

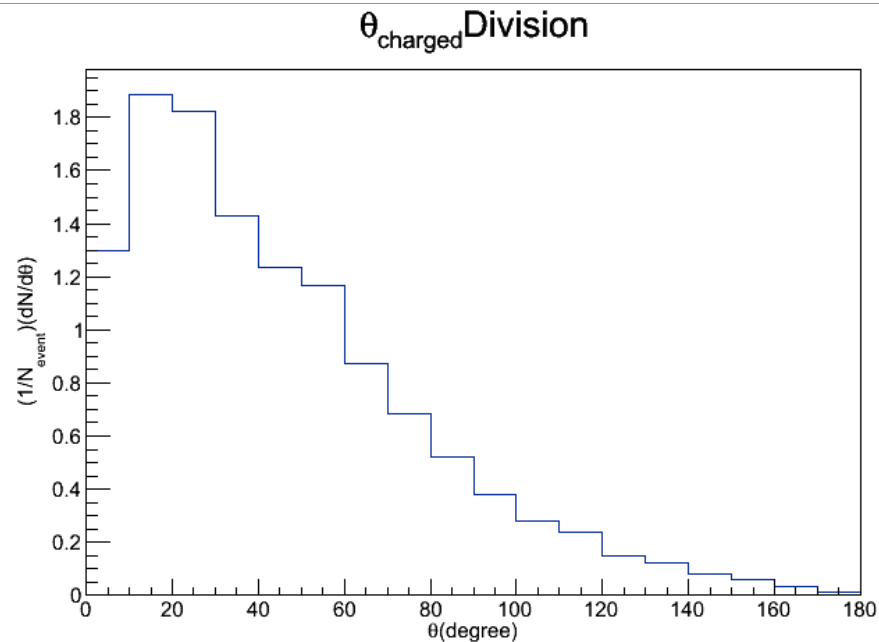
# design of CHIMERA-like detector using AMD data

2014/ 03/ 07  
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- focused on maintaining occupancy of 2% -> resulted in various size of unit detectors
- now focusing on same size of unit detectors -> resulted in various occupancy of unit detectors (0.5~5%)

# only sphere w/ all same size of detectors

R=20 cm  
 detector size  
 = 3.49 x 3.49cm<sup>2</sup>



bin (degree)	#of detectors	occupancy
0~10	3	0.4328
10~20	9	0.2097
20~30	15	0.1215
30~40	20	0.0715
40~50	25	0.0495
50~60	29	0.0402
60~70	32	0.0272
70~80	34	0.0201
80~90	35	0.0149
90~100	35	0.0108
100~110	34	0.0082
110~120	32	0.0074
120~130	29	0.0052
130~140	25	0.0049
140~150	20	0.0041
150~160	15	0.0038
160~170	9	0.0035
170~180	3	0.0035

# rings+sphere w/ all same size of detectors

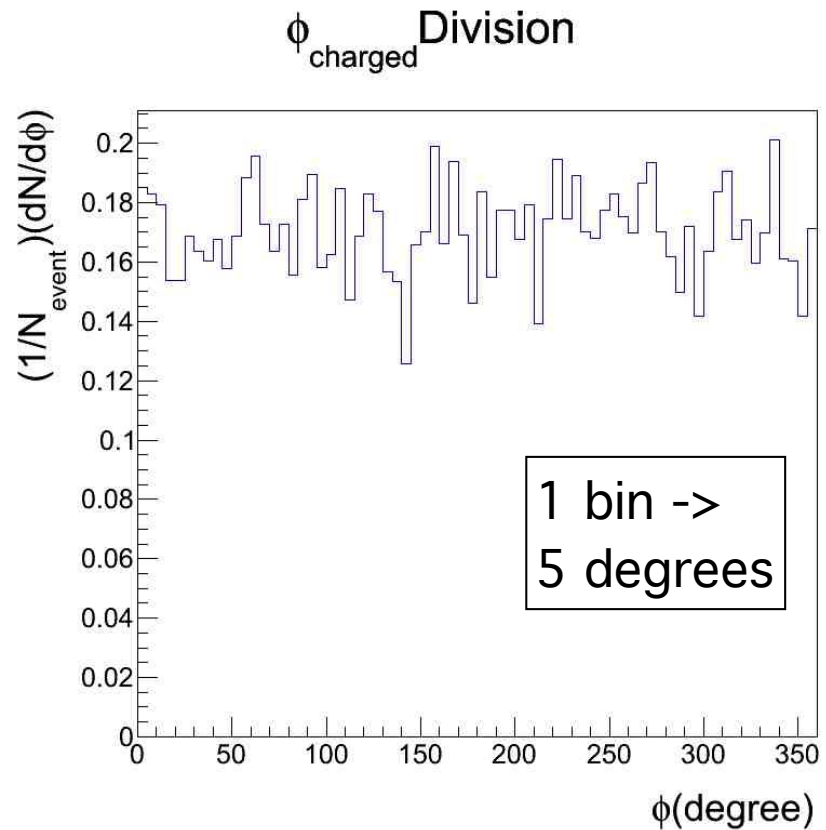
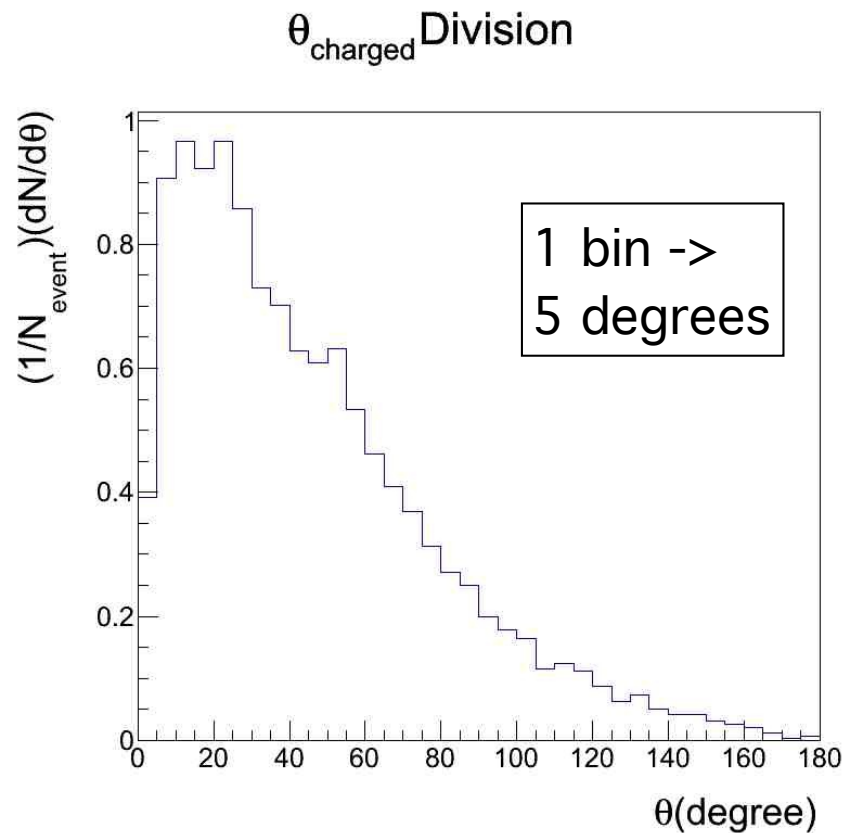
bin (deg.)	#of det.	radius (cm)	occupancy	det.size (cm)
0~1	3	<del>200.0</del>	<del>0.0042</del>	3.49
1~2	9	200.0	0.0058	3.49
2~3.3	12	153.8	0.0082	3.49
3.3~4.9	16	125.0	0.0134	3.49
4.9~6.8	19	105.3	0.0176	3.49
6.8~9	22	90.9	0.0186	3.49
9~11.6	24	76.9	0.0203	3.49
11.6~14.5	28	69.0	0.0190	3.49
14.5~18	28	57.1	0.0243	3.49
18~23	25	40.0	0.0390	3.49
23~30	22	28.6	0.0551	3.49

bin (deg.)	#of det.	radius	occupancy	det.size (cm)
30~40	20	20	0.0715	3.49
40~50	25	20	0.0495	3.49
50~60	29	20	0.0402	3.49
60~70	32	20	0.0272	3.49
70~80	34	20	0.0201	3.49
80~90	35	20	0.0149	3.49
90~100	35	20	0.0108	3.49
100~110	34	20	0.0082	3.49
110~120	32	20	0.0074	3.49
120~135	18	20	0.0124	6.05
135~150	14	20	0.0095	6.35
150~170	6	20	0.0148	10.47
<del>170~180</del>	<del>3</del>	<del>20</del>	<del>0.0035</del>	<del>3.49</del>

back-up

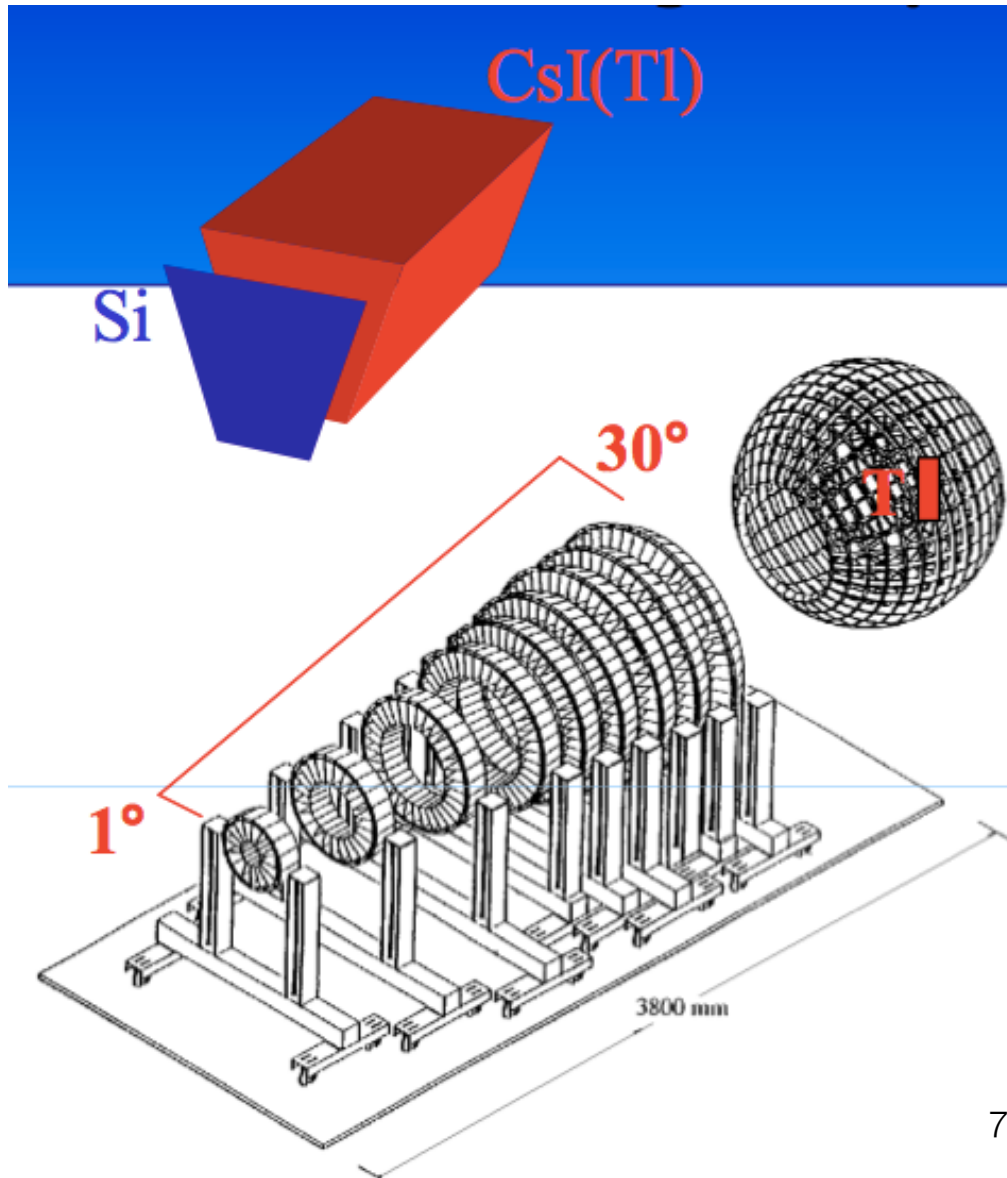
# AMD data

- beam:  $^{132}\text{Sn}$ , 20 MeV/u
- target:  $^{124}\text{Sn}$



# CHIMERA@LNS

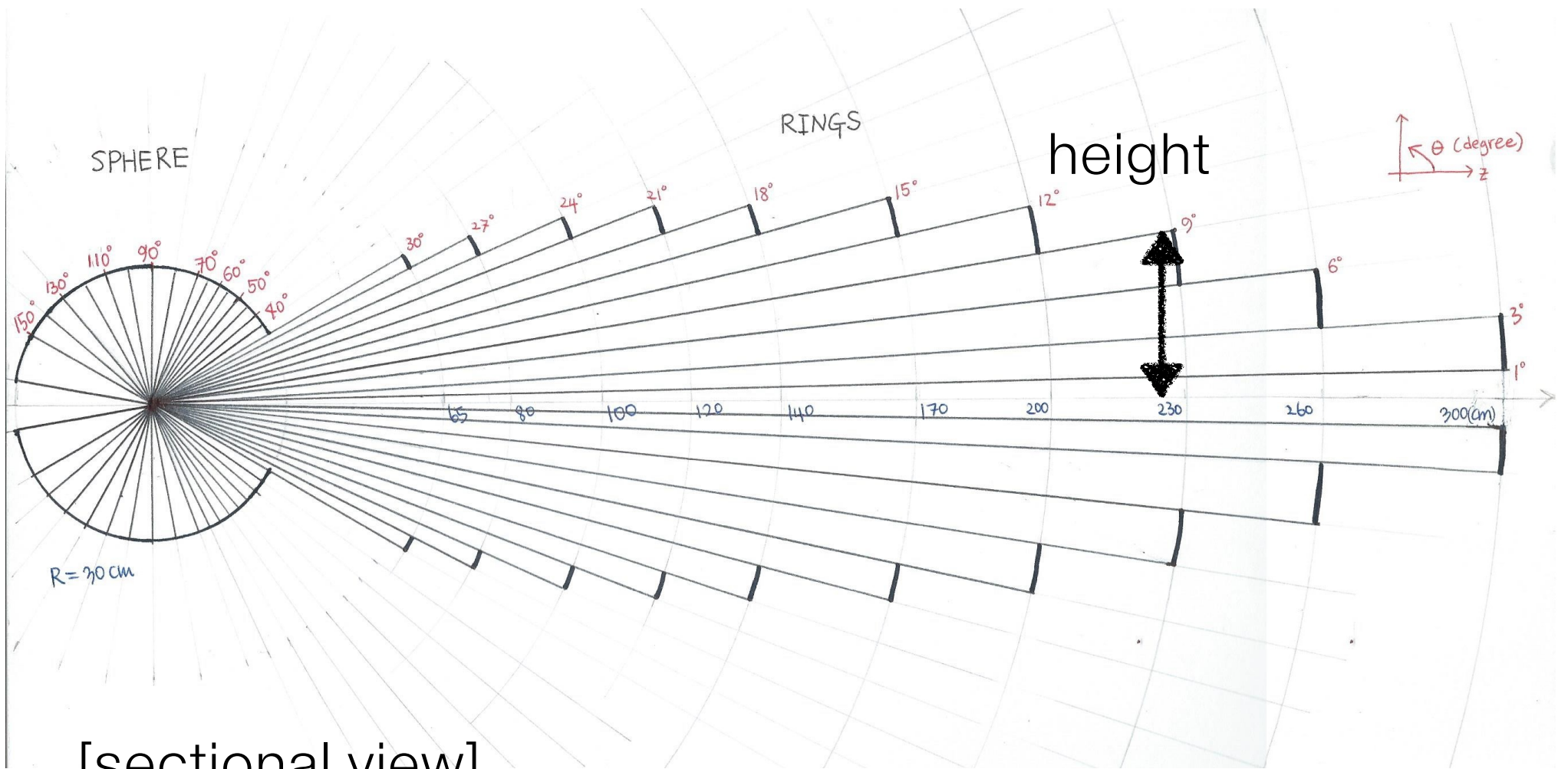
(Charge Heavy Ion Mass and Energy Resolving Array)



- **RINGS:**  
 $1^\circ < \theta < 30^\circ$   
688 telescopes
- **SPHERE:**  
 $30^\circ < \theta < 176^\circ$   
504 telescopes







[sectional view]

(simply considered SiCsl detectors as bold lines)