AMD analysis

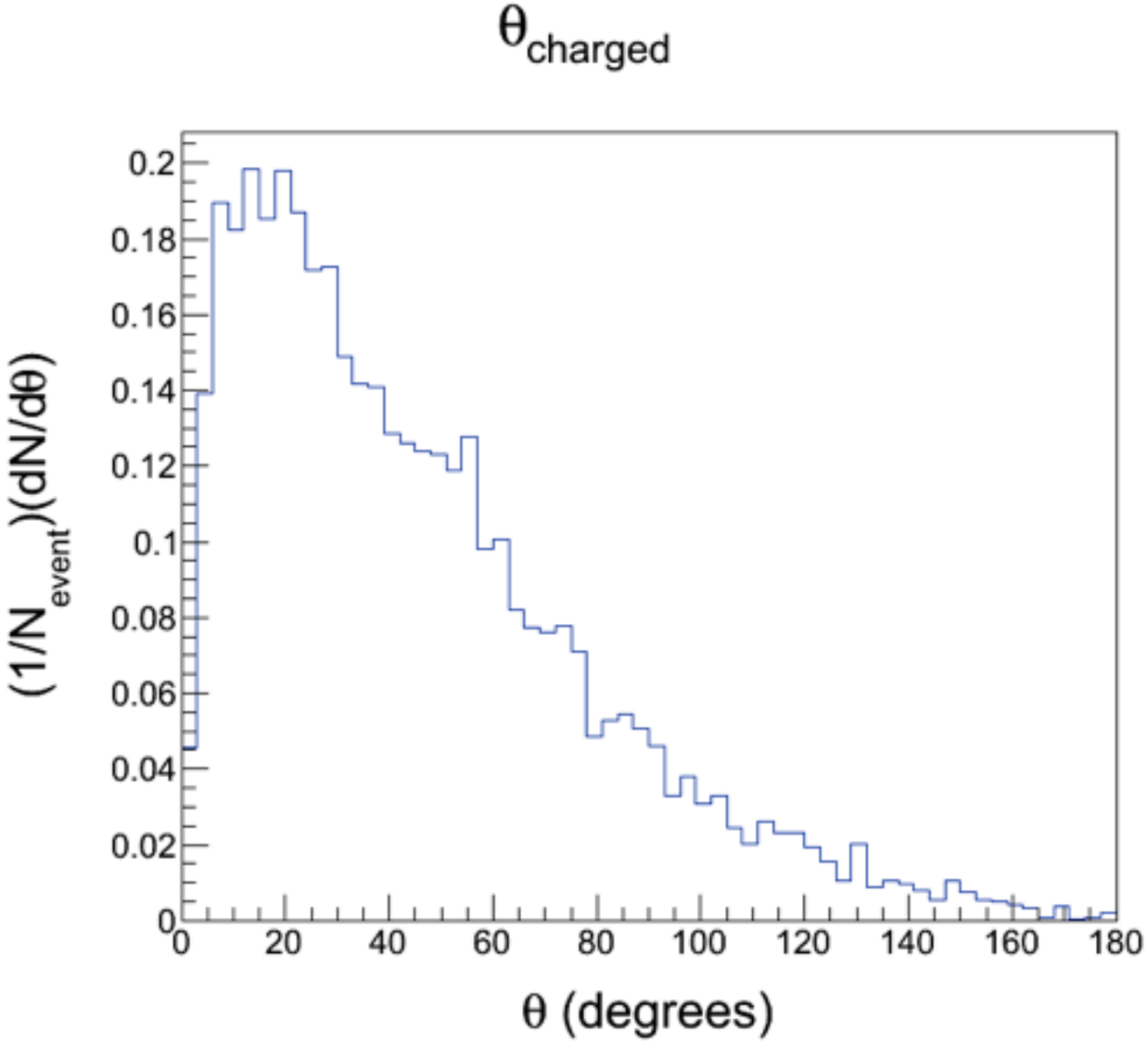
Park JaeBeom - 2014_02_21

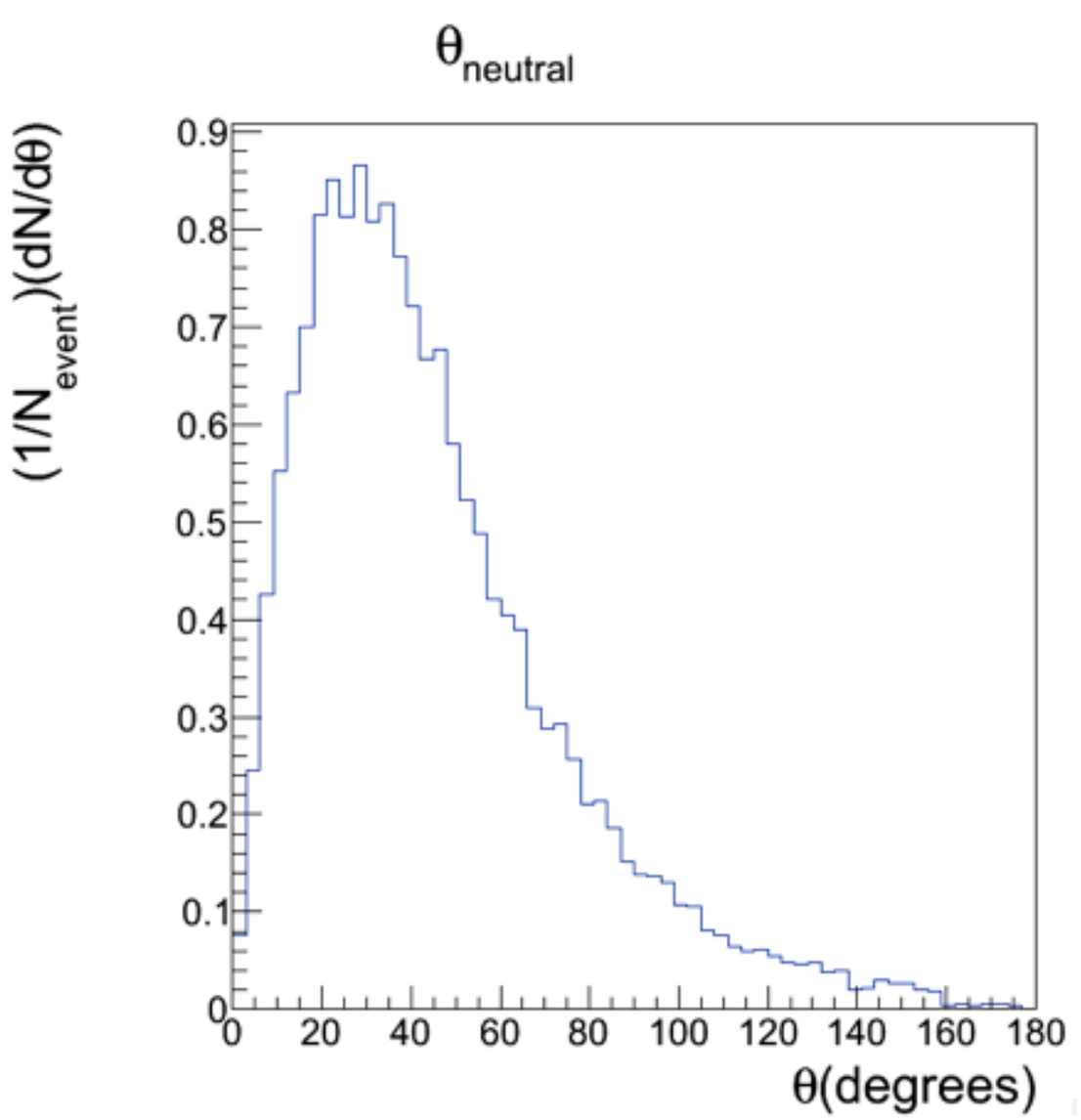
$^{132}Sn+^{124}Sn$

- N_{event} : 2010
- N : 124715 <N>=62.047
- $N_{neutron}$: 100063 (80.23%) $< N_{neutron} >$=49.783
- $N_{charged}$: 24652 (19.77%) $< N_{charged} >$=12.265
- N_{proton} : 10478 (8.40%) $< N_{proton} >$=5.213

Theta

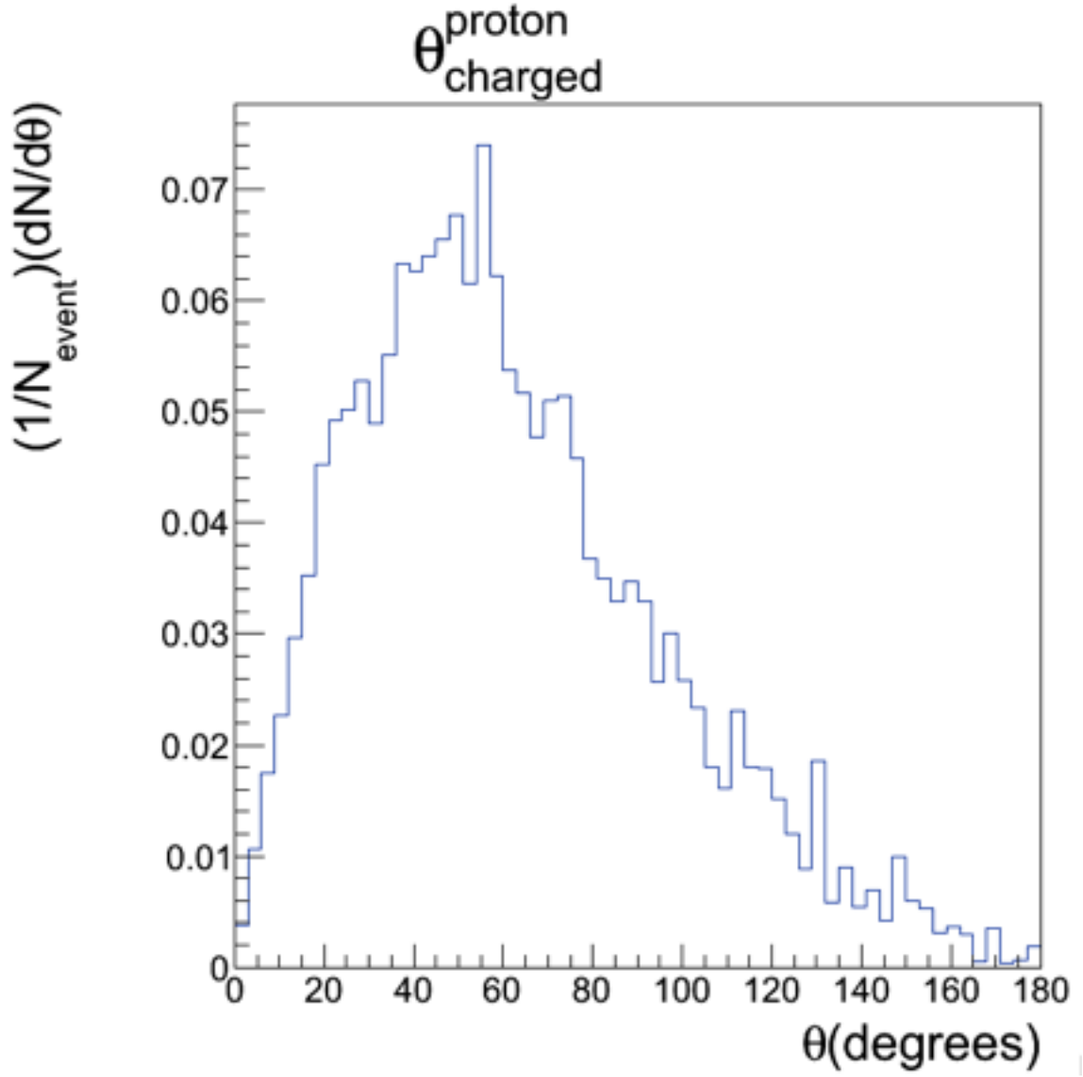
(number of bins : 60)

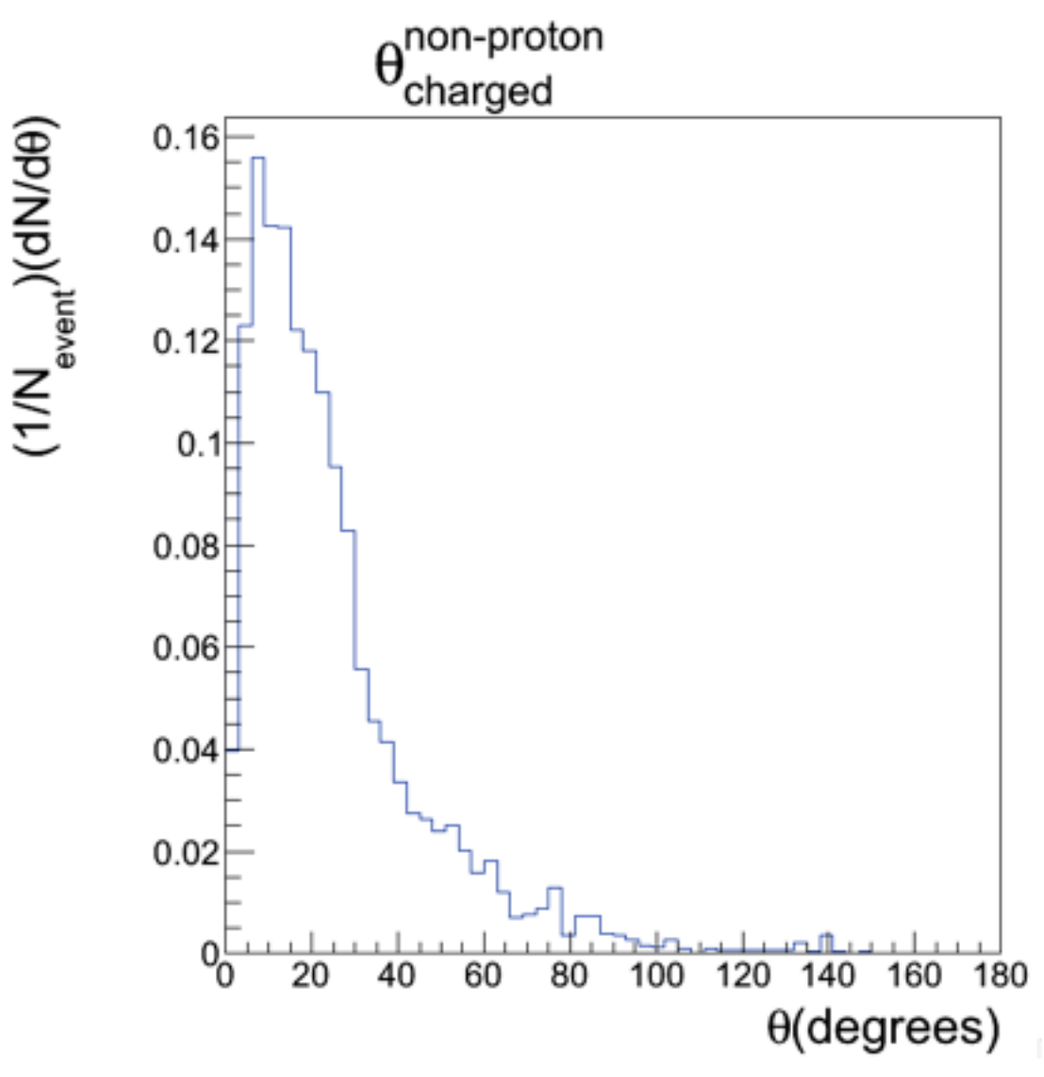




Theta (Charged)

(number of bins : 60)

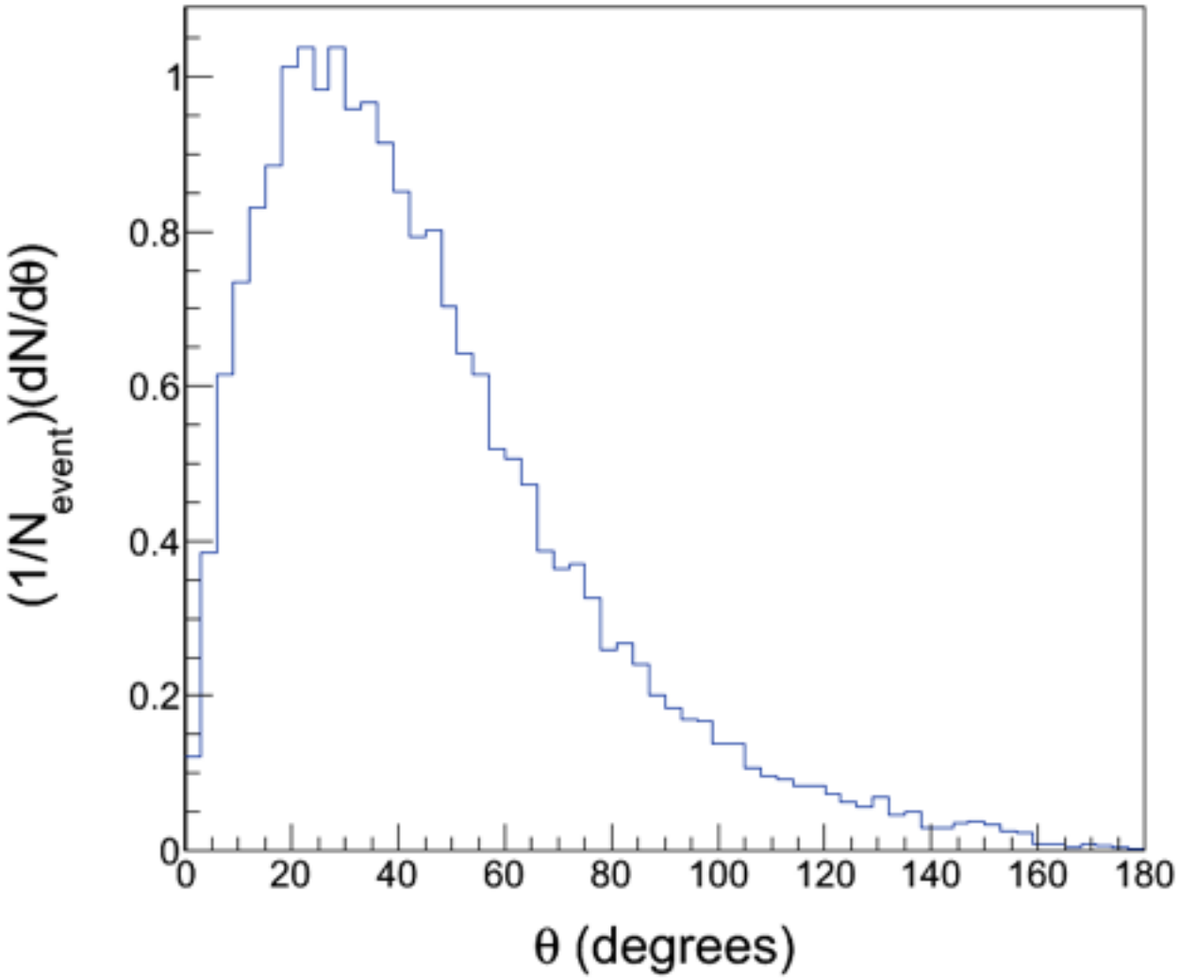




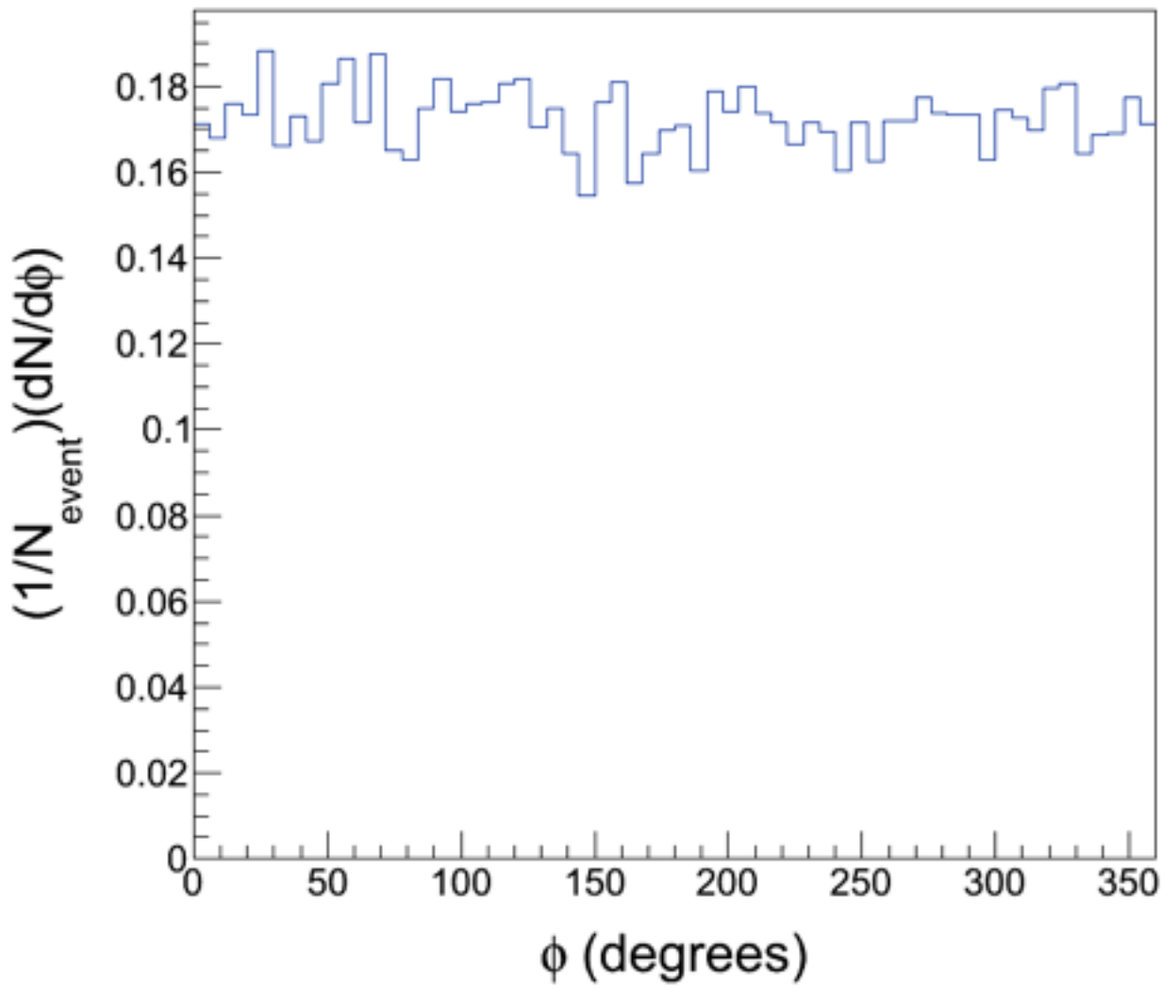
Theta/Phi

(All Particles, number of bins : 60)

θ

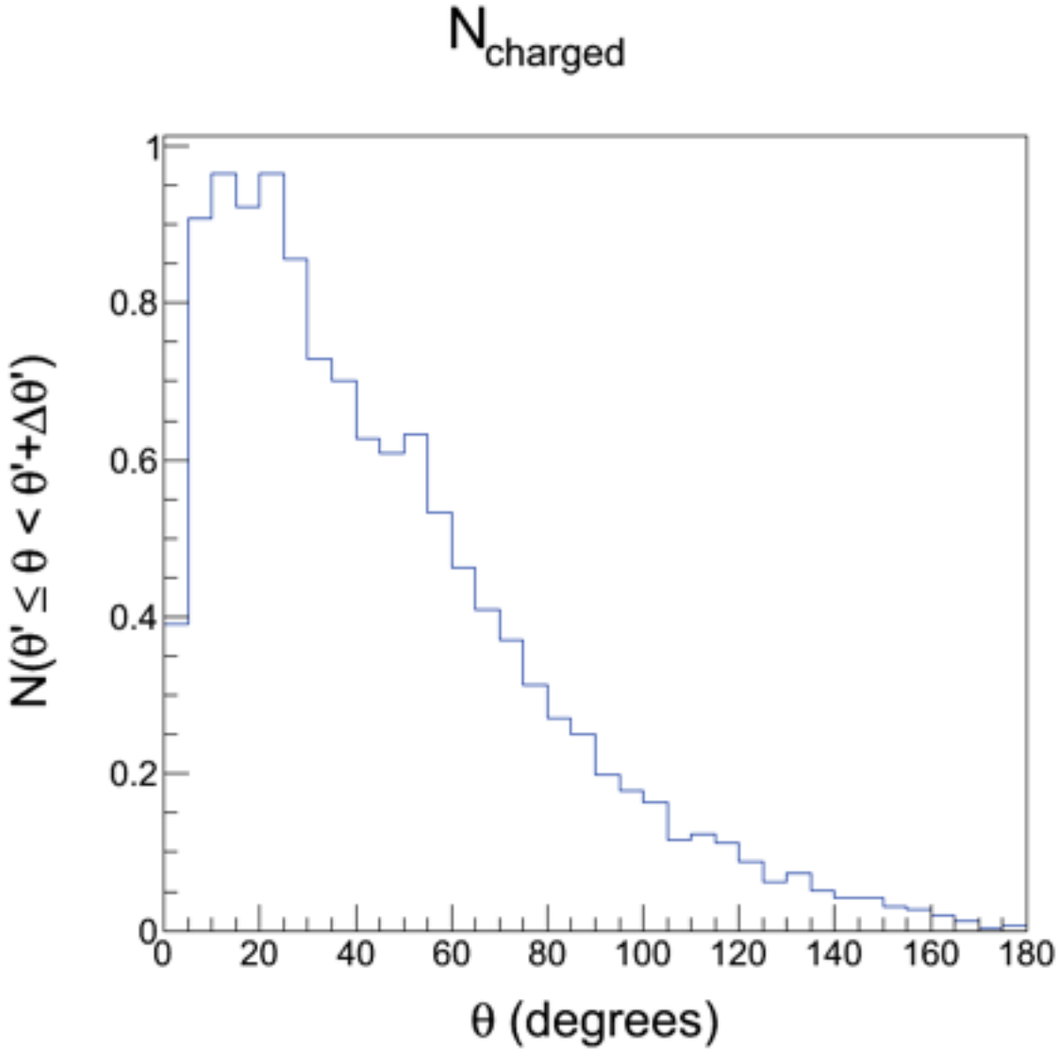


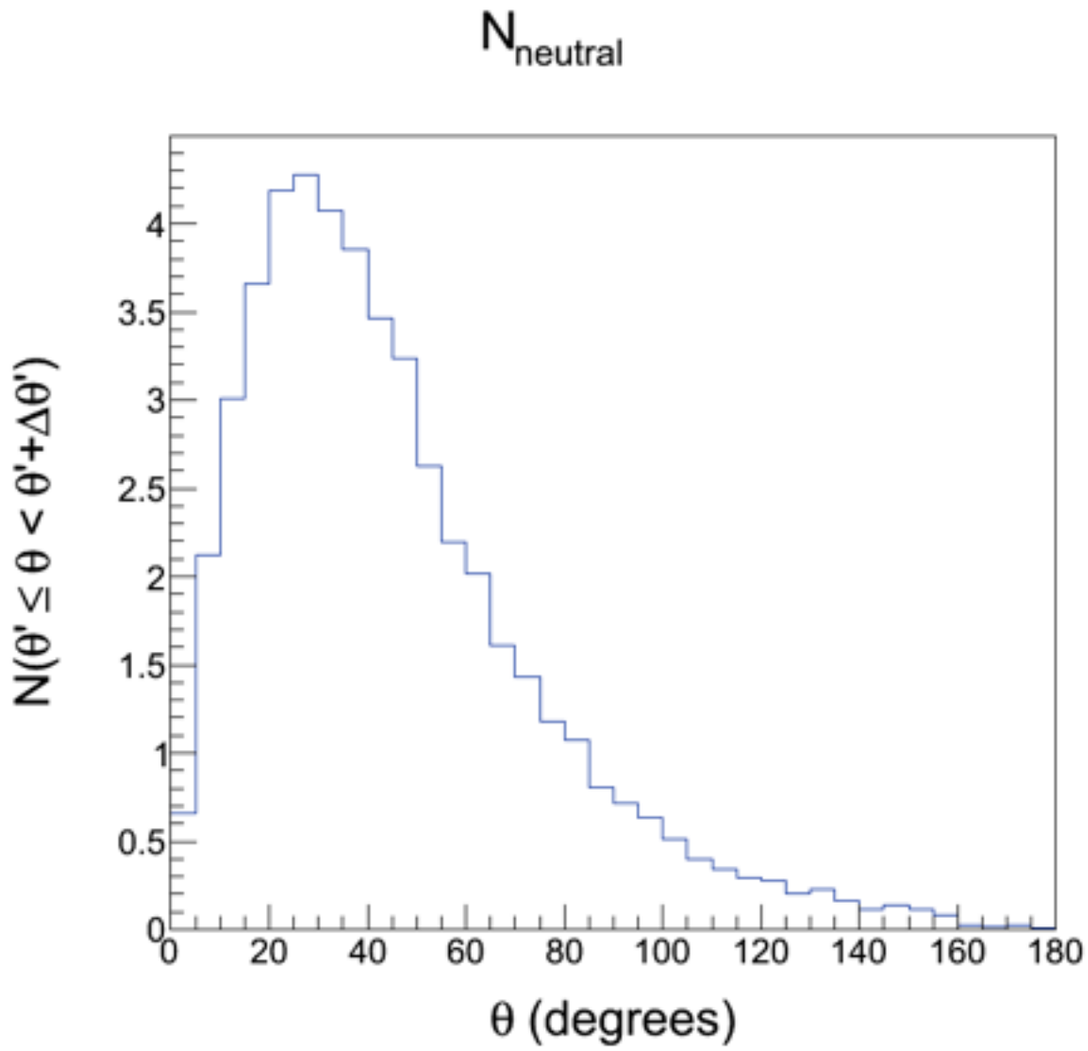
ϕ



Theta Division

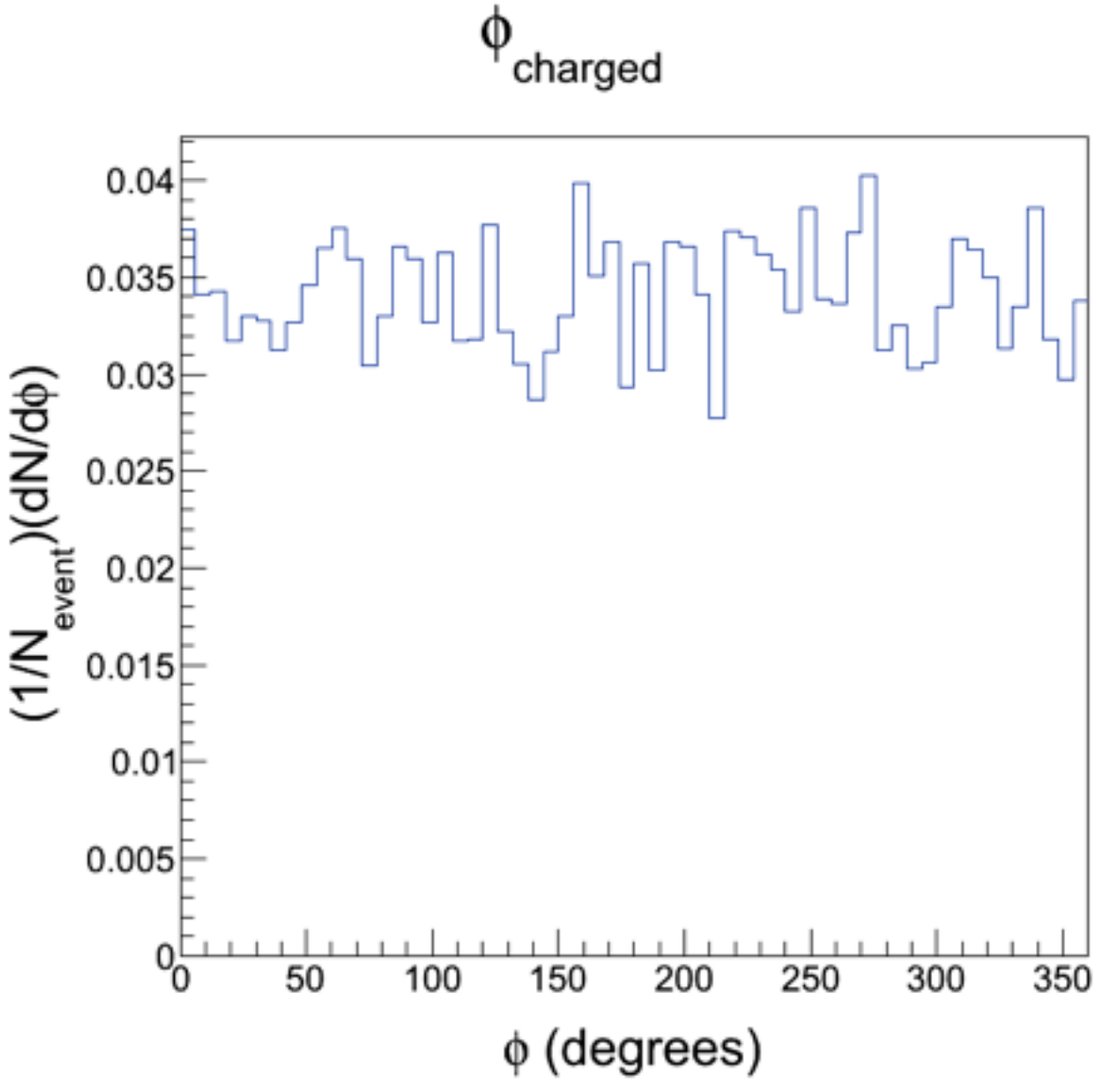
(5 Degree cut)

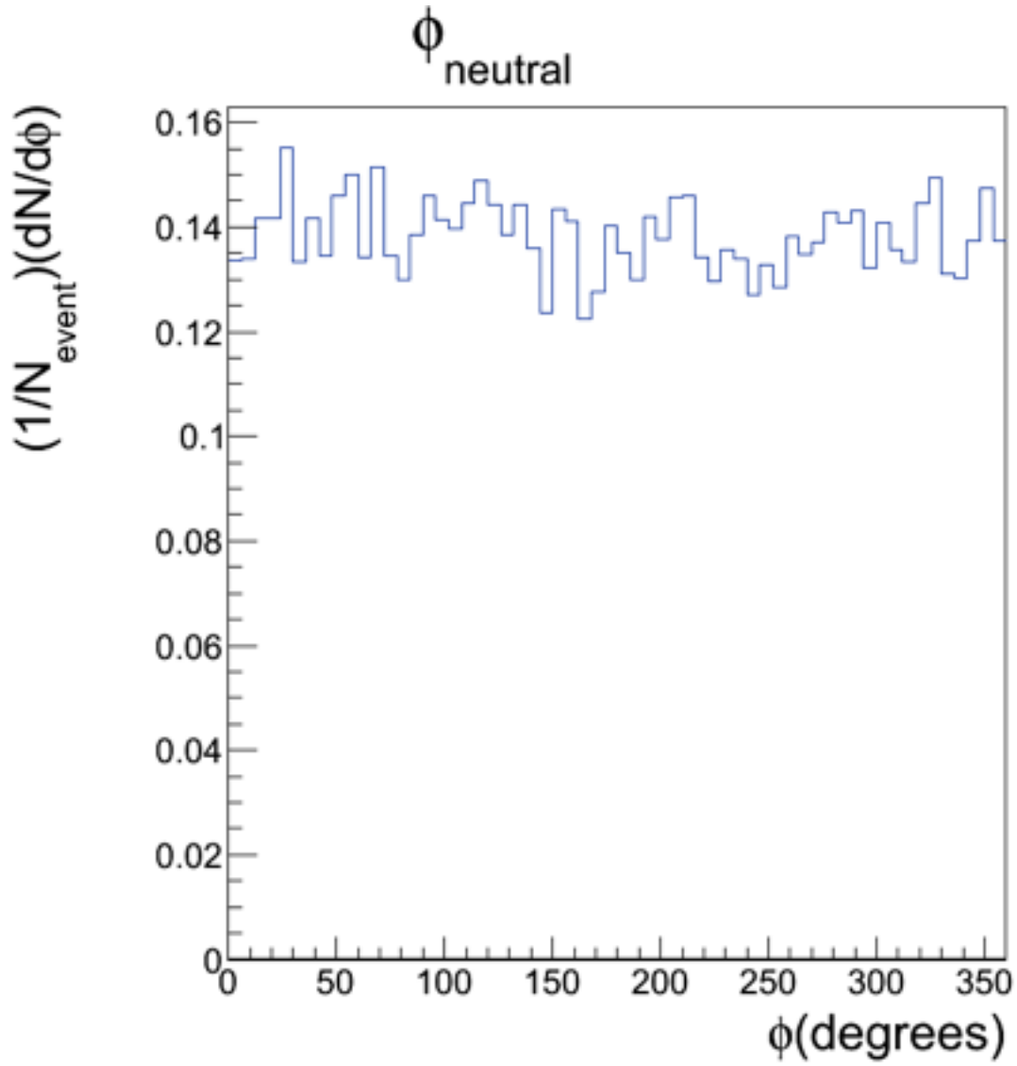




Phi

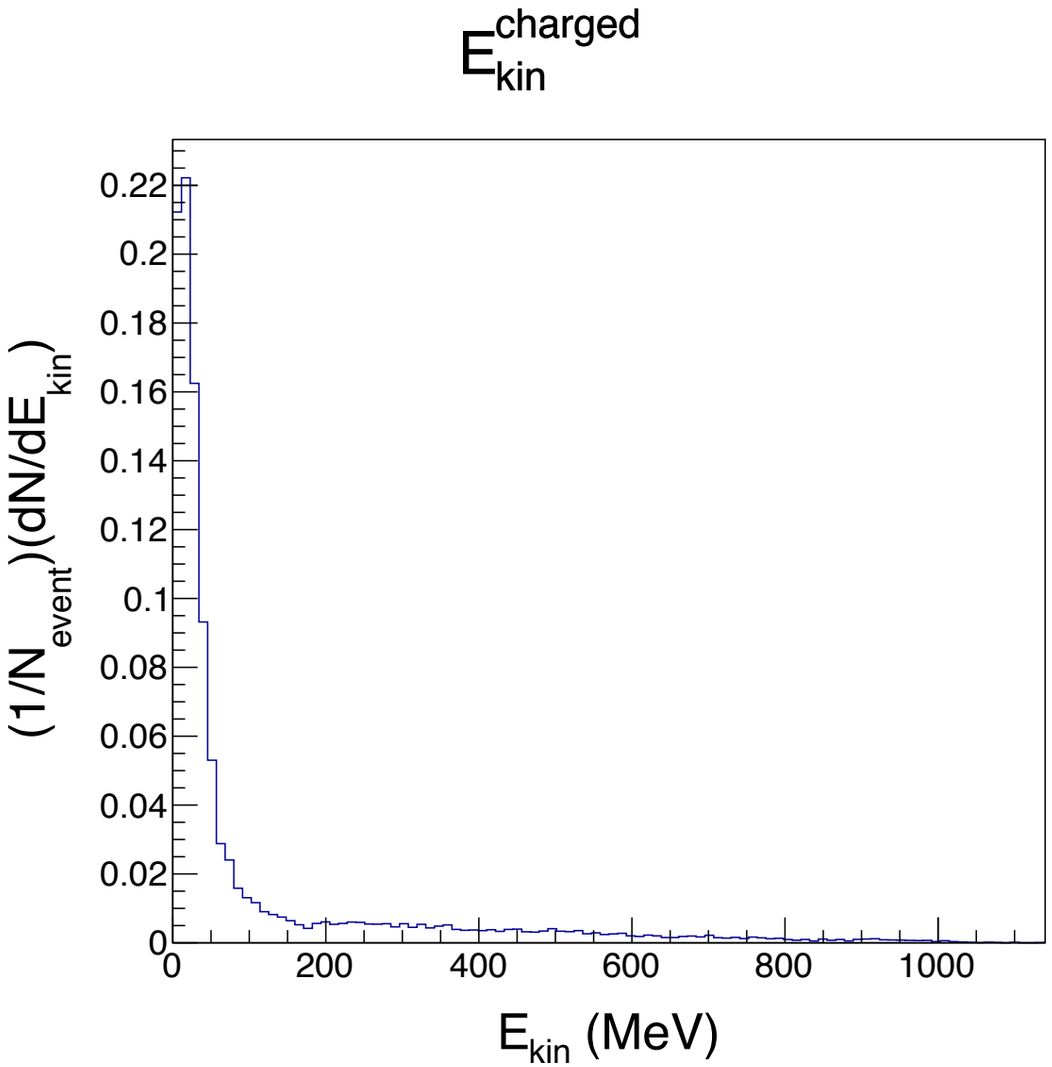
(number of bins : 60)

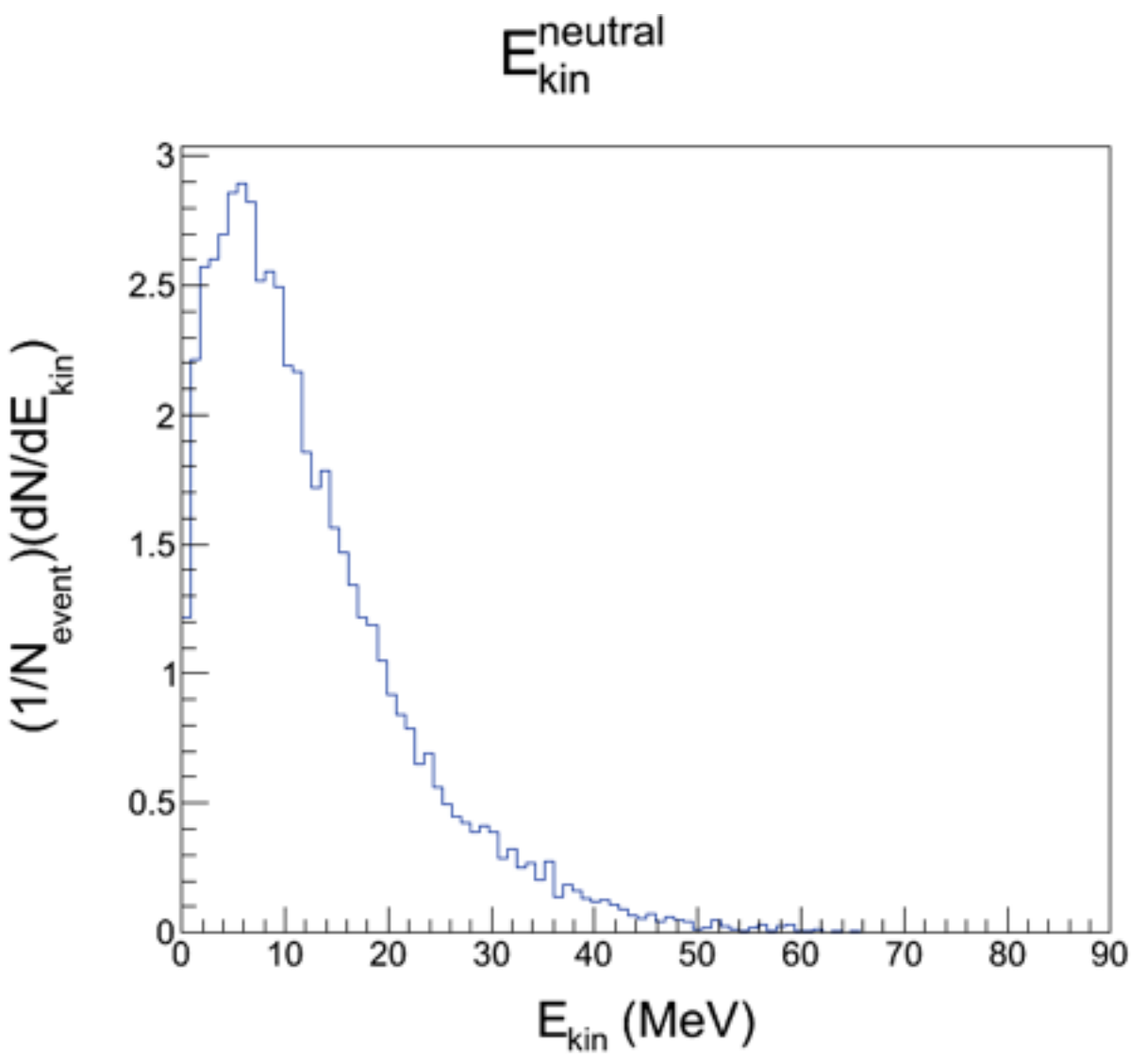




Kinetic Energy

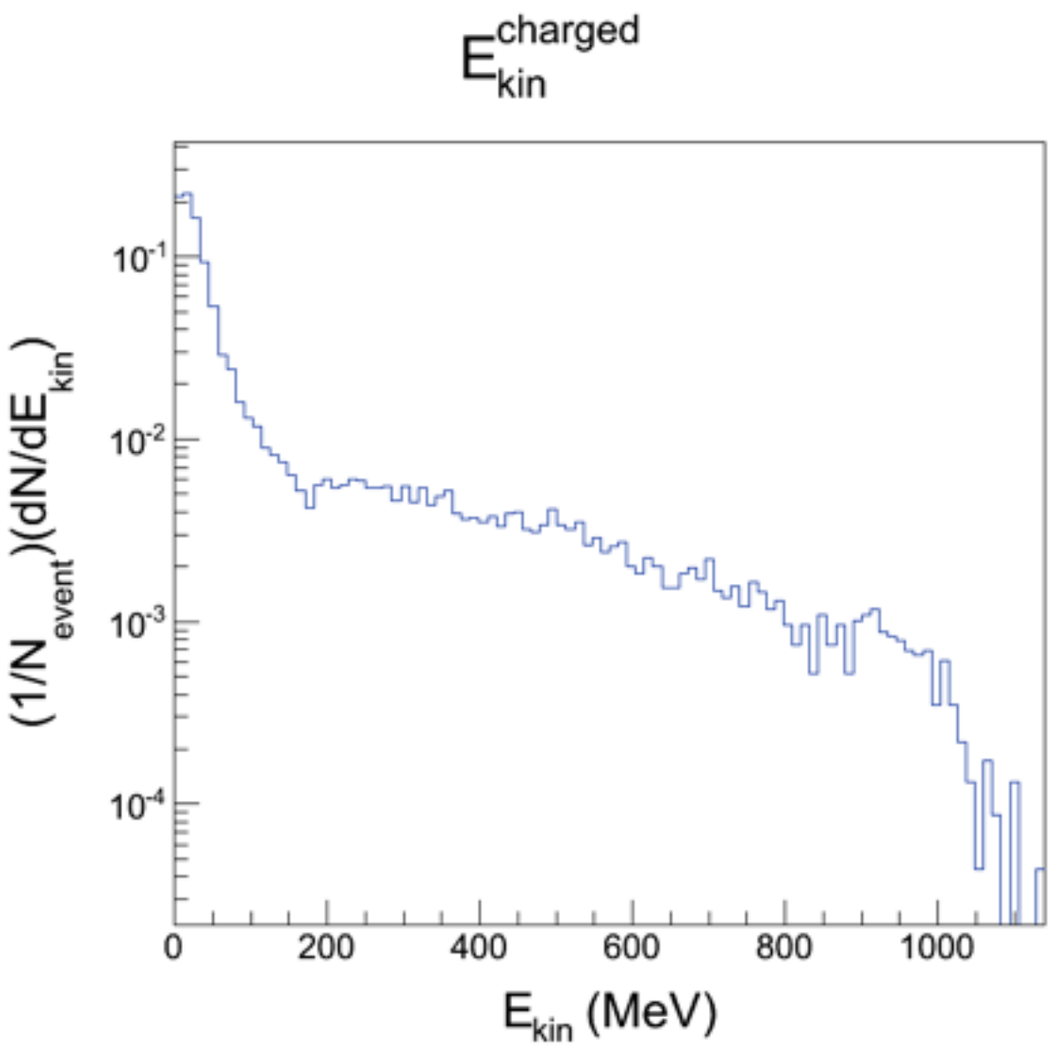
(number of bins : 100)

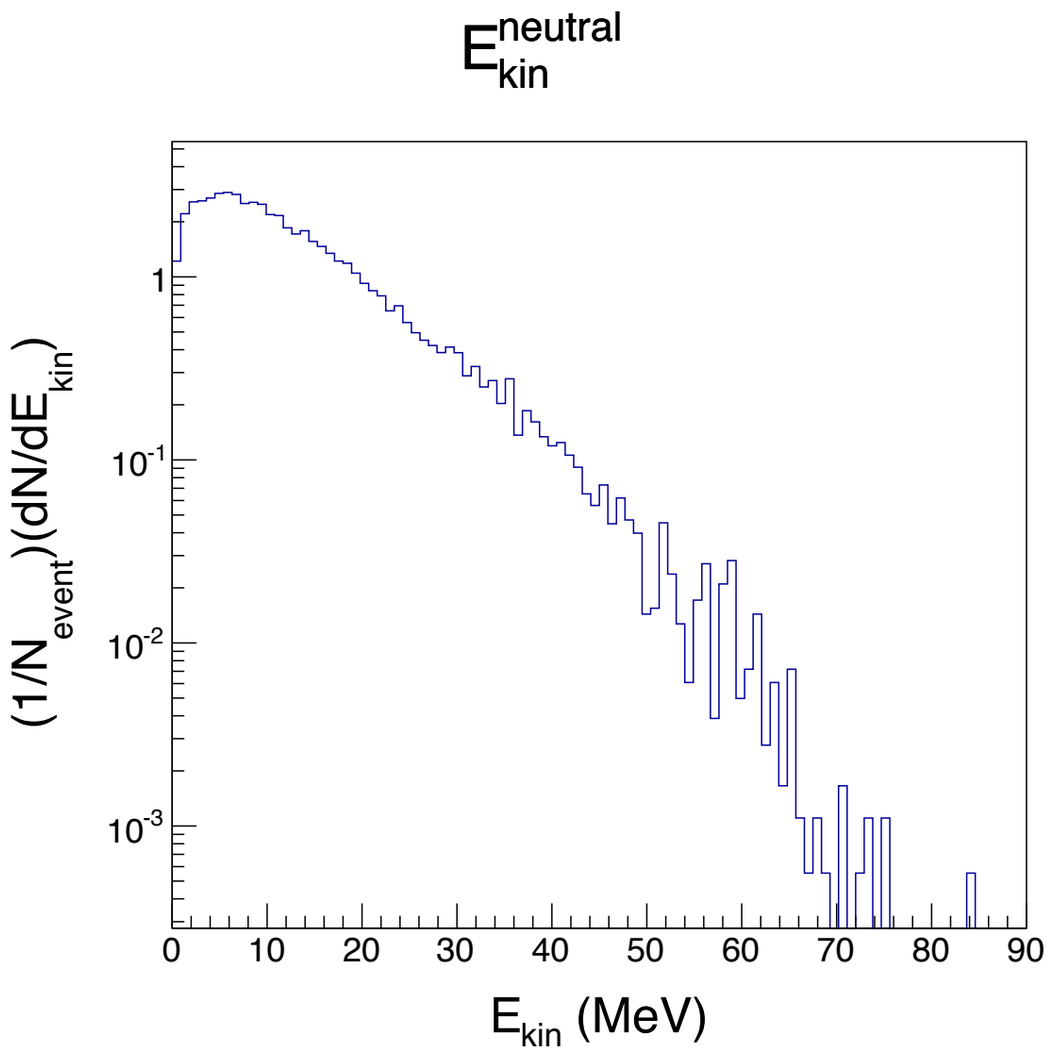




Kinetic Energy

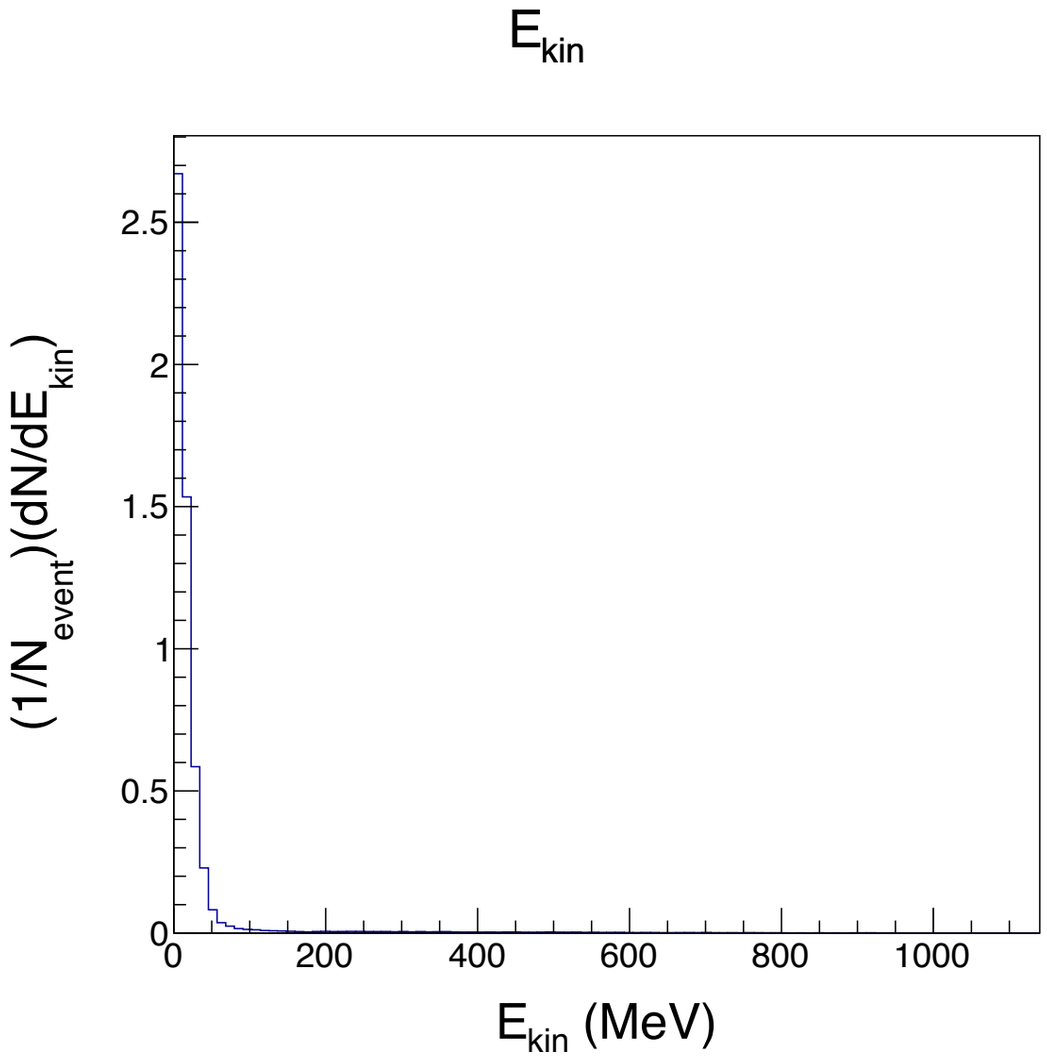
(number of bins : 100 - in log scale)

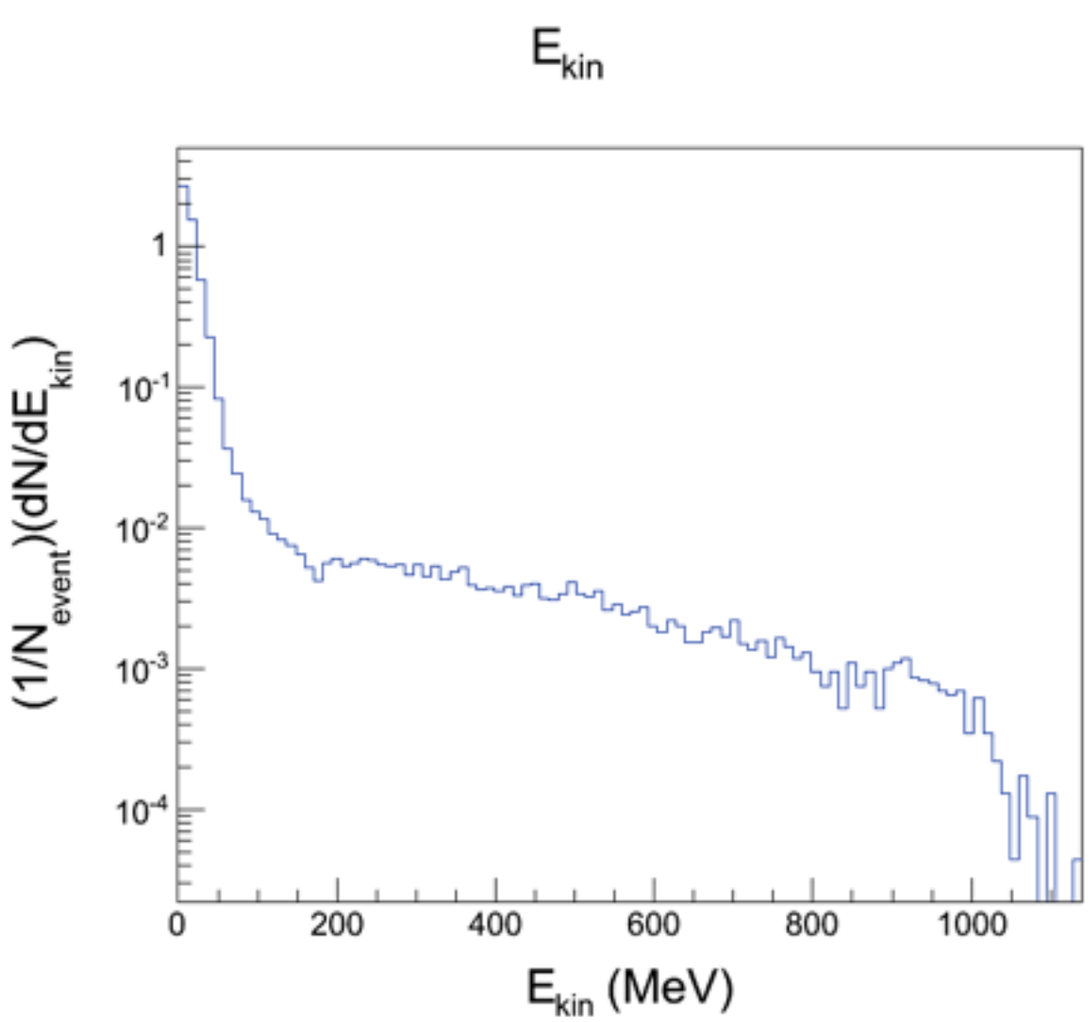




Kinetic Energy

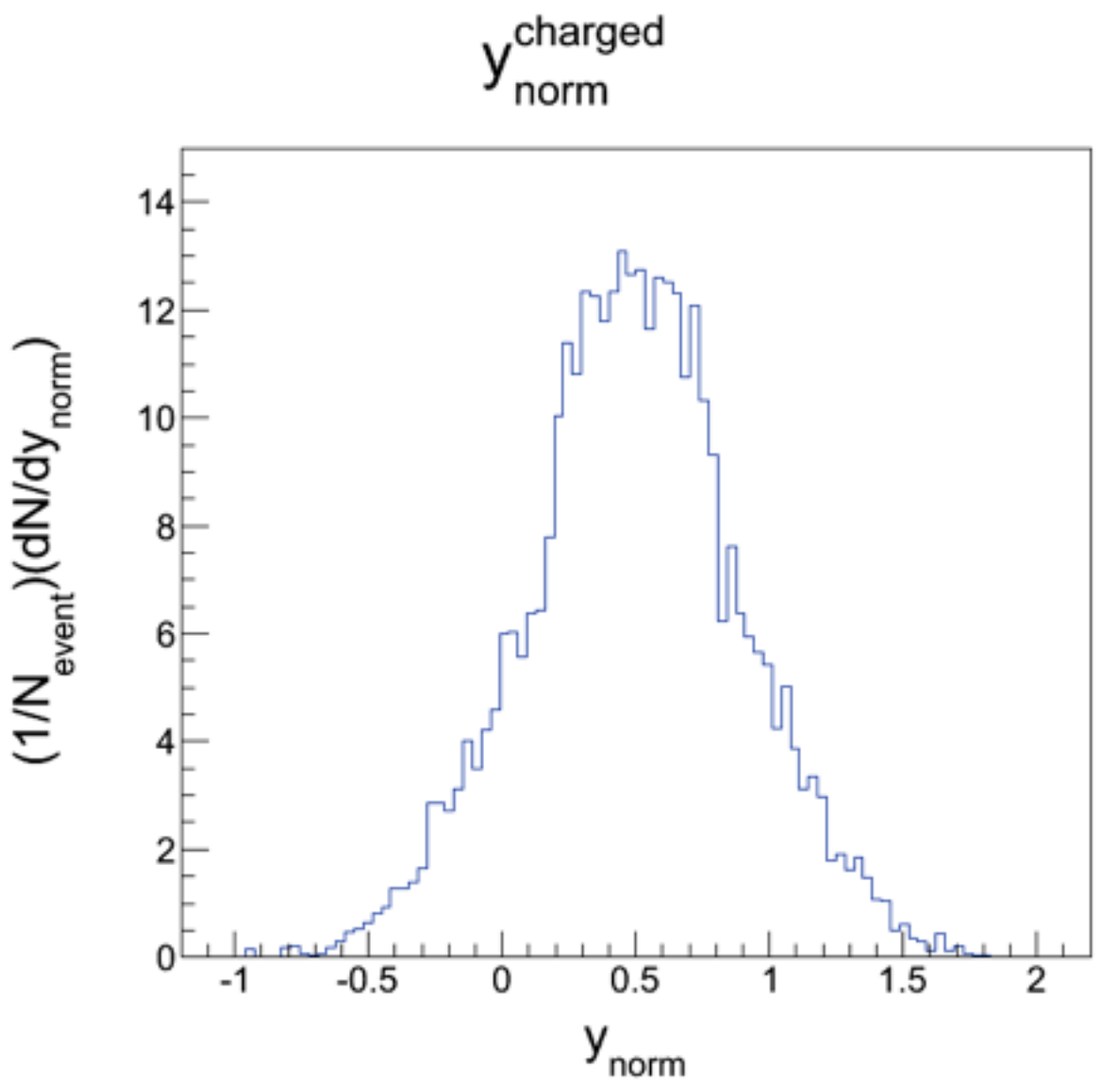
(All Particles, number of bins : 100)

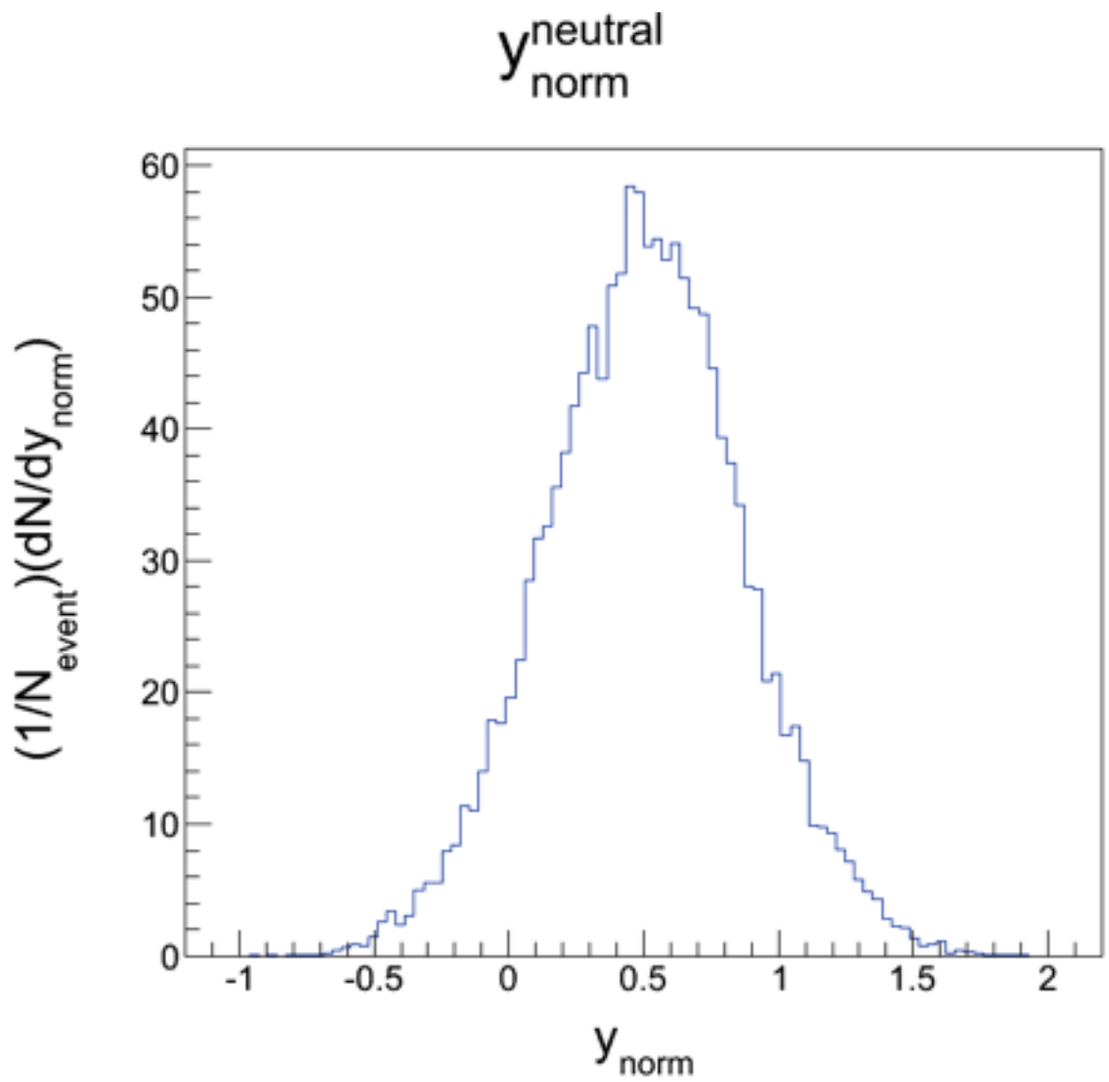




Rapidity

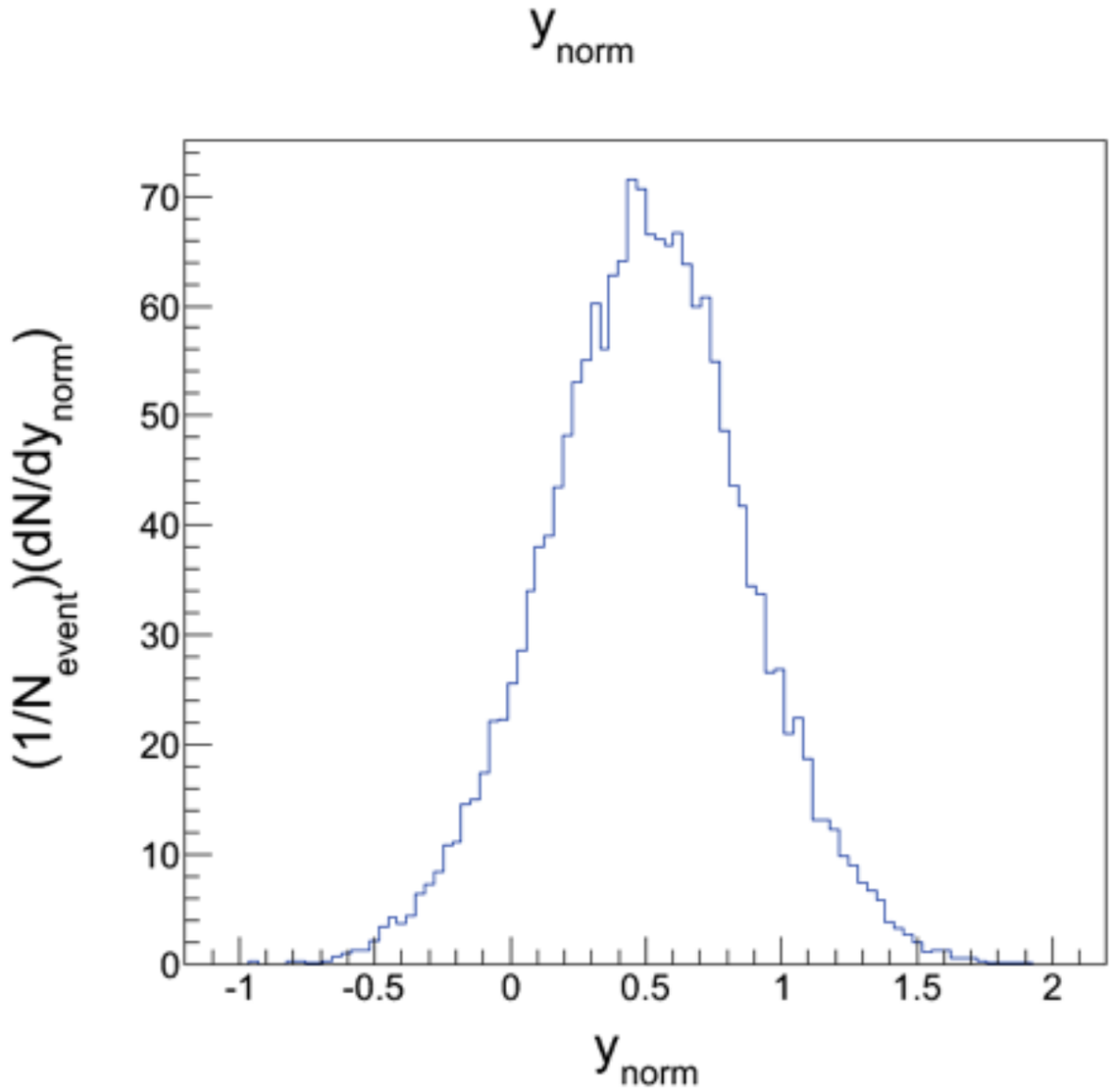
(number of bins : 100)





Rapidity

(All Particles, number of bins : 100)



Number of particles detected by each detector by one event.

$< N_{charged} > = N_{Det} \times R$, Occupancy : R = 0.05 (5%)

Bin	N(△θ)	N_Det N(△θ)/R	N_Det	Φ(△θ) = 360°/N_Det
1 : (10°<θ<20°)	1.8876	37.752	38	9.4737
2 : (20°<θ<30°)	1.8219	36.438	36	10.0000
3 : (30°<θ<40°)	1.4303	28.606	29	12.4138
4 : (40°<θ<50°)	1.2363	24.726	25	14.4000
5 : (50°<θ<60°)	1.1657	23.314	23	15.6522
6 : (60°<θ<75°)	1.2413	24.826	25	14.4000
7 : (75°<θ<90°)	0.8343	16.686	17	21.1765
8 : (90°<θ<115°)	0.7811	15.622	16	22.5000
9 : (115°<θ<145°)	0.4269	8.538	9	40.0000

Number of particles detected by each detector by one event.

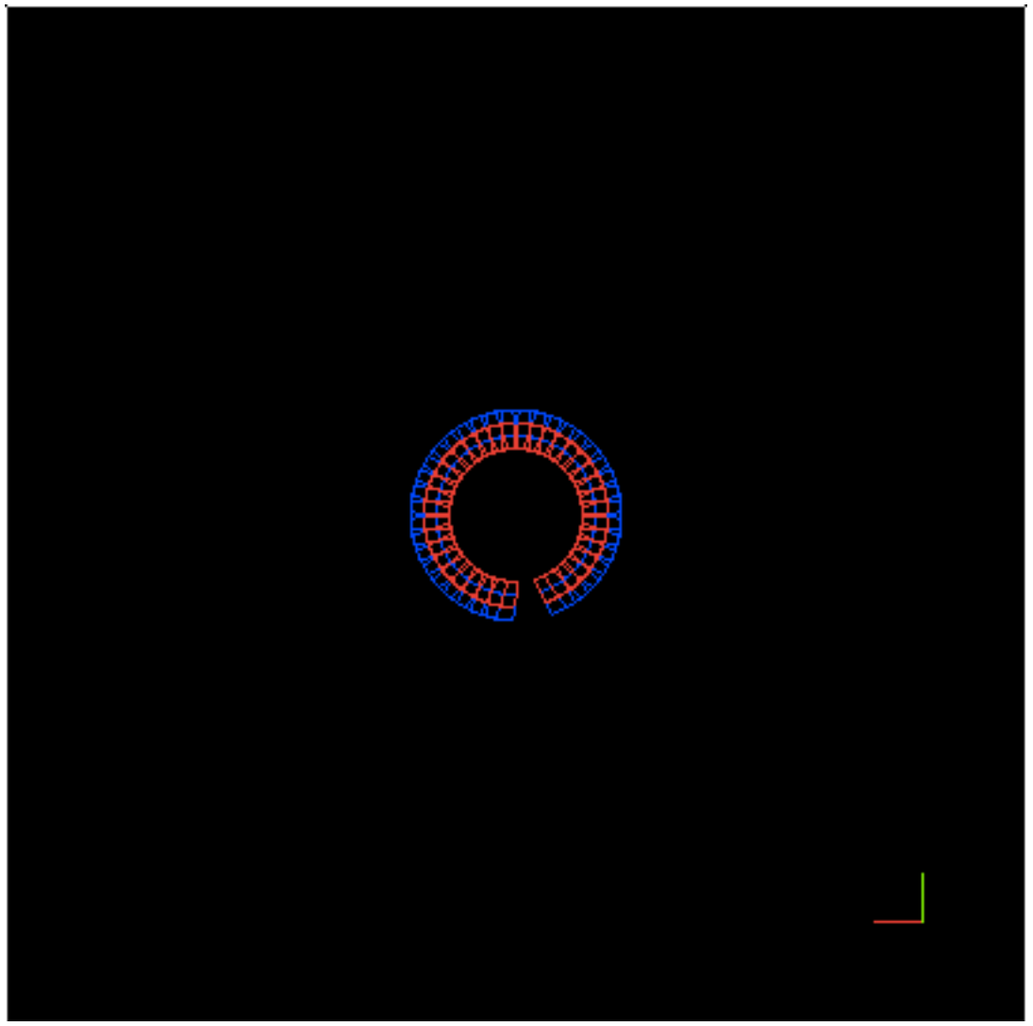
$< N_{charged} > = N_{Det} \times R$, Occupancy : R = 0.05 (5%)

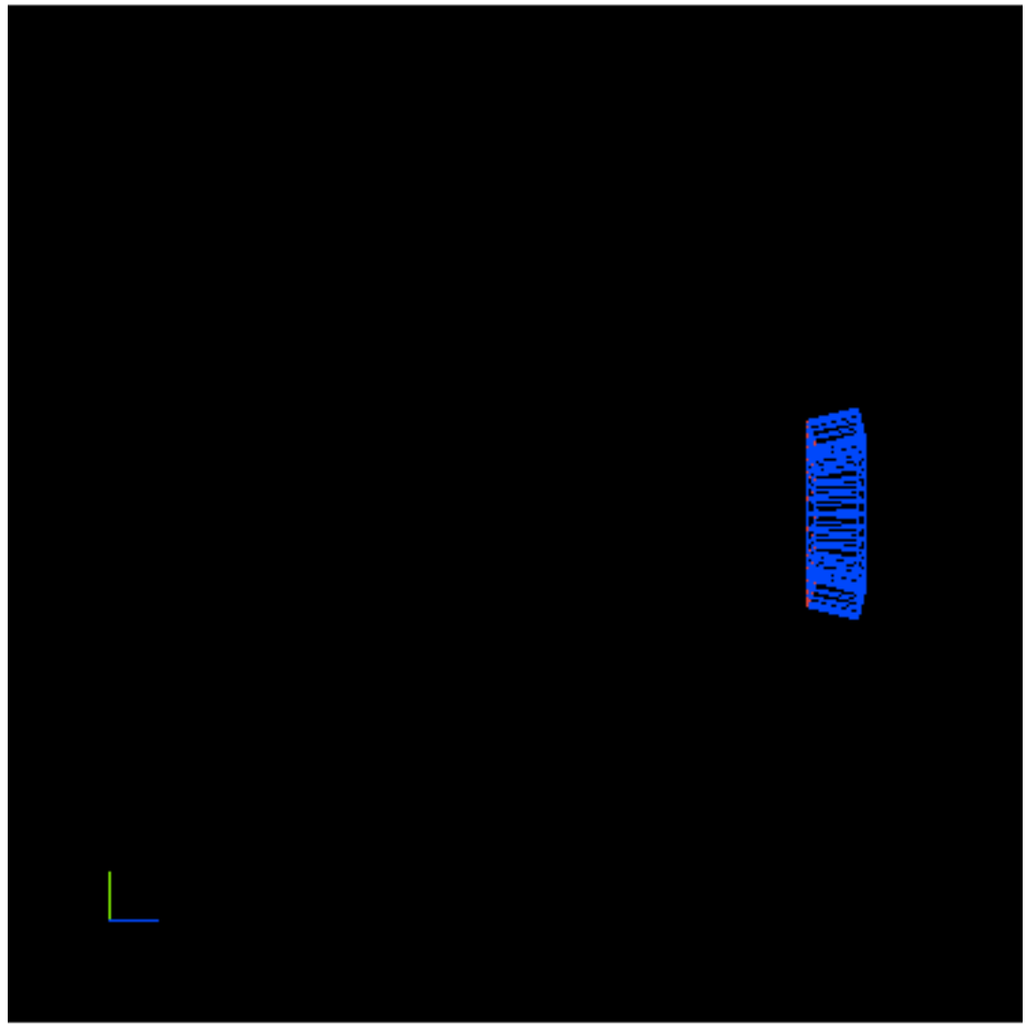
Bin	N(△θ)	N_Det	Φ(△θ) = 360°/N_Det	S (cm^2)	X(cm)
1 : (10°<θ<20°)	1.8876	38	9.4737	11.57	2.59
2 : (20°<θ<30°)	1.8219	36	10.0000	11.57	3.40
3 : (30°<θ<40°)	1.4303	29	12.4138	19.50	4.41
4 : (40°<θ<50°)	1.2363	25	14.4000	27.88	5.28
5 : (50°<θ<60°)	1.1657	23	15.6522	35.10	5.92
6 : (60°<θ<75°)	1.2413	25	14.4000	54.55	7.38
7 : (75°<θ<90°)	0.8343	17	21.1765	86.09	9.27
8 : (90°<θ<115°)	0.7811	16	22.5000	149.36	12.22
9 : (115°<θ<145°)	0.4269	9	40.0000	249.15	15.78

Si : 2.59 x 2.59 cm^2 , CsI : 2.59 x 2.59 cm^2

Si Thickness : 400μm , CsI Thickness : 5cm

Radius : 30cm , Polar angle : 10°~20°





Plan

1. Make the geant4 geometry

2.compare the AMD data with PHITS data