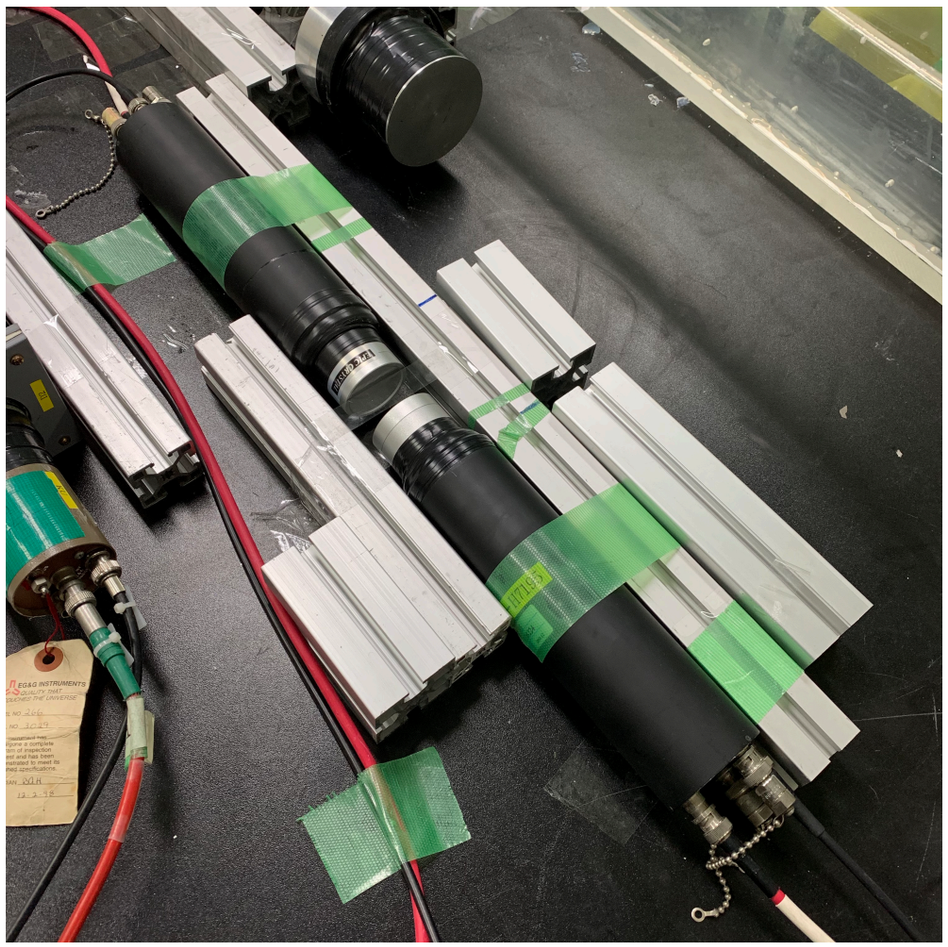
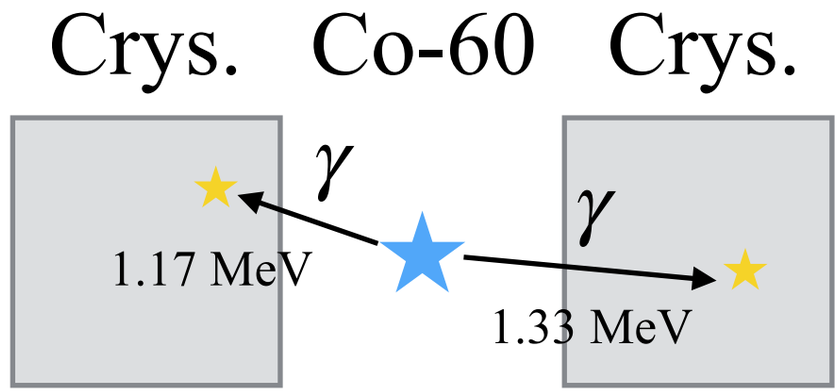
Group Meeting

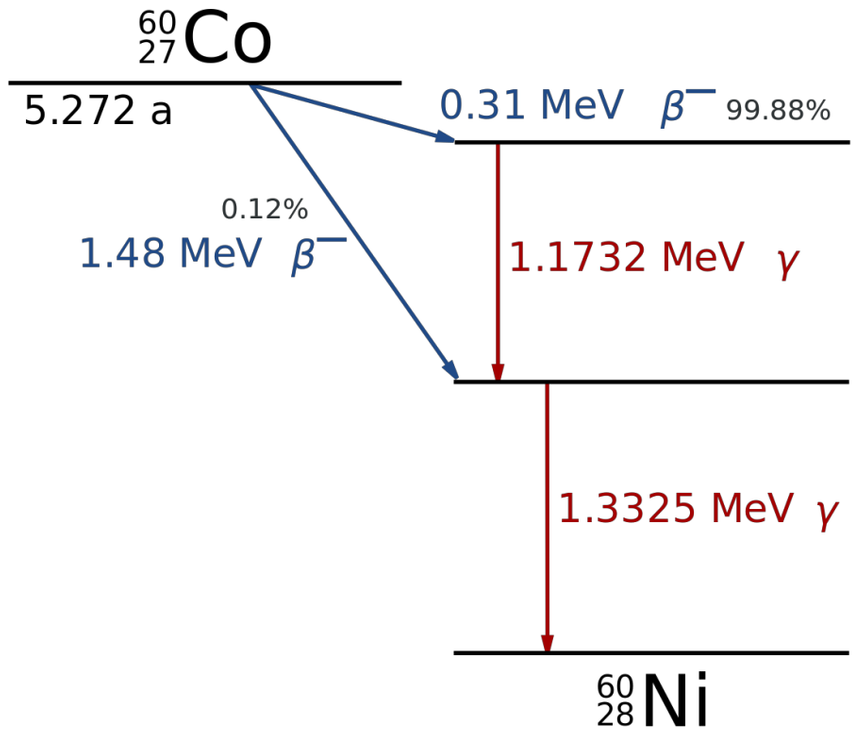
2019.03.15

Byul Moon

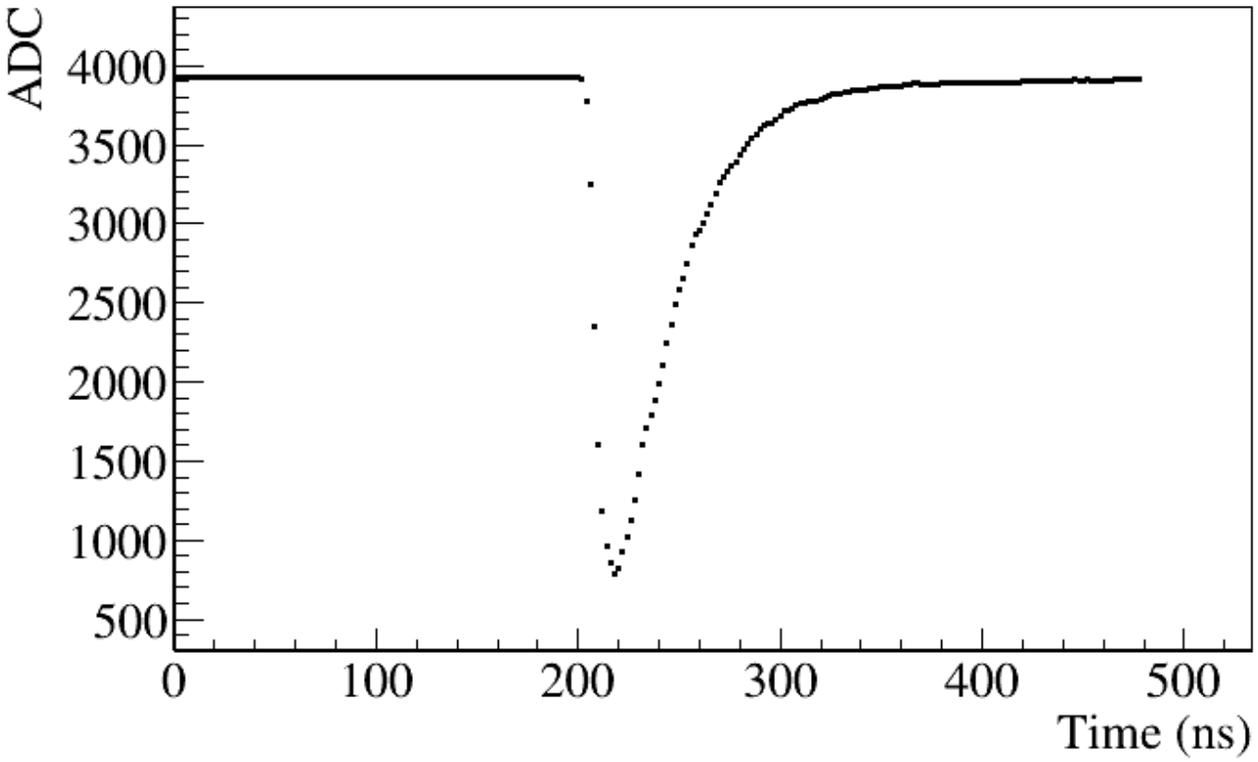
LaBr3(Ce) Test Bench







LaBr3(Ce) Test Bench



Notice Korea FADC DAQ

Trigger: 1 & 2 (500 ns)

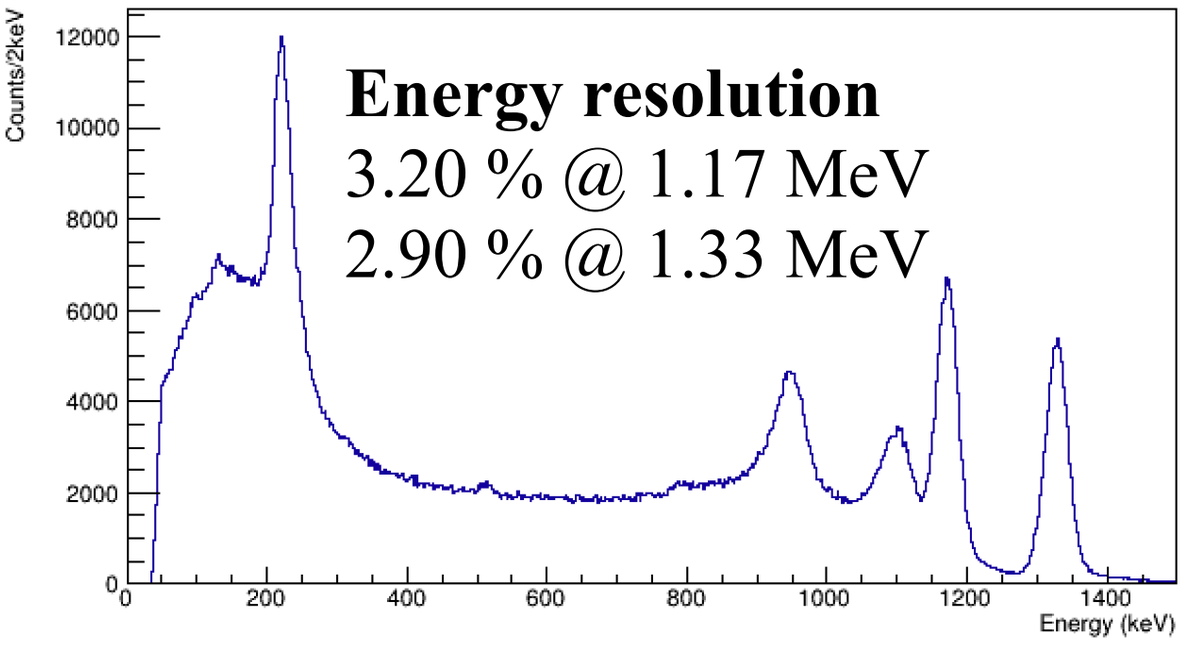
Sampling rate: 500 MHz

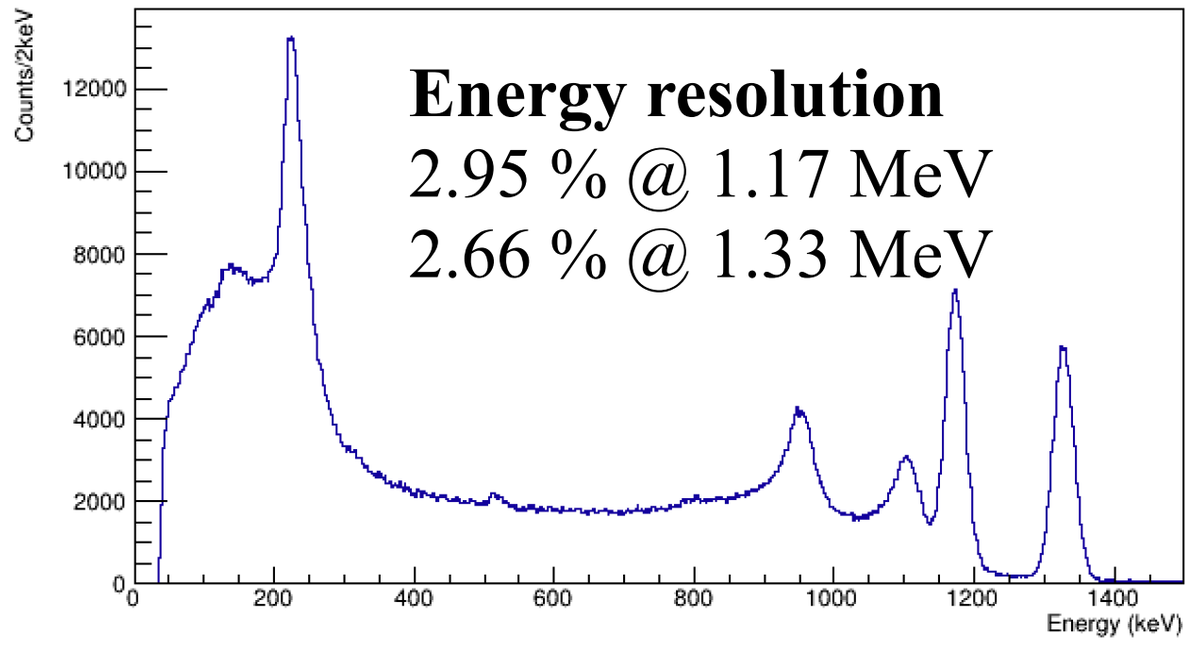
Gate width: 512 ns (including header info.)

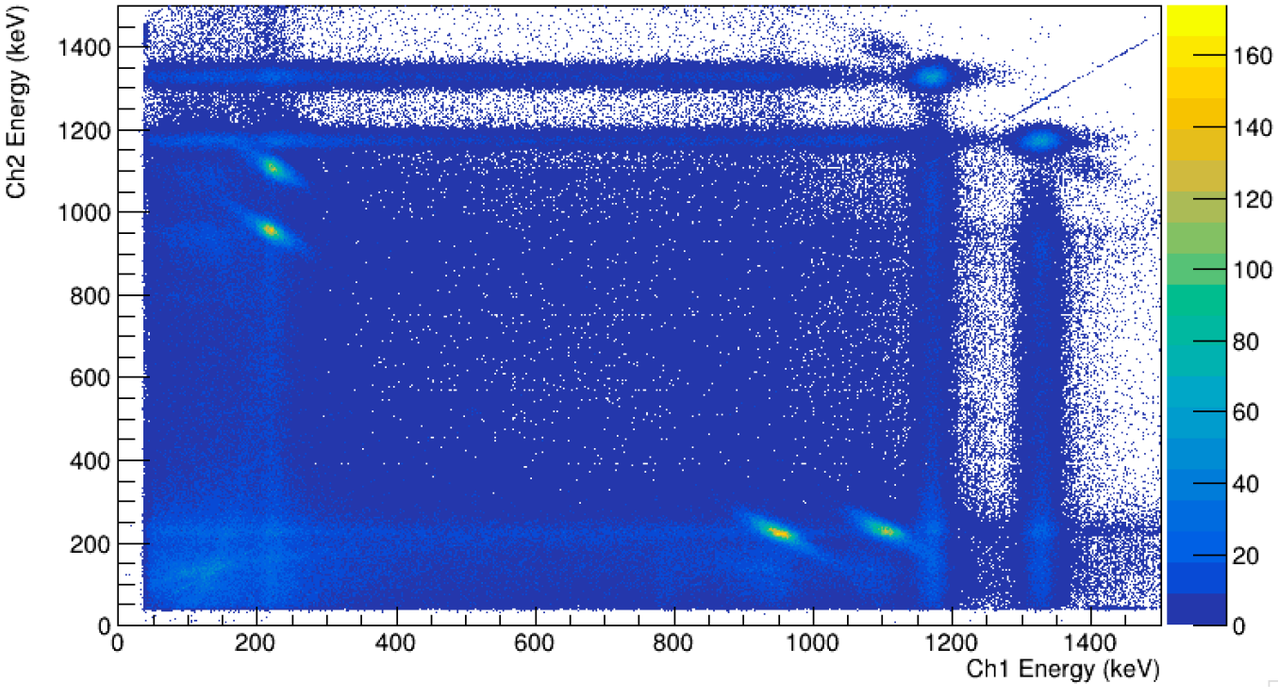
ADC resolution: 12 bit

Dynamic range: 2 V_{pp}

LaBr3(Ce) Test Bench

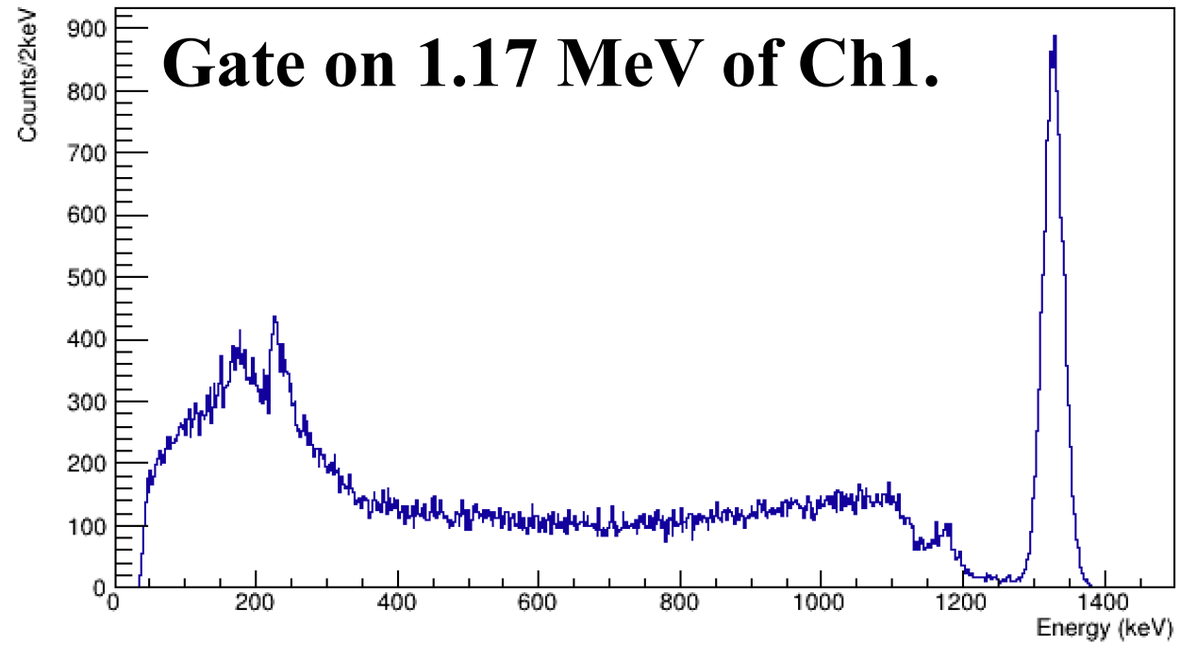


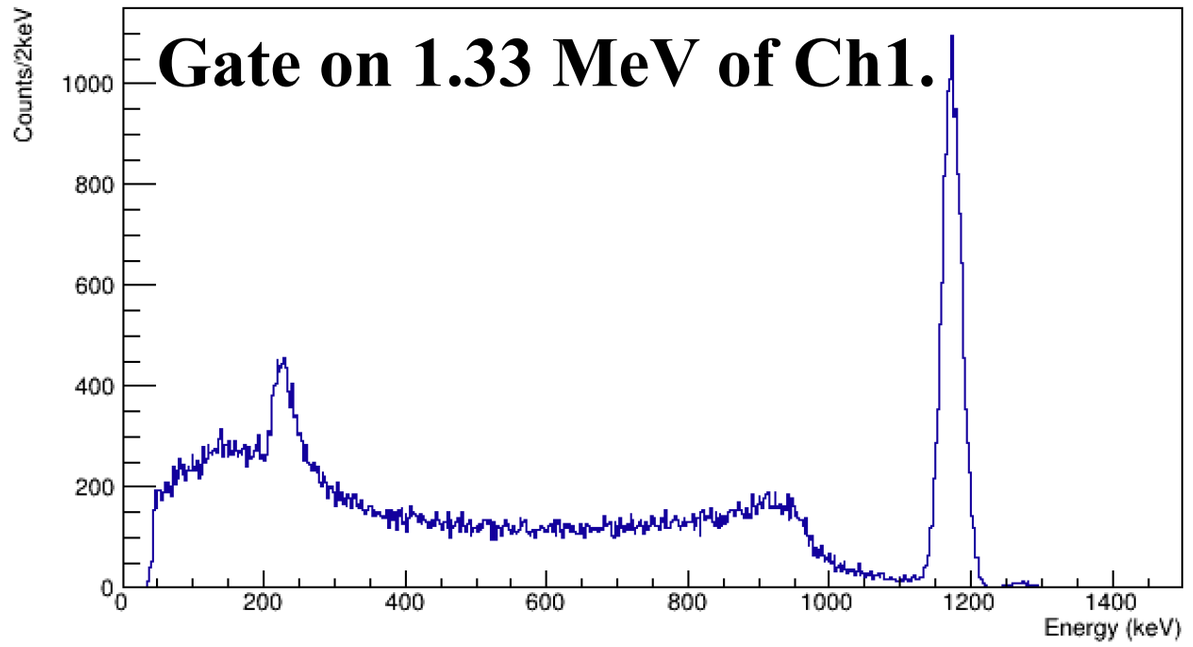


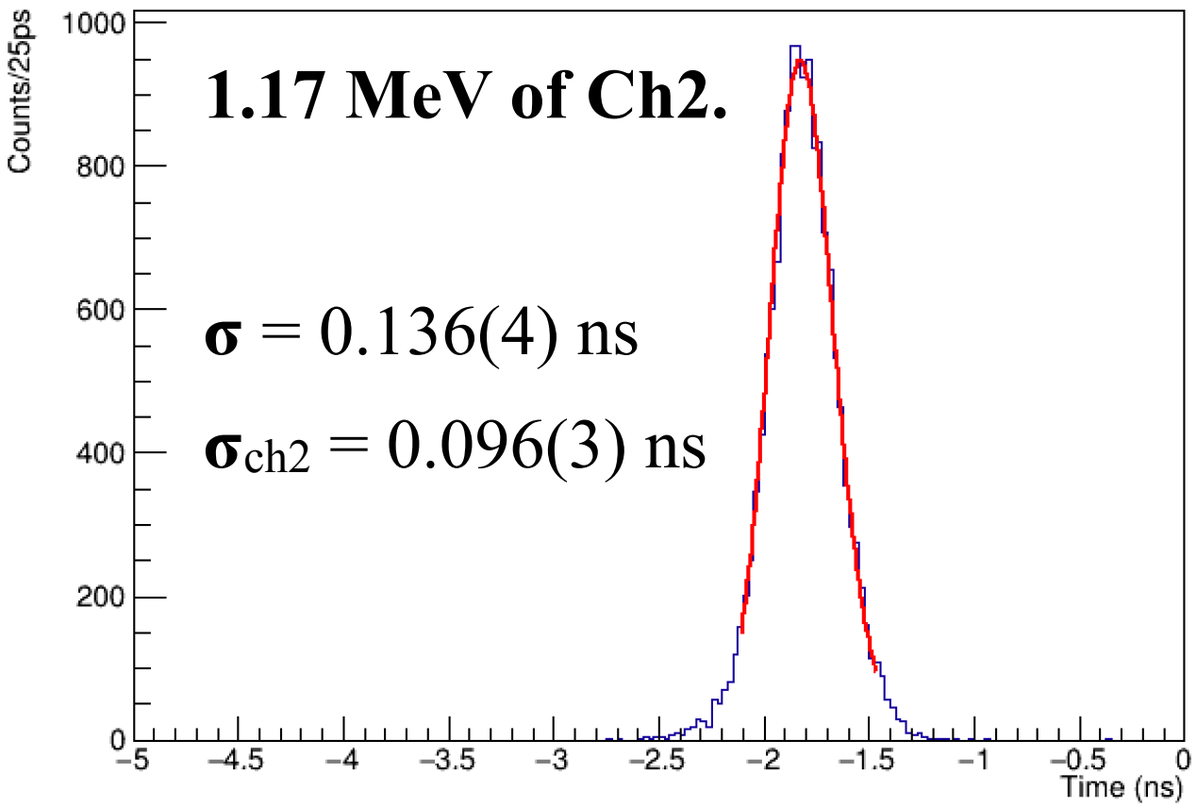


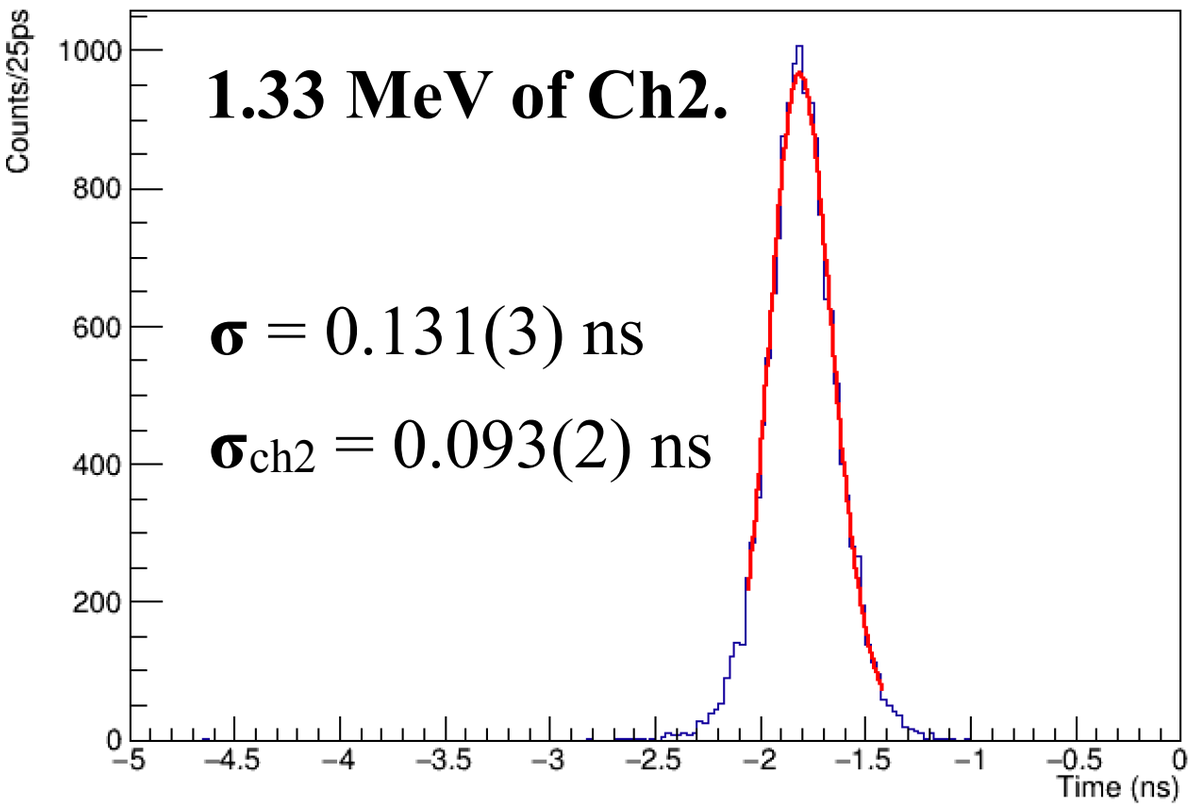
Improve energy resolution.

LaBr3(Ce) Test Bench

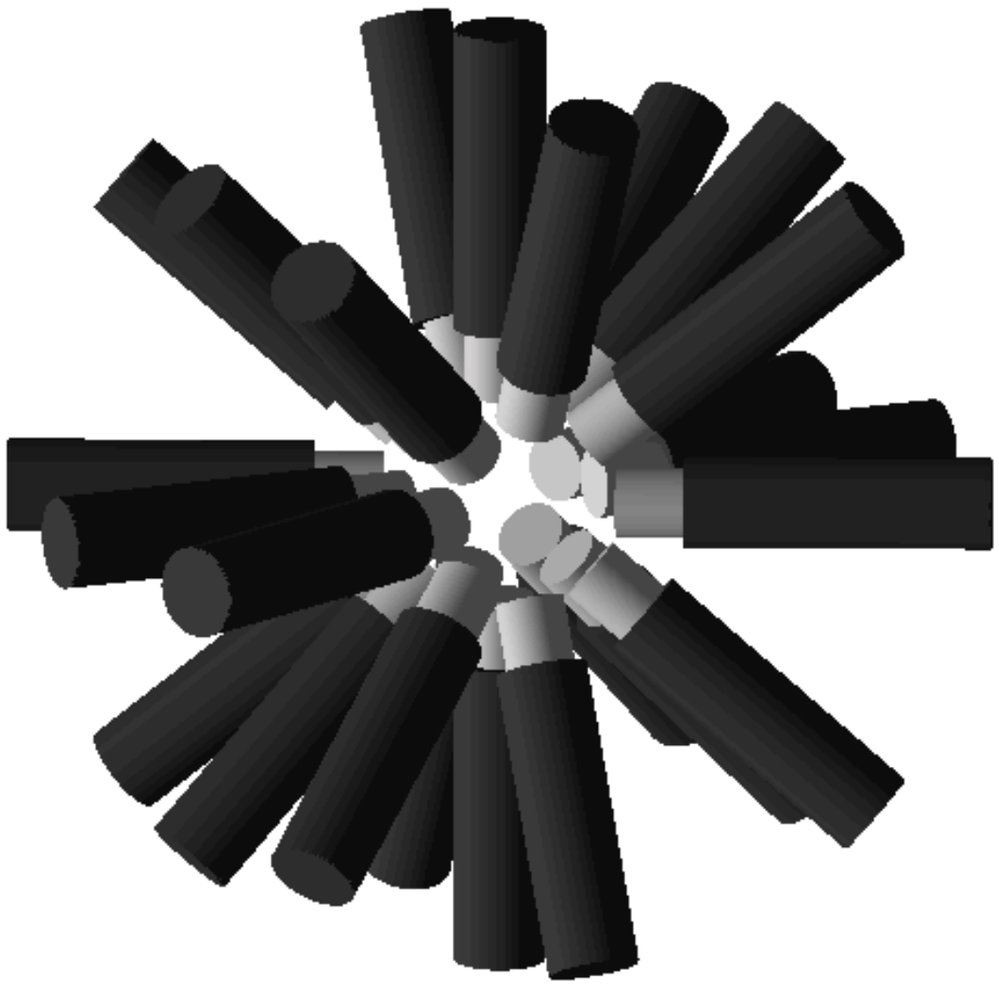


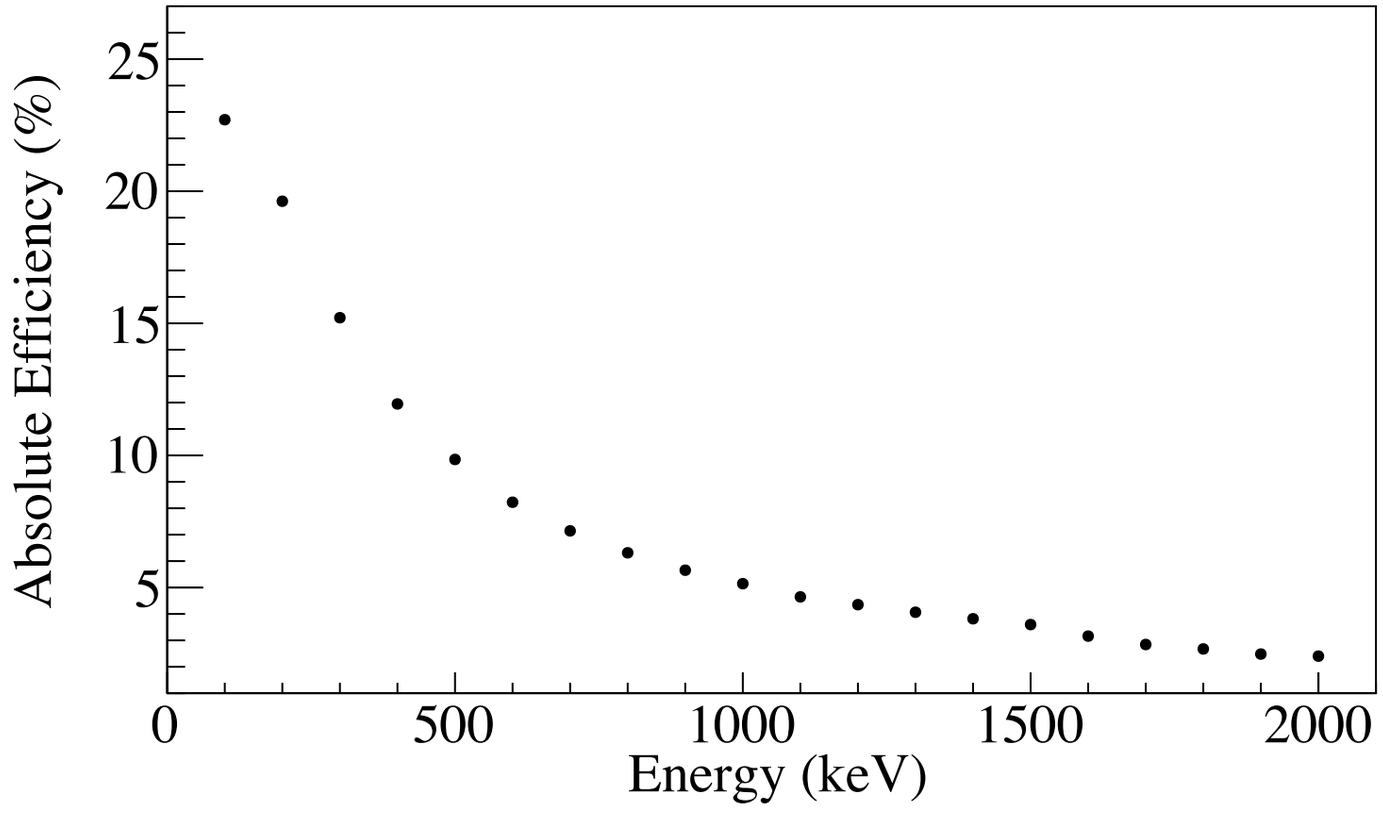






LaBr3(Ce) Simulation





New configuration with mini-ball like geometry.

Preparation

	Qty	Note
R9420 PMT	2	Fast-timing PMT performance test.
R13408 PMT	2	
V1718	1	VME controller.
V1742	1	FADC digitizer (32+2ch, 12-bit 1Vpp ADC, max. 5 GS.s, max. 1kS/events)
AG7236SN	1	HV supplier (24 ch., max. -3.5 kV, max. 1.5 mA)
VME8004B	1	VME64 2U mini crate with 4 slots.
SY5527LC	1	Power supply system with 4 slots.
LaBr3(Ce)	12	**Negotiating with Young-In Inc.**

Plan

1. Performance test after PMTs arrivals.
2. Build DAQ software after electronics arrivals.
3. Manpower.

김지석: Design of supporting structure.
장영섭: GEANT4 simulation with entire system.
이재환: Data base from performance tests.

Summary

1. Bech test of LaBr3(Ce) scintillators attached to R329-02 PMTs with Co-60 radiation source.
2. Need to improve the energy and timing resolution.
3. Efficiency simulation with new configuration.
4. Purchase of PMTs and electronics.