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Developing Polarized neutron capability at the China Spallation Neutron Source

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Polarized neutron techniques have been widely developed and integrated into many instruments at major neutron sources around the world. At the China Spallation Neutron Source (CSNS), the polarized neutron and sample environment groups are developing a complete system to support the ongoing beamline design and construction efforts. In this presentation, we will introduce the current development of a polarized ^3He system^{1,2} at the CSNS. The polarized ^3He neutron spin filter system, both off-situ and in-situ, shall provide a reliable universal polarized neutron source to the current beamlines at CSNS, which include Small Angle Neutron Scattering (SANS), neutron reflectometry and powder diffraction. The spin filter will also aid in the advancement of future beamlines through testing and developing customized systems. We shall also give a brief introduction to the future plan of polarized neutron technologies developed based on the polarized ^3He spin filter.

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2 X. Tong, C. Y. Jiang, V. Lauter, H. Ambaye, D. Brown, L. Crow, T. R. Gentile, R. Goyette, W. T. Lee, A. Parizzi, and J. L. Robertson, *Rev Sci Instrum* 83 (7) (2012).

Summary

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