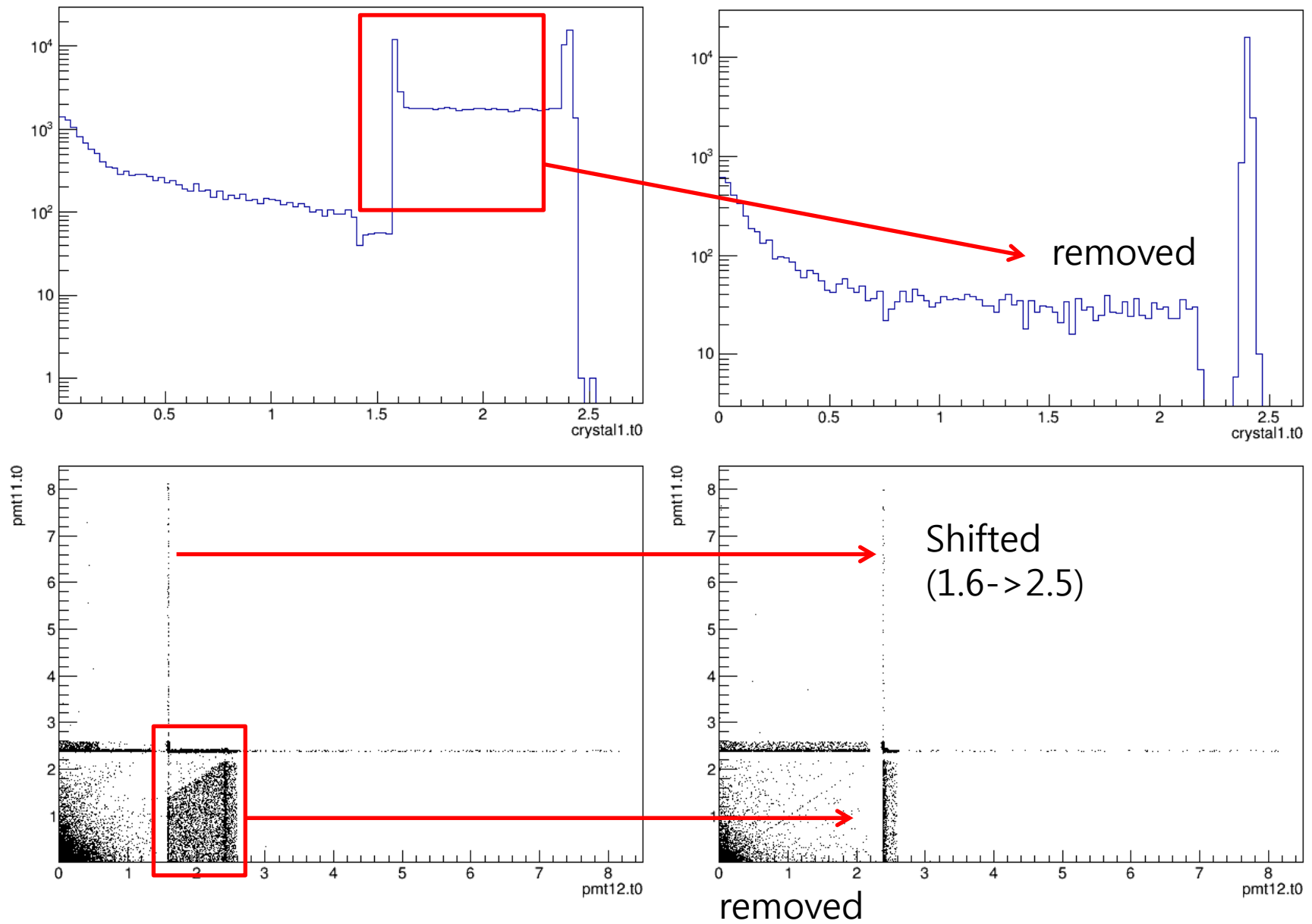


Problem in trigger position solved



Trigger rate comparison

NaI Crystal (~25 cm from source)

PMT HV : 1,280 V / 980 V
Threshold : 15 ch (= 9mV)
Coincidence width : 200ns

Source	Lead	Trigger rate (Hz)	DAQ time (s)
Off	On	8.0	300
Off	Off	71.4	100
On	On	1051.8	100
On	Off	1,053.2	100

Obtained / Simulated Trigger rate : ~1,000 Hz / 75.9 Hz

LaBr3 Detector (~45 cm from source)

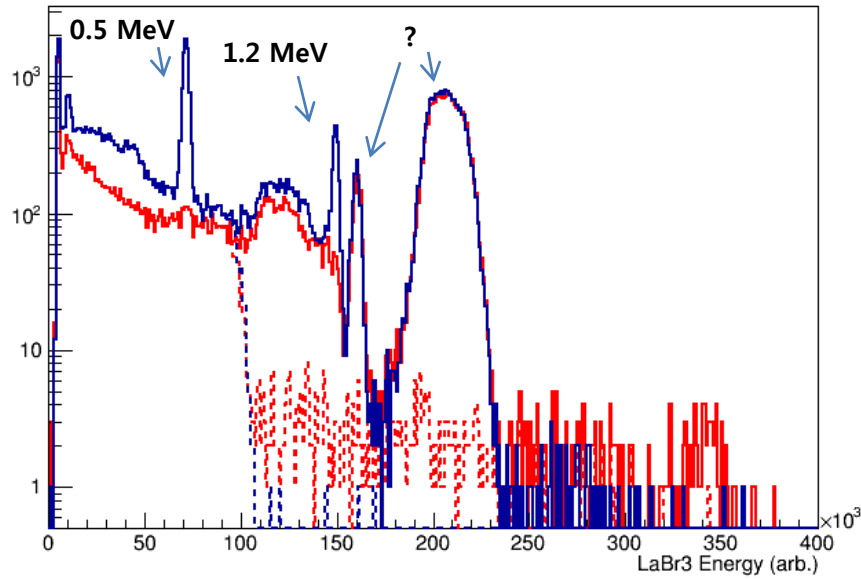
PMT HV : 1,780 V
Threshold : 200 ch (= 120mV)

Source	Lead	Trigger rate (Hz)	DAQ time (s)
Off	On	383.5	100
Off	Off	517.8	100
On	On	581.2	100
On	Off	707.0	100

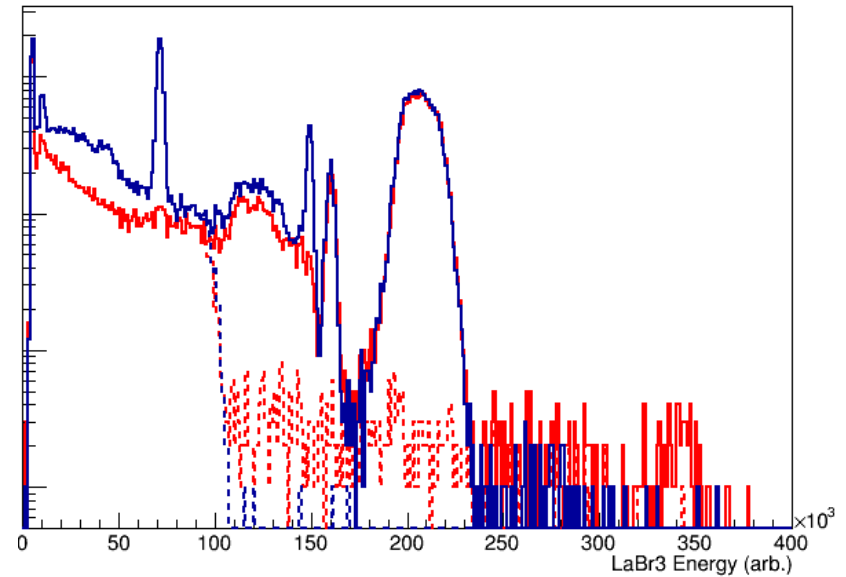
Obtained / Simulated Trigger rate : ~200 Hz / 235.1 Hz

LaBr3 - Energy

With lead shield



Without lead shield



Blue : w/ source

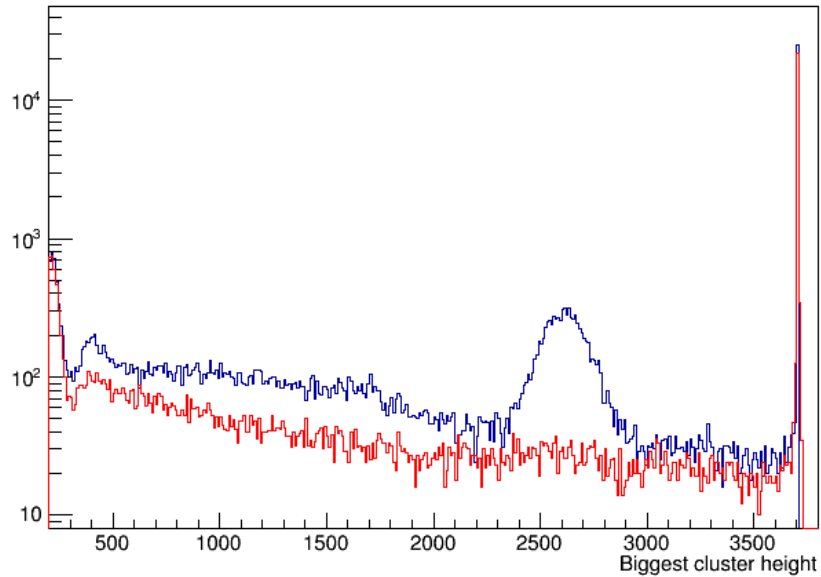
Red : w/o source

Solid line : Total events

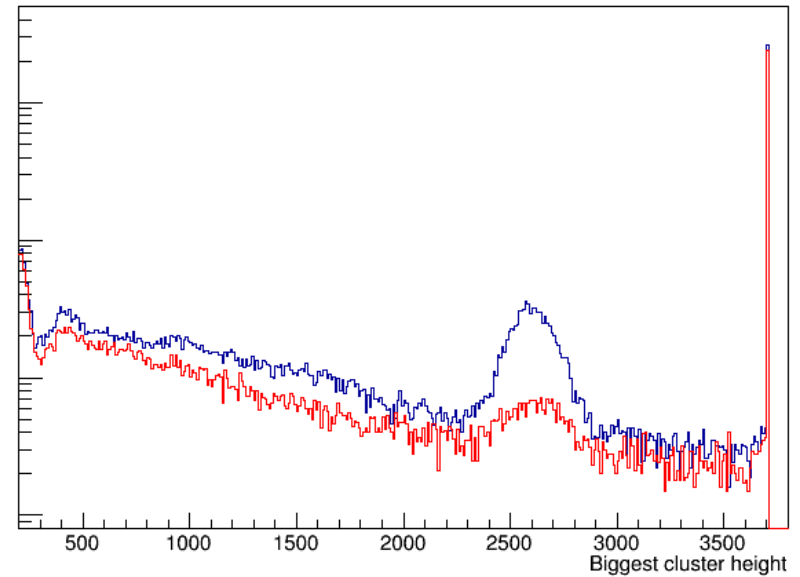
Dotted line : Exclude pulse height saturated events

LaBr3 – Biggest cluster height

With lead shield



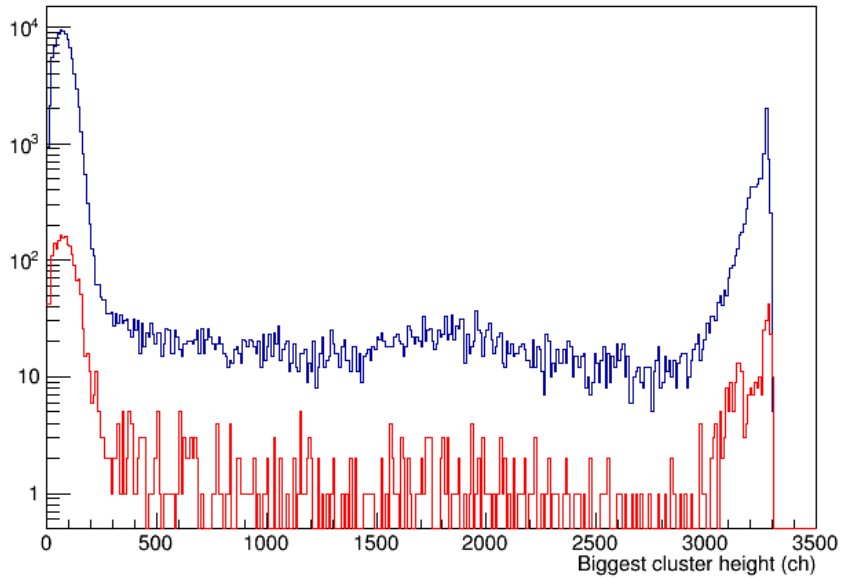
Without lead shield



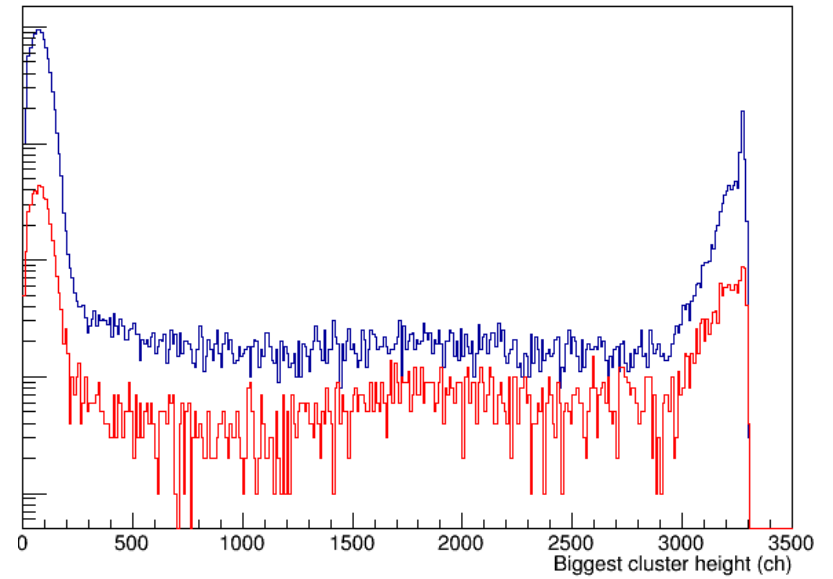
Blue : w/ source
Red : w/o source

NaI – Biggest cluster height

With lead shield

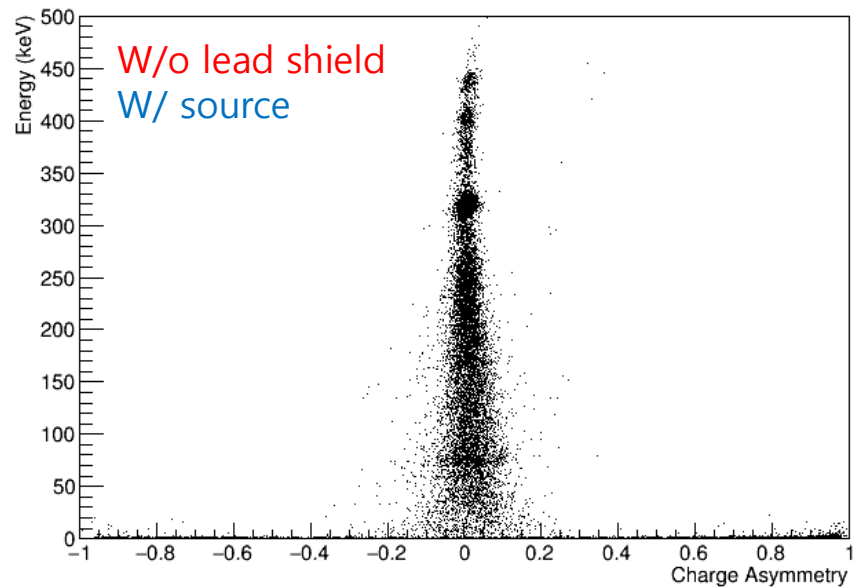
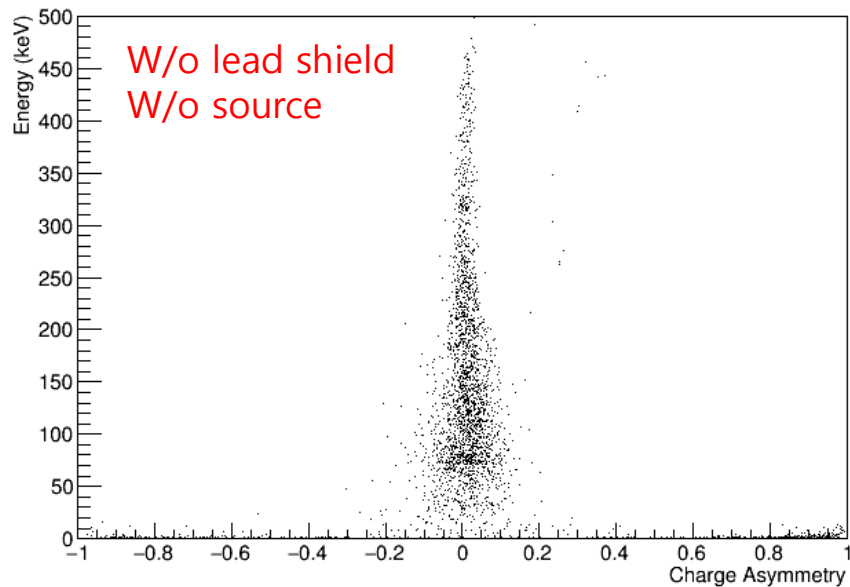
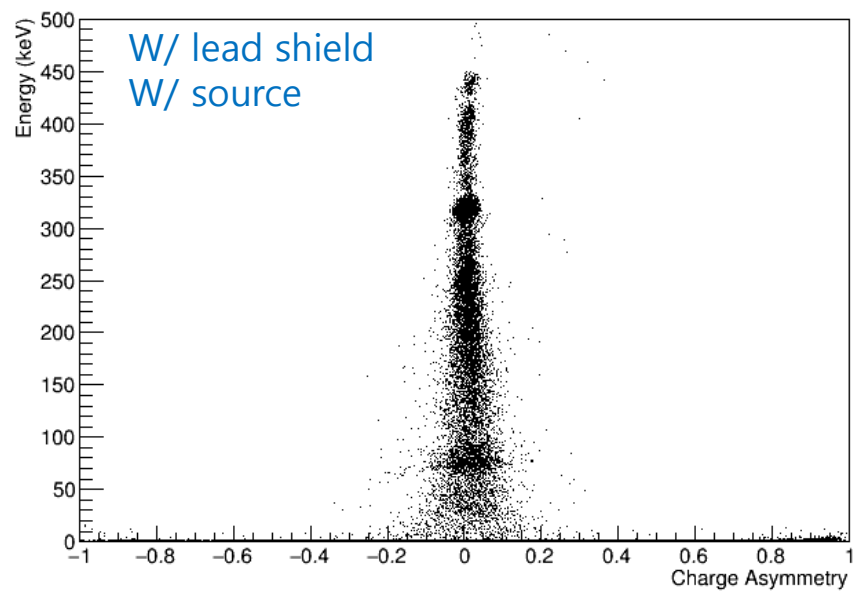
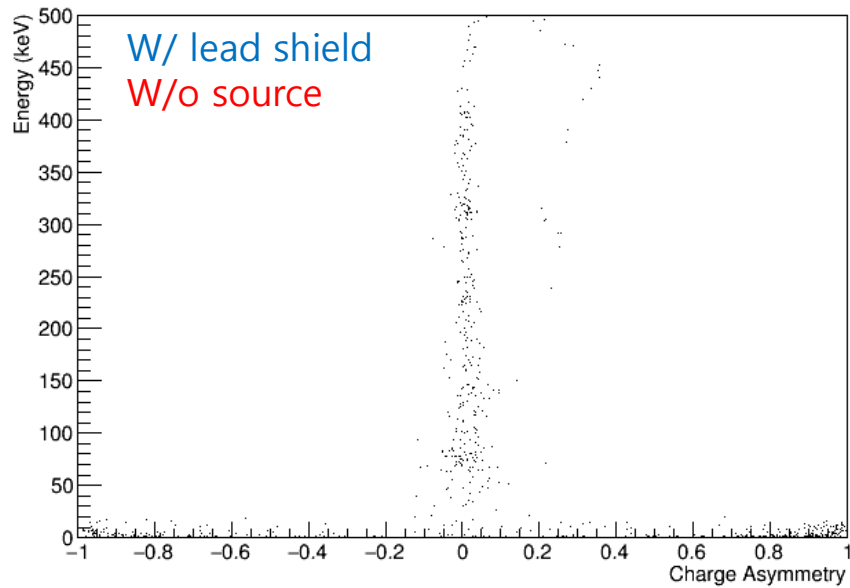


Without lead shield

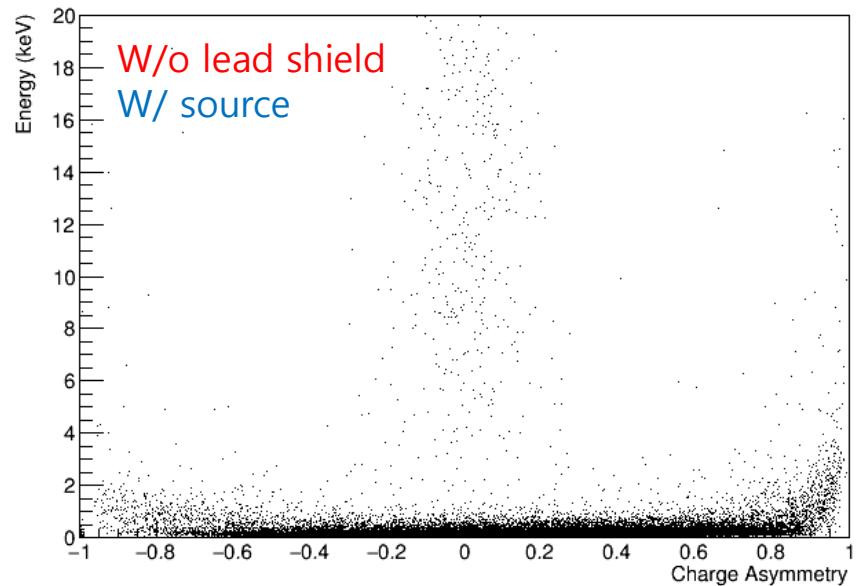
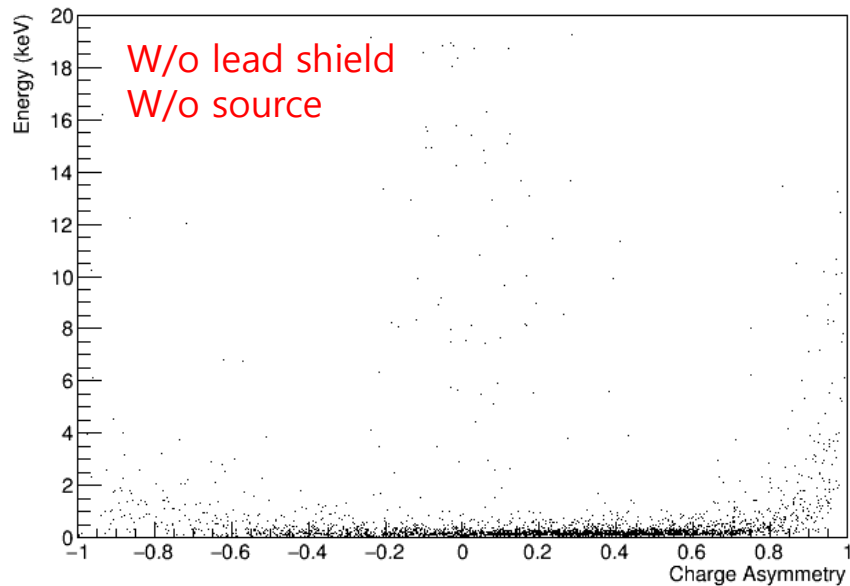
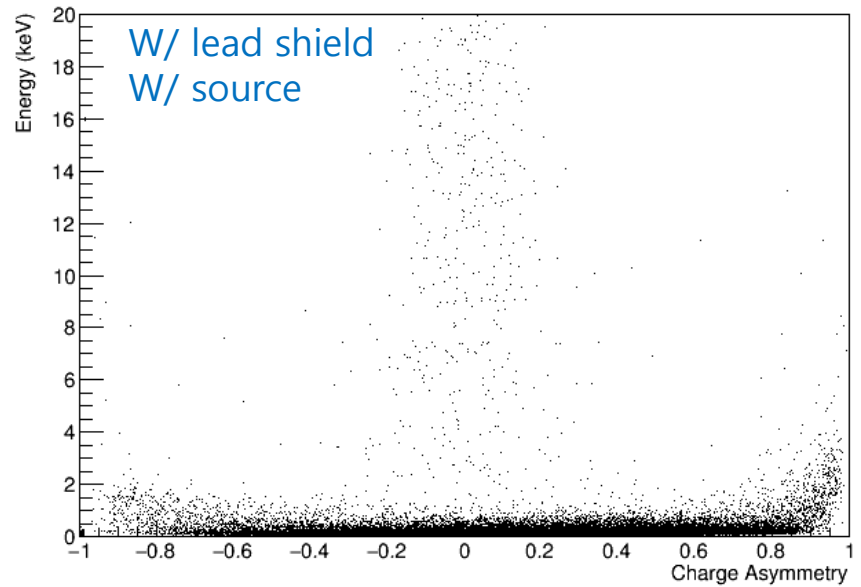
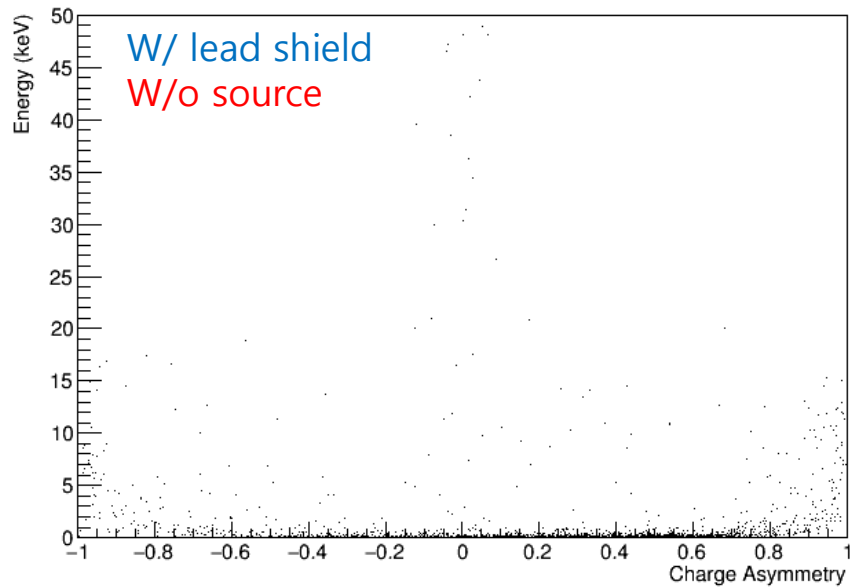


Blue : w/ source
Red : w/o source

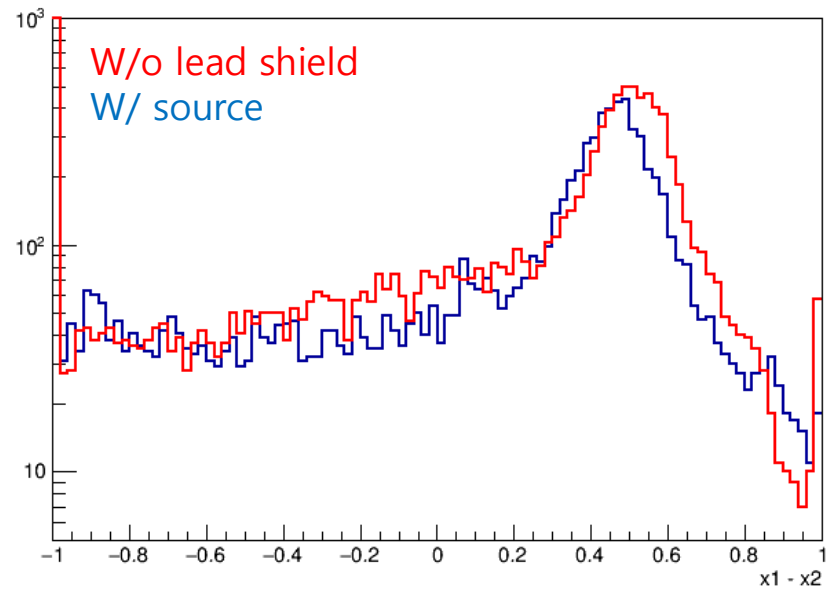
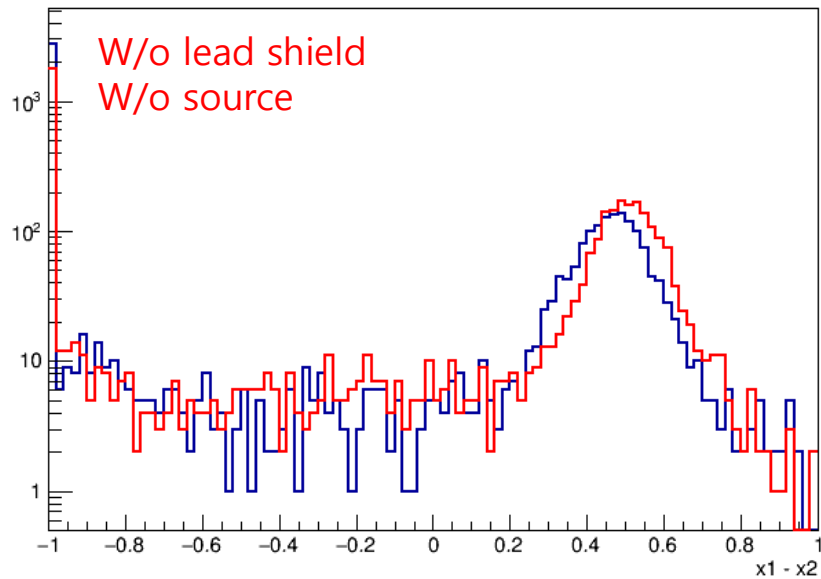
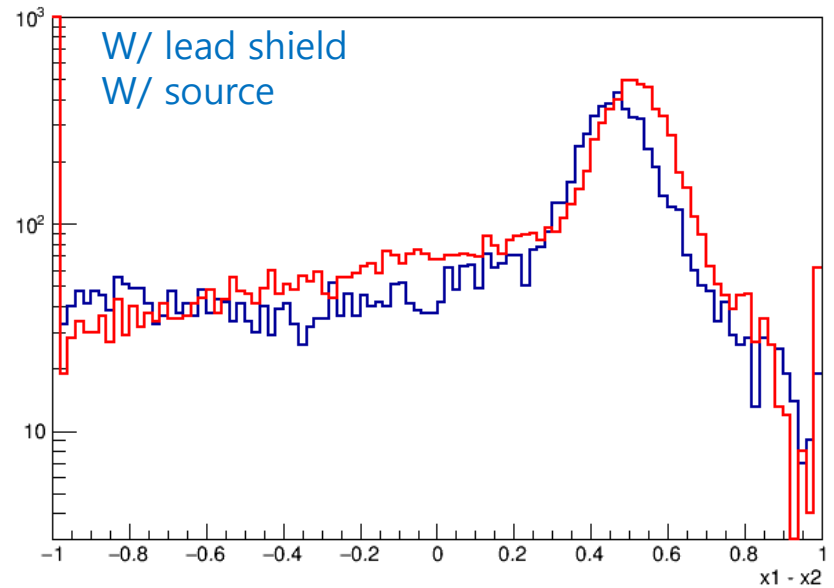
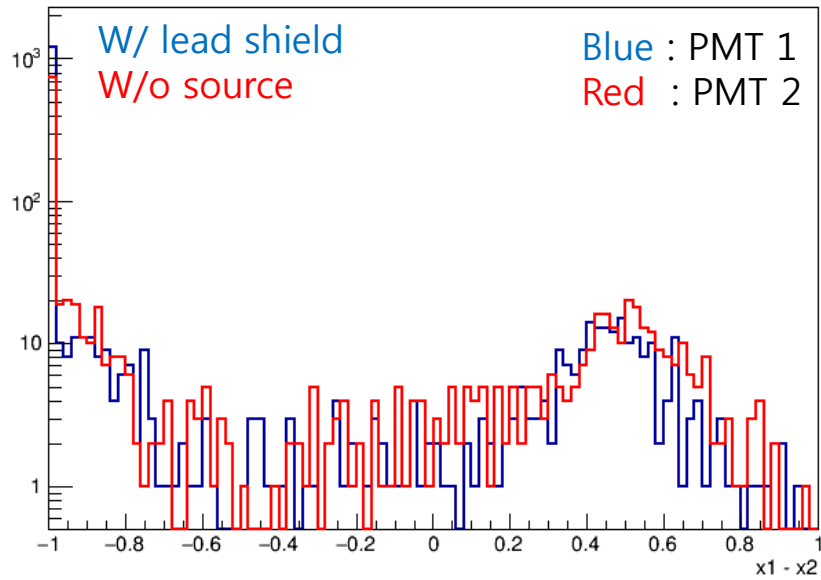
NaI – Energy vs Charge asymmetry



NaI – Energy vs Charge asymmetry (zoomed)



NaI – DAMA cut



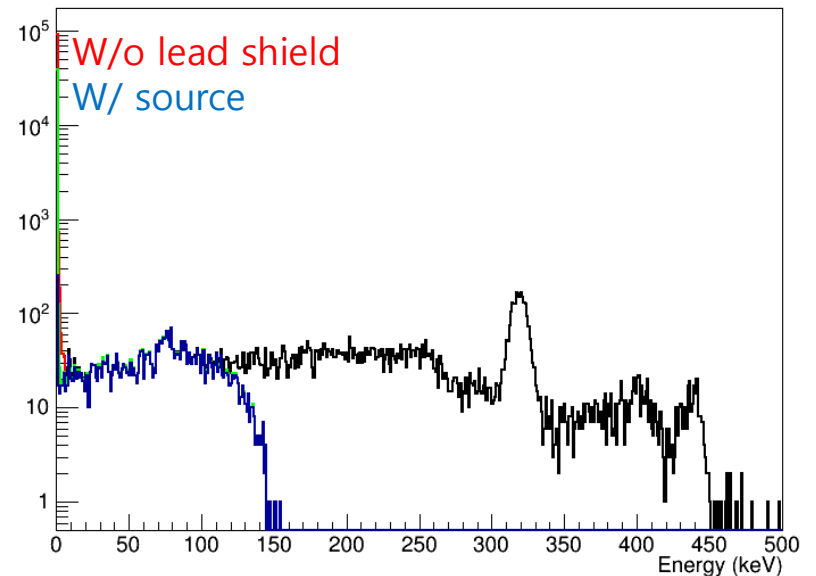
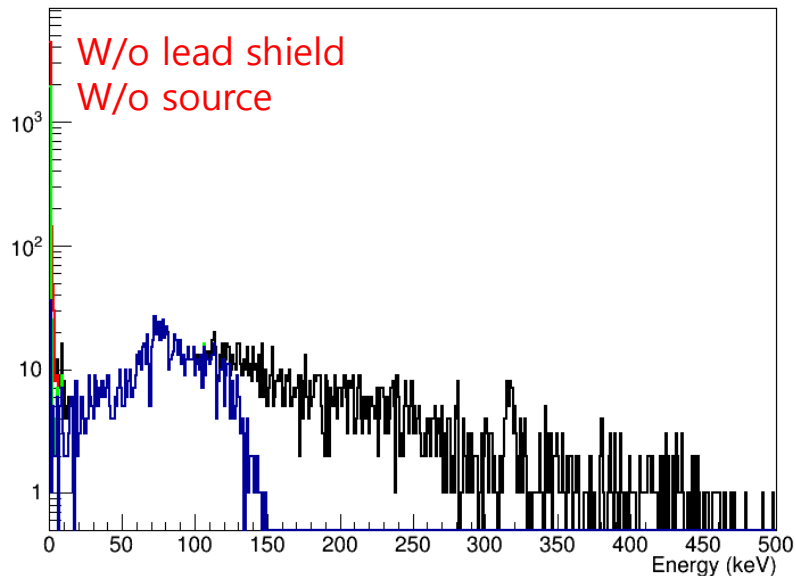
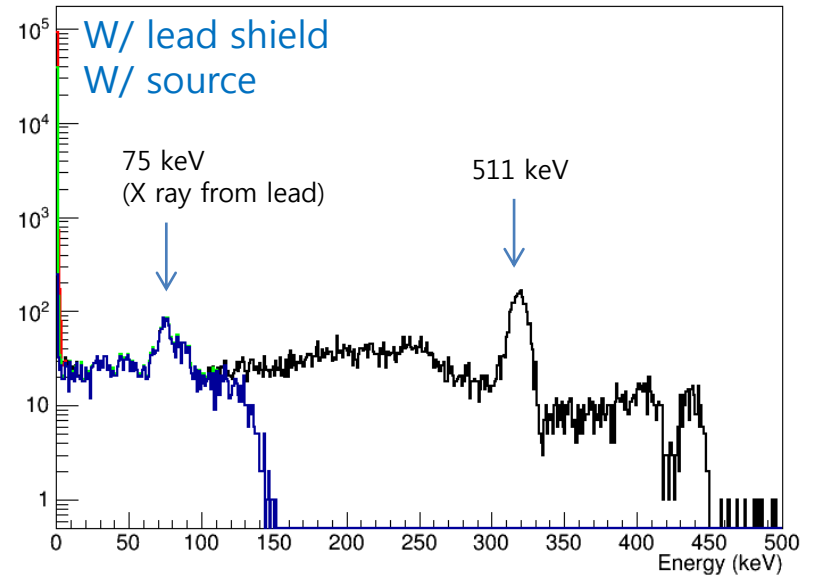
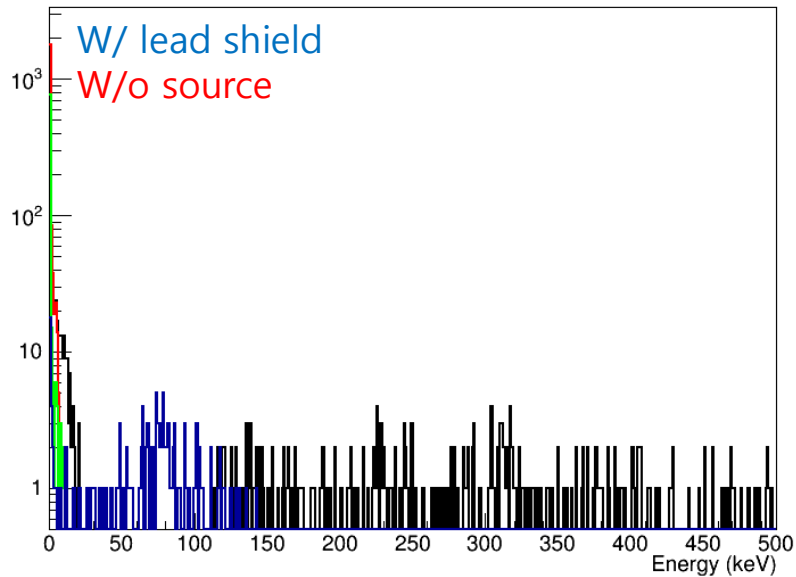
NaI – Energy

Black : Total

-> Red : Pulse height

-> Green : Asymmetry

-> Blue : DAMA



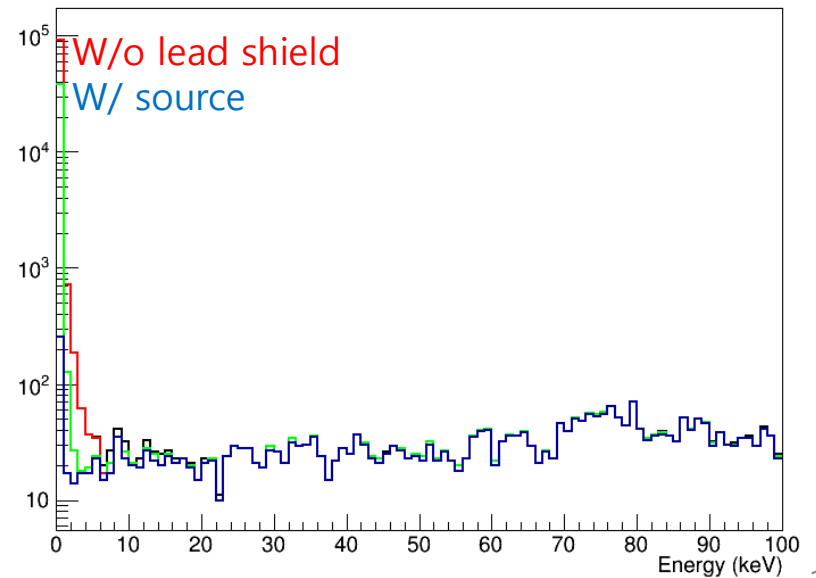
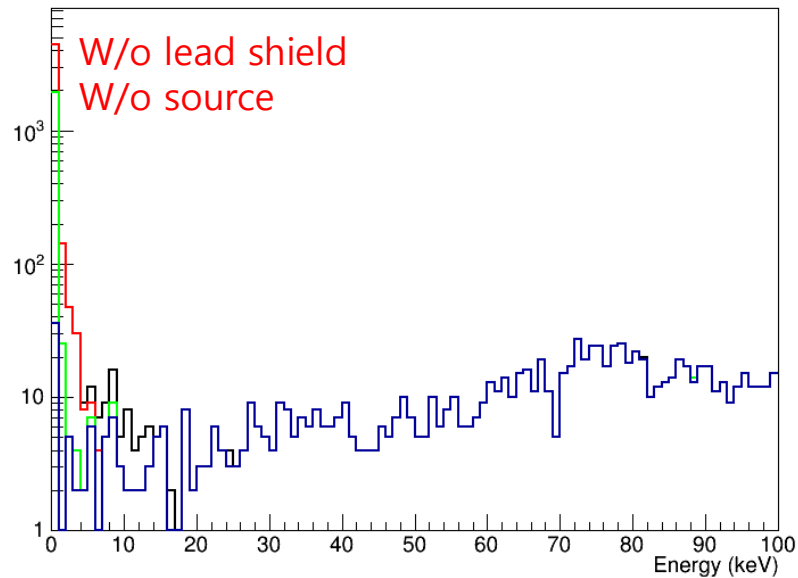
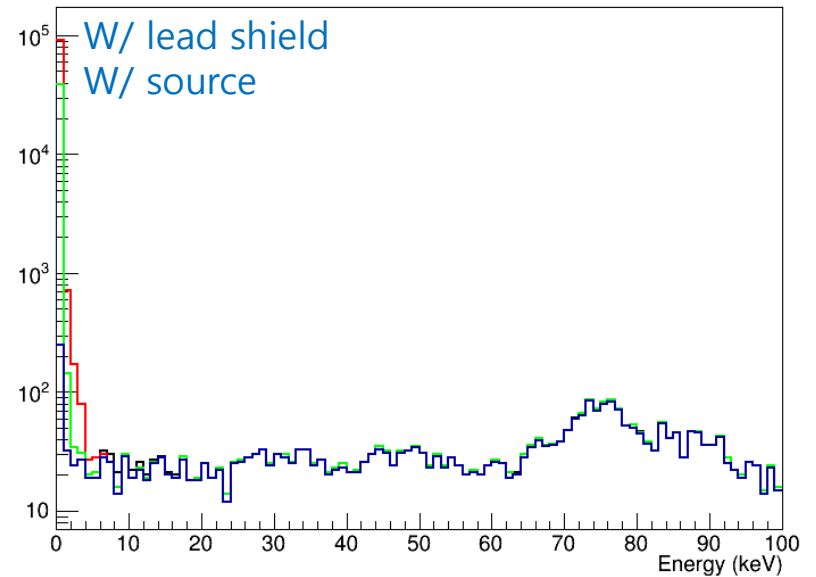
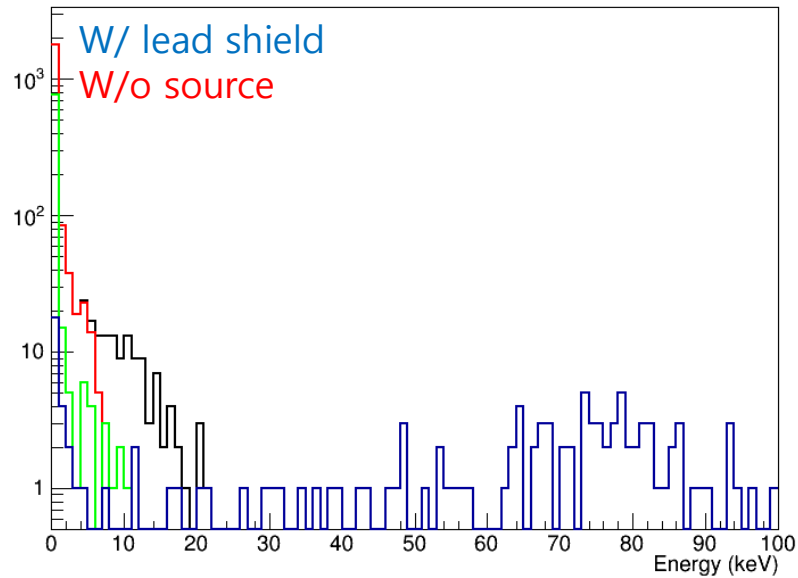
NaI – Energy

Black : Total

-> Red : Pulse height

-> Green : Asymmetry

-> Blue : DAMA



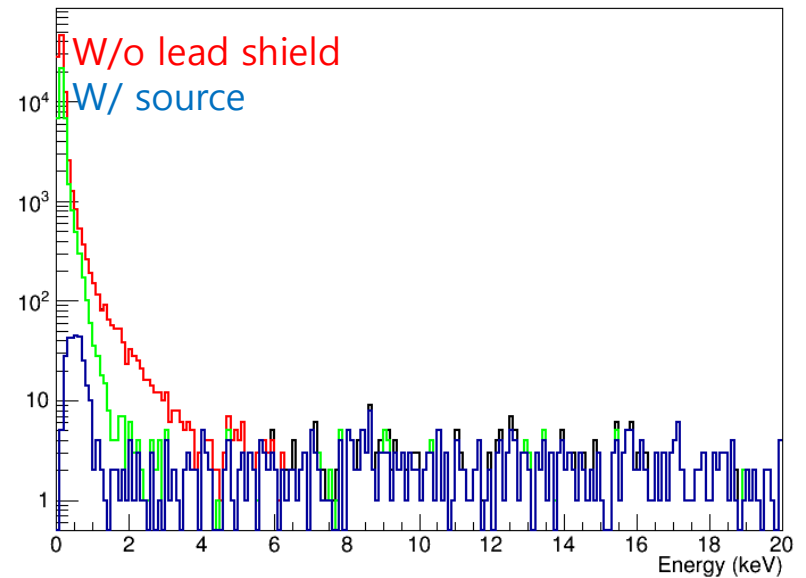
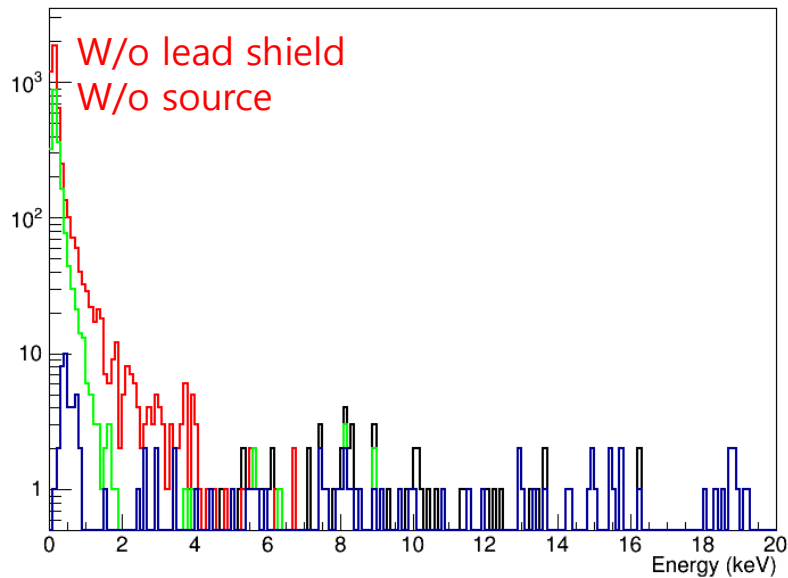
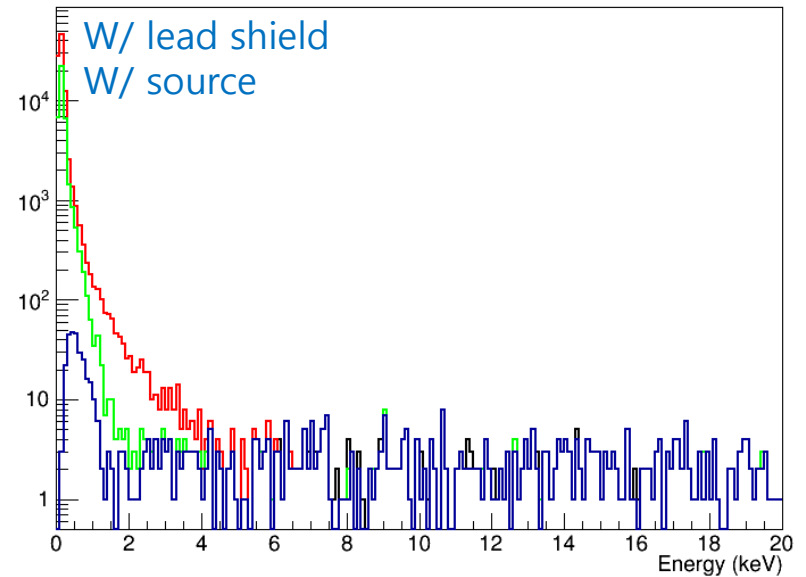
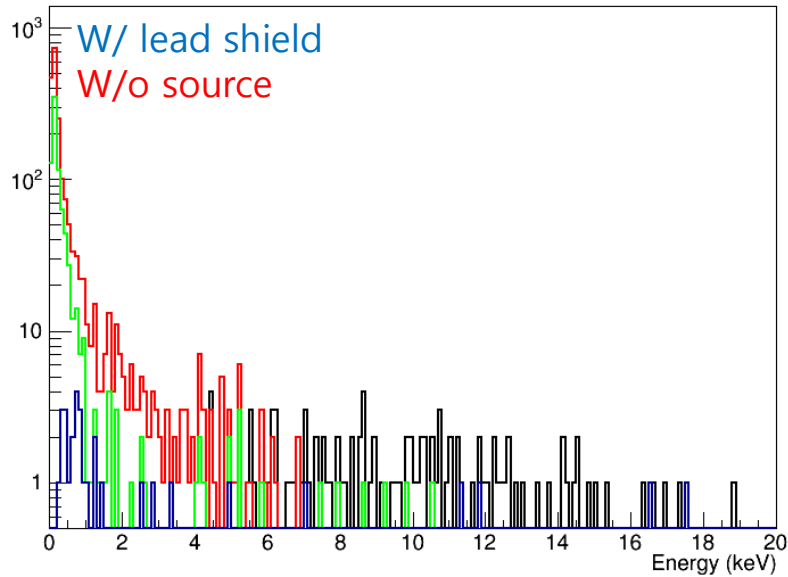
NaI – Energy

Black : Total

-> Red : Pulse height

-> Green : Asymmetry

-> Blue : DAMA



NaI – Energy comparison for data and simulation

Na22 ~ NaI : ~ 25 cm

Blue : Data (w/ Na22, w/o lead shield)

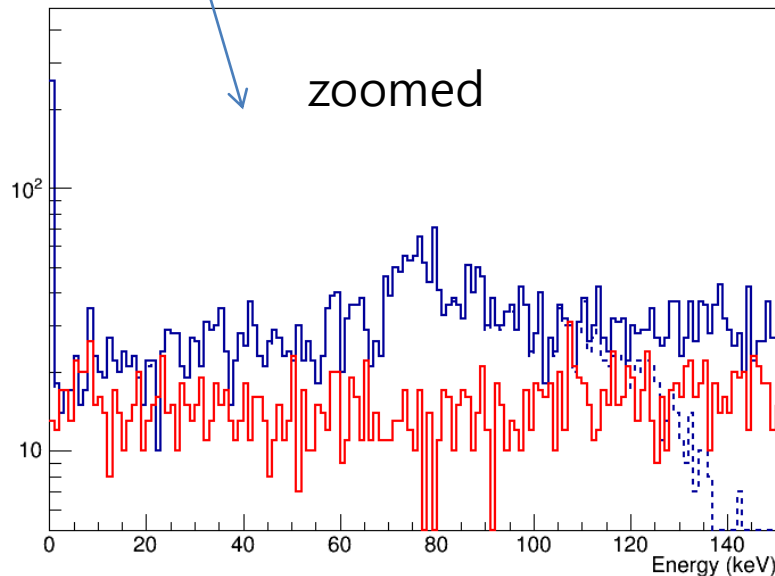
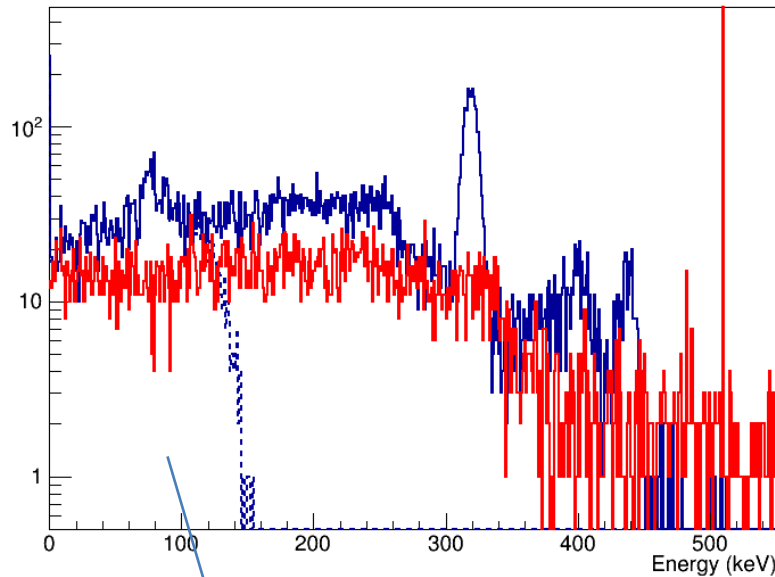
Total 105,329 evt

-> 100 s DAQ with 1053.2 Hz

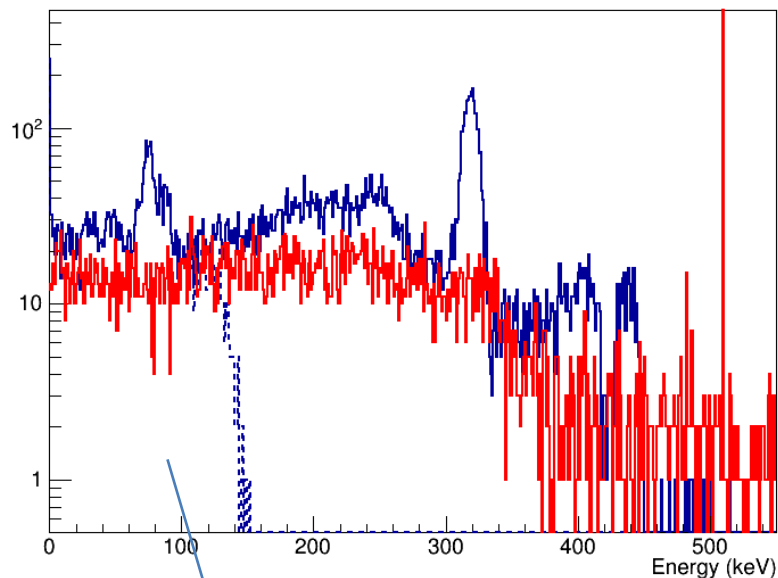
Red : Simulation

Total 1,000,000 evt

-> ~100 s with 100kBq (current) source



NaI – Energy comparison for data and simulation



Na22 ~ NaI : ~ 25 cm

Blue : Data (w/ Na22, with lead shield)

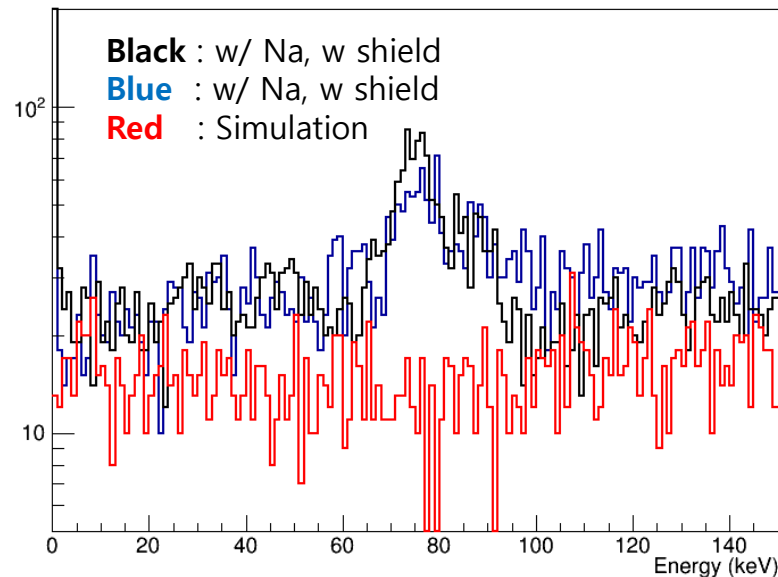
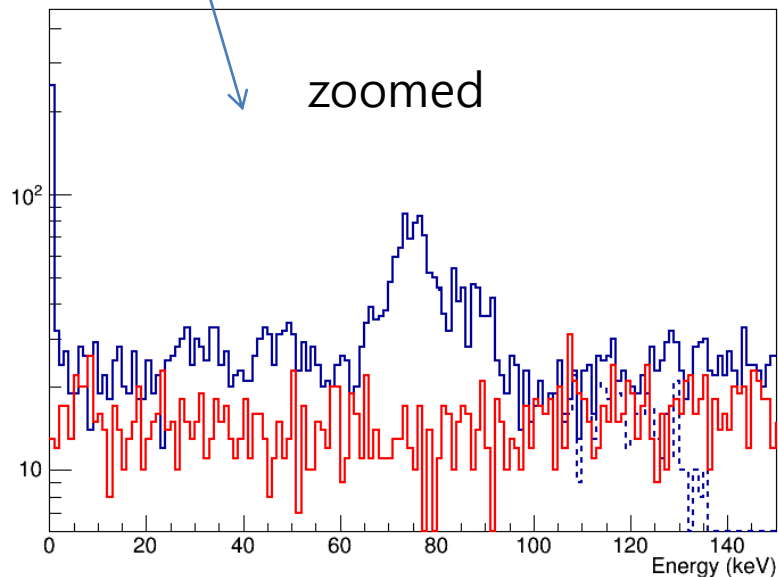
Total 105,151 evt

-> 100 s DAQ with 1051.8 Hz

Red : Simulation

Total 1,000,000 evt

-> ~100 s with 100kBq (current) source

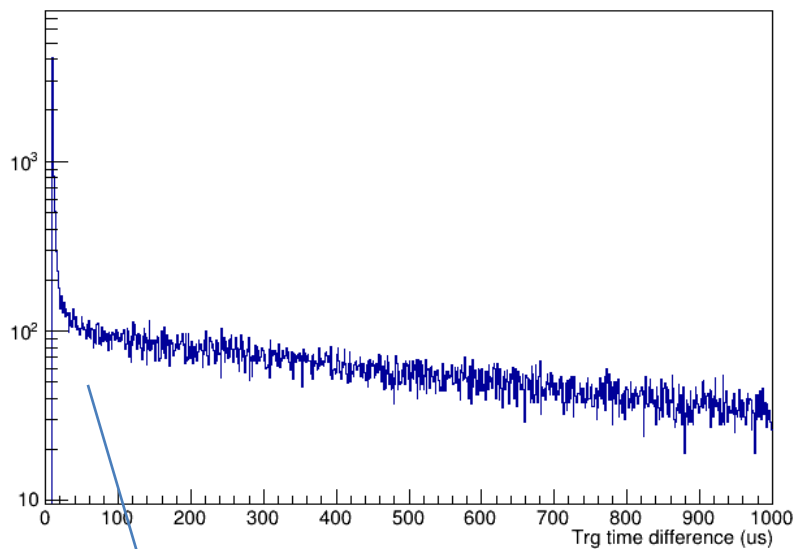


Number of events after event selection

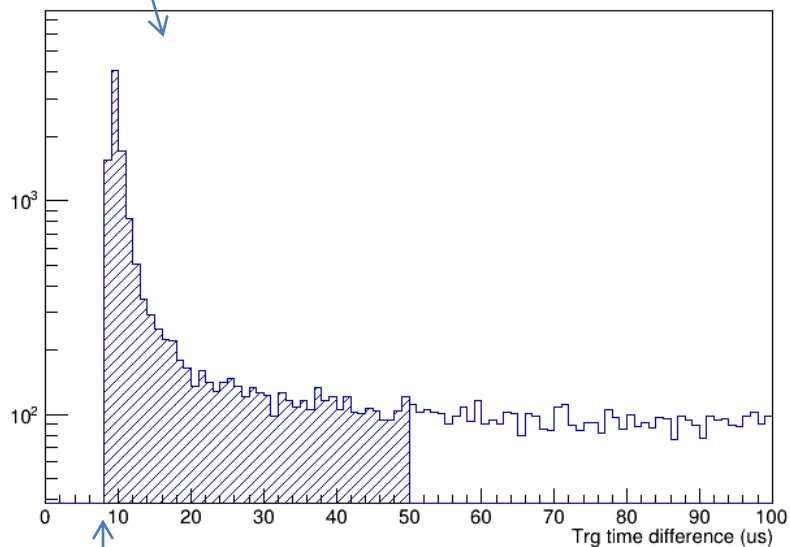
	Lead	-	Na22 / Lead	Na 22
Total	2,415 (100 %)	7,150 (100 %)	105,151 (100 %)	105,329 (100 %)
Pulse height	2,092 (86.6 %)	5,872 (82.1 %)	96,399 (91.7 %)	96,457 (91.6 %)
QC Asymmetry	1,442 (59.7 %)	4,293 (60.0 %)	57,207 (54.4 %)	57,339 (54.4 %)
DAMA cut	344 (14.2 %)	1,775 (24.8 %)	9,263 (8.8 %)	9,377 (8.9 %)

Trigger time difference

Data w/ Na22, w/o lead shield



zoomed



Dead time : 8 us

Tot # of events : 105,329
Difference 8~50 us : 13,962 (~13.3%)

Biggest cluster height

Data w/ Na22, w/o lead shield

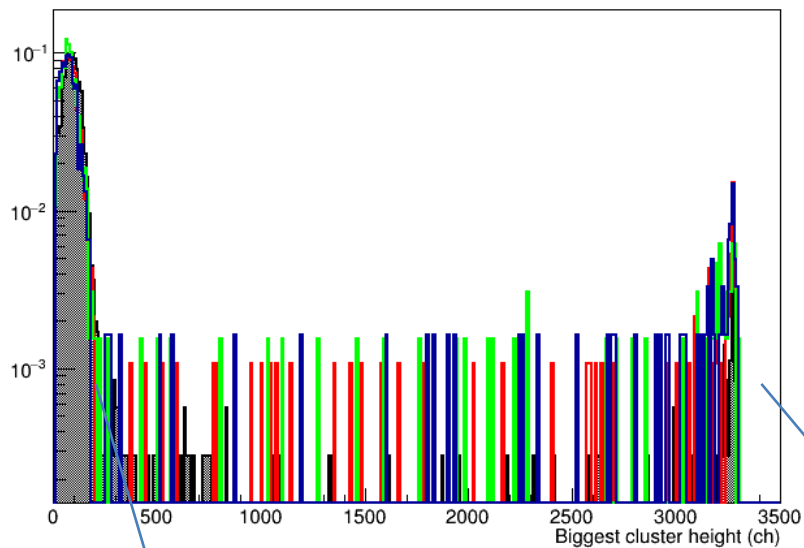
Trigger time difference

Black : 10~15

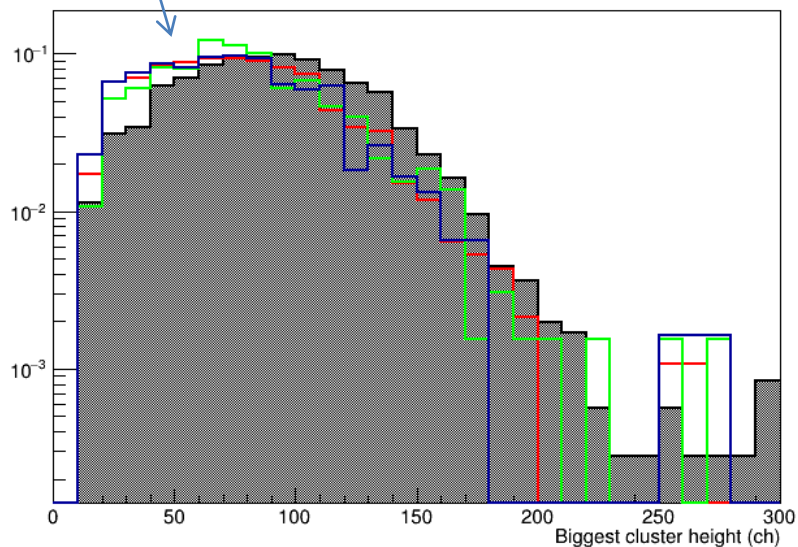
Red : 15~20

Green : 20~25

Blue : 25~30



zoomed



zoomed

