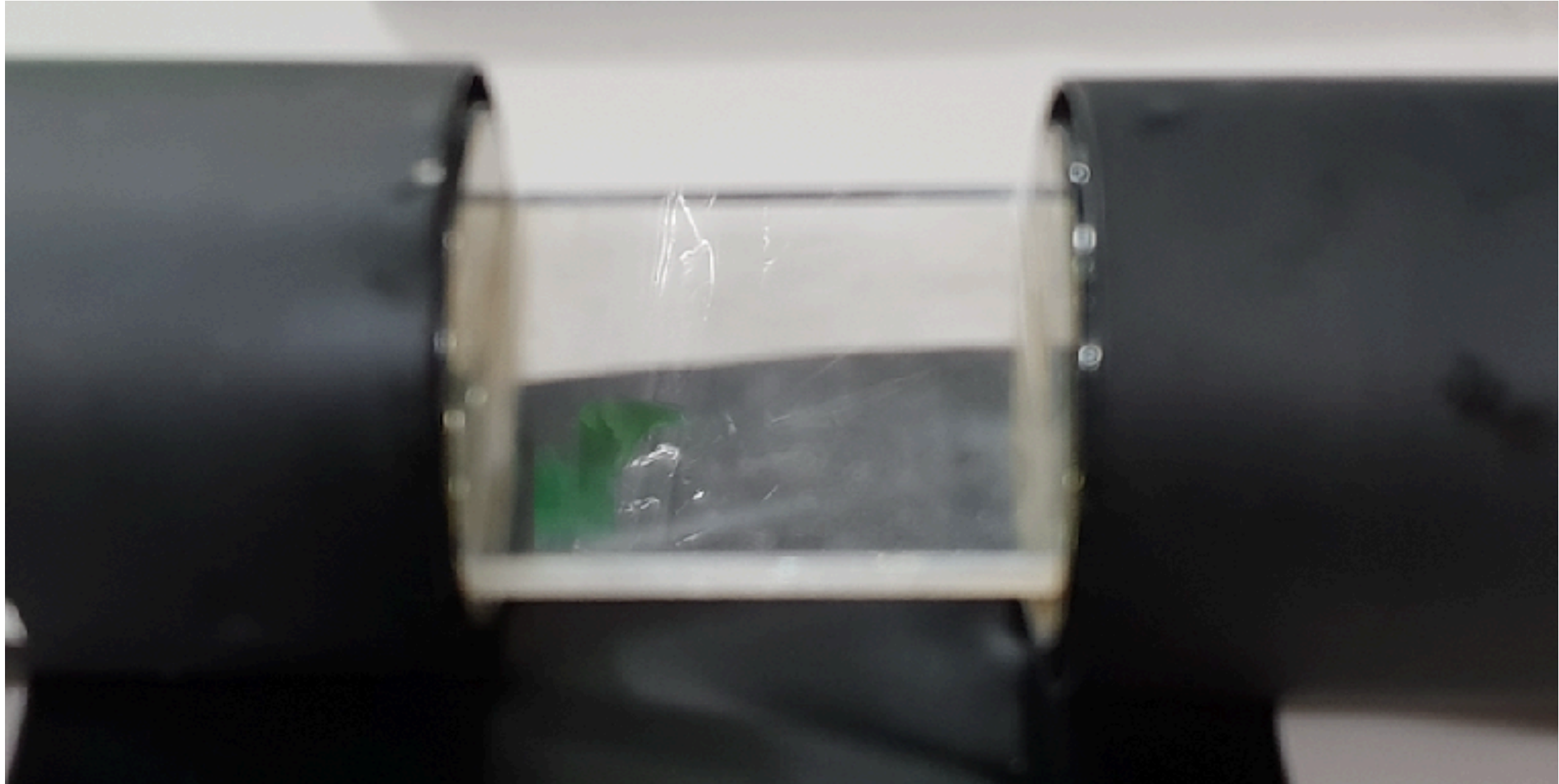


HANUL MEETING

Hodoscope cosmic test

TRIGGER COUNTER(BOTTOM)

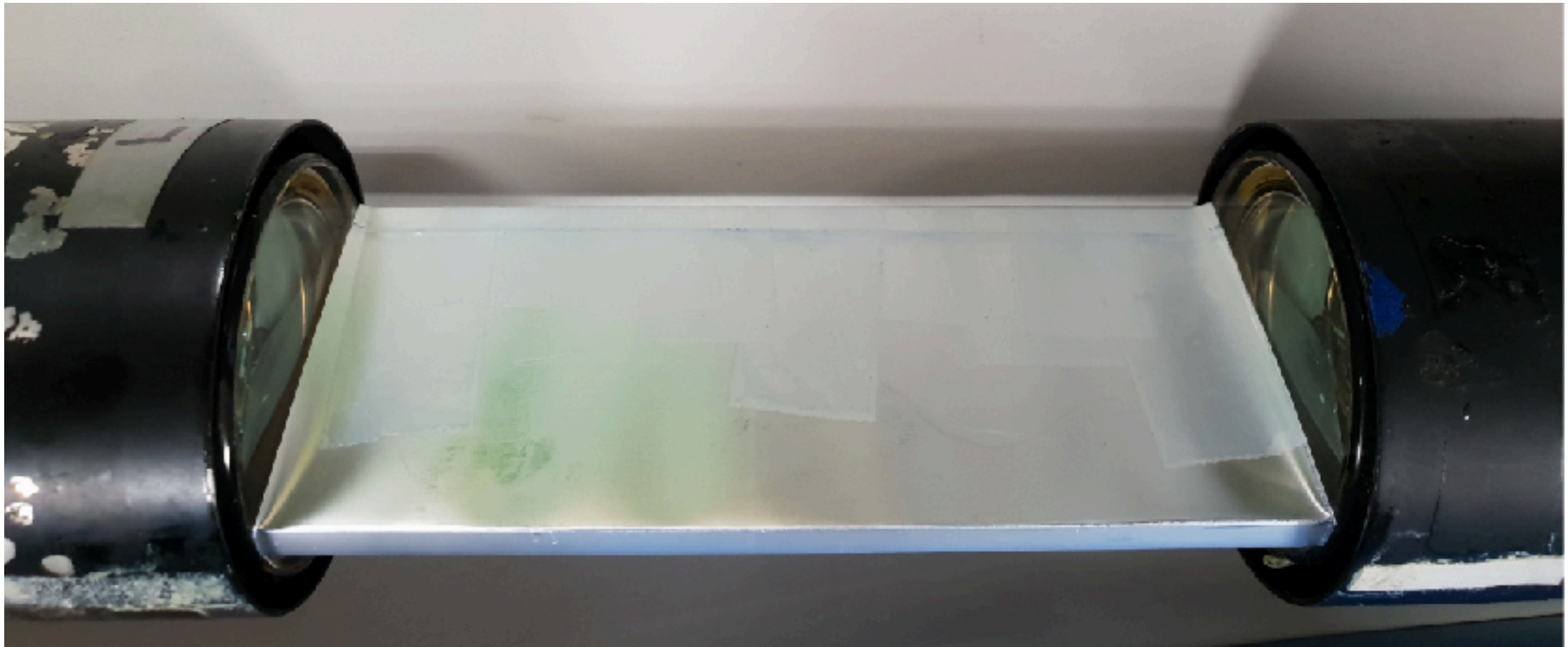
Scintillator size : $5^L \times 5^W \times 0.5^T$ cm



TRIGGER COUNTER(BOTTOM)

Scintillator size : $5^L \times 5^W \times 0.5^T$ cm

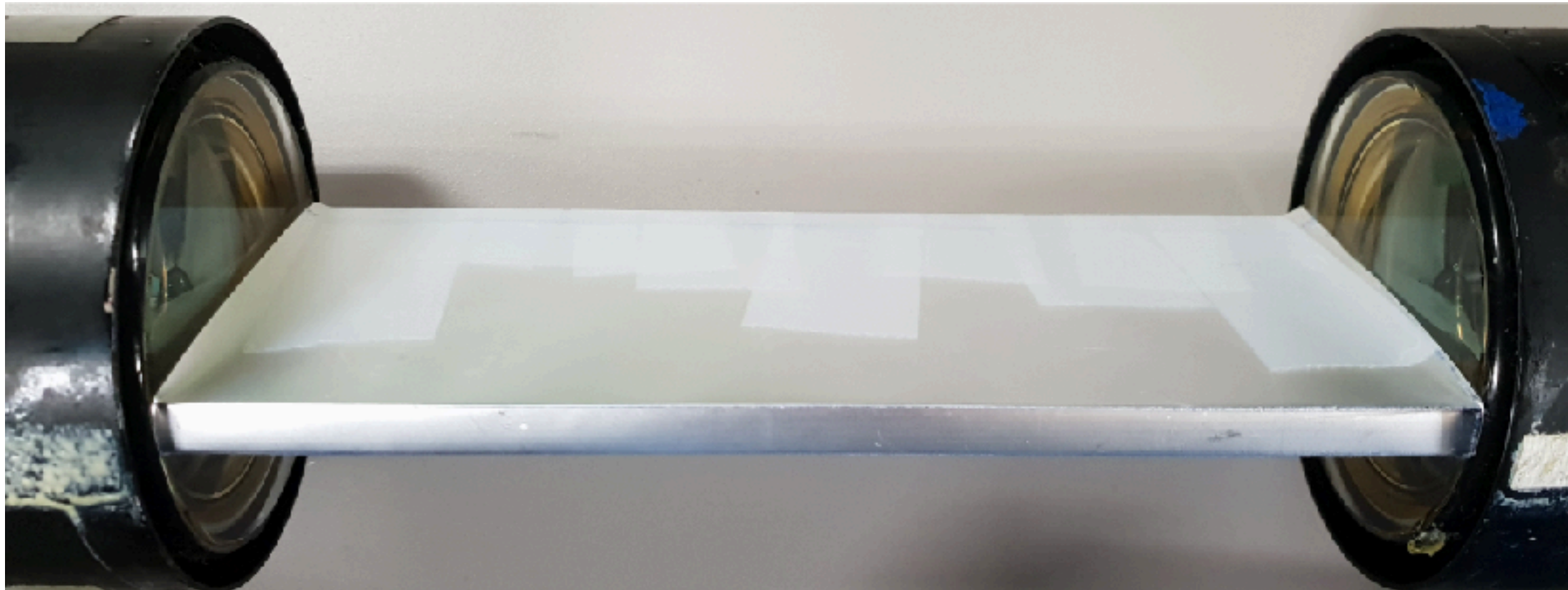
Wrapped the scintillator with the ESR reflection paper.



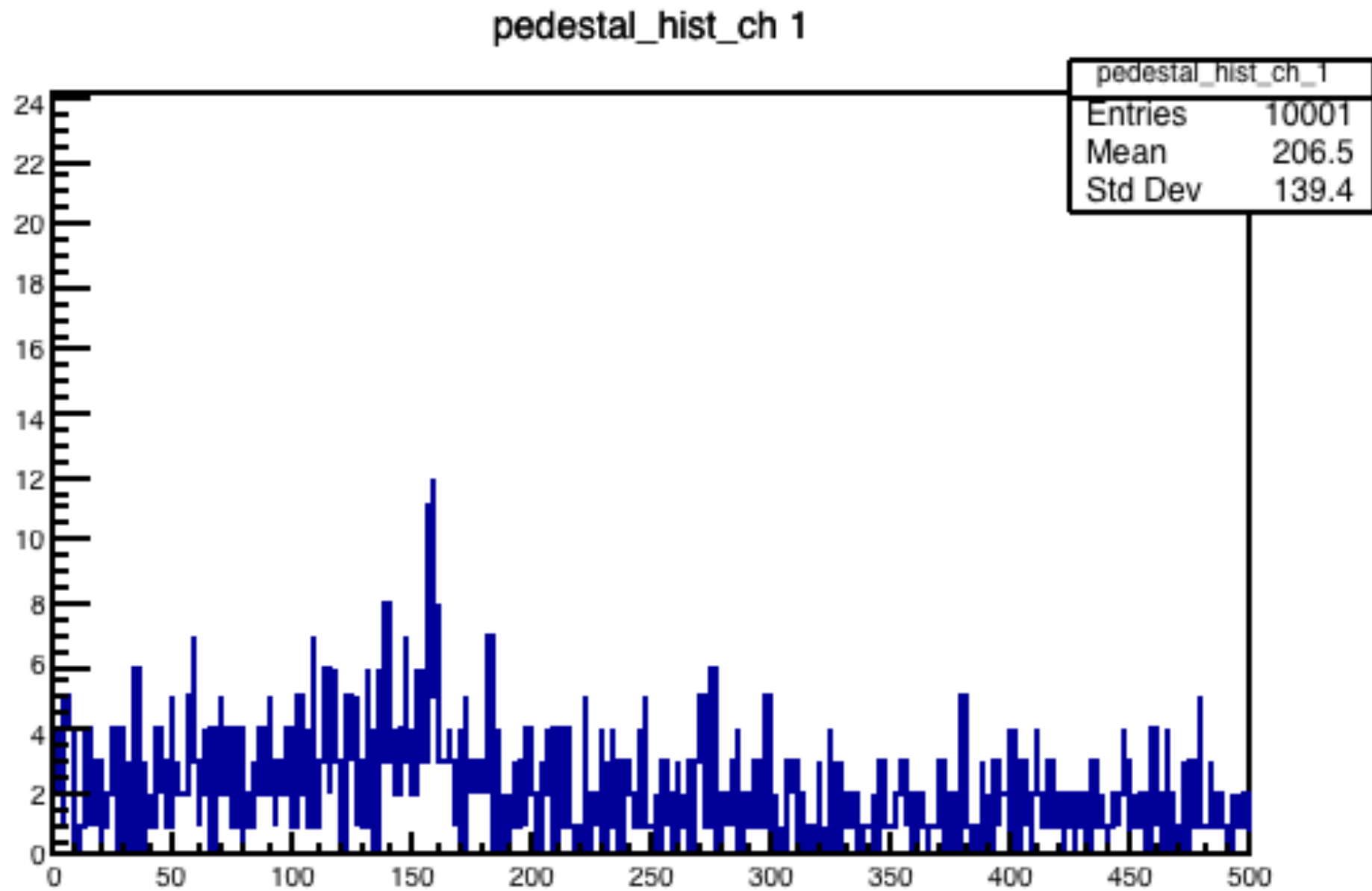
TRIGGER COUNTER(TOP)

Scintillator size : $12^L \times 5^W \times 0.5^T$ cm

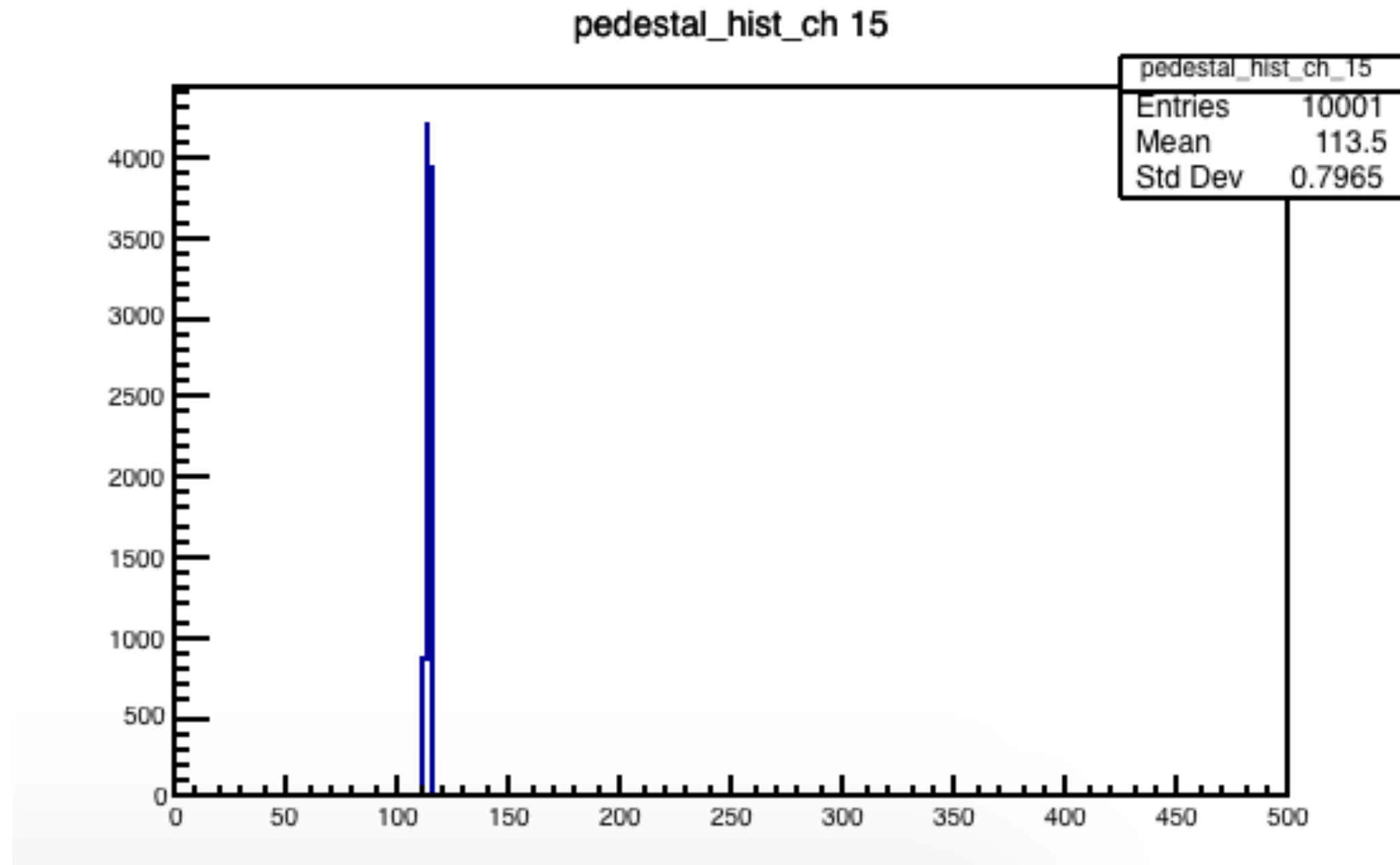
Wrapped the scintillator with the ESR reflection paper.



BROKEN CHANNEL'S PEDESTAL DATA



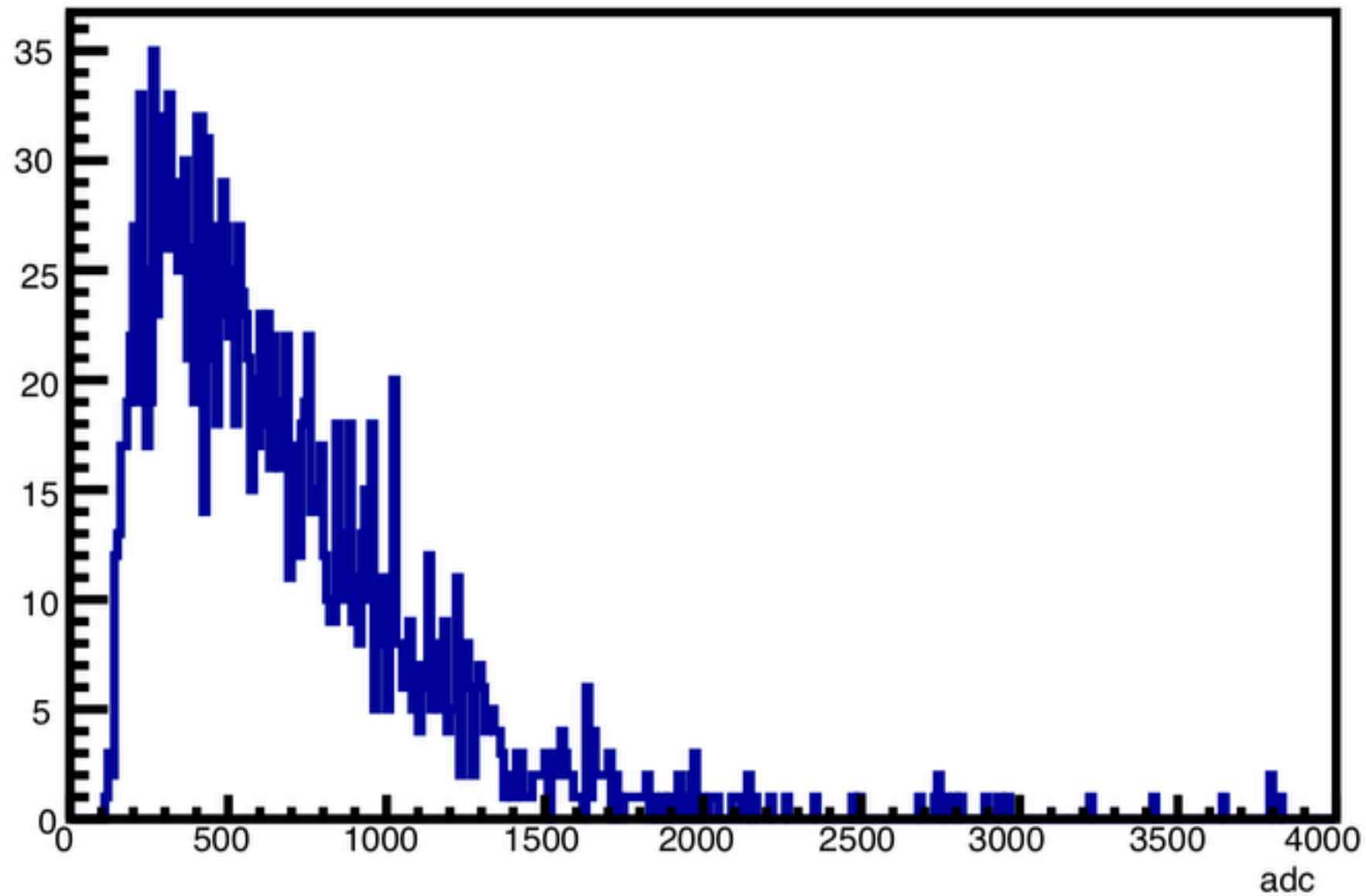
TRIGGER COUNTER'S PEDESTAL



HODOSCOPE'S PMT QDC

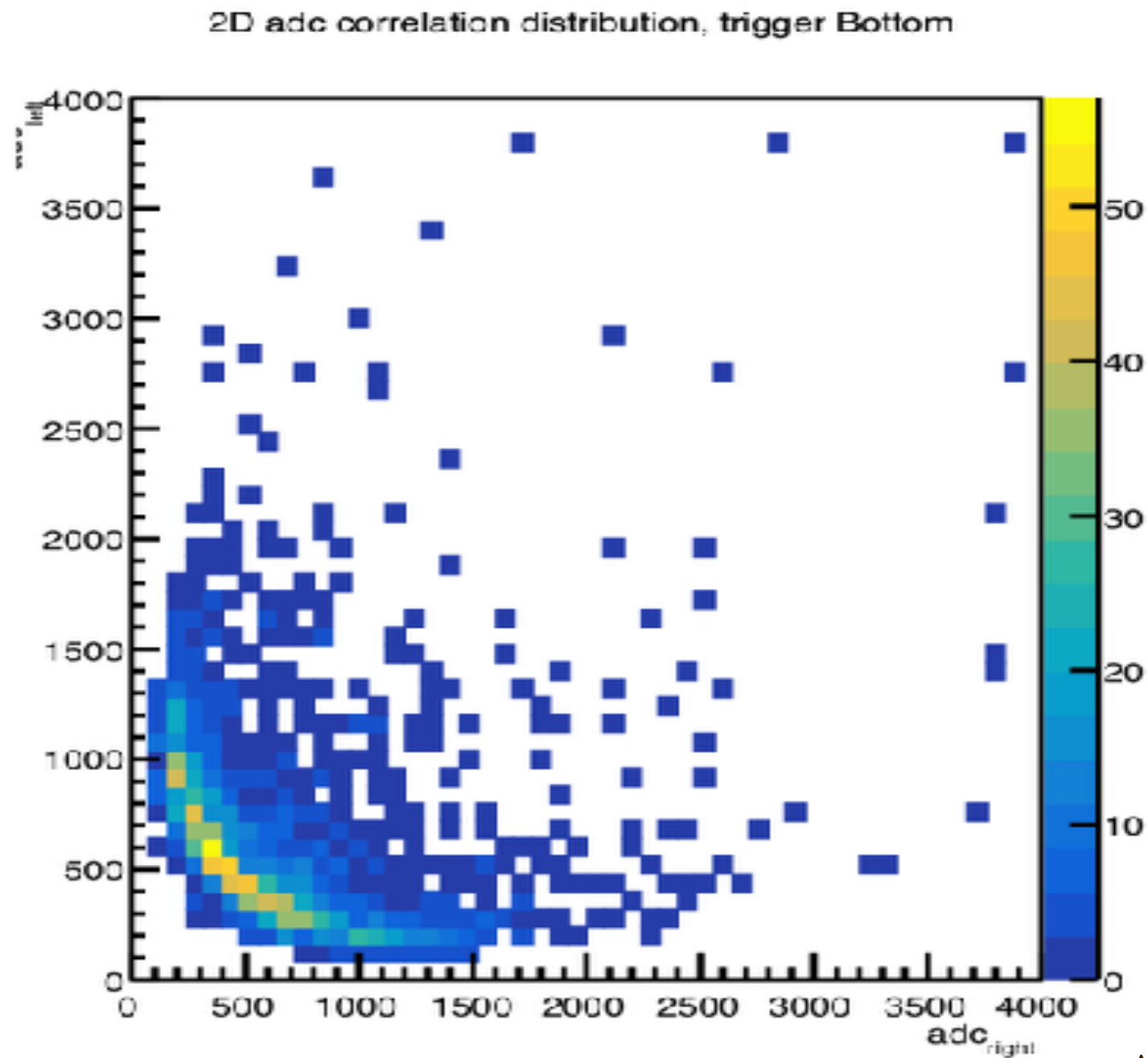
Distributions of QDC-MeanPedestal

Trigger Bottom1, adc



TRIGGER COUNTER'S ADC CORRELATION

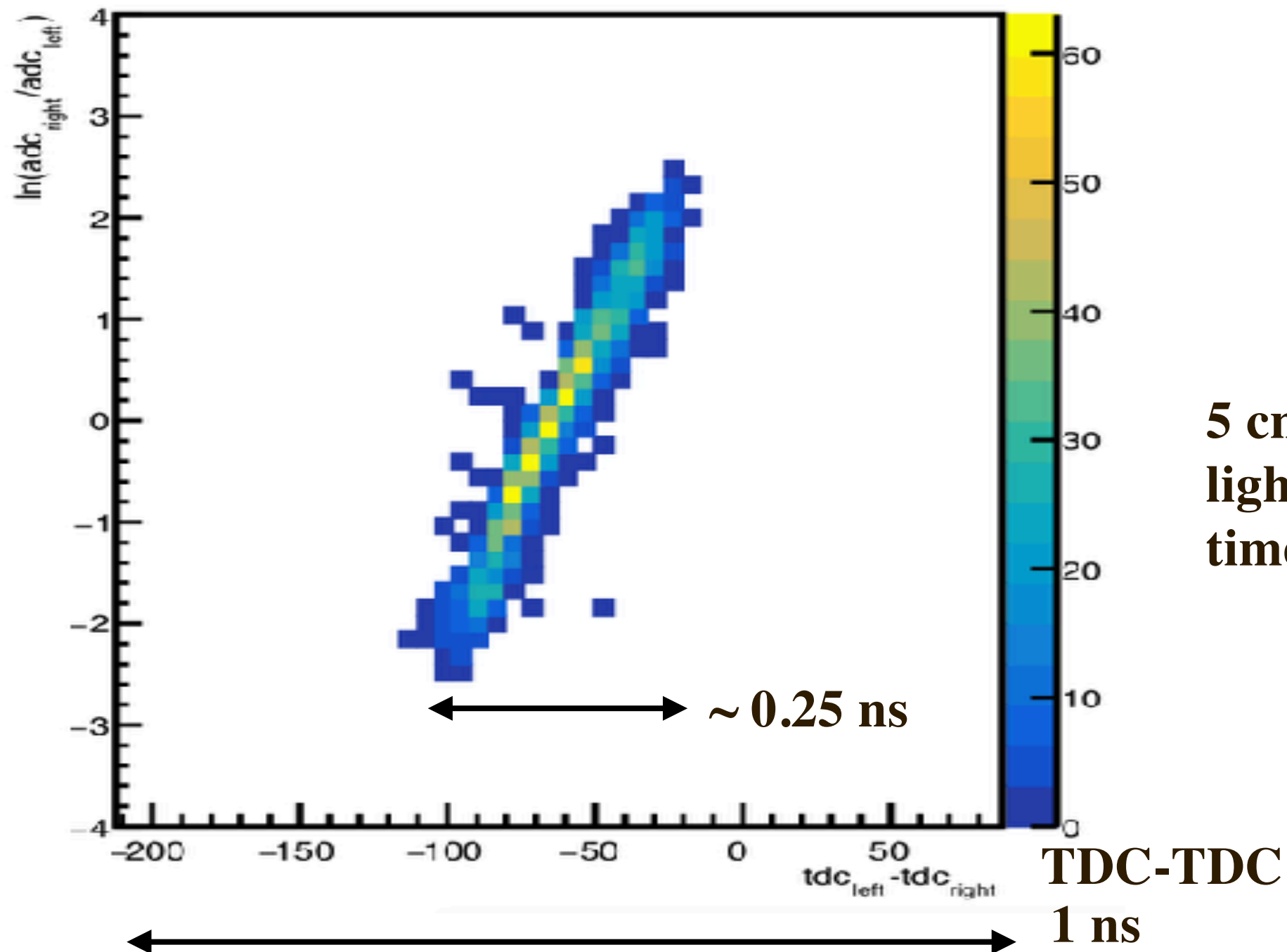
ADC_left



ADC_right

TRIGGER COUNTER'S POSITION DISTRIBUTION

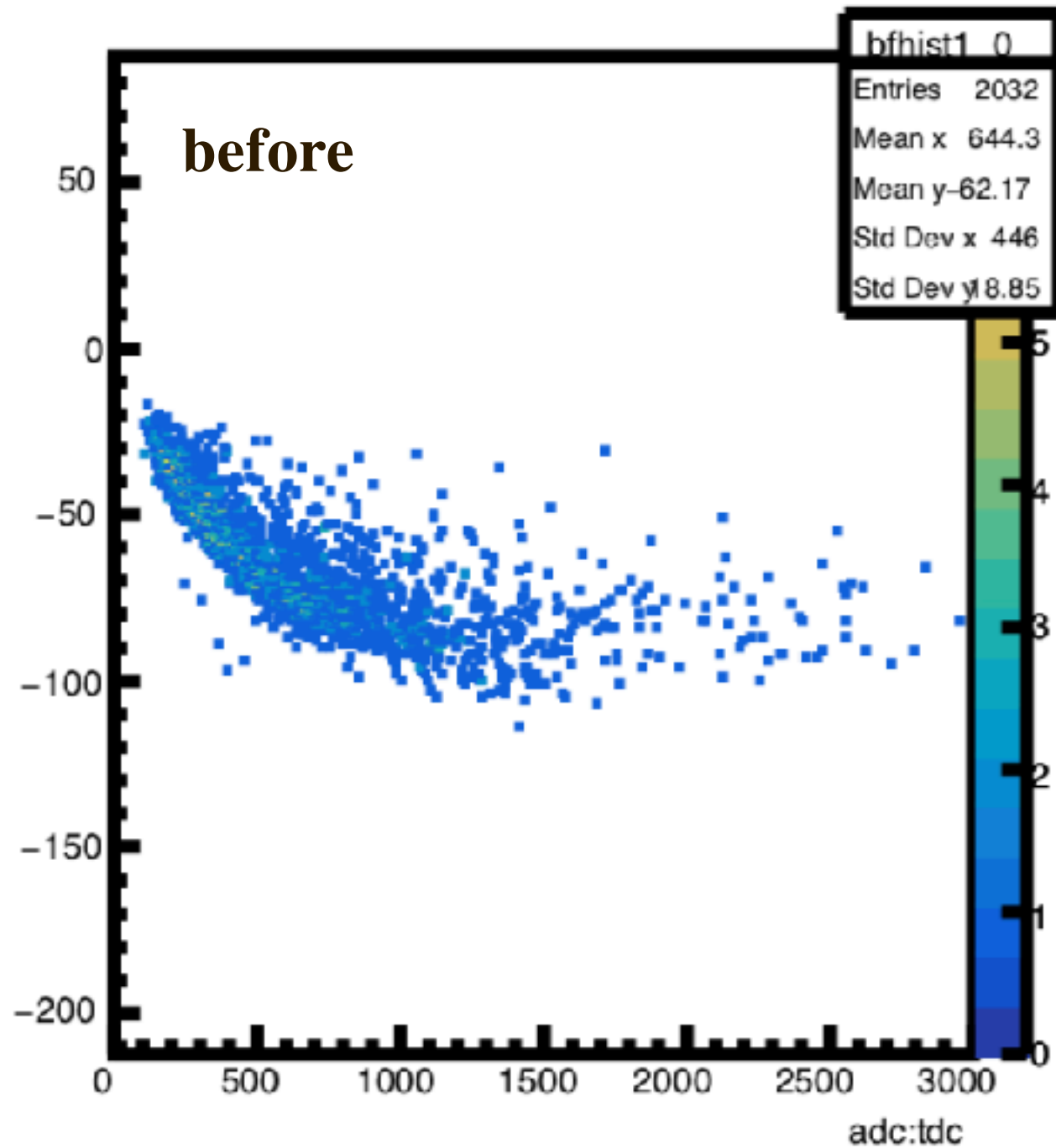
$\ln(\text{ADC}/\text{ADC})$ 2D position distribution, trigger Bottom



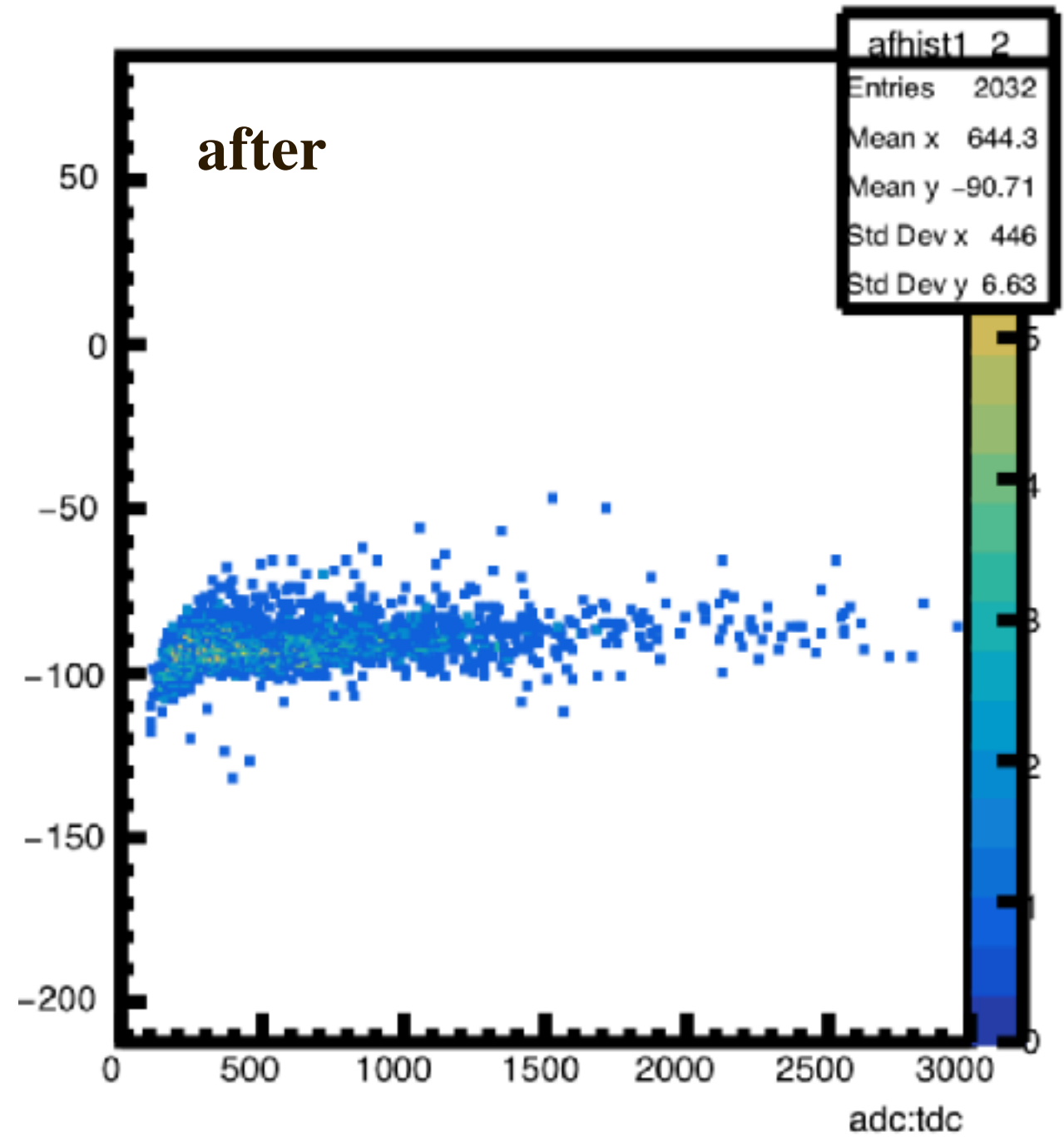
5 cm scintillator's
light propagation
time = 0.25 ns

TRIGGER COUNTER'S TIME WALK CORRECTION

1 times, before timewalk correction, Trigger Bottom2

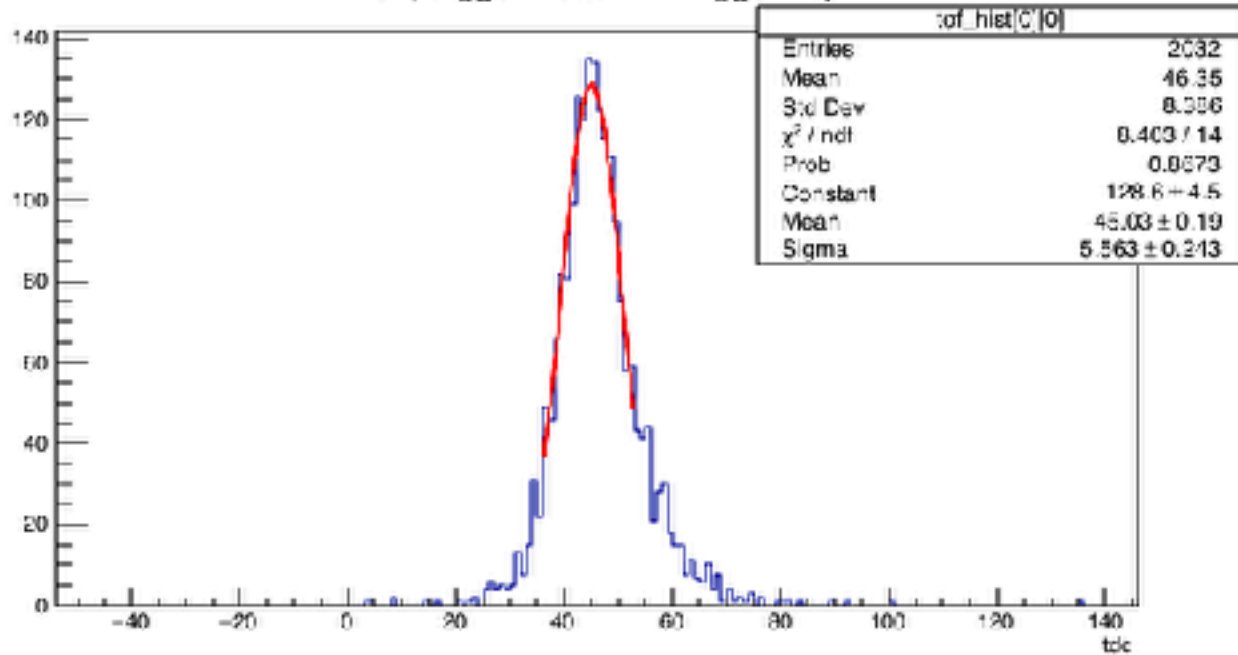


3 times, after timewalk correction, Trigger Bottom2

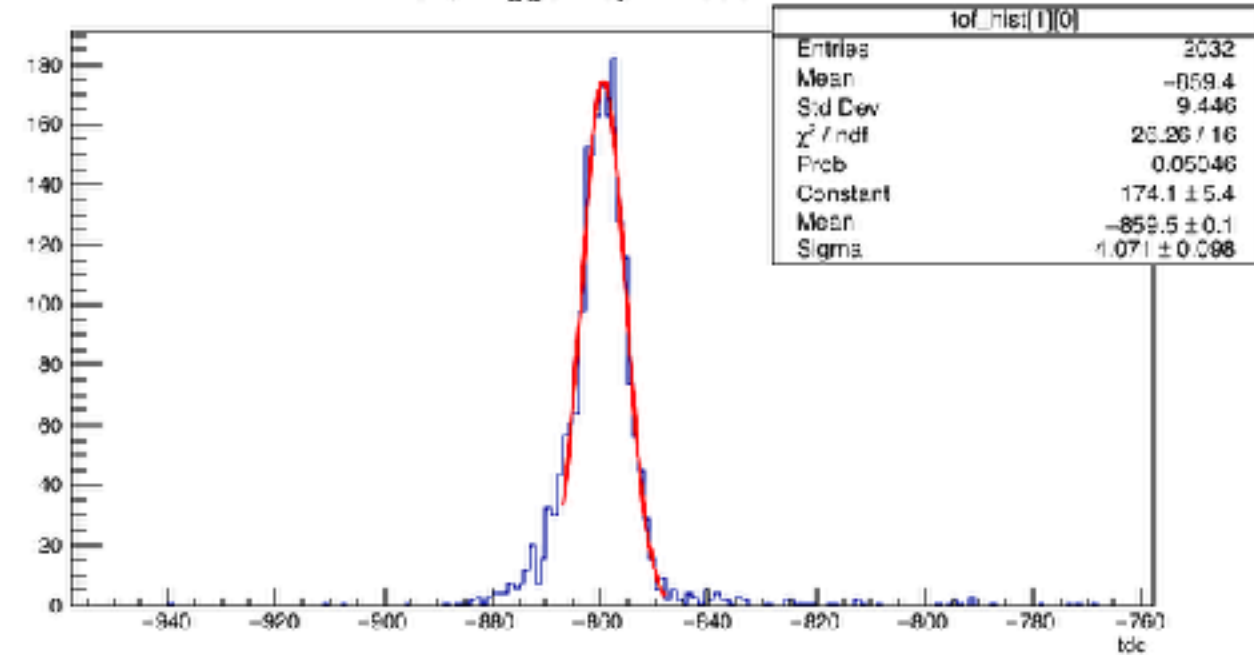


TRIGGER COUNTER'S TIME RESOLUTION

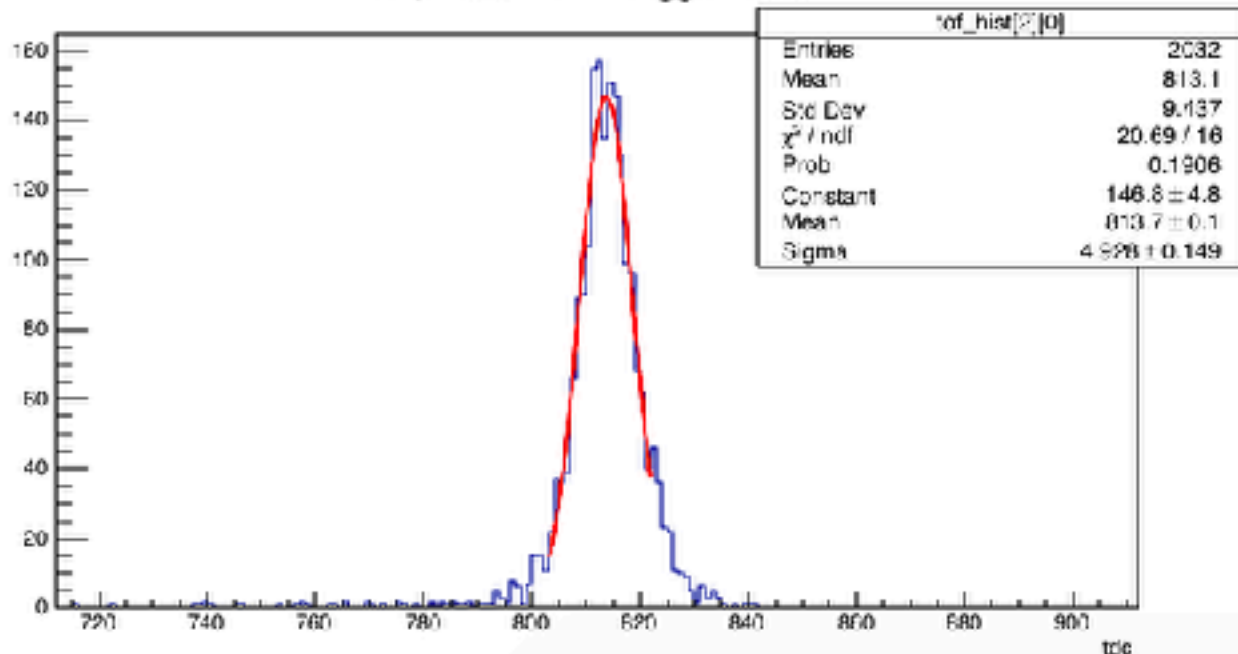
TOF, trigger Bottom ~ Trigger Top



TOF, Trigger Top ~ Hodo PMT



TOF, Hodo PMT ~ trigger Bottom



Trigger counter 1 : 154 +/- 6 ps

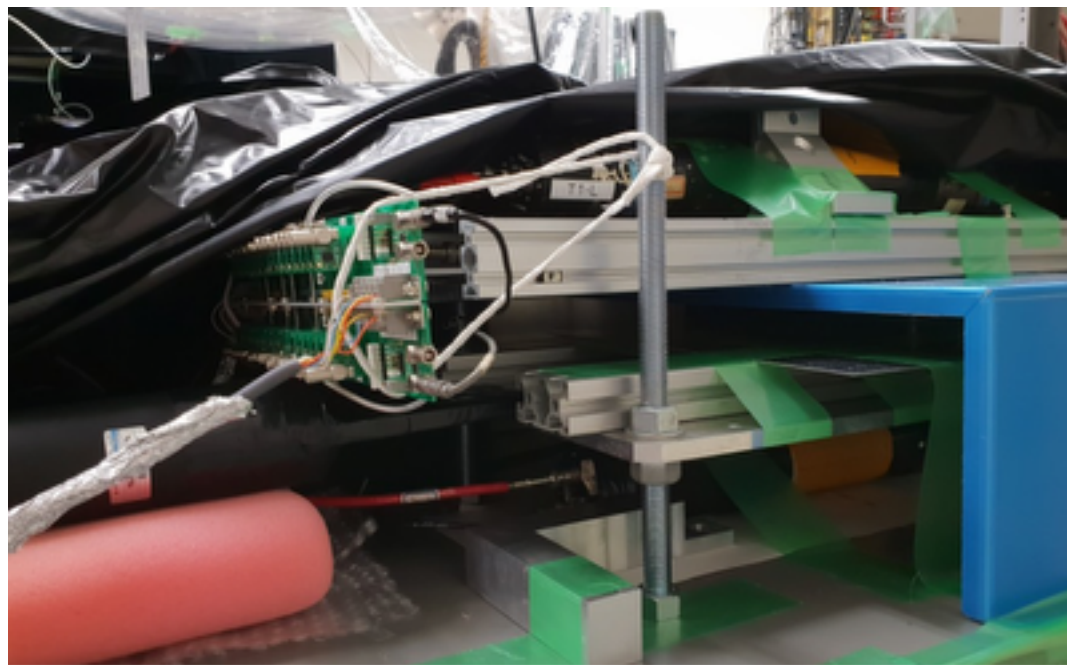
Trigger counter 1 : 119 +/- 8 ps

Hodoscope PMT : 778 +/- 12 ps

BACKUP

TEST BENCH

Four detectors are stacked



Adhesive optical tapes were used for coupling between the scintillator and the MPPC.

Optically Clear Adhesive Tape LUCIACS®
CS986 Series (Acrylic adhesive)

Trigger counter

Hodoscope with MPPCs

Hodoscope with PMTs

1 mm thick metal plate

Trigger counter

(time reference)