

Future steps

- ❖ Finer binning at low p_T to check the low p_T reach of D^0 and Λ_c
- ❖ Impact on more differential measurements & spin measurements
- ❖ Re-visiting track reconstruction efficiency at low momentum (optimize tracker geometry + track finding algorithm) — Rey's study
- ❖ Study impact of TOF in the barrel region and hadron going direction
- ❖ Move DIRC to 50cm and check the impact
- ❖ PID low p reach needed for Λ_c (0.2GeV? 0.4GeV?...)

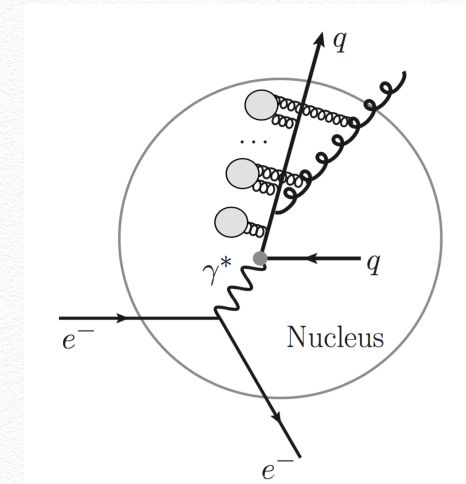
Nuclear modification in eA

- Nuclear modification of **light** or **c** or **b** hadrons in eA

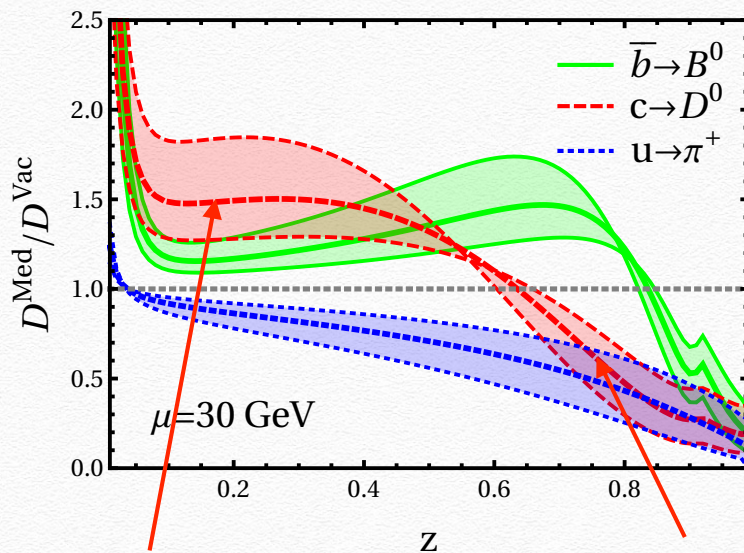
$$R_{eA}^h(p_T, \eta, z) = \frac{N^h(p_T, \eta, z) \Big|_{e+Au}}{N^h(p_T, \eta, z) \Big|_{e+p}} \rightarrow z = \frac{E_h}{\nu}$$

fractional energy of the final state hadron

inclusive jet production to minimize initial state effect (PDF and nPDF)

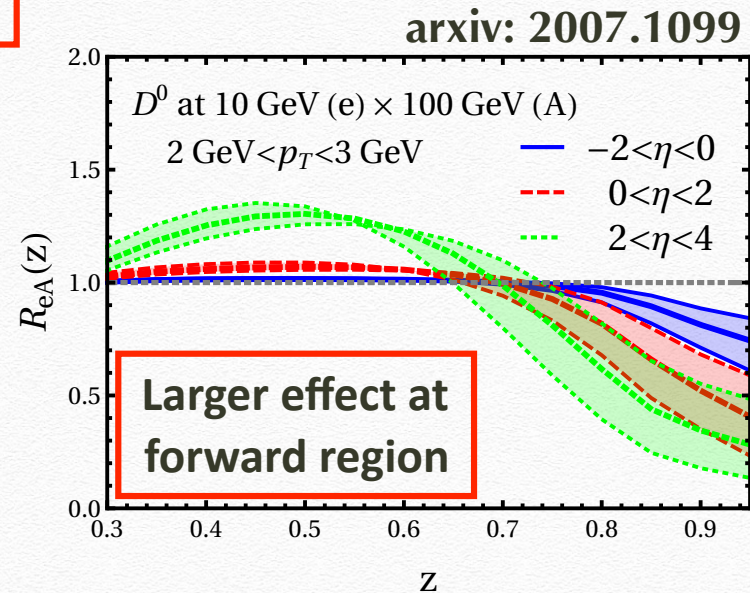


Would be interesting to also look at Λ_c (Eloss on parton level or hadron level or mixed?)

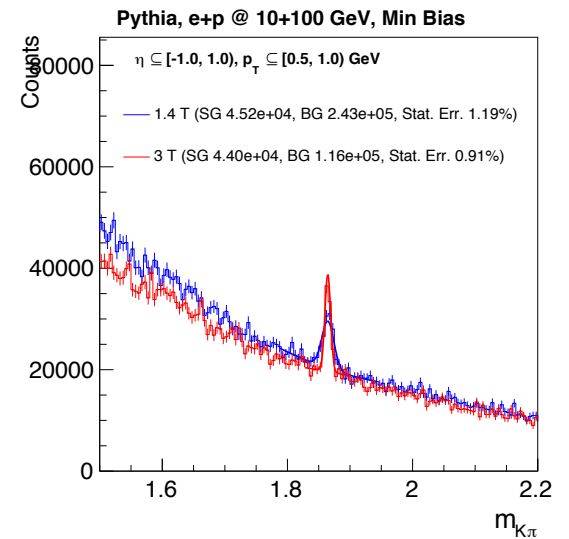
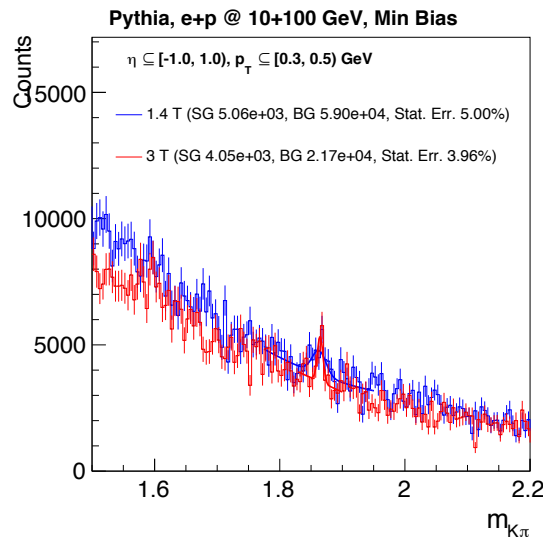
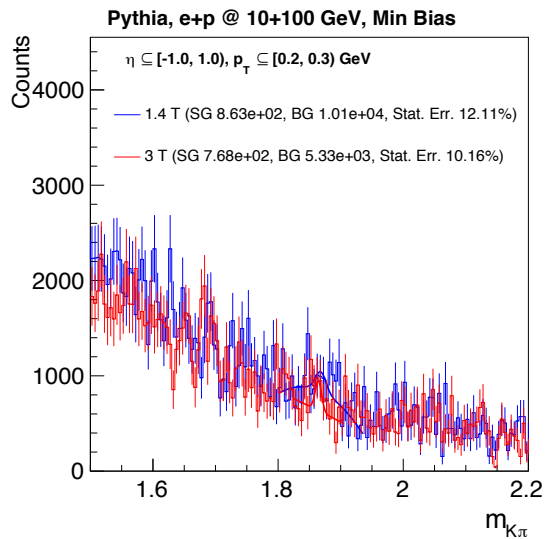


enhancement at low z

suppression at high z

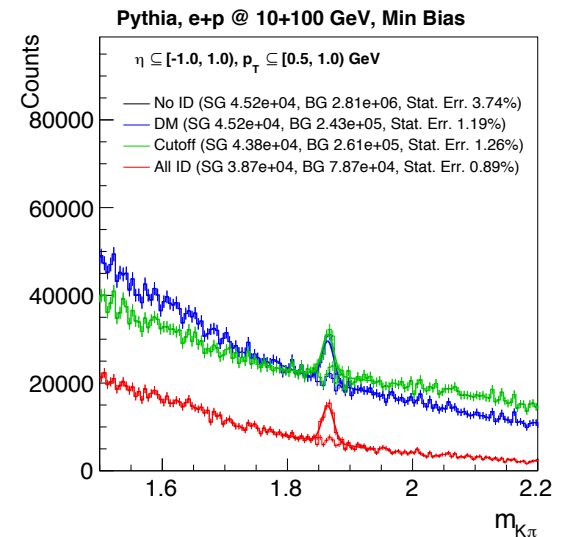
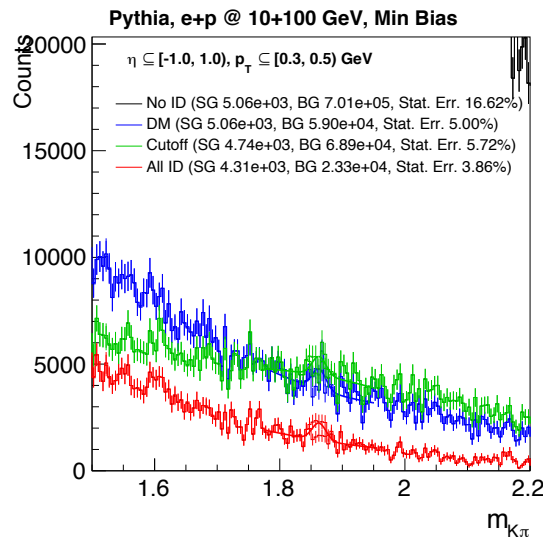
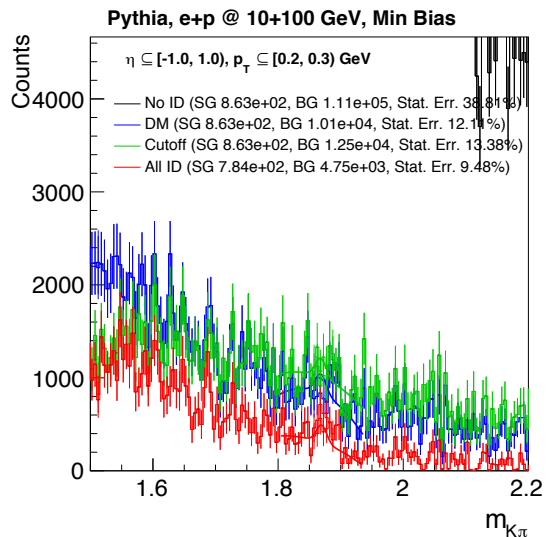


Finer binning at low p_T for D^0

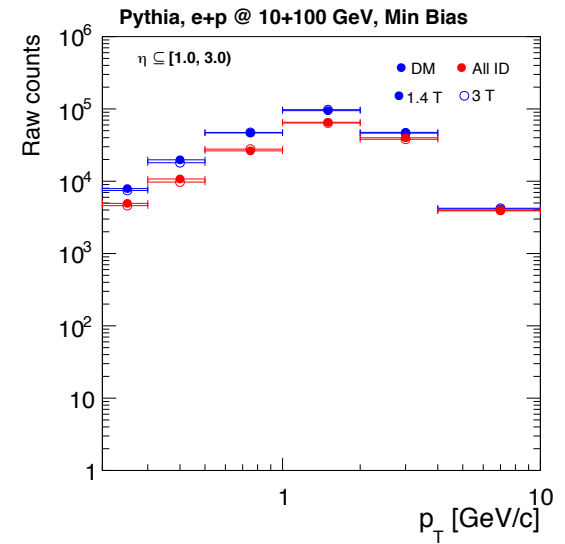
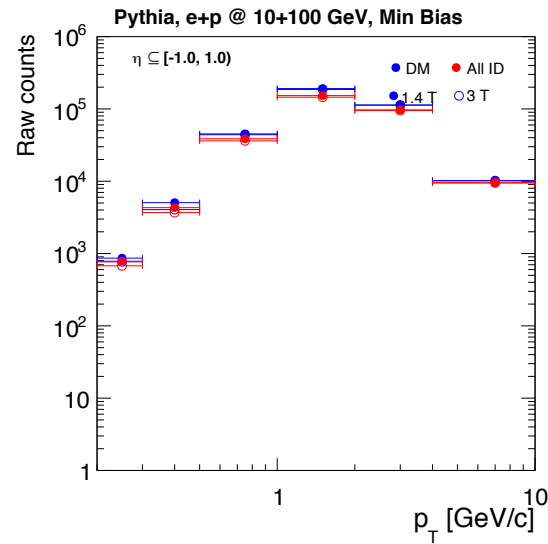
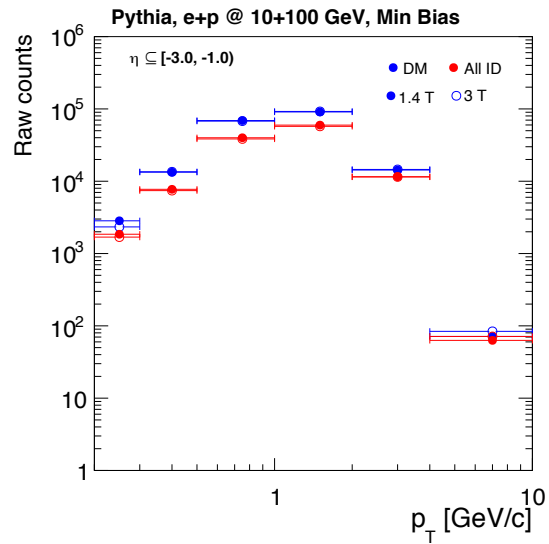


LBL+3T can access the 0.2-0.3GeV bin (efficiency high still)

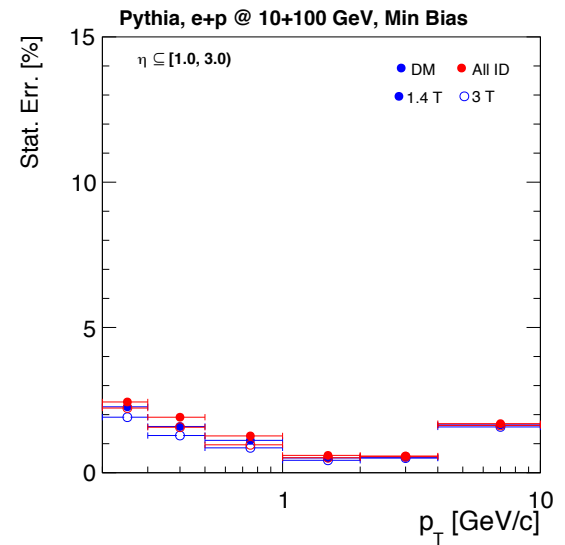
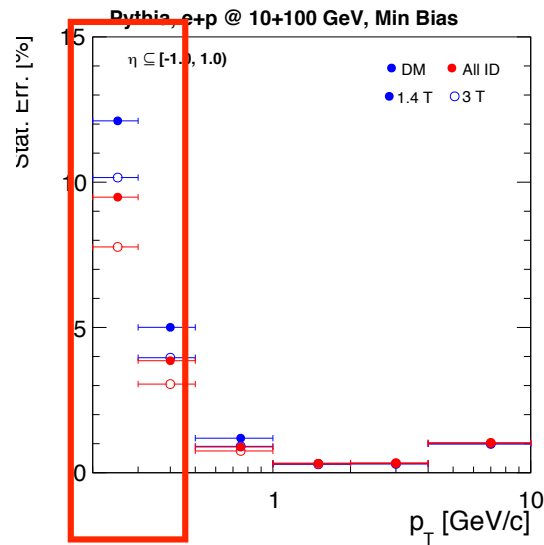
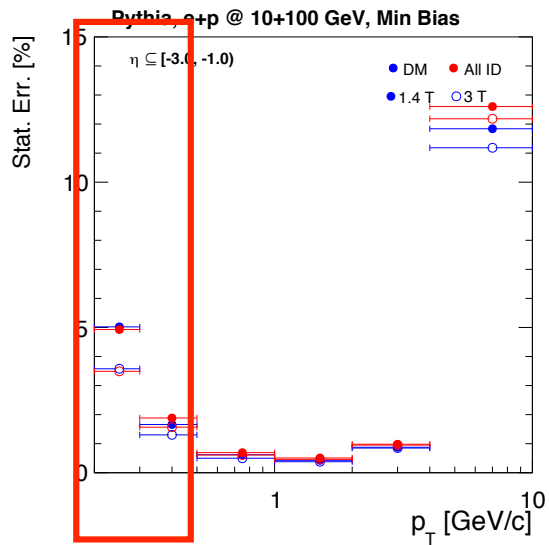
PID senario & tracking at low p_T matters more



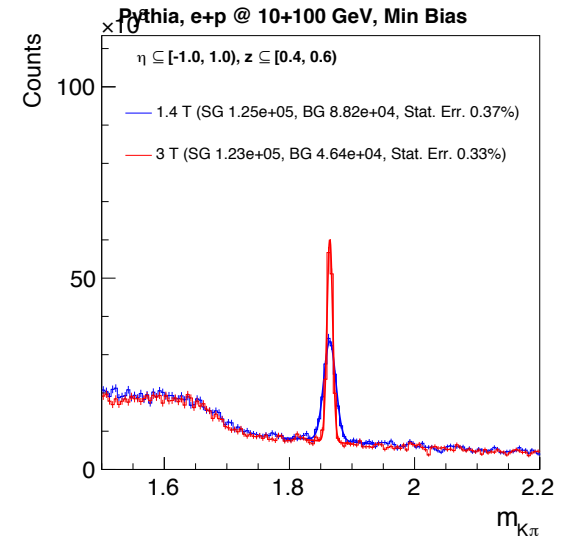
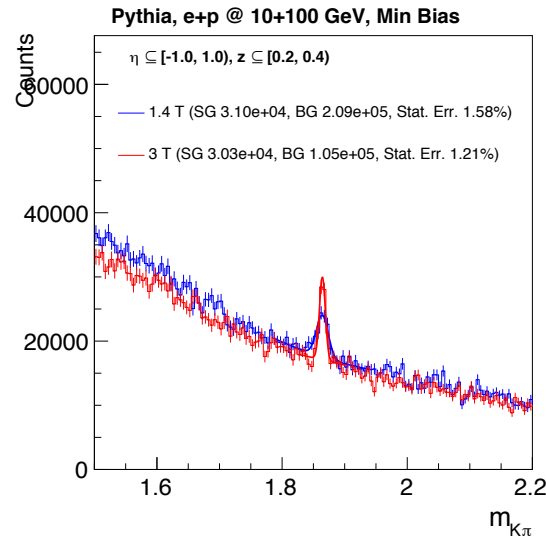
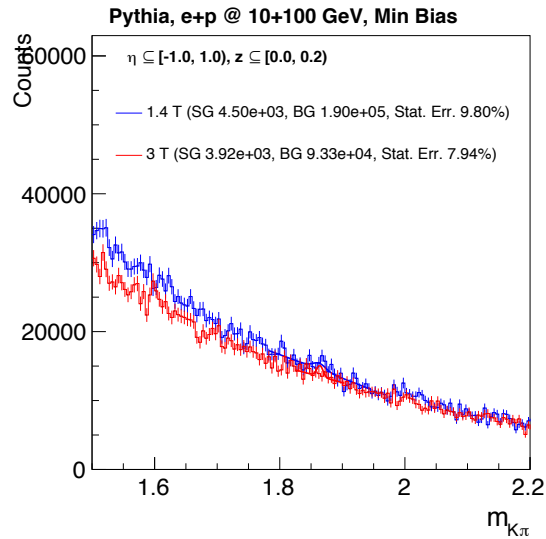
D^0 of low p_T



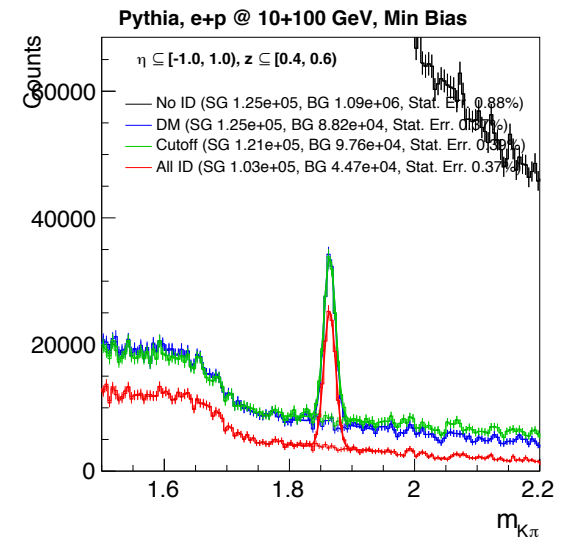
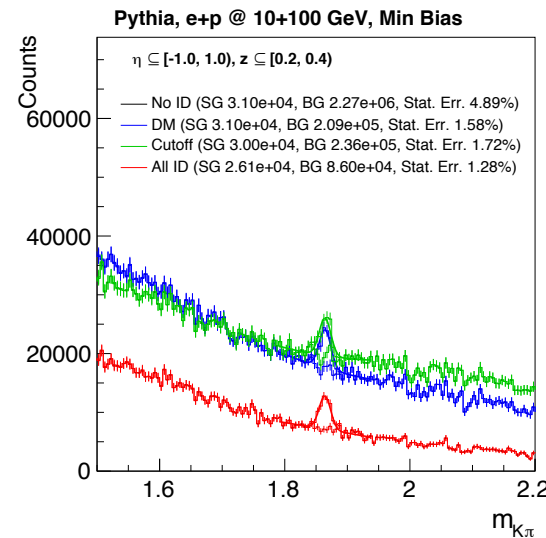
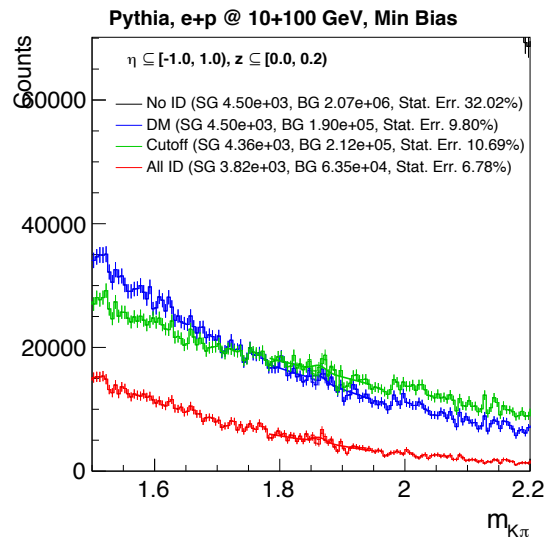
3T works better at the very low p_T bin (~20% effect)



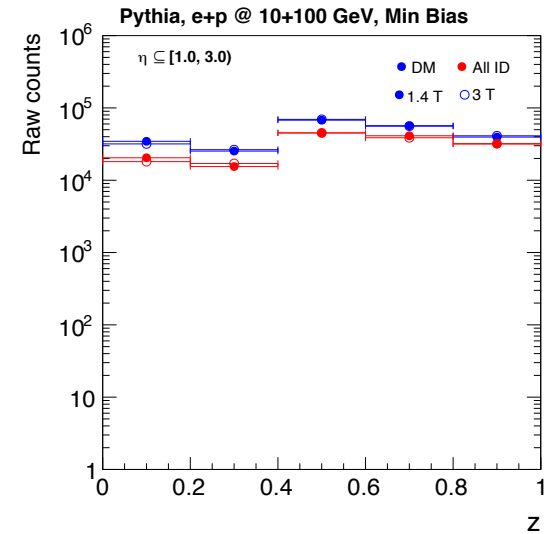
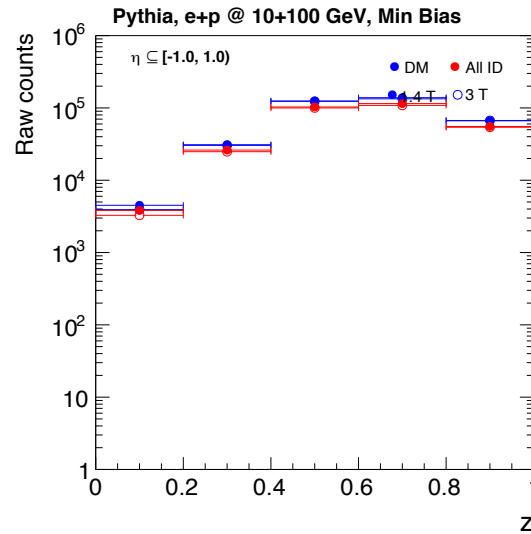
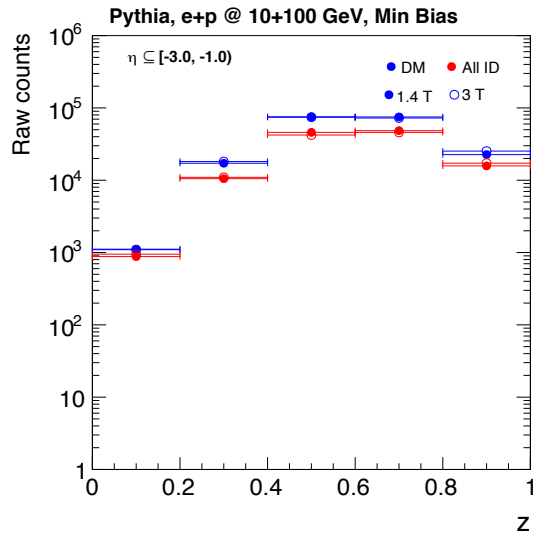
D⁰ of low z



Difficult to access $z < 0.2$ at midrapidity

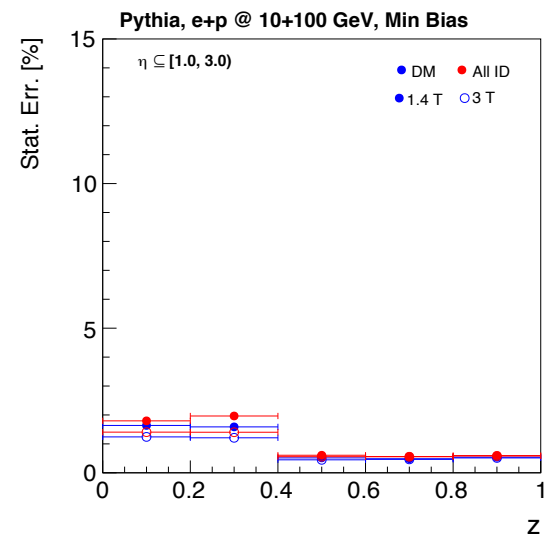
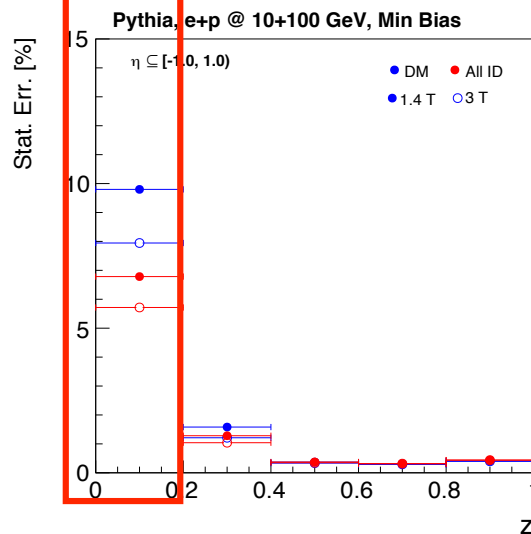
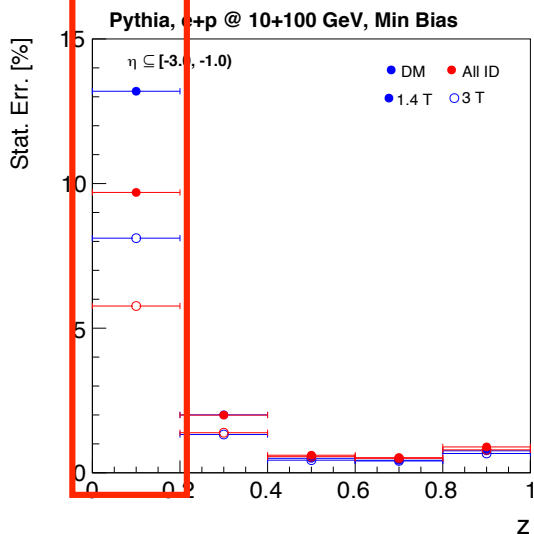


D⁰ of low z

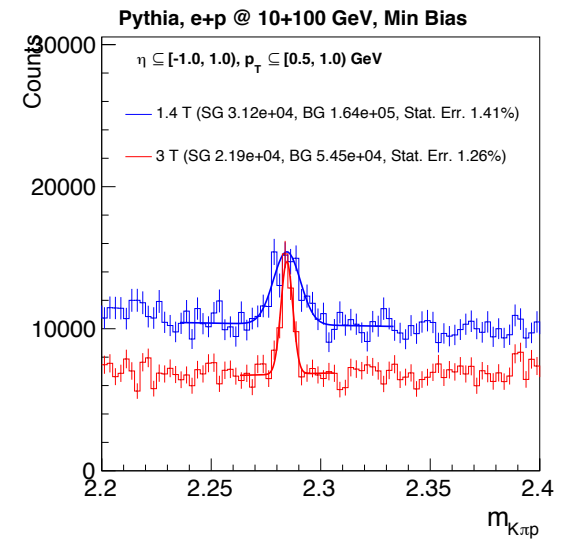
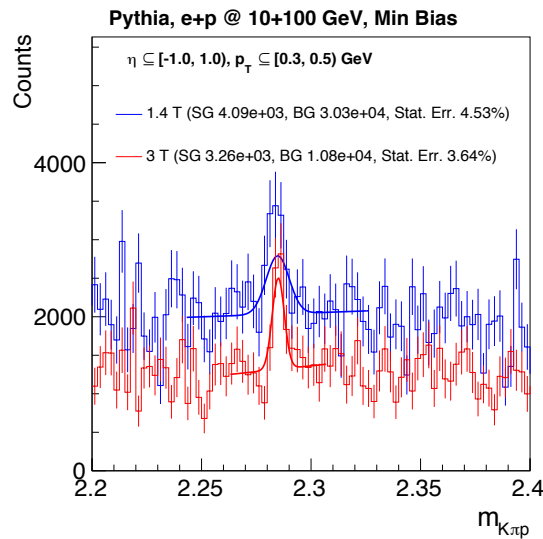
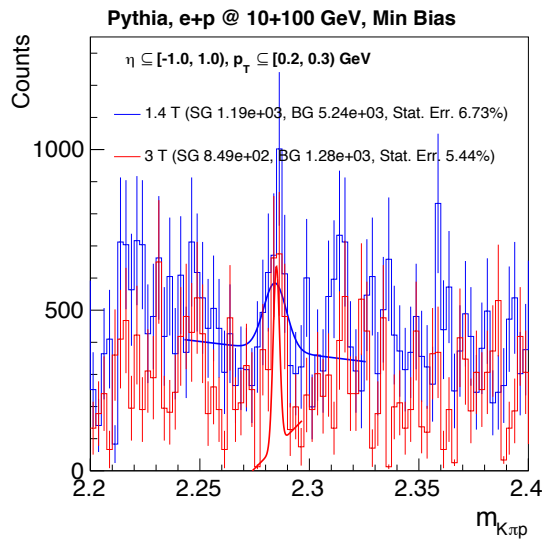


Difficult to access $z < 0.2$ at midrapidity but accesible at forward rapidity

3T works better at the very low p_T bin

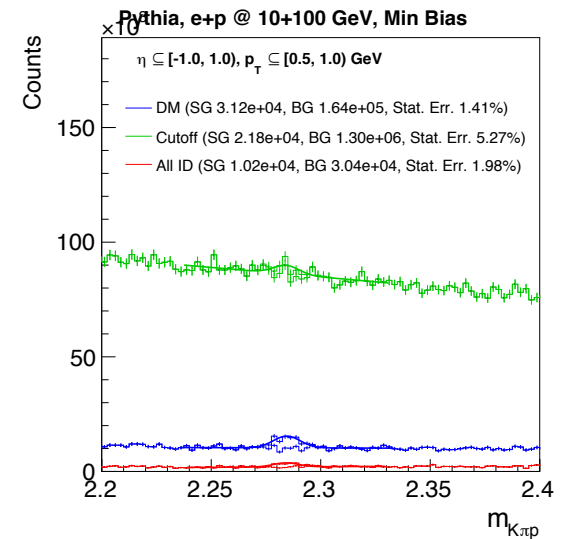
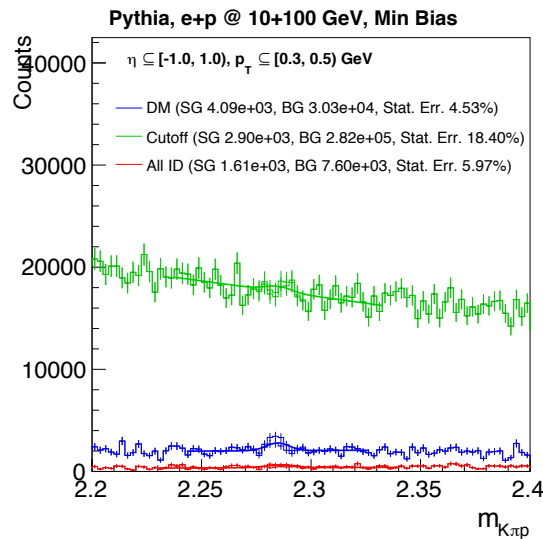
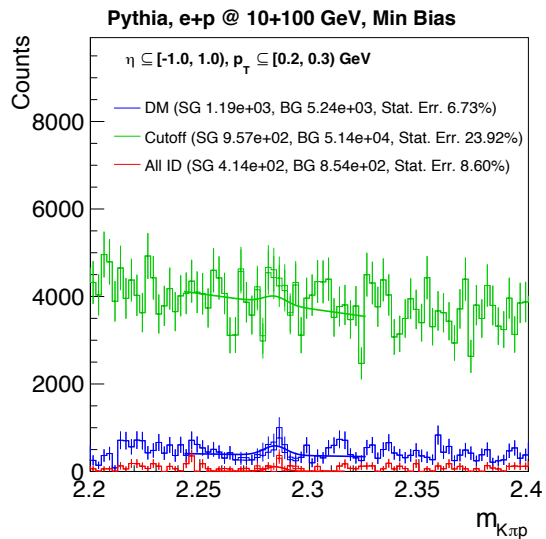


Finer binning at low p_T for Λ_c

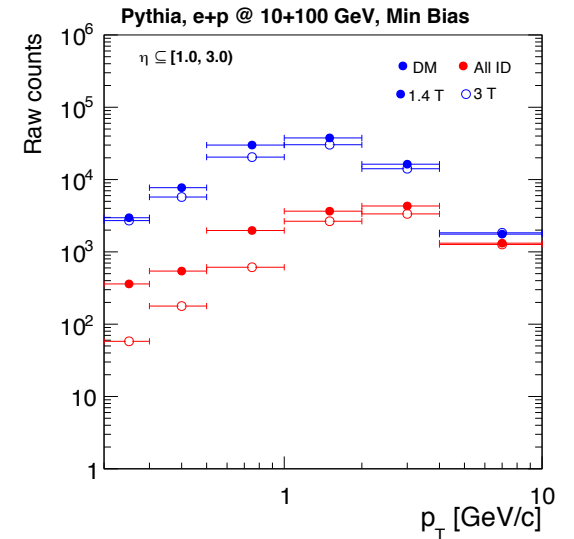
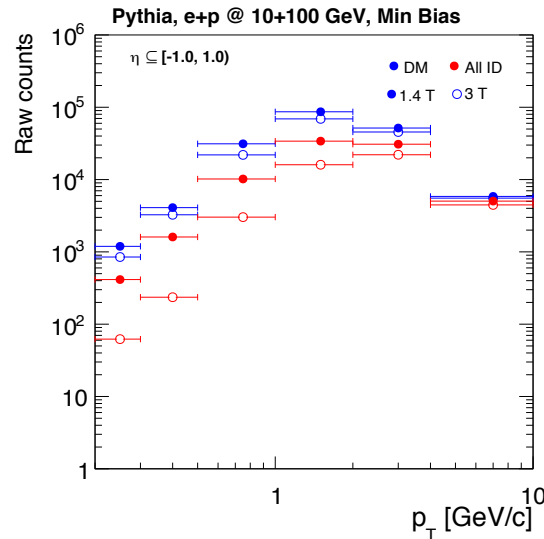
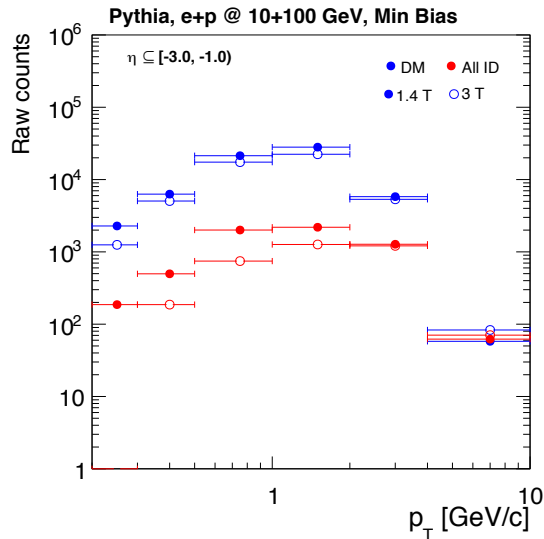


LBL+3T can access the 0.2-0.3GeV bin (efficiency high still)

PID senario & tracking at low p_T matters more

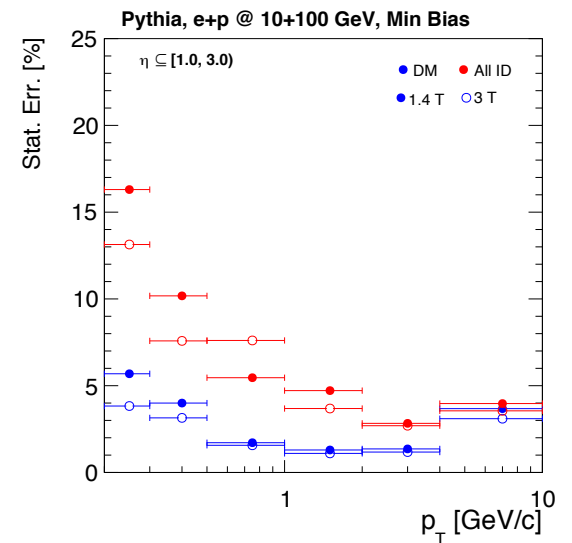
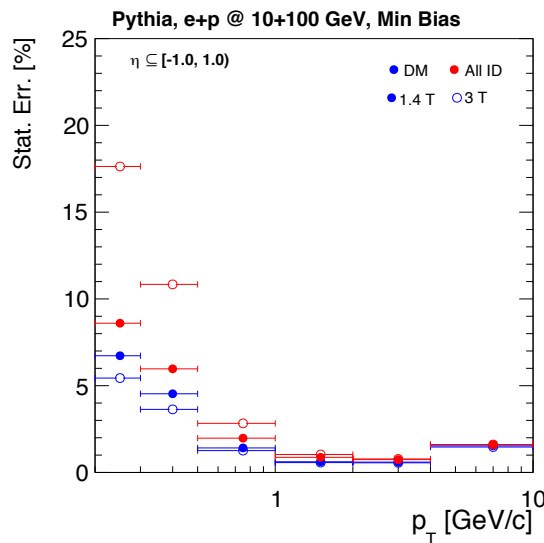
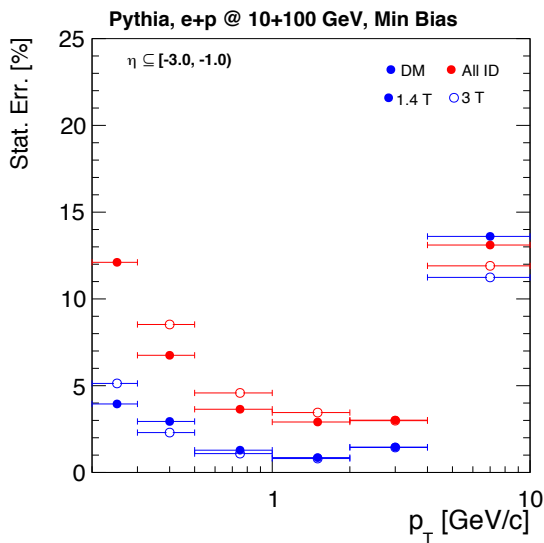


Λ_c of low p_T

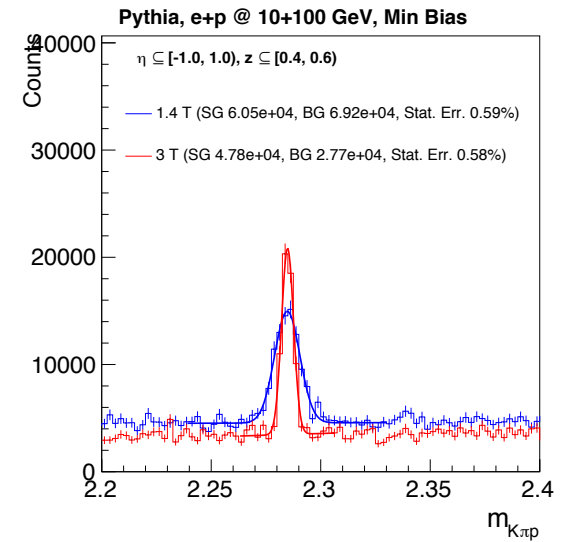
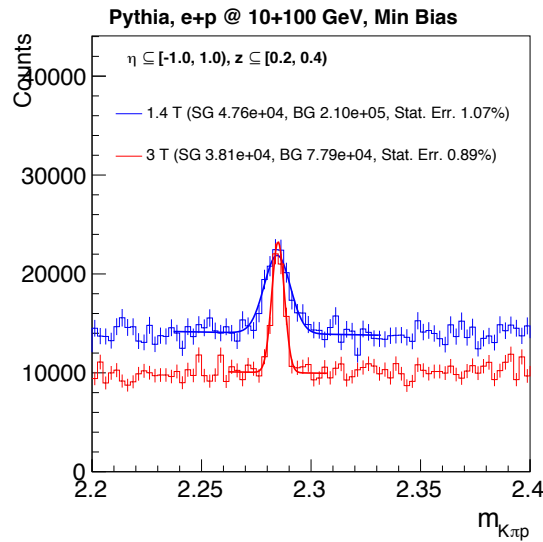
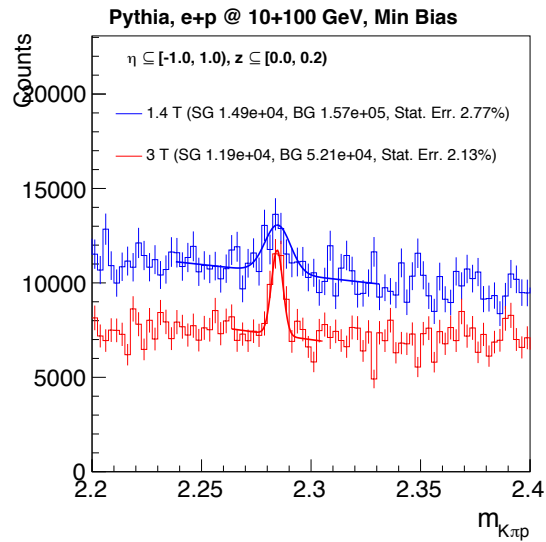


Big impact on the low p_T statistics & precision

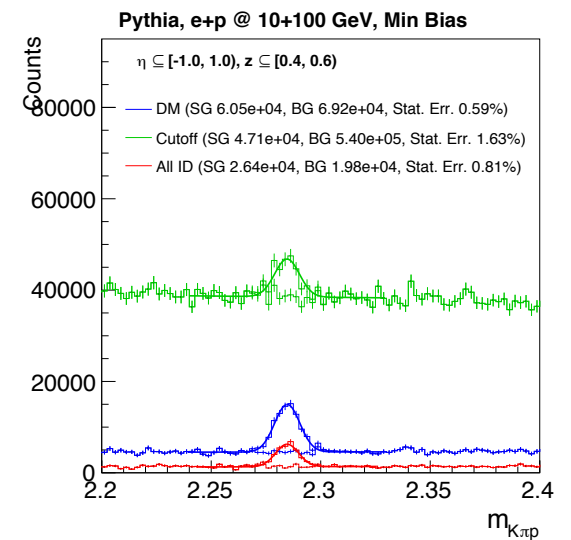
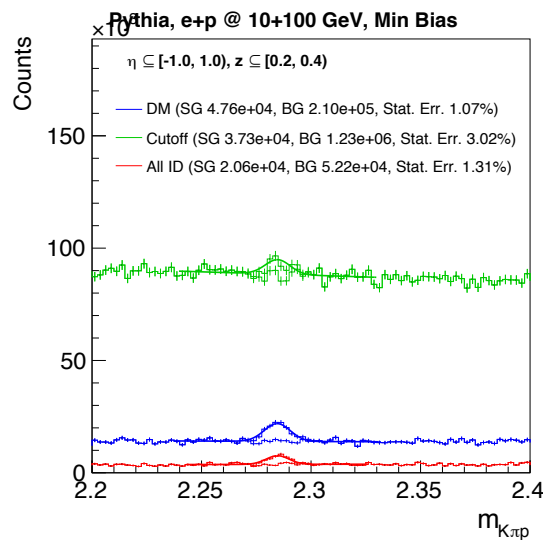
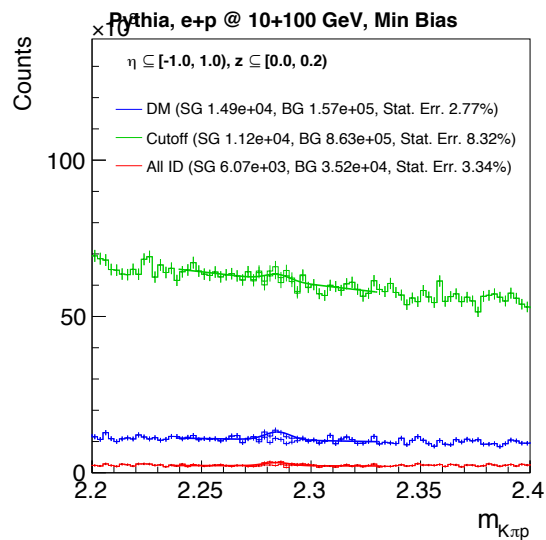
<20% effect due to B field



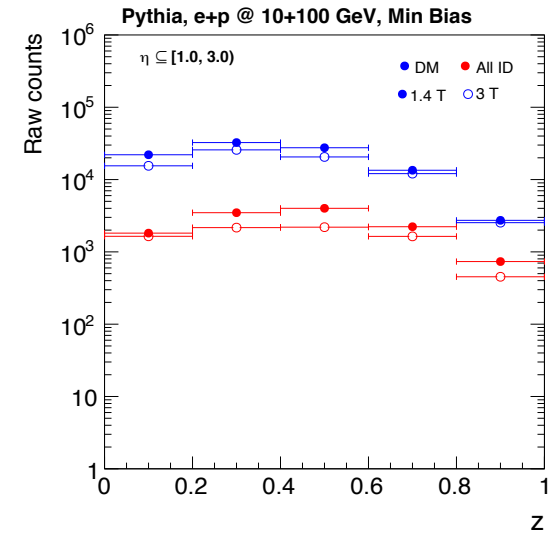
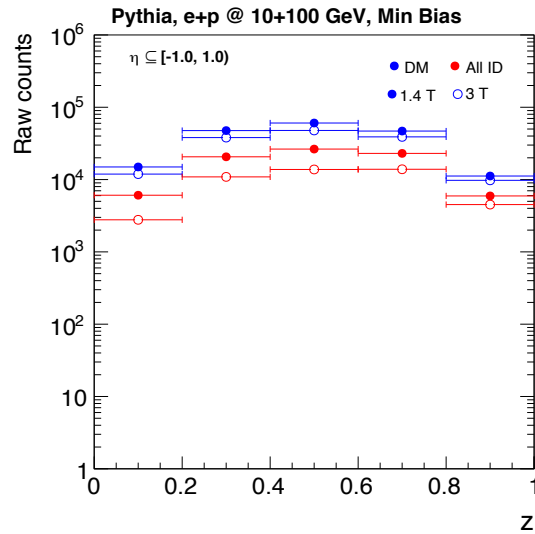
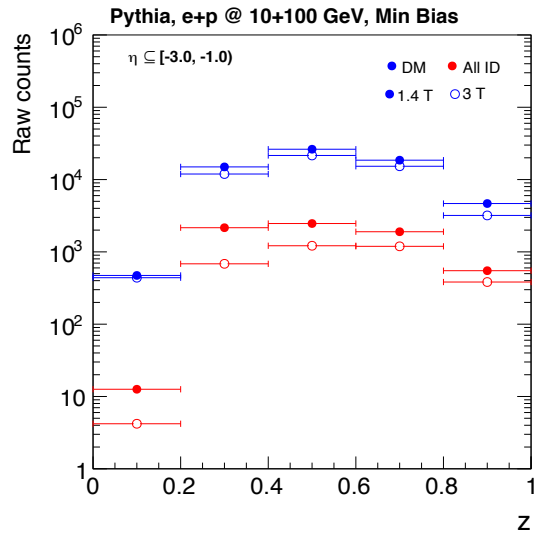
Λ_C of low z



Can access $z < 0.2$ at midrapidity



Λ_C of low z



Difficult to access $z < 0.2$ at backward but accesible at mid and forward rapidity

