

Control Calibration & RICH PID

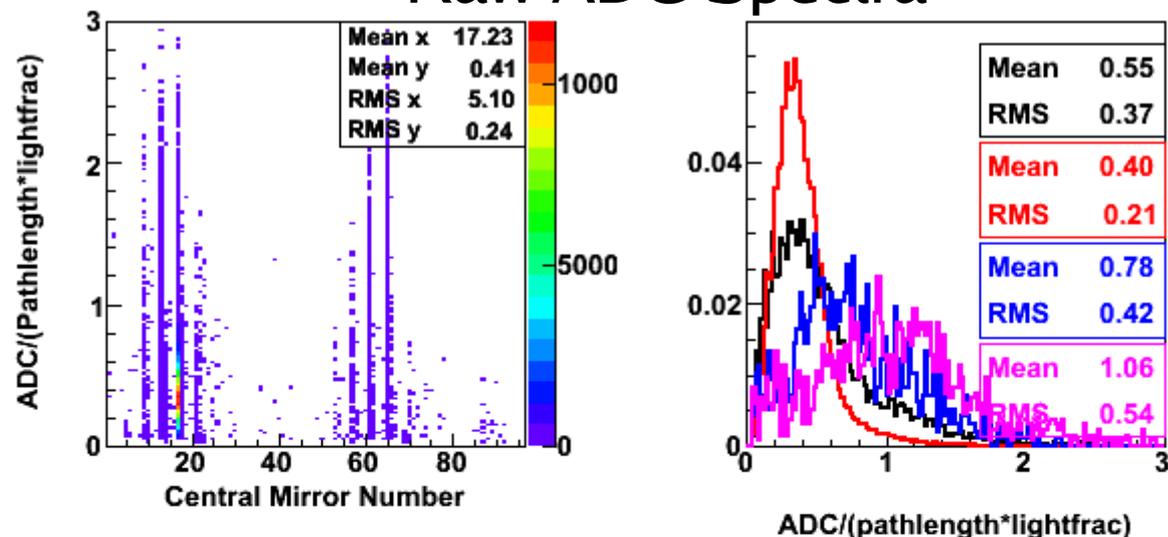
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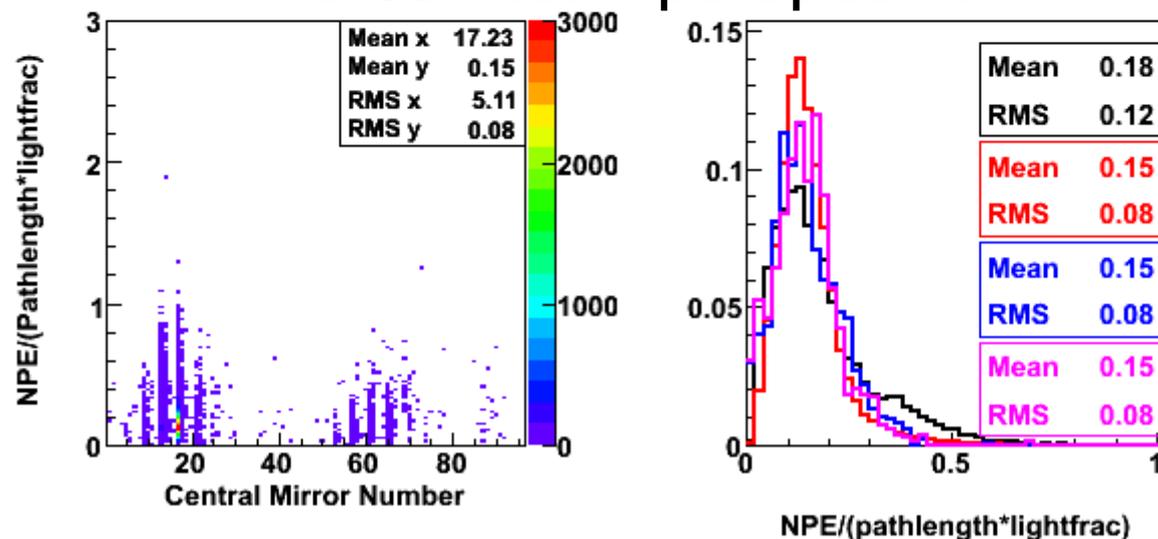
Ckov Calibration Update

- Tricia Vahle calibrated all Ckov mirrors last August using SPTrk tracks in VtxDAFit vertices.
- Detailed information related to Ckov-track matching was kept in a separate ntuple; the DST kept only very minimal information, and it is not enough to extract a PID.
 - This has now been fixed, future DSTs will have the same information as is found in Tricia's ntuple.
- Tricia has gone through some of the pass4a data to check the calibration:

Raw ADC Spectra

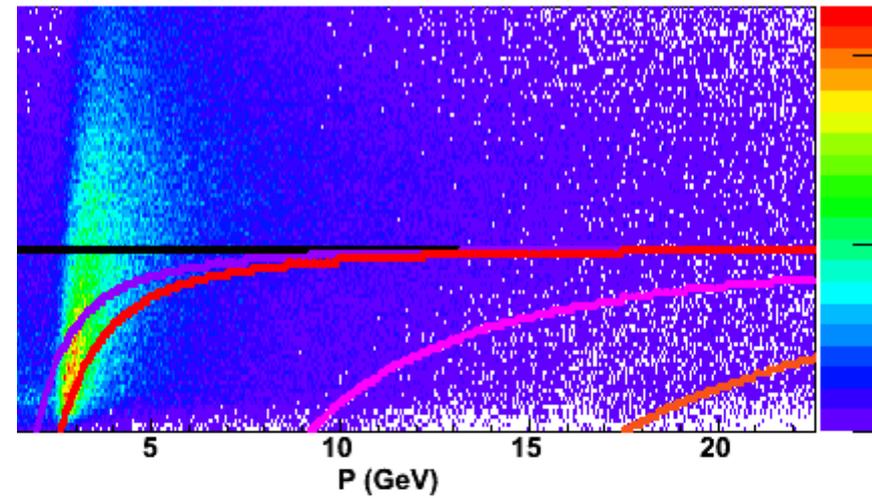
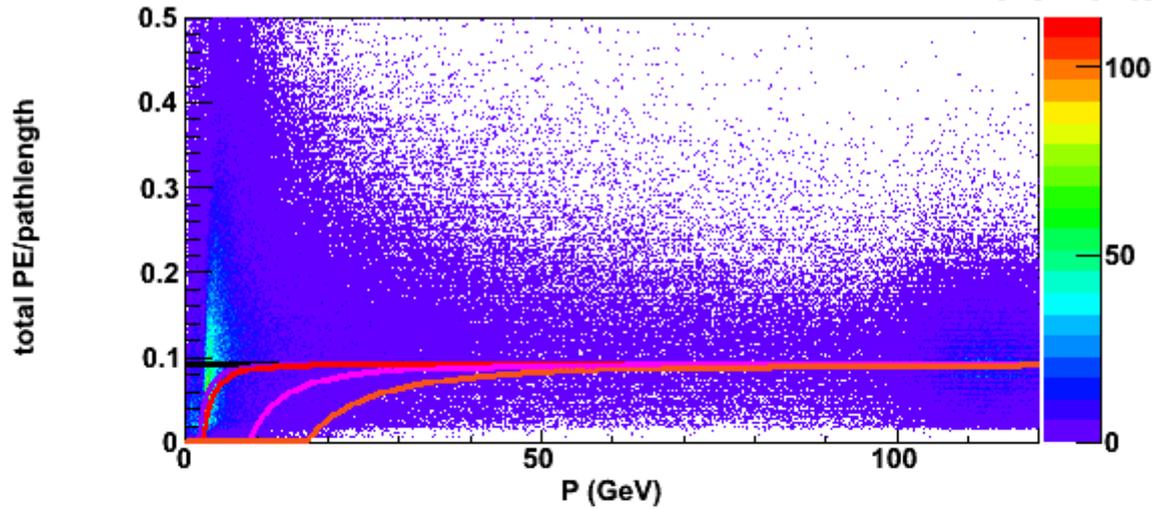


Calibrated Npe Spectra

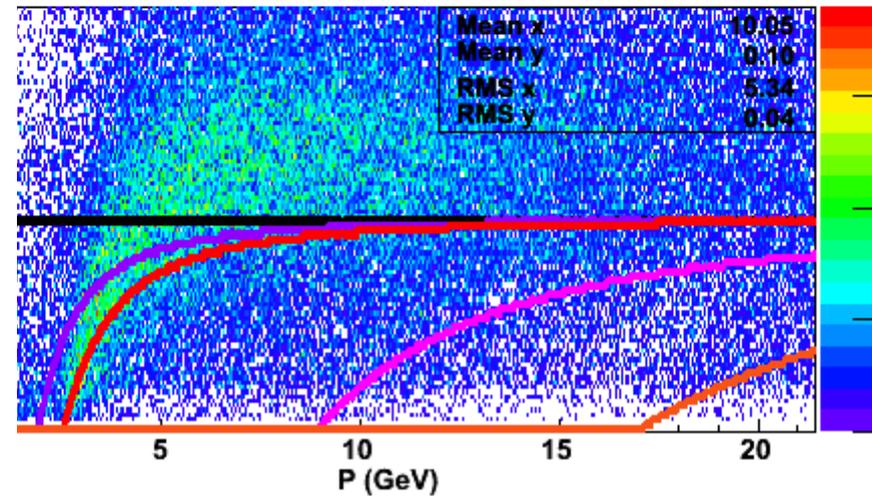
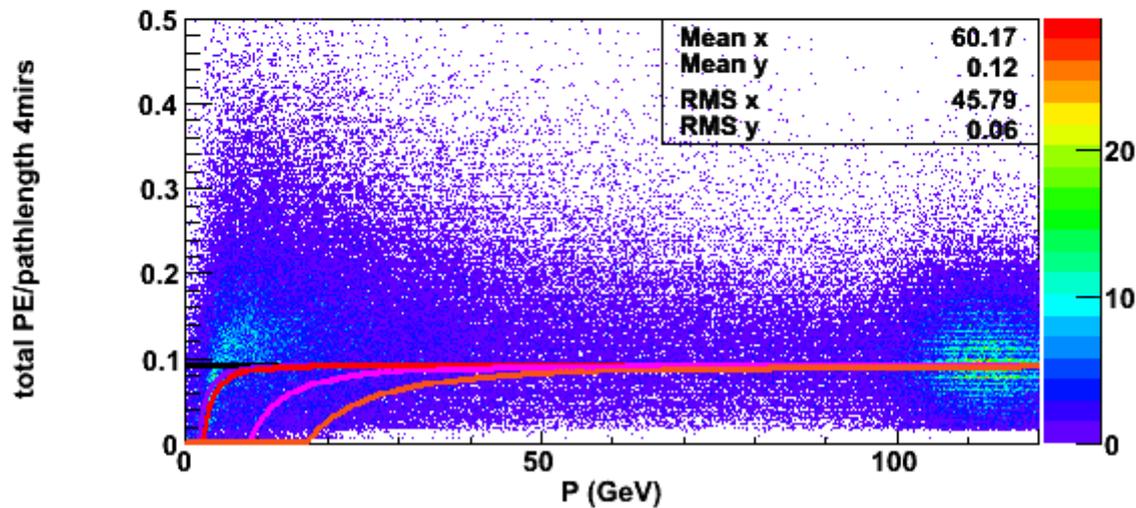


Ckov PID Update

All Mirrors

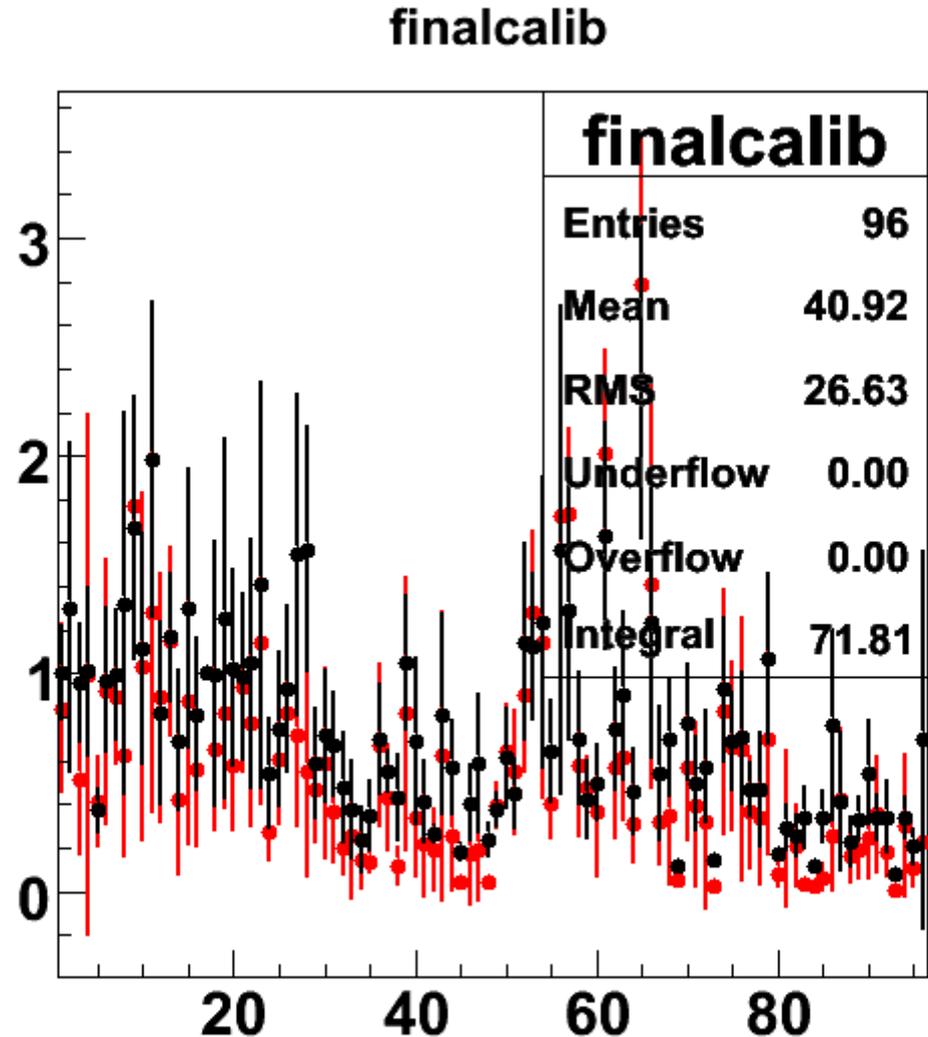


Central Four Mirrors



Ckov Calibration Check

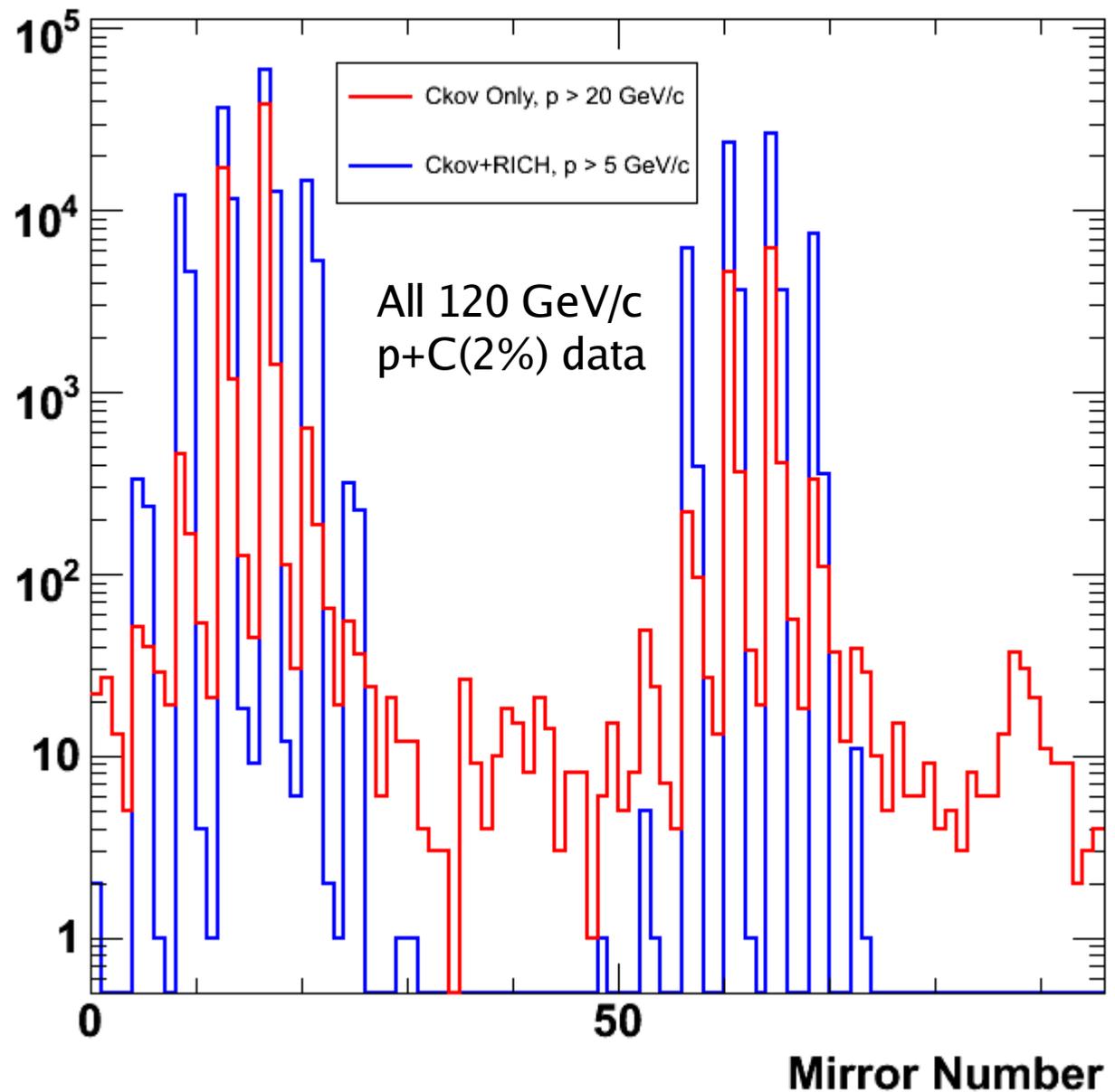
- From the previous slides, the Ckov calibration looks a bit suspect, so Tricia reran the calibration.
- On the right plot, black is the “new” calibration, red is the “old” calibration.
- Due to the differences between these two, Tricia is running through more data and will come up with new calibration constants.
- I should point out however that we found a bug in her code... in the plots shown thus far, both VtxConFit and VtxDAFit tracks were used!



New Ckov Calibration Proposal

- The calibration done so far uses only tracks above 20 GeV/c.
 - All tracks are assumed to be pions.
- The pion threshold in the RICH is ~ 5 GeV/c.
- For some fraction of the mirrors, we can use tracks identified by the RICH
 - Gain in statistics, since we pick up tracks with $5 < p < 20$ GeV/c
 - Unambiguous PID from RICH in most cases

Number of Clean Tracks vs. Ckov Mirror



New Ckov Calibration Proposal (2)

- New calibration could be done now with pass4a so that calibration constants can be used in pass4b; Tricia's ntuples can be matched to the DST data
- Not sure how much time I will need, best guess is 1 working week (= 1.5-2 weeks)
- Will begin to work on this early next week