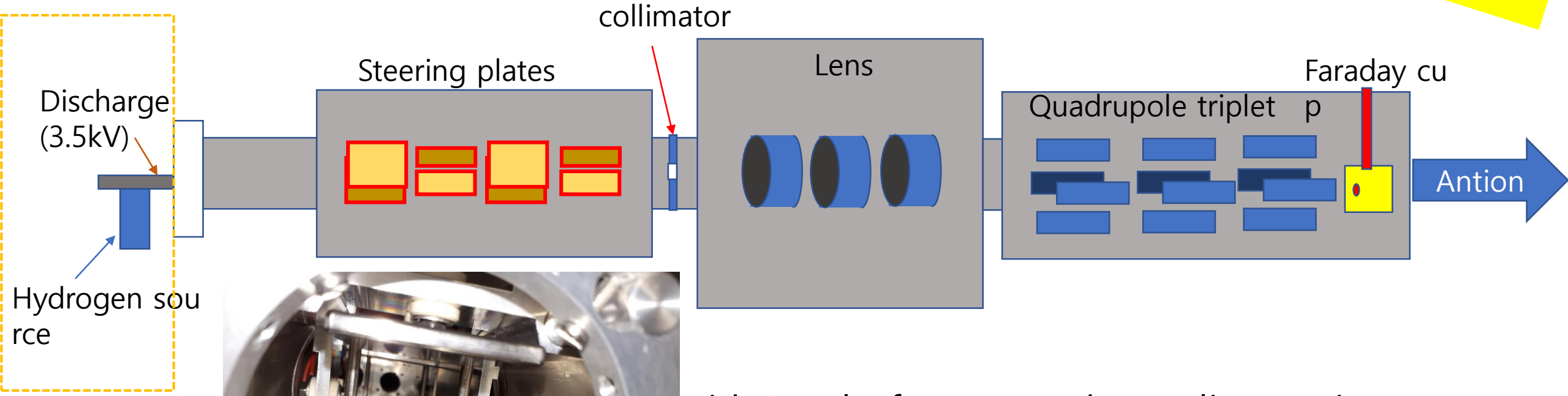
Positronium intensity measurement preparation (GBAR)

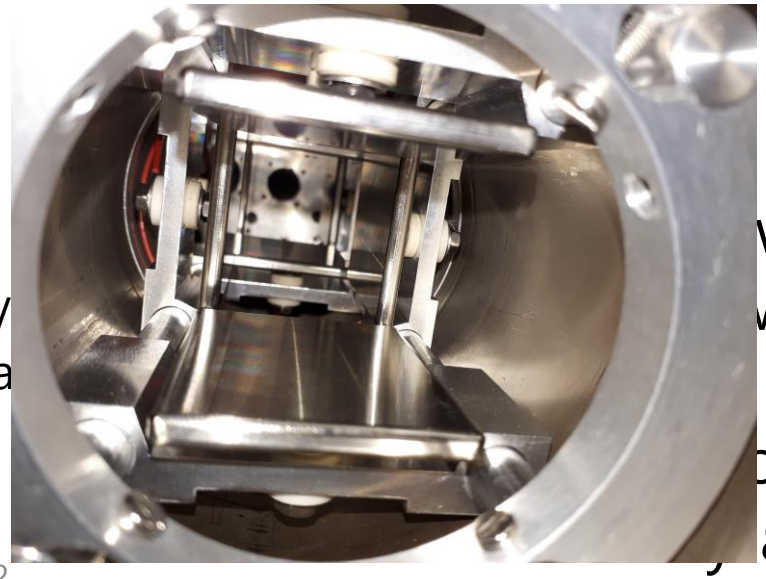
SNU

Bongho Kim

Proton beam line preparation

Last slide

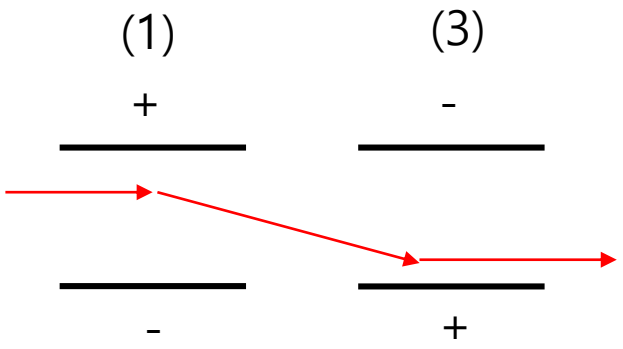


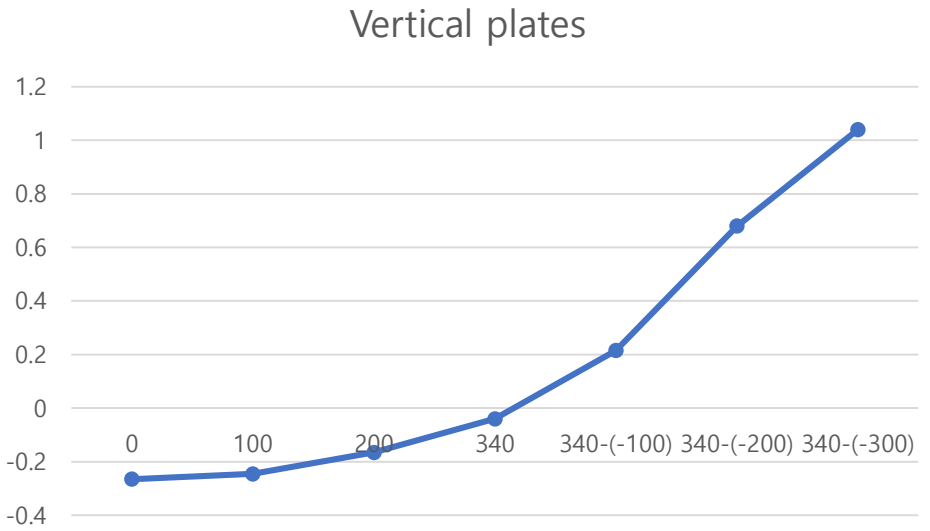


with Laszlo for proton beam line tuning.
vorking properly (part of lens holder is br

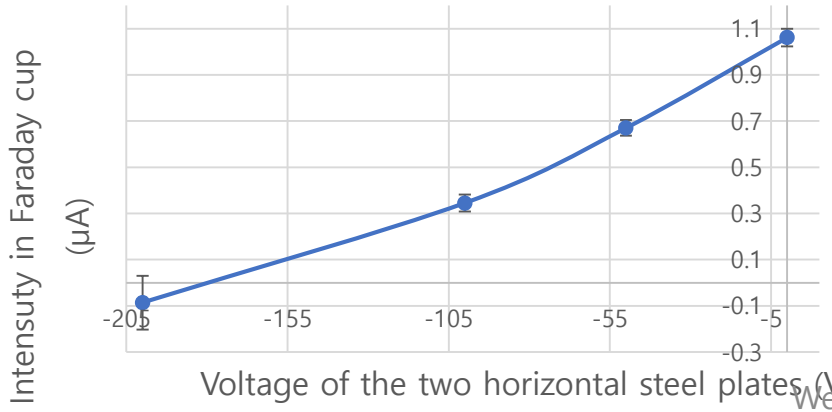
o tune by Faraday-cup with Picoam-meter.
and we are thinking additional method (p
hosphor screen, etc)

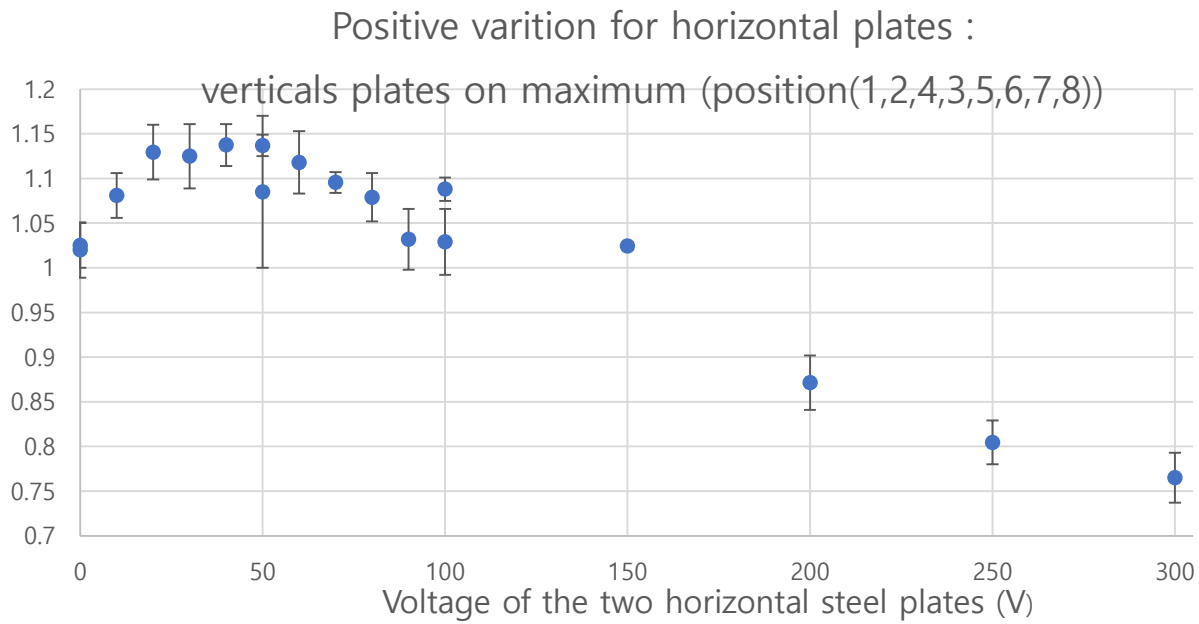
Steering plate tuning





- Same ΔV for (1) & (3) : position change
- Different ΔV btw (1) & (3) : change emittance



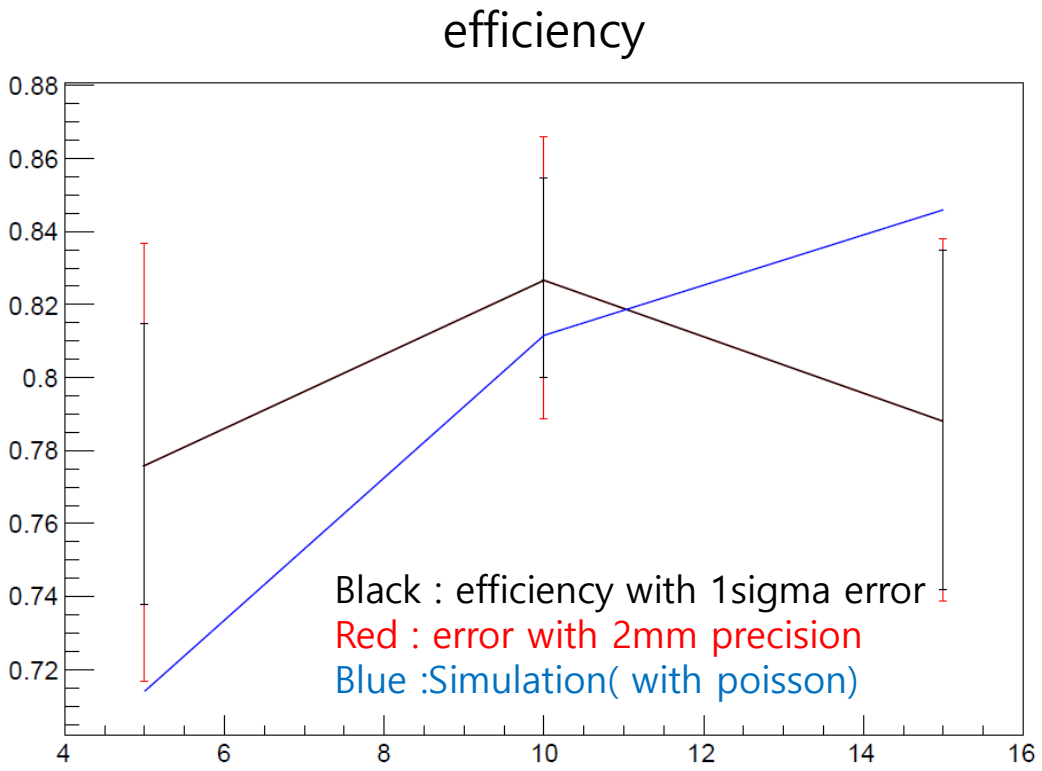


Steering plate tuning

- Steer plate tuning is ongoing with Aurelien(intern student)
- One of vertical plate connection had problem by cable.
- The cable was changed and test will be continued.
- Vertical plate need higher voltage for steering.
- Horizontal plate is tuned.

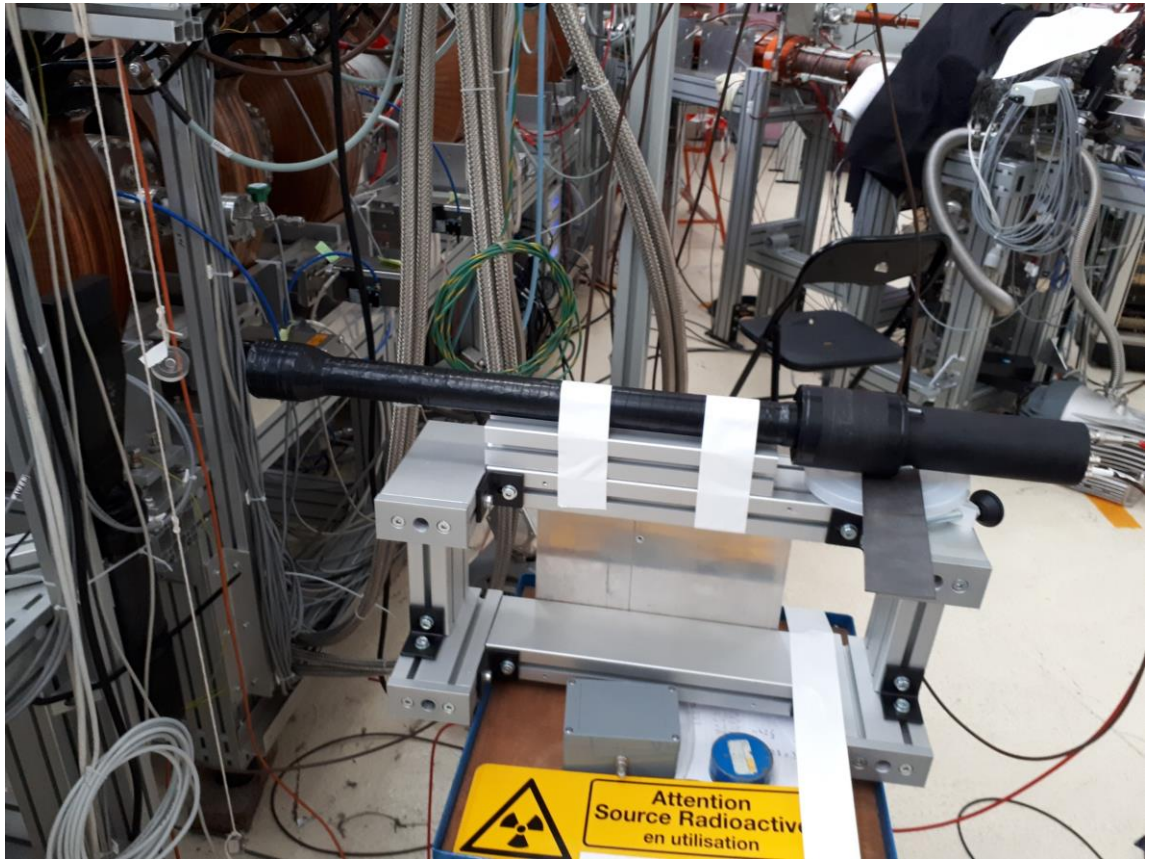
- Because of collimator which has smaller hole than Faradaycup, lens effect is hard to tested.

PWO detector preparation



- About simulation efficiency, poisson function is added with expected photo-electron from data.
- Result is well agreed with simulation

PWO detector preparation



- Light guide is installed btw PWO crystal and PMT.
- 0.511MeV gamma from 22Na source is used for test.
- About 1~2 p.e is measured.

(~7 p.e is measured without light guide)
→ ~80% of p.e is loss by light guide.

- I had tried to cover this loss with better connection with glue but I couldn't achieve

To do list

- Finish steer plate tuning.
- Help Laszlo to prepare Antion project.
- Simulation study for positronium.
- Check TOF simulation.