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# GenFit2 for SpinQuest Tracking

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SpinQuest at Fermilab is a fixed-target Drell-Yan experiment that will measure the light sea quark ( $u^-$  and  $d^-$ ) Sivers functions. The experiment will use an unpolarized 120 GeV proton beam from the Fermilab Main Injector and a transversely polarized  $\text{NH}_3$  or  $\text{ND}_3$  target; the muons from the Drell-Yan process will be observed in the SeaQuest (E906) spectrometer. This Drell-Yan measurement of the Sivers function will be free from the complications of fragmentation functions and final-state interactions that are necessary for the analysis of semi-inclusive deep-inelastic scattering data. A non-zero value of the light sea quark Sivers functions will provide evidence of non-zero angular momentum of sea quarks, which would be an important step toward untangling the spin structure in the nucleon.

The SpinQuest experiment uses GenFit2 software, an experiment-independent, track-fitting toolkit that uses C++ libraries and the ROOT data analysis framework. GenFit2 combines the hit geometries, track representation, and fitting algorithms into a modular framework. We present the performance of track-fitting algorithms provided by GenFit2 (viz. Kalman fitter, Kalman fitter with a reference track, Deterministic annealing fitter, and Deterministic annealing fitter with reference track) in the SpinQuest analysis environment. This work is supported by the US Department of Energy, Office of Science, Medium Energy Nuclear Physics Program.

**Primary author:** PUN, Abinash (New Mexico State University)

**Presenter:** PUN, Abinash (New Mexico State University)

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