

Joint International Workshop on Hadron Structure and Spectroscopy (IWHSS 2025) and the QCD Structure of the Nucleon (QCD-N'25)



Contribution ID: 69

Type: **not specified**

Overview of the SpinQuest Program at Fermilab

Friday 5 September 2025 12:10 (15 minutes)

SpinQuest at Fermilab is a high-luminosity fixed-target experiment aimed at investigating the transverse momentum structure of the nucleon by measuring the Sivers function for light sea quarks and gluons. Using a 120 GeV unpolarized proton beam incident on transversely polarized ammonia (NH_3) and deuterated ammonia (ND_3) targets, the experiment seeks evidence of sea-quark orbital angular momentum and probes the gluon Sivers function through transverse single-spin asymmetries in J/ψ production. By combining Drell-Yan and quarkonium measurements, SpinQuest offers complementary insights into spin-momentum correlations within the nucleon. The program relies on the polarized target system featuring a 5 T magnet, 140 GHz microwave source, and a high-capacity ^4He evaporation refrigerator. In this talk, the experiment status from the 2024 commissioning run, ongoing analysis efforts, and preparations for the upcoming 2026 production run will be presented.

This work is supported in part by the U.S. DOE award #: DE-FG02-07ER41528

Author: ANSARI, Vaniya (Aligarh Muslim University)

Presenter: ANSARI, Vaniya (Aligarh Muslim University)

Session Classification: Friday