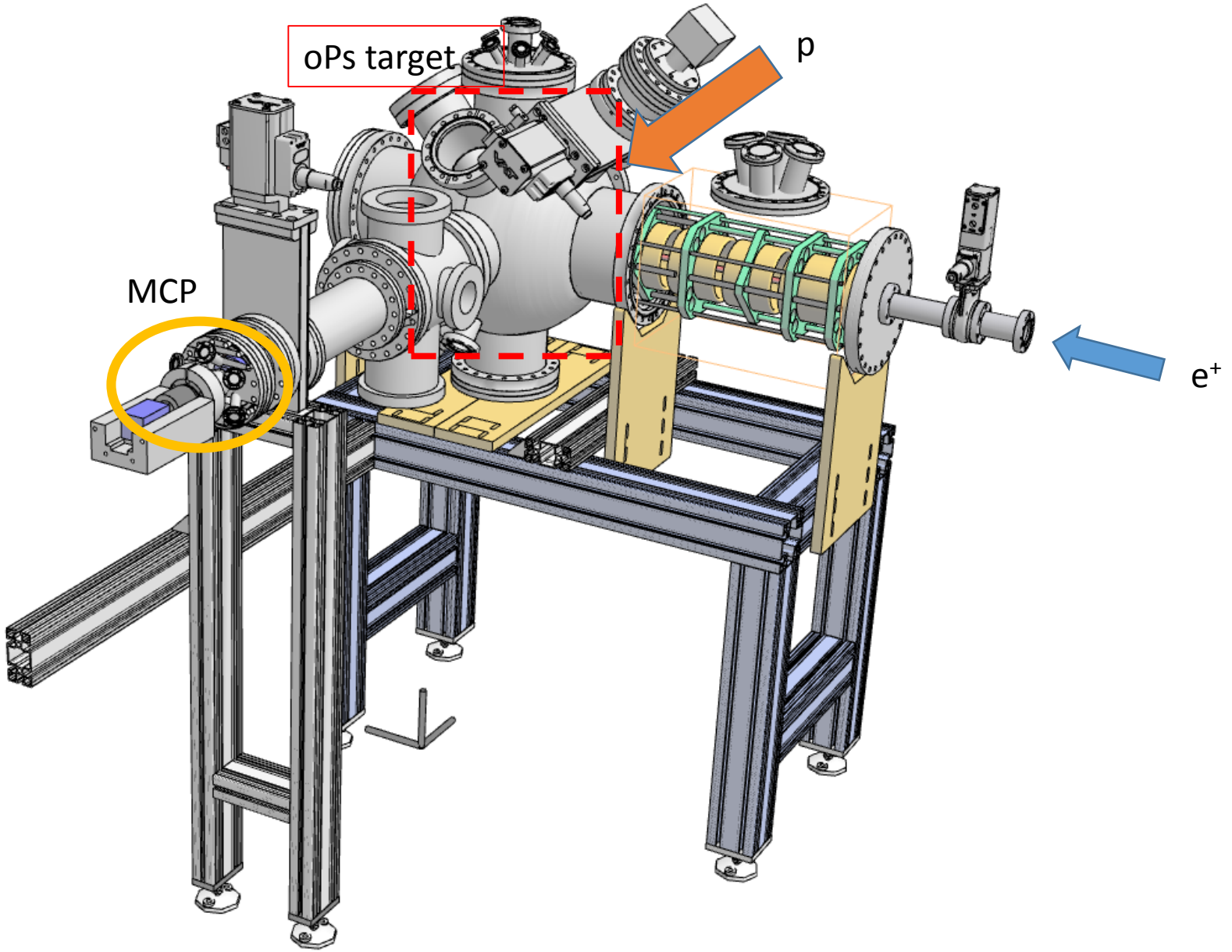
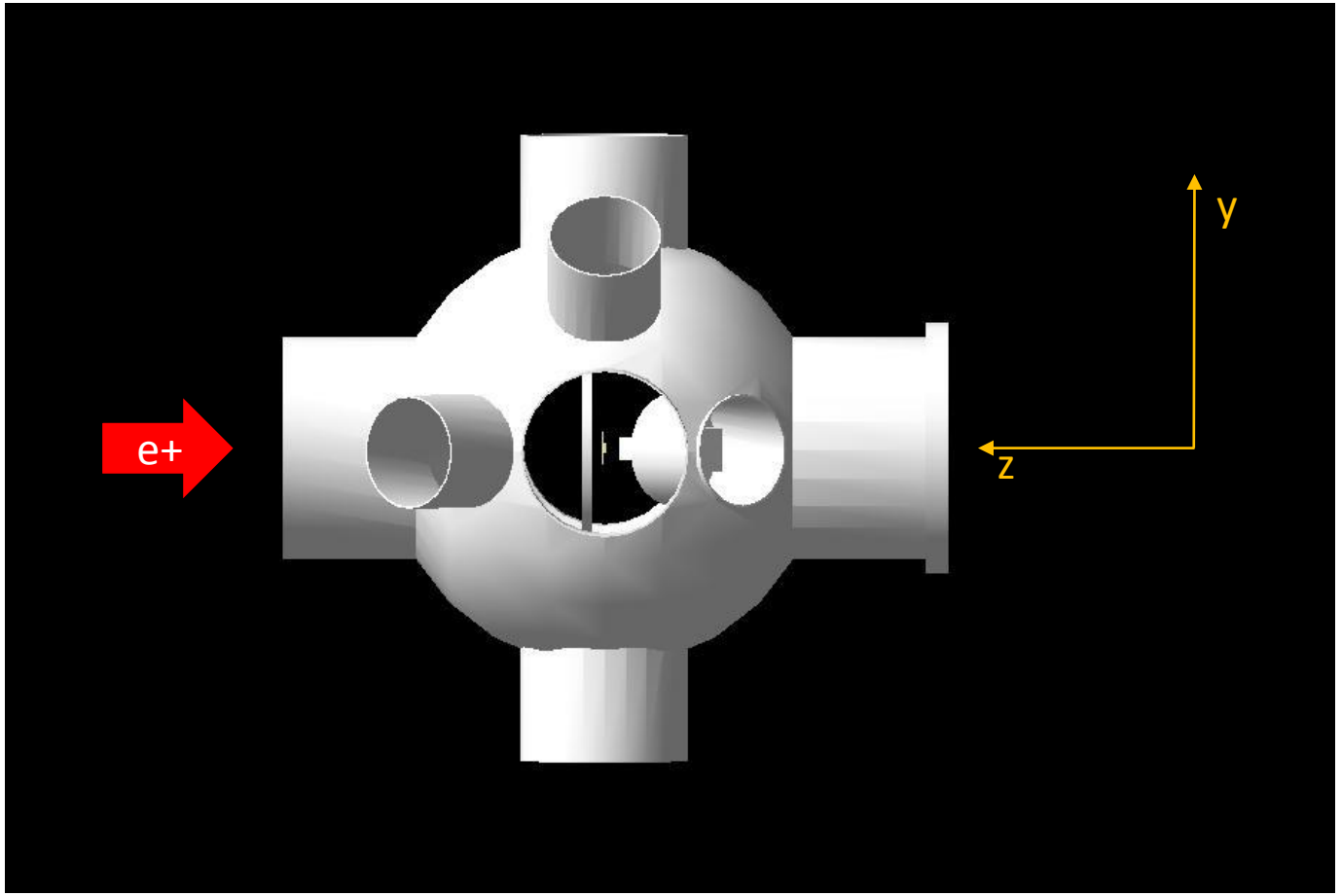
Positronium intensity measurement preparation (GBAR)

SNU

Bongho Kim

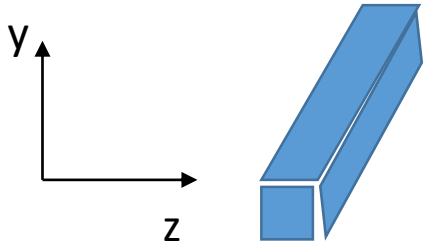

oPs target
p
MCP
e+

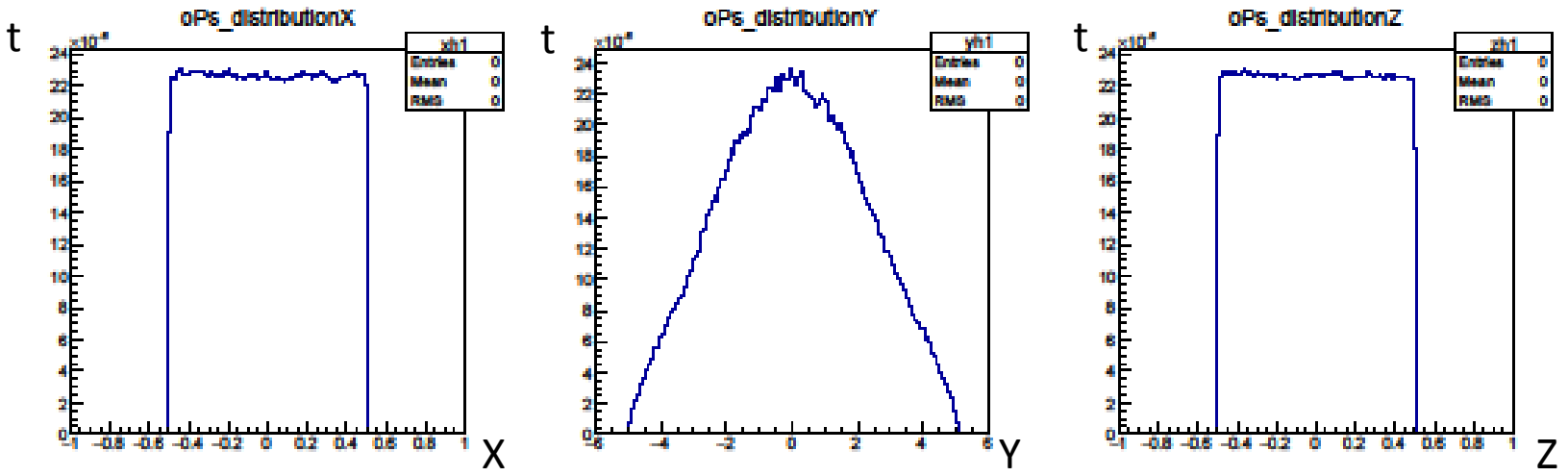
Simulation geometry changed



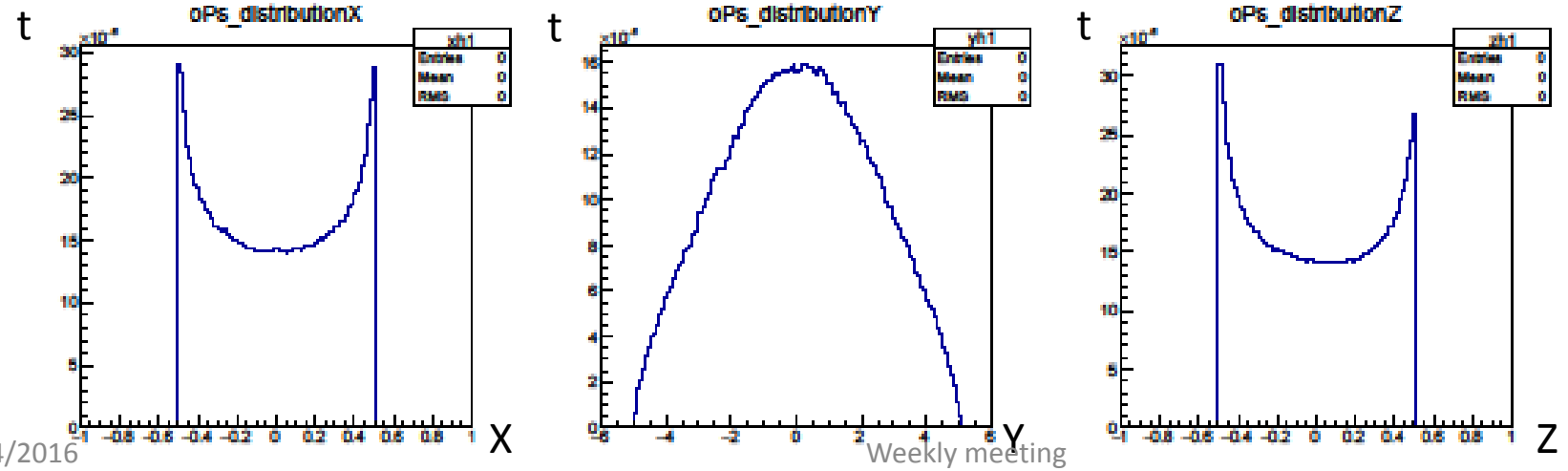
- Geometry is modified for detail background check
- Small problem is checked in simulation and now solved.
- Gamma background at MCP has been checked (matched with geometrical acceptance)

Positronium probability





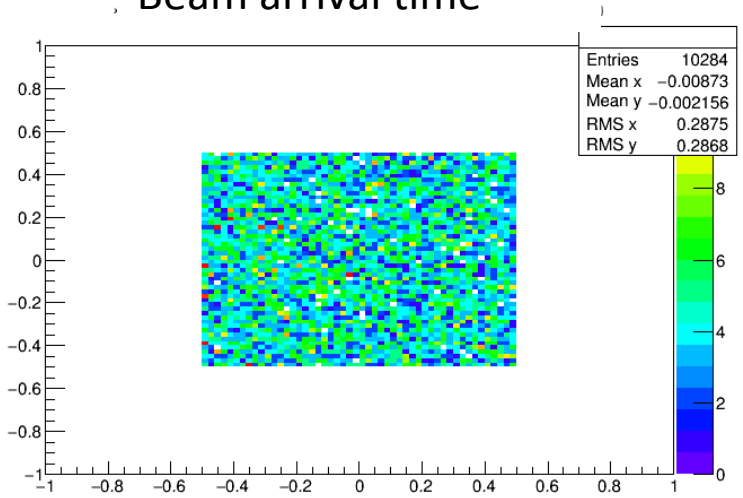
Cosine reflection



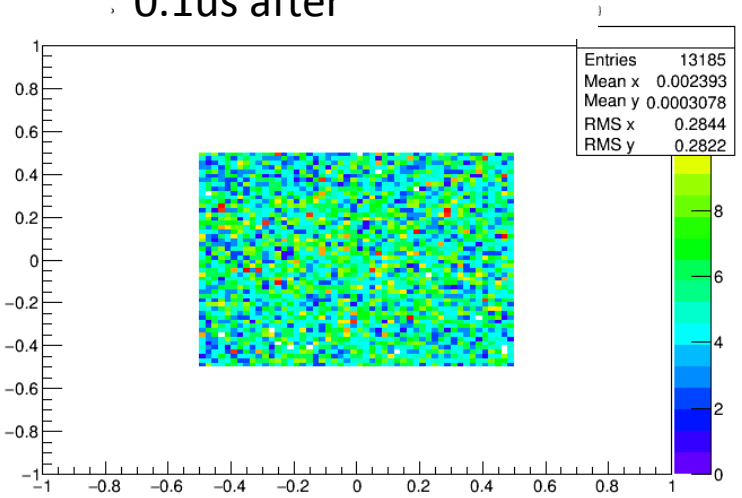
isotropic reflection

Cosine reflection

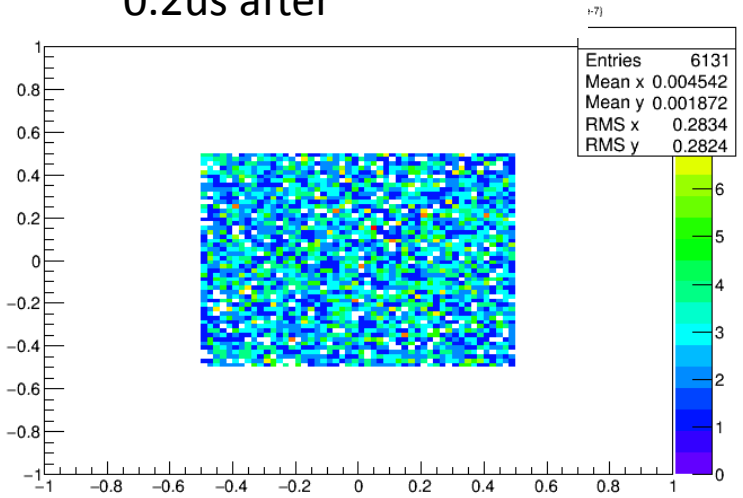
Beam arrival time



0.1us after

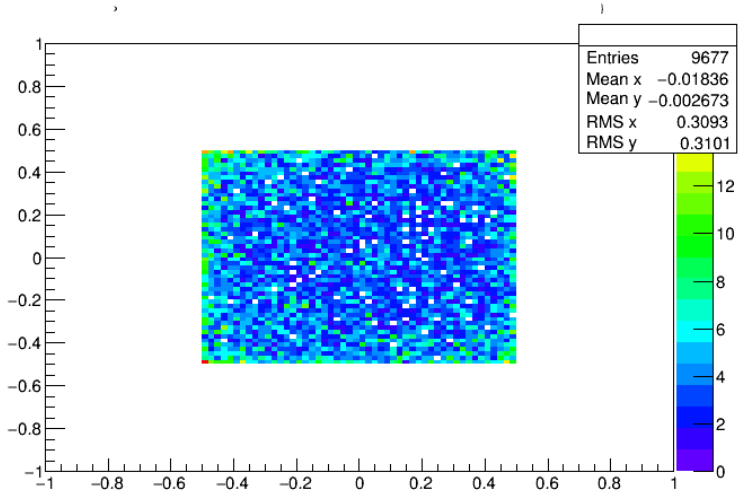


0.2us after

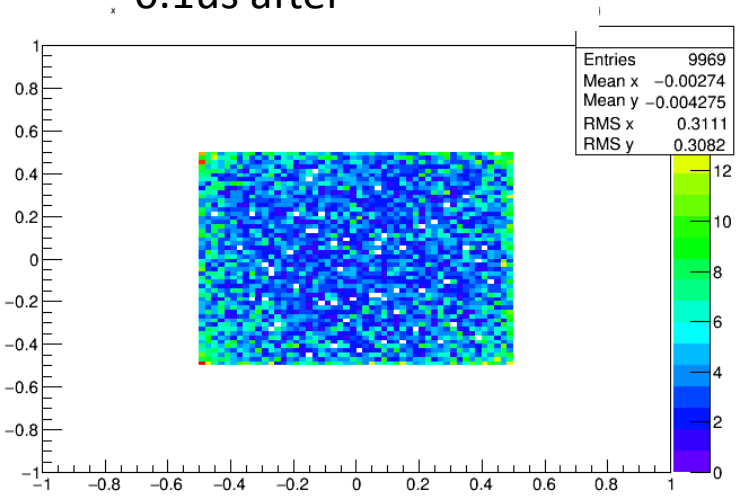


isotropic reflection

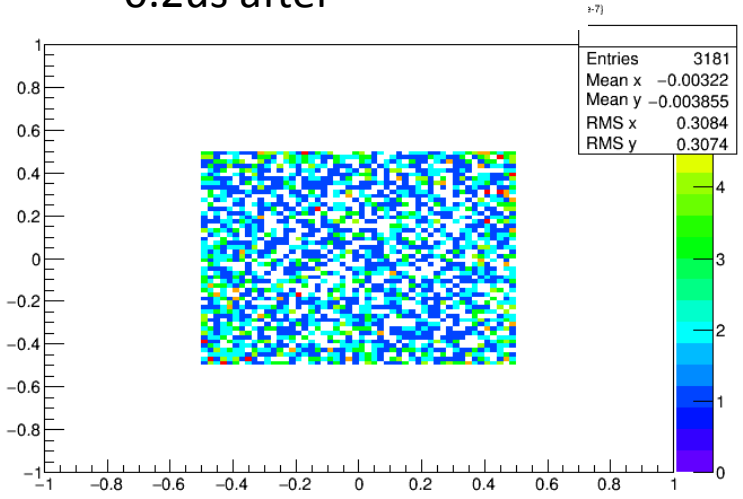
Beam arrival time



0.1us after



0.2us after



- No time dependency (checked with 0.01us time interval)

Status in Saclay

- Buffer gas trap (1st stage looks okay(first trial done))
- MCP and CCD assembly for H measurement will be tested.
- Vacuum problem and spark problem will be solved (low intensity problem in now)

To do list

- Think about what I will present at collaboration meeting.

(Title : GBAR simulation framework (?))

- Check detail positronium simulation and gamma background in MCP
- Try to help Laszlo