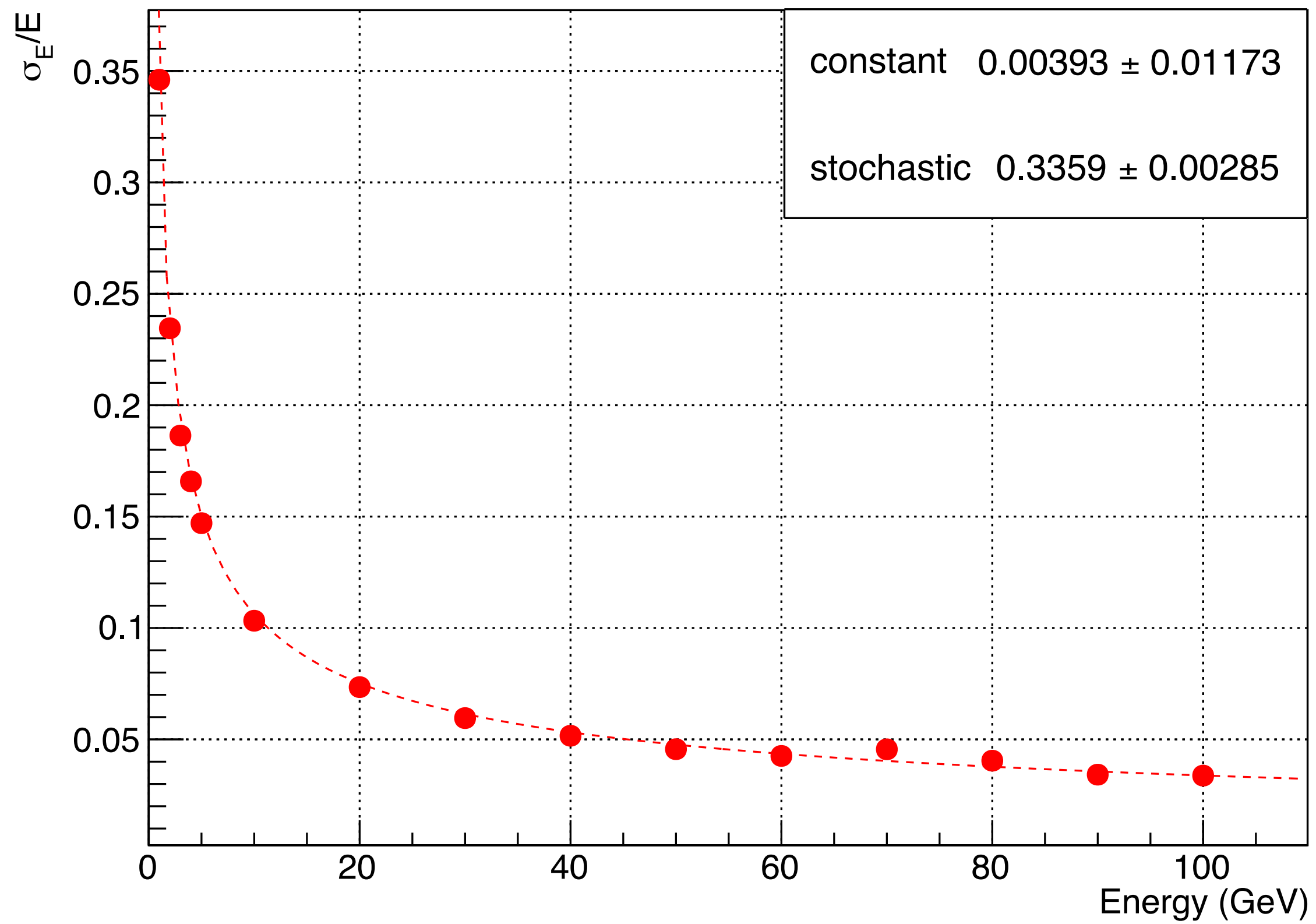
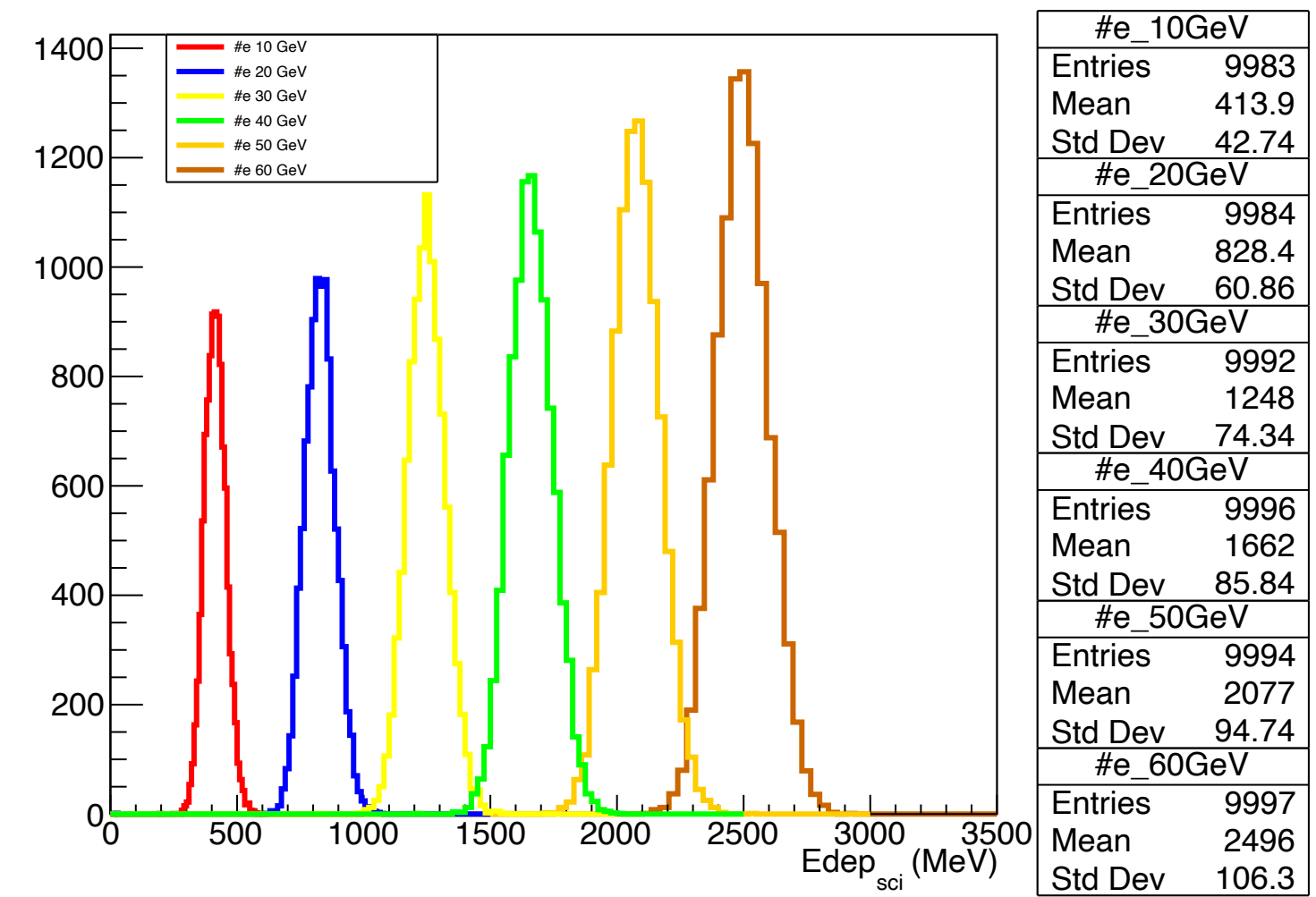


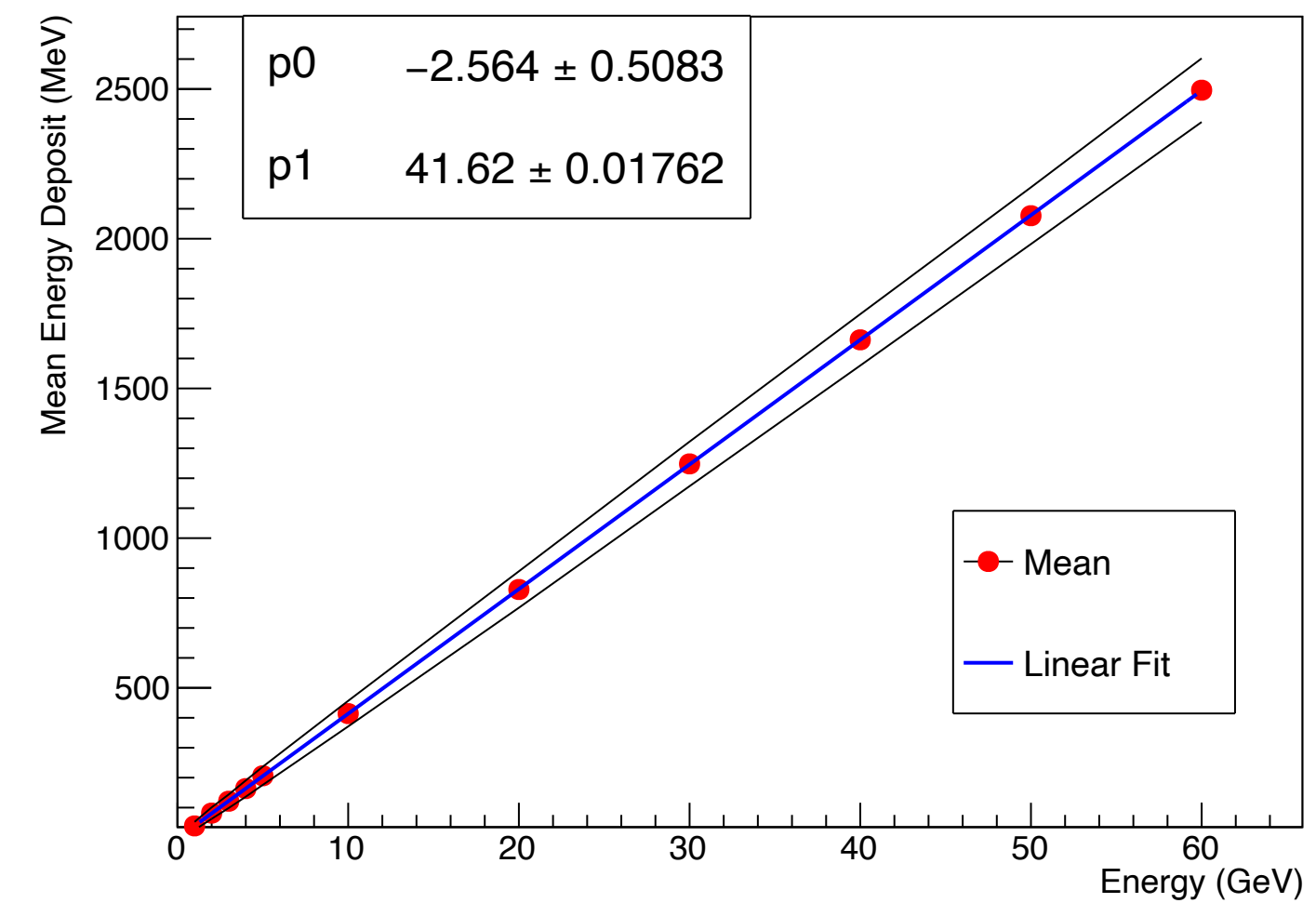
σ_E/E for #e



Total energy deposit in all Sci Layers #e

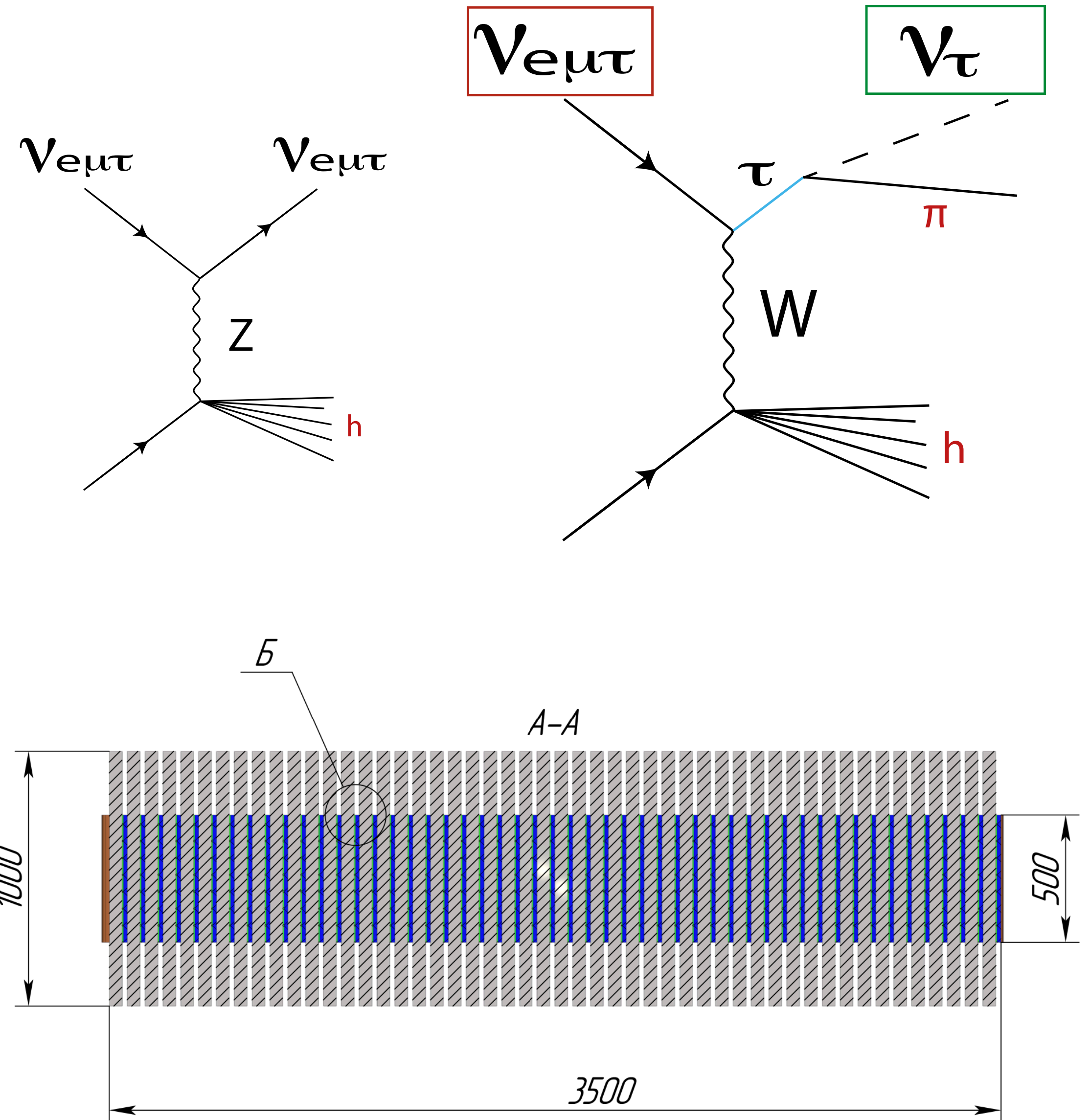
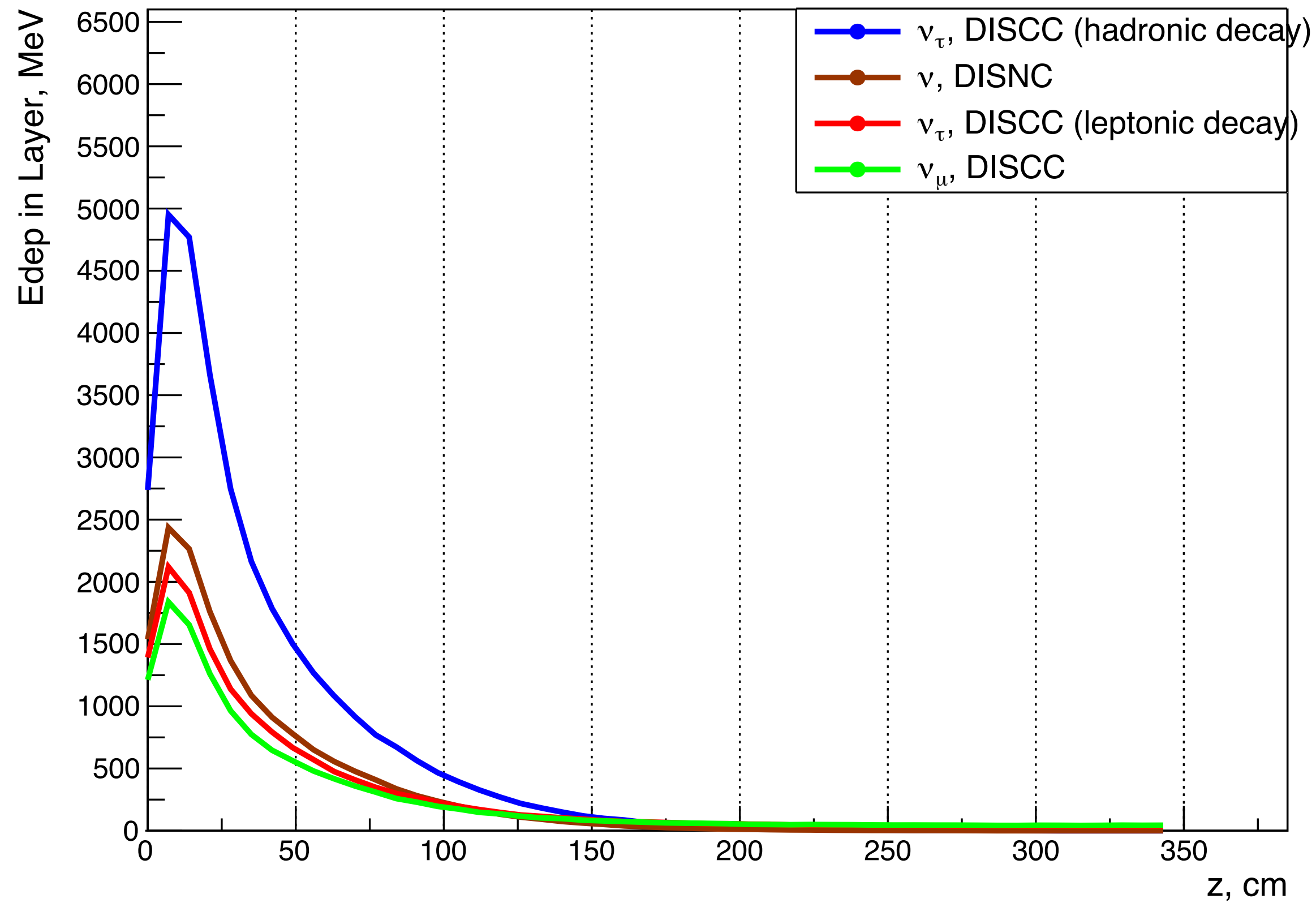


Mean Energy Deposit to primary Energy



Longitudinal shower profile for nu_tau CC & nu NC

Energy deposit, 50 layers: Absorber(Fe, 5. cm) x SciFi (Poly, 0.5 cm) x Sci (Poly, 1.5 cm)



Charged current (tau hadronic decay):

Hadrons from tau more energetic.

Neutral current and CC (tau leptonic decay):

Hadrons initiated by W or Z0 have a same energy.

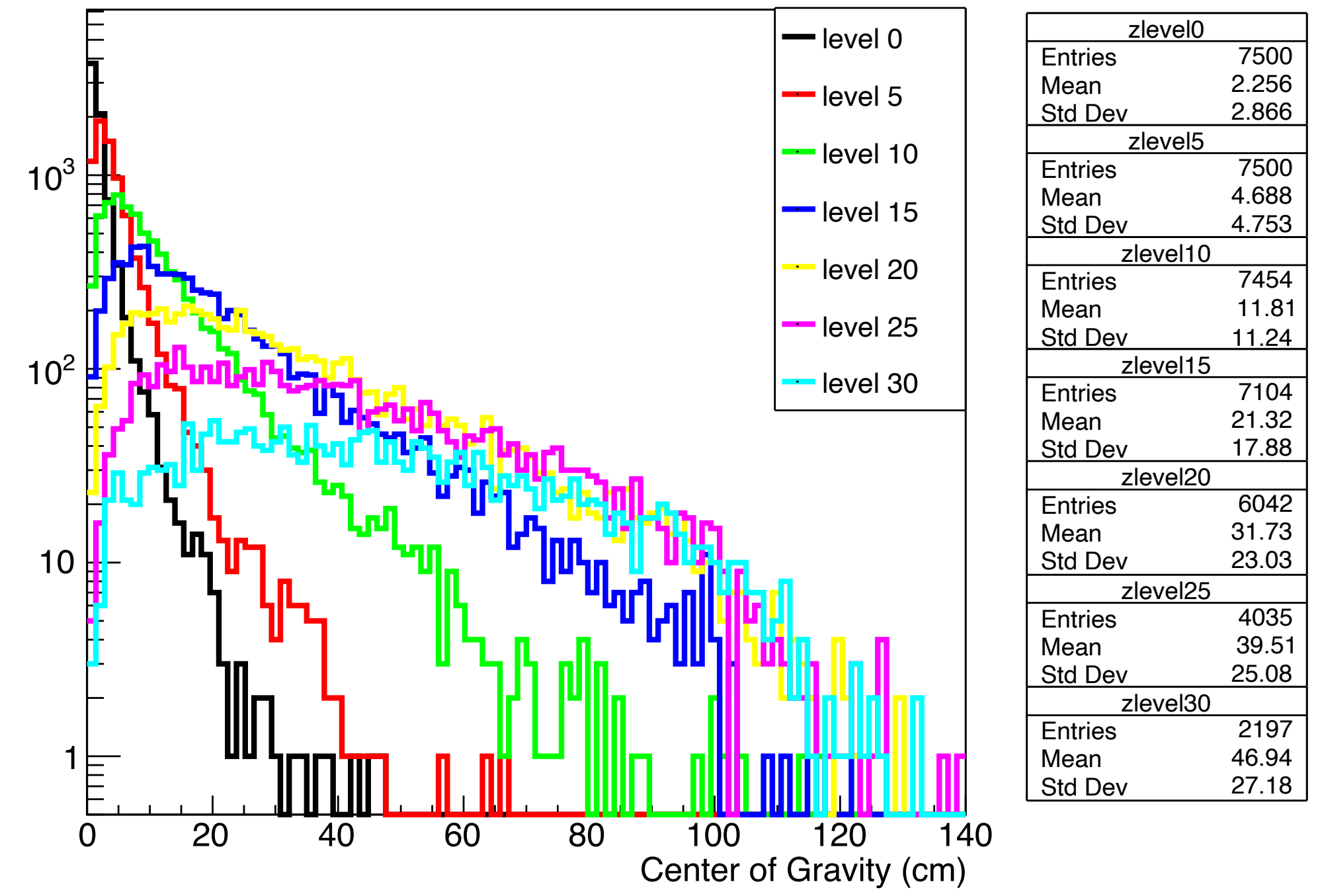
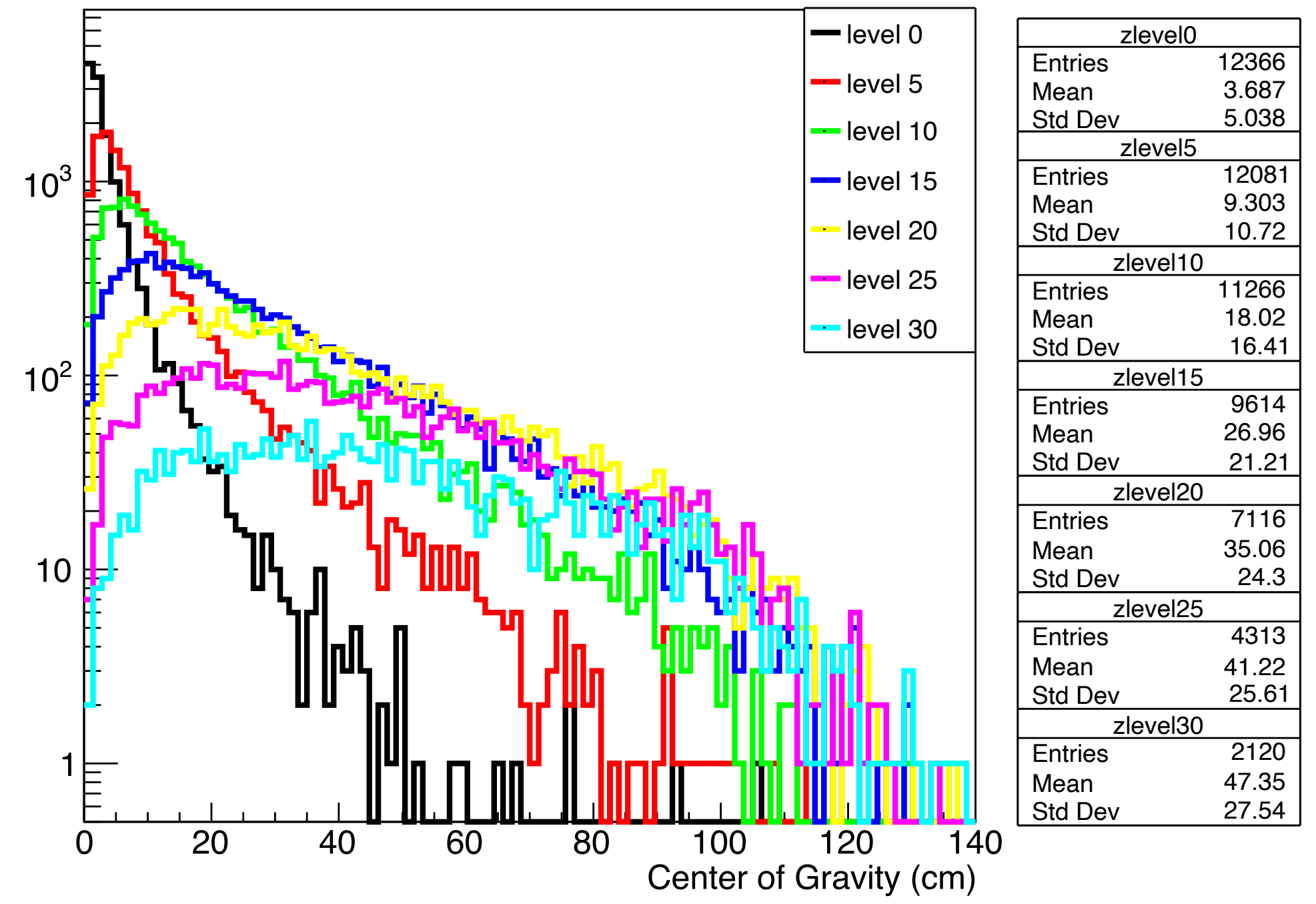
Baricenter distribution at different Z-levels

NC

CC

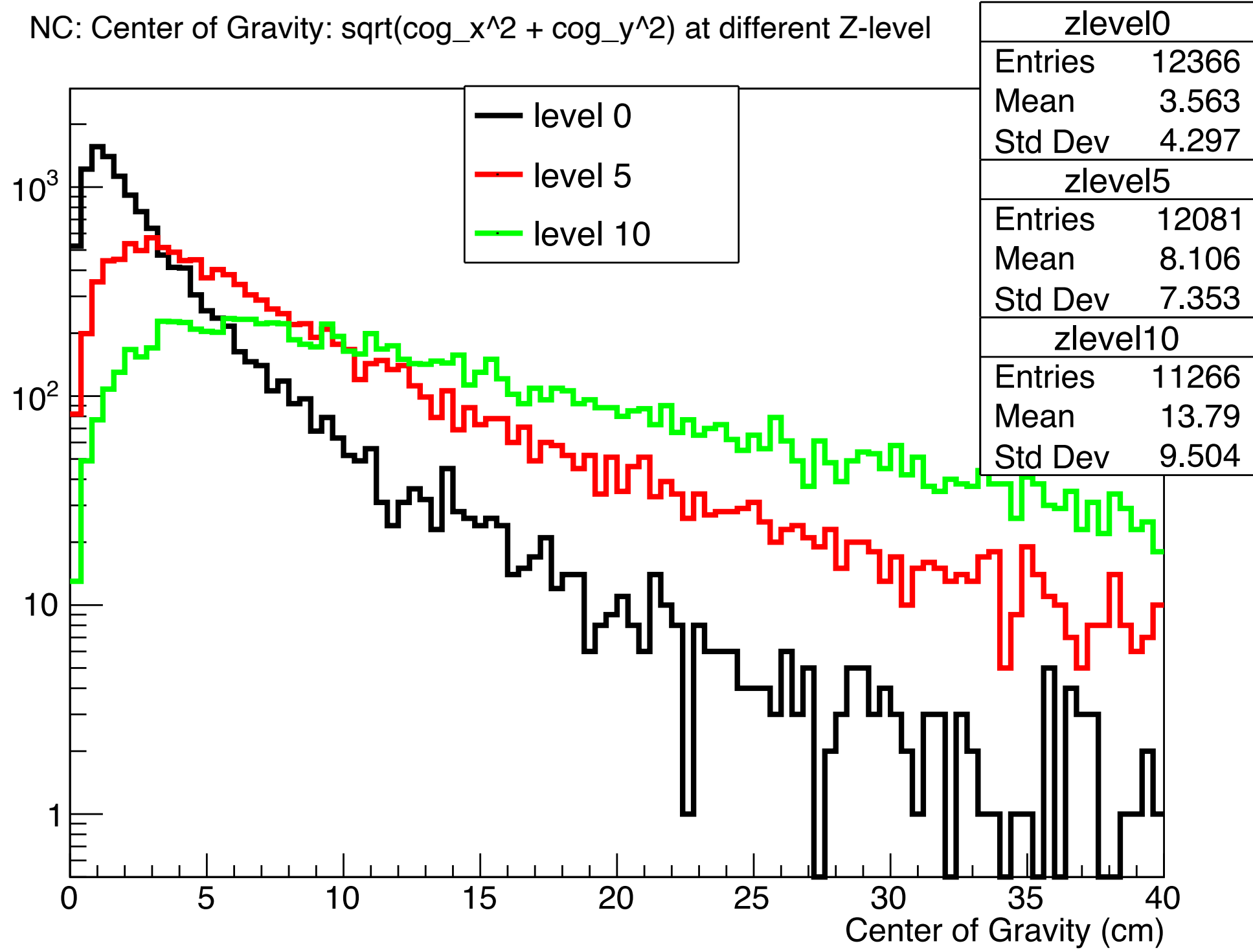
NC: Center of Gravity: $\sqrt{\text{cog}_x^2 + \text{cog}_y^2}$ at different Z-level

Center of Gravity: $\sqrt{\text{cog}_x^2 + \text{cog}_y^2}$ at different Z-level

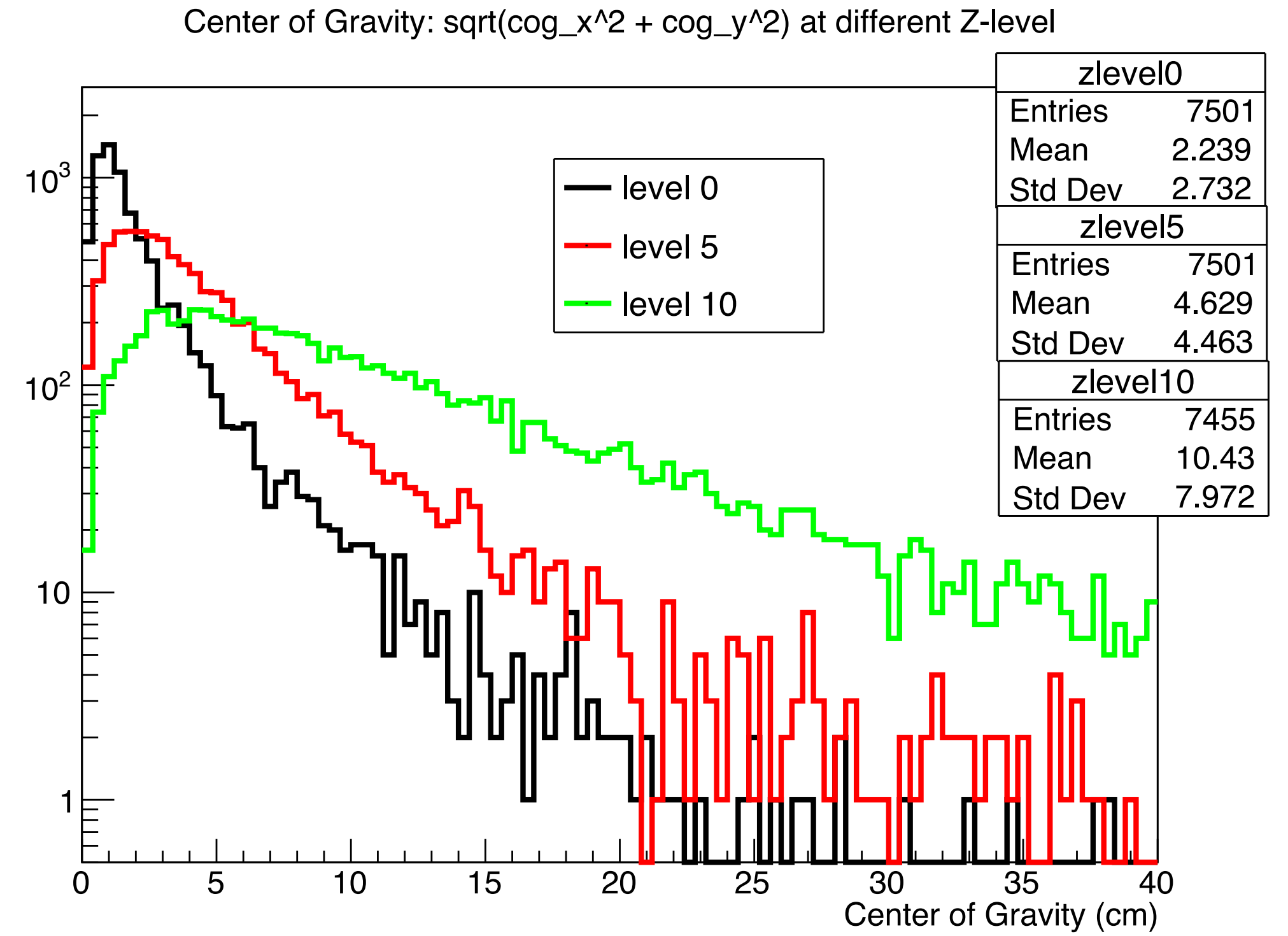


Baricenter distribution at different Z-levels

NC



CC



Sum hadron energy vs baricenter

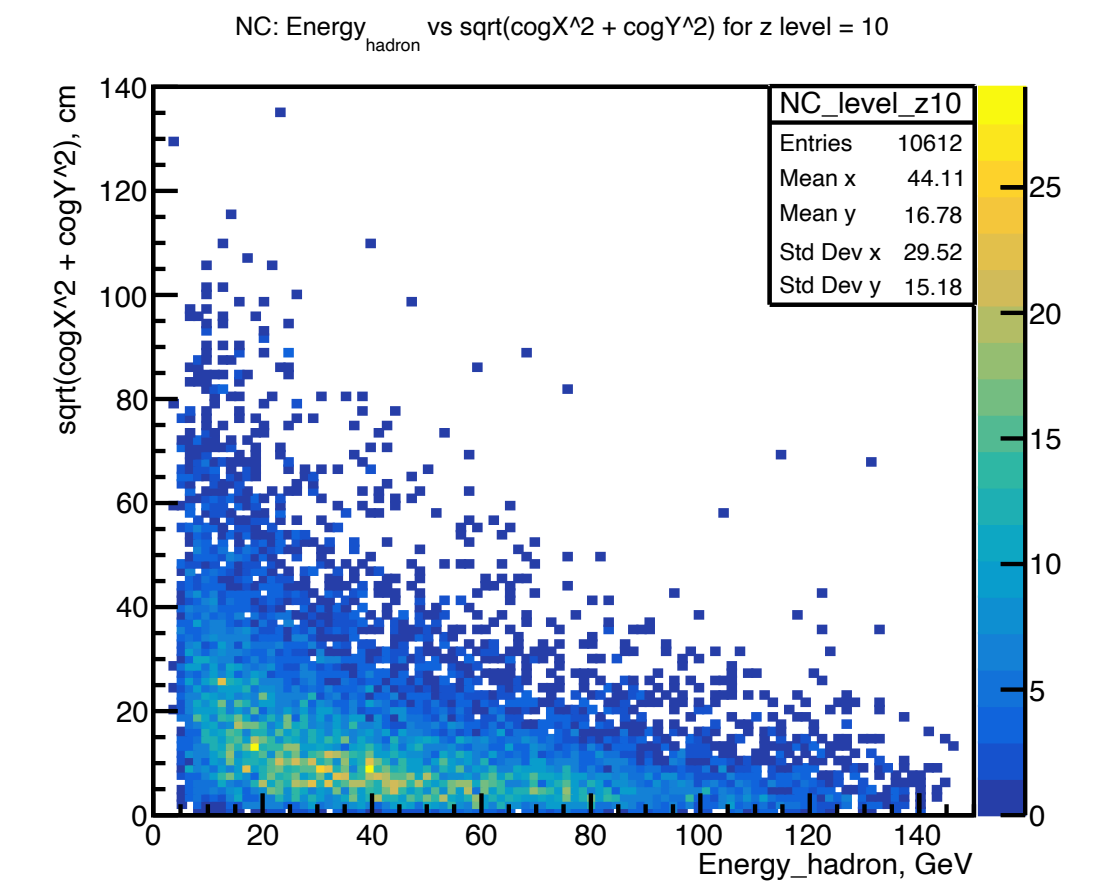
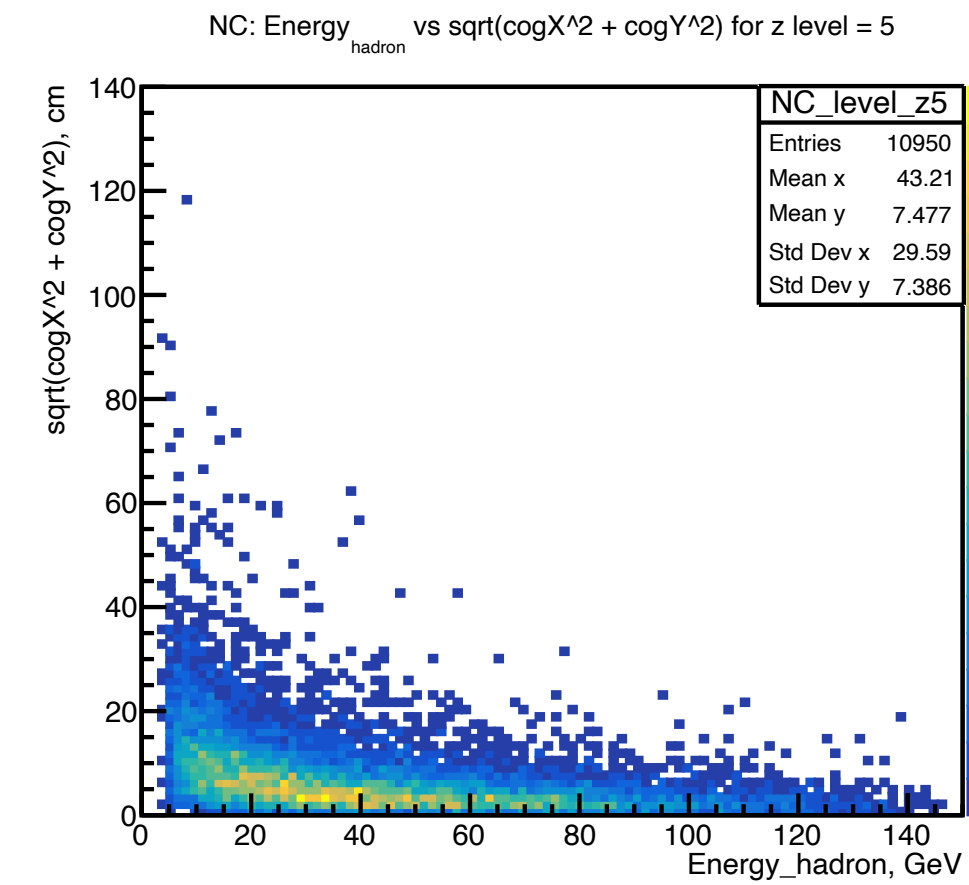
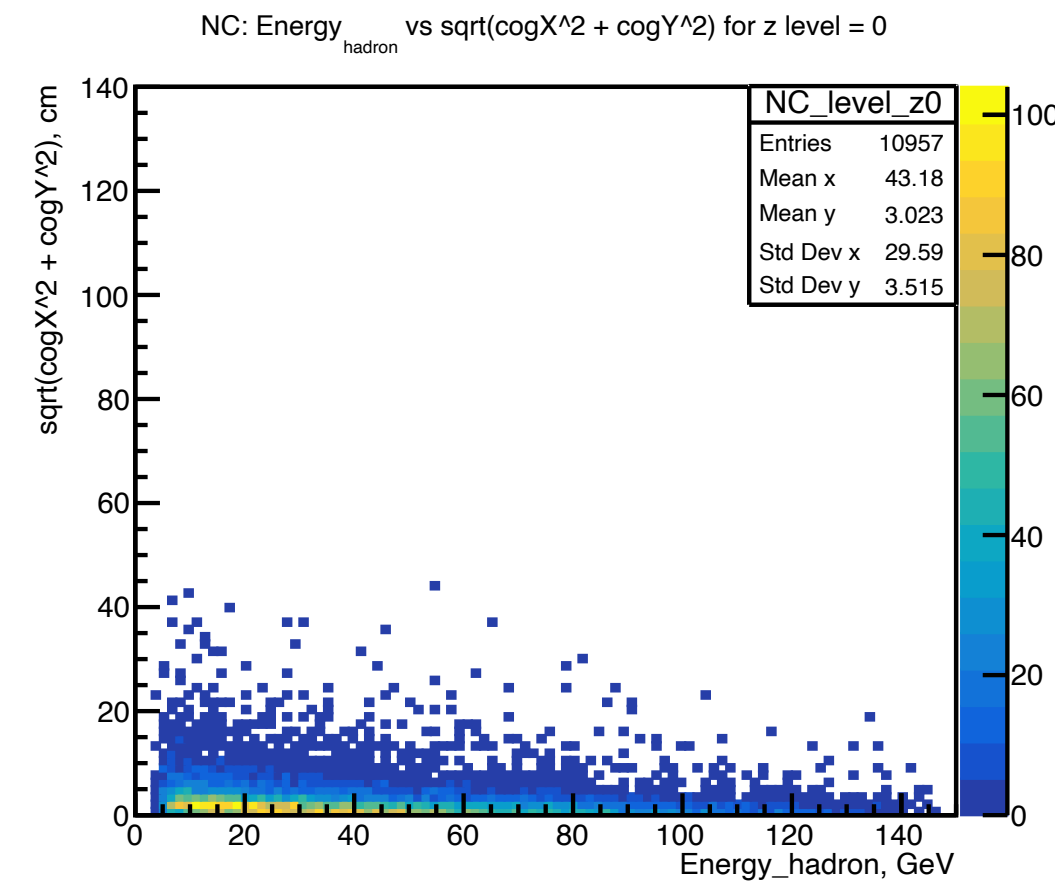
Correlation plots between **Sum_hadron energy vs baricenter** for different z level

0 layer

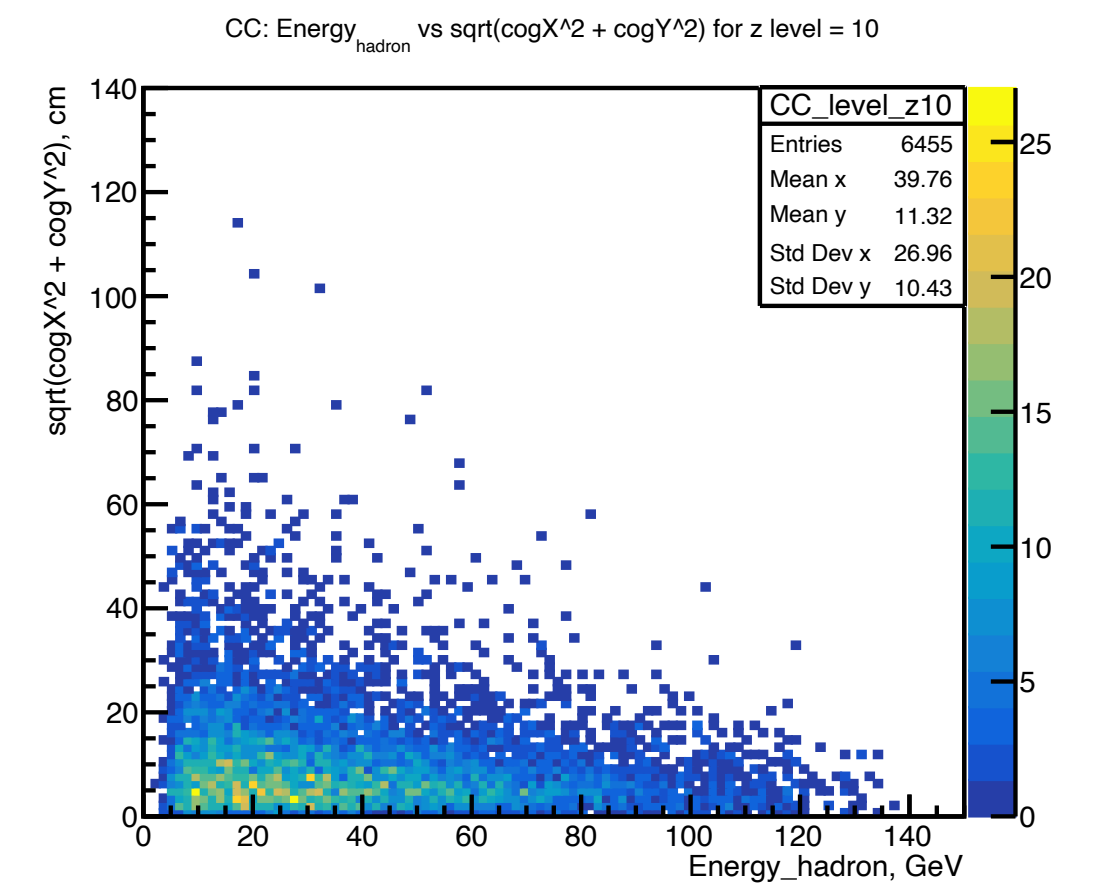
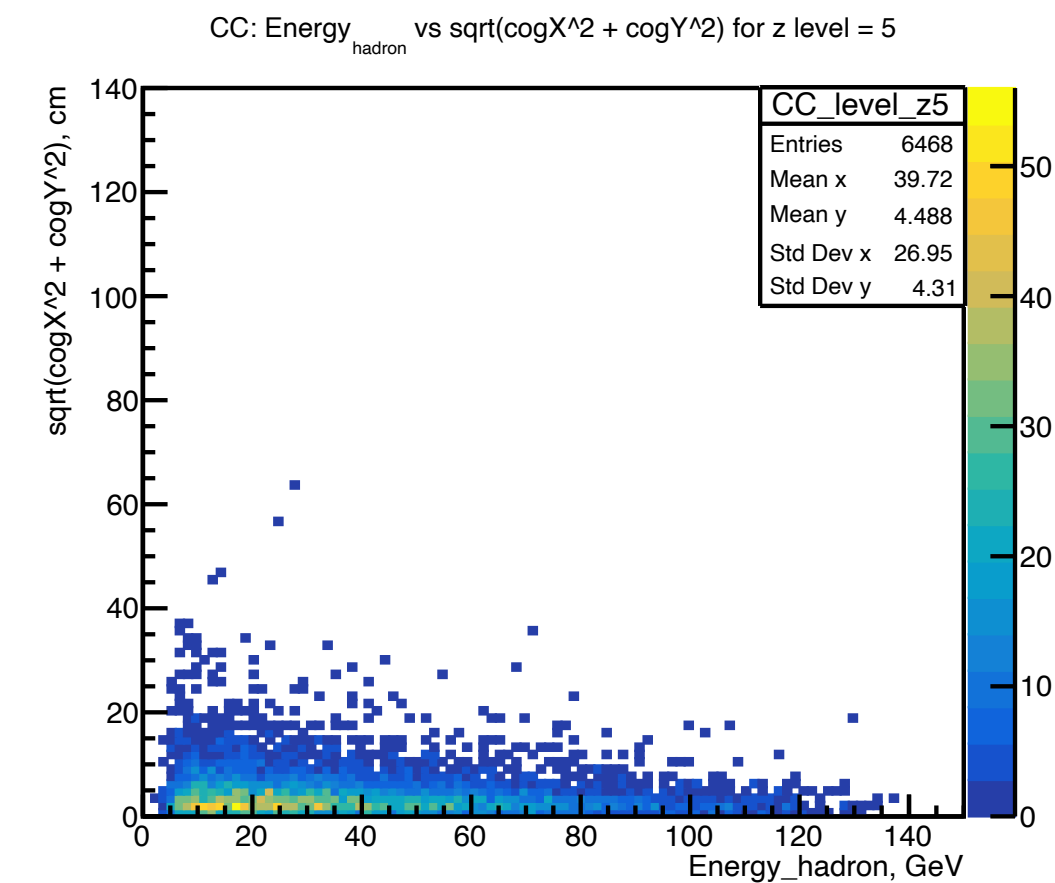
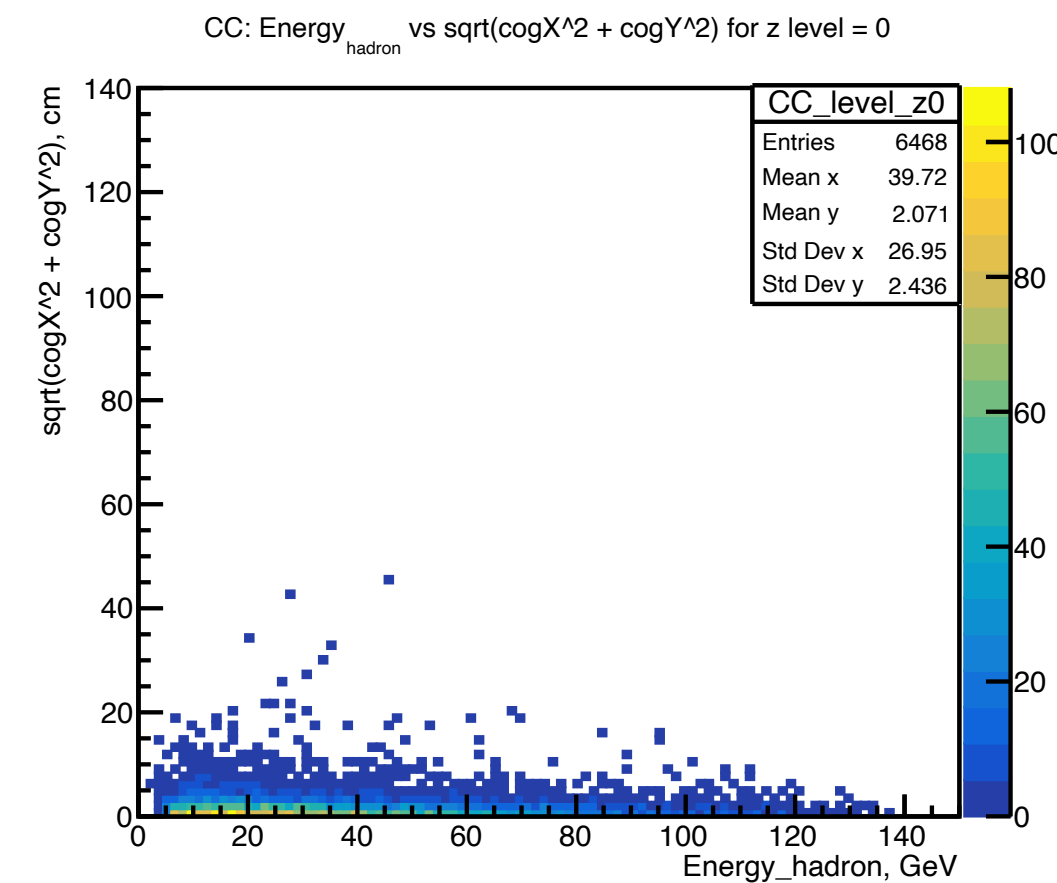
5 layer

10 layer

NC



CC



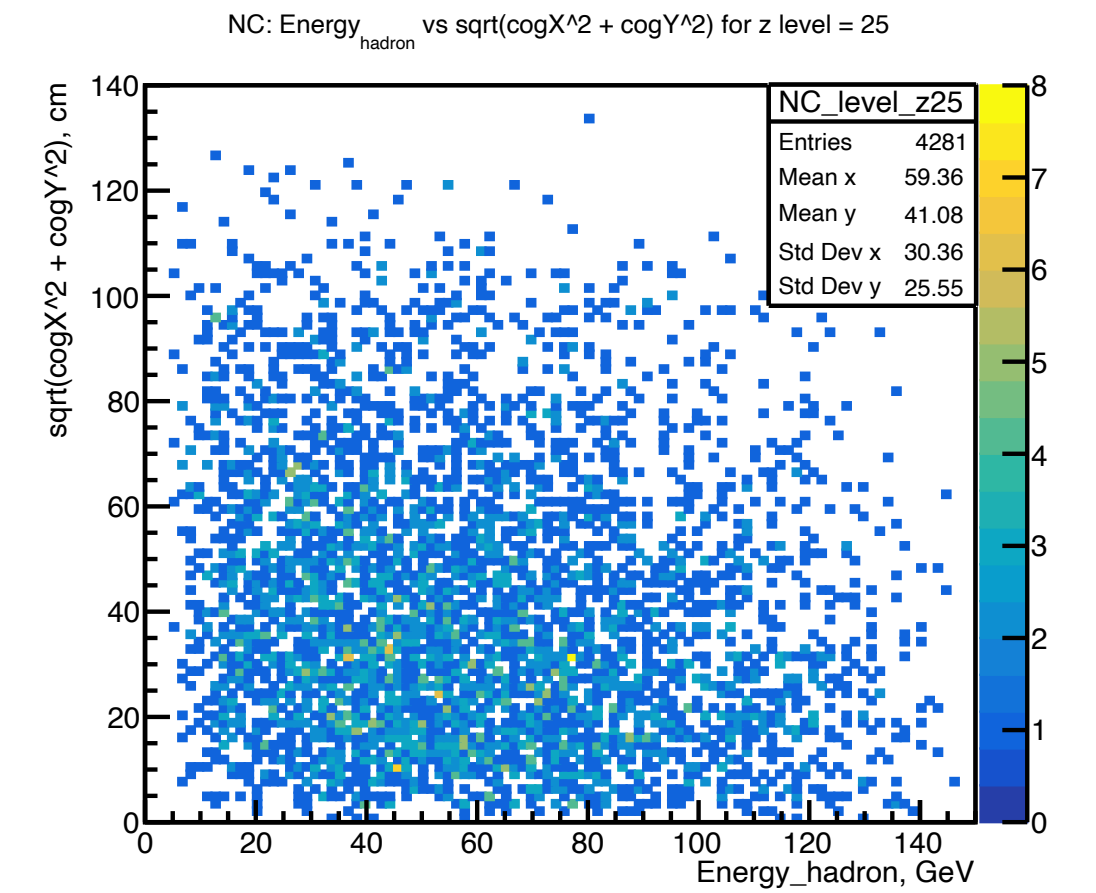
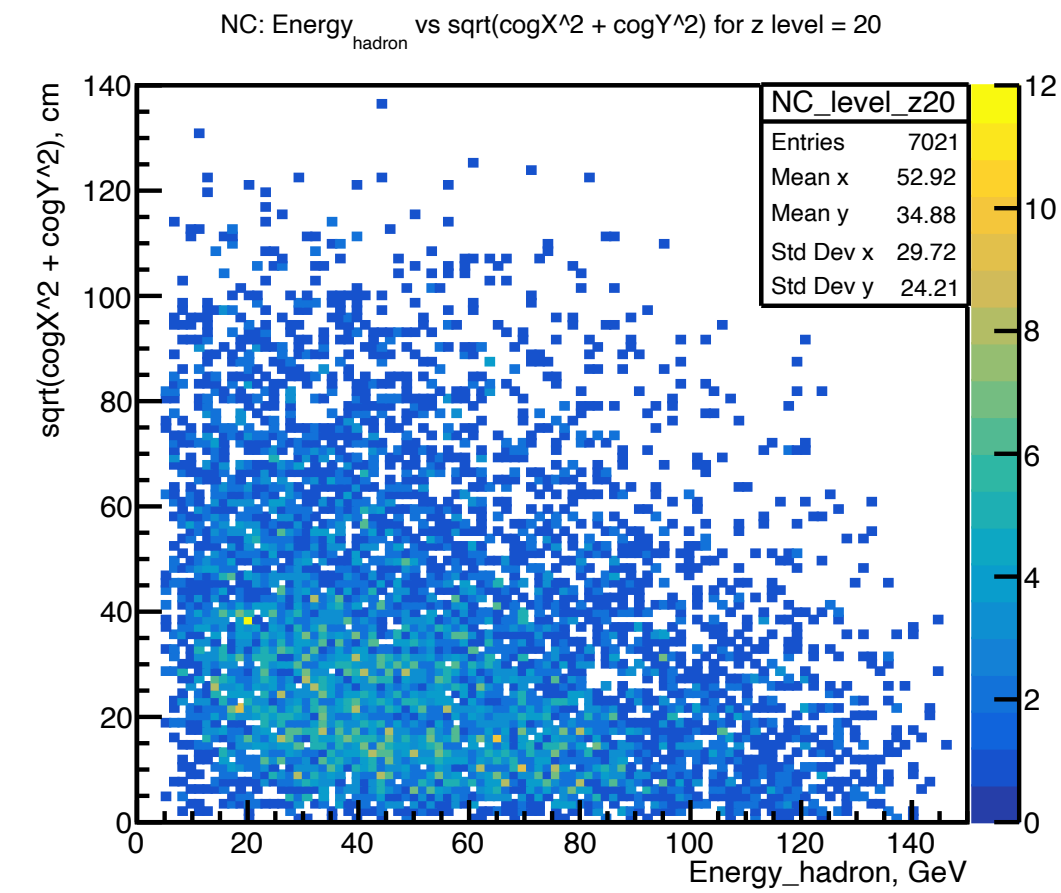
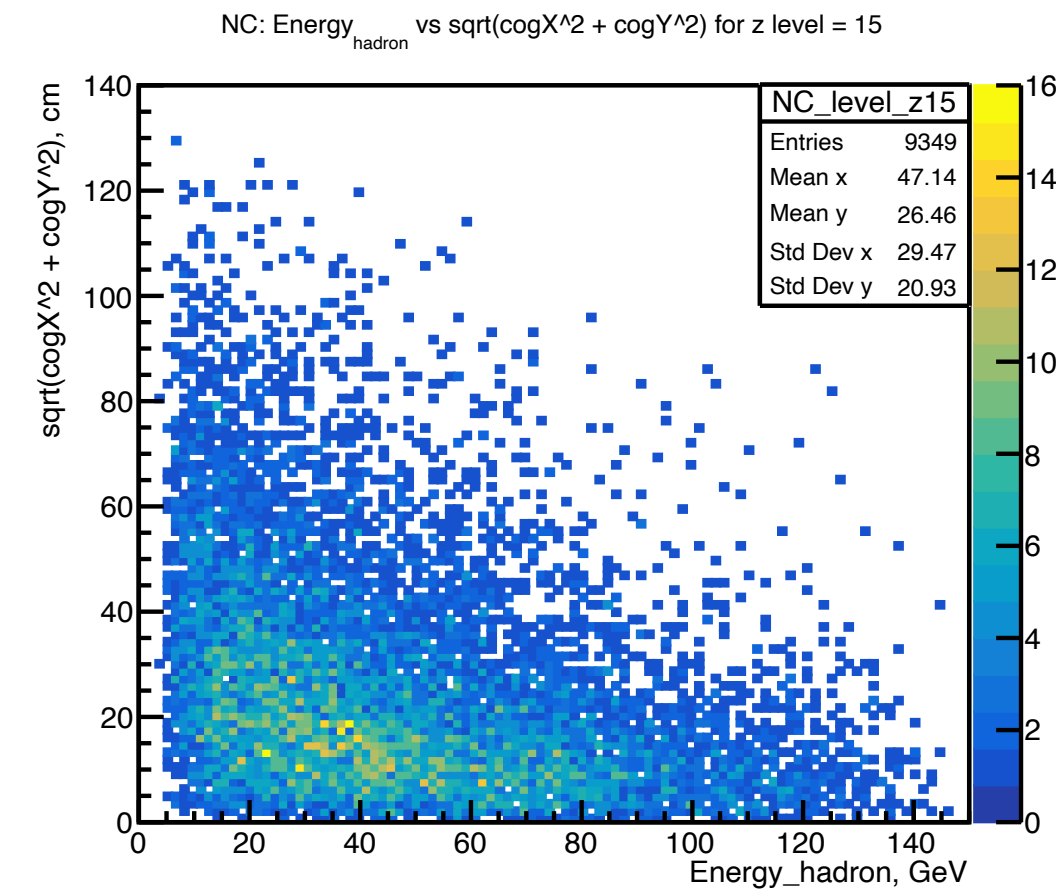
Correlation plots between **Sum_hadron energy vs baricenter** for different z level

15 layer

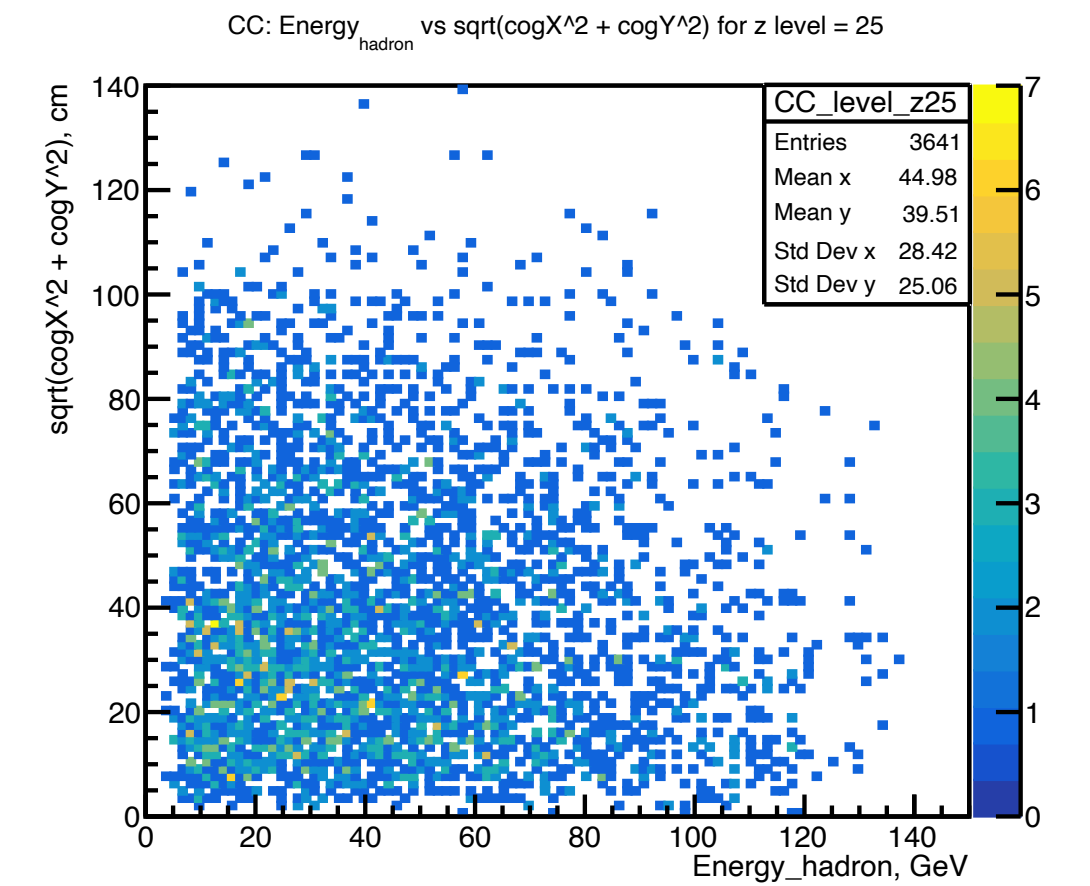
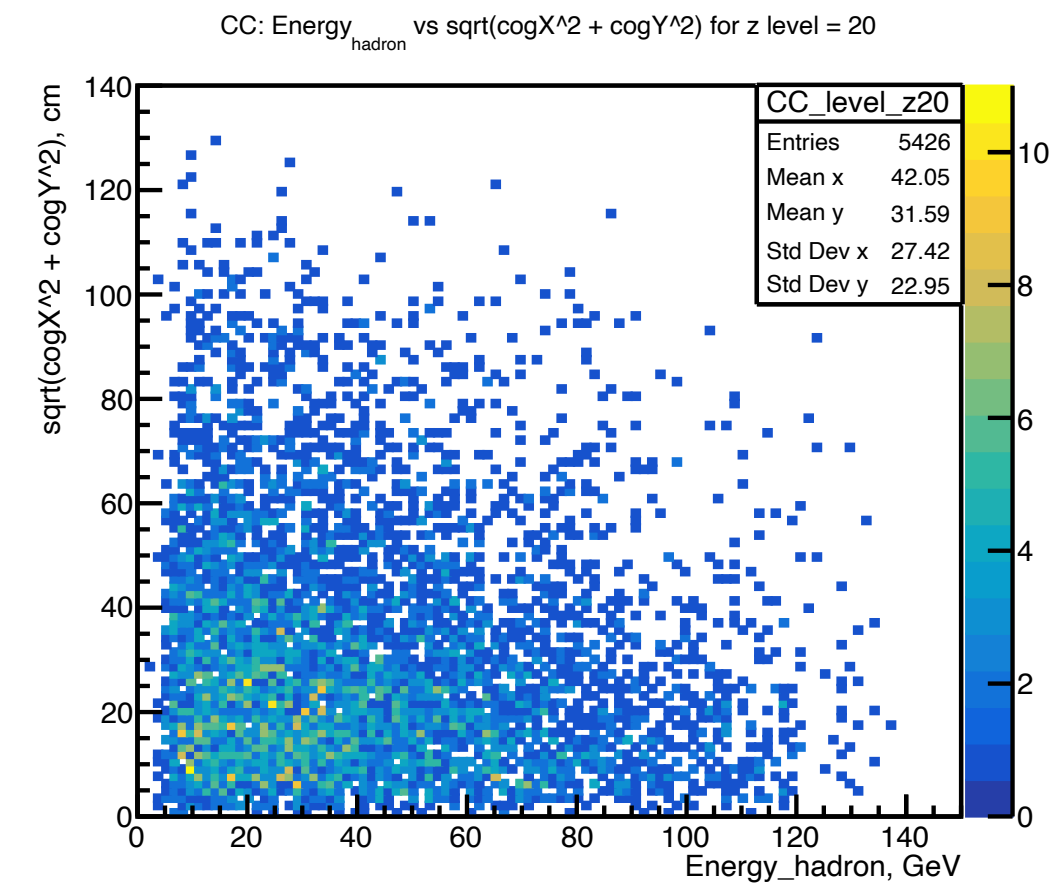
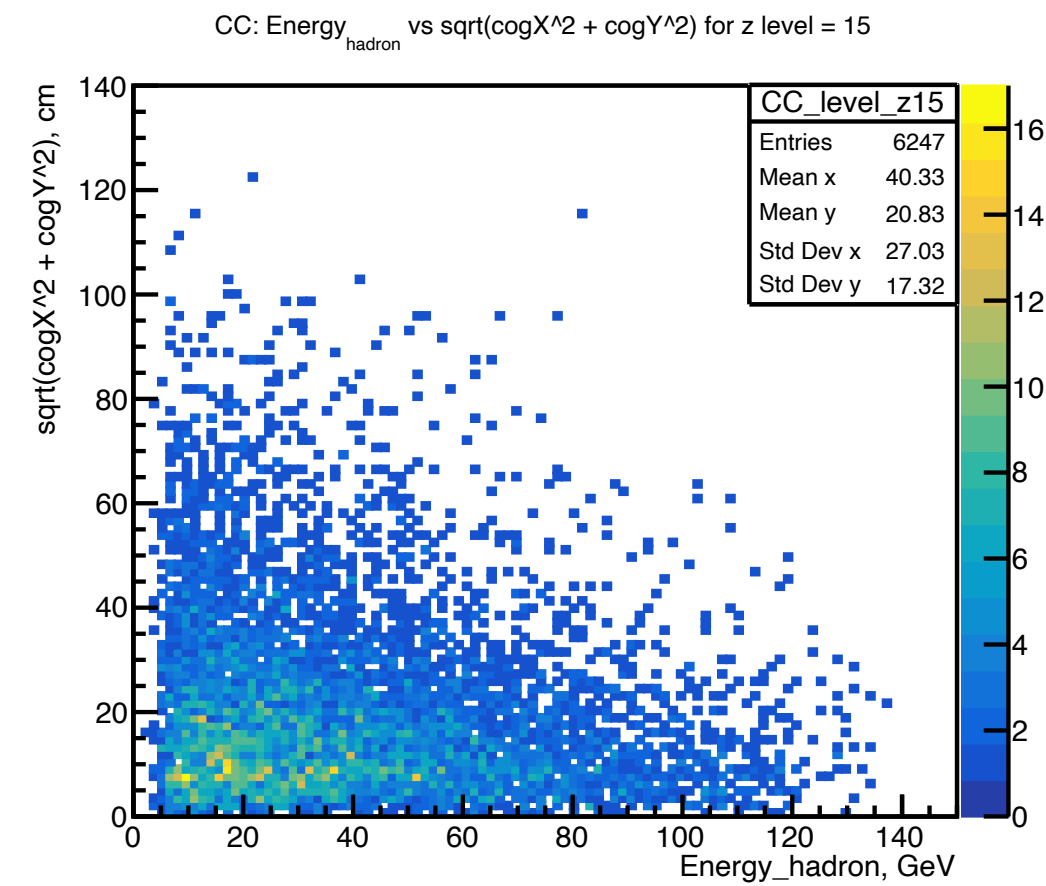
20 layer

25 layer

NC



CC



Ratio: between **Sum hadron energy to baricenter** for different z level

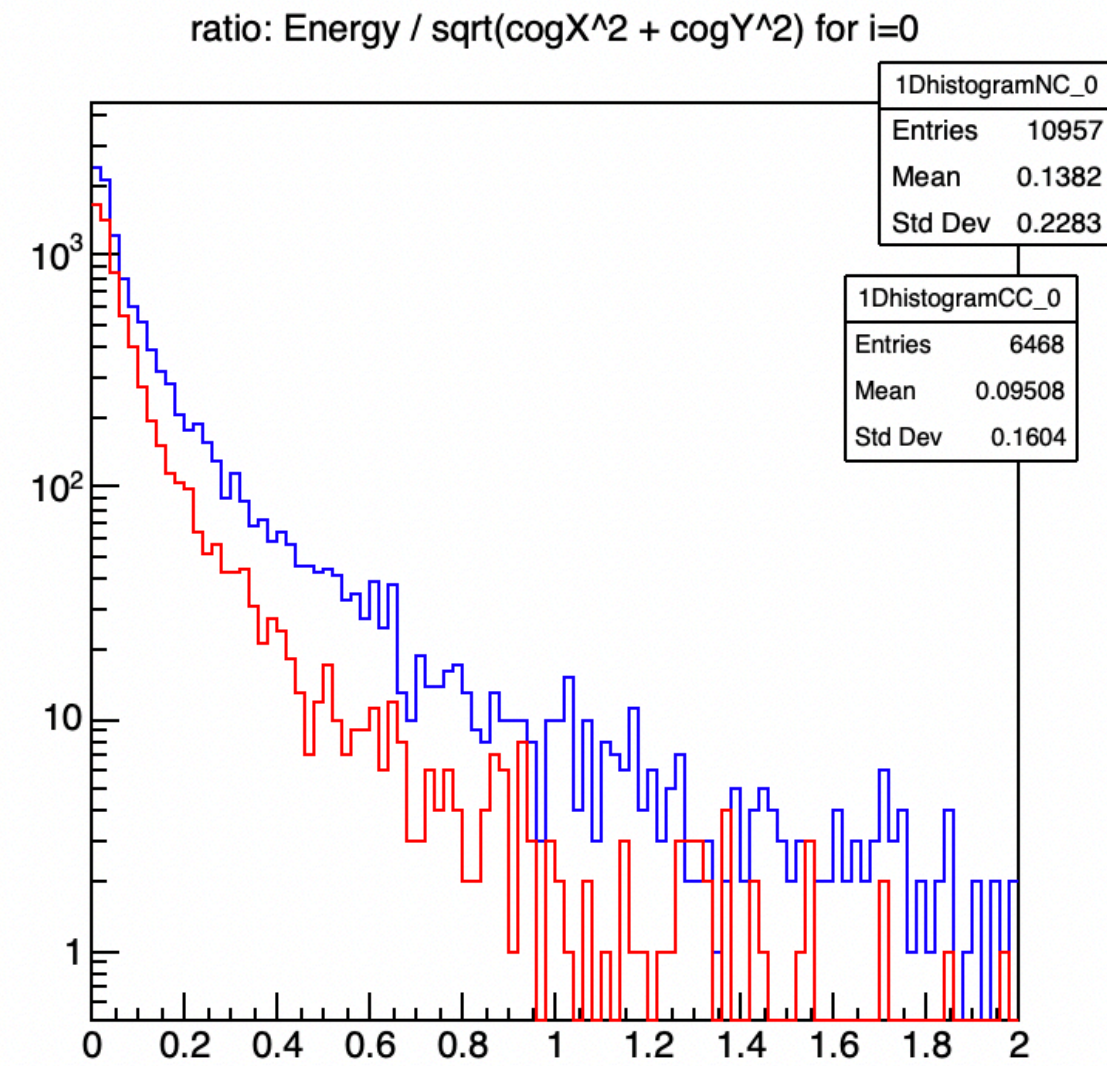
first 6 layers different scale

NC - blue

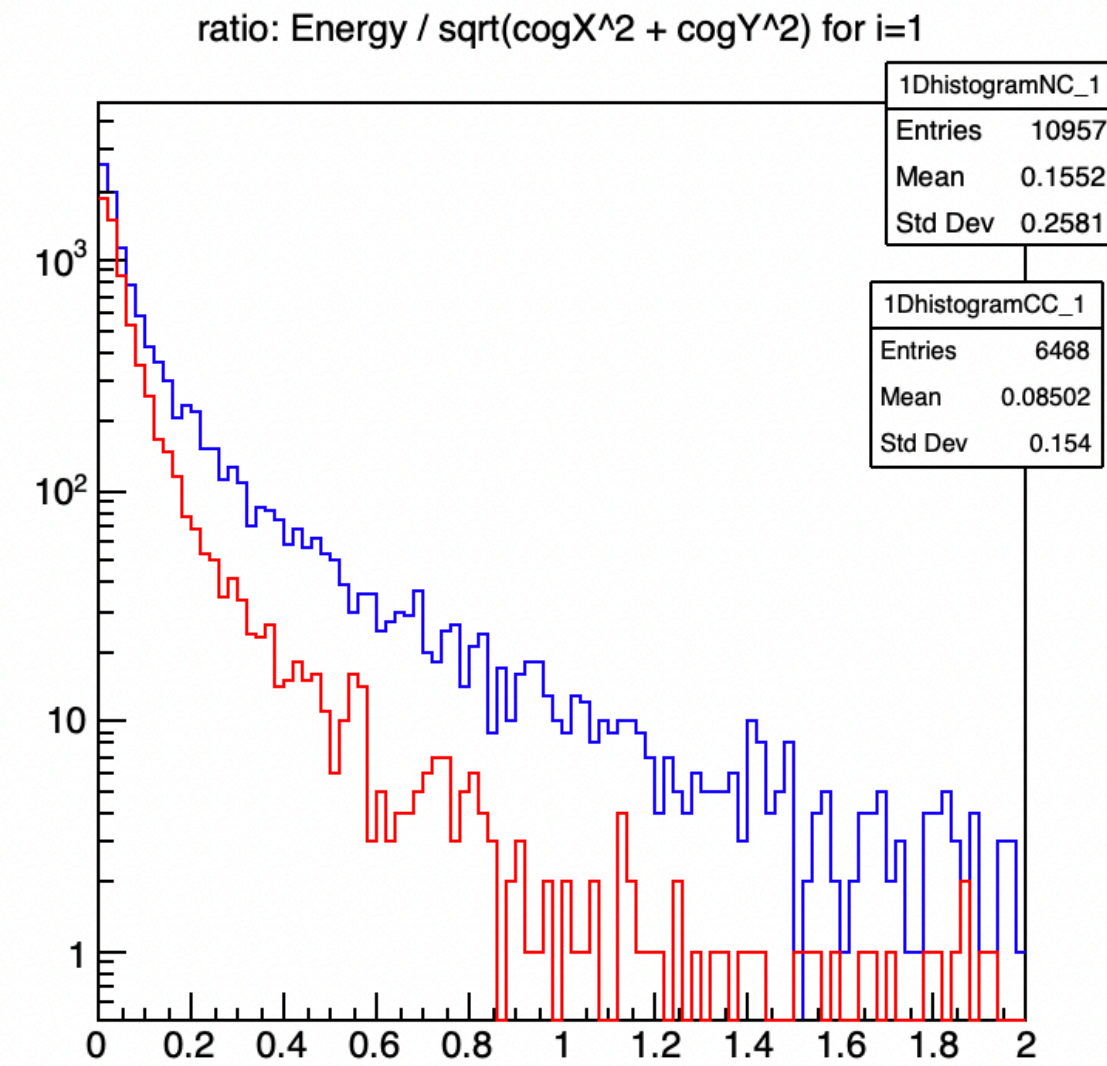
CC - red

hist(cogXY/energy)

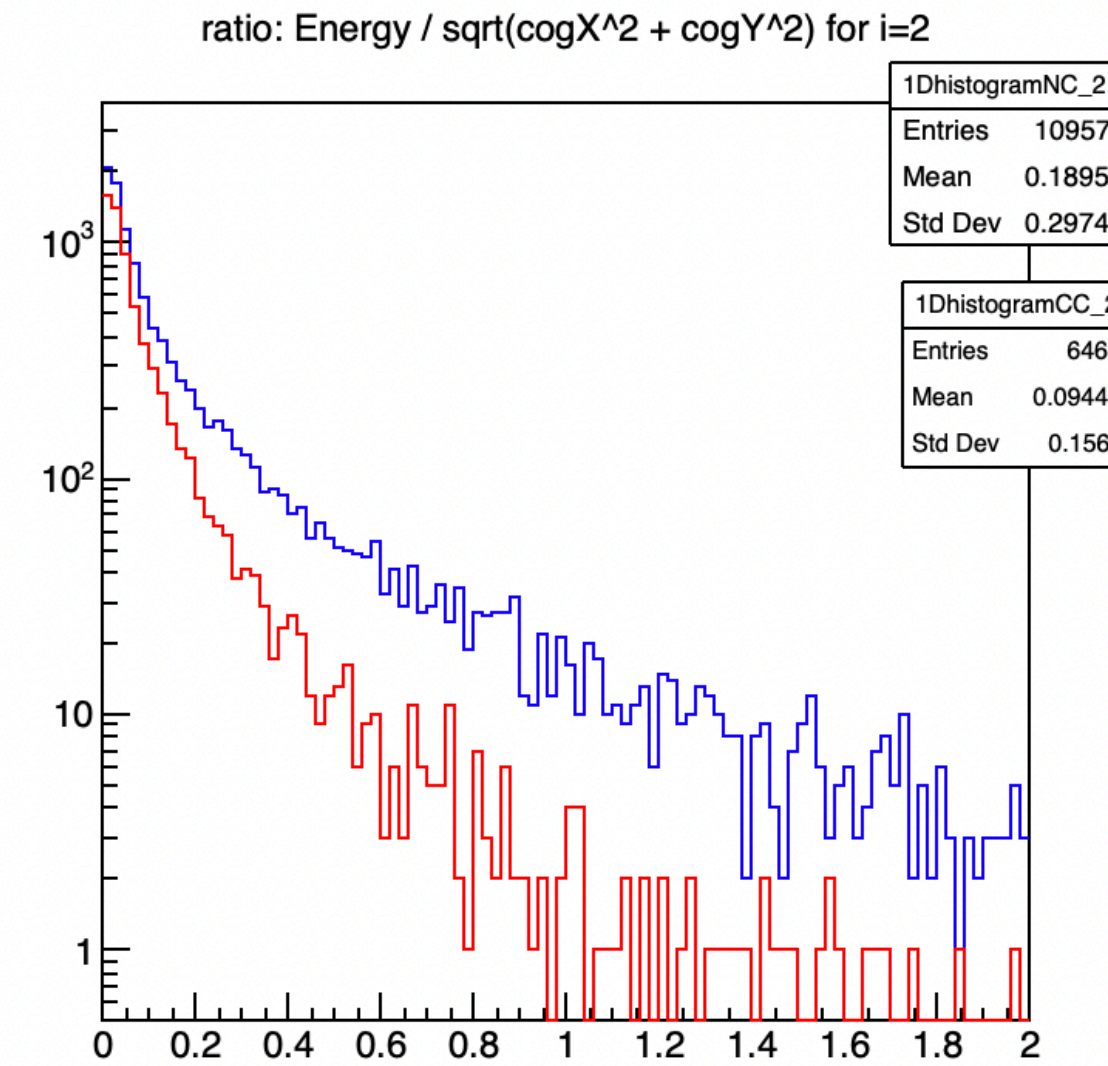
0 layer



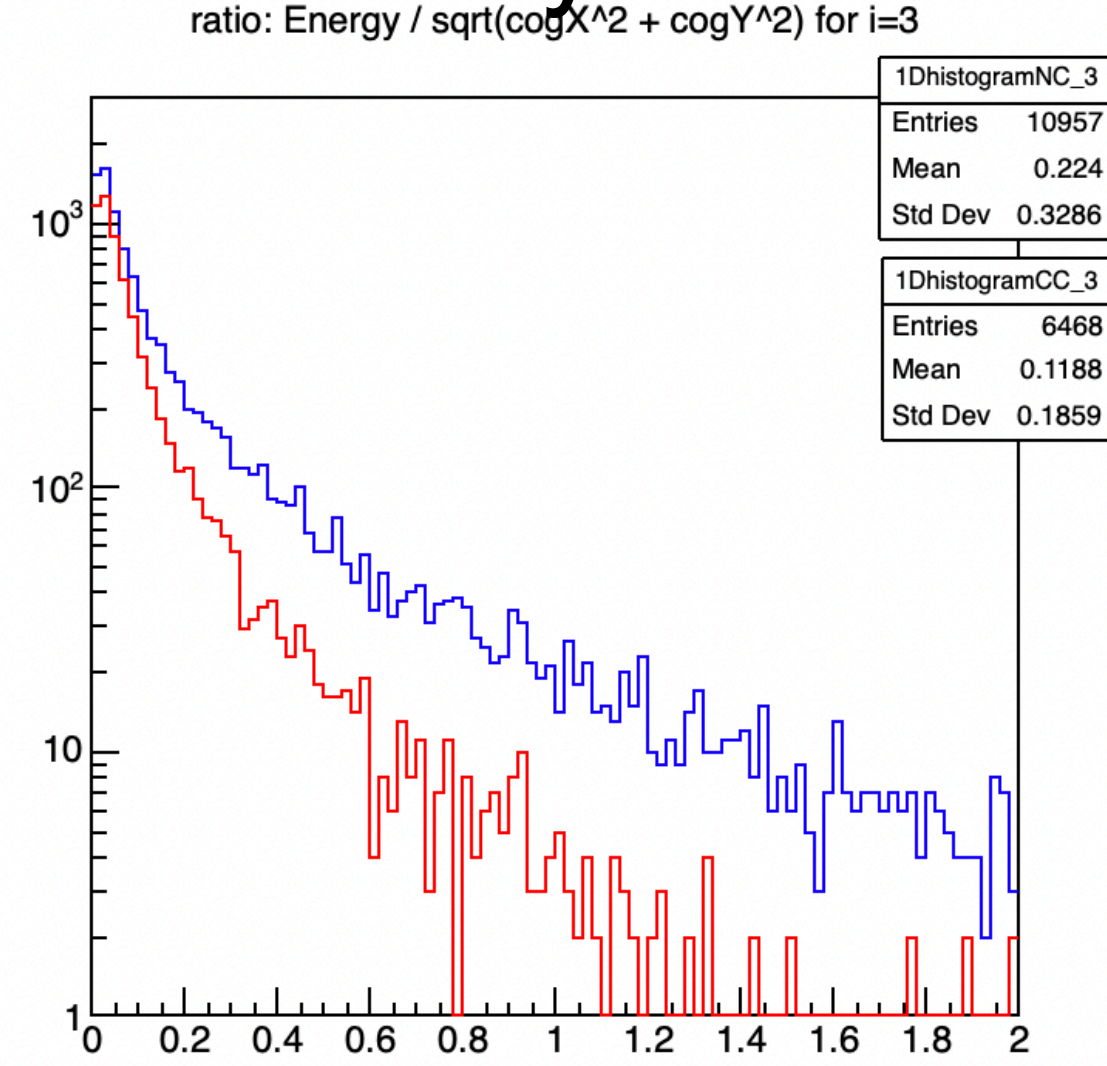
1 layer



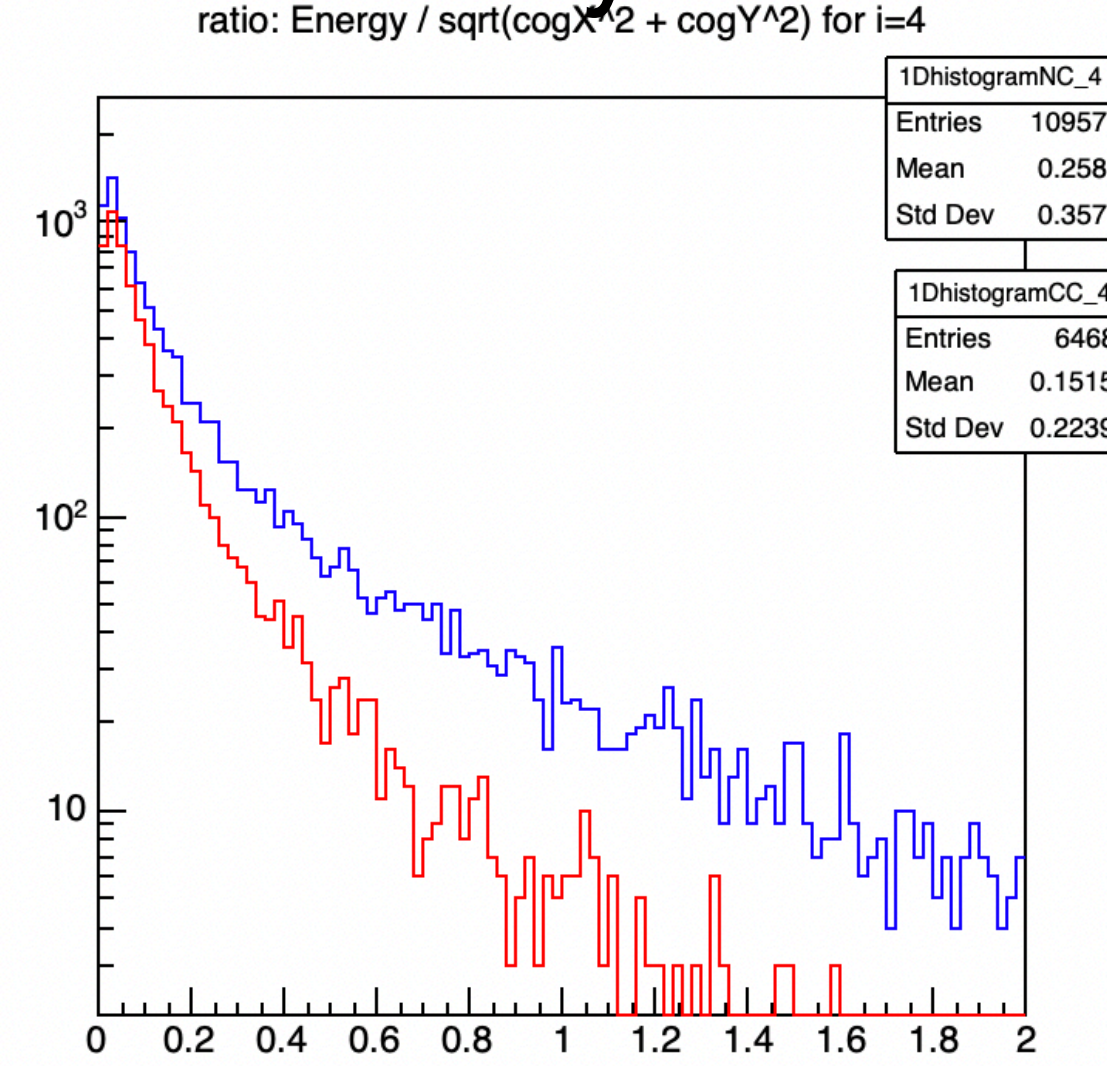
2 layer



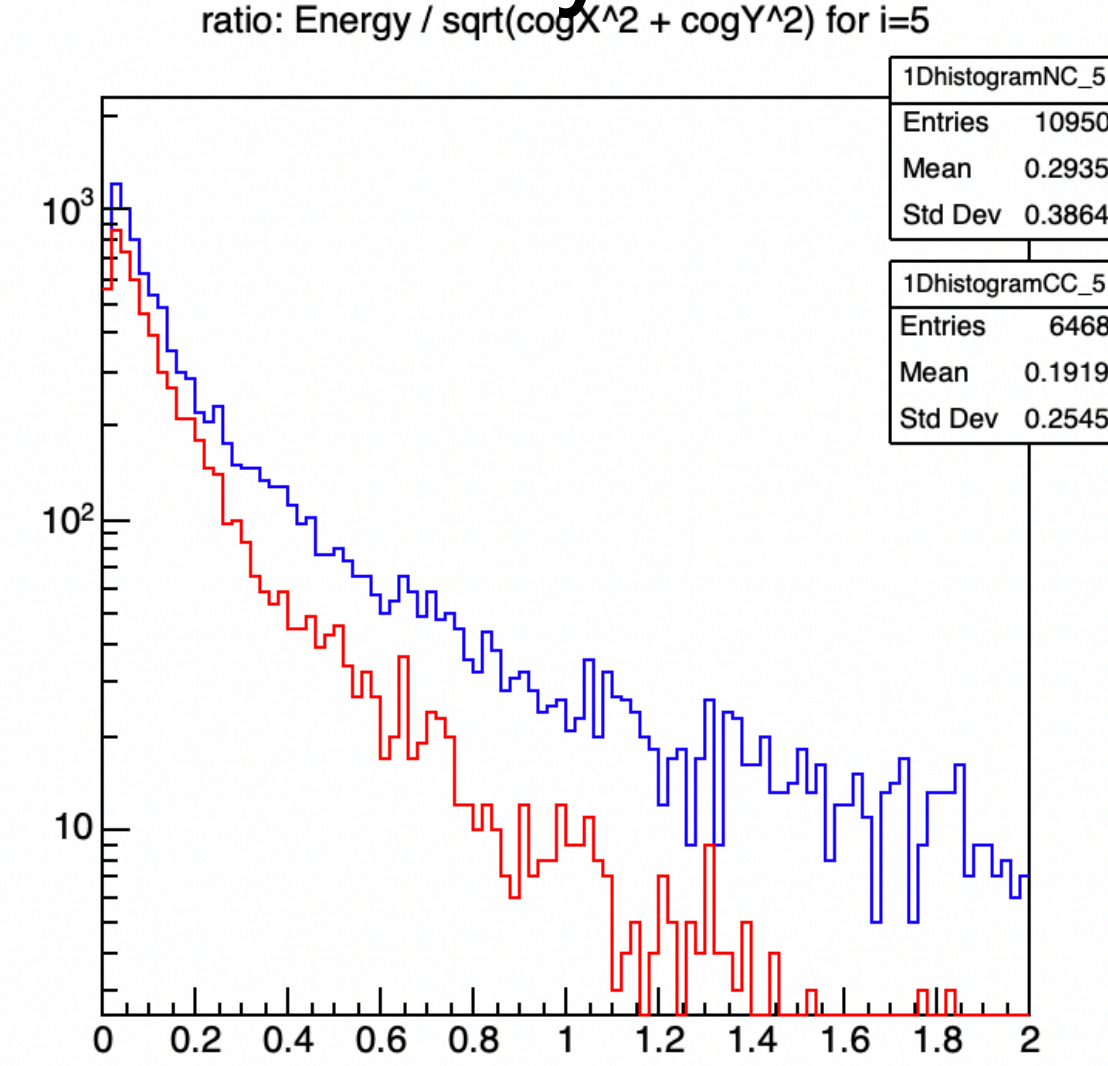
3 layer



4 layer



5 layer



Ratio: between **Sum hadron energy to baricenter** for different z level

0 layer

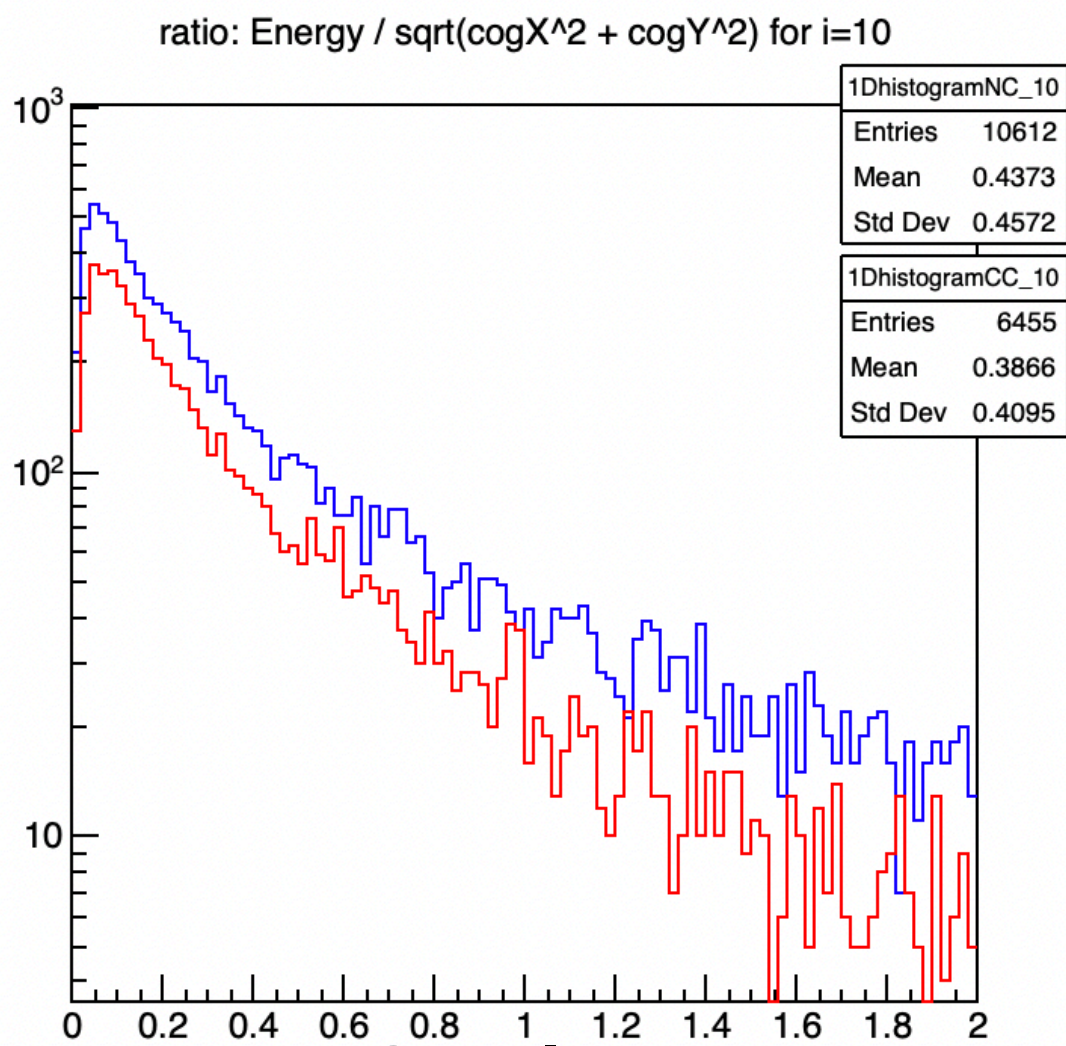
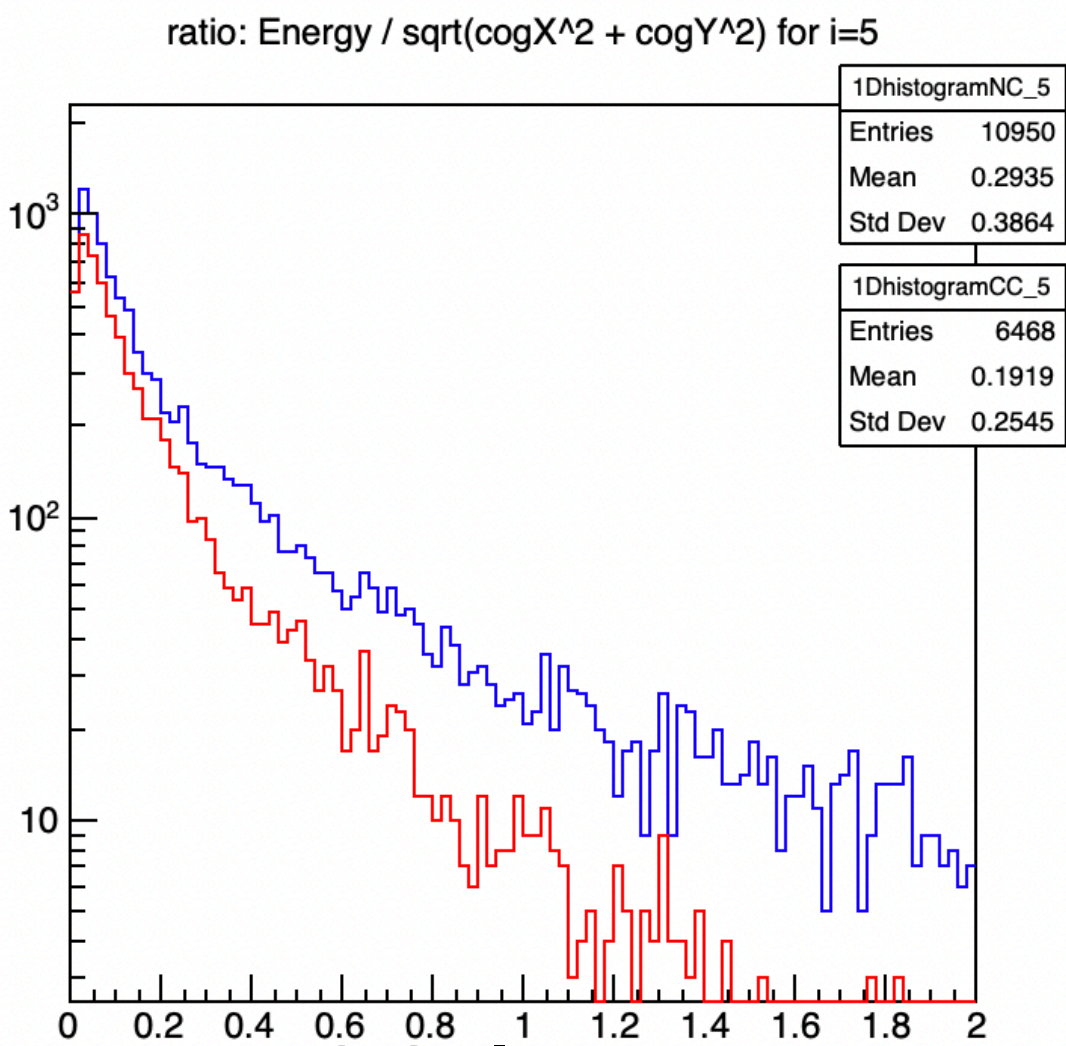
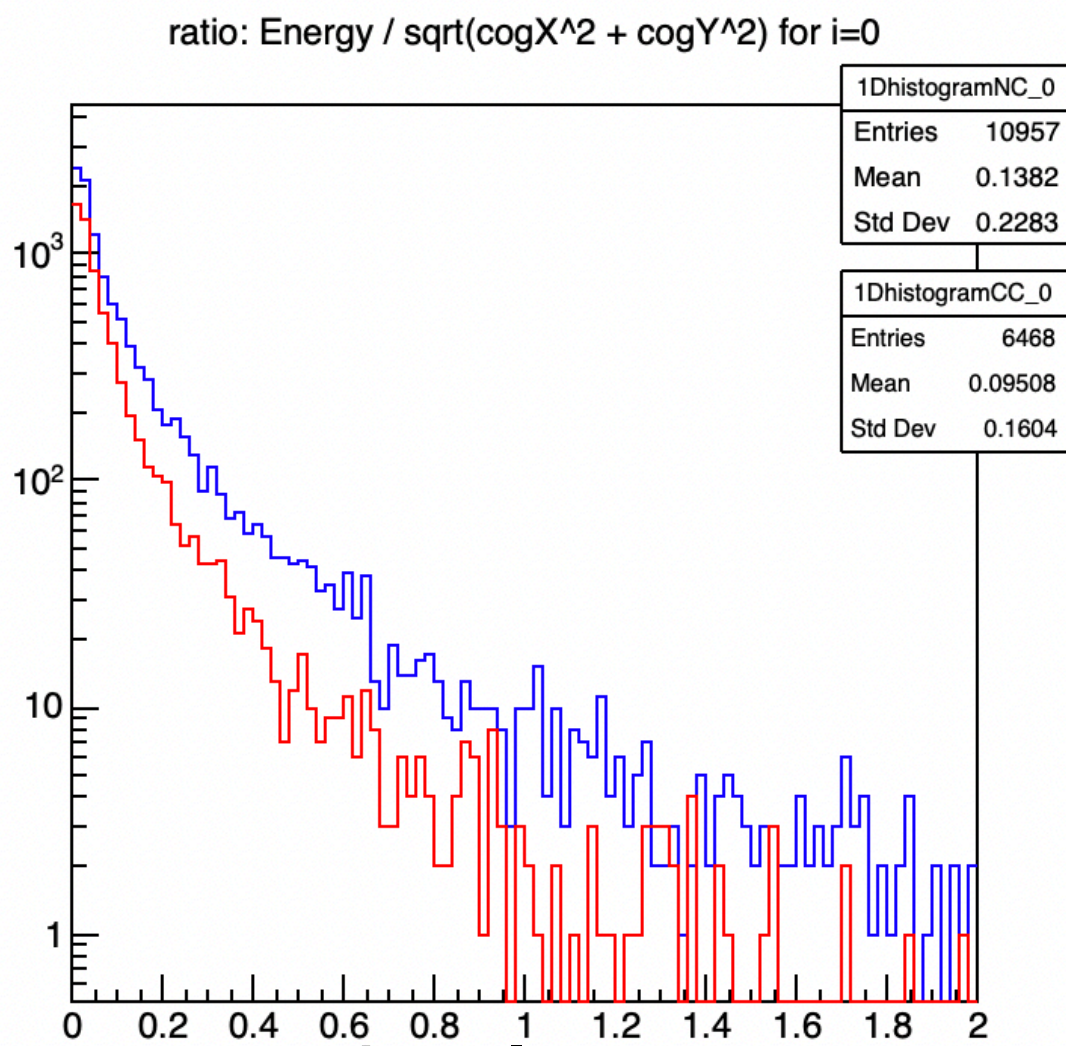
5 layer

10 layer

NC - blue

CC - red

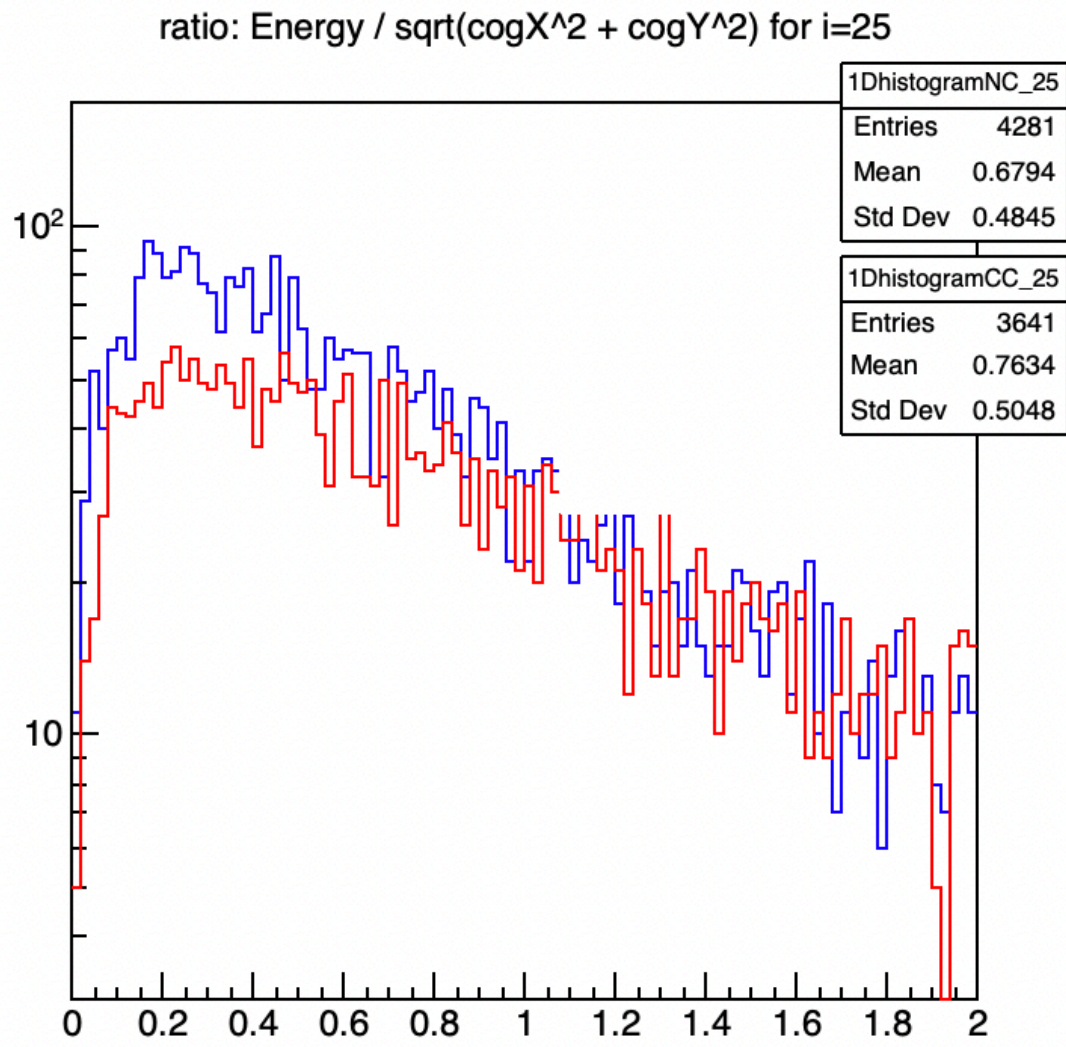
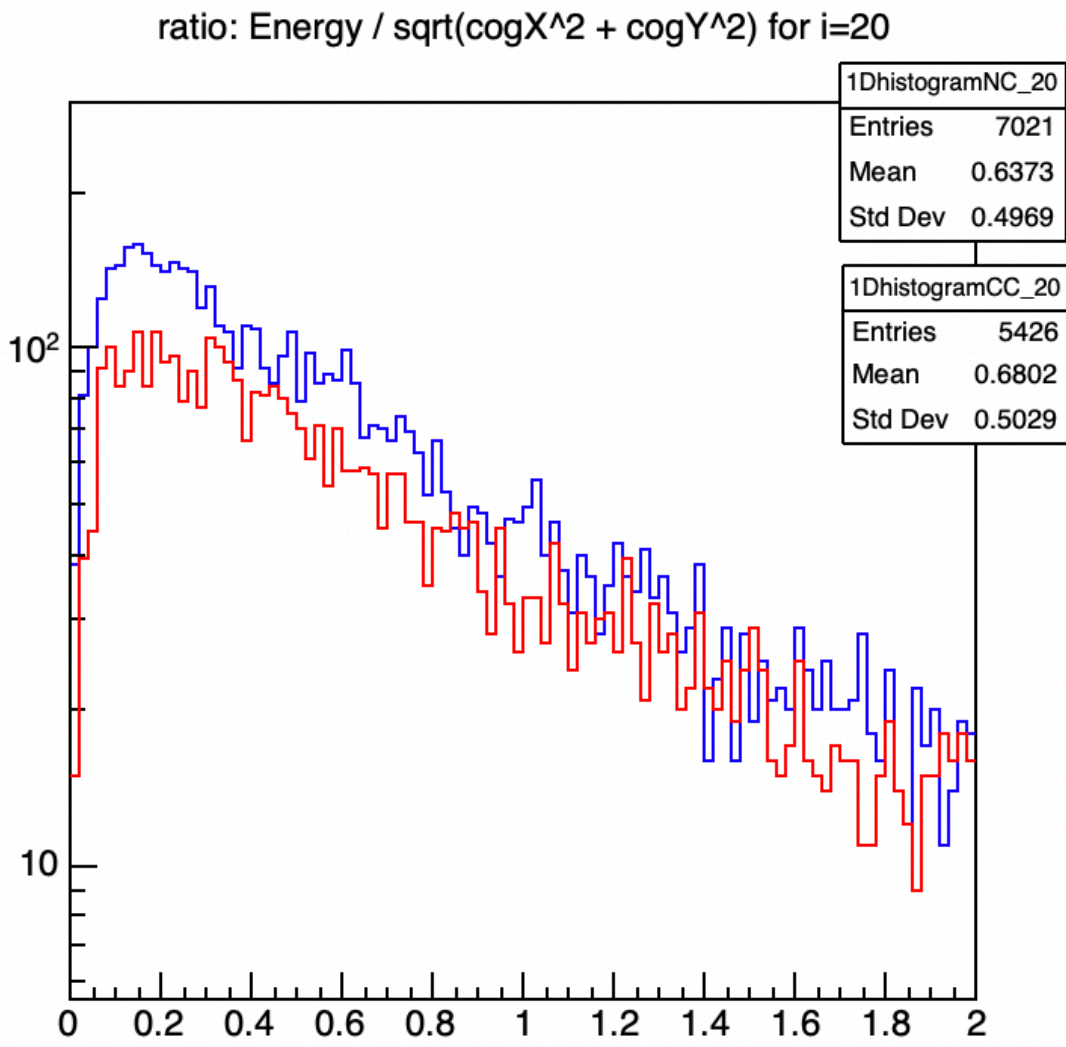
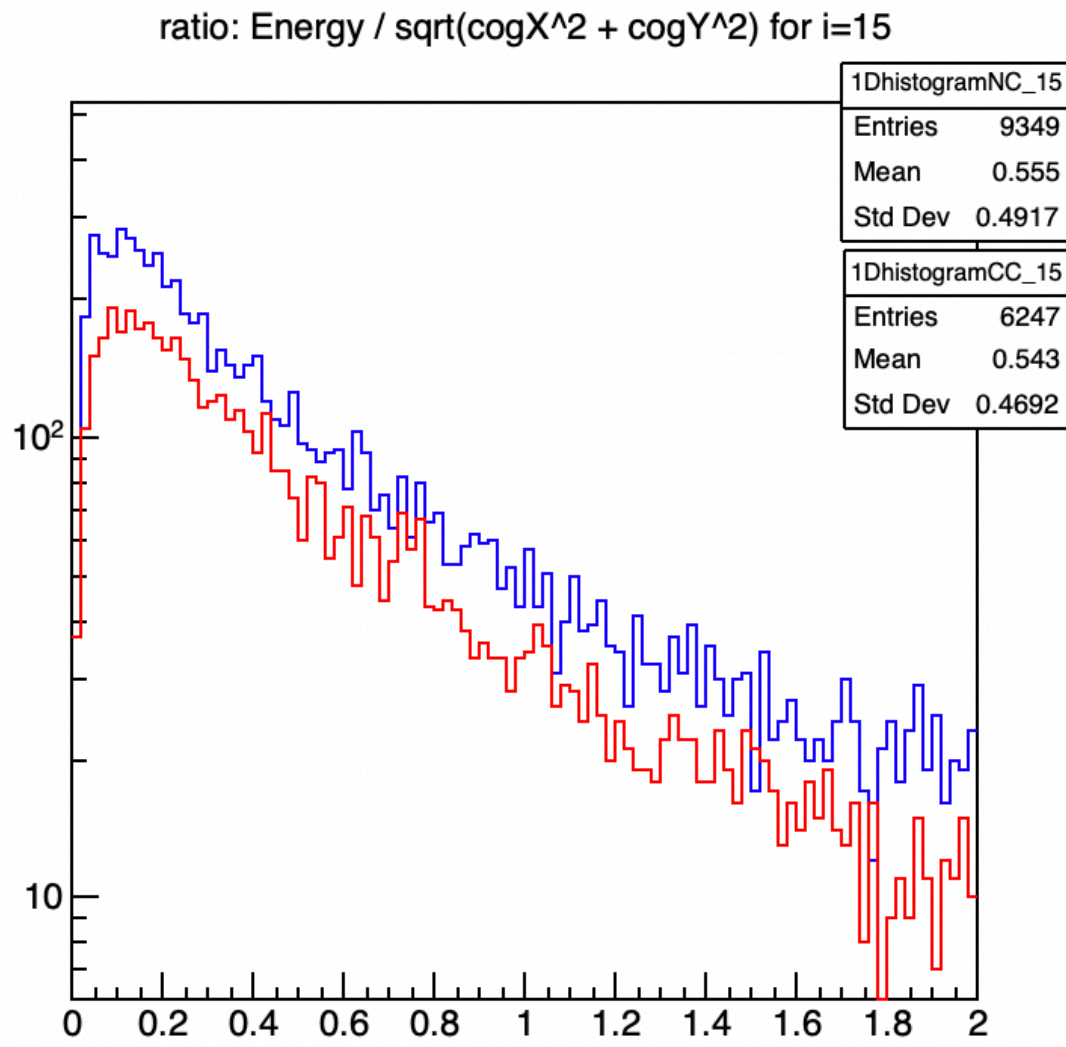
hist(cogXY/energy)



15 layer

20 layer

25 layer



neutrino primary energy vs baricenter

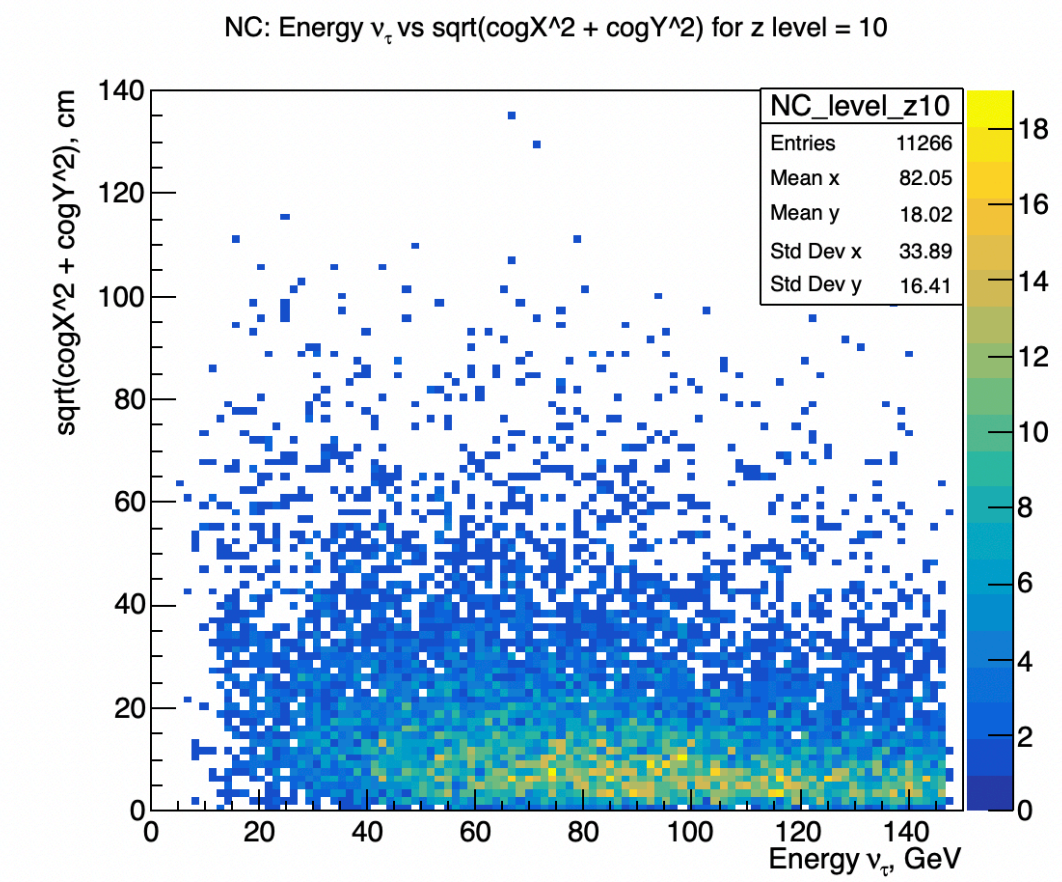
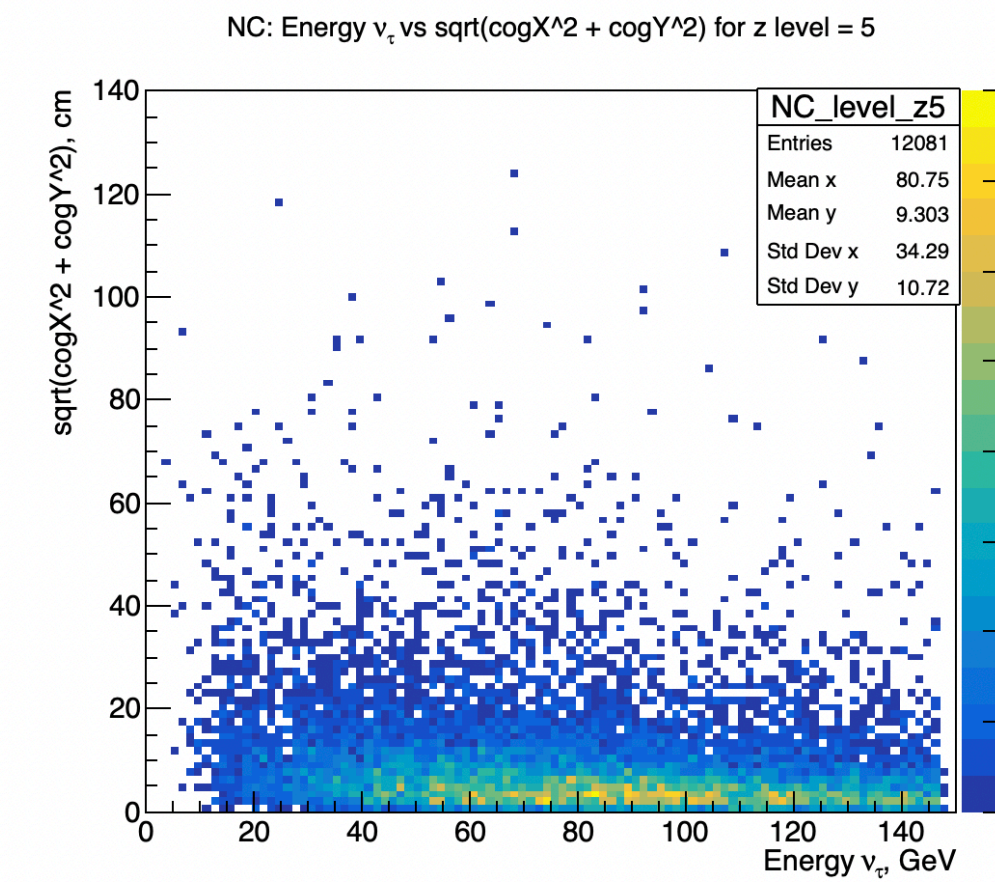
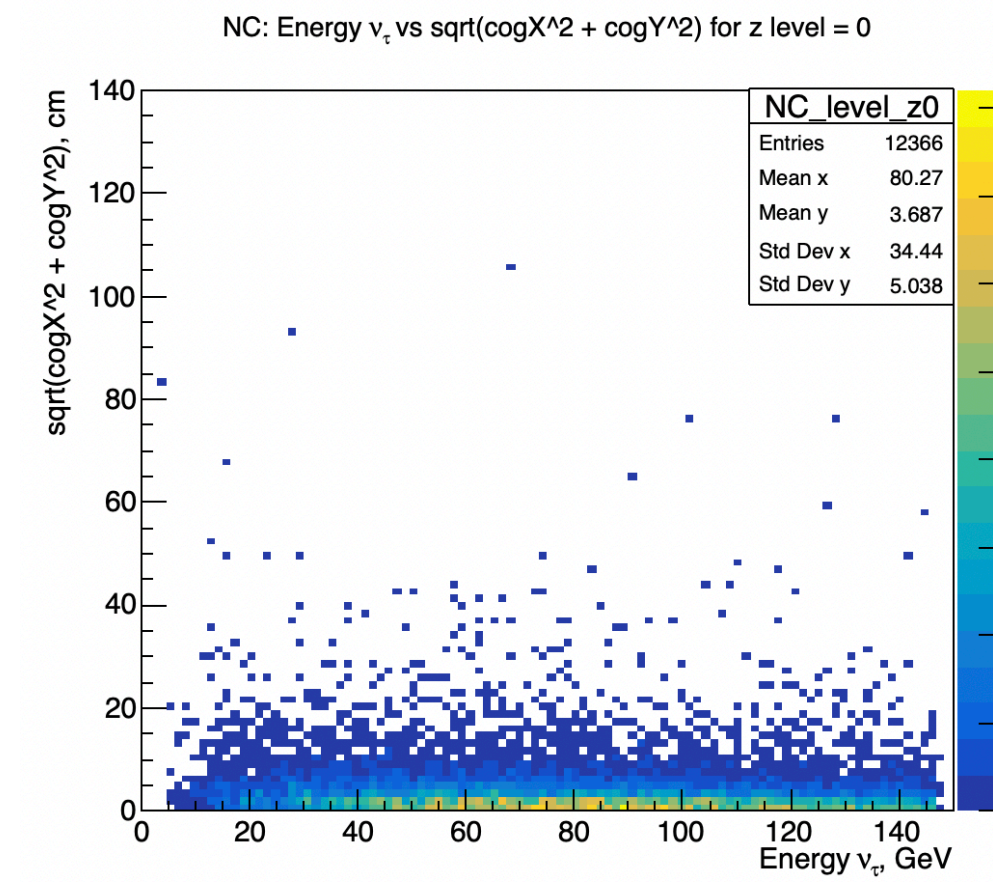
Correlation plots between **neutrino energy vs baricenter** for different z level

0 layer

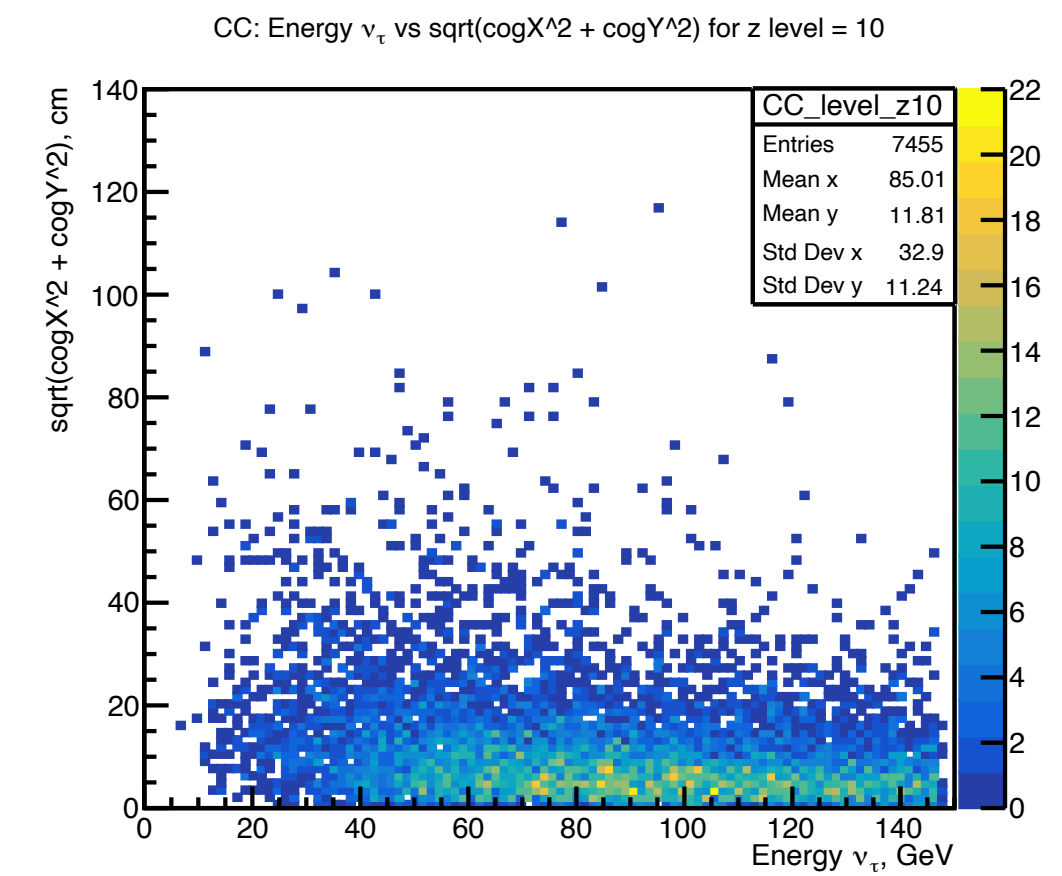
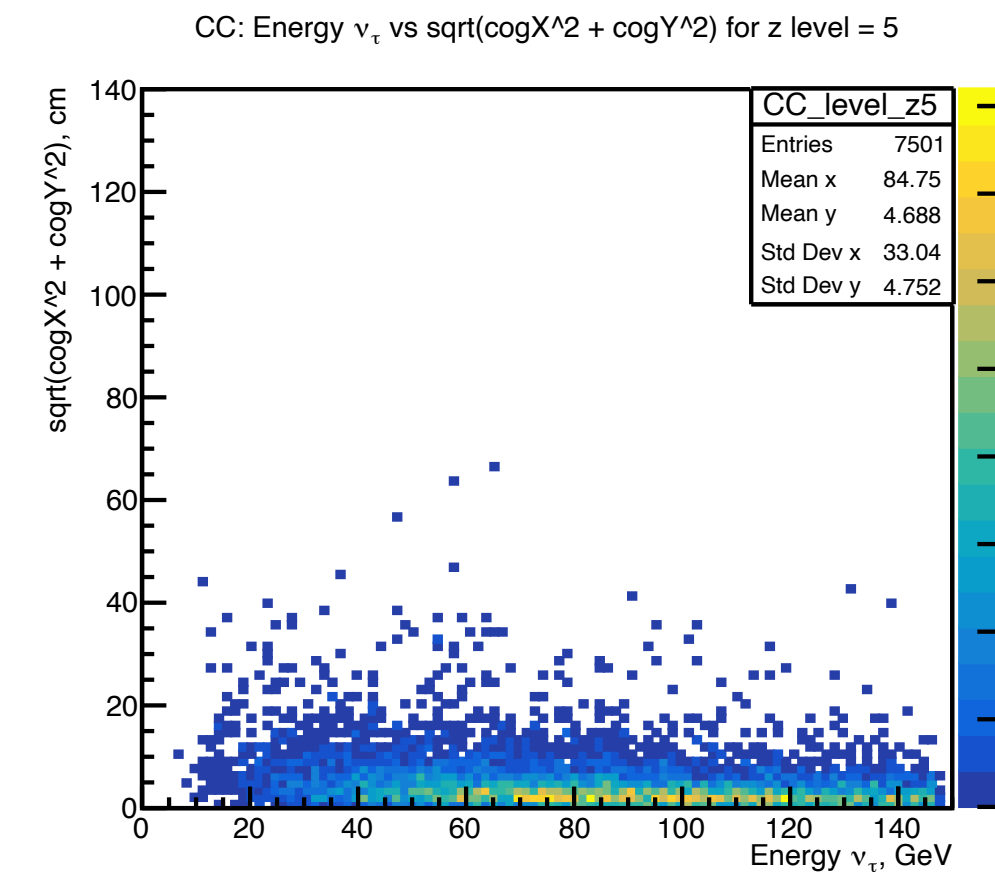
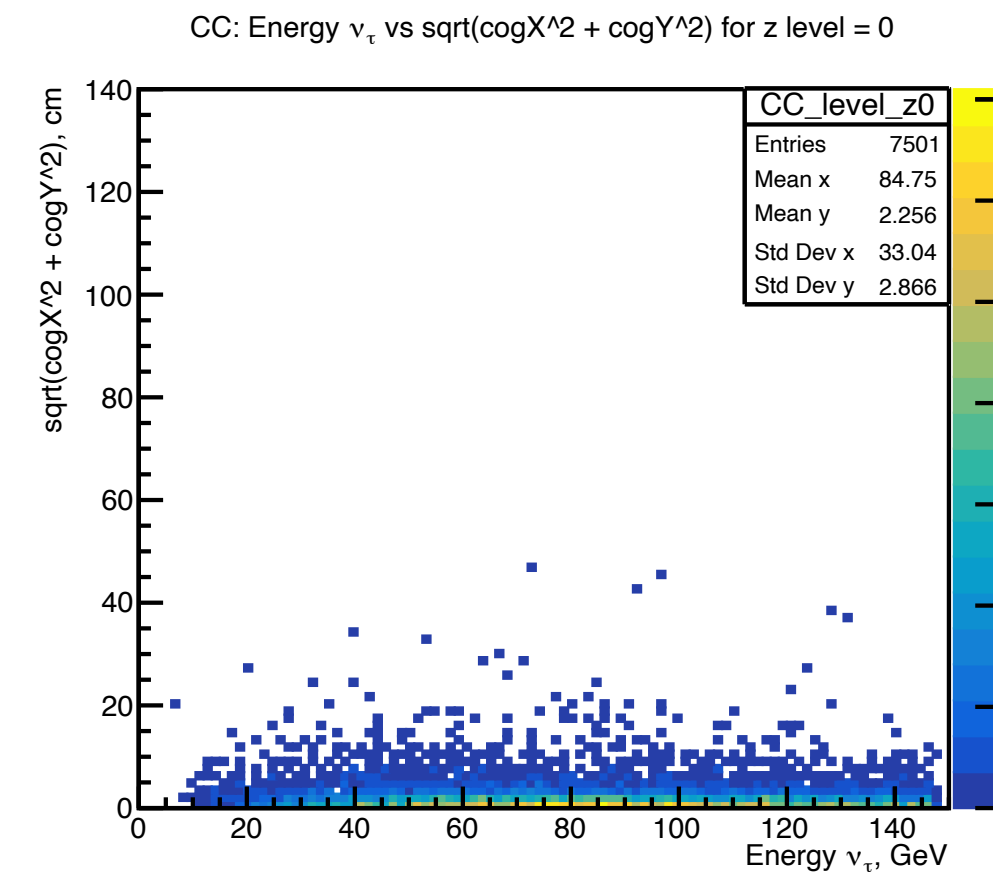
5 layer

10 layer

NC



CC



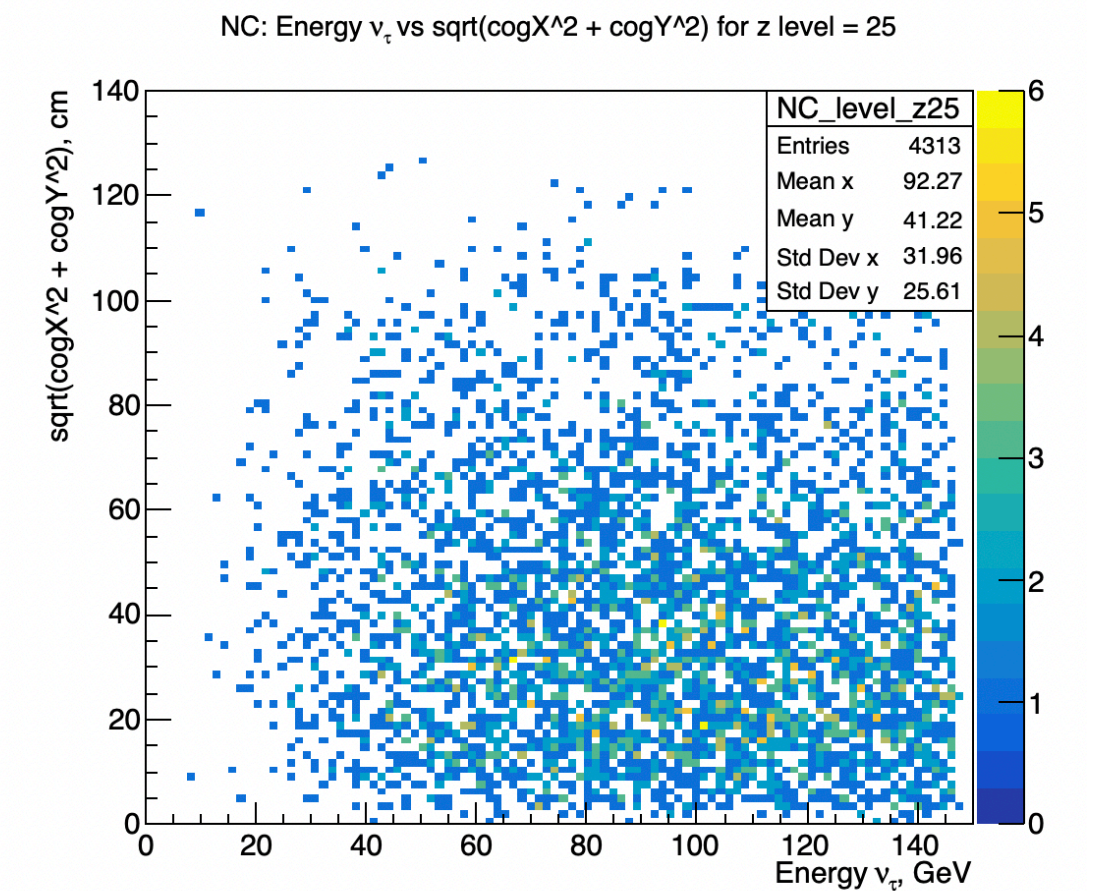
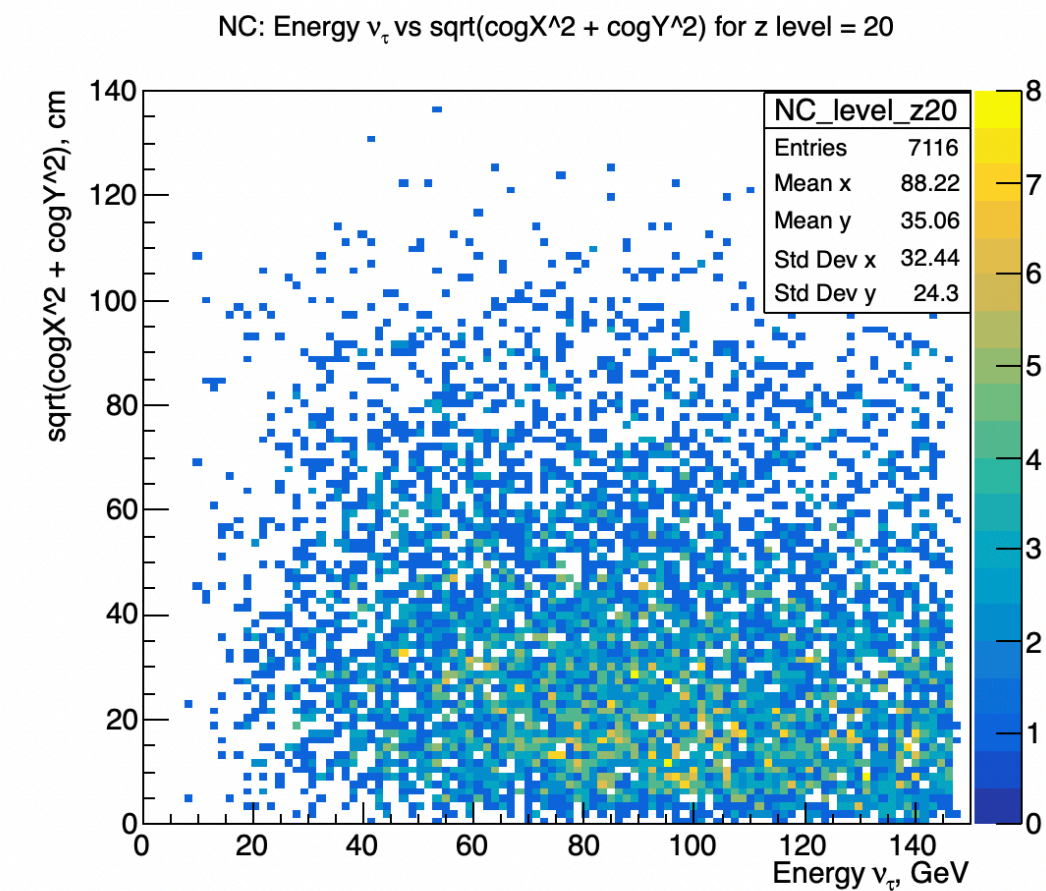
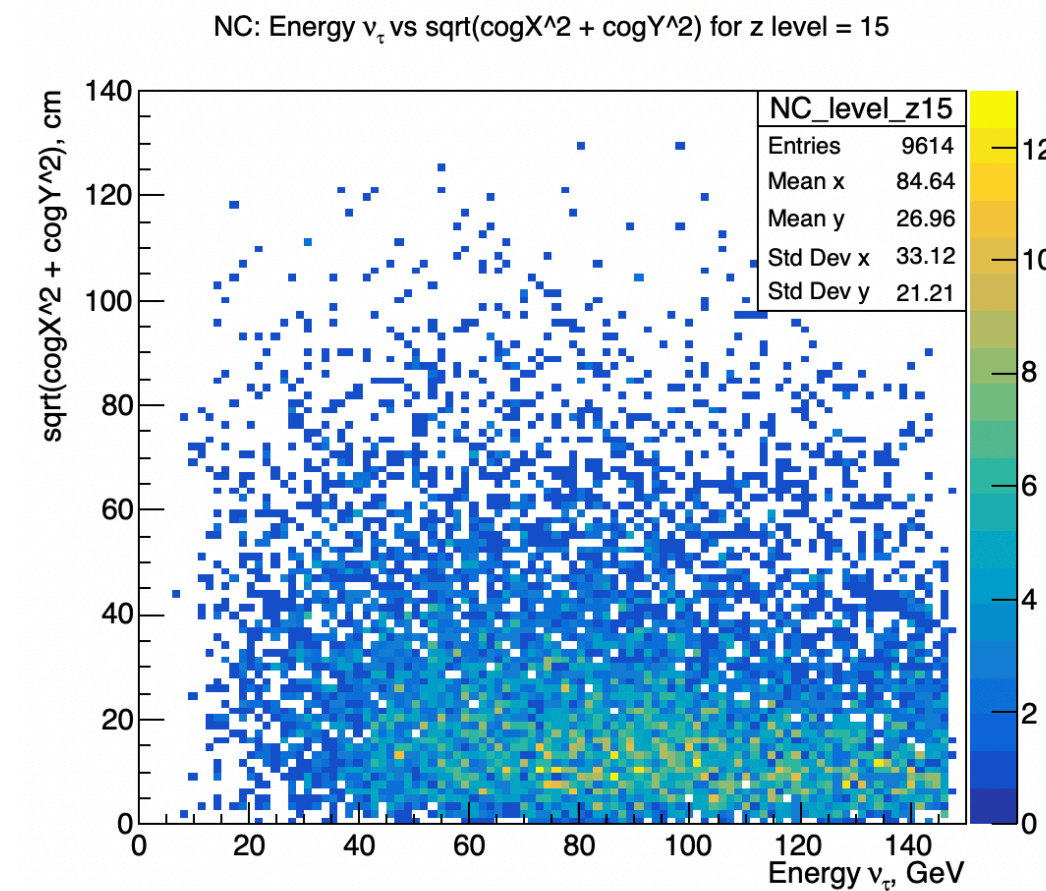
Correlation plots between **neutrino energy vs baricenter** for different z level

15 layer

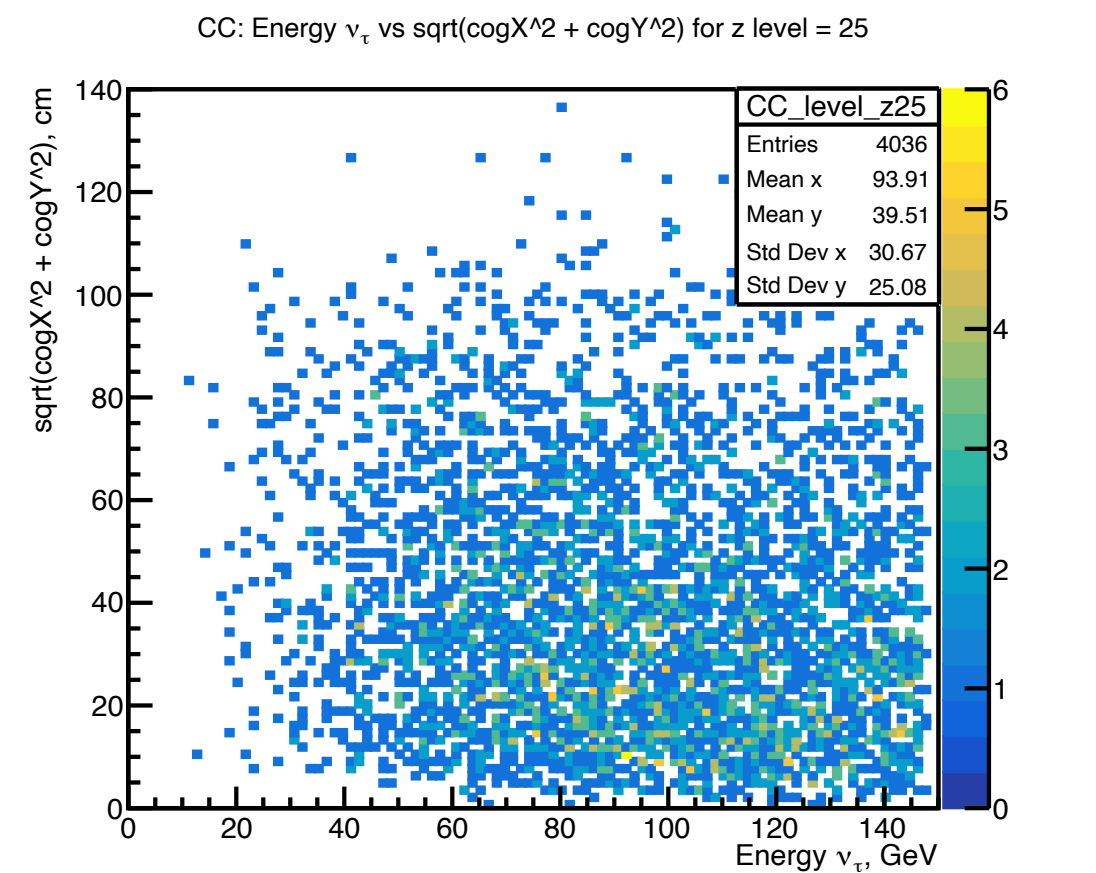
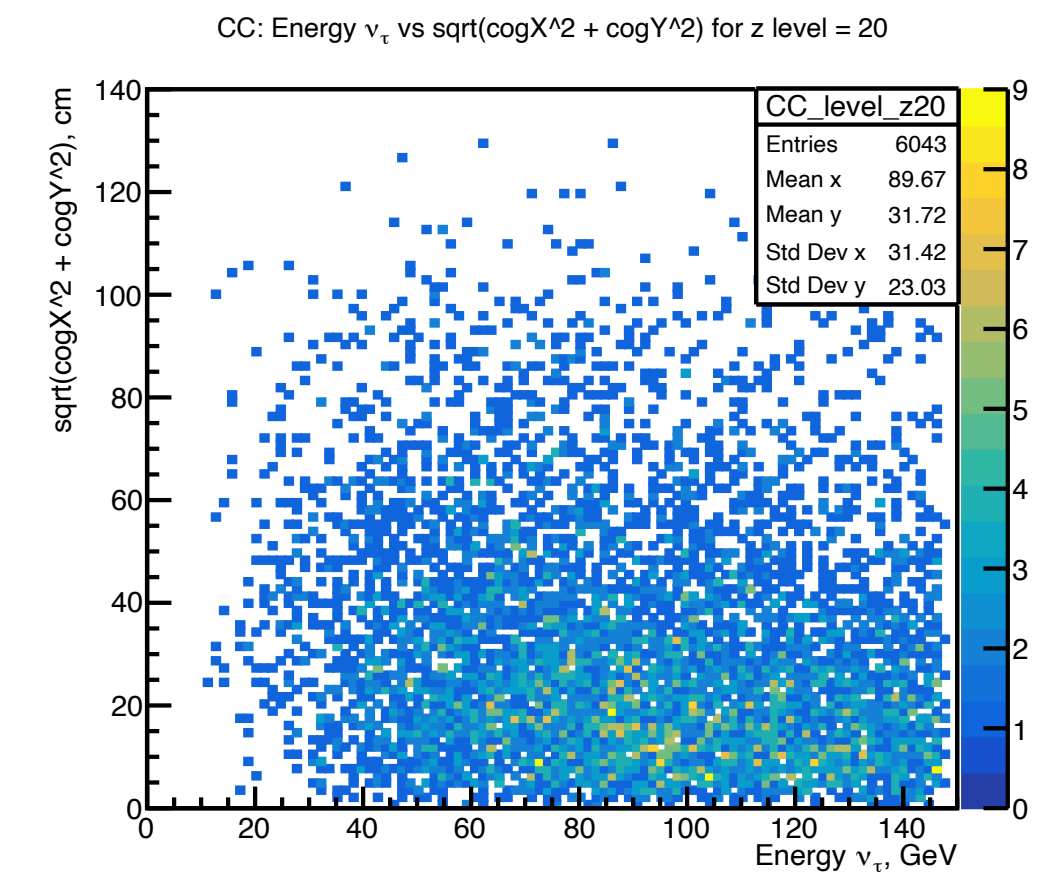
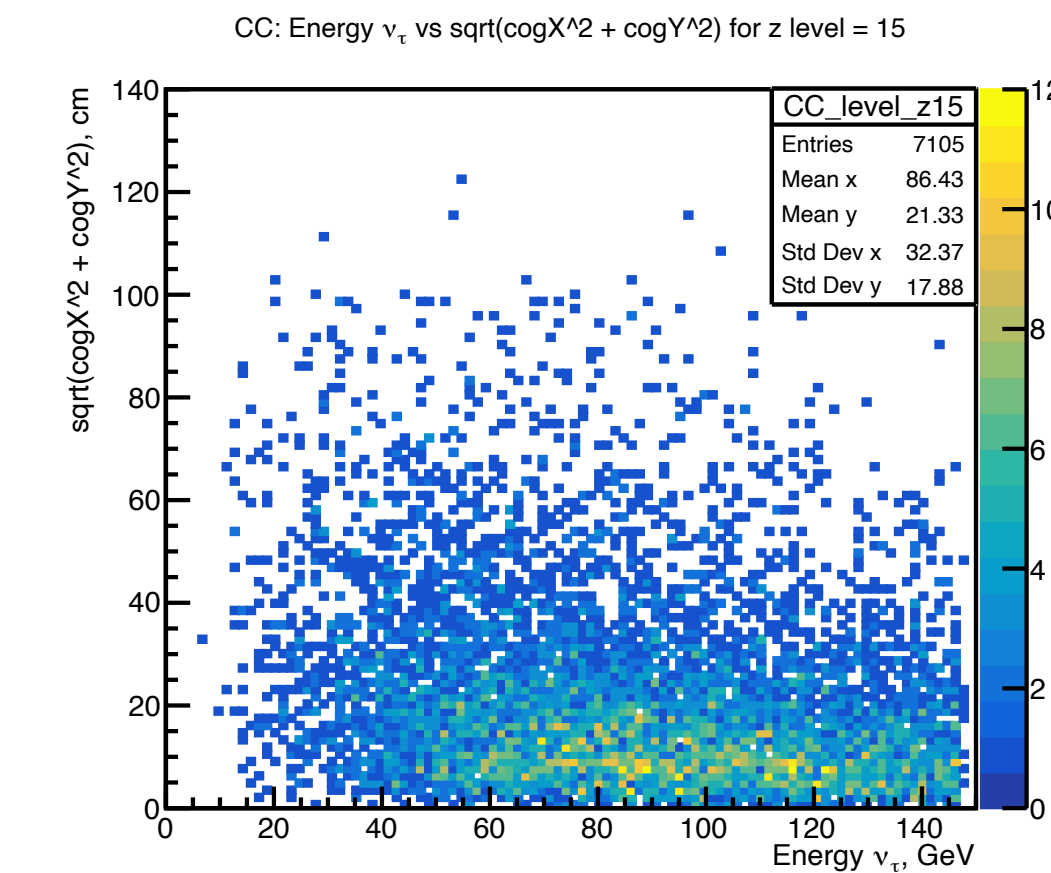
20 layer

25 layer

NC



CC



Ratio: between **neutrino energy to baricenter** for different z level

0 layer

5 layer

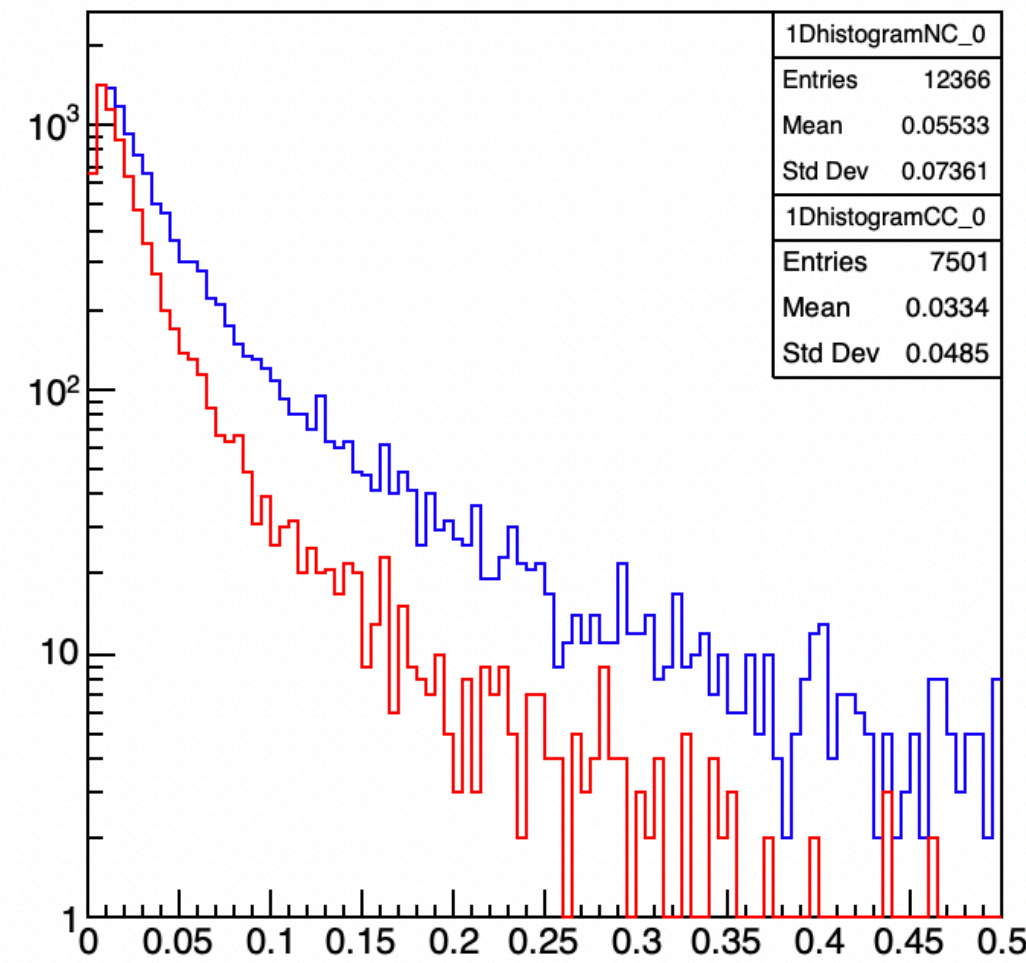
10 layer

NC - blue

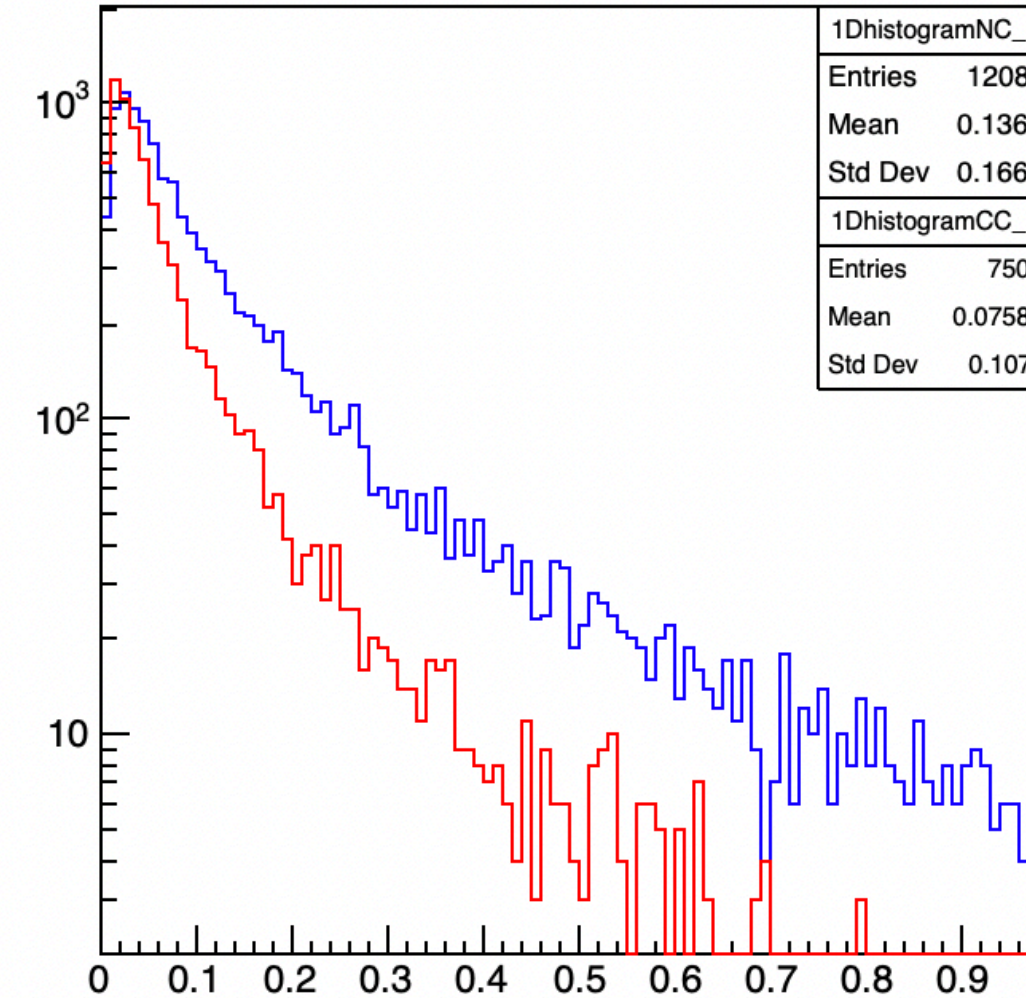
CC - red

hist(cogXY/energy)

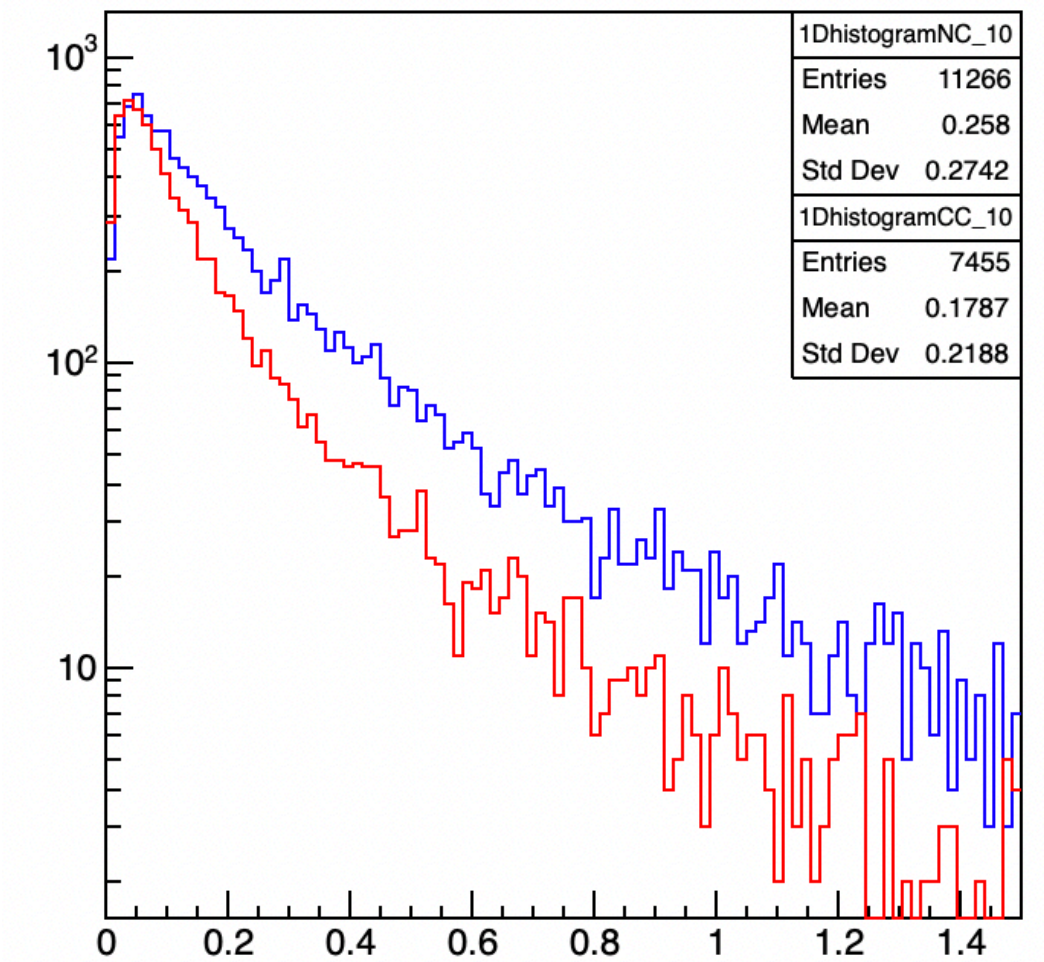
ratio: Energy / sqrt(cogX^2 + cogY^2) for i=0



ratio: Energy / sqrt(cogX^2 + cogY^2) for i=5



ratio: Energy / sqrt(cogX^2 + cogY^2) for i=10

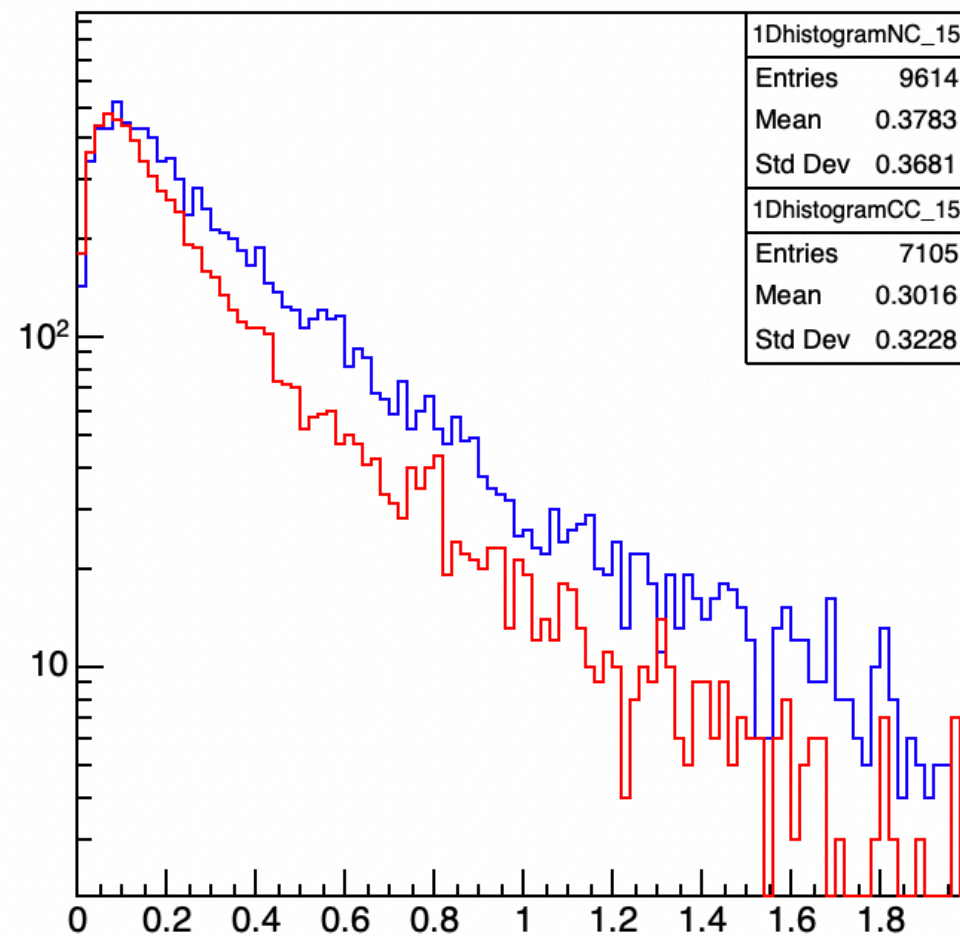


15 layer

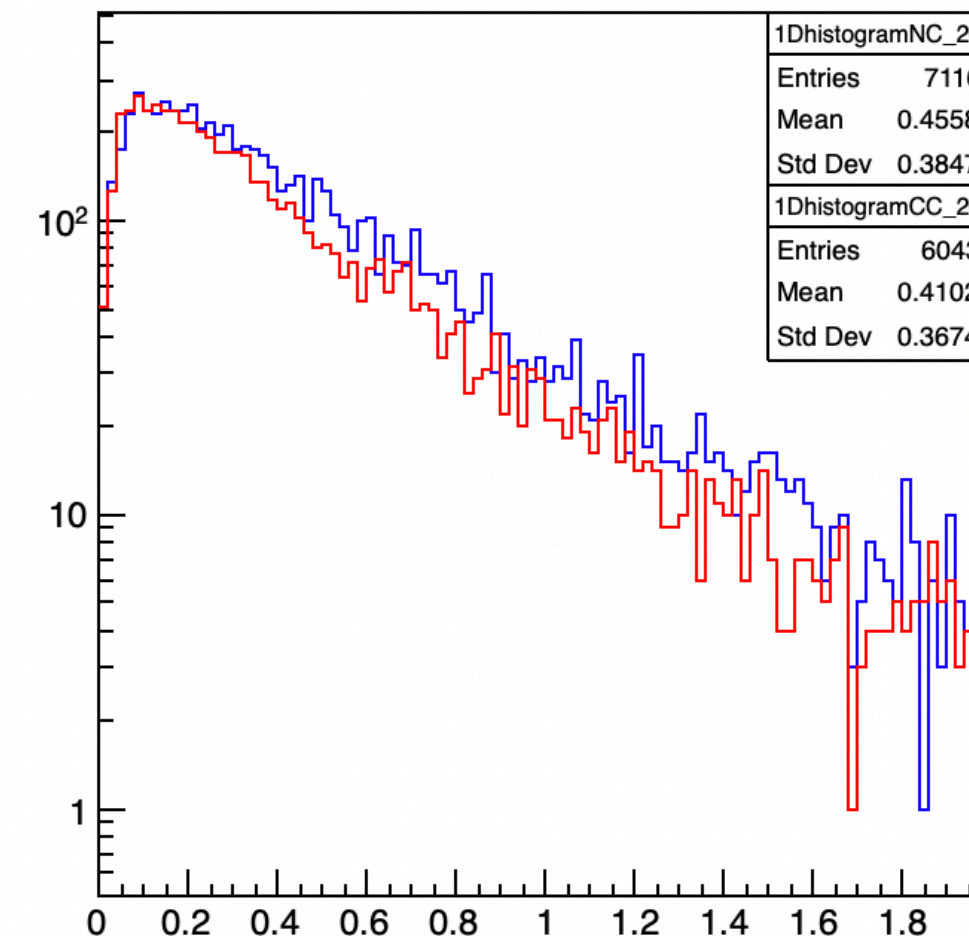
20 layer

25 layer

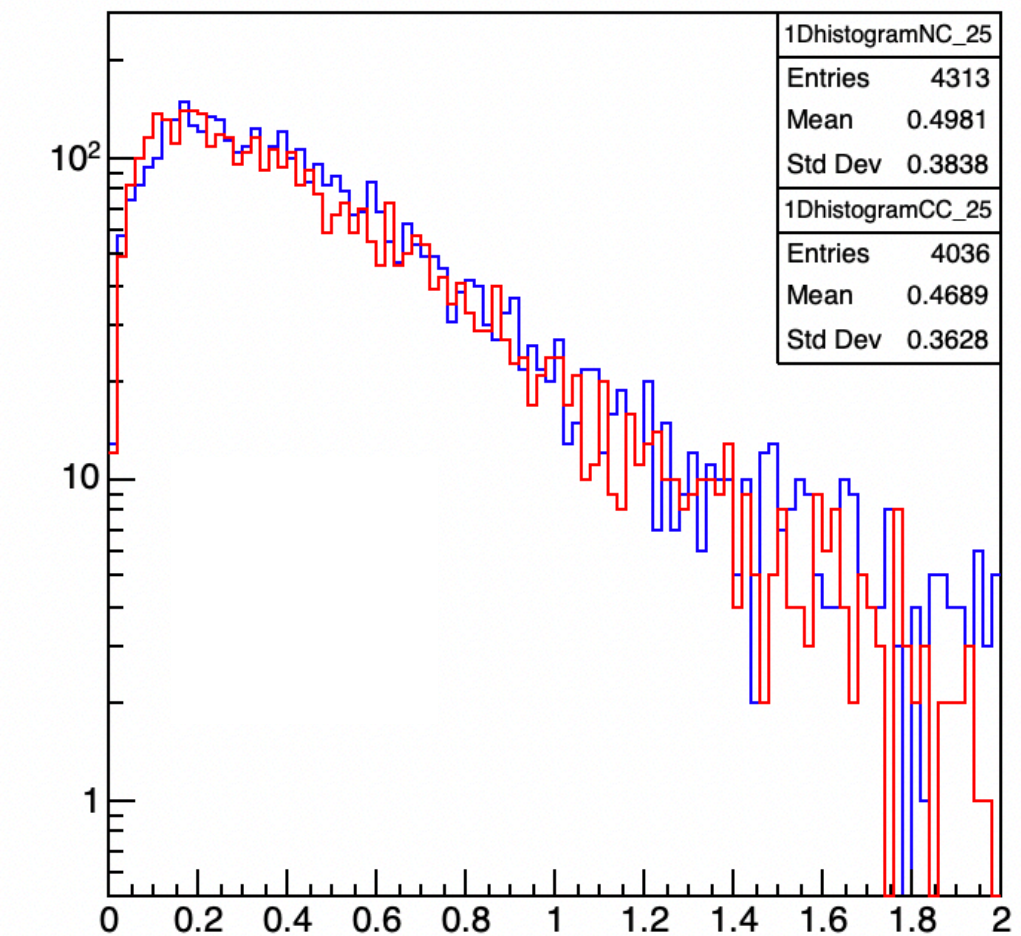
ratio: Energy / sqrt(cogX^2 + cogY^2) for i=15



ratio: Energy / sqrt(cogX^2 + cogY^2) for i=20



ratio: Energy / sqrt(cogX^2 + cogY^2) for i=25



Ratio: between neutrino energy to baricenter for different z level

first 6 layers different scale

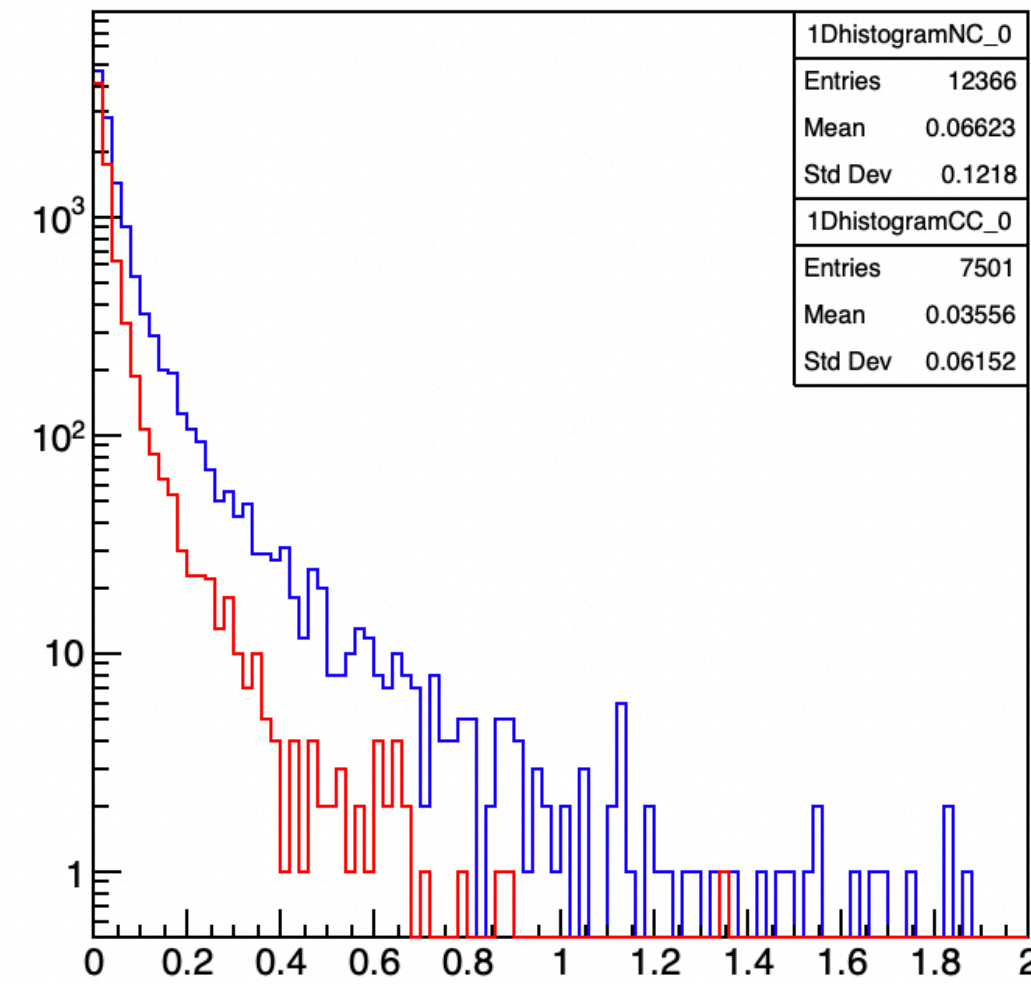
NC - blue

CC - red

hist(cogXY/energy)

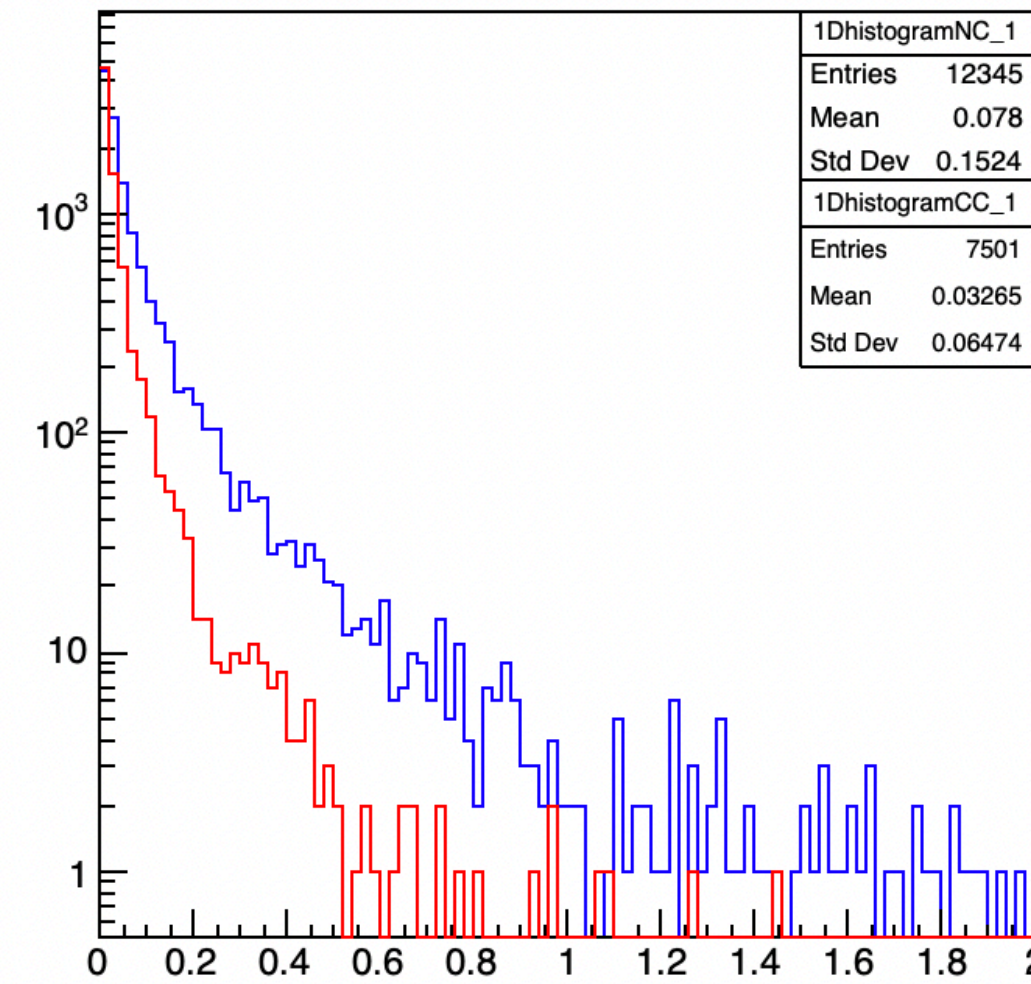
0 layer

ratio: Energy / sqrt(cogX² + cogY²) for i=0



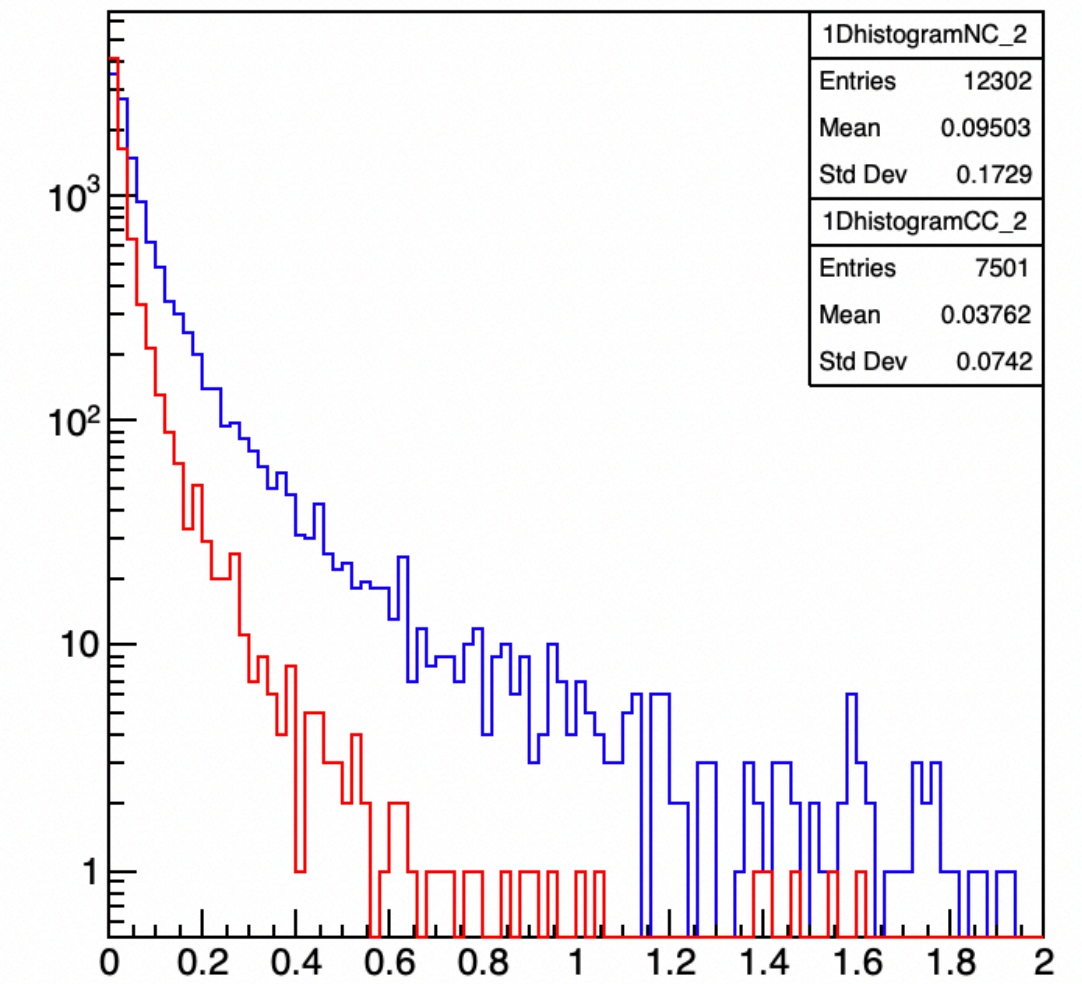
1 layer

ratio: Energy / sqrt(cogX² + cogY²) for i=1



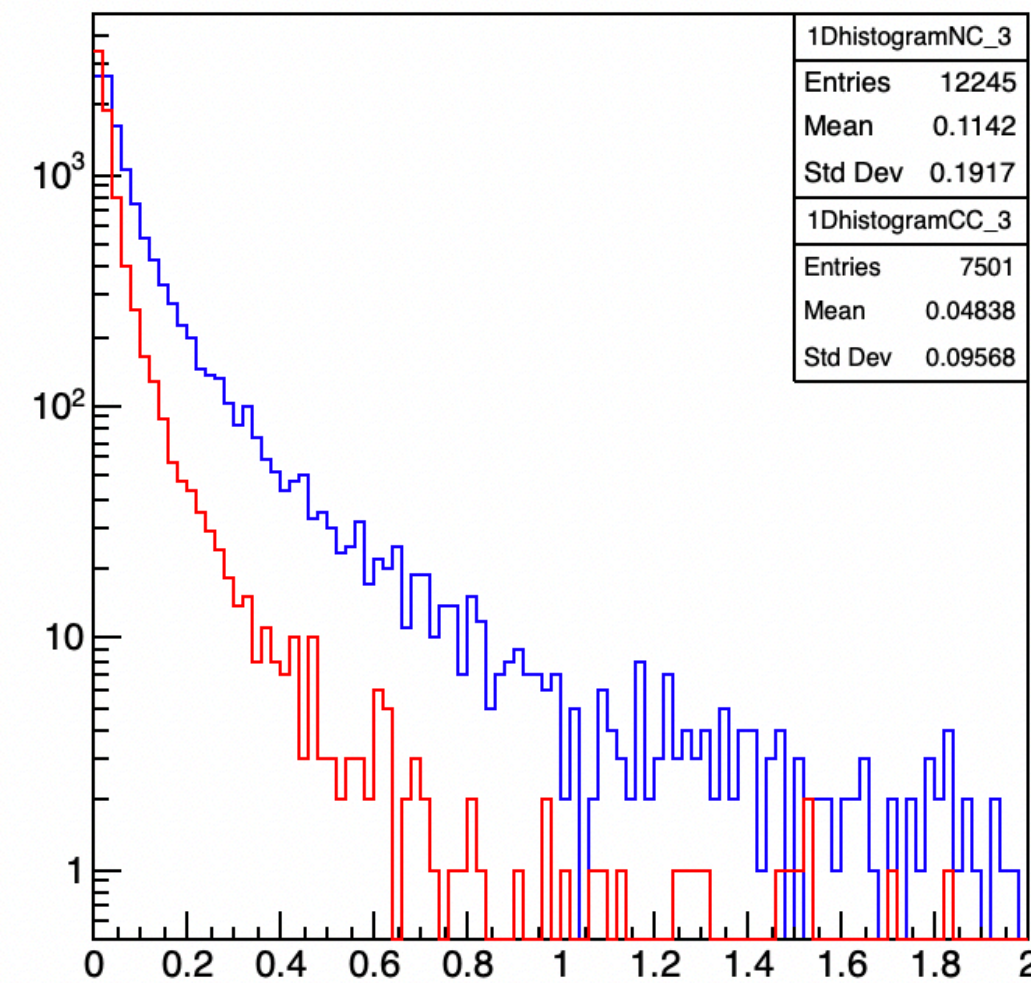
2 layer

ratio: Energy / sqrt(cogX² + cogY²) for i=2



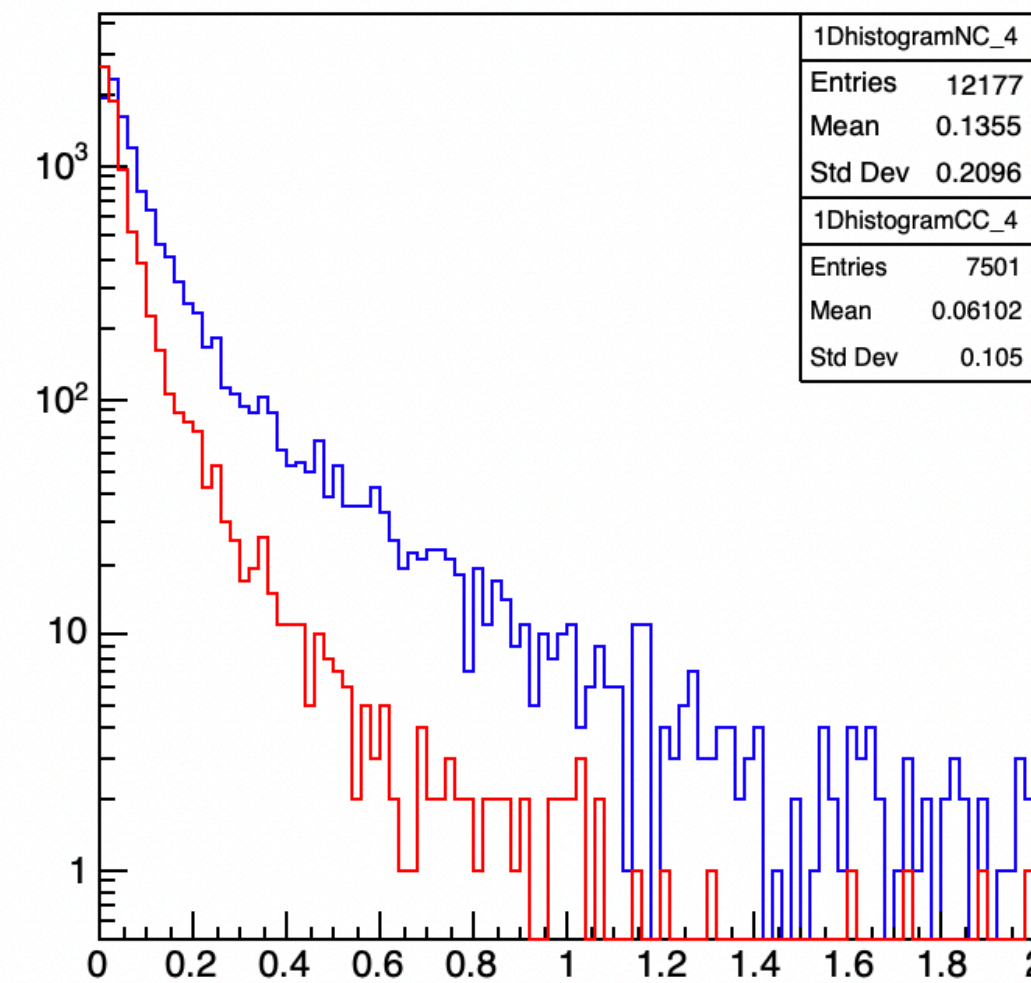
3 layer

ratio: Energy / sqrt(cogX² + cogY²) for i=3



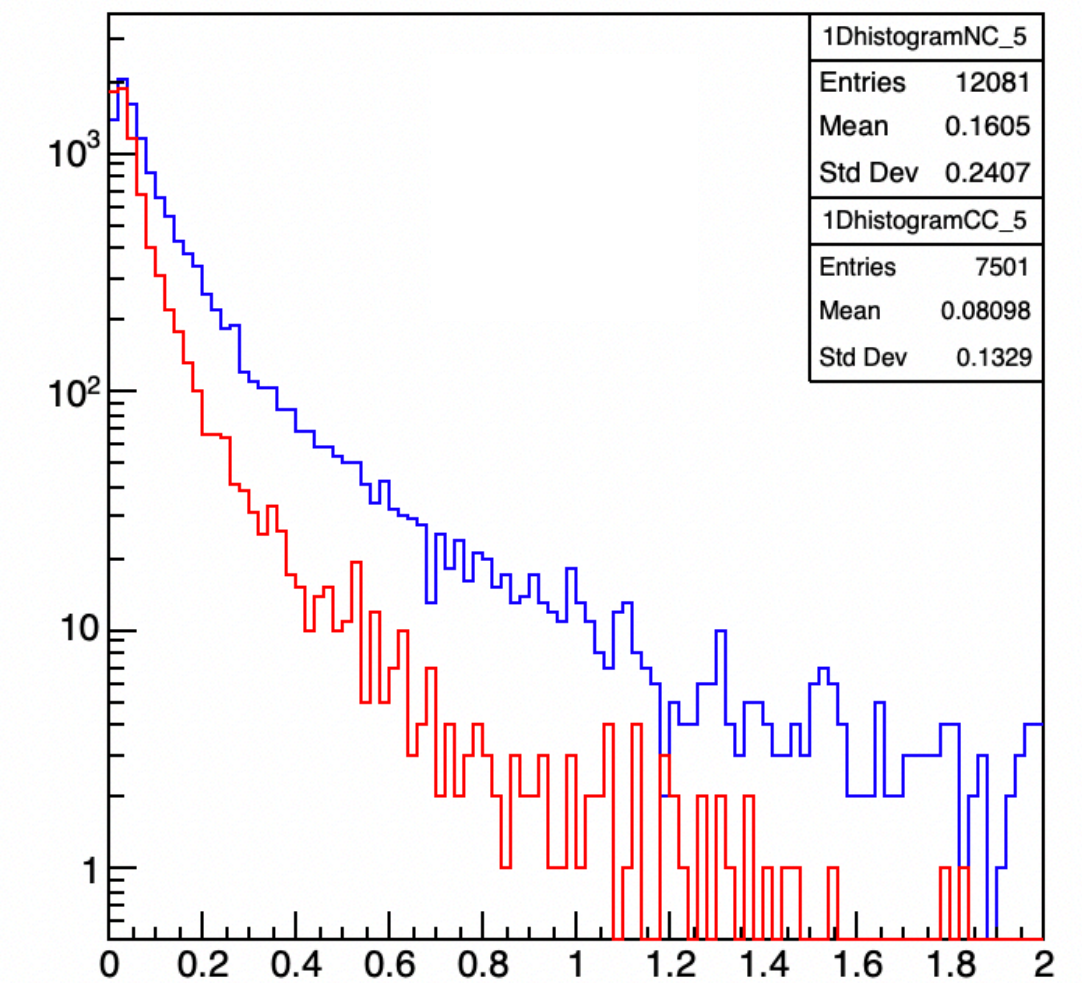
4 layer

ratio: Energy / sqrt(cogX² + cogY²) for i=4



5 layer

ratio: Energy / sqrt(cogX² + cogY²) for i=5



Correlation plots between **neutrino energy vs baricenter** for different z level

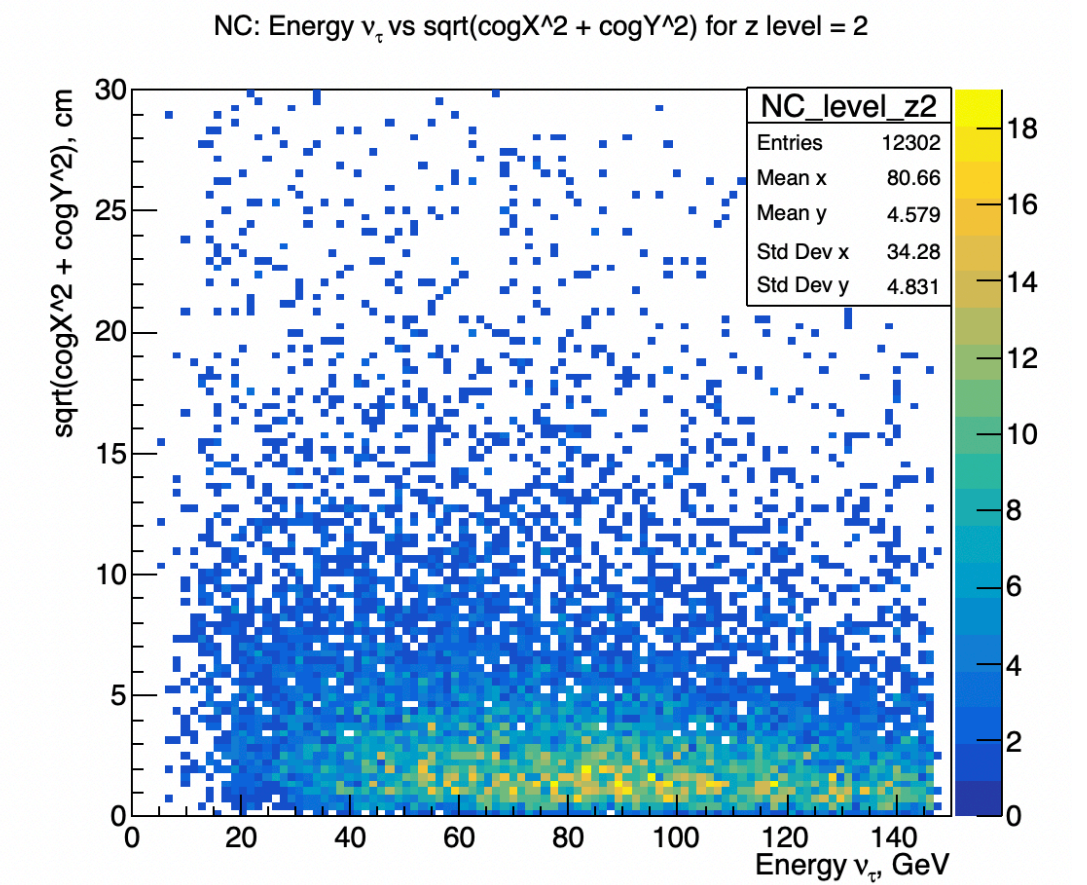
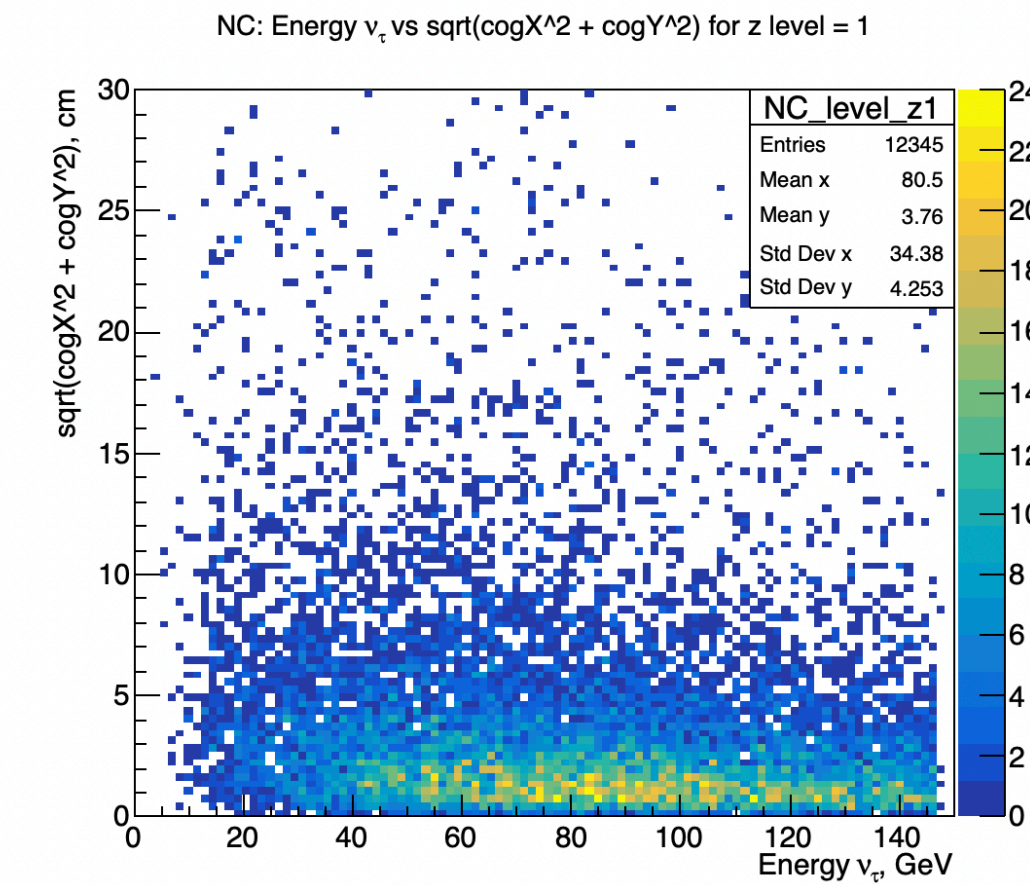
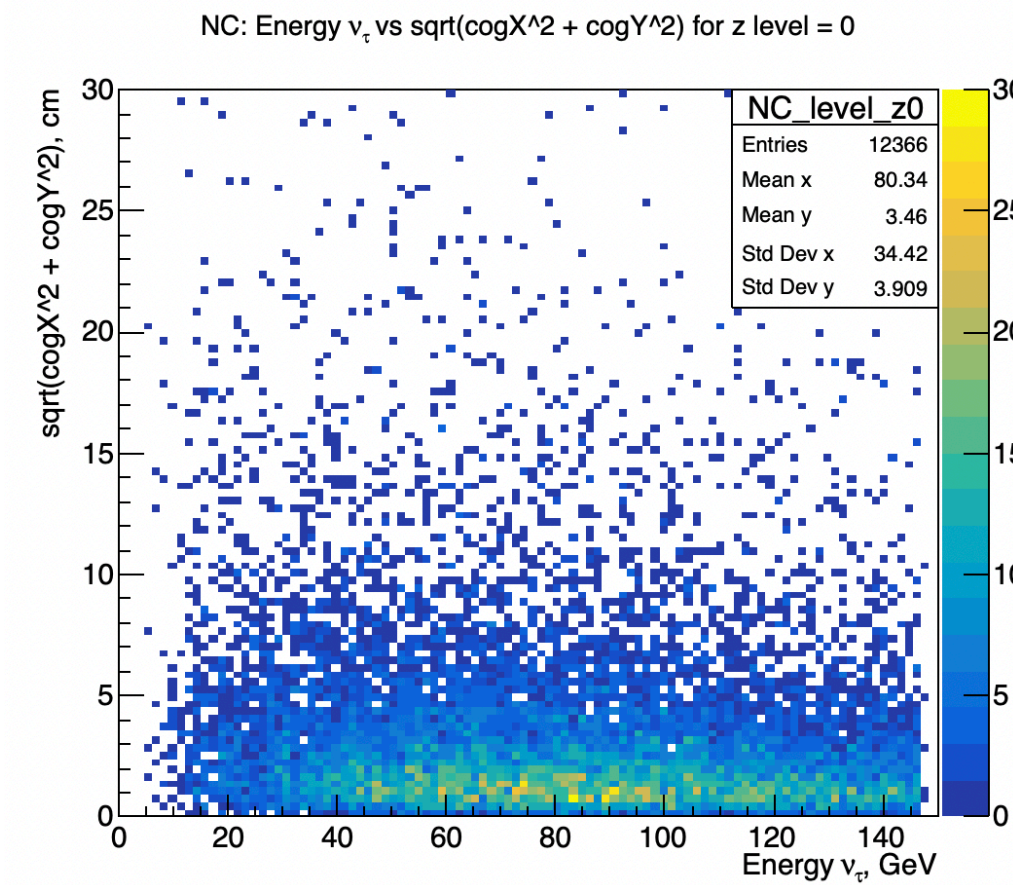
first 6 layers different scale

0 layer

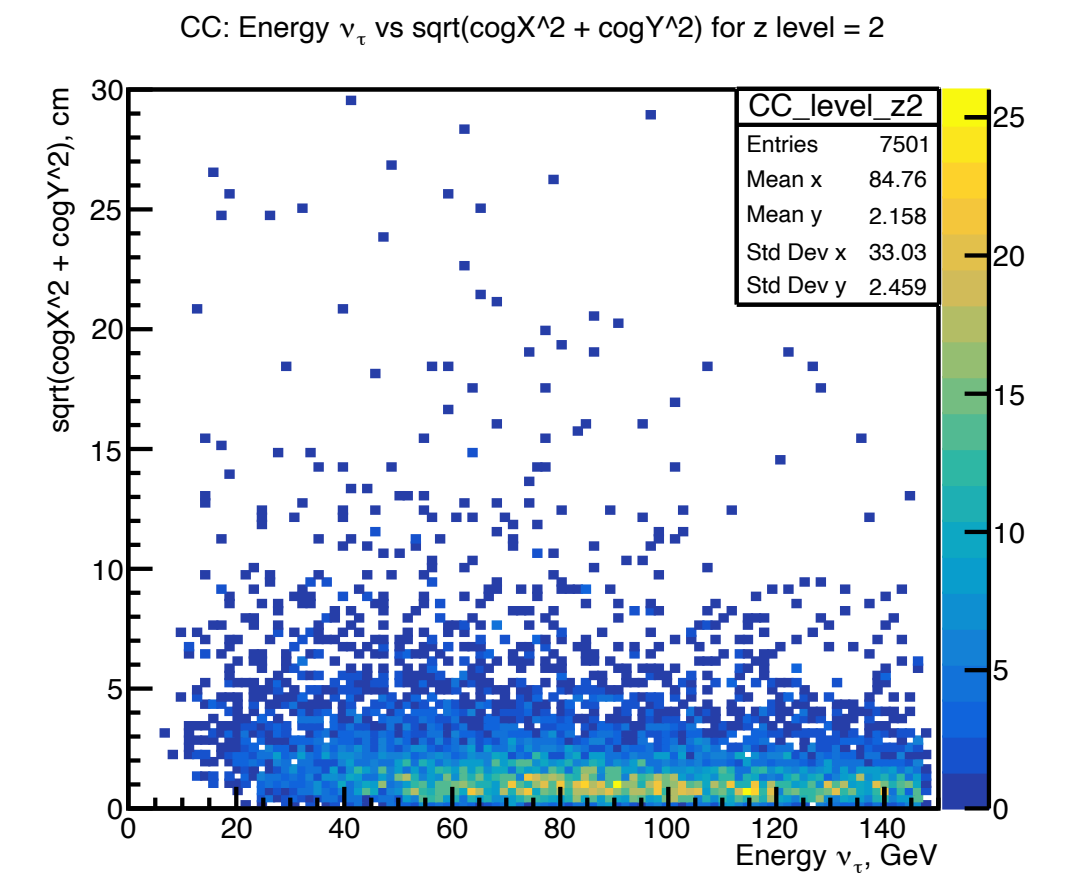
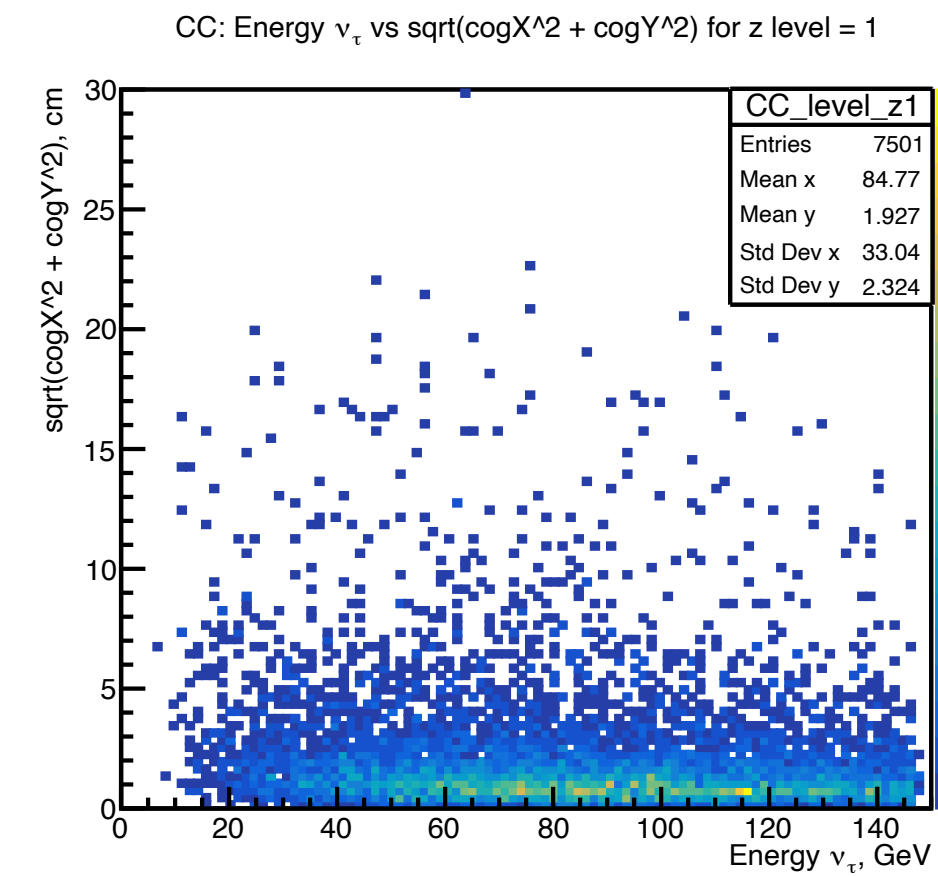
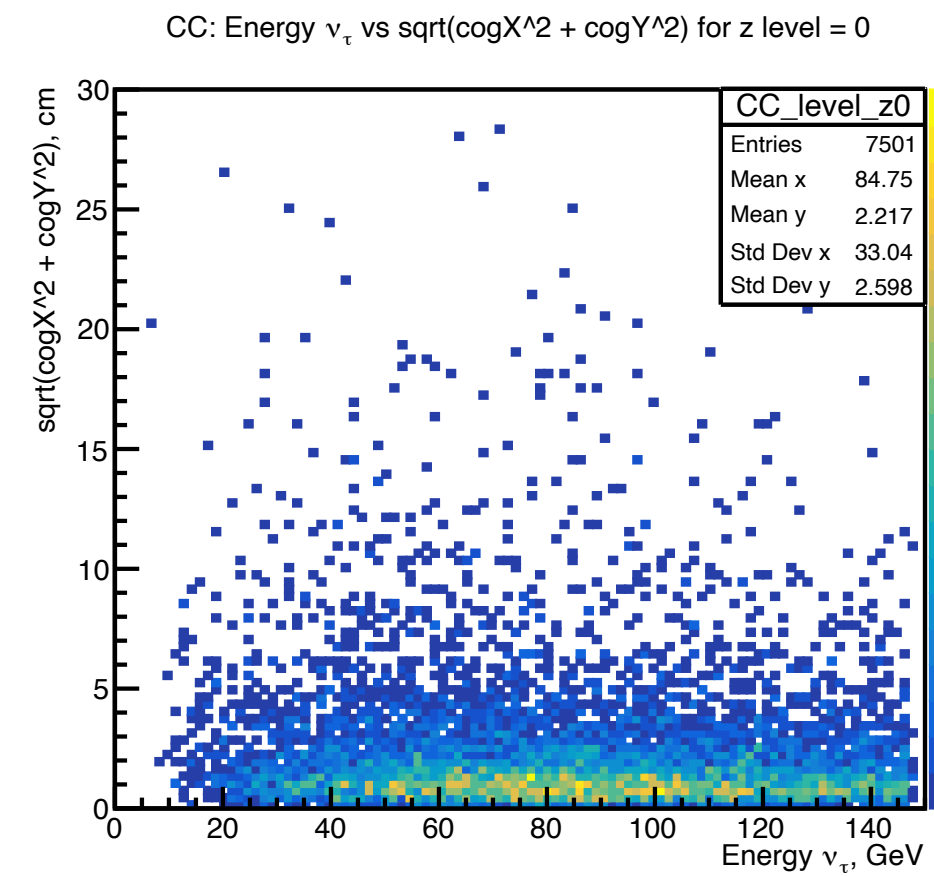
1 layer

2 layer

NC



CC



Correlation plots between **neutrino energy vs baricenter** for different z level

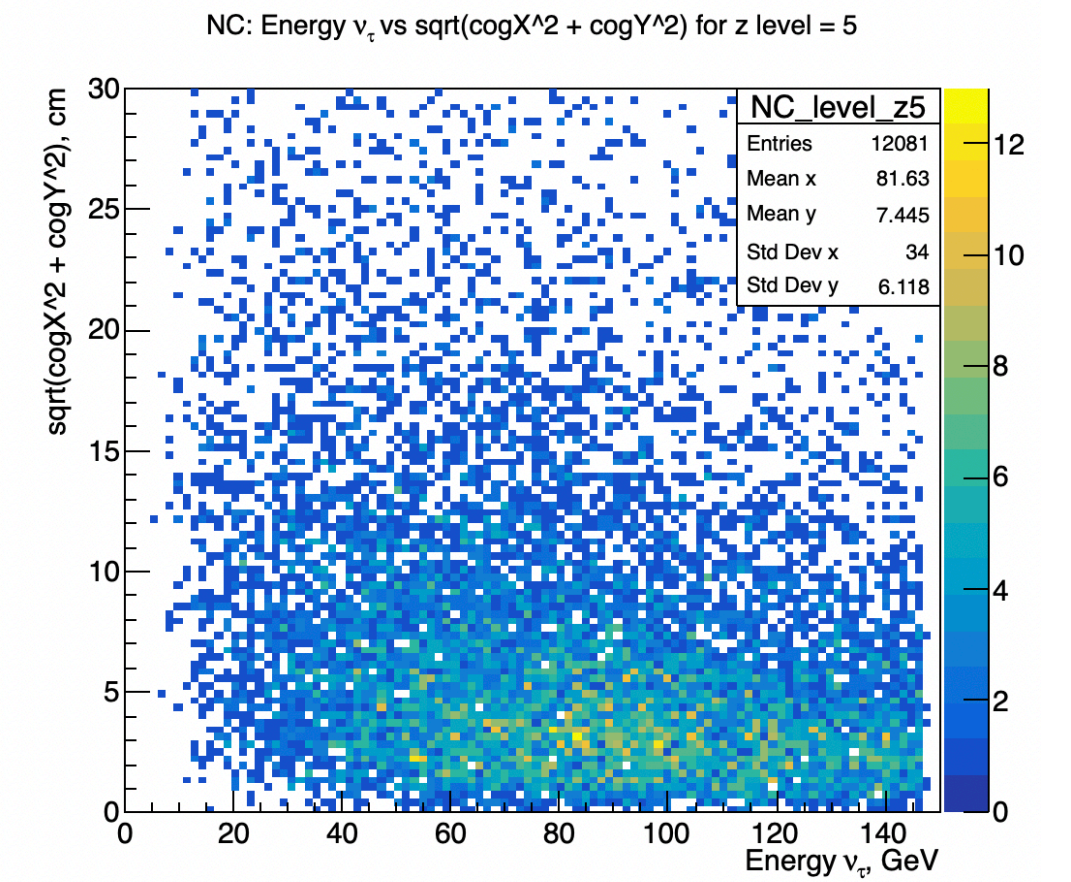
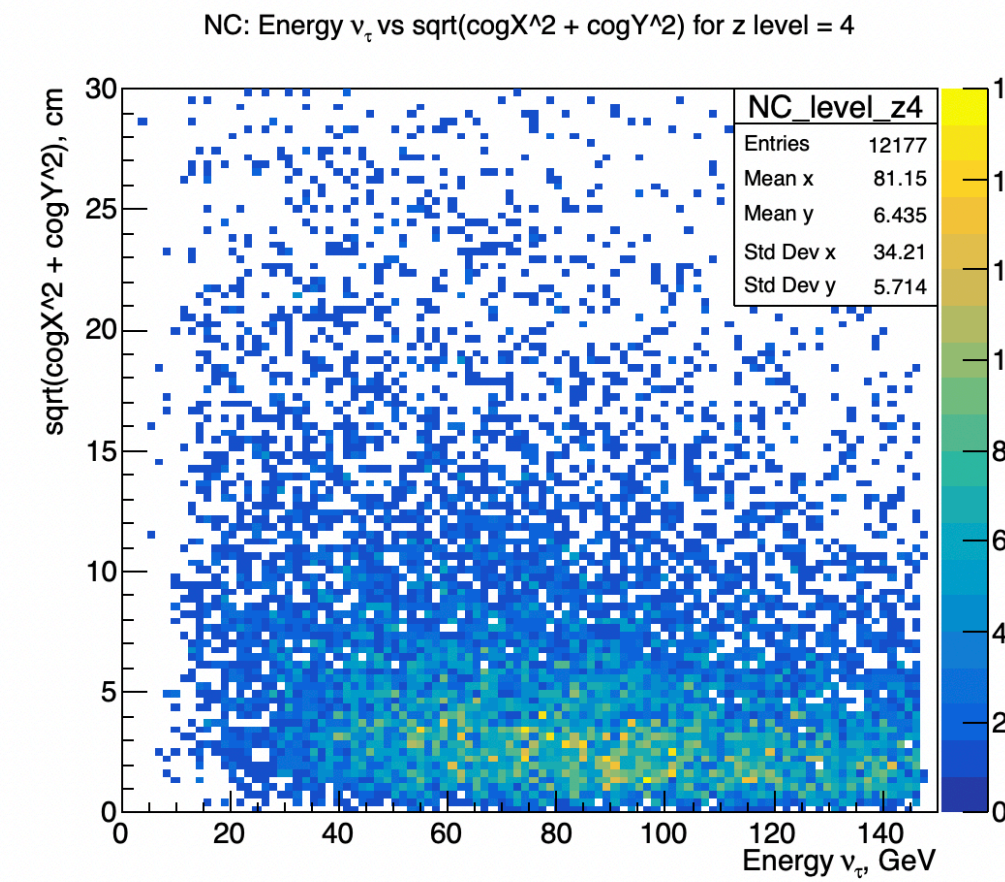
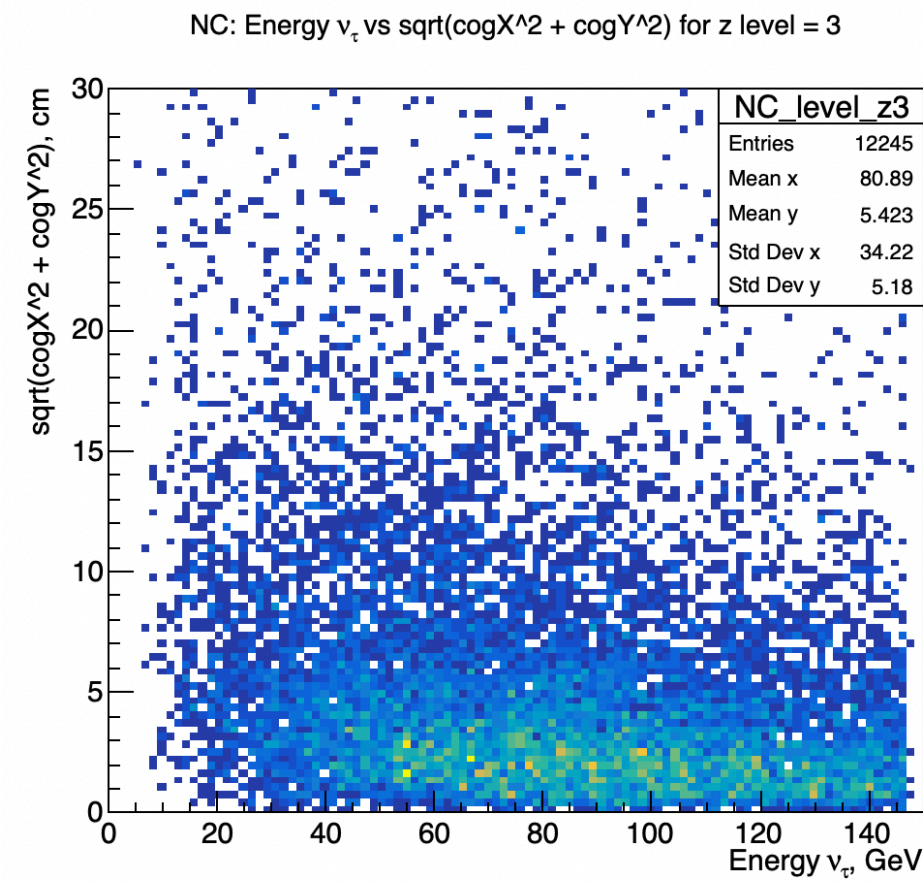
first 6 layers different scale

3 layer

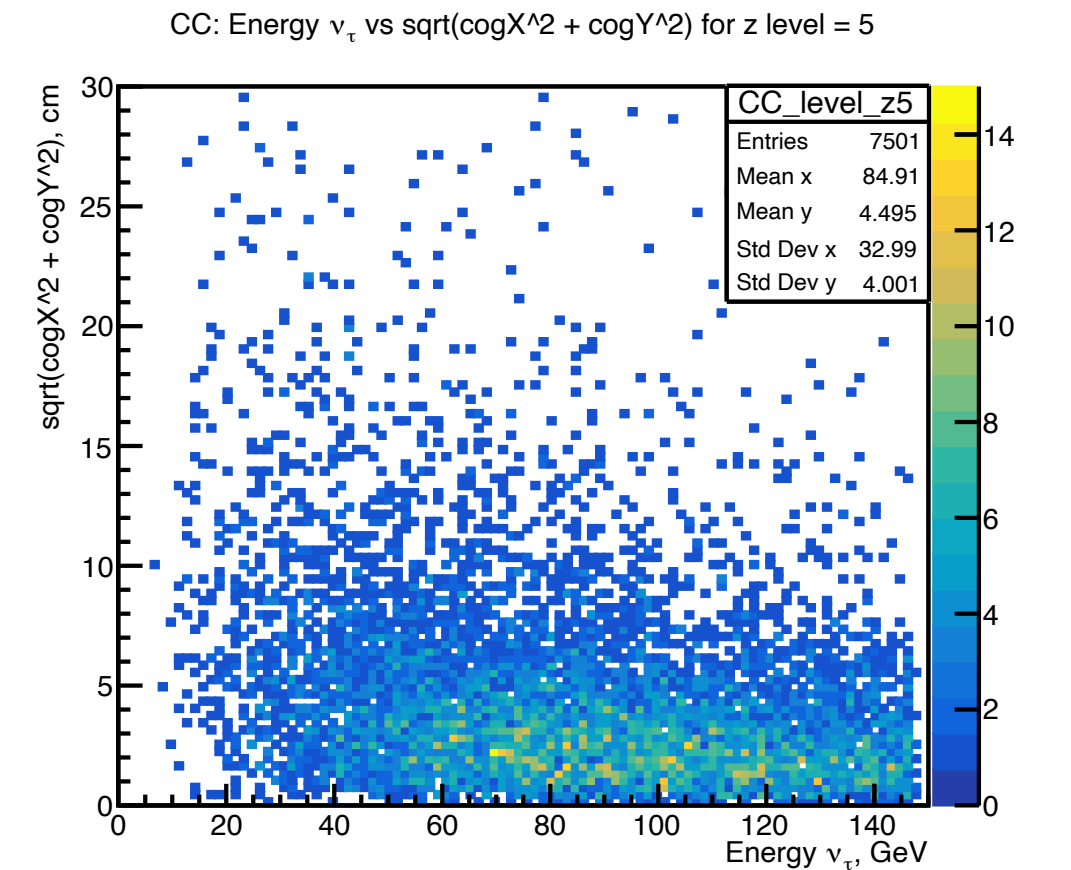
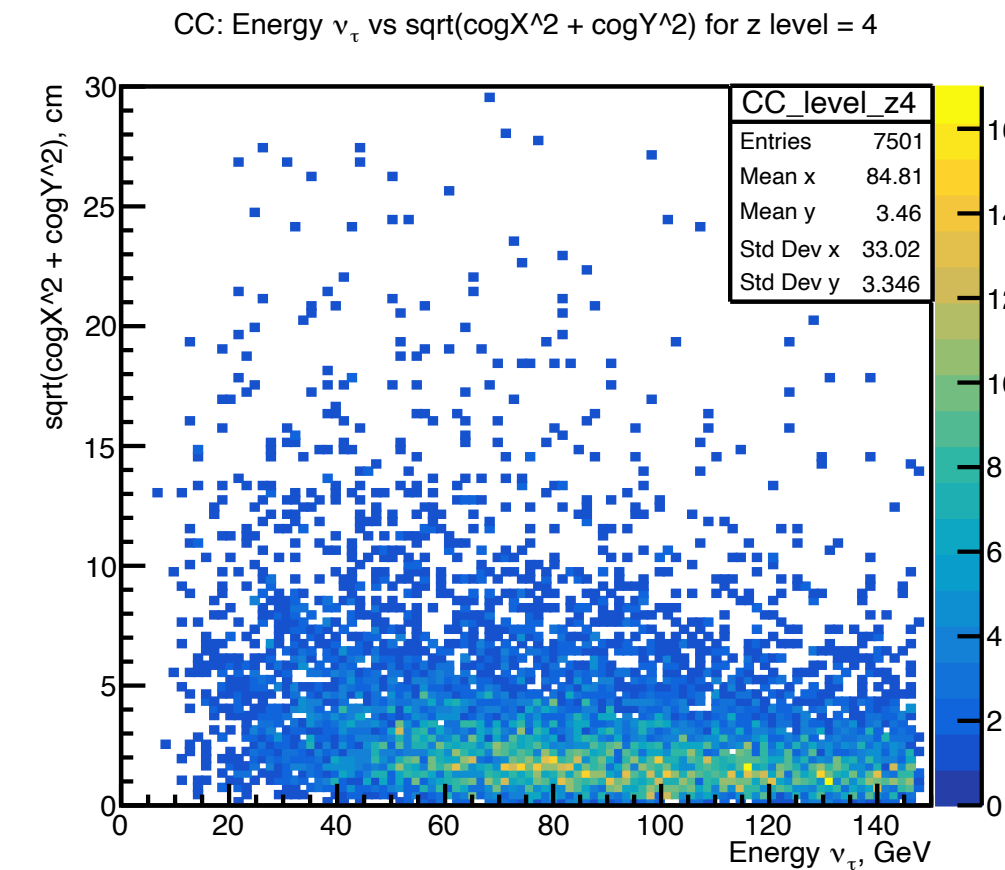
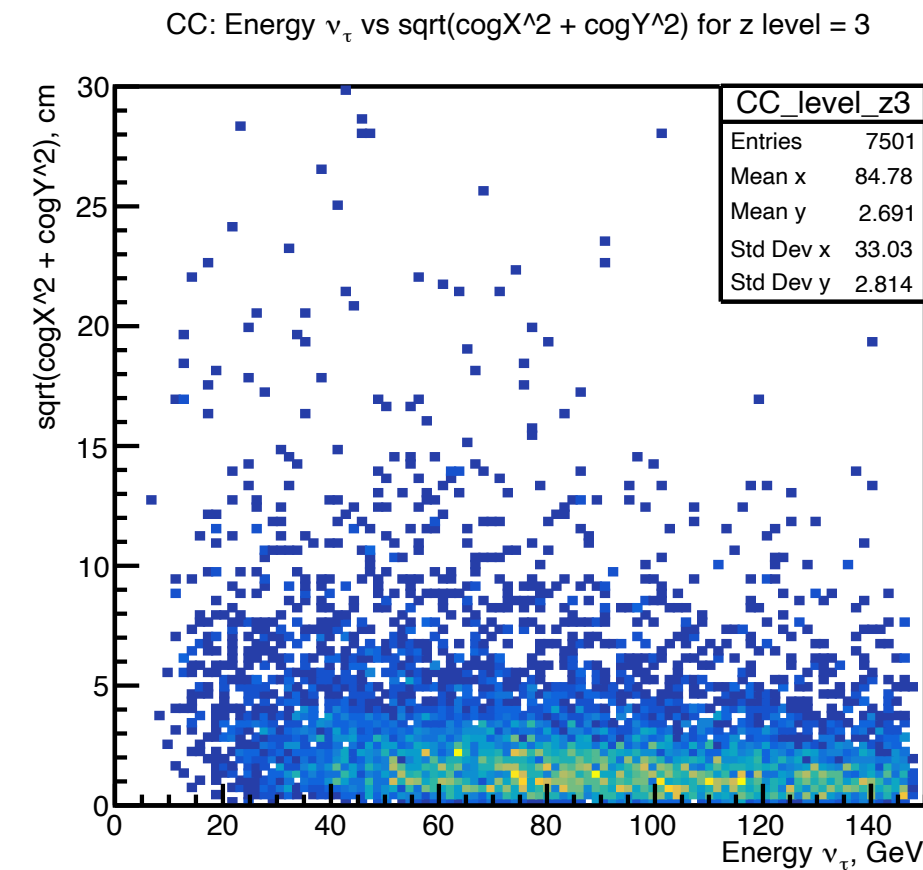
4 layer

5 layer

NC



CC



back up

correlation cogXY to edep

аналогично для эллипса

длина большой оси 1d Hist на разных уровнях

длина большой оси корреляция от 92 и 16 первичное