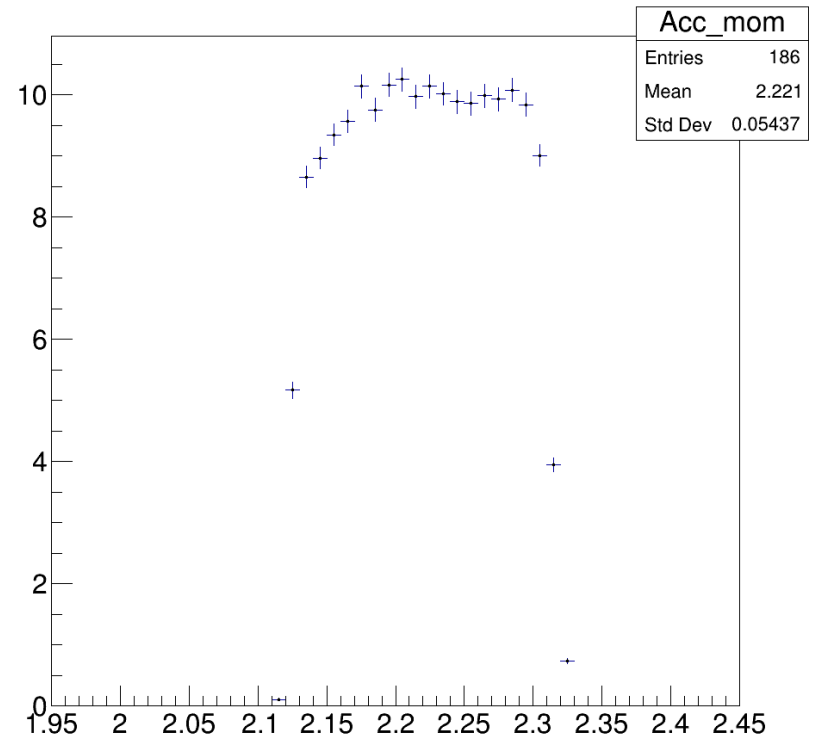
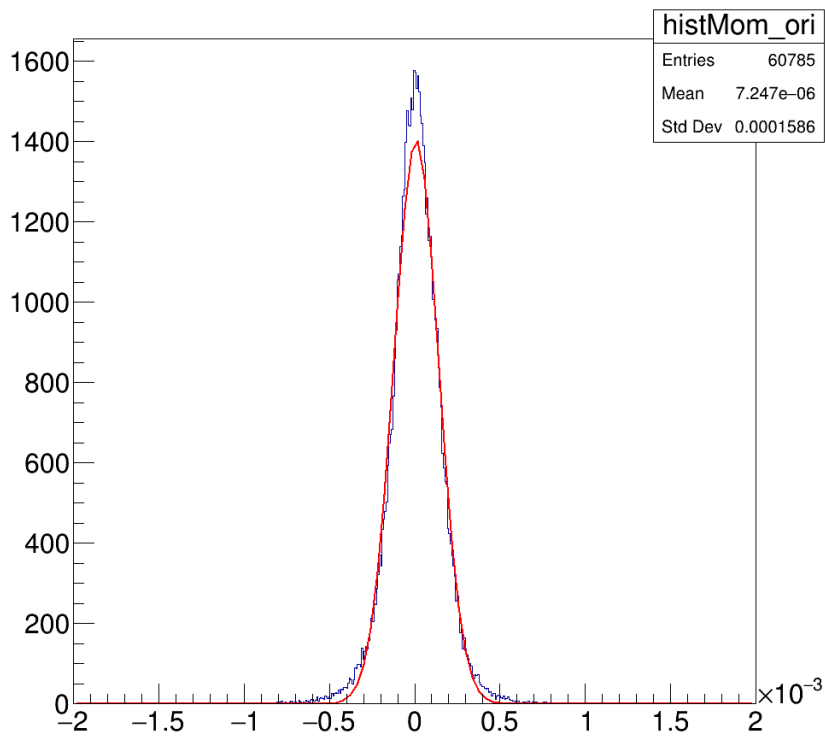


scan

- Now, Q1 -0.062 and Q2 0.019 is best in nnL setting.
- The dependence of Q1, Q2 collimator is examined.

Q1 -0.062 Q2 0.019

Q1 col15 Q2 col30

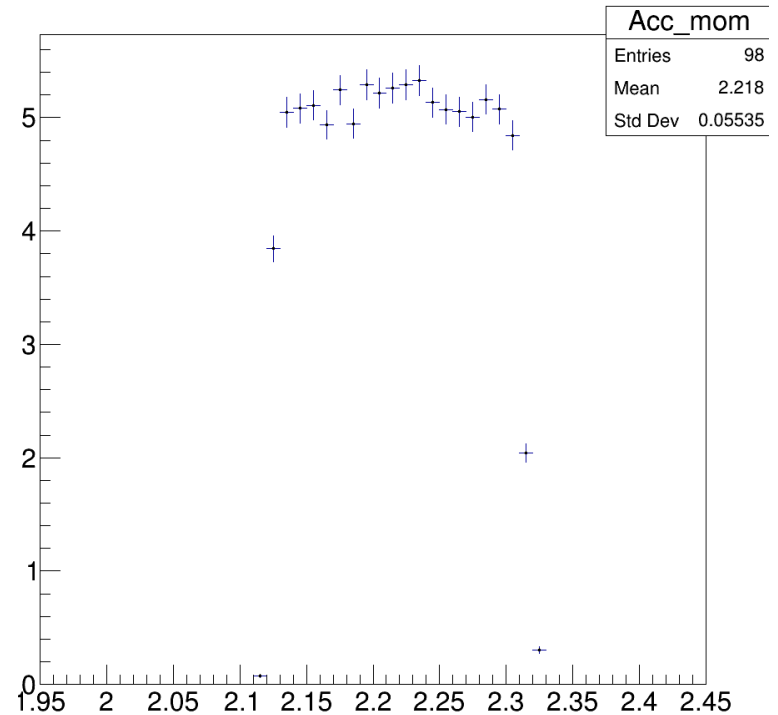
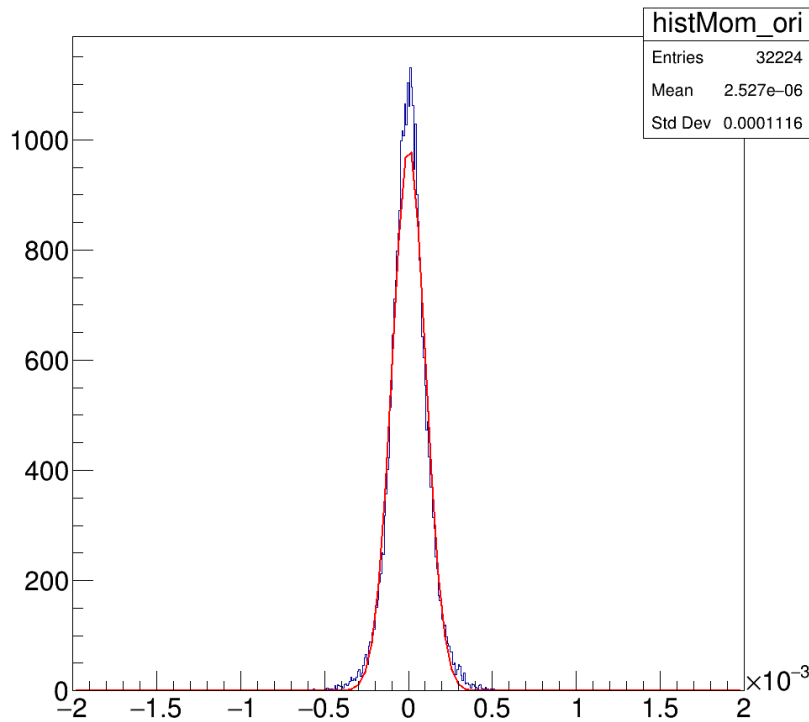


$$\sigma = 1.339 * 10^{-4}$$

Q1 -0.062 Q2 0.019

Q1 col10 Q2 col15

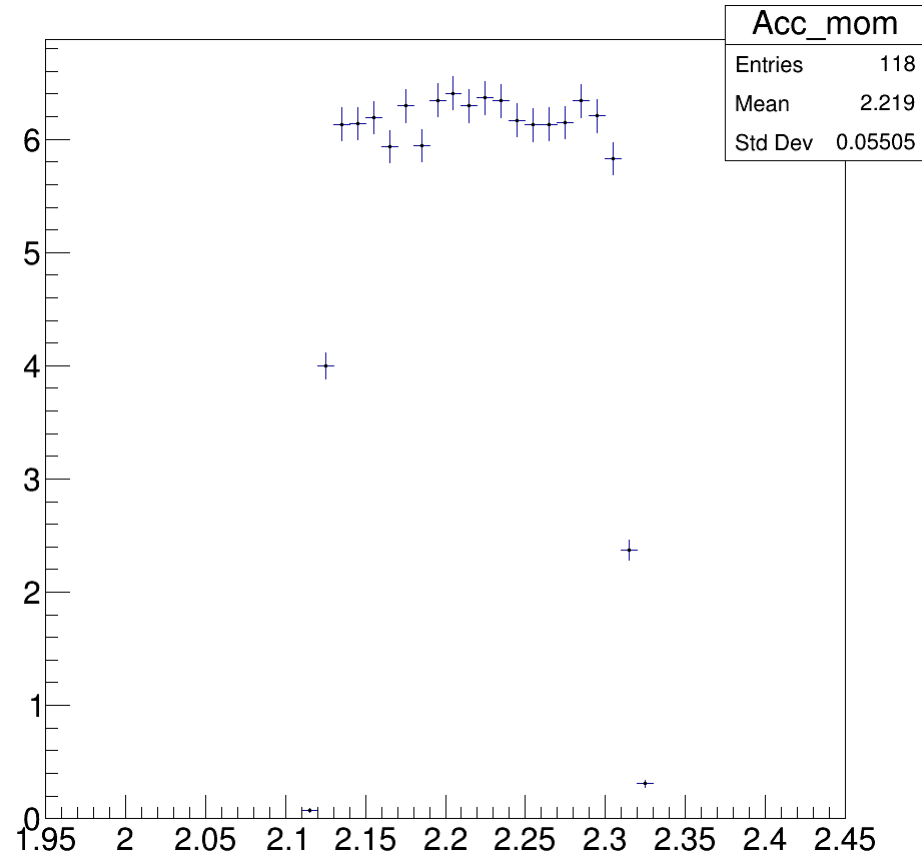
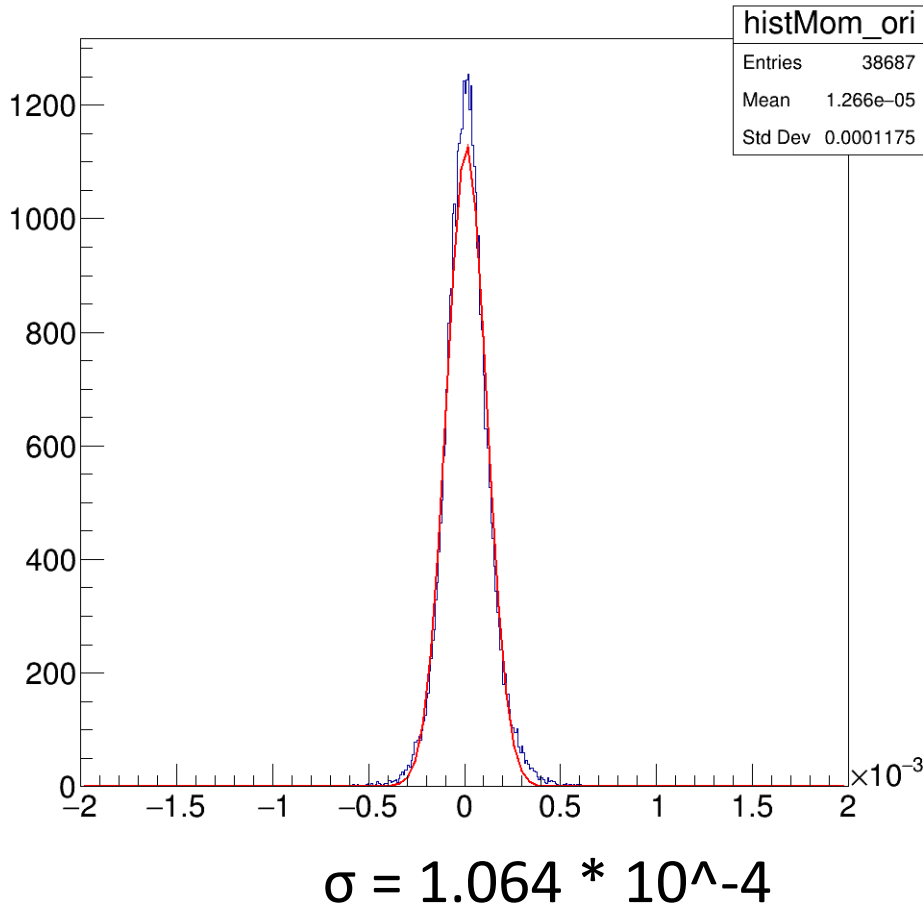
Q1:-0.062000 Q2:0.019000 Q3:0.017565



$$\sigma = 1.009 * 10^{-4}$$

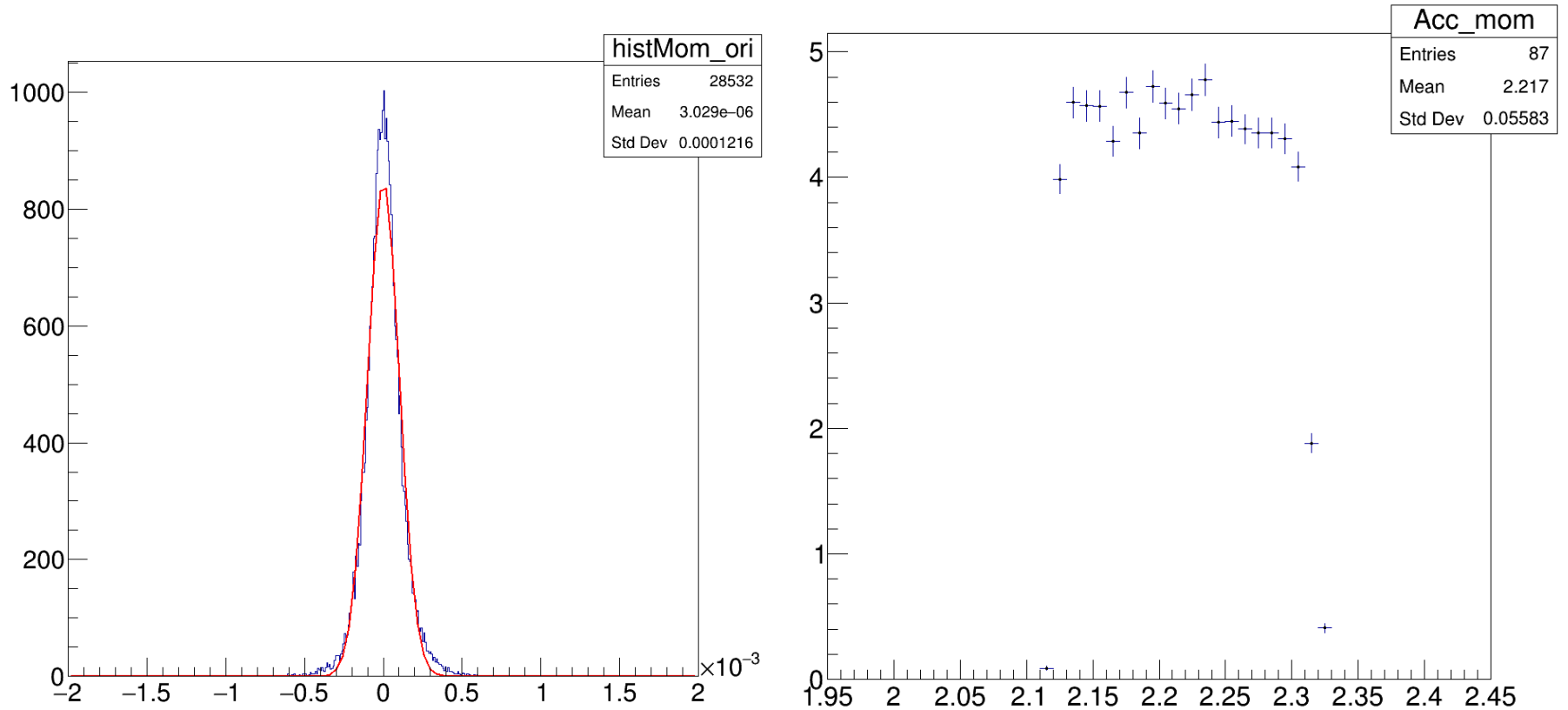
Q1 -0.062 Q2 0.019

Q1 col10 Q2 col18



Q1 -0.062 Q2 0.019

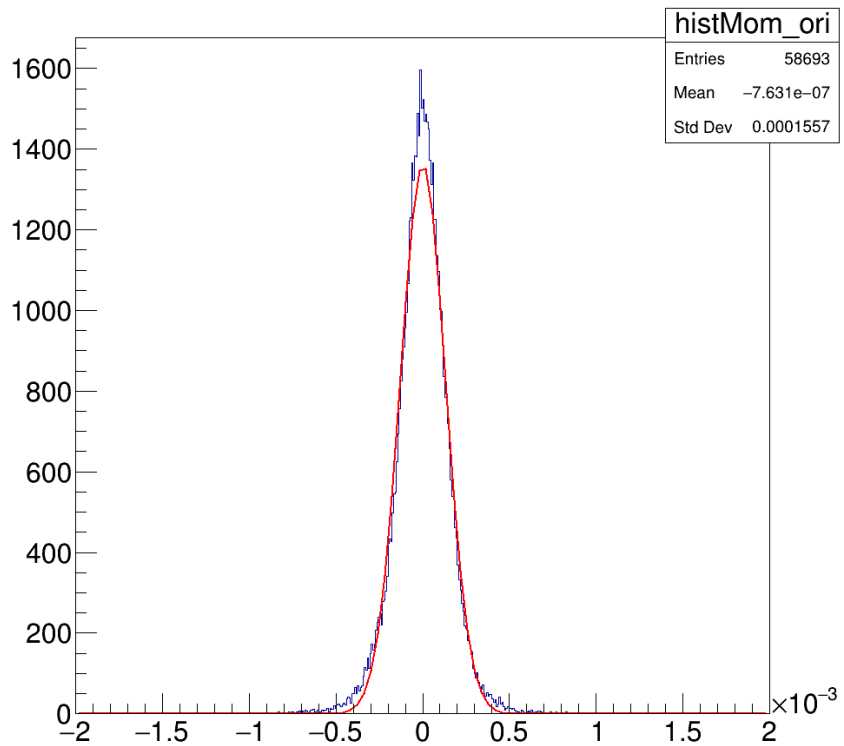
Q1 col12 Q2 col12



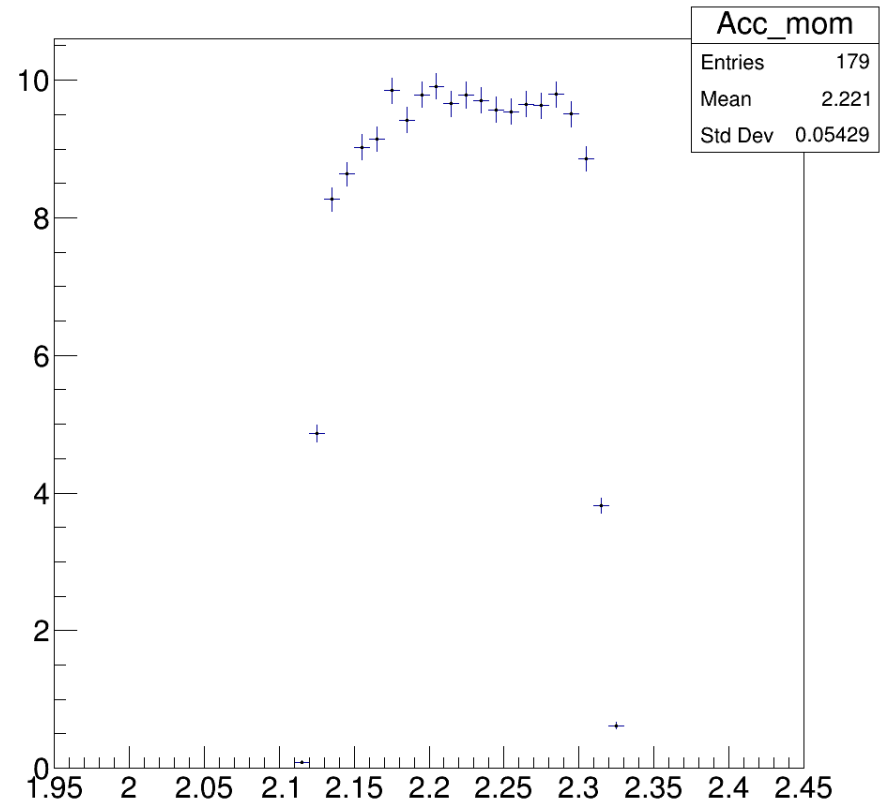
$$\sigma = 1.03907 * 10^{-4}$$

Q1 -0.062 Q2 0.019

Q1 col12 Q2 col30

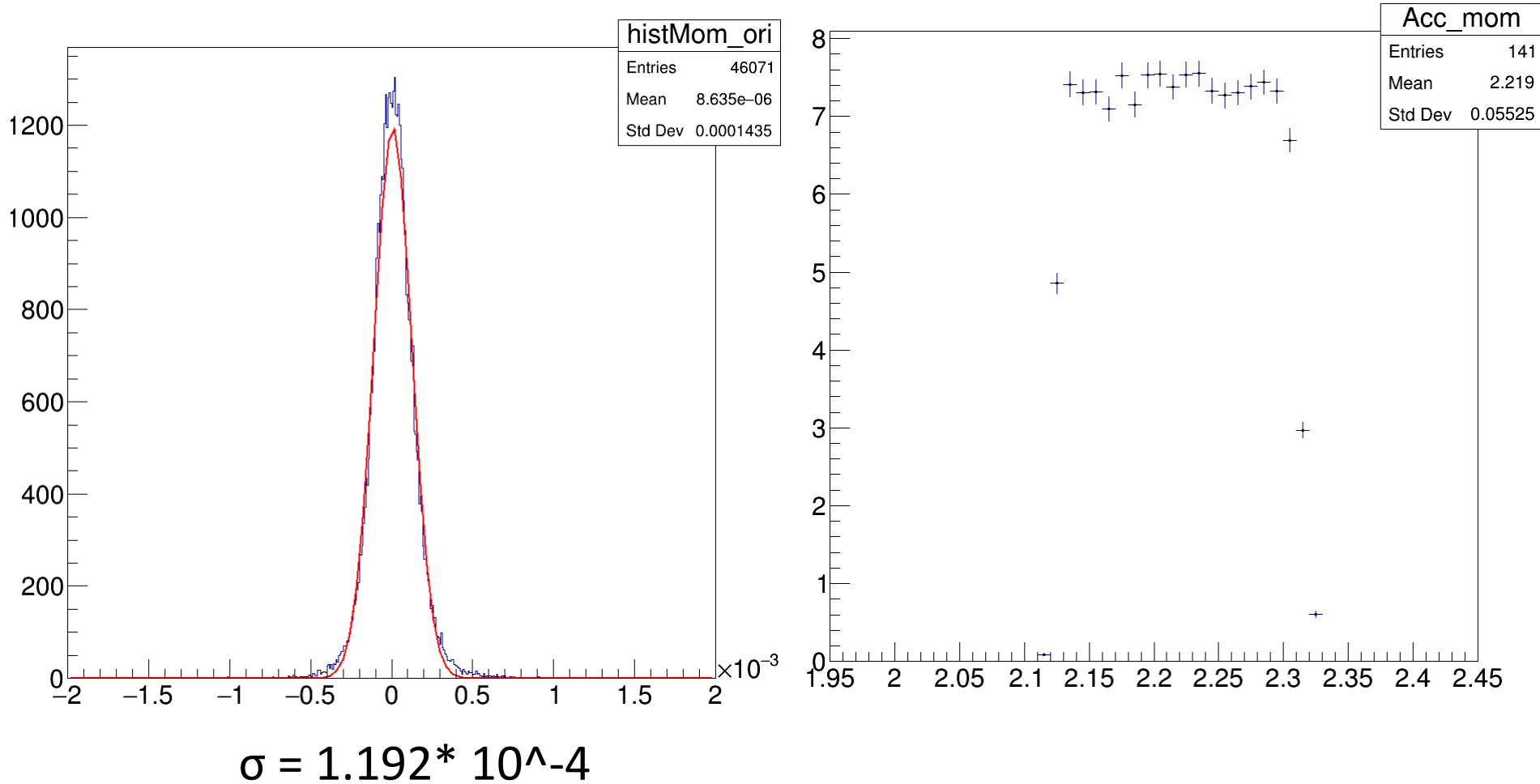


$$\sigma = 1.330 * 10^{-4}$$



Q1 -0.062 Q2 0.019

Q1 col12 Q2 col18



Q1 -0.062 Q2 0.019

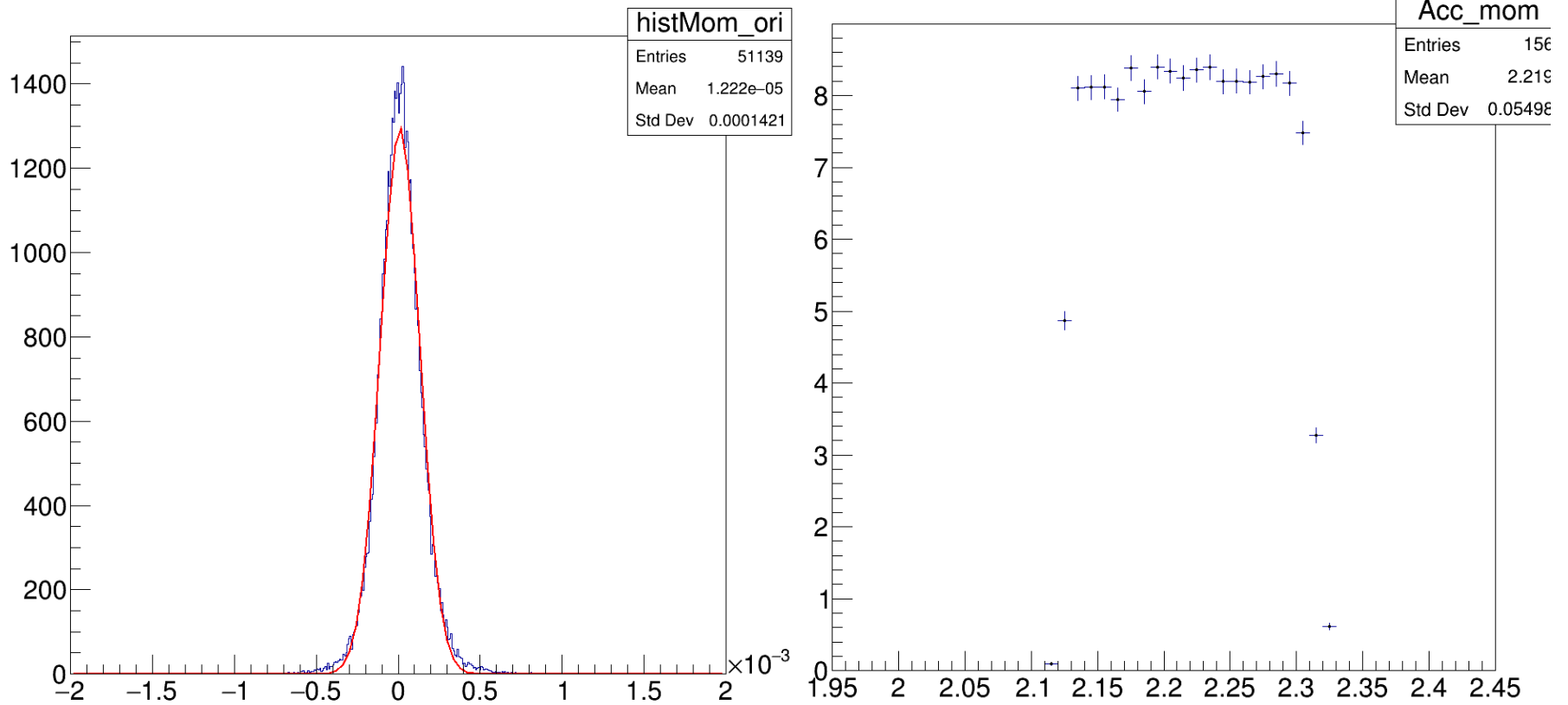
Q1 col12 Q2 col18

$$\sigma = 1.192 * 10^{-4}$$

Q1 -0.062 Q2 0.019

Q1 col12 Q2 col20

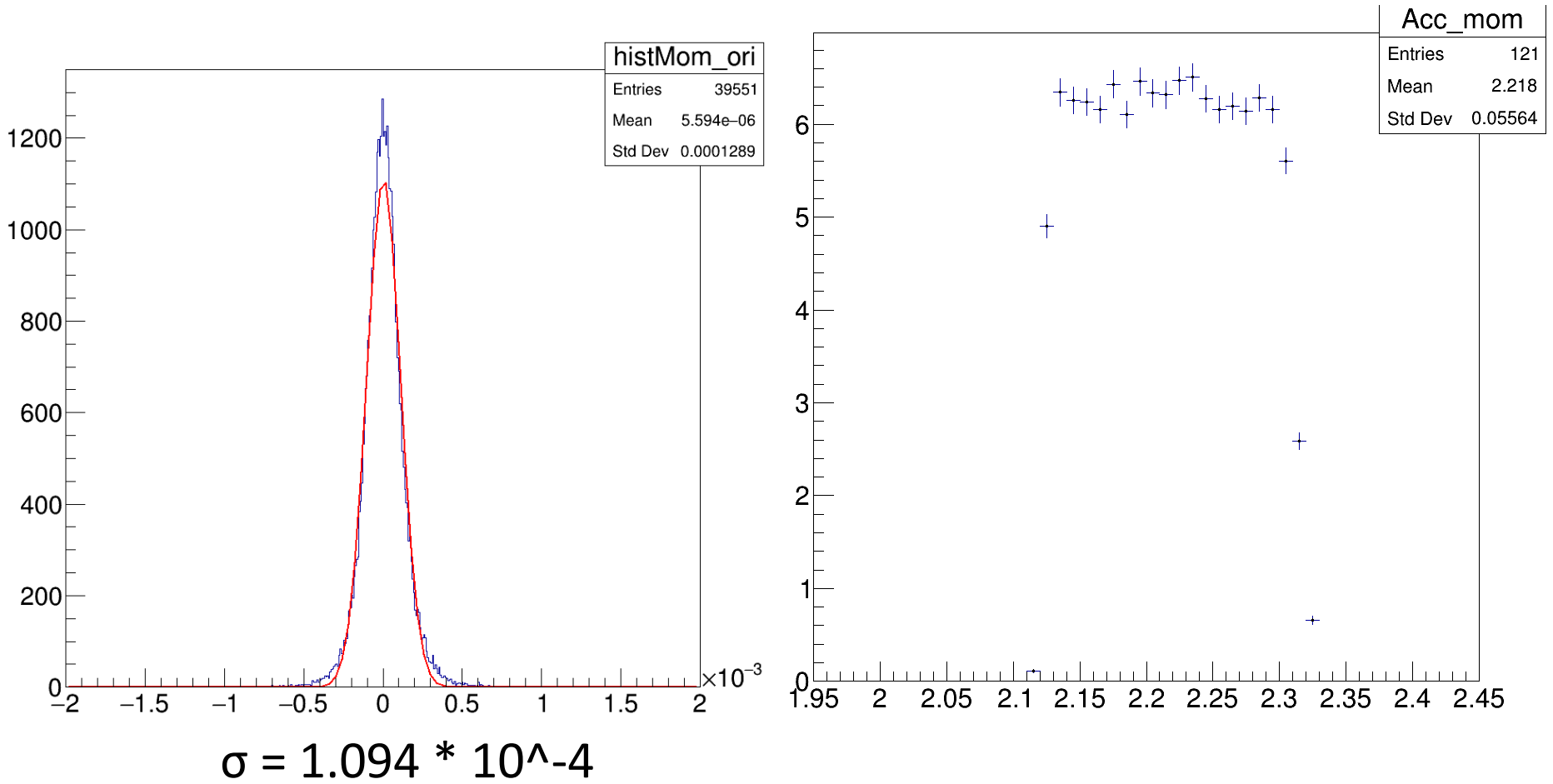
Q1:-0.062000 Q2:0.019000 Q3:0.017565



$\sigma = 1.226 * 10^{-4}$

Q1 -0.062 Q2 0.019

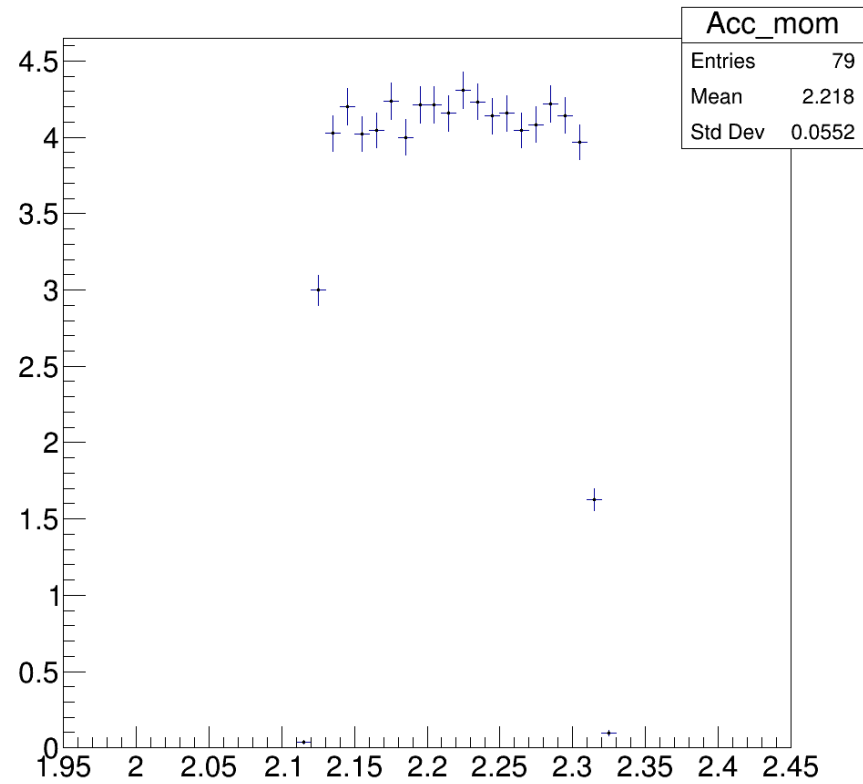
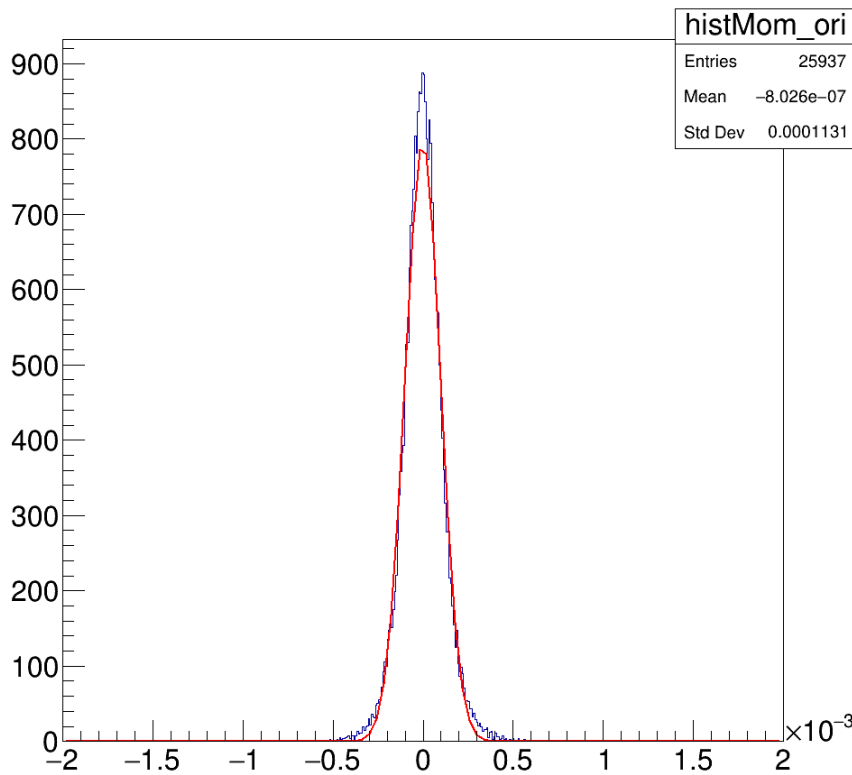
Q1 col15 Q2 col15



Q1 -0.062 Q2 0.019

Q1 col8 Q2 col15

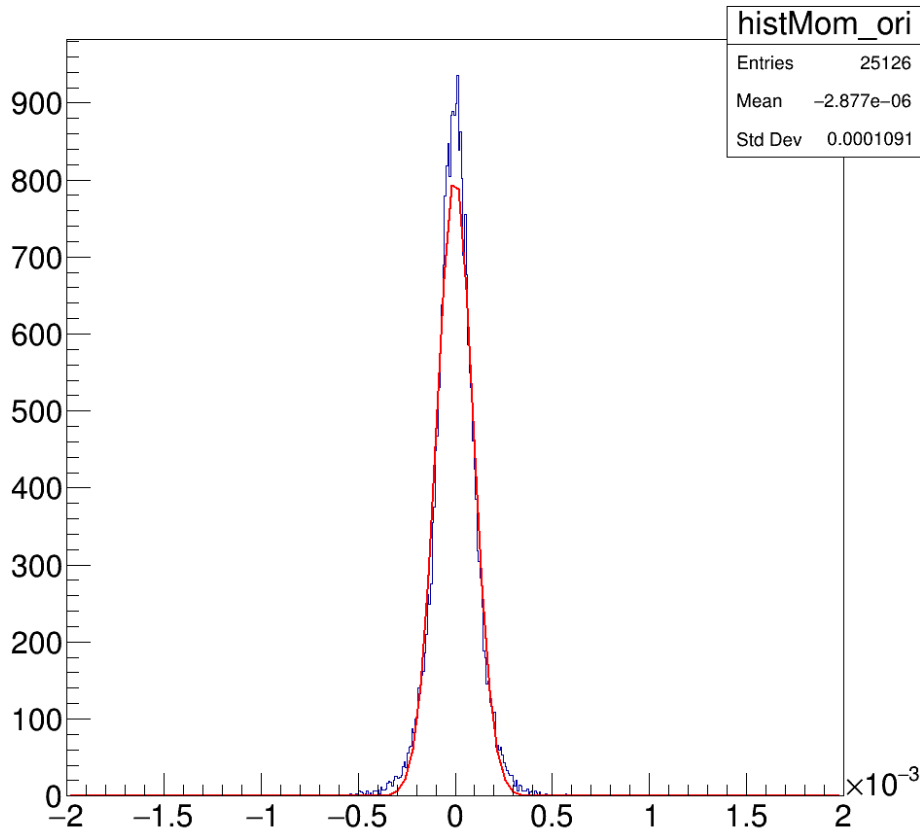
Q1:-0.062000 Q2:0.019000 Q3:0.017565



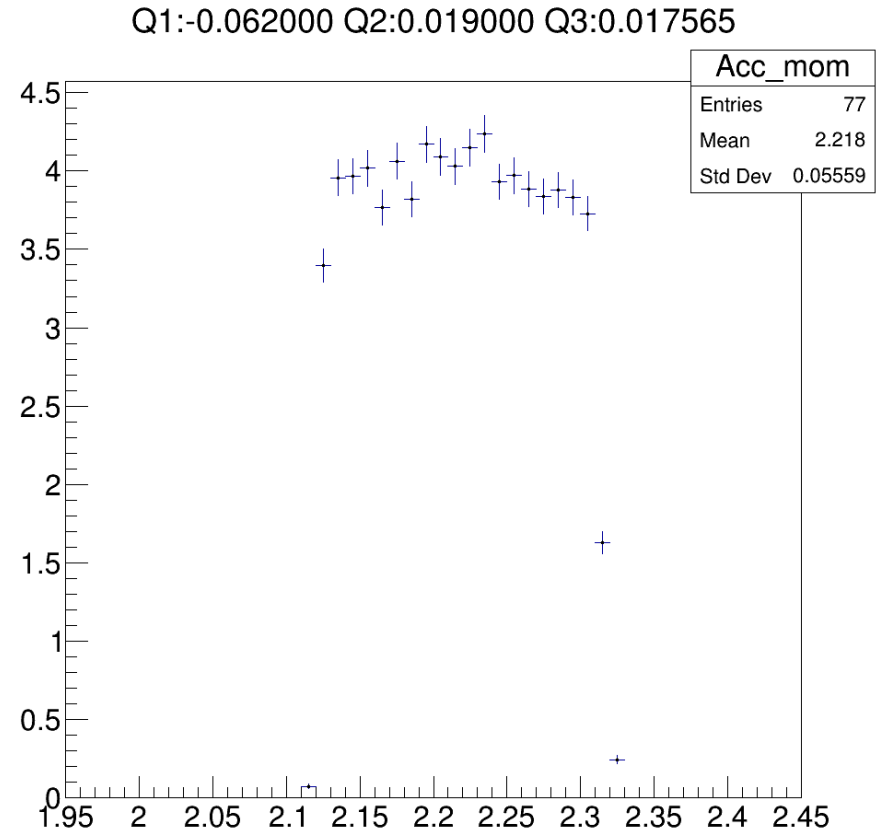
$$\sigma = 1.0087 * 10^{-4}$$

Q1 -0.062 Q2 0.019

Q1 col10 Q2 col12

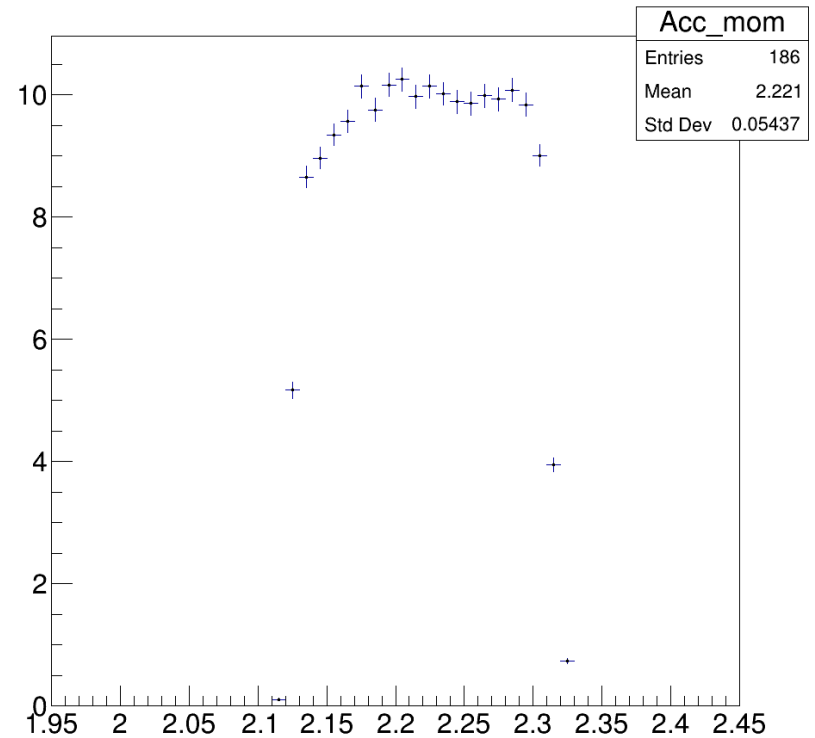
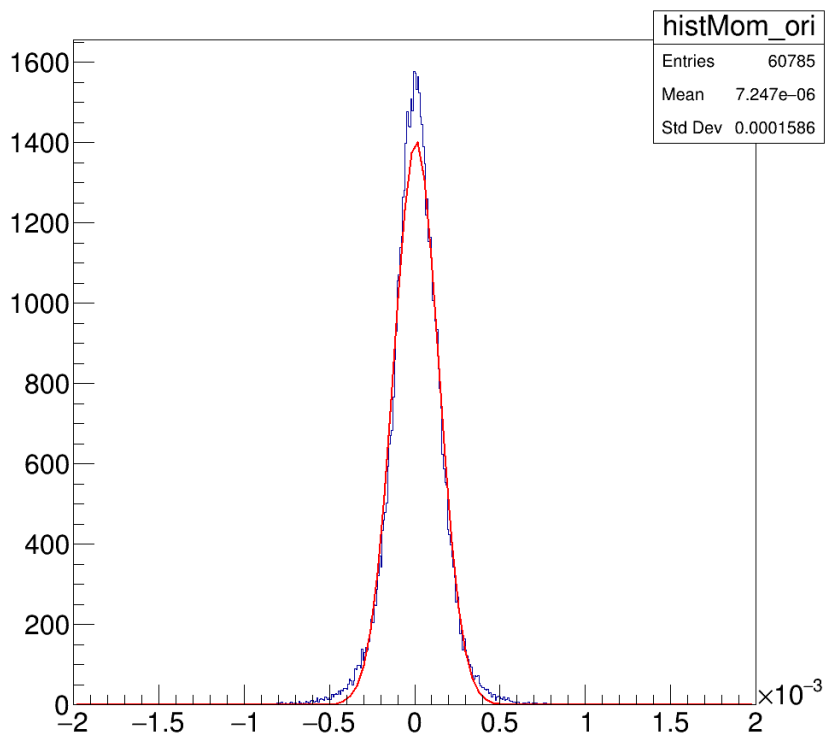


$\sigma = 9.61 * 10^{-5}$



Q1 -0.062 Q2 0.019

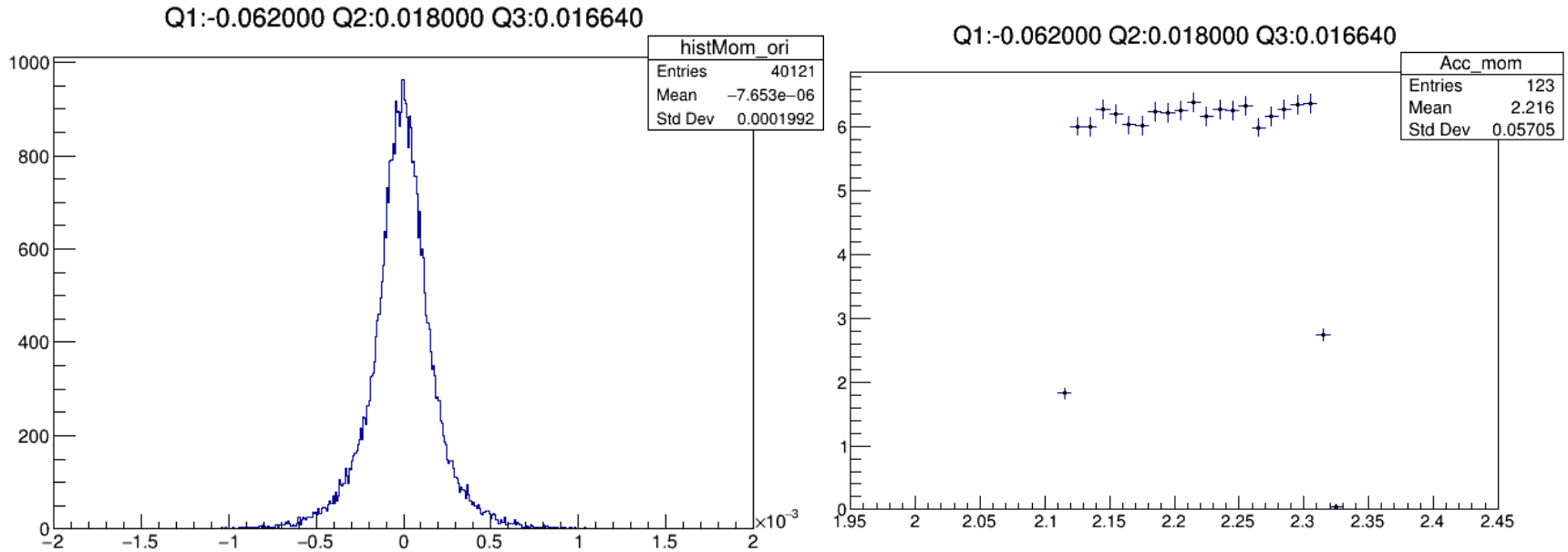
Q1 col15 Q2 col30 (no collimator)



FWHM 2.56×10^{-4}

Q1 -0.062 Q2 0.019

Q1 col12 Q2 col18



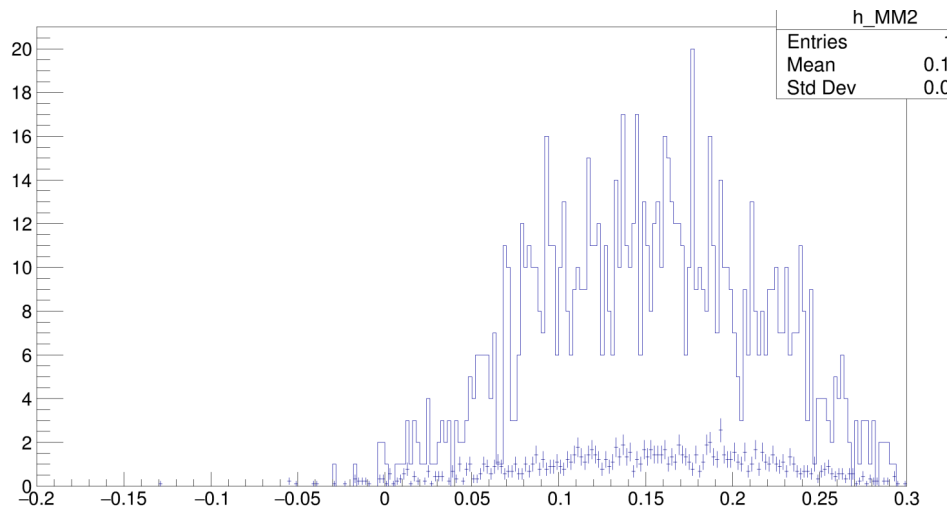
FWHM 2.08×10^{-4}

the result is close to the NIM

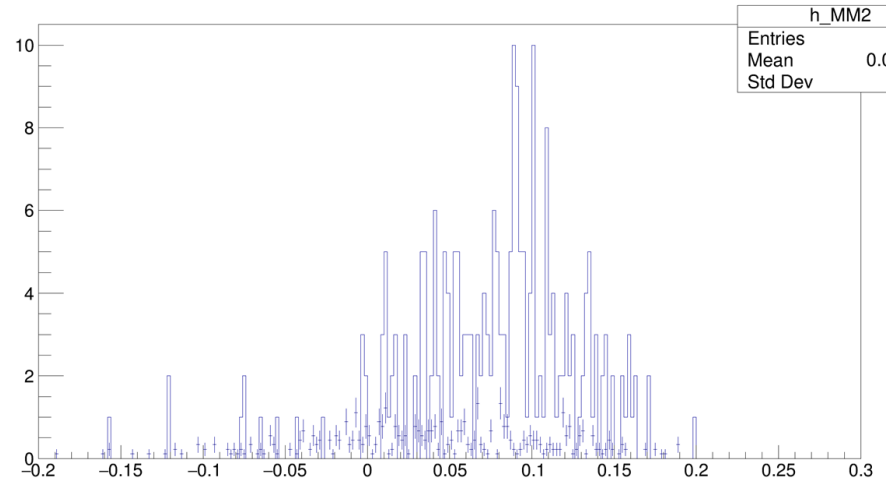
BG estimation

BG estimation

Al data(h2), Al kinematics



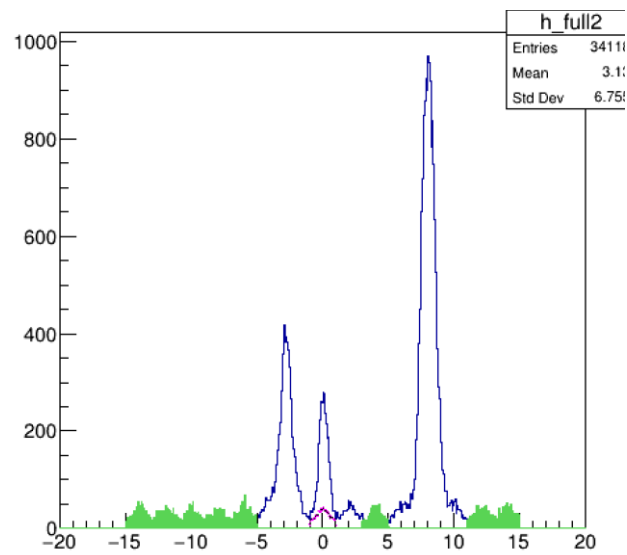
Al data(h22), Al kinematics



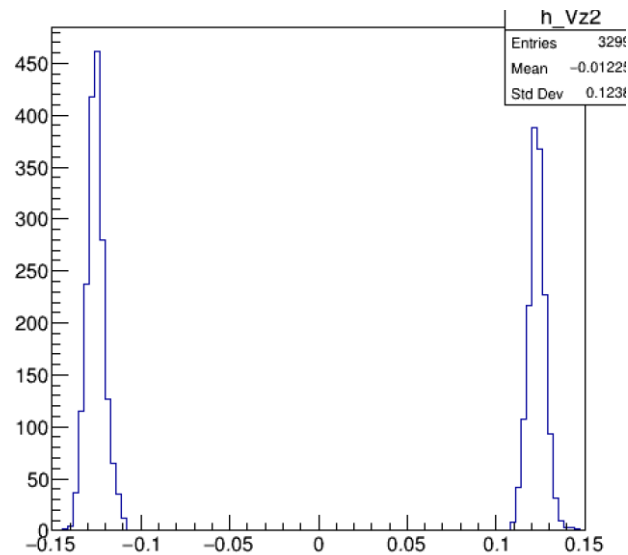
Note that AL quasi free shape are difference between H kinematics and T kinematics due to the acceptance difference.

BG estimation

AI data(h2, h22, T2), AI kinematics



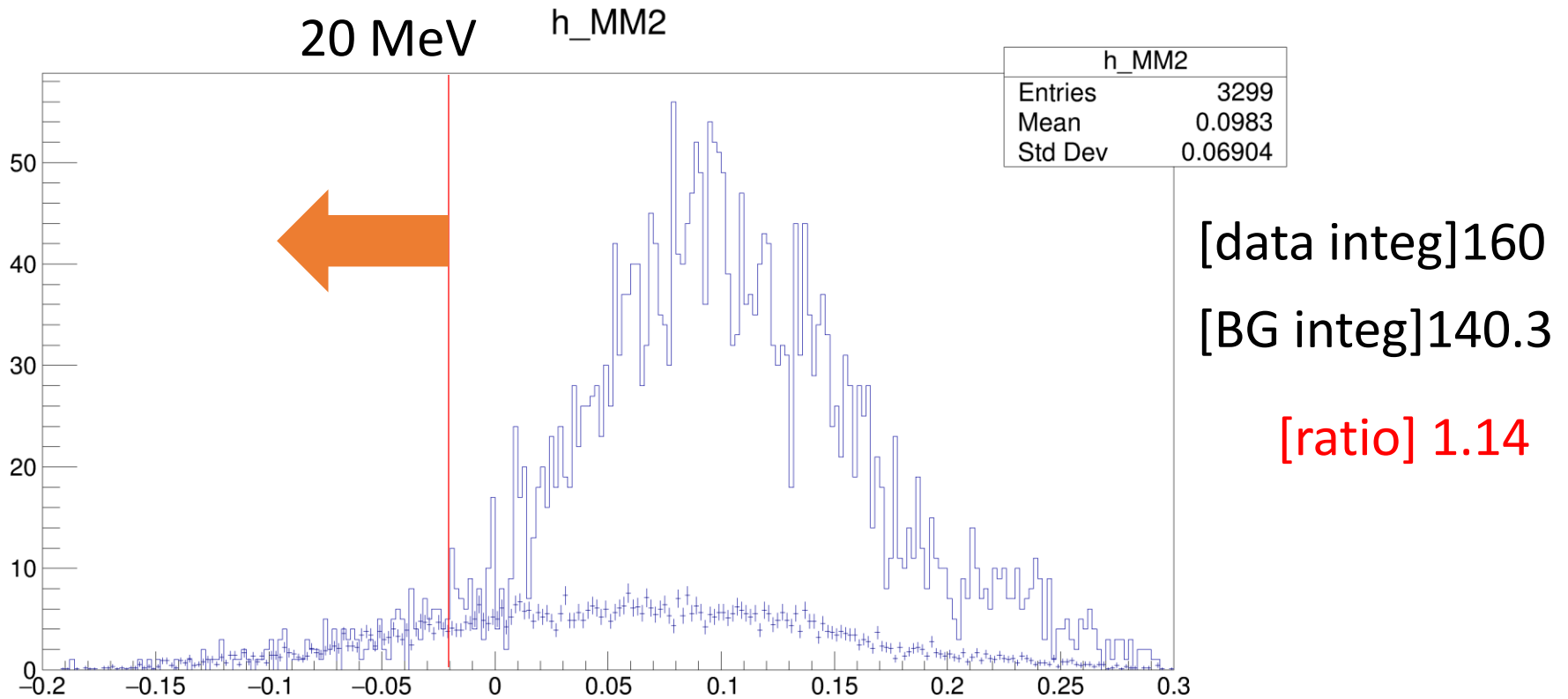
ctime



VZ

BG estimation

Al data(h2, h22, T2), Al kinematics



BG estimation

Al data(h2, h22, T2), Al kinematics

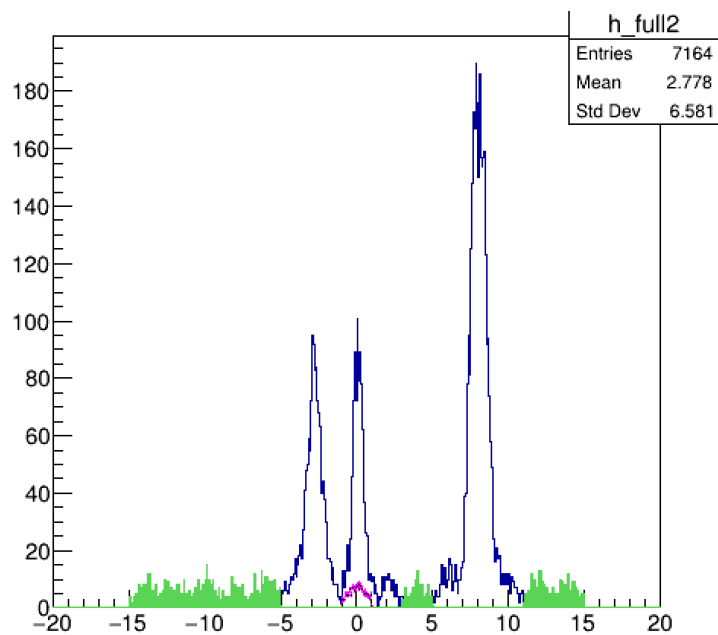
Changing the integral region in order to reduce bias.

	data integral	BG integral	ratio
< 0 MeV	236	188.4	1.252
< 10 MeV	194	162.3	1.195
< 20 MeV	160	140.3	1.140
< 30 MeV	127	120.2	1.056
< 40 MeV	100	99.89	1.001
< 50 MeV	83	82.4	1.007

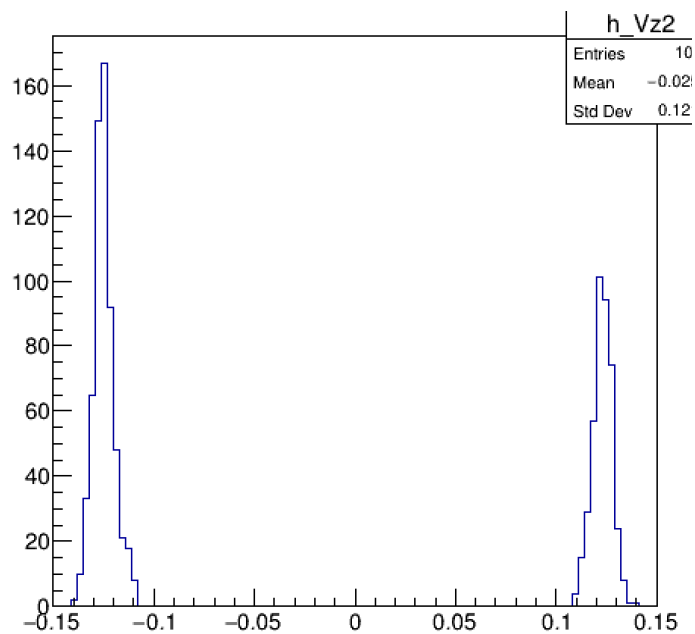
Side-band BG estimation seems to be good.

BG estimation

AI data(h2), AI kinematics



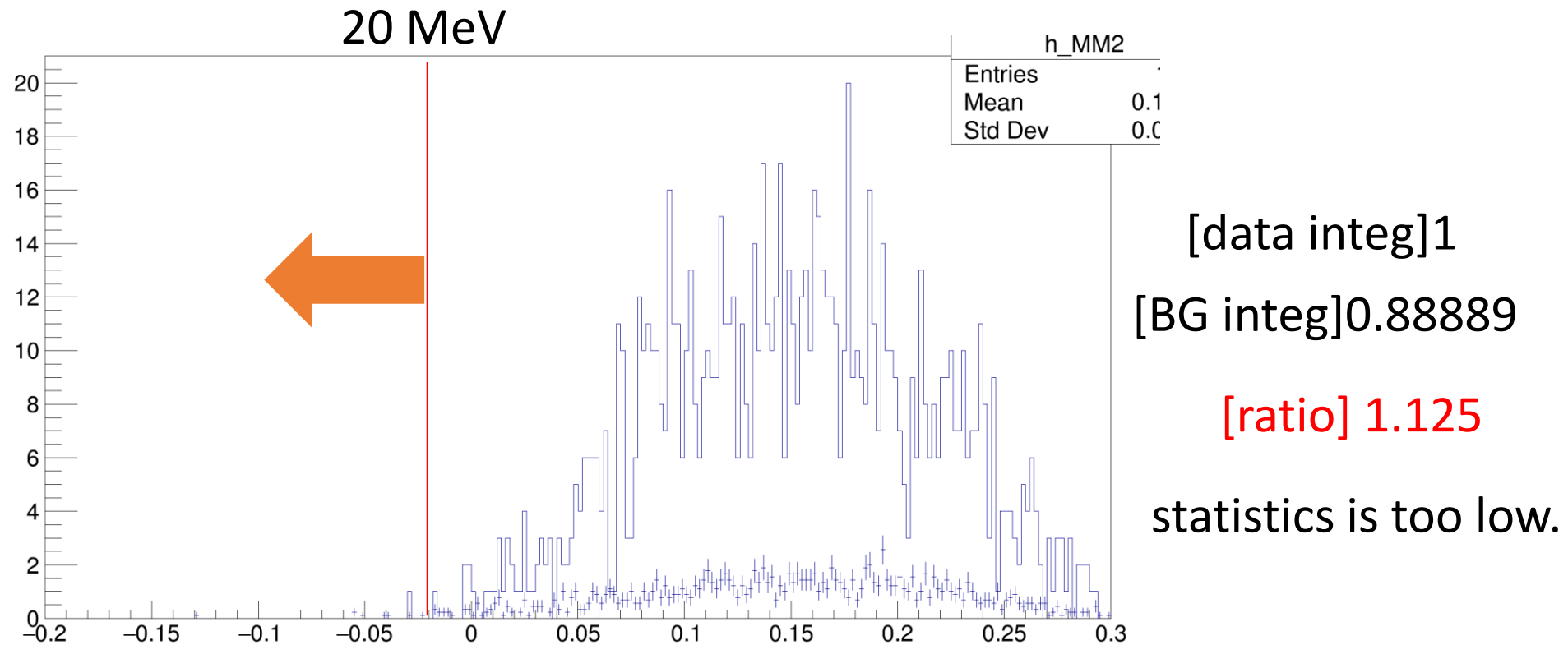
ctime



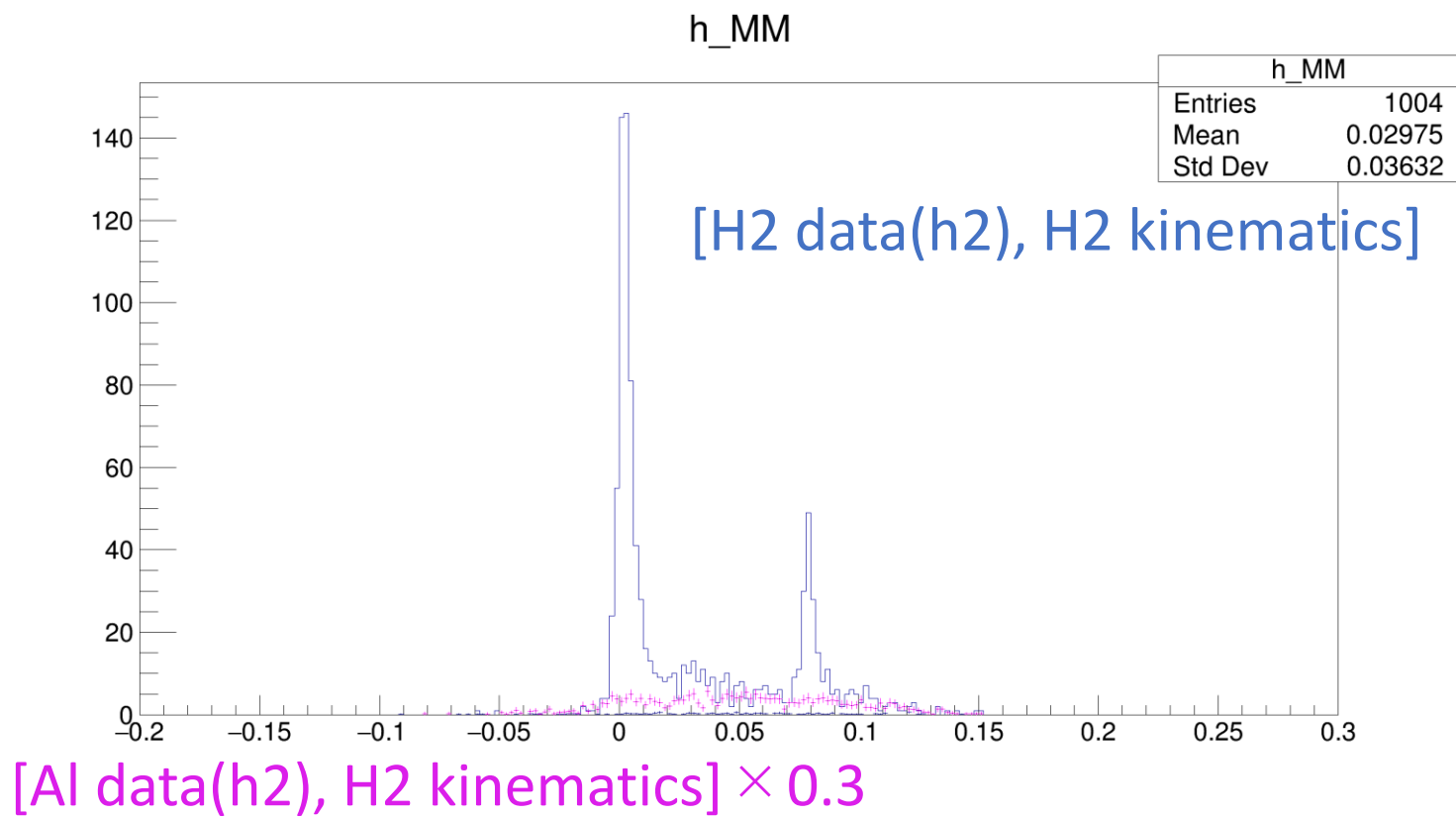
VZ

BG estimation

Al data(h2), Al kinematics

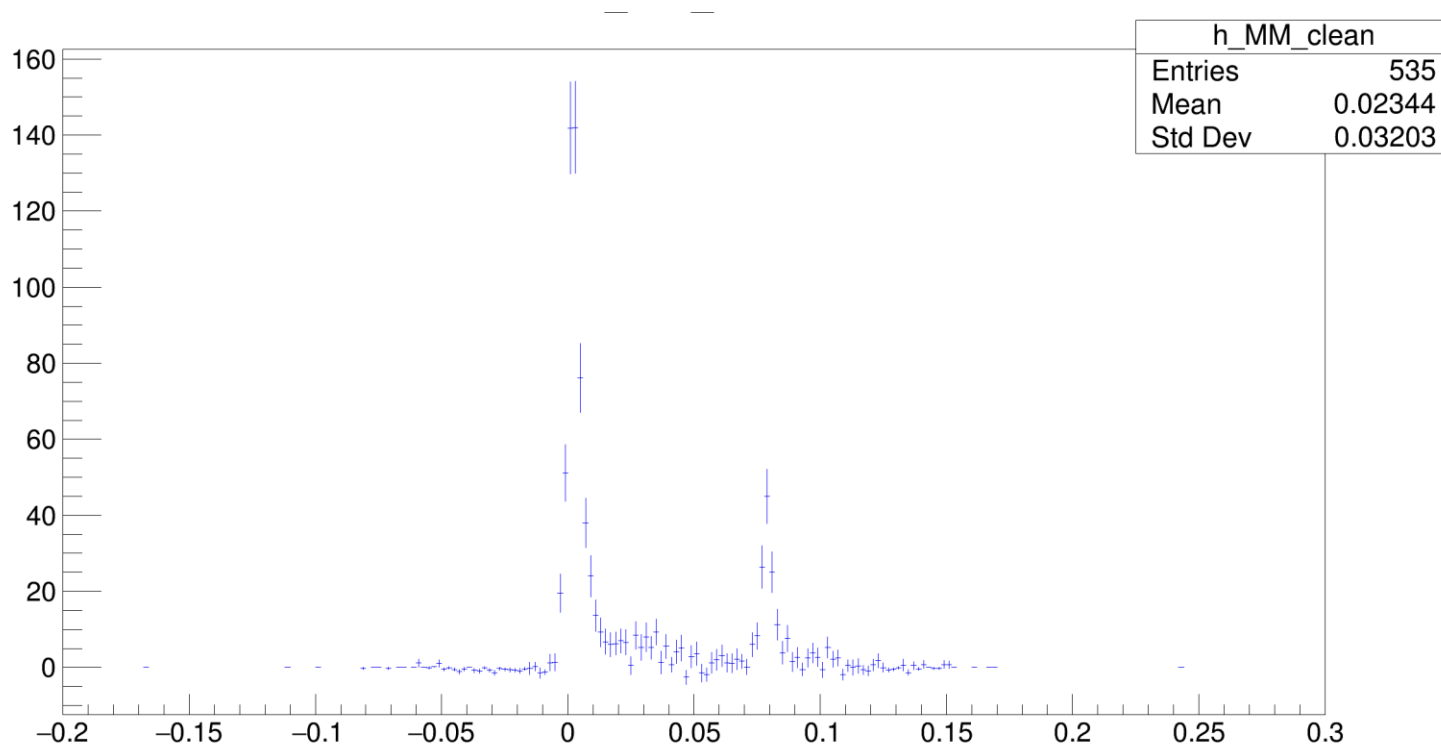


BG estimation



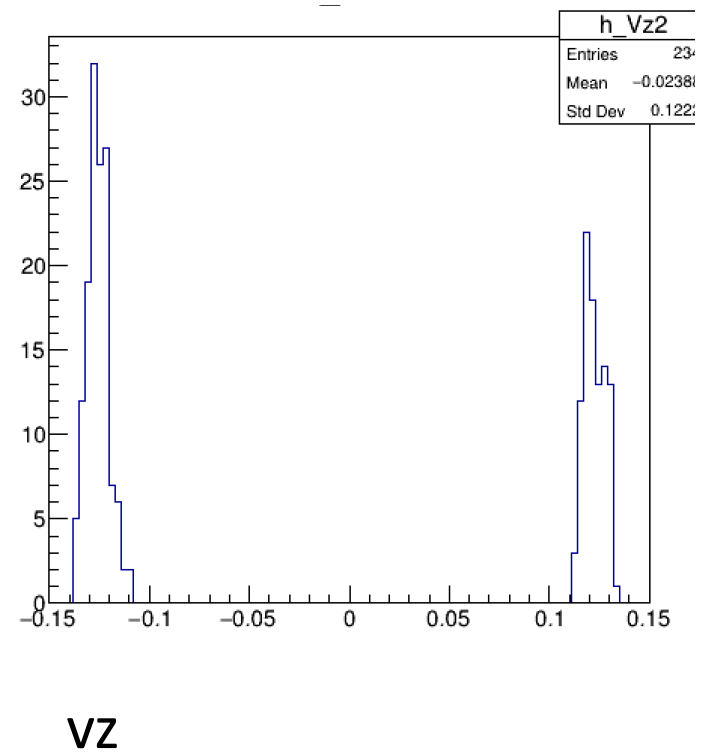
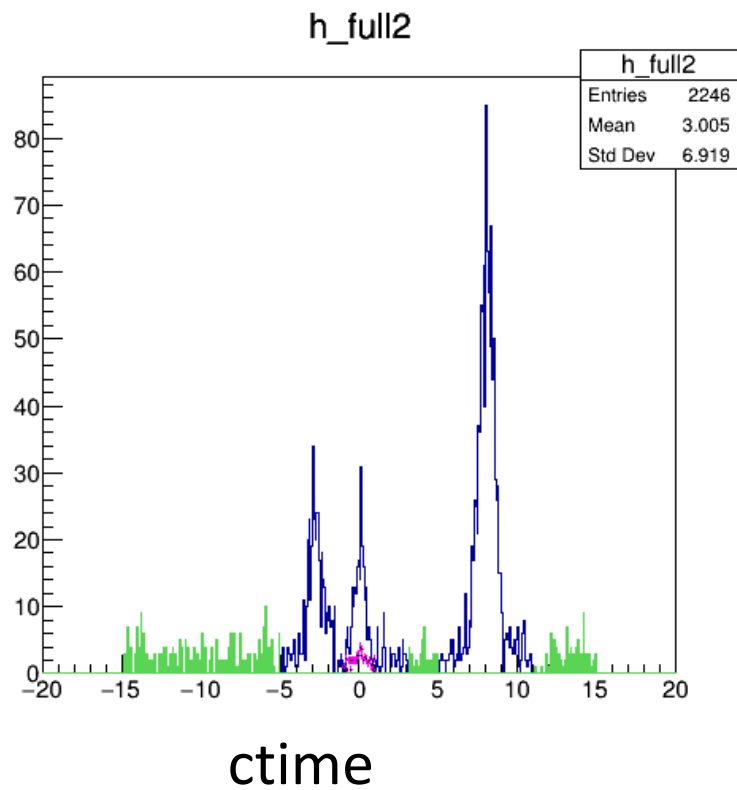
BG estimation

[H2 data(h2), H2 kinematics] - [AI data(h2), H2 kinematics] $\times 0.3$



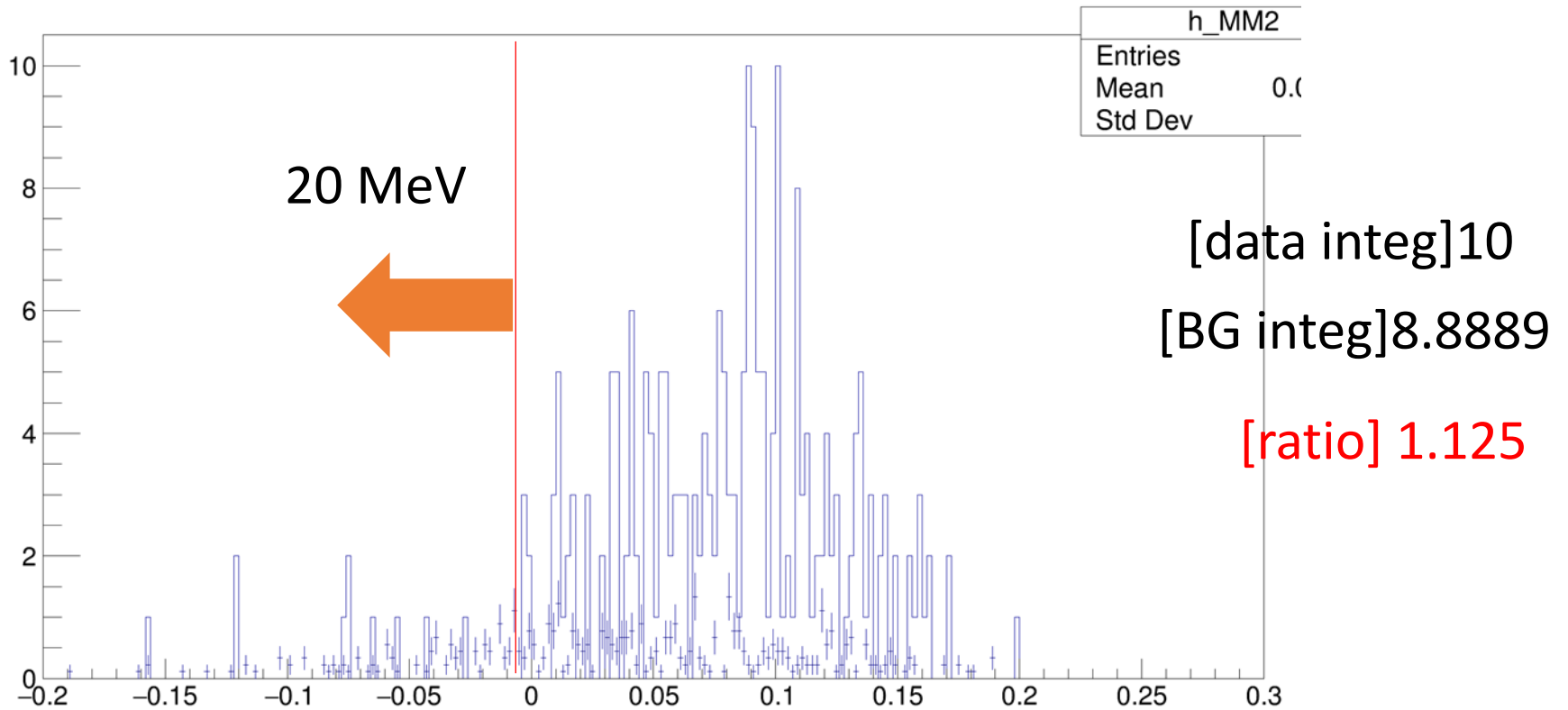
BG estimation

AI data(h22), AI kinematics



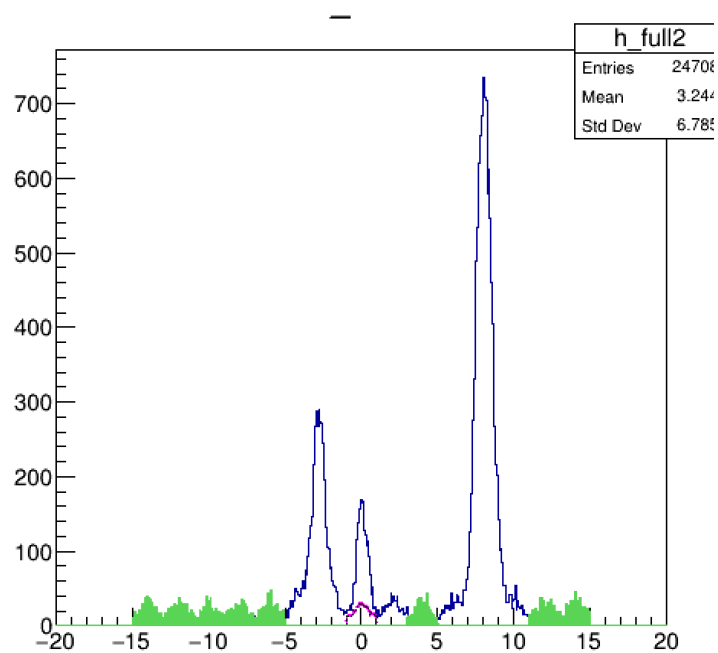
BG estimation

Al data(h22), Al kinematics

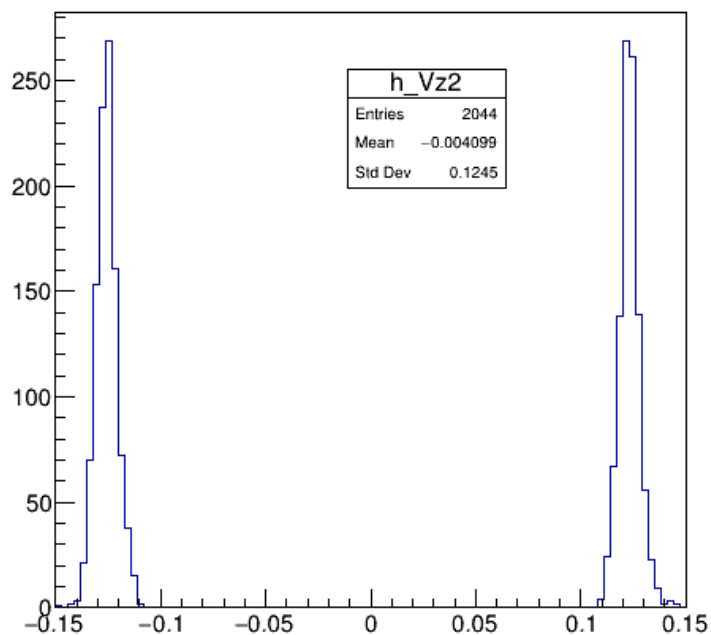


BG estimation

AI data(T2), AI kinematics



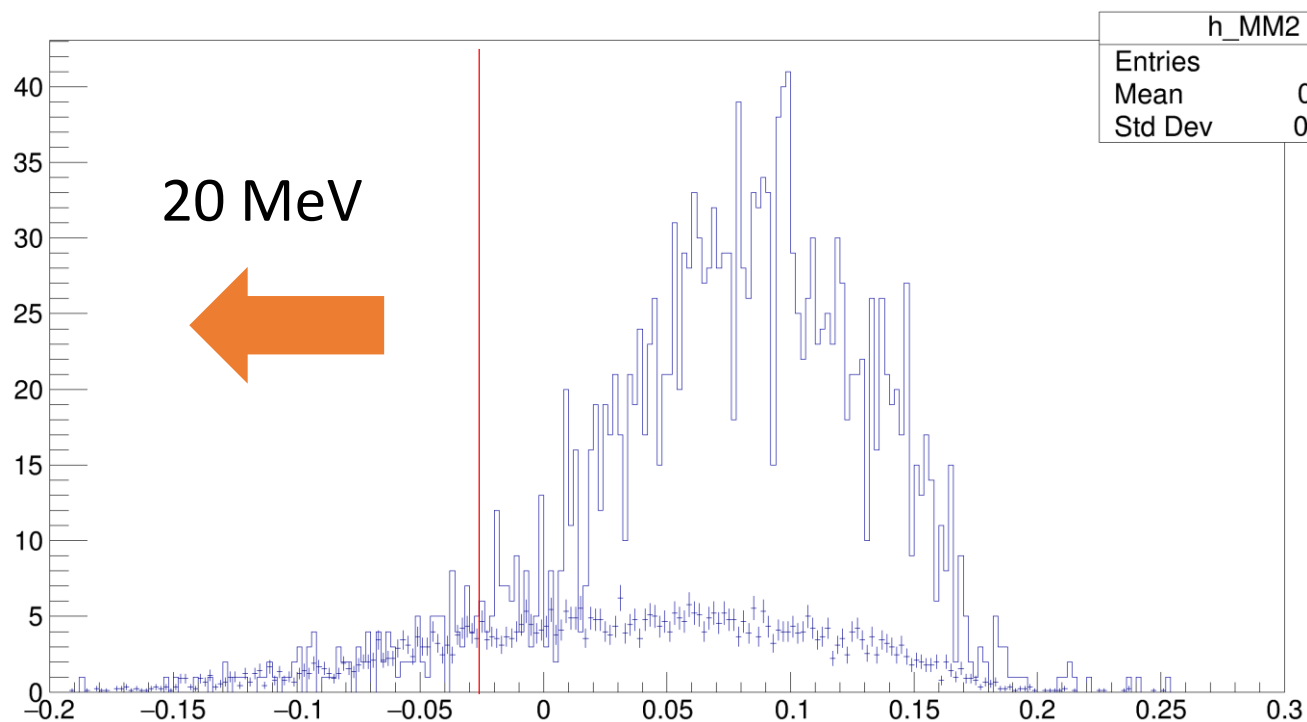
ctime



Vz

BG estimation

Al data(T2), Al kinematics



[data integ]149
[BG integ]130.556

[ratio] 1.14128