

Status report

M.Inomoto

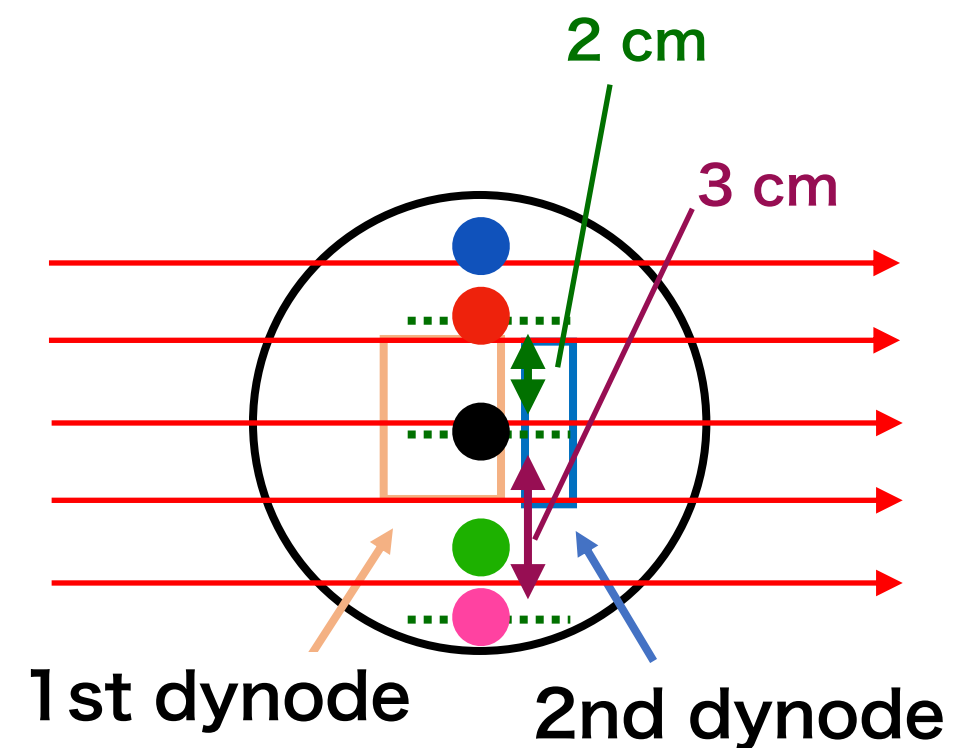
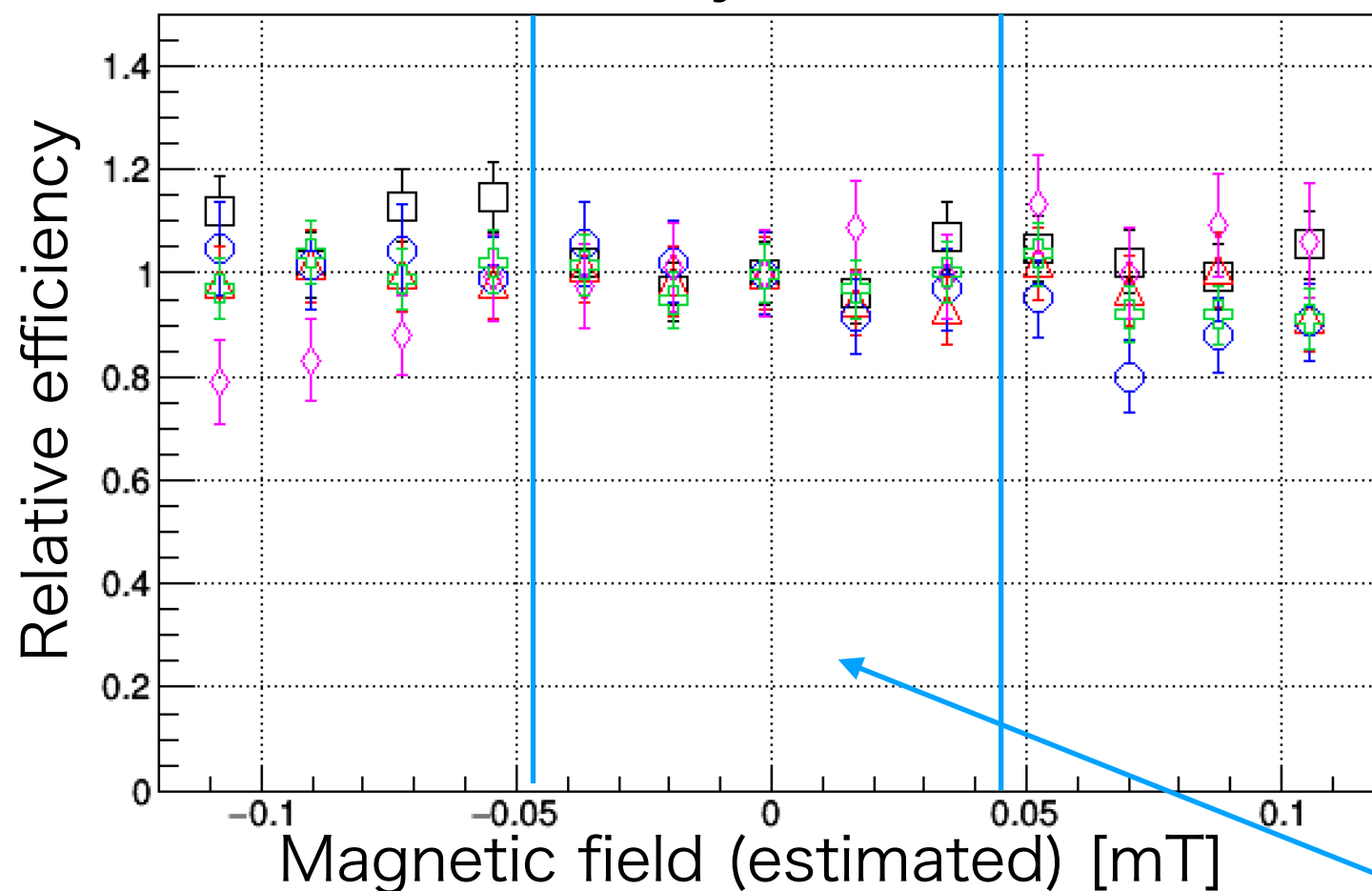
11/27/2020

Magnetic field effects

- I illuminated two positions (blue and magenta) and measured the relative efficiency.

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

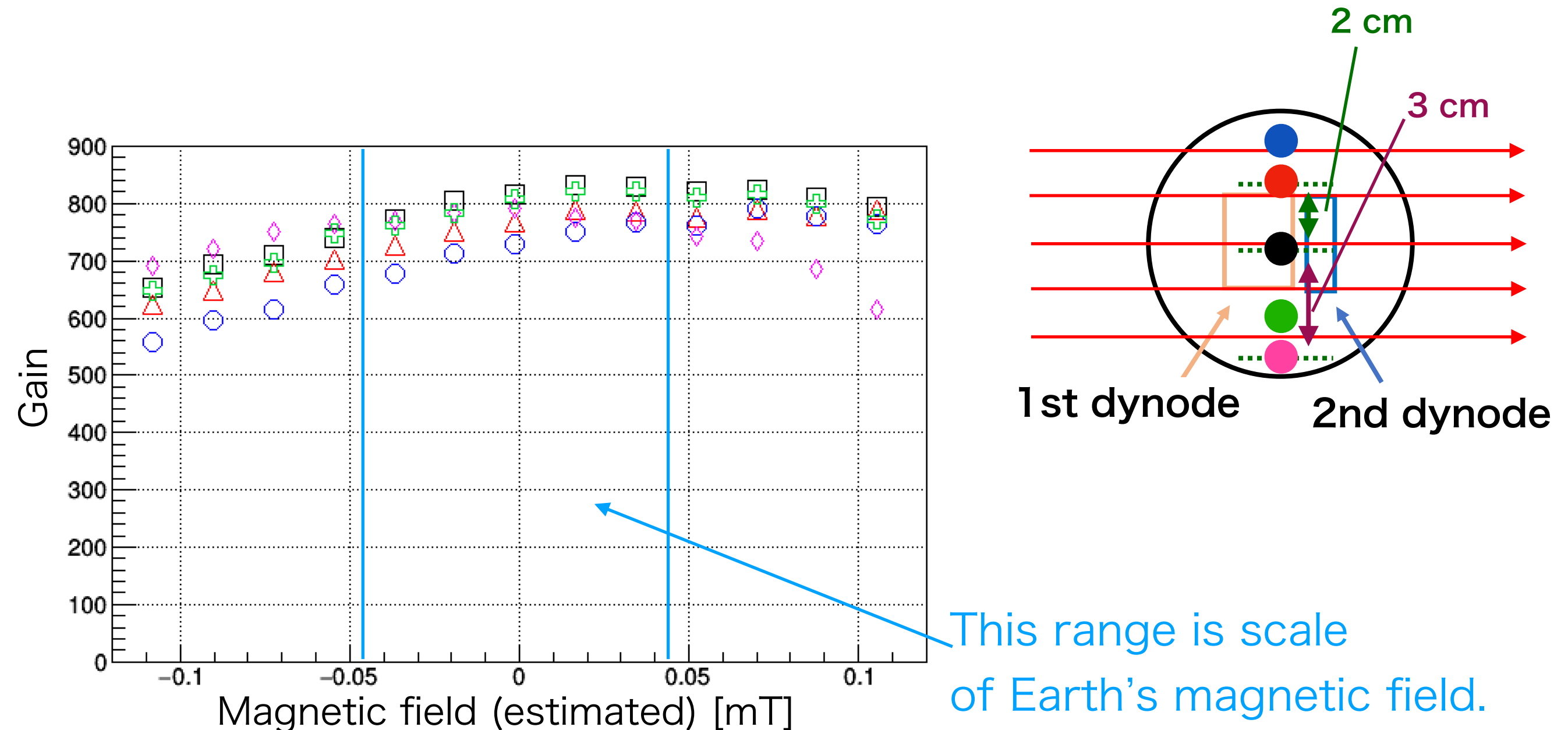
- In the magnitude of Earth's magnetic field, the relative efficiency varies about 10 %.



This range is scale
of Earth's magnetic field.

Magnetic field effects

- I illuminated two positions (blue and magenta) and measured the gain.
- Strong B-field increases gain in the range of Earth's magnetic field.
- The magenta plots decreases over the range of Earth's magnetic field.

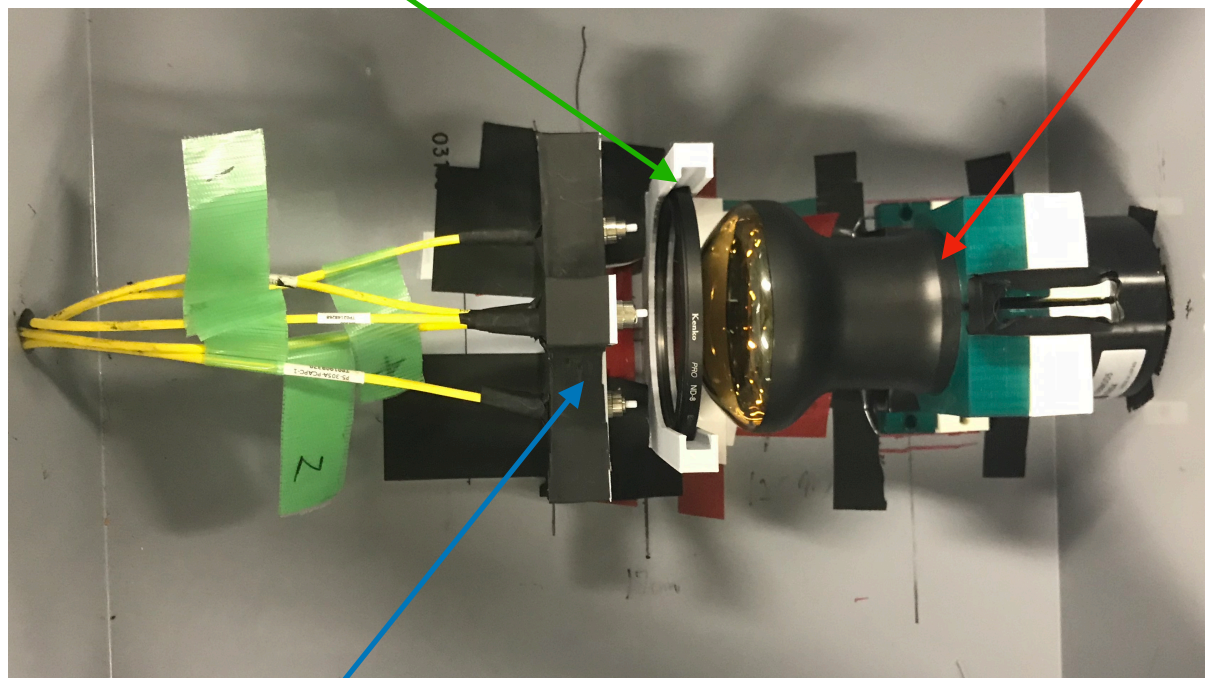


To do

- I will measure the relative efficiency in red and green positions.

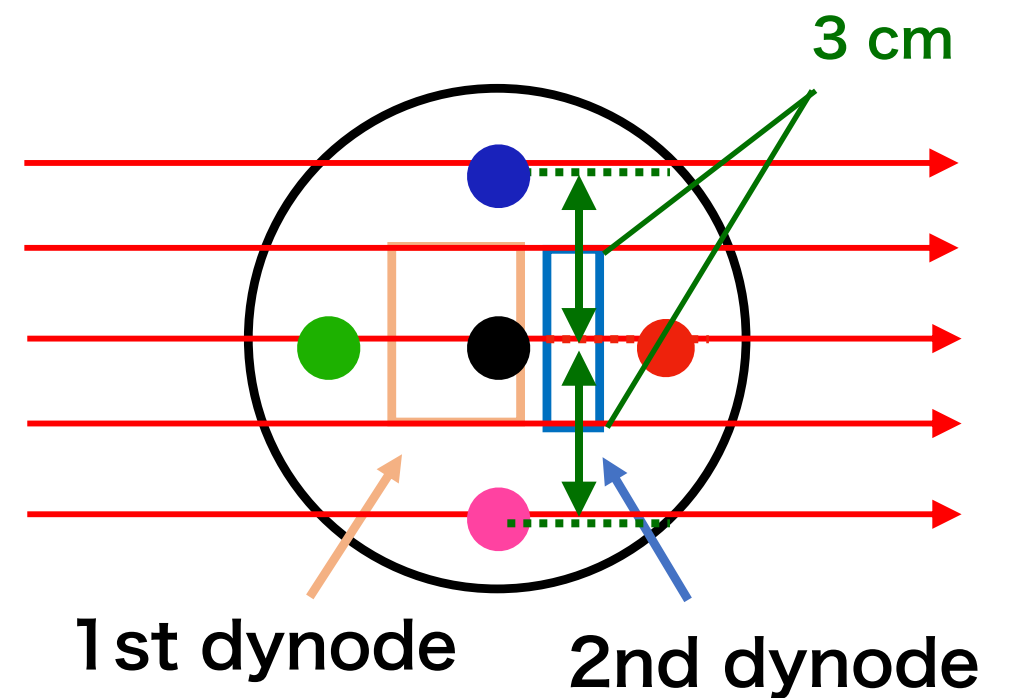
Filter & fixture

3-inch PMT & fixture



Laser fibers & fixture

Inside of dark box



Backup

Magnetic field effects

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

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

