

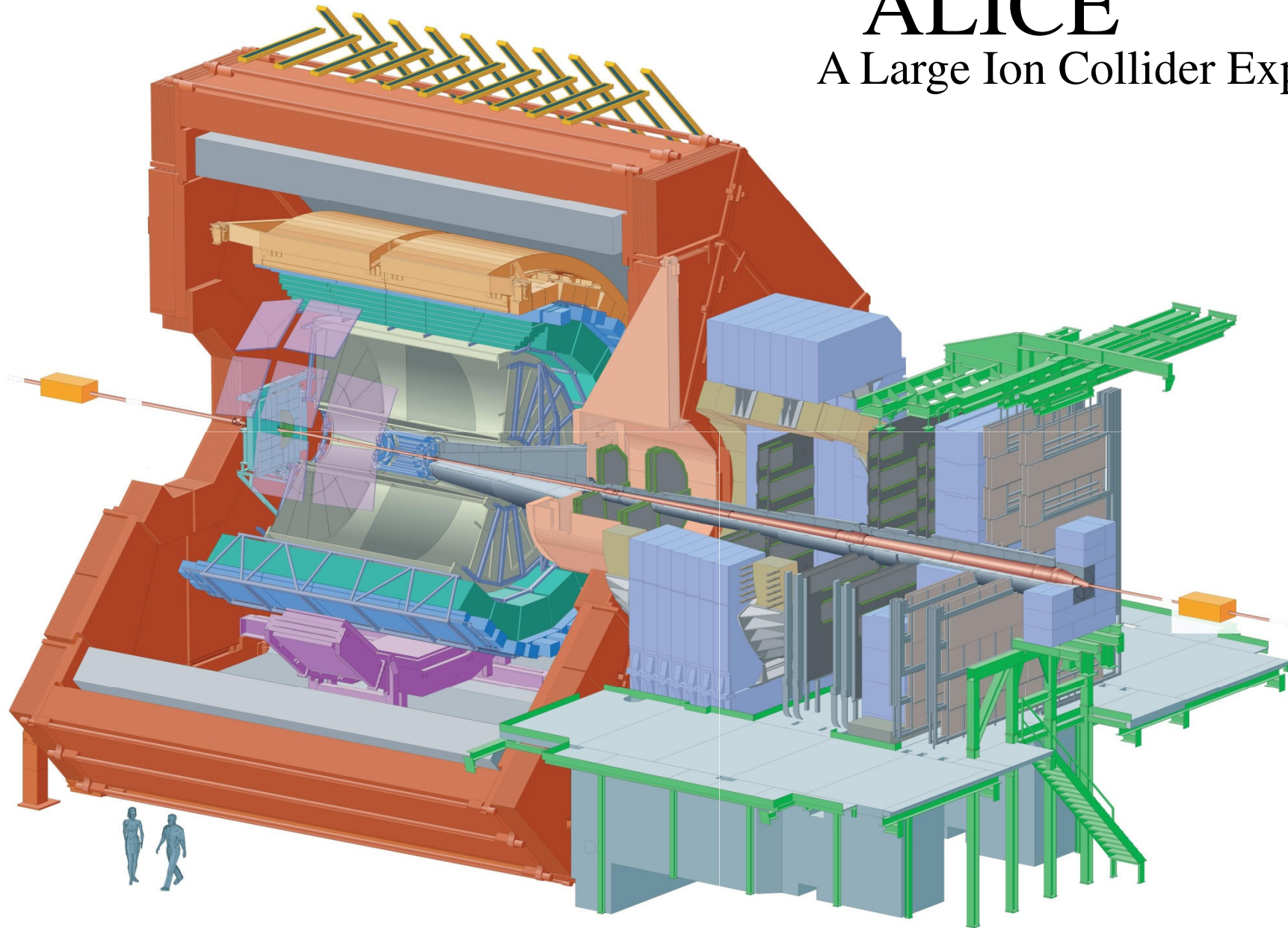
Quality Assurance for the ALICE Silicon Strip Detectors

Or:

“AliHLTITSSSDQARecPointsComponent.cxx”

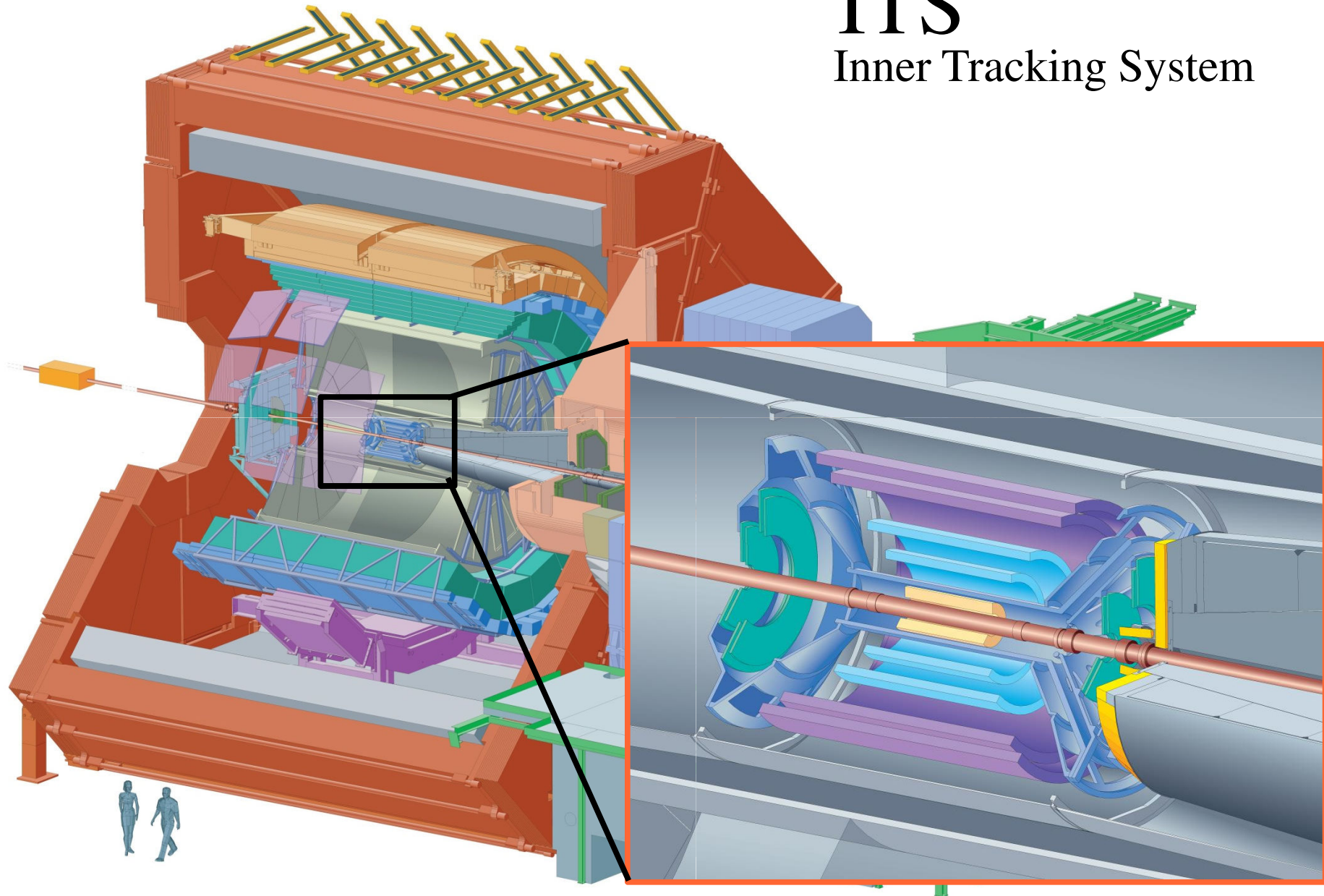
ALICE

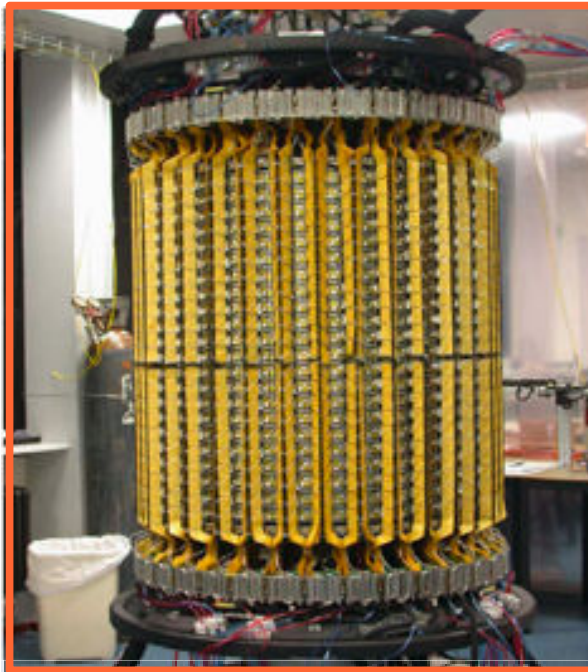
A Large Ion Collider Experiment



ITS

Inner Tracking System





SSD

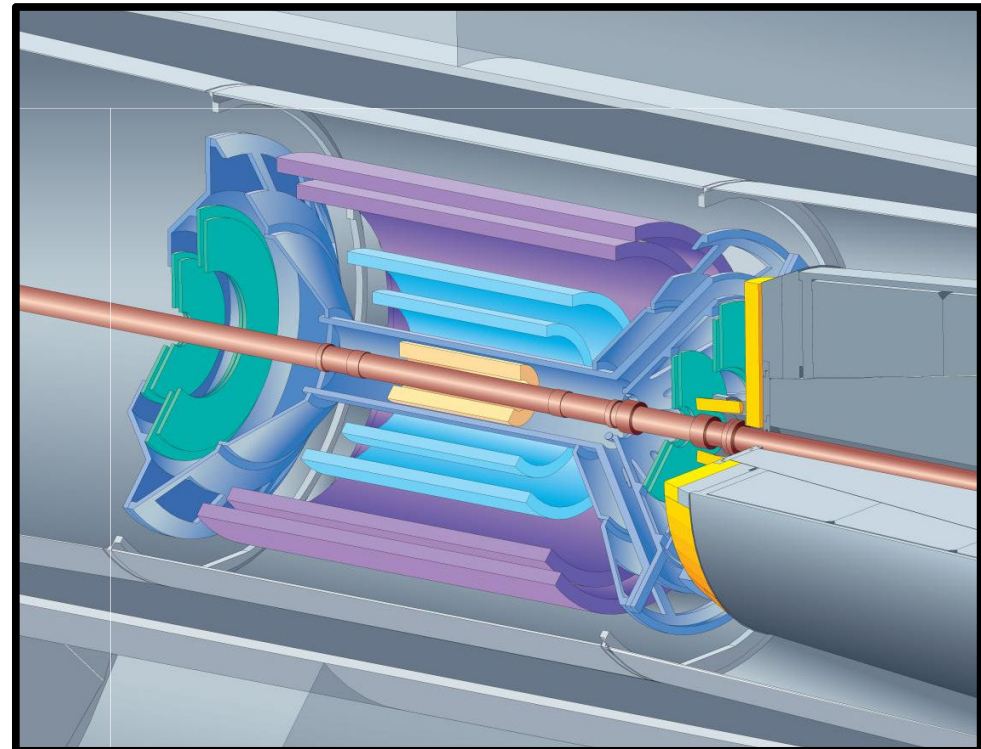
Silicon Strip Detector

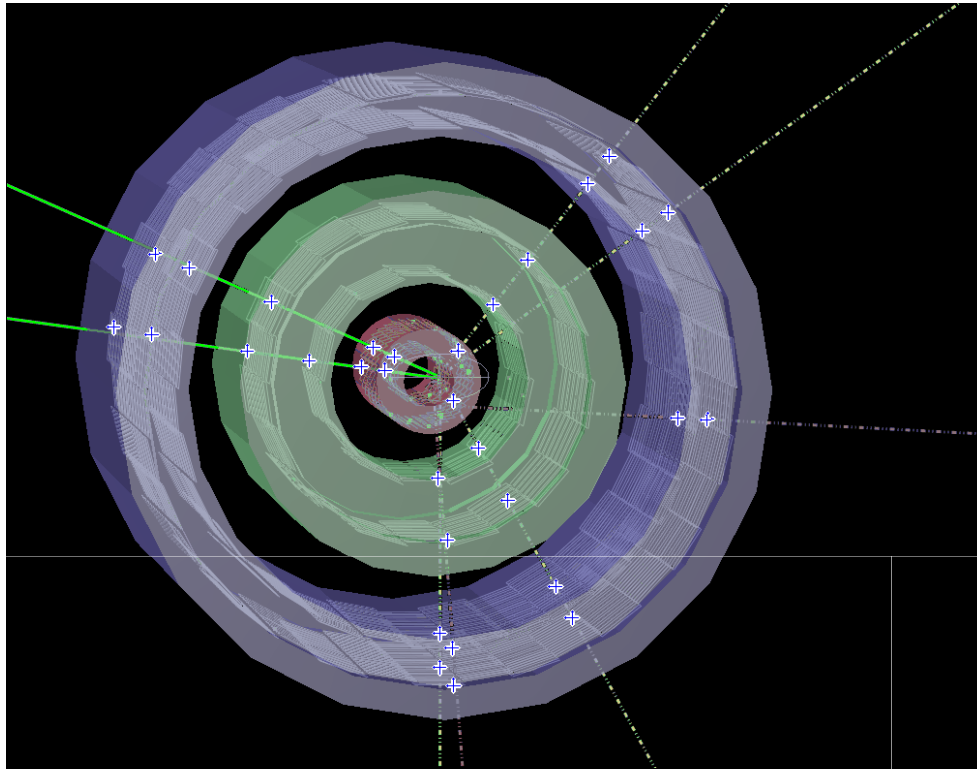
- Low momentum particle identification
- Track matching ITS-TPC

Layer 5: $r = 38$ cm
34 ladders, 22 modules / ladder

Layer 6: $r = 43$ cm
38 ladders, 25 modules / ladder

12 chips / module, 128 channels / chip:
2 608 128 channels in total





QA Quality Assurance

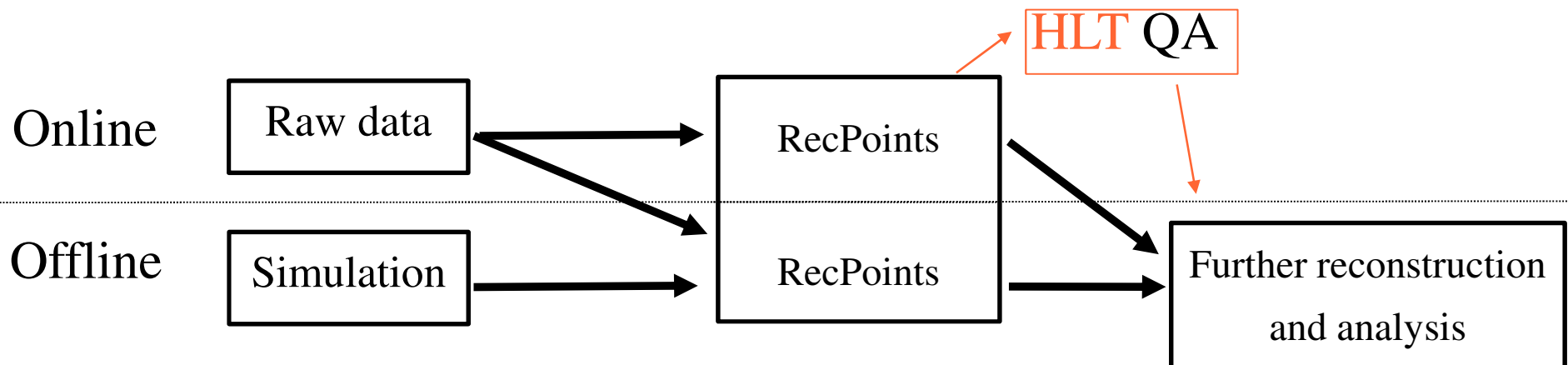
- > Use the reconstructed spacepoints (RecPoints)
- > Analyse relevant parameters (charge distribution, occupancy, etc)
- > Compare with reference data
- > Infer the data quality

HLT

High Level Trigger

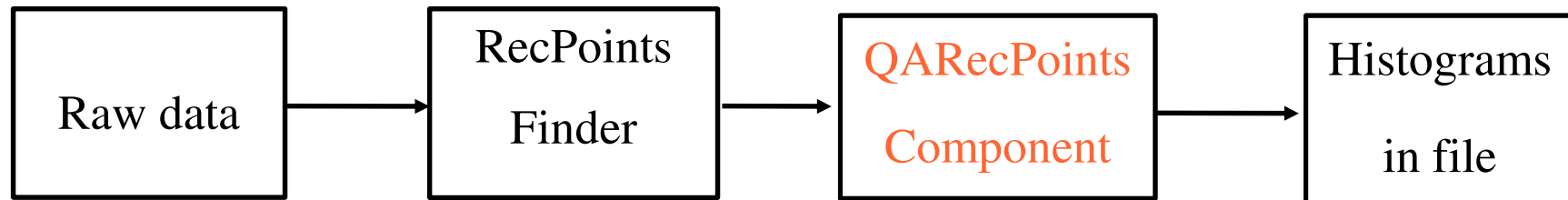
HLT farm makes the last decisions in which data is kept and which is destroyed.

Can we do QA at the HLT level = online monitoring?



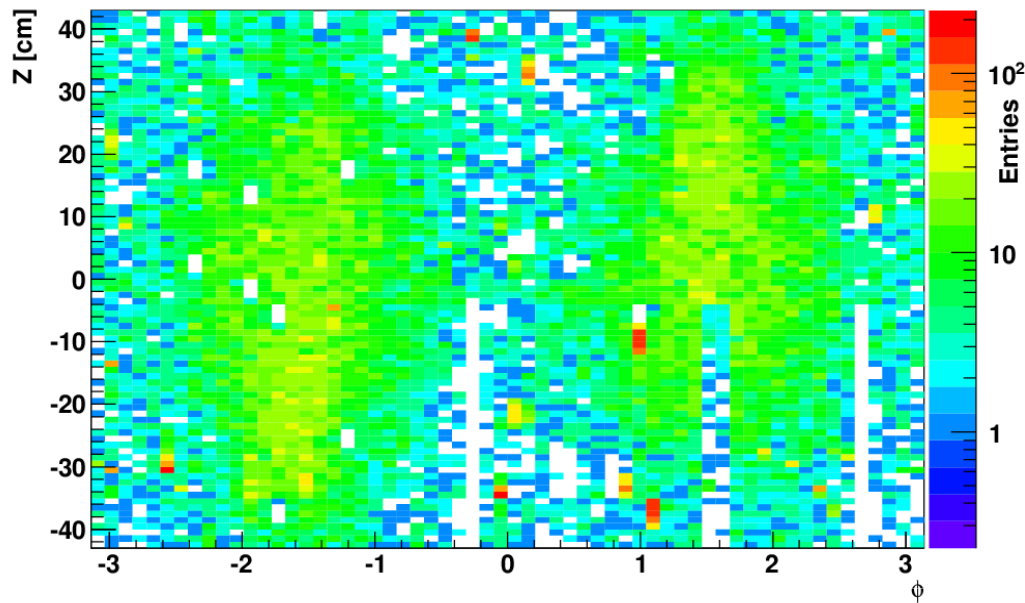
QARecPoints Component

Quality Assurance at the HLT level:



This is where we are now.

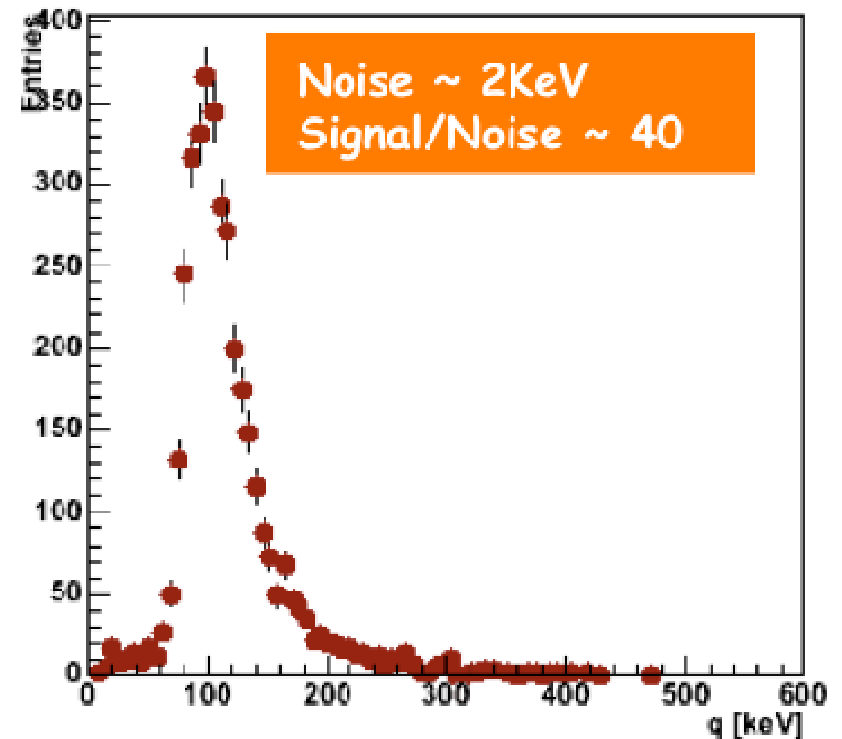
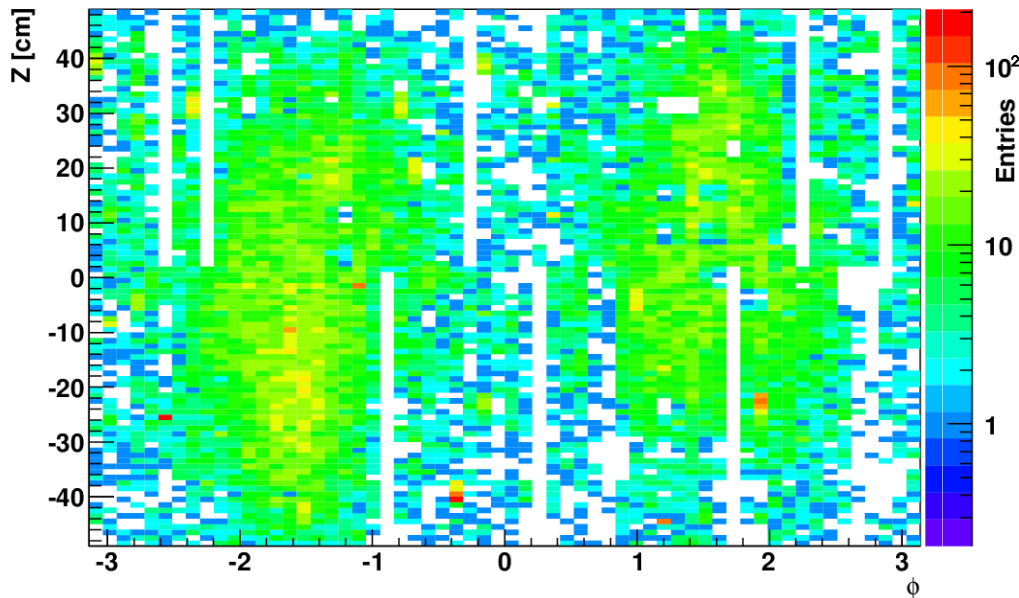
Clusters on layer 5



Cluster map: Shows
RecPoints per module

Charge distribution:
Corresponds to energy deposit in
silicon strips $\rightarrow$ Landau distribution

Clusters on layer 6



Conclusions / Next steps

- > We want: Online monitoring of data quality of the 5th and 6th detector layers (SSD) of ALICE
- > We have: “AliHLTITSSSDQARecPointsComponent” creates QA histograms from found RecPoints.
- > We need: A way to quickly compare these histos with reference data and show the result to the user -> AMORE
- > We won't be bored :-)

Thank you