Status Report on the Pilot Blade Reconstruction
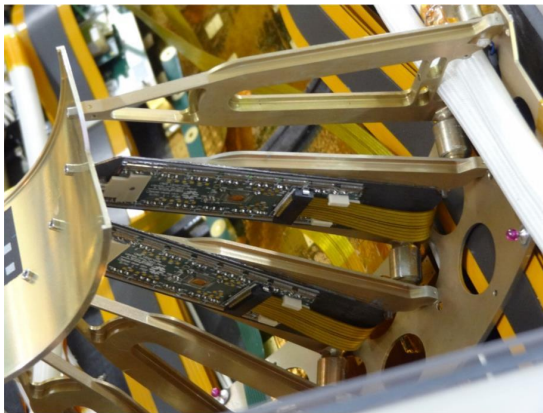
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Wigner RCP IPNP, Hungarian Academy of Sciences, Budapest

Pixel offline meeting, March 19, 2015

Pilot Blade

- 2 modules on the forward disk (disk 3)
- Phase-I prototype modules

Goals

- Reconstruct the Pilot Blades
  (this will be a Private RECO)

- Not to propagate track hits to it right now

- Measure the resolution

- Measure the efficiency

Config files

- cmsDriver.py

- In one step
  - GEN-SIM-DIGI-L1-DIGI2RAW-RAW2DIGI-L1Reco-RECO
  - Problem at Tracking
  - Asymmetric detector - Navigation School

- Diving into 2 files
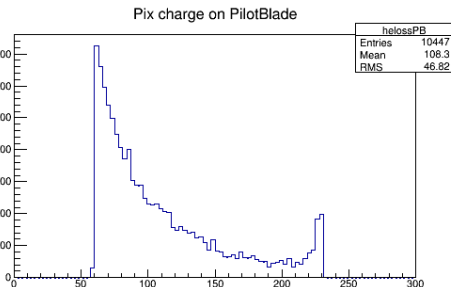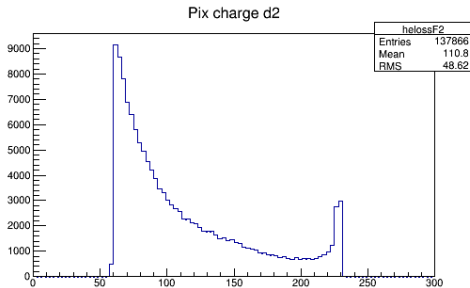 - GEN-SIM-DIGI-L1-DIGI2RAW
  - RAW2DIGI-L1Reco-RECO

- GEN-SIM-DIGI-L1-DIGI2RAW

- Change the geometry the the ExtendedGeometry2015Pilot

- Then add the new DB-s and ESPrefer them

DB objects

- **SiPixelQuality DB**
  - No bad modules now

- **Lorentz Angle DB**
  - Same values as the other forward modules

- **Cabling Map**
  - Done by Urs
  - DB contains the info about every module not just the Pilot Blades
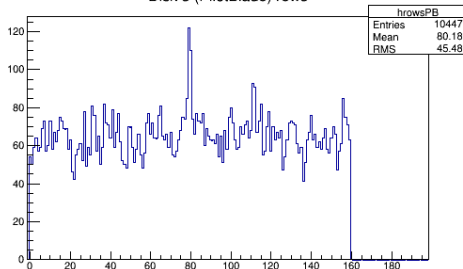
- **Gain DB**
  - To be done
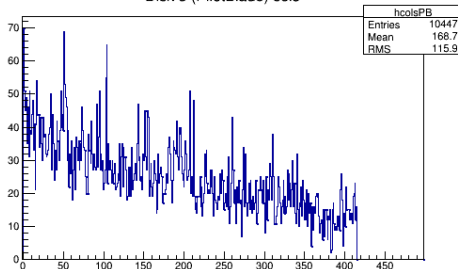
Pixel Charge Distribution

Pixel Map

Pixel Map

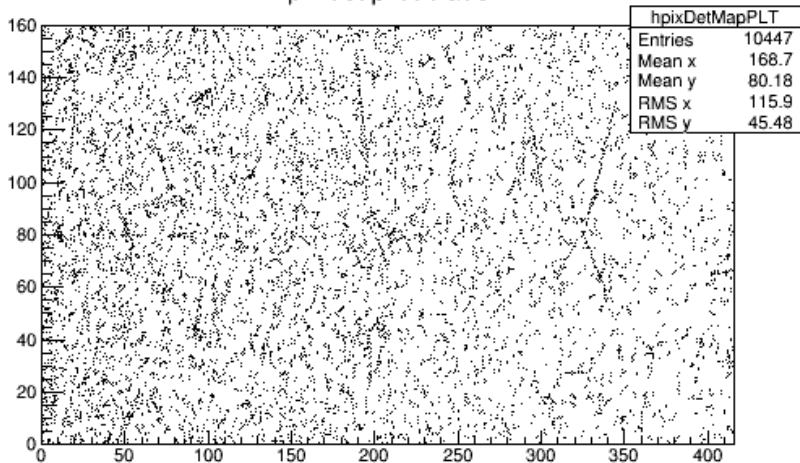
pix det pilot blade

hpixDetMapPLT	
Entries	10447
Mean x	168.7
Mean y	80.18
RMS x	115.9
RMS y	45.48

Second step
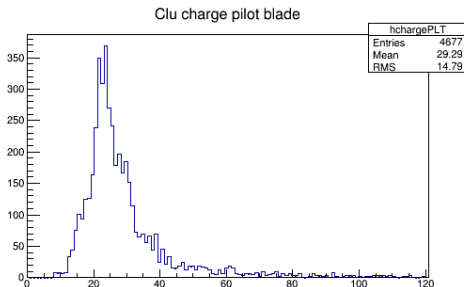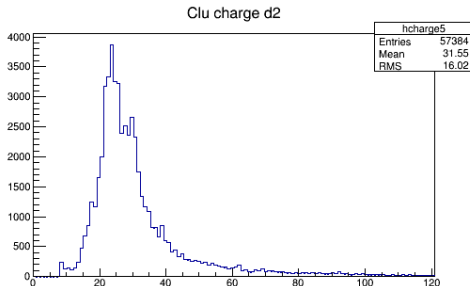
- RAW2DIGI-L1Reco-RECO

- With PB Geometry
  - Clusterizer
  - RecHits

- Without PB Geometry
  - Full RECO

Cluster Charge Distribution

Cluster Map

clu det pilot blade

hcluDetMapPLT	
Entries	4677
Mean x	164.9
Mean y	80.14
RMS x	114
RMS y	45.77

Plans
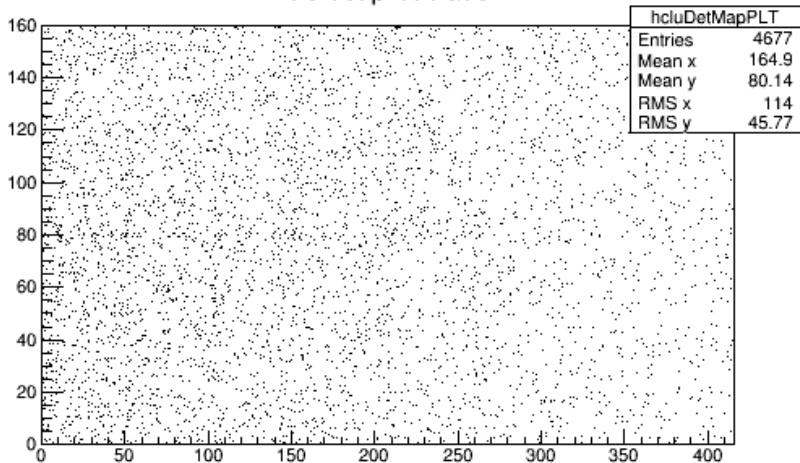
- Better statistics

- Including the Gain DB

- Validating the DB-s

- Create separate importable python config

- Measure the resolution and efficiency