

Status report

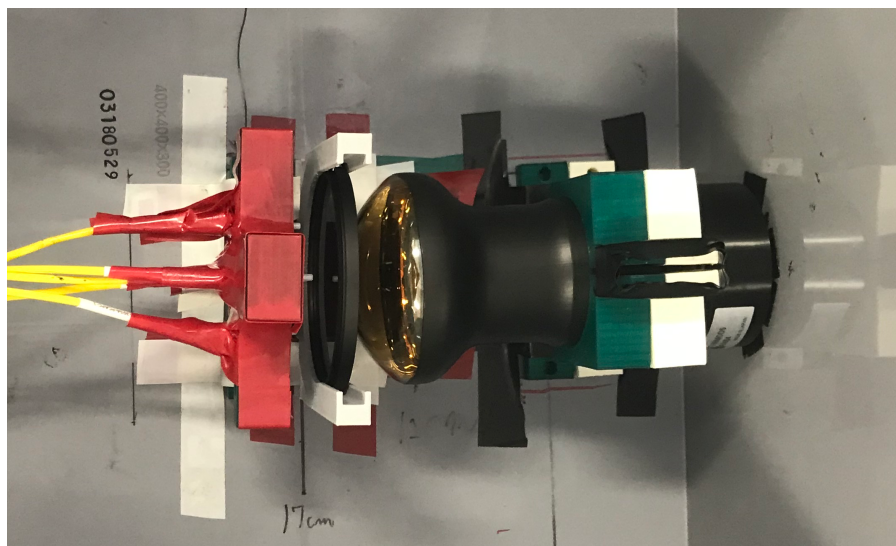
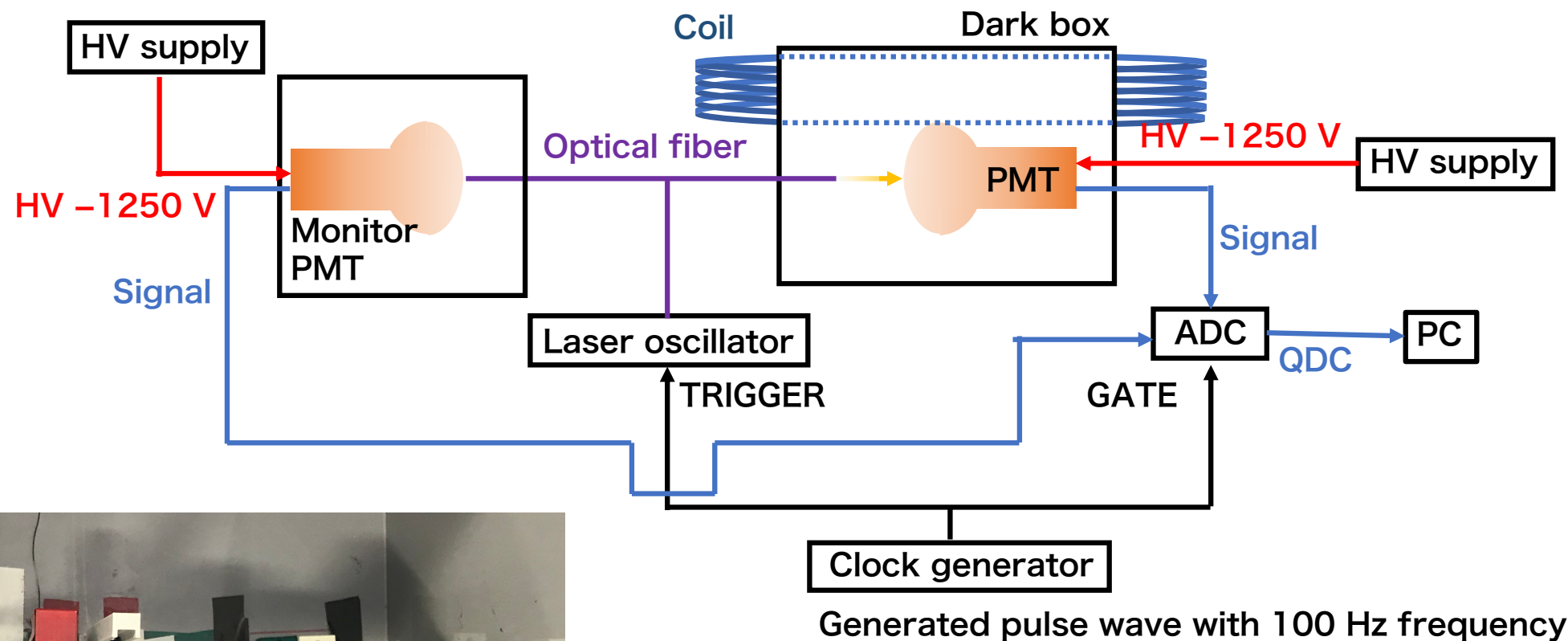
M.Inomoto

10/30/2020

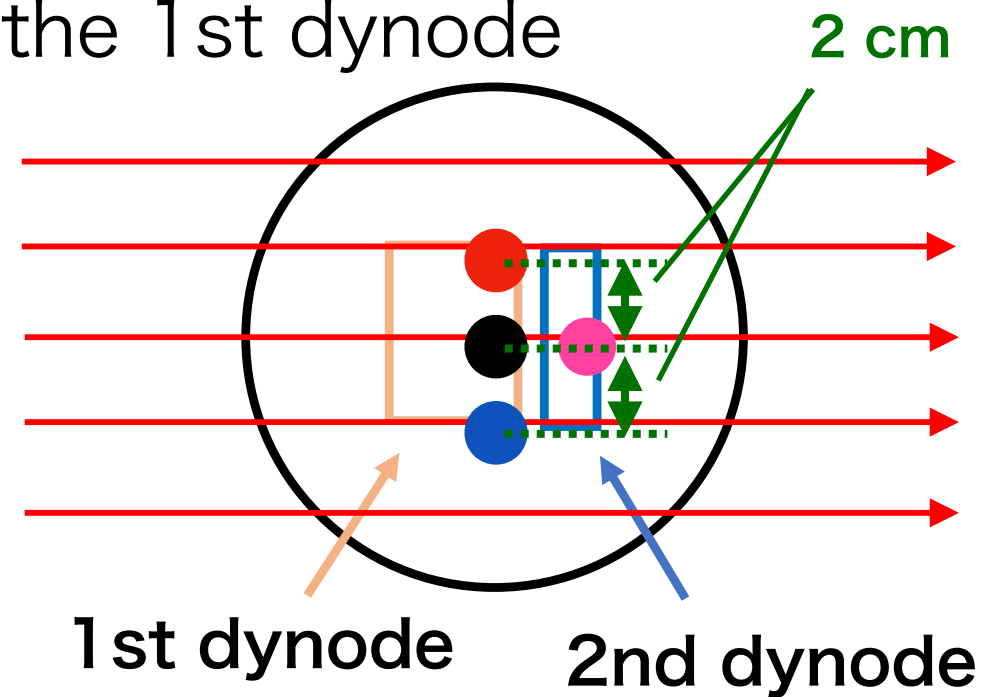
Magnetic field effects

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

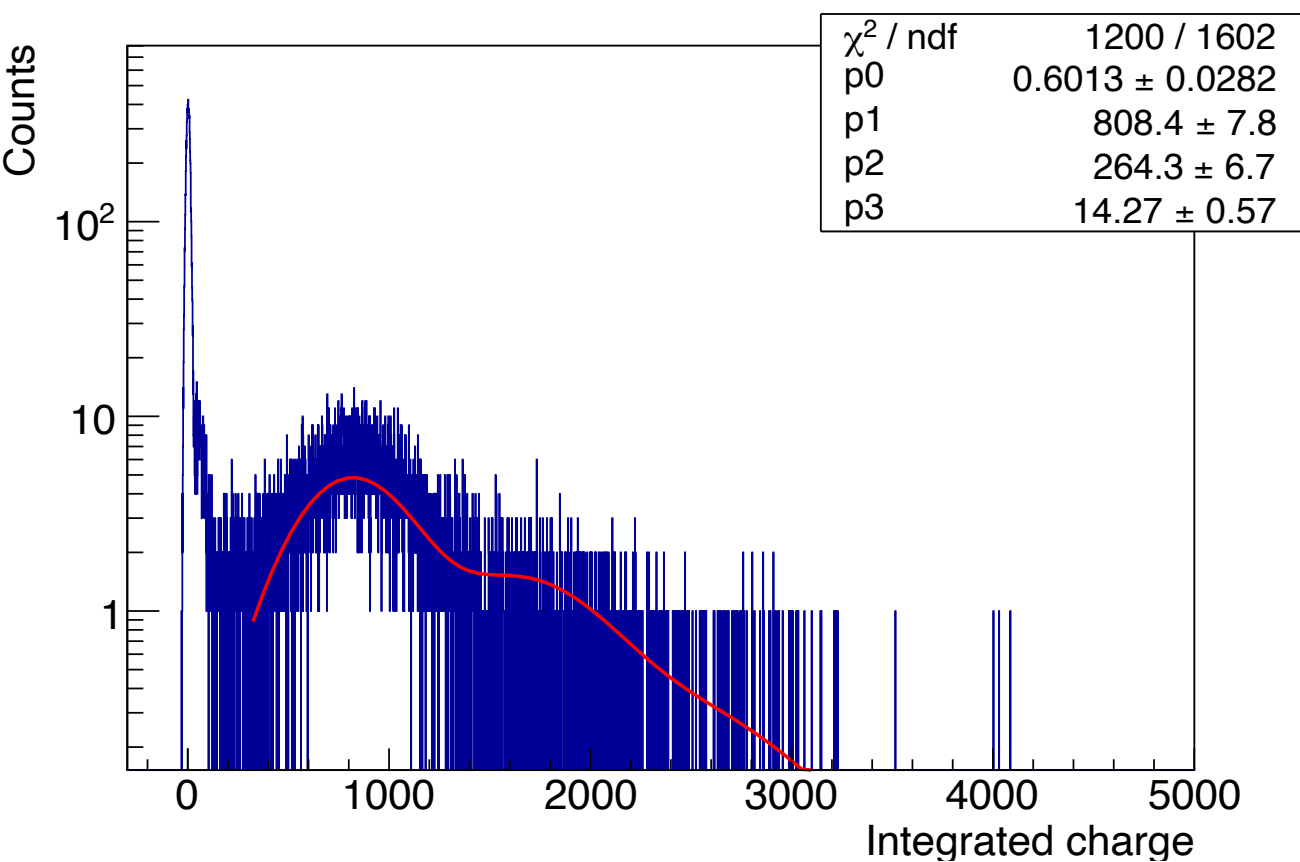
$$\text{Relative efficiency} = \frac{\text{Mean of 3-inch PMT p.e. } (\mu \text{ of Poisson distribution})}{\text{Mean of Monitor PMT integrated charge}}$$



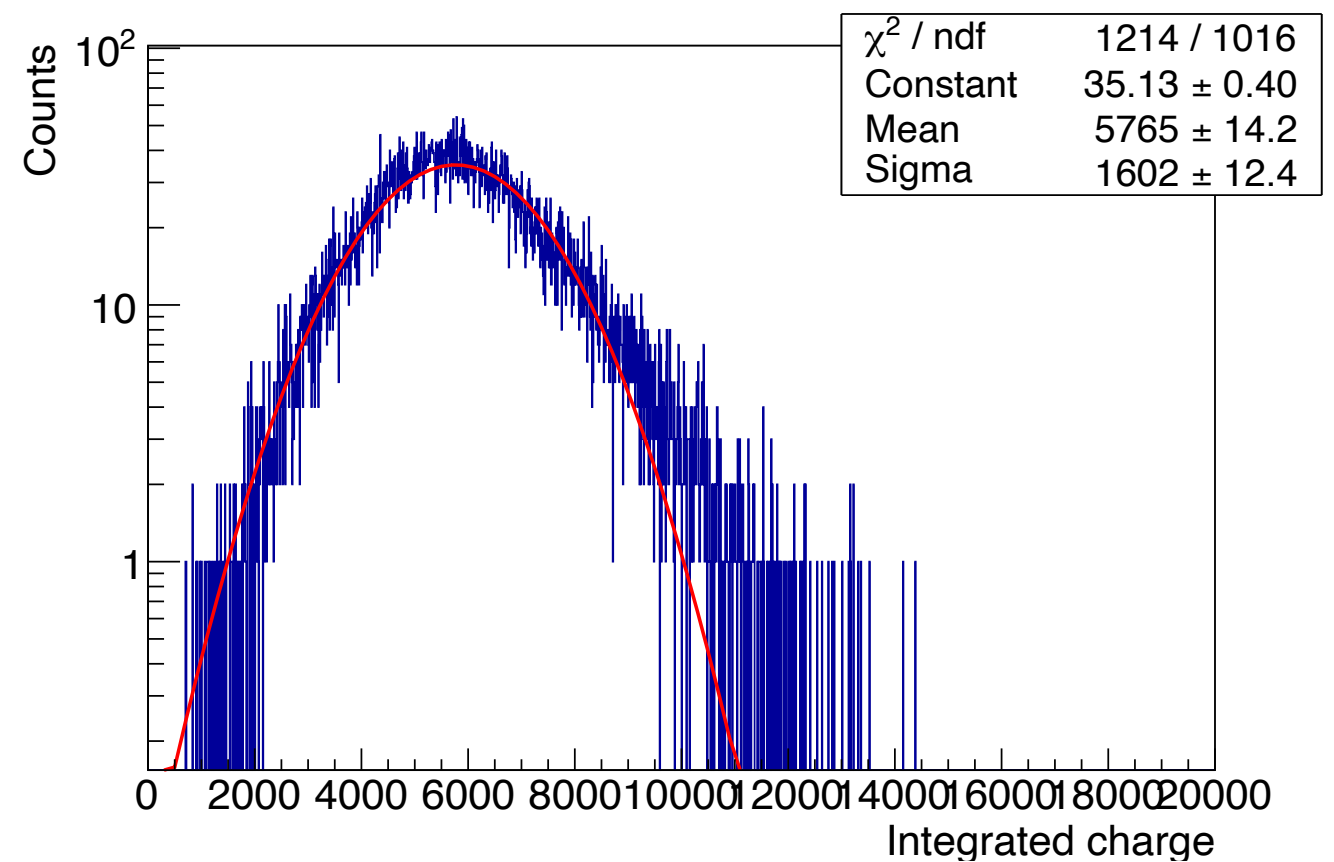
- I set the PMT so that B-field went from the 1st dynode to the 2nd dynode.
- I measured the relative efficiency.



0 mT



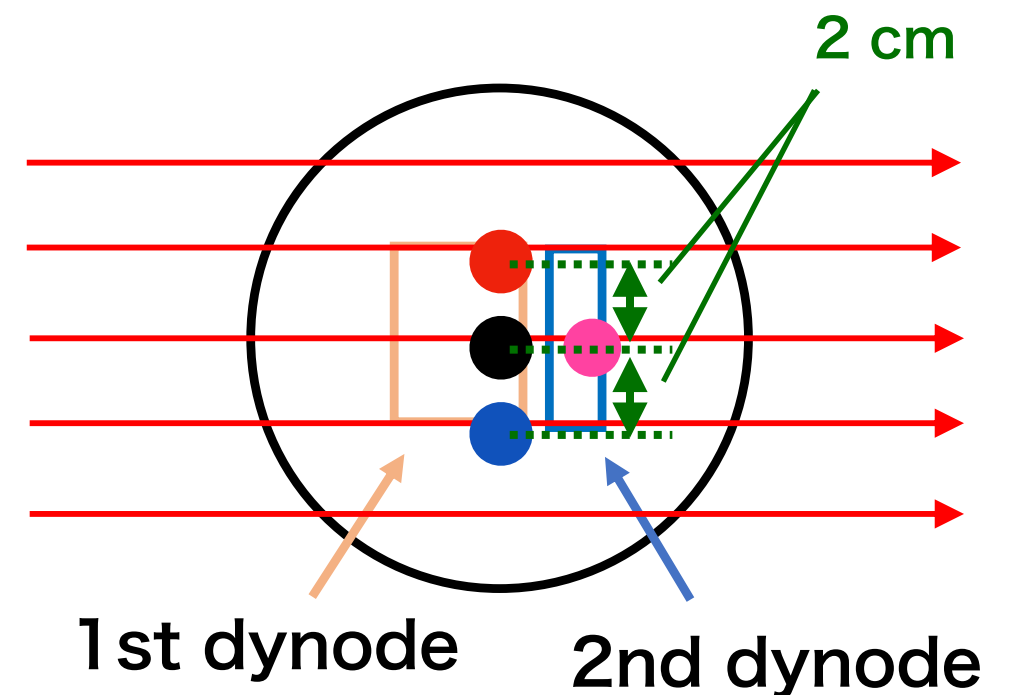
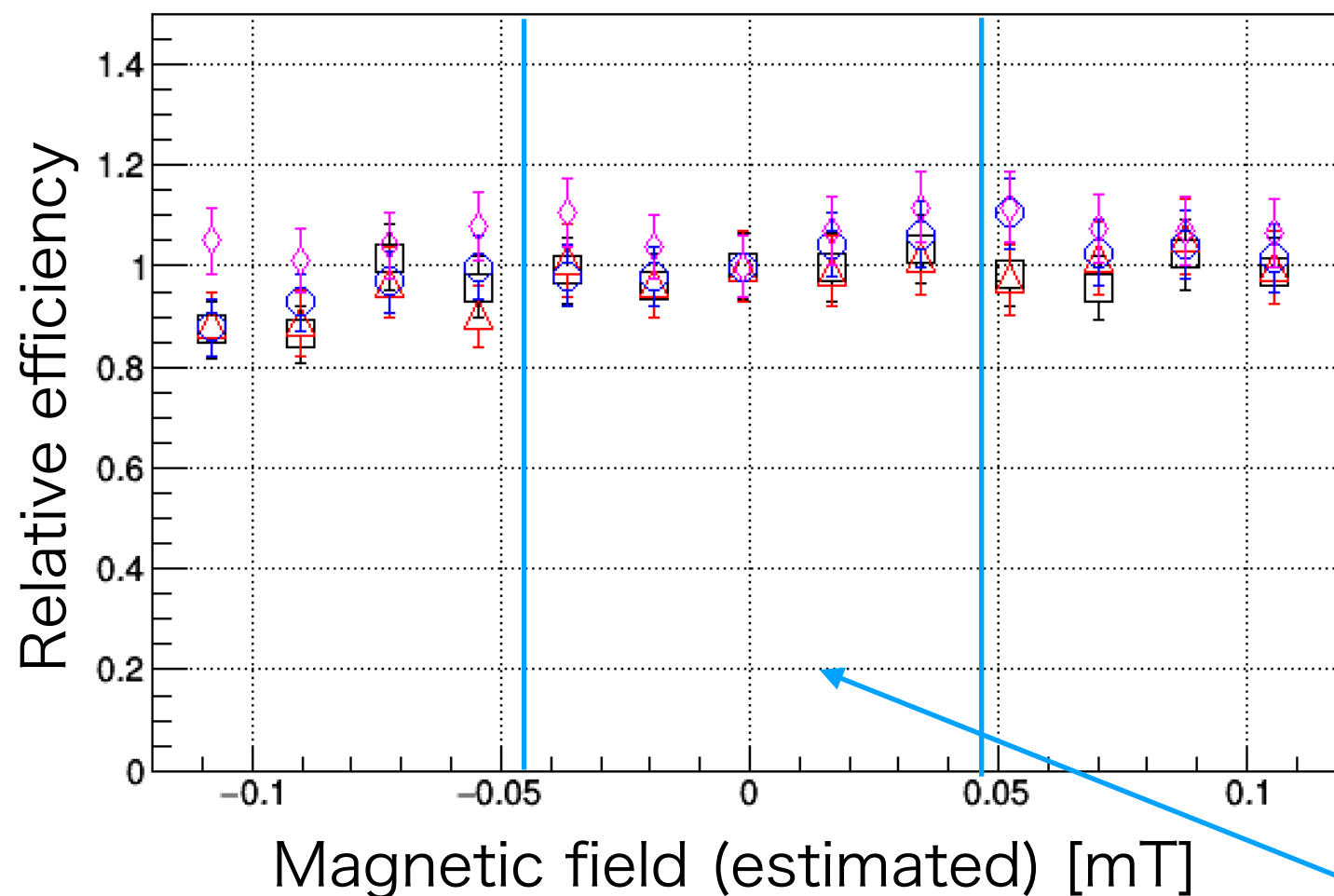
3-inch PMT integrated charge



Monitor PMT integrated charge

Magnetic field effects

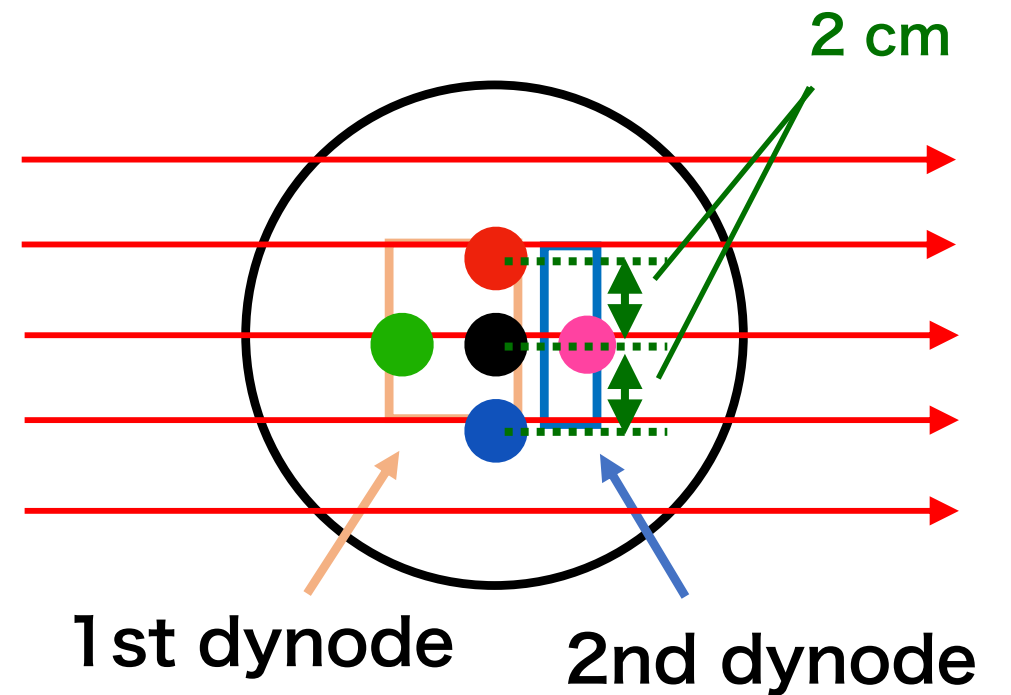
- I measured the relative efficiency in four situations of illuminated positions with laser.
- In Earth's magnetic field, the relative efficiency varies about 10 %.



This range is scale of Earth's magnetic field.

To do

- I will illuminate green position.
- I will measure the relative efficiency.



- I will illuminate some positions closer to the edge with laser.
- I will measure the relative efficiency.