Wire Chamber + Dual Readout Discussion

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Return Yoke/Return Solenoid?

Dual Readout HCAL

Solenoid: thickness, material

PS/ECAL: Structure, thickness, space reserved for Readout?

Silicon External tracker?

Wired Chamber: R & Z?

VTX + FTDs, CEPC_v1 layout?

DQ0 + FCAL

Calorimeter: how to segment dual-readout?

Avoid geometry complex/defect in the first iteration.

Descartes or projective segmentation?
Longitudinal Segmentation?

Question & List of parameters

- Name?

  - A FCC/CEPC Detector with Wire chamber and Dual readout Calorimeter

- Inner to be same to CEPC_v1 – OK?

- Wire Chamber: B & Z, Distance(Wire Chamber, ECAL) in Z direction

- Need Silicon External Tracker ?

- Calo – Solenoid Order?

- ECAL: Sampling, Crystal Or Dual Readout ?

  - Material, Thickness, Dis(ECAL, Cole/HCAL)

- HCAL:

  - Thickness

- Need return solenoid & Yoke?

Requirement & Task sharing

- Simulation code should

    - Supporting the geometry scaling & Segmentation configuration

    - Easily integrated to Mokka/DD4HEP – LCIO

- Validation by Hit Map & Material budget Map

- Task sharing:

    - Chamber geometry: Leech + Chengdong

    - Calorimeter: Dual-Readout – Seh Wook

    - Integration & Validation: Chengdong + Seh Wook

- A preliminary release (Calo only) at April meeting (19th - 21st)?

Remarks

- Personal preference:

    - Performance oriented: in a ideal/costly case

    - Performance on a few physics case should be clarified (mid-term goal)

- Compare the different configurations:

    - Identify-avoid potential show stoppers (feasibility)

    - Make a pro-con table – and quantify its contents in later studies

- Simulation of the Calorimeter should be the first milestone, and should move with the full speed

   - Flexibility & integrability

Back up
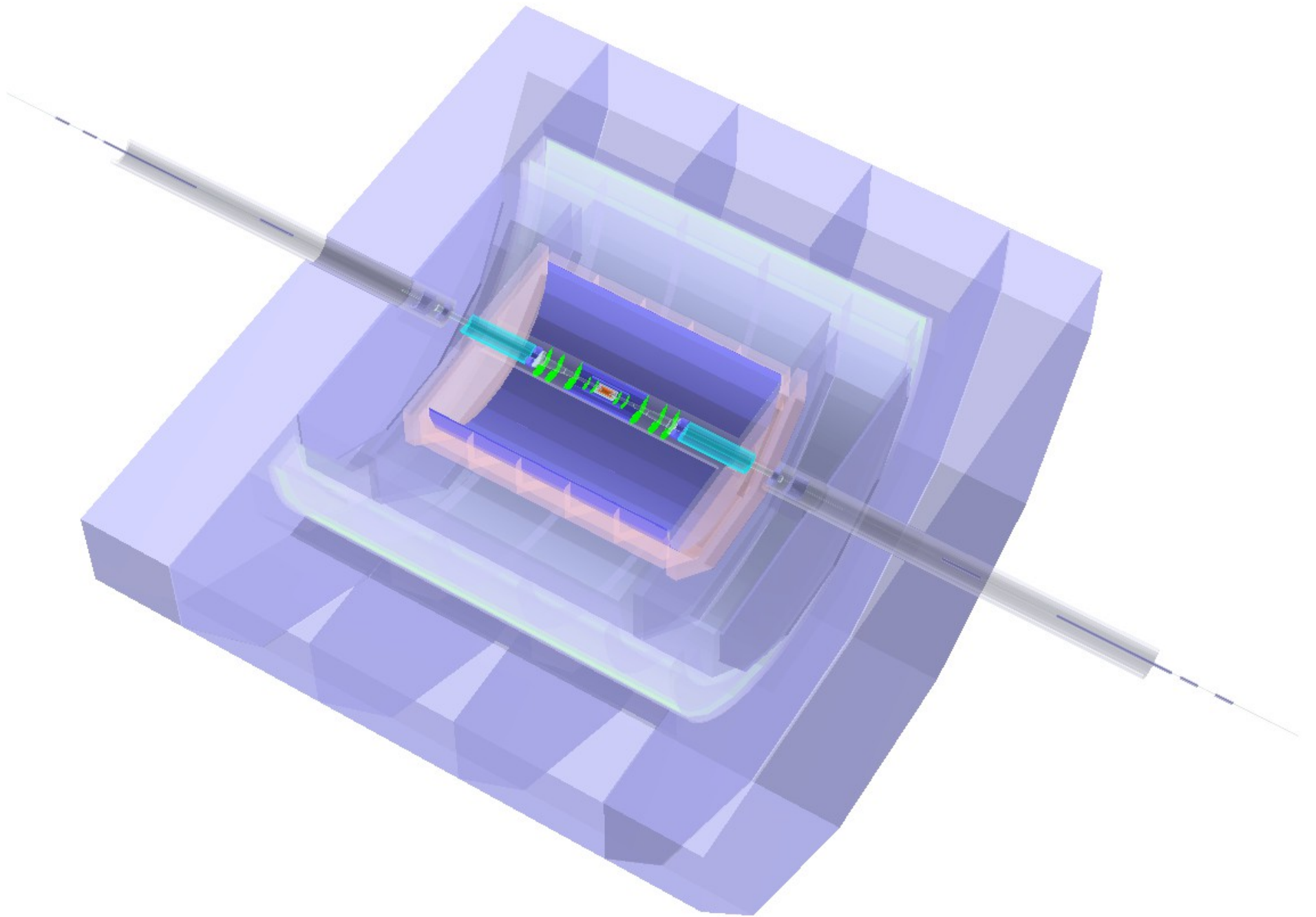
Geometry tools

C. Fu: **Simplified** Calorimeter geometry, applied to both CEPC & SPPC Detector design
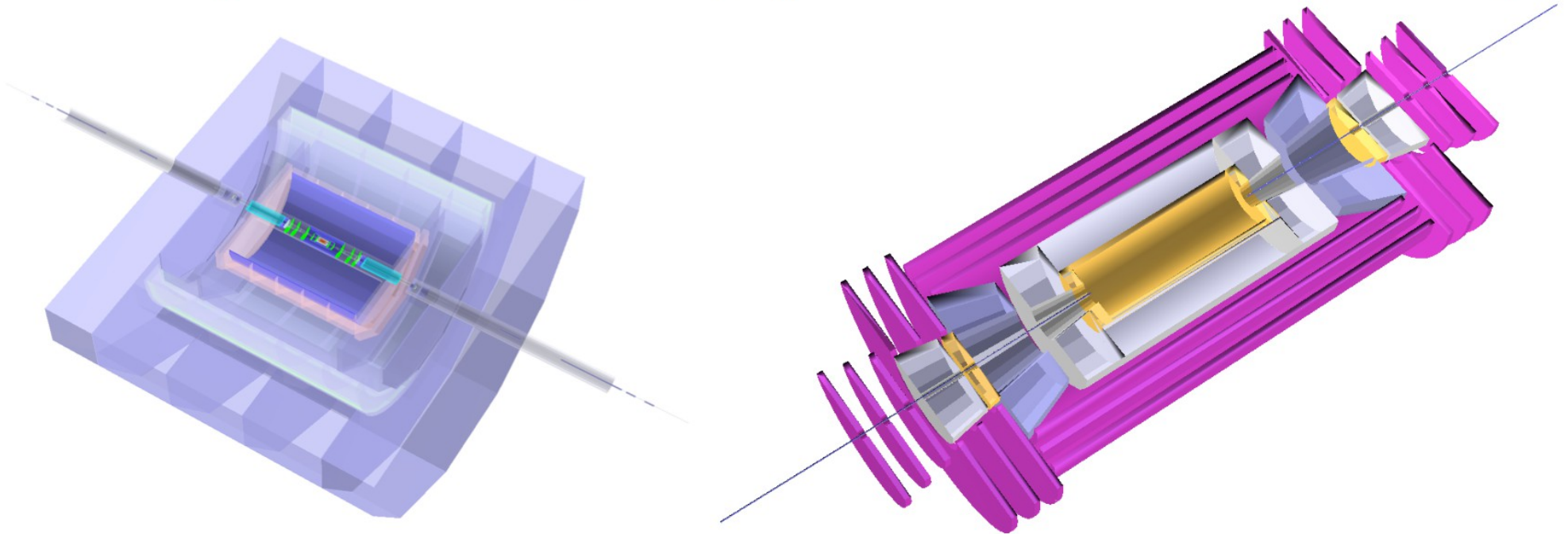
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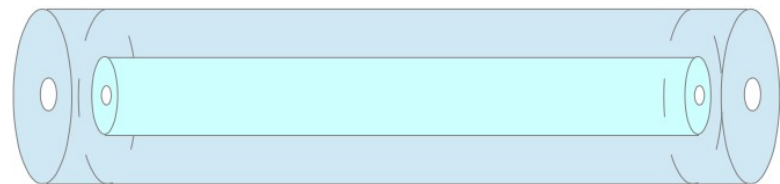
*Defect free, deep ECAL style
SPPC Conceptual detector*