

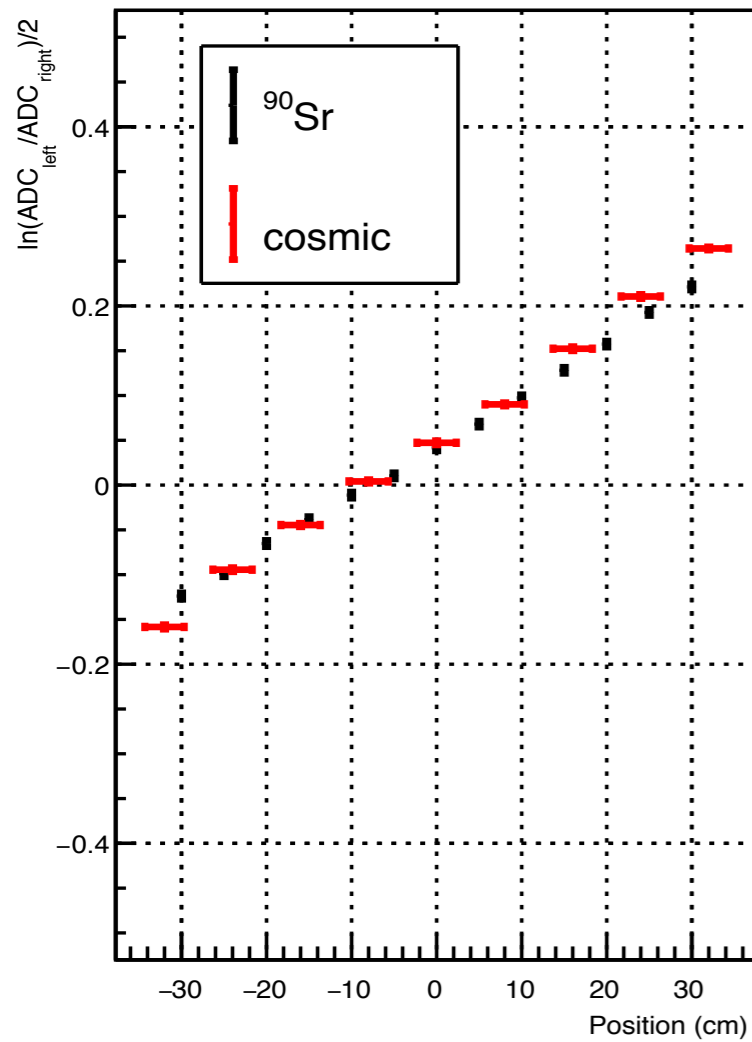
hanul meeting

Hodoscope simulation plan

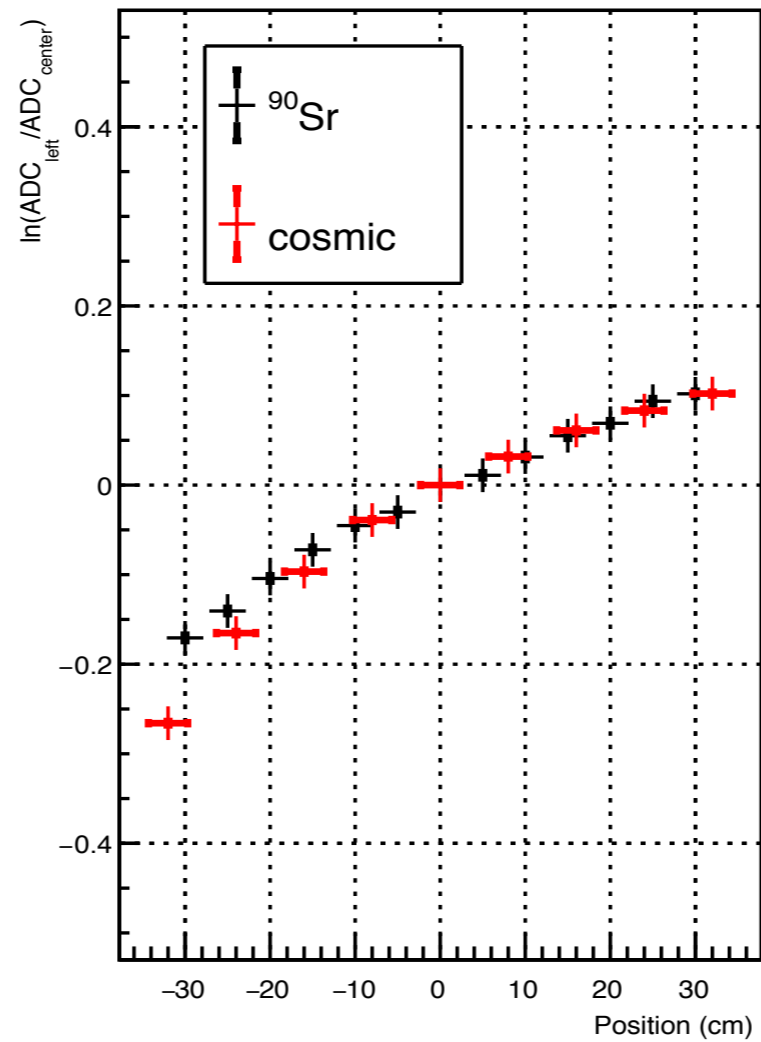
**Korea Univ.
Wooseung Jung**

PREVIOUS ATTENUATION TEST RESULT

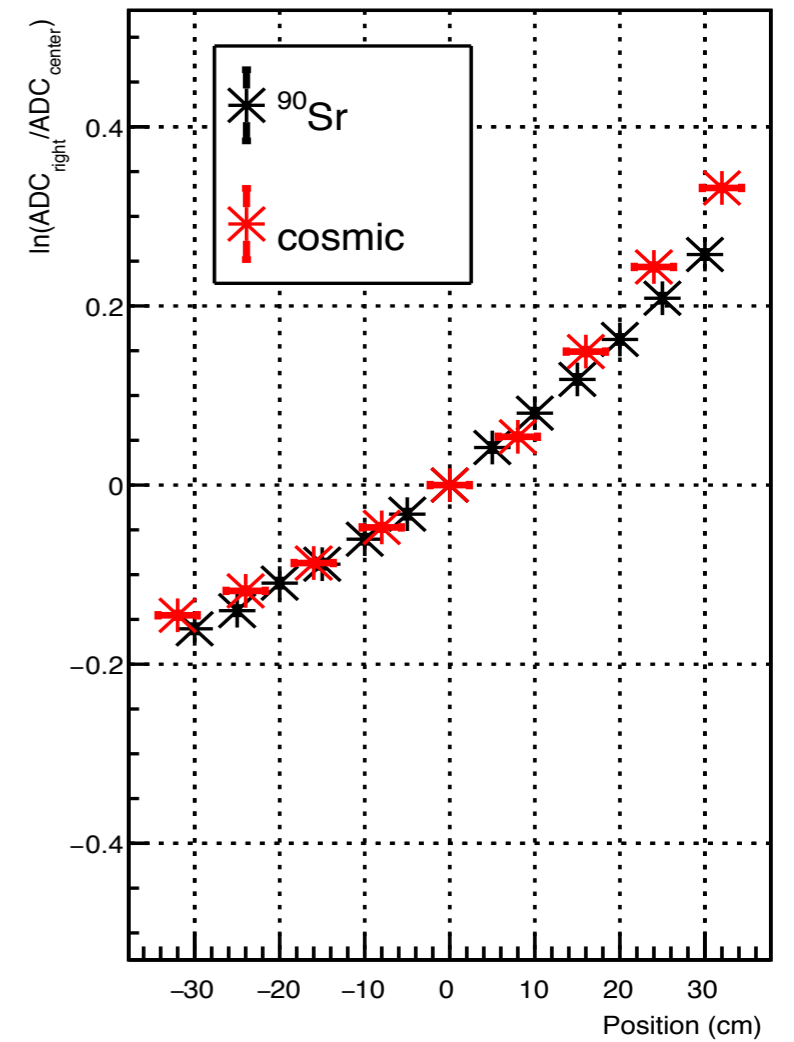
Attenuation length



Attenuation length(left)



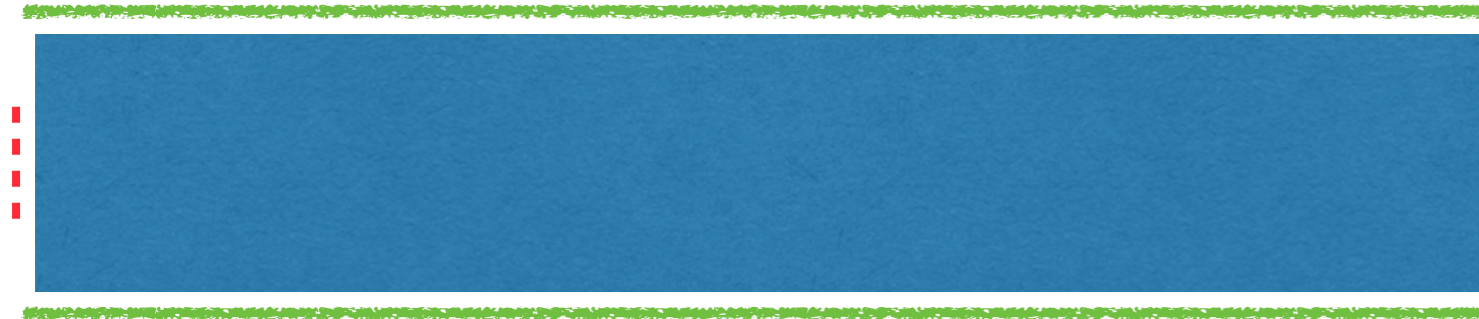
Attenuation length(right)



SCHEMATIC DRAWING

MPPCs & Reflectors are acting like a mirror

W/o light guide



— Reflector : Al mylar
- - - 8 MPPCs

W/ light guide



G4 SIMULATION PLAN

Goal

Reproduction of experimental result (Attenuation)

Parameters to change

Detector construction

- w/ or w/o light guide
- Varying reflectivity of MPPC & Reflector(60, 70, 80, 90 %)

Beam condition

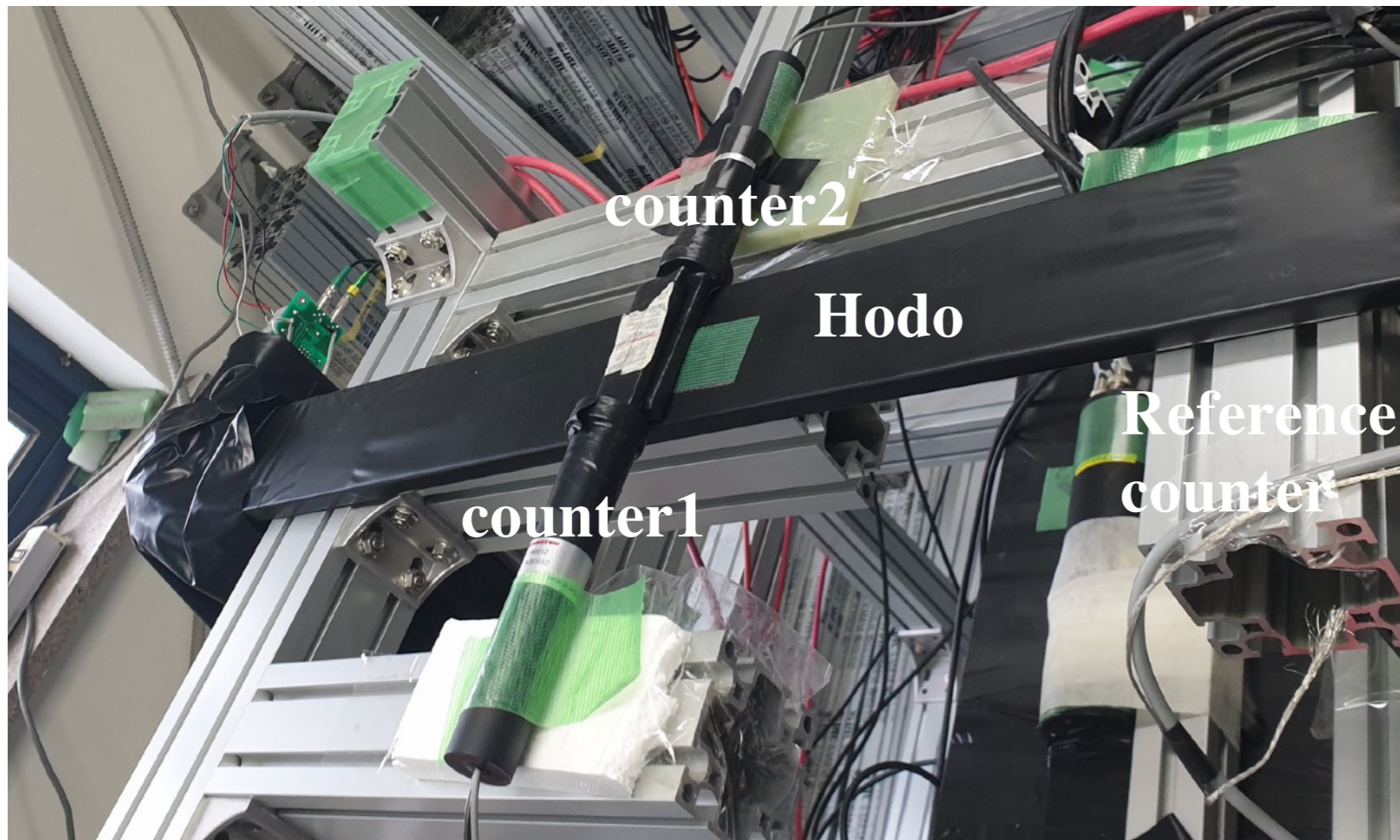
- Position (-32, -24, -16, -8, 0, 8, 16, 24, 32) cm

BACKUP

SETUP

Setup

Trigger condition - Reference counter



counter 1

counter 2

Hodoscope



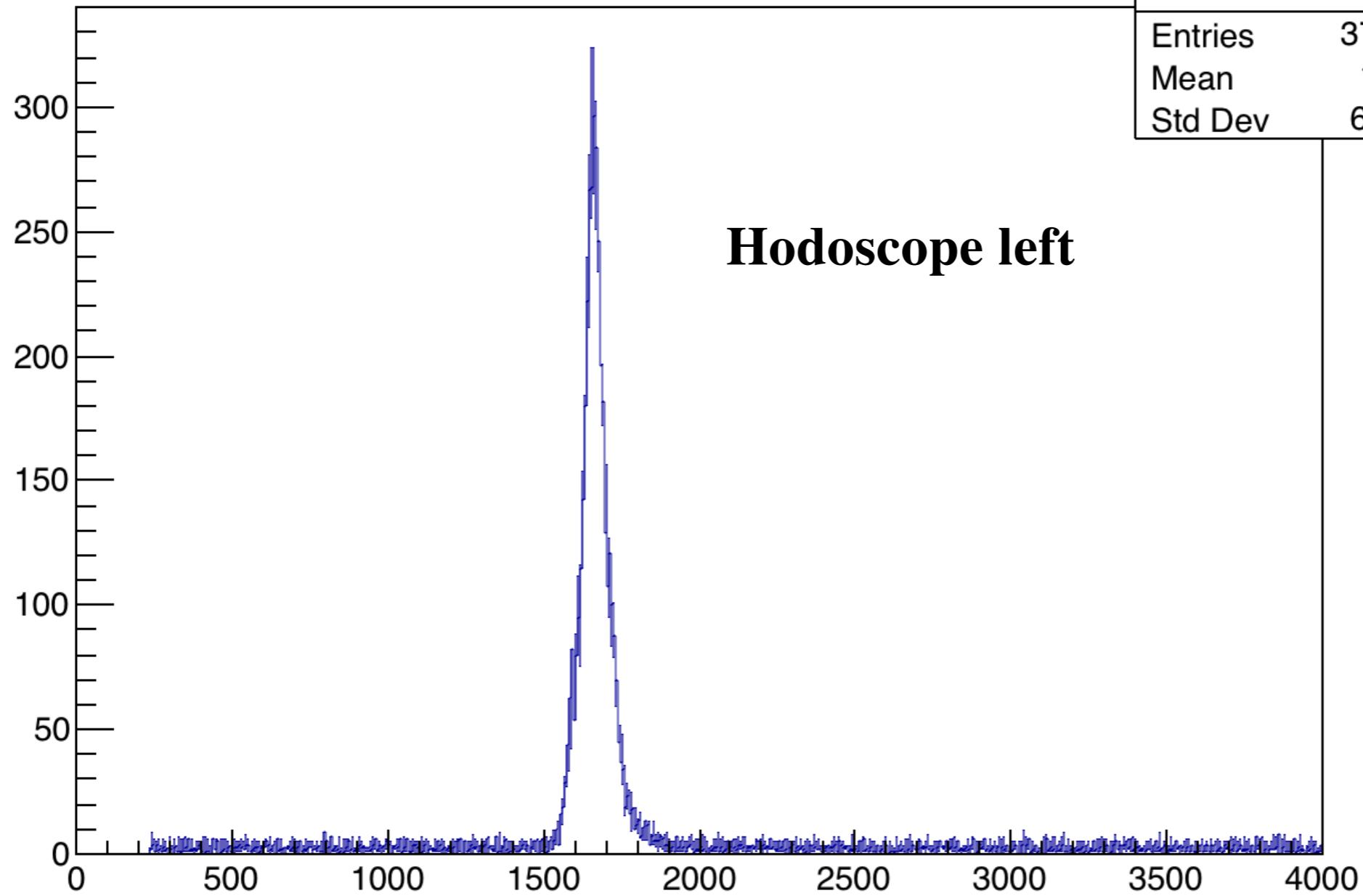
Reference counter

PROBLEM

threshold problem

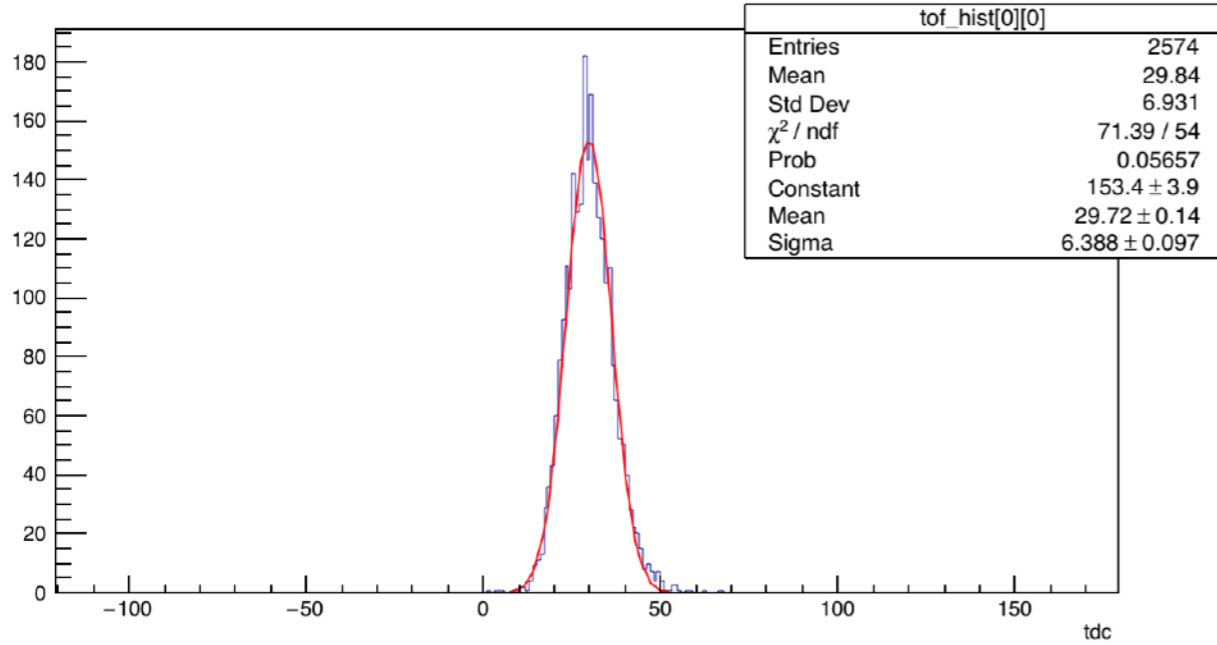
tdc[13] {tdc[13]!=-9999}

Entries	37067
Mean	1791
Std Dev	613.7

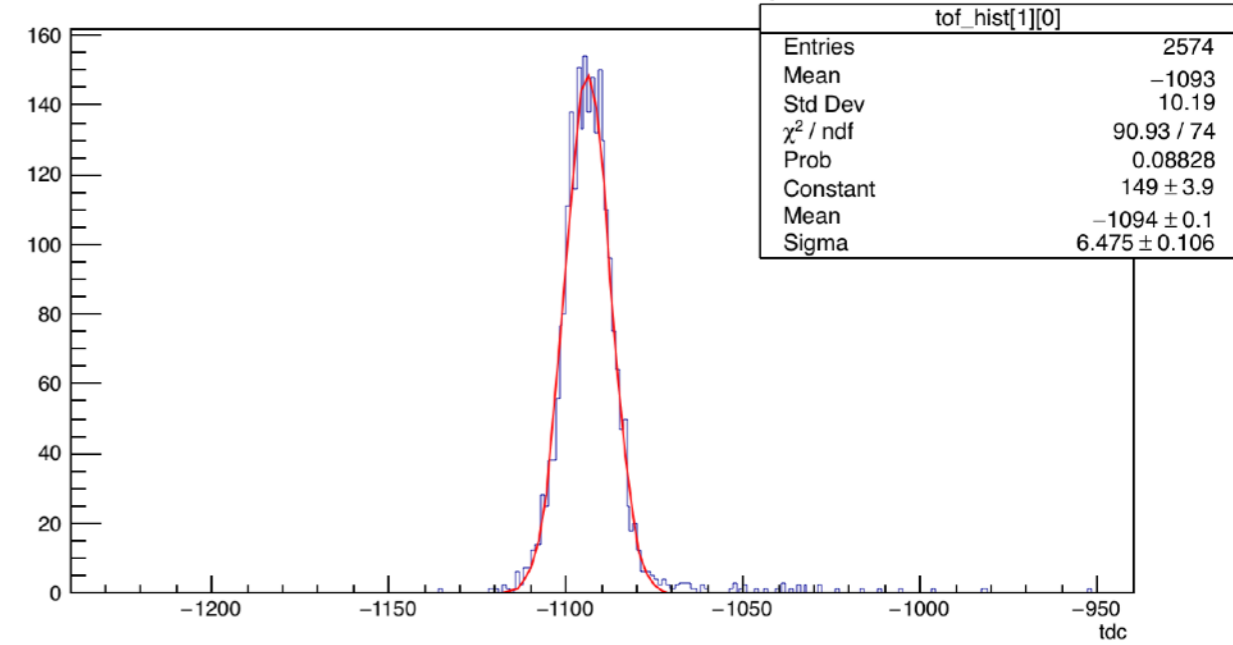


EVENT SELECTION

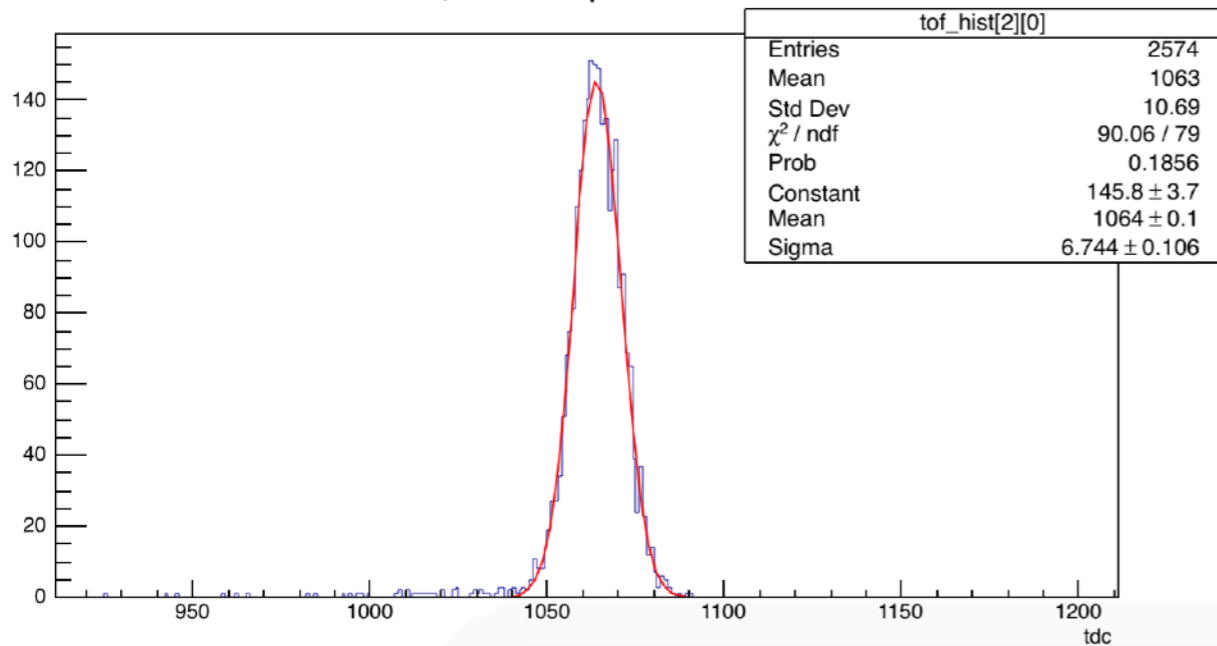
TOF, counter1 ~ counter2



TOF, counter2 ~ Hodoscope



TOF, Hodoscope ~ counter1



$\sigma_{\text{counter1}} \sim 165 \pm 4 \text{ ps}$

$\sigma_{\text{counter2}} \sim 151 \pm 5 \text{ ps}$

$\sigma_{\text{Hodoscope}} \sim 169 \pm 4 \text{ ps}$

JAEA Result : 133.24 ± 2.16