Contribution ID: **138** Type: **Poster Presentation**

Design of the First μSR Spectrometer at China Spallation Neutron Source

The Phase II upgrade project of the China Spallation Neutron Source (CSNS) includes the construction of a surface muon beam line and a muon spin rotation/relaxation/resonance (μSR) spectrometer, which will be the first μSR spectrometer built in China. Here, we report the conceptual design of the spectrometer, including the detector arrangement, magnets, sample environment (SE) and sample chamber. Based on the design parameters of the muon beam (1 Hz, 10^5 μ+/pulse), the spectrometer possesses over 3000 detector units to maximize the counting rate. Three different types of magnets can generate a zero field (ZF), a longitudinal field (LF) within 5000 G, and a transverse field within 400 G. The SE consists of a cryostat and a closed-cycle refrigerator (CCR) to provide temperatures lower than 2 K in the current stage. It has potentials to be updated to 300 mK. The sample chamber is designed with a fly-past structure to reduce the background for experiments with small-sized samples.

Email

qiangli@ihep.ac.cn

Funding Agency

Supervisors Name

Supervisors Email

Did you request an Invitation Letter for a Visitors Visa Application

Primary author: Prof. LI, Qiang (China Spallation Neutron Source)

Presenter: Prof. LI, Qiang (China Spallation Neutron Source)

Session Classification: Poster session 2

Track Classification: Beamlines and instruments