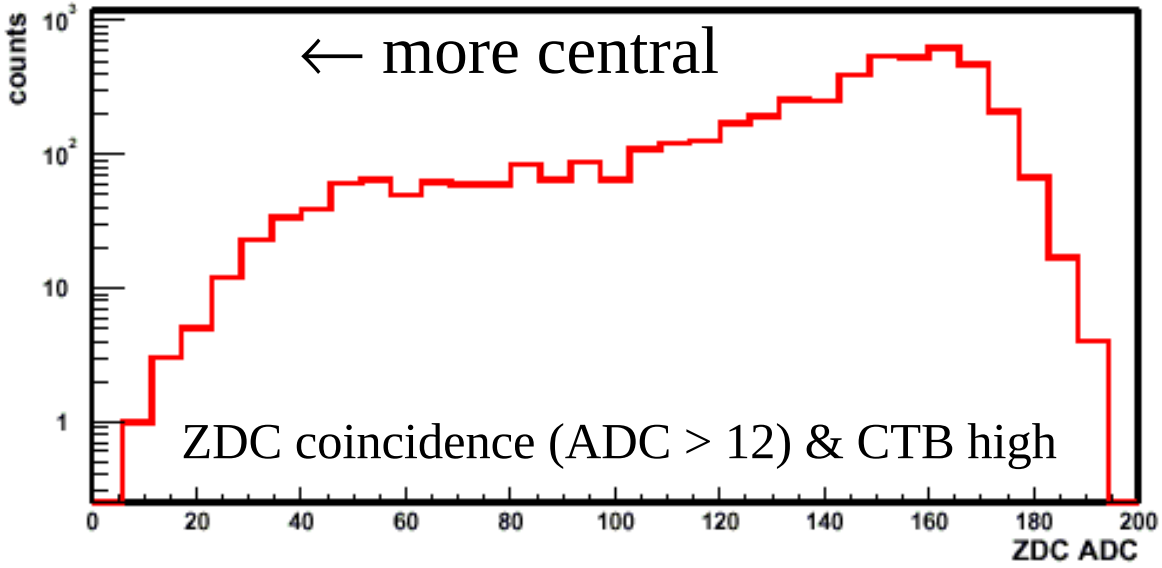
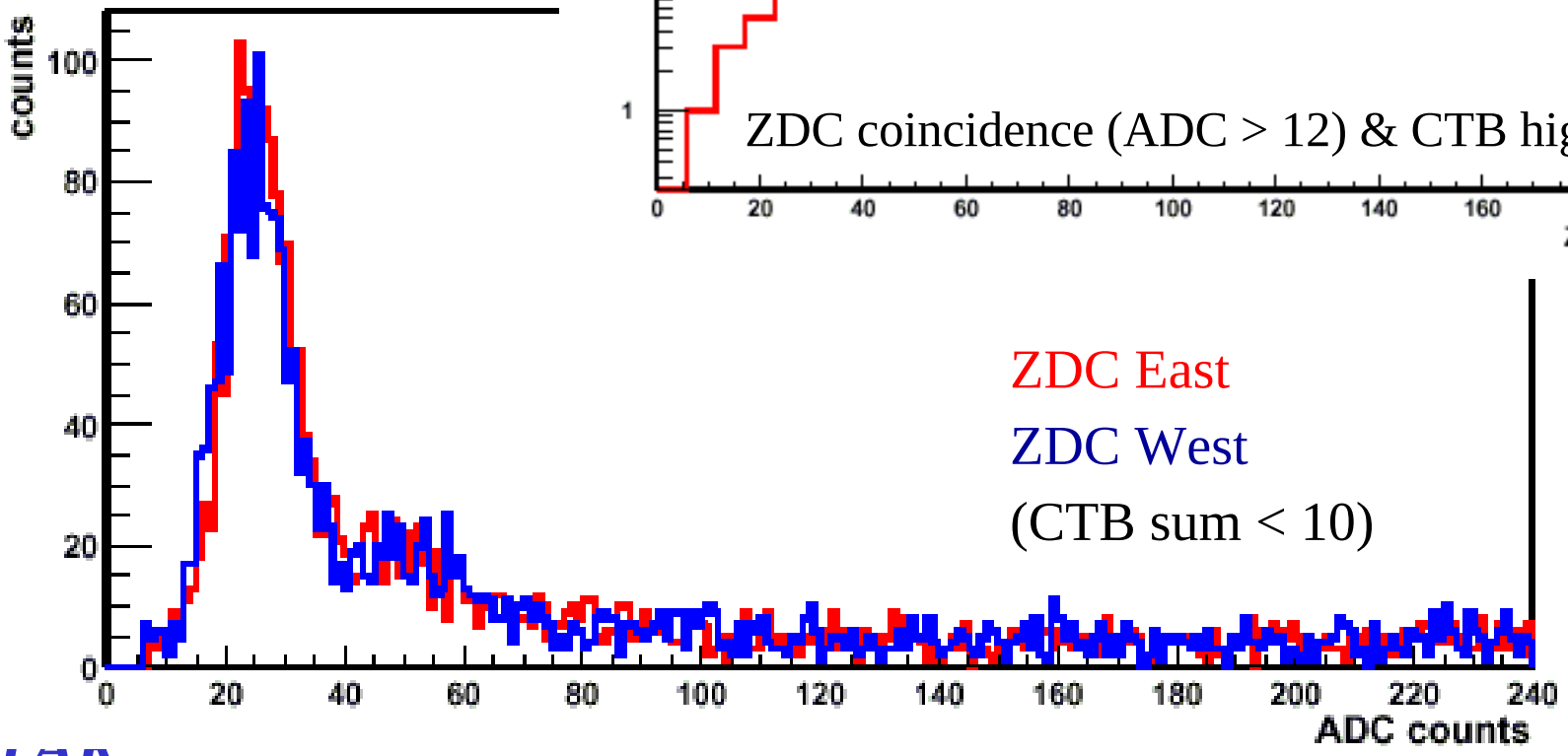
Zero Degree Calorimeter

- ZDC's common to all RHIC experiments
- single neutron peak:
  - luminosity measure
- centrality measure
- low-level trigger





Data Taking: Summer Run 2000

RHIC Operation:

- "rose to the occasion", great job !!!
- reached 10% design luminosity

Magnetic Field:

- half field: 0.25 T

Detectors:

- TPC (100% uptime), RICH, 1 ladder SVT, ZDC, CTB

Trigger:

- L0 & few days L3 (|z-vertex|<80 cm)
  - 844k central trigger 15% of σ_{geo} (331k were 5% of σ_{geo})
  - 761k minimum bias
  - 20k peripheral ($\gamma\gamma$)

DAQ:

- bandwidth to RCF (~20 MB/s)

L0 Trigger for First Run

Summer 2000 Triggers

- **"Minimum Bias"**

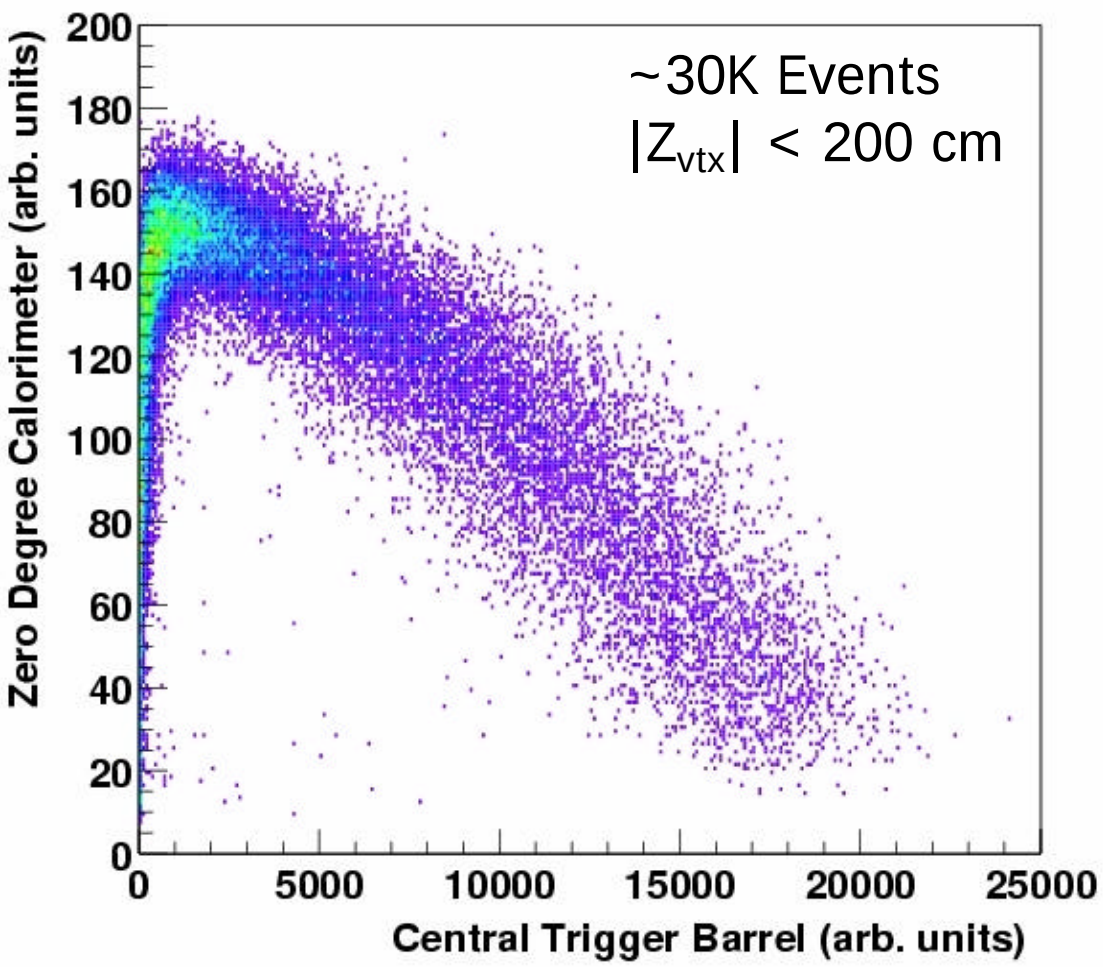
ZDC East and West thresholds set to lower edge of single neutron peak.

REQUIRE:
Coincidence ZDC East and West

- **"Central"**

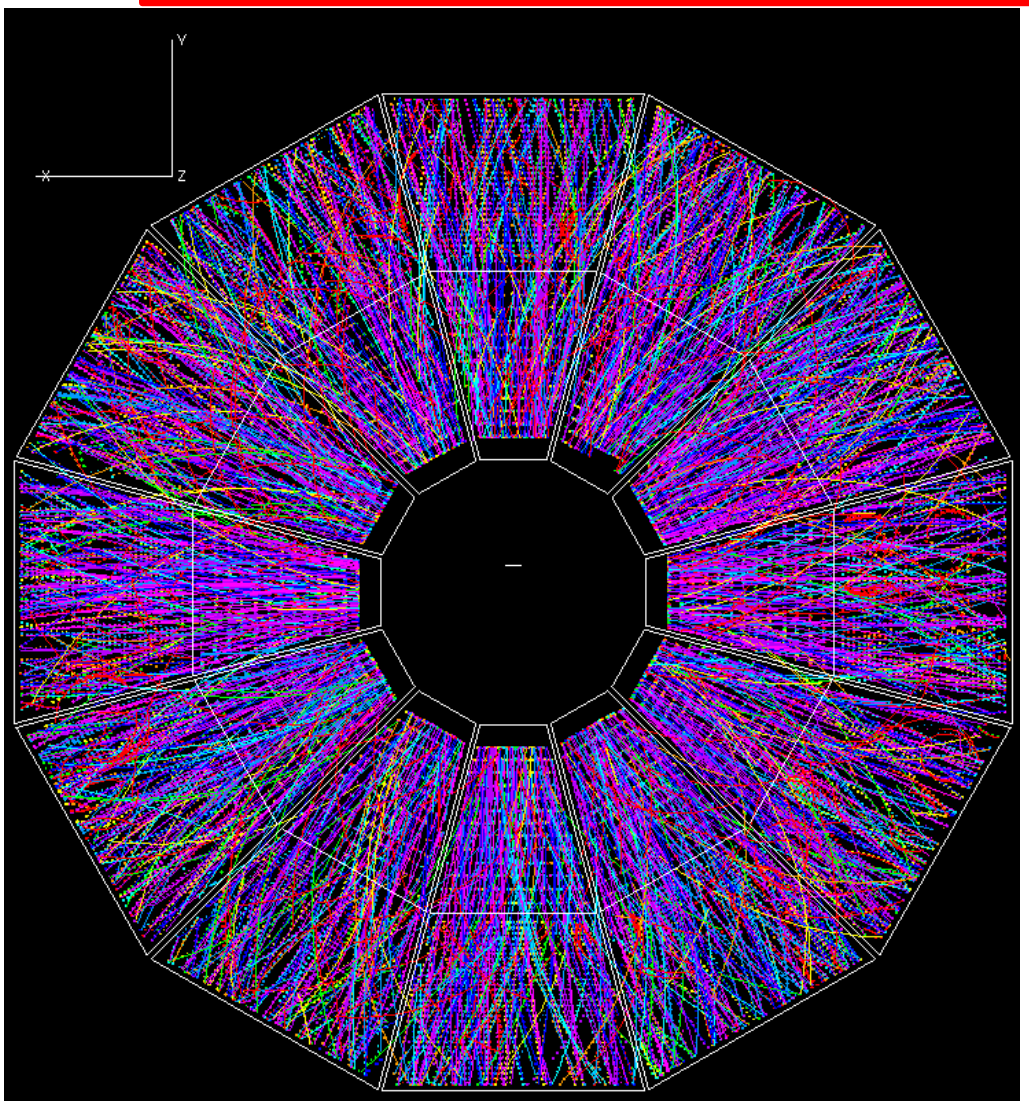
CTB threshold set to upper 15%

REQUIRE:
Min. Bias + CTB over threshold



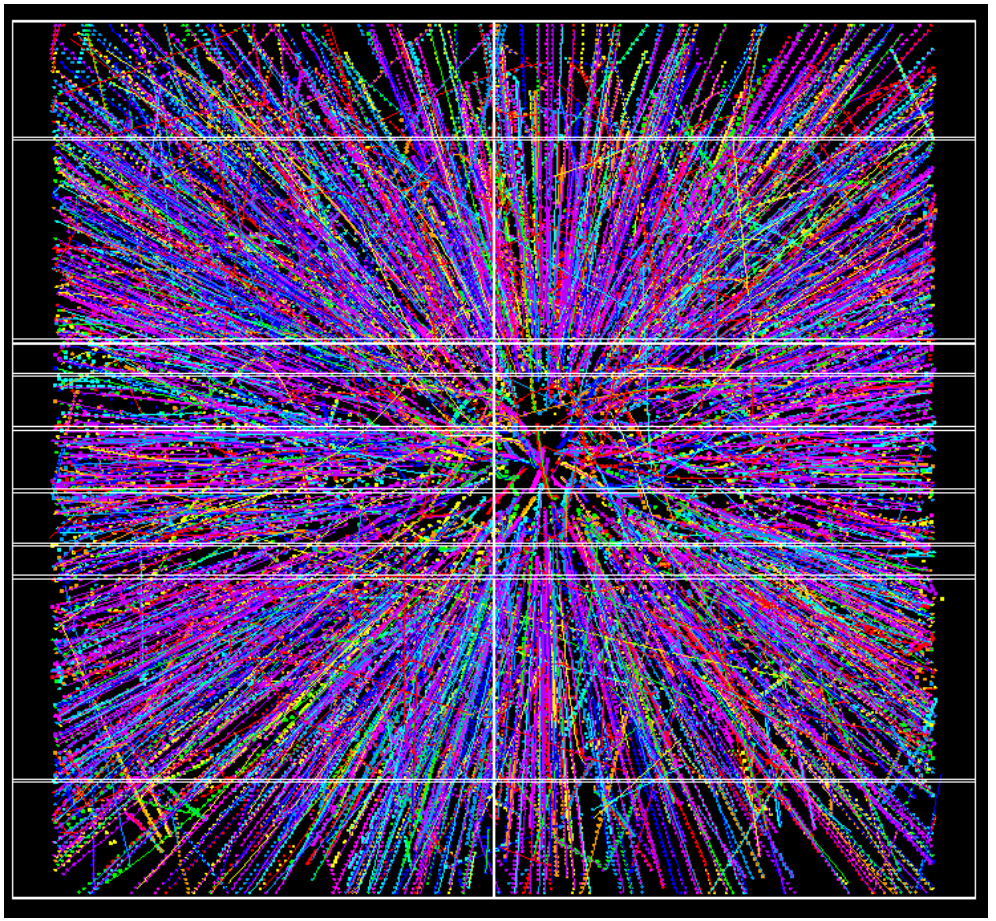
- **"Peripheral"**
  - Back-to-Back track pairs: one hit on N-side and one on S-side of CTB
  - REQUIRE: 1 or 2 pairs of back-to-back tracks ONLY

TPC Performance: Au +Au at $\sqrt{s_{NN}}$ = 130 GeV



Run: 1186017, Event: 32, central

colors ~ momentum: low - - - high

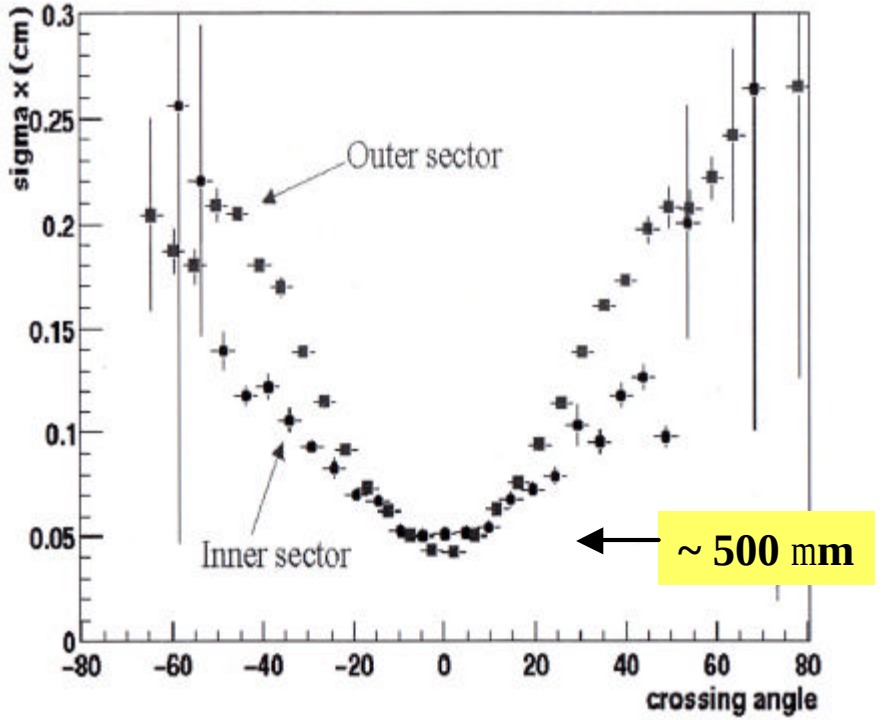


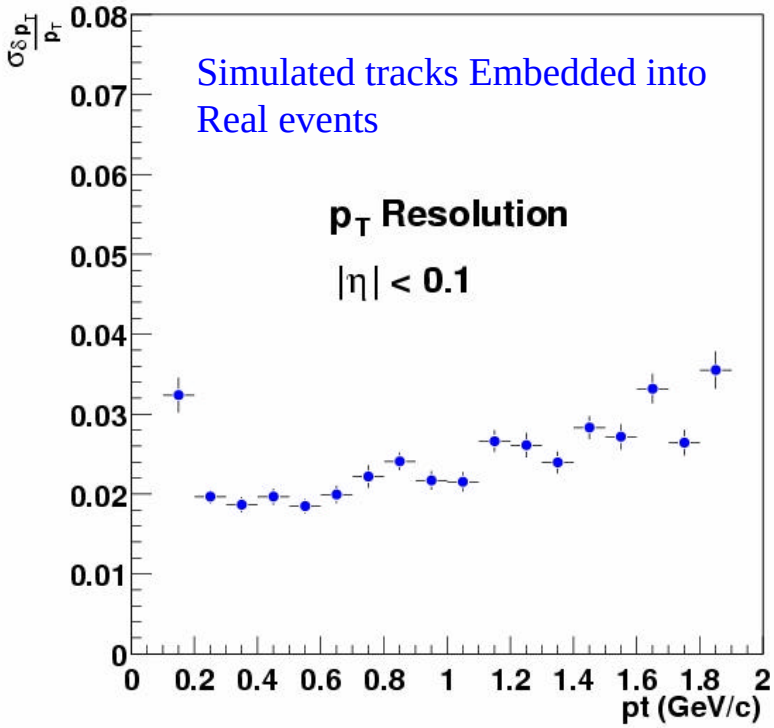
TPC Performance

TPC ran extremely well!!!

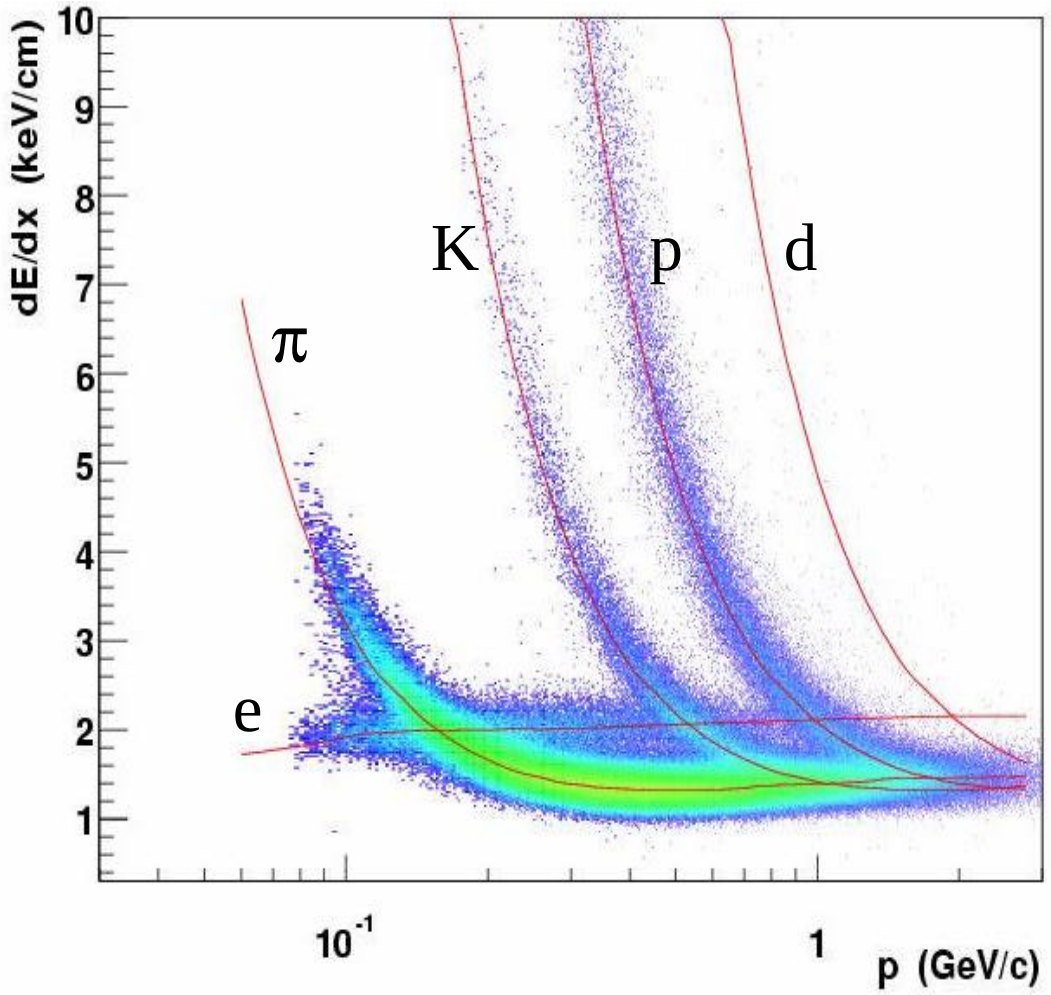
- 100% uptime
- bad channels < 1%
- no space charge problems
- no gas alarm in 2 months

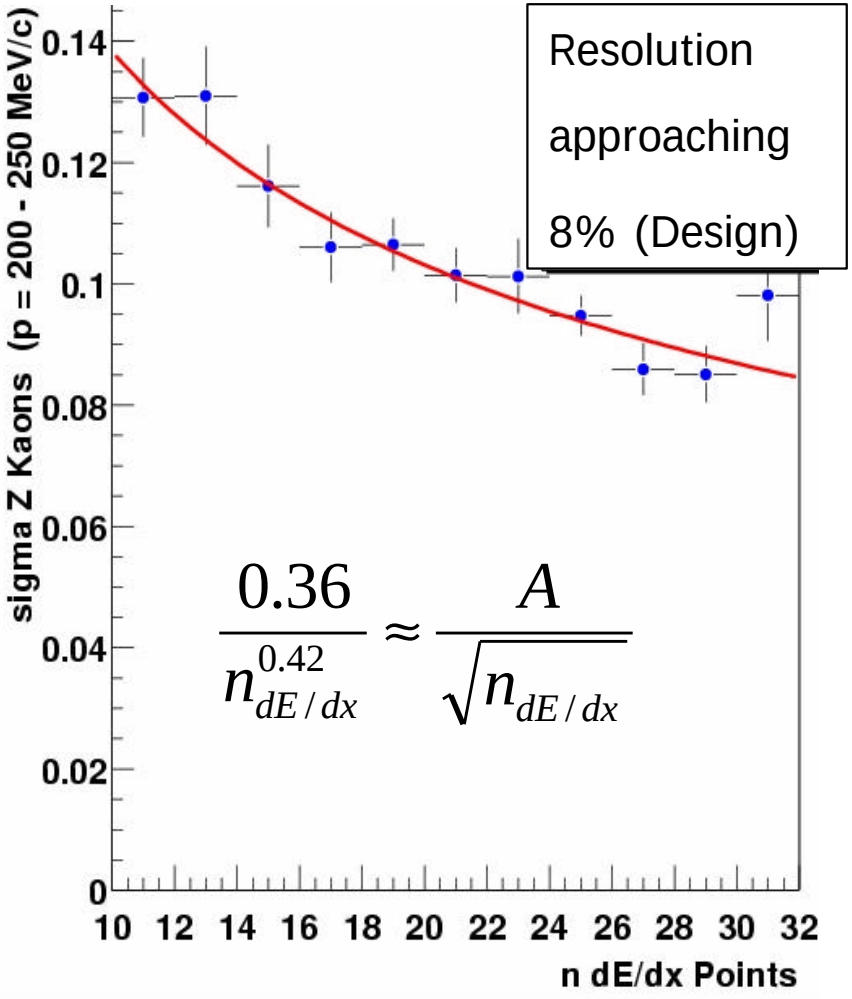
Hit Position Residuals



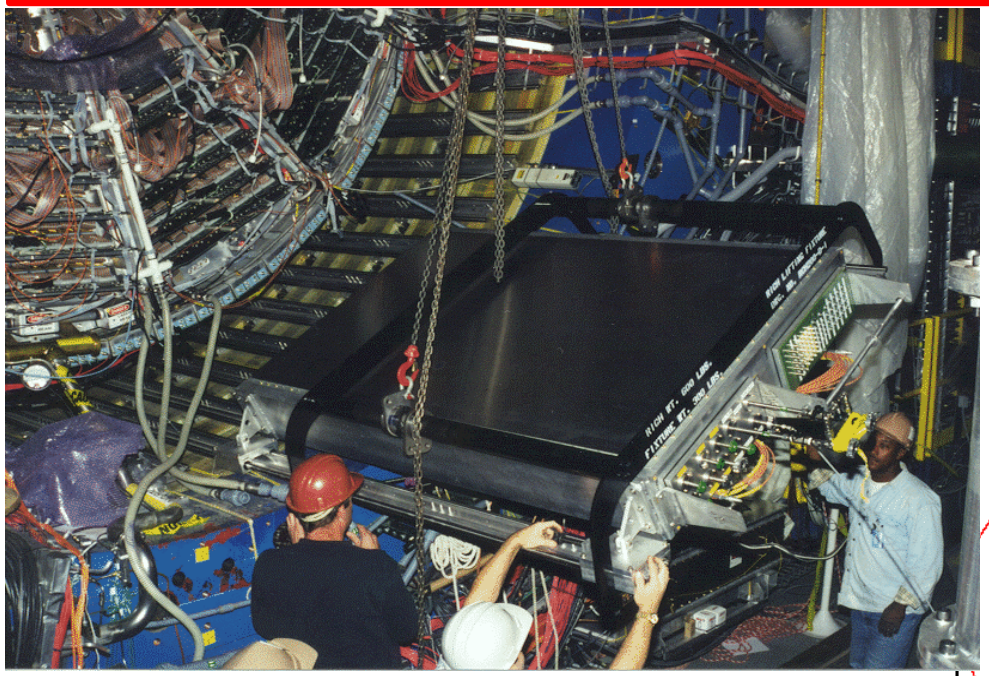


PID in the TPC: dE/dx



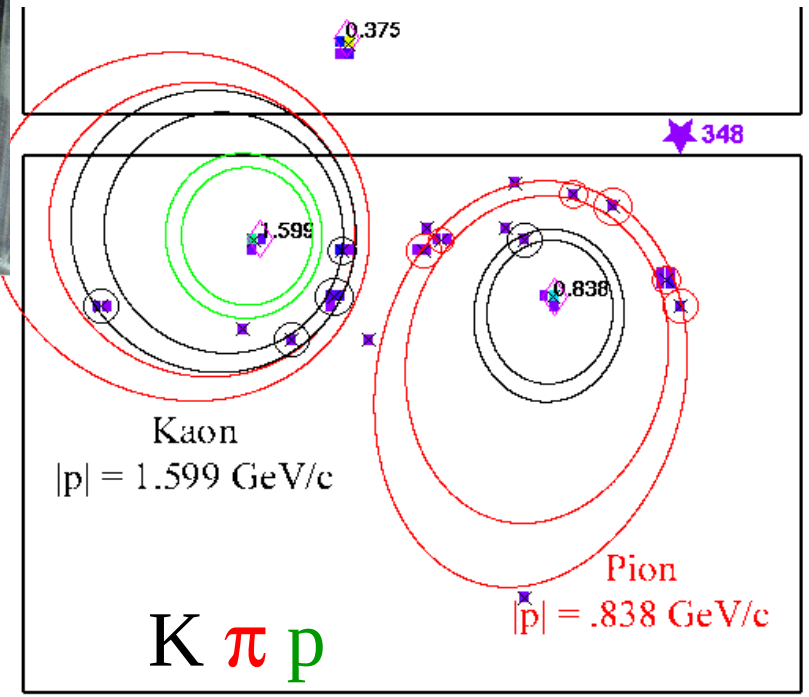


Ring Imaging Cherenkov Counter



Inclusive PID for K/π/p

- 1-3 GeV/c for K/p
- 1.5-5 GeV/c for p/anti-p



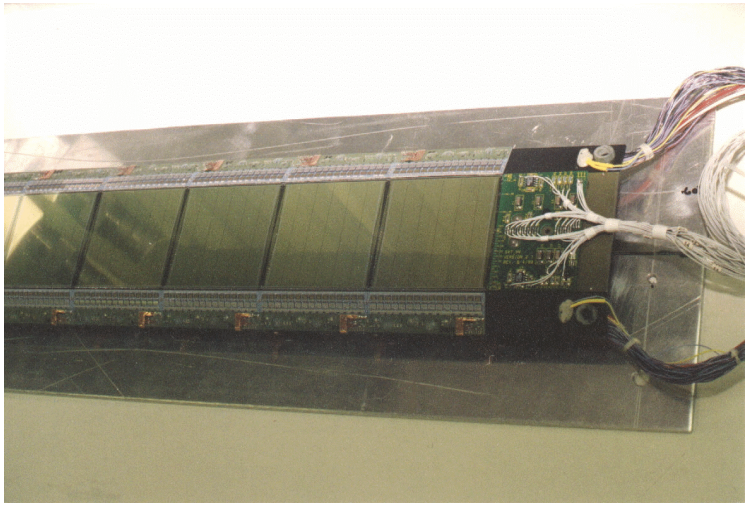
- C6F14 Liquid Radiator
- CsI Photo Cathode
- MWPC with 16,000 Pads

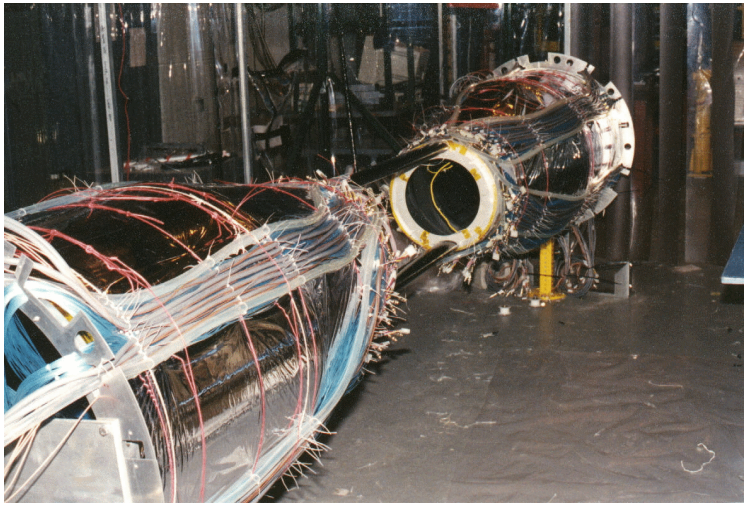
Up and running

Silicon Drift Detector

Year-1 Ladder:

- Seven wafer ladder placed 10 cm from vertex
- Allows for testing of RDO system and noise effects while in TPC
- Analysis of TPC results will provide information on detector calibration





- Proof of principle for SVT operation established
- TPC track correlation demonstrates correct operation of system