Proton and Anti-proton Distributions from Au+Au Collisions at 200GeV

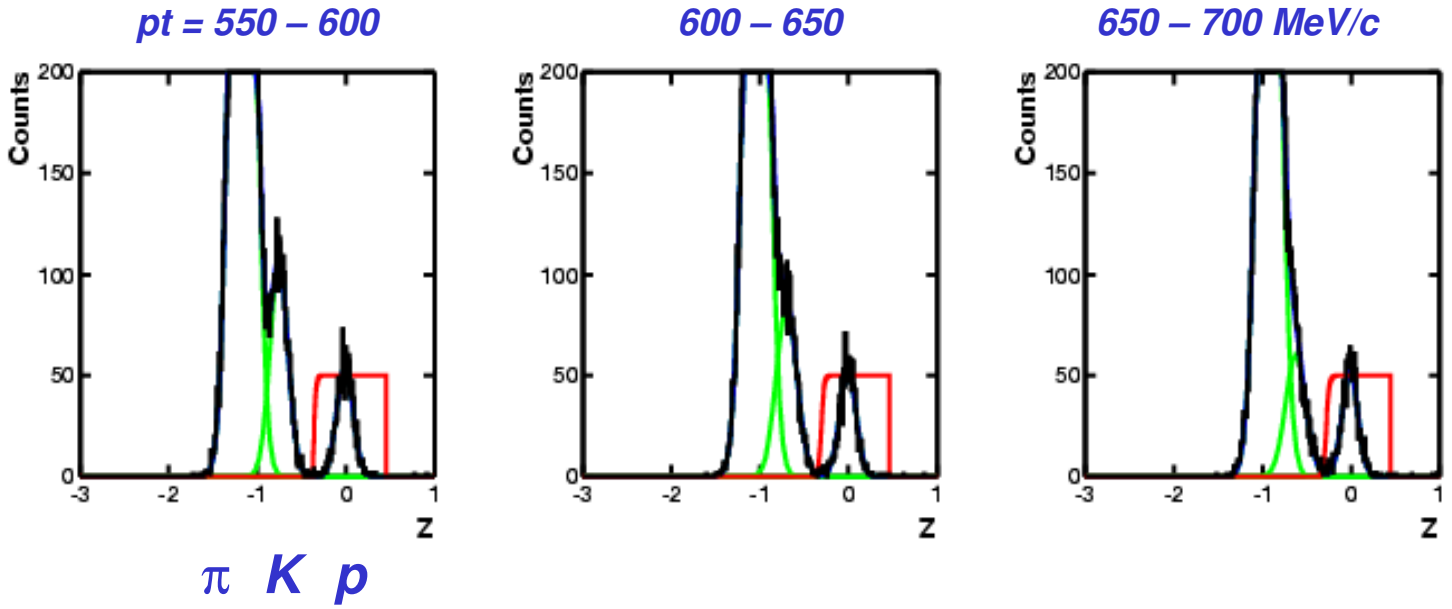
Kai Schweda

Lawrence Berkeley National Laboratory

Analysis Cuts

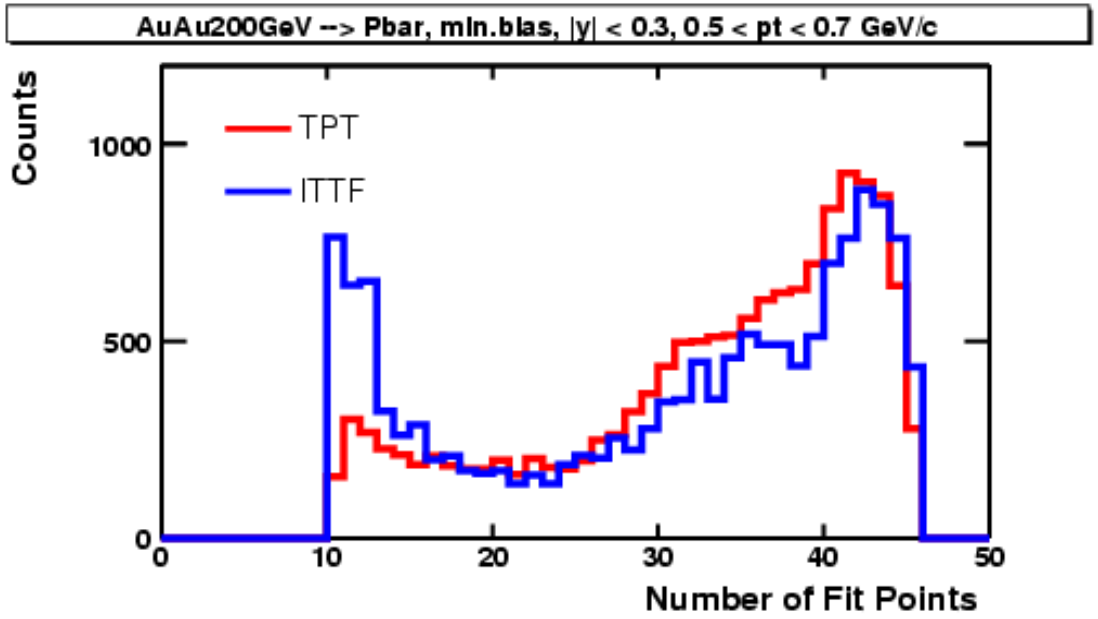
- MinBiasVertex Production, RFF, P02ge
- st_physics_2245012_raw_0010.MuDst.root
  -- st_physics_2253014_raw_0020.MuDst.root
- 28k events
- |VertexZ| < 25cm
- global tracks
- NFitPts >= 23
- dca < 2.0 cm

PID



- Z = ln (dE/dx / dE/dx_BB)
- dE/dx – resolution @500MeV/c ~8.6%
- ITTF: recsale dE/dx by 0.667
- Not understood yet

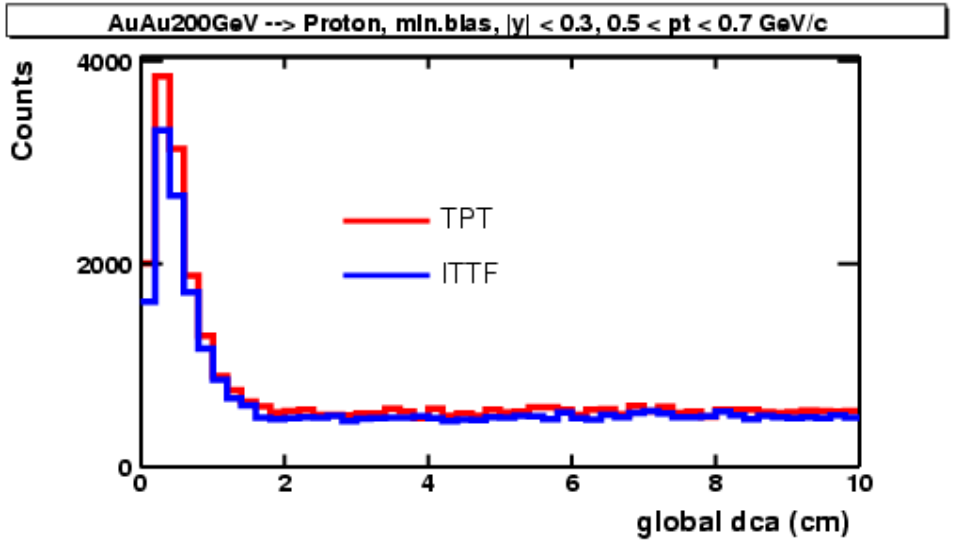
Number of Fit Points

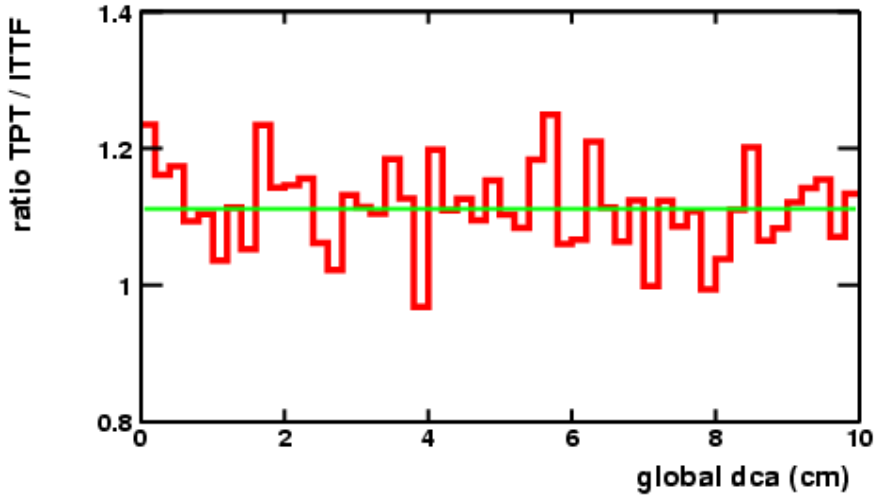


- Au+Au @200GeV
- minimum bias
- 0.5 < pt < 0.7 GeV/c
- |y| < 0.3

- normalized!
- ITTF produces tracks at low NFitPts
- not understood yet

Distance of Closest Approach

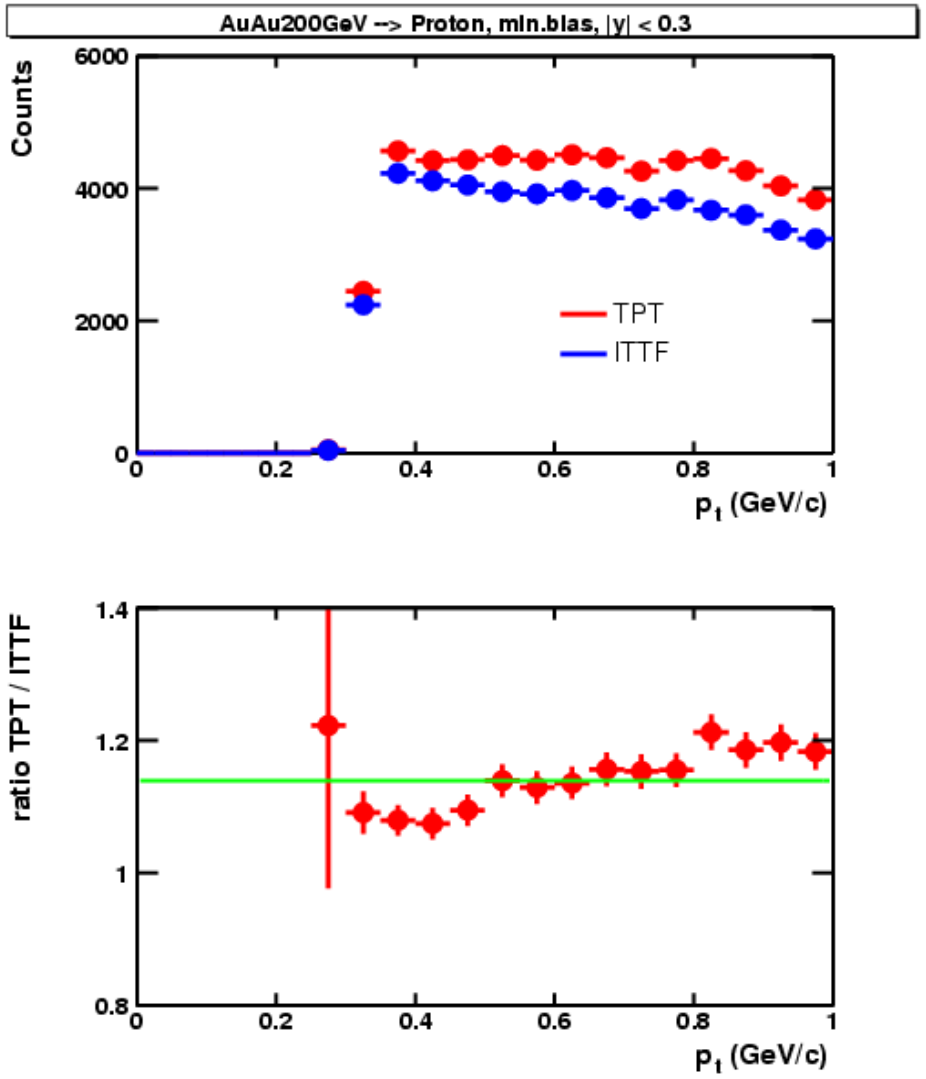




- Au+Au @200GeV
- minimum bias
- 0.5 < pt < 0.7 GeV/c
- |y| < 0.3

- ~10% difference
- Not understood yet

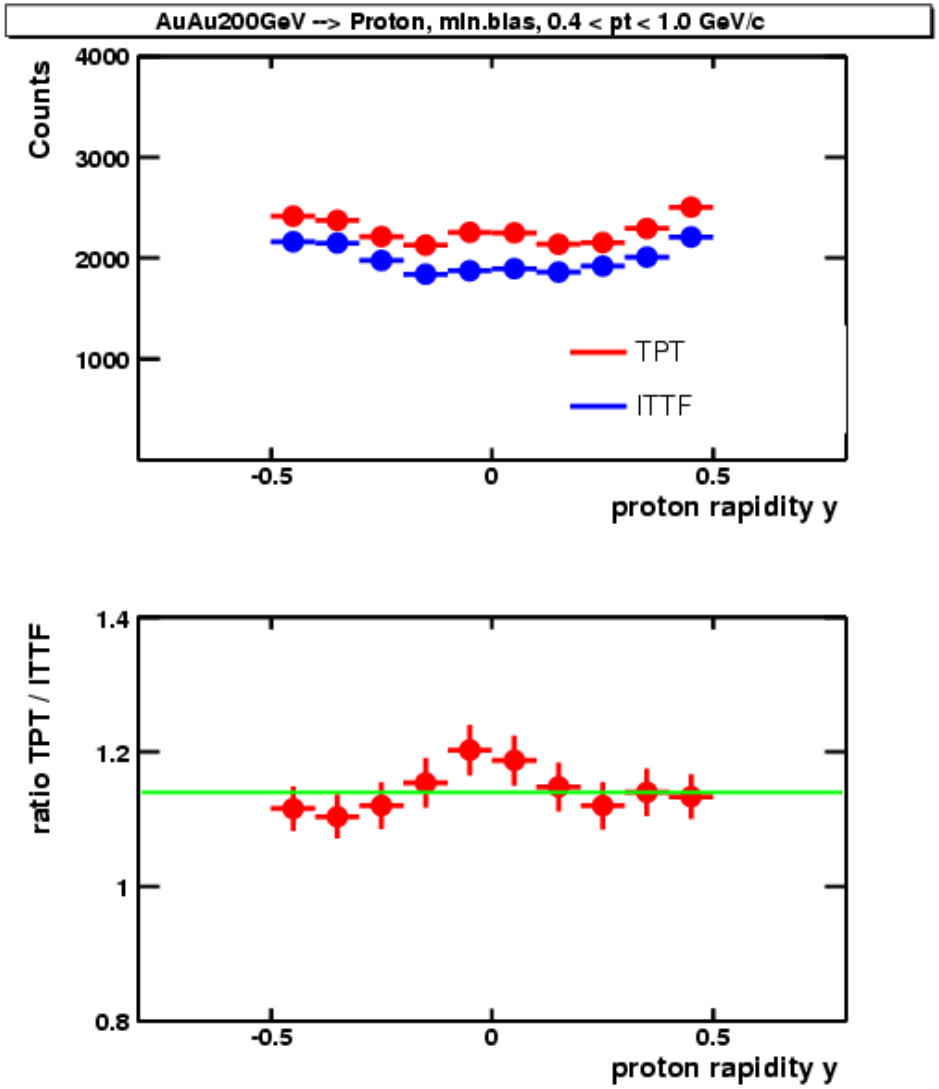
Raw Yields vs p_t



- Au+Au @200GeV
- minimum bias
- 0.4 < pt < 1.0 GeV/c

- 10 – 20% difference
- pt – dependent
- Not understood yet

Raw Yields vs y



- Au+Au @200GeV
- minimum bias
- $|y| < 0.3$

- 10 – 20% difference
- y – dependent
- Not understood yet

Summary

- TTF results in 10-20% lower tracking efficiency
- pt and y dependent
- dE/dx resolution identical, but rescale necessary
- Not understood yet