



**BERKELEY LAB**

# Low momentum PID with TOF

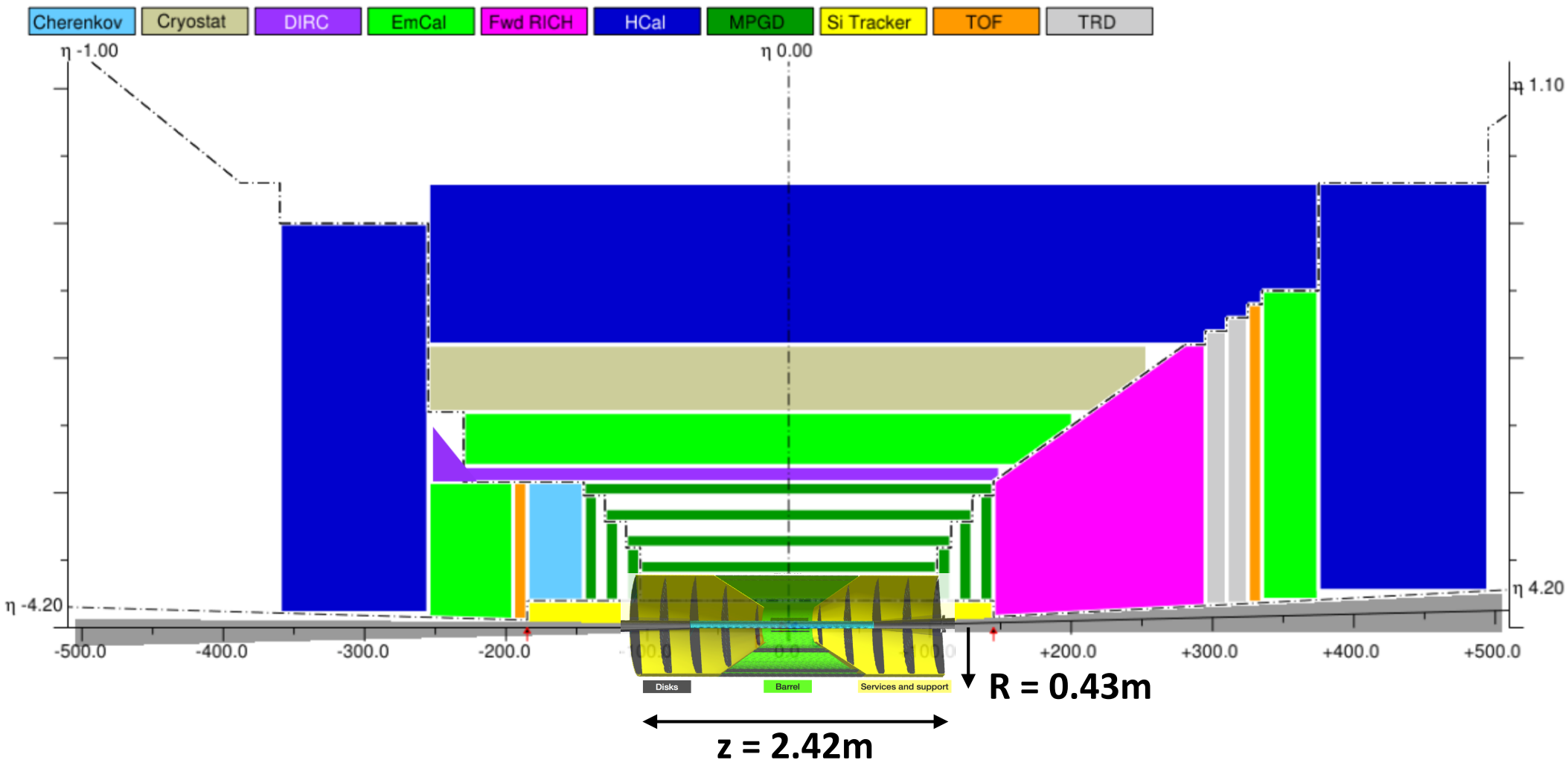
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EIC@IP6 PID working group meeting

05/24/2021

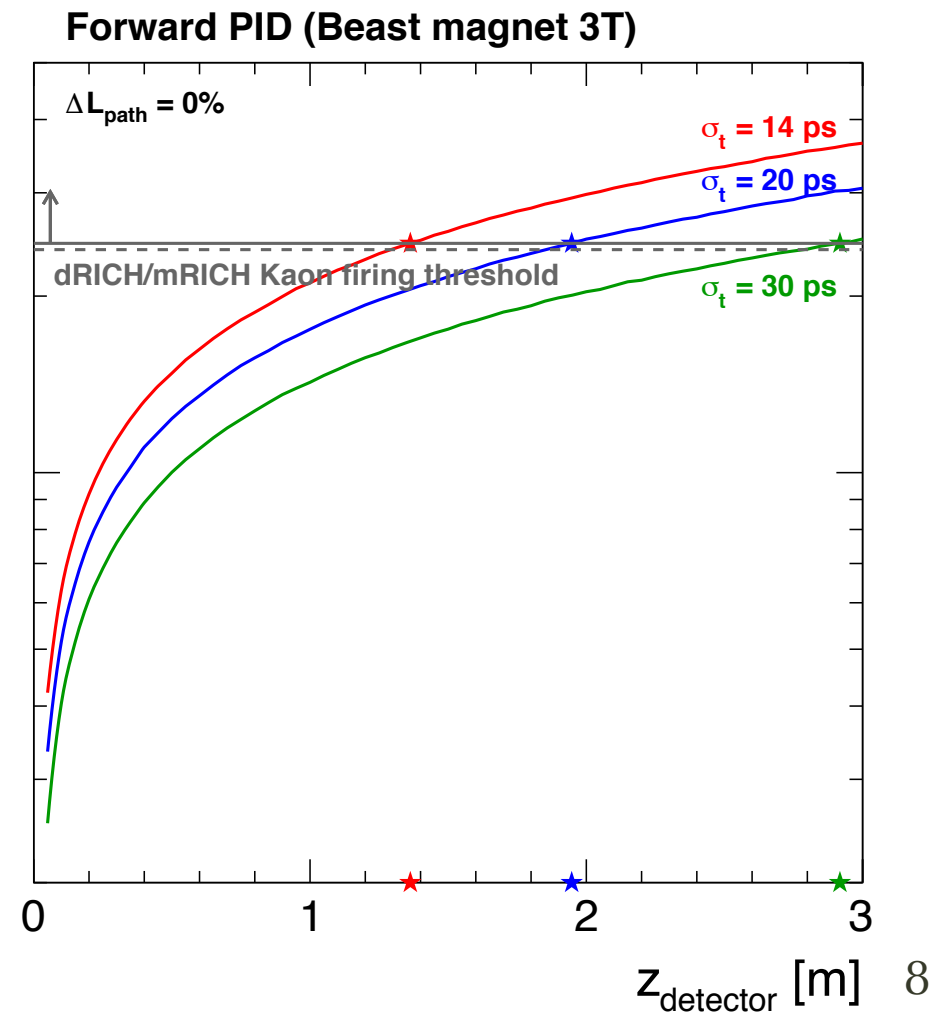
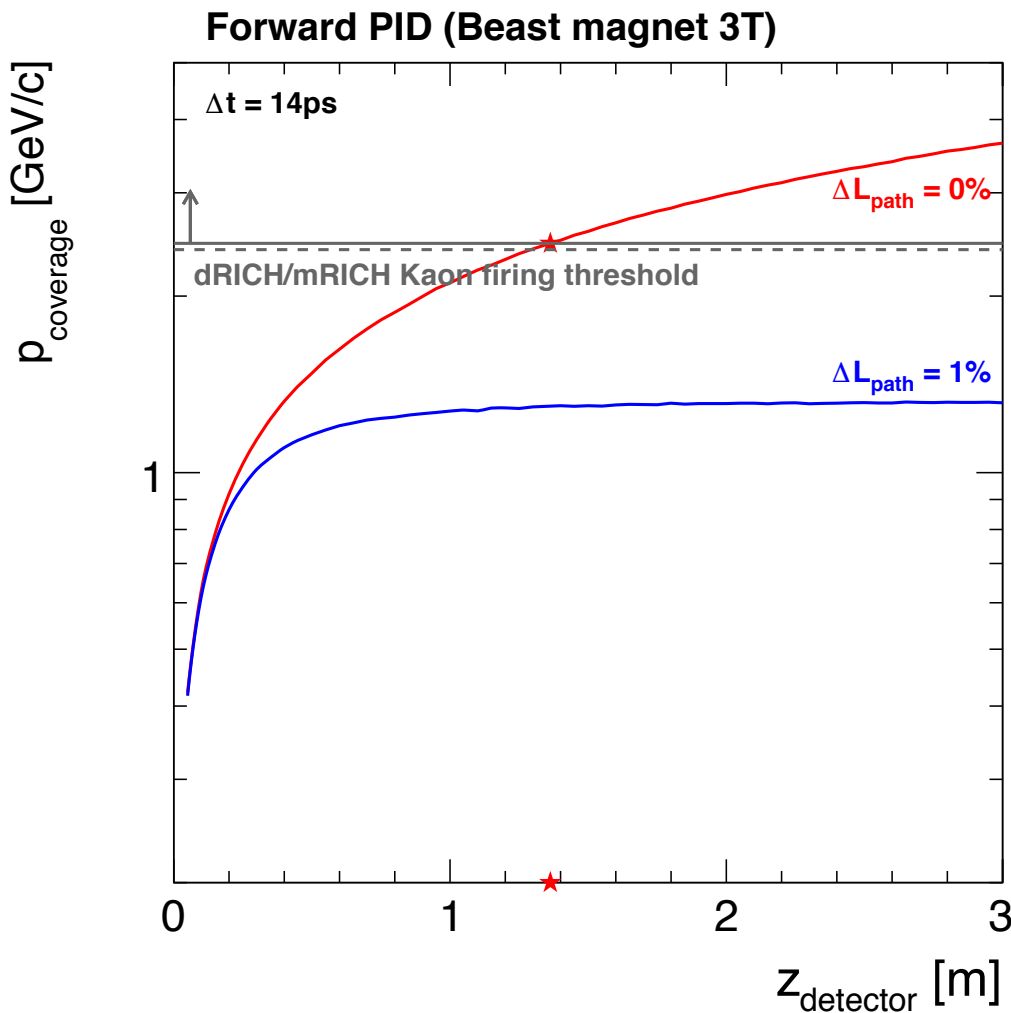
*with help & inputs from LBNL memebbers, Wei Li and Shuai Yang (RICE)*

# Potential locations for LGAD



# LGAD at forward and backward

- Two layers 20ps LGAD  $\rightarrow$  14ps
- Pathlength uncertainty cannot be  $>1\%$
- LGAD ( $\leq 2$  layers) needs to be placed  $>1.5\text{m}$



# Summary

- Need full simulation to determine the path length uncertainty
- From the fast simulation it looks the closest position one can put LGAD TOF would be  $> \sim 1.5\text{m}$  for forward and backward
- Closest would be right before the Cherenkov detector (maybe not realistic if taking into consideration of the efficiency above the firing threshold)

