

# Status report

M.Inomoto

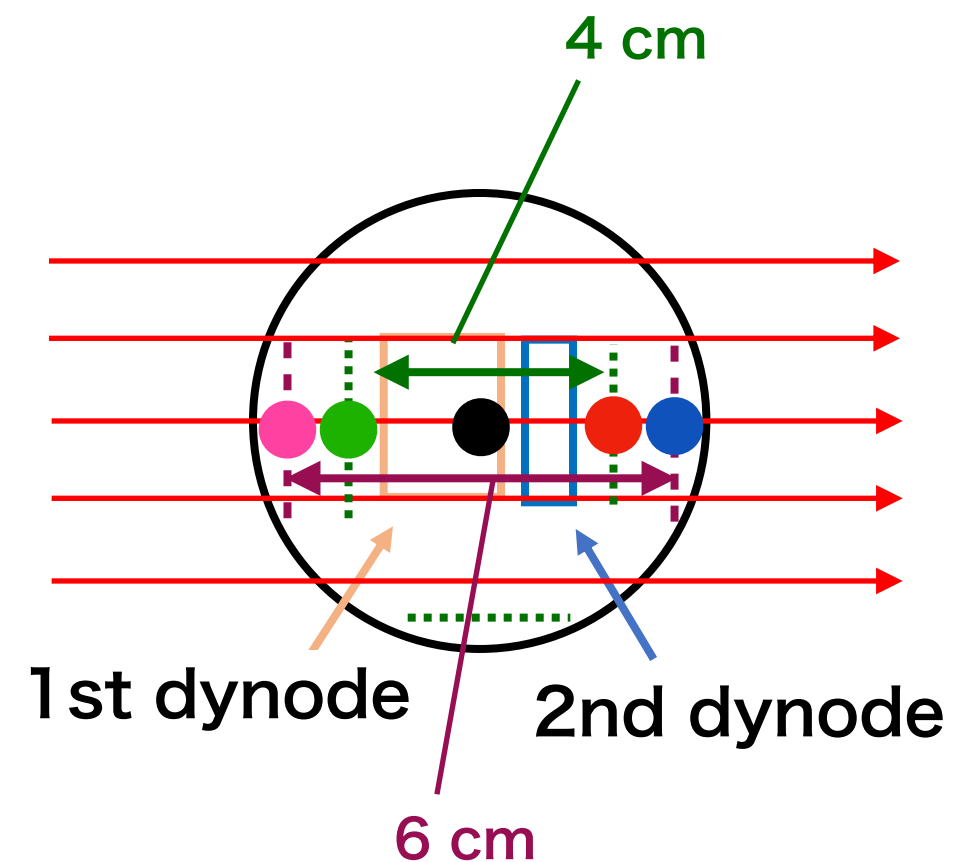
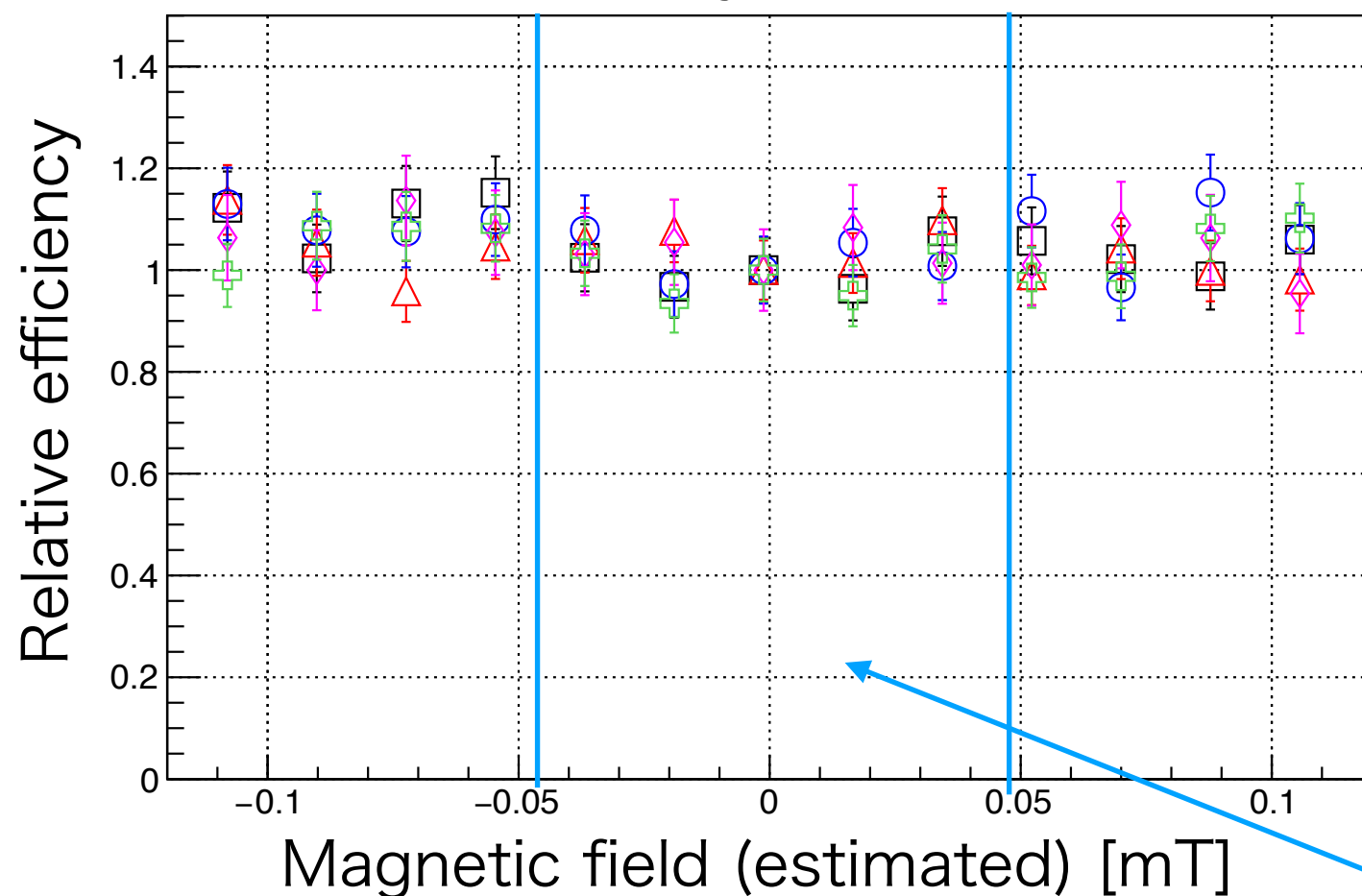
12/11/2020

# Magnetic field effects

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

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

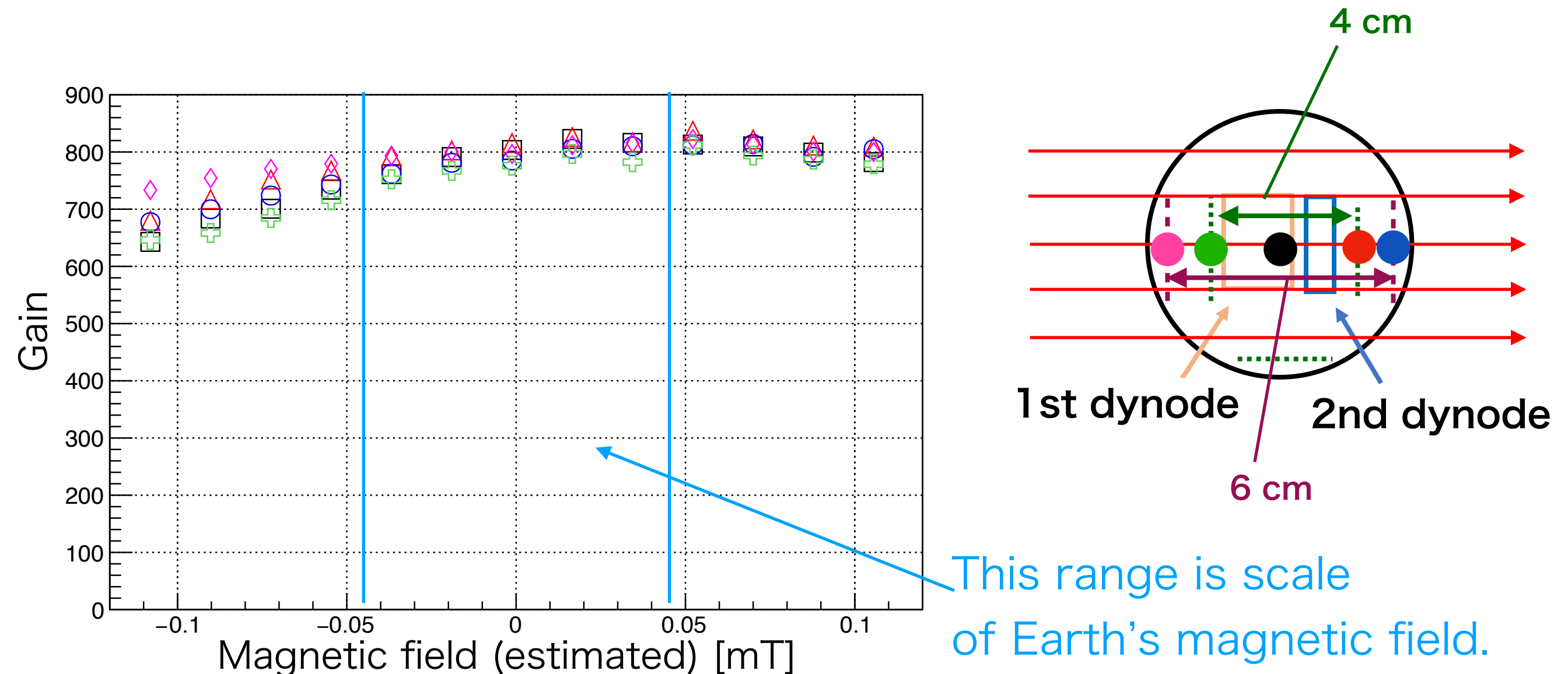
- In the magnitude of Earth's magnetic field, the relative efficiency varies about 10 %.



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.

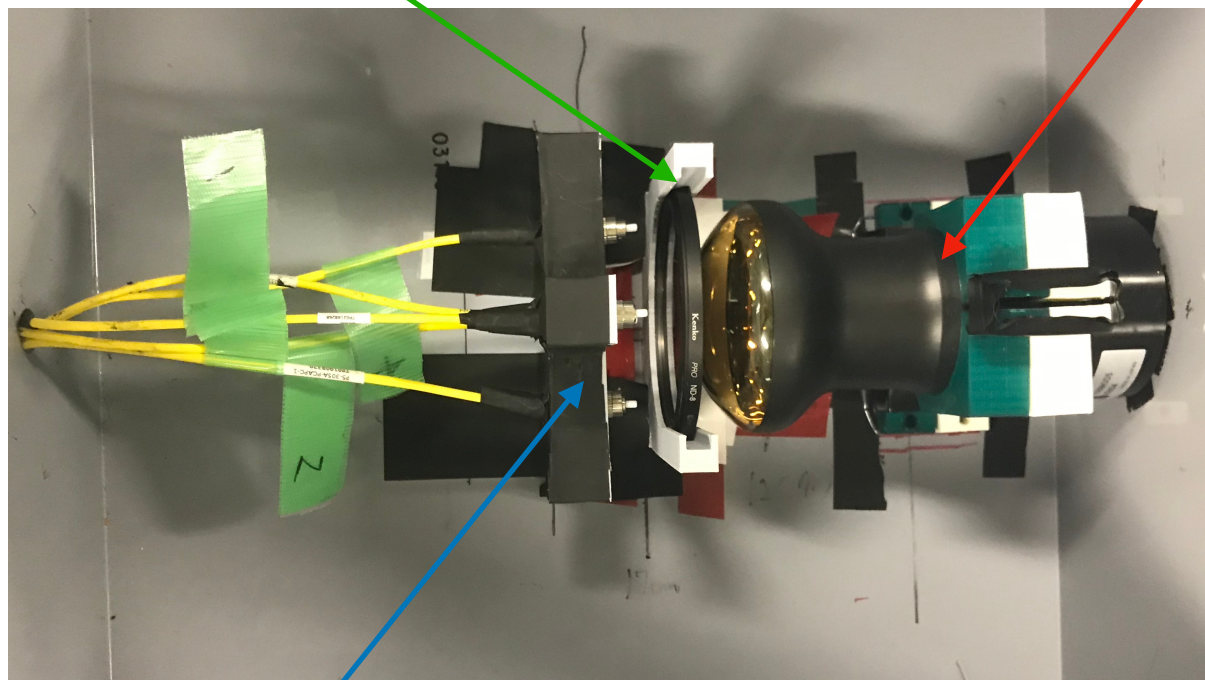


# To do

- I will set the 3-inch PMT with the 1st dynode at the bottom.
- I will measure relative efficiency and gain in 4 situations of illuminated positions with laser. (●●●●)

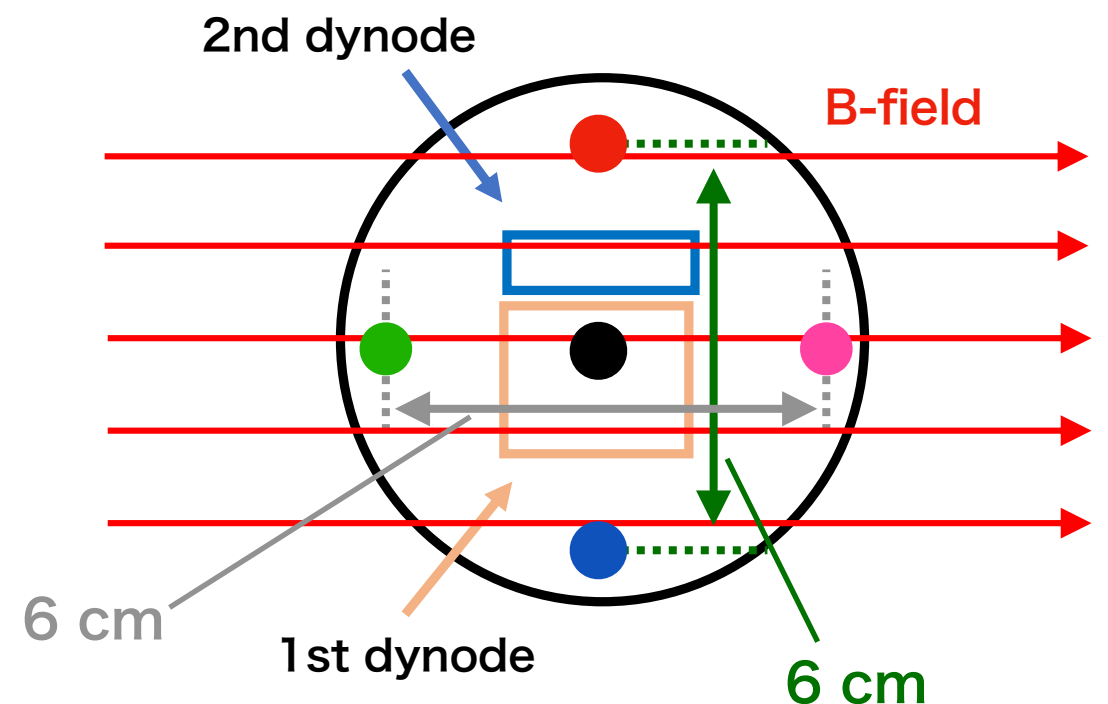
Filter & fixture

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.

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

