Contribution ID: **180** Type: **Oral presentation**

Physics opportunities at the MEIC at JLab

Wednesday 30 April 2014 14:40 (20 minutes)

The Electron-Ion Collider (EIC) is envisioned as the next-generation US facility for exploring the strong interaction. The Medium-energy EIC (MEIC) is the first stage of the EIC at Jefferson Lab (JLab), designed to support the full program for the generic EIC, aimed at mapping the spin- and spatial structure of the quark and gluon sea in the nucleon, understanding the emergence of hadronic matter from color charge, and probing the gluon fields in nuclei. The kinematic coverage of the MEIC will on one end connect to JLab 12 GeV, and on the other to HERA (or a future LHeC).
In order to achieve these goals, the accelerator is designed to provide high performance for polarized protons, deuterons, and other light ions, as well as different species of heavy ions, and will accommodate a full-acceptance detector able to measure the complete final state. In particular, it will tag spectators with a resolution « than the Fermi momentum, catch all nuclear and partonic target fragments, and to provide a wide coverage in -t for recoil baryons from exclusive (diffractive) reactions at all beam energies. The combination of a high luminosity, polarized lepton and ion beams, and detectors fully integrated with the accelerator will make the EIC a quantum leap in our understanding of the fundamental structure of matter.

Primary author: NADEL-TURONSKI, Pawel (Jefferson Lab)

Presenter: NADEL-TURONSKI, Pawel (Jefferson Lab)

Session Classification: WG7: Future experiments

Track Classification: WG7: Future experiments