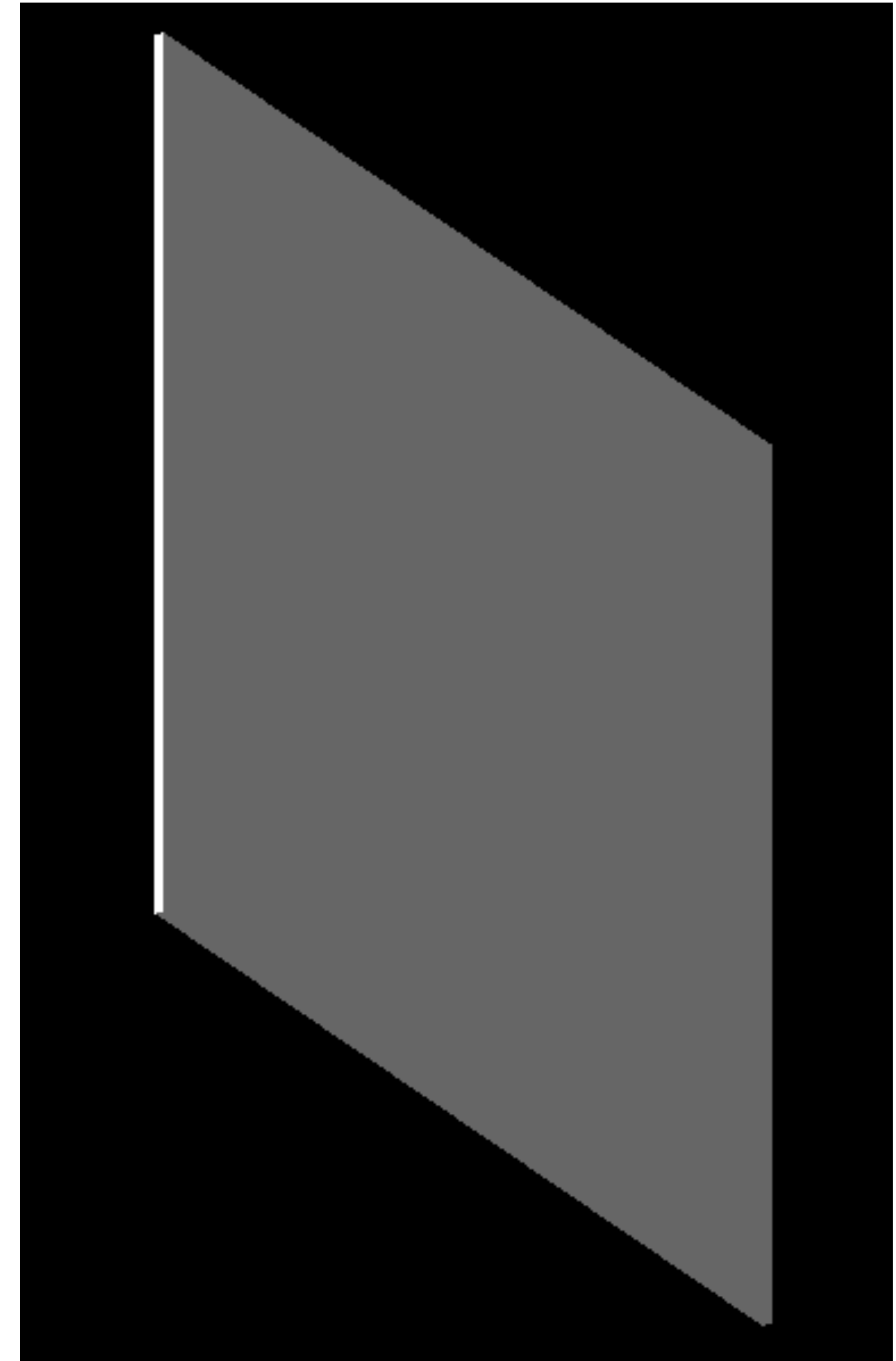


Status report (25 Jan. 2017)

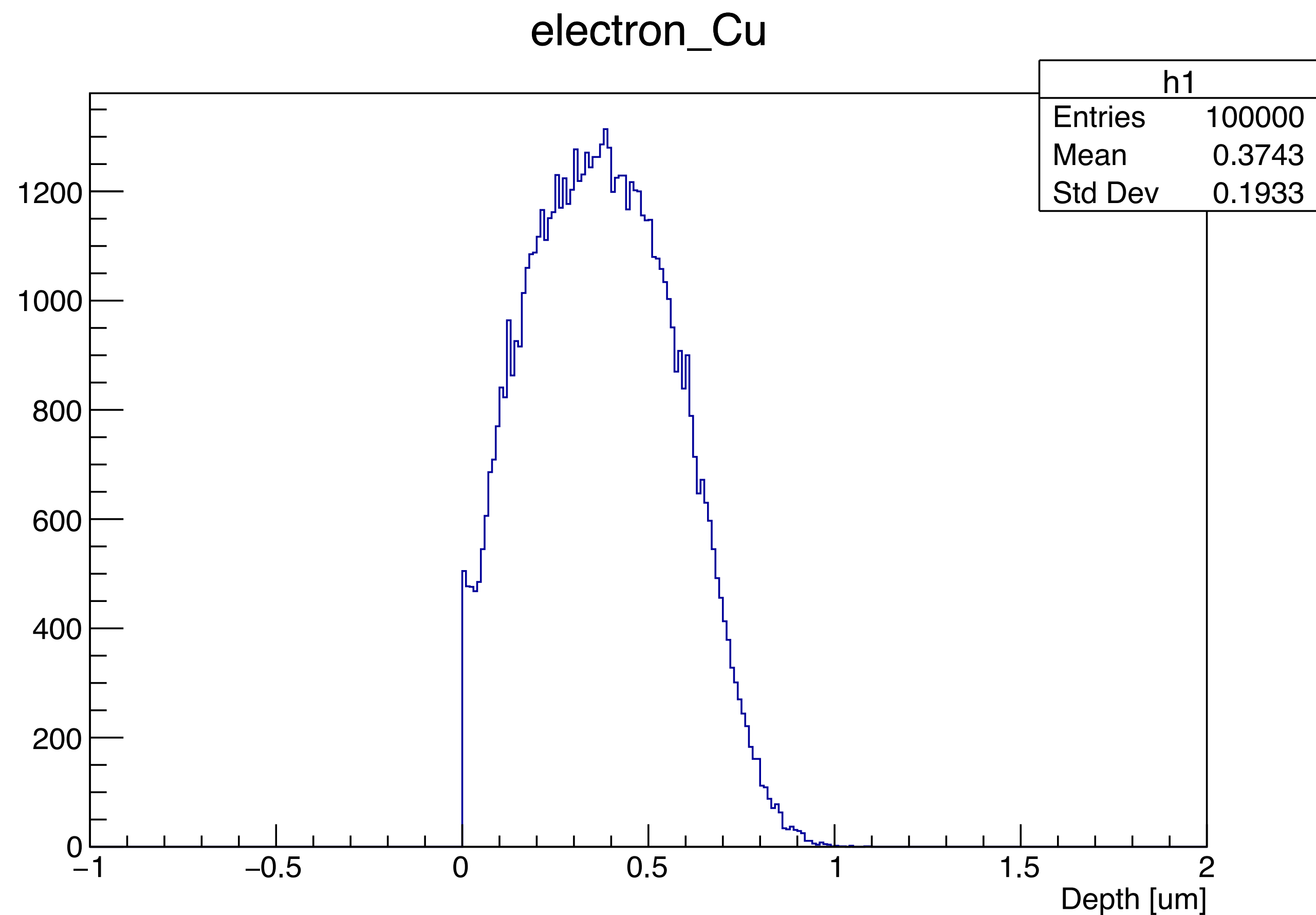
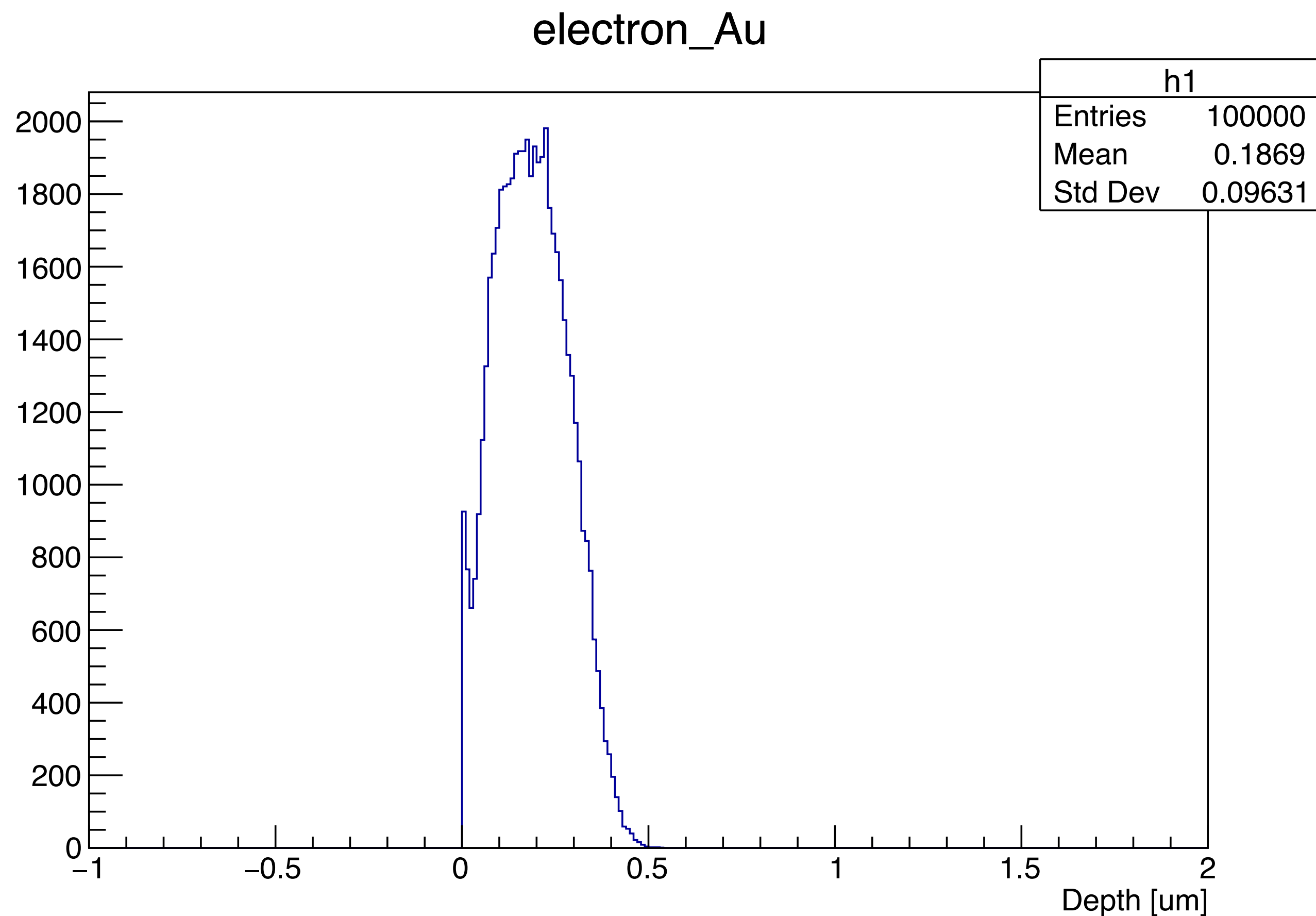
Jongwon Hwang

Simulation for “doping”

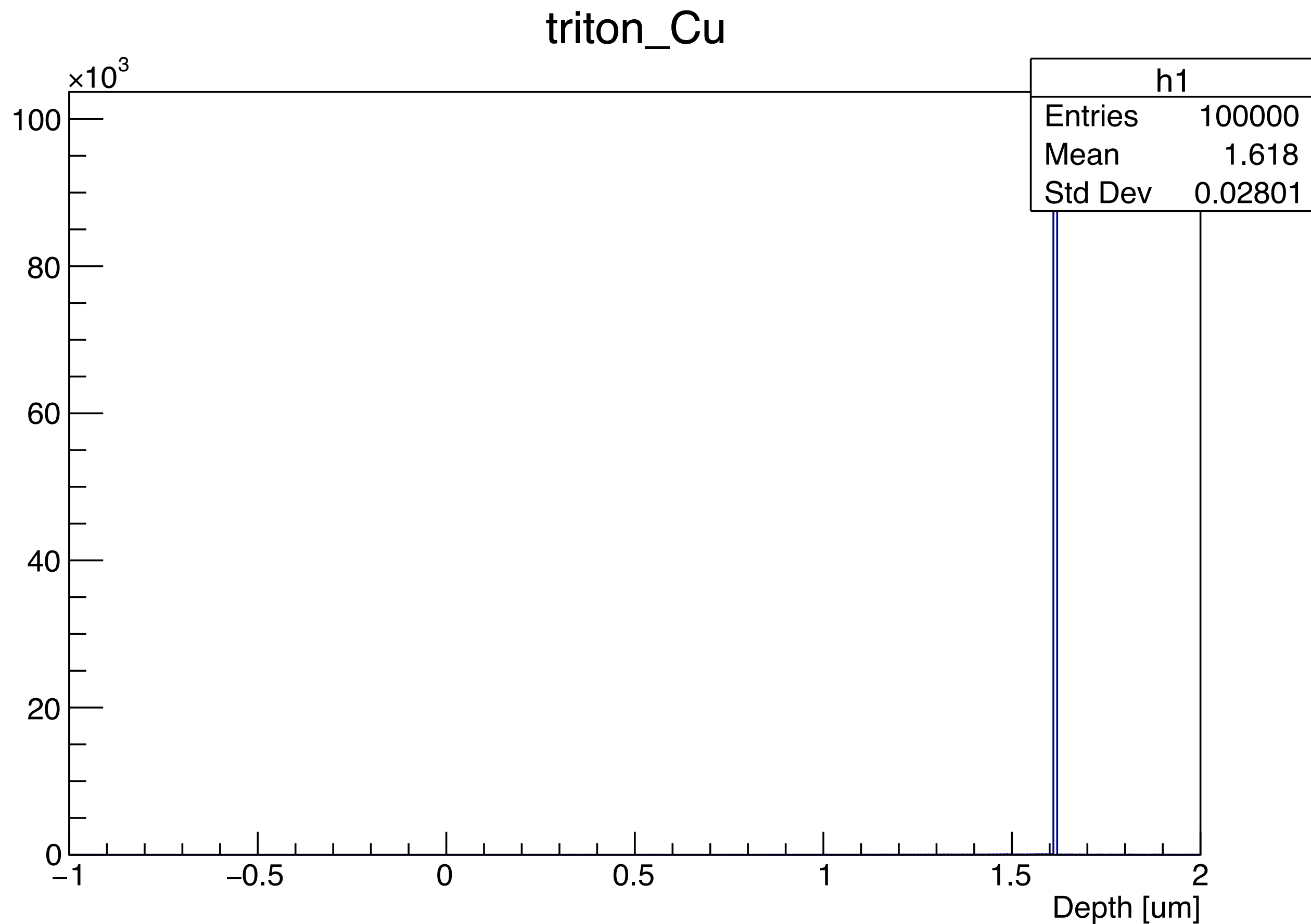
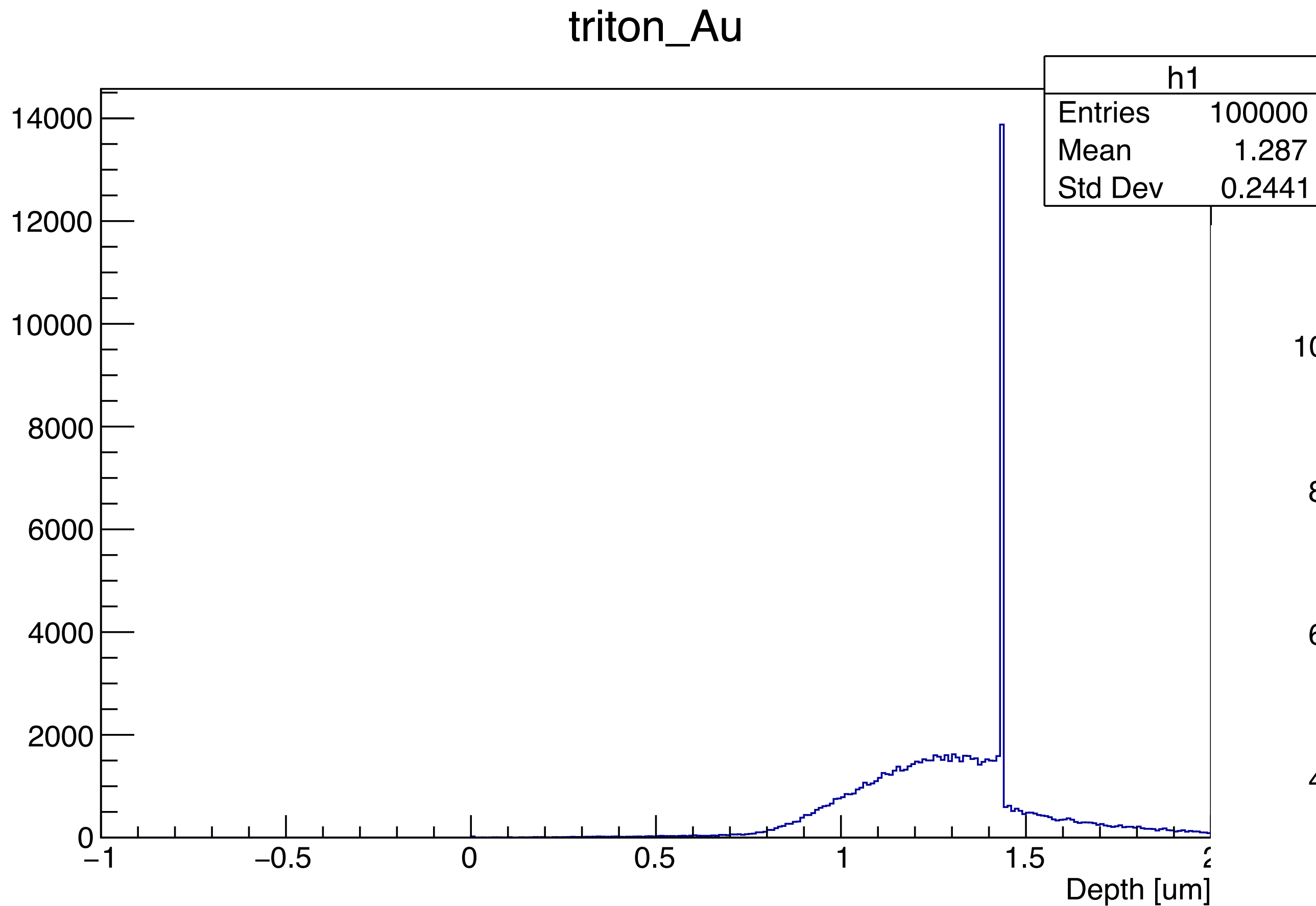
- dope
 - Using Geant4 library
 - 10 μm -thick Au or Cu plate
 - 18 keV-electro or 200keV-triton
(not tritium maybe)



Simulation for “doping”: electron

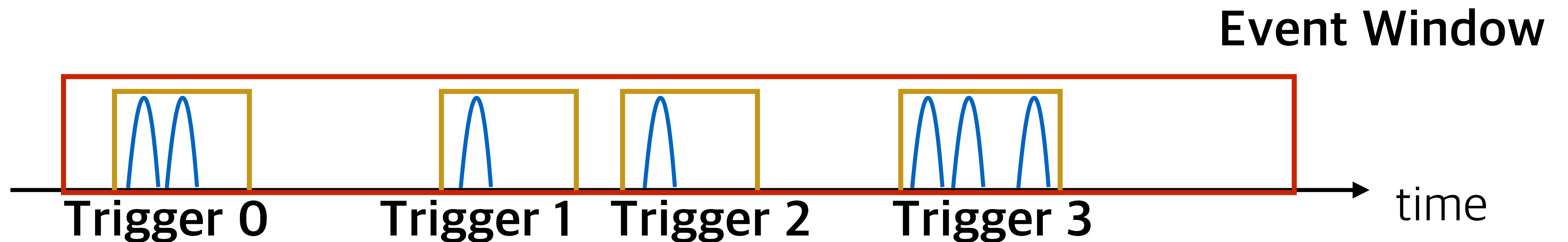


Simulation for “doping”: triton



Simulation: anti-p + cosmic-rays

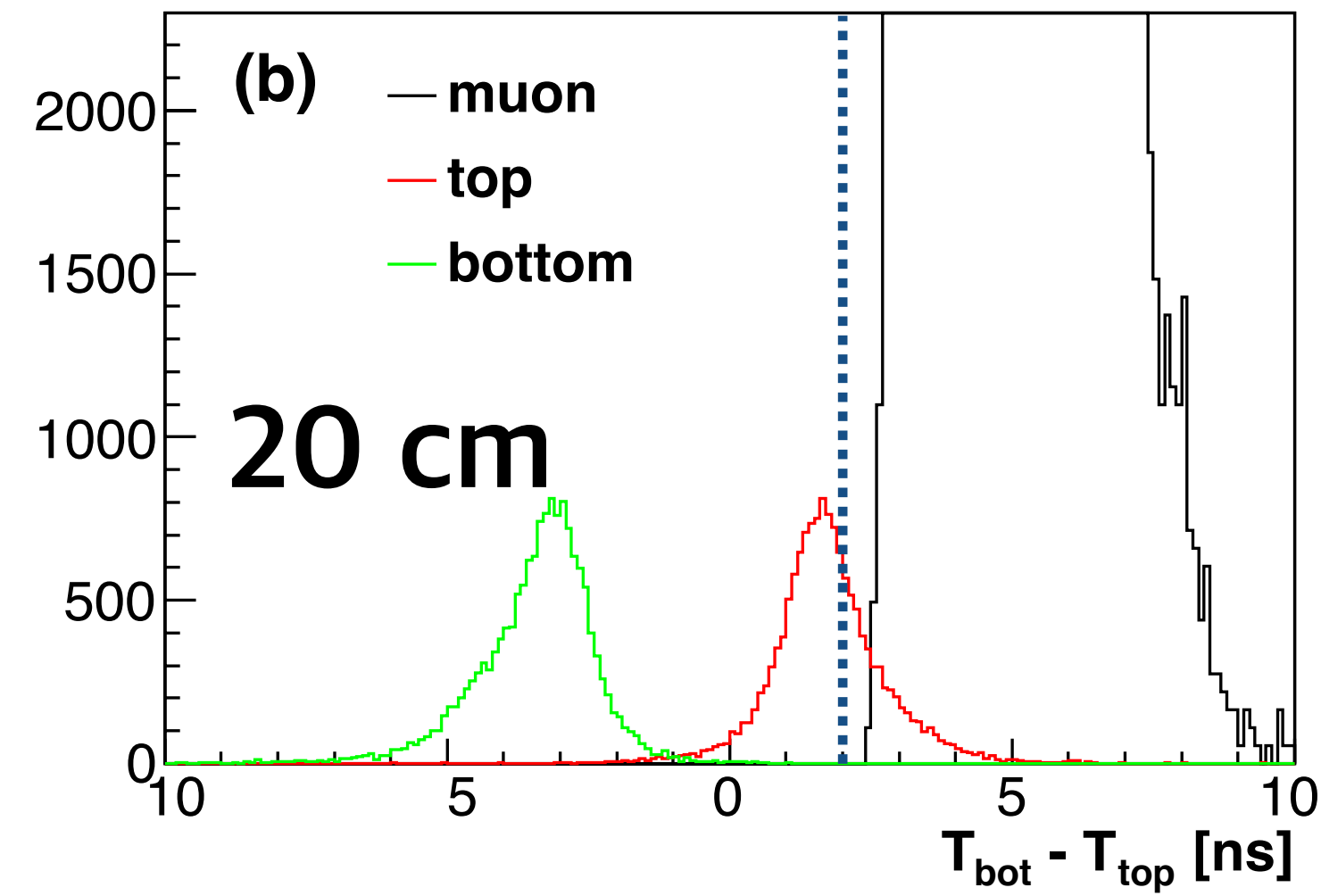
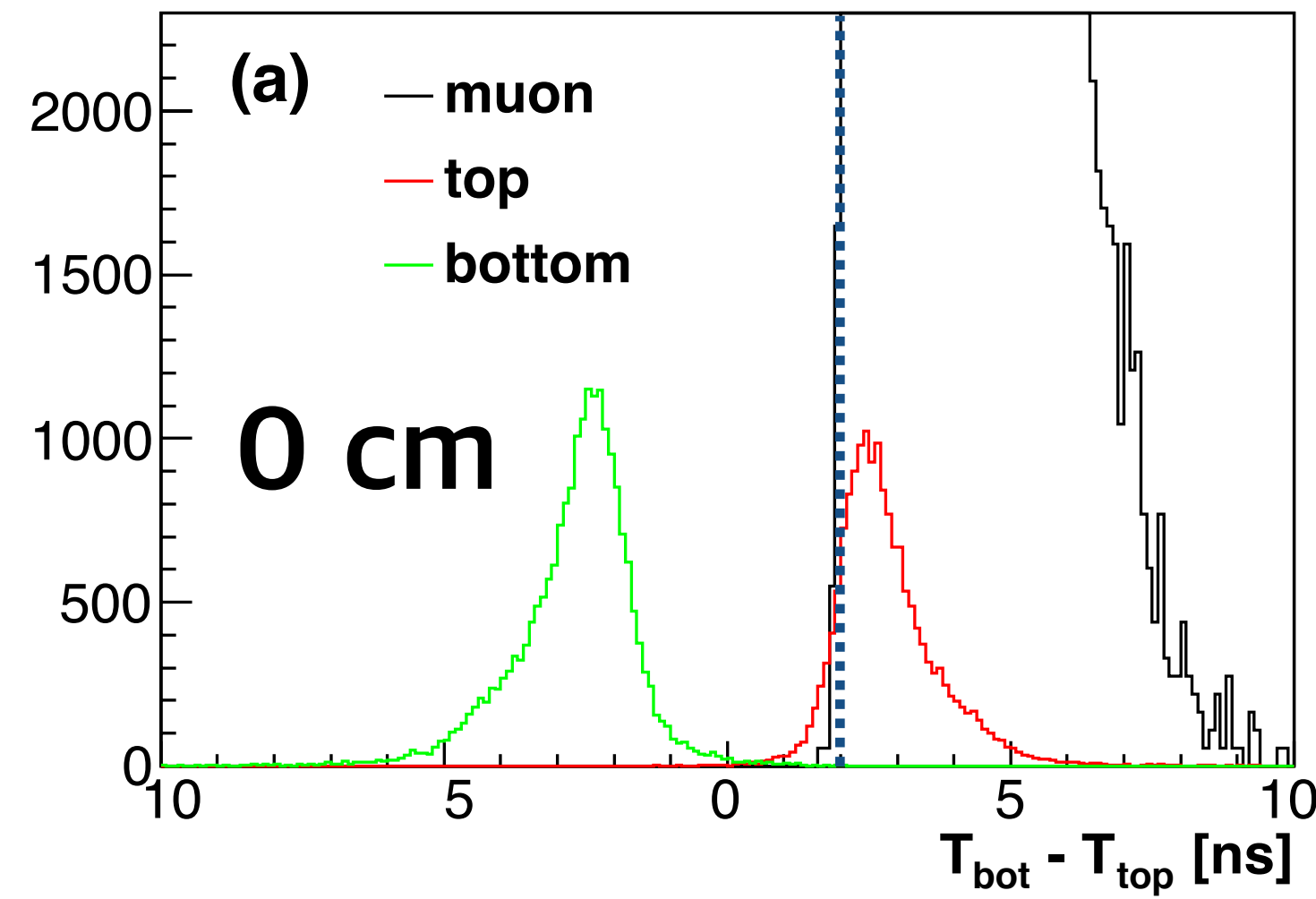
- Anti-proton annihilation & cosmic-rays
- Merge two different primary beams in a single event.
- Can set the event window (default = 500 ms).
- Set the trigger number.



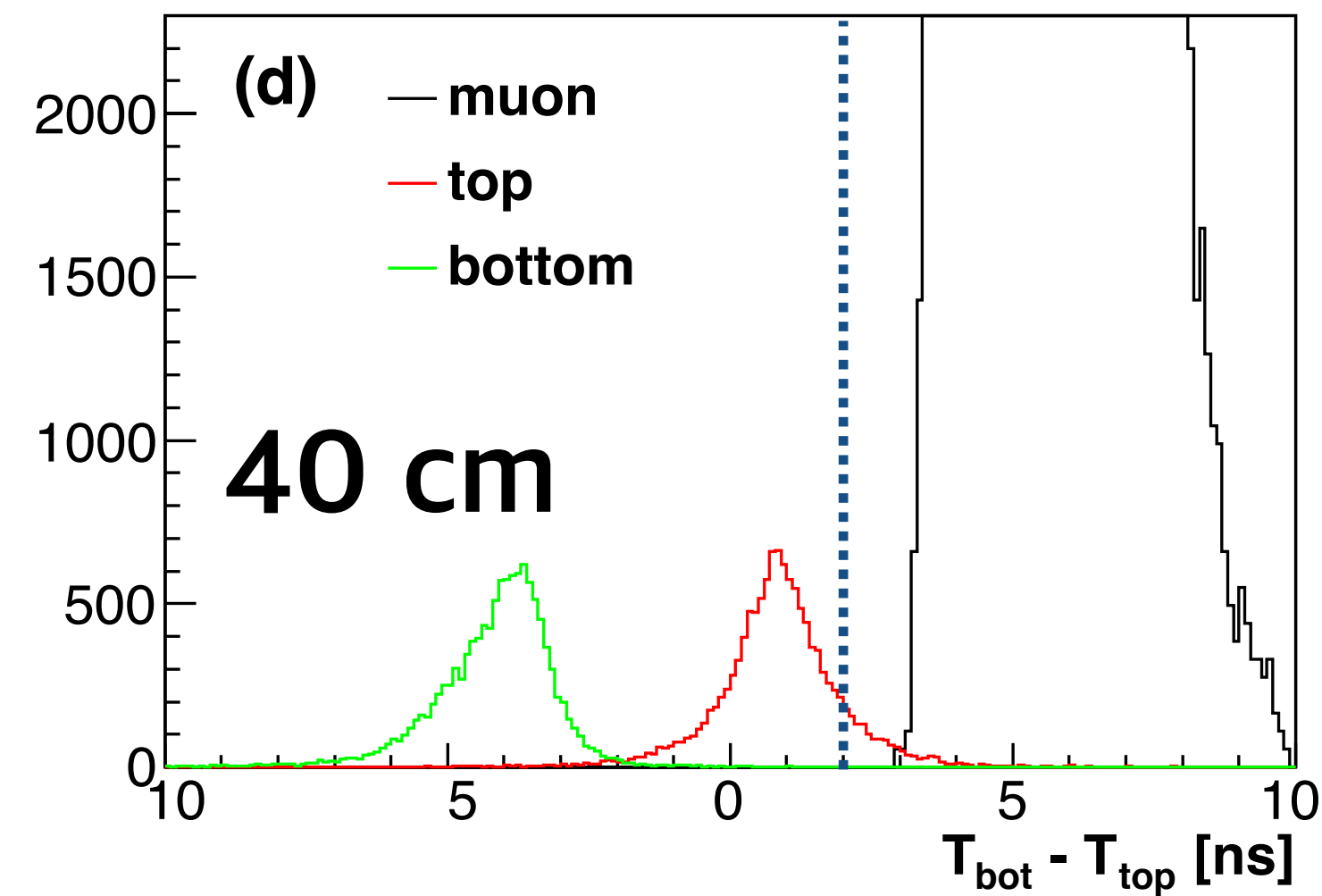
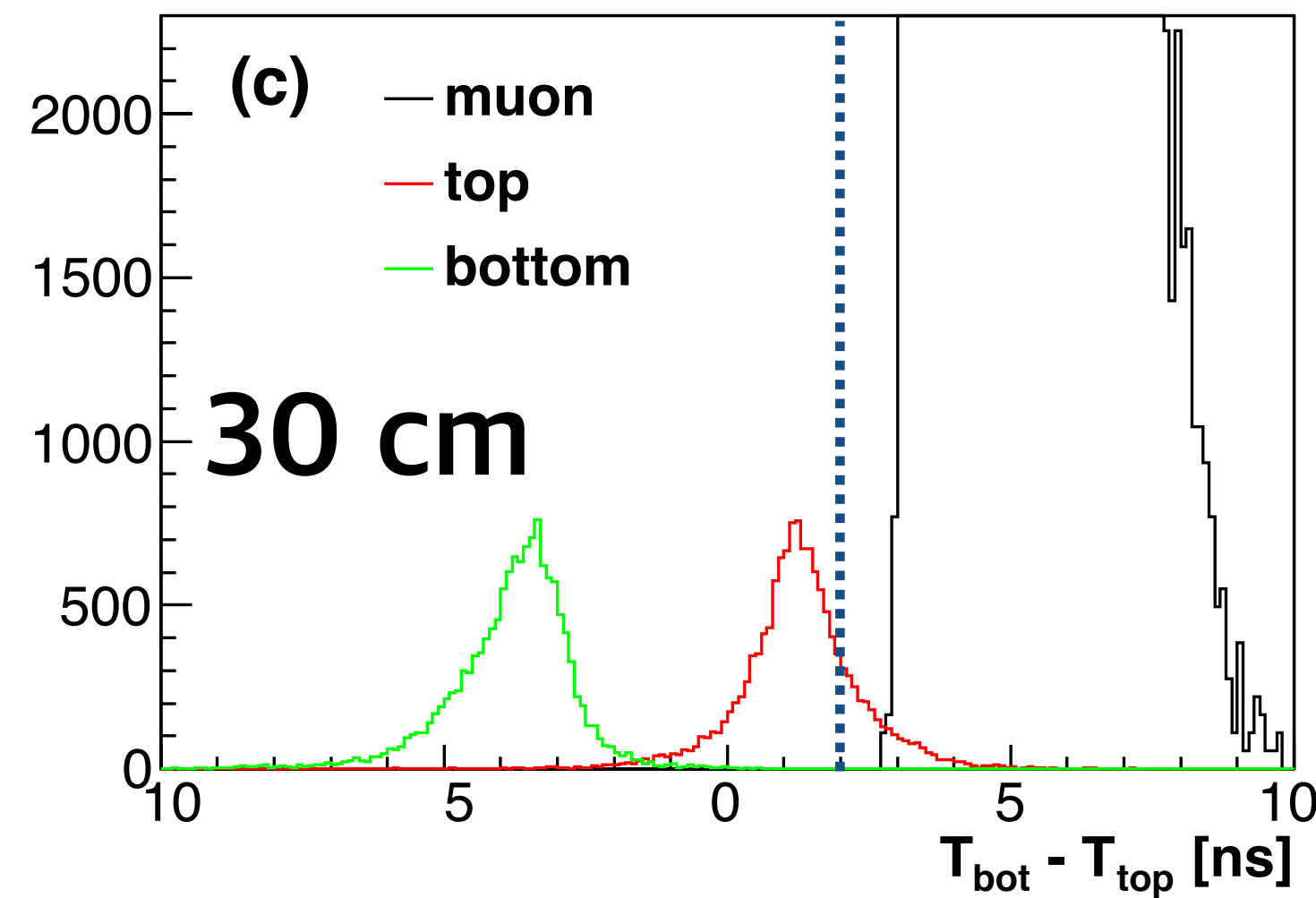
Simulation: anti-p + cosmic-rays

- Preliminary test of cosmic-ray rejection
 - Without clustering / 0.3 MeV threshold for energy deposit (each hit)
 - Neglect 1-hit events
 - Only Top-Bottom combination for 2 or more hits (at least 1 hit at Top and Bottom)
 - (time difference between T-B) < 2 ns
 - **Good Rejection = Only ONE Trigger selected**
 - **Successful Rejection = Good Rejection & selected Trig. from Annihilation**

Simulation: anti-p + cosmic-rays

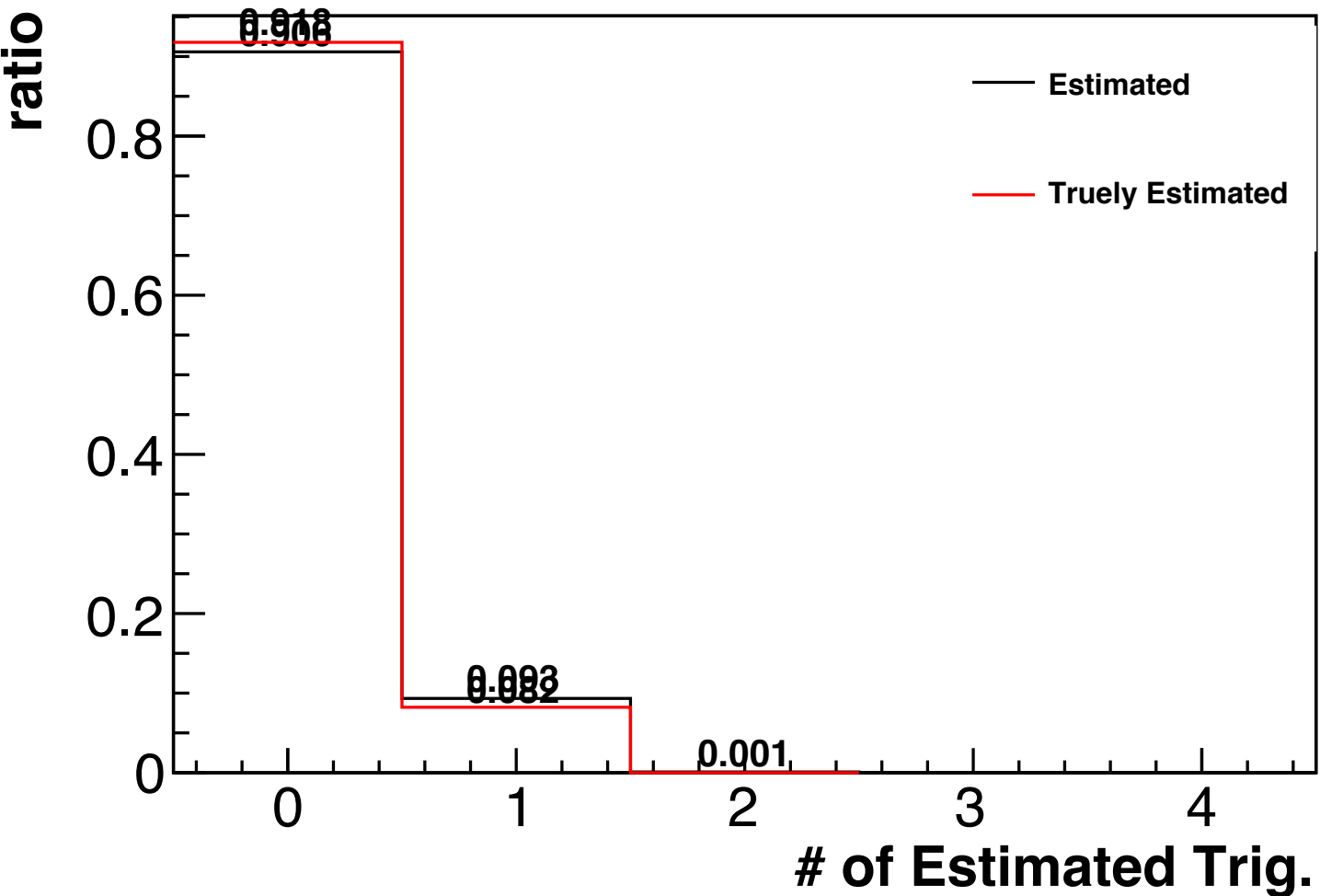


..... 2 ns cut

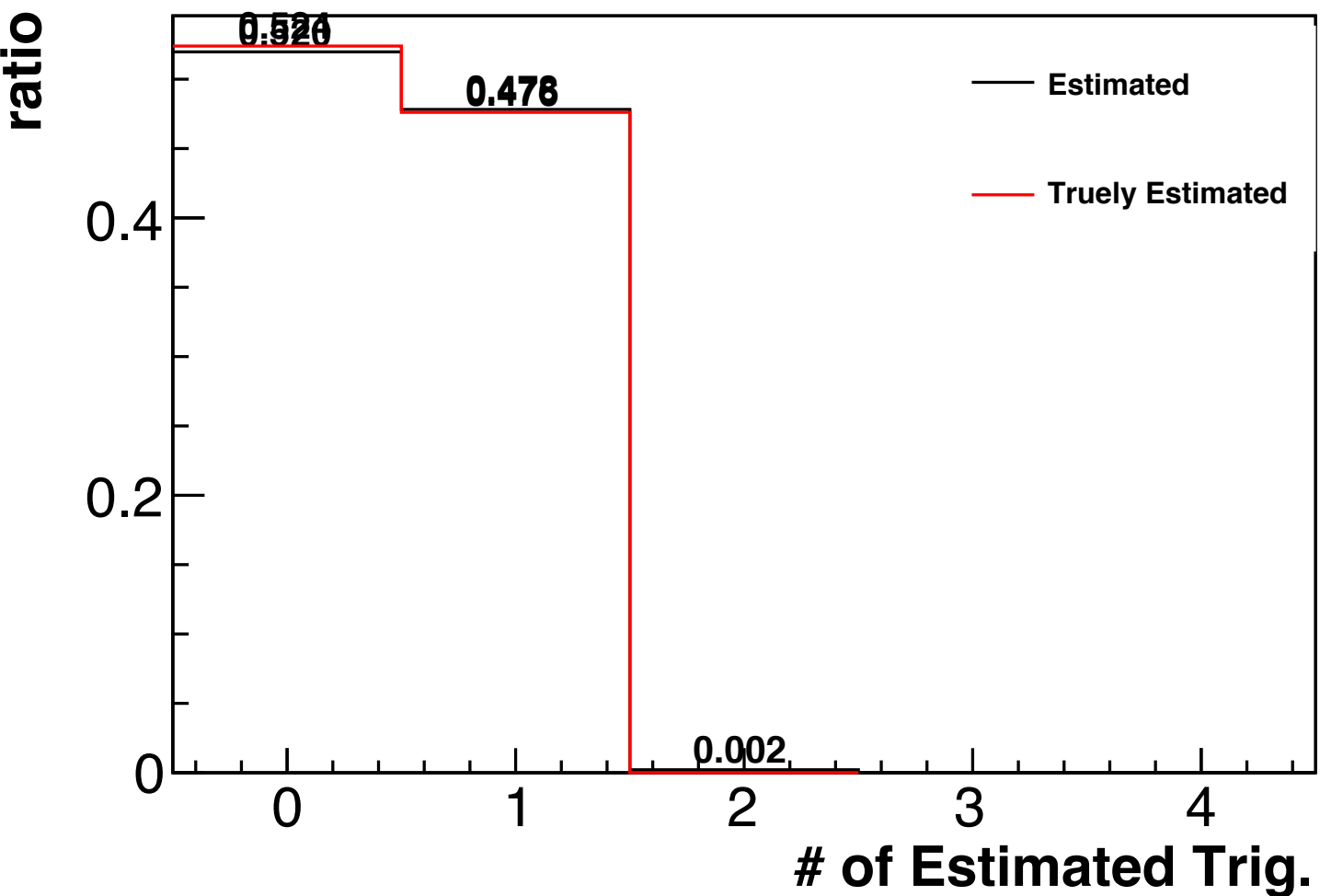


Simulation: anti-p + cosmic-rays

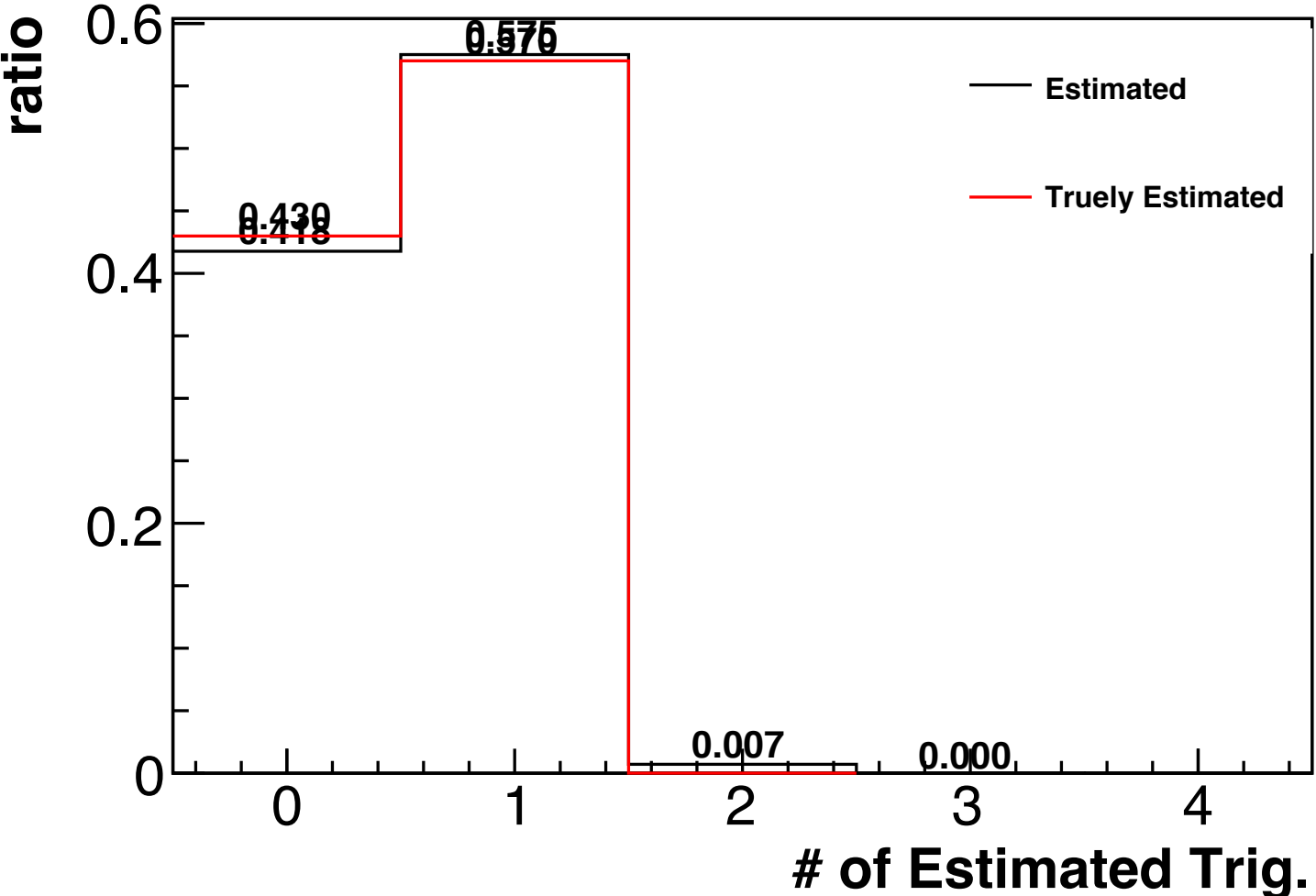
Top height: 425, Top



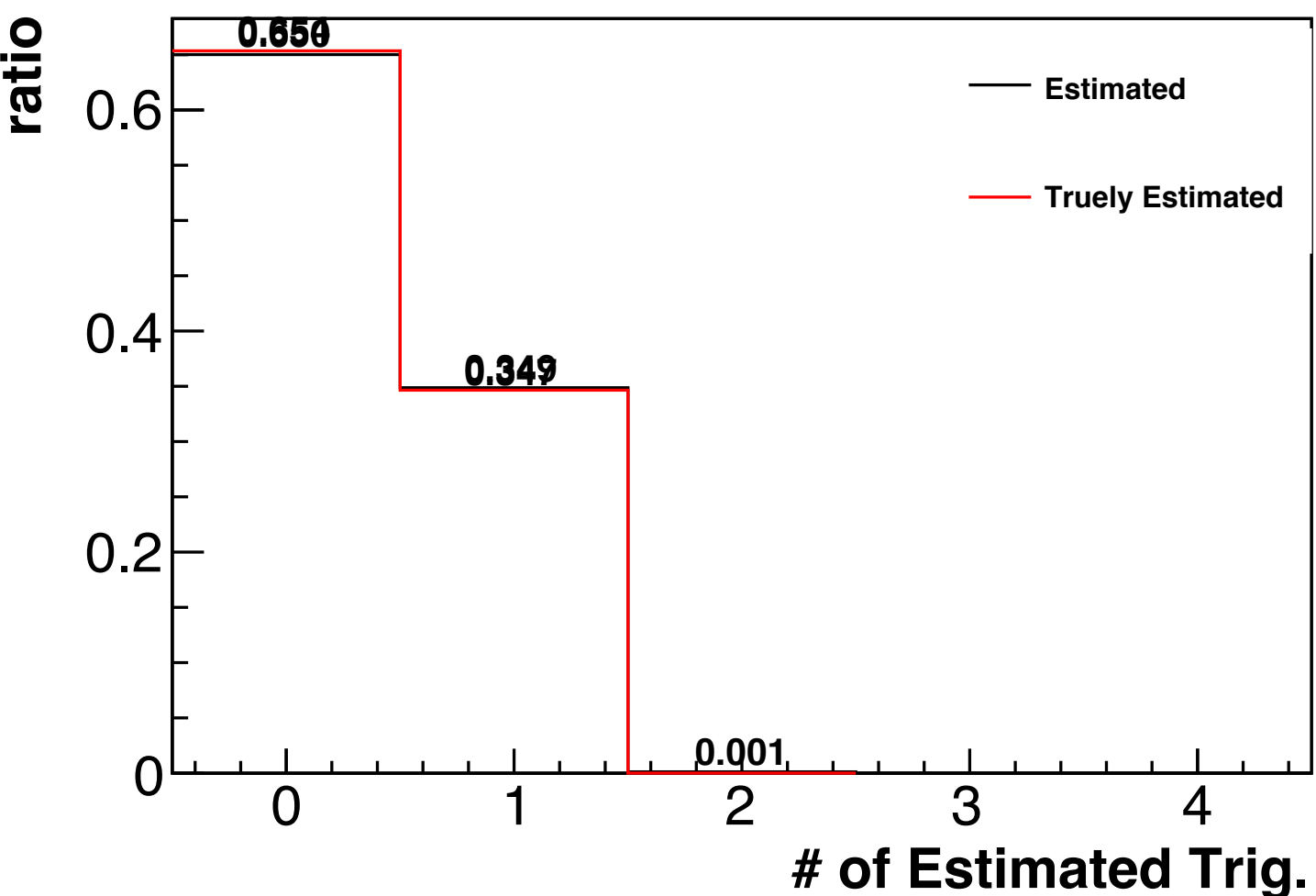
Top height: 825, Top



Top height: 425, Bot



Top height: 825, Bot

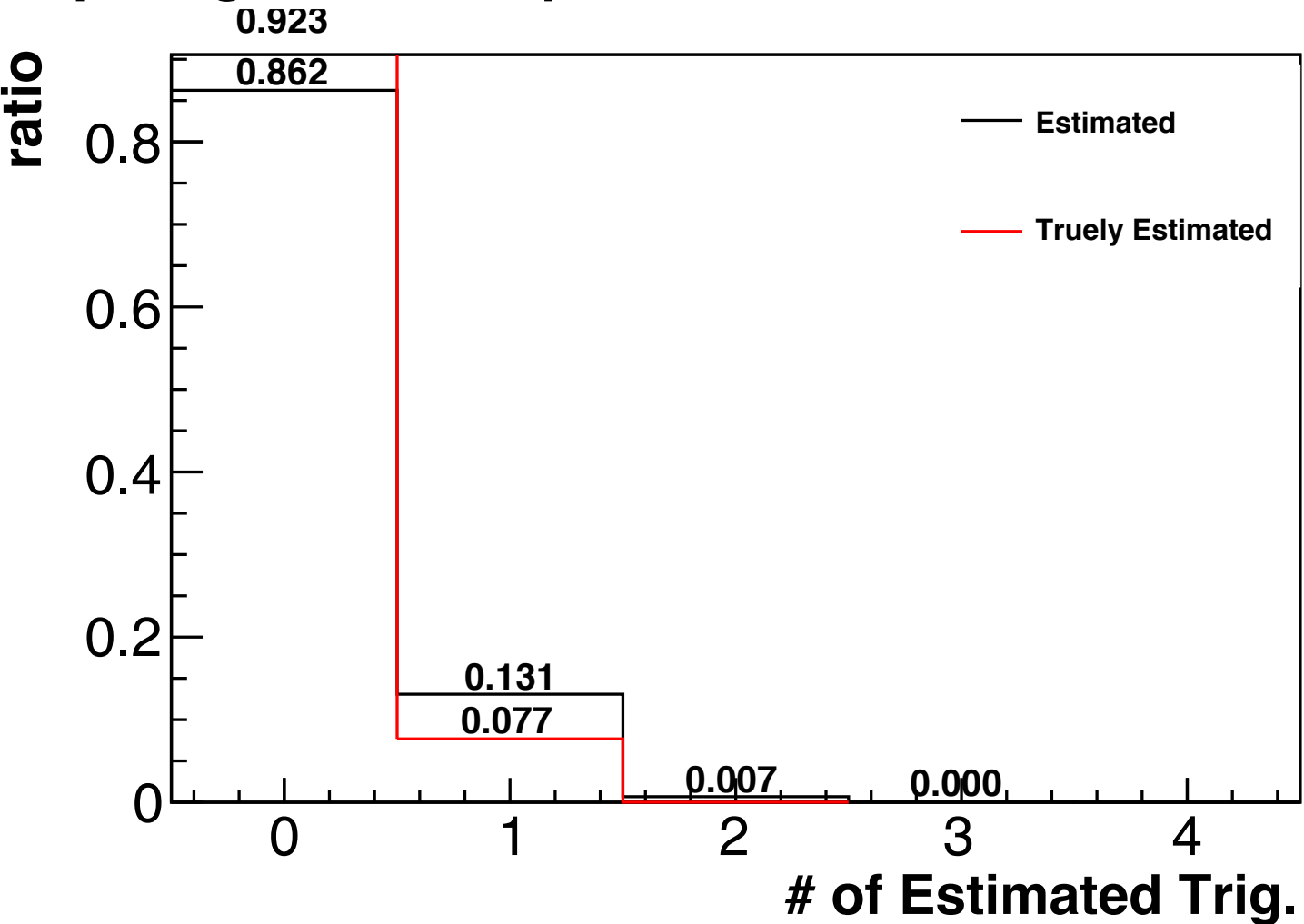


100 ms-event window

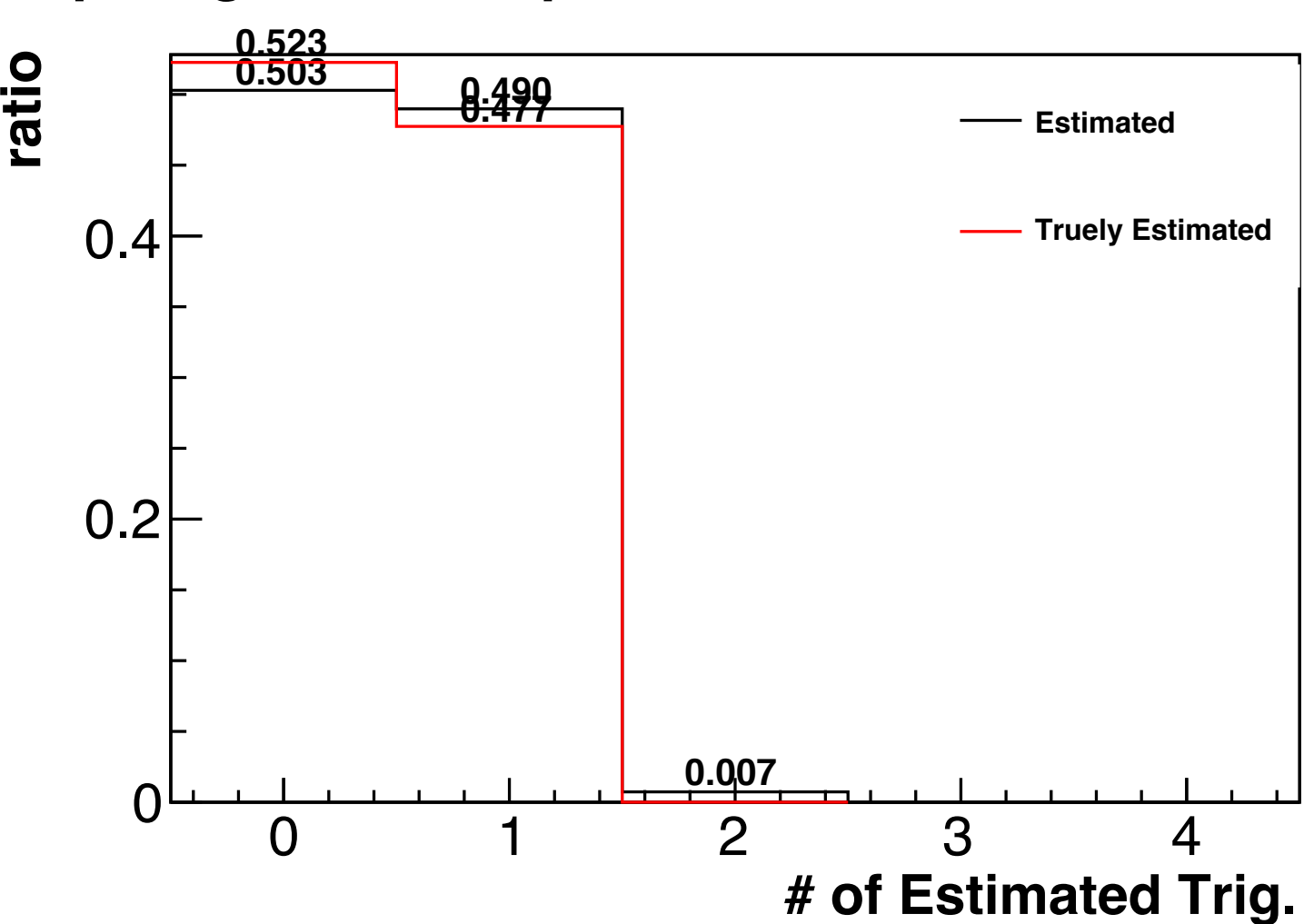
Good rate	425 mm	825 mm
Top	9.33%	47.82%
Bottom	57.51%	34.87%
Successful rate	425 mm	825 mm
Top	8.22%	47.61%
Bottom	57.01%	34.65%
Accuracy	425 mm	825 mm
Top	88.10%	99.56%
Bottom	99.13%	99.37%

Simulation: anti-p + cosmic-rays

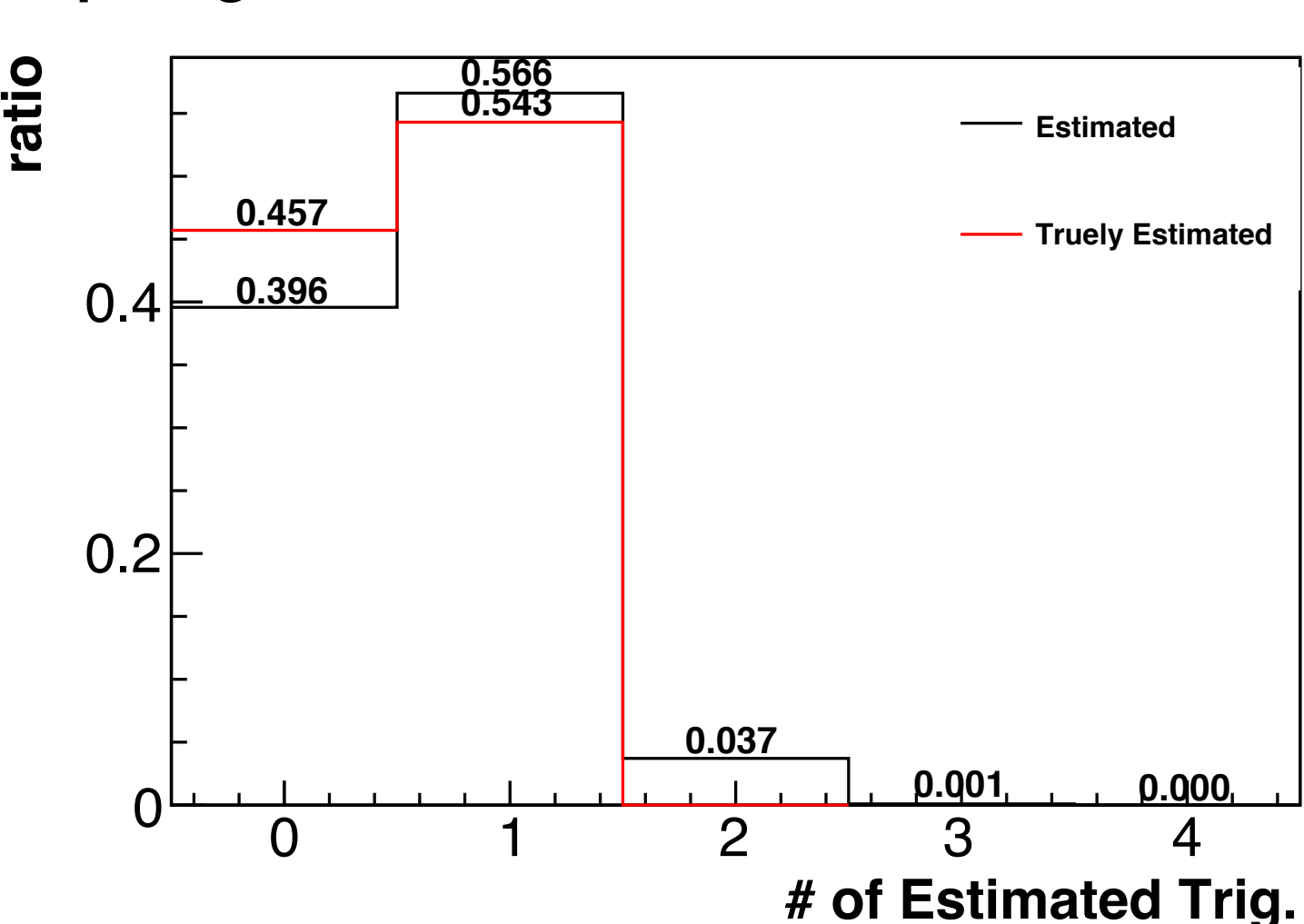
Top height: 425, Top



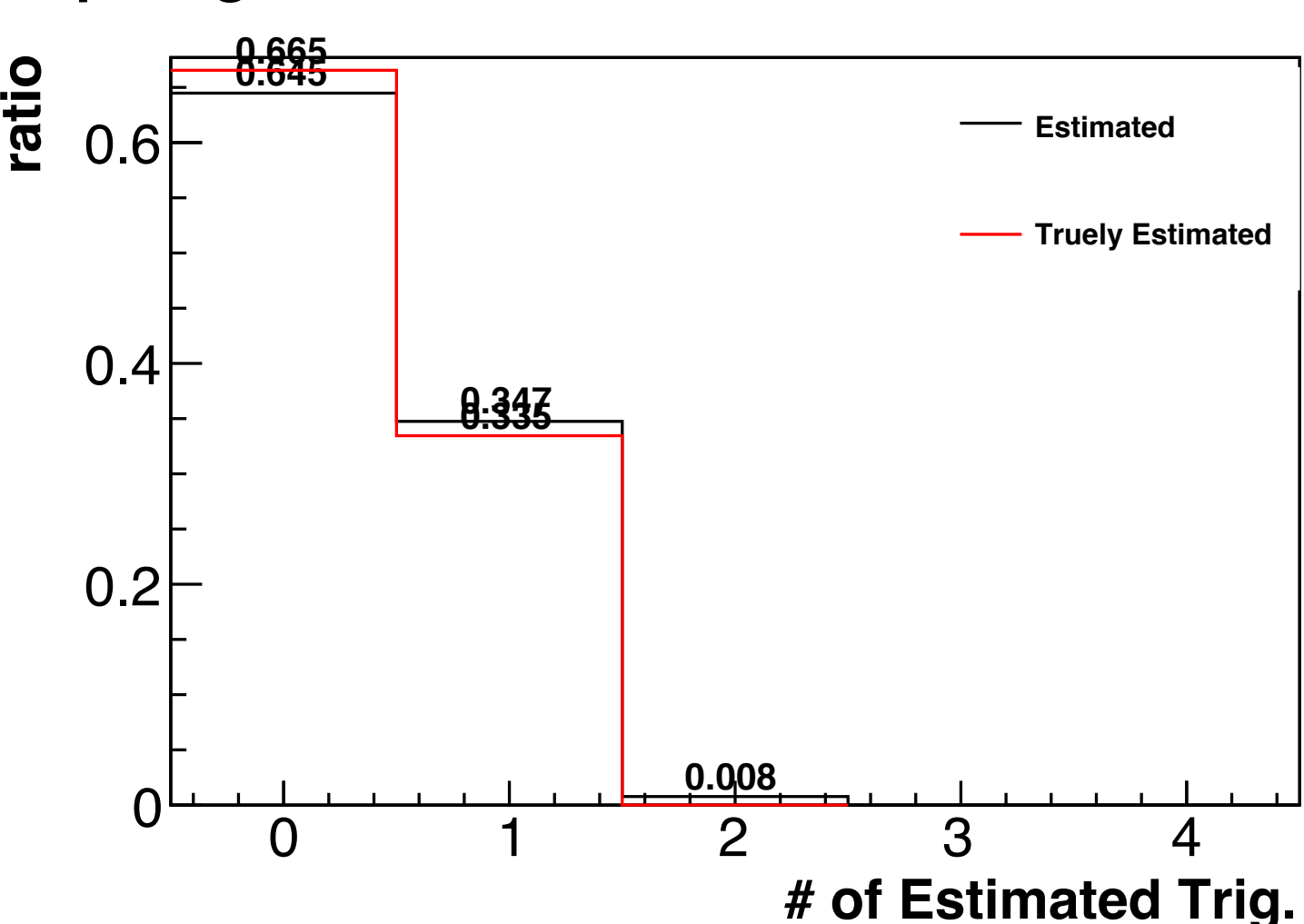
Top height: 825, Top



Top height: 425, Bot



Top height: 825, Bot



500 ms-event window

Good rate	425 mm	825 mm
Top	13.08%	48.98%
Bottom	56.61%	34.75%
Successful rate	425 mm	825 mm
Top	7.67%	47.74%
Bottom	54.3%	33.45%
Accuracy	425 mm	825 mm
Top	58.64%	97.47%
Bottom	95.92%	96.26%