

# Status Report

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Mar. 20 , 2020  
mPMT meeting

This week,

- I rebuilt the laser simulation

I was misunderstanding about the domain of definition

```
193 /mygen/generator laser
194 /gps/particle opticalphoton
195 /gps/energy 2.58 eV
196 /gps/direction 1 0 0
197 /gps/position 0 0 0 m
198 /gps/number 1000
199 /gps/ang/type iso
200 /gps/ang/mintheta 0 deg
201 /gps/ang/maxtheta 0 deg
202 /gps/ang/minphi 0 deg
203 /gps/ang/maxphi 90 deg
204 /gps/verbose 0
```



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

- I am checking how to bring out the only one PMT from hyperK geometry

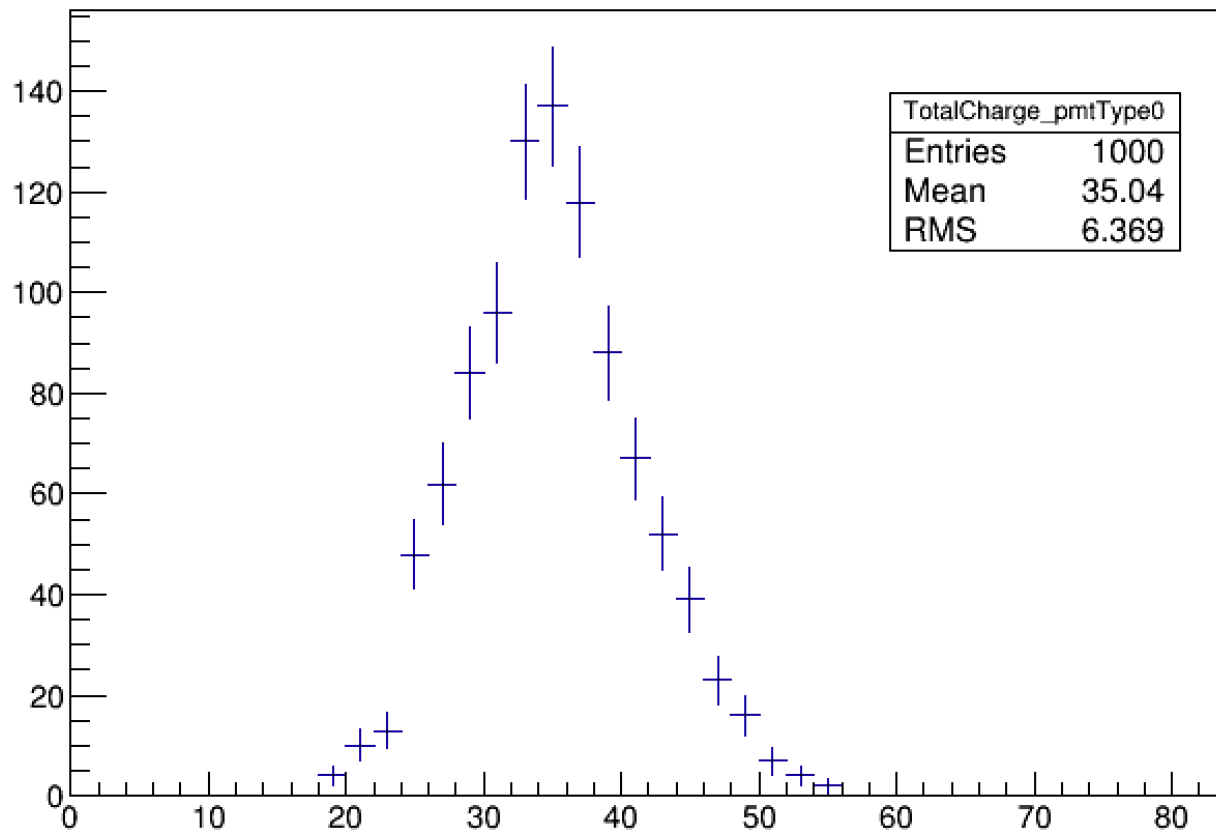
generated 2.58eV photons

without a reflector

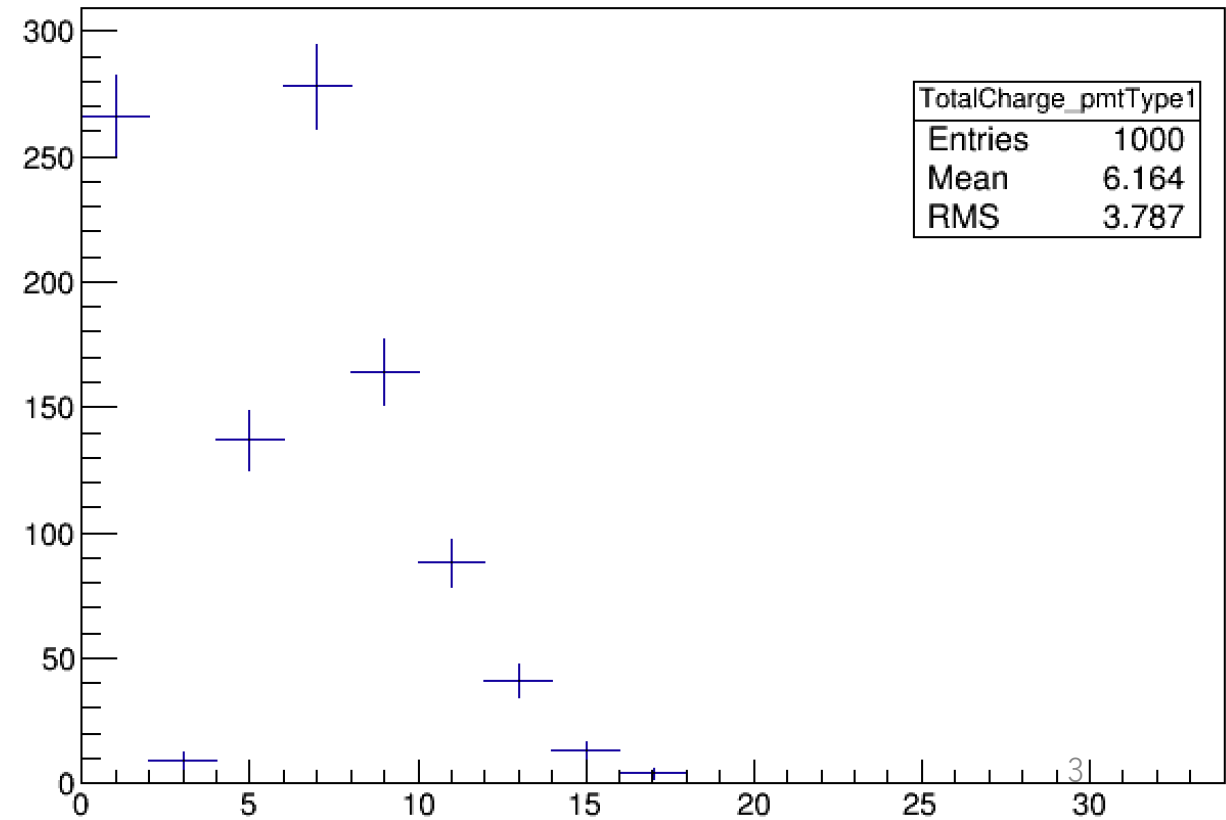
saved only triggered event : Mode 0  
TriggerNDigits/Threshold 0  
/DarkRate/SetDarkWindow 0

```
193 /mygen/generator laser
194 /gps/particle opticalphoton
195 /gps/energy 2.58 eV
196 /gps/direction 1 0 0
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200 /gps/ang/mintheta 0 deg
201 /gps/ang/maxtheta 180 deg
202 /gps/ang/minphi 0 deg
203 /gps/ang/maxphi 360 deg
204 /gps/verbose 0
```

B&L



mPMT



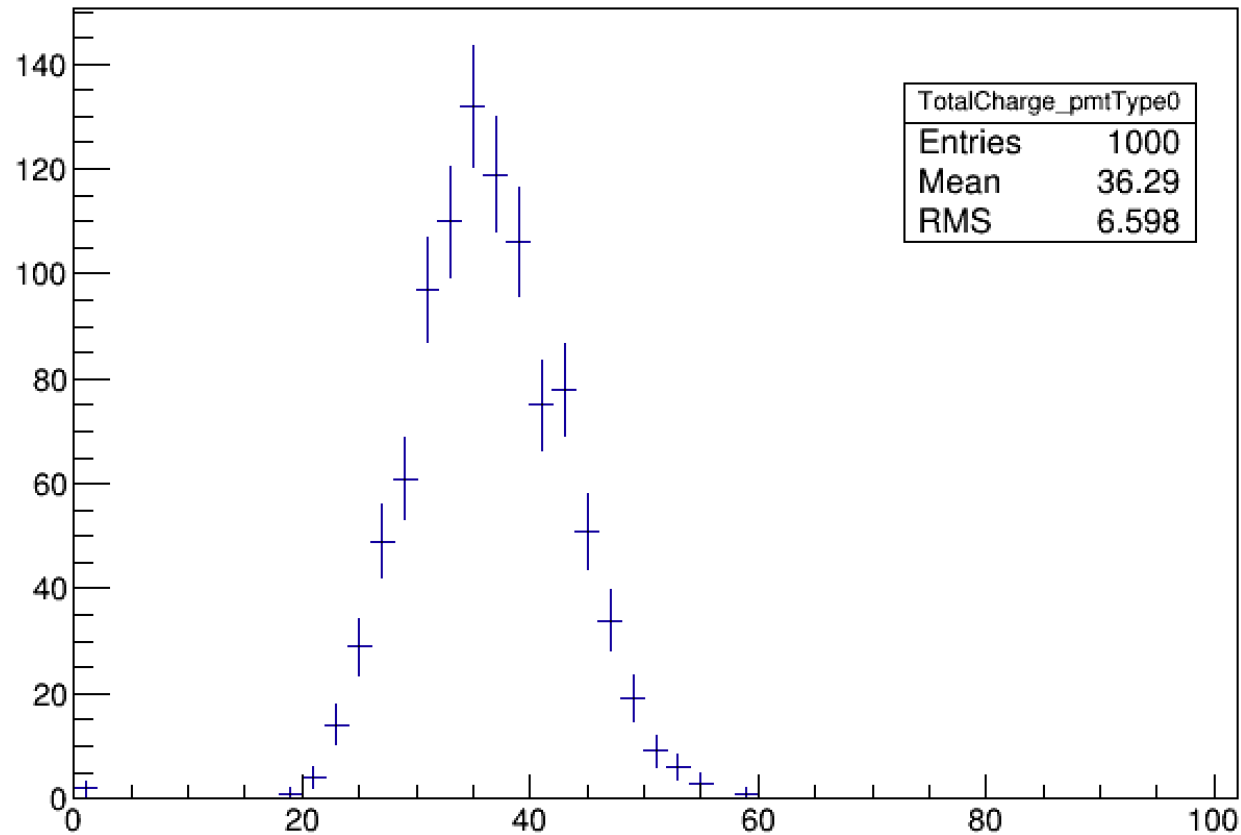
generated 2.58eV photons

with a reflector

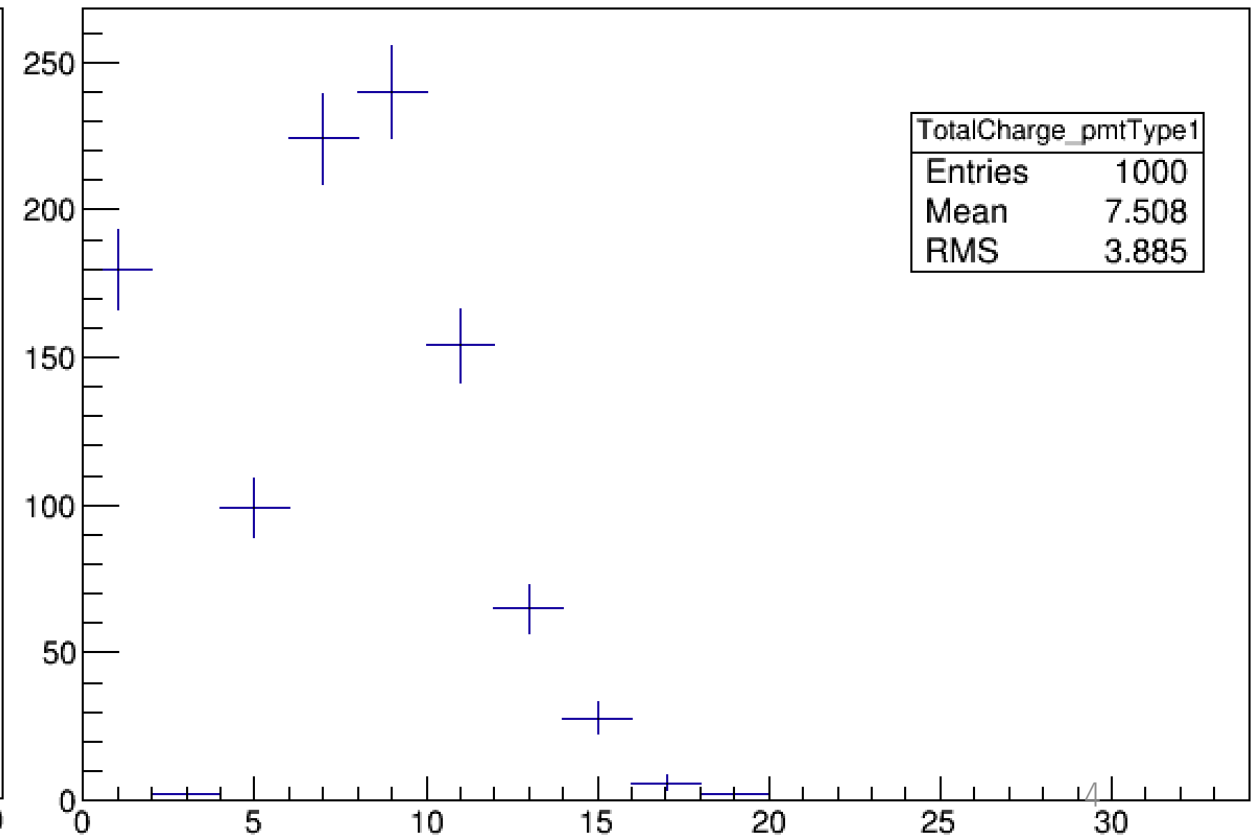
saved only triggered event : Mode 0  
TriggerNDigits/Threshold 0  
/DarkRate/SetDarkWindow 0

```
193 /mygen/generator laser
194 /gps/particle opticalphoton
195 /gps/energy 2.58 eV
196 /gps/direction 1 0 0
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201 /gps/ang/maxtheta 180 deg
202 /gps/ang/minphi 0 deg
203 /gps/ang/maxphi 360 deg
204 /gps/verbose 0
```

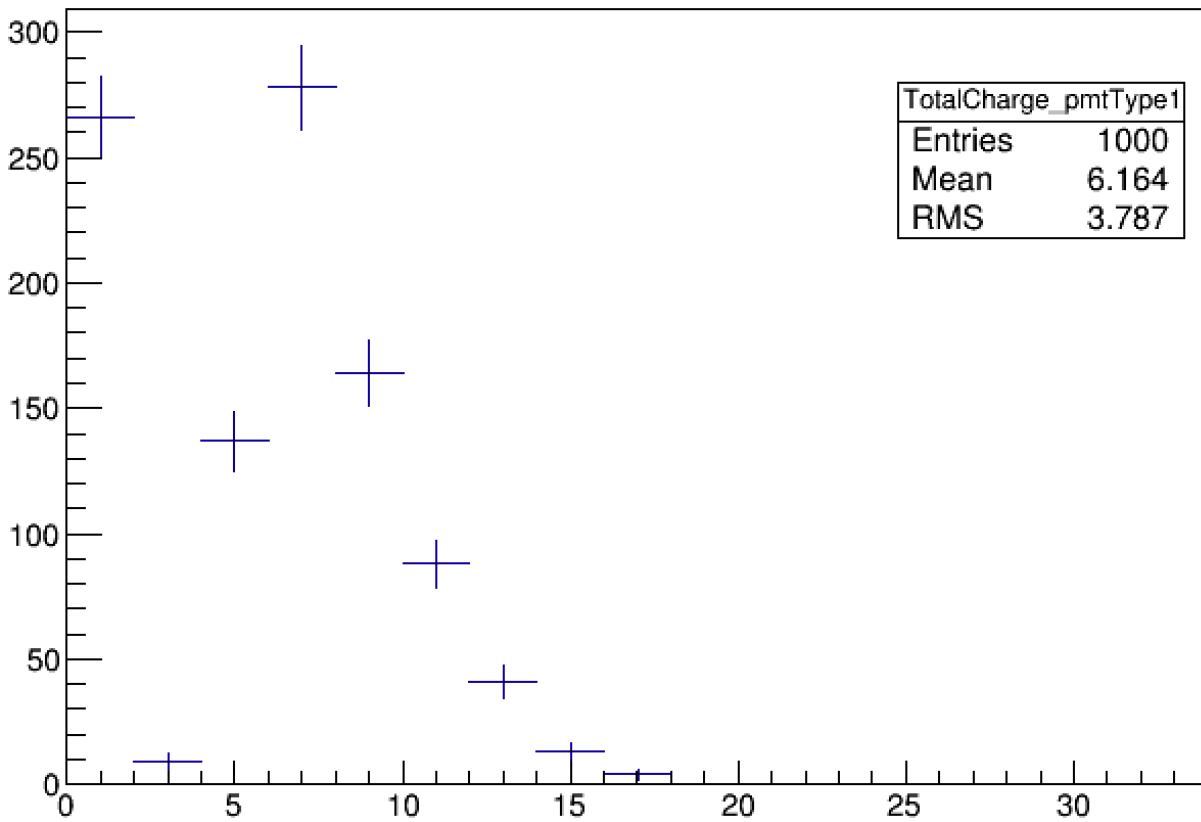
B&L



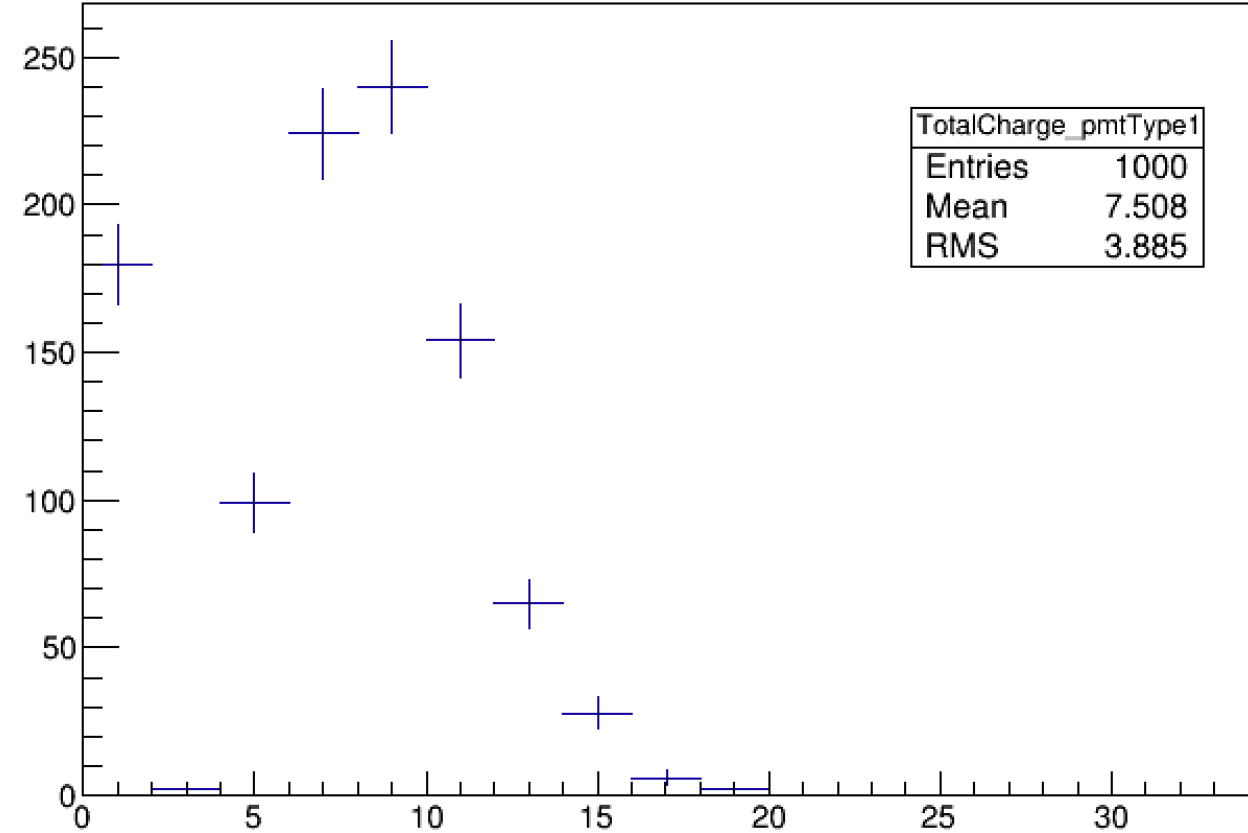
mPMT



without a reflector



with a reflector



The mean of charge increased by  $\sim 21.8\%$   
→ this increment is valid based on the sensitive area

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

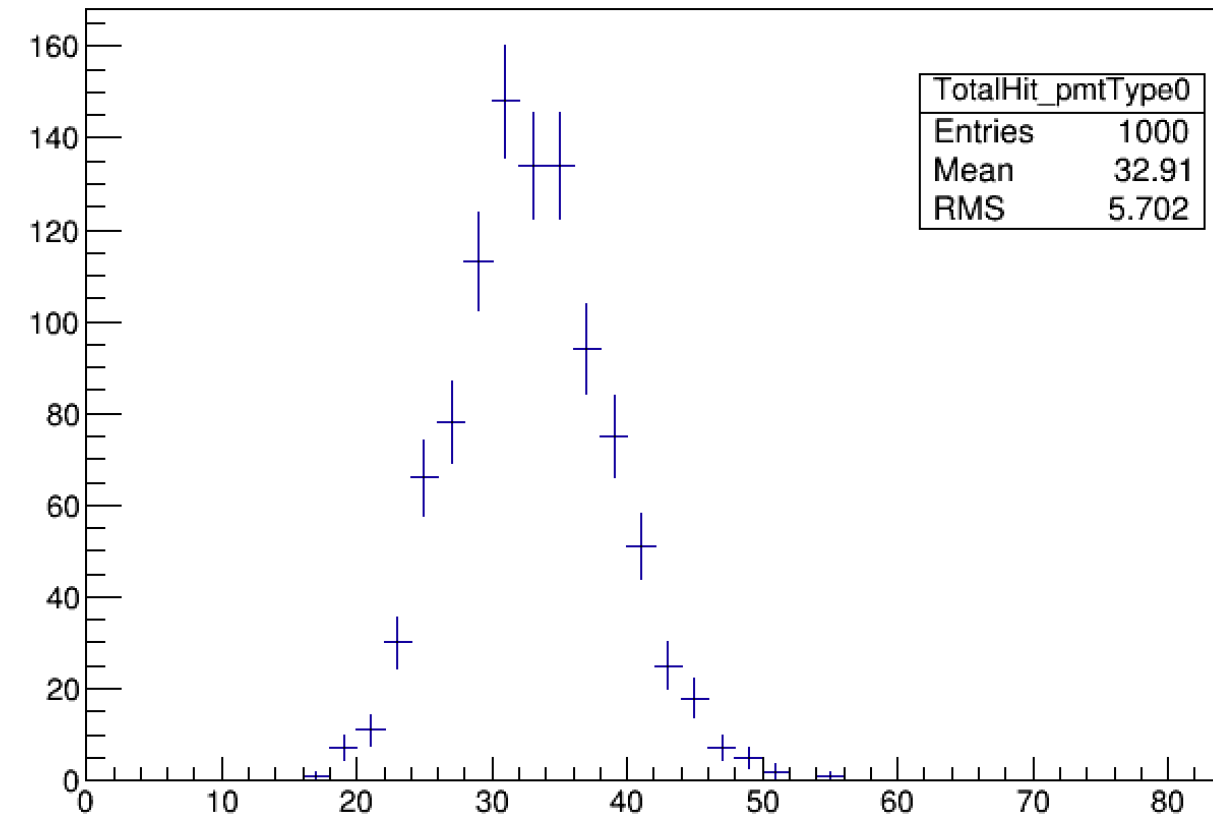


By using this method, I plan to evaluate the angular dependence.

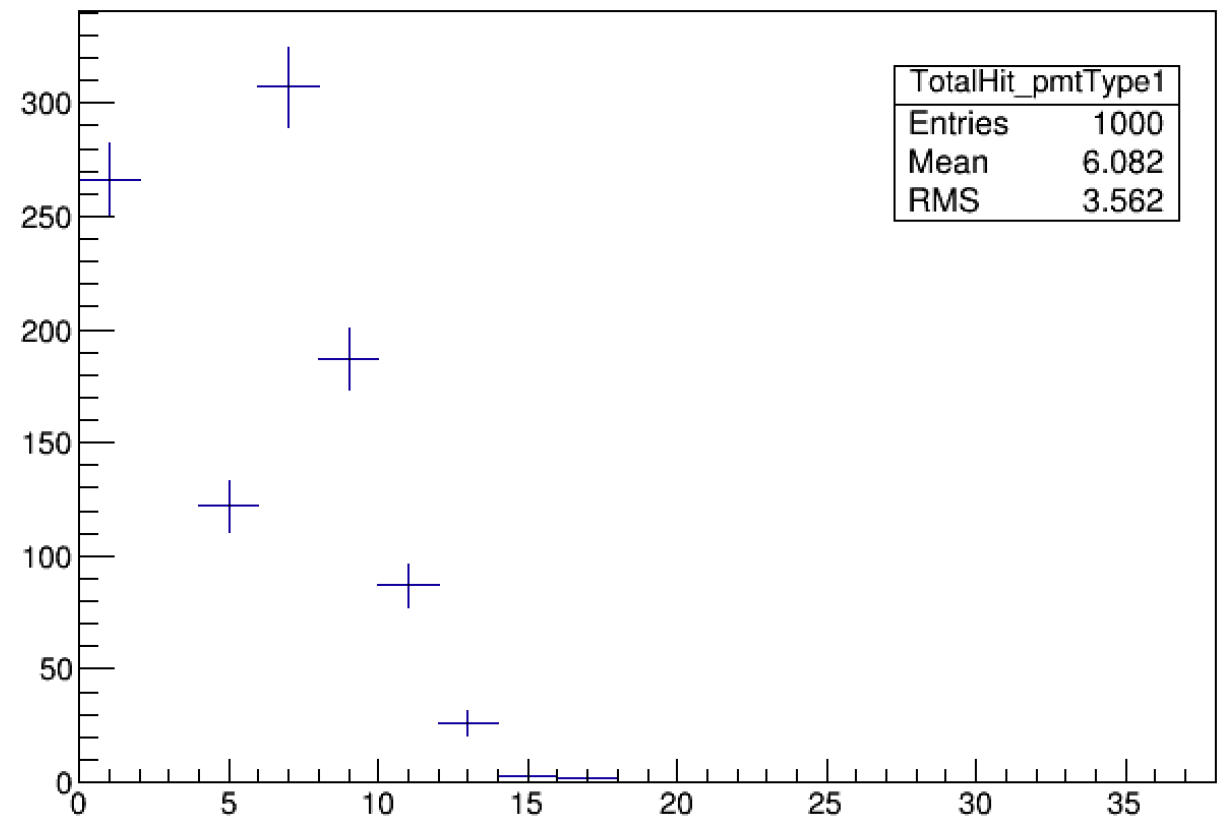
backup

## TotalHit (without a reflector)

B&L



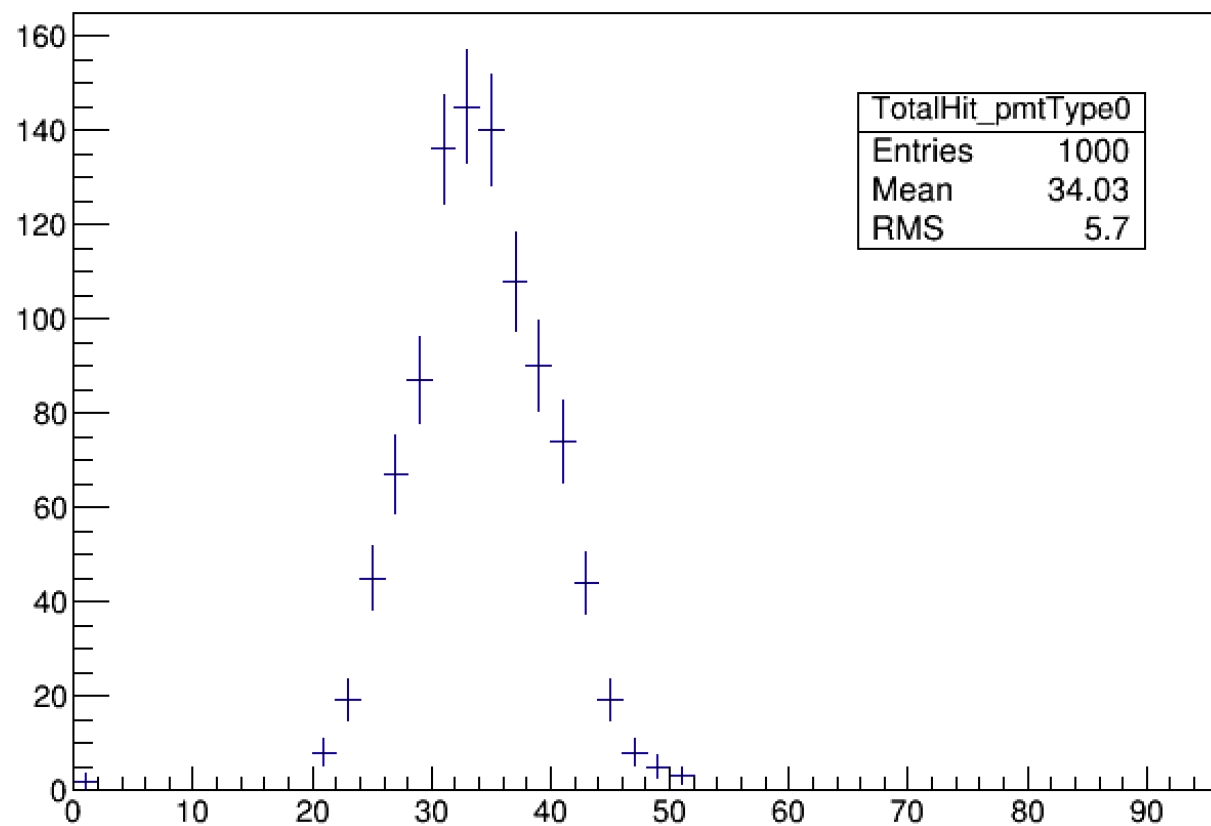
mPMT





## TotalHit (with a reflector)

B&L



mPMT

