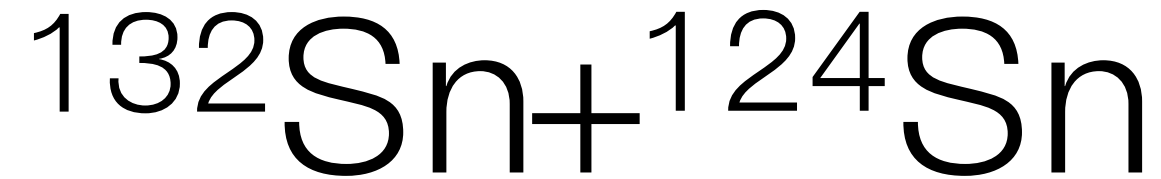


AMD analysis

Park JaeBeom

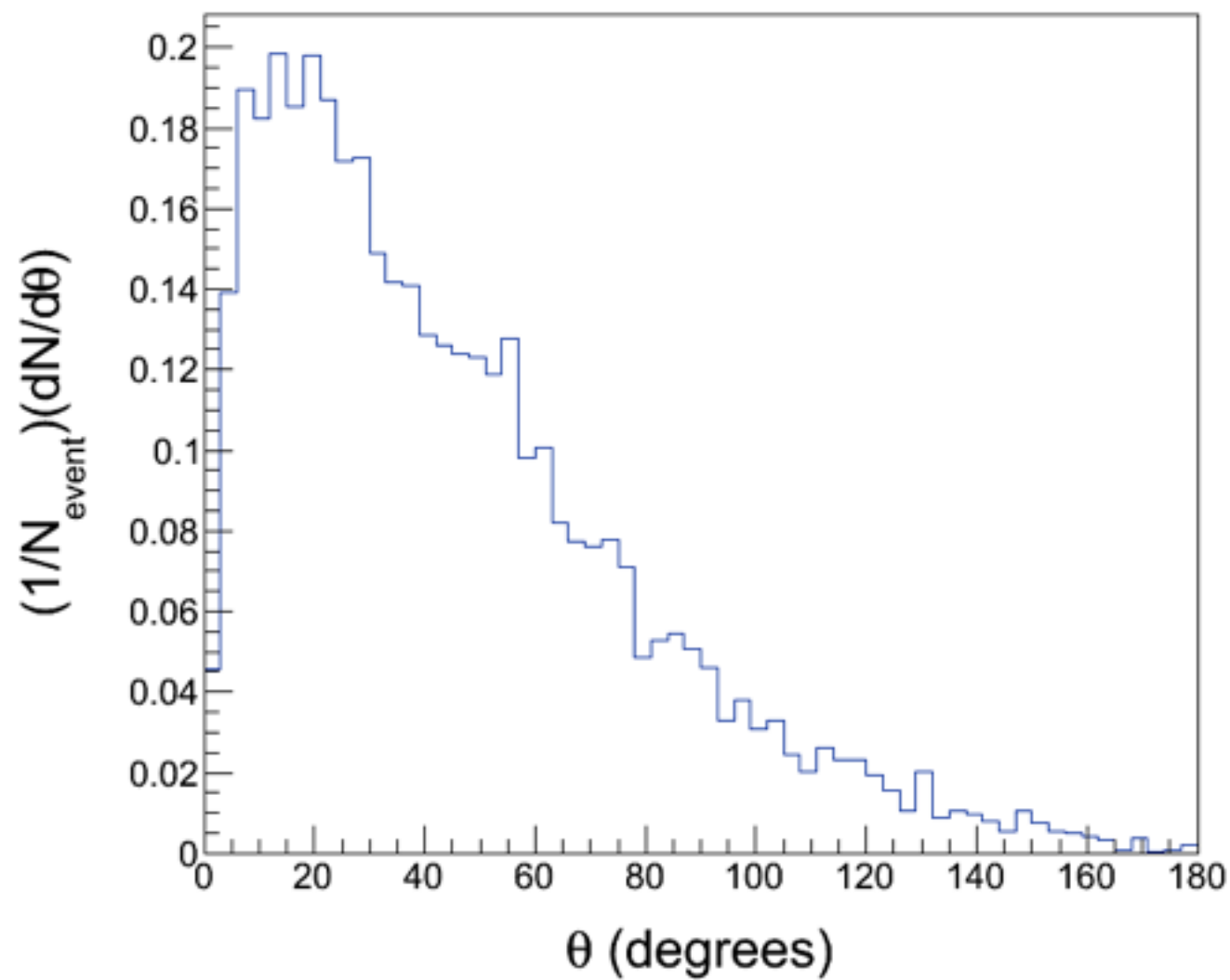


- $N_{\text{event}} : 2010$
- $N : 124715$ $\langle N \rangle = 62.047$
- $N_{\text{neutron}} : 100063$ (80.23%) $\langle N_{\text{neutron}} \rangle = 49.783$
- $N_{\text{charged}} : 24652$ (19.77%) $\langle N_{\text{charged}} \rangle = 12.265$
- $N_{\text{proton}} : 10478$ (8.40%) $\langle N_{\text{proton}}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

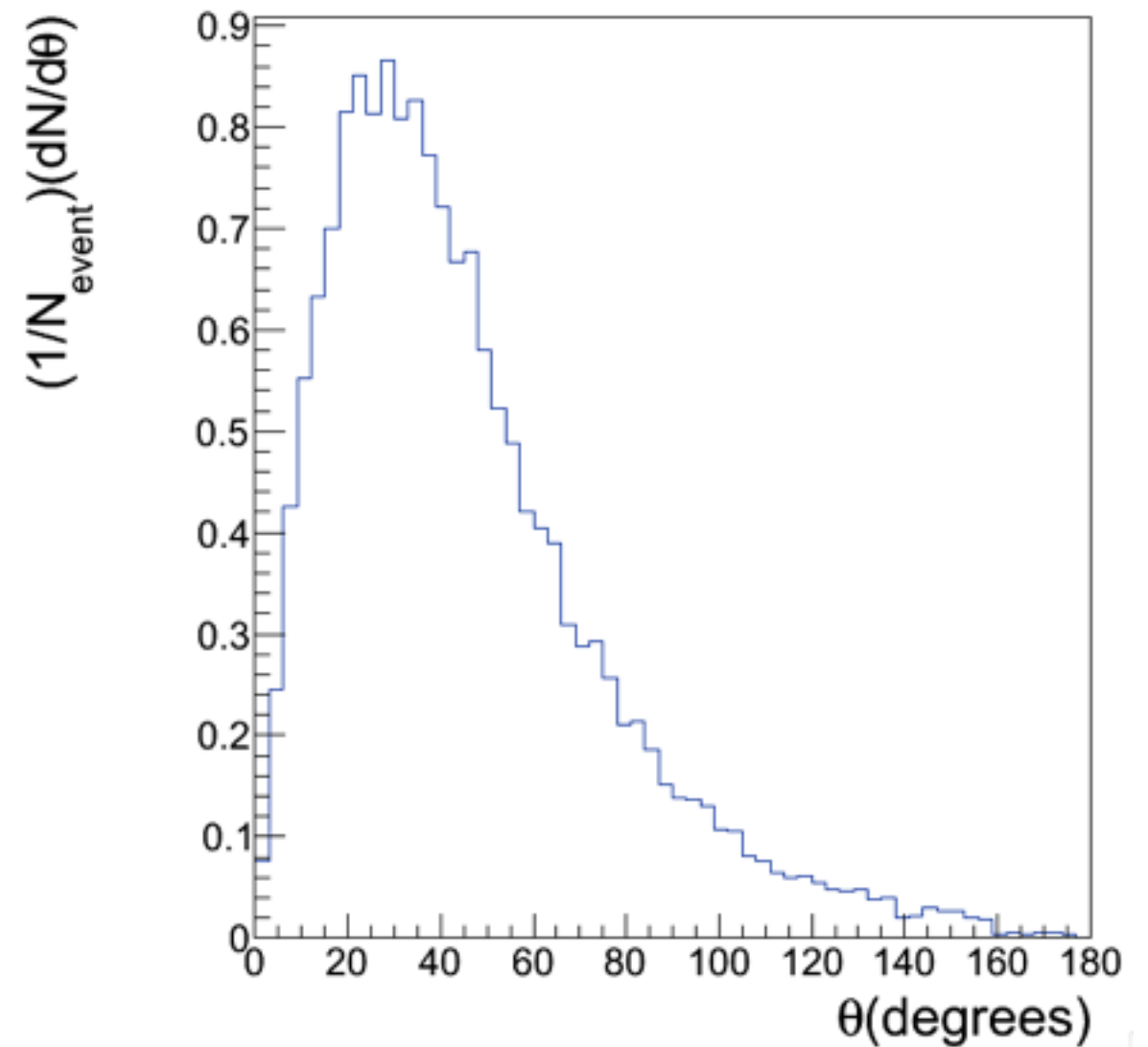
Theta

(number of bins : 60)

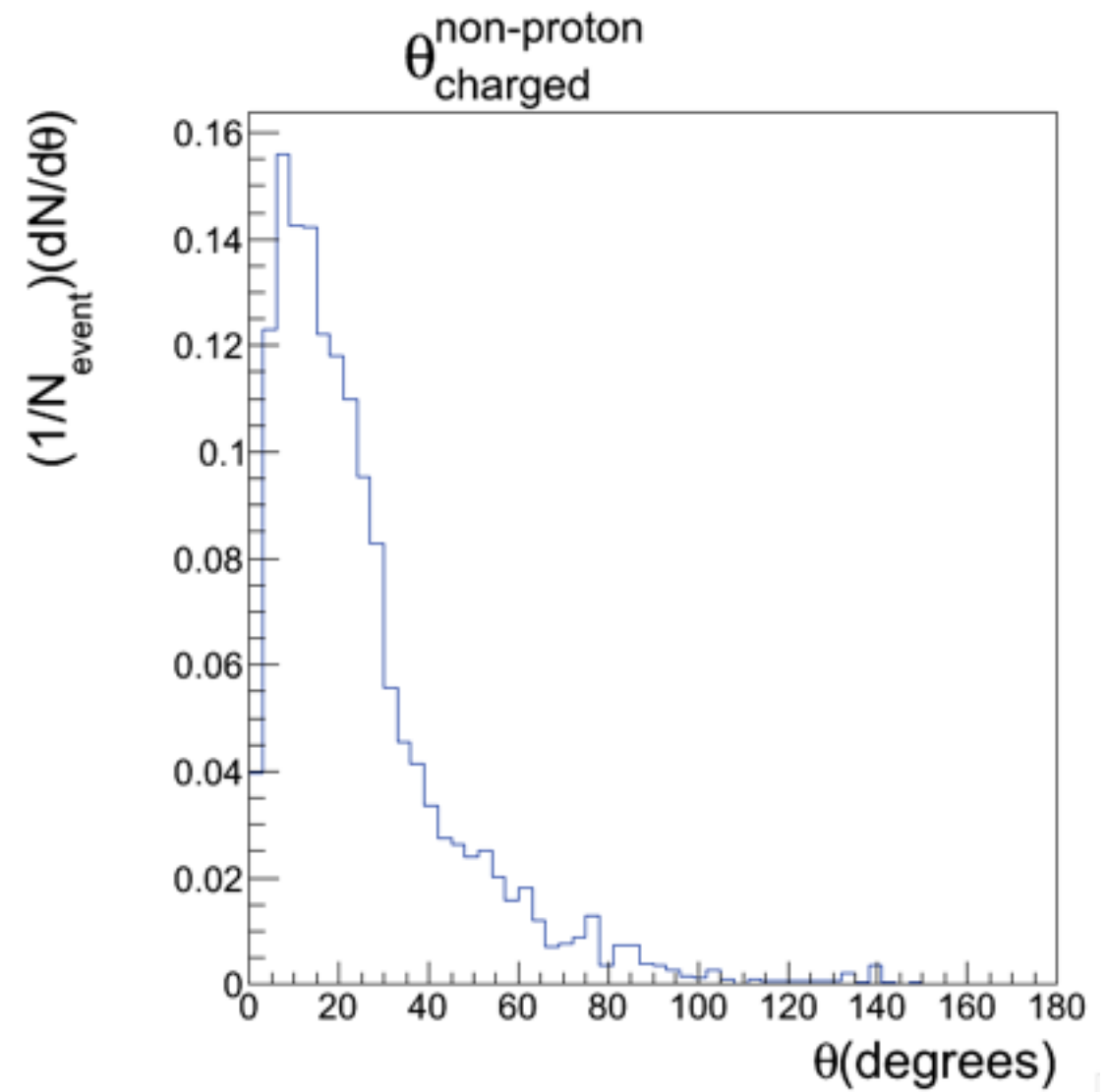
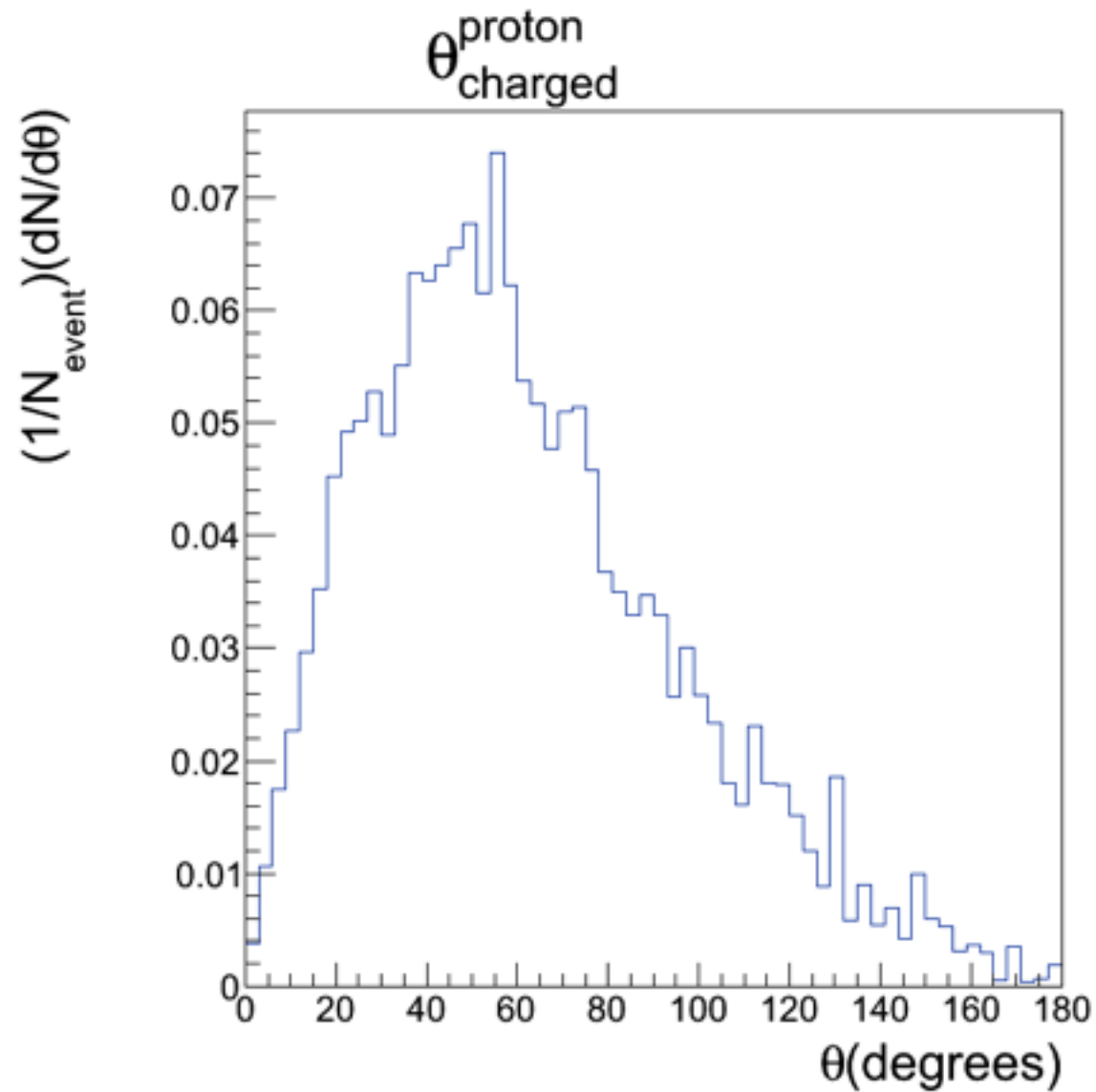
θ_{charged}



θ_{neutral}



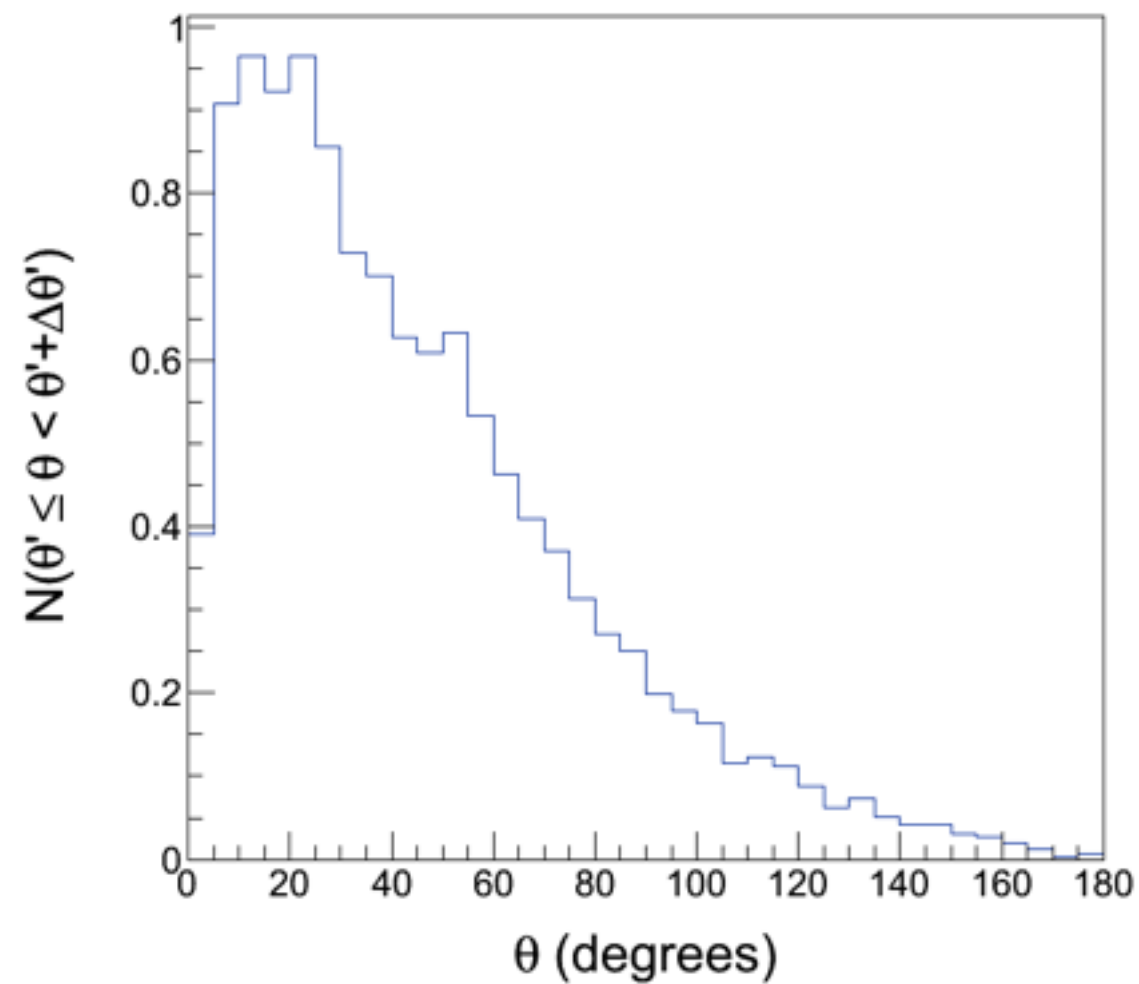
Theta (Charged)



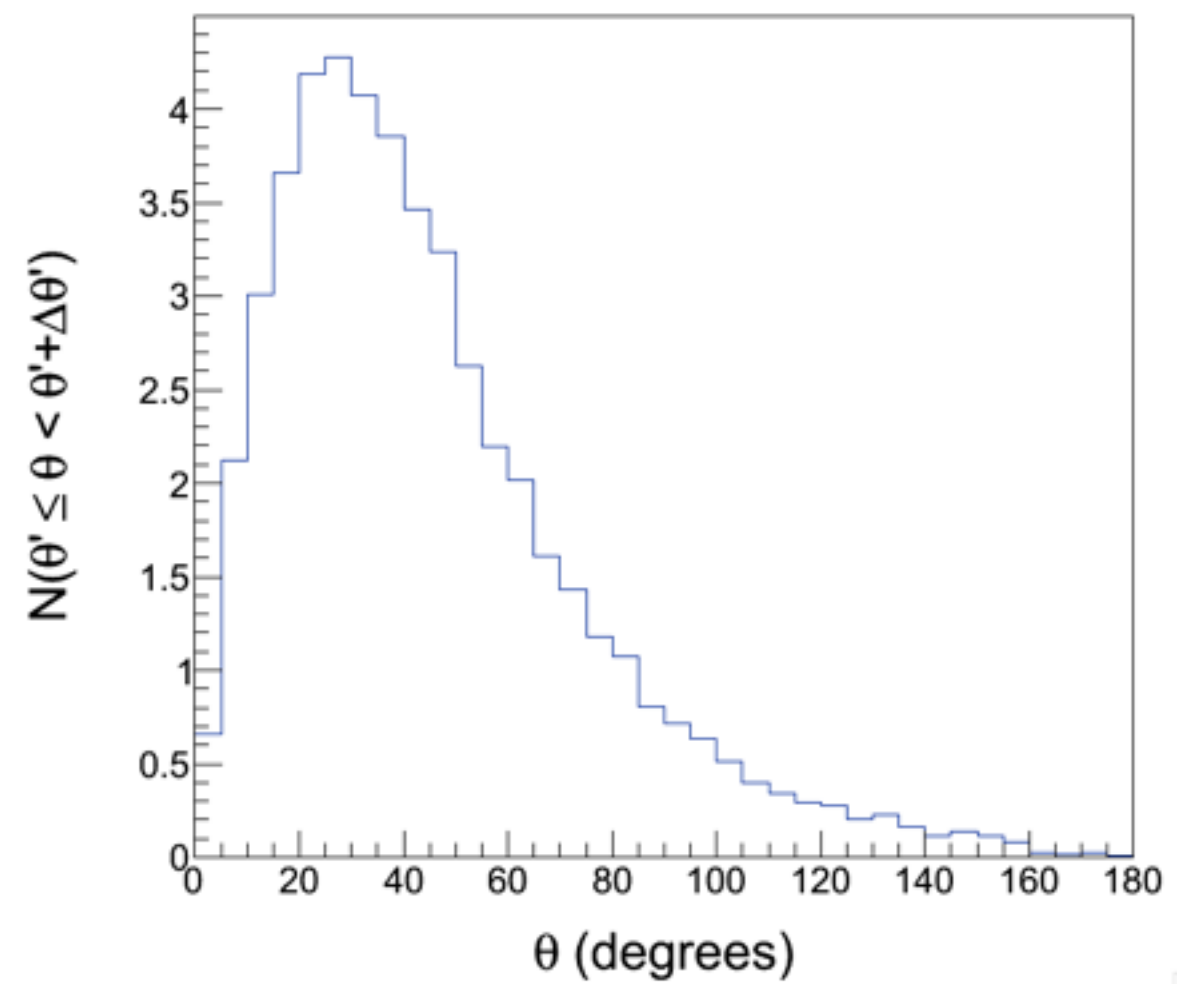
Theta Division

(5 Degree cut)

N_{charged}



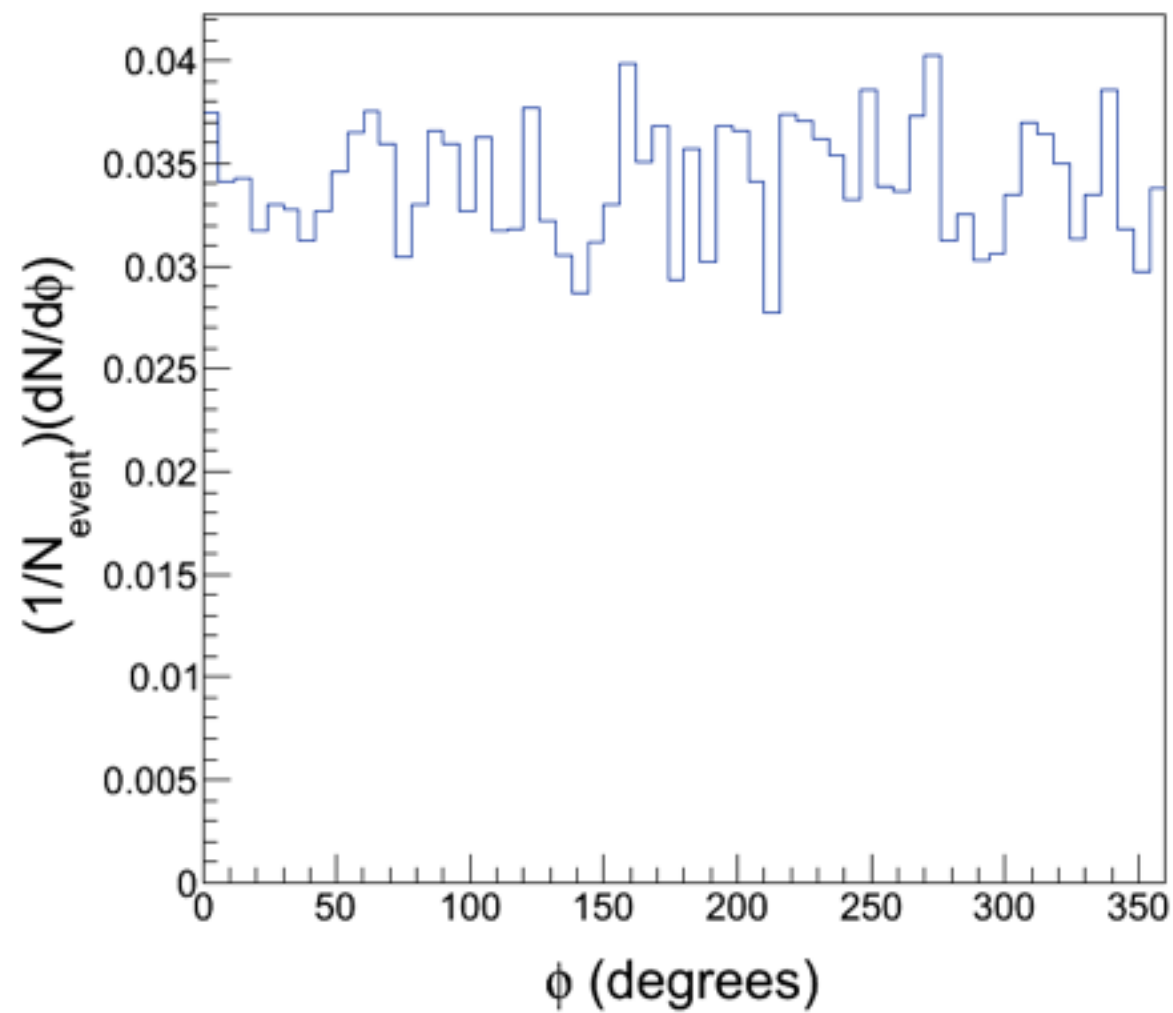
N_{neutral}



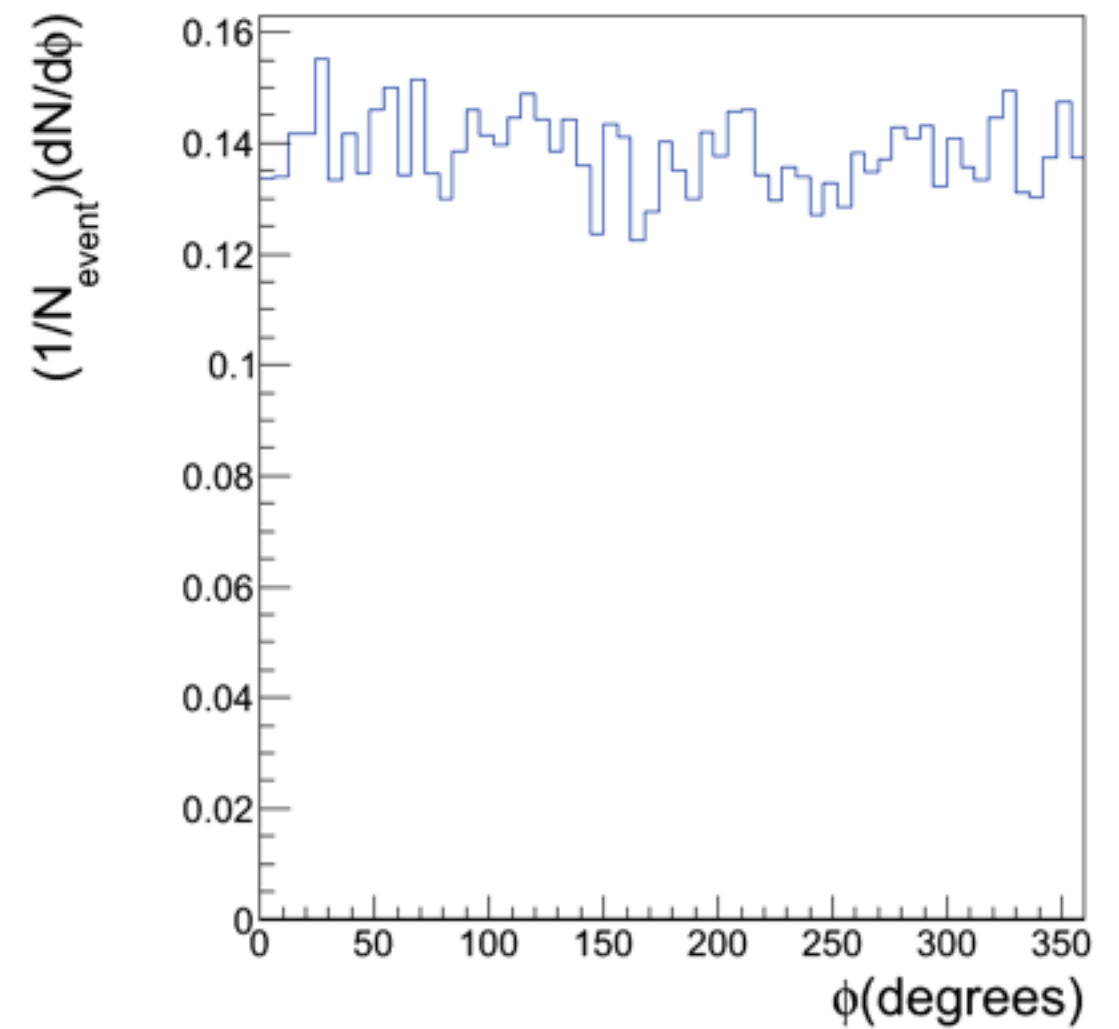
Phi

(number of bins : 60)

ϕ _{charged}



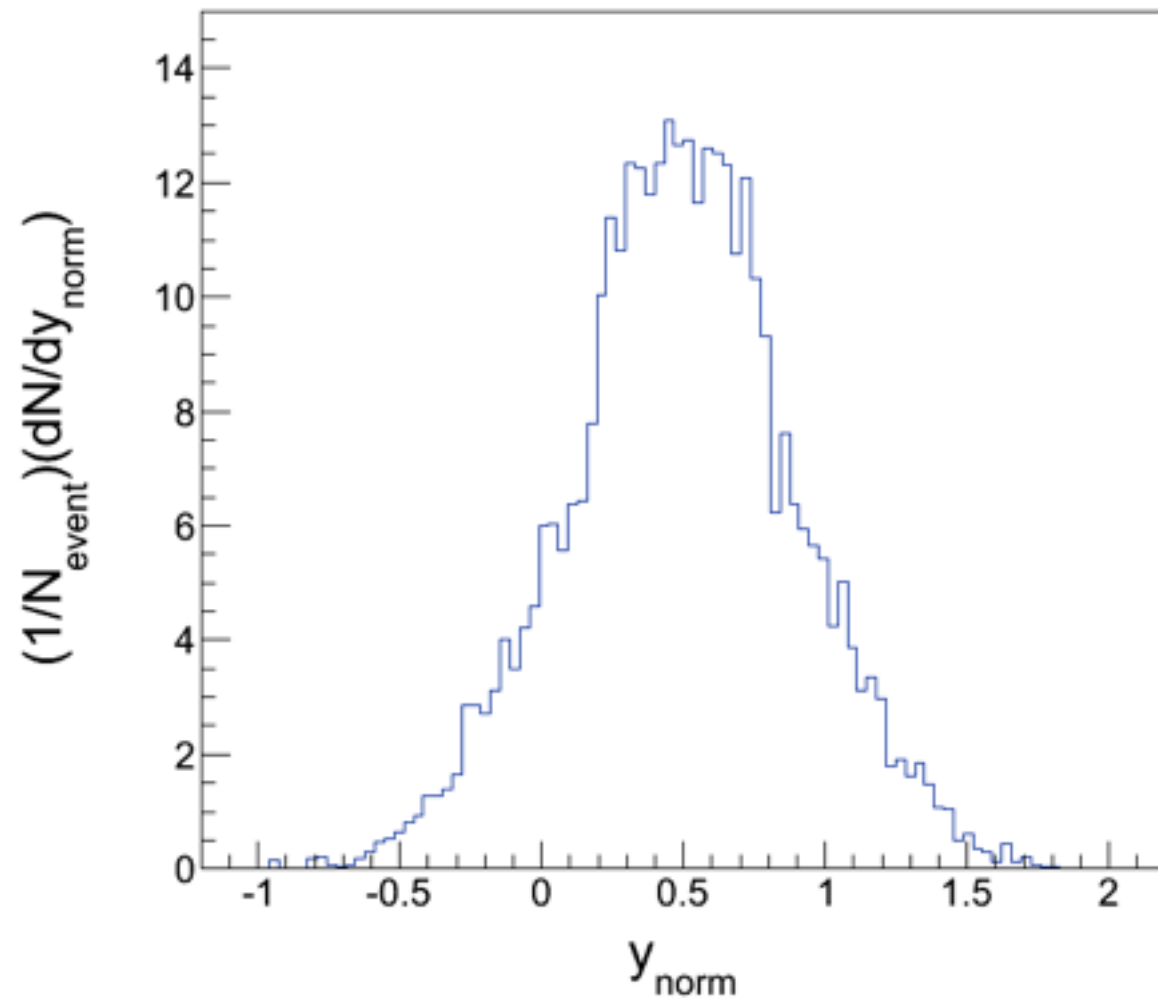
ϕ _{neutral}



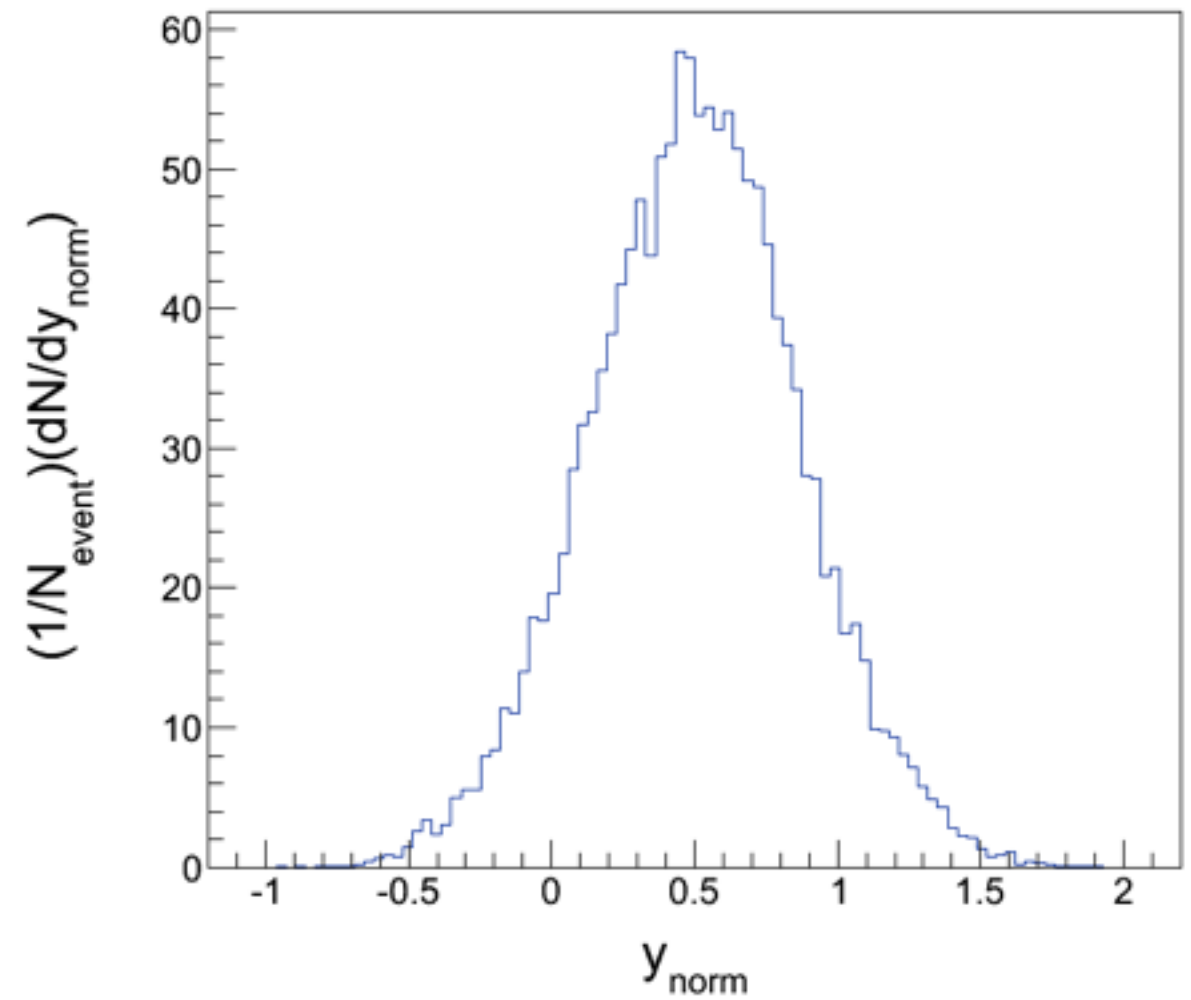
Rapidity

(number of bins : 100)

$y_{\text{norm}}^{\text{charged}}$



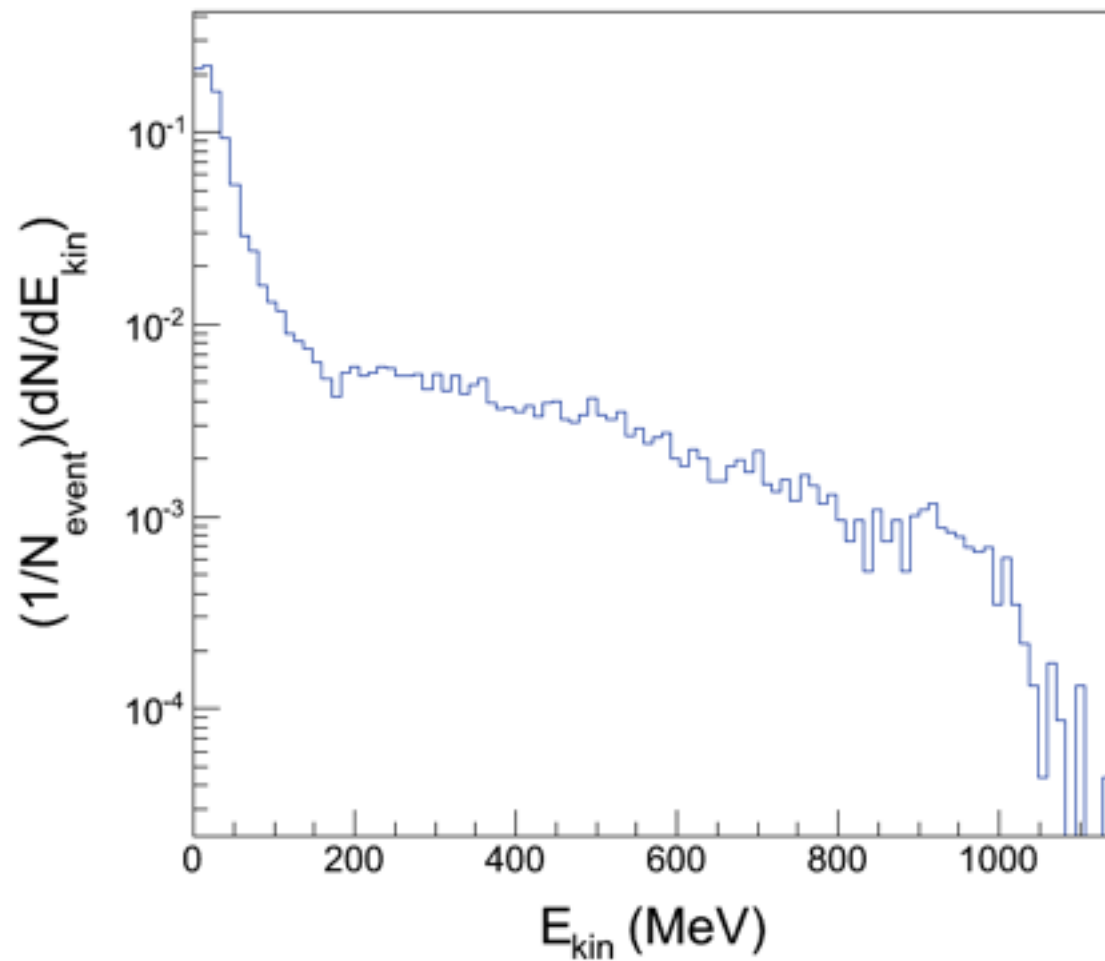
$y_{\text{norm}}^{\text{neutral}}$



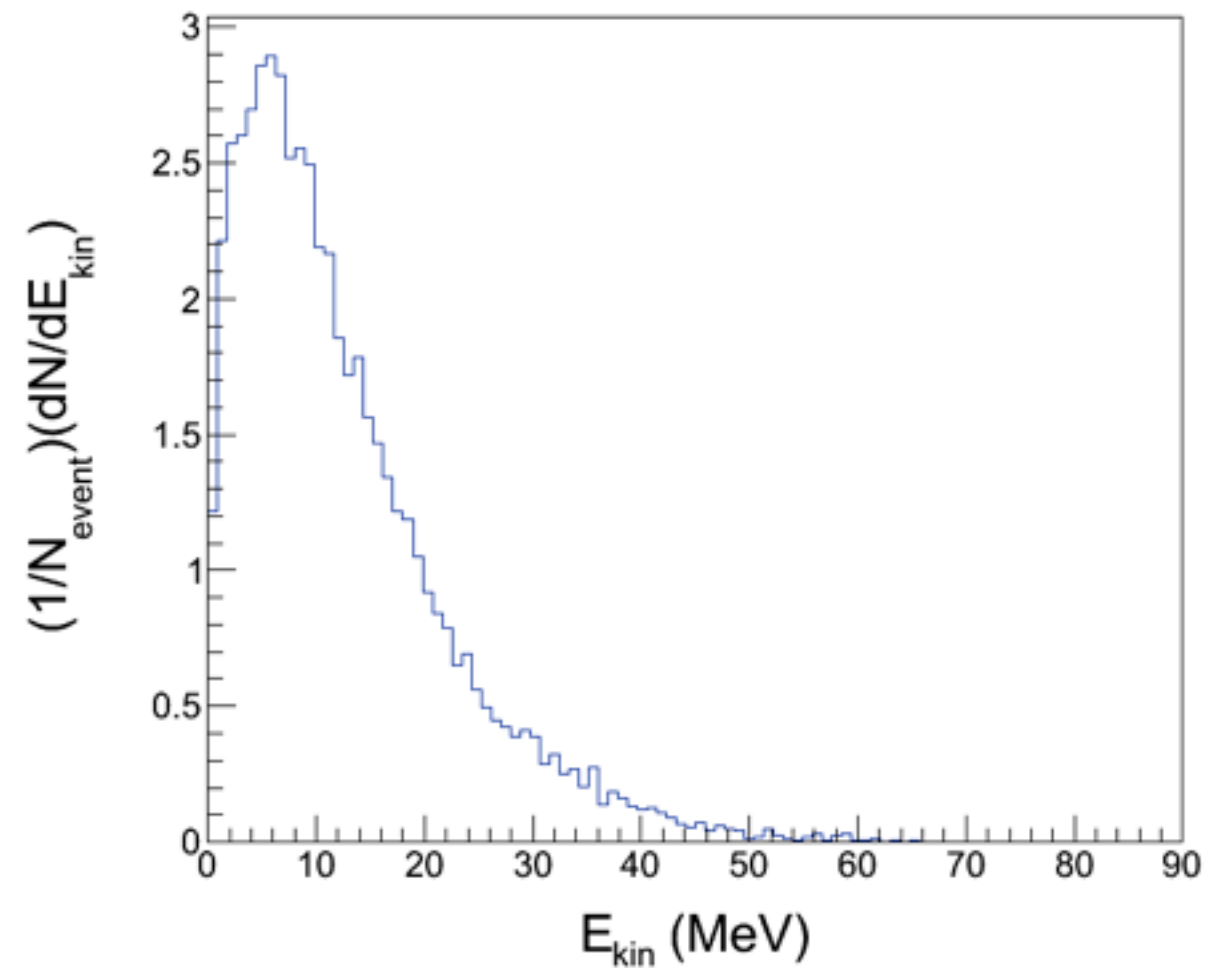
Kinetic Energy

(number of bins : 100)

$E_{\text{kin}}^{\text{charged}}$



$E_{\text{kin}}^{\text{neutral}}$

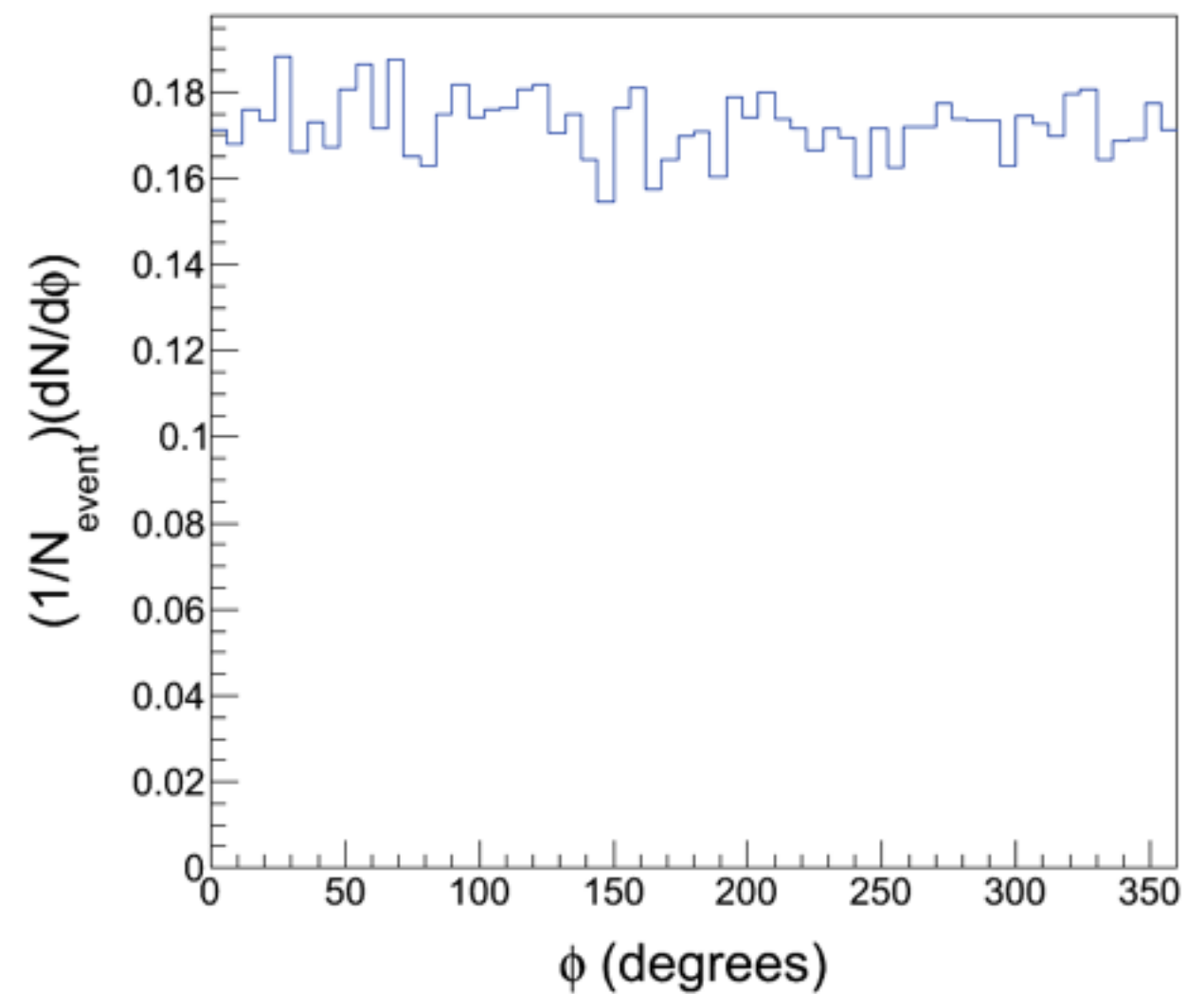
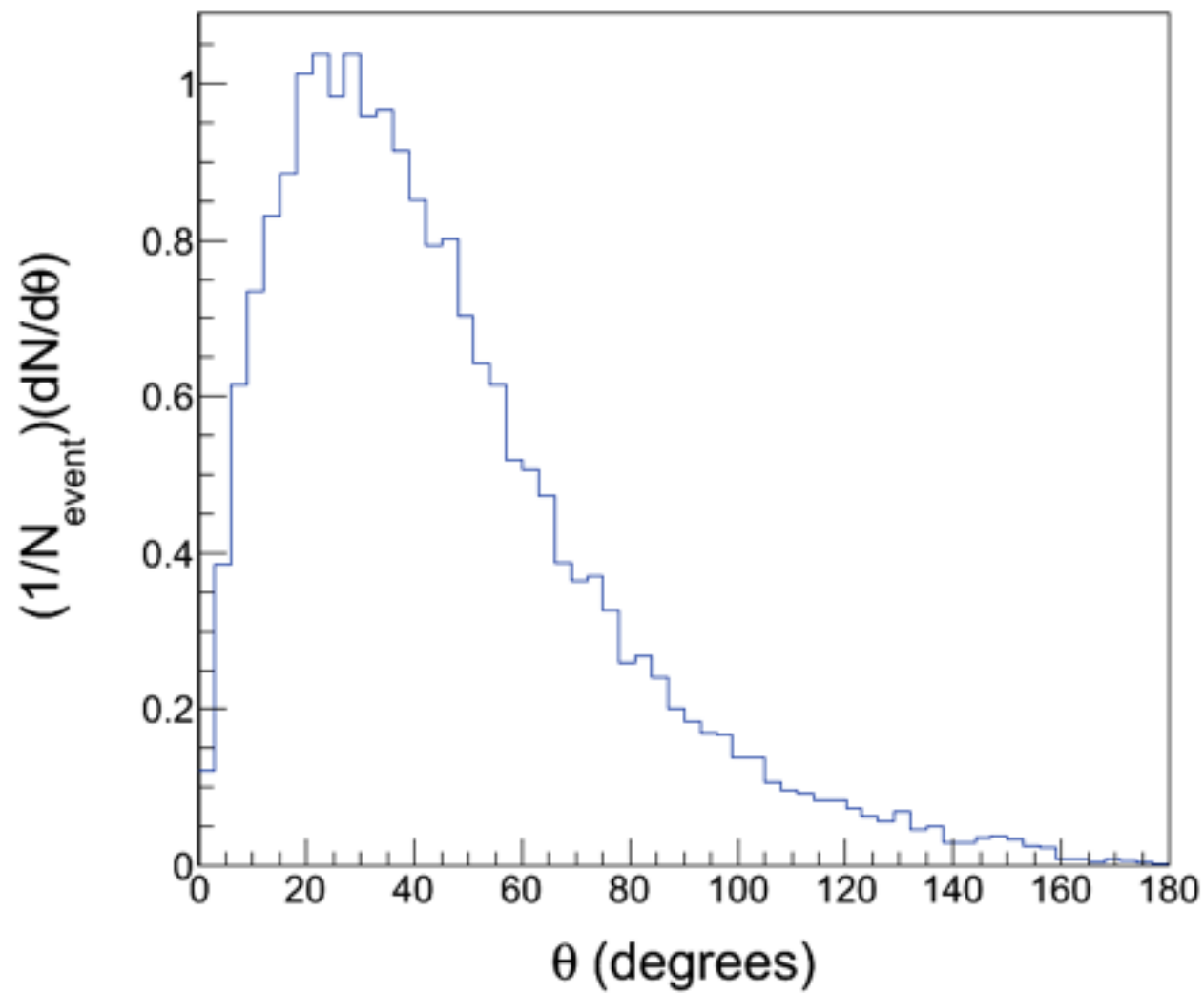


Theta/Phi

(All Particles, number of bins : 60)

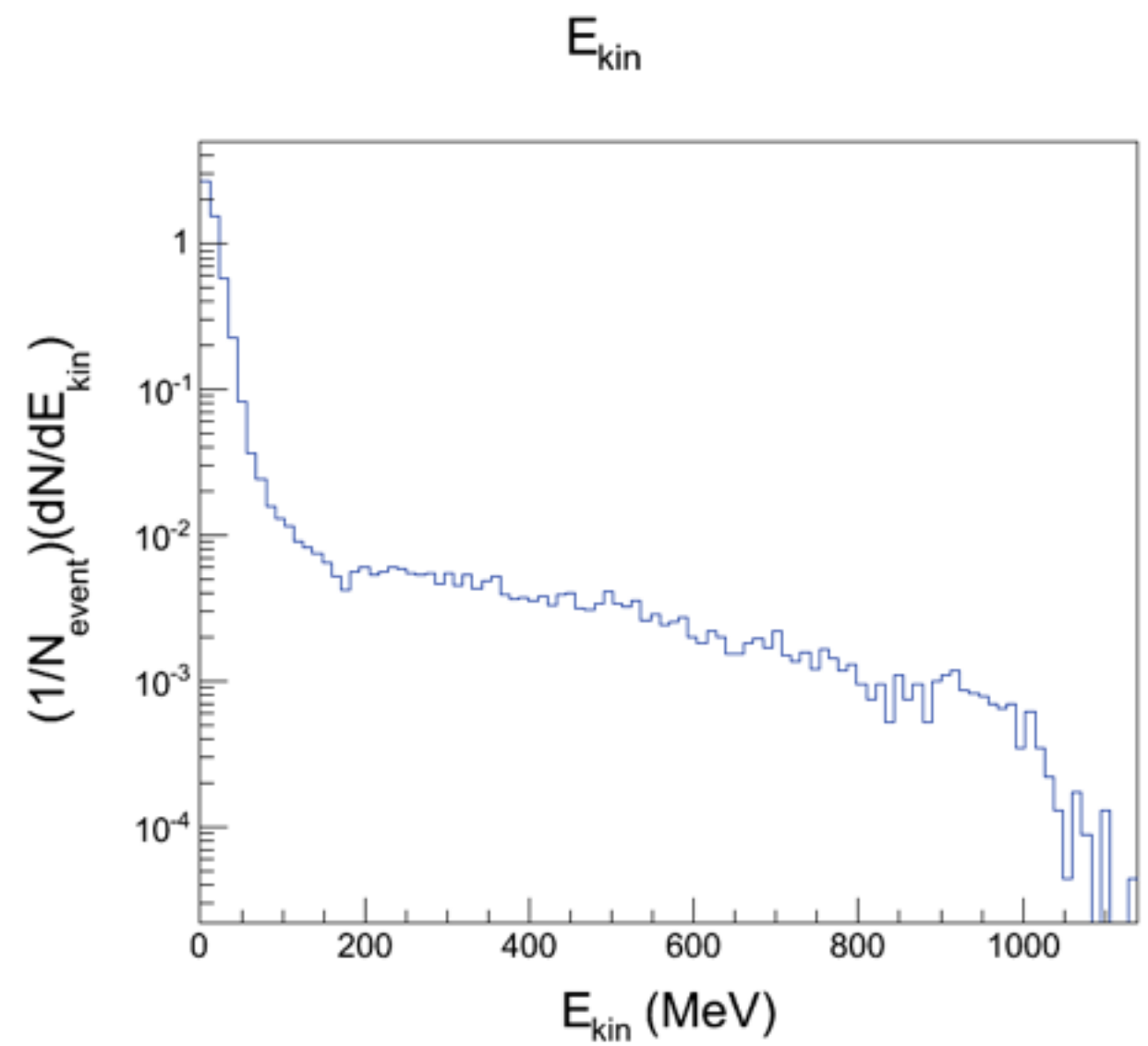
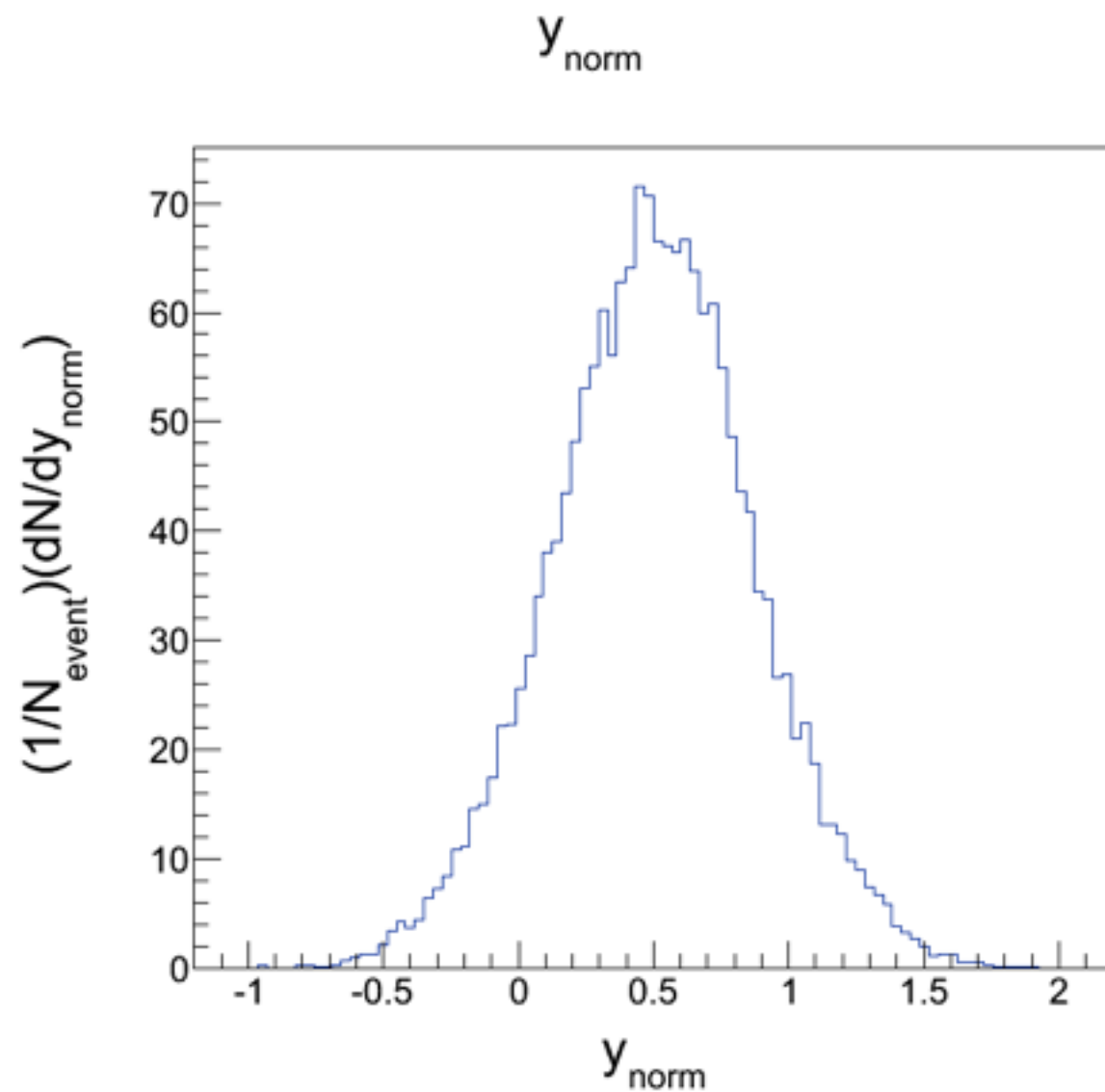
θ

ϕ



Rapidity/ E_{kin}

(All Particles, number of bins : 100)



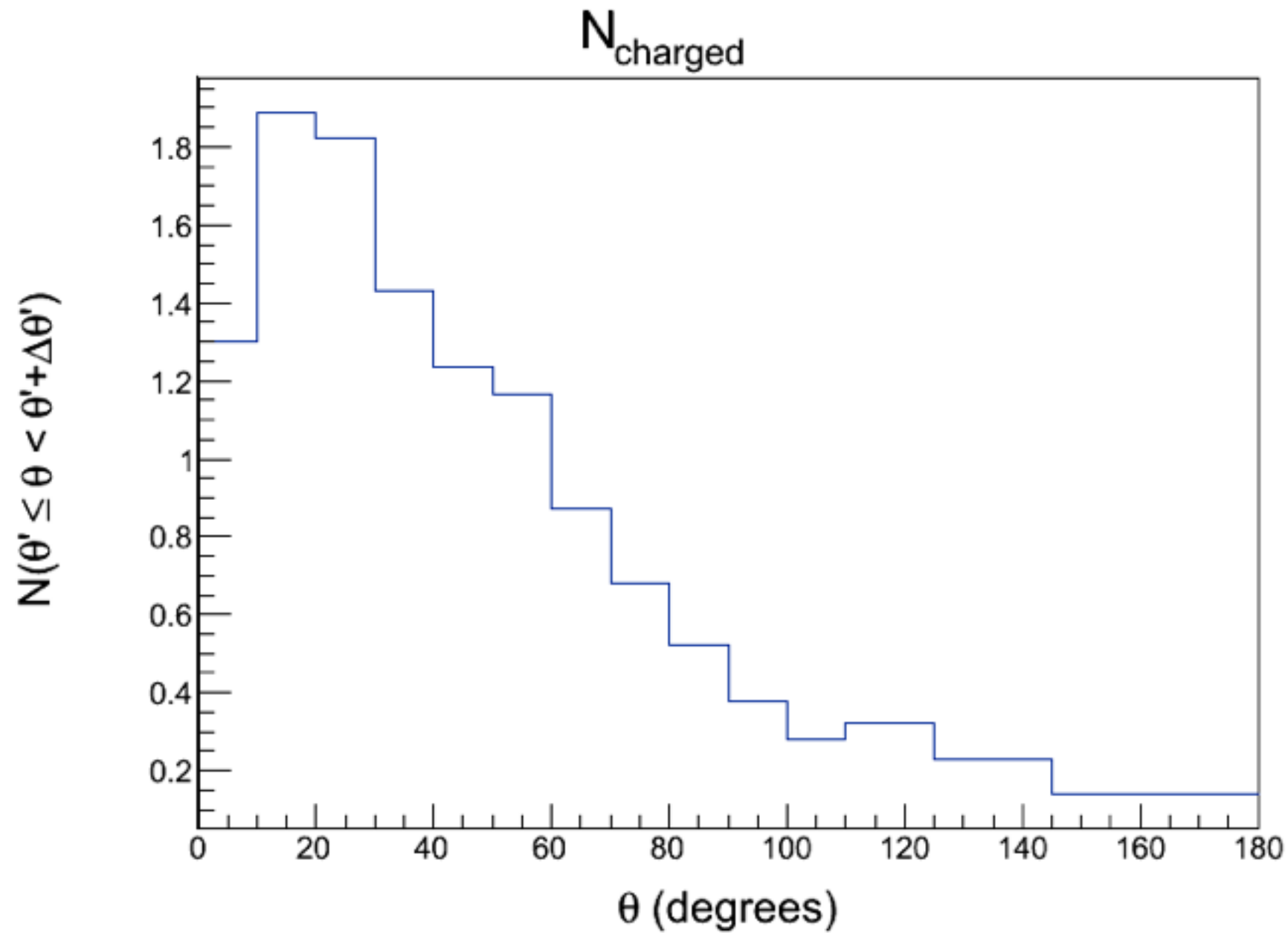
Detector Position

1. Occupancy condition
2. Geometrical normalization

Occupancy condition

1. Fixed occupancy & Fixed number of entries per each event
2. Fixed number of particles detected by each detector
3. Fixed number of detectors to be placed on
4. Determine number of detectors for any θ region
5. Determine the size of the detector in Φ angle

Theta Division



Number of particles detected by each detector by one event.

$$n_c = \langle N_{\text{charged}} \rangle \times R = 0.12265, \quad \text{Occupancy : } R = 0.01$$

Bin	$N(\Delta\theta)$	$N_\theta = N(\Delta\theta)/n_c$	$\Phi(\Delta\theta) = 360^\circ/N_\theta$
1 : ($0^\circ < \theta < 10^\circ$)	1.2985	10.5870	34.0040
2 : ($10^\circ < \theta < 20^\circ$)	1.8876	15.3901	23.3917
3 : ($20^\circ < \theta < 30^\circ$)	1.8219	14.8545	24.2351
4 : ($30^\circ < \theta < 40^\circ$)	1.4303	11.6616	30.8705
5 : ($40^\circ < \theta < 50^\circ$)	1.2363	10.0799	35.7146
6 : ($50^\circ < \theta < 60^\circ$)	1.1657	9.5042	37.8780
7 : ($60^\circ < \theta < 70^\circ$)	0.8716	7.1064	50.6586
8 : ($70^\circ < \theta < 80^\circ$)	0.6821	5.5614	64.7319
9 : ($80^\circ < \theta < 90^\circ$)	0.5219	4.2552	84.6024
10 : ($90^\circ < \theta < 100^\circ$)	0.3781	3.0828	116.7770
11 : ($100^\circ < \theta < 110^\circ$)	0.2791	2.2756	158.2000
12 : ($110^\circ < \theta < 125^\circ$)	0.3239	2.6408	136.3223
13 : ($125^\circ < \theta < 145^\circ$)	0.2269	1.8500	194.5946
14 : ($145^\circ < \theta < 180^\circ$)	0.1408	1.1480	313.5889

Plan :

Geometrical normalization

1. Particles have no phi dependence
2. Reconstruct the number and size of bins in theta direction
3. Fixed regions for the same number of particles detected in that
4. Place there detectors and see and can calculate the occupancy