

Postdoctoral research assistant for polarized gas system

Employer

China Spallation Neutron Source (CSNS)

Location

CSNS, Dongguan, China

Introduction

The sample environment group at the China Spallation Neutron Source (CSNS) is looking for a postdoctoral research assistant candidate for the development of polarized ^3He gas system.

Description of Institution

The China Spallation Neutron Source located at Dongguan is one of the largest science and technology infrastructure projects in China. The facility currently includes a powerful linear proton accelerator, a rapid circling synchrotron, a target station and three neutron instruments. Currently there are more than 400 scientists and engineers working together in Dongguan on the CSNS project. Once complete, CSNS will support research teams, including many from China and other countries, in addressing significant global challenges that range from healthcare and security to ecology and fuel technology.

Job description

The sample environment group at CSNS is developing an integrated Spin-Exchange Optic Pumping (SEOP) system to provide reliable ^3He for the purpose of polarized neutron research. The development includes both in-situ and off-situ polarized ^3He system and is expected to provide support to various polarized neutron beamline at the CSNS in the future. The sample environment group is now seeking a postdoctoral research assistant candidate to support the development work and perform related research. The candidate will work with other members of the team and cooperate with the instrument scientist and engineers, and contribute to the overall development which includes:

1. Spin Exchange Optical Pumping (SEOP) system principle and application research
2. Design, construction and test of various SEOP prototype system
3. Research of polarized neutron based on the developed SEOP system

Successful candidate is expected to contribute to the delivery of feasible SEOP system within the initial term of 2 year, with the potential long-term position upon term completion. The postdoc candidate is also encouraged to perform his or her own research in the related area of polarized gas or polarized neutron. The CSNS will provide postdoctoral research assistant an annual salary of ¥300,000 (\$44,645), as well as postdoc apartment during the term.

Requested Profile

Essential qualification and experience:

- Ph.D. degree in physics or related field acquired within 3 years
- Extensive practical experience in instrument development
- Evidence of a strong independent research profile in relevant science areas commensurate with experience
- Ability to work collaboratively and individually.
- Good interpersonal communication and presentation skills.
- Flexibility to work out-of-hour according to neutron experiment schedule
- Capable of communicating in English. Mandarin speaking is highly preferred but not required.
- Willingness to international travel and relocate to Dongguan China during employment.

Desirable experience:

- Experience in Spin Exchange Optical Pumping (SEOP) system development
- Experience in polarized neutron instrument development
- Experience with vacuum, cryogenic system and high-power laser system
- Experience with magnetic field simulation, neutron optics simulation and data analysis. Working knowledge with Matlab, Python, Magnet or McStas
- Availability to commence position shortly after appointment

How to Apply

Interested applications should send his or her curriculum vitae and cover letter in English to Prof. Tong at tongx@ihep.ac.cn