Status Report

Isao Sashima Apr. 10, 2020 mPMT meeting I was misunderstanding the meaning of the setting.

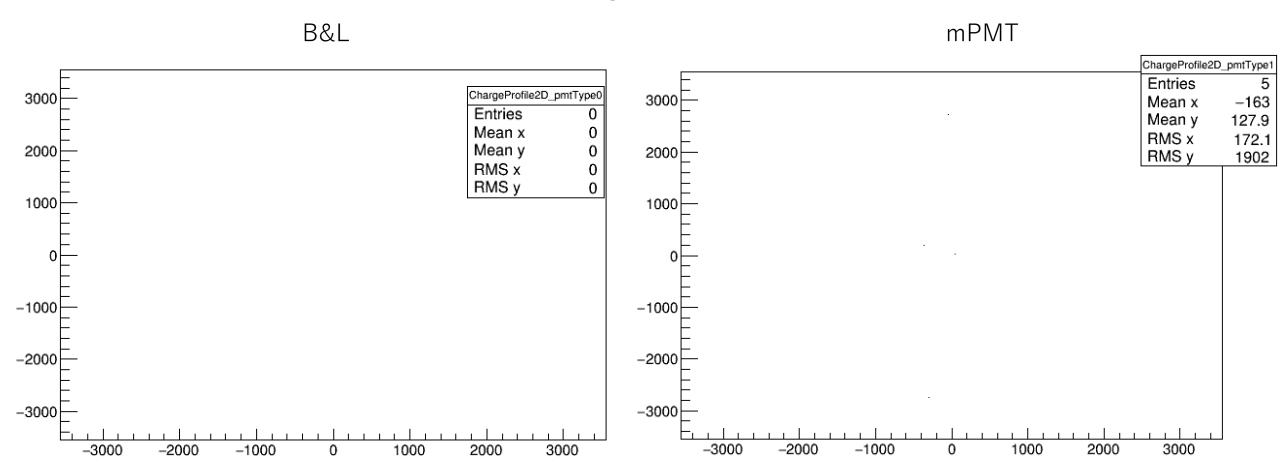
- gps/direction
- · theta, phi
- gps/ang/type iso
- → I did comment out and rebuilt the laser simulation.

```
193 /mygen/generator laser
                                                                                  L93 /mygen/generator laser
194 /gps/particle opticalphoton
                                                                                  194 /gps/particle opticalphoton
195 /gps/energy 2.58 eV
                                                                                  195 /gps/energy 2.58 eV
196 /gps/direction 0 0 -1
                                                                                  196 /gps/direction 0 0 -1
197 /gps/position 0 0 0 m
                                                                                  197 /gps/position 0 0 0 m
198 /gps/number 1000
                                                                                  198 /gps/number 1000
199 /gps/ang/type iso
                                                                                  199 # /gps/ang/type iso
200 /gps/ang/mintheta 0 deg
                                                                                  200 # /gps/ang/mintheta 0 deg
201 /gps/ang/maxtheta 180 deg
                                                                                  201 # /gps/ang/maxtheta 180 deg
202 /gps/ang/minphi 0 deg
                                                                                  202 # /gps/ang/minphi 0 deg
203 /gps/ang/maxphi 360 deg
                                                                                  203 # /gps/ang/maxphi 360 deg
204 /gps/verbose 0
                                                                                   04 /gps/verbose 0
```

Generated optical photon, 1000 events

```
/mygen/generator laser
       id_reflector_height = 6.53*CLHEP::mm;
                                                  // for a radius of 7.25mm, for hex: 5.4mm (radius of 6mm)
                                                                                                                  194 /gps/particle opticalphoton
       id_reflector_z_offset = 4.8*CLHEP::mm;
                                                  //from KM3Net CAD drawings
                                                                                                                  195 /gps/energy 2.58 eV
       id_reflector_angle = 48.*CLHEP::deg;
                                                                                                                     /gps/direction 1 0 0
                                                                                                                  197 /gps/position 0 0 0 m
                                                             Took only triggered events: Mode 0
         With a reflector
                                                                                                                  198 /gps/number 1000
                                                             triggerNdigits/Threshold 0
                                                                                                                  L99 # /gps/ang/type iso
         Generated along the x axis
                                                                                                                  00 # /gps/ang/mintheta 0 deg
                                                             Setdarkwindow 0
                                                                                                                  201 # /gps/ang/maxtheta 180 deg
                                                                                                                  02 # /gps/ang/minphi 0 deg
                                                                                                                  03 # /gps/ang/maxphi 360 deg
                                                                                                                   04 /gps/verbose 0
                                                                 Total Charge
                                B&L
                                                                                                                 mPMT
1000
                                                                          1000
                                                                                                                              TotalCharge pmtType1
                                                                                                                              Entries
                                                                                                                                         1000
                                                 TotalCharge_pmtType0
                                                                                                                                         1.006
                                                                                                                              Mean
                                                            1000
                                                 Entries
                                                                                                                              RMS
                                                                                                                                        0.1896
                                                 Mean
800
                                                                           800
                                                 RMS
                                                               0
600
                                                                           600
400
                                                                           400
200
                                                                           200
                20
                             40
                                          60
                                                       80
                                                                   100
                                                                                           20
                                                                                                                     60
                                                                                                                                  80
                                                                                                        40
                                                                                                                                              100
```

Charge Profile2D



I want to build single 3-inch PMT and mPMT on simulation

→ checking how to bring out the only one PMT from hyperK geometry by specifying the ID of each PMT



By using this method, I plan to evaluate the angular dependence.

backup

Charge Profile

