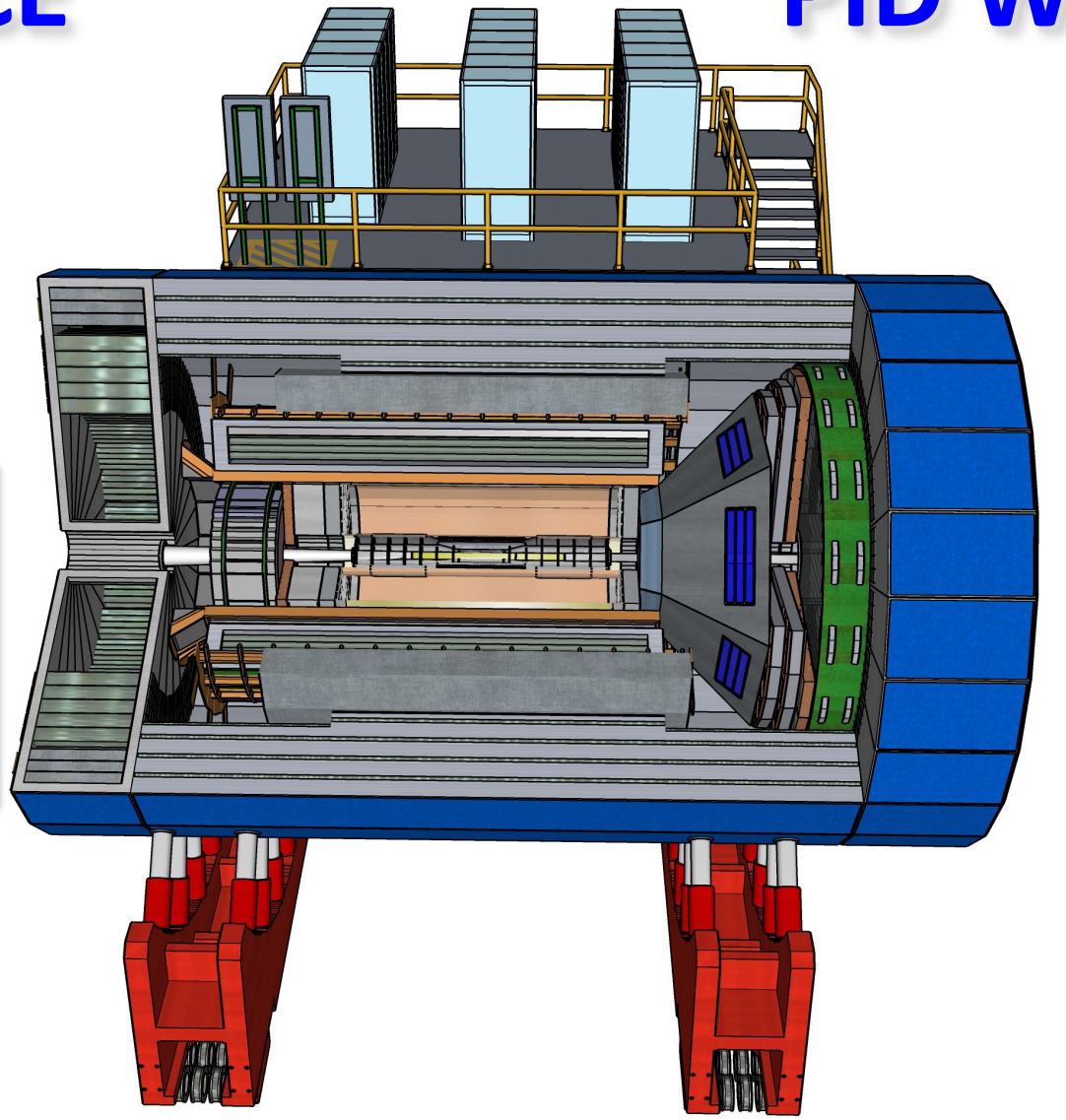
PID@ECCE

PID WG Meeting



Greg Kalicy — CUA

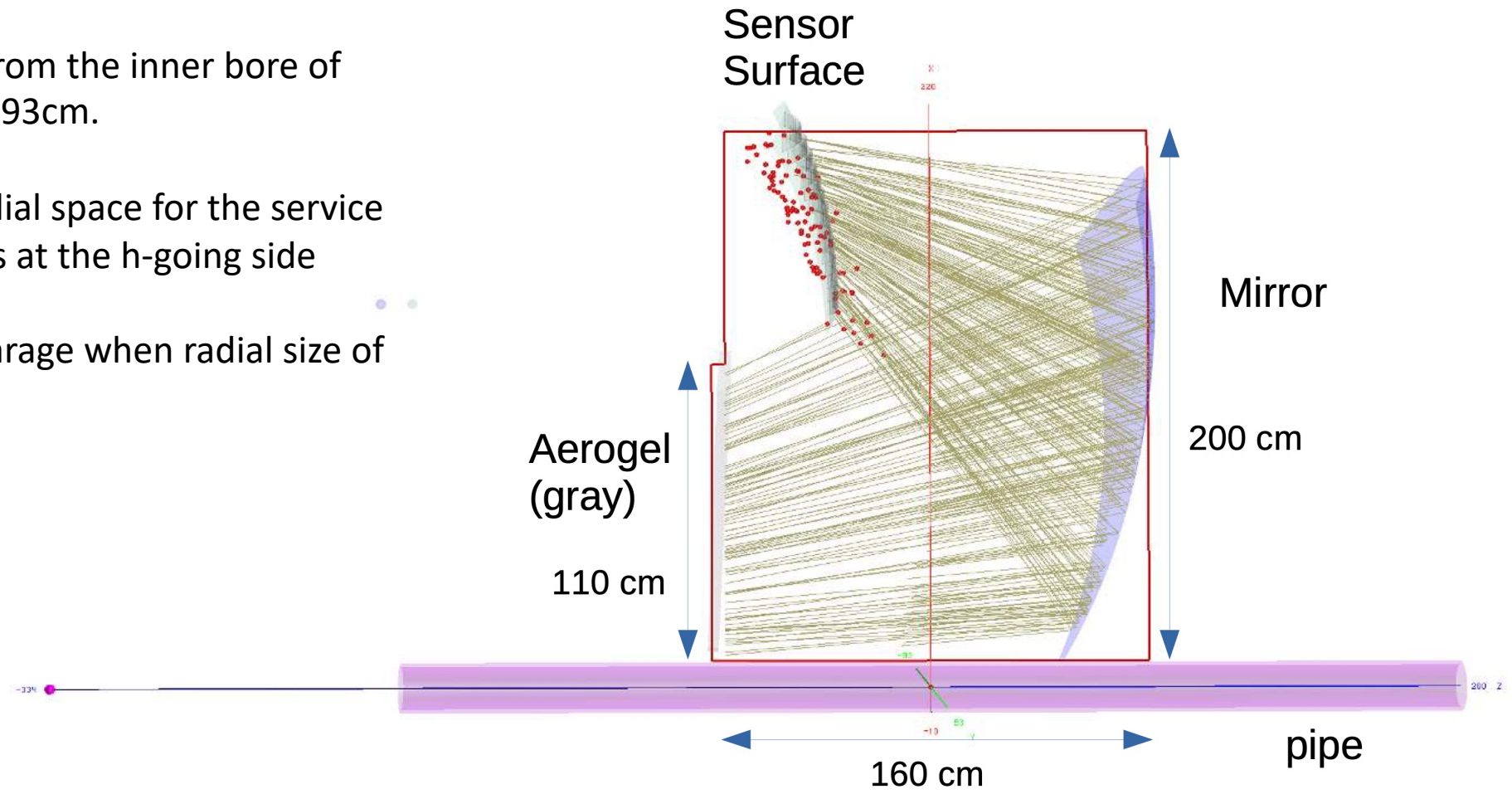
Xiaochun He — Georgia State University

- Integration updats
- Simulation status

July 2nd 2021

dRICH Radial Size

- Current 200 cm (+ 10 cm beamline) radial size is too much!
- The maximum radius constraint from the inner bore of outer hadronic calorimeter is R=193cm.
- dRICH should also leave some radial space for the service and cabling of the inner detectors at the h-going side
- Evaristo will study impact on covarage when radial size of dRICH is max 177.5 cm



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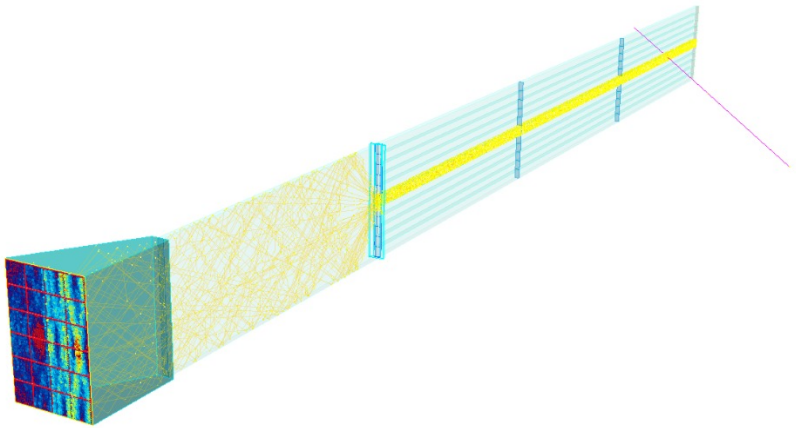
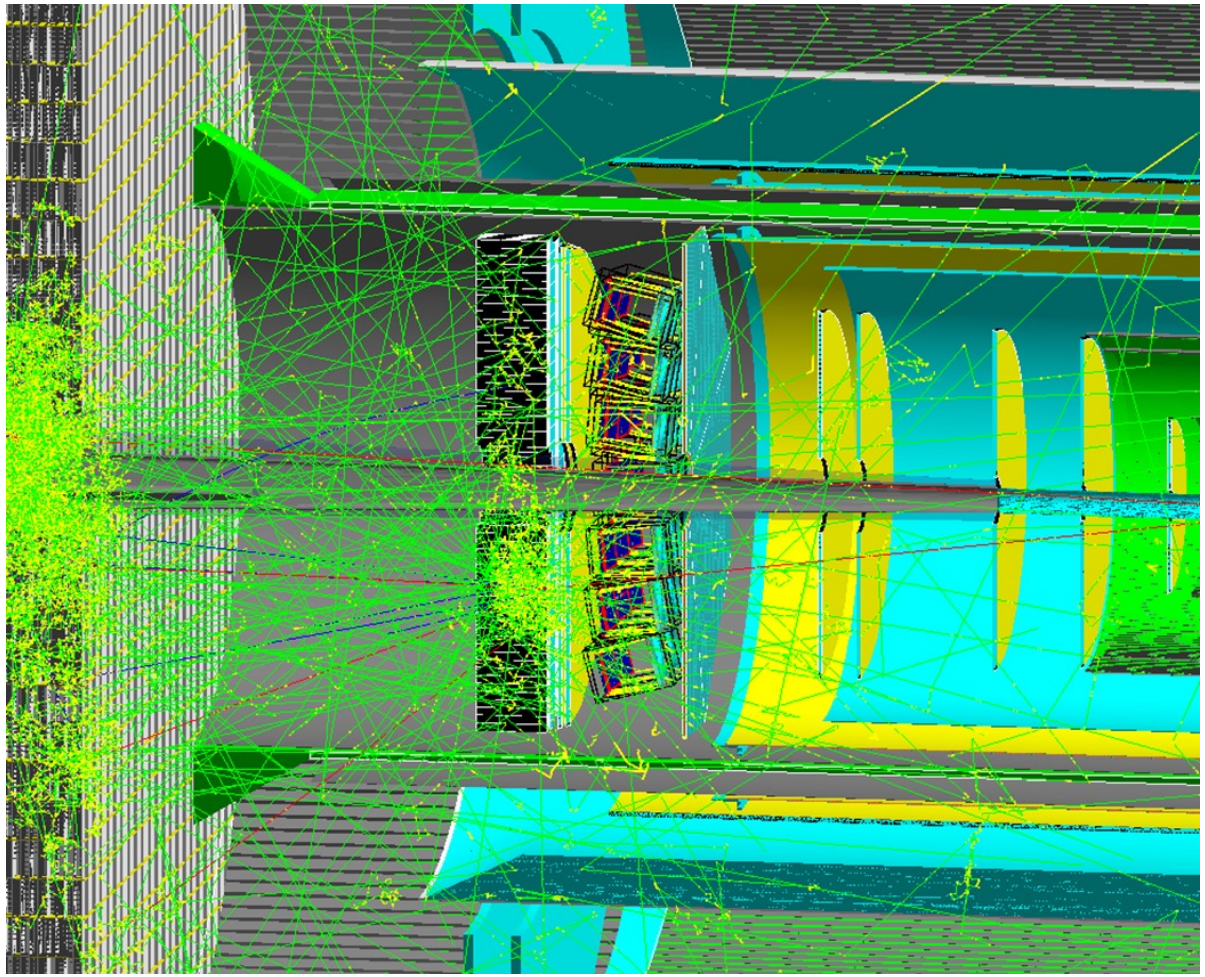
- During the overlap-resolving process, the outer ring of mRICH modules was removed.
- They were overlapping with DRIC.
- We could add them back by adjusting the module sizes.
- **Even though hpDIRC bar box extends 82cm behind mRICH it doesn't mean it is "active" area of DIRC.**
- We might use this part as just light guide to further improve the performance

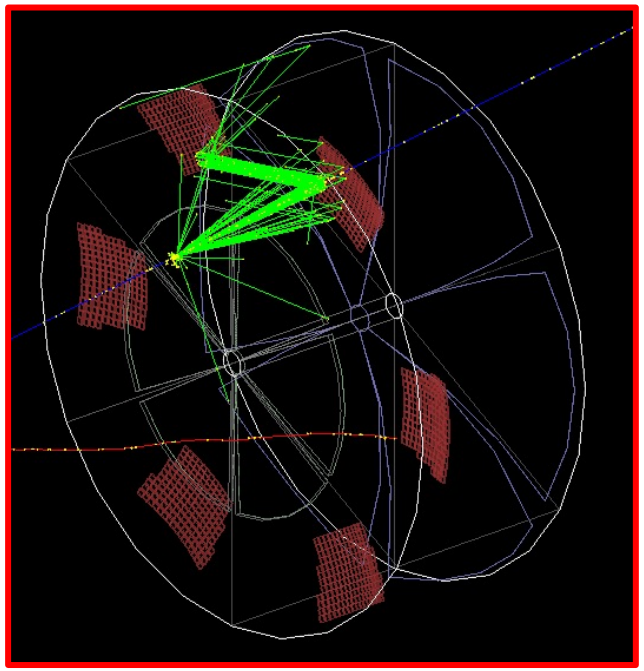
Hybrid of bars and plate in each sector

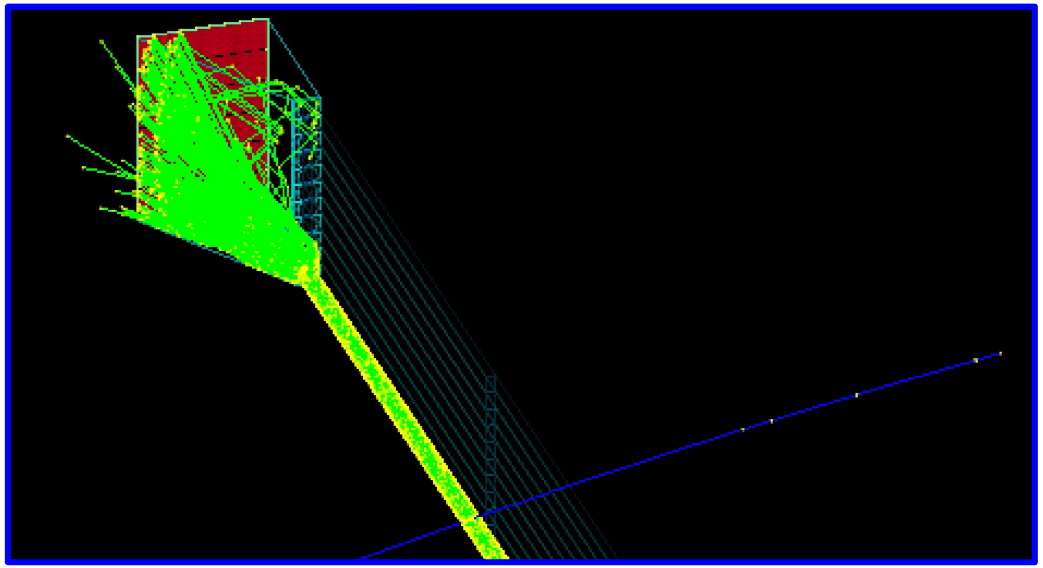




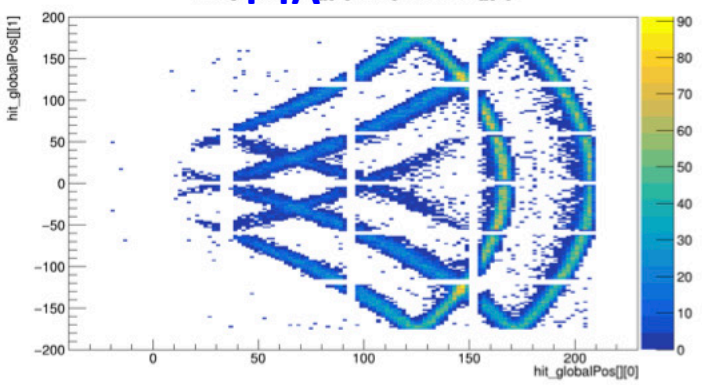
PID@ECCE F4A

- **dRICH:**
  - Chris Dilks gave great report on his dRICH F4A stand alone package (June 23rd https://wiki.bnl.gov/eicug/index.php/PID_Meetings)
  - Sebastian Tapia took over testing and improving it with Evaristo guidance
  - Cameron Dean is working on porting dRICH in ECCE F4A
- **hpDIRC**
  - The hpDIRC geometry is fully available (not scaled yet)
  - Hit patterns look good, in progress of checking efficiencies.
  - Nilanga Wickramaarachchi and Chris Pinkenburg working on saving information needed for Reconstruction

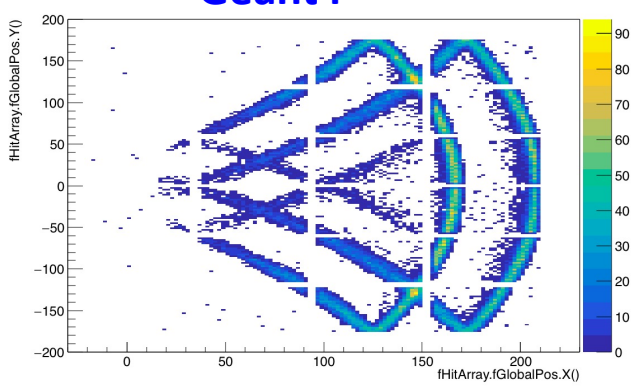




F4A



Geant4



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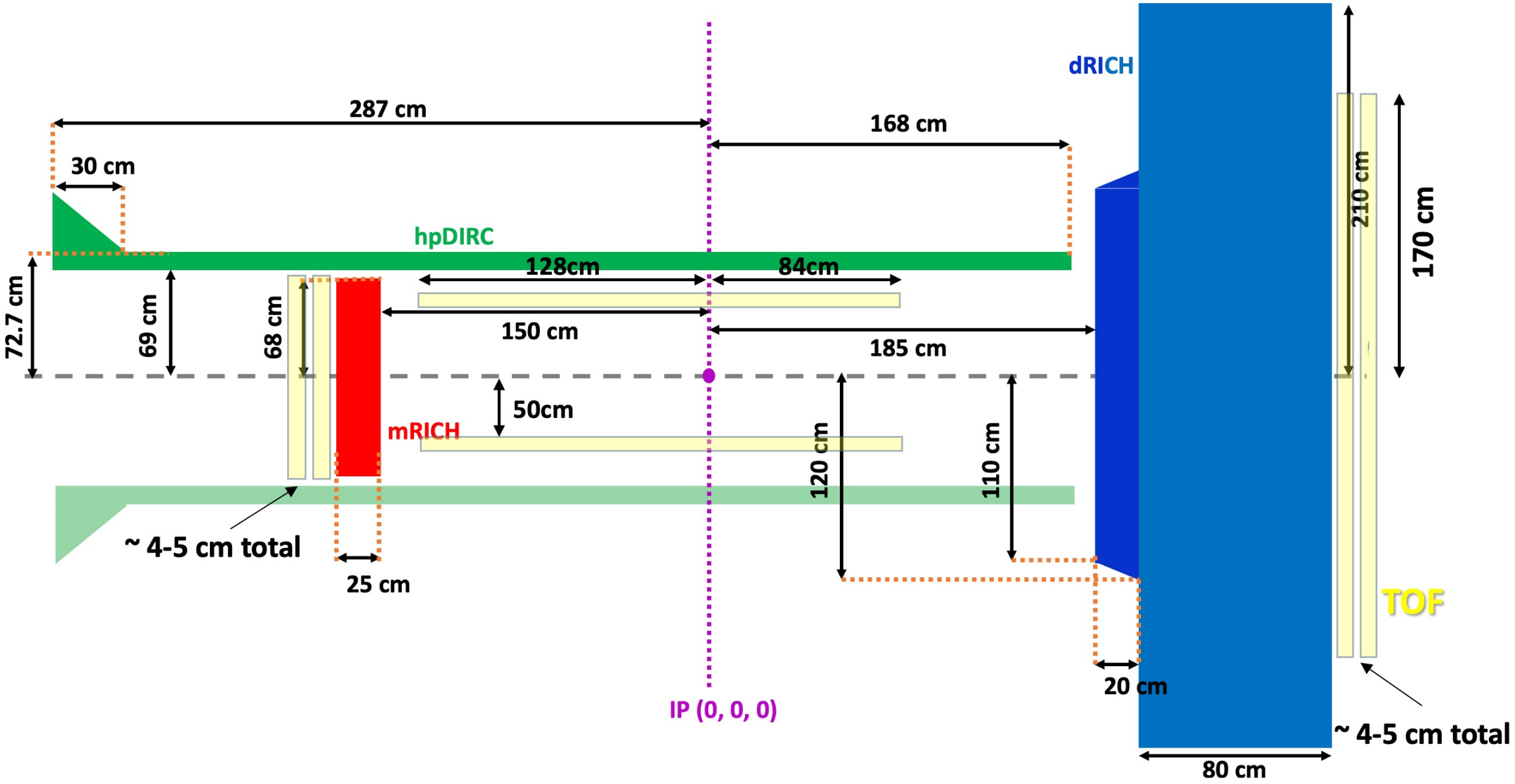
dRICH
287 cm
168 cm
30 cm
hpDIRC
128cm
84cm
72.7 cm
69 cm
68 cm
150 cm
185 cm
50cm
mRICH
120 cm
110 cm
~ 4-5 cm total
25 cm
IP (0, 0, 0)
20 cm
210 cm
170 cm
TOF
~ 4-5 cm total
80 cm

ECCE SketchUp Design