

GridPix TPC in EicRoot

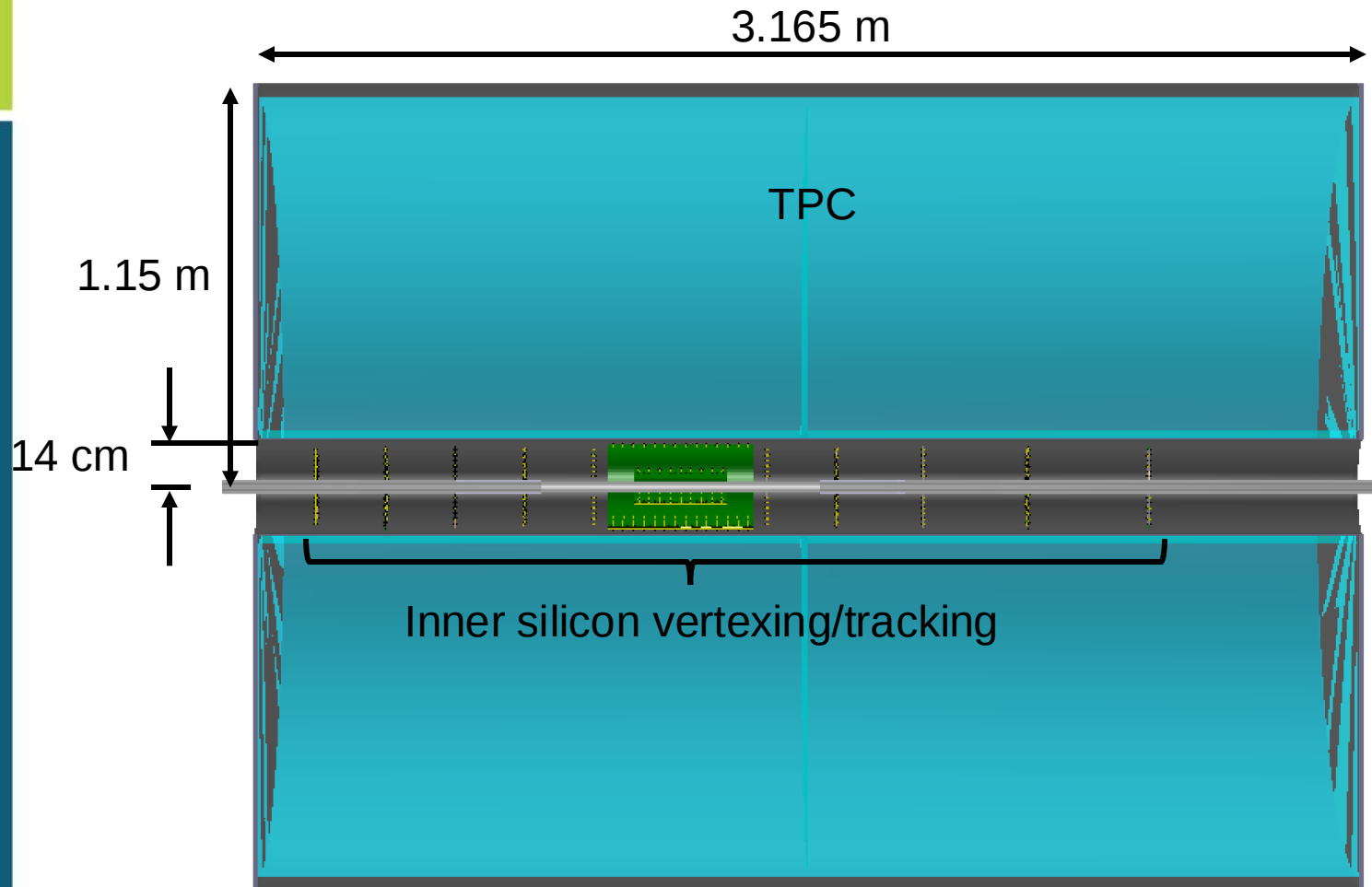
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Detector Setup



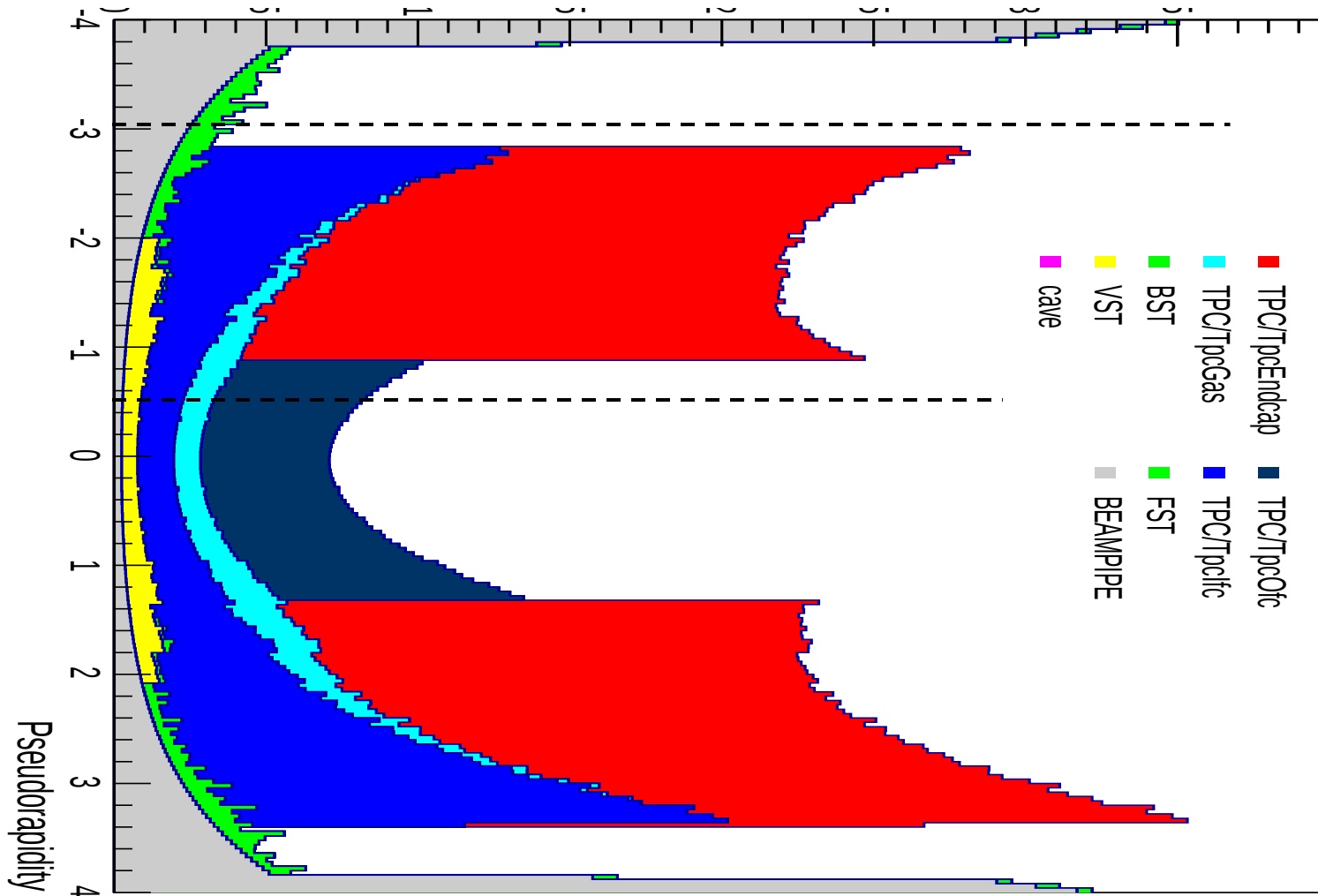
TPC

- Gas: Ar:CF₄:iC₄H₁₀ (95:3:2)
- Field cage
 - carbon fiber
inner cage t=2.62mm
outer cage t=9.28mm
 - Kapton t=150um
 - Aluminum t =50um
- Central membrane: Kapton t=100um
- Endcaps:
 - aluminum t=13.4mm

Magnetic field

Constant 2T, solenoid

Material Budget



Digitization

- transverse dispersion : 150.00 [um]/sqrt(D[cm])
- longitudinal dispersion : 200.00 [um]/sqrt(D[cm])
- transverse intrinsic resolution : $0.0055/\sqrt{12}$ [um]
- longitudinal intrinsic resolution : $0.0055/\sqrt{12}$ [um]
- radial intrinsic resolution : $0.0055/\sqrt{12}$ [um]
- Vertical pad size : 0.50 [cm] (for now)
“All the pads are squared ($55 \times 55 \text{ um}^2$) and fill 70% of active area”
Track reconstruction seems failing when vertical pad size is too small