

Status report

08/28/2020

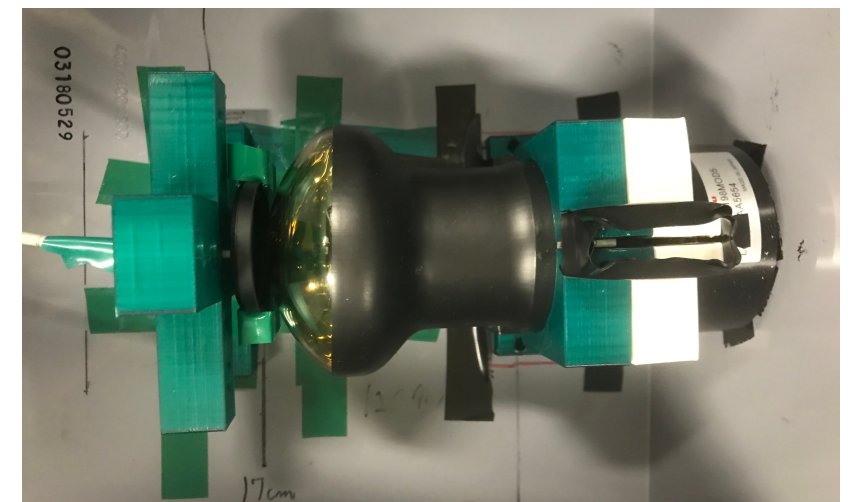
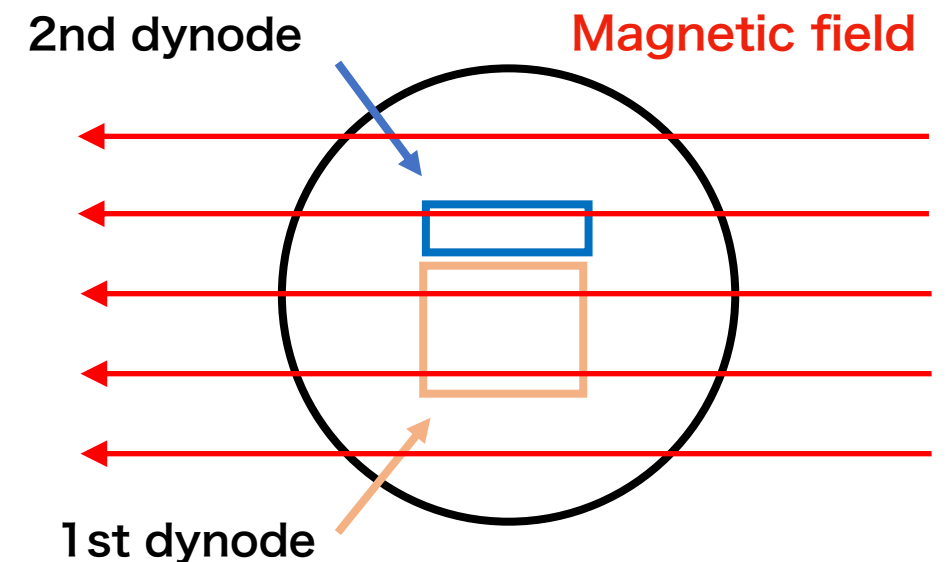
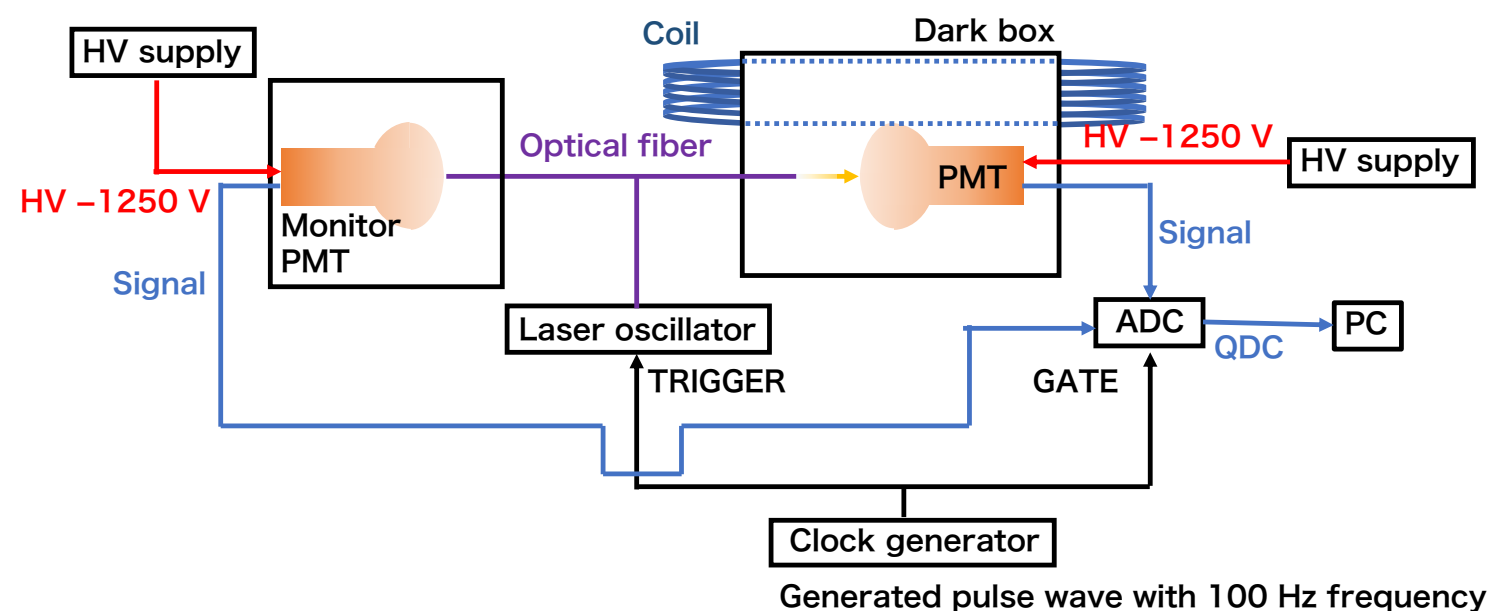
M.Inomoto

Magnetic field effects

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

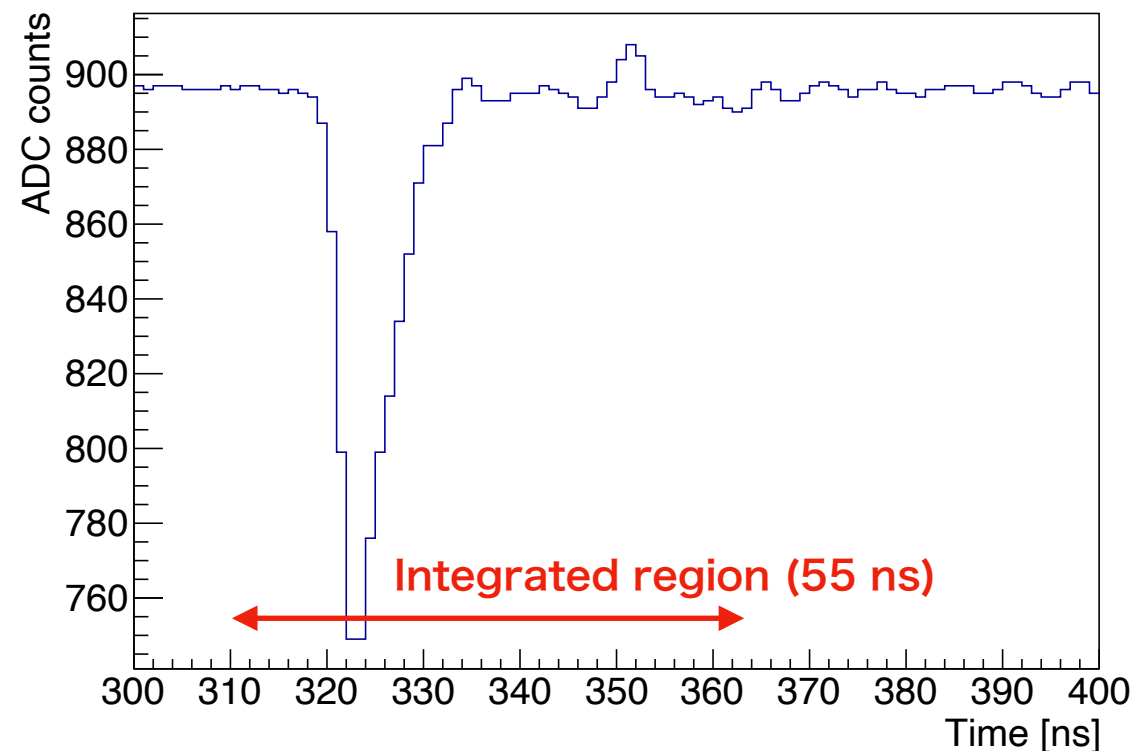
$$\text{Relative efficiency} = \frac{\text{Mean of 3-inch PMT p.e. } (\mu \text{ of Poisson distribution})}{\text{Mean of Monitor PMT integrated charge}}$$

- In this measurement, I illuminated the center of the photo cathode with the laser.

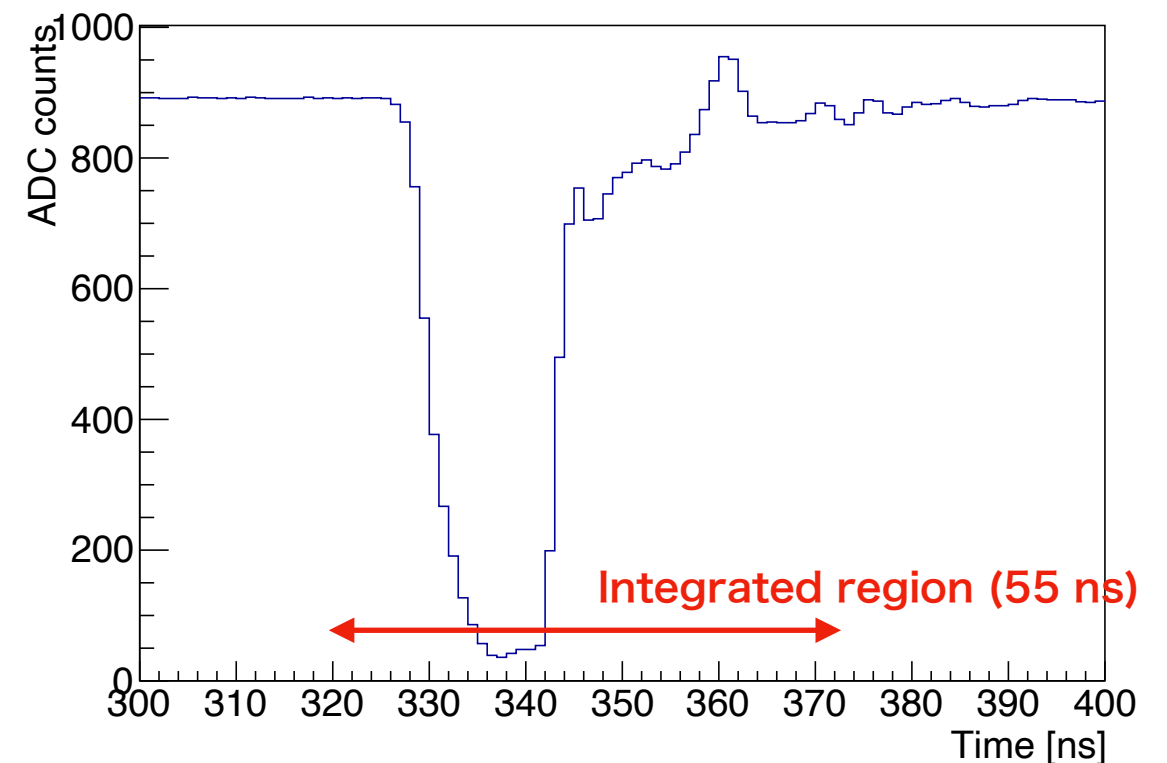


0 mT

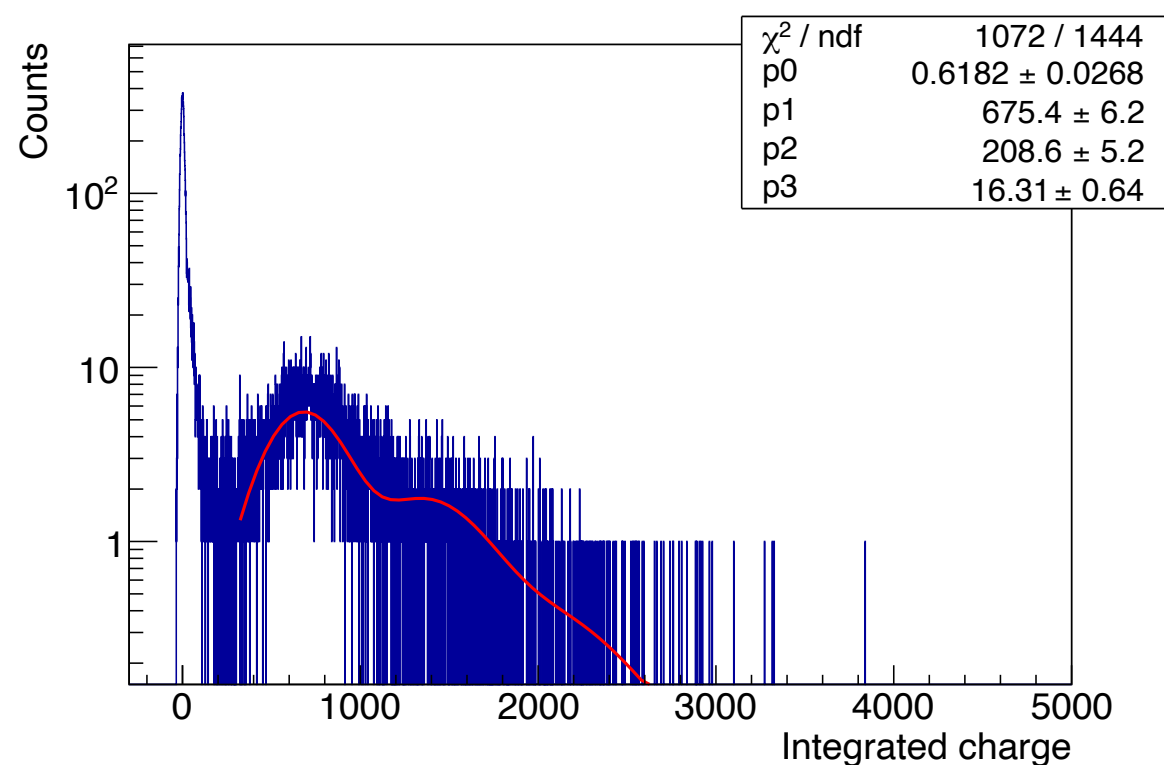
3-inch PMT signal



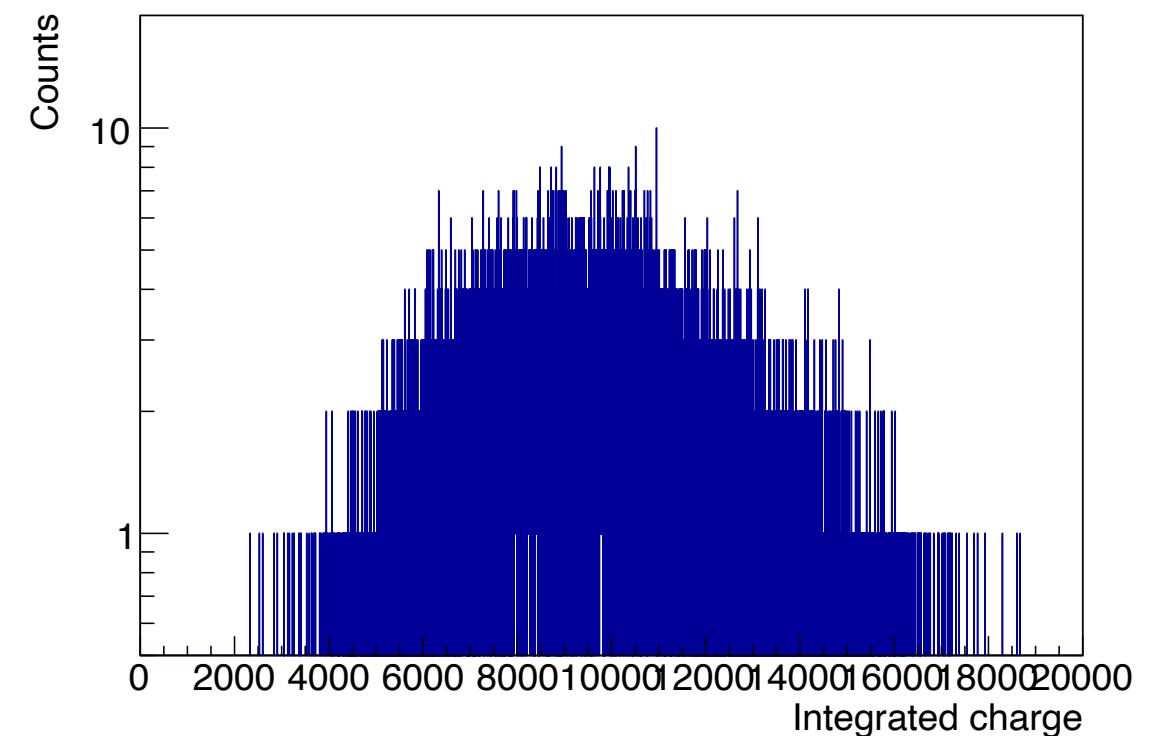
Monitor PMT signal



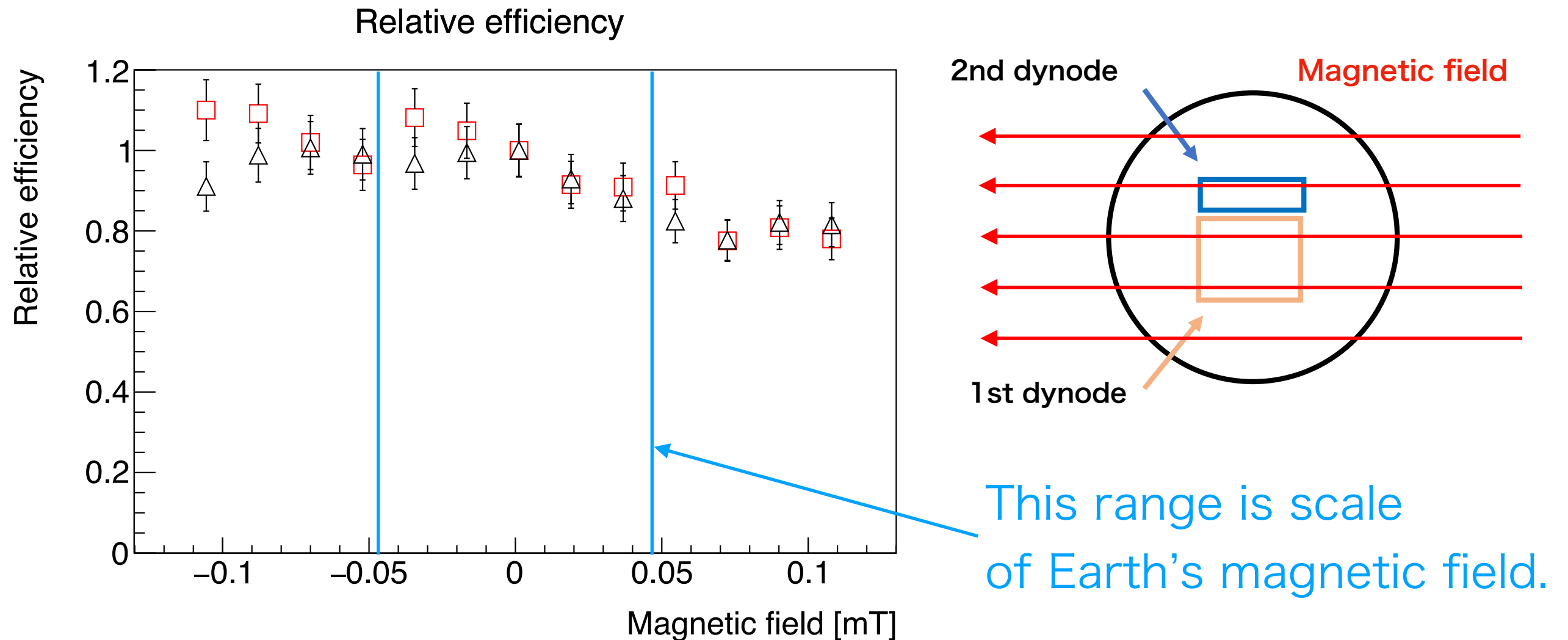
3-inch PMT integrated charge



Monitor PMT integrated charge



Magnetic field effects



- As magnetic field increases ,the relative efficiency decreases.
- As magnetic field decreases in the range of Earth's magnetic field, the relative efficiency barely changes.

To do

- I will illuminate other positions of the photo cathode.
- I will measure the magnetic field dependence of the relative efficiency.

