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SpinQuest Polarized Target: An Overview

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The SpinQuest experiment at Fermilab aims to extract Sivers functions for the sea quarks in the range of 0.1 < x_B < 0.5 through single spin asymmetry measurements of di-muon pairs resulting from the Drell-Yan process. The proposed beam intensity is 1.5 × 10^{12} of 120 GeV unpolarized proton/sec. The experiment utilizes a transversely polarized fixed target system which consist of a 5T superconducting magnet, NH3 and ND3 targets, a 4He evaporation refrigerator, a 140 GHz microwave source and a large pumping system. The expected average target polarization is 80% for protons, and 32% for deuterons. The polarization will be measured using Q-meter based NMR system. An overview of the polarized target system, including polarization measurements will be presented in this talk.

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