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SIDIS MC including polarization effects

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Monte Carlo event generators are foundational to the simulation of a high-energy physics experiment. Pythia, a general-purpose event generator commonly used for Semi-Inclusive Deep Inelastic Scattering (SIDIS) studies, is highly configurable and provides the option to allow user program code to modify the event generation procedure. The String+$^3P_0$ model shows promise in describing the spin effects in the hadronization process, especially with the recent inclusion of vector meson production; this model has been interfaced with the Lund String Model implementation in Pythia as a program called StringSpinner. This presentation summarizes the status of testing StringSpinner with CLAS12; since it is the first study that uses Pythia version 8, whereas all other Pythia studies at CLAS12 have been with version 6, most of the effort so far has been focused on tuning the version 8 parameters. Although the tuning is still in progress, we present the status and kinematic comparisons to data, focusing on the SIDIS dihadron production process, as well as a look at the beam spin asymmetries generated by StringSpinner. With a reasonable parameter tune, this event generator may be used for spin asymmetry impact studies for CLAS at 22 GeV.

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