

Proposed “agenda” for today:

- APS April meeting abstract submission deadline is upcoming Monday (!) -- January 9, 2023,
- Project detector collaboration meeting next week at Jefferson Lab and via Zoom,
- Updates,
- AOB. including a yay or nay on meeting next week.

Proposed ECCE Tracker – now reference for Detector 1

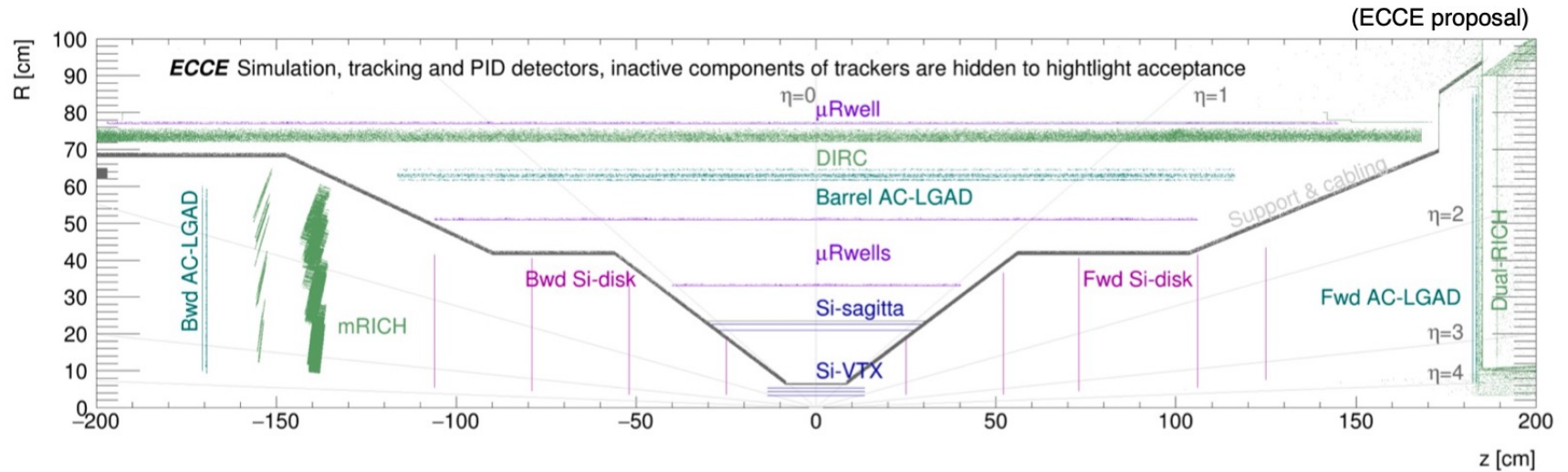
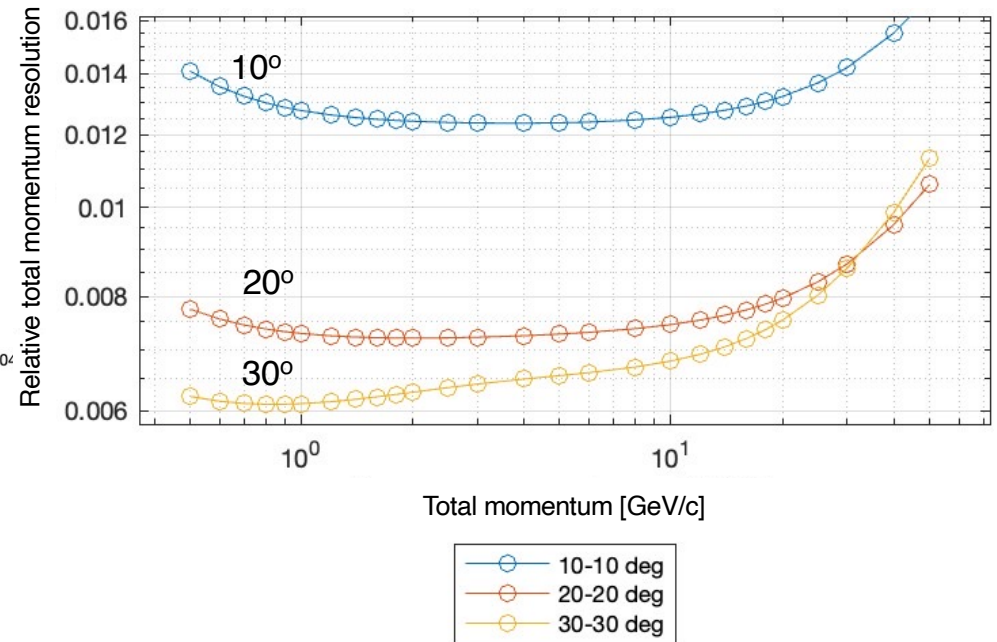
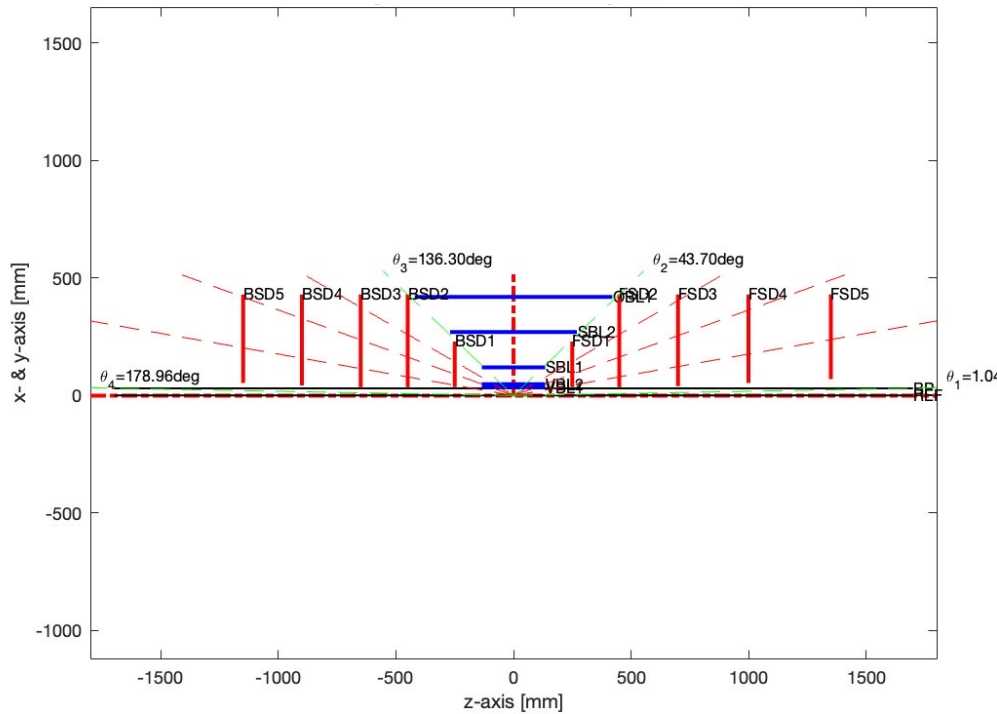


Figure 2.5: Schematic view of the ECCE tracker, including silicon, μ RWELL, AC-LGAD, DIRC, mRICH and dRICH detector systems.

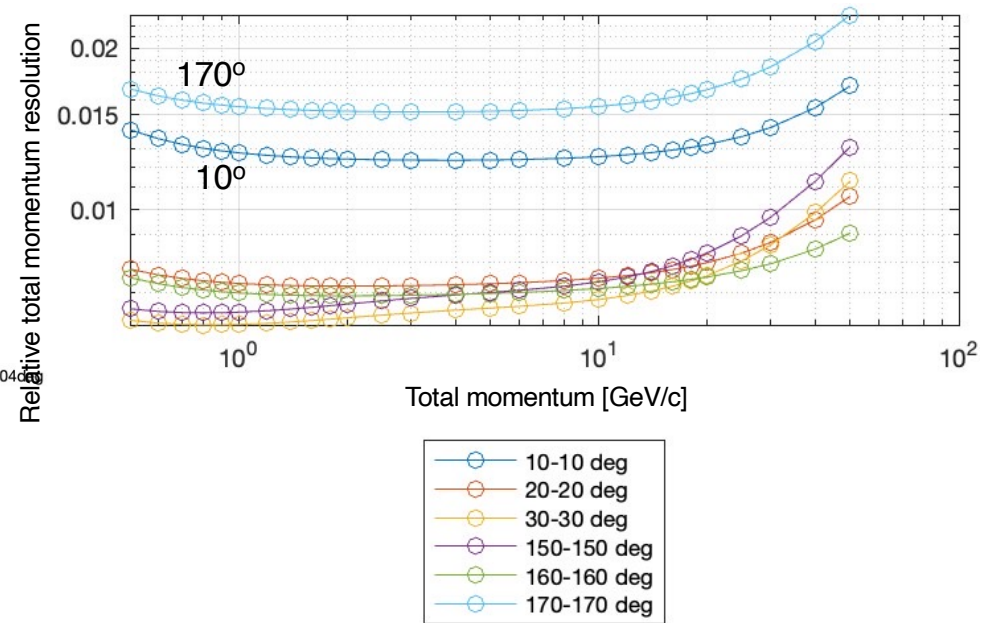
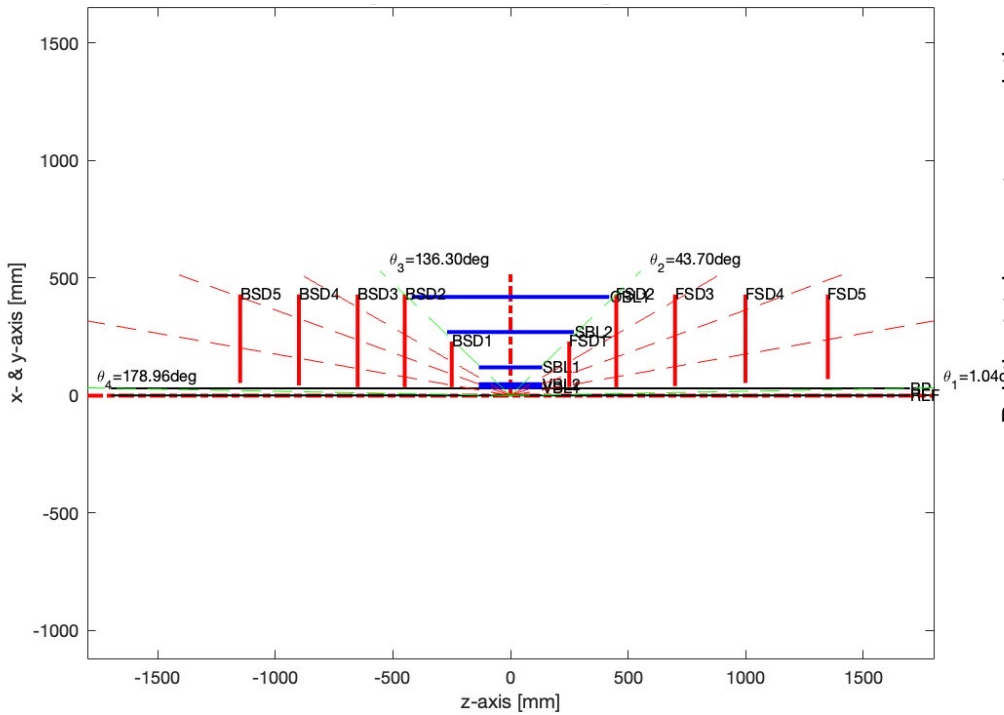
- We spoke about this a few times in 2022, and fixed the barrel & disk configurations,
- The field improved as well,
- The barrel AC-LGAD ToF at $r \sim 0.64$ m with $-1.2 < z < 1.2$ m remains part of the updated reference, unlike the inner μ Rwells,
- Our friends interested in gaseous tracking technology have not really stepped up to productively use $0.42 < r < 0.64$ m,
- The double-cone, step, and services / integration continue to pose a challenge,
- Timely to revisit the *outer* MAPS disk radii?

Updated reference configuration and (selected) momentum performance



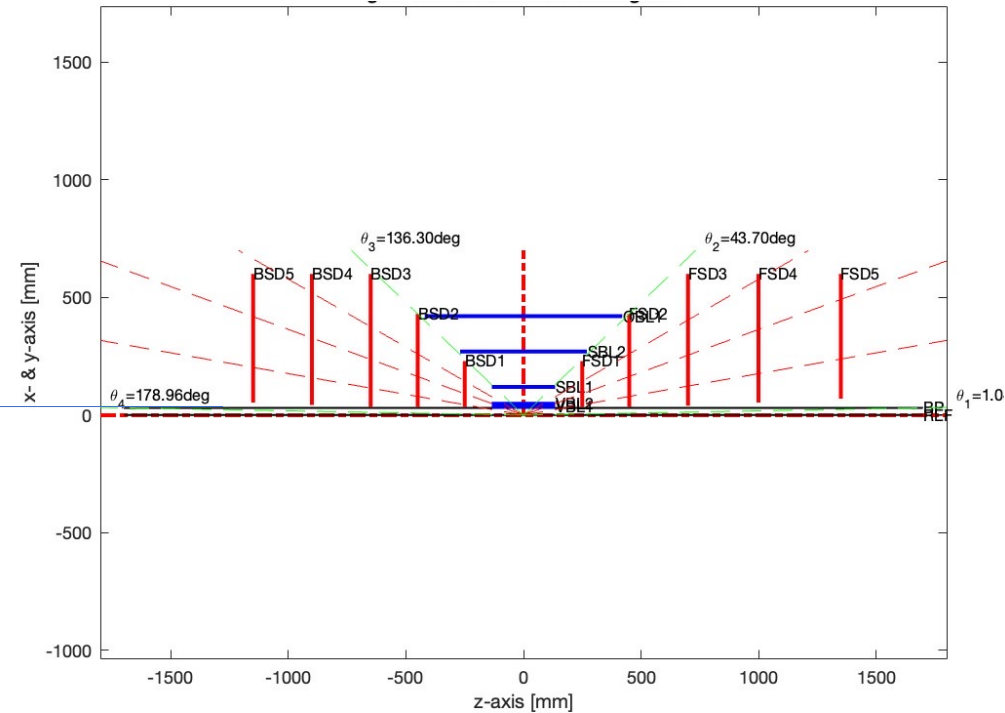
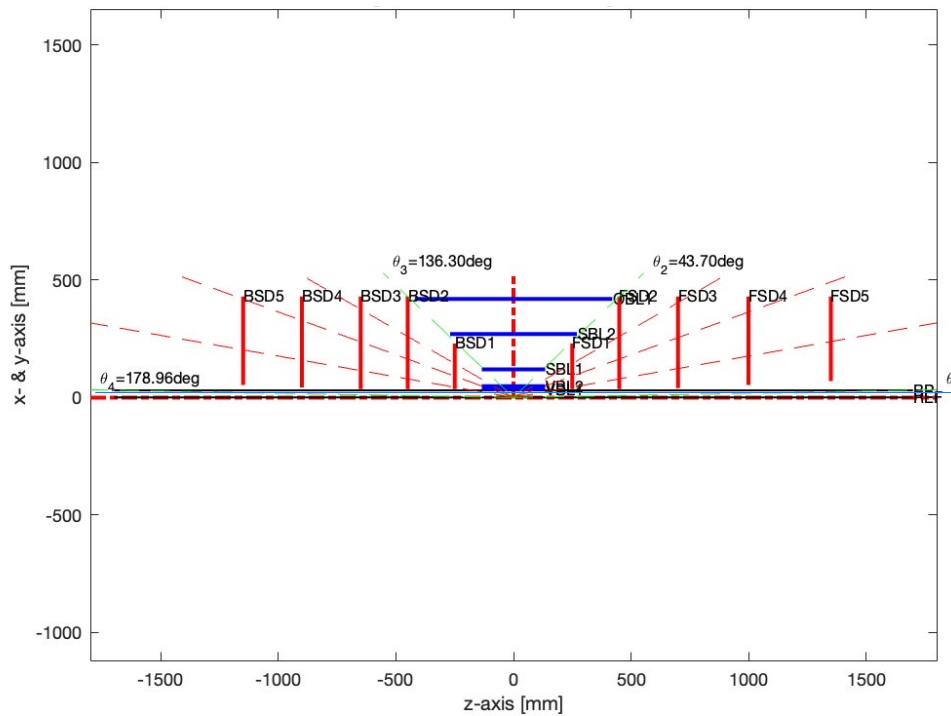
- Multiple factors in effect; B.dl decreases with decreasing angle, acceptance edges can affect dl and X0
- Wenqing's most recent full simulation results (2022) using Shujie's geometry implementation left room for improvement, perhaps beyond tweaks to the precise z-positions (within the now seemingly stable envelope).

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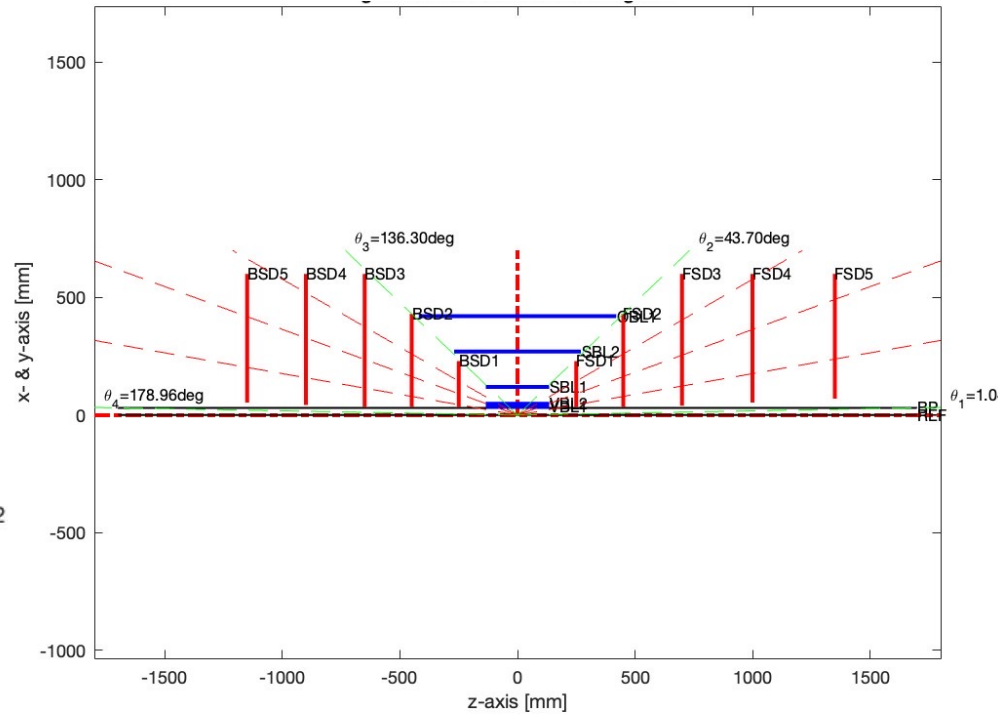
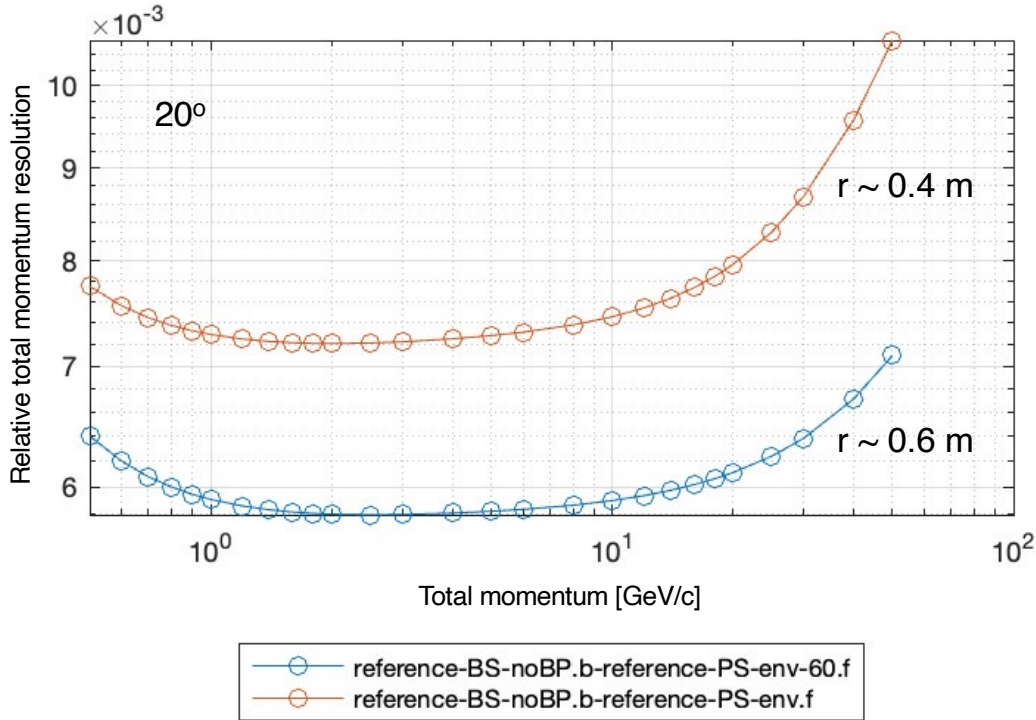
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Further update to reference configuration – productively use $0.4 < r < 0.6$ m ?



- An increase in outer radius to 0.6 m would increase the area by ~ 3 m² or $\sim 30\%$ of total,
- At first sight advantageous in terms of services; disk at mid- $|z|$ will essentially be “on the cone”,
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- Not all else will be equal though; should pair with material model and also a cost model.