

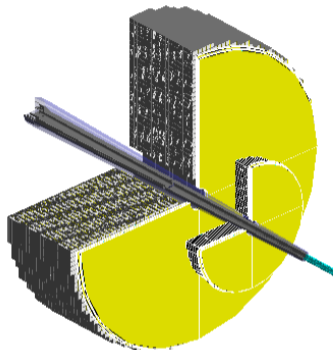
ECCE Calorimeter Options

ECCE IB Meeting

May 10, 2021

**Friederike Bock & Yongsun Kim
ORNL & Sejong University**

Backward calorimetry options



Options for E-Cal:

- PbWO_4 - crystal calo
- Sci-Glass calo
- Hybrid PbWO_4 and Sci-Glass calo

Interested Groups:

AANL, Charles U. Prague, CUA, FIU, IJCLab-Orsay, JMU, Lehigh U., MIT, UKY

Options for H-Cal:

- Re-use STAR-forward HCal
- new PSD (SHINE) like - HCal (longitudinal separation)

Interested Groups:

ORNL, Wayne State, OSU

Many open questions:

- Do we want/ can we afford timing layers in front/in between calorimeters?
- Where exactly do we place the calorimeters?
- Are the YR requirements for the HCal correct ($45/\sqrt{E} + 6\%$)?
- Manpower for HCal?

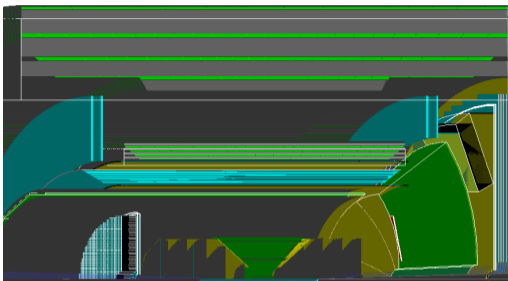
Barrel calorimetry options

Options for E-Cal:

- PbWO_4 - crystal calo
- Sci-Glass calo
- Re-use sPHENIX EMC

Interested Groups:

MIT, CUA, OSU



Options for H-Cal:

- Re-use sPHENIX HCal
- ?

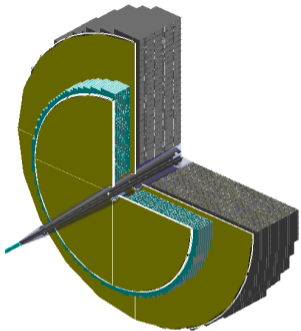
Interested Groups:

Lehigh U., Rutgers U., ISU

Many open questions:

- Do we want/ can we afford timing layers in front/in between calorimeters?
- Are resolutions of the sPHENIX calorimeter good enough?
- How low in R can we go without impacting the PID detectors?
- Are there other options for the HCal?
- Man-power to build ECal?

Forward calorimetry options

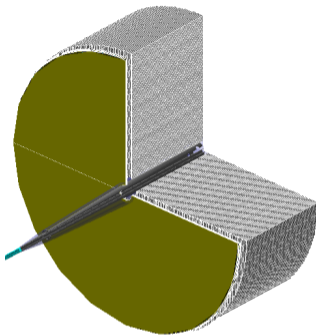


Options for E-Cal:

- Re-use PHENIX Shalik-E-Cal
- Other re-use or new E-Cal
- Dual read-out

Interested Groups:

ORNL, Sejong U., KNU, Yonsei U., PNU

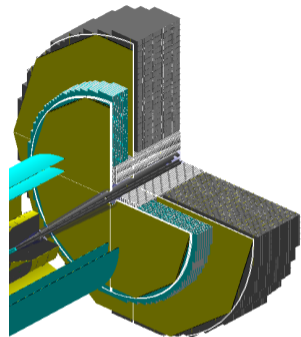


Options for H-Cal:

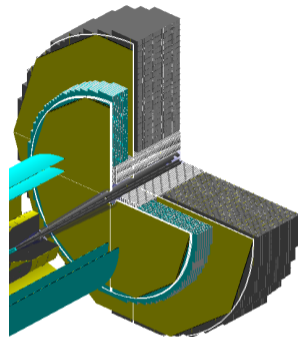
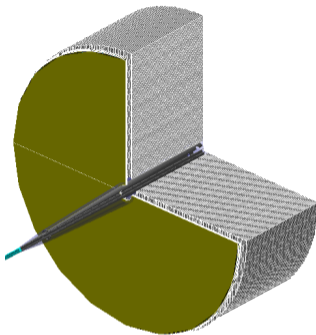
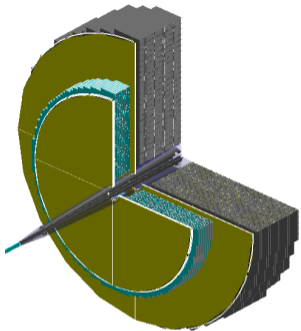
- Re-use STAR forward HCal
- new PSD (SHINE) like - HCal (longitudinal separation)
- Dual read-out
- Hybrid Dual read-out & re-use

Interested Groups:

ORNL, WSU, Sejong U., KNU, Yonsei U., PNU



Forward calorimetry options



Many open questions:

- Do we want/ can we afford timing layers in front/in between calorimeters?
- Can we fulfill the YR requirements with conventional HCals?
- Will Dual readout be ready in time?
- Can we afford a hybrid version or full dual readout calo?
- Which other options do we have for the ECal?

Participate in these important decisions!

- **Contact us:**

Yongsun Kim - kimy@cern.ch

Friederike Bock - friederike.bock@cern.ch

- **Mattermost channel:**

[Fun4All-Calorimeters](#)

- **Doodle poll for meetings:**

[link](#)

