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Systematic Study of Potential False Azimuthal Asymmetries in SpinQuest[1] MD FORHAD HOSSAIN, New Mexico State Univ, SPINQUEST COLLABORATION — SpinQuest is a transversely polarized Drell-Yan experiment at Fermilab that will measure the Sivers asymmetry for the light antiquarks in the nucleon, using polarized NH_3 and ND_3 targets and the SeaQuest (E906) spectrometer. Measuring a non-zero Sivers asymmetry would provide strong evidence for non-zero sea-quark orbital angular momentum. There are many systematic effects that could generate false azimuthal asymmetries that could masquerade as a Sivers asymmetry; for example, the time-dependence of the spectrometer efficiency, the fluctuations of the beam luminosity, the position dependence of the interaction vertex, and the combinatorial background. In this presentation, we will discuss the studies of these systematic effects using both reconstructed data from the unpolarized Drell-Yan experiment SeaQuest and simulation.

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