



Contribution ID: 211

Type: **not specified**

Nuclear Parton Distributions at the future Electron-Ion Collider

Thursday 6 April 2017 09:50 (20 minutes)

The 2015 nuclear physics long-range plan endorsed the realization of an electron-ion collider (EIC) as the next large construction project after the completion of FRIB.

With its high luminosity ($> 10^{33} \text{ cm}^{-2} \text{ s}^{-1}$), wide kinematic reach in center-of-mass-energy (45 GeV to 145 GeV) and high lepton and proton beam polarization, the EIC provides an unprecedented opportunity to reach new frontiers in our understanding of the spin and dynamic structure of nuclei.

Despite of the success of the HERA collider in investigating the structure of a single nucleon, the partonic structure of nuclei at moderate-to-small Bjorken's x still remain elusive.

This talk will present the evaluated impact of an EIC in extracting the nuclear structure-functions from measurements of the reduced cross sections in deep inelastic scattering, including also the case of measuring heavy quark production events. The potential constraints offered by the EIC data in extracting the nuclear parton distribution functions will be discussed.

Primary author: FAZIO, Salvatore

Presenter: FAZIO, Salvatore

Session Classification: WG7 Future of DIS

Track Classification: WG7) Future of DIS