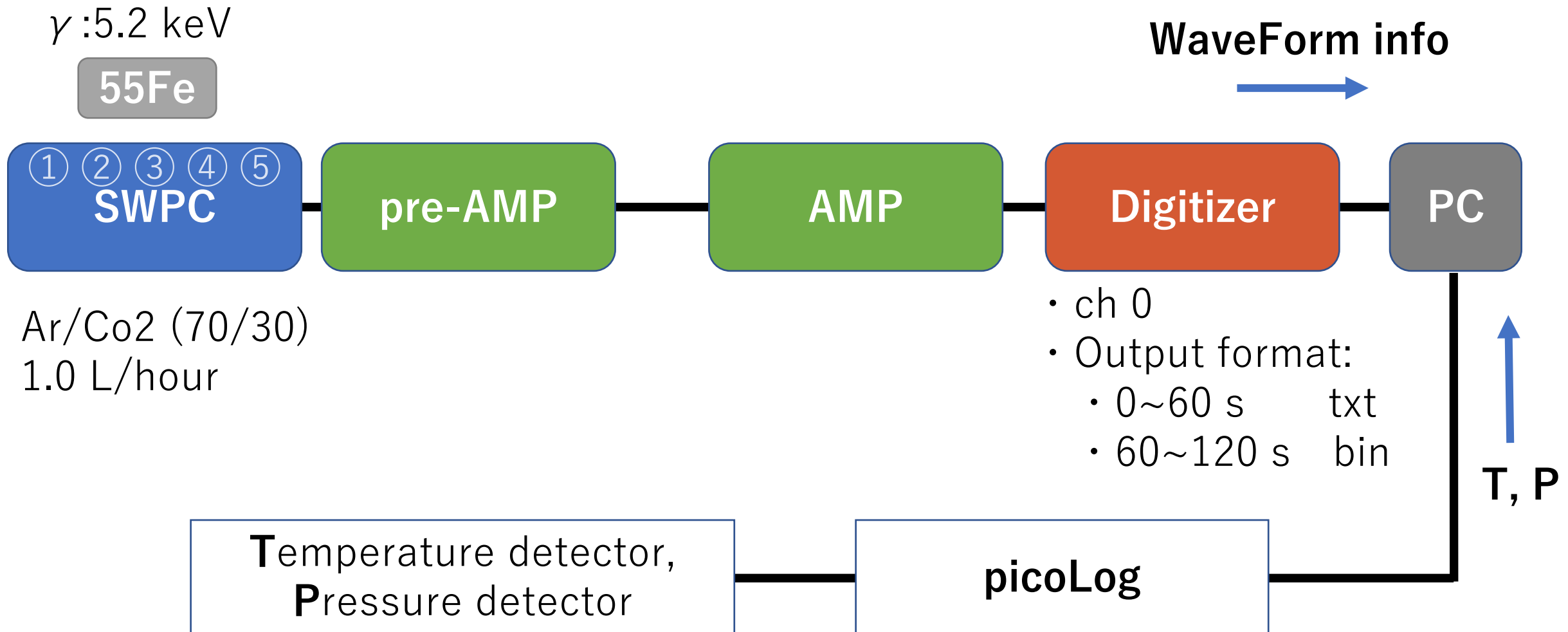


Update on summer project

Tomoo Mari

HV scan of SWPC with Giulio

Setup



HV scan : Summary file

Digitizer : Acquire data once an hour in 120 sec

Digitizer

picoLog

WaveForm info

Temperature, Pressure

ASCII.txt

Temperature, Pressure

Draw spectrum,
Gaussian FIT
(After T=120 s)

**Summary
File (txt)**

BINARY.dat

Temperature, Pressure

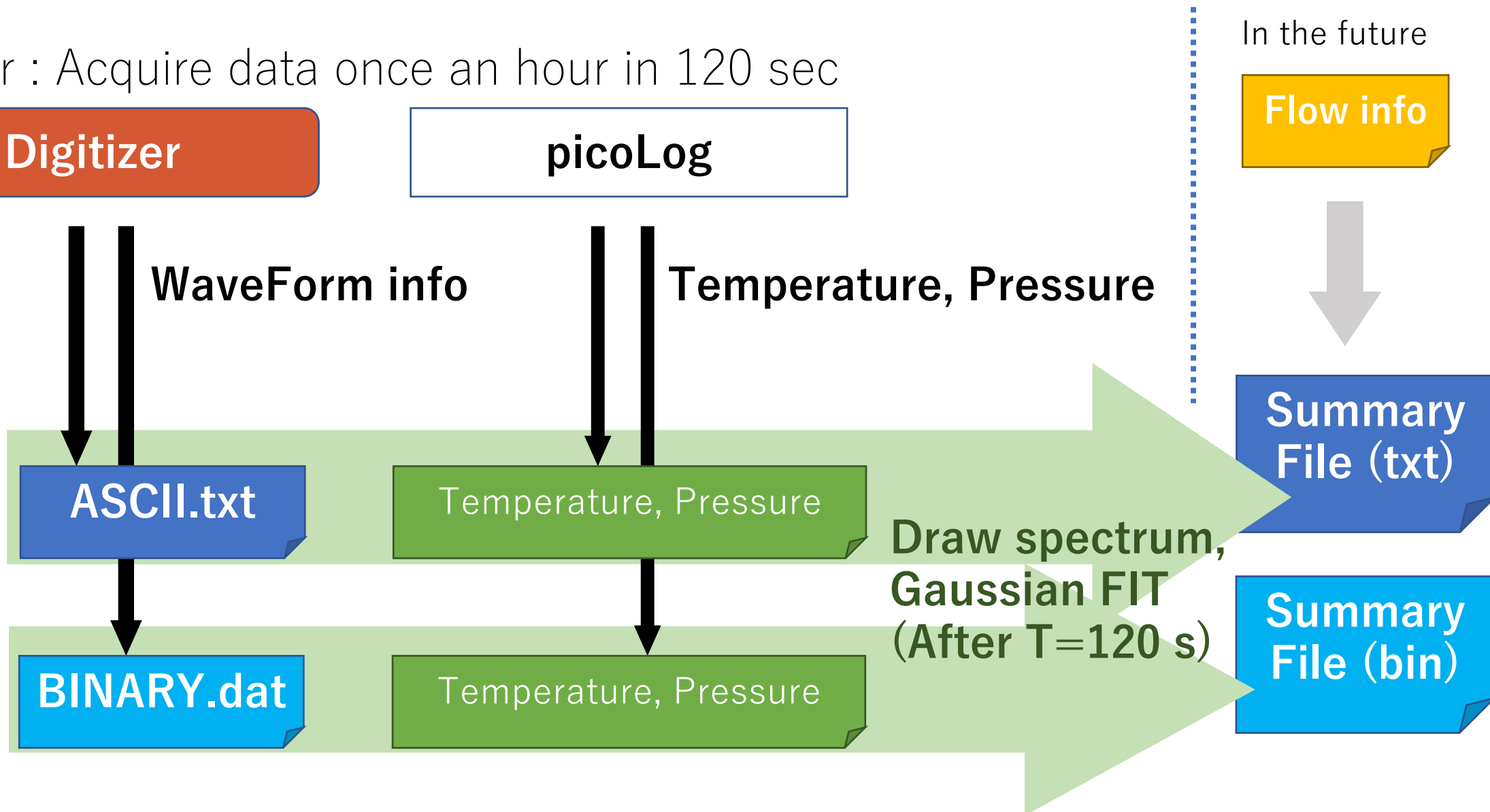
**Summary
File (bin)**

In the future

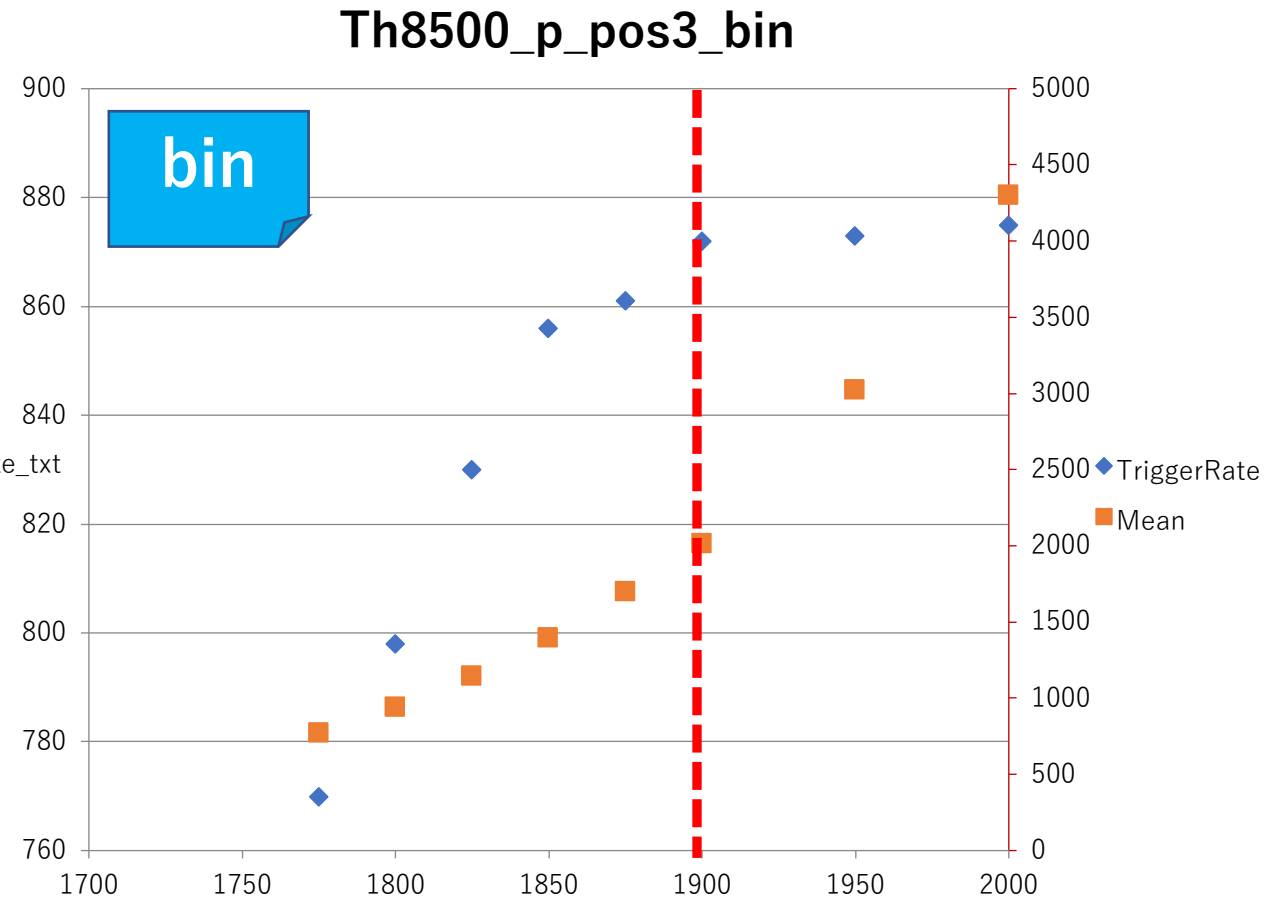
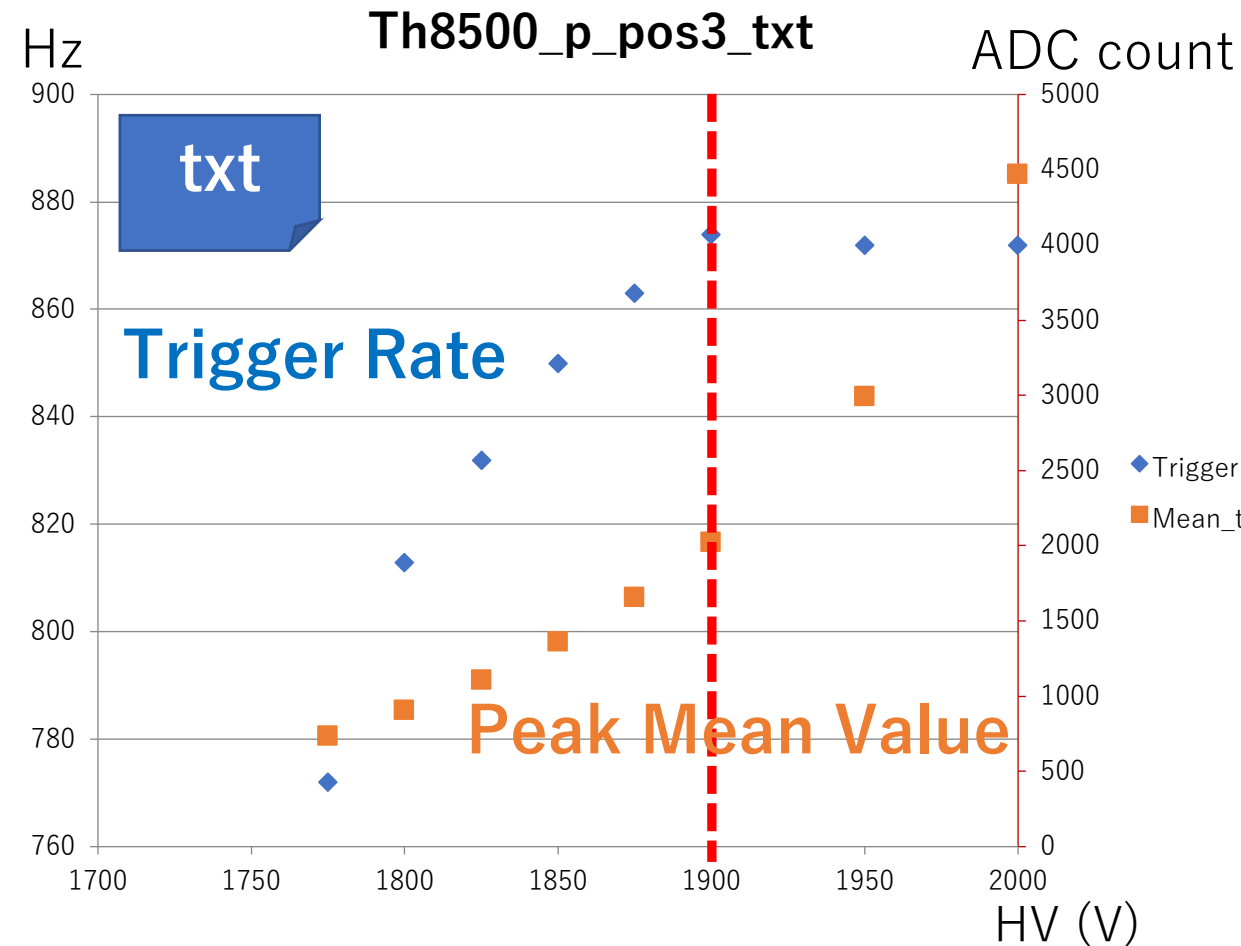
Flow info

T = 60 s

T = 120 s



HV scan : Digitizer Threshold 8500



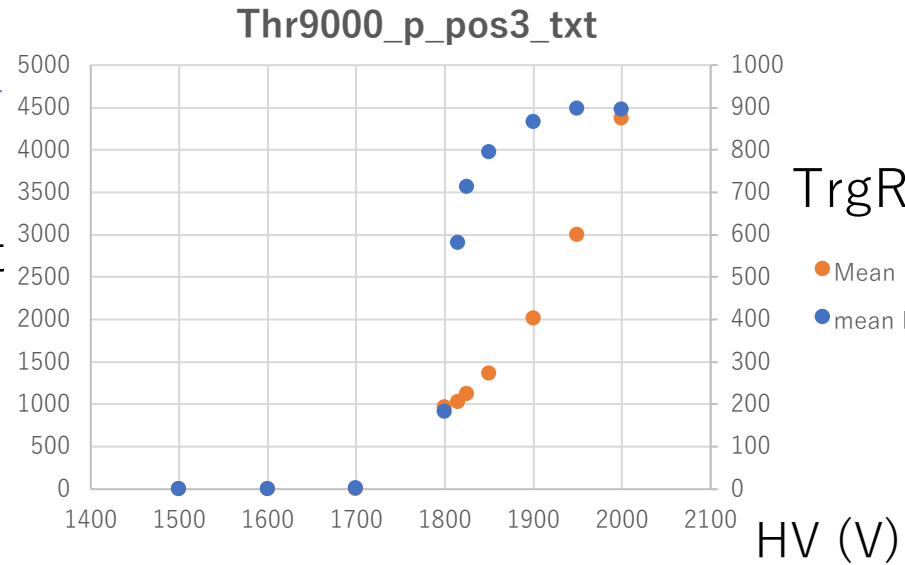
✓ Similar behavior

✓ Threshold 8500 -> Working point : 1900 V

HV scan : other thresholds

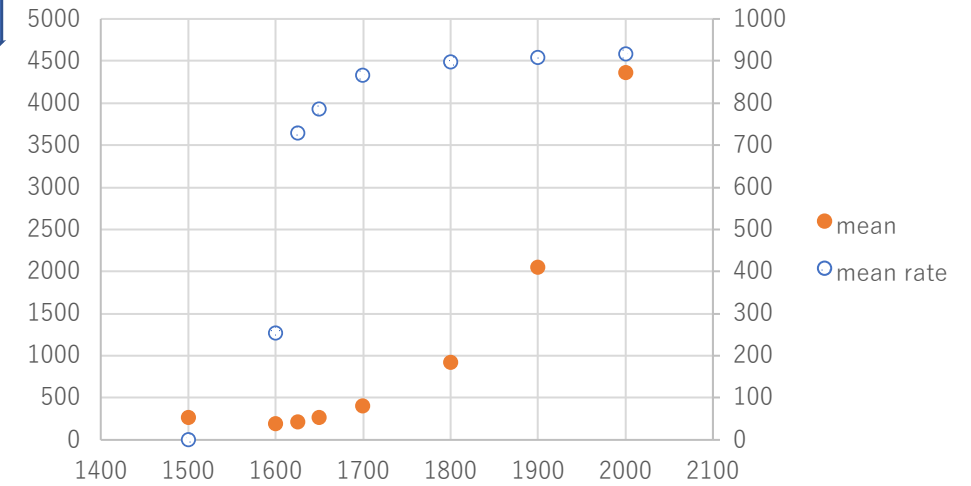
txt

ADC
count

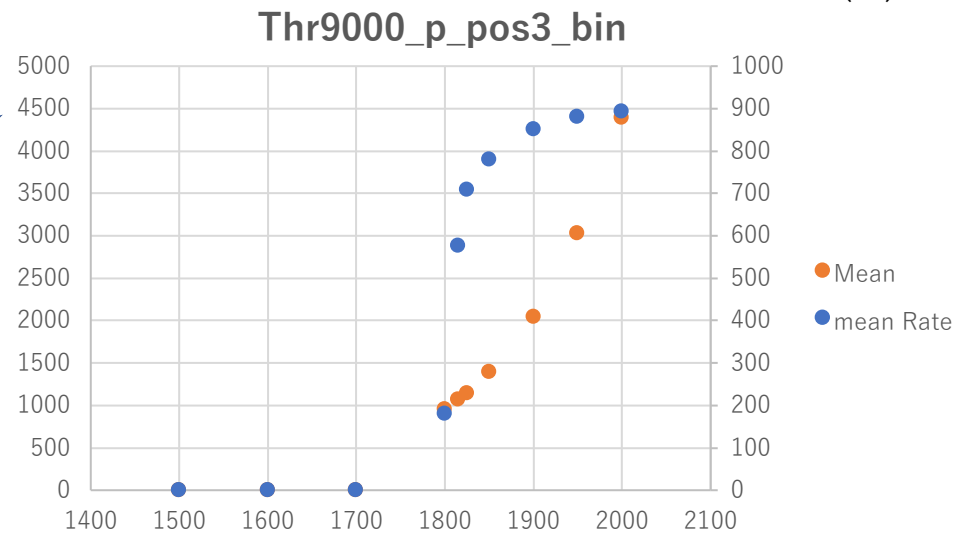


txt

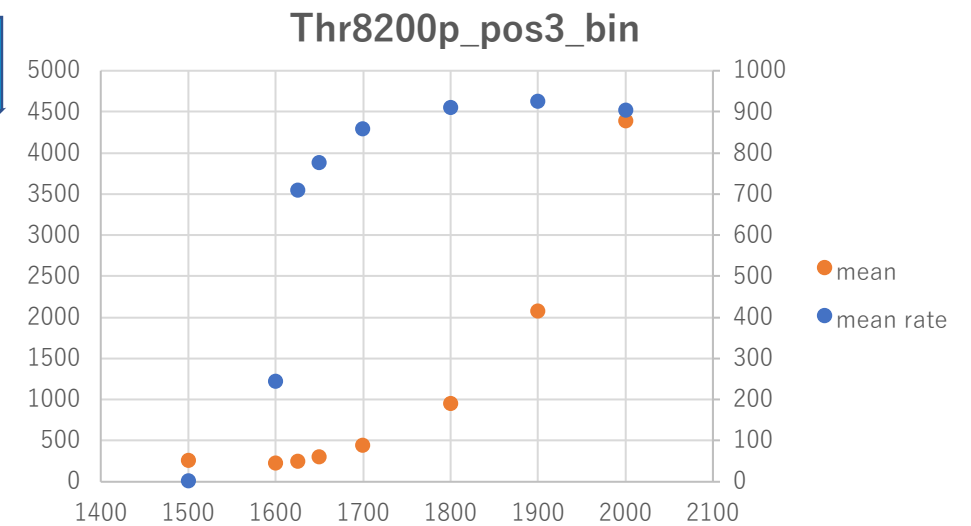
Thr8200_p_pos3_txt



bin

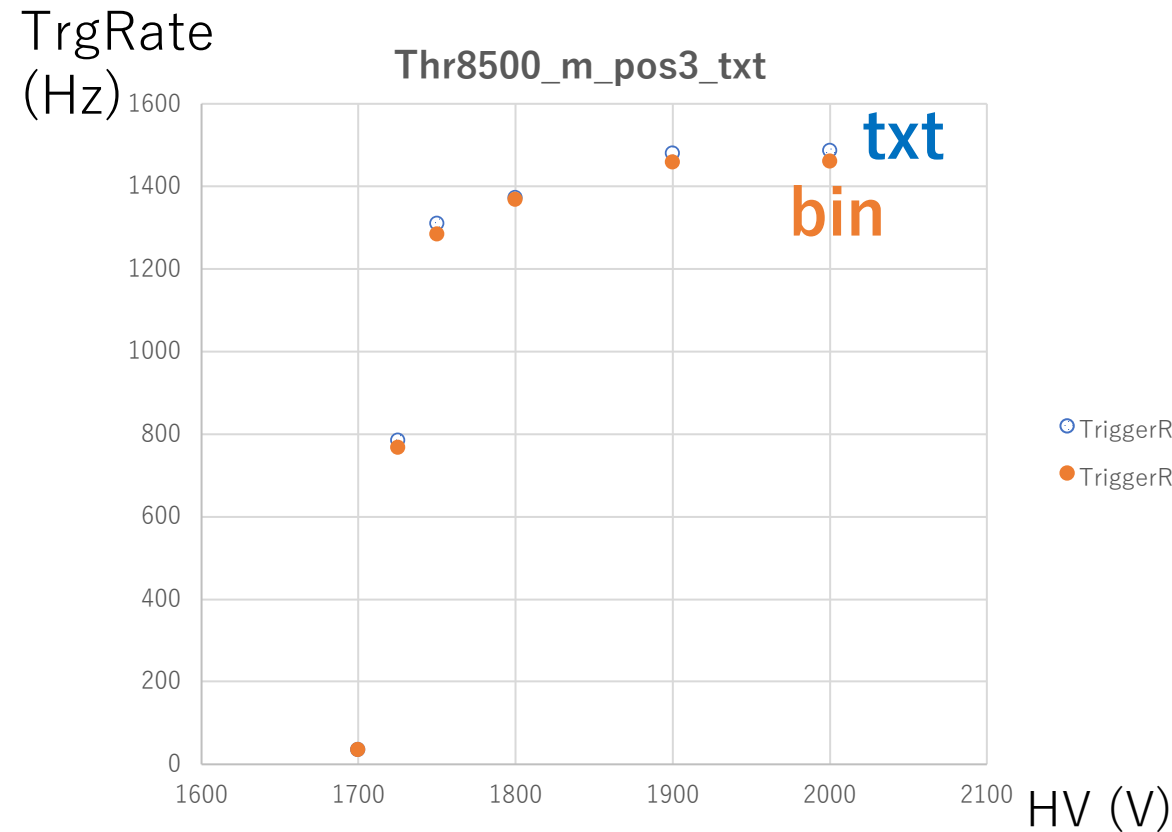


bin

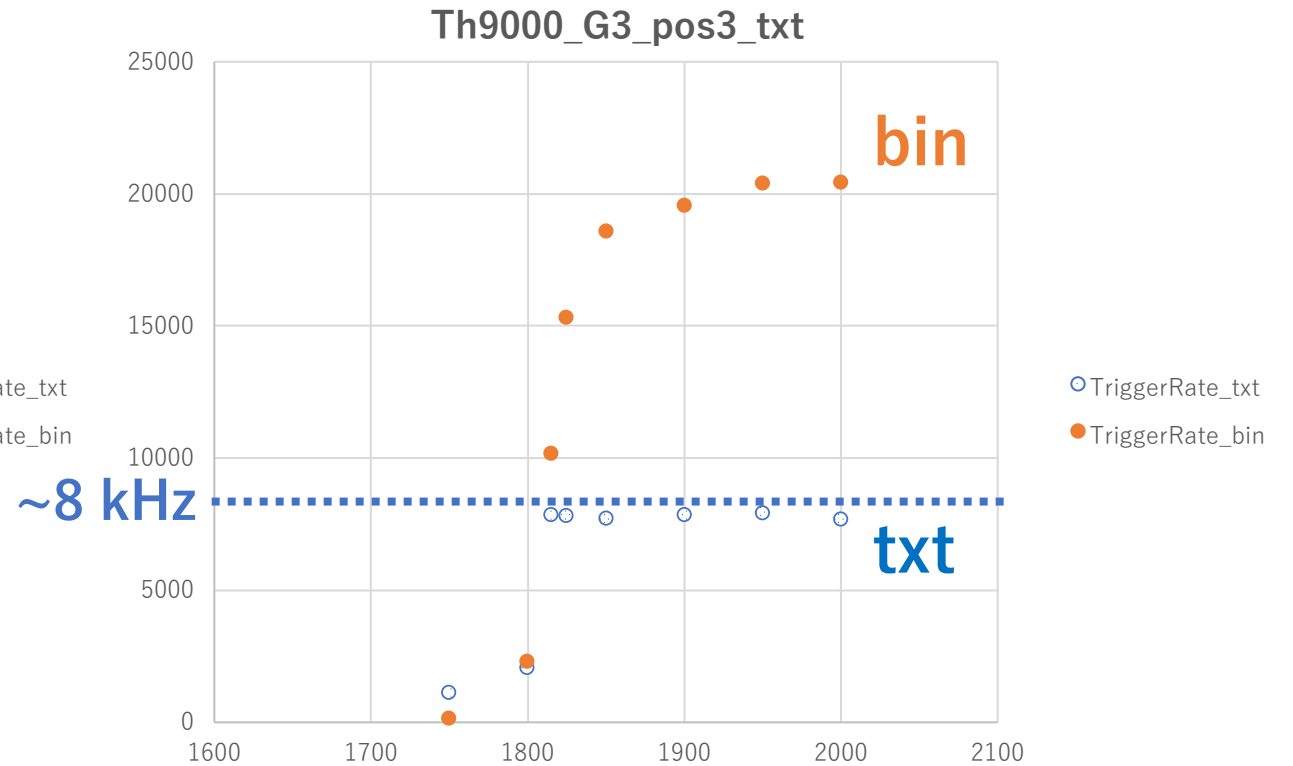


HV scan : Different source intensity

Intensity : m (middle)



Intensity : G3 (max)



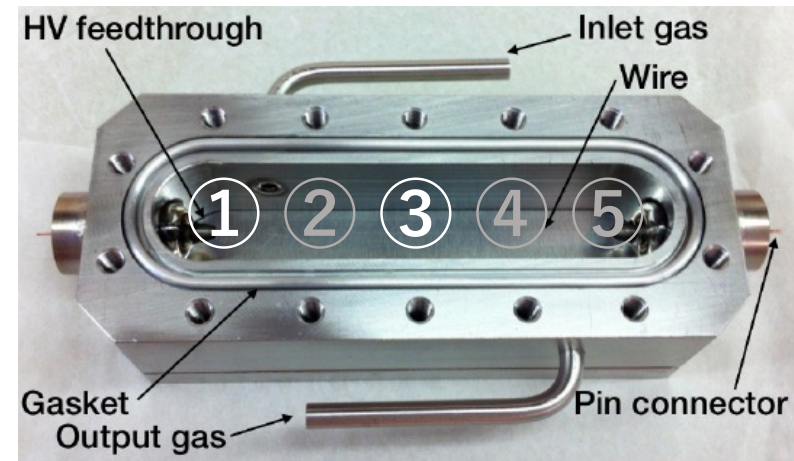
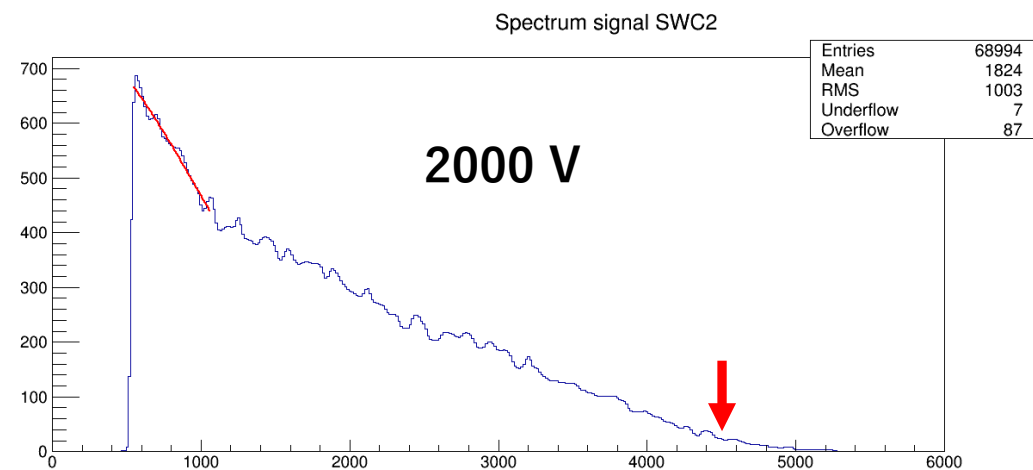
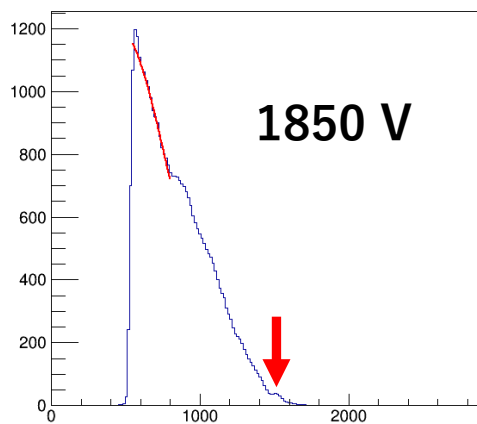
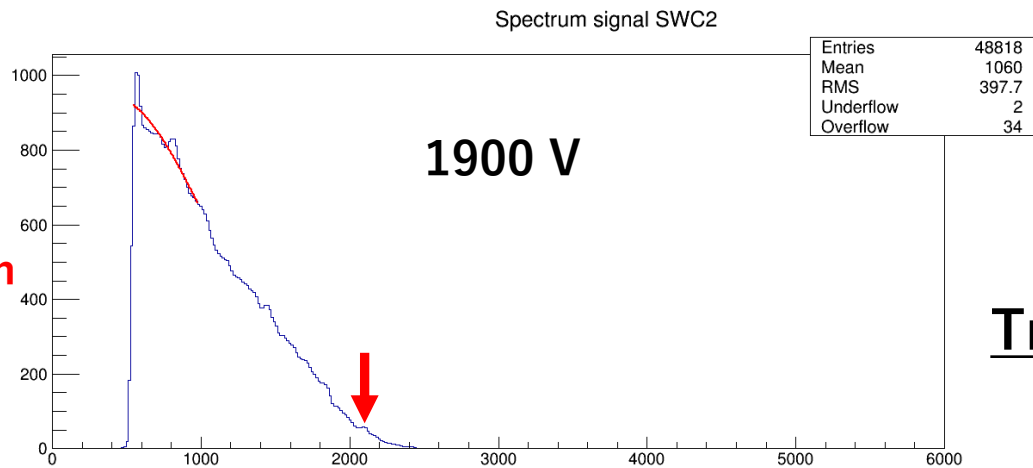
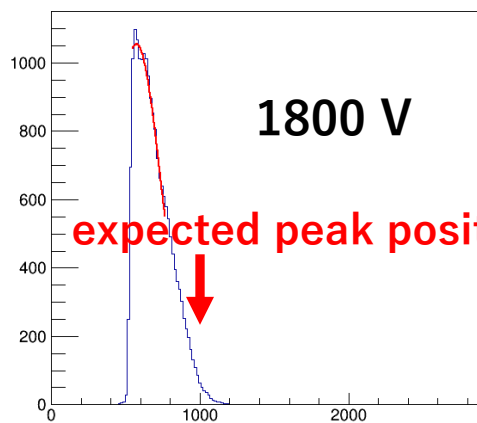
✓ txt -> **saturation at 7.8 kHz**

✓ bin -> trigger rate was consistent with oscilloscope

HV scan : Different source position

Source position : ③ -> ①

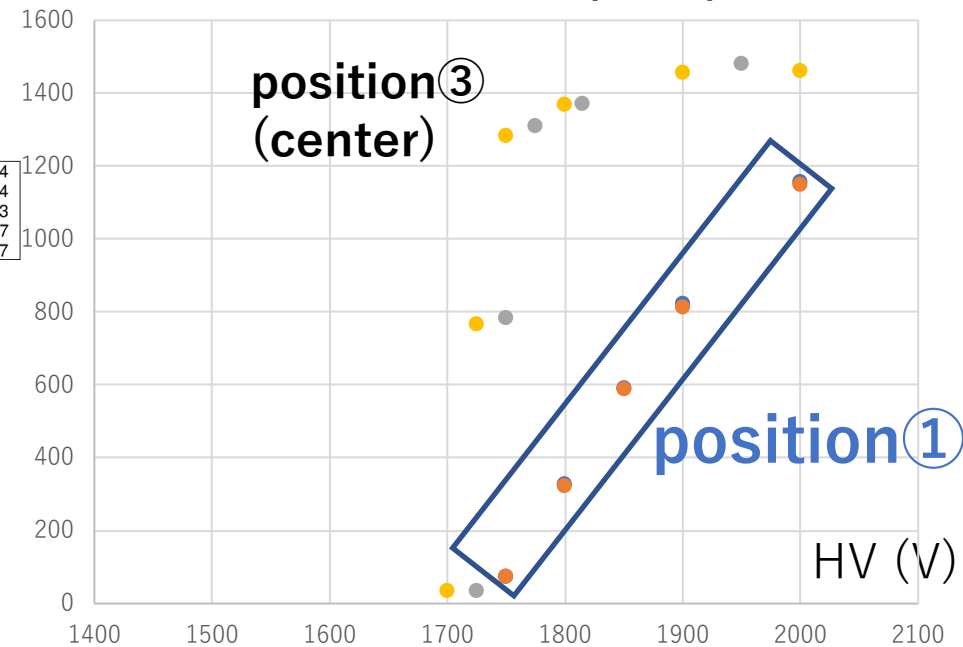
Spectrum at ①



(PhDThesisBMandelli.pdf)

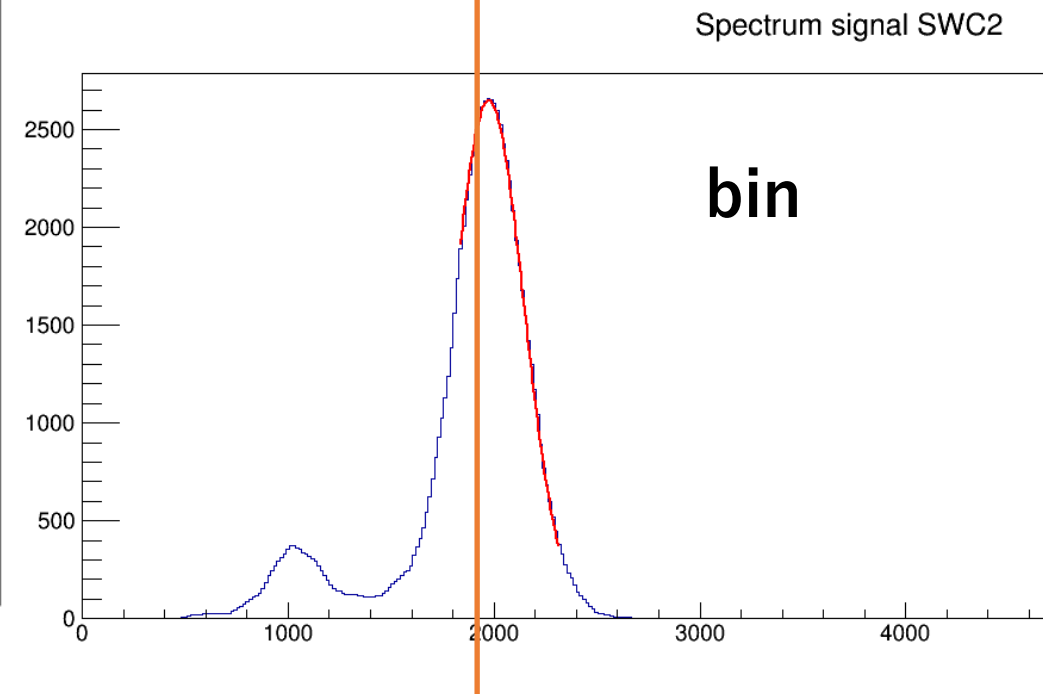
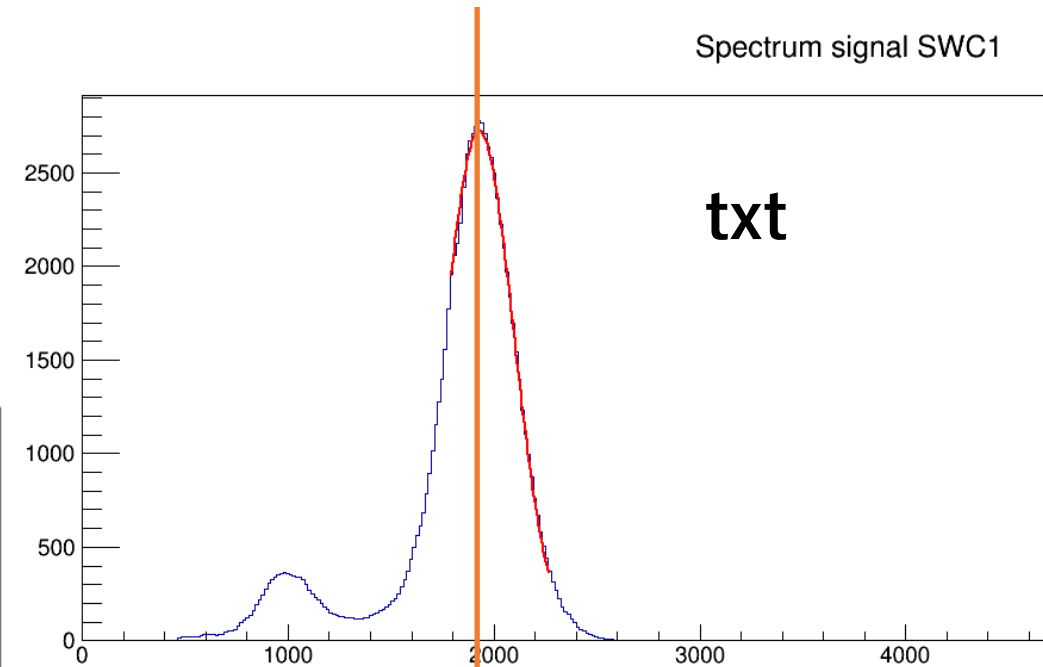
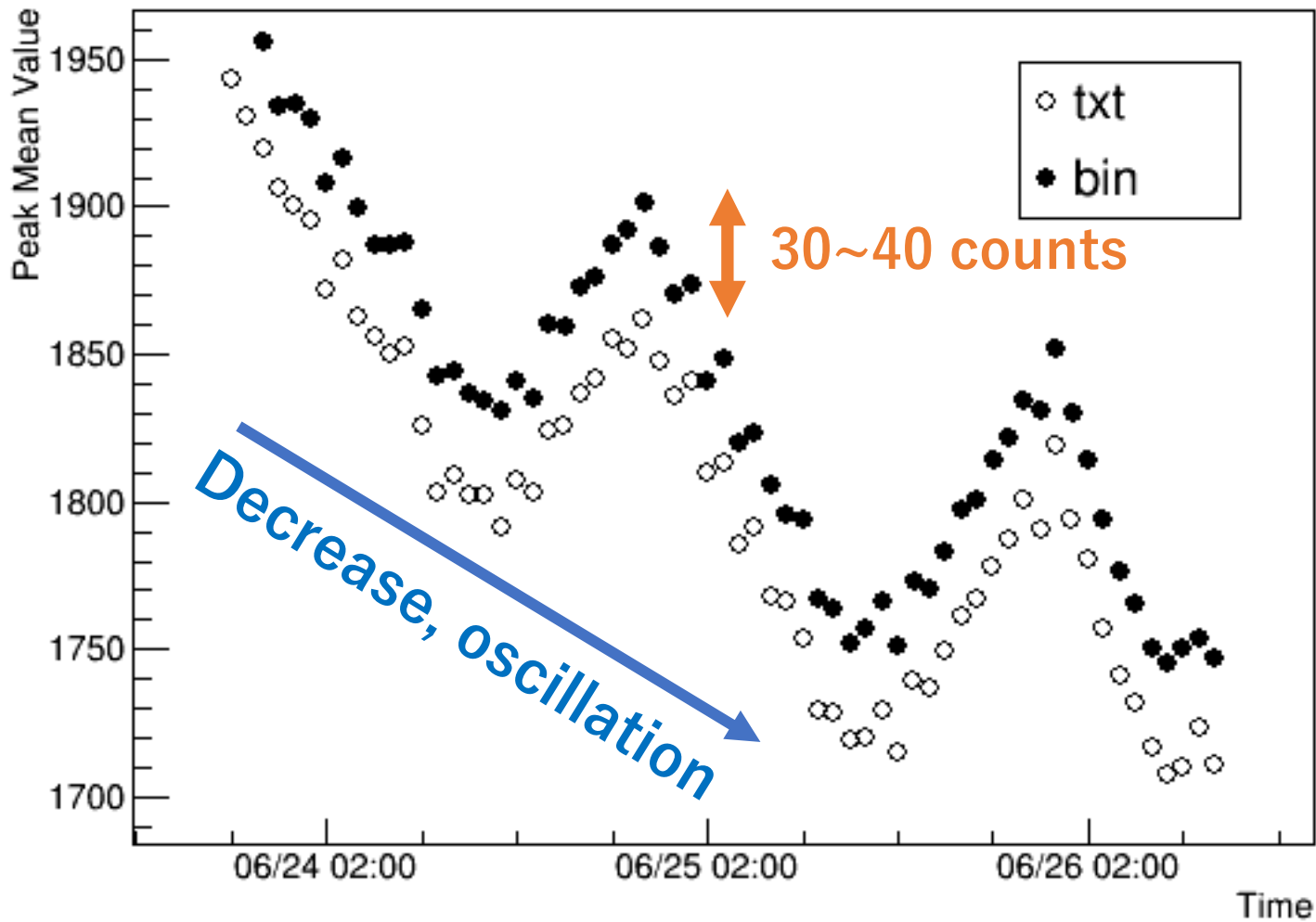
TrgRate(Hz)

Th8500_m_pos1&pos3_txt



Peak Trend (Toy test)

Ran from 23rd afternoon to 26th morning
Th:8500, HV:1900 V, Intensity:P, Position:3

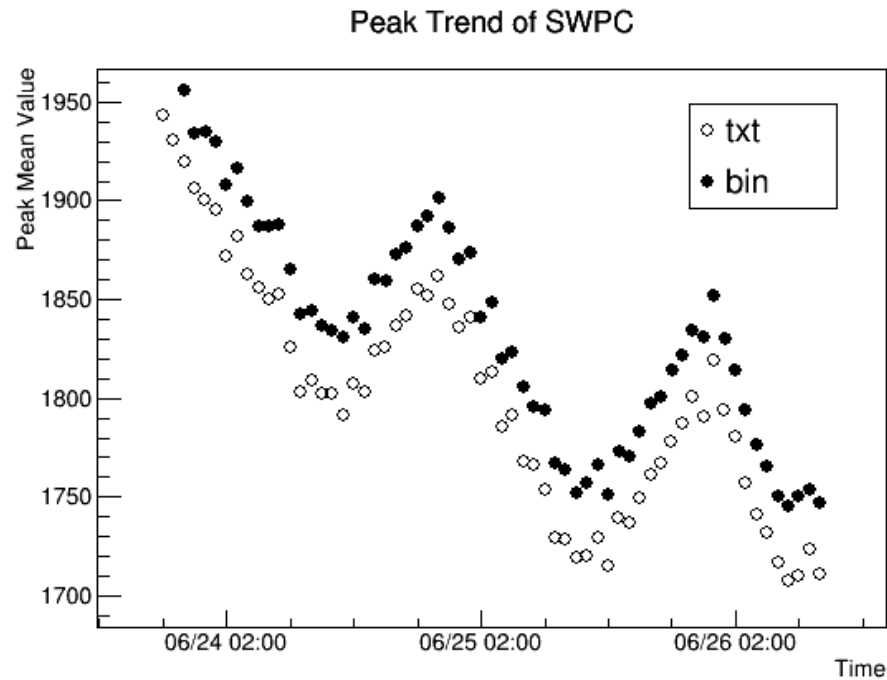


Problems

- Continuous spectrum with ^{55}Fe source at position ①
 - Check position ② (middle of ① and ③)
- Unstable peak mean values (decrease, oscillation(or recovery))

Back up

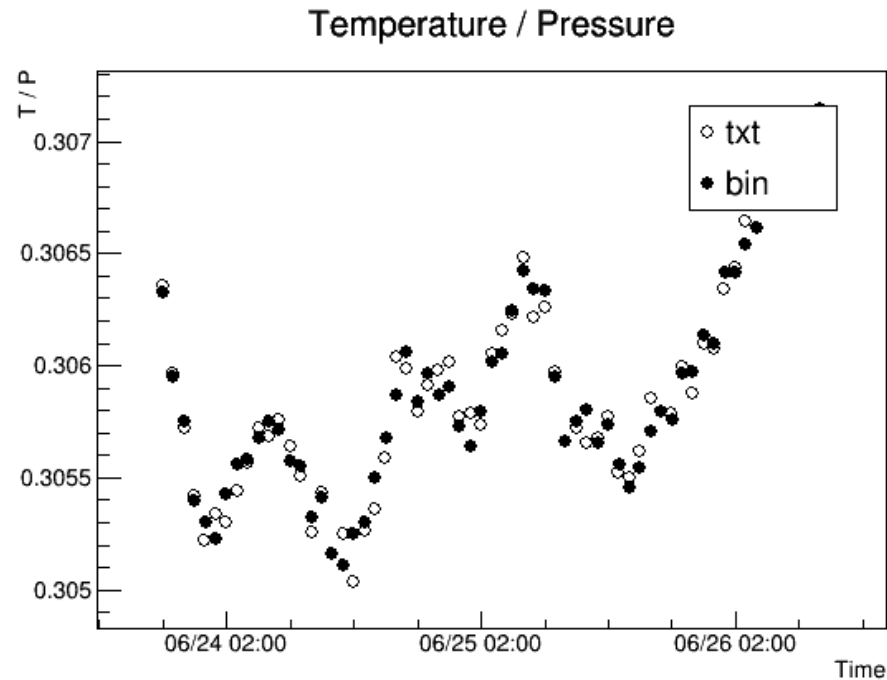
Peak
mean
value



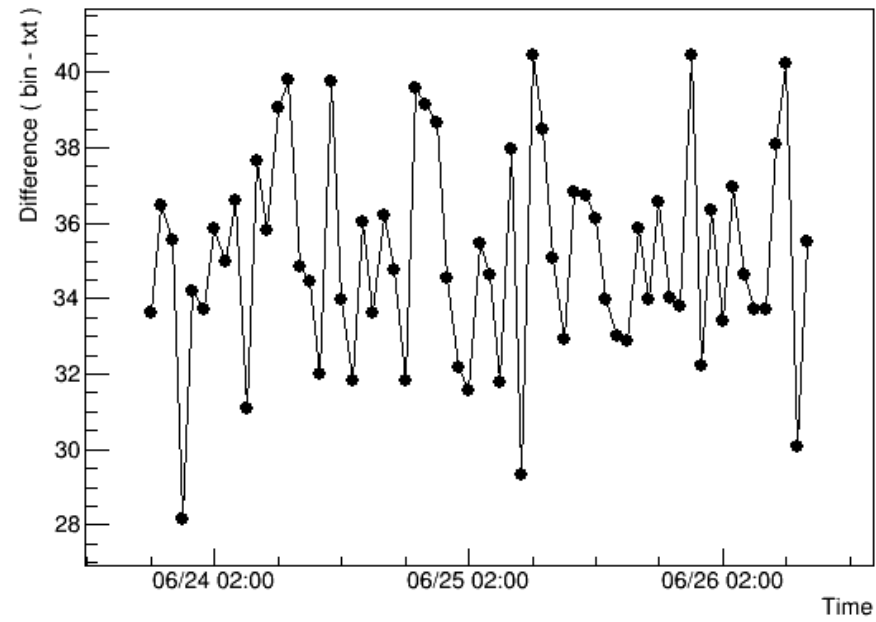
The gap does not depend on the Mean.
➤ Does the gap come from systematics ?

T/P is not a main cause of instability.
Period ~ 1 Day ?

T / P

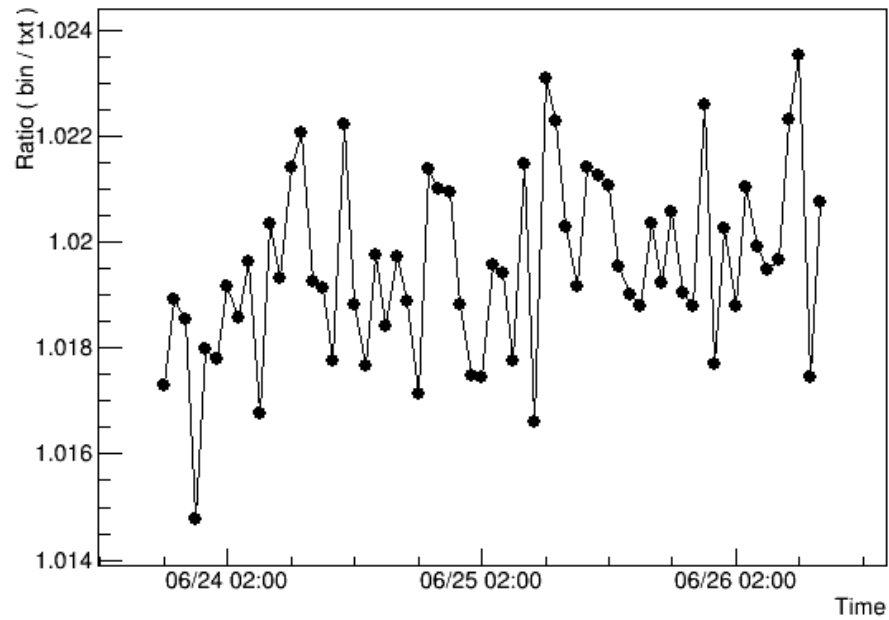


Difference of the mean



txt - bin

Ratio of the mean



txt / bin