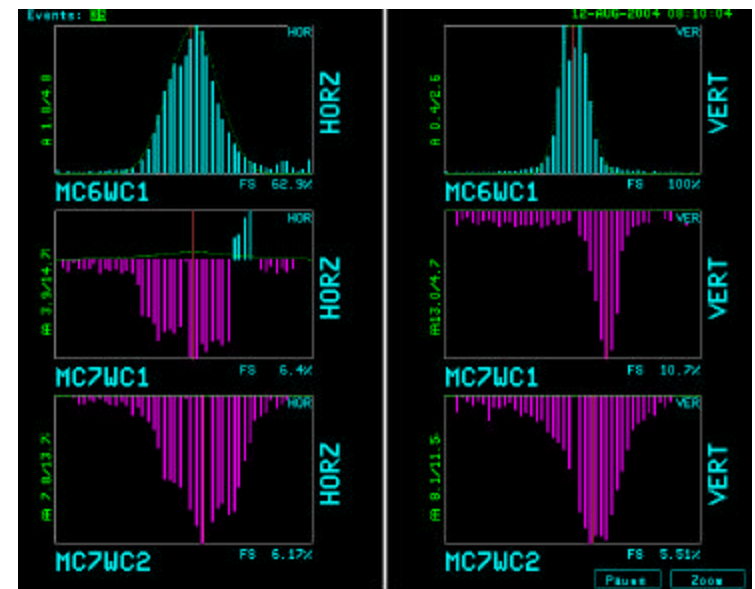
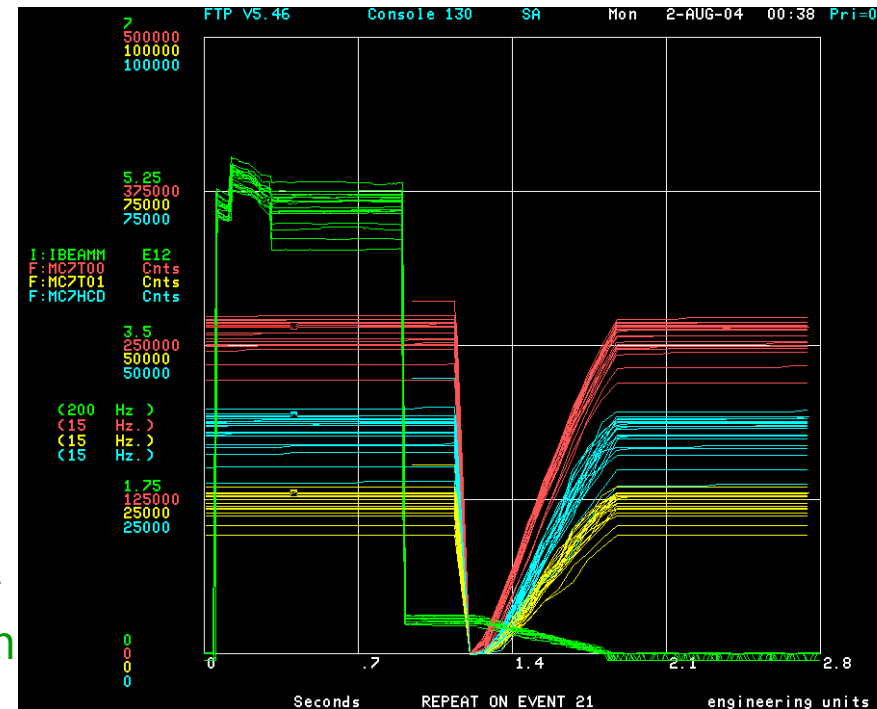


MI PP Status

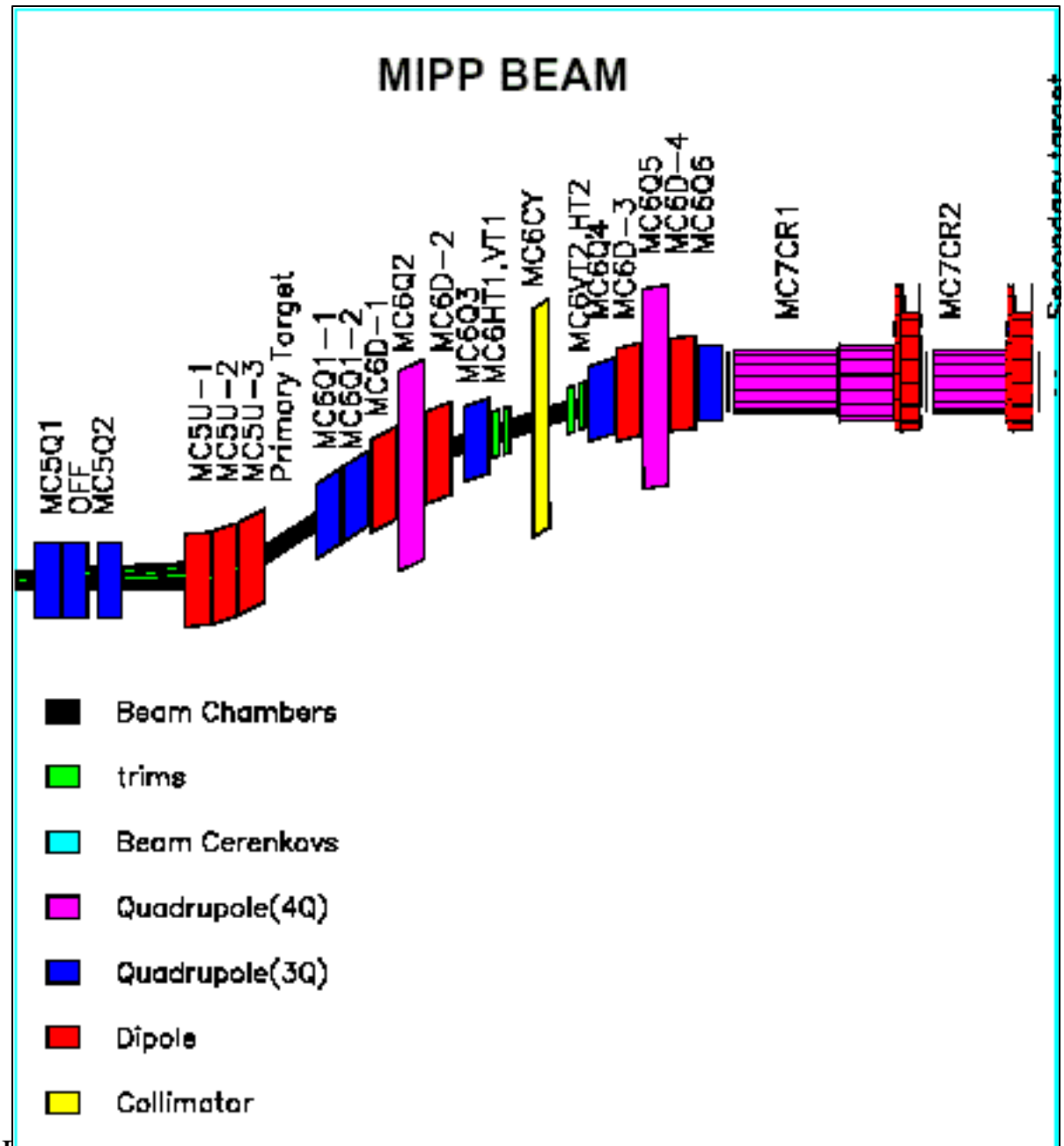
Rajendran Raja
Fermilab All Experimenters Meeting
16-Aug-2004

MI PP Status

- Beam --Beam now works beautifully. We have run +20,+40,+80 GeV/c secondary beams and are currently running -40GeV/c secondary beams.
 - » Two batch mode works well. At the beginning of the antiproton store, we are restricted to ~3spills per minute. This increases to 6 per minute midway and towards the end we get up to ~ 18 spills per minute (maximum).
 - » We need still to improve the primary beam emittance on our primary target. Work is going on to optimize this.

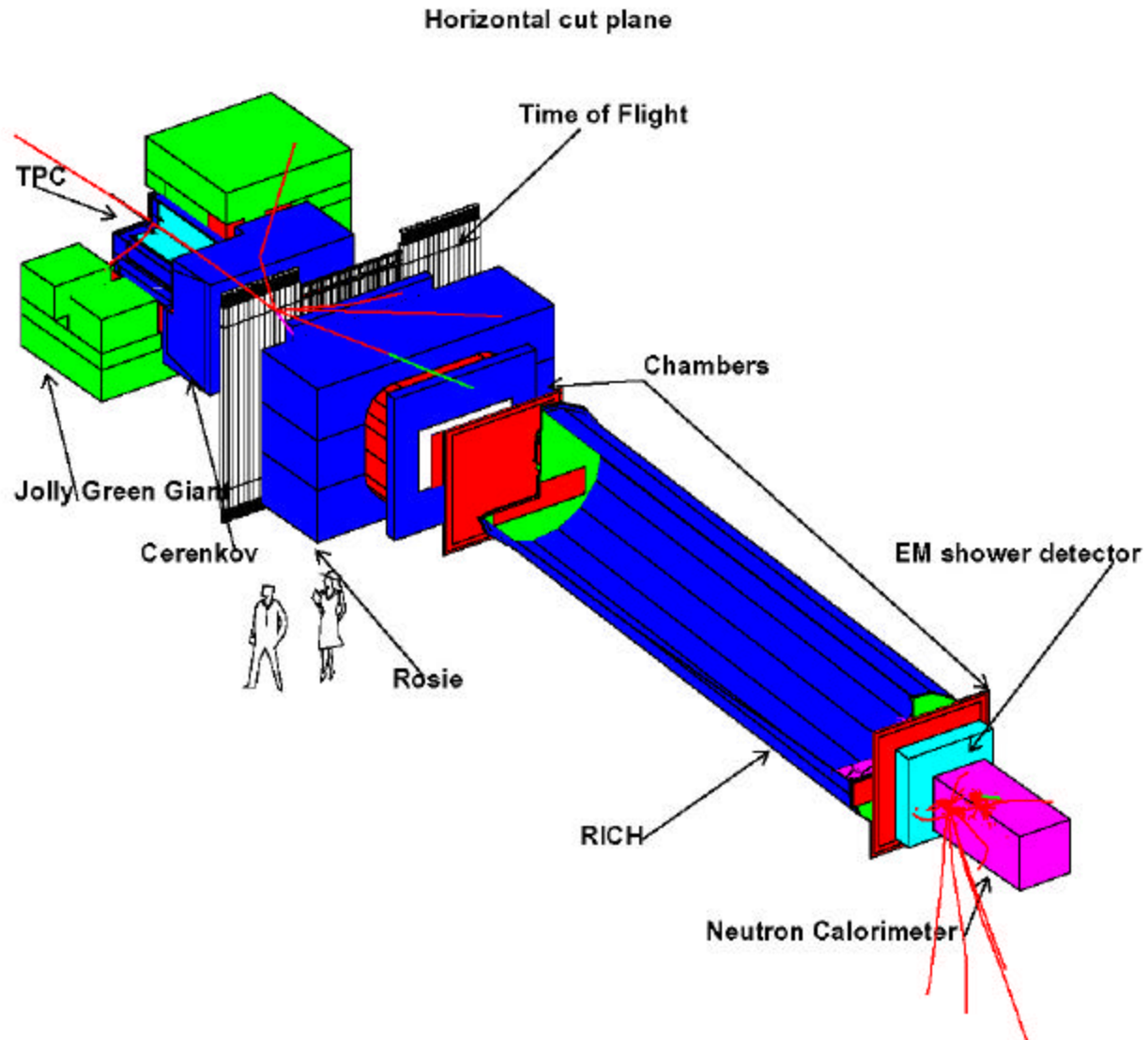


MIPP Secondary Beamline



MIPP

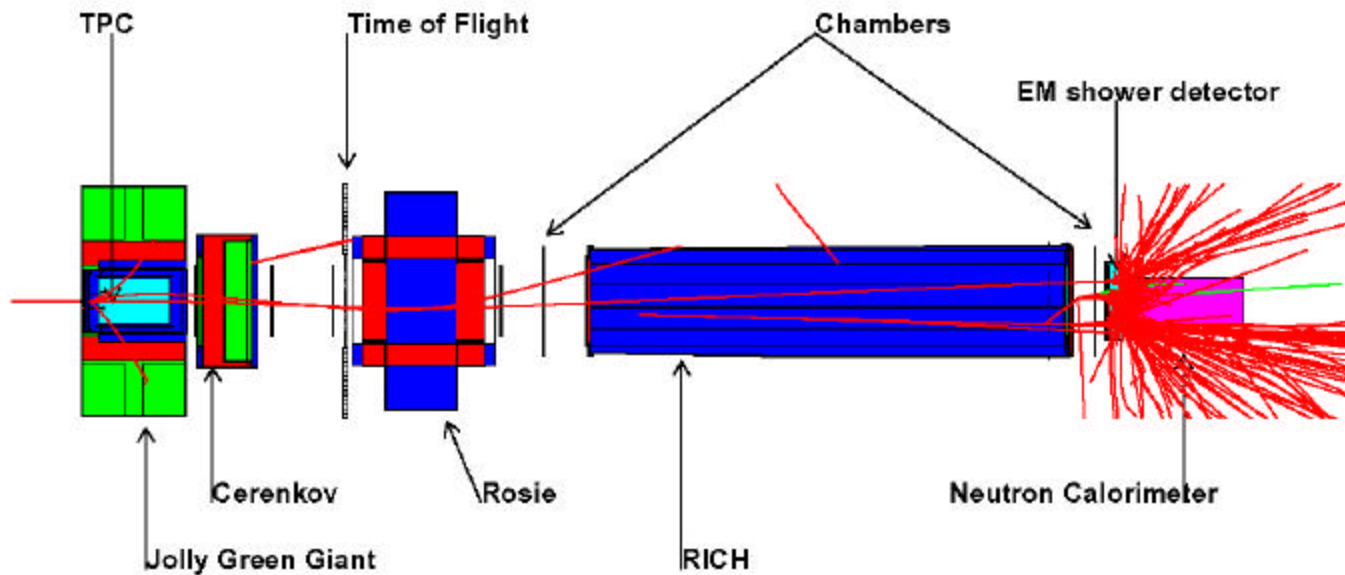
Main Injector Particle Production Experiment (FNAL-E907)



MIPP

Main Injector Particle Production Experiment (FNAL-E907)

Horizontal cut plane

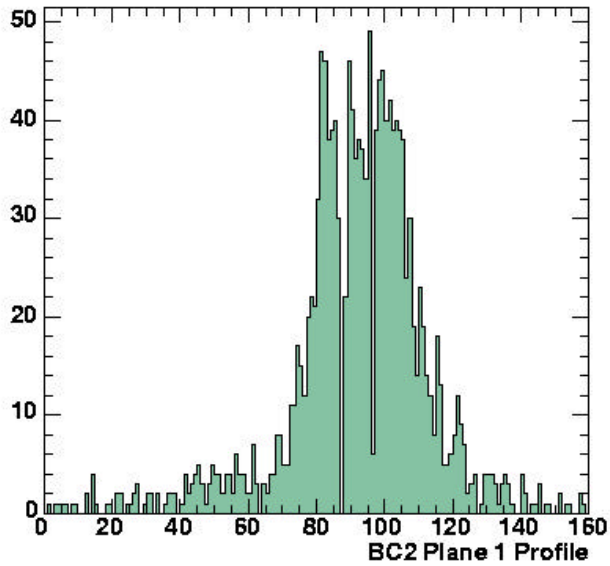


MI PP Status-Chambers

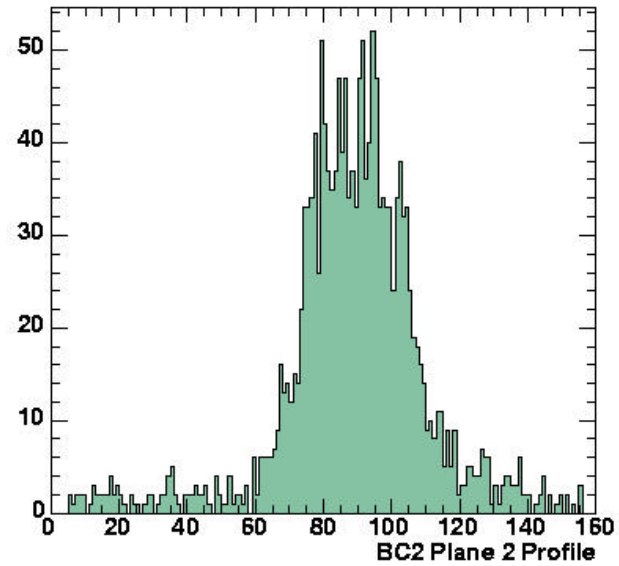
- MI PP has 3 beam chambers with mini-drift, each with 4 planes. They all work well
- There are 4 drift chambers, also with 4 planes each and mini-drift. They are also operational. Drift Chamber II has one bad plane which will be fixed during the shutdown. The MI PP interaction trigger uses fast output from DC1 and DC2 discriminators and is also functional.
- MI PP has 2 Wire chambers straddling the RI CH. These use CERN RMH electronics. They have been made to readout and have shown signals but have broken wires. They will be fixed during the shutdown.
- The TPC- Unexpectedly broke some wires a couple of months ago. These were fixed and now the TPC is operational.

Beam Chamber profiles- BC2

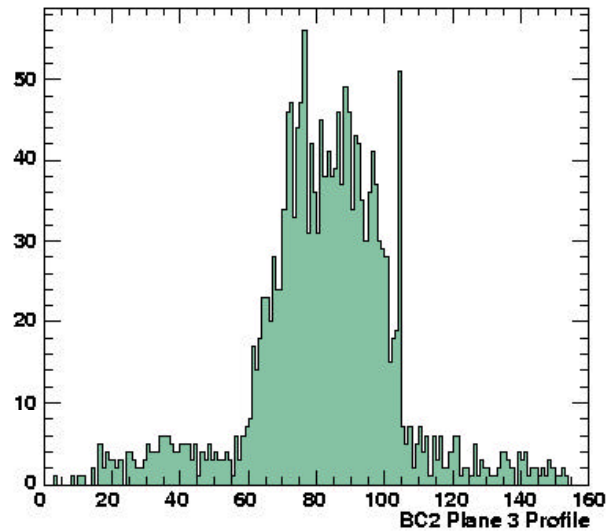
BC2 Plane 1 Profile



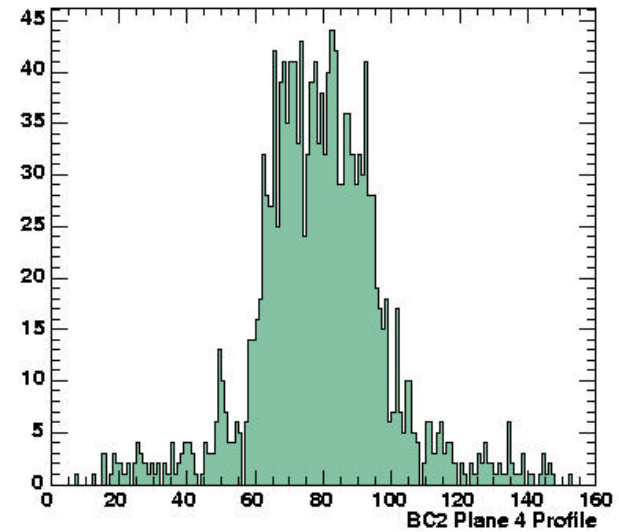
BC2 Plane 2 Profile



BC2 Plane 3 Profile

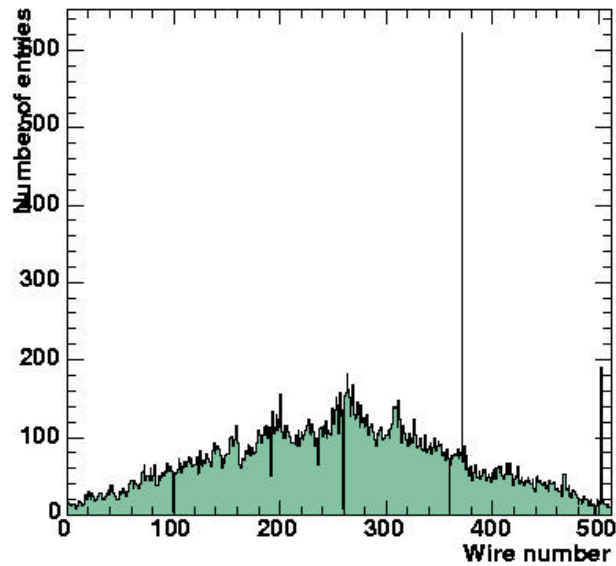


BC2 Plane 4 Profile

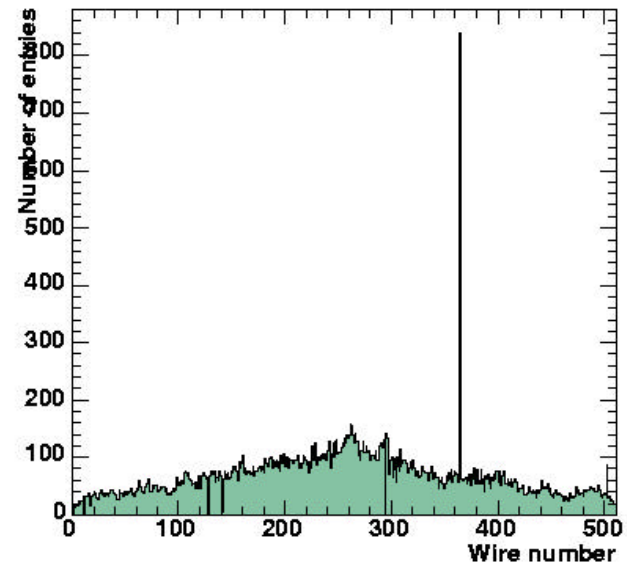


Drift Chamber Profiles-DC1

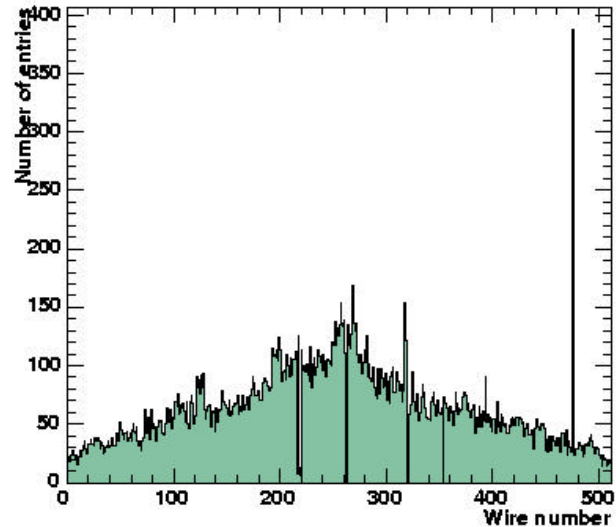
DC1 Plane 1 Profile



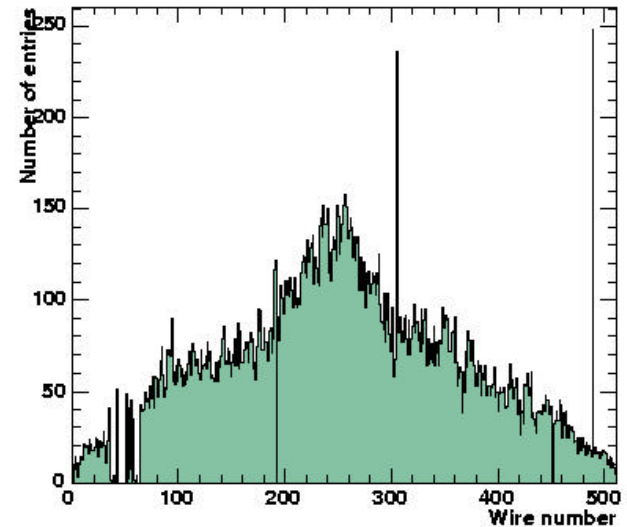
DC1 Plane 2 Profile



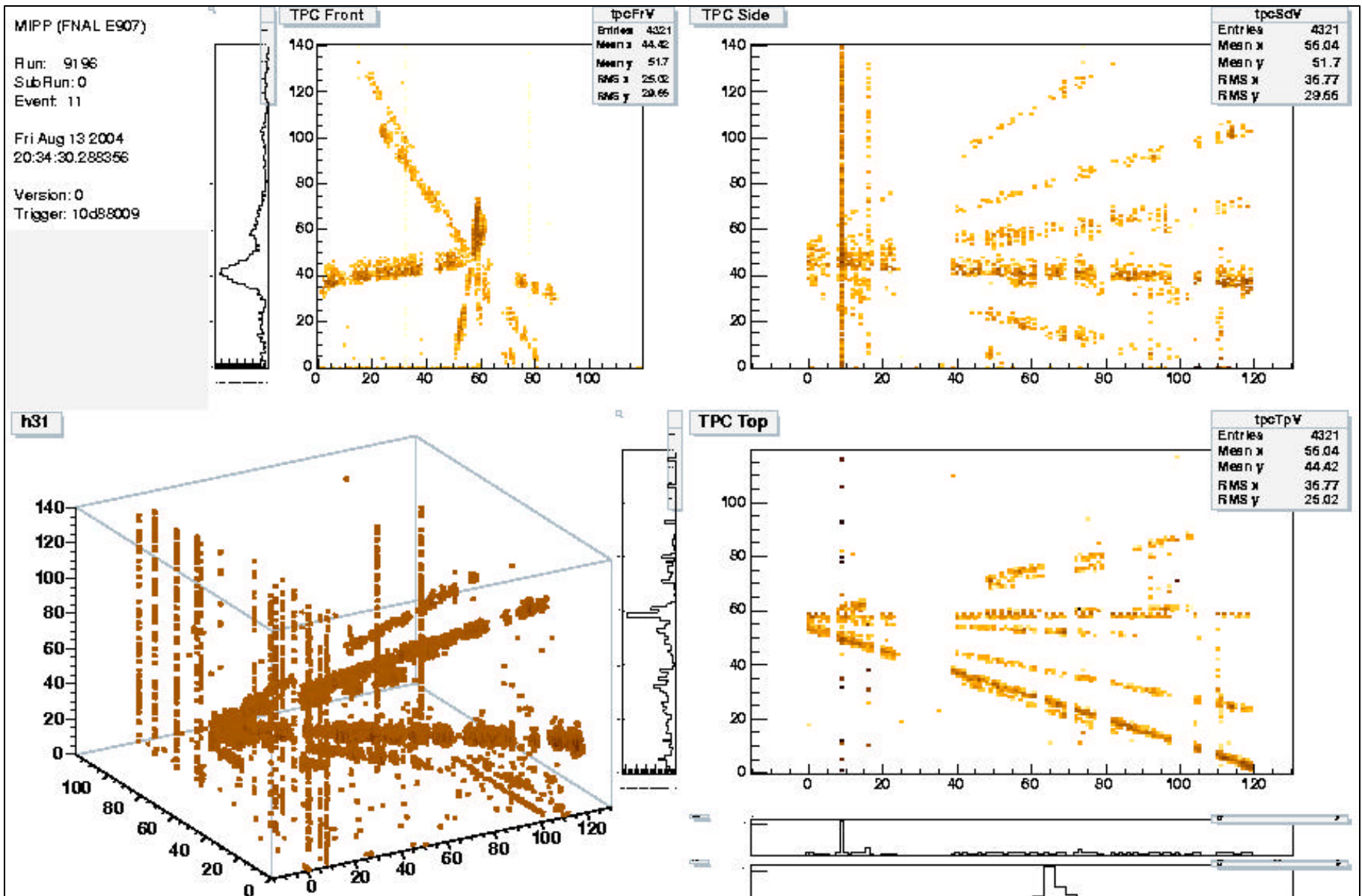
DC1 Plane 3 Profile



DC1 Plane 4 Profile



TPC interactions- raw pads plotted. Not the final resolutions on hits.



RICH Panel Recommendations. All implemented

A. Fire Prevention

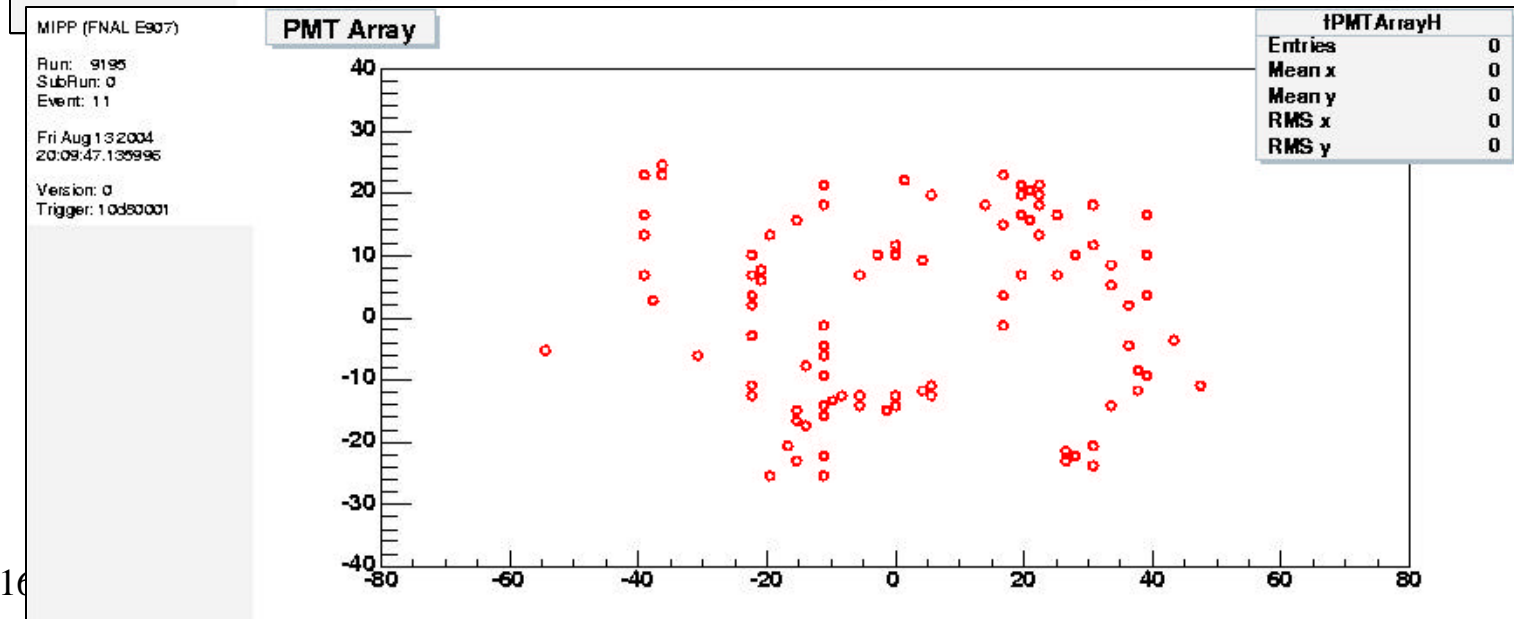
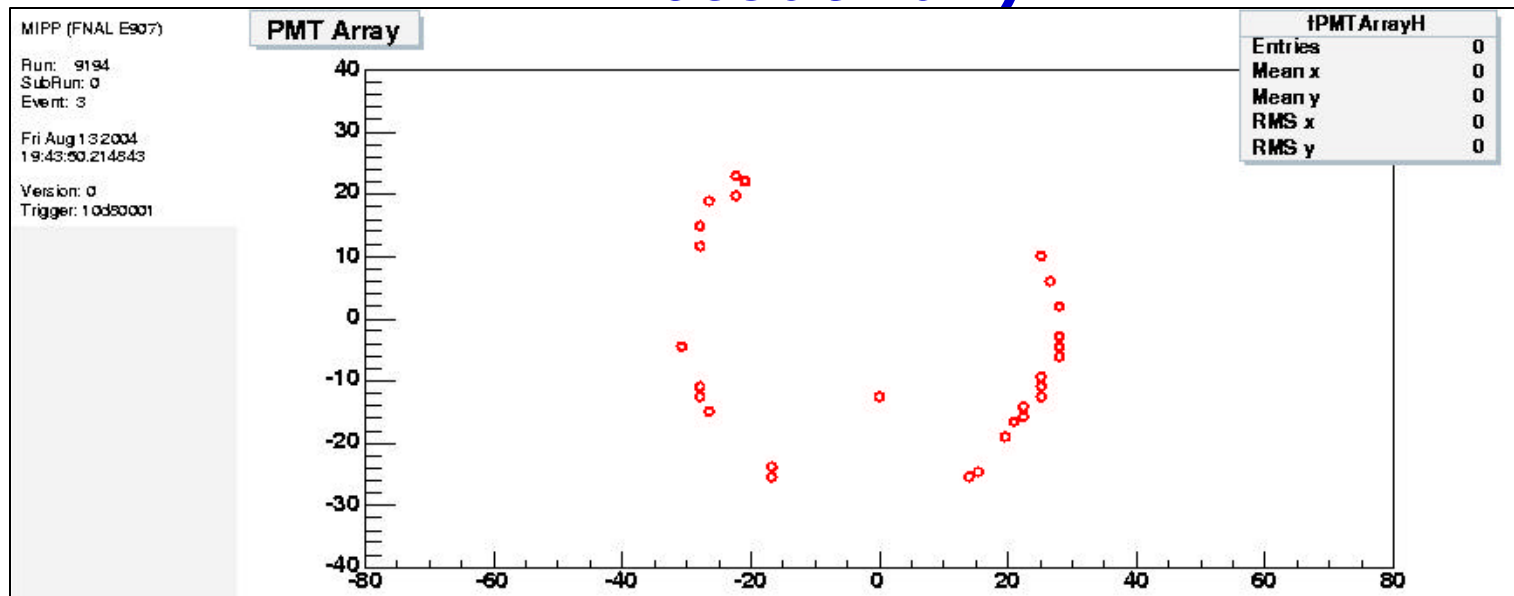
- Reconstitute the klixon interlock. Replace the burnt-out klixon. This will prevent accidents due to overheated air.
- Inert the atmosphere in the pmt box by replacing the air with nitrogen. Monitor the oxygen content and report it to APACS.
- Detect current surges in the HV due to sparks and abort the HV supply output if sparks occur.
- Replace the flammable shrink-wrap around the FEU-60 tubes by a flame-retarded variety . In the process, reduce the risk of sparking and shorting in the base by applying a layer of insulating coating to the base (such as an acrylic conformal coating that can be sprayed on).

Panel Recommendations

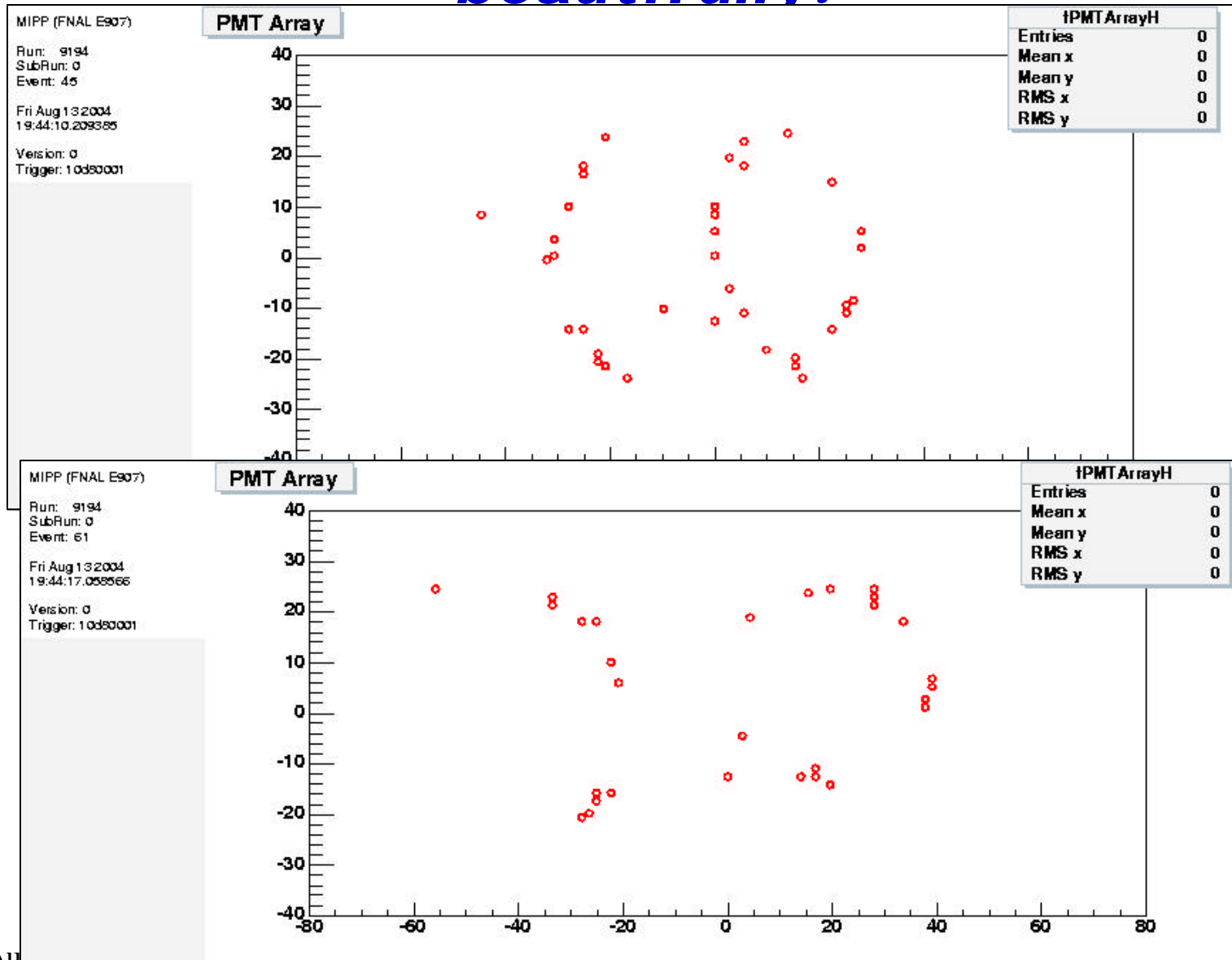
B. Monitor and abort

- Monitor the temperature in the pmt box at various locations as well as in the zener box and report it to APACS.
- Install a compact Very Early Smoke Detection and Alarm (VESDA) system in the pmt box. Feed its output to APACS.
- Have APACS abort power to the HV if either the temperature, or the VESDA system or the oxygen monitor is off limits.

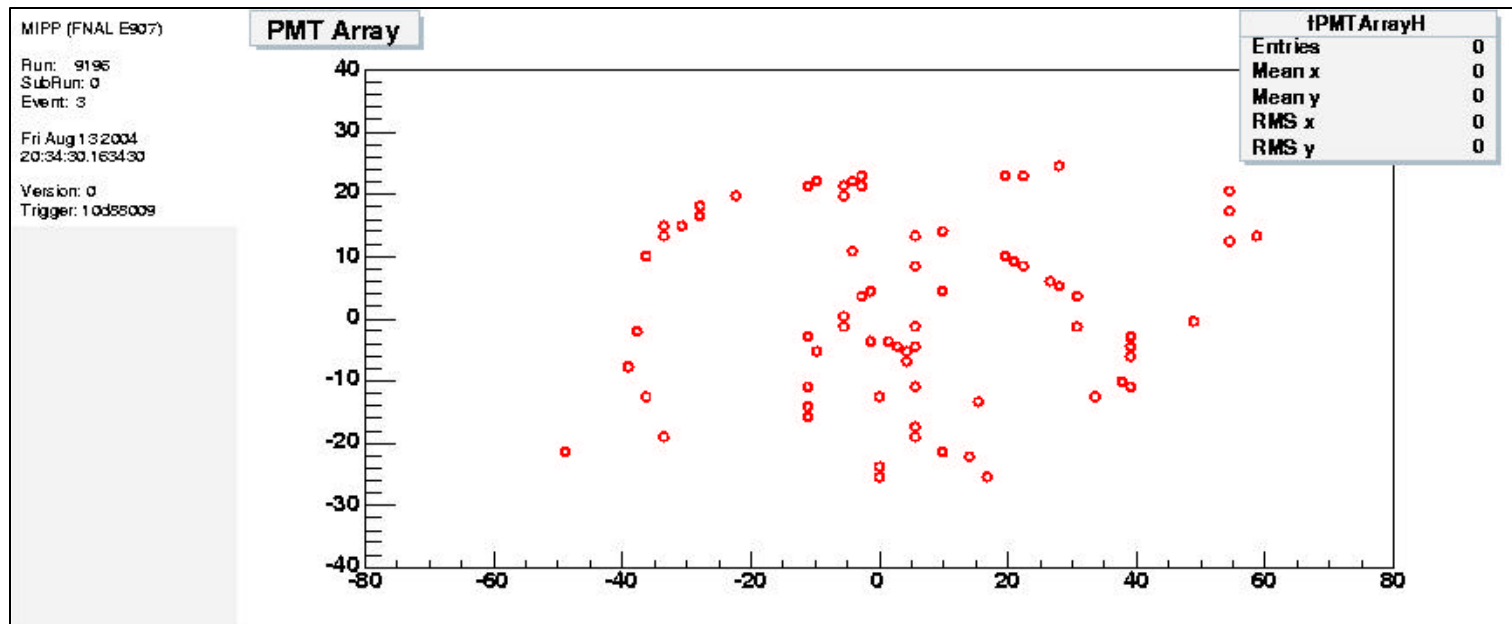
New RICH functional and works beautifully.



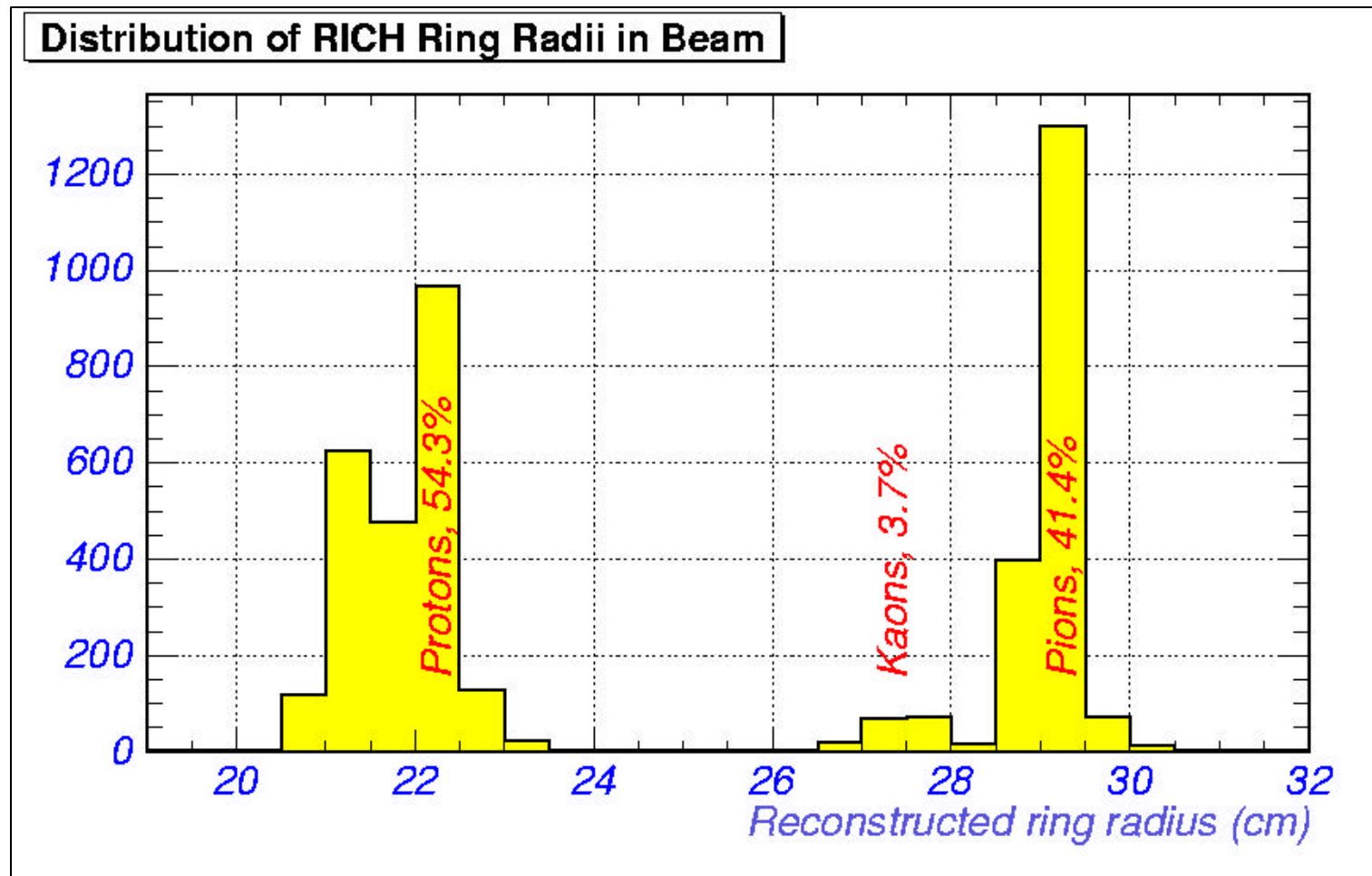
New RICH functional and works beautifully.



Rich Interactions

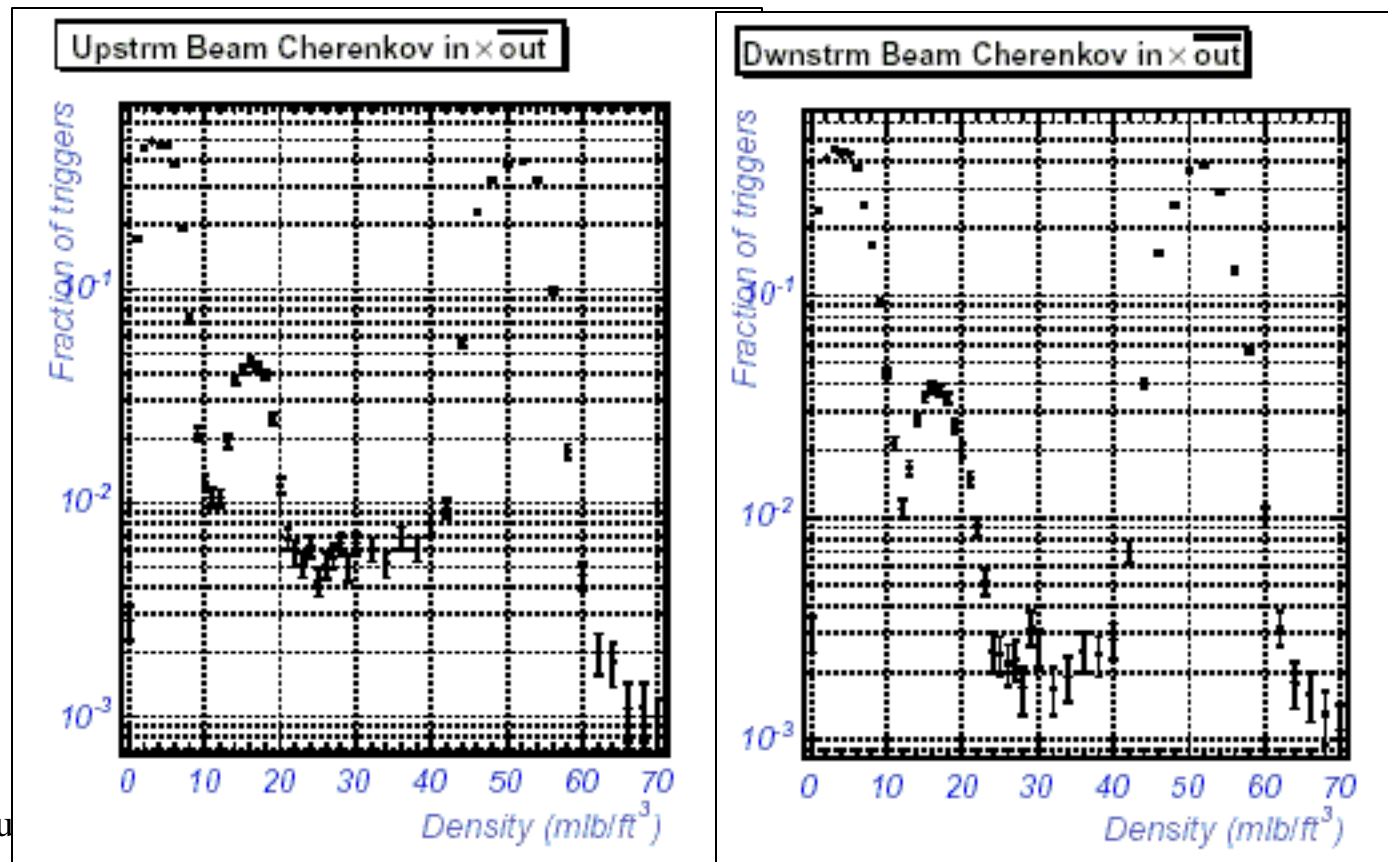


RICH radii for + 40 GeV beam triggers



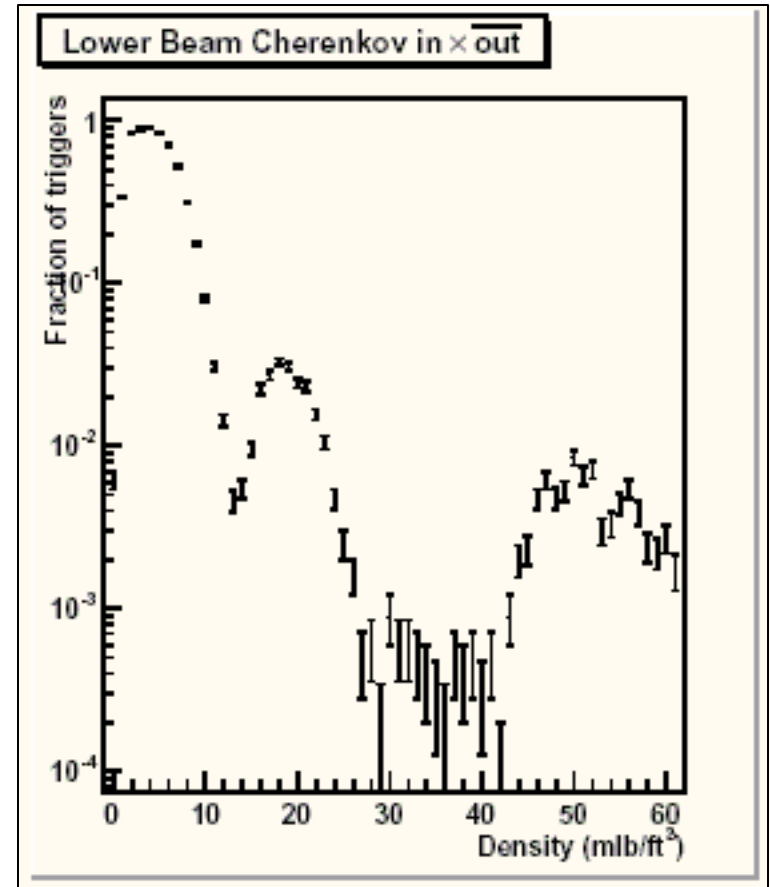
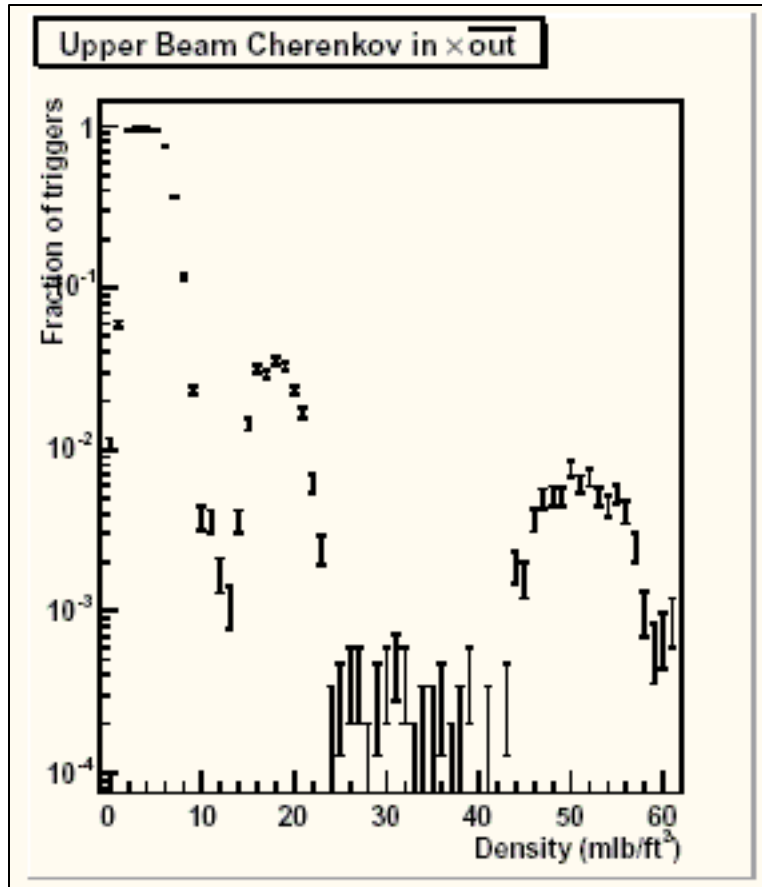
Beam Cherenkovs

- Pressure curve Automated- Mini-Daq- APACS 30 minutes per pressure curve.+40GeV/c beam.

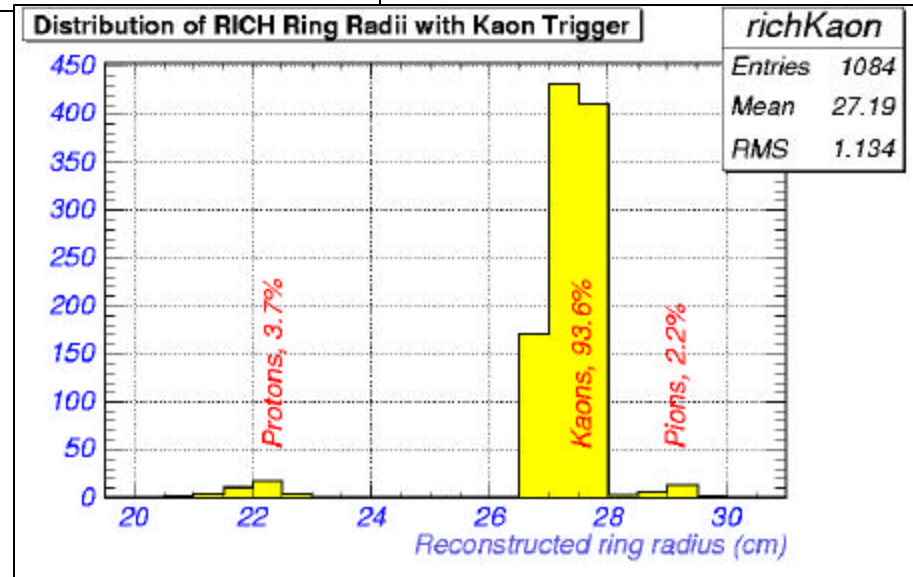
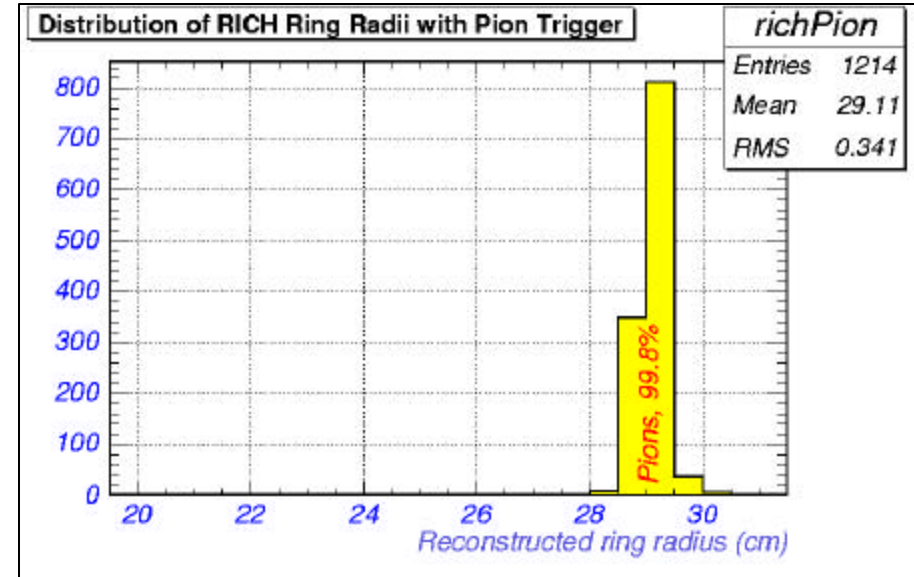
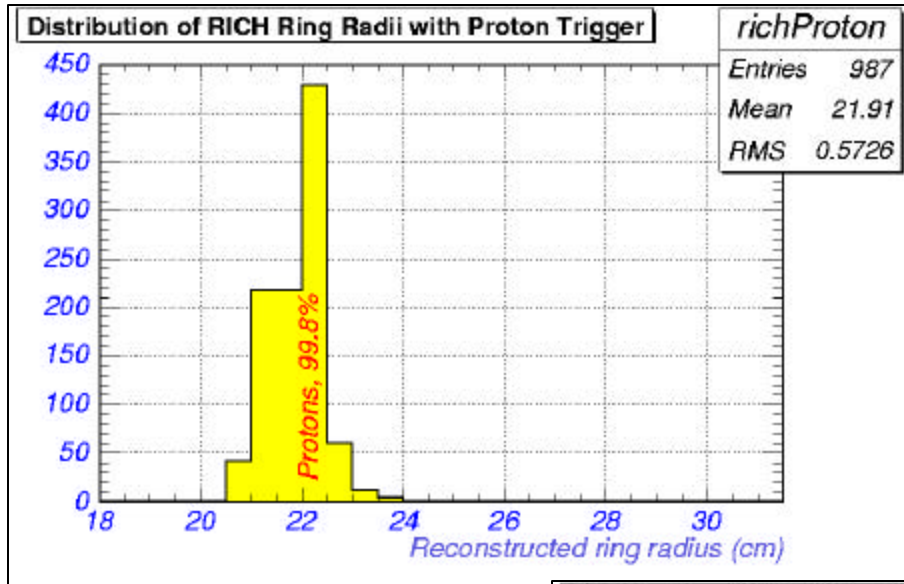


Beam Cherenkovs

- 40 GeV/c negative beam

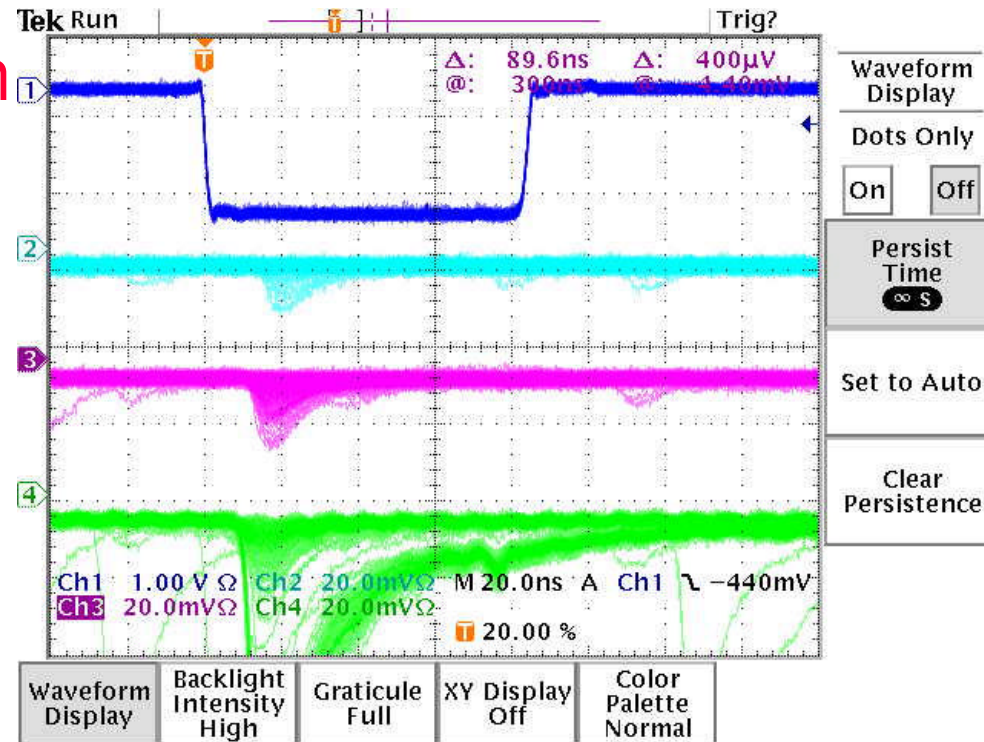


Comparing Beam Cherenkov to RICH for +40 GeV beam triggers-No additional cuts!



Acknowledgement

- Many thanks to accelerator division and PPD for all the support.
- Trigger development would have been impossible without web scope! Thanks to University of Virginia- No PREP scope is modern enough!



Other remaining systems

- Time of flight- In readout
- Magnetic field – being turned on again- Turned off after TPC broke wire.
- Multi-Cell Cerenkov- In readout. C4F10 gas has just arrived- Company made wrong gas first time around. Will fill just before end of shutdown.
- Offline analysis- Track finding in progress
- Calorimeters- Both operational
- Cryogenic target- All subsystems in hand. Will be assembled and tested during shutdown.