22nd International Spin Symposium



Contribution ID: 239 Type: not specified

Electroweak physics at the EIC

Wednesday 28 September 2016 09:50 (25 minutes)

We discuss measurements of parity violating asymmetries in the DIS region at an EIC. With γZ interference in the electroweak processes, the parity violating asymmetries are associated with a new series of structure functions, FyZ1, FyZ3, gyZ1, gyZ5, which provide unique combinations of unpolarized/polarized parton distribution functions. We will present the projections of these structure functions from electron-proton collisions at future EIC with different beam energy configurations considering QED, QCD radiative corrections as well as corrections of detector smearing. We will also present the weak mixing angle $\sin 2(\theta W)$ study at much higher Q2 range than fixed target measurements using electron-deuteron collisions at an EIC.

Presenter: ZHAO, Yuxiang (Stony Brook University) **Session Classification:** Helicity & Future Joint

Track Classification: I. Future