Status report

06/28/2019

Tokyo University of Science

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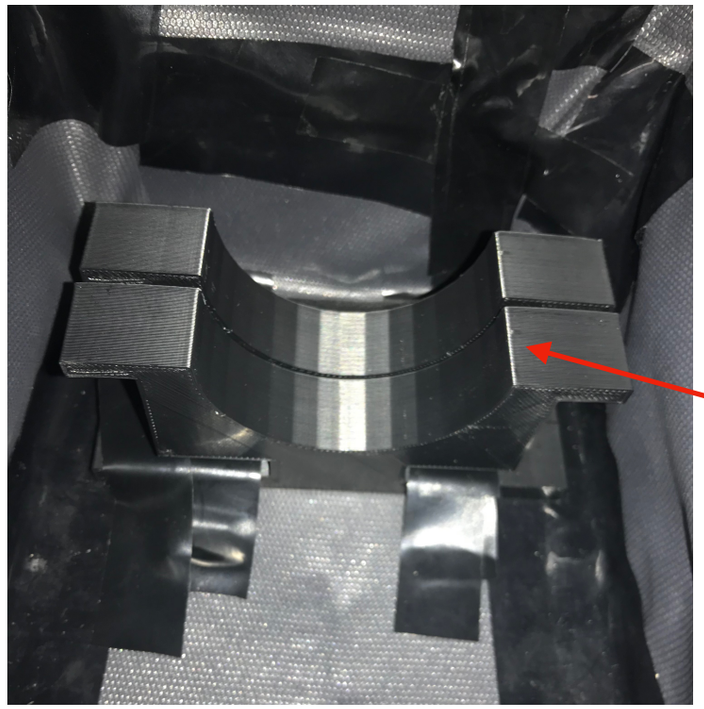
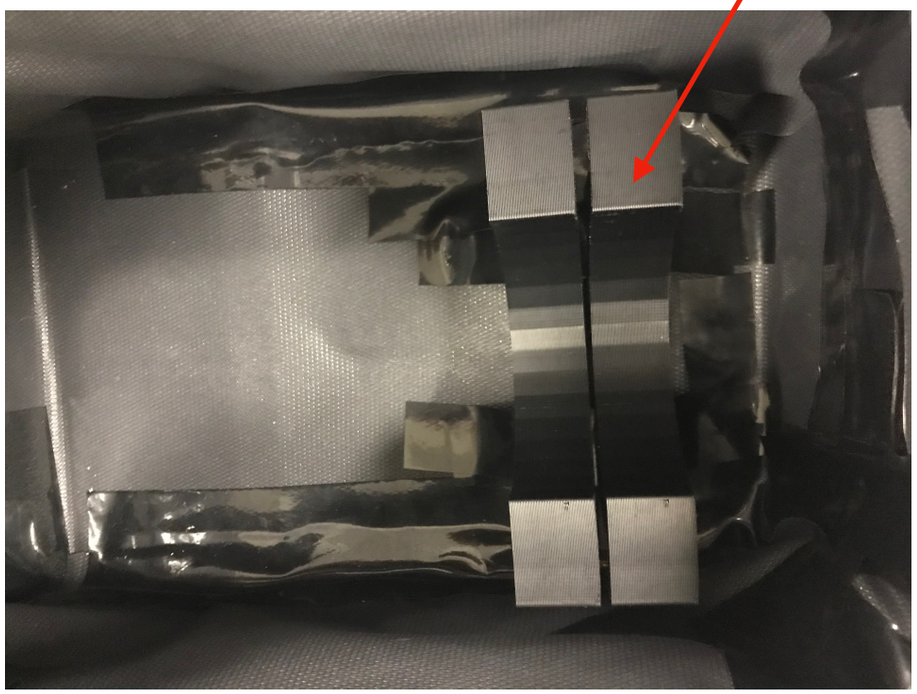
Dark box



These figures show the inside of the dark box.

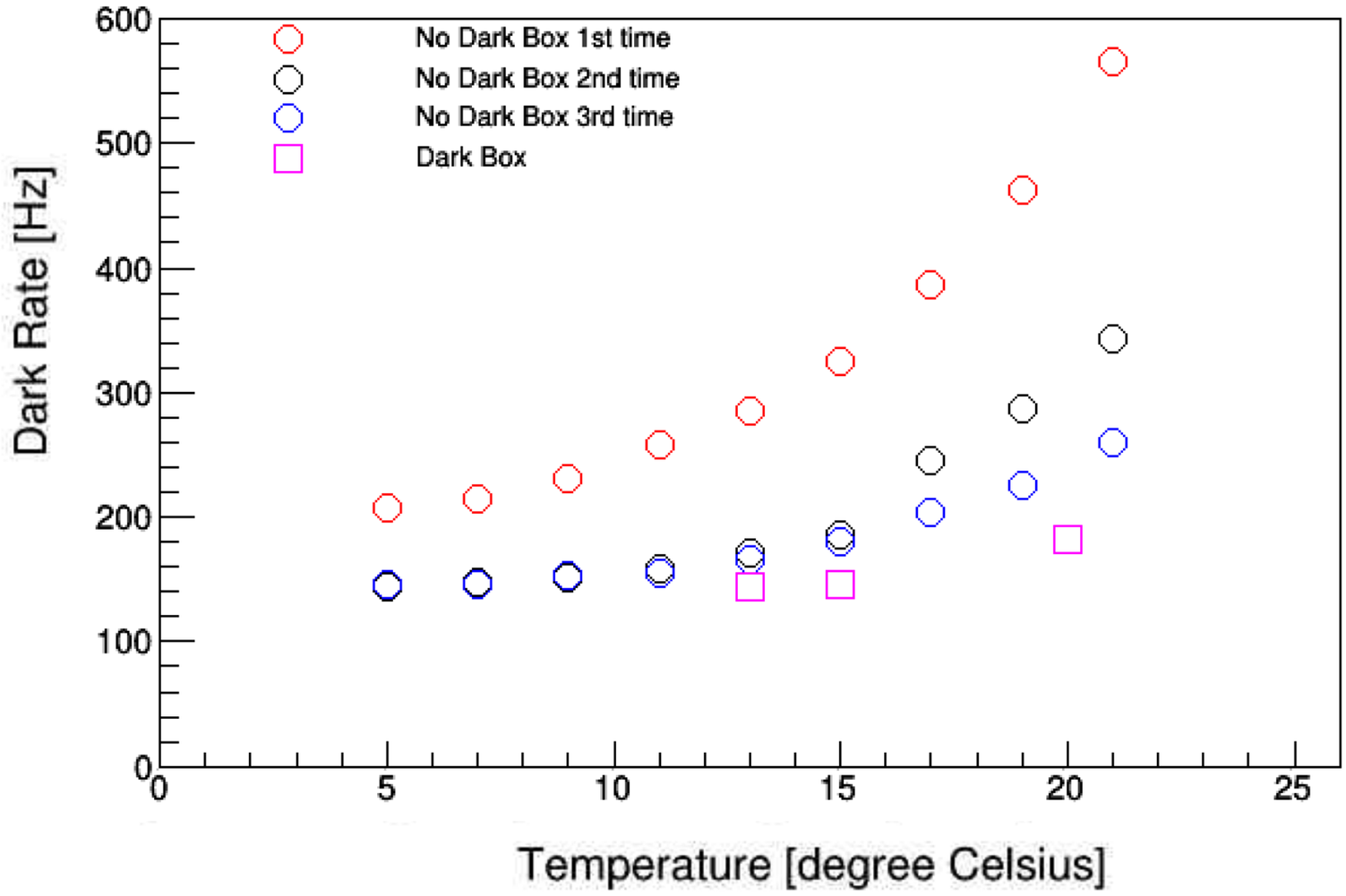
holder made by 3D printer



HA coated PMT

Dark box

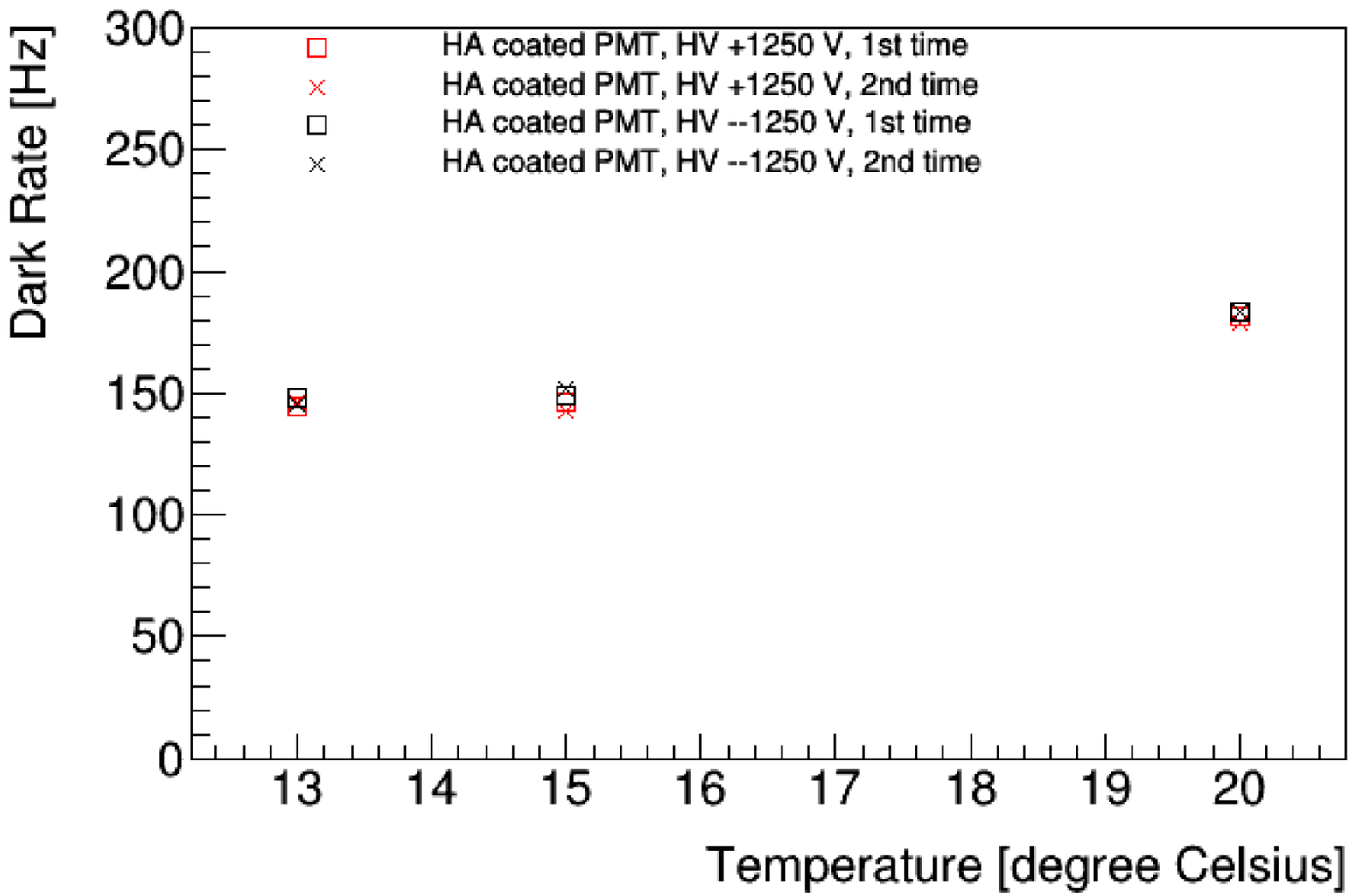
- This week, we measured the dark rate of HA coated PMT with the dark box in 20 ℃.
- We compared the dark rate with the dark box with that without it.



- In this figure, the dark rate with the dark box is lower than that without it.

Positive vs. Negative

- We measured the dark rate with positive HV and negative HV.
- We checked the difference in the dark rate between positive HV and negative HV.



This figure shows no significant difference in the dark rate between positive HV and negative HV.

Future plan

- We will measure the dark rate of normal PMT with positive HV and negative HV.

Backup

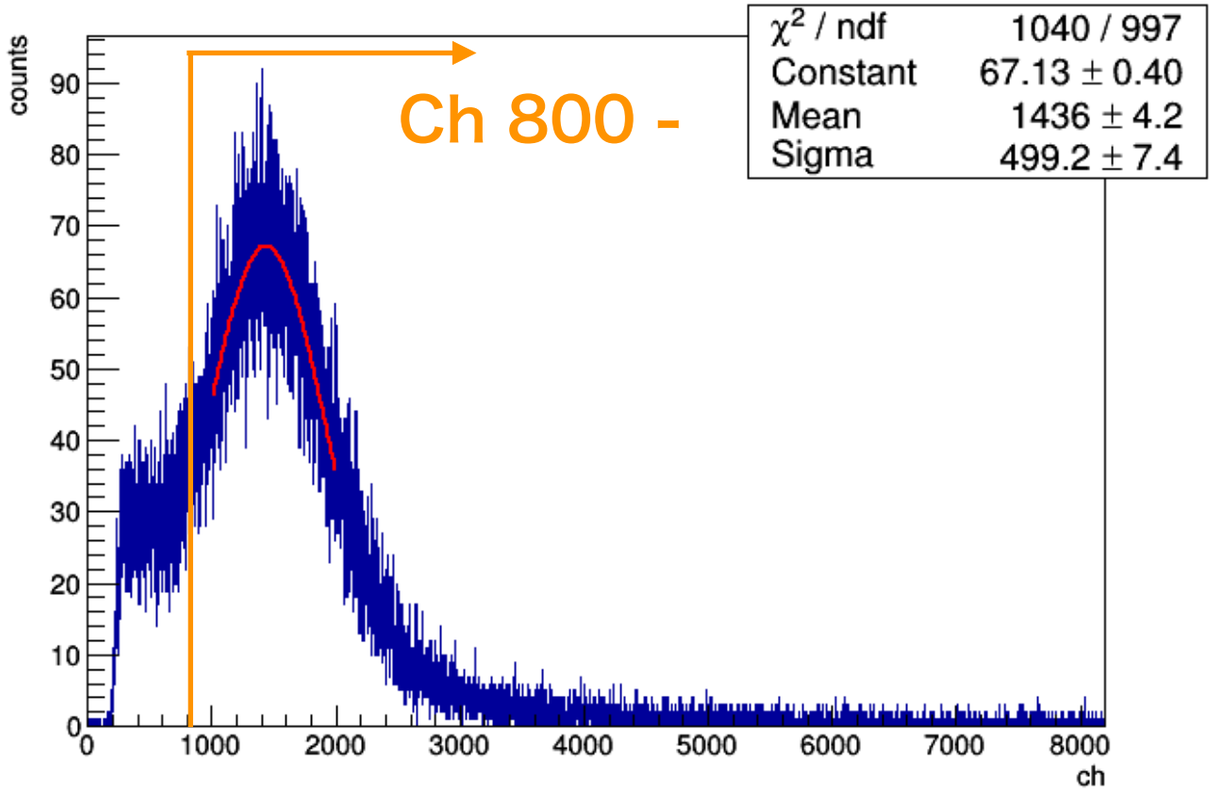
"Dark Current Rate" is defined as follows:

$$\text{Dark Current Rate} = \frac{\text{the number of PMT's signals}}{\text{Real Time (600 s)}}$$

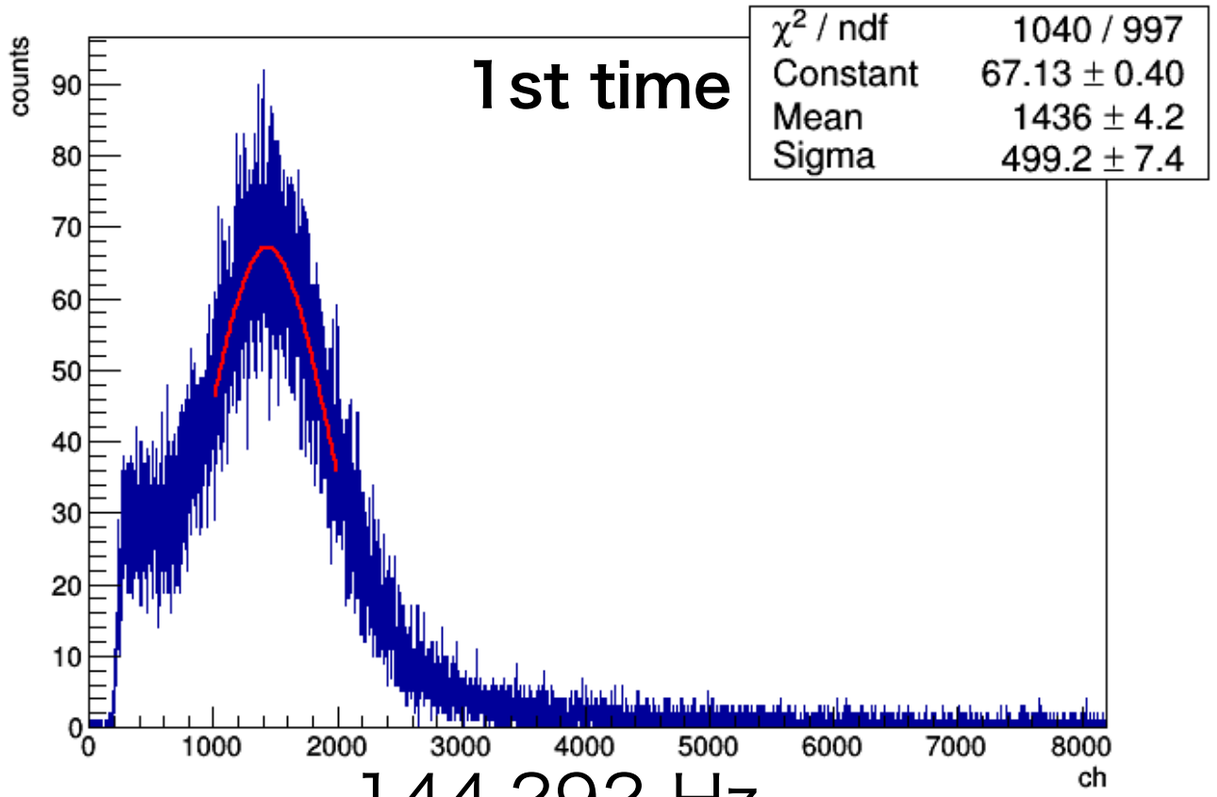
"the number of PMT's signals" is the counts above the threshold.

HA coated PMT, 13 ℃, HV +1250V

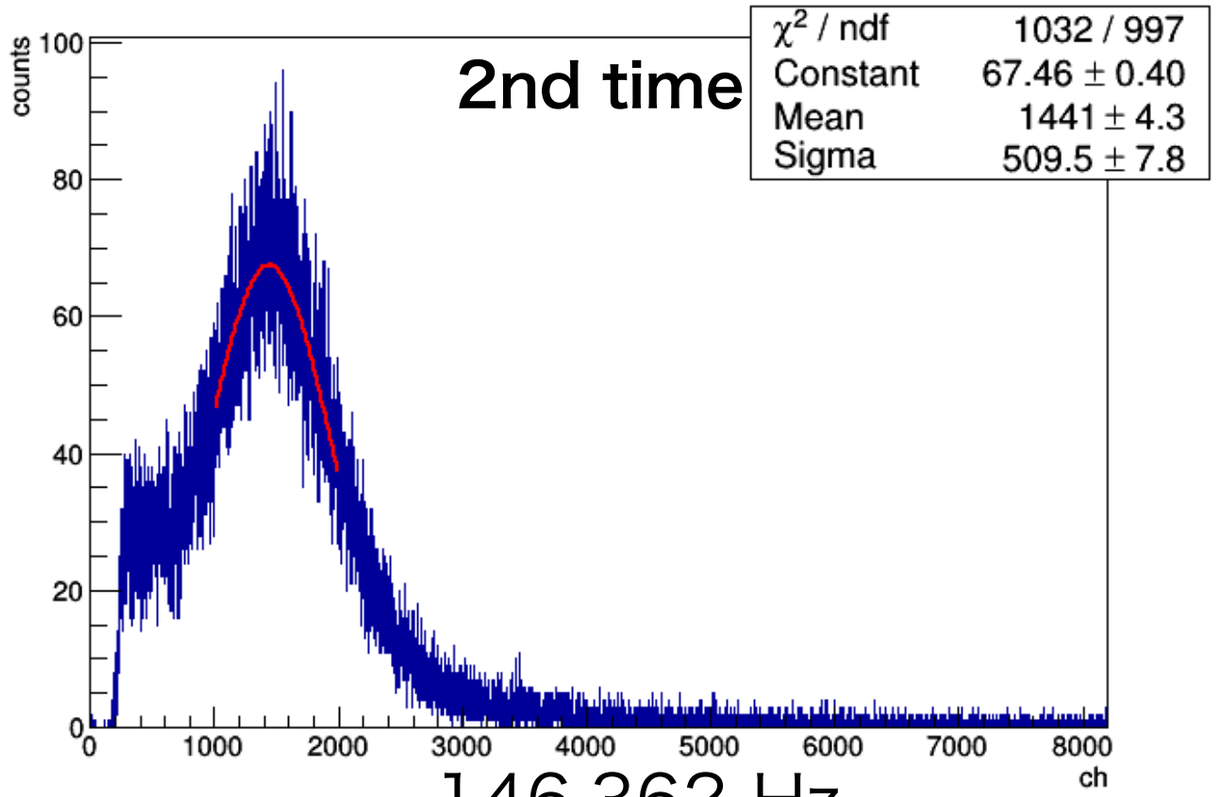
1st time



HA coated PMT, 13 ℃, HV +1250V

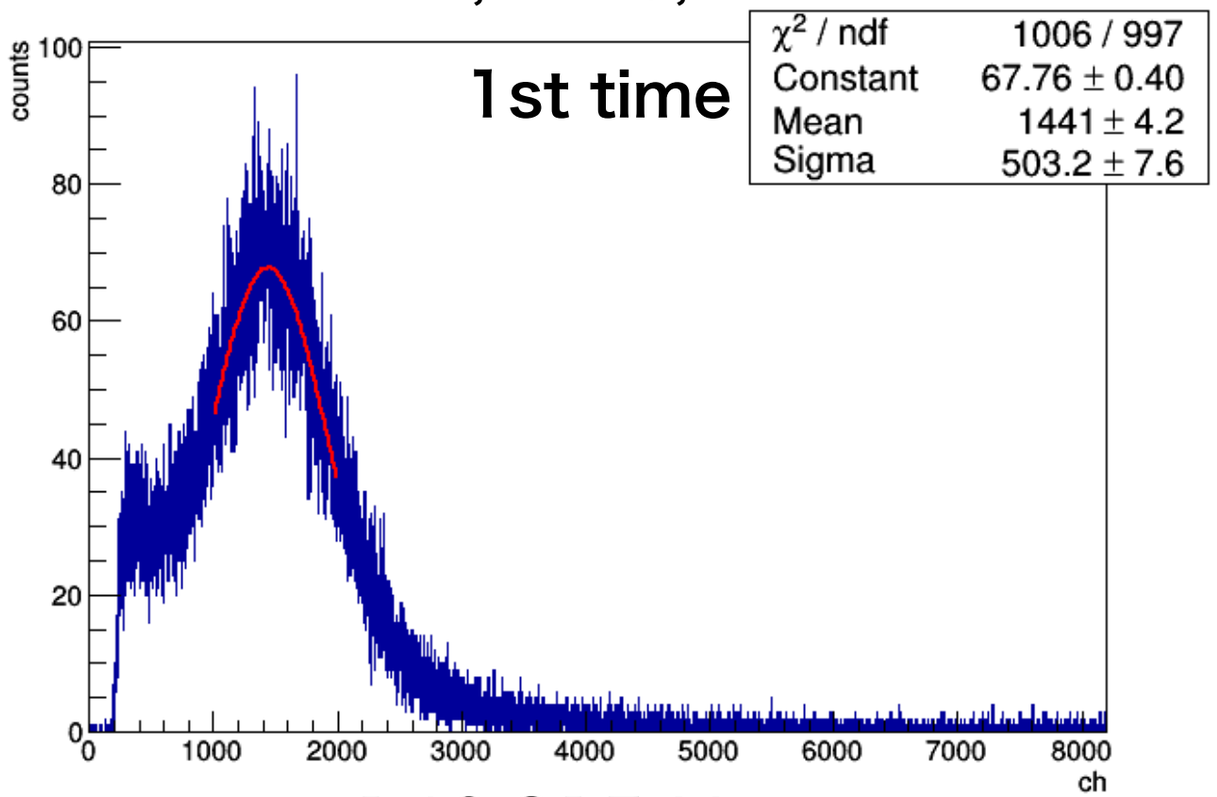


144.292 Hz

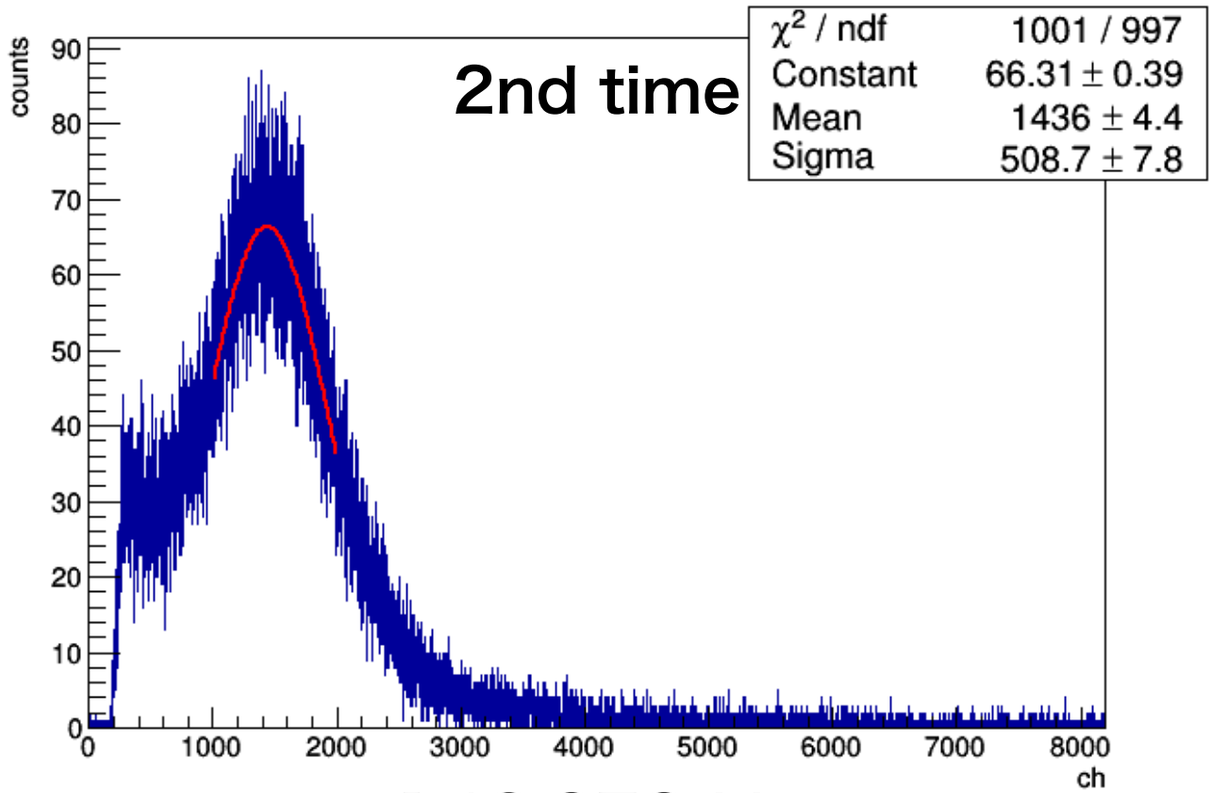


146.362 Hz

HA coated PMT, 15 ℃, HV +1250V

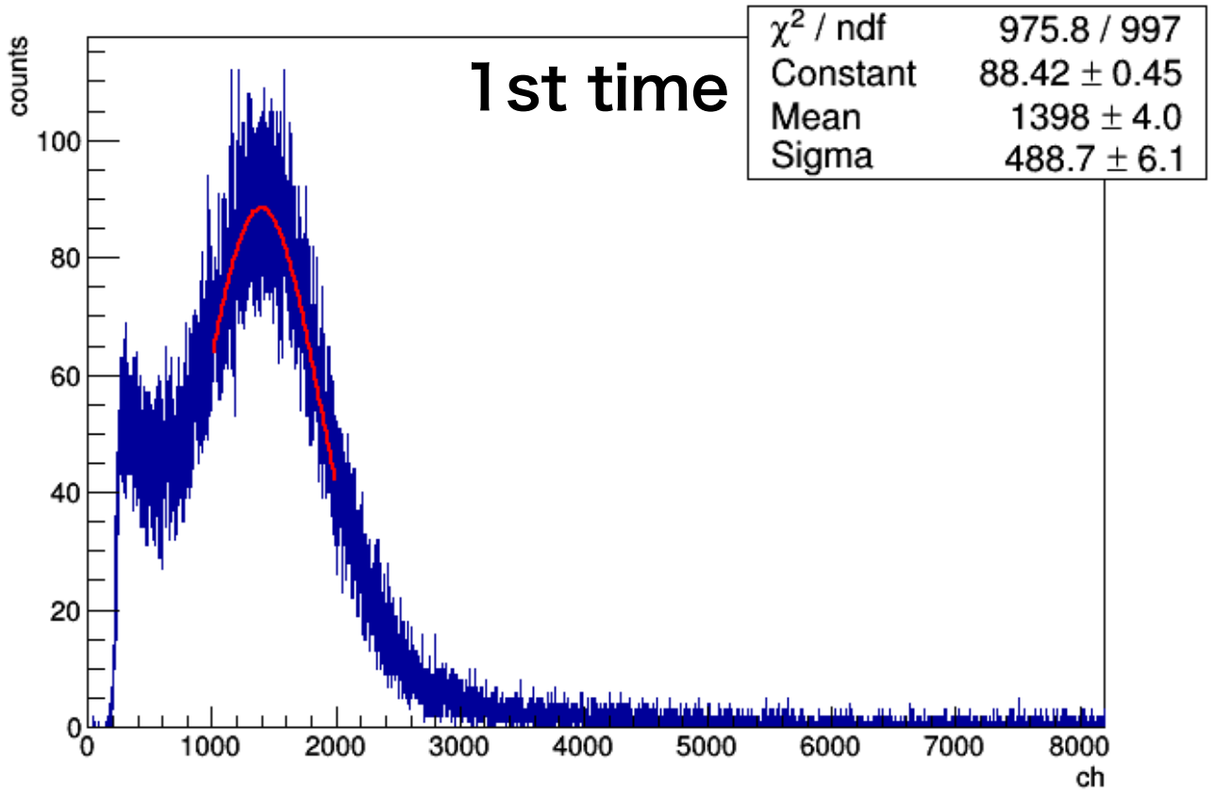


146.215 Hz

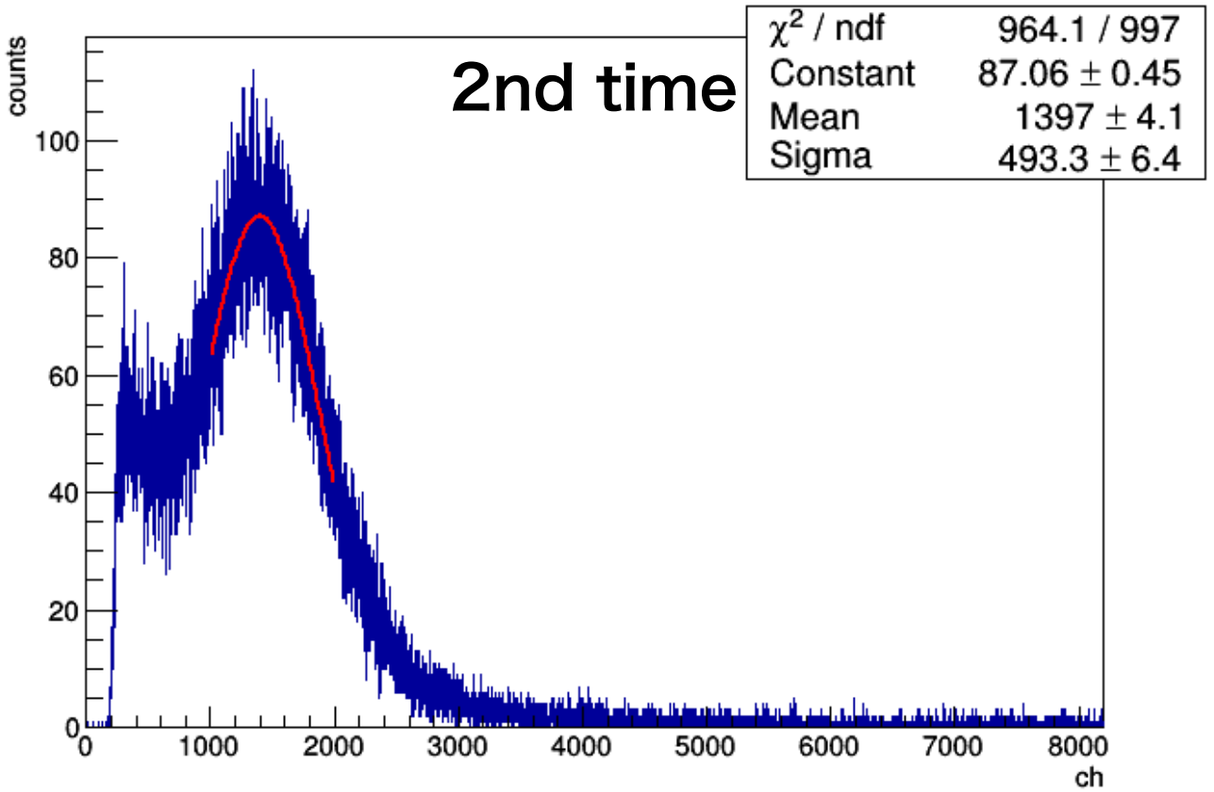


142.878 Hz

HA coated PMT, 20 ℃, HV +1250V

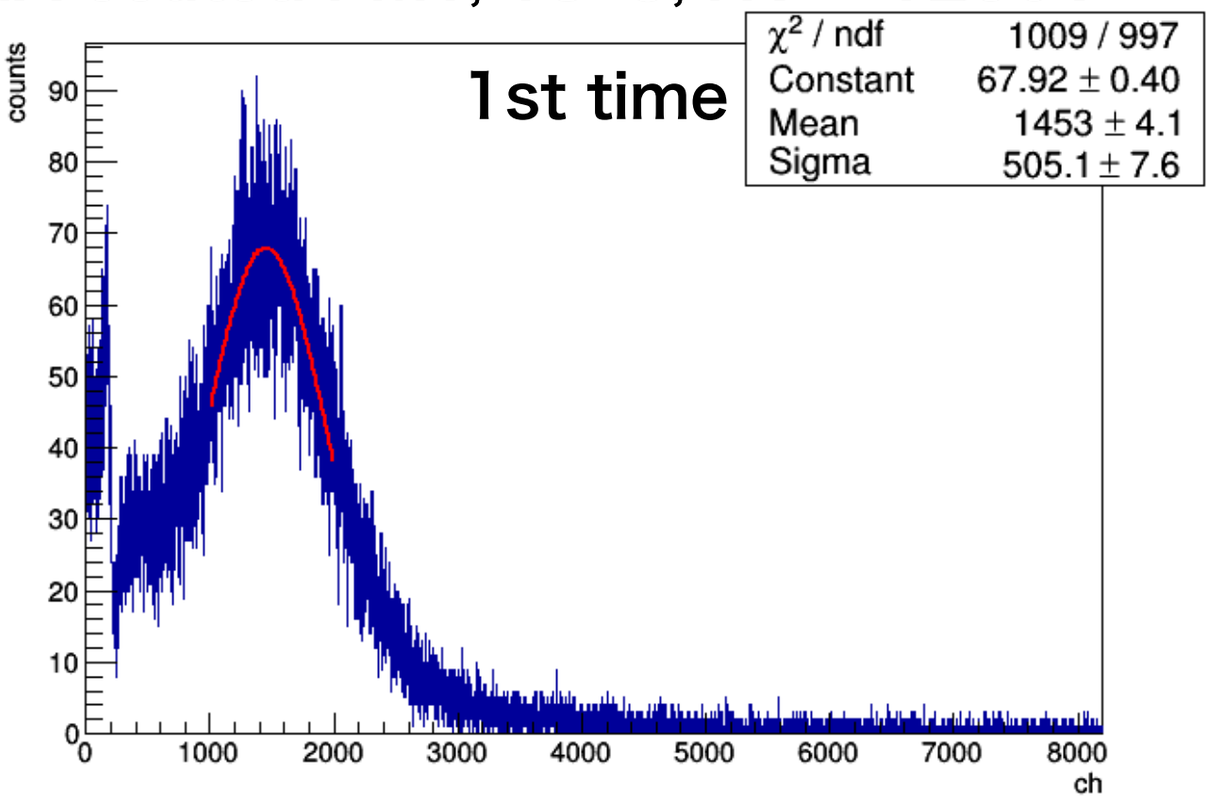


181.462 Hz

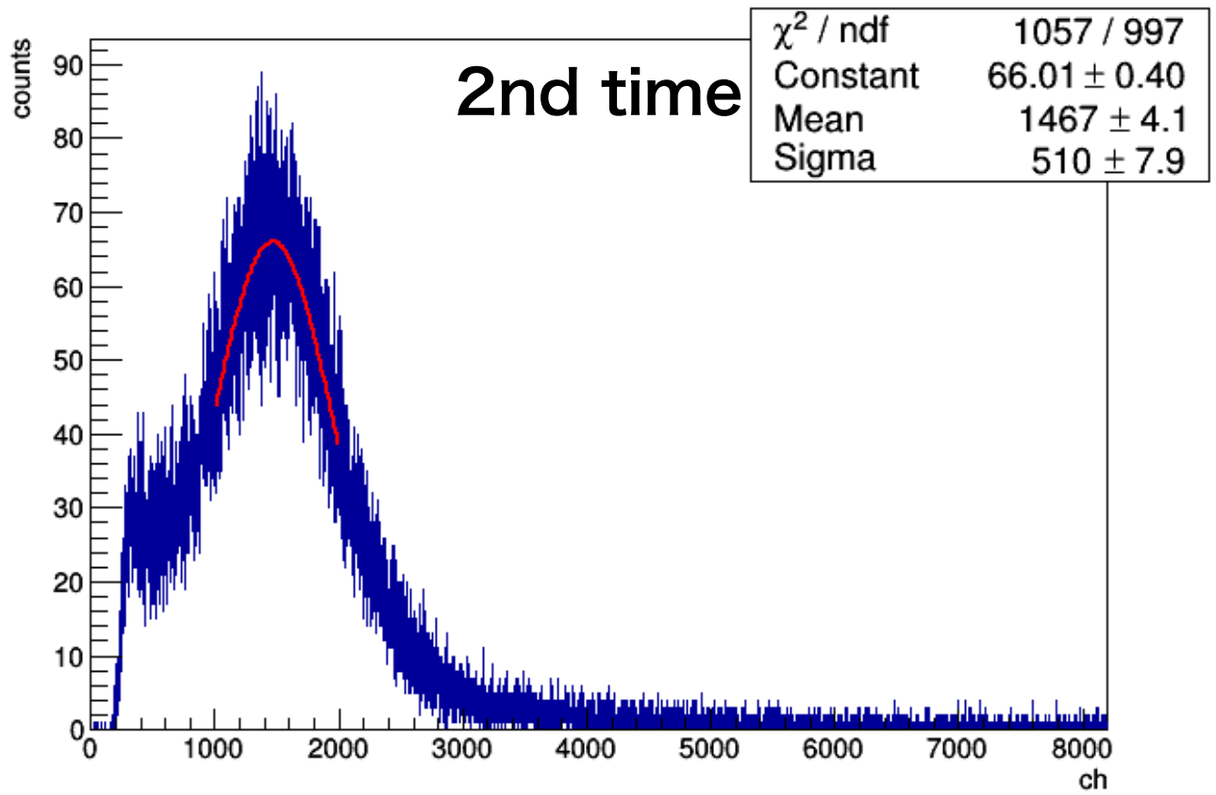


178.767 Hz

HA coated PMT, 13 ℃, HV —1250V

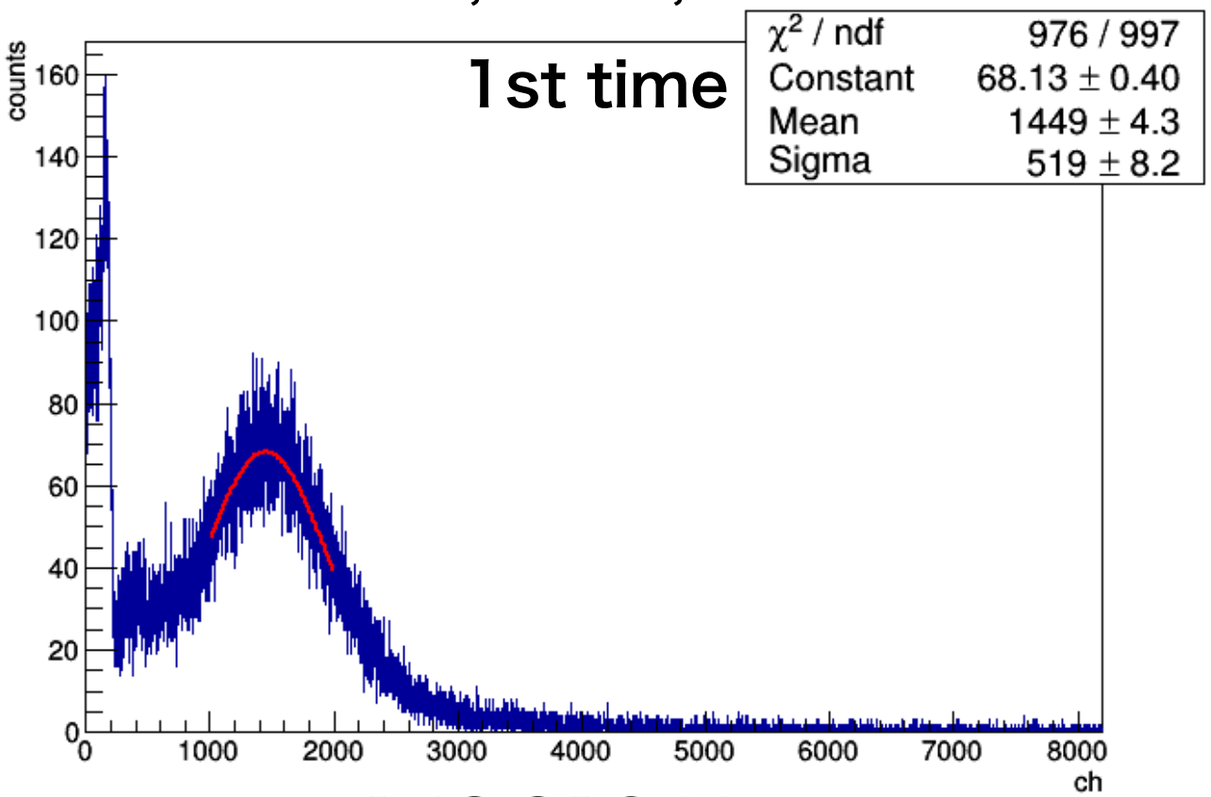


148.118 Hz

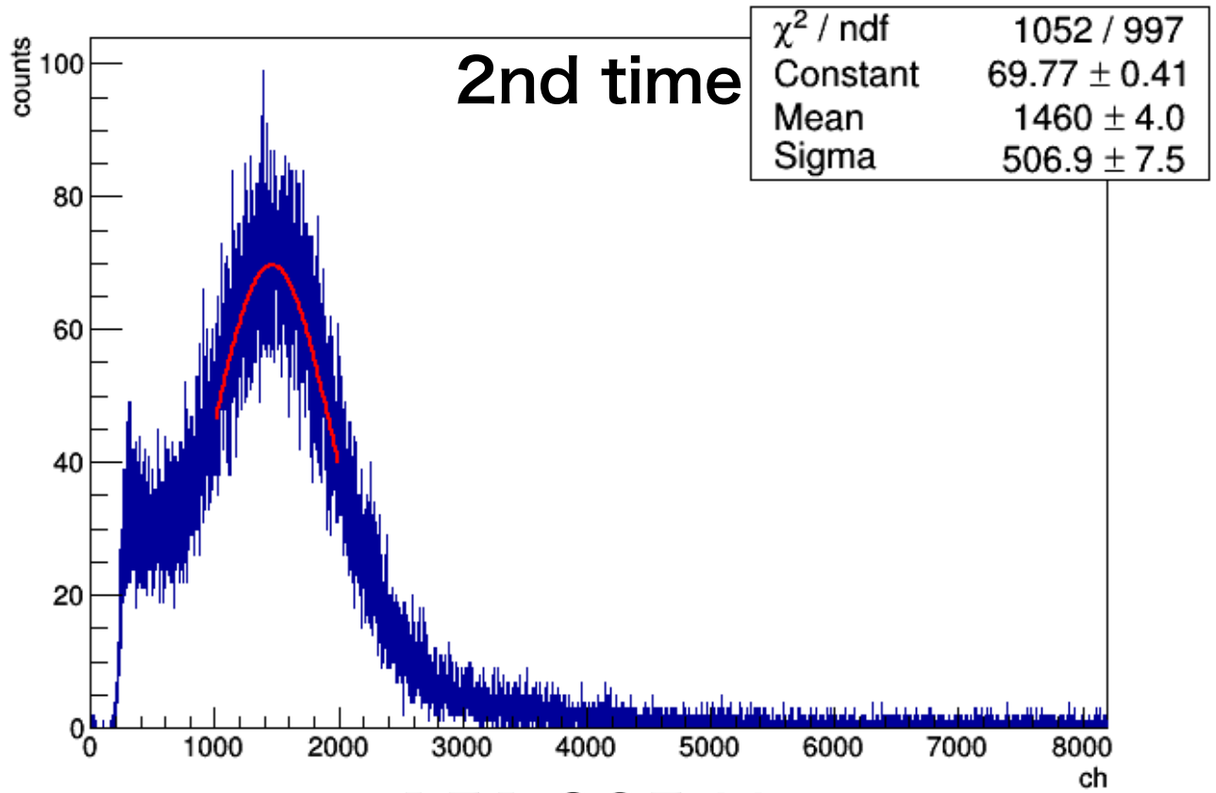


144.875 Hz

HA coated PMT, 15 ℃, HV —1250V

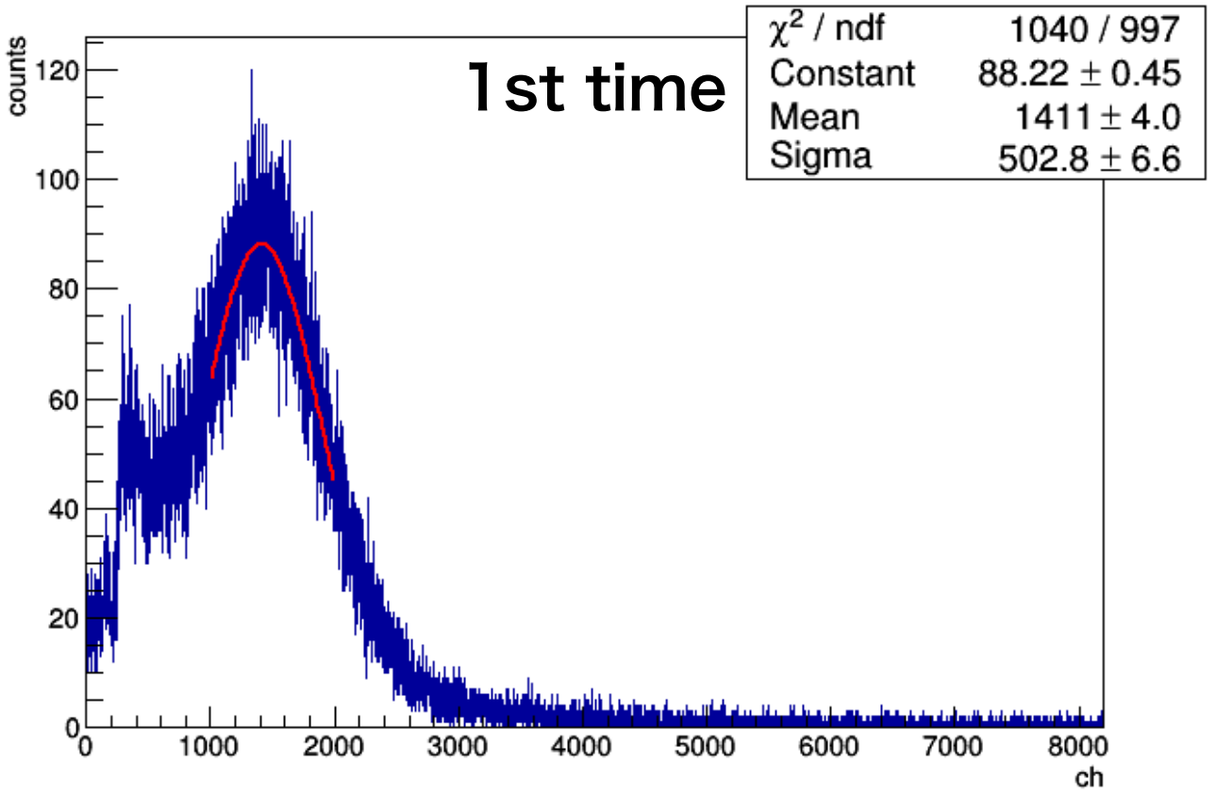


148.812 Hz

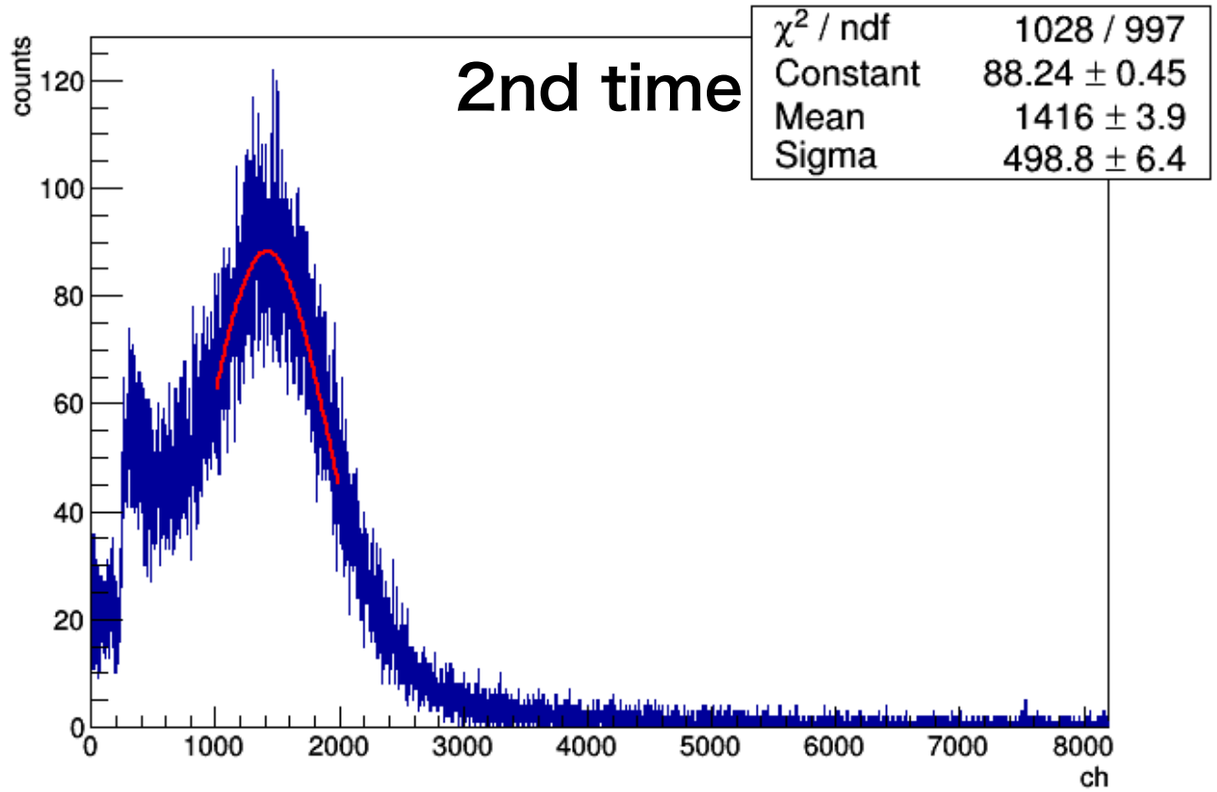


151.825 Hz

HA coated PMT, 20 ℃, HV —1250V



183.138 Hz



183.412 Hz