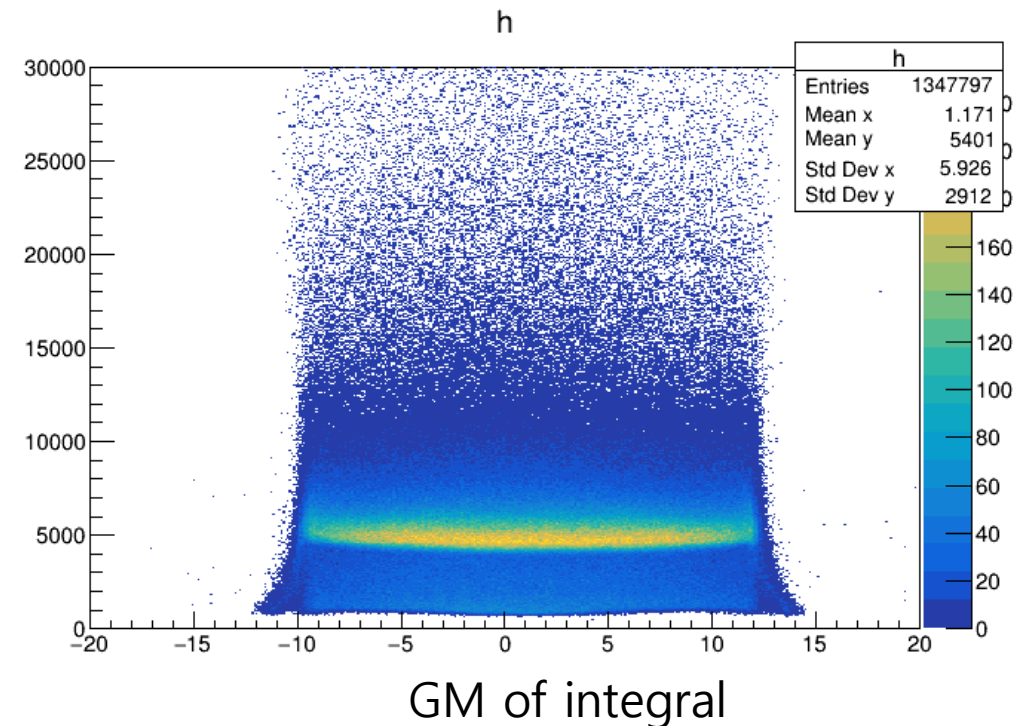
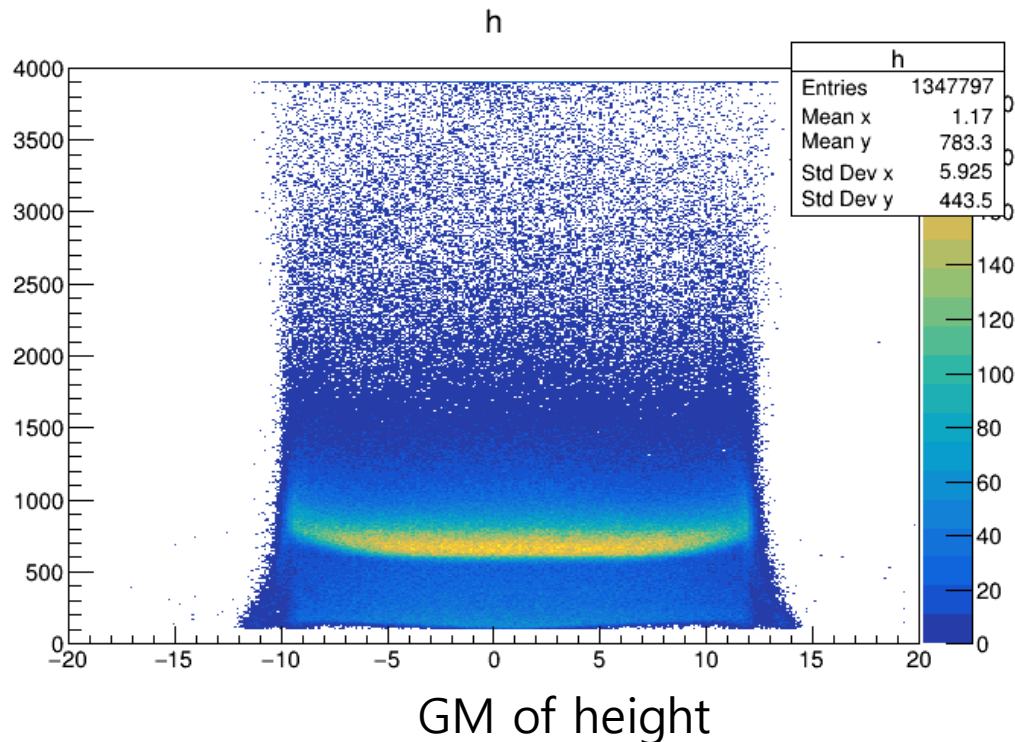


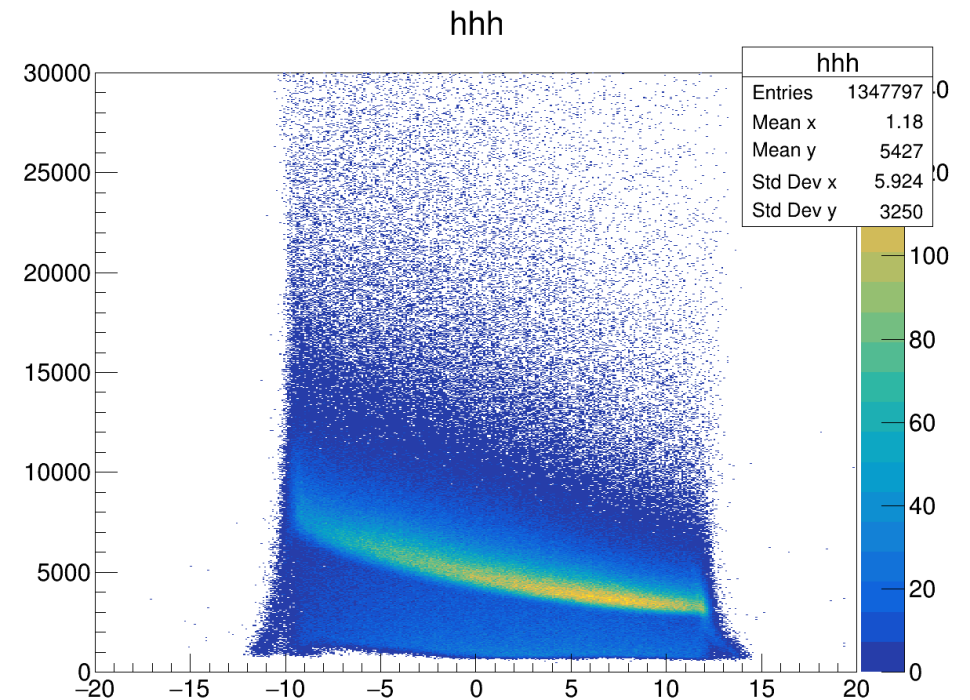
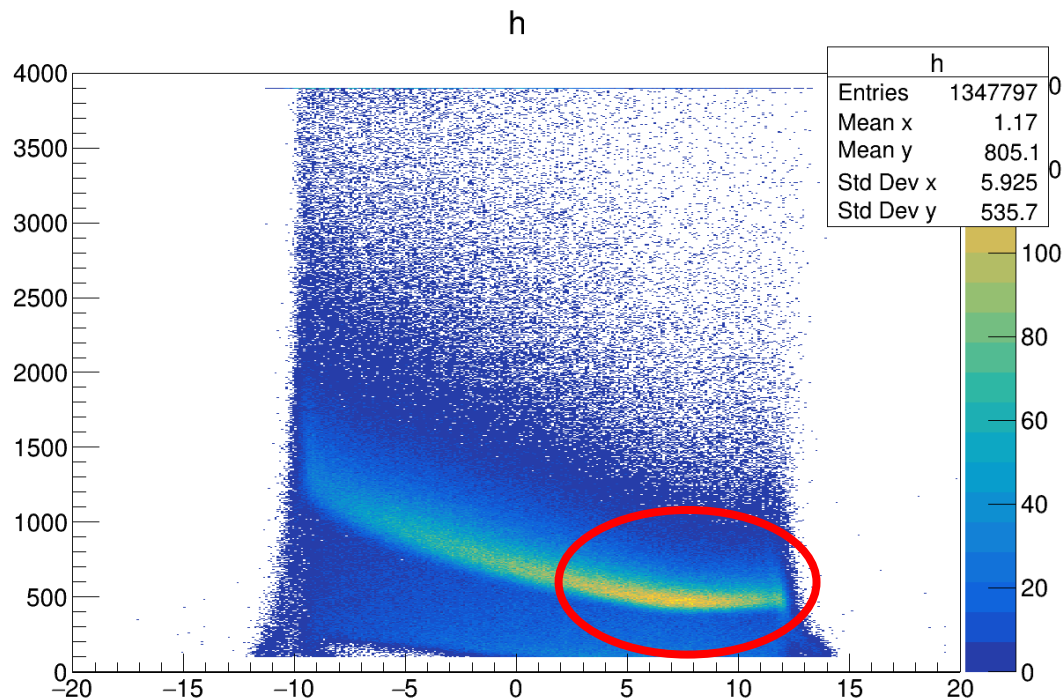
# Deposit energy position dependency

- Geometric mean of height shows position dependency.
- Geometric mean of integral shows position dependency but its degree is smaller than height one.



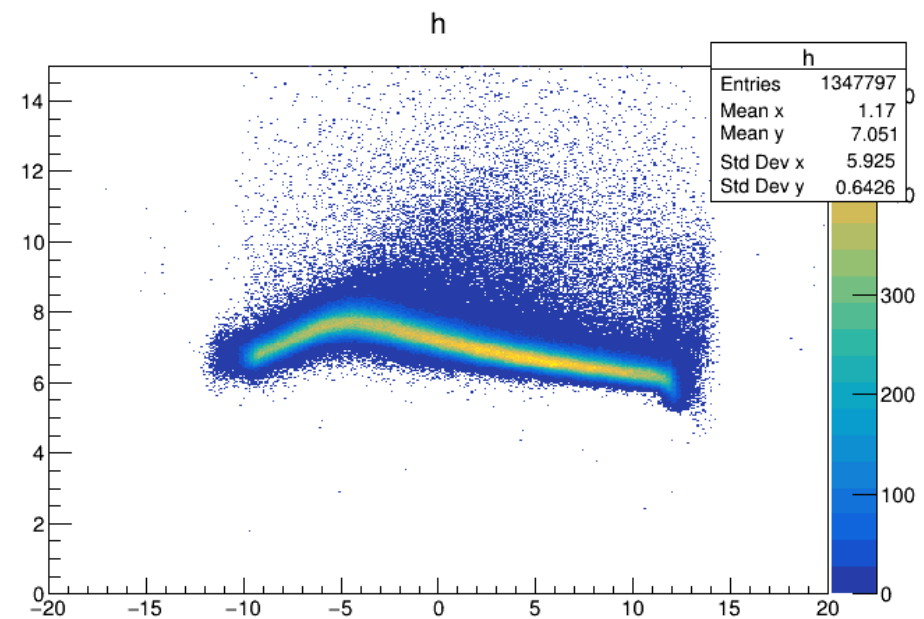
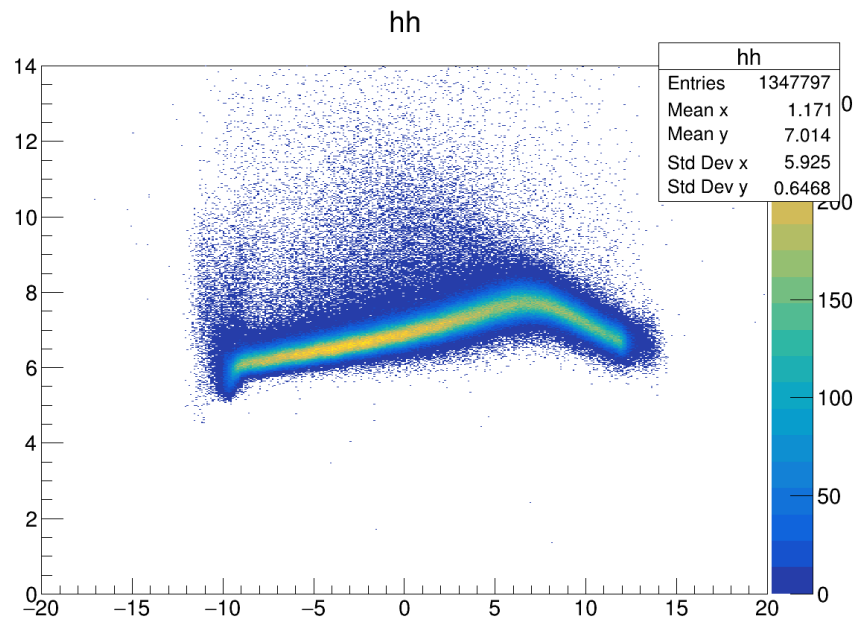
# Deposit energy position dependency

- For left PMT, height(left) and integral(right).
- Height clearly shows non-exponential behavior at the right side of bar. (integral also shows the behavior but it is smaller)



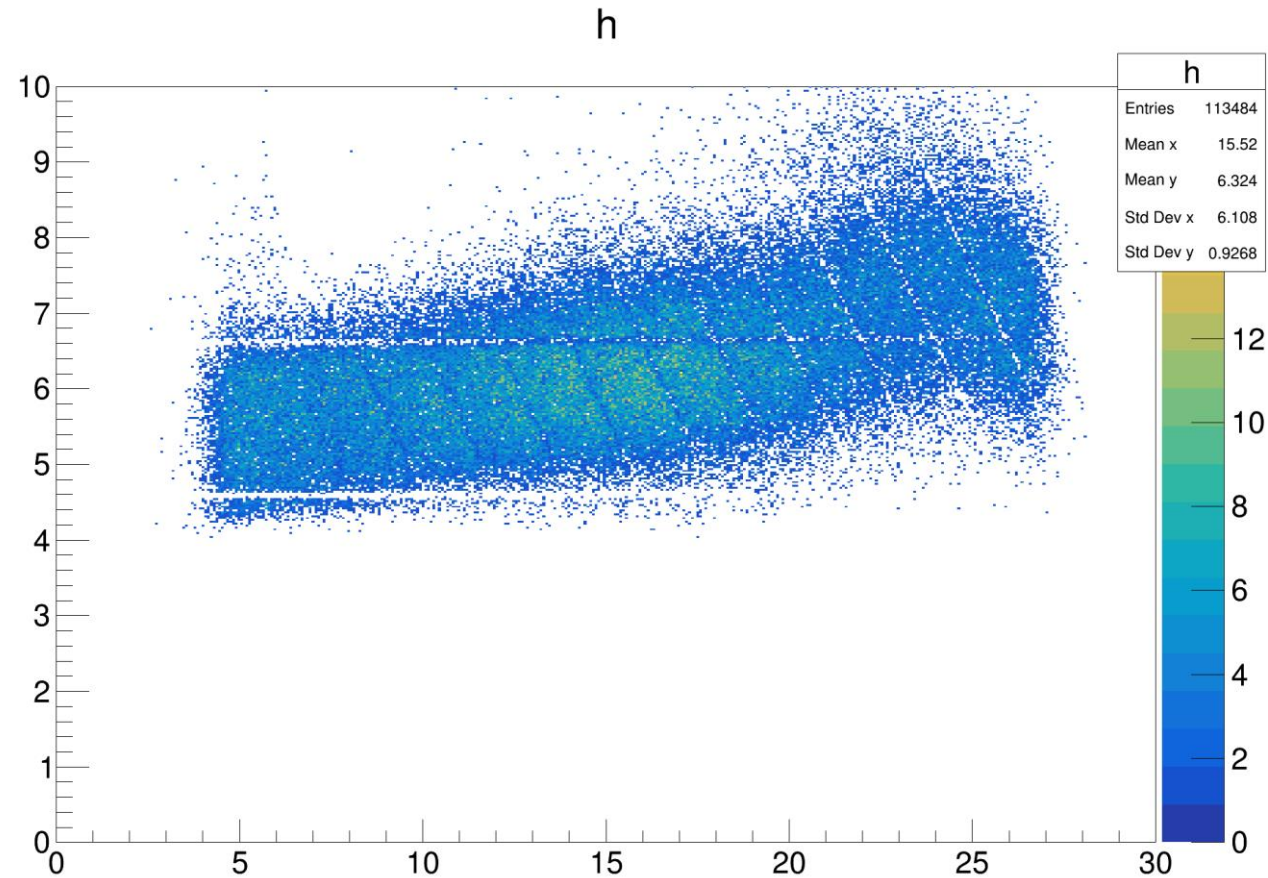
# Integral-height Ratio

- Left PMT (left), right PMT (right)
- Integral/height  $\rightarrow$  bigger  $\rightarrow$  pulse broadening ?



# Pulse broadening

- Rise time of left (max point –  $t_0$ )



# Possible consideration

- Reflected photon from the other side
- Before some point, pulse is broaden by some transversal reflection.
- After the point, pulse is re-sharpened because of domination of right side reflection.

