TC-office Report

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ePIC General Meeting, August 9, 2024

Coming TIC Meetings,

schedule

September 2024

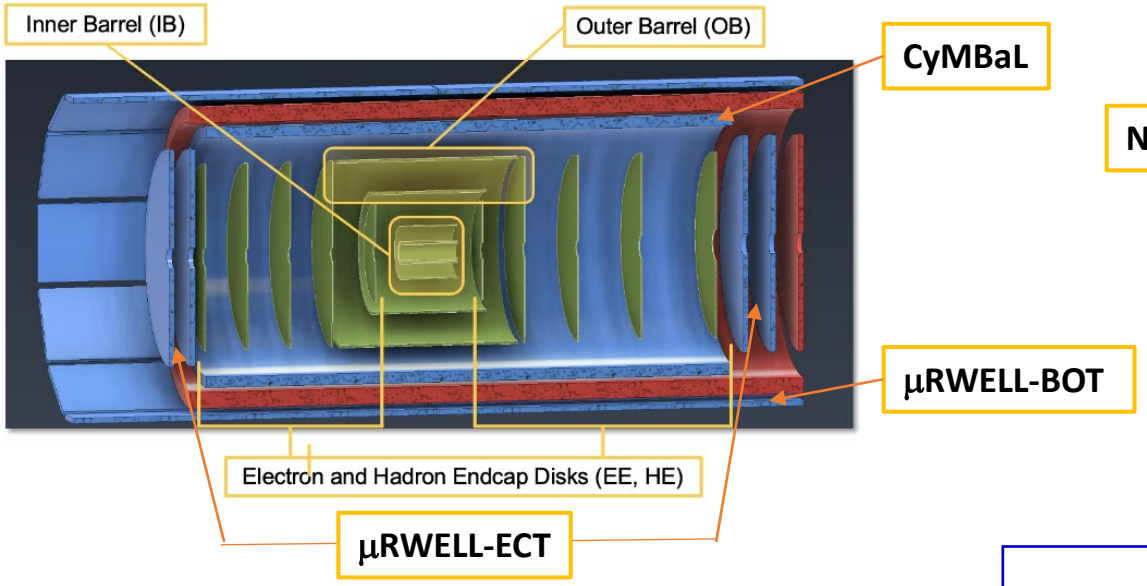
- 30 Sept TIC meeting - TDR effort, progress (electr./r-o/DAQ) NEW
- 23 Sept TIC meeting - TDR effort, progress (Calorimetry) NEW
- 16 Sept TIC meeting - TDR effort, progress (FB) NEW
- 09 Sept TIC meeting - TDR effort, progress (FF); background studies:SR NEW
- 02 Sept TIC meeting - CANCELLED - Labor Day (USA) NEW

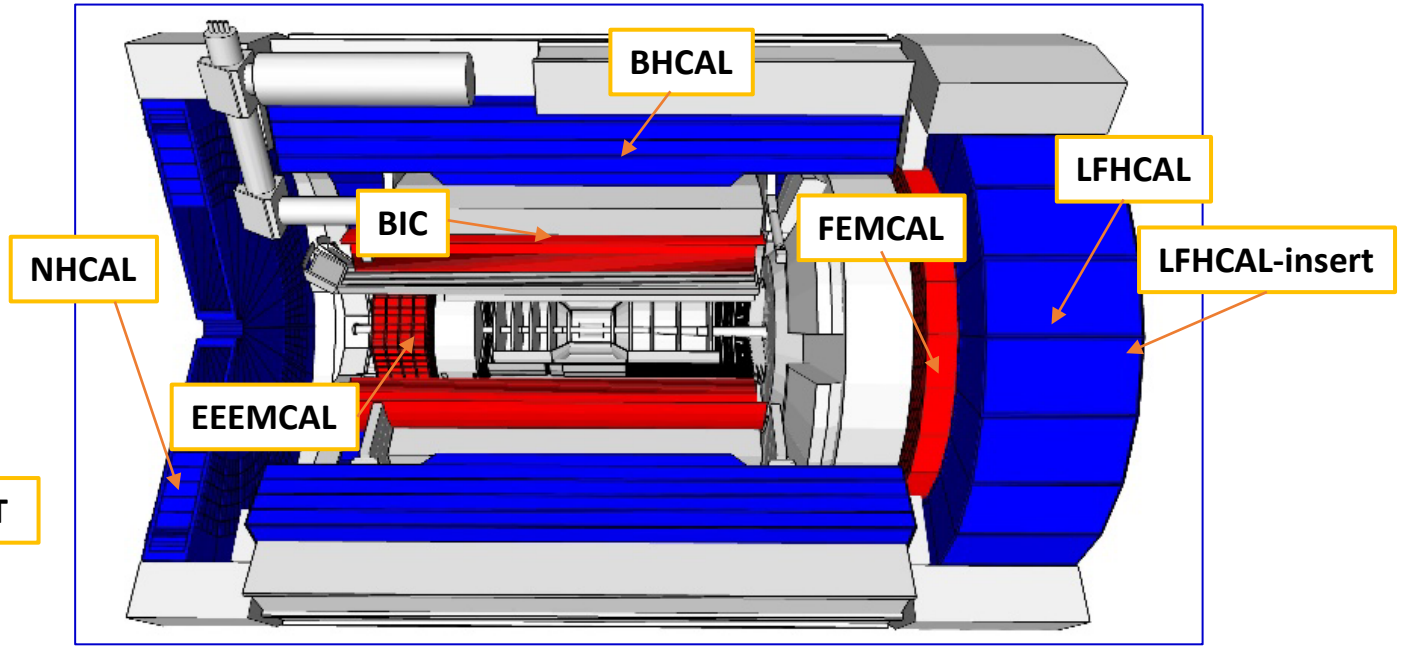
August 2024

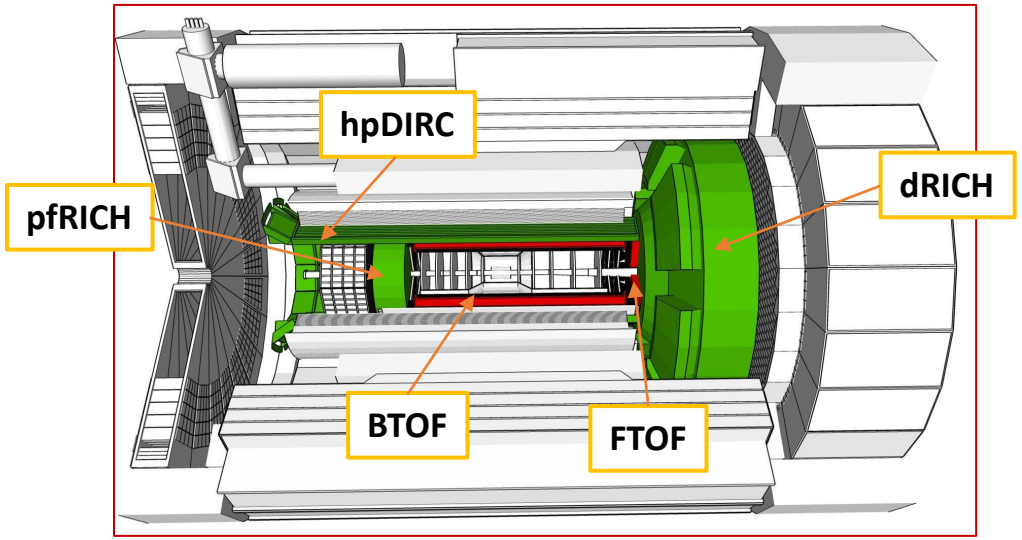
- 26 Aug TIC meeting - TDR effort, progress (PID); pfRICH prototype NEW
- 19 Aug TIC meeting - TDR effort, progress (tracking); uRWELL-BOT resolution
- 12 Aug TIC meeting - CANCELLED - major holiday in Europe
- 05 Aug TIC meeting - TIC organization aspects

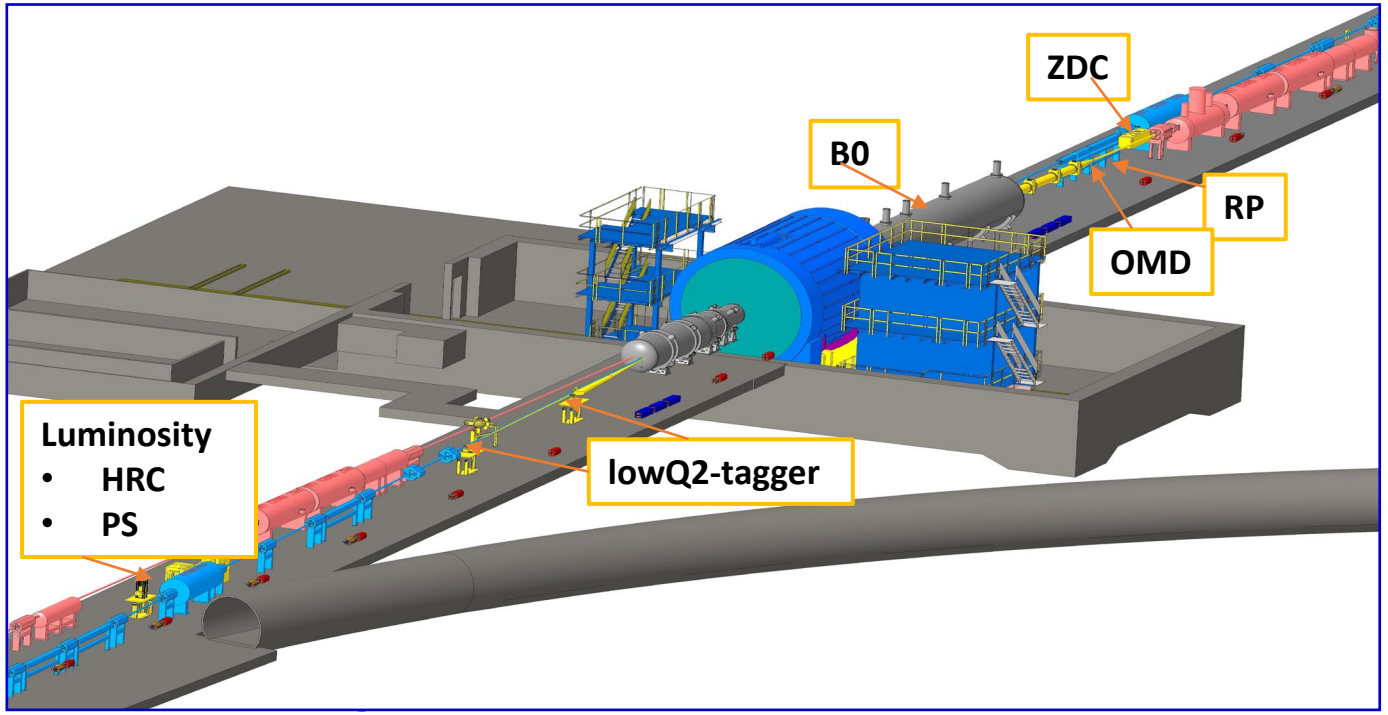
DSC-names

Subsystem names



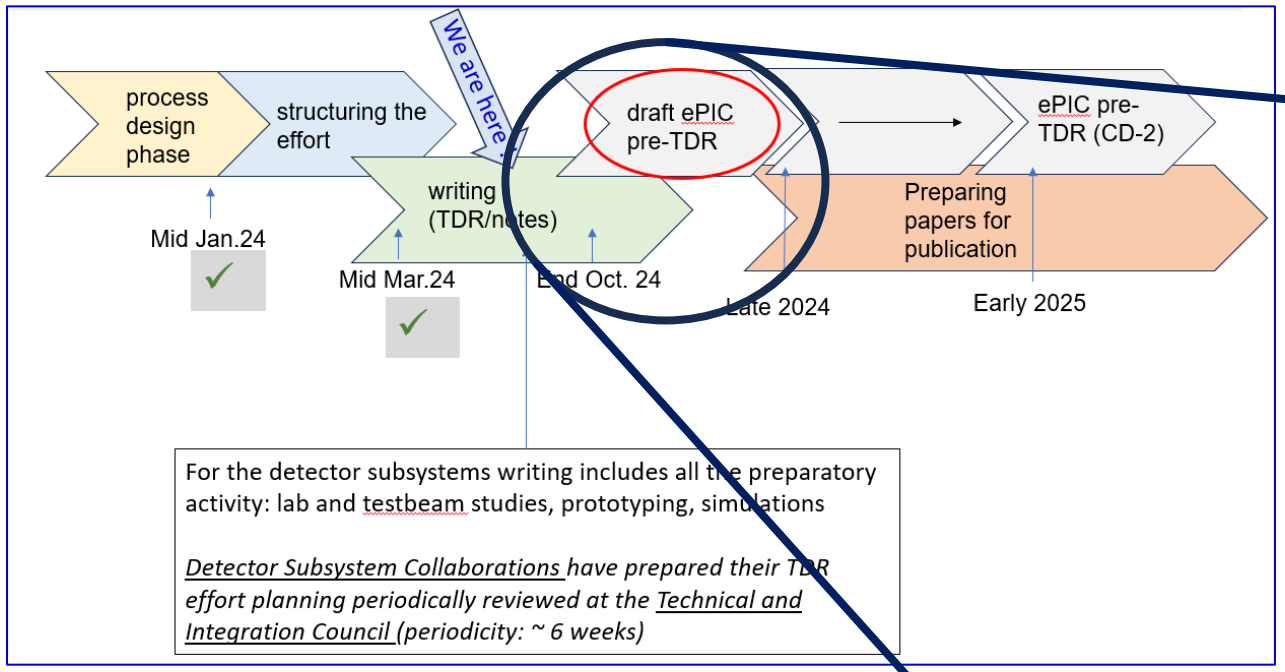






preTDR drafts
Version0
Version1

Schedule



ZOOMING

2 preTDR draft versions in 2024

- **Version0** by **September 29** available in overleaf (*)
- During October 2024, internal review process!
  - Recommendations to be integrated in Version1
- **Version1** **by December 1** available in overleaf (*)

(*) about overleaf more in the coming slides

preTDR – Version0 & Version1

Only 2 preTDR draft versions in 2024 to minimize the load in view of the end-of-year “milestone”

- **Version0** by **September 29**
  - All preTDR text is there, even if it can be in a rough version
  - Additional material: planning required, part already in
  - Plots for Version0 can make use of a scattered set of simulation campaigns

- During October 2024, internal review process!
  - Recommendations to be integrated in Version1

- **Version1** **by December 1**
  - More refined text
  - Recommendations form the internal review have to be integrated
  - The additional material expected, it can still be in a rough text version
  - Plots for Version1 make use of the **October simulation campaign**
  - Version1 is the material that will be used for the Jan. 2025 DOE OPA review

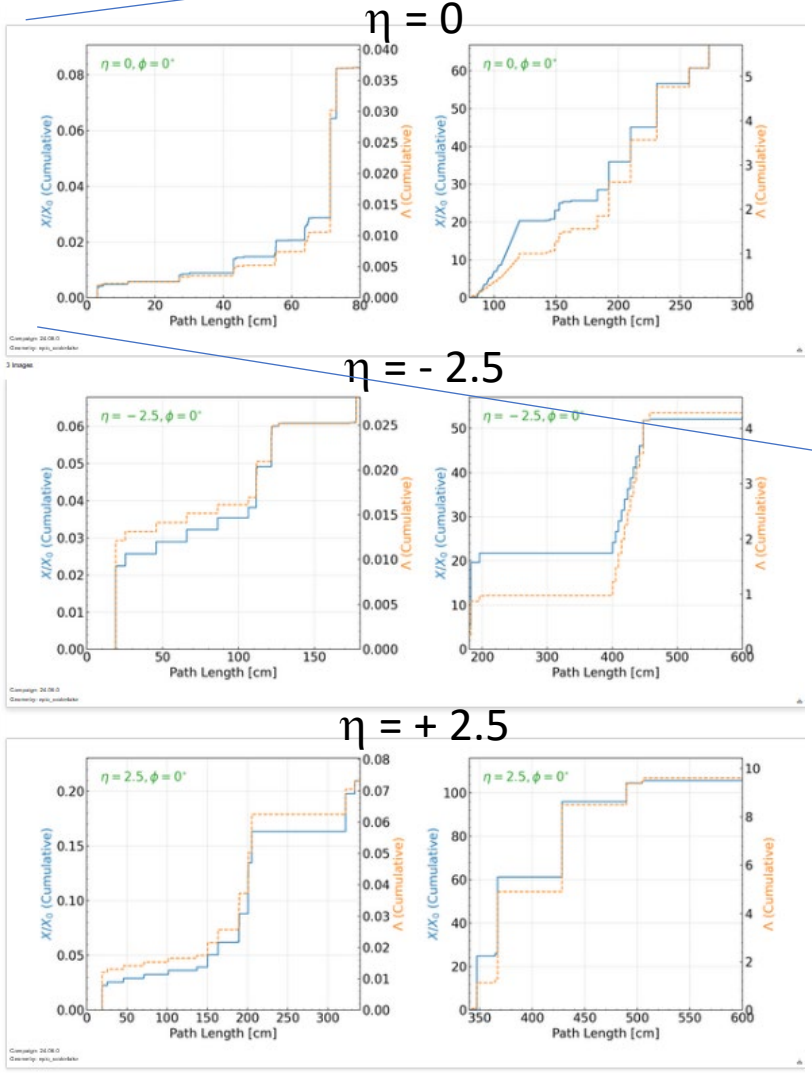
PLOTS to follow the evolution of the ePIC design

Also extremely useful for the preTDR

Integrated material budget (https://eic.jlab.org/epic/image_browser.html)

Special thanks to Torri Jeske and Chao Peng

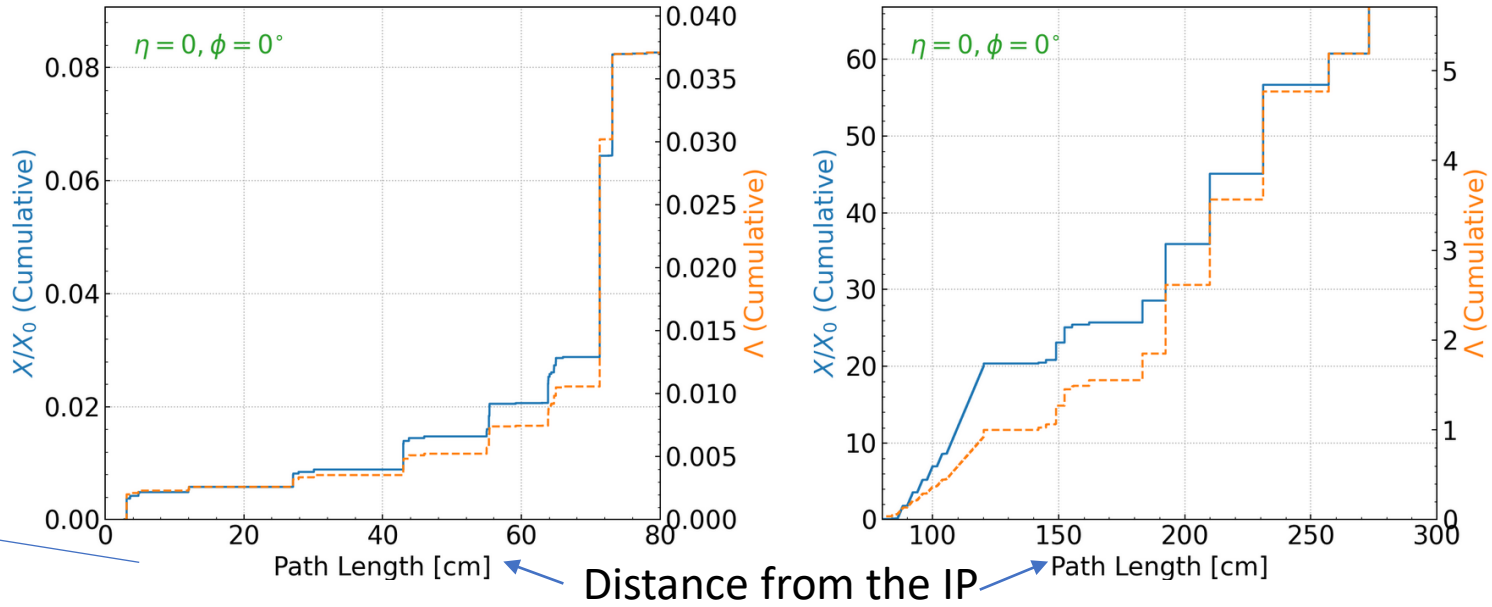
Already implemented



From IP to ECal front-face

η = 0

In the calorimeter region

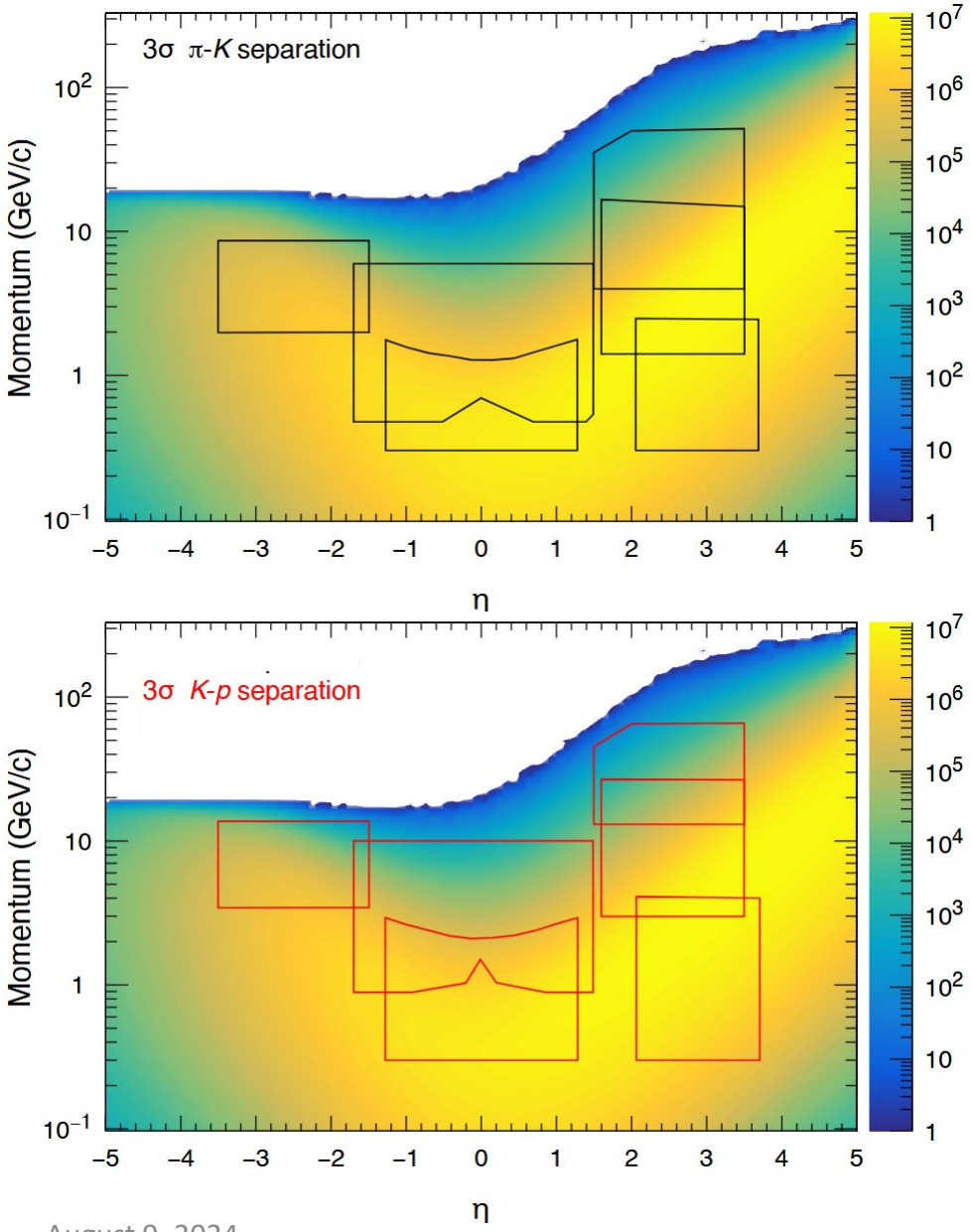


Coming soon:

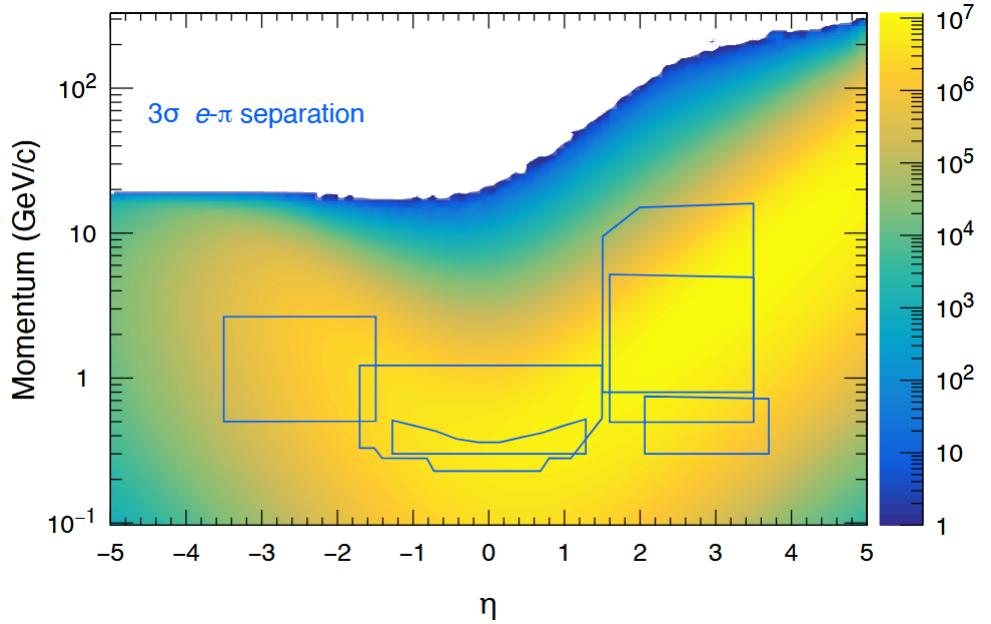
- 2-D plots with material budget integrated along the path length in the plane (path length, η)
- Adding to the 1-D plots (as those you are seen here) the detector location taking it from the geometry parameters as implemented in DD4hep

Detector acceptances: PID *preliminary* already there

Special thanks to Thomas Ullrich and PID DSCs



Already implemented



Coming soon:

- PID from pfRICH time information
- Further cross-checks and refinements

Detector acceptances: in the pipeline …

Coming soon:

- **Tracking:** geometrical acceptance (definition: at least 3 tracking devices crossed) versus η for 3 given p_T values;
- **Calorimetry:** geometrical acceptance (= incoming particle starts showering in the calorimeter device, disregarding which is the fraction of the shower which is contained in the calorimeter) versus η for 3 given p_T values .

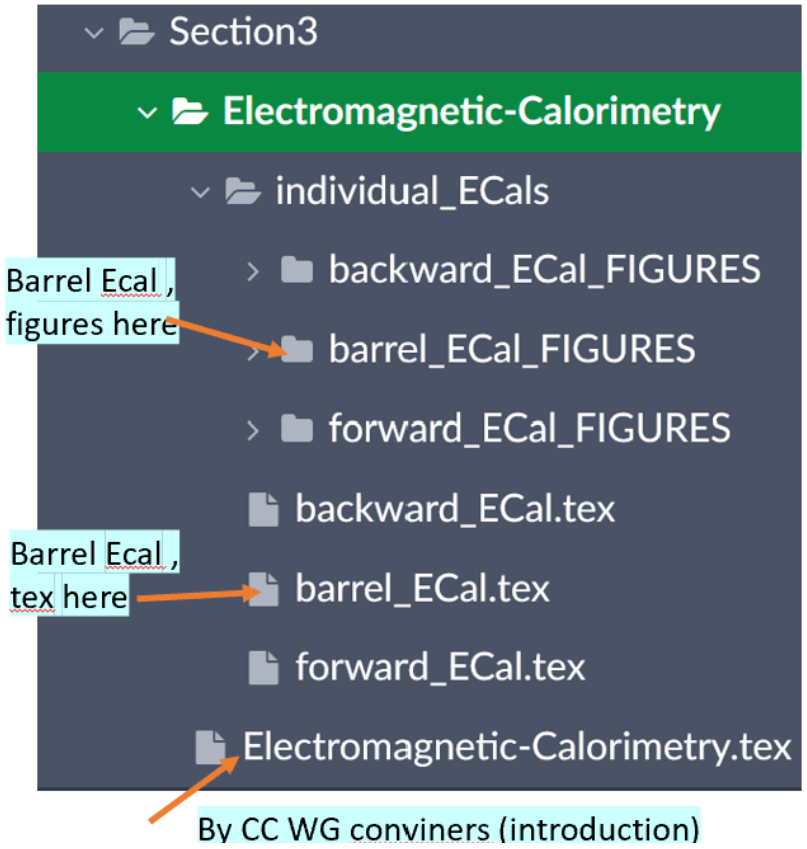
Following steps:

- **They will be suggested by the outcomes of the first round of plots.**

Backup slides

Selected (pre)TDR frame: overleaf

- **Acknowledging the overleaf project creation by Douglas Higinbotham**
  - Also supported by his collaborator Anil Panta
- **DSC contributions are included in the chapter/section 8.3**
- **Preparing the frame in overleaf for the DSC material**
  - Authorized for text editing
    - DSLs, DSCTs
    - CC WG conveners
  - Technical aspects
    - the project is structured so that, while progressing in your editing, you do not need to recompile the whole of it at each step: recompiling a subsection is enough;
    - Directories organize to facilitate the parallel work of the various CC WGs/ DSC



preTDR – overleaf frame for detectors, cont.

- **The structure discussed at 2 ePIC General Meetings and finally approved is in: please, preserve it!**

8.3.5.2 The barrel electromagnetic calorimeter

Requirements

Requirements from physics: Add text here.

Requirements from Radiation Hardness: Add text here.

Requirements from Data Rates: Add text here.

Justification

Device concept and technological choice: Add text here.

Subsystem description:

General device description: Add text here.
Sensors: Add text here.
FEE: Add text here.
Other components: Add text here.

Implementation

Services: Add text here.

Subsystem mechanics and integration: Add text here.

Calibration, alignment and monitoring: Add text here.

Status and remaining design effort:

R&D effort: Add text here.
E&D status and outlook: Add text here.
Other activity needed for the design completion: Add text here.
Status of maturity of the subsystem: Add text here.

Environmental, Safety and Health (ES&H) aspects and Quality Assessment ning: Add text here.

Construction and assembly planning: Add text here.

Collaborators and their role, resources and workforce: Add text here.

Risks and mitigation strategy: Add text here.

Additional Material Add text here.

- The length each DSC subsection is expected to be within **10-15 page** → **Executive summary format**

BUT

- **Additional Material, as wide as needed;** all the extra material exceeding the compact format of the pre-TDR document. At a later time, this extra material, which can be abundant, will be moved in appropriate **Appendices**.