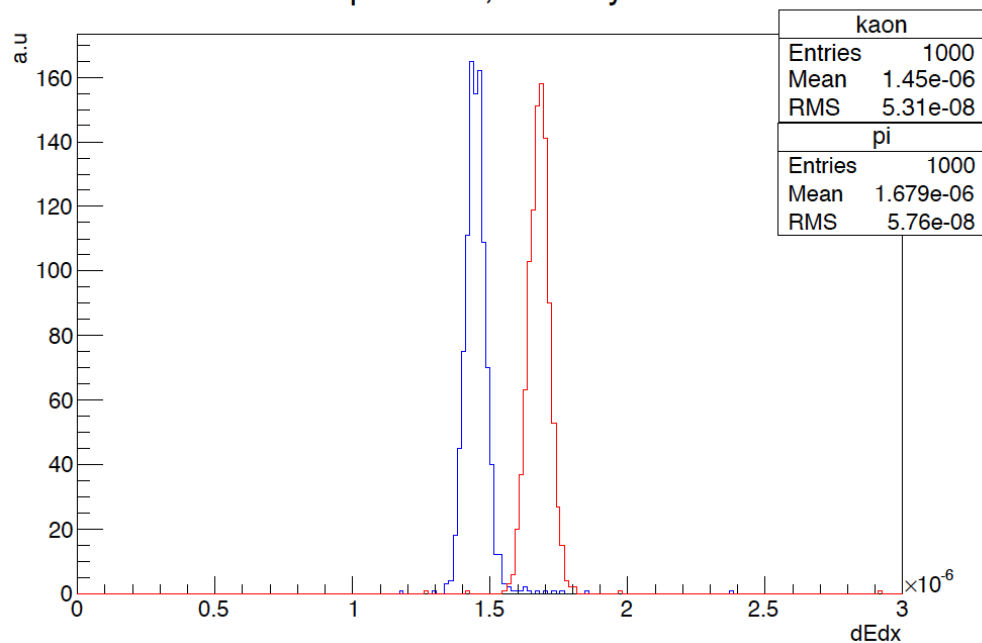
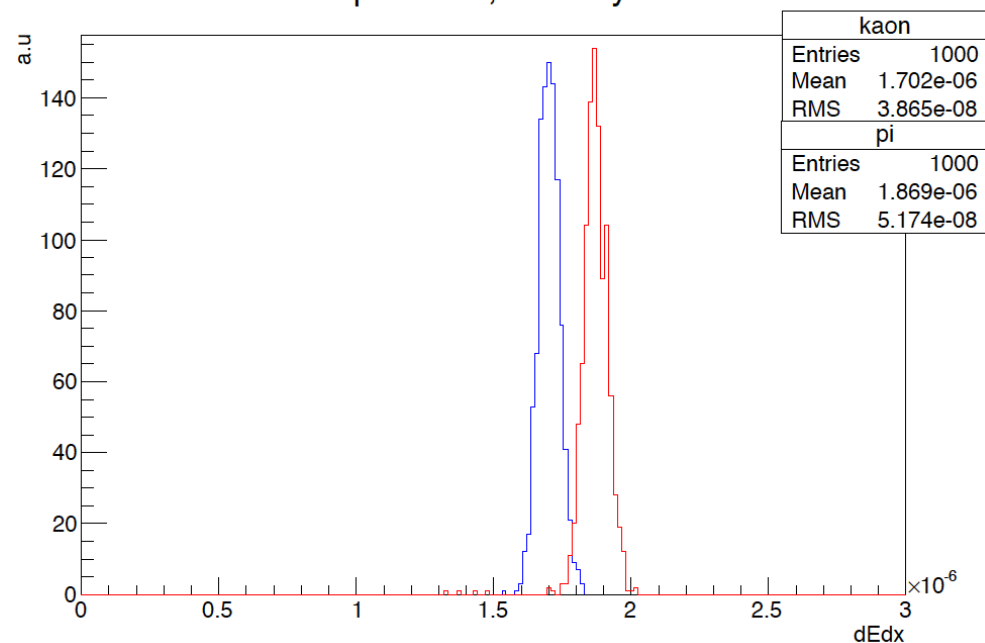


Pi-K separation with dE/dx at TPC

Sep 10GeV, 220 Layers



Sep 40GeV, 220 Layers



dE/dx seems to be a promising tool for pi-K separation even at $E > 10$ GeV...

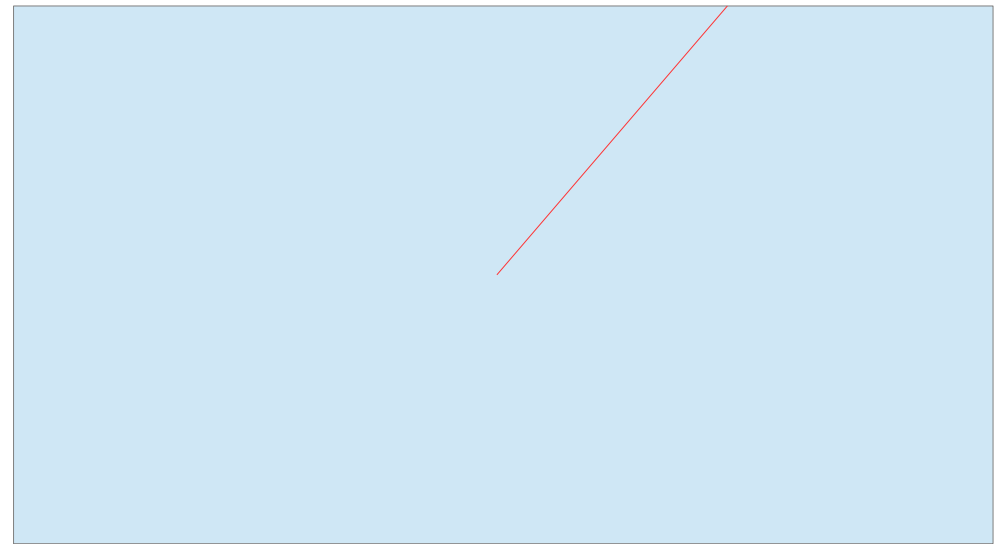
Key question: How to preserve the dEdx information at Sensor/DAQ level?

ILD Reference: <https://agenda.linearcollider.org/event/7020/contributions/34830/attachments/30307/45306/Top.pdf>

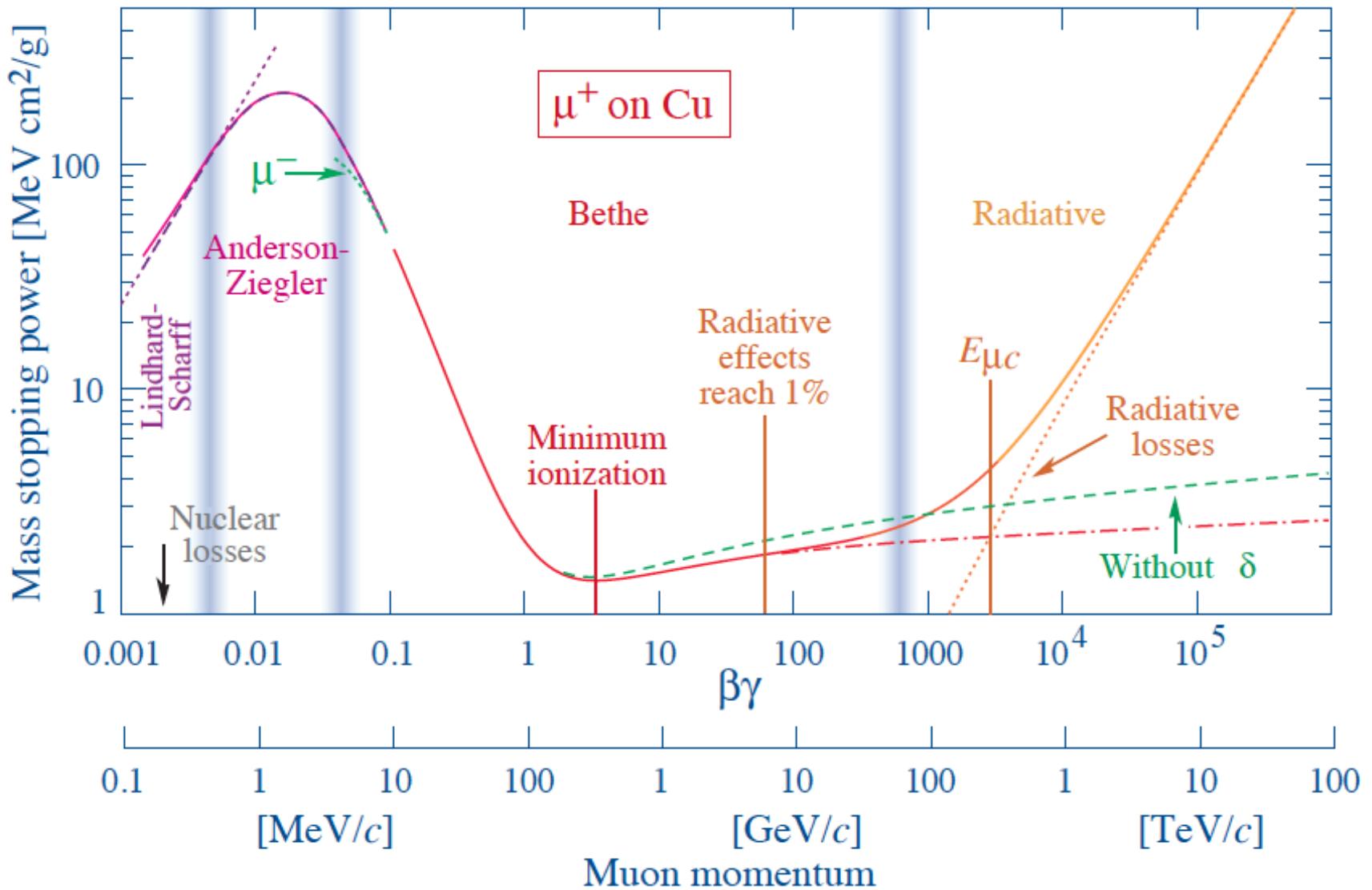
TPC Para @ ILD/CEPC_v1

- Radius: 300/1808 mm
- Half Z: 2350 mm
- Pad Size: 6*1 mm (220 layers)
- T2K Gas, Ar: CF₄: iC₄H₁₀ = 95: 3 : 2

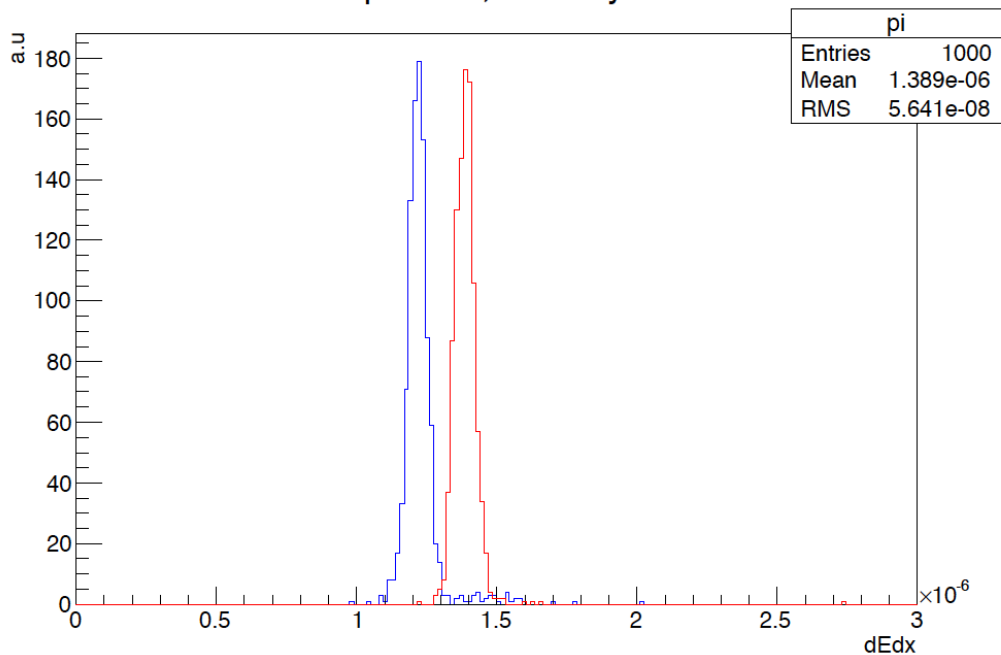
- Single Particle Shot at 45 Degree, without B-Field



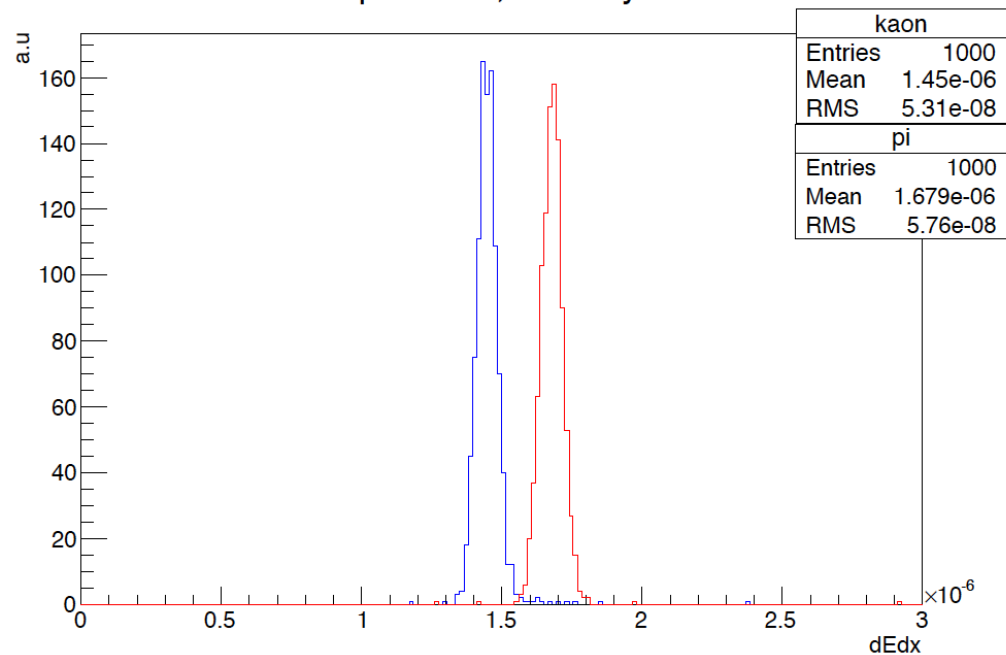
Bak



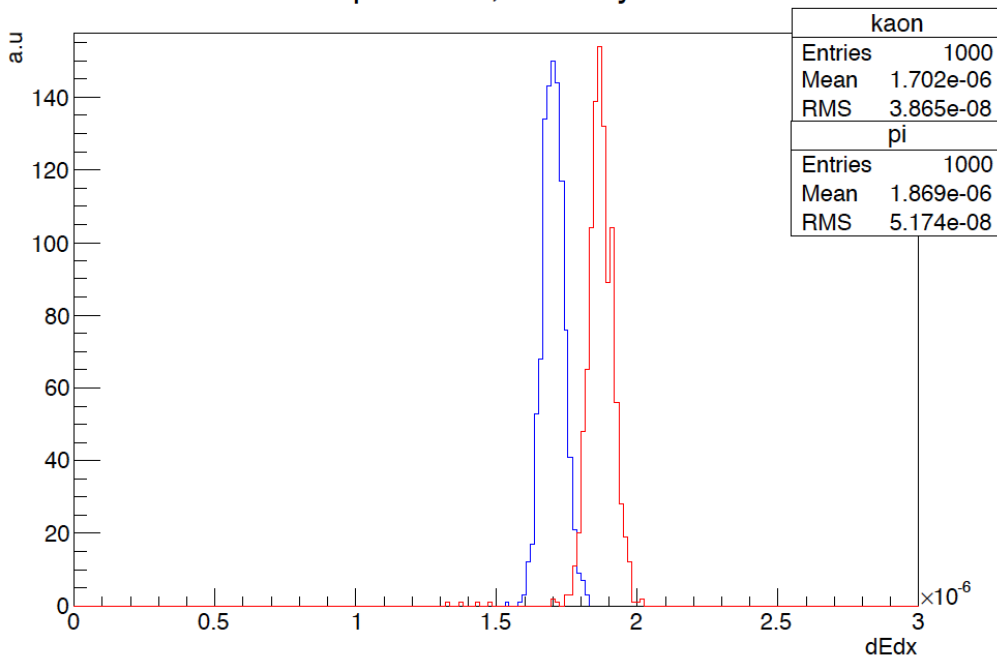
Sep 2GeV, 220 Layers



Sep 10GeV, 220 Layers



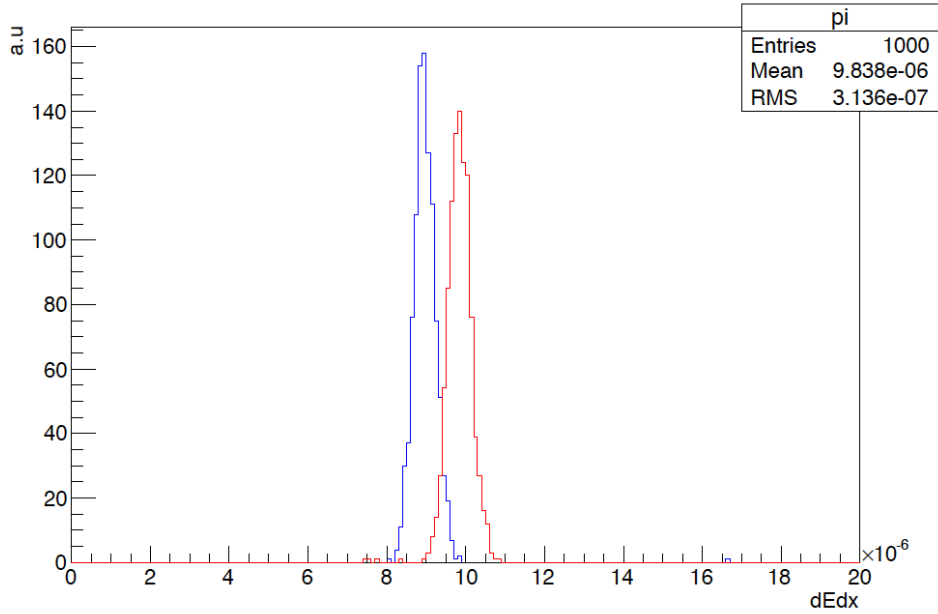
Sep 40GeV, 220 Layers



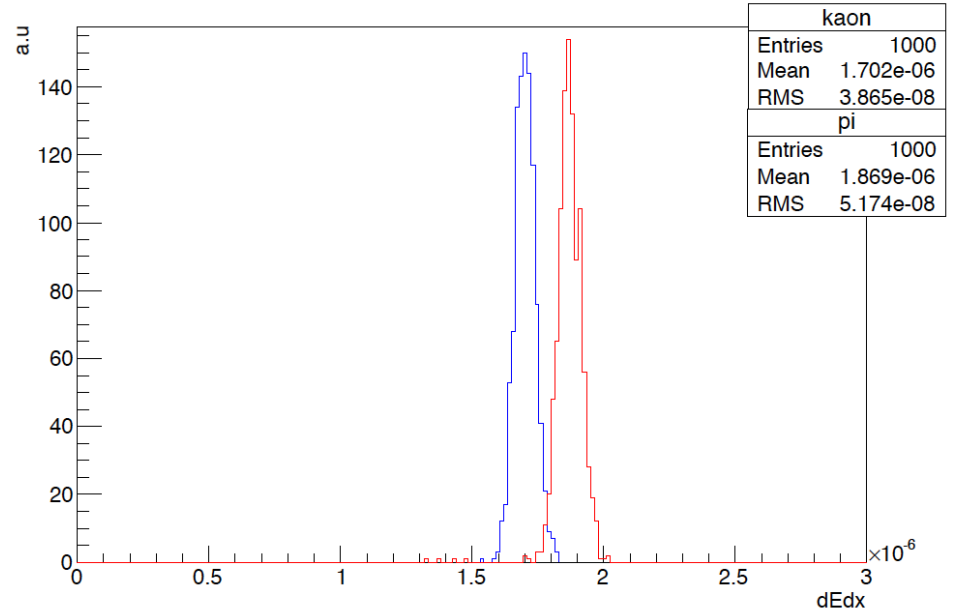
Pos $\sim 0.18 \cdot \log(\text{beta} \cdot \text{gamma})$

Pi-K

Sep 40GeV, 44 Layers



Sep 40GeV, 220 Layers



Sep 40GeV, 1300 Layers

