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The Polarized Target SpinQuest Experiment at Fermilab

Tuesday, 27 September 2022 11:00 (25 minutes)

The SpinQuest experiment (E1039) at Fermilab will measure the azimuthal asymmetry of dimuon pair production via scattering of unpolarized protons from transversely polarized NH_3 and ND_3 targets. The asymmetry will be measured for both Drell-Yan scattering and J/ψ production. By measuring the asymmetry for the Drell-Yan process, it is possible to extract the Sivvers Function for the light anti-quarks in the nucleon. A non-zero asymmetry would be “smoking gun” evidence for a non-zero orbital angular momentum of the light sea-quarks: a possible contributor to the proton’s spin. An overview of the experiment will be presented, as well as details on the SpinQuest polarized target built at the University of Virginia.

Category

Polarized Targets

Primary author: CONOVER, Arthur

Presenter: CONOVER, Arthur

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