Updates on Efficiency Calculation

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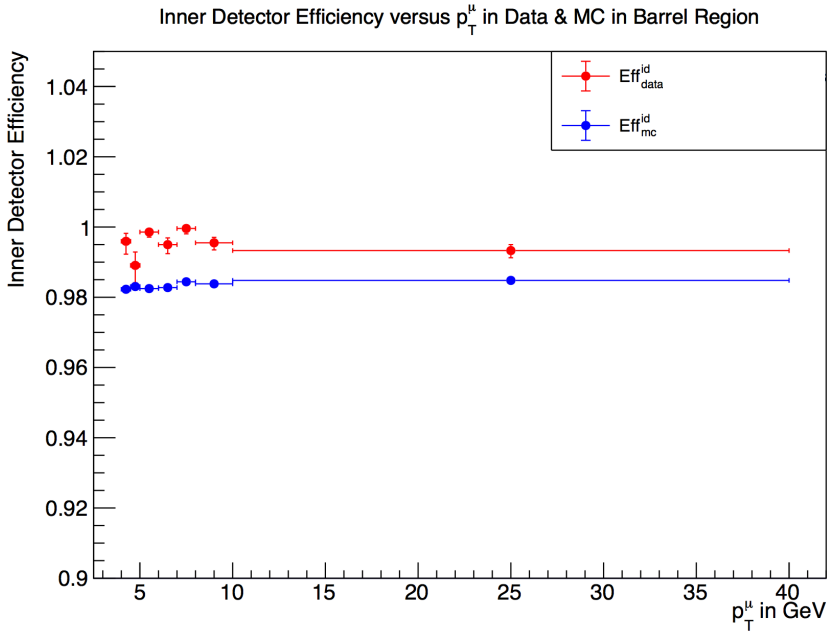
Summary

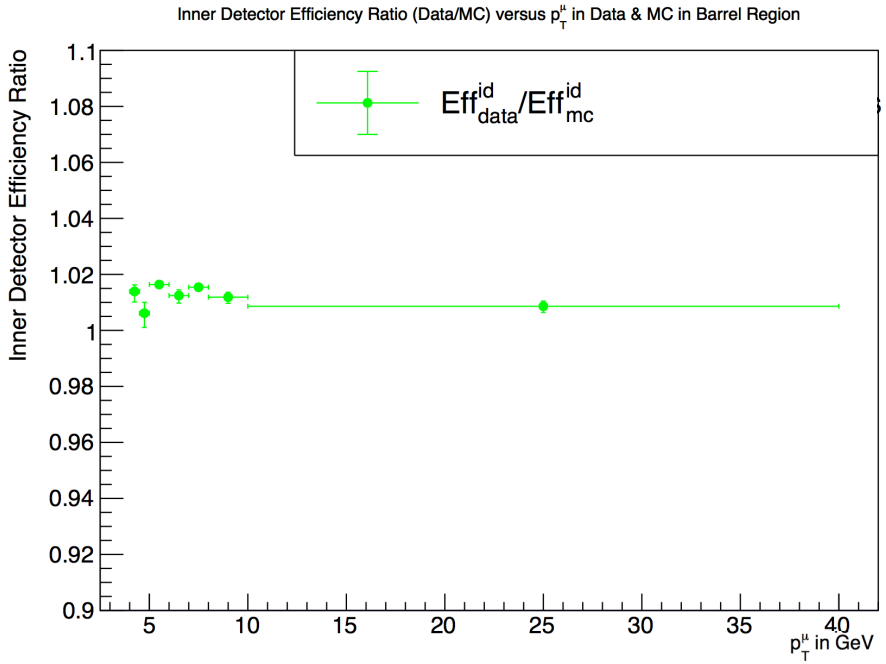
- User Tag & Probe method to calculate efficiency of inner detector (ID) and muon chamber (MS).
- Eff_id = (# of matched id muon tracks)/(# of ms muon tracks).
- Eff_ms = (# of matched reconstructed muons)/(# of id muon tracks).

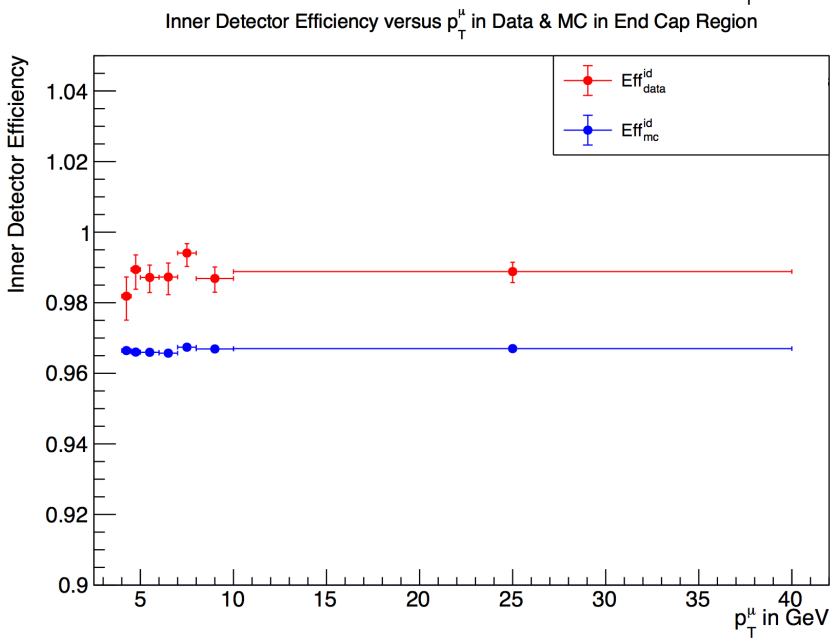
- Graphs for inner detector efficiency versus q*eta and versus track pt.
- Graphs for muon chamber efficiency versus q*eta and versus track pt.
- Some examples of how good the fitting is.

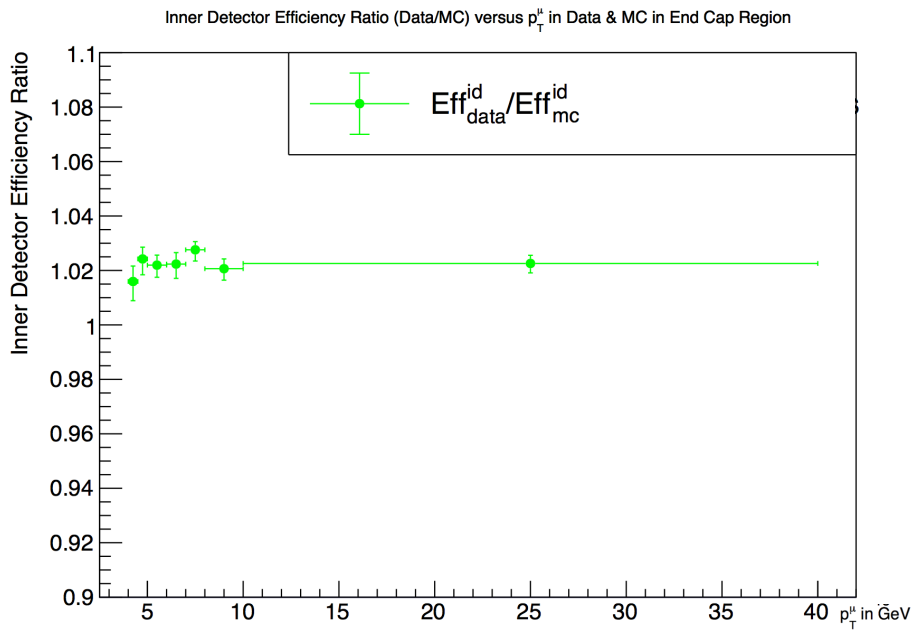
- To do:
  - Produce efficiency graphs using MC truth information and compare it with MC T&P results
  - More tuning of fitting/mindR chosen to see whether results change

Inner Detector Efficiency vs p_T

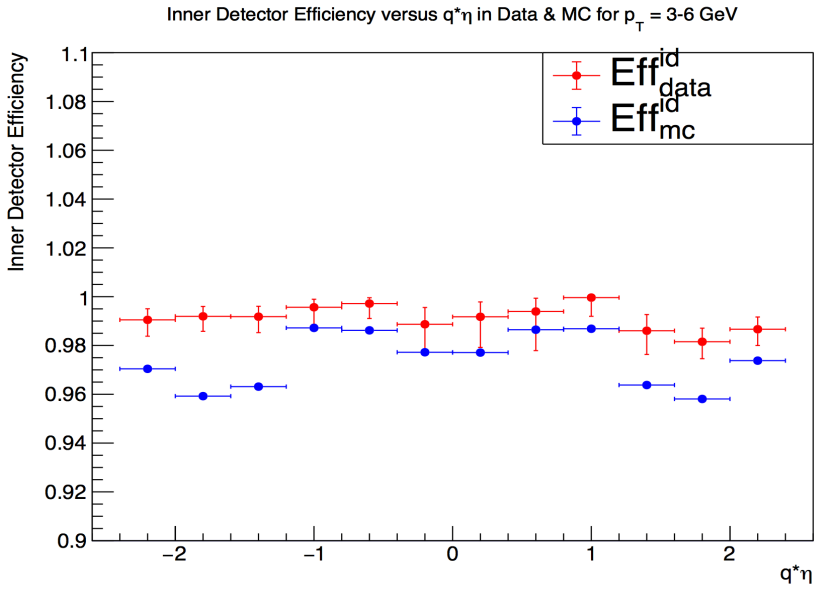


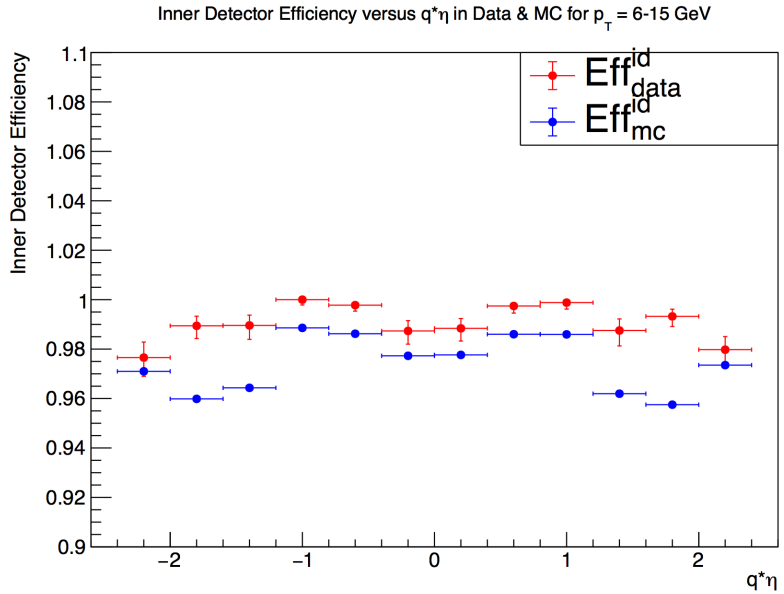


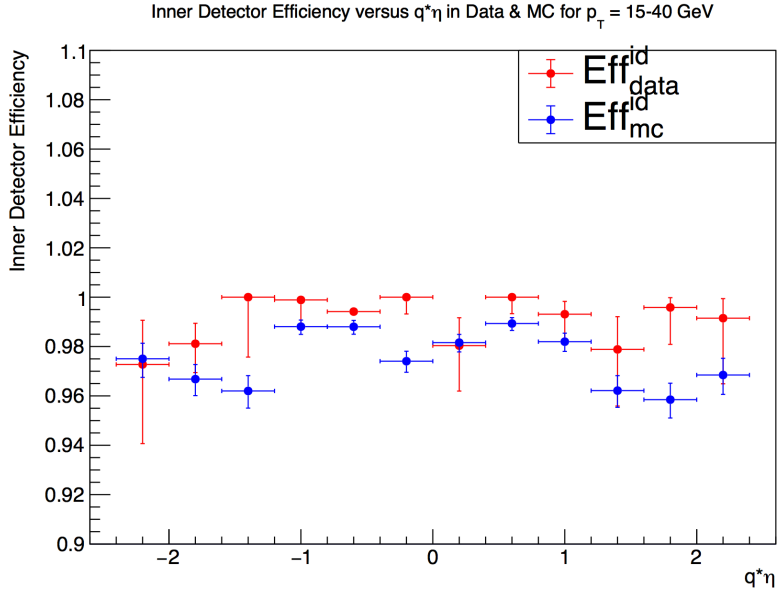


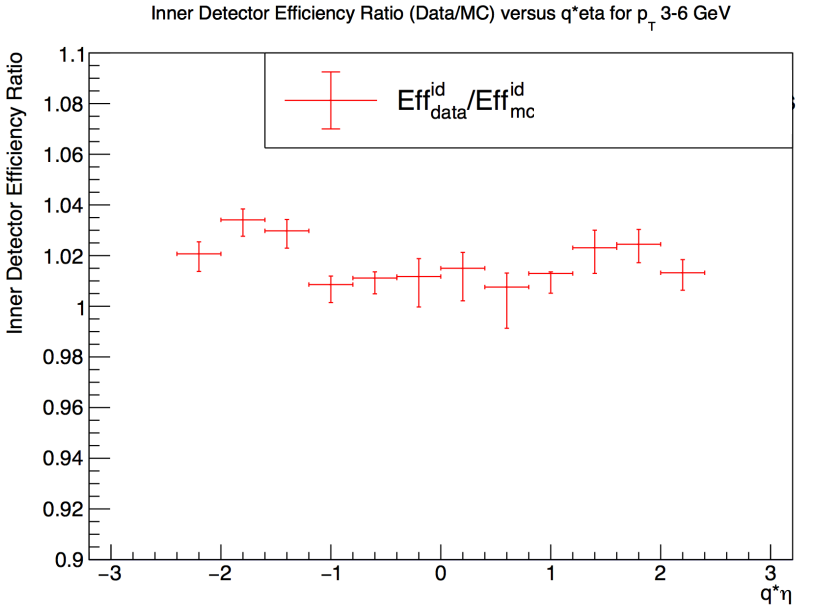


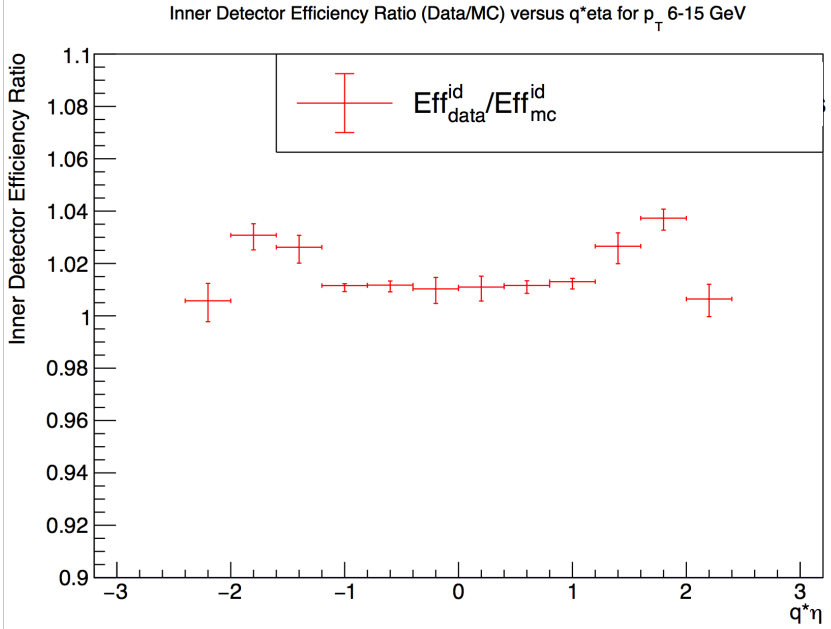
Inner Detector Efficiency vs q*eta

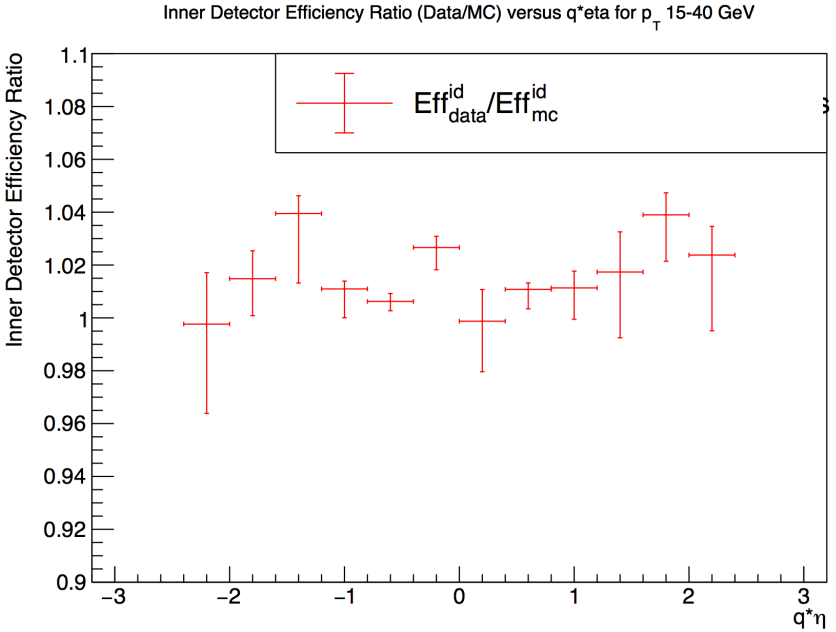




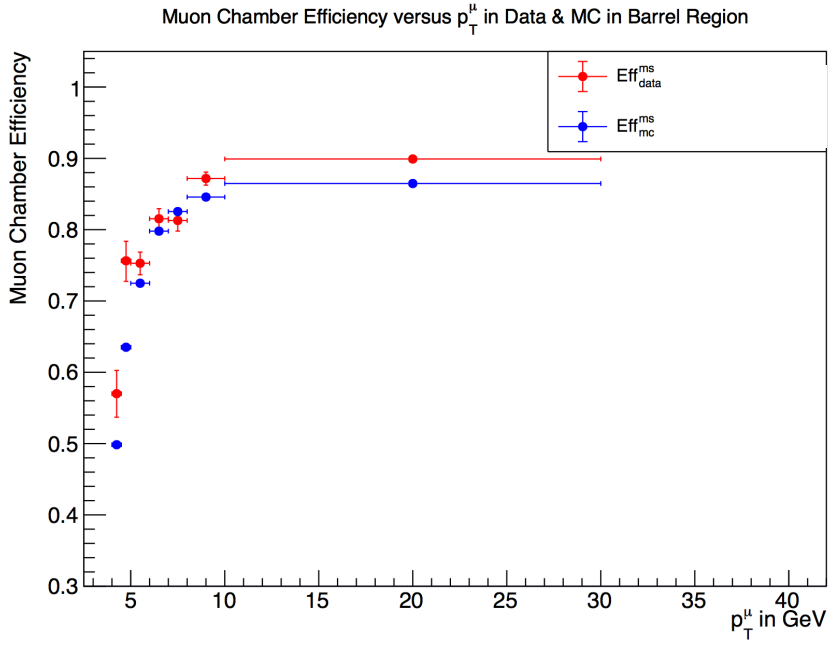


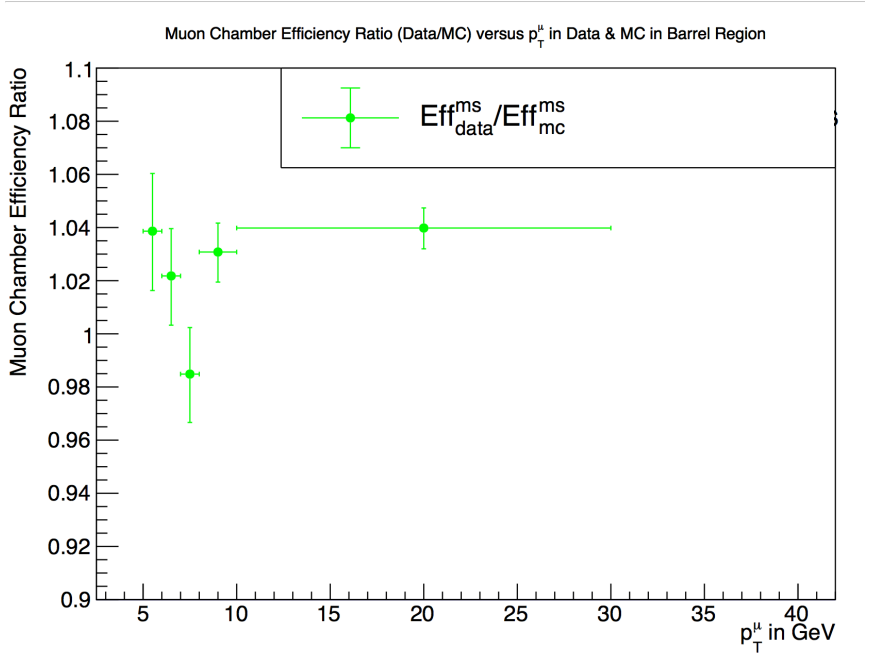


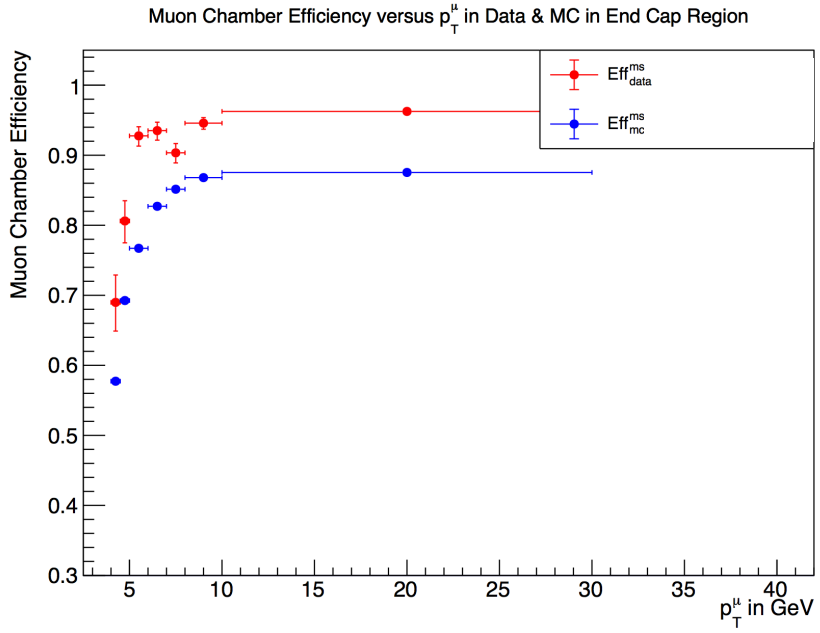


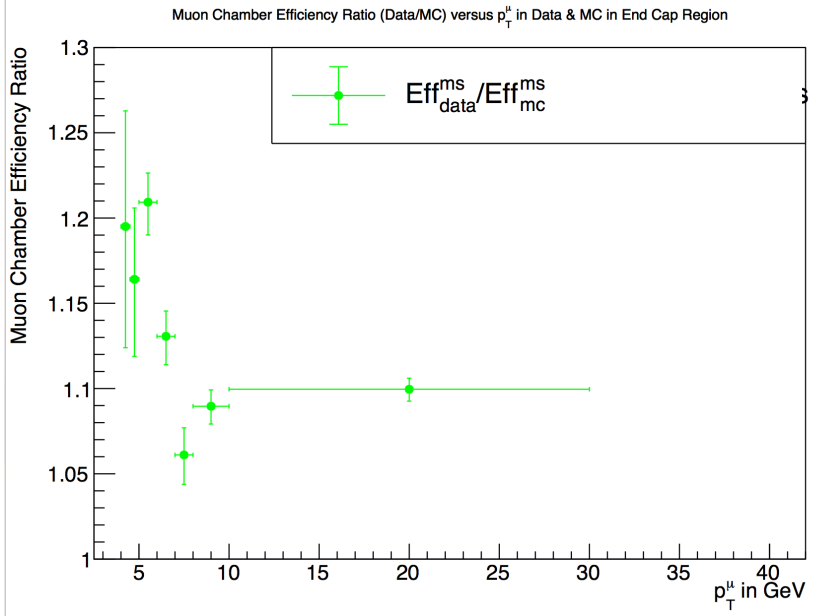


Muon Chamber Detector Efficiency vs p_T

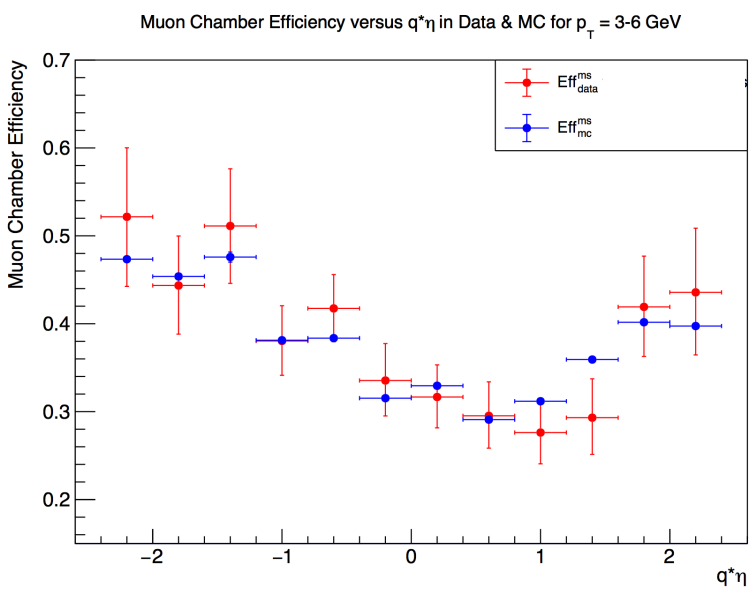


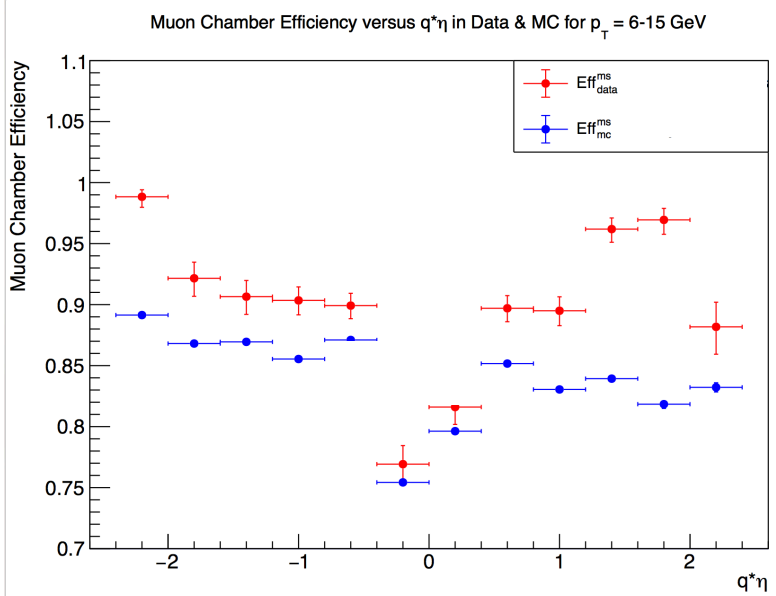


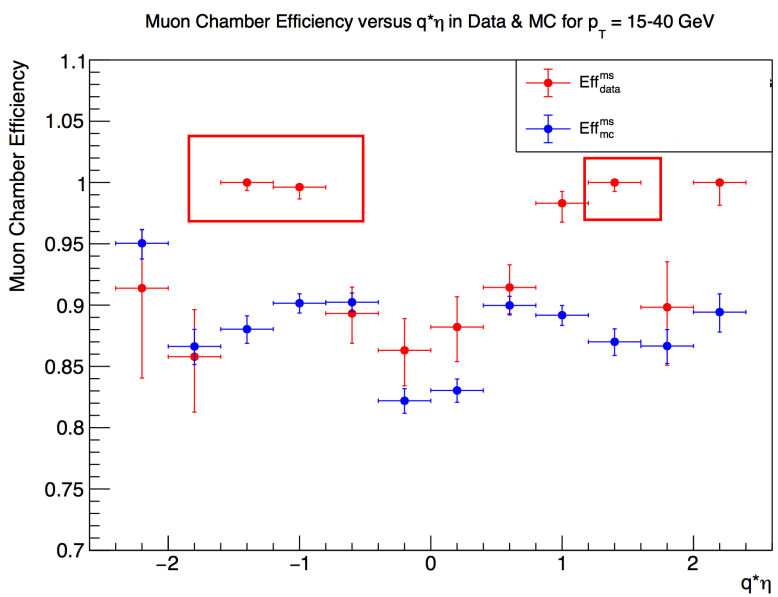


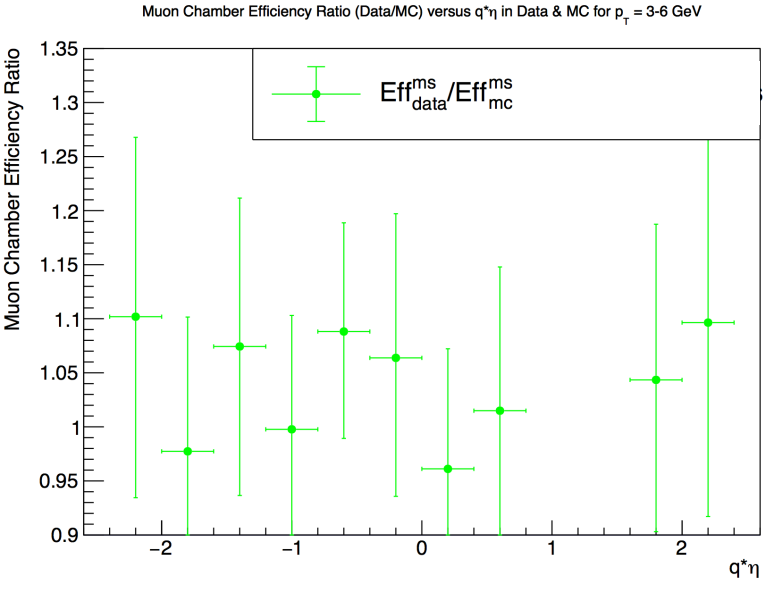


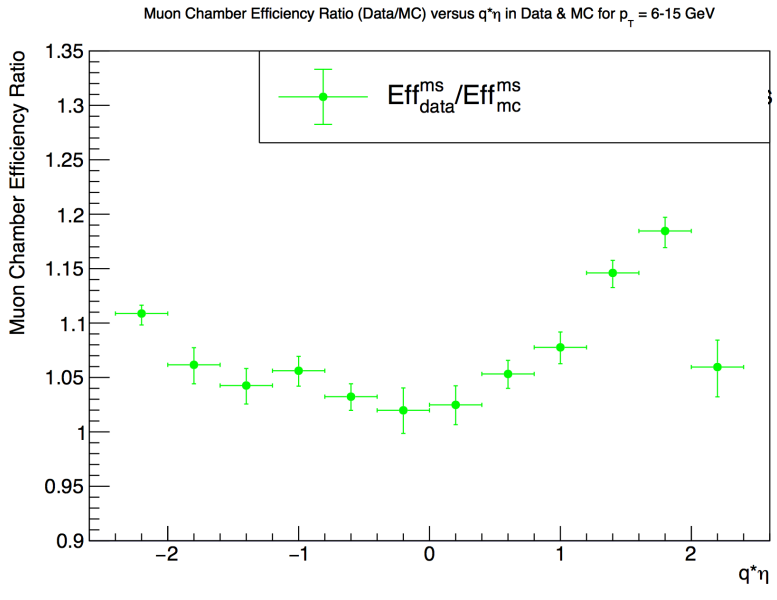
Muon Chamber Efficiency vs q*eta

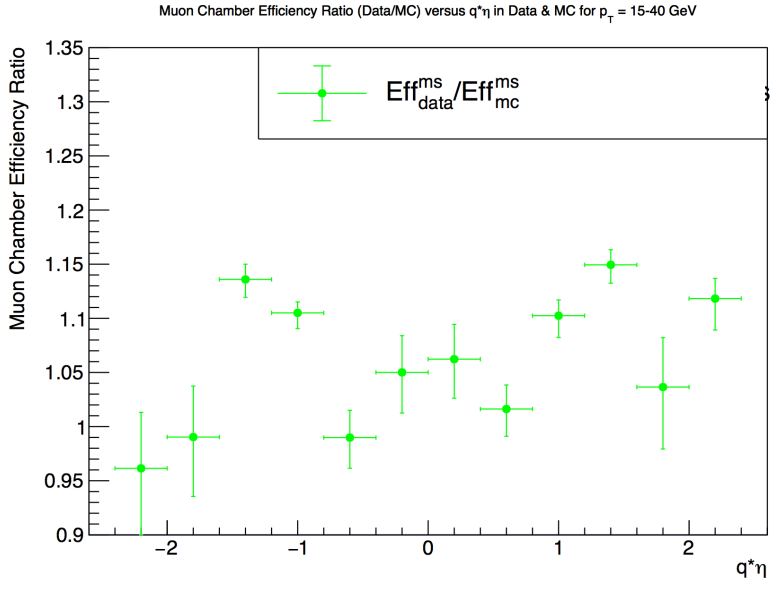




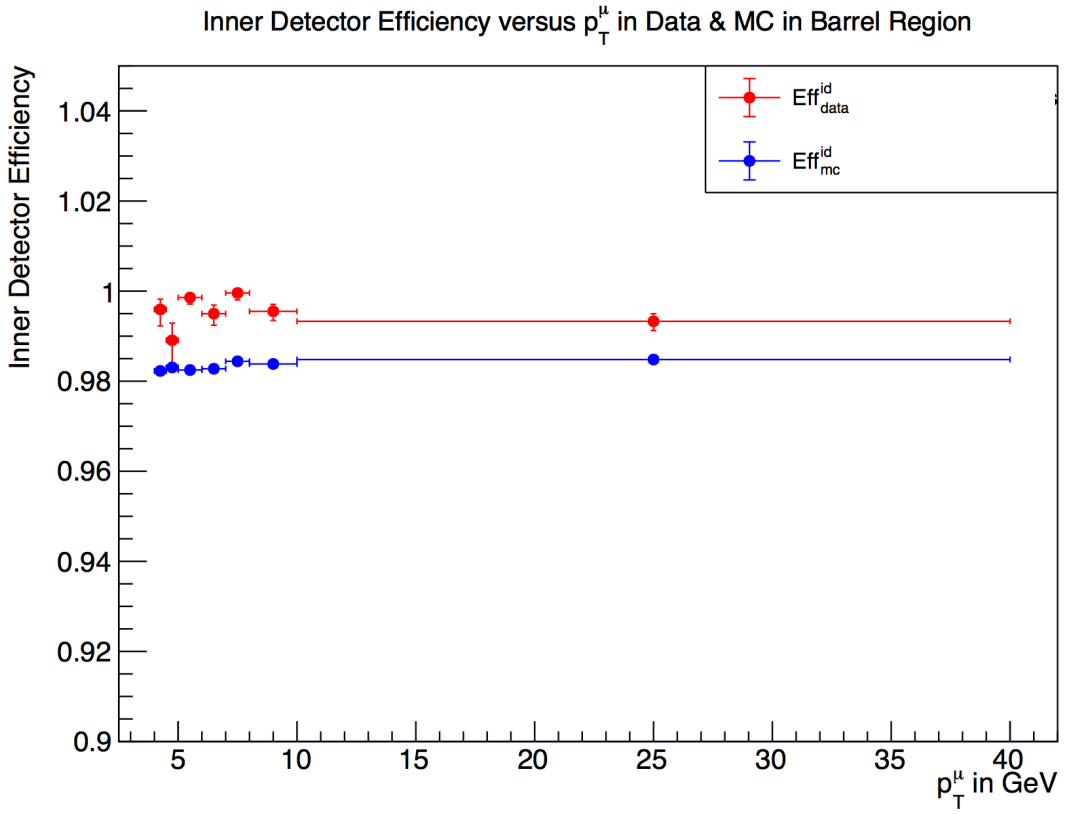


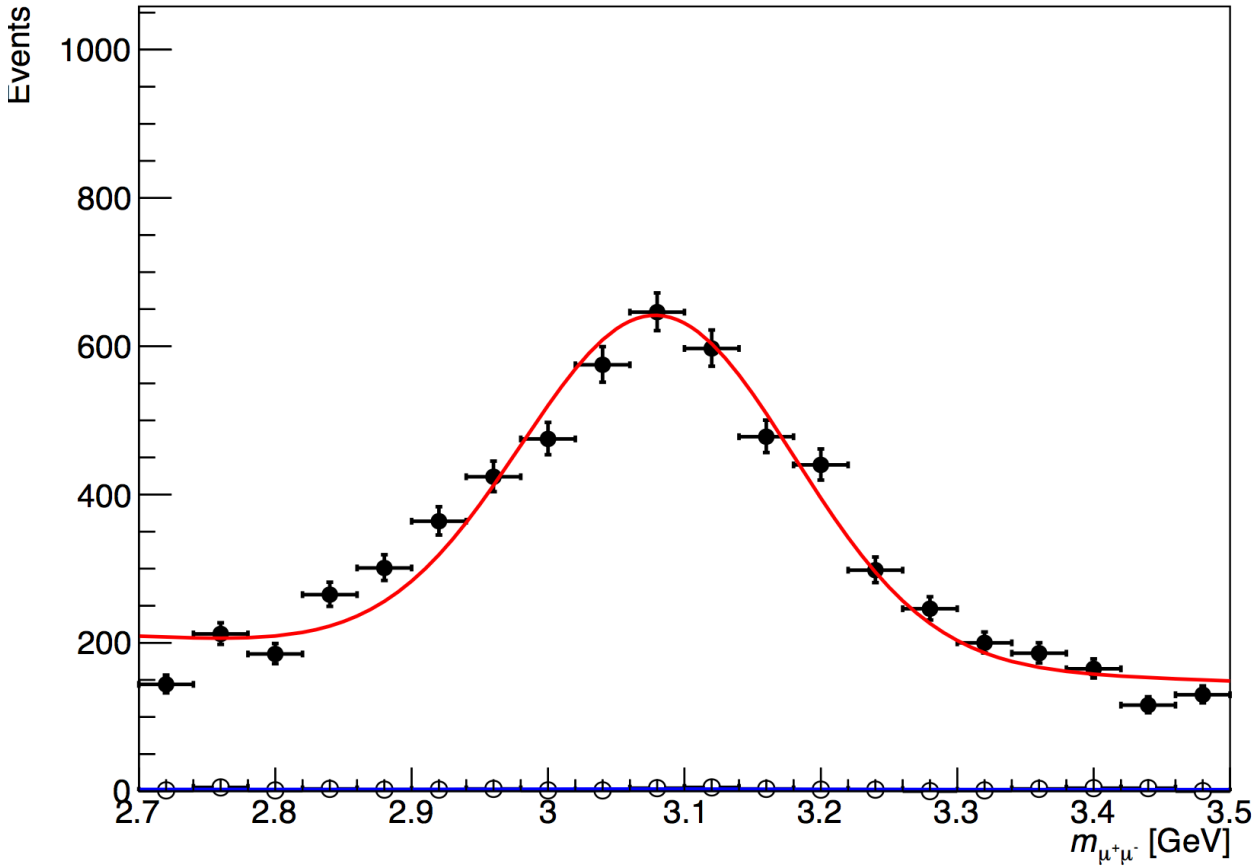




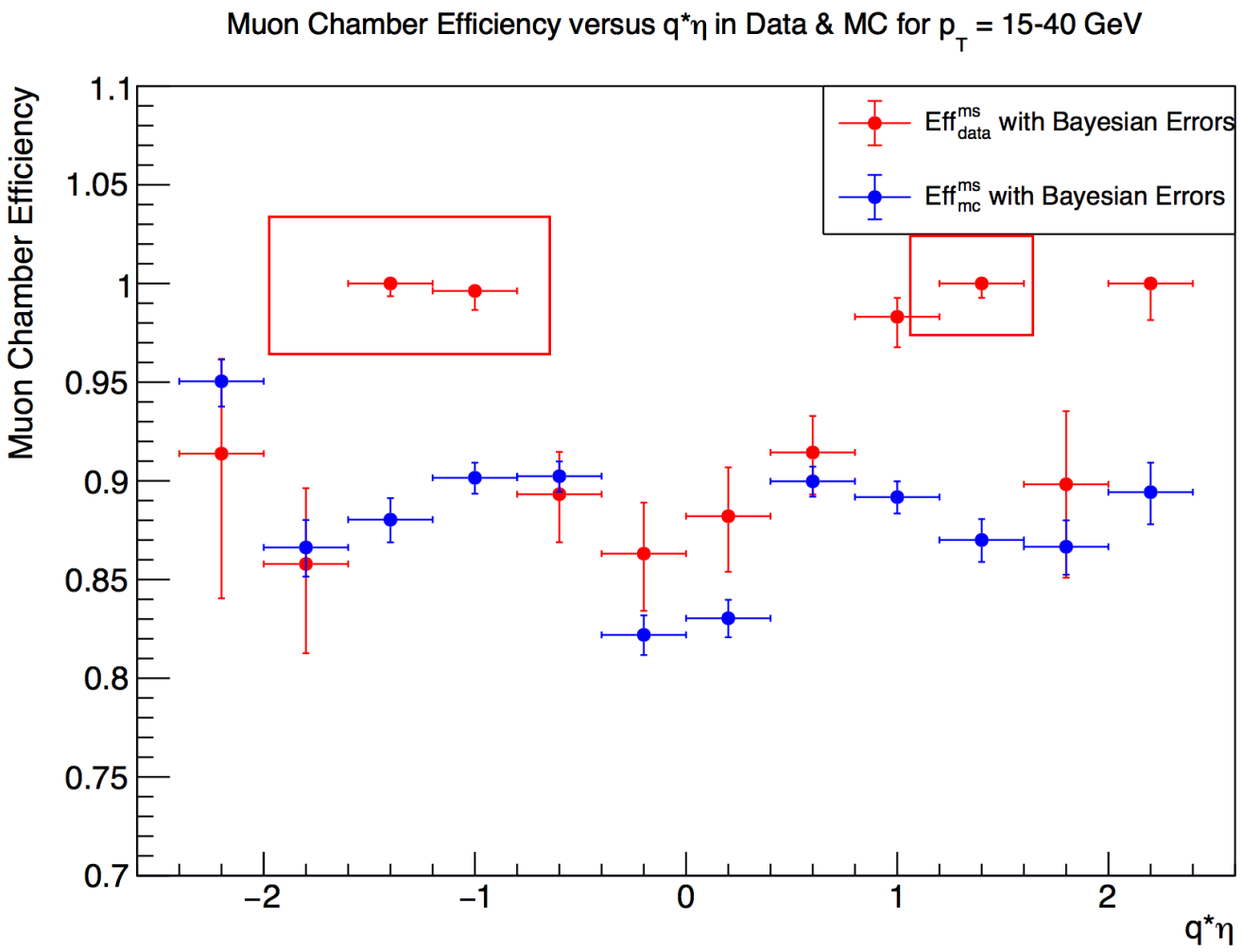


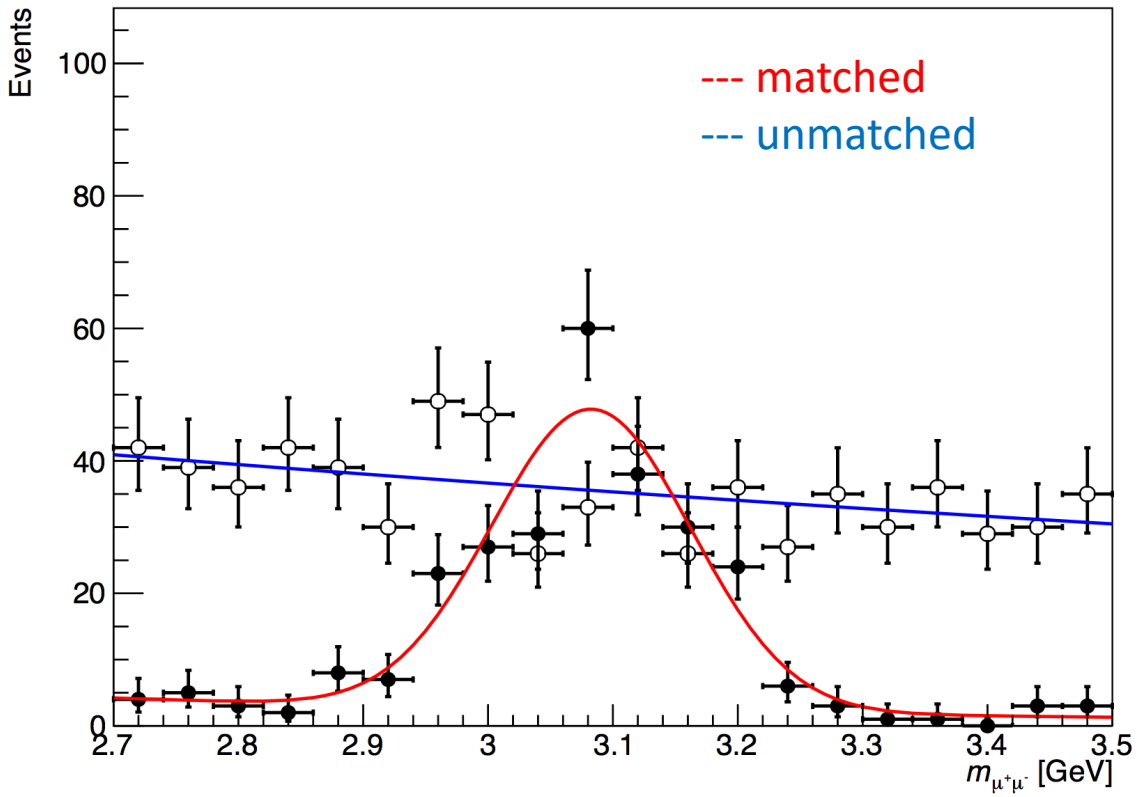
Eff_id for data in Barrel Region p_T = 6-7 GeV



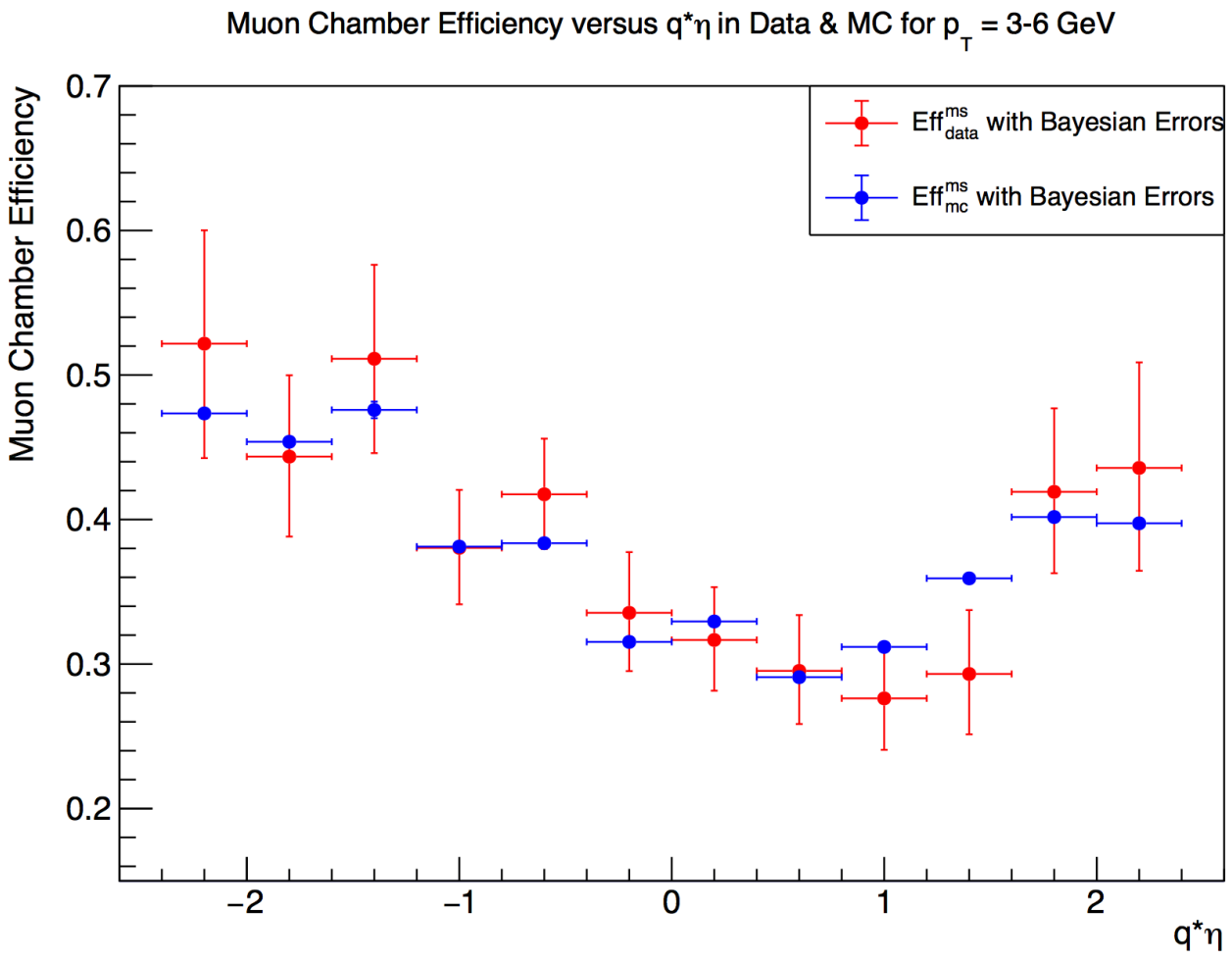


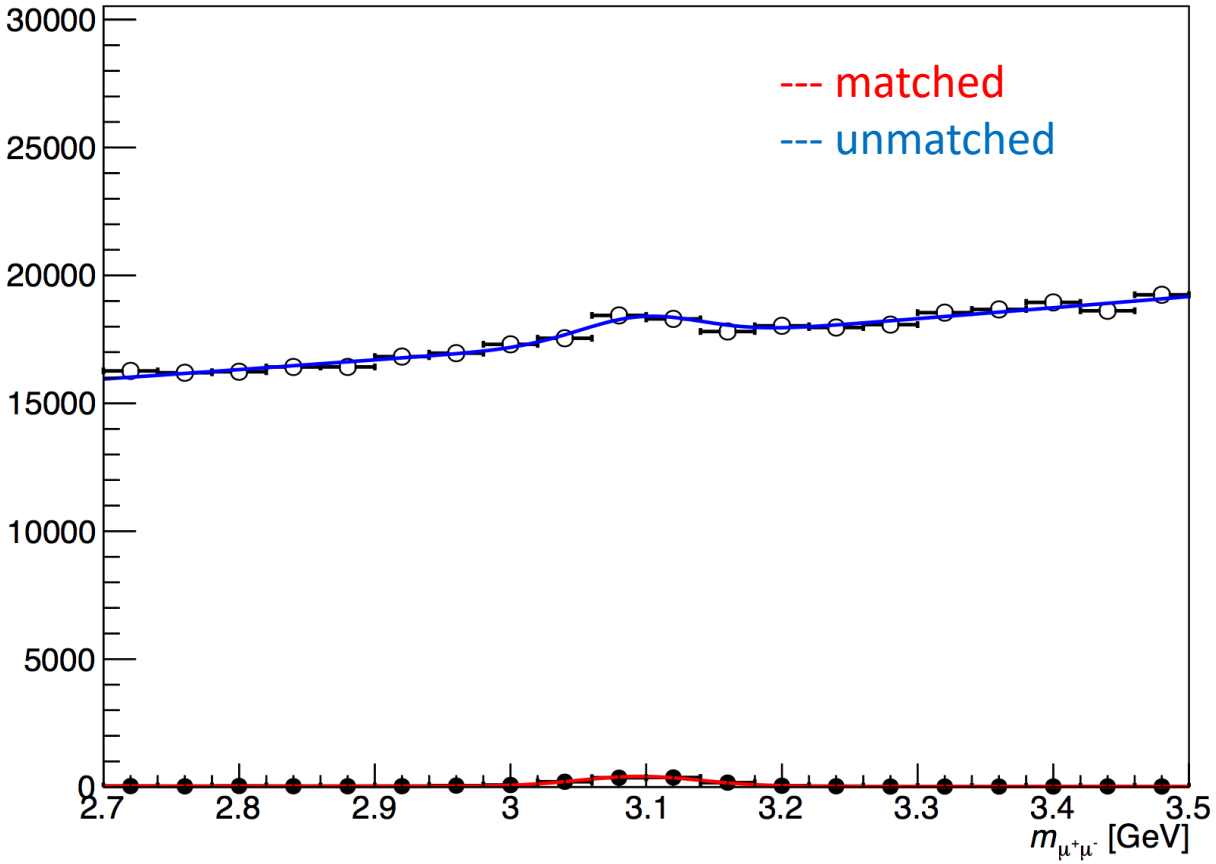
ID efficiency are in general high, signals are high comparing to the background and matched tracks are





- High pT region has very few data and some fake efficiencies are calculated.





- Low pT region has more data and data and MC go the same trend approximately.