Contribution ID: **58** Type: **Poster**

The "xpDIRC" Concept for the Next-Generation DIRC Detector

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

We present the concept of the next-generation DIRC (xpDIRC), a novel detector geometry under development for next-generation particle Identification systems. Building upon the high-performance DIRC (hpDIRC) designed for the ePIC detector at the Electron-Ion Collider (EIC), the xpDIRC introduces a hybrid optical architecture featuring enhanced focusing optics, a wide-plate light guide, and compatibility with alternative photosensors, including promising SiPM technologies. This contribution summarizes recent, highly encouraging simulation results and outlines the planned R&D program for experimental validation of the concept.

Author: DZHYGADLO, Roman (GSI Helmholtzzentrum für Schwerionenforschung GmbH(GSI))

Co-author: KALICY, Greg (CUA)

Presenter: DZHYGADLO, Roman (GSI Helmholtzzentrum für Schwerionenforschung GmbH(GSI))

Session Classification: Poster Session

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