

Abstract Submitted
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Forward Tracking with the JLab/MEIC Detector Concept¹

CHARLES HYDE, Old Dominion University, JLAB/MEIC DESIGN TEAM — At a future electron ion collider (EIC), the quark-gluon structure of the NN force can be probed in *e.g.* deeply virtual exclusive scattering on a tensor polarized Deuteron and diffractive DIS on the deuteron with tagging of the NN final state. The MEIC design includes two Interaction Points (IPs), each of which can operate simultaneously at full luminosity. The detector and beam-line optics for IP1 are designed to be nearly hermetic for all particles outside the presumed 10-sigma admittance (longitudinal and transverse) of the figure-8 accelerator lattice. The integration of the IP1 detector with the lattice extends 40 m downstream of the IP in both the electron and ion directions. The central region of the detector is a new 4 m long 3 m diameter 3 Tesla solenoid. Analysis in the forward ion direction is enhanced by the 50 mrad crossing angle at the IP, and a two-stage spectrometer integrated into the first 36 m of the accelerator lattice. In this talk I will present the optics and resolution of the forward ion spectrometer, including resolution effects of an initial beam pipe design.

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