# Status Report

(Sep. 24, 2009)

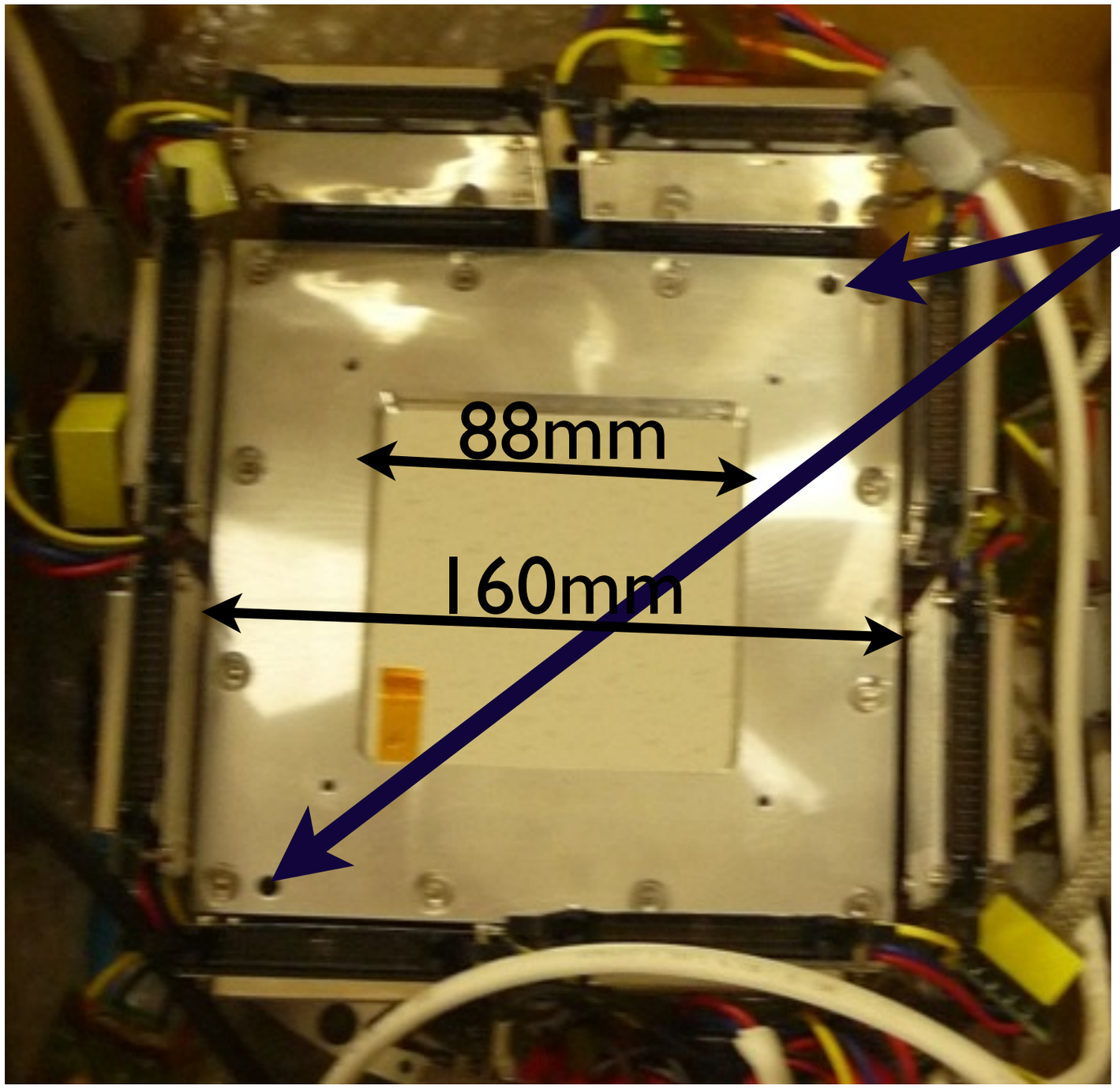
T.Hashimoto

1. E0 design
2. readout system of D4&D5 field values
3. Outlook

# 1. E0 design

- Segmented scintillator for dE/dx measurement.
- Just in front of Small DC.(in CDS)
  →light guide must be bended perpendicularly
- For better resolution, we need to collect as many photons as possibles.
  →Aluminium deposition on light guide surface.
- EJ230(BC420) scintillator → exist, but haven't be cut
- 6 PMTs(H6152-01B) → exist.
- E0 will be fixed on the small DC
- PMTs will be sustained by the holder of Main degrader, E0, SmallDC.
  →holder is not designed yet.

# 1. E0 design




picture of Small DC

These holes are used
to fix E0
(Φ5.1mm,74mm depth)

Scintillator need to
cover the effective
area of Small DC
(88mm×88mm)

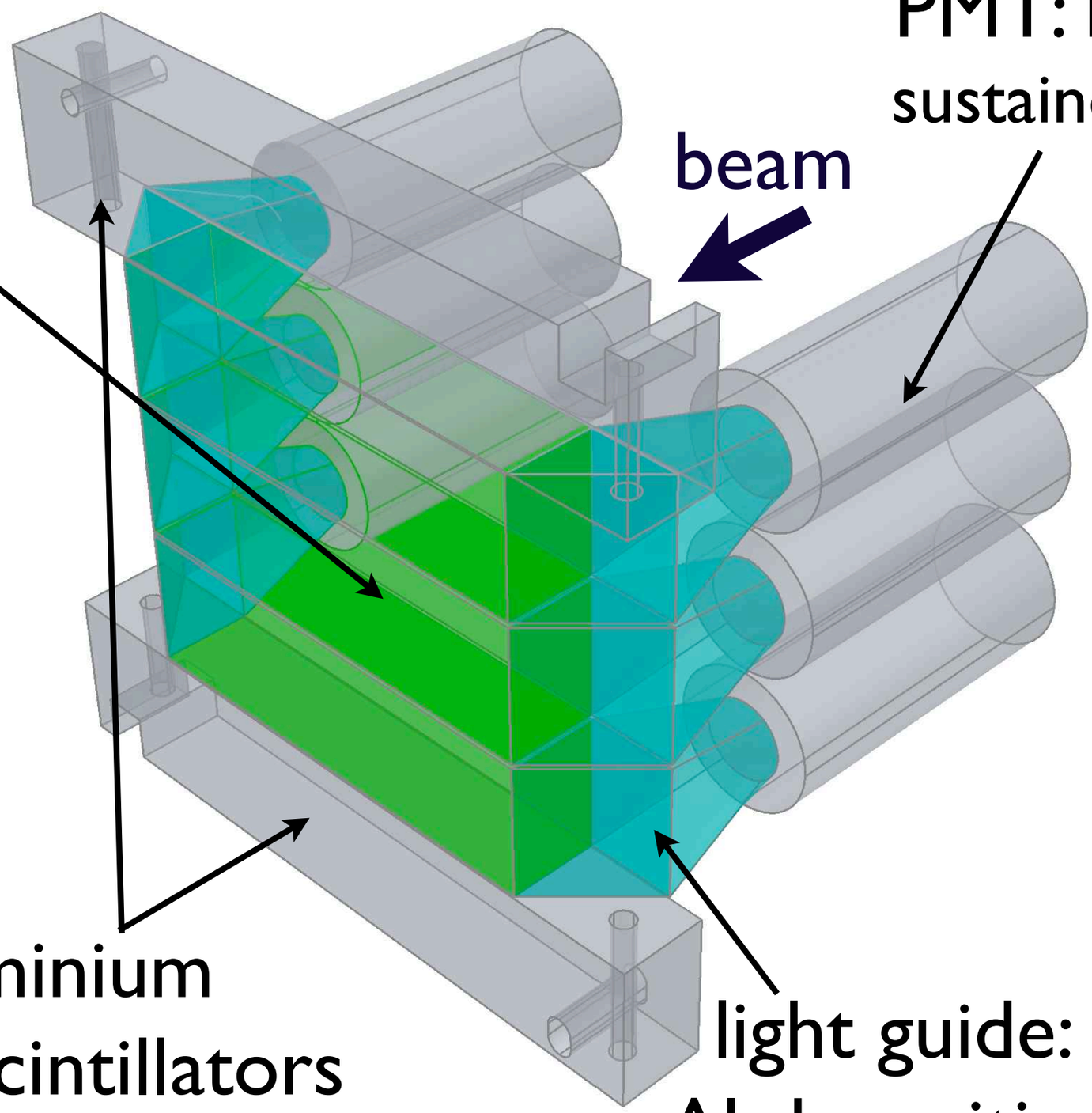
⊗ beam

# 1. E0 design

Scintillator:
EJ230(BC420)
20mm thick
W90mmH30mm
×3

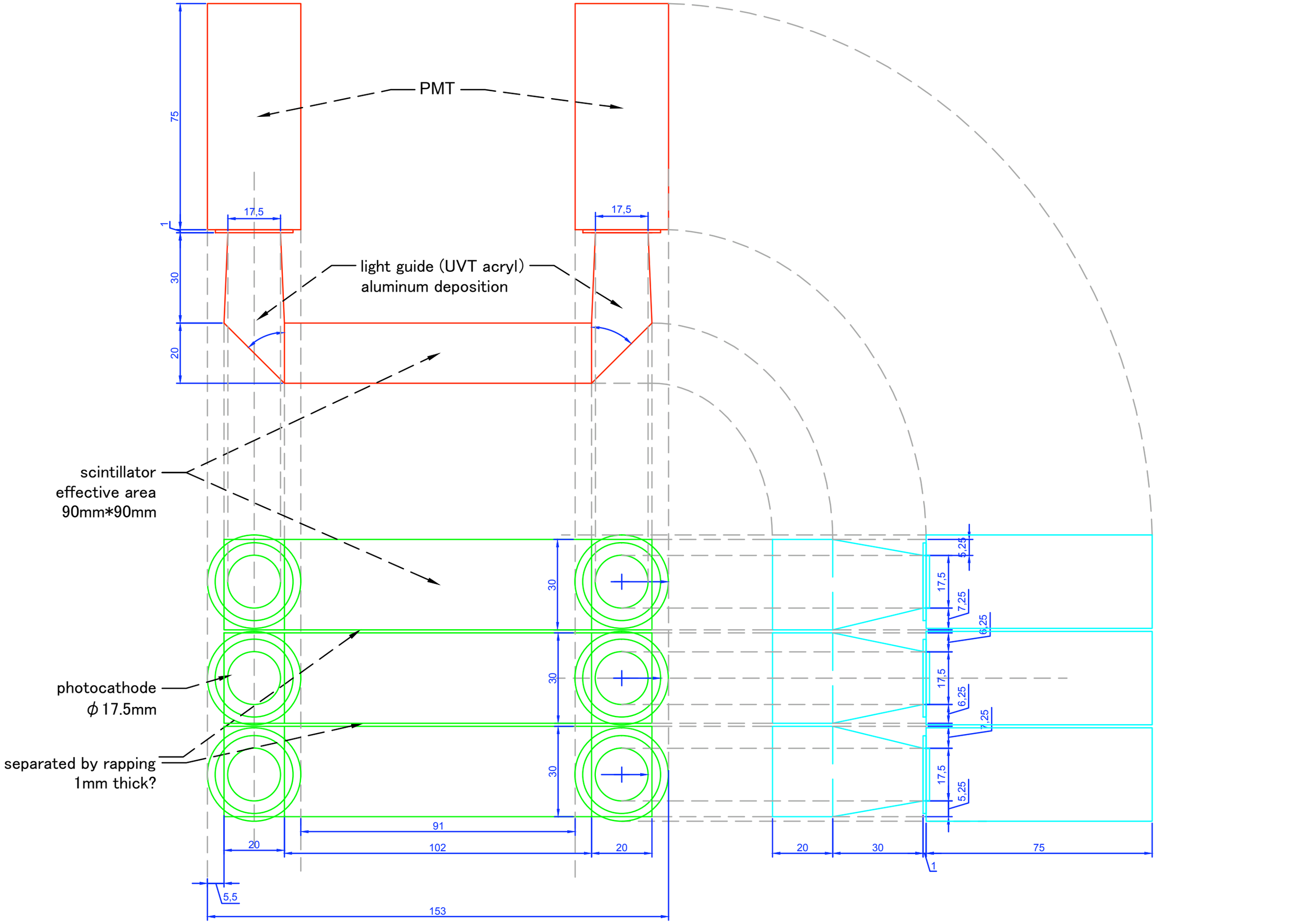
PMT: H6152-01B
sustained by Holder

beam



Aluminium
Fasten scintillators
Fixed to Small DC

light guide: UVT Acryl
Al deposition on surface


PMT
light guide (UVT acryl)
aluminum deposition
scintillator
effective area
90mm*90mm
photocathode
ϕ17.5mm
separated by rapping
1mm thick?
75
1
30
20
17,5
17,5
30
30
30
91
102
20
20
153
5,5
5,25
17,5
7,25
6,25
17,5
6,25
7,25
17,5
5,25
20
30
75
1

# 2. read out system of D4D5

| | gauss meter | Interface | readings/sec |
|---|---|---|---|
| D4 | DTM-141DS | RS-232C | 10 |
| D5 | Lake shore 475 | GPIB | 10/30/100 |

- Field values will be uploaded by at least 10Hz.
- when write data, DAQ machine reads the values through JLAN and add it to the footer.
  →Detail method is still under consideration...
- GPIB controller and cable will be delivered soon.

# 3. Outlook

- E0 manufacturing
  1. Cut scintillator and light guide @G-tech
  2. Aluminium deposition on light guide surface @Yokohama~??
  3. Rapping. Join scintillator, light guide and PMTs. @G-tech

  → Detail will be discussed with G-tech Goto-san on Sep.28.

- D4,D5 readout system set up
  Oct. 5~@J-PARC

- Holder design(for Small DC, main degrader, E0)