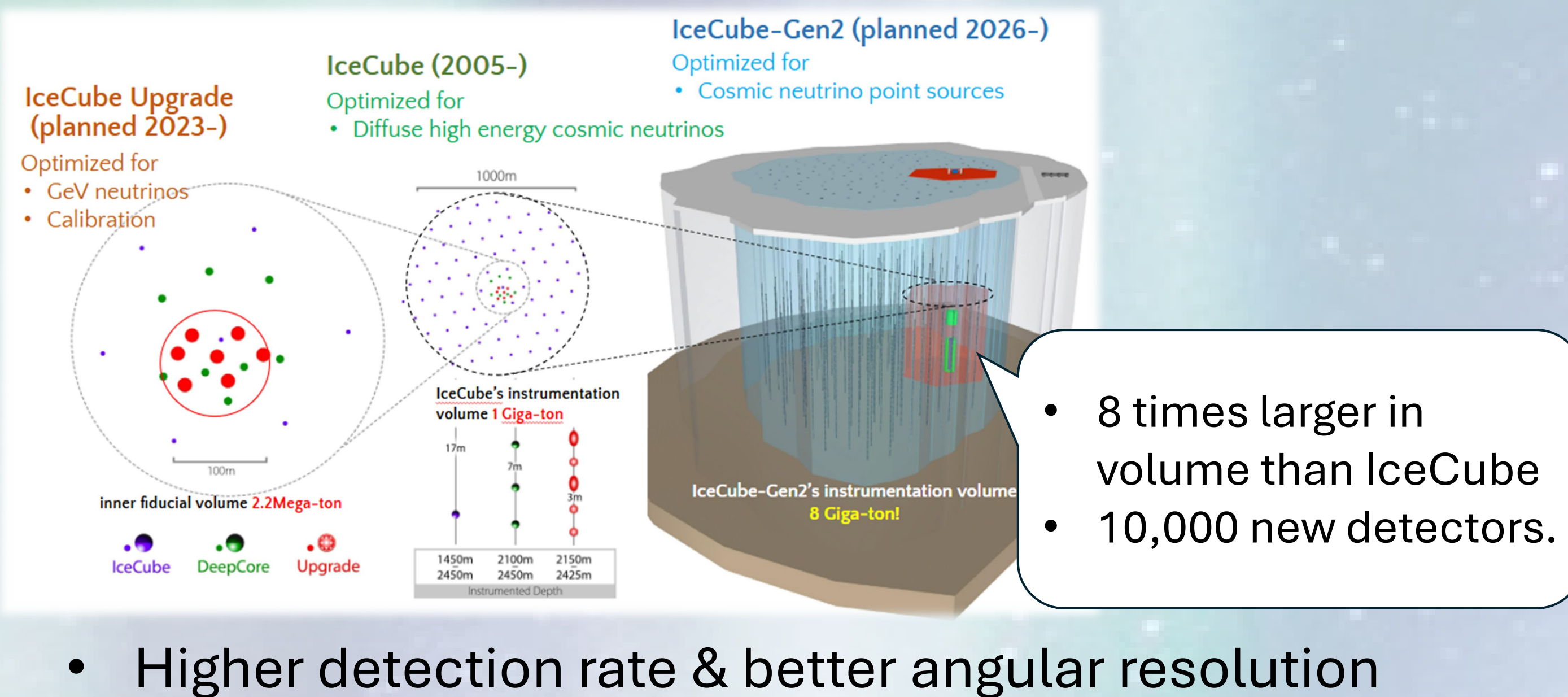
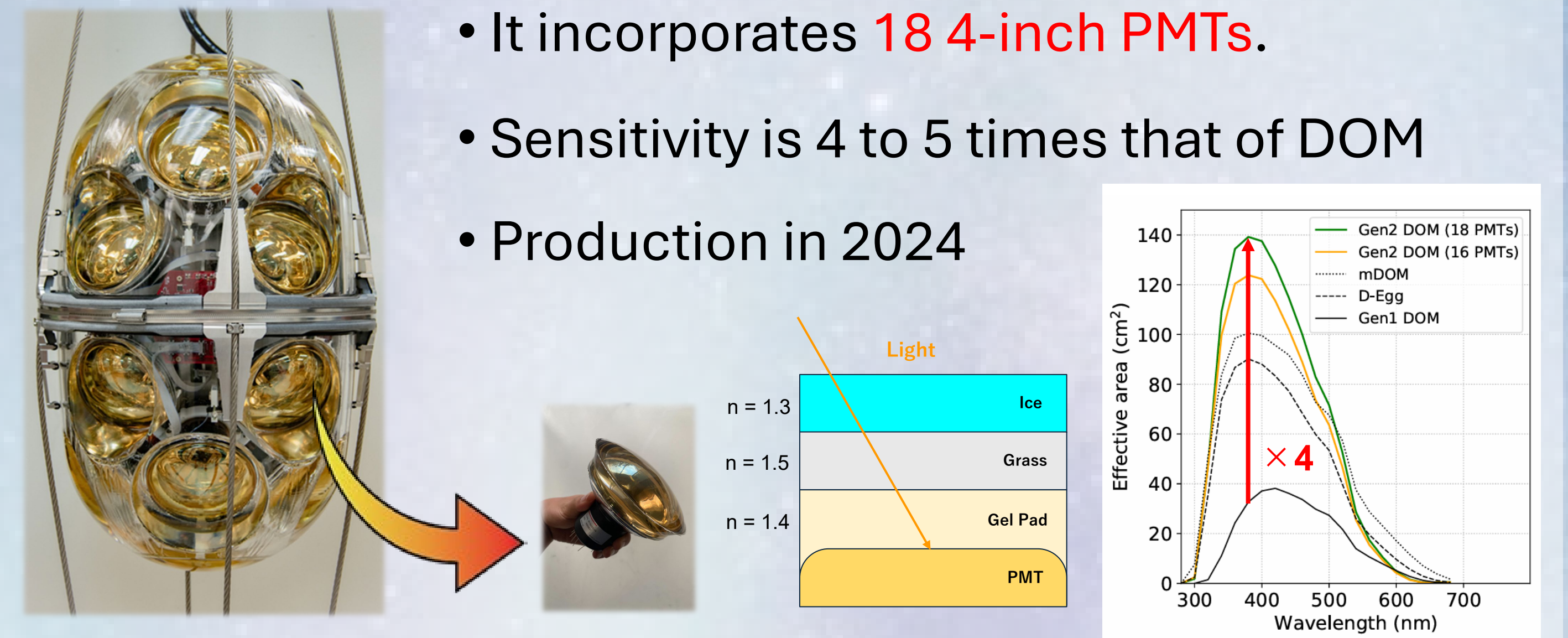


1. IceCube-Gen2

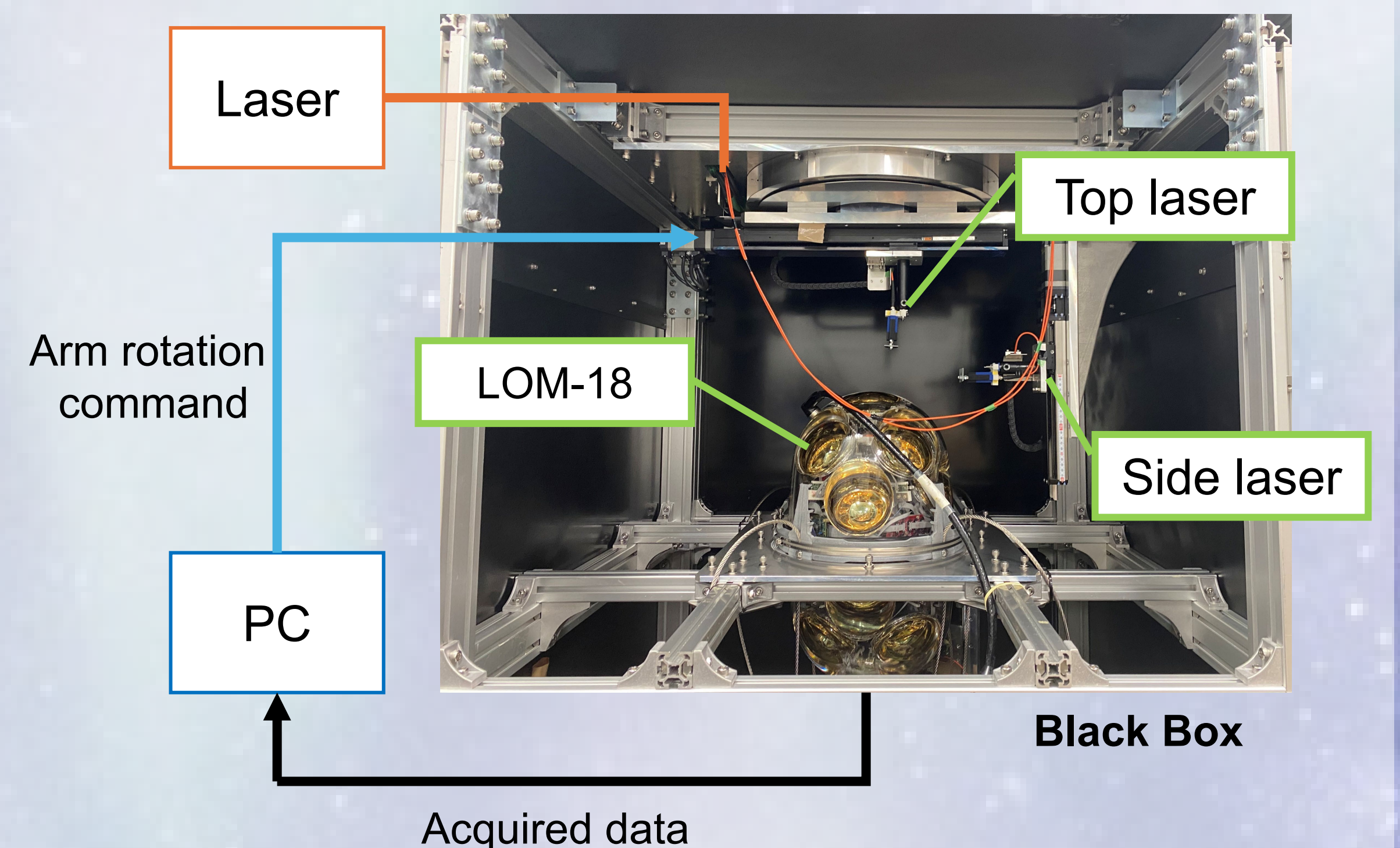
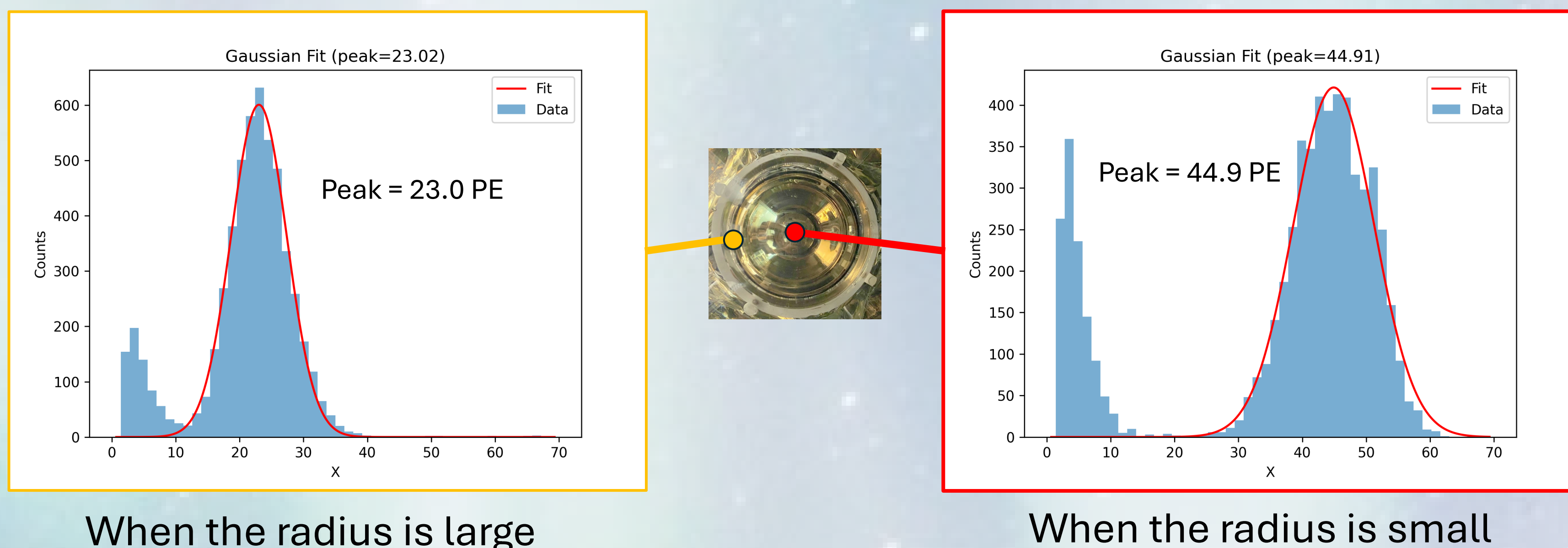


2. The LOM-18 detector



3. Profiling of the position dependence of sensitivity

Illuminate photons for various locations, and measure collect charges.



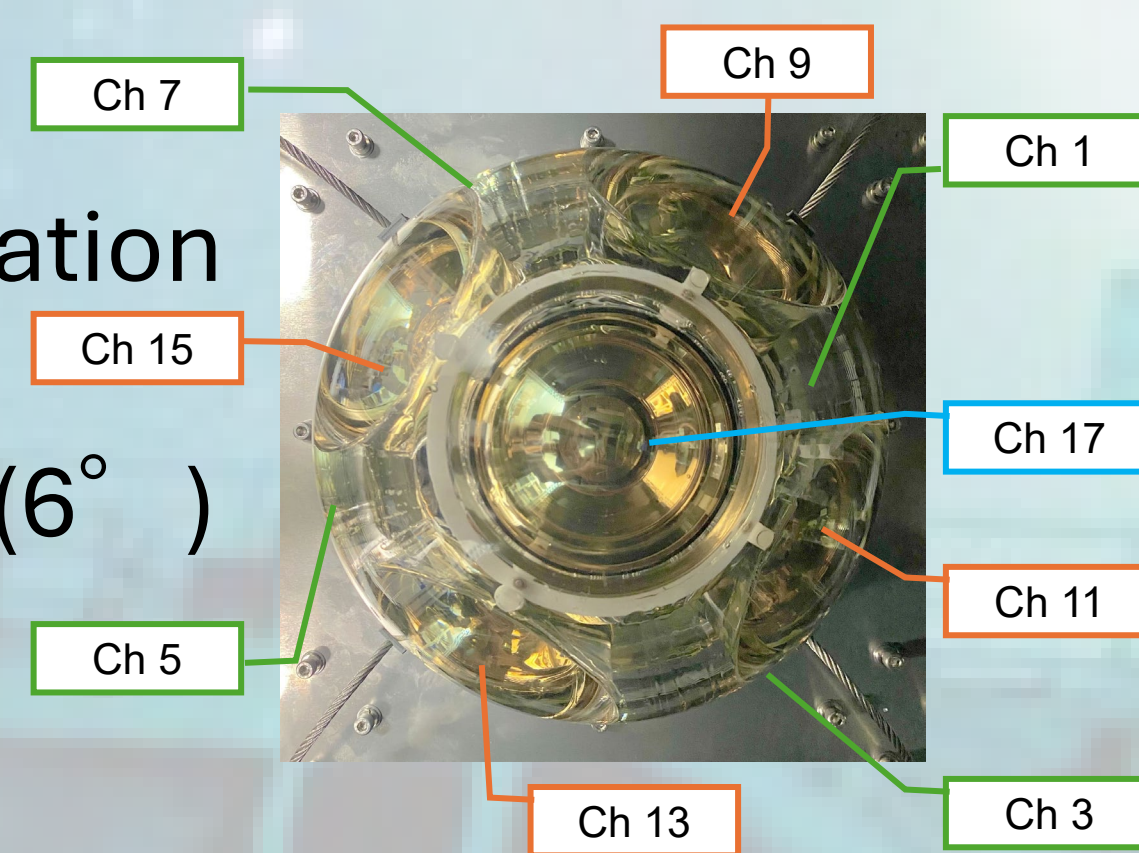
4. Results of the measurement

1. R-θ Measurement

- Observations using laser irradiation from above
- R : 0~150mm (5mm), θ : 360° (6°)
- Total : 1860 Points

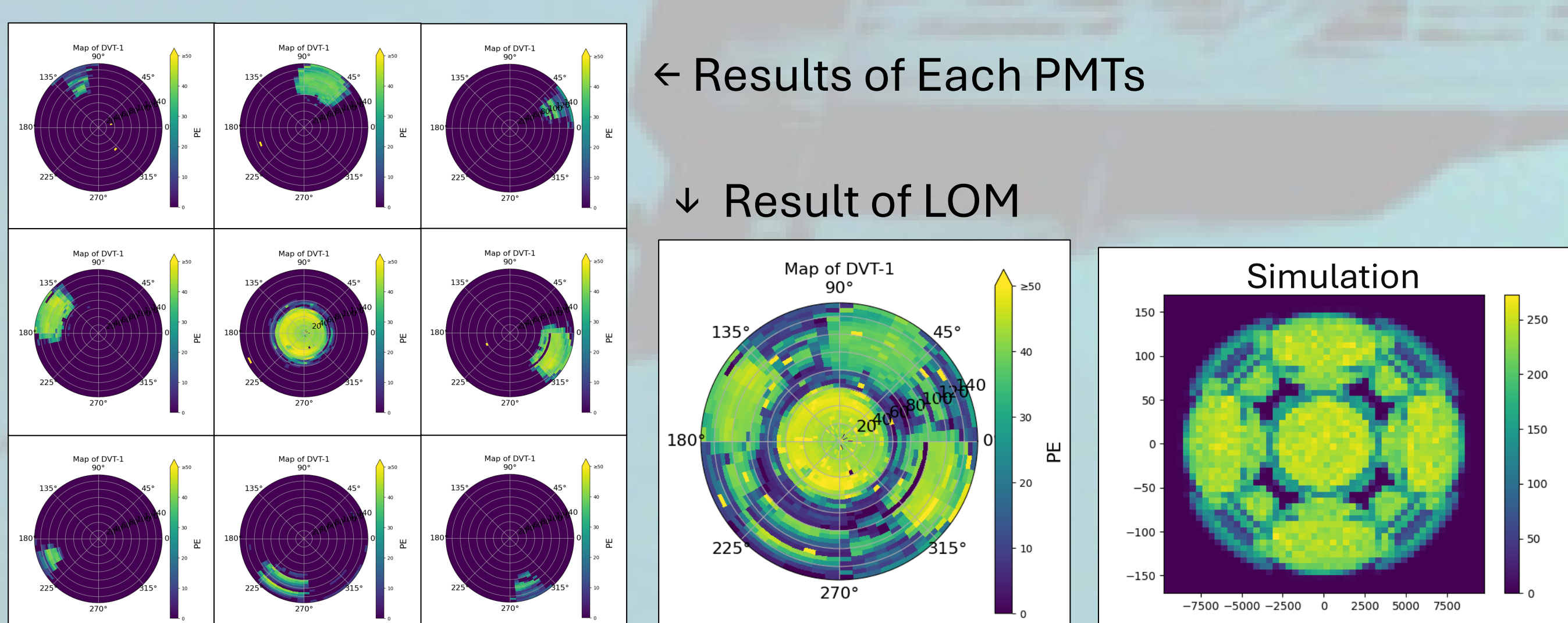
2. Z-θ Measurement

- Observations using laser irradiation from the horizontal direction
- R : 0~190mm (5mm), θ : 180° (6°)
- Total : 1140 Points



R-θ Measurement

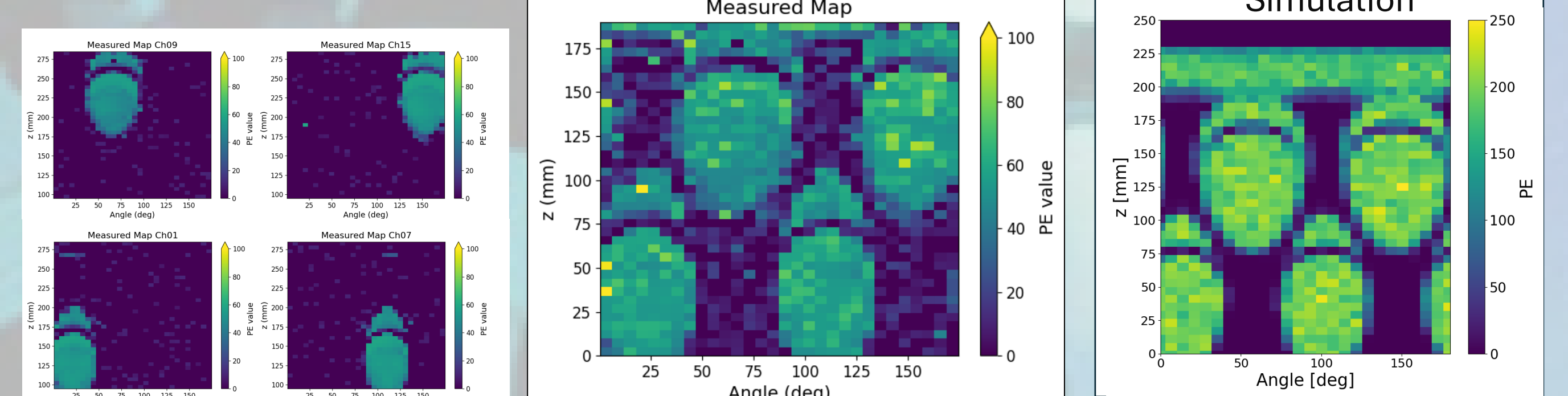
- The majority of the surface is **sensitive from above**.
- The conical-shaped “**Gel Pad**” really **enhances the sensitive area** of the PMTs.
- The experimental results are consistent with a MC simulation



Z-θ Measurement

- Photon collection pattern is consistent with the geometric location of the PMTs.
- The **light-gathering effect** of the “Gel Pad” is exceptionally well reflected.
- The experimental results were consistent with MC simulation. Moreover, the photon yield is uniform among PMTs.

Results of Each PMTs



5. Summary & Outlooks

- Illuminated photons to the LOMs, and the collected charges were measured.
- The results using both top- and side- lasers are consistent with the simulation, thereby justifying the effective area I have evaluated.
- Get a higher resolution map.