

Central Simulation Comparisons

Configurations Simulated

- Two configurations simulated as part of October 2022 ePIC central simulations
 - Arches
 - Bryce Canyon

Arches

- Barrel:
 - MPGD layer behind DIRC (not used in track reconstruction)
 - Si-Glass EM Cal
- Backward: mRICH

Bryce Canyon

- Barrel: Imaging EM Cal
- Backward: pfRICH

Geometry Comparisons

ePIC October Simulation Campaign

- Arches → mRICH
- Bryce Canyon → pfRICH
- Tracking setup
 - Same Si disk setup for Arches and Bryce Canyon
 - Only tracking difference was MPGD layer behind hpDIRC (implemented in **Arches**) which was **not used** in reconstruction

Arches Si Disks (cm)	Bryce Canyon Si Disks (cm)
25	25
45	45
70	70
100	100
135	135
-25	-25
-45	-45
-65	-65
-90	-90
-115	-115

RICH Comparisons

Detector	Z min (cm)	Z max (cm)	Length (cm)	R min (cm)	R max (cm)
mRICH	130	172.7	42.7	8	63
pfRICH	118.6	172.7	54.1	4.6/5.9	63

Tracking Lever Arm Impact

- Studied in fast simulations
- **Red**: geometry used in Arches and Bryce Canyon
- **Blue**: Prior geometry
 - $|z| = 25, 45, 70, 100, 135$ cm

Ernst Sichtermann: [ePIC Tracking WG \(10/13/22\)](#)

