



Contribution ID: 15

Type: **Poster**

Conceptual Design of PID Detectors for the EicC Spectrometer

Monday, September 15, 2025 3:50 PM (1 hour)

The Electron-ion collider in China (EicC) is a proposed future electron-ion collider with a high luminosity above $2.0 \times 10^{33} \text{ cm}^{-2} \cdot \text{s}^{-1}$ and center-of-mass energy ranging from 15 to 20 GeV. Excellent particle identification (PID) with large momentum coverage is crucial for investigating exclusive and semi-inclusive processes, as well as enabling precise 3D imaging of the nucleon structure in the EicC experiment. To meet its PID requirement, the EicC Collaboration has proposed the conceptual design of various Cherenkov detectors, including: DIRC in the barrel region, dRICH in the ion-endcap region, and mRICH in the electron-endcap region. In order to study and optimize their performance, GEANT4 simulation involving advanced optical transmission and image reconstruction algorithms has been conducted.

Author: LI, Xin (Institute of Modern Physics, Chinese Academy of Sciences)

Presenter: LI, Xin (Institute of Modern Physics, Chinese Academy of Sciences)

Session Classification: Poster Session

Track Classification: R&D on Cherenkov light imaging systems for future experiments