

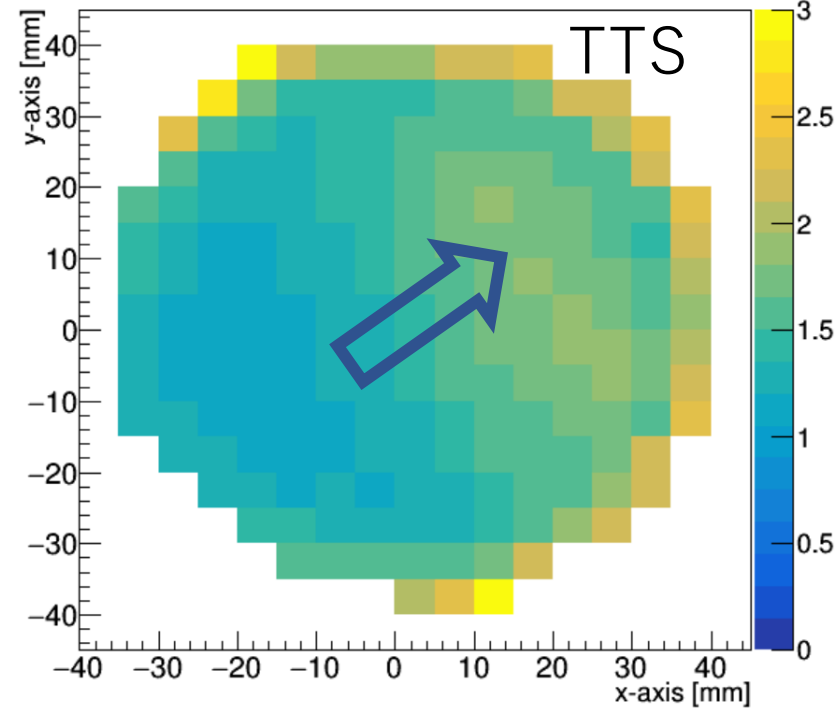
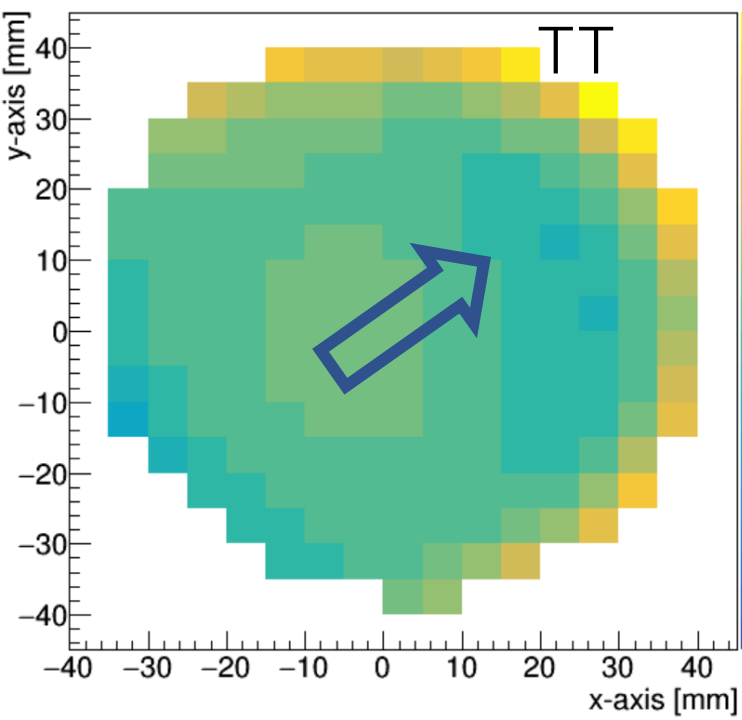
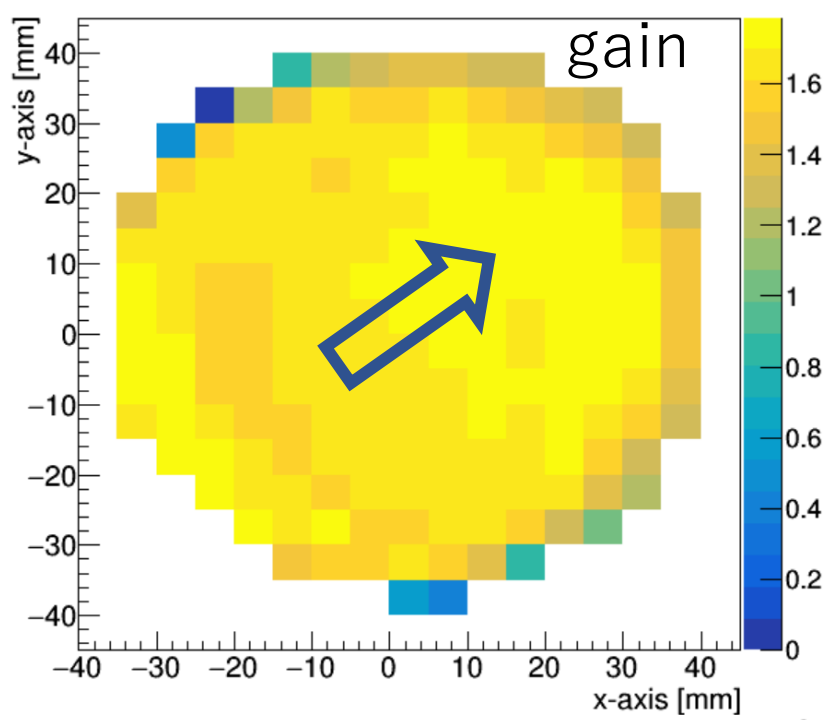
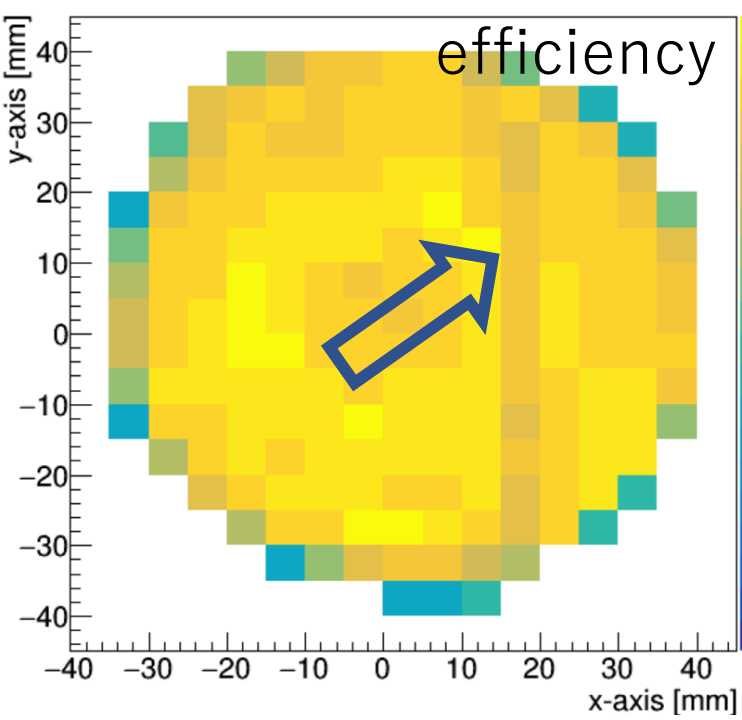
Status report

7/28/2020

TUS Nao Izumi

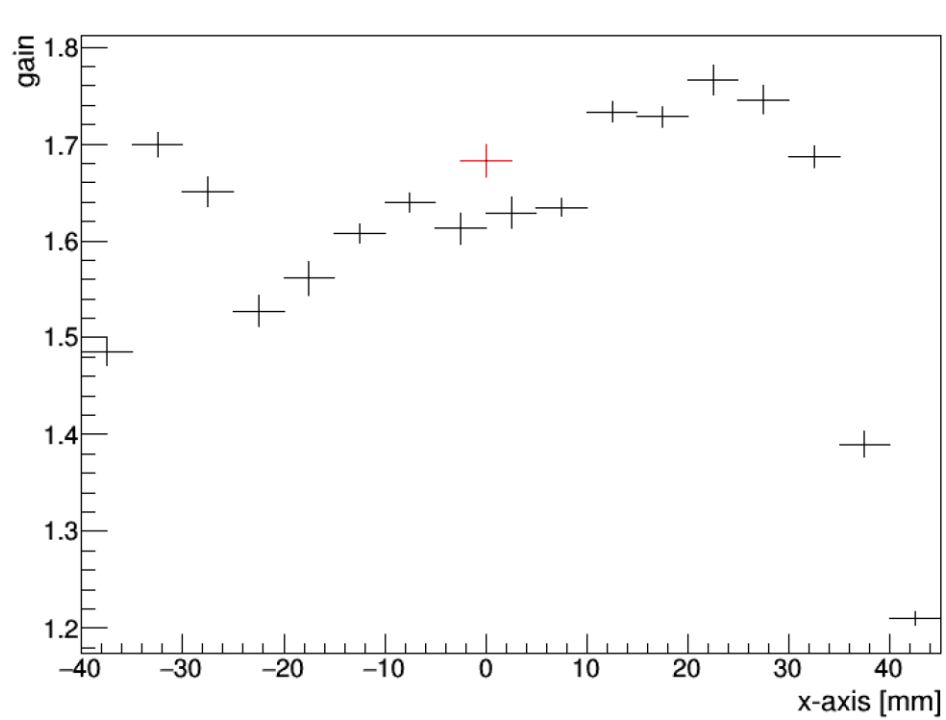
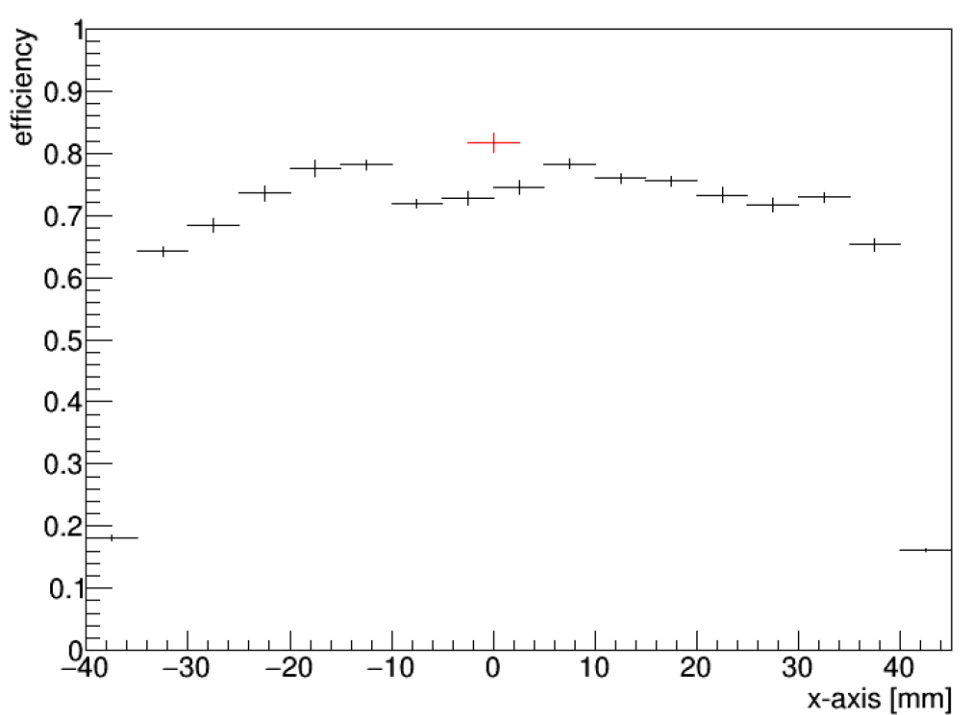
Position dependence of the 3-inch PMTs

- I finished taking fine granularity measurements.
 - ① Serial #: BC0035, HV: +1200 V
 - ② Serial #: BC0035, HV: -1200 V ← new!!
 - ③ Serial #: BC0038, HV: +1200 V
 - ④ Serial #: BC0038, HV: -1200 V
- I took a new data for ①, ③ and ④ only at the center of the PMTs to compare with the data I took about 1 year ago.



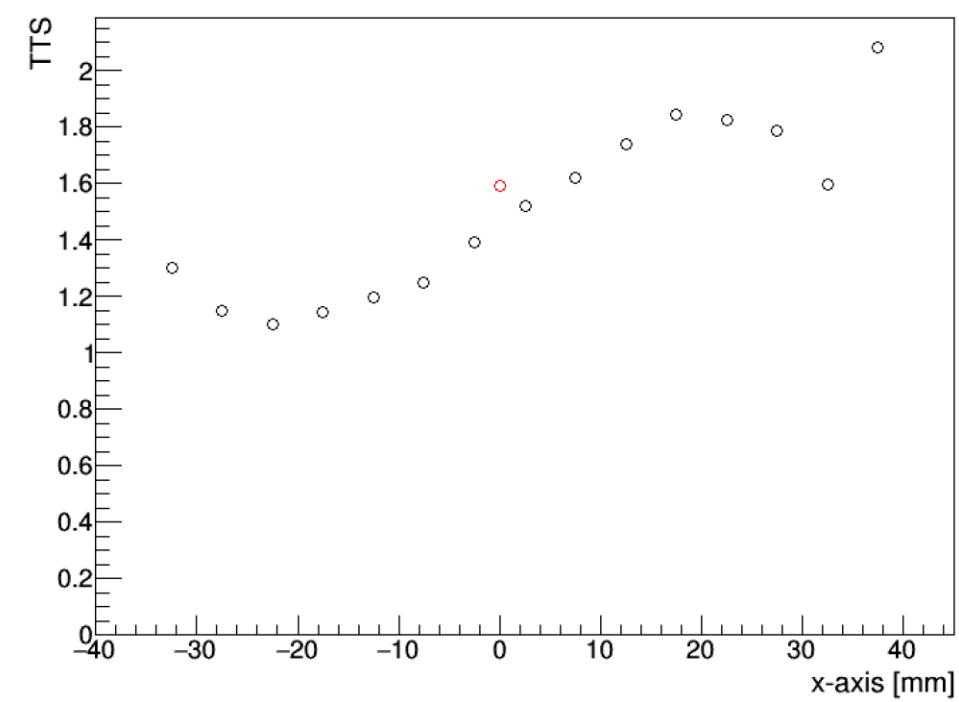
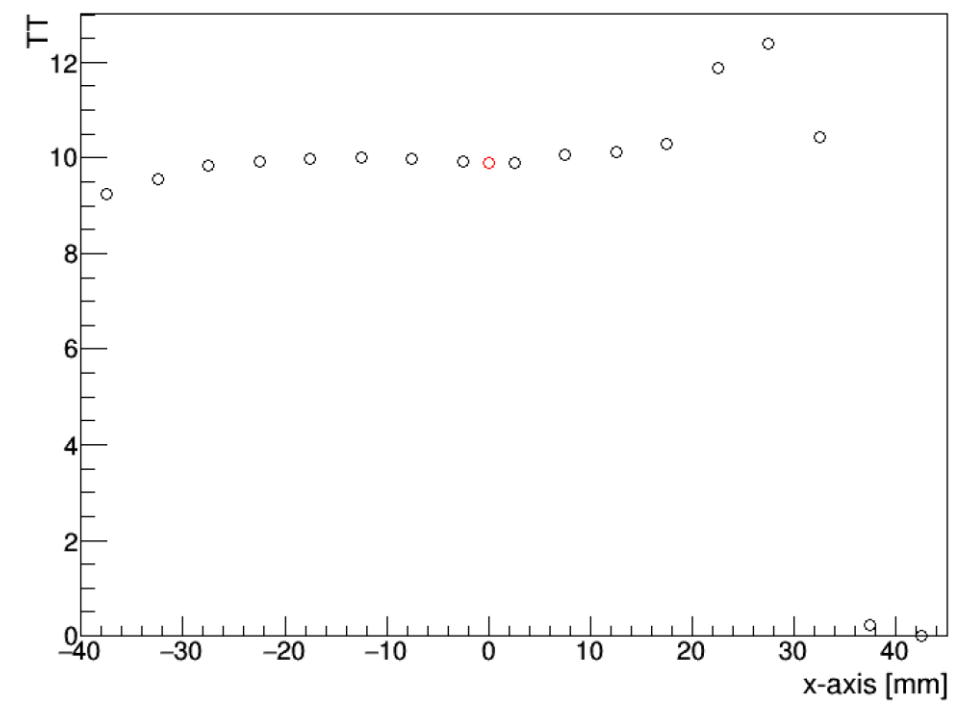
Serial #: BC0035
HV: -1200 V
run006

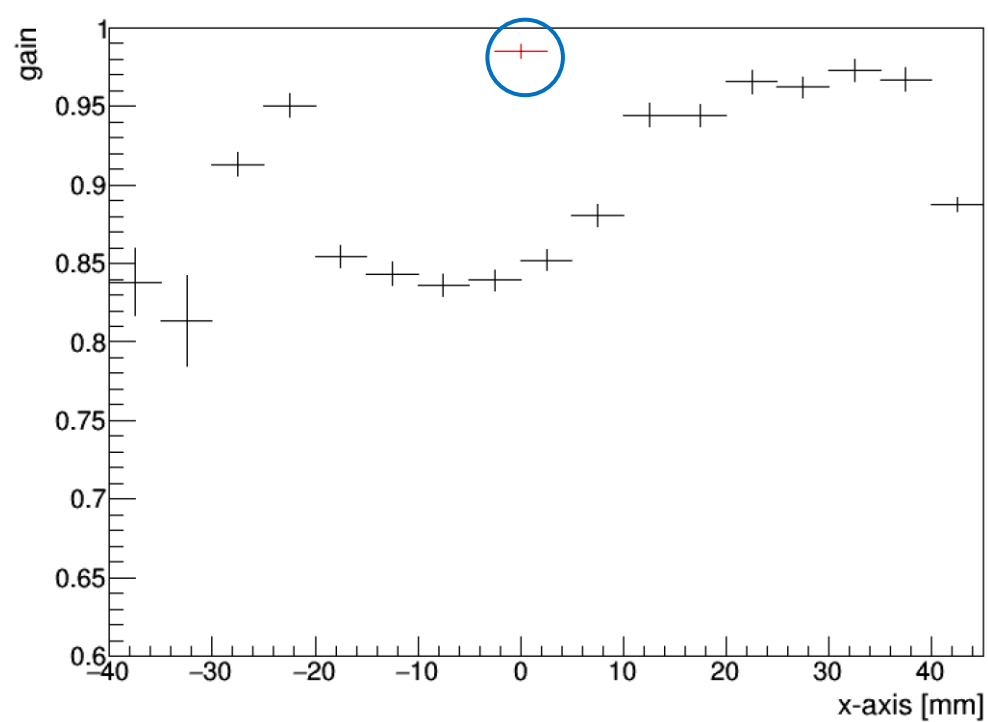
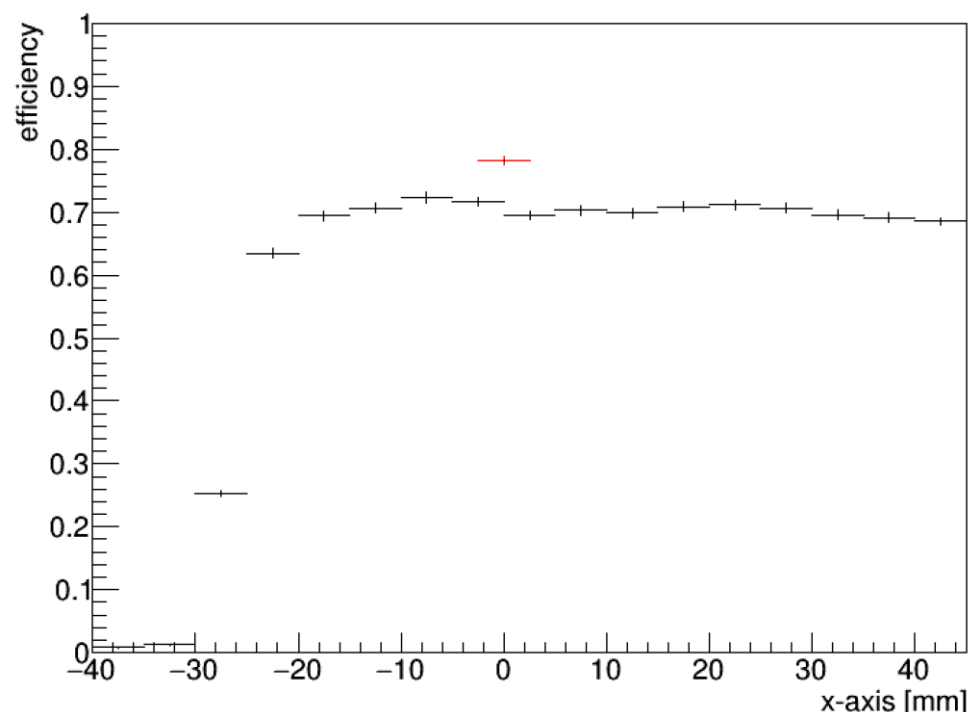
The position dependence of gain, TT and TTS related to the dynode structure is seen.



BC0035 +1200 V

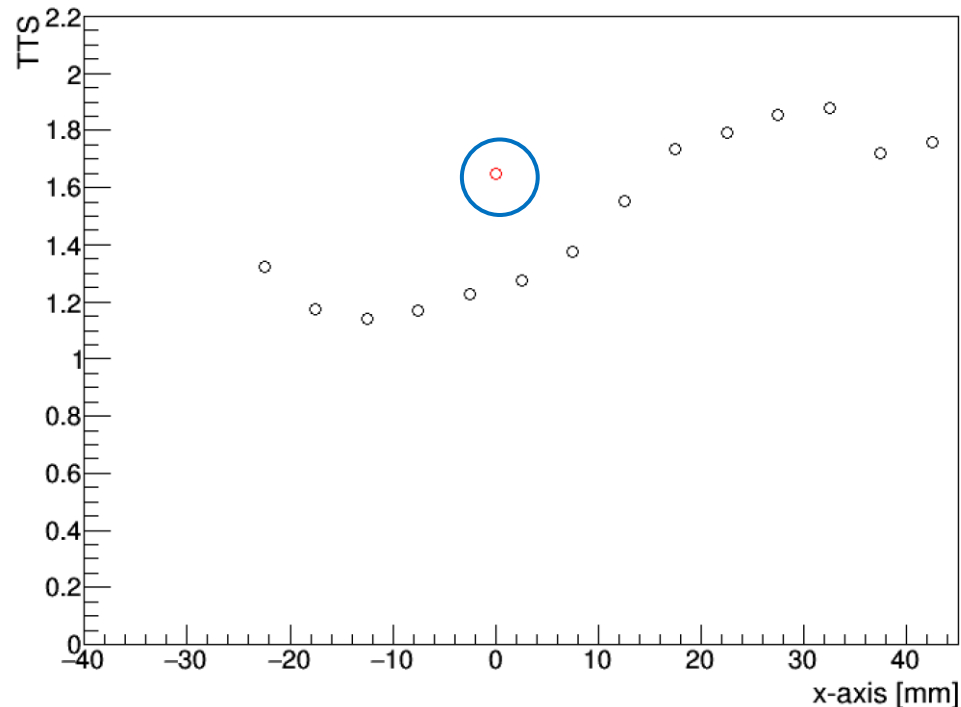
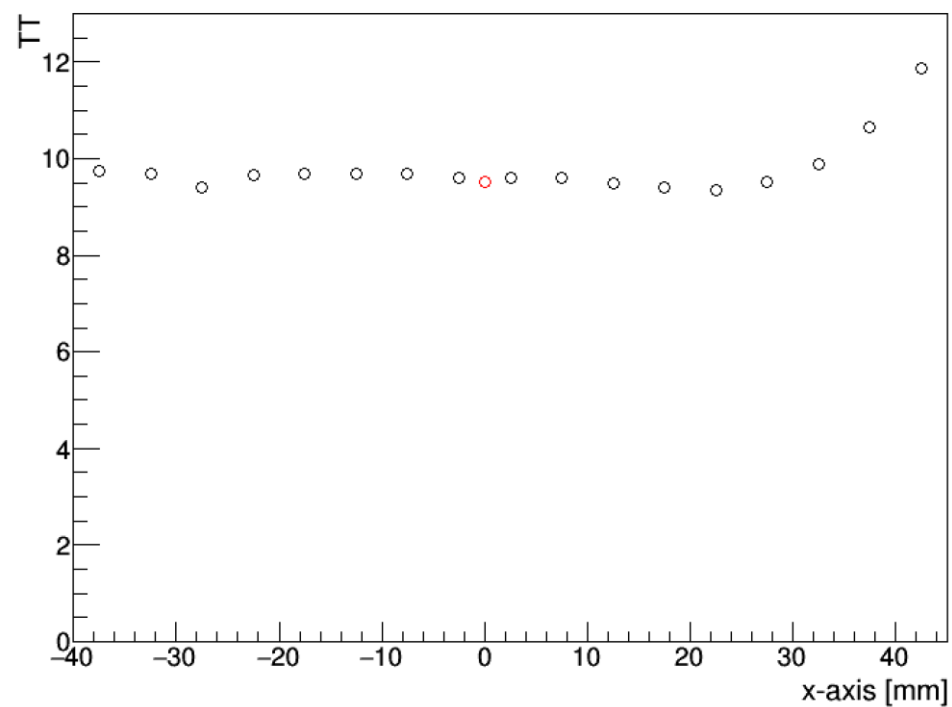
1 year ago
new





BC0038 +1200 V

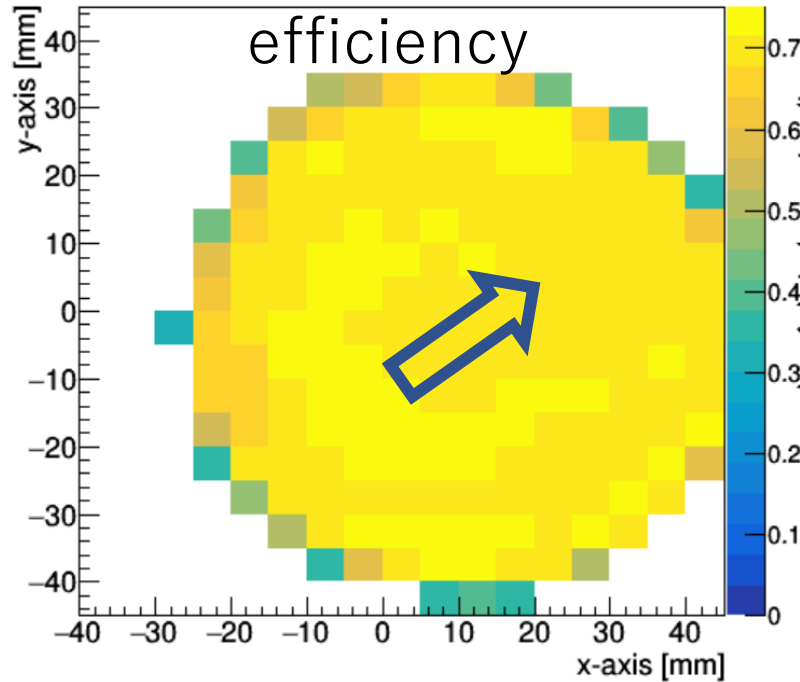
1 year ago
new



Shift of the PMT
center between the
2 measurements.

shift

Shift of the PMT center between the 2 measurements.

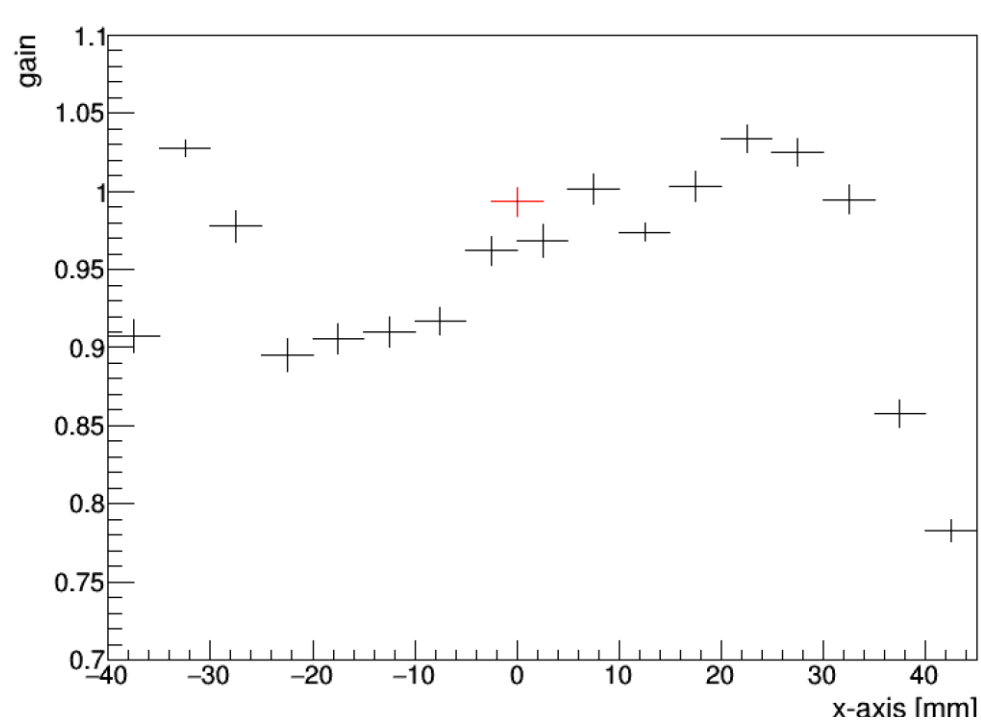
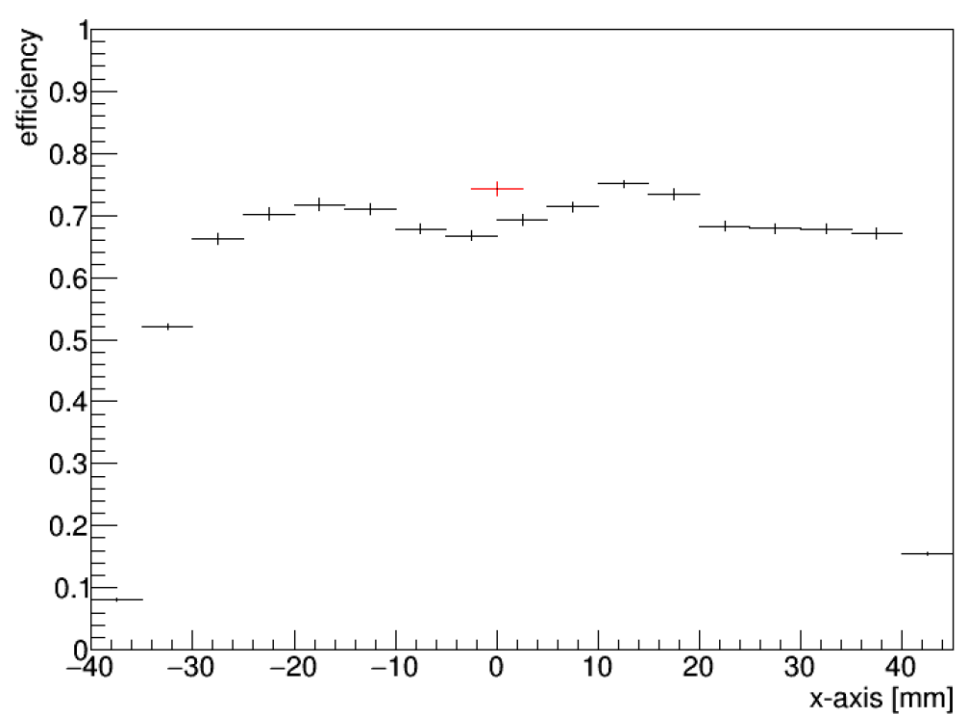


Serial #: BC0038

HV: +1200 V

run500

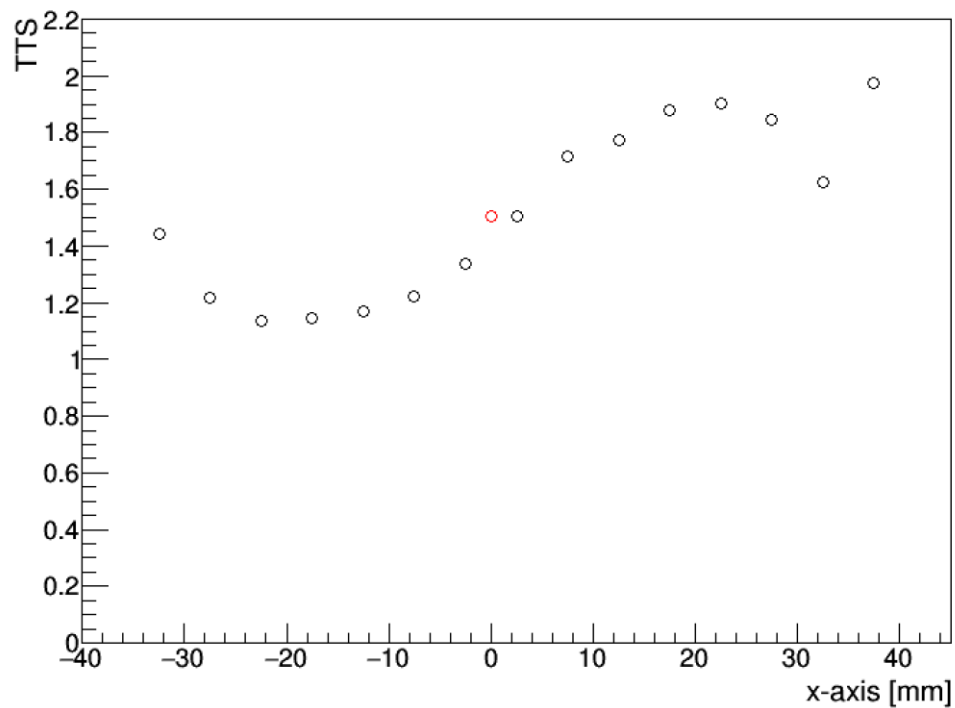
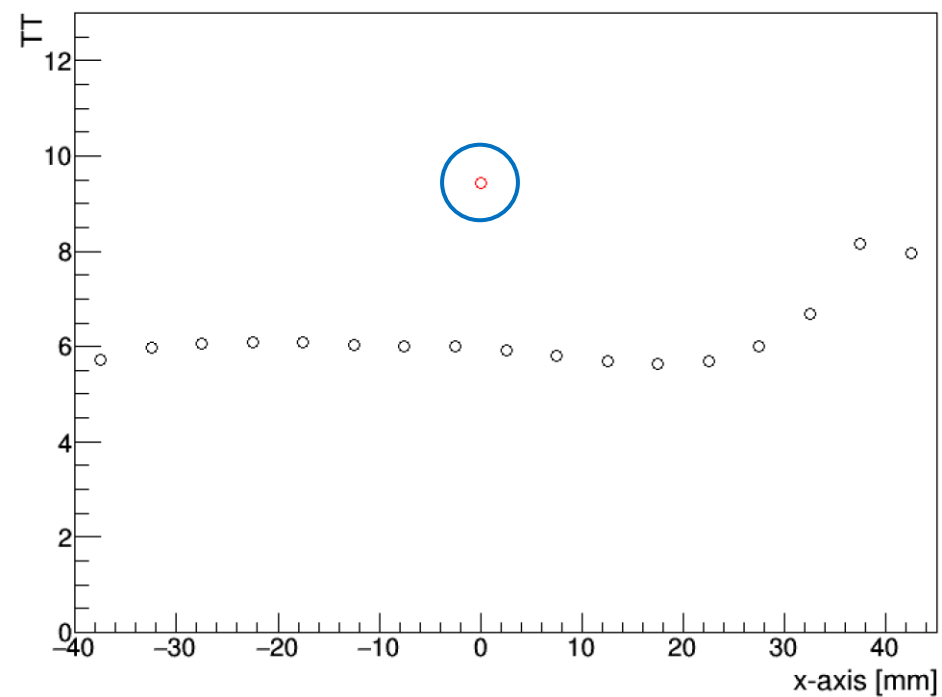
The center was shifted by ~10 mm in the previous measurement.
Considering this shift, the new data is reasonable.



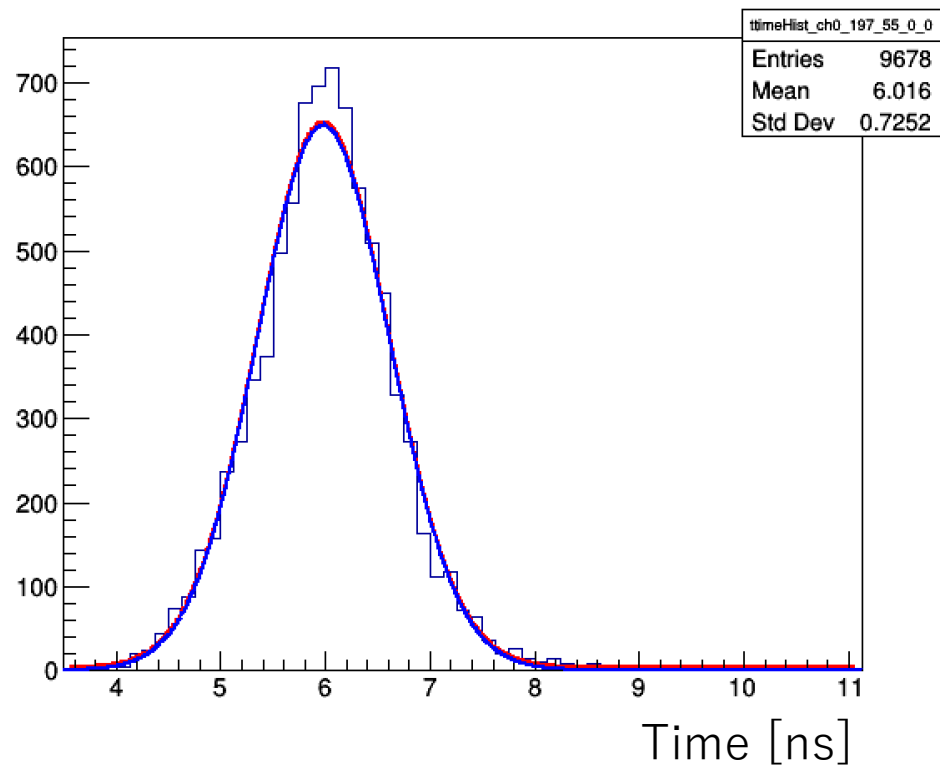
BC0038 -1200 V

1 year ago

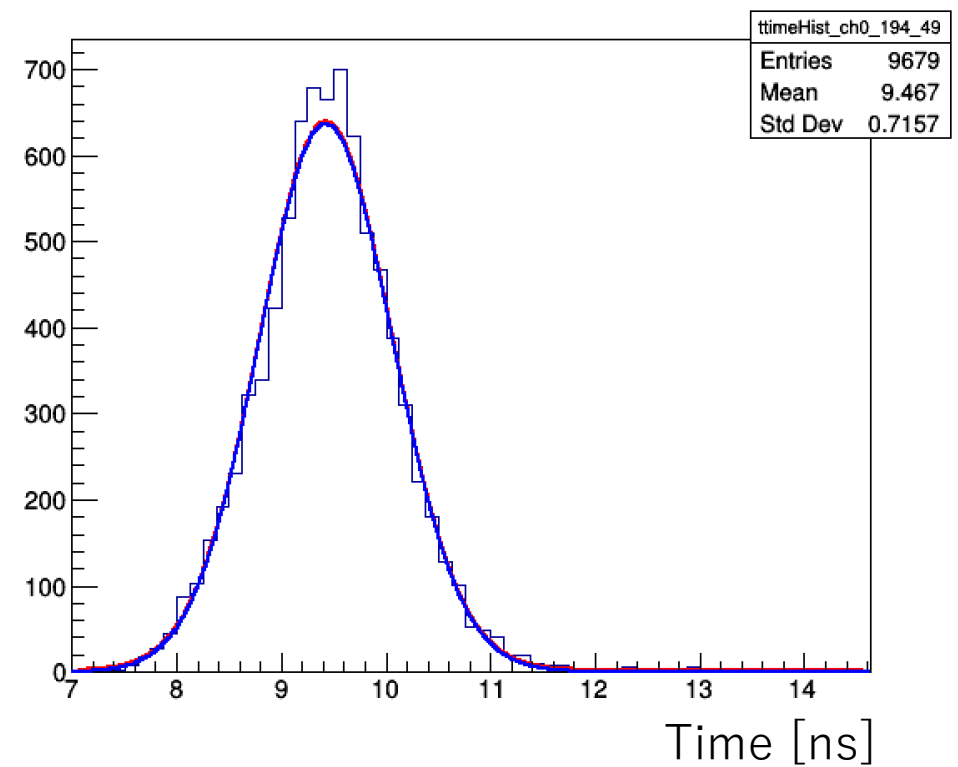
new



Transit time



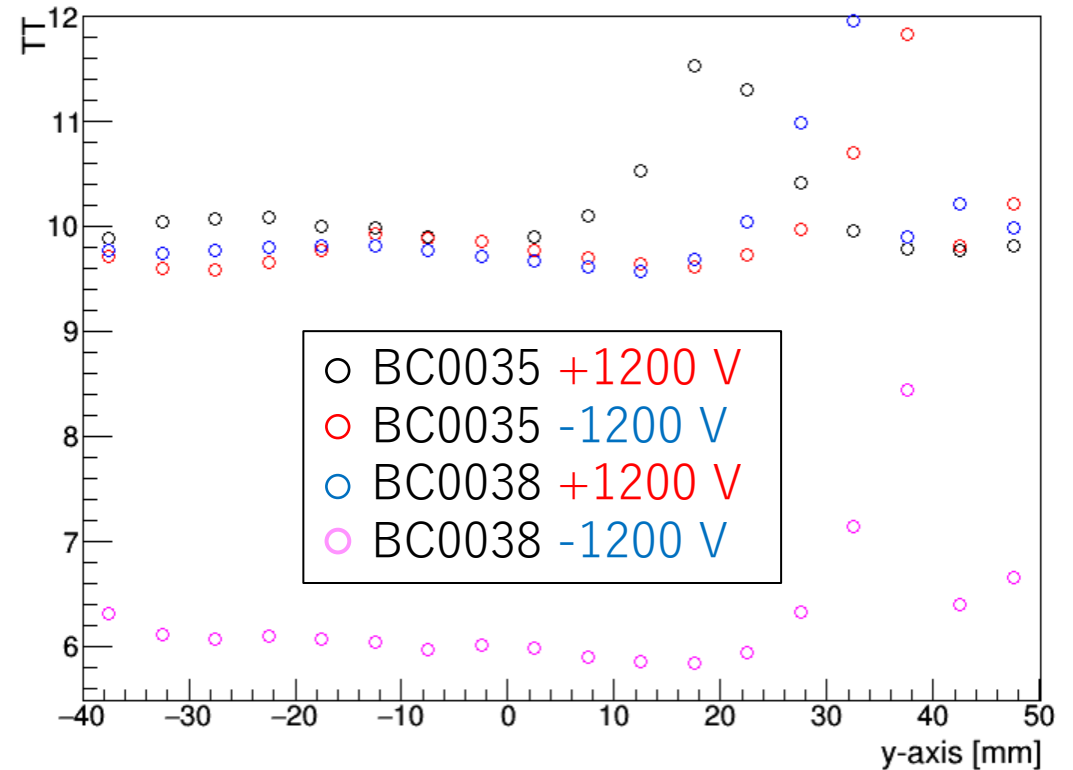
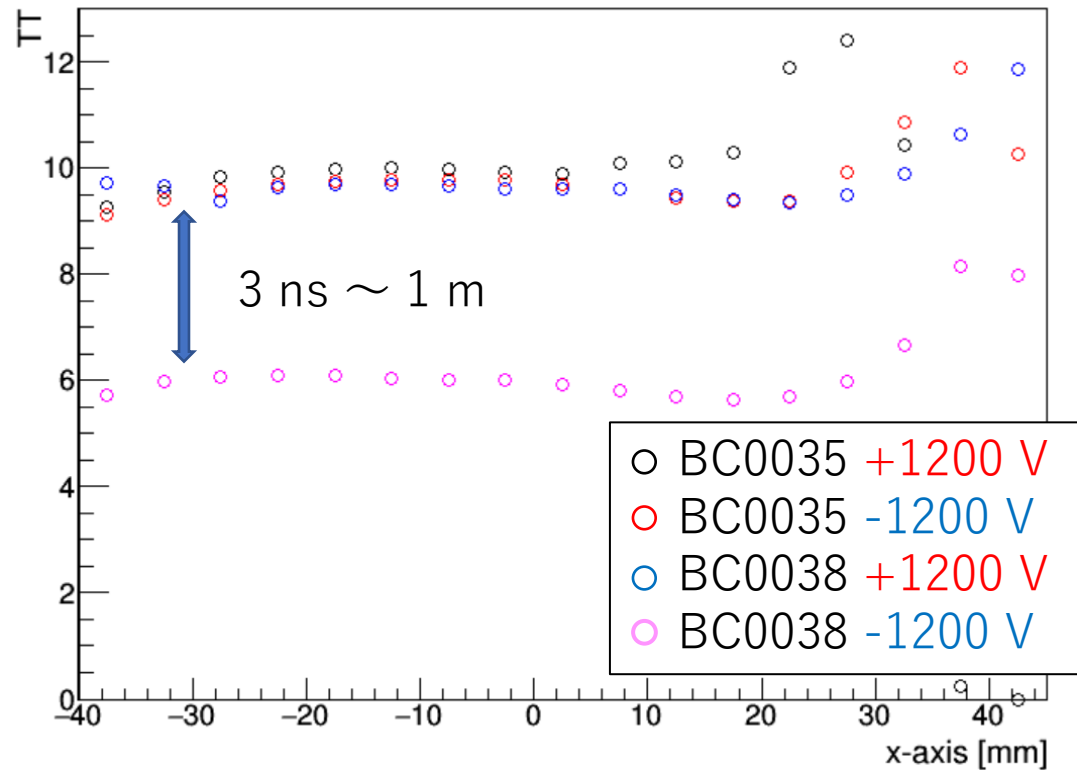
before



after

The data and the fit seem fine.

Transit time



The TT data of PMT BC0038 with negative HV I took 1 year ago were about 3 ns smaller than other measurements.

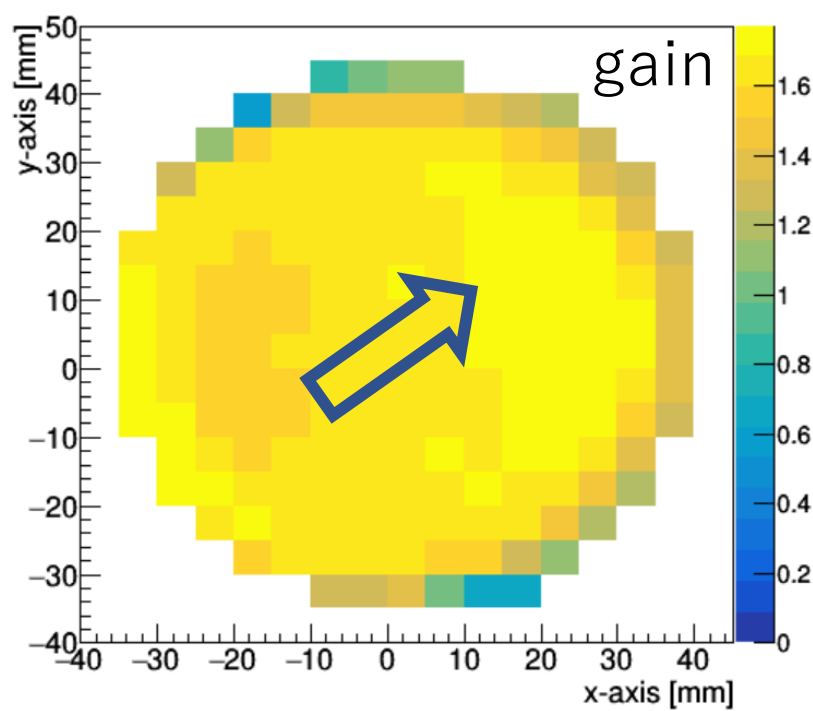
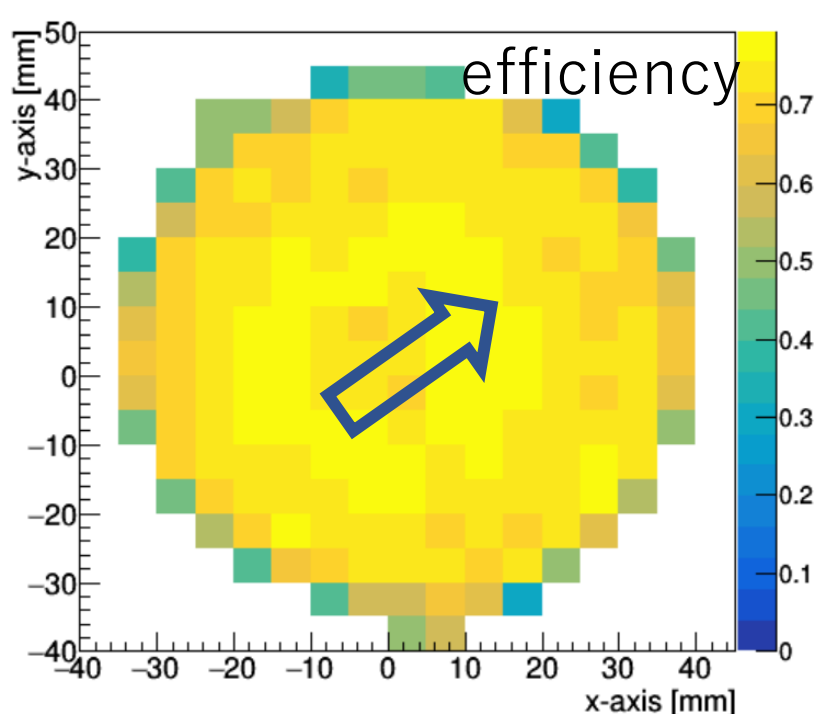
The new data seems more reasonable.

→ may need to measure again

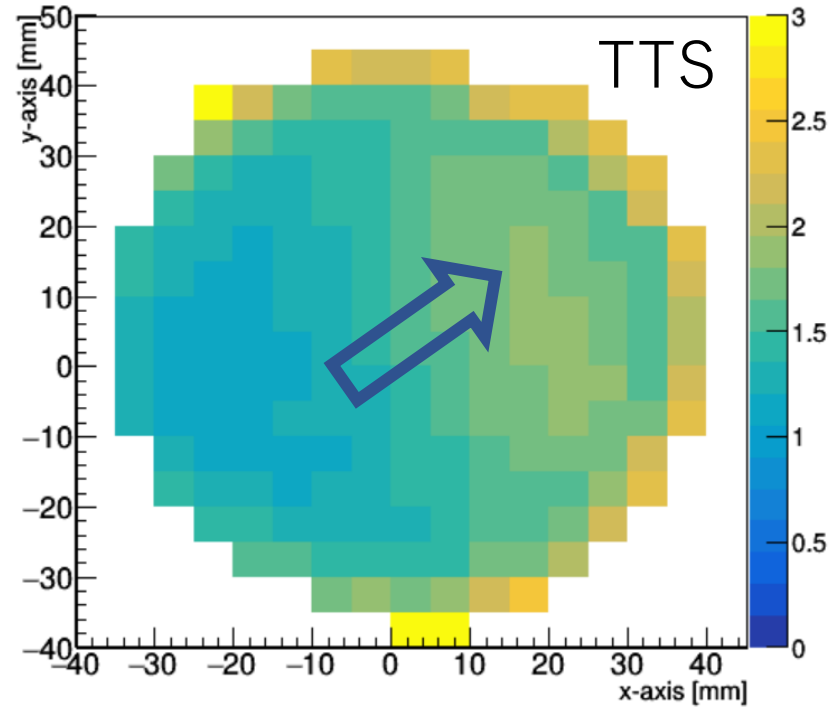
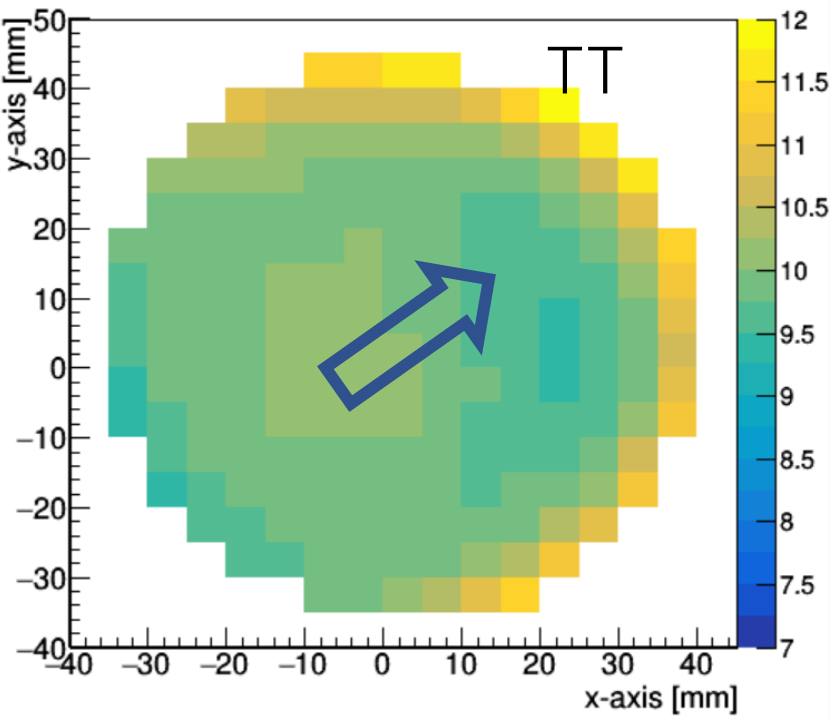
Conclusion

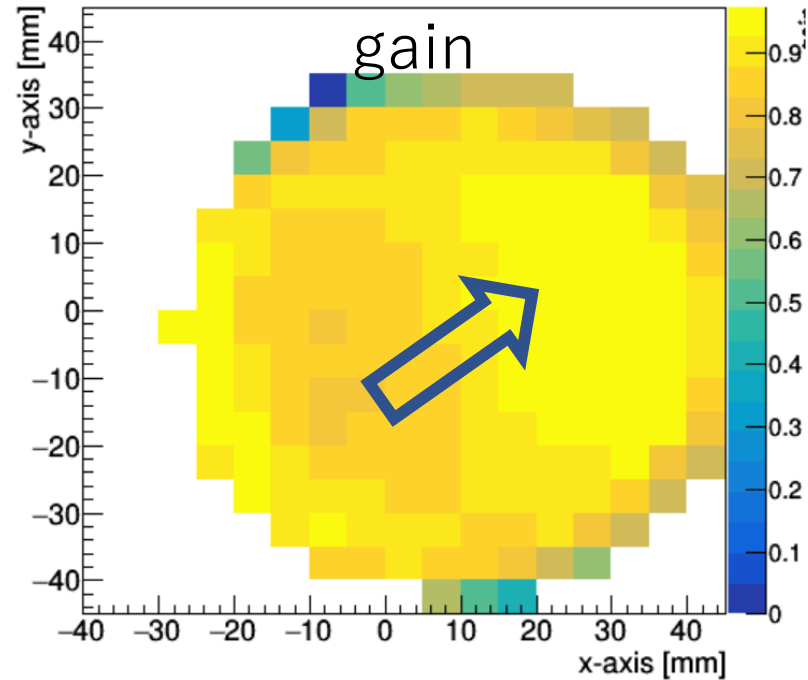
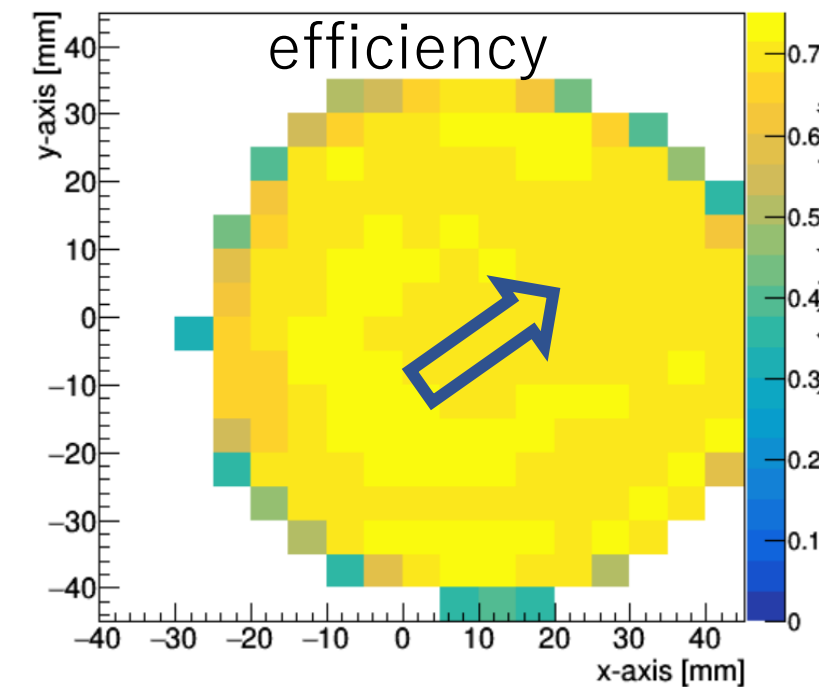
- The position dependence related to the dynode structure was seen for all the measurements.
- I took a new data only at the center of the PMTs to compare with the data I took about 1 year ago.
 - Almost all data matched the previous data except for the transit time of PMT BC0038 with negative high voltage.

backup

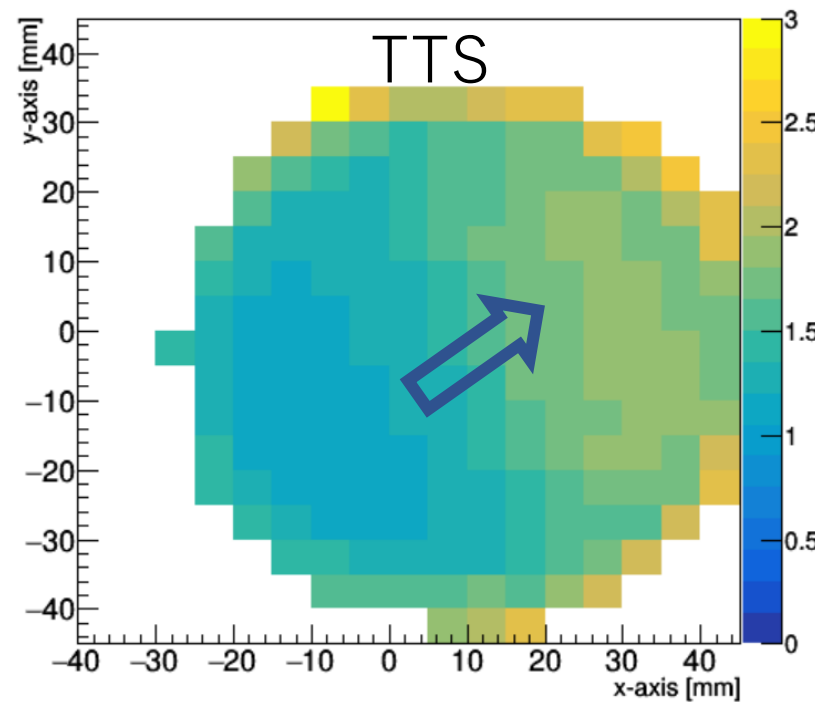
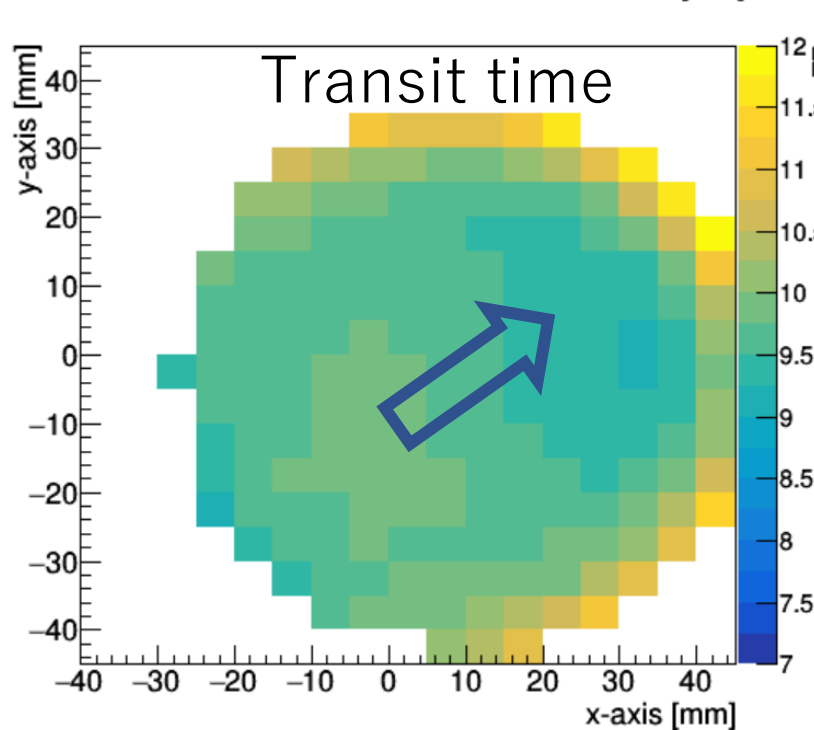


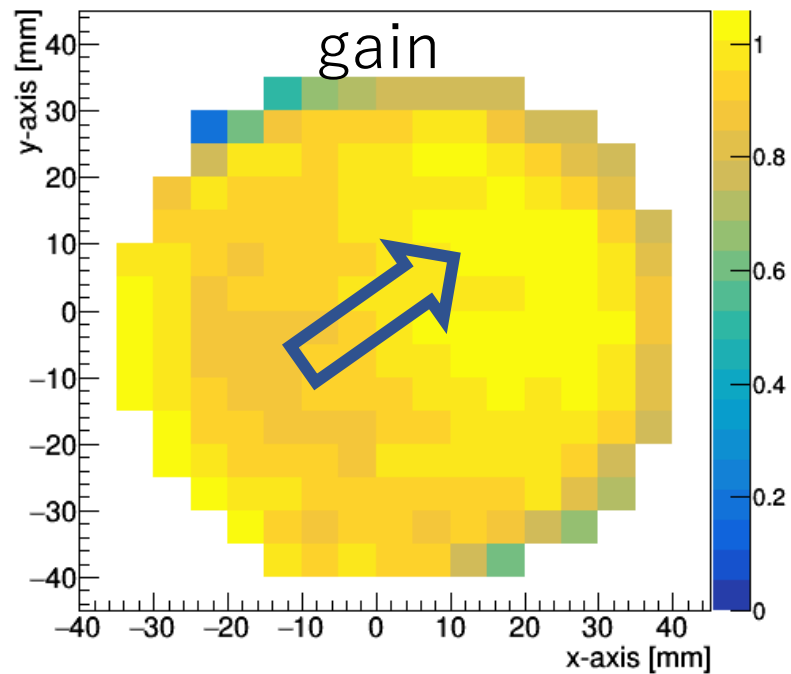
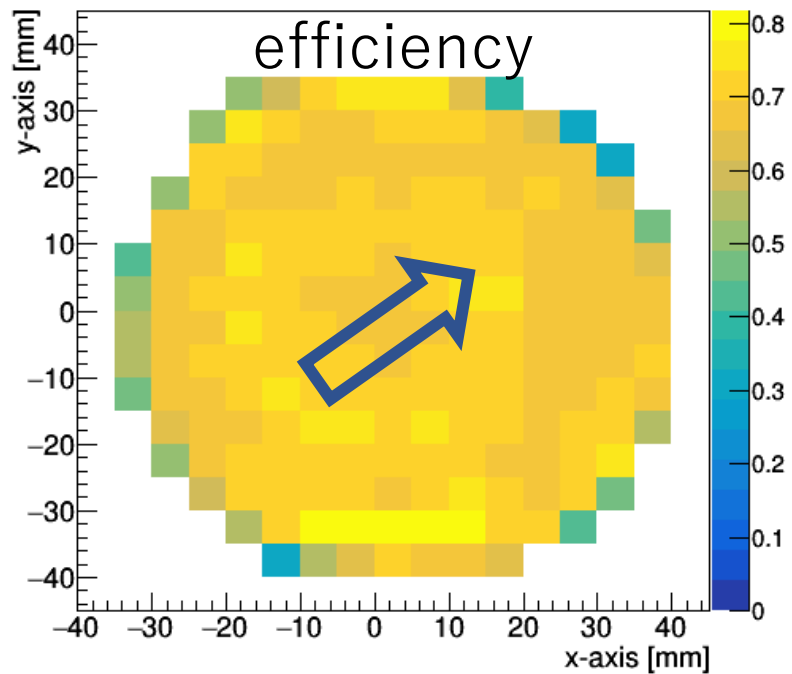
Serial #: BC0035
HV: +1200 V
run501





Serial #: BC0038
HV: +1200 V
run500





Serial #: BC0038
HV: -1200 V
run763

