cross-section analysis.
3. Construct and maintain data analysis libraries and experimental databases.
4. Support the training of early-career researchers and contribute to talent development initiatives within the research group.

Basic Qualifications:

- Ph.D. degree;
- Proficient in particle detection techniques and nuclear physics experimental methods;
- Skilled in data analysis and programming;
- Solid foundation in physics with familiarity of commonly-used nuclear reaction simulation codes;
- Experience in neutron-induced nuclear reaction research is preferred;
- Strong English communication and writing skills.

No.20. Postdoctoral Fellow - White Neutron Experimental Data Analysis

Major Duties/Responsibilities:

1. Perform characterization measurements of white neutron beams;
2. Conduct research on Neutron Resonance Transmission Analysis (NRTA);
3. Participate in nuclear data measurement;
4. Prepare and publish research findings in a timely manner.

Basic Qualifications:

- Ph.D. degree;
- Professional background in Nuclear Technology and Applications or Particle Physics and Nuclear Physics;
- Familiar with Geant4, ROOT, and Python;
- Experience in machine learning or artificial intelligence application;
- Strong English communication and writing skills.

No.21. Postdoctoral Fellow - Isotope Target Physics R&D

Major Duties/Responsibilities:

1. Undertake research on yield estimation of medical isotopes produced by proton bombardment of targets.
2. Responsible for calculating the physical parameters for high-power target preparation.
3. Take charge of target development experiments and target preparation.
4. Participate in other scientific research work of the research group.

Basic Qualifications:

- Ph.D. degree;
- Professional background in nuclear physics, nuclear technology application, radiochemistry, nuclear chemistry, or other related fields;
- Experience in the research, development and application of medical isotope targets is preferred;
- Strong English communication and writing skills.

No.22. Postdoctoral Fellow - Laser Ionization Physics Research

Major Duties/Responsibilities:

1. Conduct research on laser resonance ionization of nucleus;
2. Responsible for the construction of laser systems and research on laser stripping experiments;
3. Take charge of the testing and debugging of laser systems.
4. Participate in other scientific research work of the research group.

Basic Qualifications:

- Ph.D. degree;
- Professional background in laser physics, laser device development, or related fields;
- Experience in laser ionization physics is preferred;
- Strong English communication and writing skills.

No.23. Postdoctoral Fellow - Isotope Separation

Major Duties/Responsibilities:

1. Undertake the optimization of radioisotope separation processes for medical isotopes and the development of isotope generators;
2. 2. Conduct research and development on volume reduction methods and processes for radioactive liquid waste from medical isotopes;
3. 3. Be responsible for writing scientific research reports, summarizing research progress, and publishing academic papers;
4. 4. Participate in other scientific research work of the research group.

Basic Qualifications:

- Ph.D. degree;
- Professional background in radiochemistry, nuclear chemistry/nuclear chemical engineering, nuclear technology application, or other related fields;
- Experience in medical isotope separation and radioactive "three wastes" (waste gas, waste liquid, solid waste) disposal is preferred;
- Strong English communication and writing skills.

No.24. Postdoctoral Fellow - Isotope Quality Control

Major Duties/Responsibilities:

1. Undertake the research and development of quality control and analysis methods for medical isotopes;
2. Participate in the development and testing of on-line analysis devices for medical isotopes;
3. Be responsible for writing scientific research reports, summarizing research progress, and drafting and publishing academic papers;
4. Participate in other scientific research work of the research group.

Basic Qualifications:

- Ph.D. degree;
- Professional background in analytical chemistry, radiochemistry and nuclear chemistry, inorganic chemistry, biochemistry, or other related fields;
- Experience in microfluidic analysis and radionuclide analysis is preferred;
- Strong English communication and writing skills.

No.25. Postdoctoral Fellow - Medical Isotope Application and Radio-pharmaceutical R&D

Major Duties/Responsibilities:

1. Undertake the R&D of new radioactive medicine and related testing experiments.
2. Responsible for the operation of the radio-pharmaceutical labeling laboratory and conducting experimental research.
3. Take charge of writing scientific research reports, summarizing research progress, and drafting and publishing academic papers.
4. Participate in other scientific research work of the research group.

Basic Qualifications:

- Ph.D. degree;
- Professional background in biochemistry, biomedicine, nuclear medicine/radiation medicine, radiochemistry, or other related fields;
- Experience in radio-pharmaceutical research and development is preferred;
- Strong English communication and writing skills.

No.26. Postdoctoral Fellow - Muonium Experiments

Major Duties/Responsibilities:

1. Responsible for the design and simulation of the detector system for true muonium experiments;
2. Conduct research on the production efficiency of muonium under high magnetic fields;
3. Carry out experimental background evaluation.

Basic Qualifications:

- Ph.D. degree;
- Professional background in Physics or other related fields;
- Proficient in Geant4, ROOT or other related software;
- Experience in particle physics experiments;

No.27. Postdoctoral Fellow - Muon Beamline and Moderation Technology Research

Major Duties/Responsibilities:

1. Responsible for the design and optimization of reserved beamlines (decay muon, negative muon) for MELODY;
2. Take charge of the beamline design for the FFAG muon source;
3. Undertake research on muon moderation technology.

Basic Qualifications:

- Ph.D. degree;
- Professional background in Physics, Nuclear Technology or other related fields;
- Proficient in Geant4, ROOT, G4 beamline, Fluka or other related software;
- Strong English communication and writing skills.

Part II Neutron Scattering Application

No.1. Researcher - Neutron Instrument Scientist I

Recruited by the research groups of the following instruments:
Very Small Angle Neutron Scattering(VSANA) 、 General Purpose Powder Diffractometer(GPPD)、Multi-physics Instrument(MPI)、Neutron Engineering Material Diffractometer(EMD)

Major Duties/Responsibilities:

1. Undertake applied research work in spectrometer-related fields.
2. Responsible for user service work related to spectrometers.
3. Participate in daily operation, debugging, maintenance, and experimental tasks of spectrometers.
4. Participate in the R&D of spectrometer data analysis software and related data analysis work.
5. Engage in the R&D of sample environments.
6. (MPI only) Conduct research on energy structural materials (such as reactor structural materials and hydrogen embrittlement-resistant materials) using neutron total scattering technology；
7. (EMD only) Responsible for integrating the robotic arm into the diffractometer control system, realizing the automatic sample replacement, and completing the high-precision positioning of samples through the visual inspection system.
8. Complete other relevant work assigned by leader.

Basic Qualifications:

- Ph.D degree with **postdoctoral experience**
- Professional background in one of the following fields: neutron scattering data analysis, X-ray scattering data analysis, materials science, physics, or other related fields.
- Proficient in operating at least one type of material characterization equipment, such as XRD, SEM, TEM, EPMA, etc.
- Proficient in at least one professional software for processing neutron or X-ray scattering data, such as Gromacs, Atsas, Igor, Sasview, etc.
- Proficient in at least one programming tool, such as Python, Matlab,etc.
- Experience in using neutron data analysis software (e.g., GSAS, GSAS-II, FullProf, PDFgui) is preferred.
- Experience in the operation and utilization of neutron sources or synchrotron radiation facilities is preferred.
- Strong English communication skills and writing skills.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.2. Researcher - Neutron Instrument Scientist II

Recruited by the research groups of the following instruments:
Single Crystal Neutron Diffraction Spectrometer, Elastic Diffuse Scattering Neutron Spectrometer, Inverse Geometry Molecular Vibration (iMovies), Liquid Neutron Interface Reflection Instrument, Polarized in-elastic Neutron Scattering Instrument, Cold in-elastic Neutron Scattering Instrument

Major Duties/Responsibilities:

1. Undertake the design, construction, commissioning, operation, and maintenance of spectrometers；
2. Support users in conducting relevant experiments, develop potential users, and promote the application of spectrometers；
3. Based on the spectrometer's research fields (such as polymer and chemistry, life sciences, materials research, etc.), carry out research on relevant technologies and applications, as well as the processing and analysis of experimental data；
4. Complete other related work assigned by leader.

Basic Qualifications:

- Ph.D degree with **postdoctoral experience**
- Possess a professional background in any one of the following disciplines: chemistry, physics, materials science, or biology.
- Proficient in at least one of the following software: Fullprof, GSAS, or Mcstas.
- Proficient in at least one programming tool, such as Python, Matlab,etc.
- Experience in neutron scattering technology is preferred.
- Familiar with first-principles calculations or molecular dynamics simulations is preferred.
- Experience in processing neutron scattering experimental data is preferred.
- Strong English communication skills and writing skills.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.3. Researcher - Physical Properties of Quantum Materials

Major Duties/Responsibilities:

1. Carry out research on the physical properties of quantum electronic materials mainly using neutron scattering.
2. Carry out battery research (electrode, electrolyte, and device) mainly using neutron scattering.
3. Assist users in conducting in-situ neutron scattering experiments on the electrochemical neutron platform, and collaborate to maximize data value.
4. Continuously develop in-situ electrochemical experimental devices and supporting equipment combining neutron and multiple characterization methods.
5. Undertake the daily operation, maintenance, and upgrading of the electrochemical neutron research platform.
6. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D., with postdoctoral experience.
- Professional background in physics, chemistry, or materials.
- Experience in condensed matter physics research.
- Experience in battery research and battery materials.
- Experience in neutron scattering experiments; proficiency in neutron/X-ray diffraction and PDF data refinement software is preferred.
- Cross-disciplinary application experience in mechanics and electronics is preferred.
- Strong English communication and writing skills.

No.4. Researcher -In/quasi-Elastic Neutron Scattering Technique

Major Duties/Responsibilities:

1. Undertake the design and construction of the neutron backscattering spectrometer;
2. Apply quasi-elastic neutron scattering technology to conduct related research work;
3. Undertake quasi-elastic neutron-scattering data analysis and software development;
4. Carry out structural-characterization research of materials using quasi-elastic neutron scattering;
5. Participate in methodology development and data-reduction software for neutron scattering;
6. Participate in the user training, organization, and service of the neutron backscattering spectrometer;
7. Participate in the user cultivation, organization, and service work of the instrument;
8. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D. degree, with postdoctoral experience;
- Professional background in condensed matter physics, materials physics and chemistry, polymer chemistry and physics, or biophysics, or in physics, chemistry, biology, or materials science;
- Experimental experience with neutron or X-ray scattering techniques;
- Experience in quasi-elastic or inelastic neutron scattering is preferred;
- Programming experience with MATLAB, Python, or LabVIEW is preferred;
- Strong interest in scientific research, proactive attitude, willingness to serve users, and strong teamwork skills;
- Experience in software development and data analysis for neutron-scattering experiments is preferred.
- Strong English communication and writing skills.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.5. Researcher - Neutron Data Analysis

Major Duties/Responsibilities:

1. Undertake the research and development of CSNS-II neutron data protocol;
2. Carry out the development of analysis software;
3. Undertake the research and development of machine learning applications;
4. Participate in the daily work of the data analysis team.

Basic Qualifications:

- Ph.D., with postdoctoral experience;
- Professional background in condensed matter physics or nuclear technology;
- Familiar with Linux system, proficient in Python, software development experience is preferred;
- Familiar with crystallography, understand the basic knowledge of neutron scattering or X-ray, experience in neutron or synchrotron radiation data analysis is preferred;
- Strong English communication and writing skills.

No.6. Researcher - Thermal Analysis and Experiment

Major Duties/Responsibilities:

1. Undertake the thermal analysis and simulation calculation of each component of the CSNS target station power upgrade;
2. Undertake the design, construction, and maintenance of the thermal experimental platform;
3. Be responsible for the operation and maintenance of the thermal experimental platform;
4. Participate in other work of the Neutron Physics Group;
5. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D. in Power Engineering and Engineering Thermophysics;
- Strong knowledge of engineering thermophysics; research experience in engineering thermal design and simulation calculation is preferred;
- Proficient in spoken English, with strong reading and writing skills;
- Outstanding teamwork ability, innovation capability, and ability to work under pressure.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.7. Researcher - Neutron Data Analysis

Major Duties/Responsibilities:

1. Undertake the research and development of CSNS-II neutron data protocol;
2. Carry out the development of analysis software;
3. Undertake the research and development of machine learning applications;
4. Participate in the daily work of the data analysis team.

Basic Qualifications:

- Ph.D., with postdoctoral experience;
- Professional background in condensed matter physics or nuclear technology;
- Familiar with Linux system, proficient in Python, software development experience is preferred;
- Familiar with crystallography, understand the basic knowledge of neutron scattering or X-ray, experience in neutron orAnchrotron radiation data analysis is preferred;
- Strong English communication and writing skills.

No.8. Researcher - Scientific Data and Artificial Intelligence Applications

Major Duties/Responsibilities:

1. Undertake the development of high-quality scientific datasets, including intelligent dataset-generation agents, as well as data submission and sharing systems.
2. Conduct research on Retrieval-Augmented Generation (RAG) knowledge-base platforms and related technologies, as well as on the application of artificial intelligence technologies in the field of neutron scattering.
3. Participate in the R&D of CSNS experimental assistants and scientific data agents based on large models.
4. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D., with postdoctoral experience;
- Professional background in one or more of the following: materials science, condensed matter physics, or computer science and technology;
- Proficient in Python, C/C++ and other programming languages;
- Experience in data science or AI for Science is preferred;
- Strong English communication and writing skills.

No.9. Researcher - Data and Computing Platform Development

Major Duties/Responsibilities:

1. Undertake the R&D of CSNS hierarchical storage systems, cloud storage systems, etc.;
2. Undertake the development of interactive computing platforms;
3. Participate in the development of artificial intelligence service systems and AI model-management platforms.
4. Conduct platform-level development for AI4S (AI for science) applications.
5. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D., with postdoctoral experience;
- Professional background in computer science and technology, materials science, or condensed matter physics;
- Proficient in Python, Shell, and other programming languages;
- Experience in scientific data and computing platforms or supercomputing centers is preferred;
- Strong English communication and writing skills.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.10. Researcher - Data Acquisition Software Development Engineer

Major Duties/Responsibilities:

1. Responsible for the design and development of data acquisition (DAQ) software for CSNS-II instrument;
2. Undertake daily maintenance, upgrading, and troubleshooting of DAQ software and related servers of existing instrument;
3. Develop software capable of efficiently reading data from detector electronics, enabling real-time data storage and forwarding to upstream data analysis systems;
4. Prepare technical documentation, and collaborate closely with electronics, spectrometer physics, and data analysis teams;
5. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D. in computer science, software engineering, physics, or related fields;
- Proficient in C/C++ and Python programming, familiar with Linux development environment, with experience in multithreading and network programming;
- Strong problem-solving ability, good teamwork, and communication skills;
- Experience in DAQ or control software development for large-scale scientific facilities is preferred;
- Good ability in reading and writing English technical documents.

No.11. Researcher - Neutron Detector Readout Electronics

Major Duties/Responsibilities:

1. Responsible for the research and development of neutron detector readout electronics on CSNS spectrometers and Phase II neutron spectromo, including circuit design, simulation, testing, and debugging;
2. Participate in the development and maintenance of spectrometer data acquisition systems and data analysis software;
3. Undertake the development of high-speed imaging electronics and related detector systems.
4. Track the latest technical trends in related fields at home and abroad, and propose improvement plans and innovative ideas;
5. Participate in the assembly, commissioning, operation, and maintenance of neutron-spectrometer electronics systems.
6. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D., with postdoctoral experience;
- Professional background in nuclear electronics, physical electronics, electronic information, or related majors is preferred;
- Experience in R&D of detector readout electronics for neutron spectrometers or other large-scale scientific facilities is preferred;
- Experience with Xilinx FPGA, high-speed ADC, high-speed optical links, etc., is preferred;
- Familiar with commonly used circuit design software and test instruments, able to independently complete circuit design, simulation, testing, and debugging;
- Experience in detector readout electronics R&D for large-scale scientific facilities or nuclear medical equipment is preferred;
- Experience in R&D of detector readout electronics for Phase II neutron spectrometers, large-scale scientific facilities, or nuclear medical equipment is preferred
- Good teamwork and communication skills, able to work under pressure and challenges;
- Strong English listening, speaking, reading, and writing skills, able to read relevant professional literature and write technical reports.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.12. Researcher - Neutron Detector Research (3He)

Major Duties/Responsibilities:

1. Undertake the R&D of neutron detectors;
2. Undertake the development of neutron detector equipment;
3. Participate in the design, testing, and engineering construction of neutron spectrometer detector systems;
4. Support and assist in the assembly, commissioning, operation, and maintenance of neutron detectors for CSNS-II related spectrometers;
5. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D., with postdoctoral experience;
- Professional background in detector R&D;
- Proficient in the use of detector simulation and analysis software;
- Experience in neutron detector research is preferred;
- Strong English communication and writing skills.

No.13. Researcher - Deuterium Characterization Methodology

Major Duties/Responsibilities:

1. Undertake methodological research on the preparation and characterization of deuterated molecules through biological methods;
2. Undertake the construction of experimental support platforms for biological deuteration and characterization, and coordinate with neutron users;
3. Be responsible for the investigation, procurement, assembly, commissioning, and operation and maintenance of equipment and facilities for the biological deuteration and characterization platform;
4. Undertake the development of functional plug-ins for deuterated material characterization and testing equipment;
5. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D., with postdoctoral experience;
- Professional background in biology, microbiology, biochemistry, polymers, or other soft matter sciences;
- Proficient in using various equipment for the preparation, identification, purification, and analysis of deuterated biomolecules;
- Experience in deuterated material preparation and application is preferred;
- Strong English communication and writing skills are preferred.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.14. Researcher - Neutron Physics and Applied Spectrometer Data Analysis

Major Duties/Responsibilities:

1. Undertake the research of energy spectrum data analysis methods for neutron activation analysis;
2. Undertake the development and operation of neutron activation analysis devices;
3. Participate in the design, construction, and application research of neutron physics and application spectrometers;
4. Participate in the commissioning, operation, and maintenance of neutron physics and application spectrometers;
5. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D.;
- Professional background in particle physics and nuclear physics, or nuclear technology and application;
- Strong knowledge of nuclear detection, with research experience in spectral analysis preferred;
- Strong English communication and writing skills.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.15. Researcher - Neutron Physics and Applied Spectrometer (Ultra-cold Neutron Physics)

Major Duties/Responsibilities:

1. Undertake the design, construction, and application research of ultra-cold neutron sources;
2. Undertake low-background methodology research of neutron physics and applied spectrometers;
3. Participate in the design, construction, and application research of neutron physics and application spectrometers;
4. Participate in the commissioning, operation, and maintenance of neutron physics and application spectrometers;
5. Be responsible for CSNS target-station/spectrometer coupling design and R&D of new cold-neutron moderators.
6. Complete other tasks assigned by the supervisor.

Basic Qualifications:

- Ph.D., with postdoctoral experience;
- Professional background in Neutron physics, nuclear physics, particle physics and nuclear physics, or theoretical physics;
- Strong knowledge of neutron physics, with research experience in neutron transport calculation, low-background methodology and neutron-physics simulations is preferred;
- Strong English communication and writing skills.
- Excellent teamwork, innovation, and ability to work under pressure.

OR

Ph.D. graduates are eligible to apply for this corresponding postdoctoral position.

No.16. Postdoctoral Fellow - Research on Battery Imaging Spectrometer

Major Duties/Responsibilities:

1. Carry out structural characterization of batteries and materials.
2. Conduct neutron scattering experiments on batteries and materials.
3. Conduct electrochemical performance studies of batteries and materials.
4. Participate in the operation of the imaging spectrometer.

Basic Qualifications:

- Ph.D. degree.
- Background in materials science, physics, or chemistry.
- Experience with XRD, electron microscopy, or electrochemical testing is preferred.
- Strong team spirit.
- Strong English communication and writing skills.

No.17. Postdoctoral Fellow - Research on Metallic Alloy Imaging Spectrometer

Major Duties/Responsibilities:

1. Undertake microstructural characterization of metals and alloys.
2. Conduct neutron scattering research on metals and alloys.
3. Carry out mechanical-property studies of metals and alloys.
4. Participate in the operation of the imaging spectrometer.

Basic Qualifications:

- Ph.D. degree.
- Background in materials science, condensed matter physics, or metallic materials engineering.
- Experience with XRD, electron microscopy, or mechanical-property testing is preferred.
- Strong team spirit.
- Strong English communication and writing skills.

No.18. Postdoctoral Fellow - Characterization Methodology

Major Duties/Responsibilities:

1. Conduct R&D on soft matter or other functional materials.
2. Undertake management and technical support for the preparation and characterization equipment of various functional materials.
3. Participate in functional development and testing of equipment and facilities.
4. Participate in the assembly, commissioning, operation, and maintenance of various large-scale devices.

Basic Qualifications:

- Ph.D. degree.
- Background in soft matter science, condensed matter physics, or related research fields.
- Proficiency with multiple characterization instruments and data-analysis software is preferred.
- Experience with X-ray or optical characterization techniques is preferred.
- Proficiency in English writing and communication is preferred.

No.19. Postdoctoral Fellow - Materials Research (Powder Diffraction Instrument)

Major Duties/Responsibilities:

1. Undertake research on structural materials using powder diffraction.
2. Participate in the daily operation and experiments of the general-purpose powder diffractometer.
3. Participate in data analysis of structural materials using the general-purpose powder diffractometer.
4. Complete other tasks assigned by supervisors.

Basic Qualifications:

- Ph.D. degree.
- Background in neutron diffraction or X-ray diffraction (XRD).
- Experience in metallic materials research.
- Proficiency with structural refinement software.
- Strong independent research ability.
- Strong English communication and writing skills.

No.20. Postdoctoral Fellow - Extreme Sample Environment

Conditions

Major Duties/Responsibilities:

1. Undertake the design and construction of the Cold In-elastic Neutron Spectrometer.
2. Undertake the operation of neutron experiments using the Cold In-elastic Neutron Spectrometer.
3. Participate in user experimental data analysis.
4. Carry out research in condensed matter, materials, chemistry, and other related fields based on neutron scattering.
5. Develop methodologies related to in-elastic neutron experiments.
6. Explore new research directions for applications of in-elastic neutron scattering techniques.

Basic Qualifications:

- Ph.D. degree.
- Experience in neutron scattering experiments and research.
- Experience in single-crystal growth and preparation is preferred.
- Experience in first-principles calculations is preferred; proficiency in C++/Python/Java programming is an advantage.
- Experience in neutron sources or light sources is preferred.
- Strong English communication and writing skills.

No.21. Postdoctoral Fellow - Neutron Scattering of Superconducting and Magnetic Materials

Major Duties/Responsibilities:

1. Carry out material preparation and property characterization of novel superconductors and magnetic materials.
2. Use neutron scattering and synchrotron-radiation techniques to conduct in-depth studies of material properties.
3. Analyze and summarize experimental data; prepare and publish academic papers.
4. Apply for postdoctoral, regional, or national-level funding.

Basic Qualifications:

- Ph.D. degree.
- Background in condensed matter physics or related fields.
- Proficiency in MATLAB or Python programming.
- Experience with neutron scattering or synchrotron-radiation experiments is preferred.
- Strong English communication and writing skills.

No.22. Postdoctoral Fellow - Polarized Neutron Experiments

Major Duties/Responsibilities:

1. Conduct R&D and optimization of boron-free dense-glass raw materials.
2. Be responsible for the fabrication and R&D of polarized ^{3}He glass cells.
3. Undertake numerical simulations and testing for polarized-neutron equipment design.
4. Develop and test application schemes of polarized-neutron techniques for spectrometers.

Basic Qualifications:

- Ph.D. degree.
- Experience in neutron-scattering experiments is preferred.
- Experience in using McStas software is preferred.
- Experience in special-glass design or vacuum-system design is preferred.
- Strong English communication and writing skills.

No.23. Postdoctoral Fellow - Polarized Helium-3 Development

Major Duties/Responsibilities:

1. Participate in the R&D of wide-angle polarized helium-3 devices.
2. Participate in offline and online polarized helium-3 R&D and operation.
3. Participate in the assembly, commissioning, operation, and maintenance of polarized helium-3 equipment for Phase II spectrometers.

Basic Qualifications:

- Ph.D. degree.
- Background in nuclear science and technology.
- Proficiency with COMSOL, MATLAB, and SolidWorks.
- Experience in complex system design is preferred.
- Strong English communication and writing skills.

No.24. Postdoctoral Fellow - Neutron Technology Development

Major Duties/Responsibilities:

1. Undertake the design and construction of the neutron technology development line station.
2. Carry out neutron technology and application research.
3. Provide technical support for beamline testing and experimental data analysis.
4. Complete other tasks assigned by supervisors.

Basic Qualifications:

- Ph.D. degree.
- Background in nuclear technology.
- Proficiency with scientific computing and Monte Carlo particle-simulation software.
- Ability to quickly learn new knowledge and solve problems efficiently.
- Conscientious, proactive, and responsible.
- Strong English listening, speaking, reading, and writing skills.

No.25. Postdoctoral Fellow - Mechanical Automation (Engineering Materials Spectrometer)

Major Duties/Responsibilities:

1. Integrate robotic arms into diffractometer control systems to achieve automated sample exchange, and implement high-precision sample positioning with visual systems.
2. Assist users in conducting residual-stress experiments on engineering components using the Engineering Materials Diffractometer.
3. Carry out independent data analysis; prepare annual project reports and related technical documentation.
4. Present progress and results at national and international conferences and workshops.
5. Complete other tasks assigned by supervisors.

Basic Qualifications:

- Ph.D. degree.
- Familiarity with neutron or X-ray diffraction techniques; experience in Rietveld refinement and residual-stress measurement is preferred.
- Experience in operating or commissioning scientific instruments; experience in design or installation is preferred.
- Familiarity with Python, MATLAB, or other programming tools is preferred.
- Ability to adapt to research schedules, plan tasks, and respond effectively.

No.26. Postdoctoral Fellow - Detector Development

Major Duties/Responsibilities:

1. Undertake the R&D of neutron detectors, including Multi-Blade detectors and GEM neutron detectors.
2. Undertake the development of detector equipment for reflection spectrometers, including upgrade devices for reflection spectrometers and detectors for liquid reflection spectrometers.
3. Participate in the R&D of other detectors for neutron spectrometers.
4. Participate in the assembly, commissioning, operation, and maintenance of reflection spectrometer detector upgrade devices and liquid reflection spectrometer detectors.

Basic Qualifications:

- Ph.D. degree
- Professional background in detector R&D
- Proficient in the use of detector simulation and analysis software
- Experience in gas detector design or GEM detector design is preferred
- Strong English communication and writing skills.

No.27. Postdoctoral Fellow - Small-Angle Neutron Magnetic Scattering

Major Duties/Responsibilities:

1. Undertake preparation and characterization of magnetoelastic alloys.
2. Carry out in-situ small-angle neutron magnetic scattering experiments, data analysis, and micromagnetic simulations.
3. Participate in the operation of the small-angle neutron spectrometer and in user experiments.

Basic Qualifications:

- Ph.D. degree.
- Background in metallic materials or magnetism.
- Proficiency in micromagnetic simulation software.
- Experience in experiments and data analysis at large-scale scientific facilities is preferred.
- Strong English communication and writing skills.

No.28. Postdoctoral Fellow - High-Resolution Neutron Diffractometer (Technology and Applications)

Major Duties/Responsibilities:

1. Participate in the operation of the high-resolution neutron diffractometer.
2. Carry out materials-physics research using neutron scattering.

Basic Qualifications:

- Ph.D. degree.
- Background in physics, chemistry, or materials.
- Experience in neutron-scattering experiments is preferred.
- Strong English communication and writing skills.

No.29. Postdoctoral Fellow - High-Pressure Spectrometer

Major Duties/Responsibilities:

1. Undertake hardware and software development for the high-pressure spectrometer.
2. Undertake development of experimental equipment related to the high-pressure spectrometer.
3. Undertake data processing and analysis for the high-pressure spectrometer.
4. Participate in the operation and maintenance of the high-pressure spectrometer.

Basic Qualifications:

- Ph.D. degree.
- Experience with neutron or synchrotron-radiation studies.
- Proficiency with data-refinement software such as GSAS and FullProf.
- Experience in high-pressure research is preferred.
- Strong English communication and writing skills.

No.30. Postdoctoral Fellow - Structural Biology

Major Duties/Responsibilities:

1. Undertake in-house structural biology research.
2. Participate in the research and application of new neutron and X-ray diffraction methods.

Basic Qualifications:

- Ph.D. degree.
- Background in structural biology.
- Proficiency with structural-analysis software.
- Strong English communication and writing skills.

No.31. Postdoctoral Fellow - Boron Drug Research

Major Duties/Responsibilities:

1. Undertake R&D of novel boron-containing drugs.
2. Participate in the research and application of new neutron and X-ray characterization methods.

Basic Qualifications:

- Ph.D. degree.
- Background in cell biology.
- Strong English communication and writing skills.

No.32. Postdoctoral Fellow - Residual Stress

Major Duties/Responsibilities:

1. Assist spectrometer scientists in conducting residual-stress measurements of large and complex structures using neutron diffraction, and guide users in material or process improvements where needed.
2. Participate in development of complex sample environments (e.g., high/low temperature) for the Engineering Materials Diffractometer.
3. Carry out methodological research on neutron diffraction.

Basic Qualifications:

- Ph.D. degree.
- Background in metallic-materials research.
- Familiarity with residual stress and microstructural control of metallic materials.
- Experience in Rietveld refinement of diffraction data is preferred.
- Strong organizational, communication, and coordination skills.