

Timelines & deadlines

- Collaboration review with assistance from external reviewers
 - EPIC GD/I conveners + up to 4 external reviewers + (TBD)
EPIC DAQ convener
- Date: March 20-21, 2023
- **GD/I meeting to discuss progress on January 30**

As we advertised in the collaboration meeting, this GDI meeting will follow up on the preparation towards the March EPIC collaboration review on dRICH. We kindly ask you to present your work **plan and current status.** Any preliminary results on the requested information are welcome but not necessary. Please let us know if you have any questions, as well anything GDI WG could help you in the preparation.

-> Our internal deadline should perhaps be March 3rd

This meeting

- Go through the charge, item by item
- (Re)identify the activities and responsible people
- (Re)establish the deadlines

- “Agree” on the message to the GD/I meeting next Monday
- Fold the report writing process into the preparations to the March review

March review details

1. Reminder of the proposed **detector configuration** for the use in the ePIC detector.
2. **Input information:**
 1. Pertinent **information on similar technology/design** that is used by other experiments or R&D efforts (example references could be literature or conference talks).
 2. **Prototypes and their tests:** done so far, ongoing effort, future planning (with timelines); results from prototypes and their tests
 3. **Simulation studies:** already performed, ongoing and planned (with timelines); results from the simulations; particular care in (i) showing how realistic the parameters used in simulations are and (ii) reporting what is missing for a fully realistic simulation (backgrounds, specific event categories, ...) (iii) Does the simulation take into account the **realistic response of the selected photosensors and related FEE?**

BNL
INFN
MSU

Chandra & AK

March review details

3. Performance:

1. Comparison of the **present assessment of the Cherenkov PID detector performance compared with the YR requirements?**
2. Performance perspectives **beyond the YR requirements (if any) ?**
3. **Efficiency** figures: single particle Pi/Kaon/Proton identified as Pi/Kaon/Proton as a function of the truth momentum in a 3x3-panel figure?
4. **Please quantify the performance for electron/hadron separation**
5. **Active area** or /dead area as 2D function of eta and phi; and comment on the edge effects?
6. **Performance or potential as timing detector, providing both timing resolution and acceptance coverage in eta and phi.**
7. **Under the coordination of the SIDIS working group, provide Kaon Purity in the kinematic region of (x. .. Q2...) via parameterized hadron PID performance.**

Kong

Jan

Chris

Brian

Chandra & AK

March review details

4. Aerogel Radiator

1. Status of **radiator selection**
2. **Status of the radiator** development and related potential issues?
3. **Perspectives of radiator mass production** and timelines for the production period?

5. Sensors and FEE:

1. Status of **photosensor selection** (a single consolidated option, more options under consideration); please provide photo sensor and pixel segmentation characteristics?
2. **Status of the sensor** development and related potential issues?
3. **Perspectives of sensor mass production** and timelines for the production period?
4. **Characteristics of the ASIC and FEEs** considered?
5. Status of **FEE identification** (a single consolidated option, more options under consideration)? Present a plan for realization on the FEE development in the context of technology choice and in conjunction with the project.
6. Status of the **FEE development** and related potential issues?
7. Perspectives of **FEE mass production** and timelines for the production period?

AK
(Marco,
Beni)

Silvia, Thomas, AK, TBD

March review details

Alex,
AK

TBD

6. Integration:

1. **Status of the proposed detector integration** into the current baseline detector?

1. z-space and effect to tracking: in coordination with the tracking DWG, produce backward momentum resolution for the tracker that fit into the z-spaced allowed by the proposed RICH detector
2. Material effect to backward EMCAL: in coordination with the calorimeter DWG, produces electron lineshape in the backward EMCAL with the proposed RICH detector in front.

Sasha

2. Status of the **design of the electrical/electronic infrastructure** (channels, power supplies, heat, rate)?

3. **Cooling strategies?**

TBD

7. **Workforce:**

1. **List of groups** engaged in the proposed detectors and of other groups potentially interested;
2. **Workforce needed with timelines and qualification of the required professional profiles;** please, include also physicists needed for dedicated simulation studies;
3. **Available workforce** (specifying: granted, expected, possible) by the groups proposing the detector;

Thomas (?),
AK (?)

8. **Cost and scheduling:**

1. up-to-date cost estimate for the different components and expenditure categories;
2. In-kind contributions (specifying: granted, expected, possible).
3. Envisioned schedule for full scale production

Silvia (?)

9. **Envisioned risk and risk mitigation strategy**

Other topics & groups

Zhengqiao

- HRPPDs in the magnetic field [+ lifetime estimates]

Thomas, Kong

- Proposal drafting
- MSU (Sanghwa), SBU (Henry) -> pick up your contributions & commit!