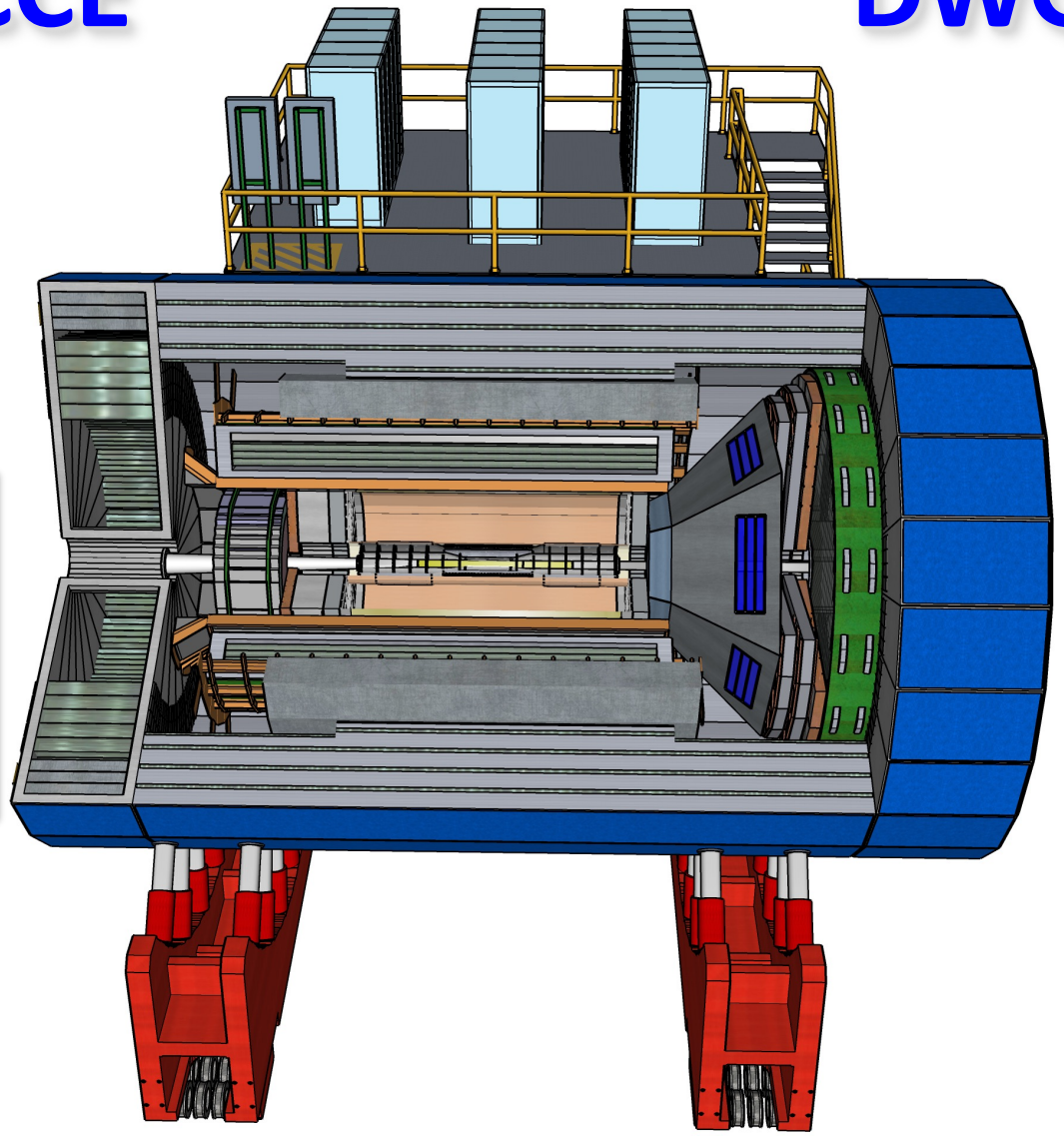
PID@ECCE DWG Meeting



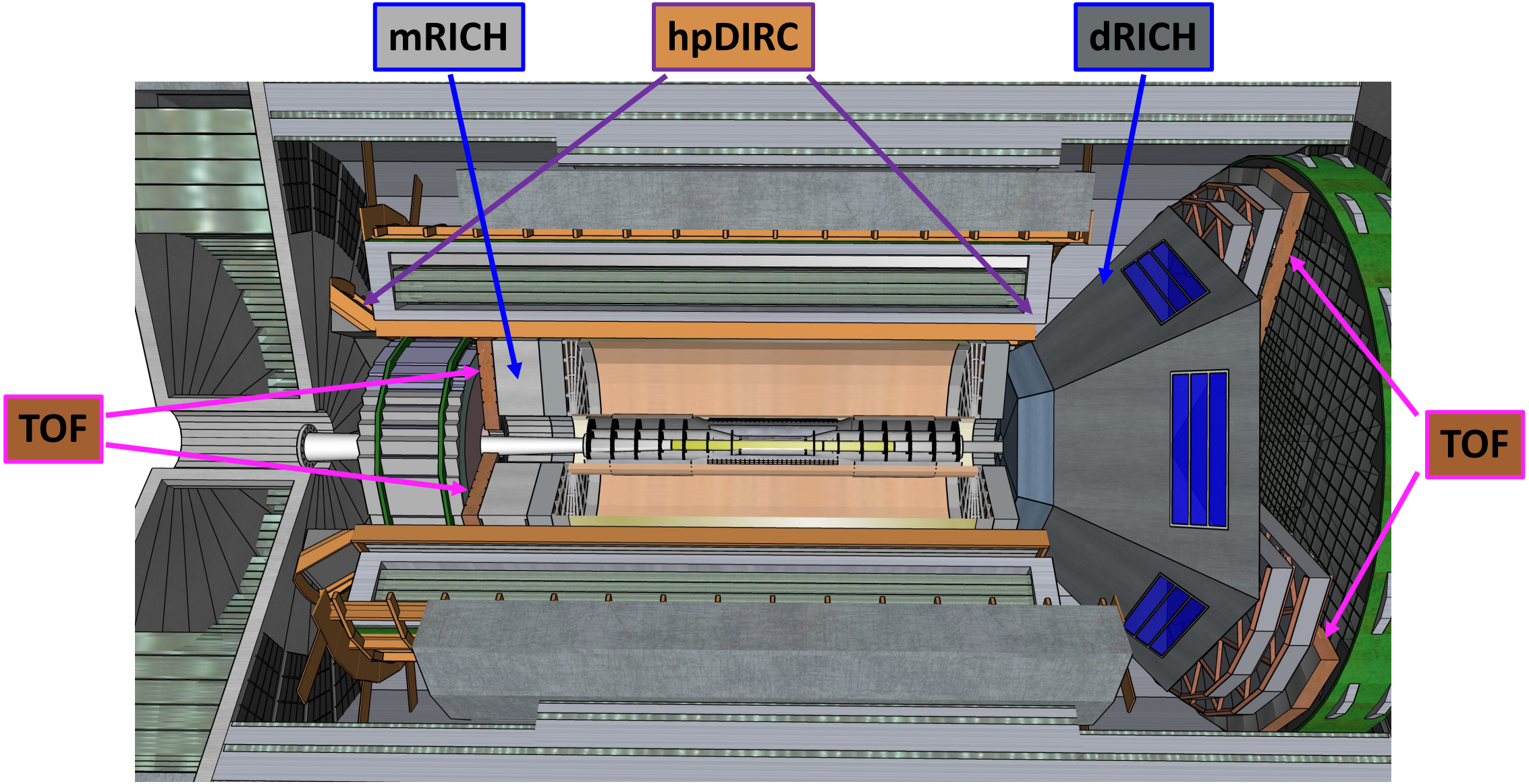
Greg Kalicy — CUA

Xiaochun He — Georgia State University

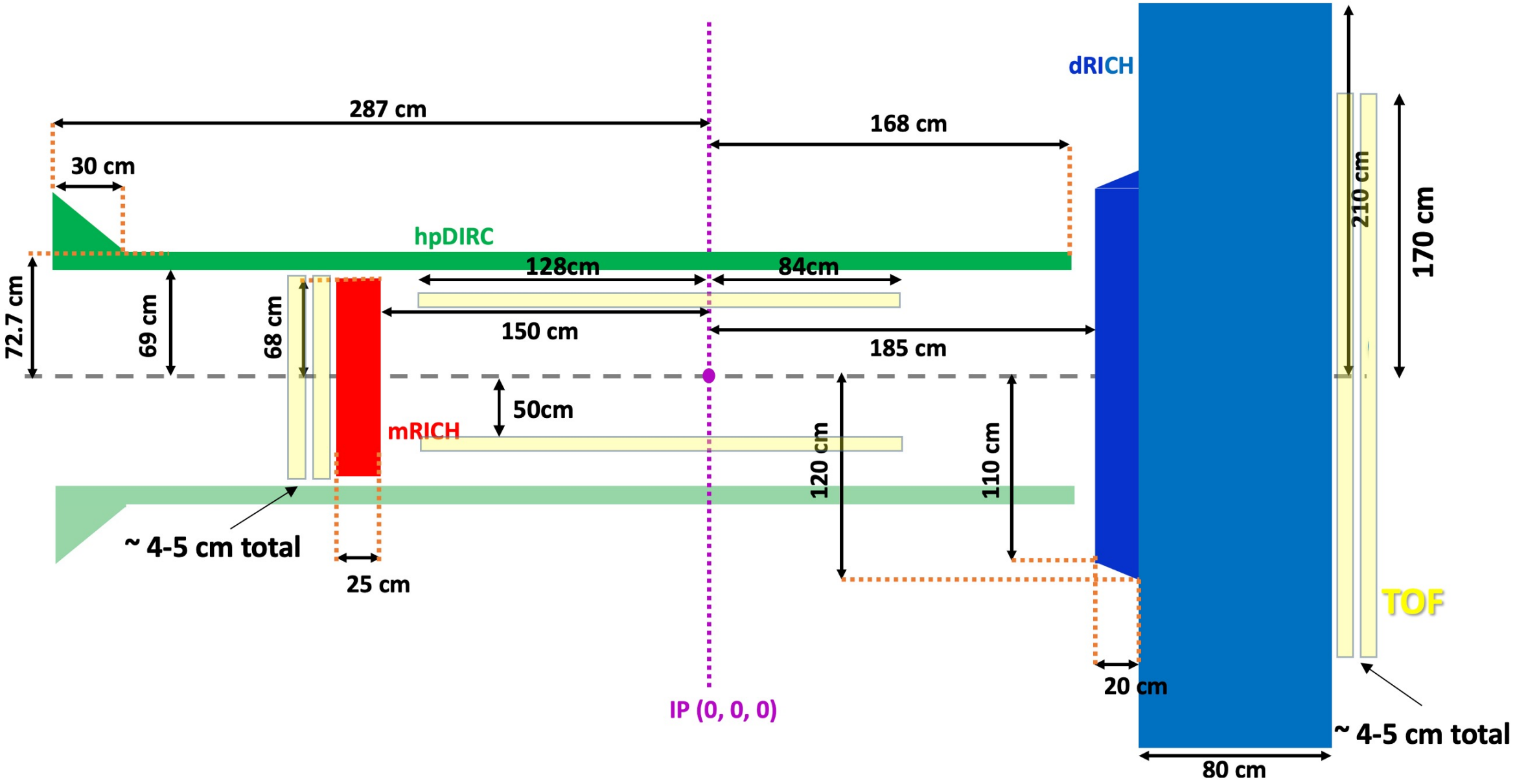
- Dimentions
- Simulation status

June 18th 2021

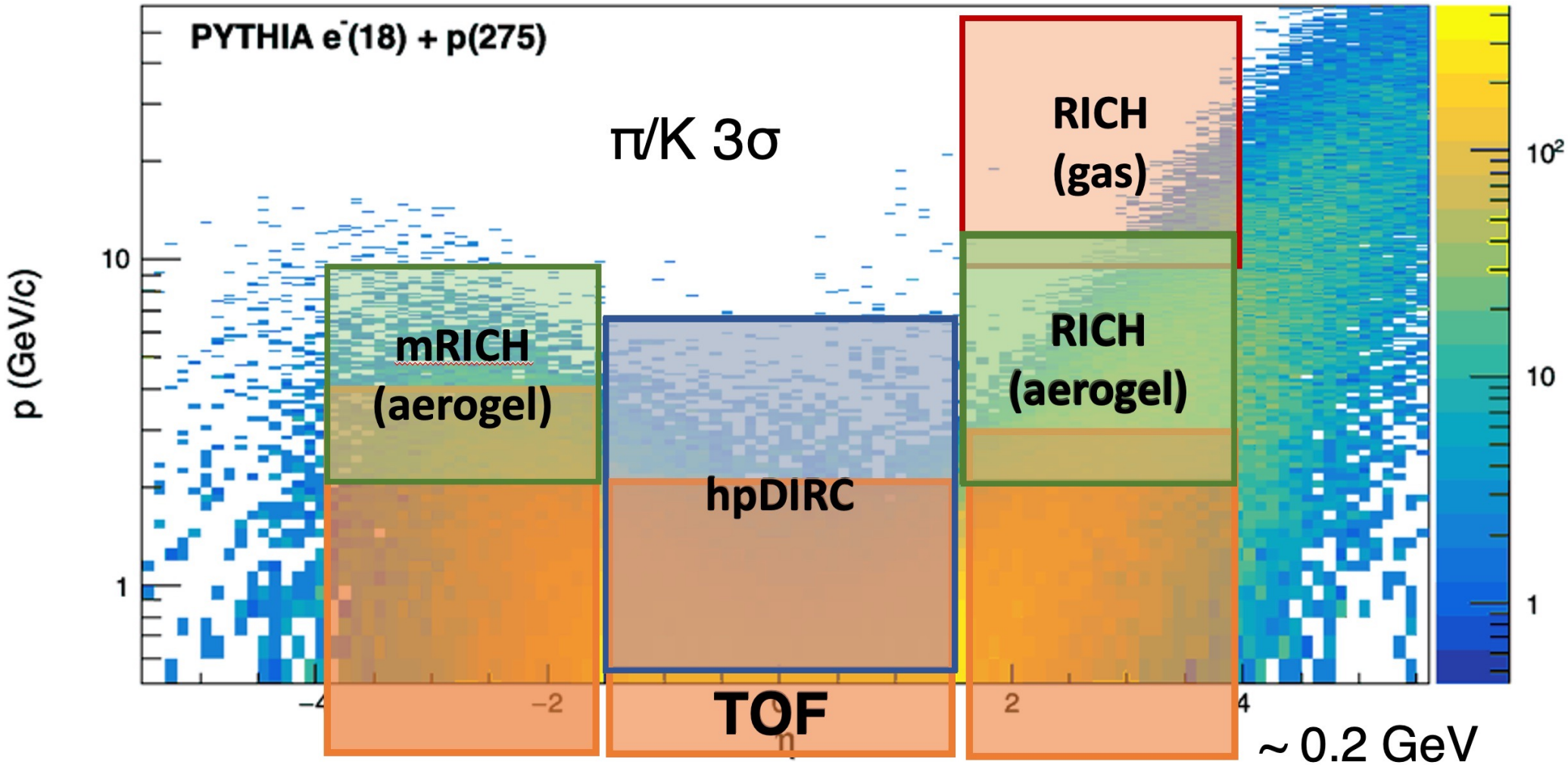
ECCE SketchUp Design

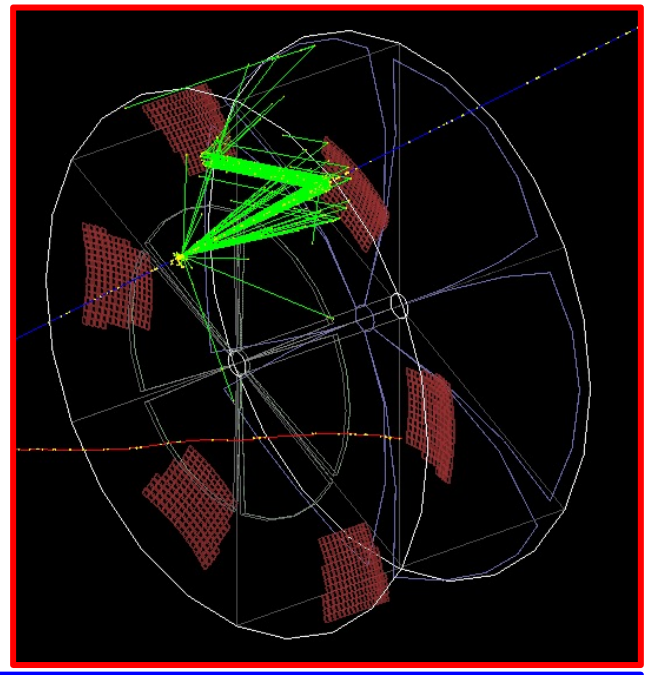
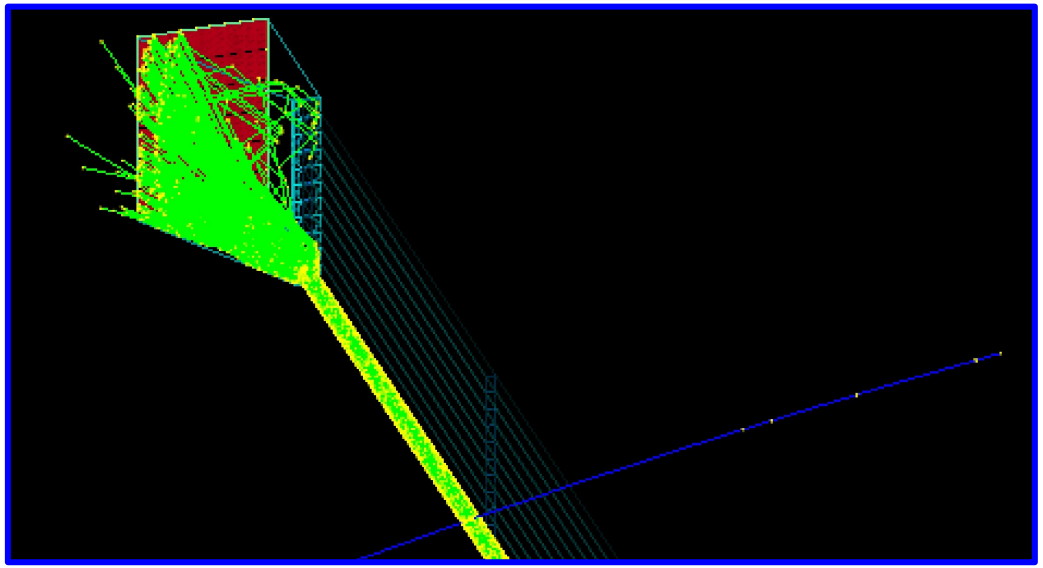


PID@ECCE


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

PID@ECCE


PYTHIA e⁻(18) + p(275)
π/K 3σ
RICH
(gas)
mRICH
(aerogel)
RICH
(aerogel)
hpDIRC
TOF
~ 0.2 GeV
p (GeV/c)
10
1
−2
2
4
η
10²
10
1

PID@ECCE F4A

- **dRICH:**
  - Chris Dilks works on dRICH F4A stand alone package
  - All main methods defined, including stepping action
  - **In progress:** Preliminary stand-alone tests
  - **Needed:** Porting to ECCE F4A (There are some overlaps in code with already existing functions in ECCE F4A)
- **hpDIRC**
  - The hpDIRC geometry is fully available (not scaled yet)
  - All Cherenkov photon processes are included
  - Transport efficiency for photons implemented through Stacking Action
  - **In progress:** Store information about simulation for each event in ROOT file for validation and reconstruction
- **Current F4A Run with updated dimensions but primarily fast simulations.**