Contribution ID: **33**   Type: **not specified**

Proton Polarimetry at an Electron-Ion Collider

Thursday, 26 September 2019 16:00 (20 minutes)

The broad physics program at a future electron-ion collider is, in part, based on the availability of high electron and proton beam polarizations. Proton polarimetry will have to include an absolute normalization as well as fast measurements of the polarization of the bunched beam. The required high luminosities in combination with short bunch spacing represent specific challenges. Additionally, the polarization direction has to be determined at the experimental interaction point where spin rotators allow for a choice of transverse or longitudinal polarization. This talk will summarize methods that have been successfully employed to the high energy proton beams at RHIC and discuss possible improvements to meet the demands of an electron-ion collider. Also, other options will be discussed that can be helpful in a lepton-proton collider. For example, new tools may be based on recent experimental confirmation of spin dependent neutron production in ultra-peripheral proton-ion collisions.

Summary

Primary authors: EYSER, Oleg (Brookhaven National Lab.); ASCHENAUER, Elke; SCHMIDKE, William; NUNES, Ana Maria; CHANG, Zilong

Presenter: EYSER, Oleg (Brookhaven National Lab.)

Session Classification: EIC

Track Classification: Polarimetry