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ECCE forward physics and detector design

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The proposed ECCE detector at the future Electron-Ion-Collider (EIC) at Brookhaven National Laboratory is a physics-driven design concept, meeting and exceeding the EIC physics program requirements.
To gain further insights on the partonic structure of the nucleon, jets in the hadron-going (forward) direction provide an excellent probe.
They provide a strong handle on parton kinematics in e-p and e-A collisions and their internal structure can further advance our understanding of the complex hadronization process as well as basic principles of QCD.
Thus, ECCE features highly granular electromagnetic and hadronic calorimetry, as well as high resolution tracking and excellent PID detectors to enable detailed studies of jets and their components.
For this, the appropriate mix of novel and established detector technologies have been selected and their performance have been studied in detail.
In this talk, the performance of the forward detectors and the resulting physics capabilities will be presented, with particular focus on the interplay of tracking and calorimetry.

In-person participation

Yes

Primary author: SCHMIDT, Nicolas (Oak Ridge National Laboratory)

Presenter: SCHMIDT, Nicolas (Oak Ridge National Laboratory)

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