

# Detector Team Update

25 October 2021



# ECCE Detector Team Updates

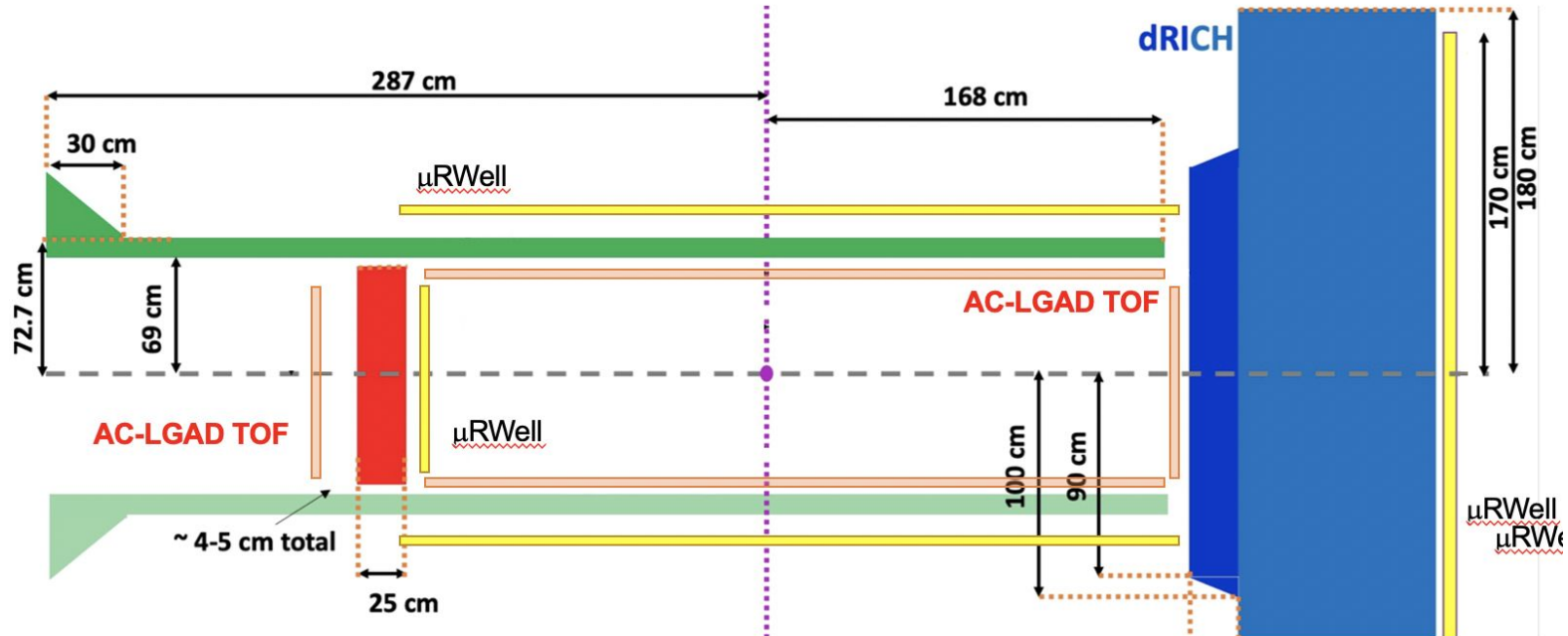
- ECCE detector configuration optimized and now recommended as “final”. ✓
- Detector Geant4 and SketchUp model locations accurately reconciled. ✓
- ECCE Cost & Planning:
  - Data for almost all subsystems collected, entered into Primavera, and reports generated. ✓
  - Input data and output reports stored in dedicated SharePoint site with read/write-access to all co-covenanters. ✓
  - Global cost information, in-kind fractions, etc. available. ✓
  - Overall production schedule (with critical path) available within a week.
  - “Marathon Day” review of all of ECCE Cost & Planning planned for November 4.

# ECCE Detector Configuration Finalization

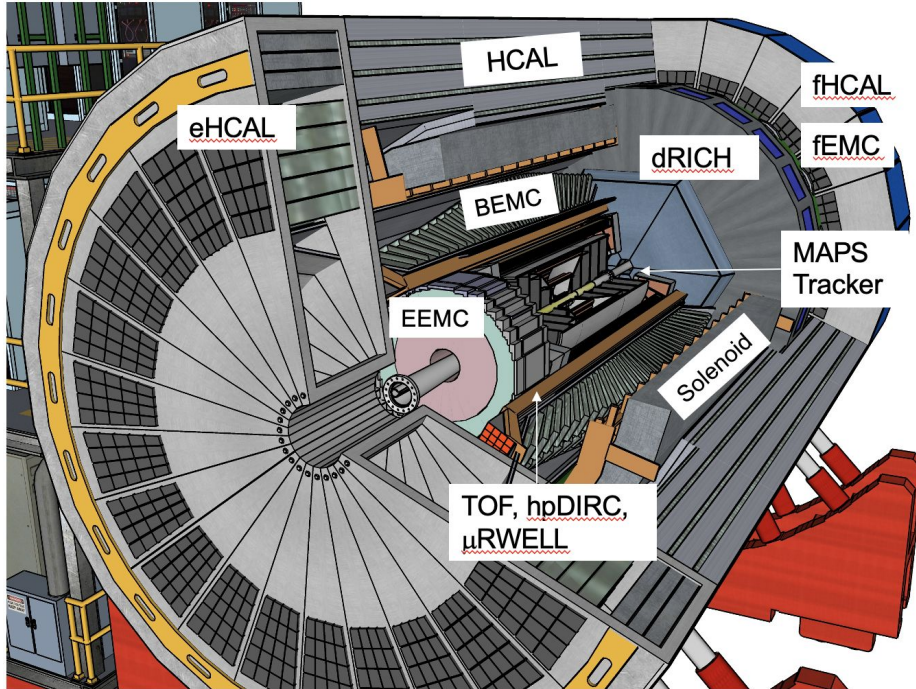
- ECCE Detector Location meeting held to review substem positions and locations in the Geant4 and SketchUp models:
  - <https://indico.bnl.gov/event/13448/>
  - Attended by multiple DWG conveners, SC, and multiple others.
- Geant4 and SketchUp models reconciled.
- ECCE Forward TOF “Summit” held to compare alternate TOF solutions:
  - <https://indico.bnl.gov/event/13564/>
  - Performance, spatial extent, and cost advantages compared for MRPCs and AC-LGADs.
- Ultimately, **reduced-area AC-LGAD configurations** were determined to be the optimal technical solution given the spatial constraints, performance requirements, and budget. (See intro presentation today.)

# ECCE Detector TOF Configuration

Schematic of ECCE PID and outer tracking:



# ECCE Detector Configuration



Barrel: ITS3 MAPS Si, AC-LGAD, hpDIRC, MPGD  $\mu$ RWELL, SciGlass ECAL, Fe/Sc HCAL (sPHENIX re-use)

Backward (electron direction): Si, MPGD  $\mu$ RWELL, modular-RICH, AC-LGAD, PbWO<sub>4</sub> crystals ECAL, Fe/Sc HCAL (STAR re-use)

Forward (hadron direction): Si, AC-LGAD, dual-RICH, MPGD  $\mu$ RWELL, Pb/ScFi shashlik ECAL, longitudinally segmented HCAL

Far forward: B0, Off-momentum detectors, Roman Pots, ZDC

Far backward low: low  $Q^2$  taggers, luminosity monitor



**TIME  
TO  
WRITE**

Please keep writing! Drafts were due Oct. 18 and all overleaf notes have made progress; but please make sure key information is in ASAP. Big picture goals are to have an ECCE proposal draft together the week of Nov. 1st and the proposal must be submitted on Dec. 1st.



# BACKUP



