

Status report

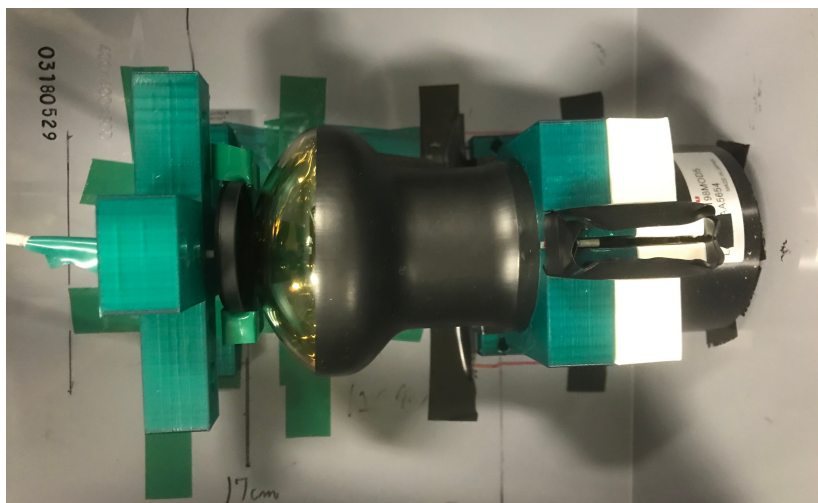
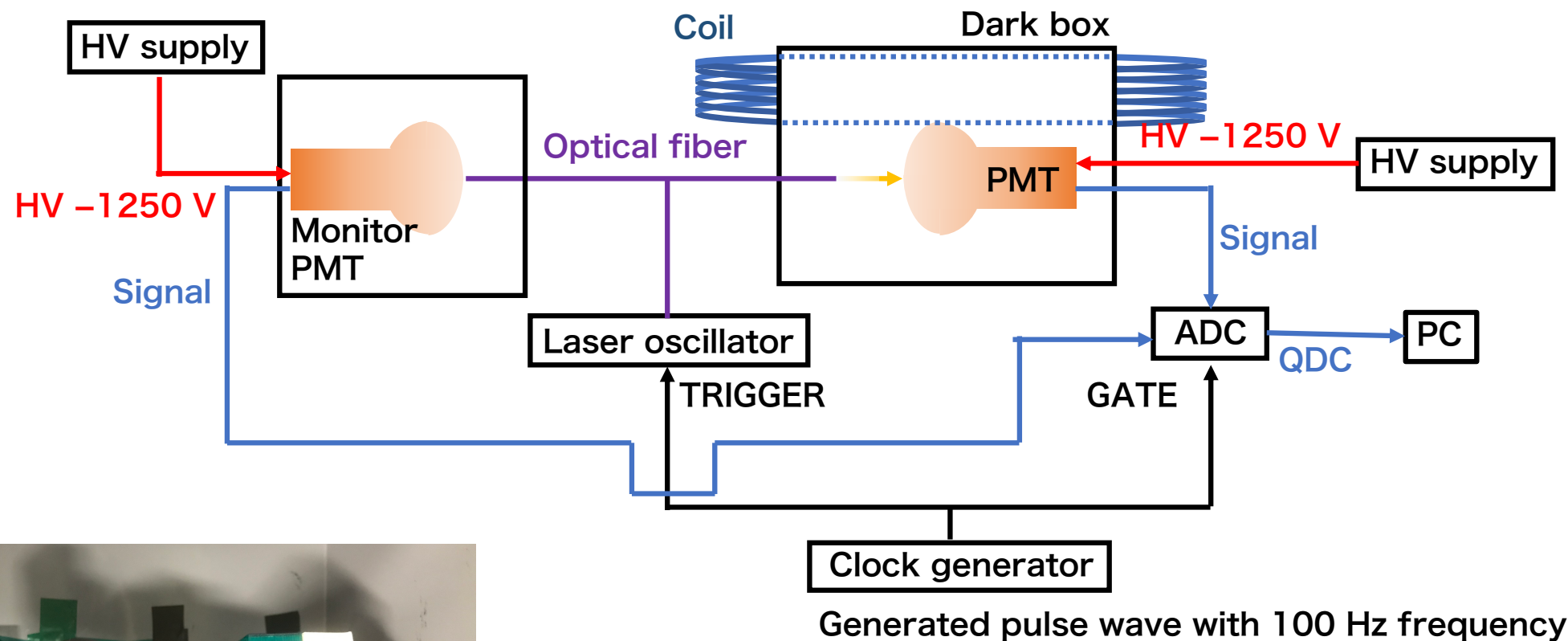
M.Inomoto

10/02/2020

Magnetic field effects

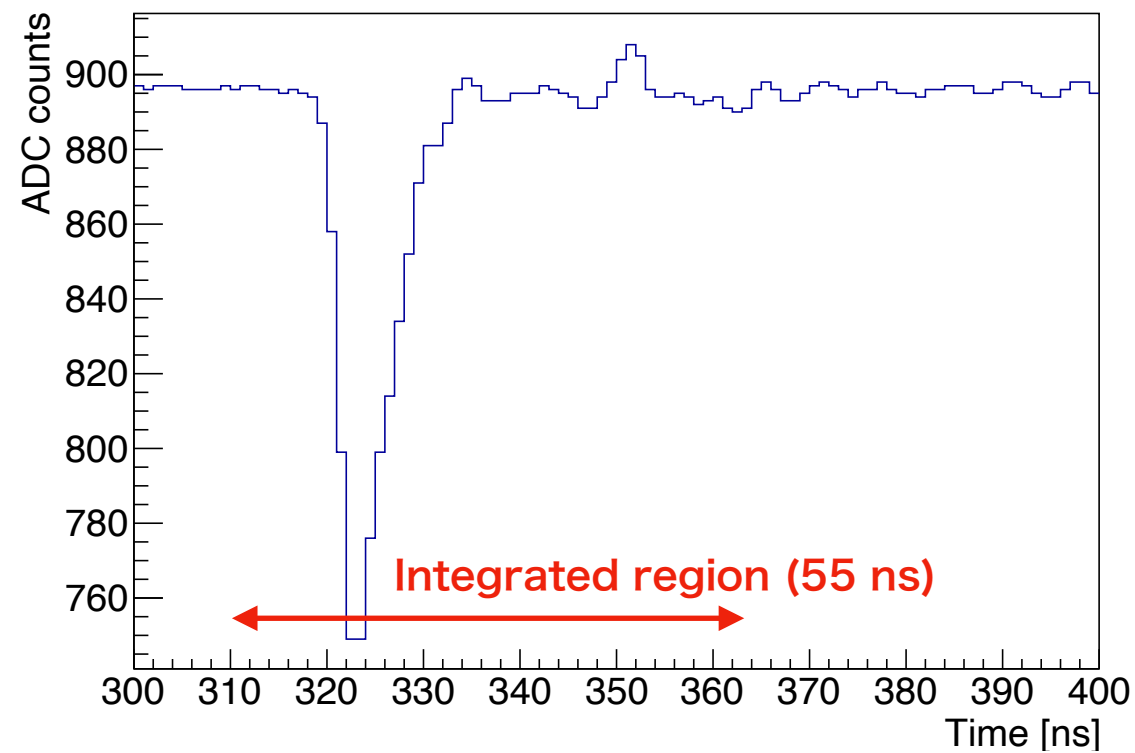
- I measured the magnetic field dependence of the relative efficiency with the monitor PMT (another 3-inch PMT) and the coil.

$$\text{Relative efficiency} = \frac{\text{Mean of 3-inch PMT p.e. } (\mu \text{ of Poisson distribution})}{\text{Mean of Monitor PMT integrated charge}}$$

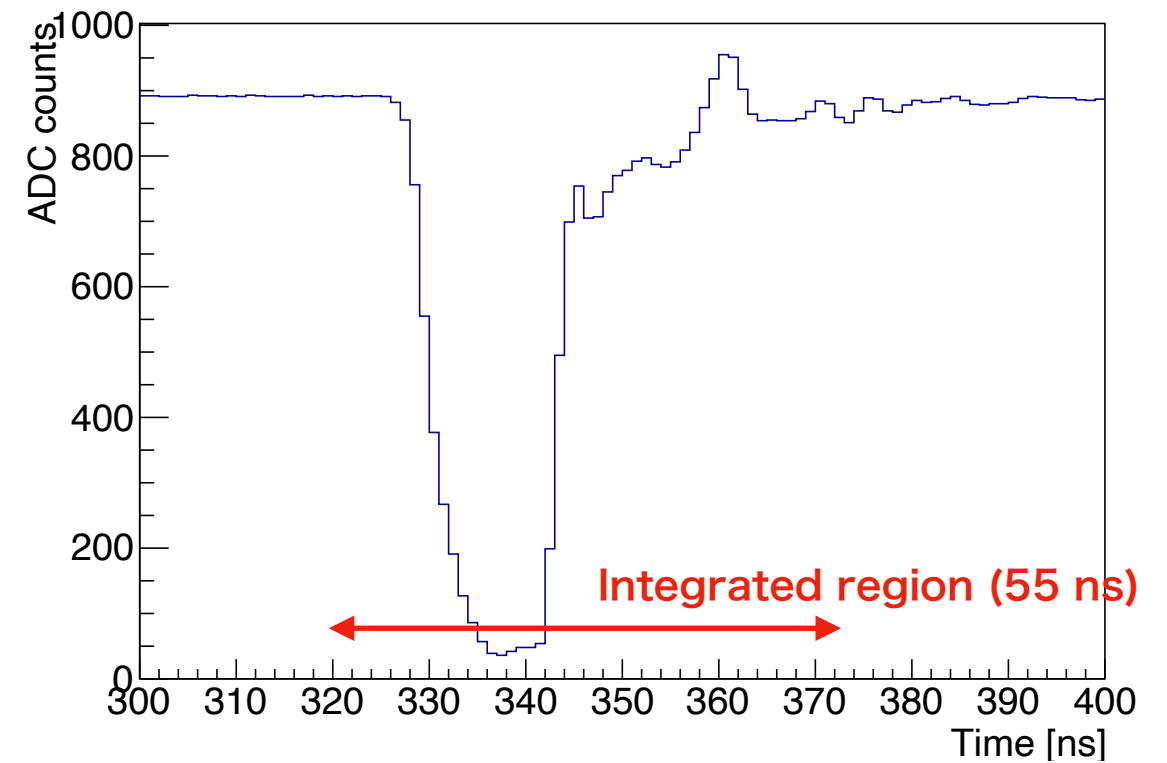


0 mT

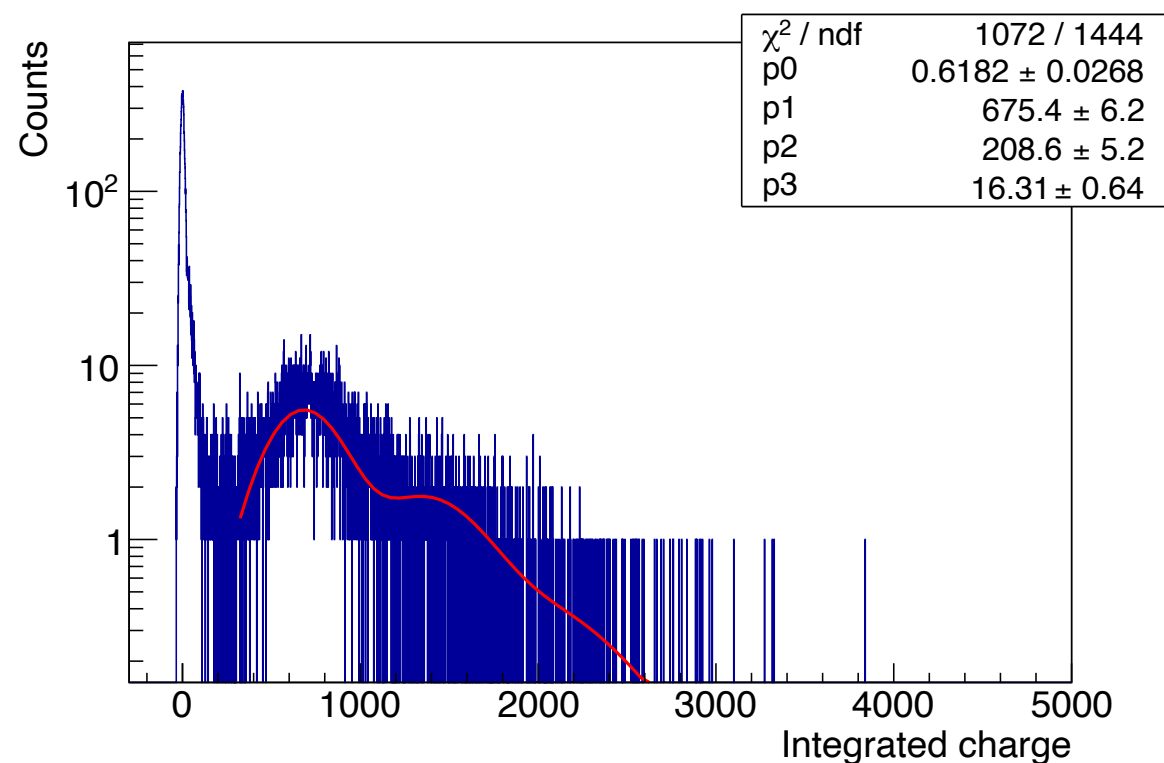
3-inch PMT signal



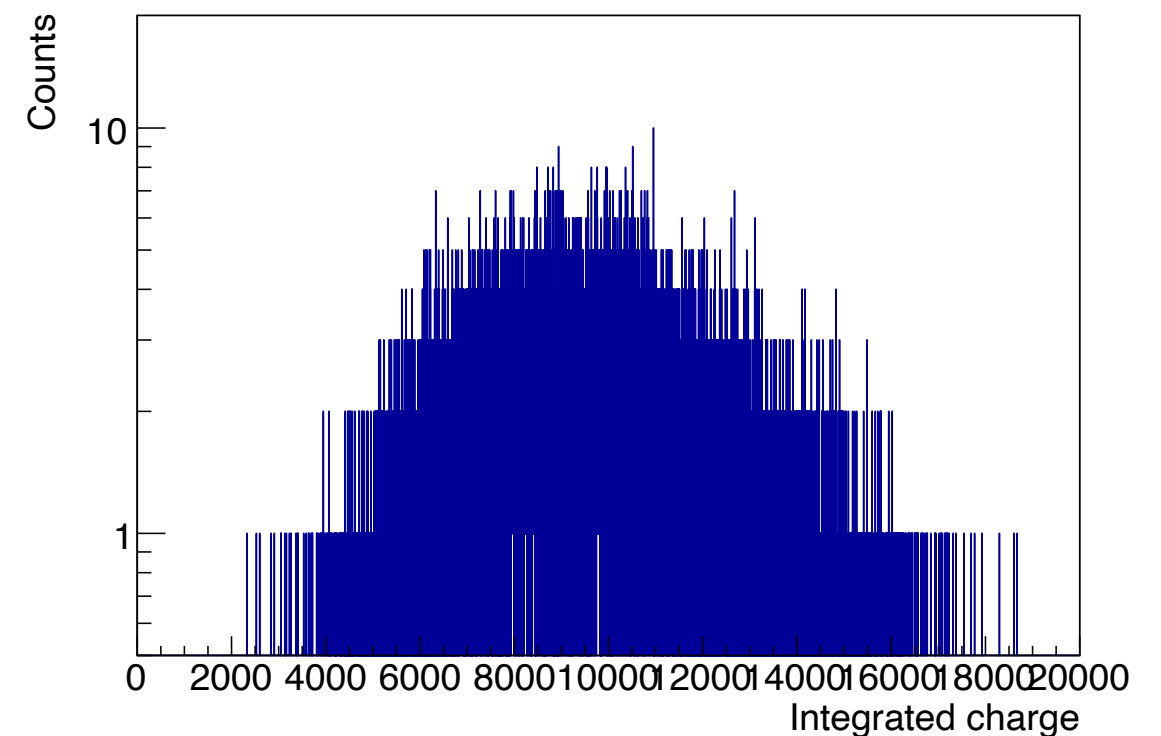
Monitor PMT signal



3-inch PMT integrated charge

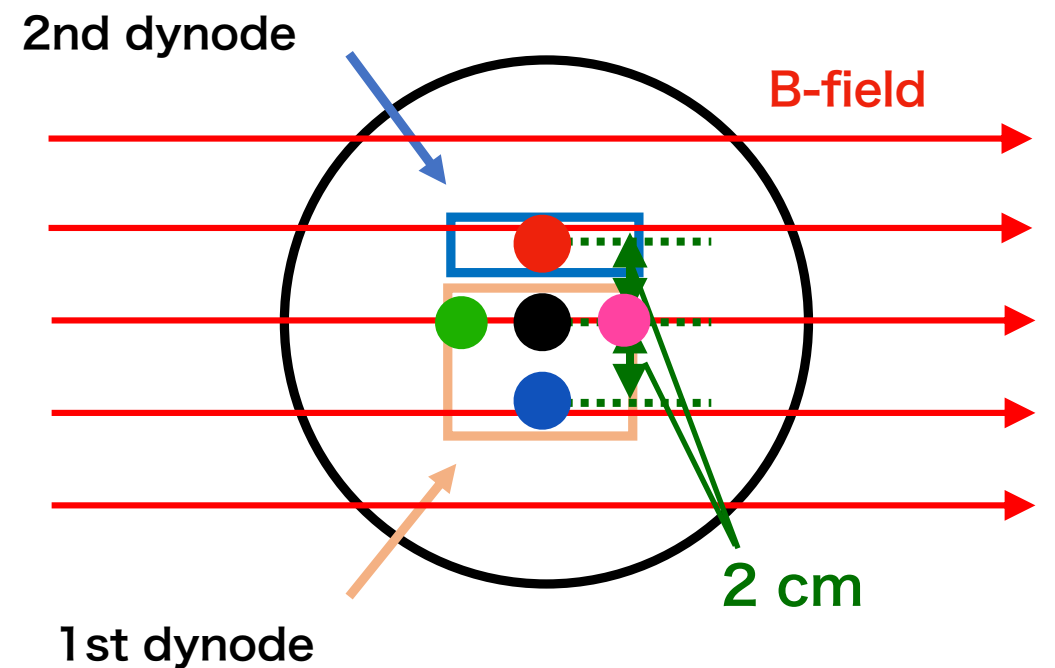
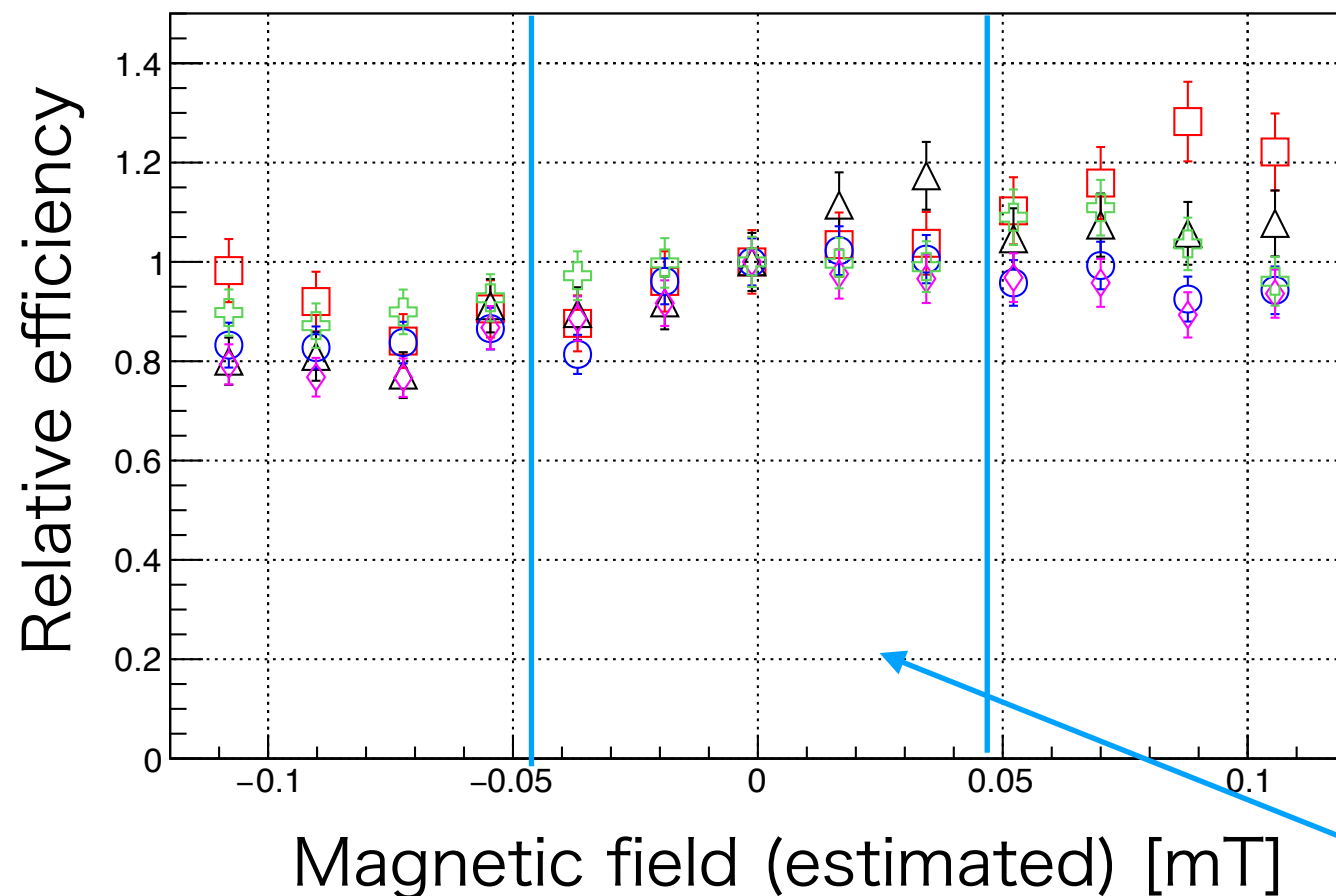


Monitor PMT integrated charge



Magnetic field effects

- I measured the relative efficiency in five situations of illuminated positions with laser.
- As magnetic field decreases, the relative efficiency decreases.



This range is scale of Earth's magnetic field.

To do

- I will set the PMT so that B-field went from the 1st dynode to the 2nd dynode.
- I will measure the relative efficiency.

