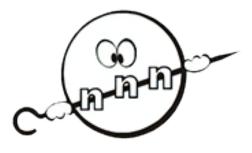
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Setting Up High-Energy Polarized Neutron at the China Spallation Neutron Source

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Polarized neutrons serve as a critical probe in nuclear physics to investigate spin-dependent interactions and nuclear dynamics. Polarized neutron enables precise studies of nuclear forces, include probing nuclear structure, analyzing reaction mechanisms and resolving nucleon internal spin-quark distributions via deep inelastic scattering. Challenges persist in achieving high polarization stability, measuring low cross-section reactions, advancing our understanding of spin-mediated nuclear phenomena and QCD in dense matter. We present our recent effort on setting polarized neutron at the China Spallation Neutron Source Back-n beamline, as well as the polarization technique available for future research. Key instrument development in polarized 3He neutron spin filter, guide fields and spin flippers shall be presented, and the corresponding method for designing experiment will be discussed.

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