

TRD offline status

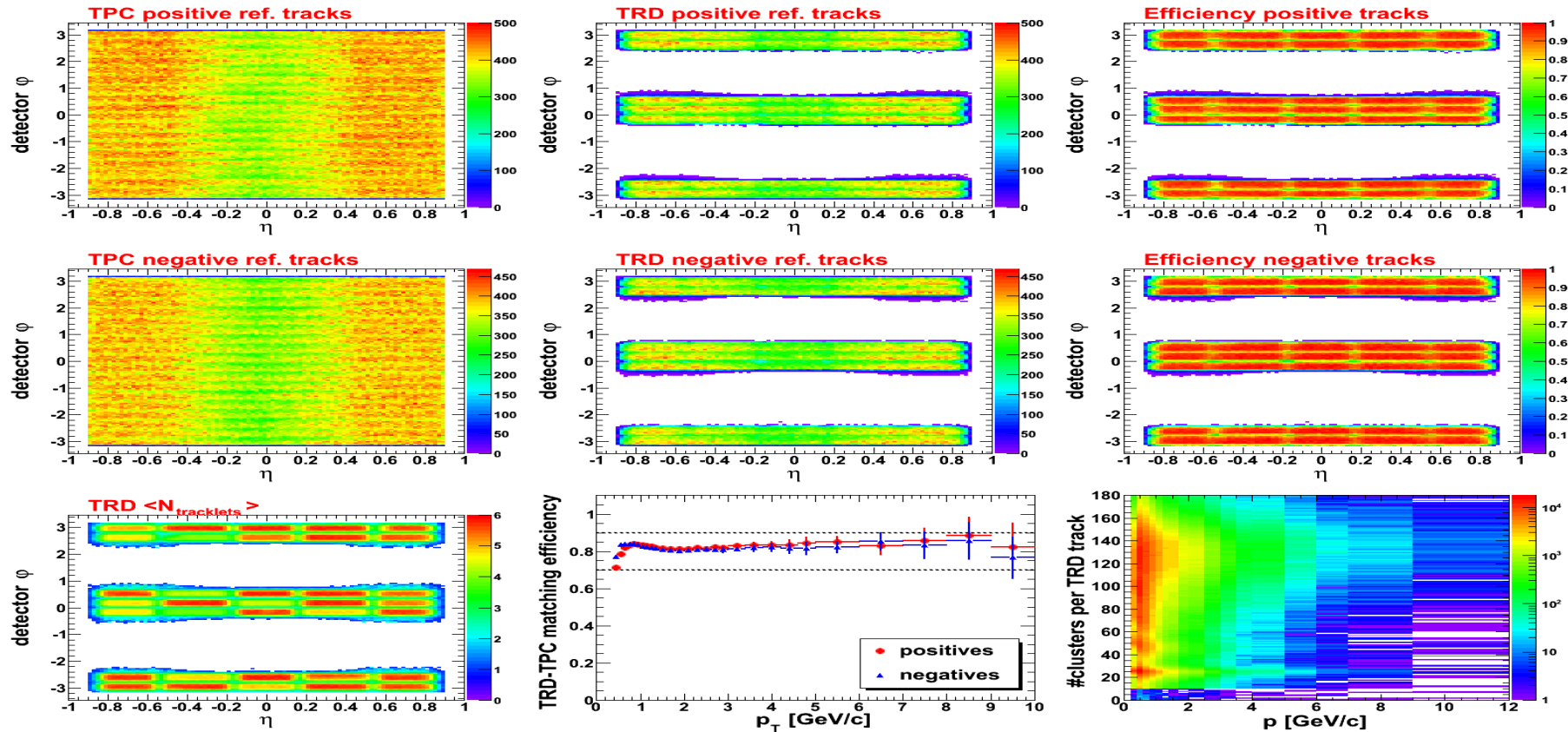
Alex Bercuci for TRD reconstruction team

Content

- ❑ PWG1-Analysis “monitoring”
- ❑ Calibration
- ❑ Reconstruction problems/solutions

Status as seen from PWG1 (pp)

TRD vs TPC matching

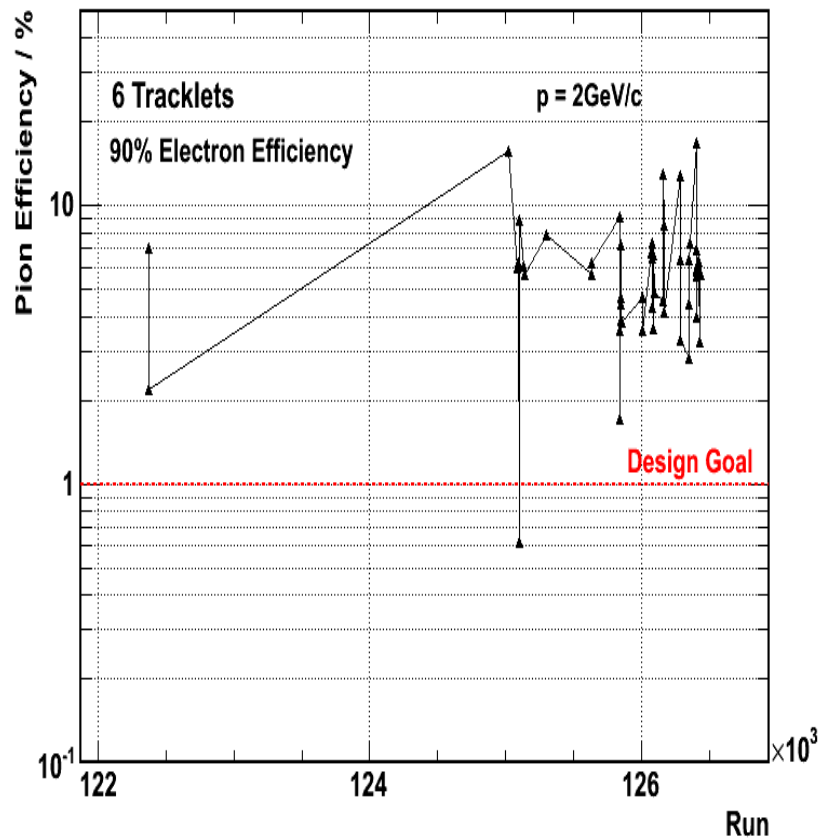


History and Trending : <http://www-alice.gsi.de/trd/beam10/>
PWG1 is doing its job *but not quite*
– it didn't catch recent bug in geometry

Status as seen from PWG1 (pp)

TRD PID

trending



Calibration

❑ **Online calibration on DAQ: PEDESTAL runs**

- Determine the noise level per pad (used in reco)
- DA has to be still validated after the migration to SLC5/64

On the way...

❑ **Offline pass0 calibration**

- Fix for runs without TRD in svn (request to port will come)
- TPC and TRD running together, runs without TRD should not break

❑ **Chamber Gain calibration**

- For the moment we are using a dEdx observable which include *drift velocity* dependences ! Dangerous/Tedious coupling !
- Use a dEdx observable independent of *drift velocity*
- Outliers protection (produces crashes on some platforms)

❑ **Pad per Pad calibration**

- – New Krypton data for new installed SM (now)
- – Still improvement of the results with old data on the way

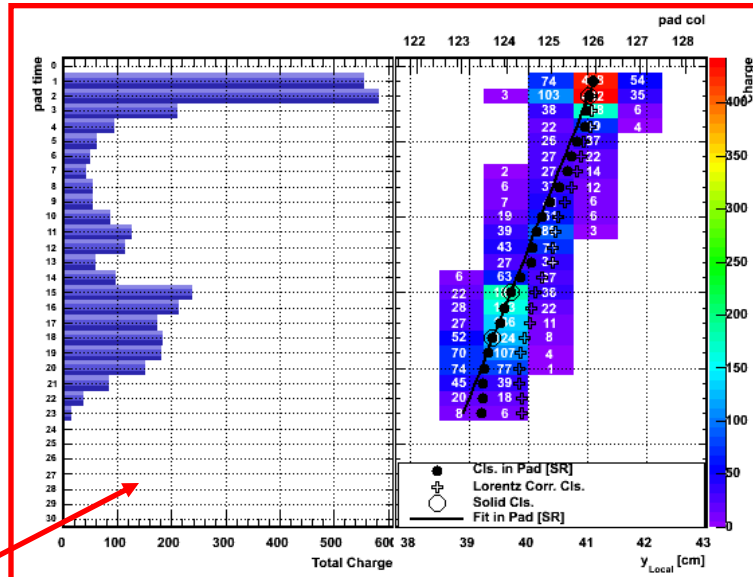
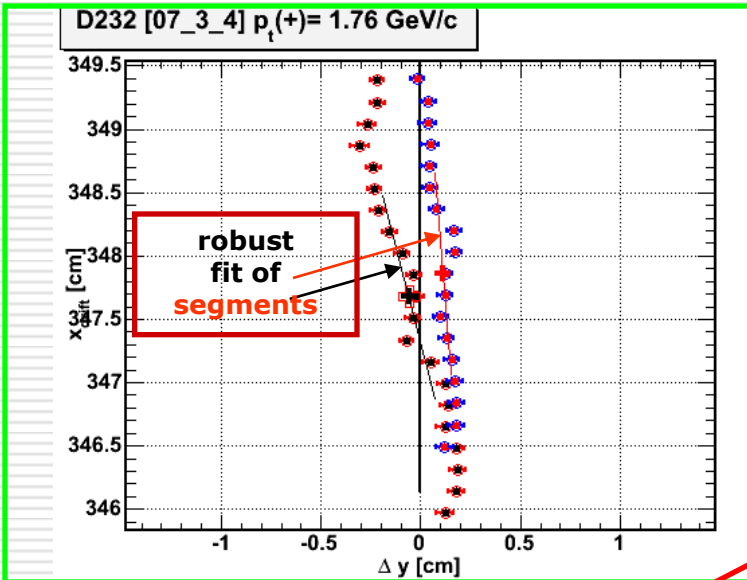
Reconstruction

List of problems triggering generating a “very” deep lookup in the tracking

- Pb-Pb
 - **bug #75401: Drop in TOF efficiency in TRD sector**
 - **Also crash in reco due to gain outliers (recognized later)**
 - PID related observables dependence on centrality (**wider**)
 - **Charge/Tracklet**
 - **No. of TRD clusters/Track**
- p-p
 - dEdx shape (**wider**) as compare with TB
 - No. of clusters/track scale with momentum

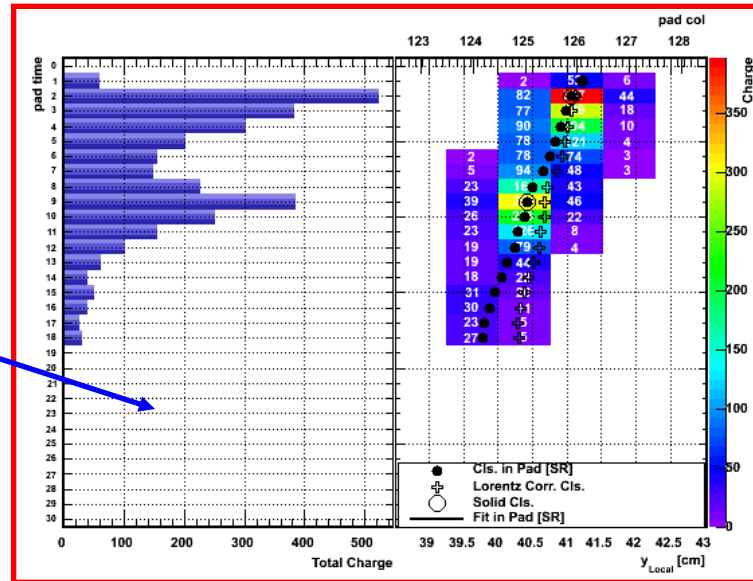
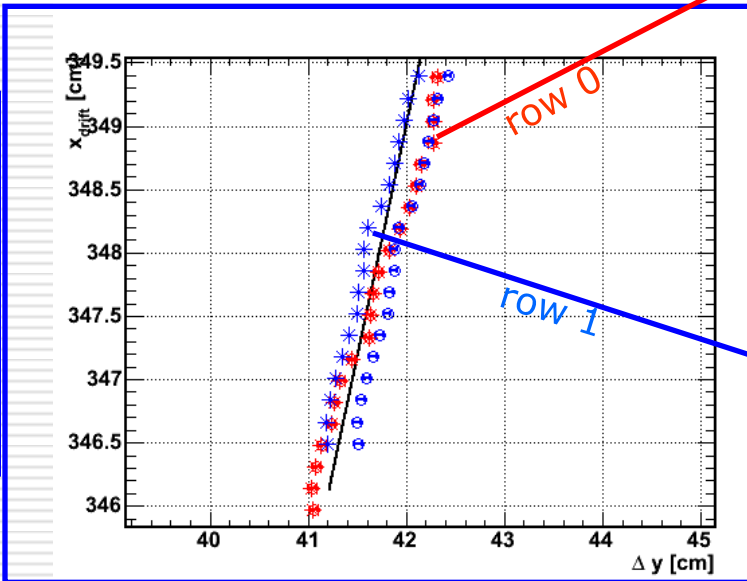
Reconstruction "challenges" in pictures (new monitor)

Track View

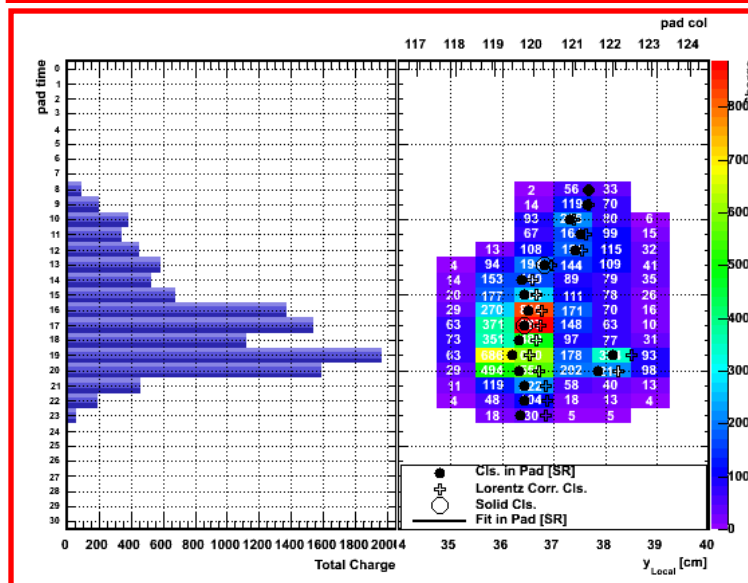
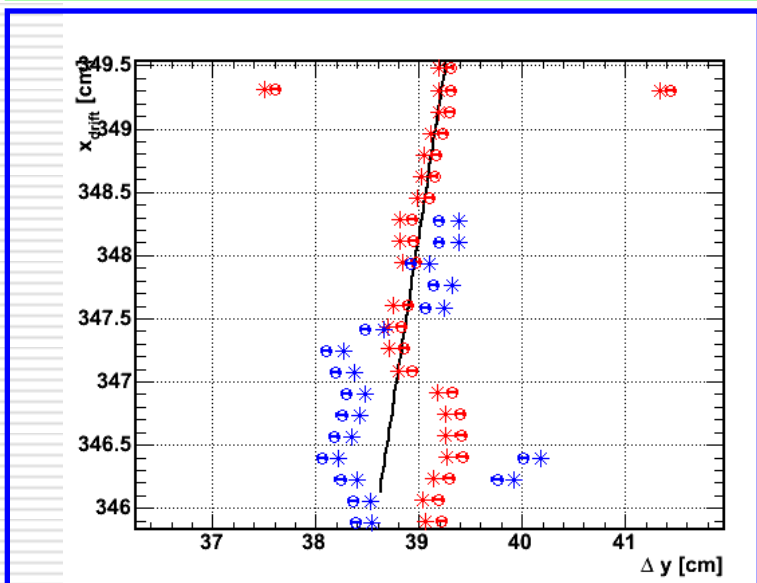
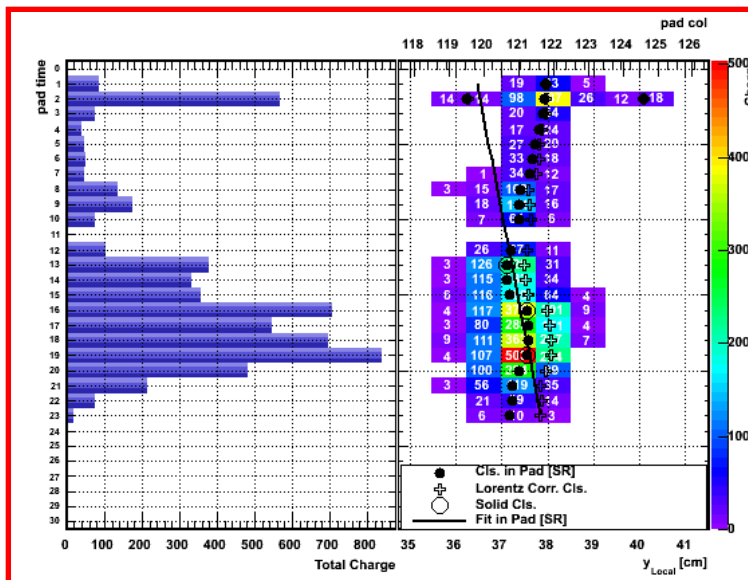
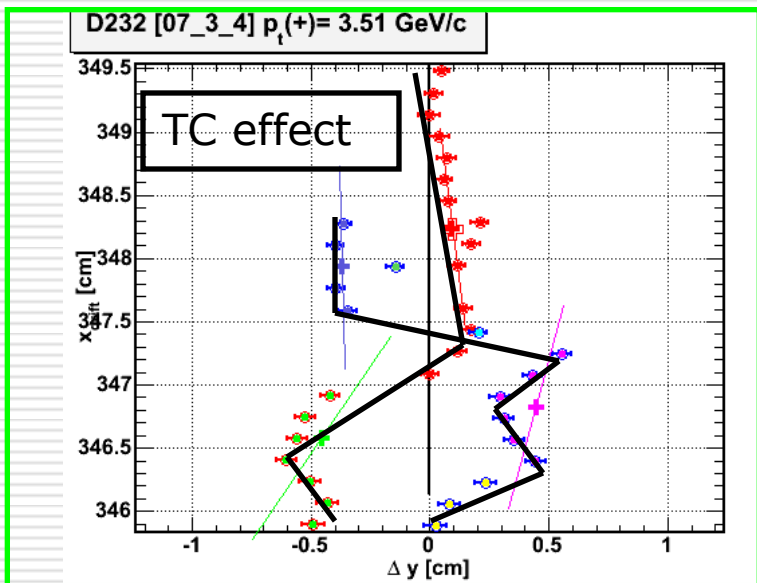


Digit View

Tracking View



Reconstruction "challenges" – "majority" of the cases



Reconstruction challenges

- “Closest cluster attachment” philosophy does not work !
 - Need to identify topologies
 - High local occupancy (many “possible” tracks in roads)
 - Electronic fakes (due to PASA saturation)
 - Decays
 - Delta rays
 - Cluster grouping based on topological procedure (on going)
 - Attachments of “segments” with clear topological signatures
- Tail cancellation need to be “calibrated” (on going)
 - By minimizing the zigzags
 - New “challenge” from the last PWG1 report.
- PID strategy
 - go for an observable for dEdx **independent** of **drift velocity**.
See same calibration issue.
- Outlook
 - Major update in the basic reconstruction procedures needed
 - New code already in test phase. We expect release soon !