sPHENIX TPC software meeting 19th January 2017

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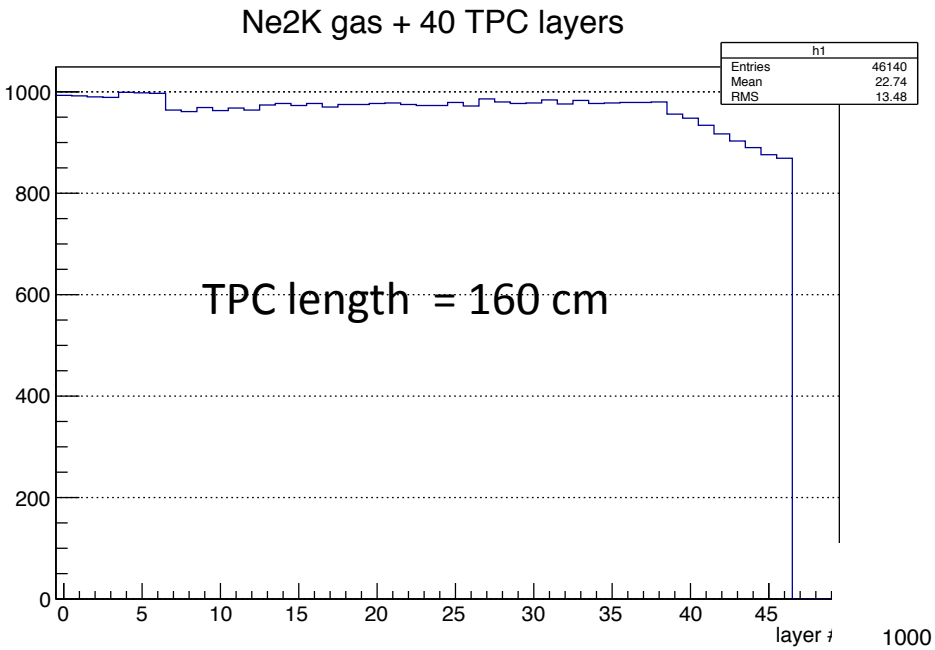
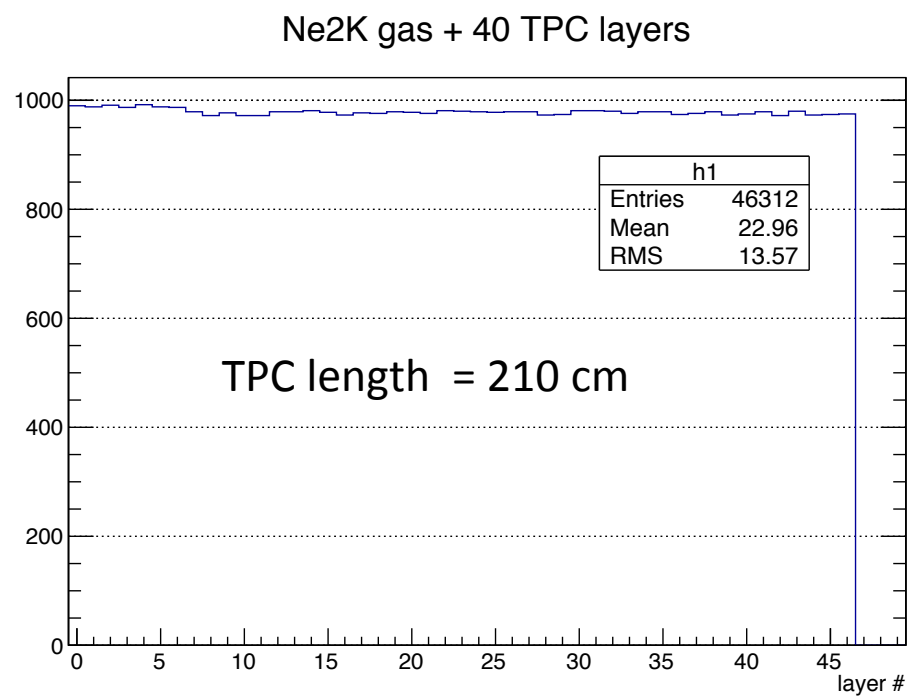
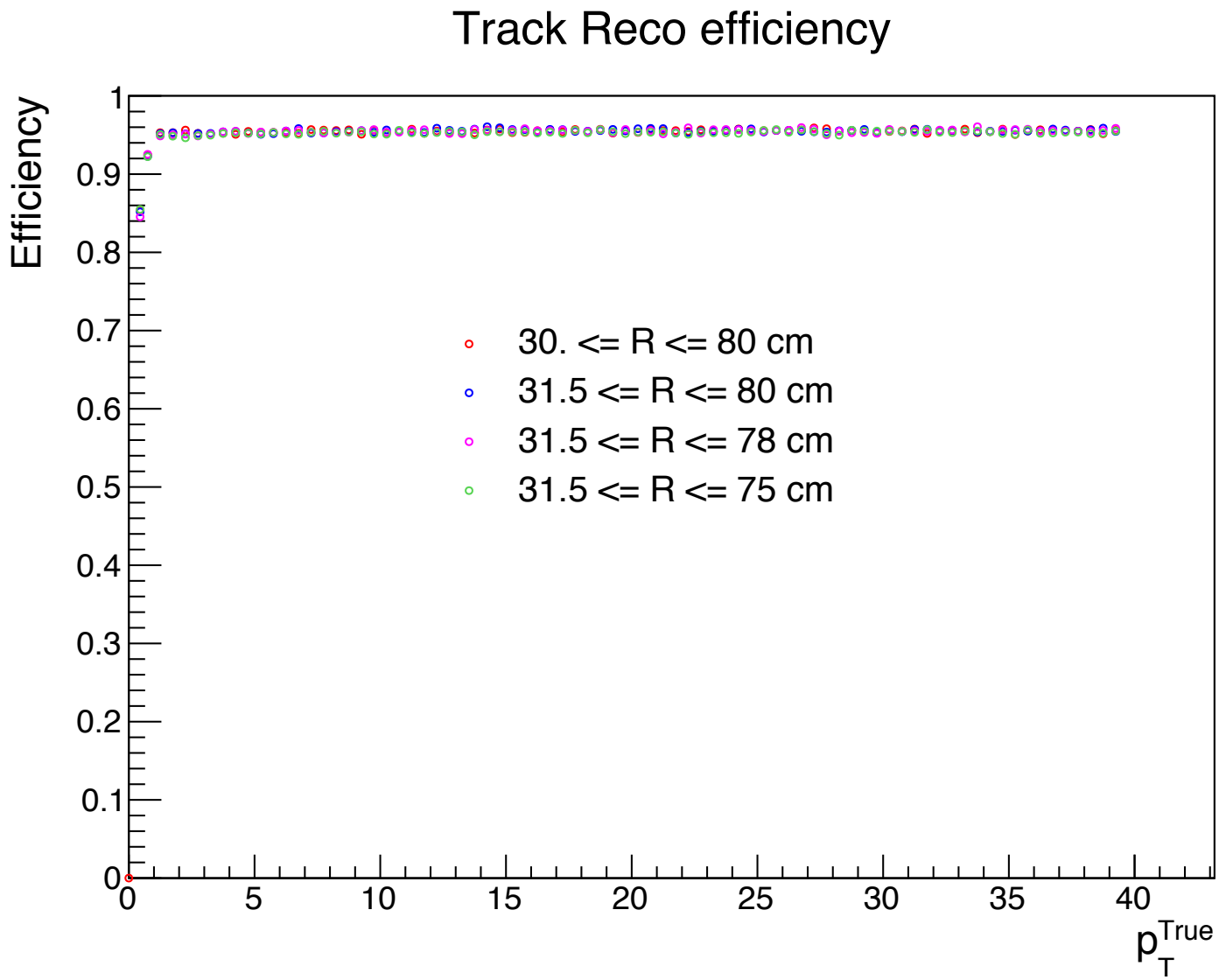
Layer # distribution from G4 hit after changing the length of TPC to 211 cm from 160 cm





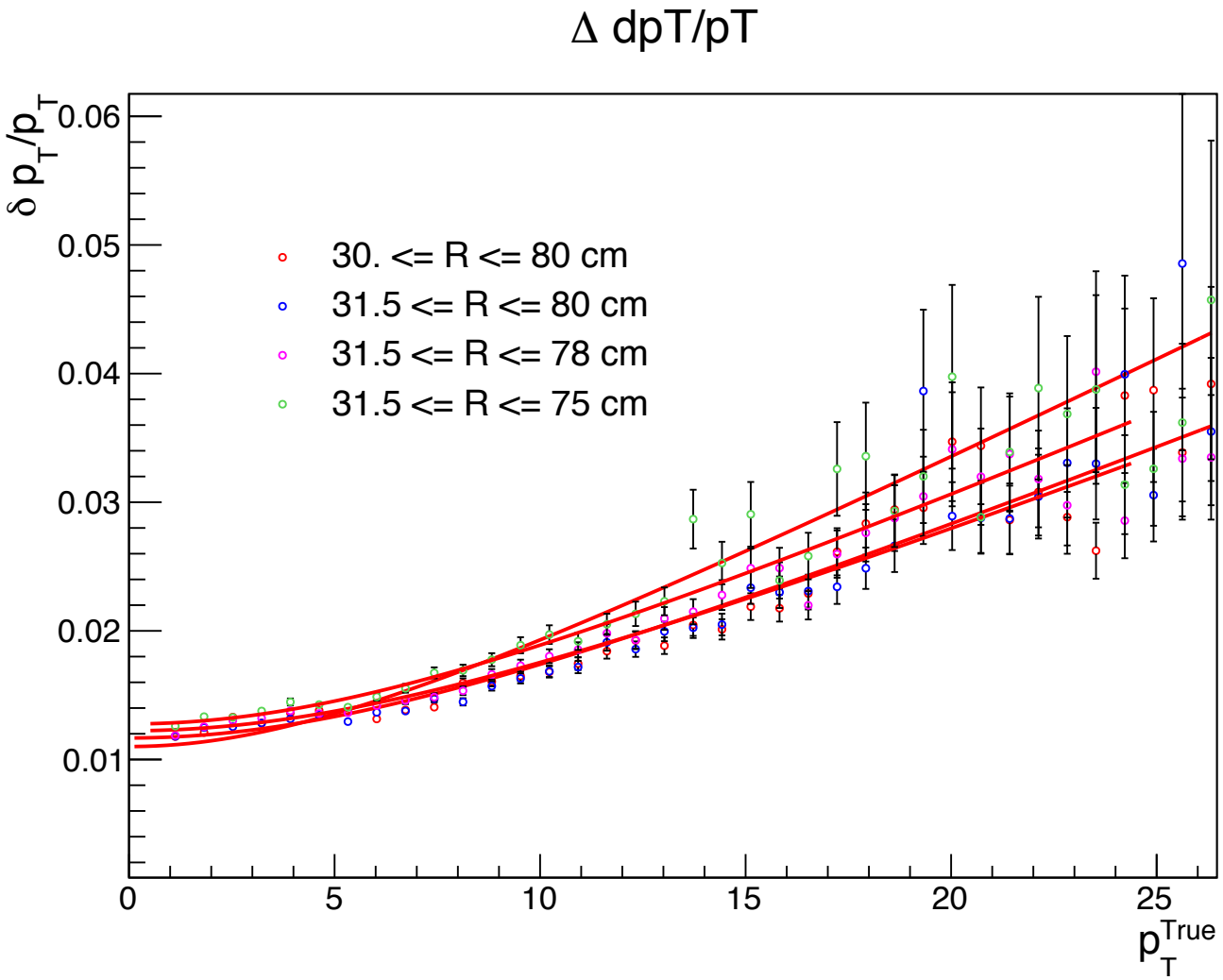
Drop in G4 hits in higher layer # gets fixed

Track reconstruction efficiency for pure pions without space charge for different TPC active volume [MAPS(3) + INTT (4) + TPC (40)], default gas as in code repository



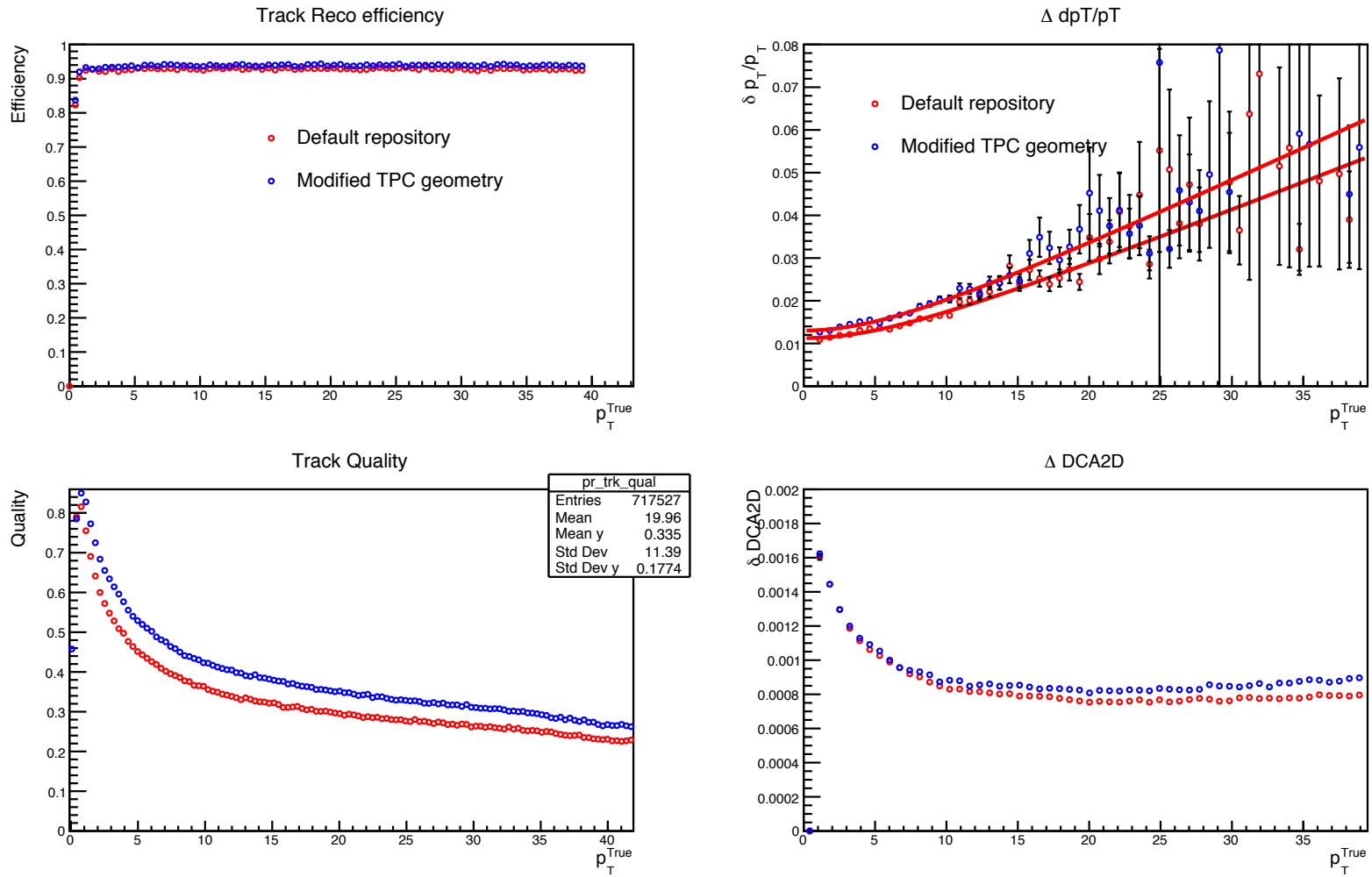
- No such observable difference in track reconstruction efficiency.

pT resolution for pure pions without space charge for different TPC active volume [MAPS(3) + INTT (4) + TPC (40)], default gas as in code repository



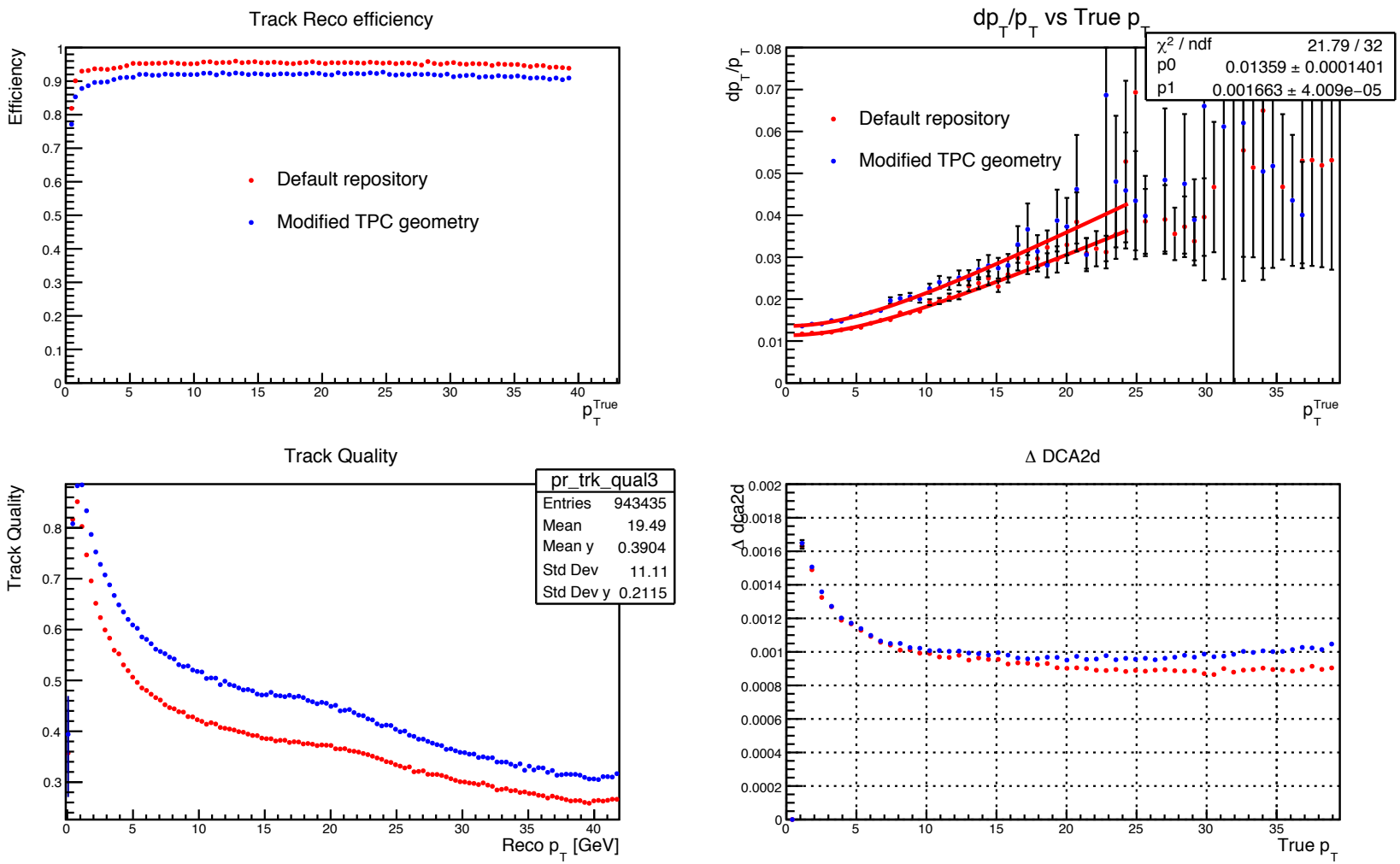
- Minor change in pT resolution but still within agreeable limit

MAPS(3)+INTT(4)+TPC(40); Towards realistic TPC geometry (30 < R < 75 cm , L = 210 cm, realistic cell size); macro available from Carlos,pure pions



- Slight modifications in the TPC geometry macro in terms of cluster energy cut and Hough hits requirement.

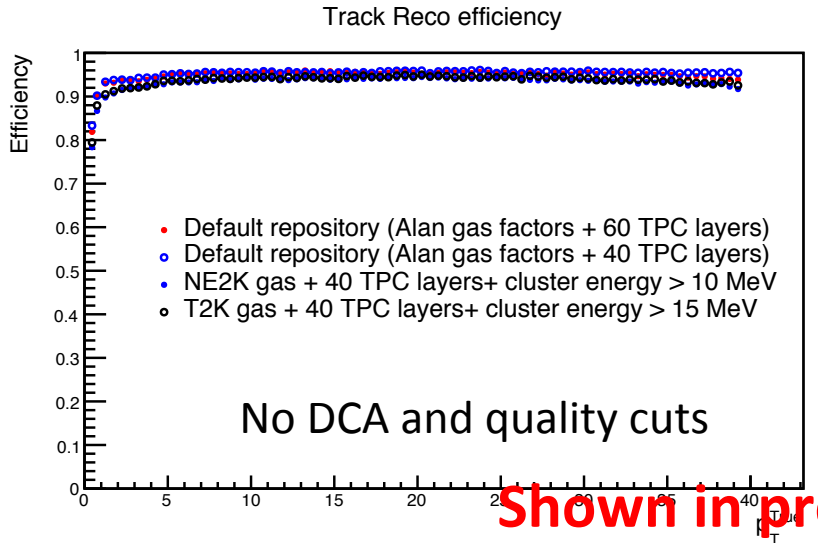
MAPS(3)+INTT(4)+TPC(40); Towards realistic TPC geometry (30 < R < 75 cm , L = 210 cm, realistic cell size); Hijing embedded pions

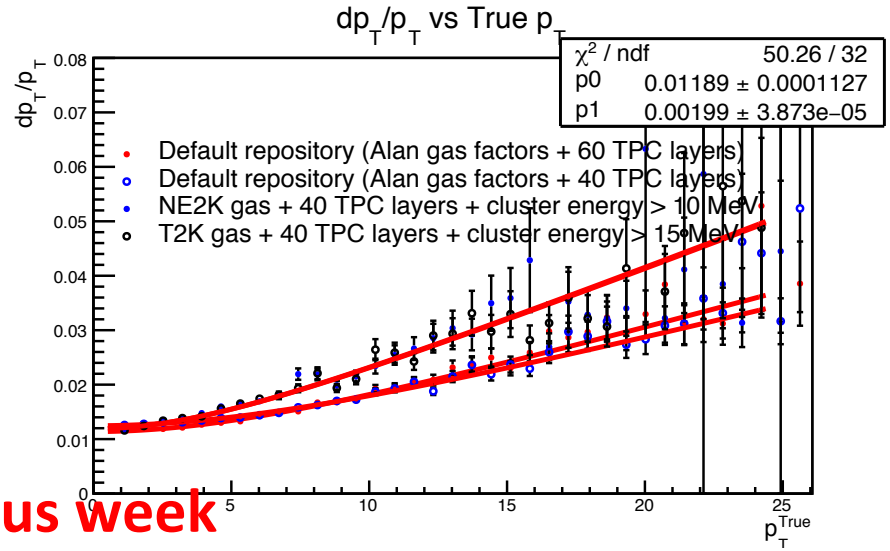


- Need to understand more

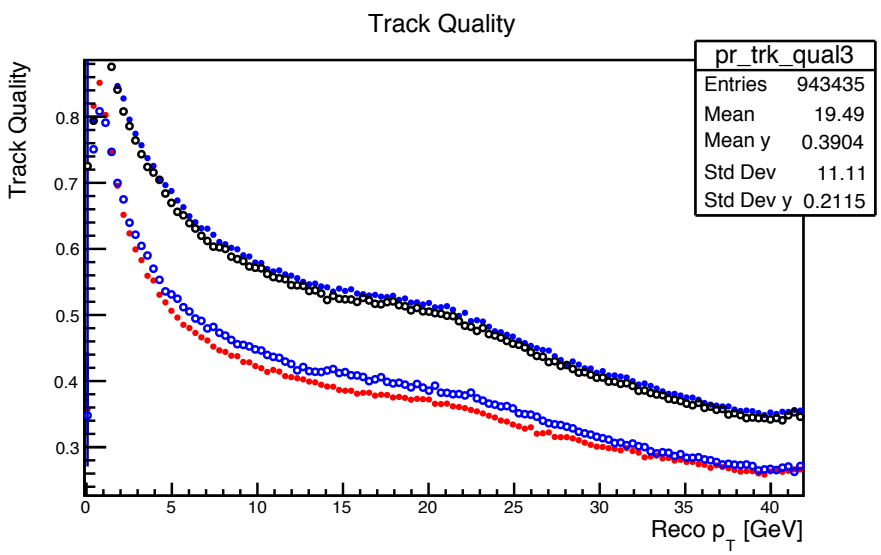
Tracking performance (MAPS (3)+ ITT(4) + TPC(60 vs 40) for different gas parameters

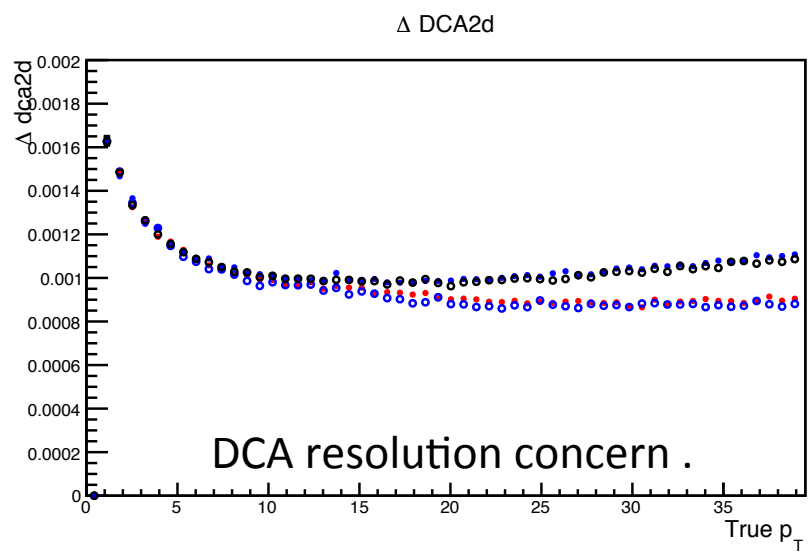
500 pions embedded in most central hijing





Shown in previous week

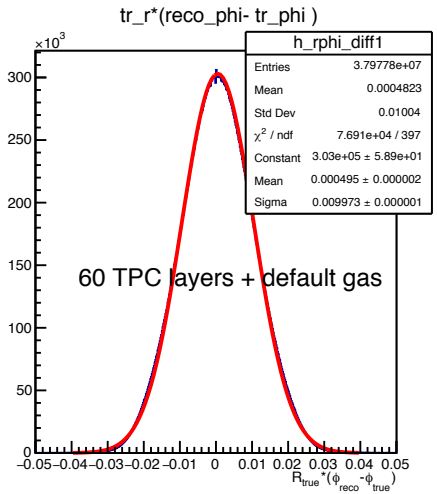


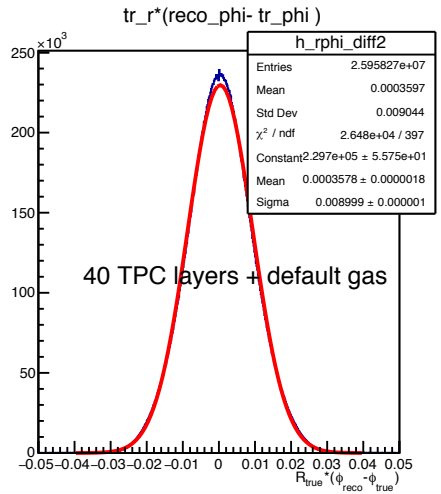


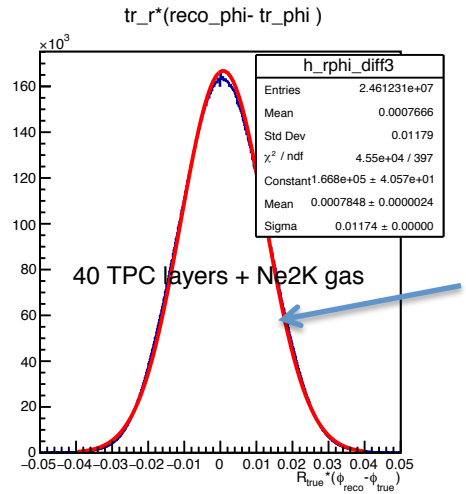
- DCA is not entirely driven by MAPS , TPC has bias on DCA as well according to email exchange between me and Jin.

Suggestions for making DCA resolution better with change in gas

- Check r*phi (measured – truth) for TPC clusters to the level of 100 um
- Check cluster size and error parameter.







More broader than other two cases

- Any thoughts how to get the cluster size ?