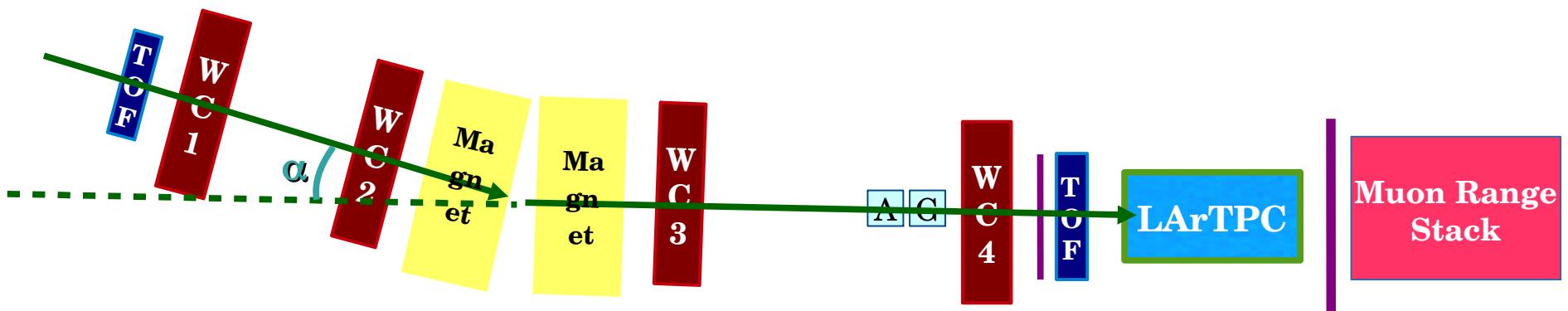


# ***Multi-Wire Proportional Chambers***

*MWPCs + bending magnets allow to reconstruct particles momentum before entering the LArTPC*

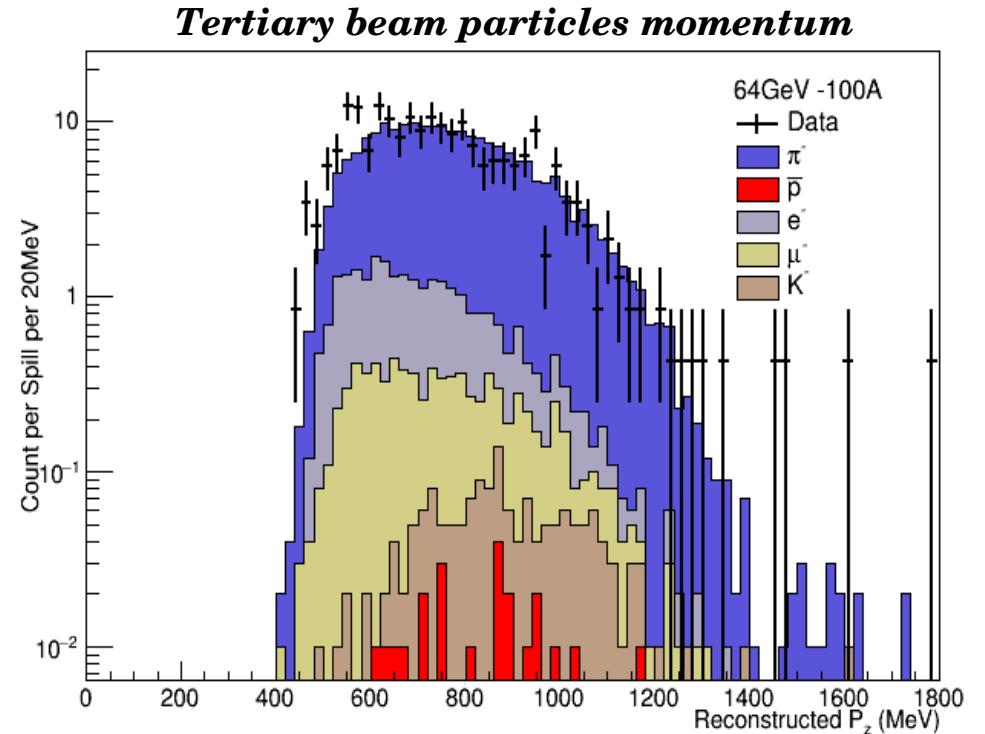
*Tertiary beam particles momentum*

- ✓ WC pairs used to define particle tracks  
before and after the magnets
- ✓ The angle  $\alpha$  between the two tracks  
determines the momentum reconstruction
- ✓ Momentum reconstruction possible even if  
information from one of the two inner WC  
is missing



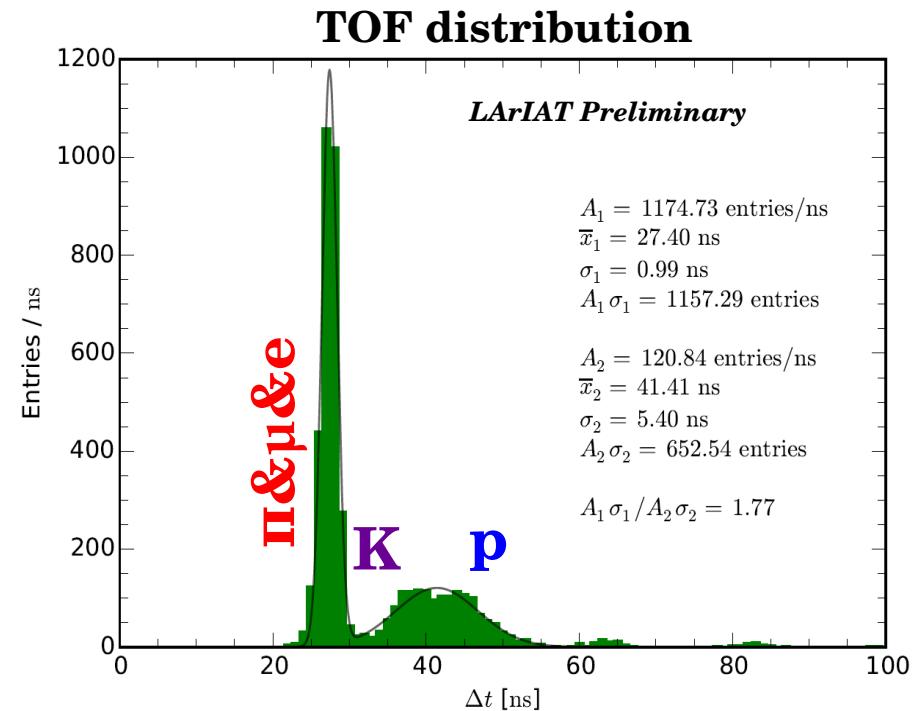
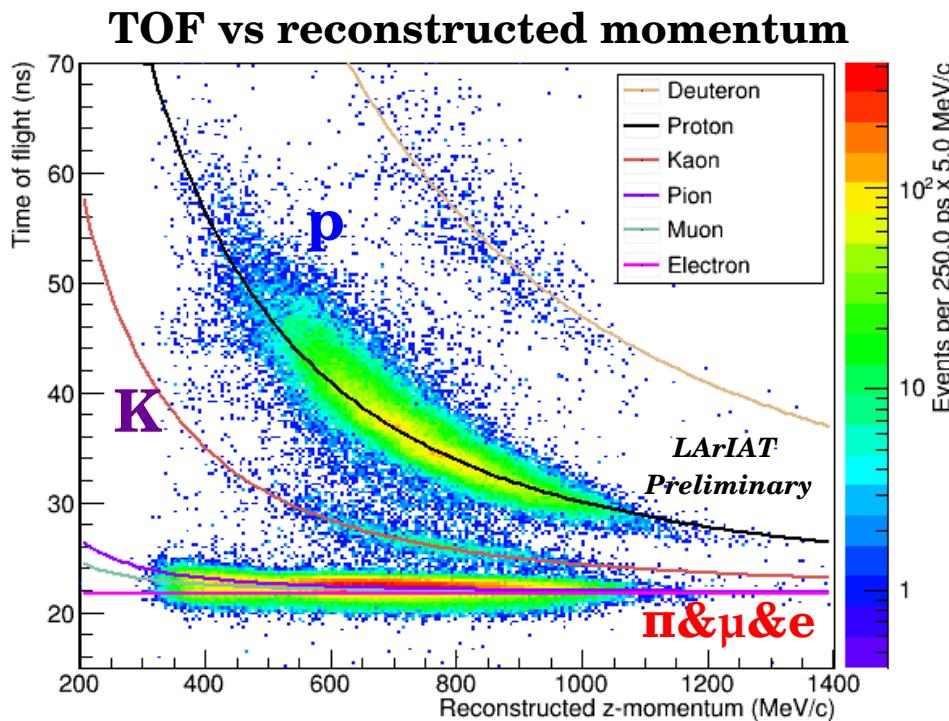
# ***Multi-Wire Proportional Chambers***

*MWPCs + bending magnets allow to reconstruct particles momentum before entering the LArTPC*

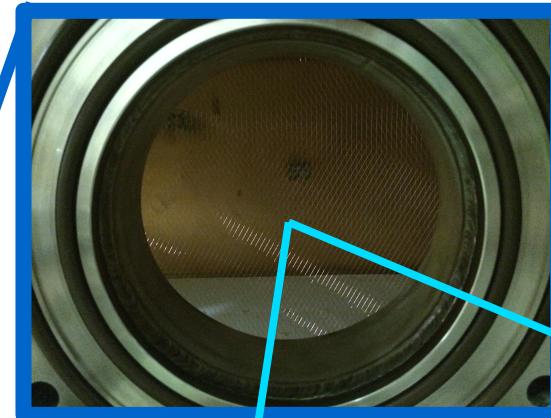
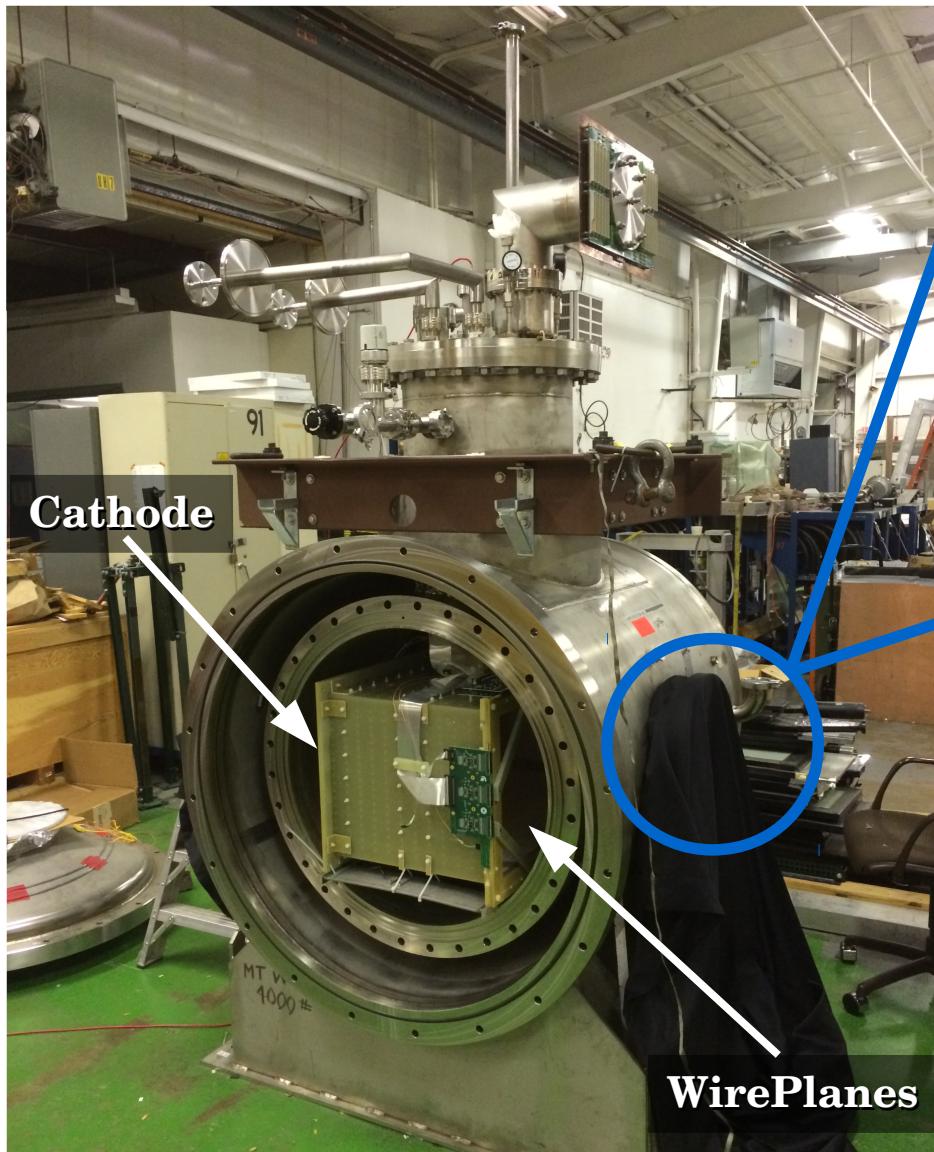


# Time Of Flight (TOF)

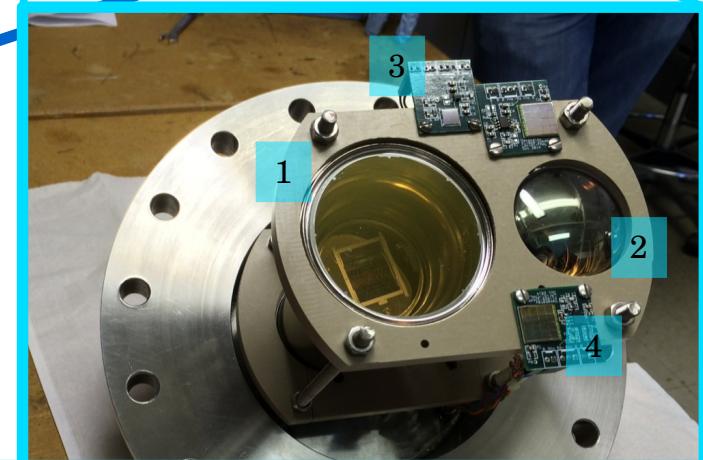
- ✓ 2 scintillator counters with 1 ns sampling provides TOF
- ✓ In conjunction with momentum derived by MWPCs, discrimination of  $\pi\&\mu\&e/K/p$  is possible



**Particle ID and momentum known before it enters the LarTPC!**



Light  
Collection  
System port



- 1 PMT: Hamamatsu R-11065 (3" diameter)!
- 2 PMT: ETL D757KFL (2" diameter)!
- 3 SiPM: SensL MicroFB-60035 w/preamp!
- 4 SiPM: Hmm. S11828-3344M 4x4 array (Run )  
SiPM: Hmm. VUV-sensitive (Run II)!

