EIC PL meetings 2024

Report of Contributions

Contribution ID : **1** Type : **not specified**

The electron-ion collider: A collider to unravel the mysteries of visible matter

Monday, 22 April 2024 15:00 (60)

Understanding the properties of nuclear matter and its emergence through the underlying partonic structure and dynamics of quarks and gluons requires a new experimental facility in hadronic physics known as the Electron-Ion Collider (EIC). The EIC will address some of the most profound questions concerning the emergence of nuclear properties by precisely imaging gluons and quarks inside protons and nuclei such as their distributions in space and momentum, their role in building the nucleon spin and the properties of gluons in nuclei at high energies. The polarised EIC beams do not only allow to study the longitudinal and transverse polarized nucleon spin structure, but also to use polarization as a vehicle to access nucleon/nuclei structure difficult to study with unpolarized beams. This presentation will give highlights on the EIC science program, introduce the needed experimental equipment and describe the components of the EIC accelerator critical for the science program. The talk will end summarizing the status of the EIC project.

Presenter(s) : ASCHENAUER, Elke-Caroline (Brookhaven National Lab)

Contribution ID : **2** Type : **not specified**

Synergies between the Electron-Ion Collider and the Large Hadron Collider experiments

Monday, 24 June 2024 13:00 (60)

After a brief introduction to the Electron-Ion Collider (EIC) and the Joint ECFA-NuPECC-APPEC Activity on "Synergies between the Electron-Ion Collider and the Large Hadron Collider experiments", I will go into examples of such synergies, focusing mostly on the QCD related ones: parton densities of protons and nuclei, quarkonium production, transverse momentum dependent parton distributions (TMDs) and generalized TMDs, double parton scattering and diffraction. Other synergies for electroweak and BSM studies and with astroparticle physics will also be touched upon briefly.

Presenter(s) : BOER, Daniël (University of Groningen)