

CERN-EIC synergies for Cherenkov PID

 Tuesday 25 Apr 2023, 14:30 → 18:30 Europe/Rome

 2/R-030 (CERN)

Description zoom link: <https://cern.zoom.us/j/62638487833?pwd=emJKSmdDeUIRYS9ITnJvdENwM0h1dz09>

WELCOME to all the interested colleagues

- **Local attendance**
- **Remote attendance**

Thank you to the LHCb and ALICE colleagues who kindly accepted the invitation to present their R&D at this meeting

MOTIVATIONS

- Cherenkov imaging techniques are mostly needed for:
 - **Flavour physics**
 - **Hadron physics**
 - The agenda of the RICH 2022 workshop as a reference (<https://indico.cern.ch/event/1094055/>)
- Among the main future efforts in these fields of Physics
 - the continuation of LCHb, upgraded for the higher rates at LHC and LHC-HL
 - The novel experiment known as ALICE 3
 - EIC and its project experiment ePIC
 - All these project requiring new/upgraded counters for PID

MAJOR OPEN QUESTIONS

- New approaches for the single photon detection
 - Photon detection has been, since always, one of the crucial and critical items for the RICHes
 - Today's new challenges:
 - Fine time response to cope with high rates
 - Operation in stronger intensity magnetic fields (4π -acceptance)
 - Resolution improvements
- Overcoming the fluorocarbon scenario
 - Environmental consideration and practical consequences
- Lighter mirrors
 - Always struggling with material budget

GOALS

- Exchange of information
- Understand the space and interest for joint efforts in working-out the R&C completion and the engineering of the counters

- 14:30** → 14:40 **Welcome and introduction**
Speaker: Silvia Dalla Torre (Istituto Nazionale di Fisica Nucleare)
- 14:40** → 15:10 **Plans and developments for Cherenkov PID upgrade at LHCb**
Speaker: Floris Keizer (CERN)
- 15:20** → 15:50 **Plans and developments for Cherenkov PID upgrade for ALICE 3**
Speaker: Antonello Di Mauro (CERN (Geneva, Switzerland))
- 16:00** → 16:20 **Coffee Break**
- 16:20** → 16:50 **Plans and developments for Cherenkov PID at ePIC**
Speaker: Roberto Preghenella (Istituto Nazionale di Fisica Nucleare)
- 17:00** → 17:40 **General discussion**