

PID

What are we looking at?

- Remove events where we saturate
- Look at events with 1 trigger in window
- Peak: max per waveform (baseline subtracted)
- Area: sum (ADCs-baseline) for # of bins wanted

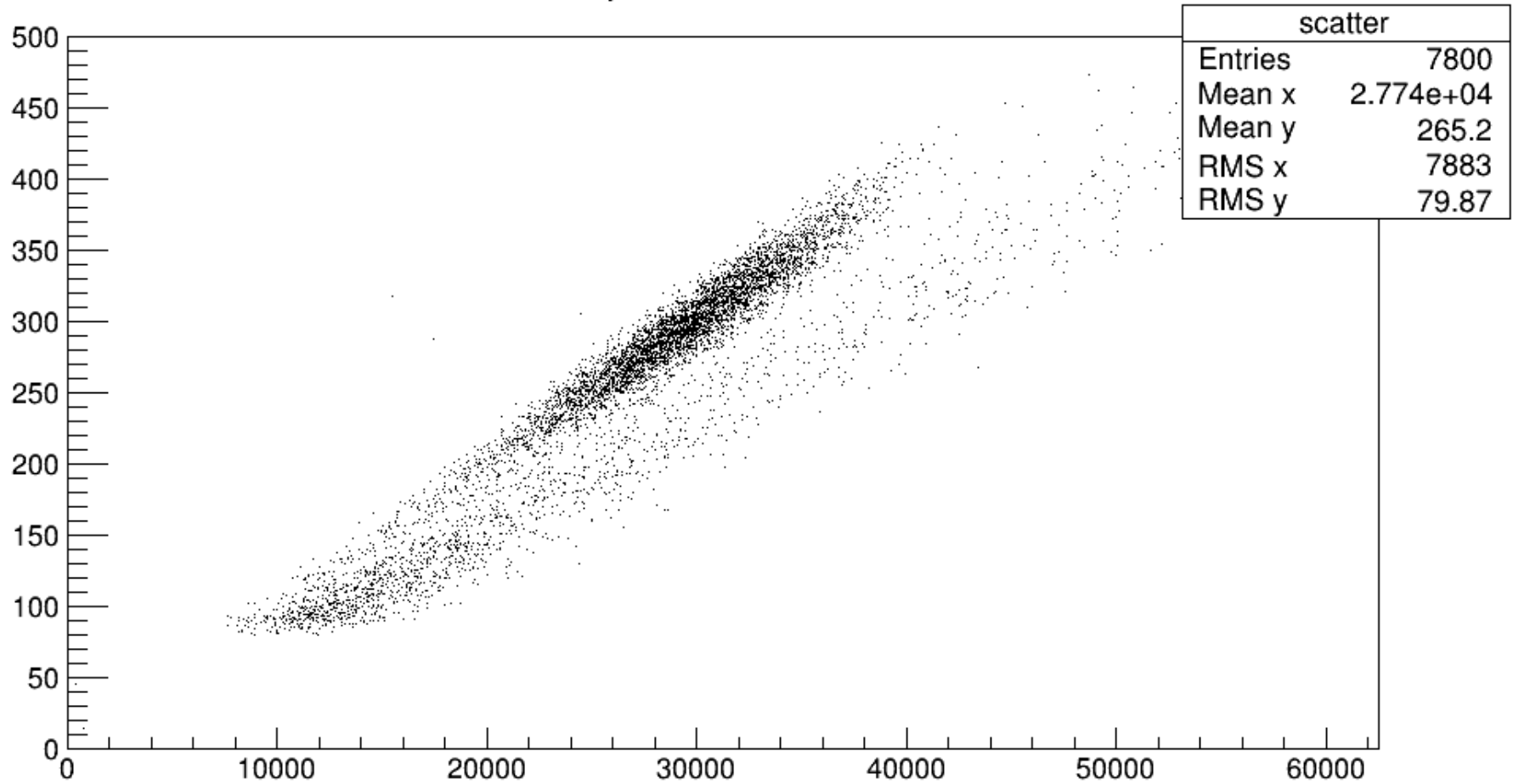
What parameters did we explore?

- All 3 different splitters: 10, 20, 30 nF
- HG and LG
- Time-window for integration:
 - 23 bins = 360 nano sec
 - 210 bins = 3.28 micro sec

No HG here: same results except a lot of events get saturated...but can make the plots!

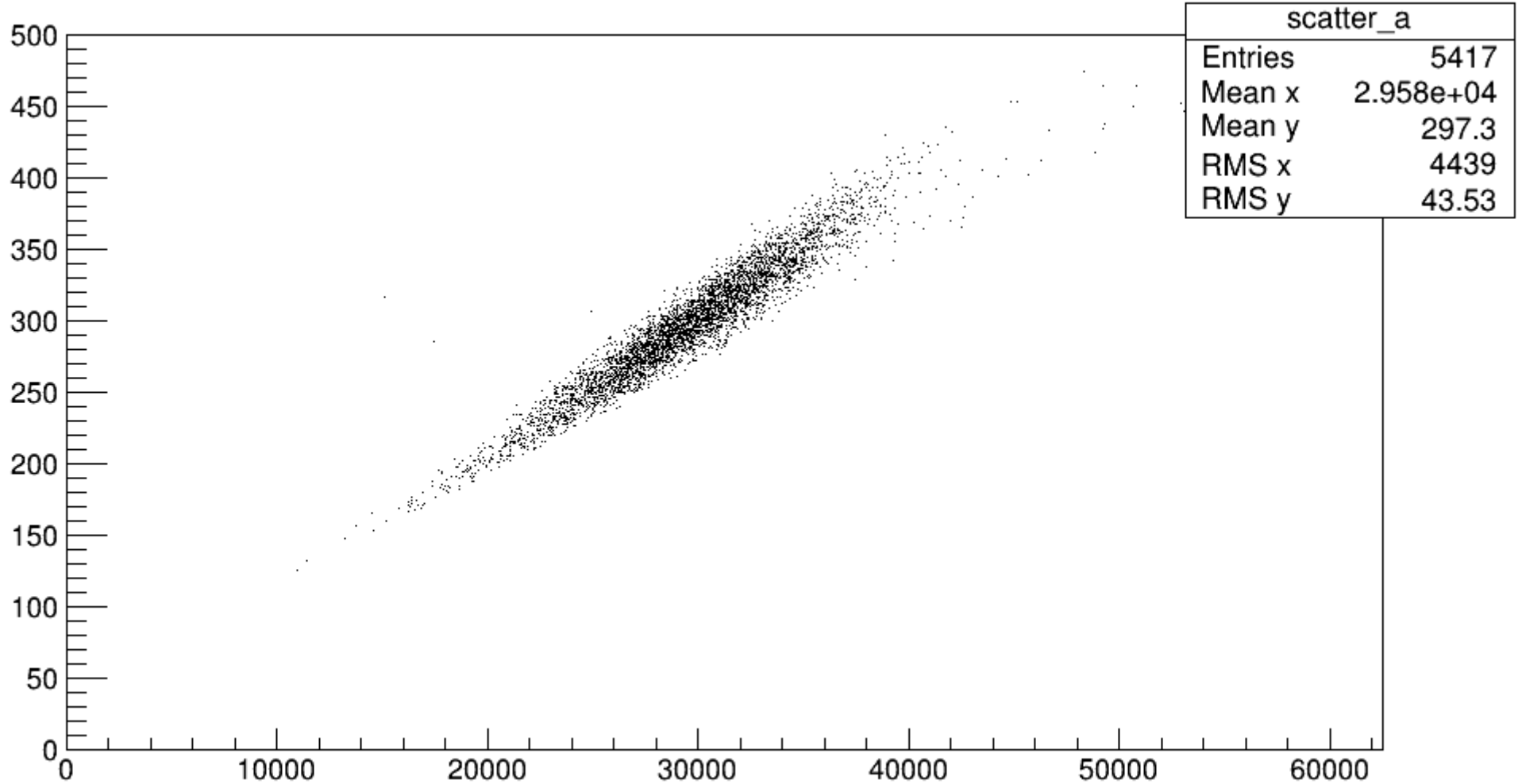
10 nF + 20 bin integration + LG

Amplitude vs Area



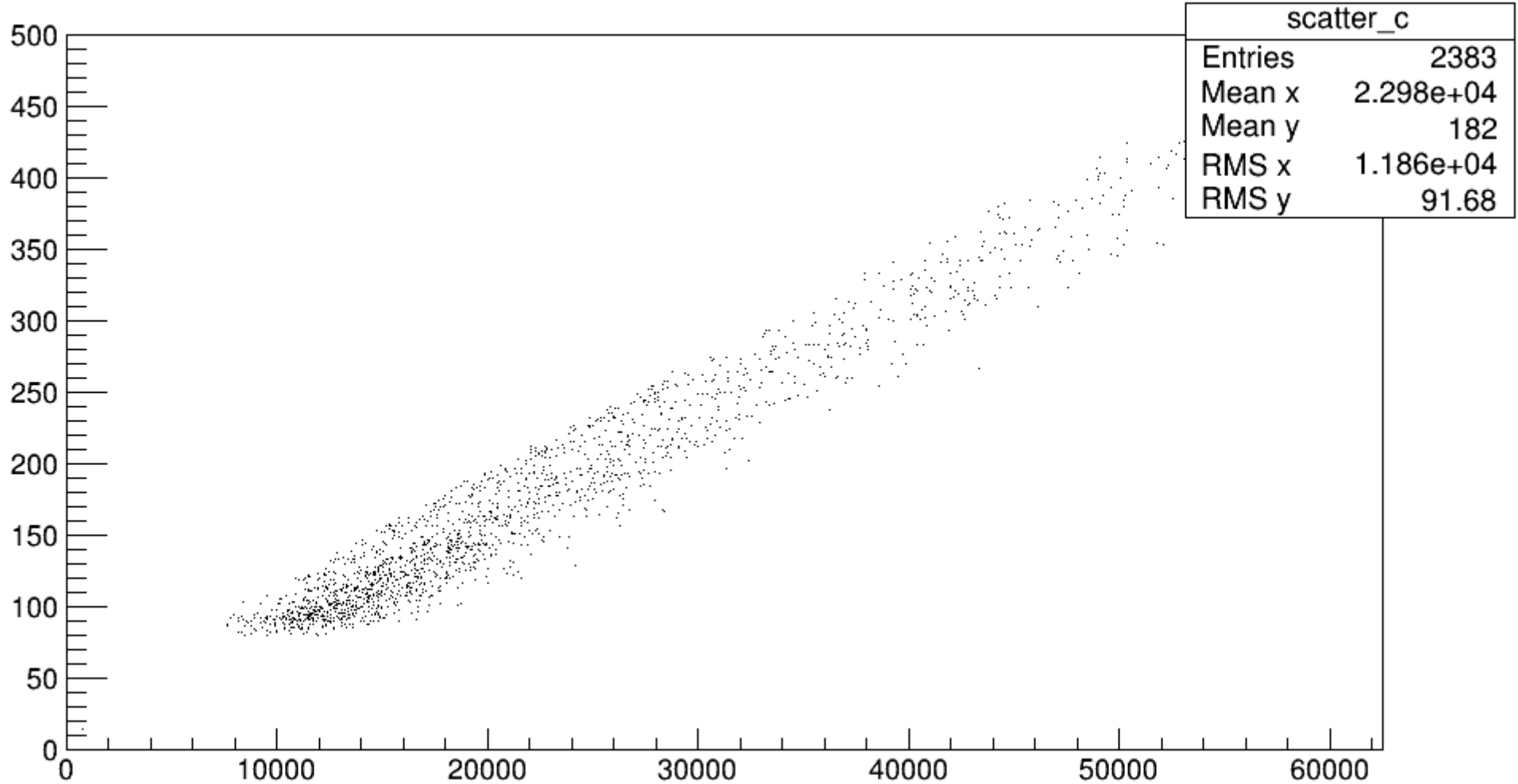
10 nF + 20 bin integration + LG

Area and Amp - alpha candidates



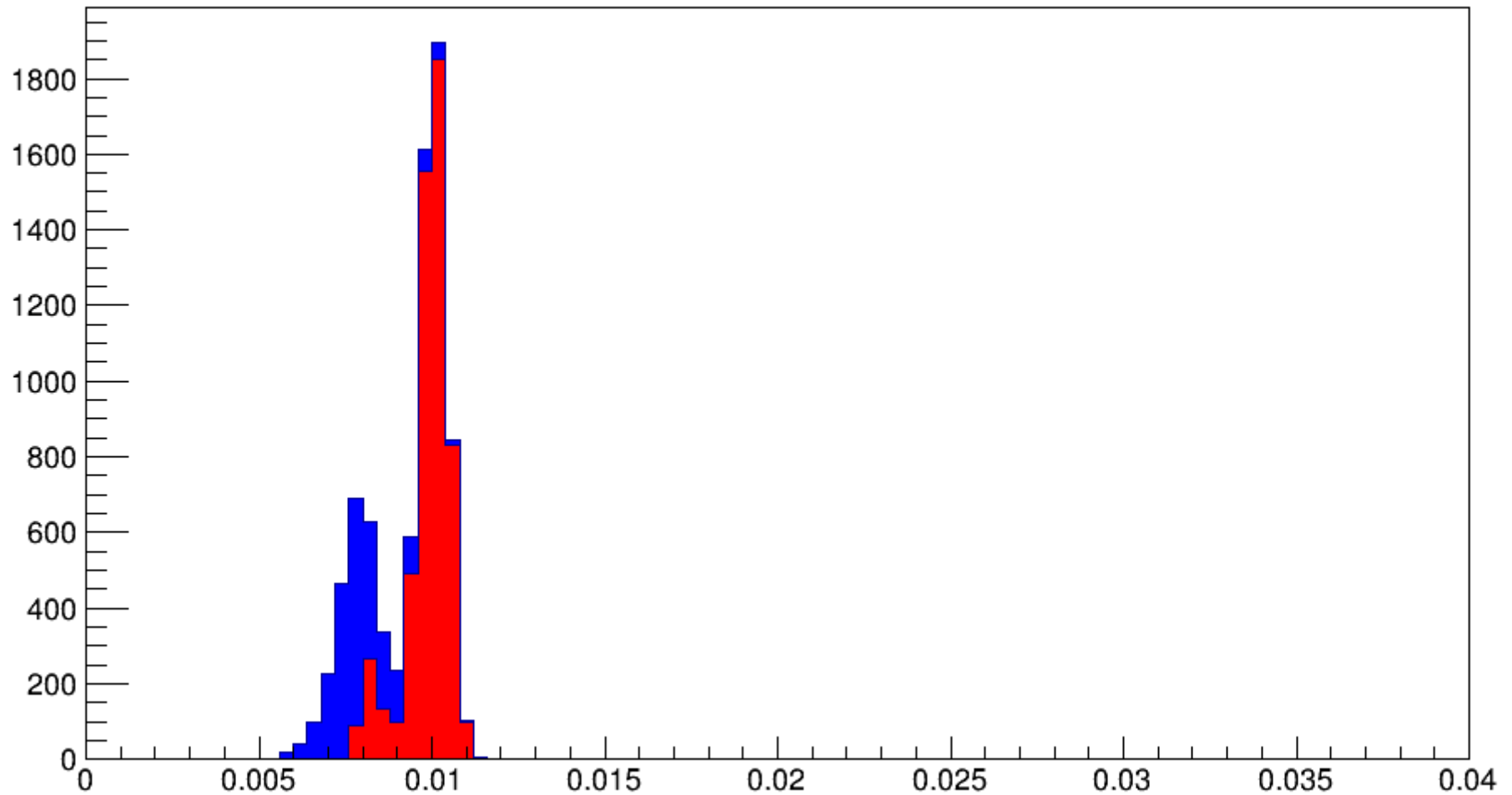
10 nF + 20 bin integration + LG

Area and Amp cosmic candidates



10 nF + 20 bin integration + LG

Amp to Area Ratio [1/PEs]

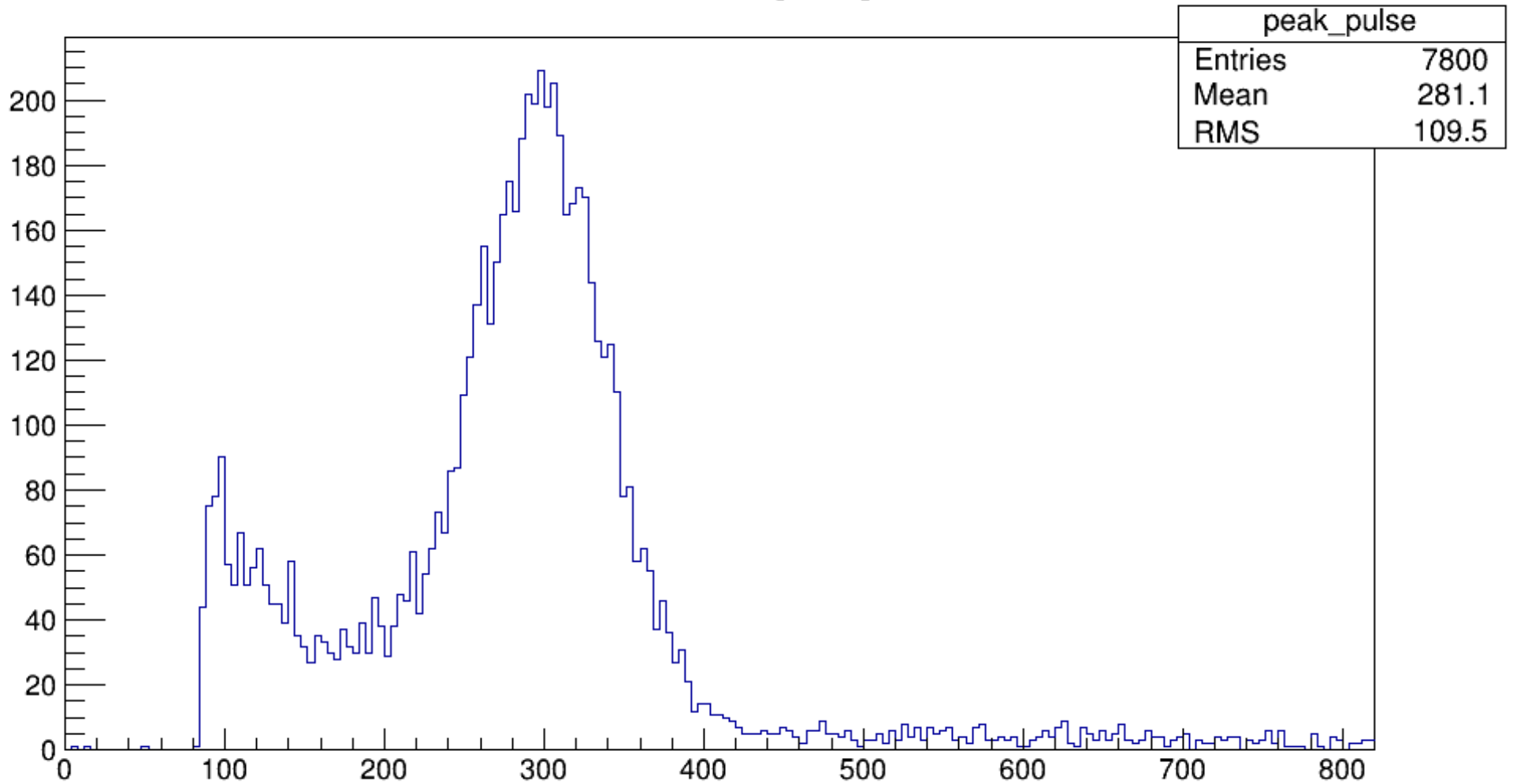


RED: ALPHA

BLUE: COSMIC

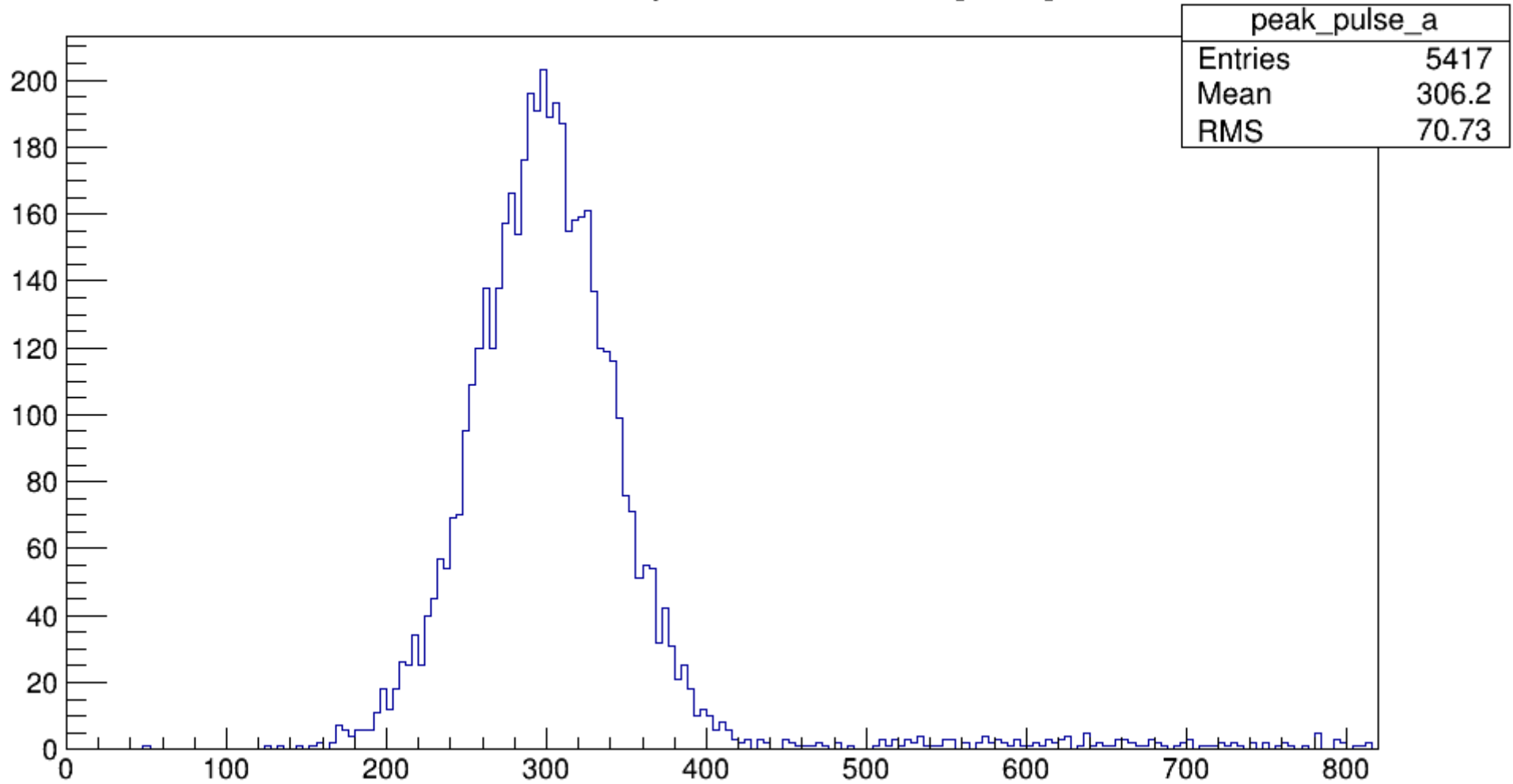
10nF + 20 bins integration + LG

Pulse Peak [PEs]



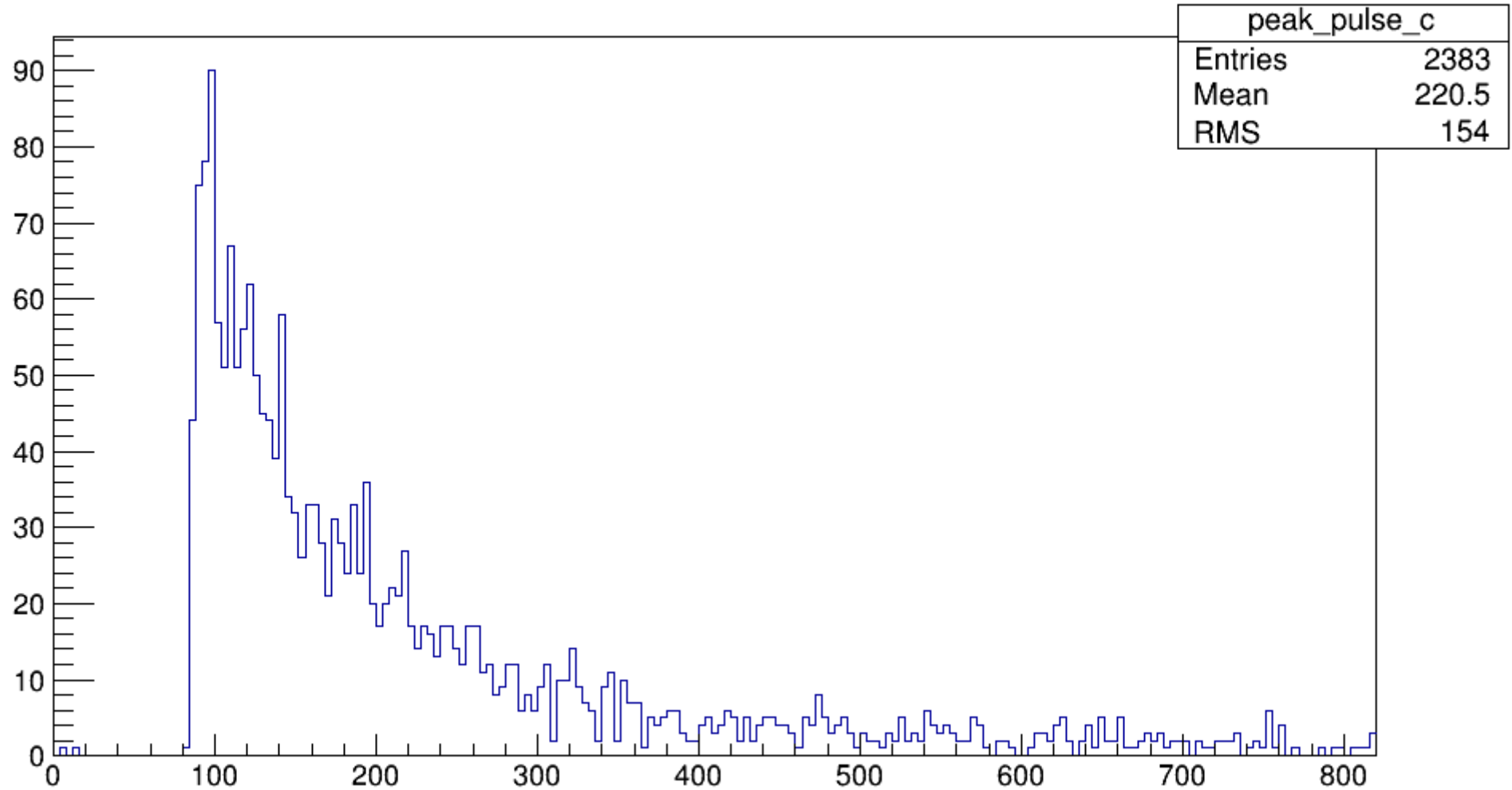
10nF + 20 bins integration + LG

Pulse Peak - alpha candidates [PEs]



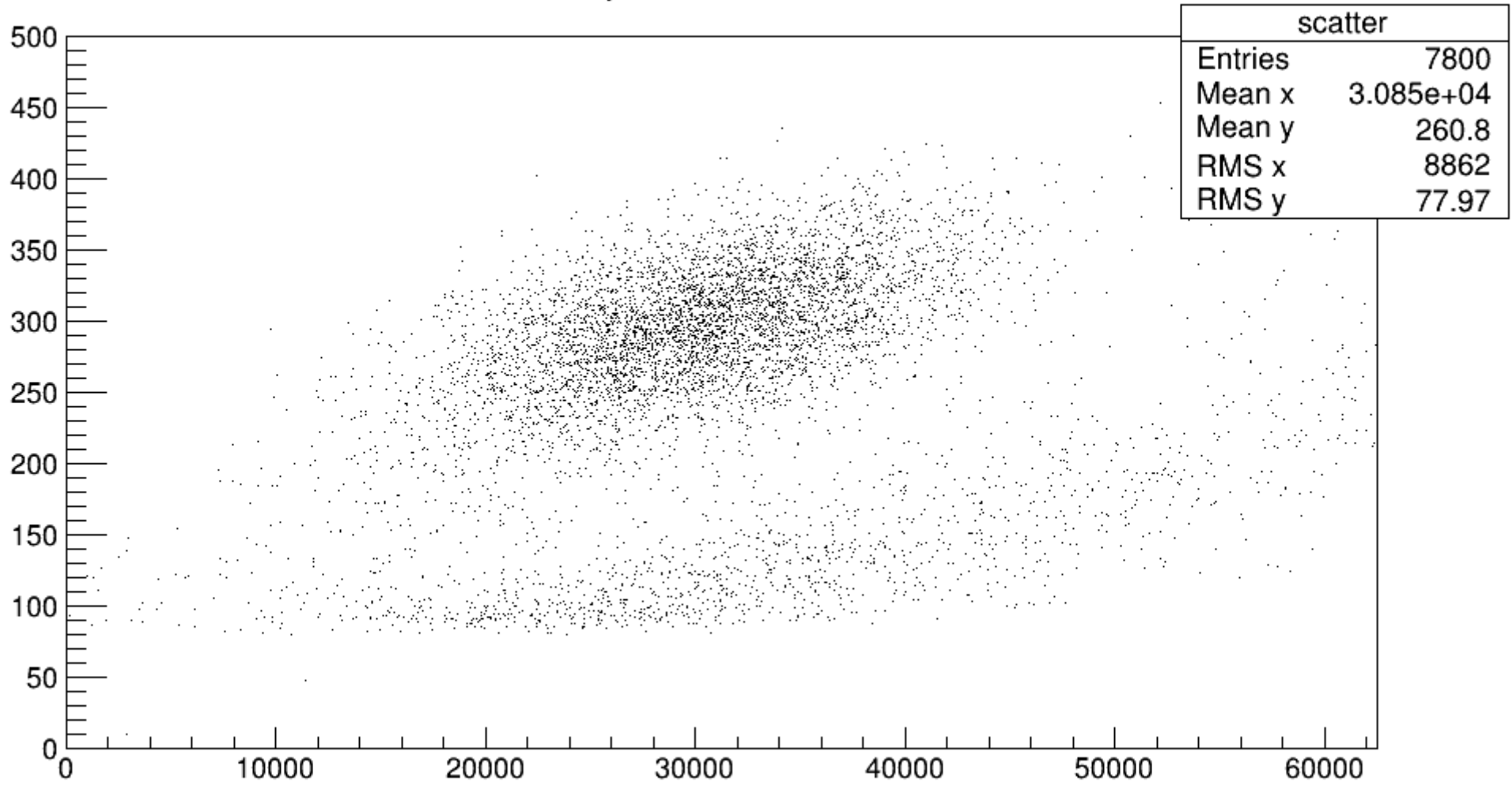
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Pulse Peak cosmic candidates [PEs]



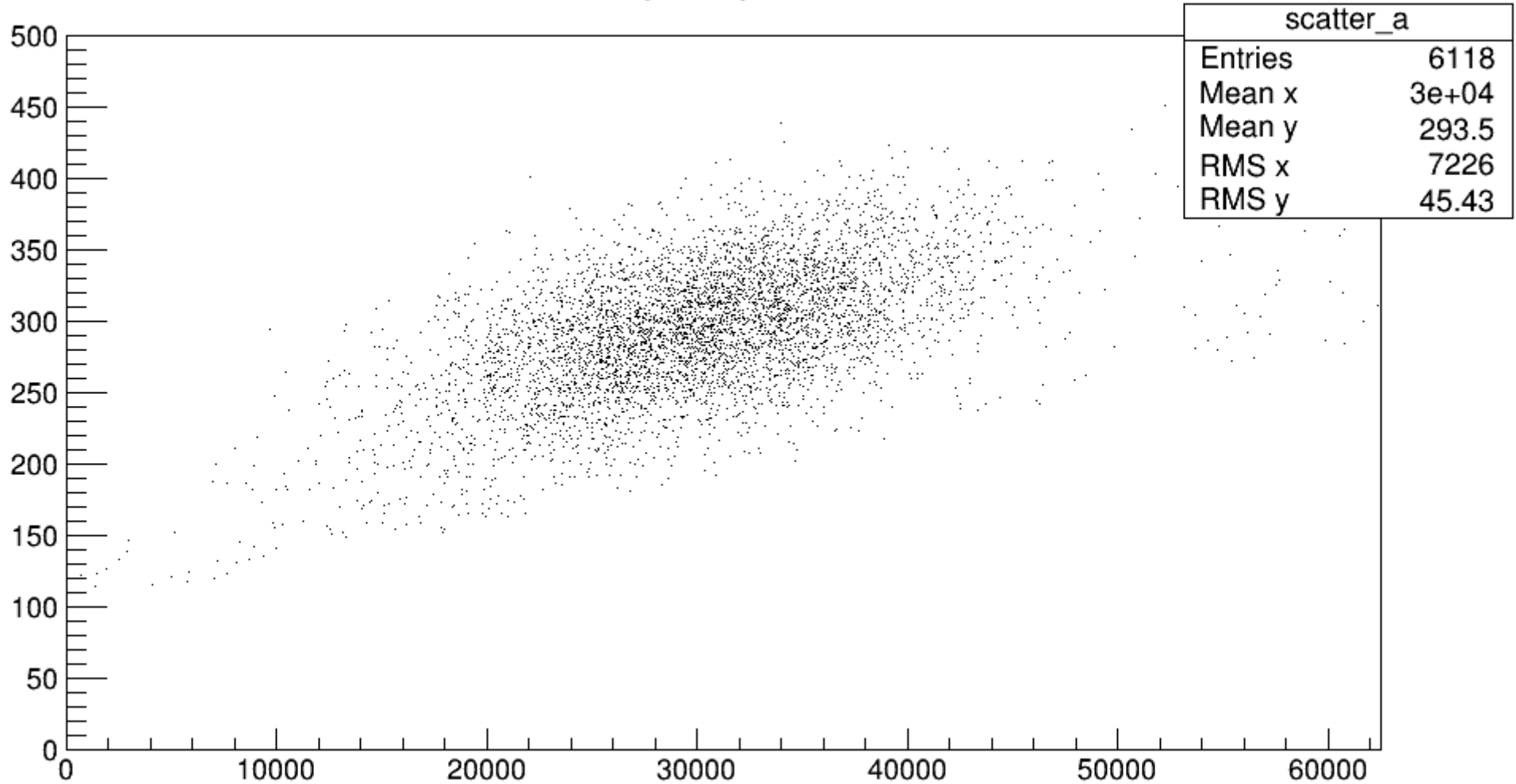
10 nF + 3.2usec integration + LG

Amplitude vs Area



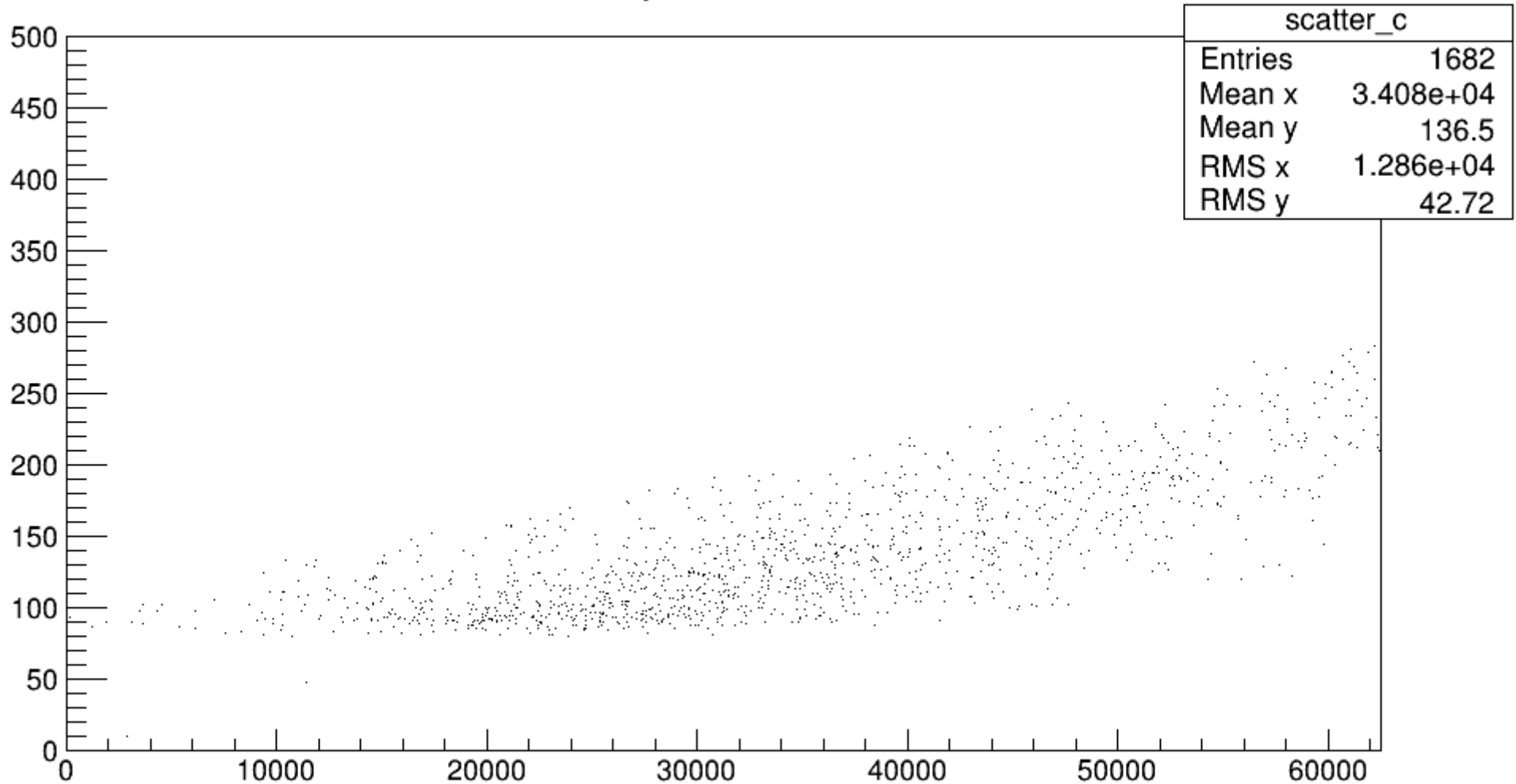
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Area and Amp - alpha candidates



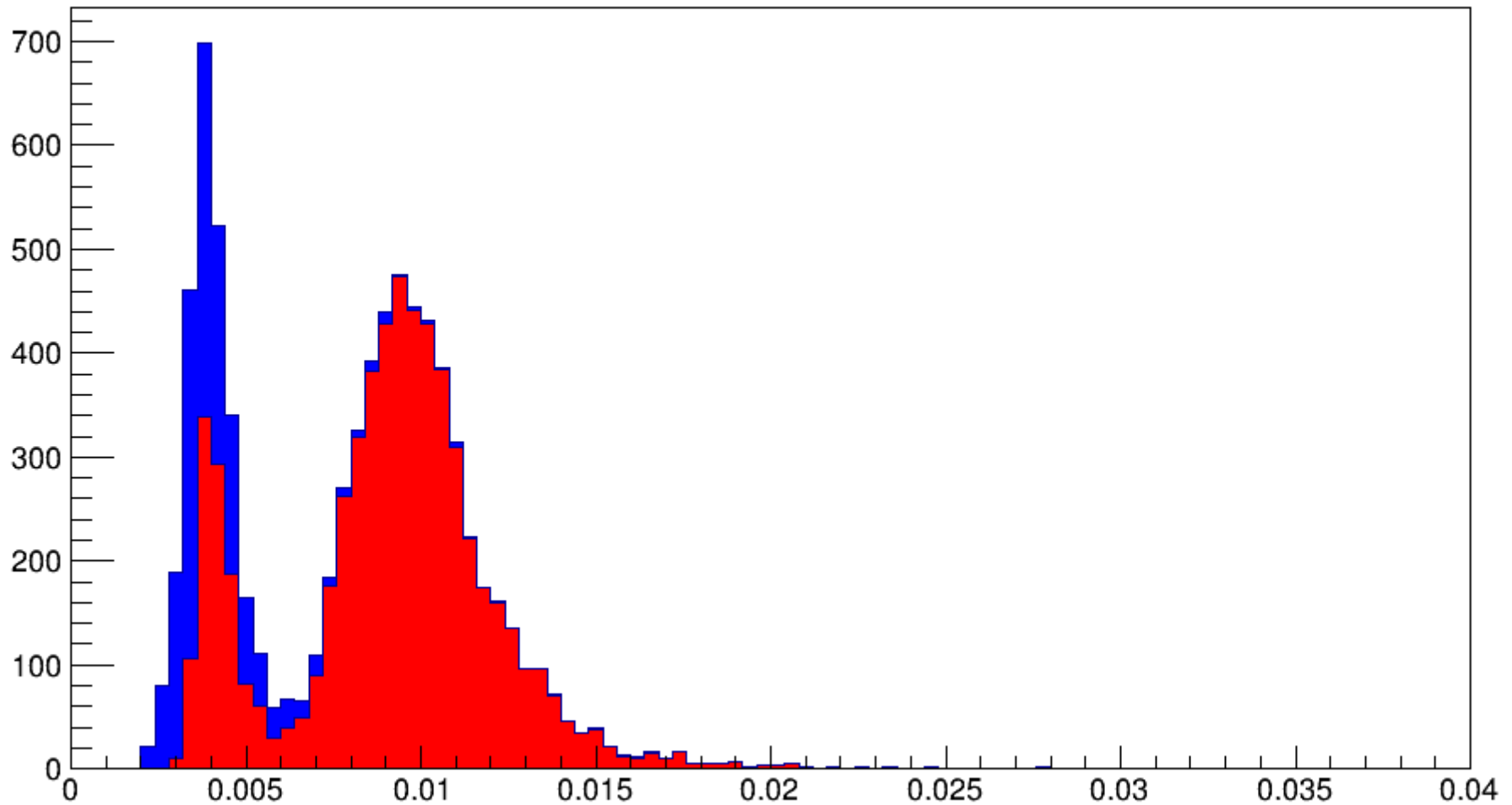
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Area and Amp cosmic candidates



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Amp to Area Ratio [1/PEs]

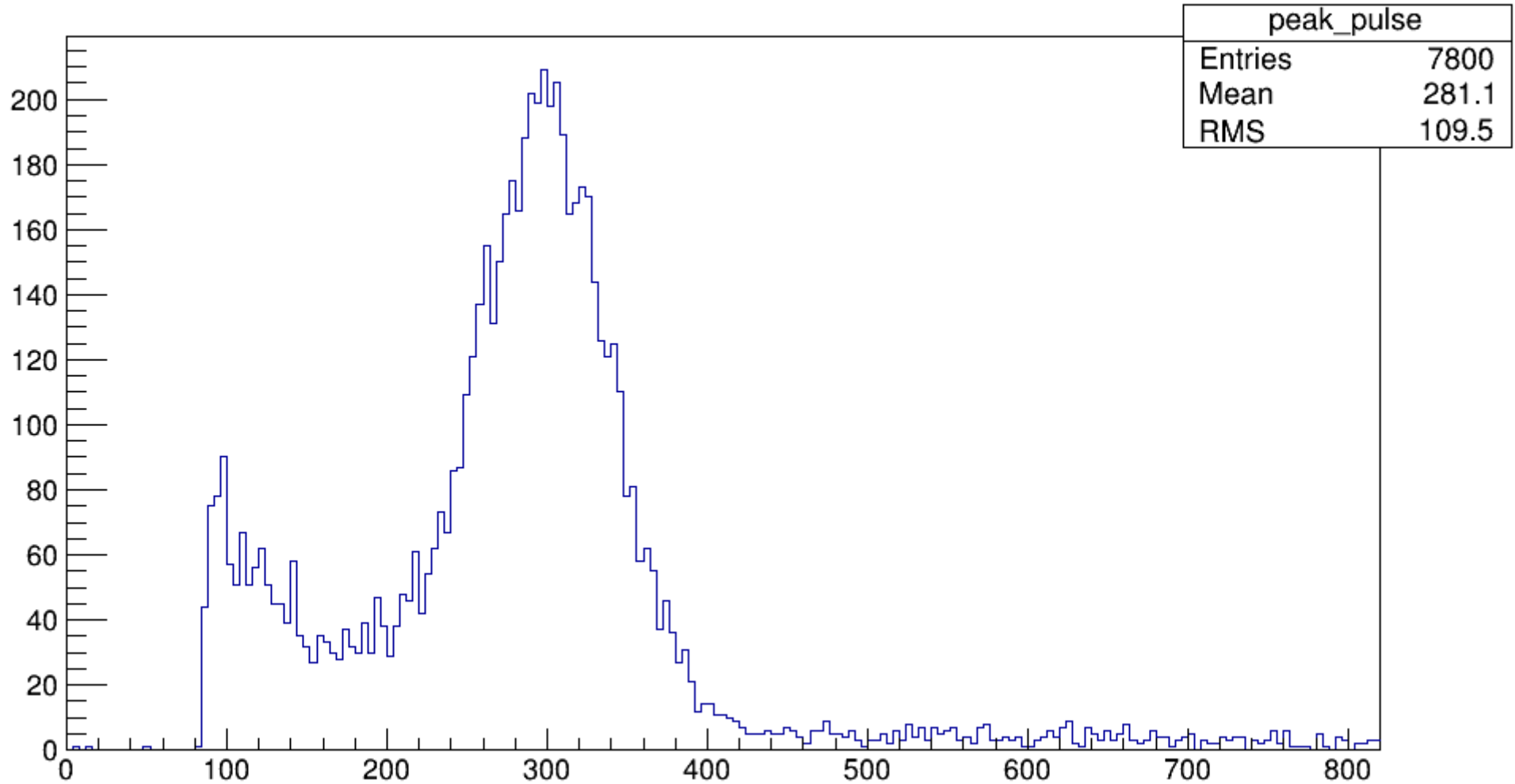


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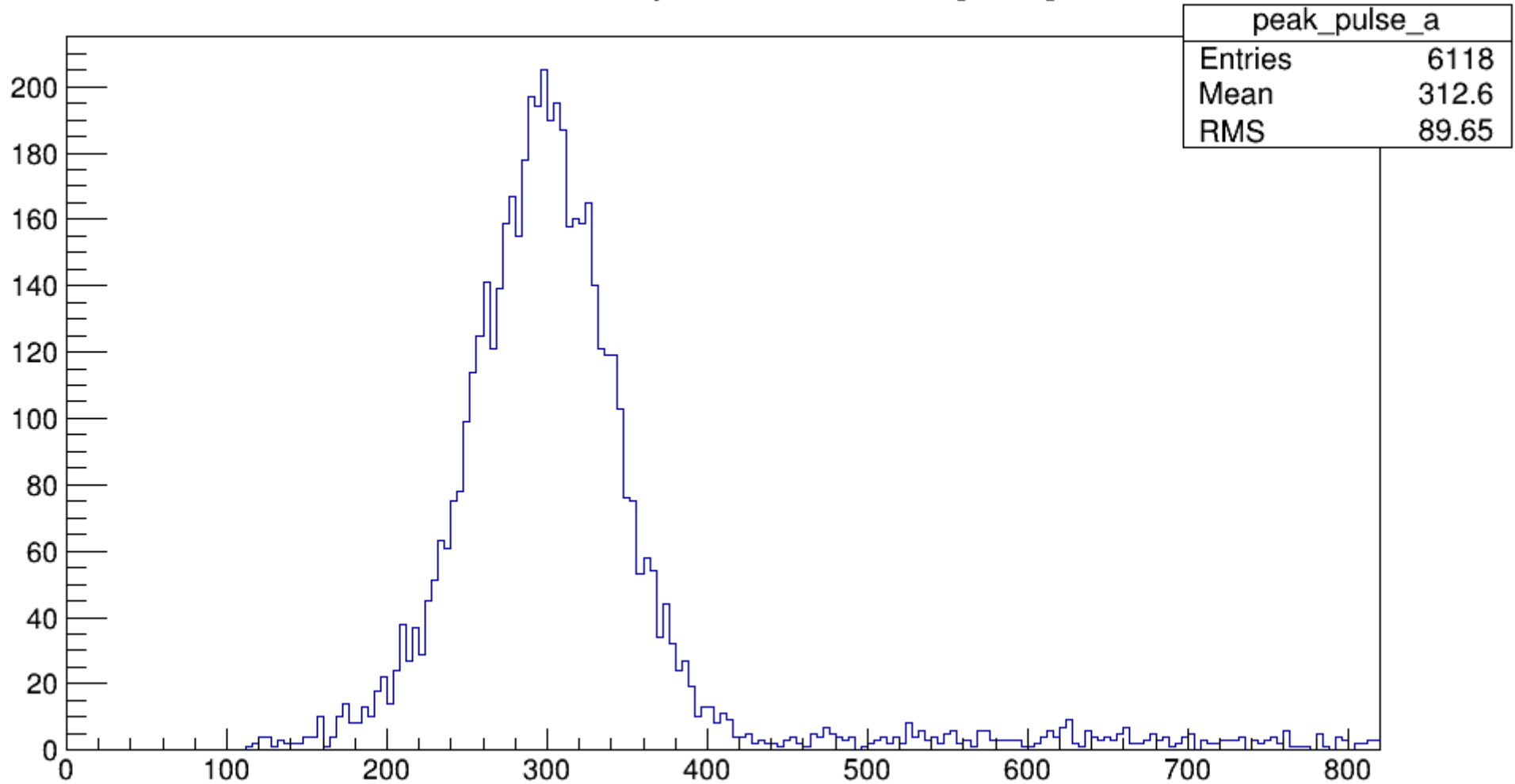
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Pulse Peak [PEs]



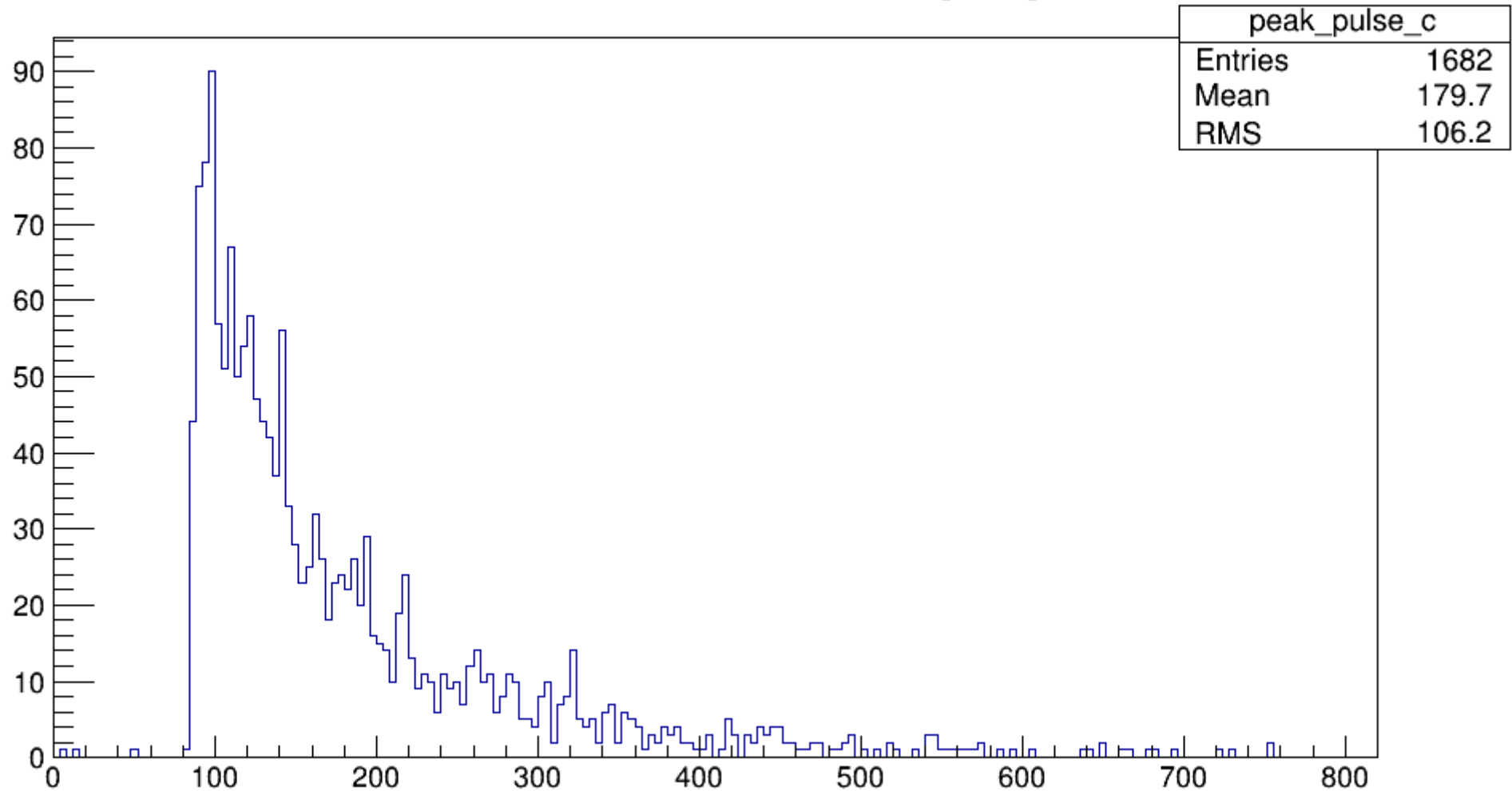
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Pulse Peak - alpha candidates [PEs]



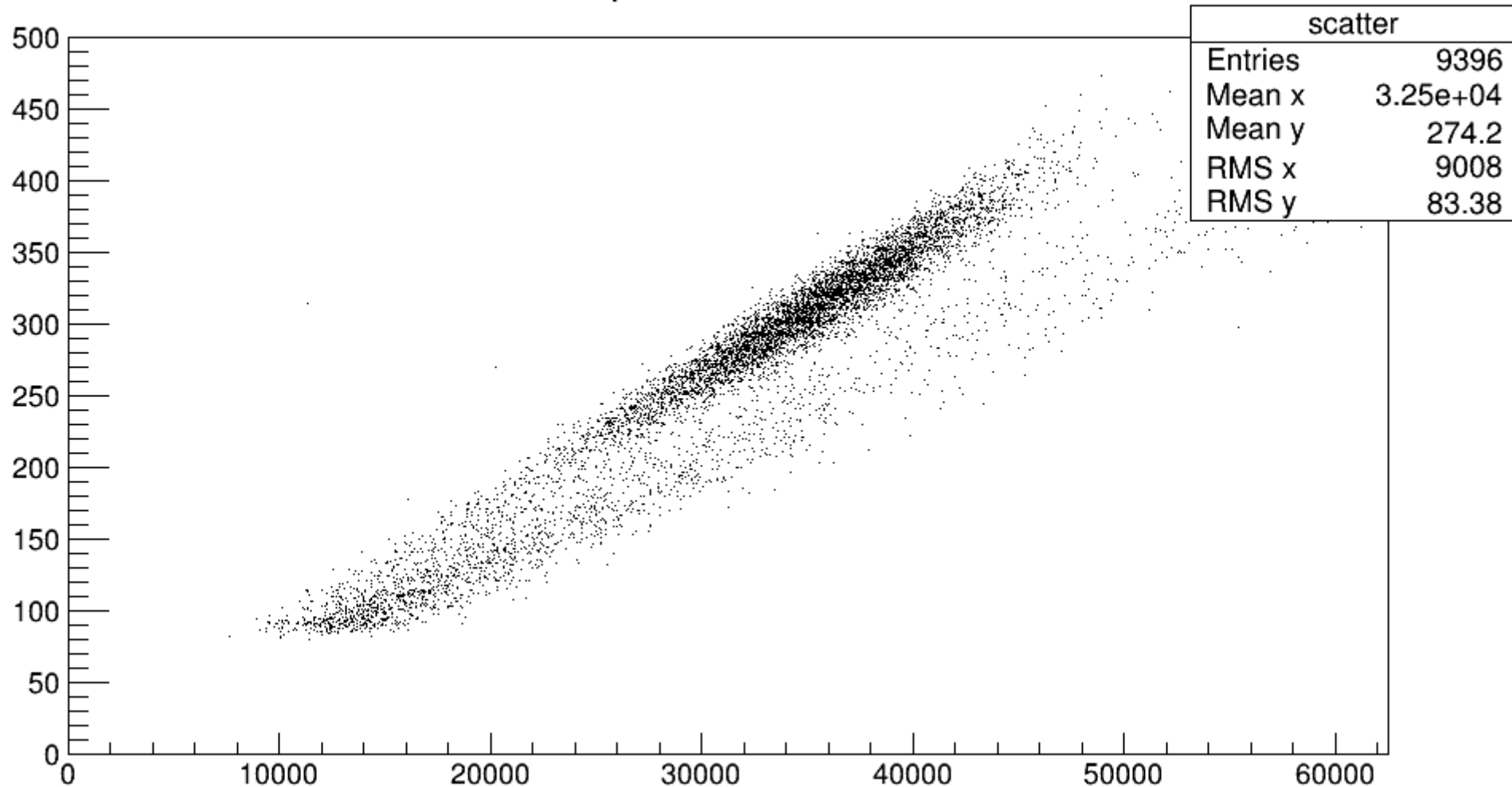
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Pulse Peak cosmic candidates [PEs]



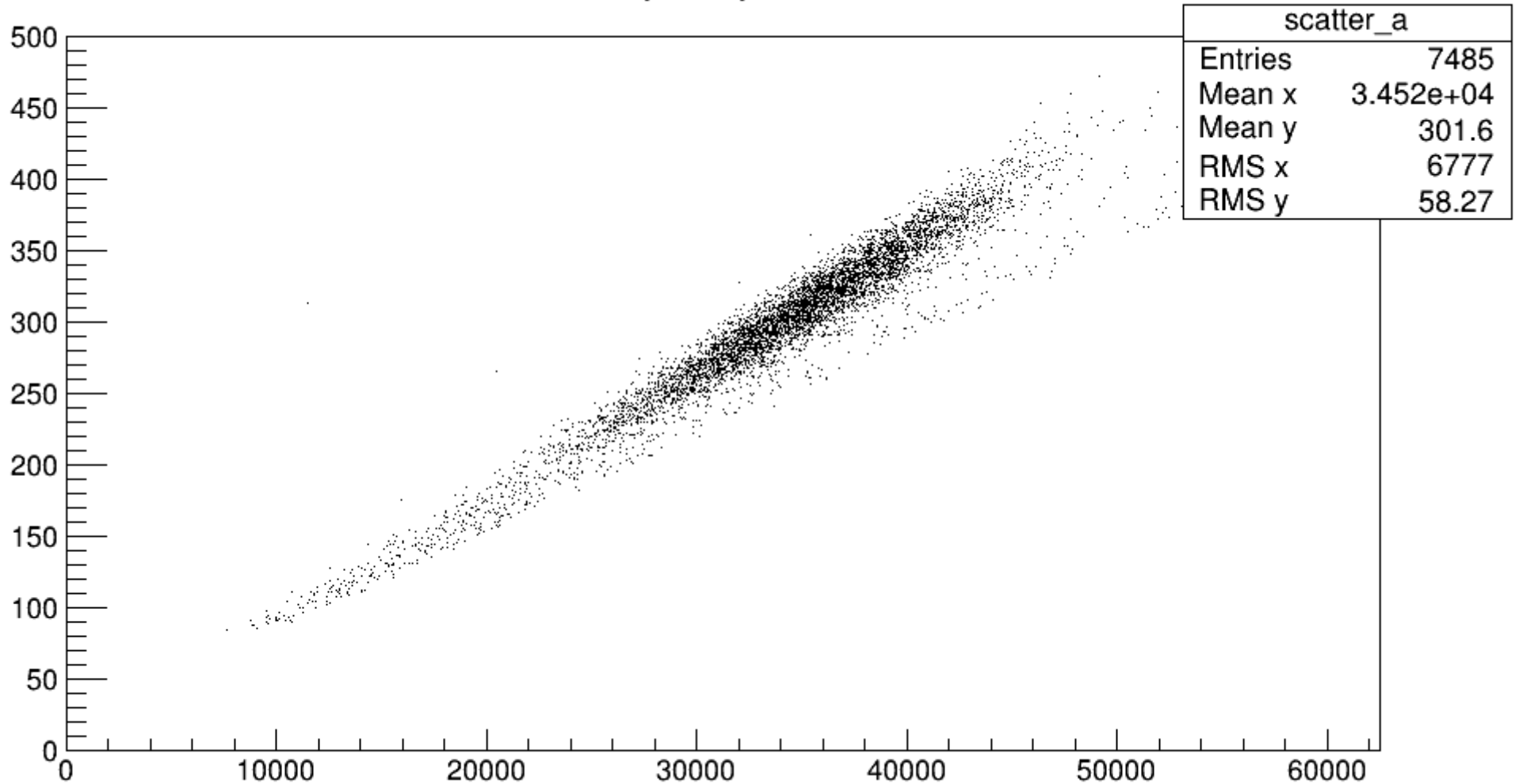
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Amplitude vs Area



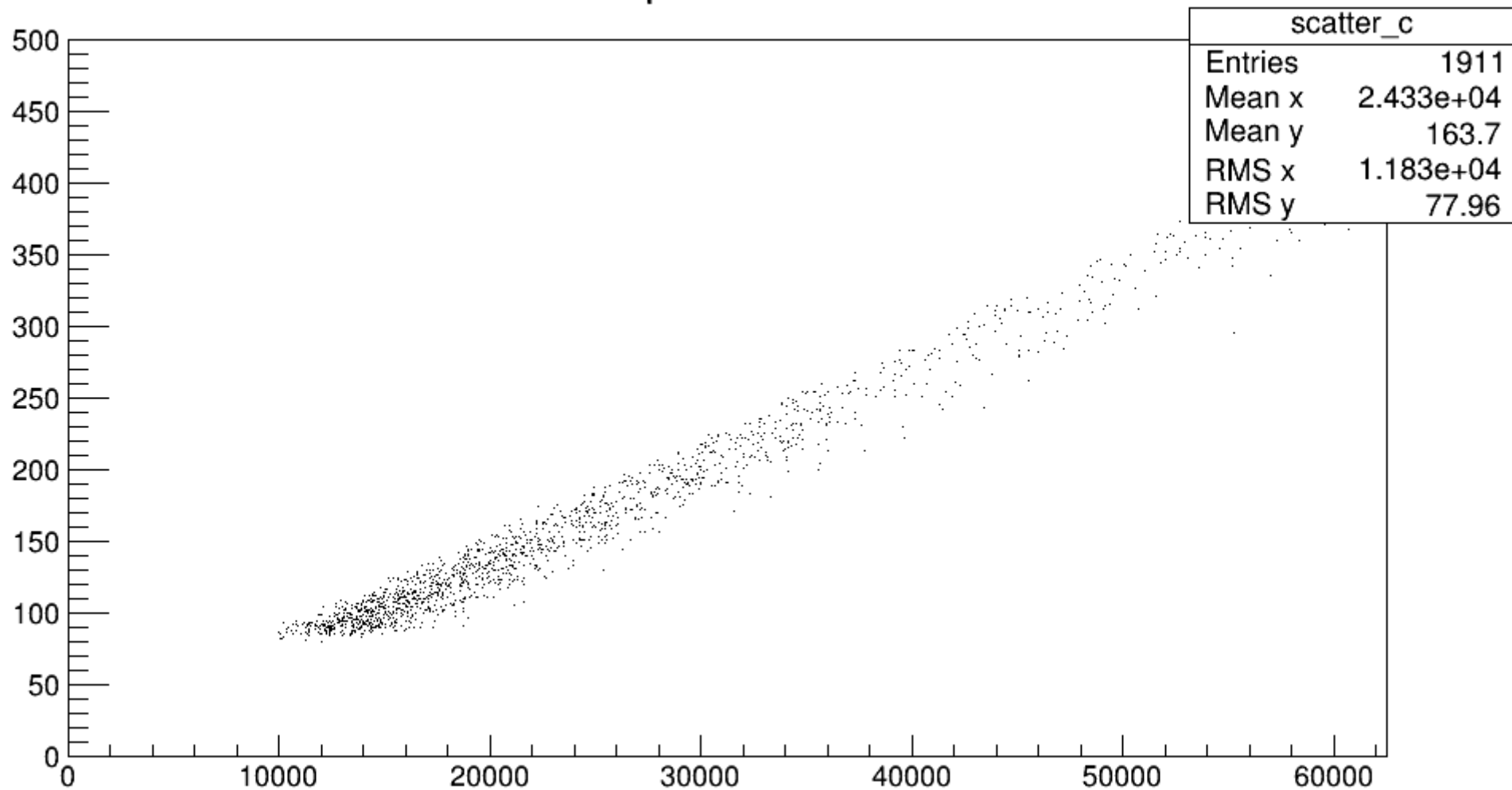
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Area and Amp - alpha candidates



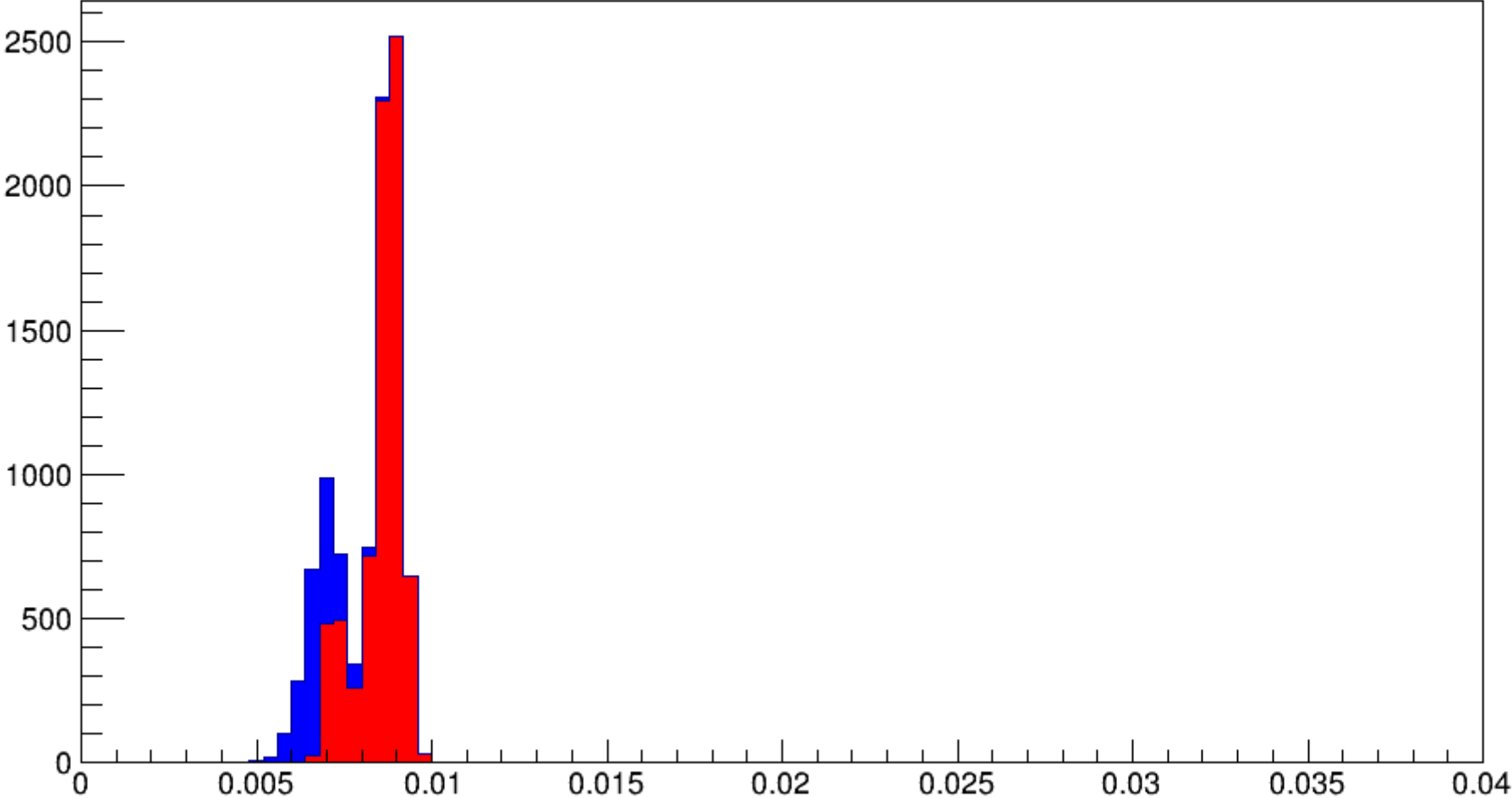
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Amp to Area Ratio [1/PEs]

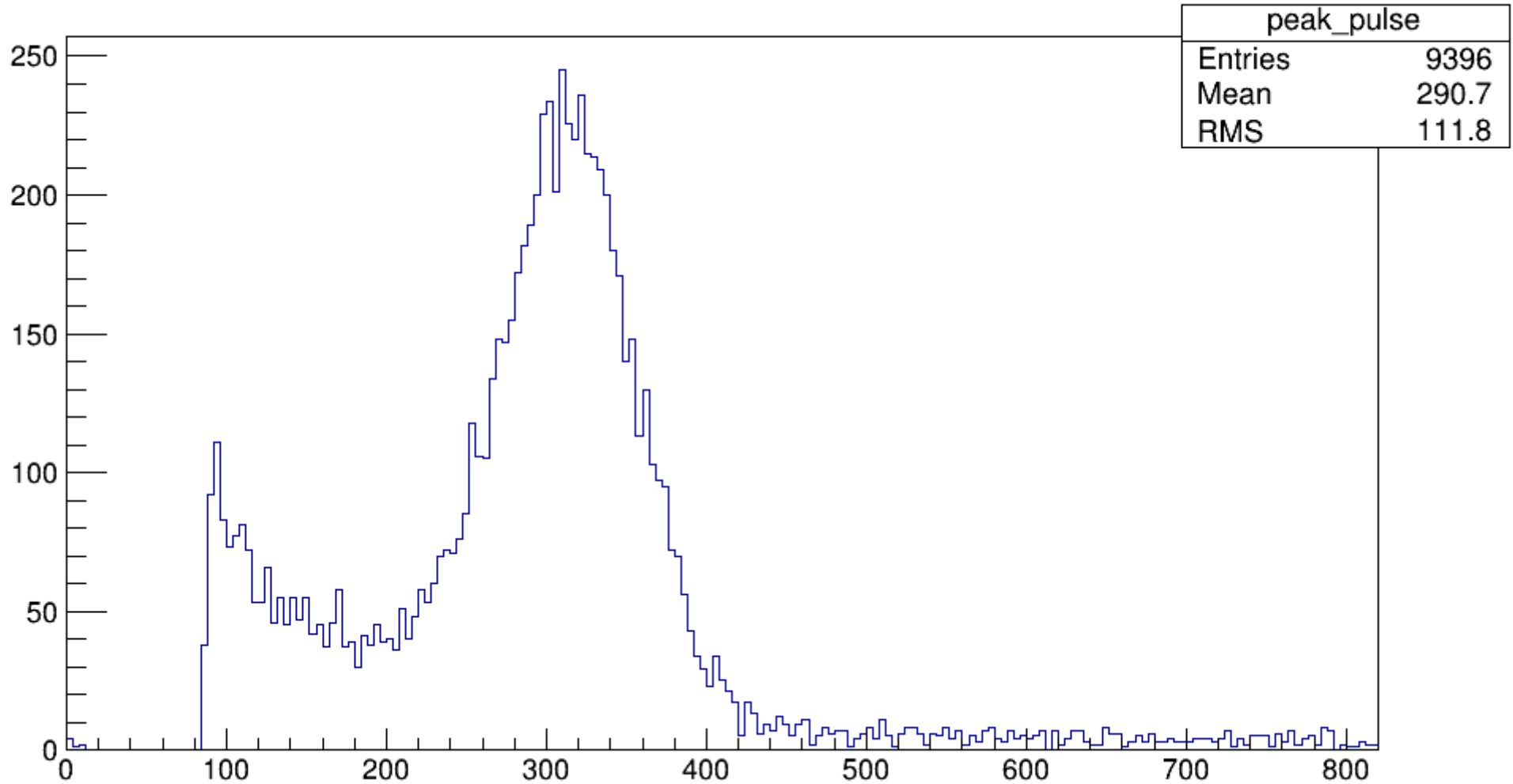


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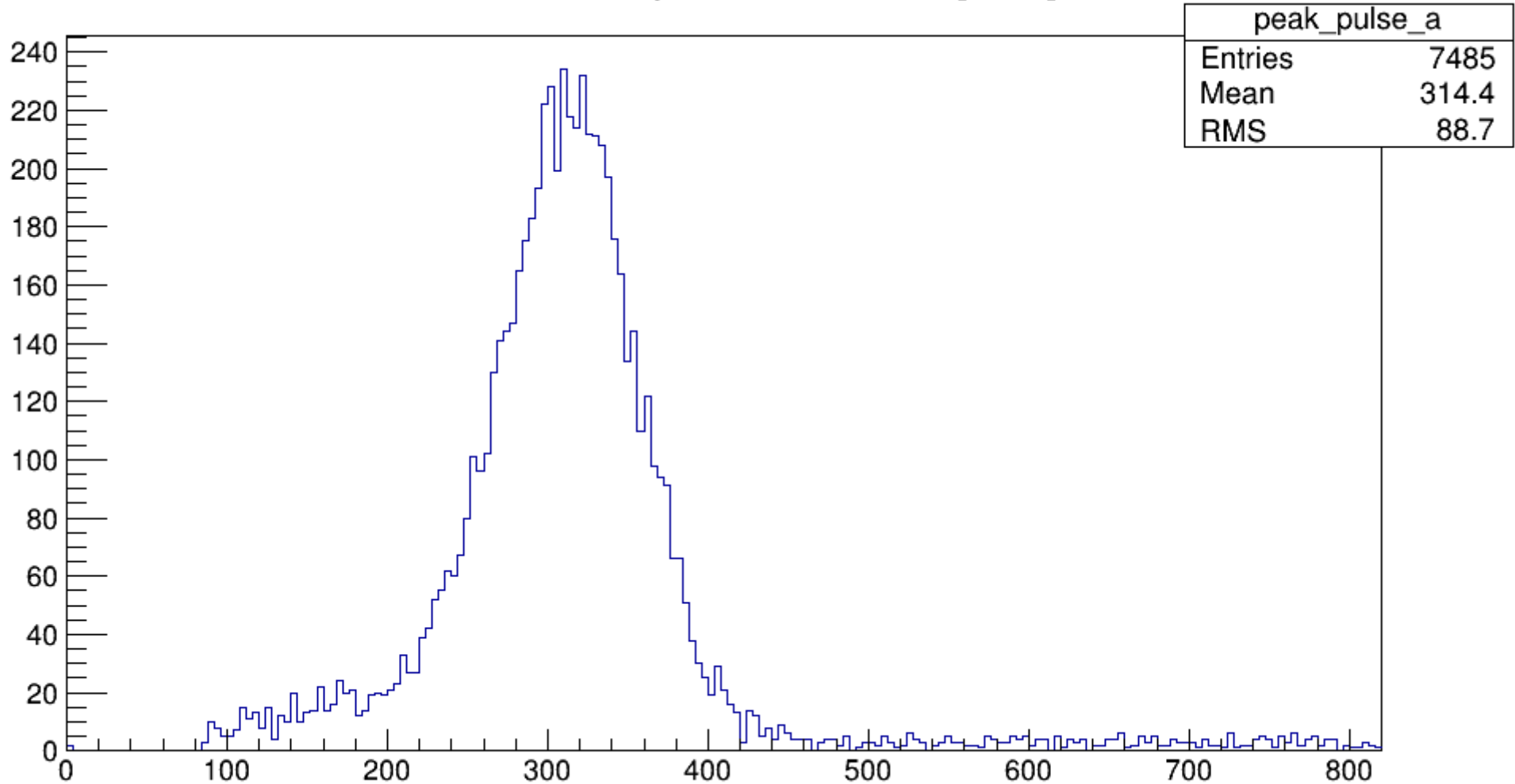
20nF + 20 bins integration + LG

Pulse Peak [PEs]



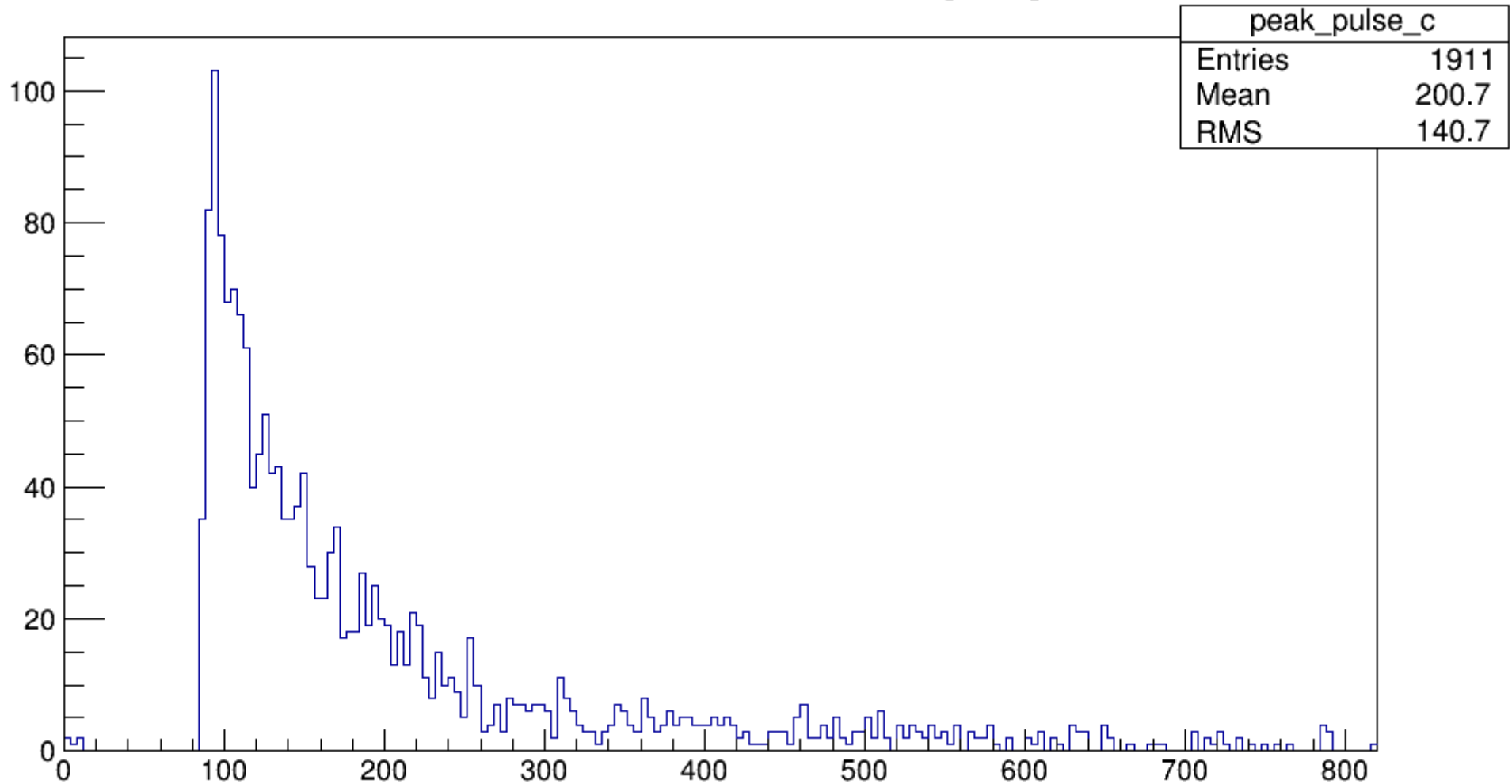
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Pulse Peak - alpha candidates [PEs]



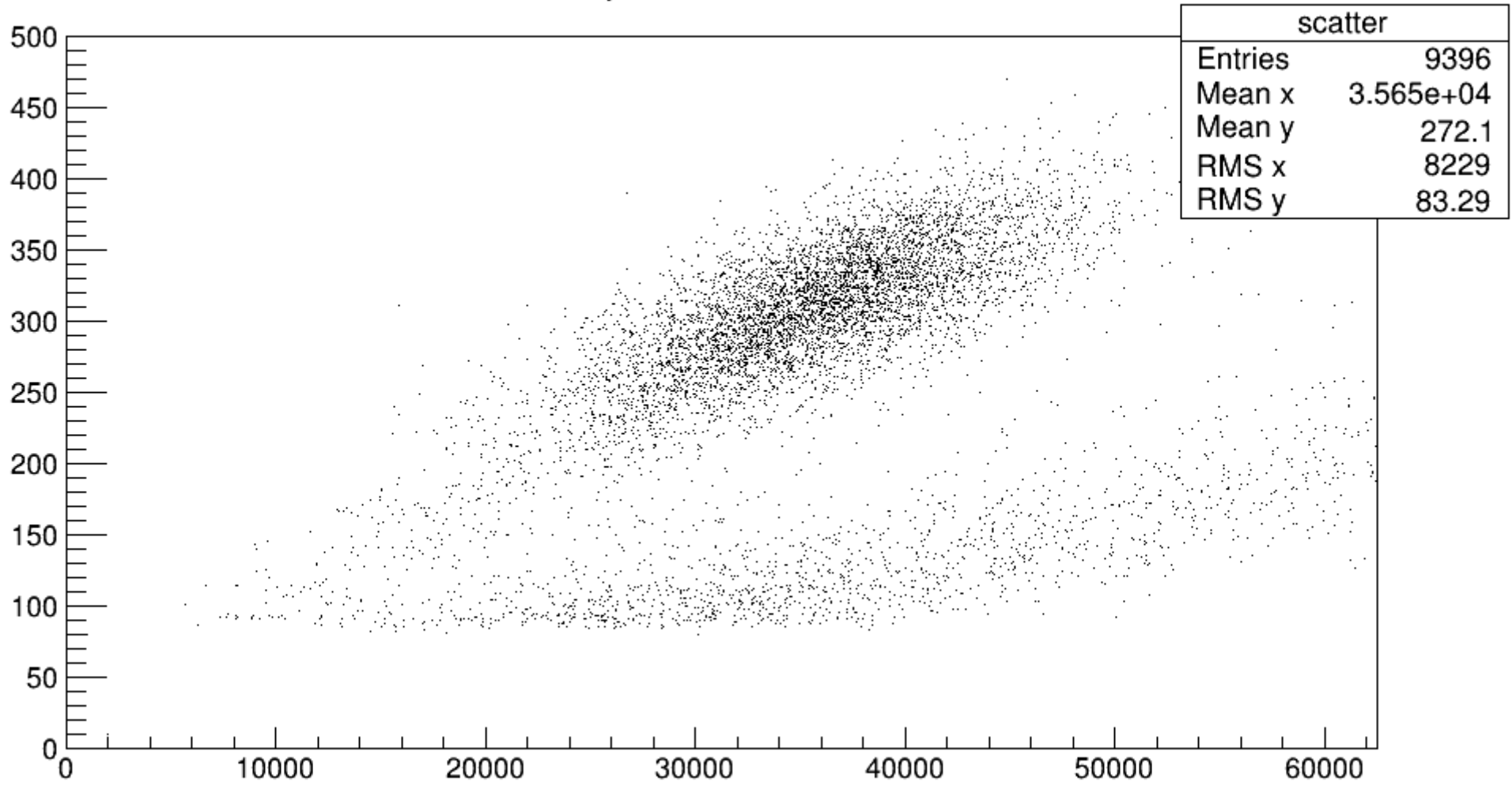
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Pulse Peak cosmic candidates [PEs]



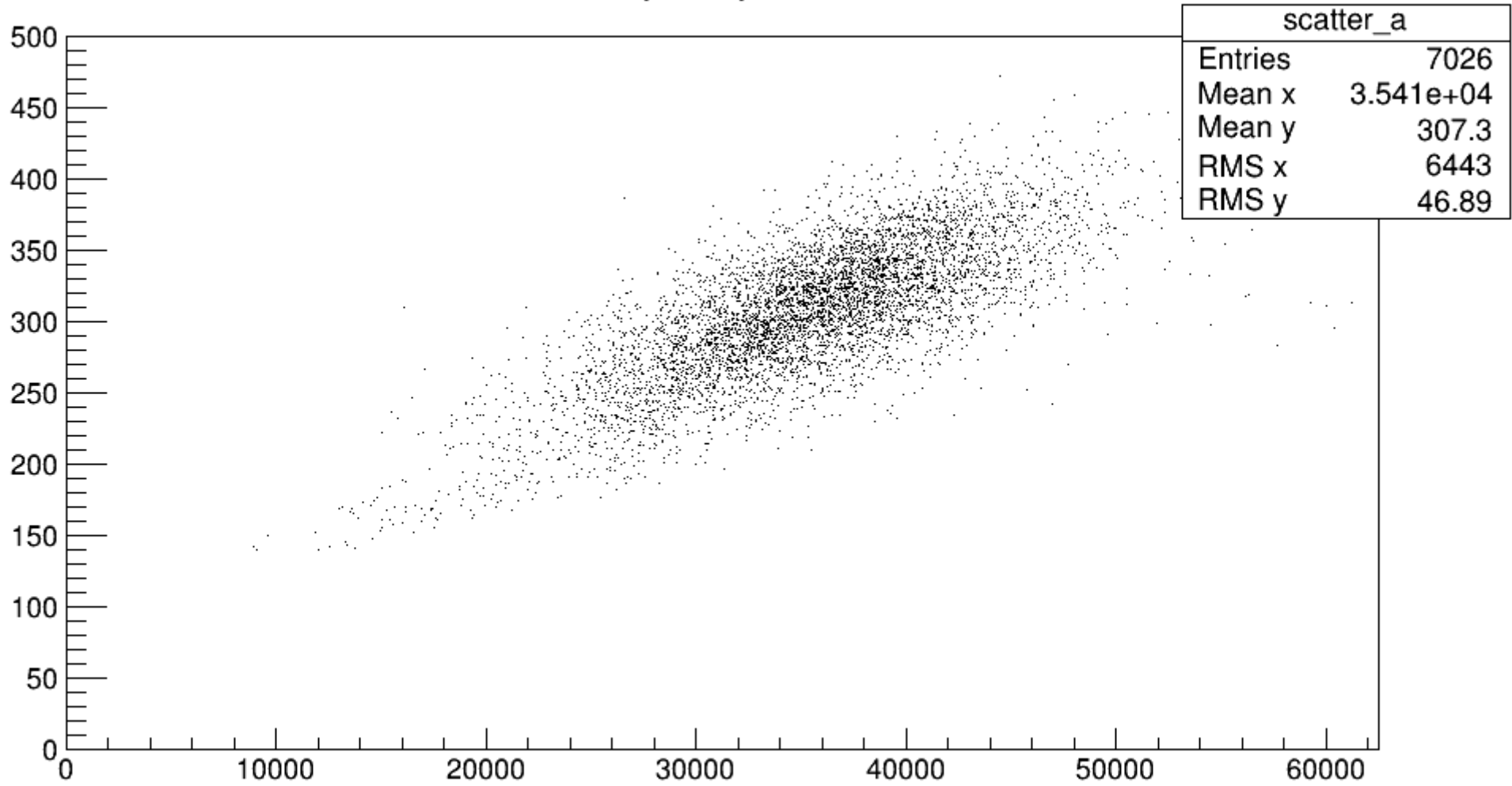
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Amplitude vs Area



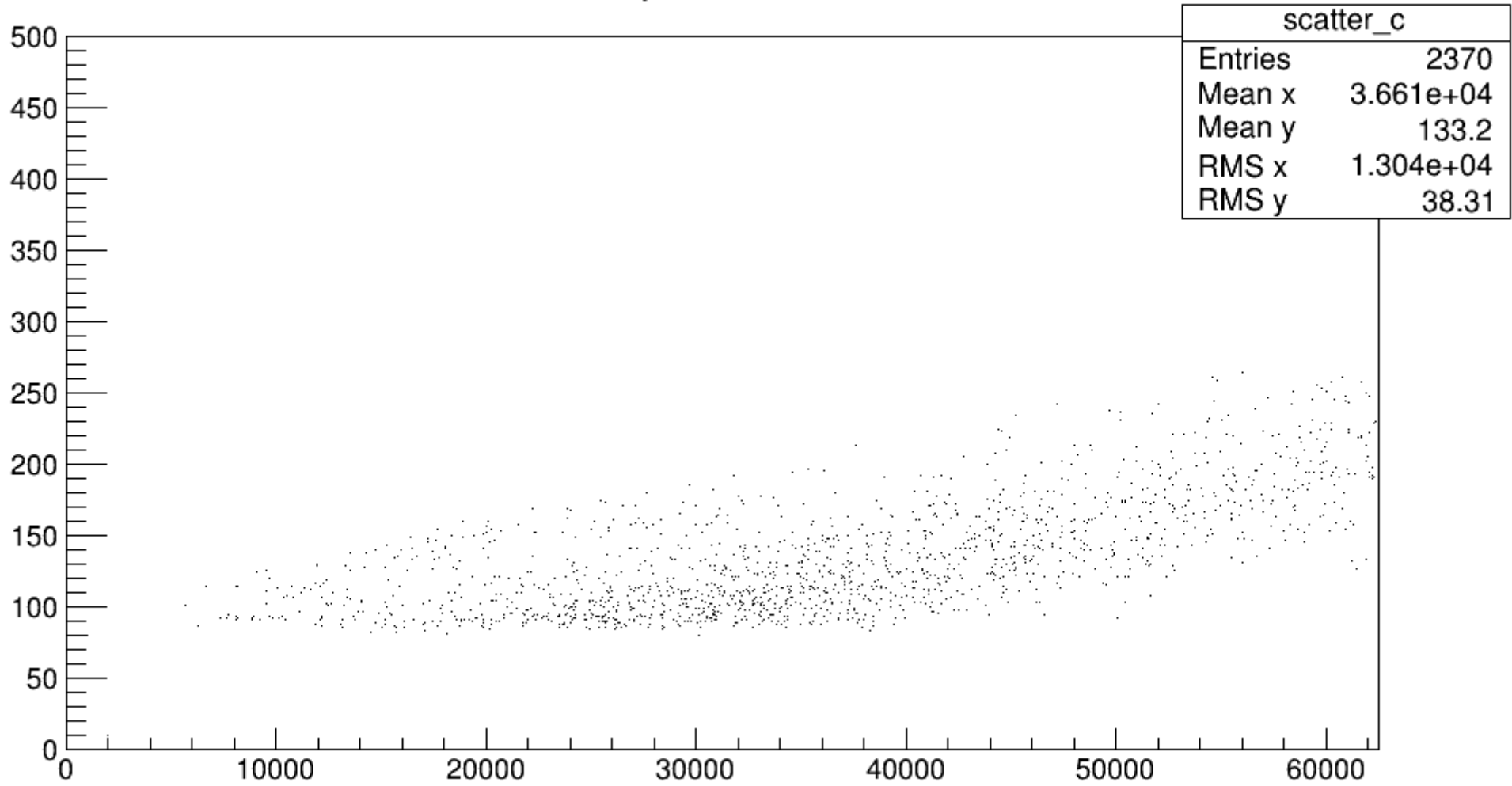
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Area and Amp - alpha candidates



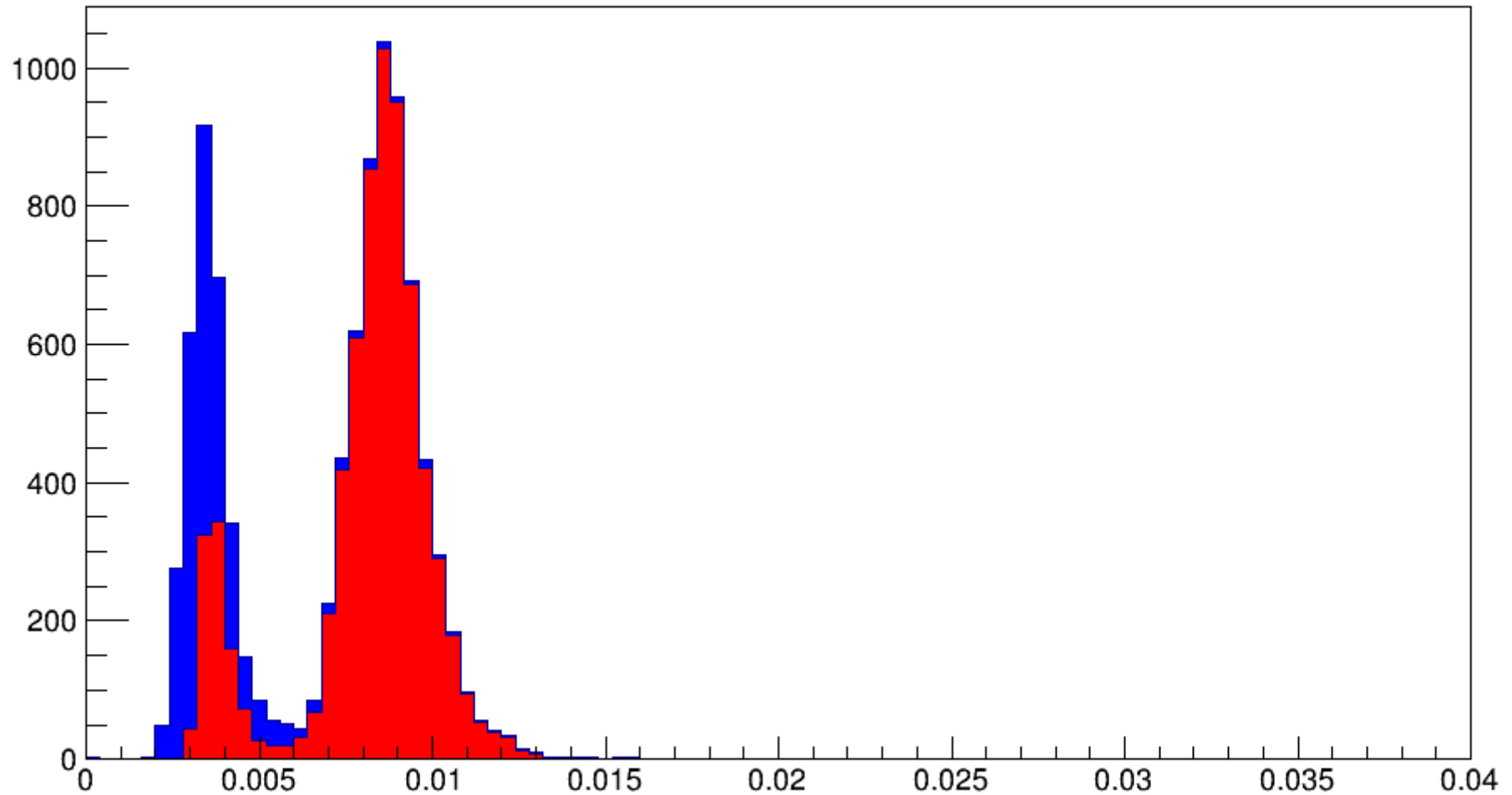
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Amp to Area Ratio [1/PEs]

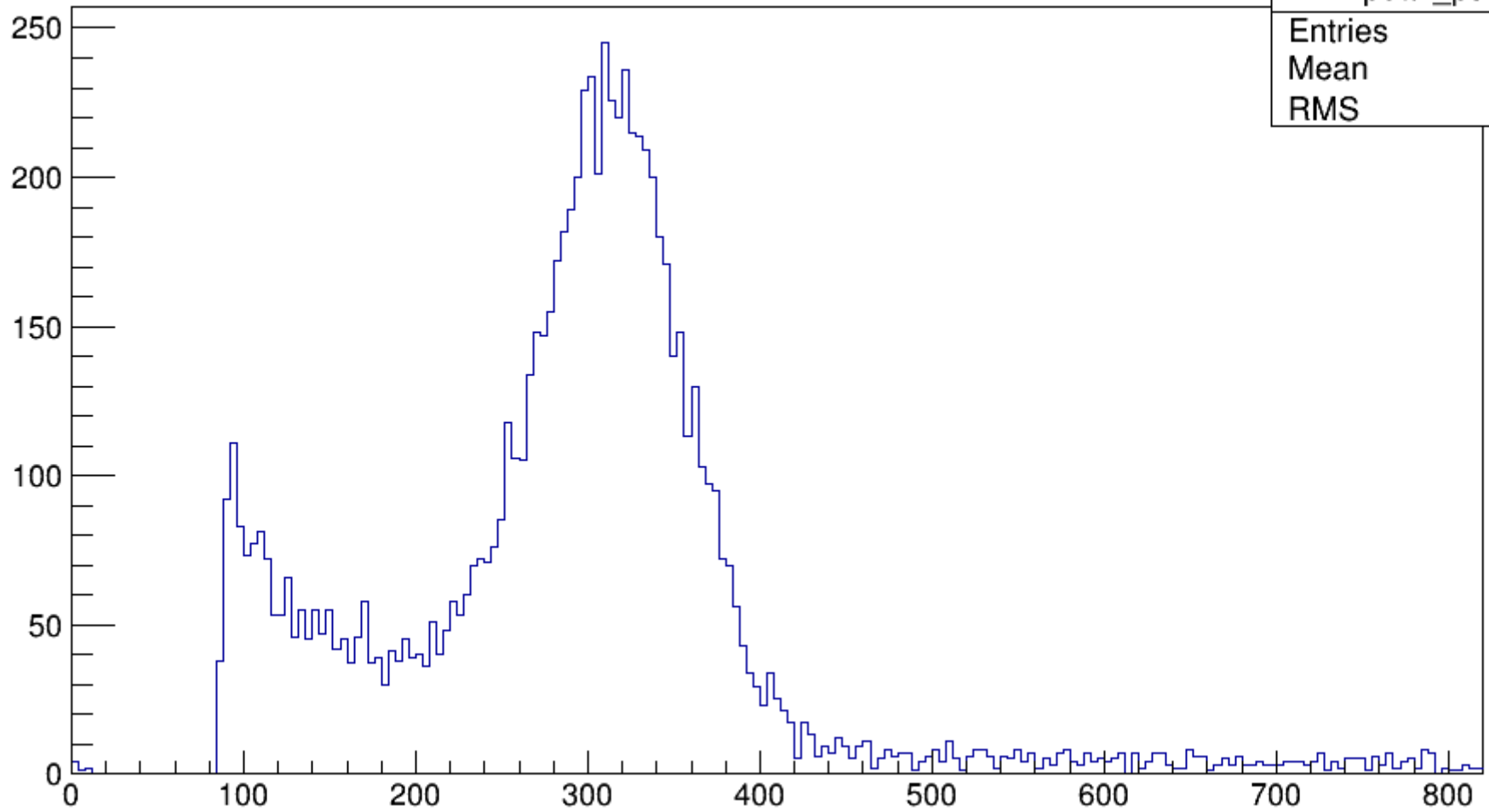


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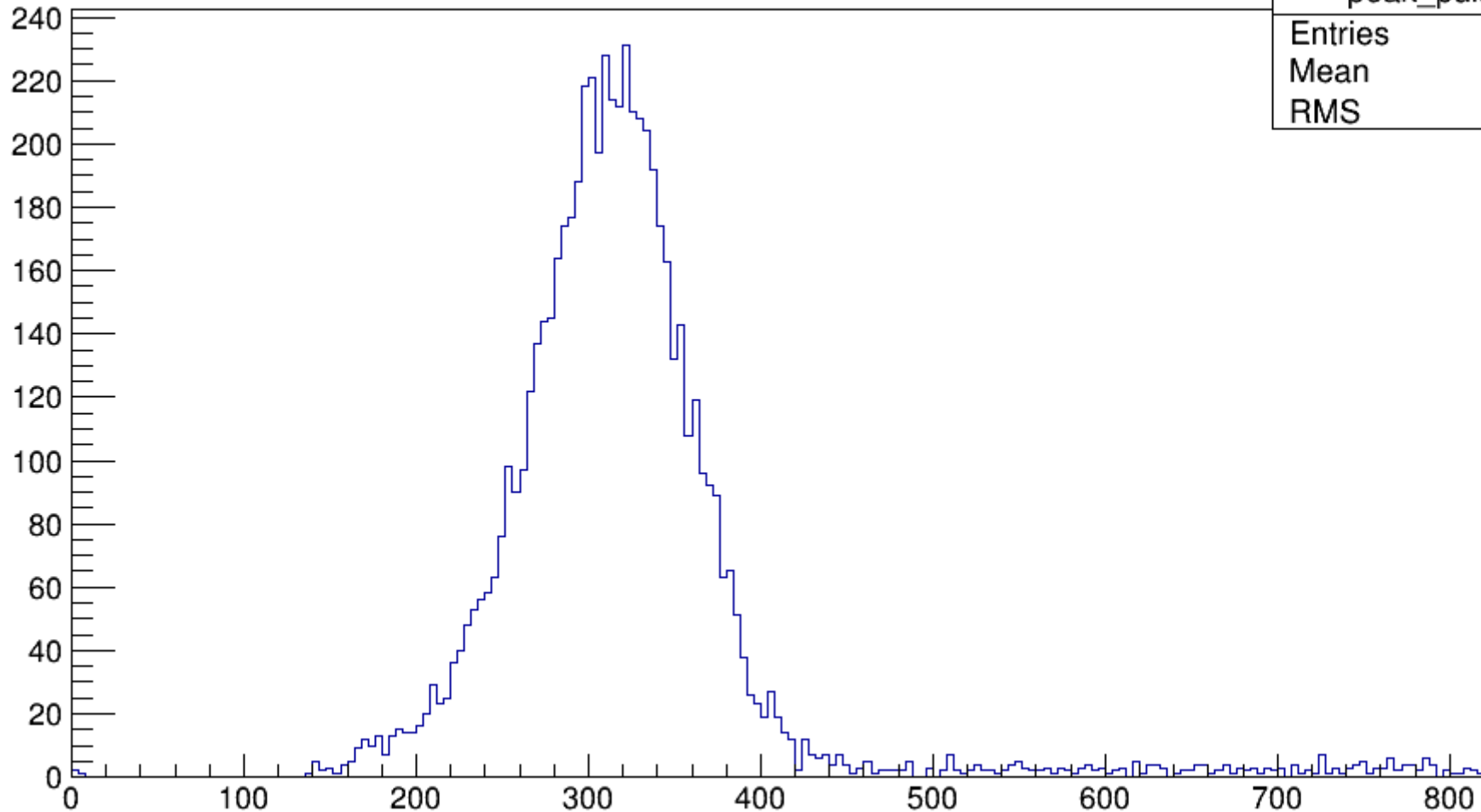
Pulse Peak [PEs]



peak_pulse	
Entries	9396
Mean	290.7
RMS	111.8

20nF + 3.2usec integration + LG

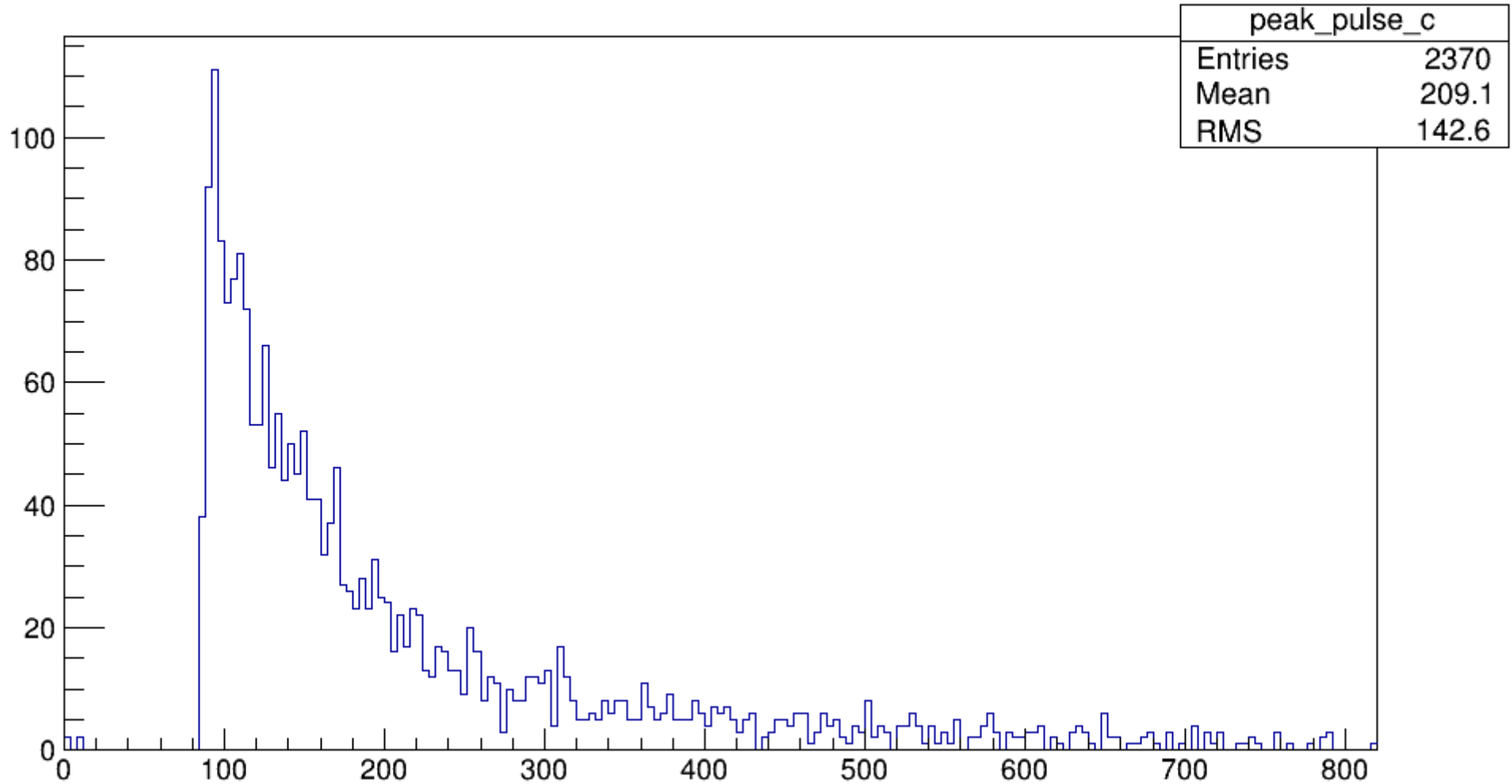
Pulse Peak - alpha candidates [PEs]



peak_pulse_a	
Entries	7026
Mean	319.9
RMS	80.31

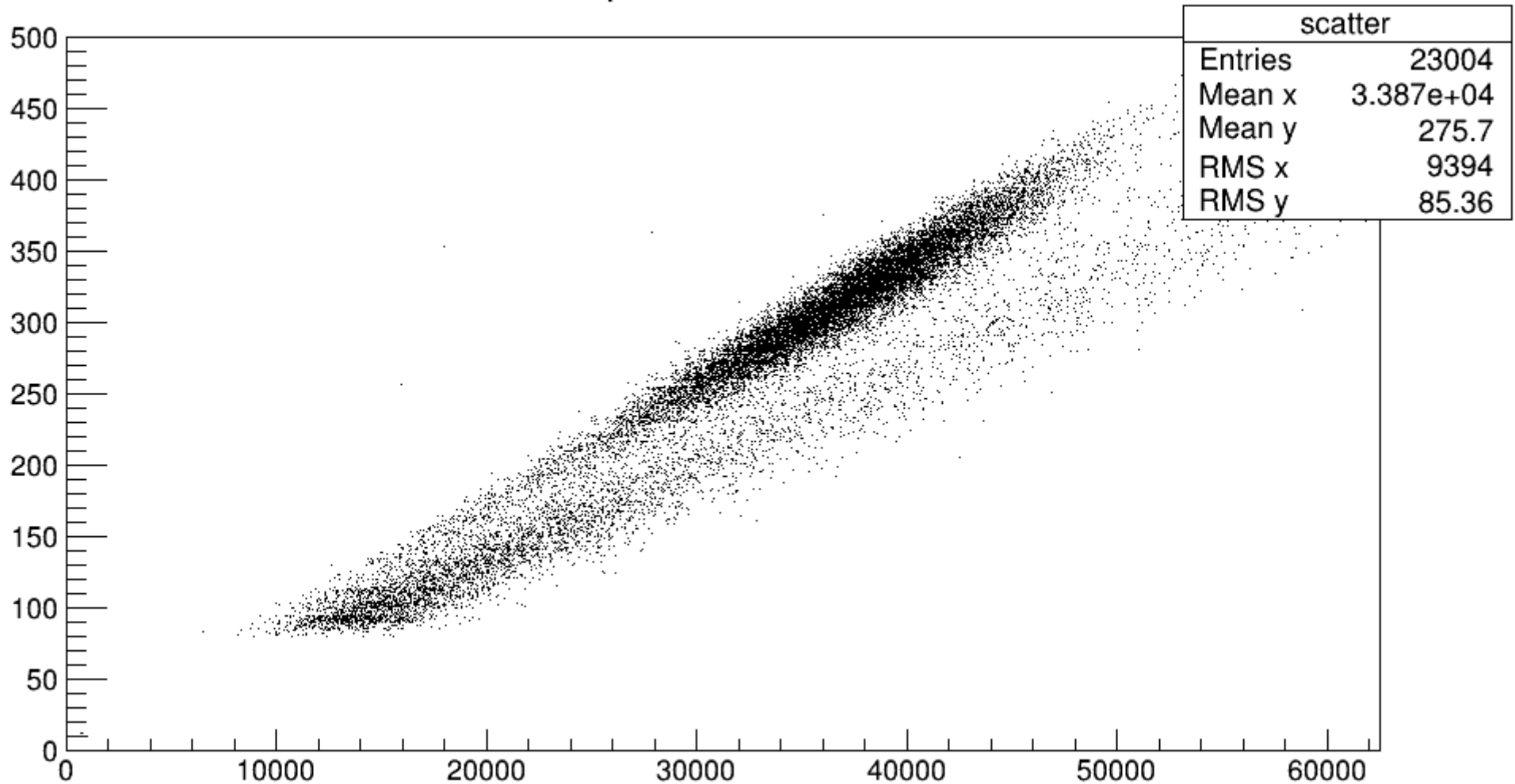
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Pulse Peak cosmic candidates [PEs]



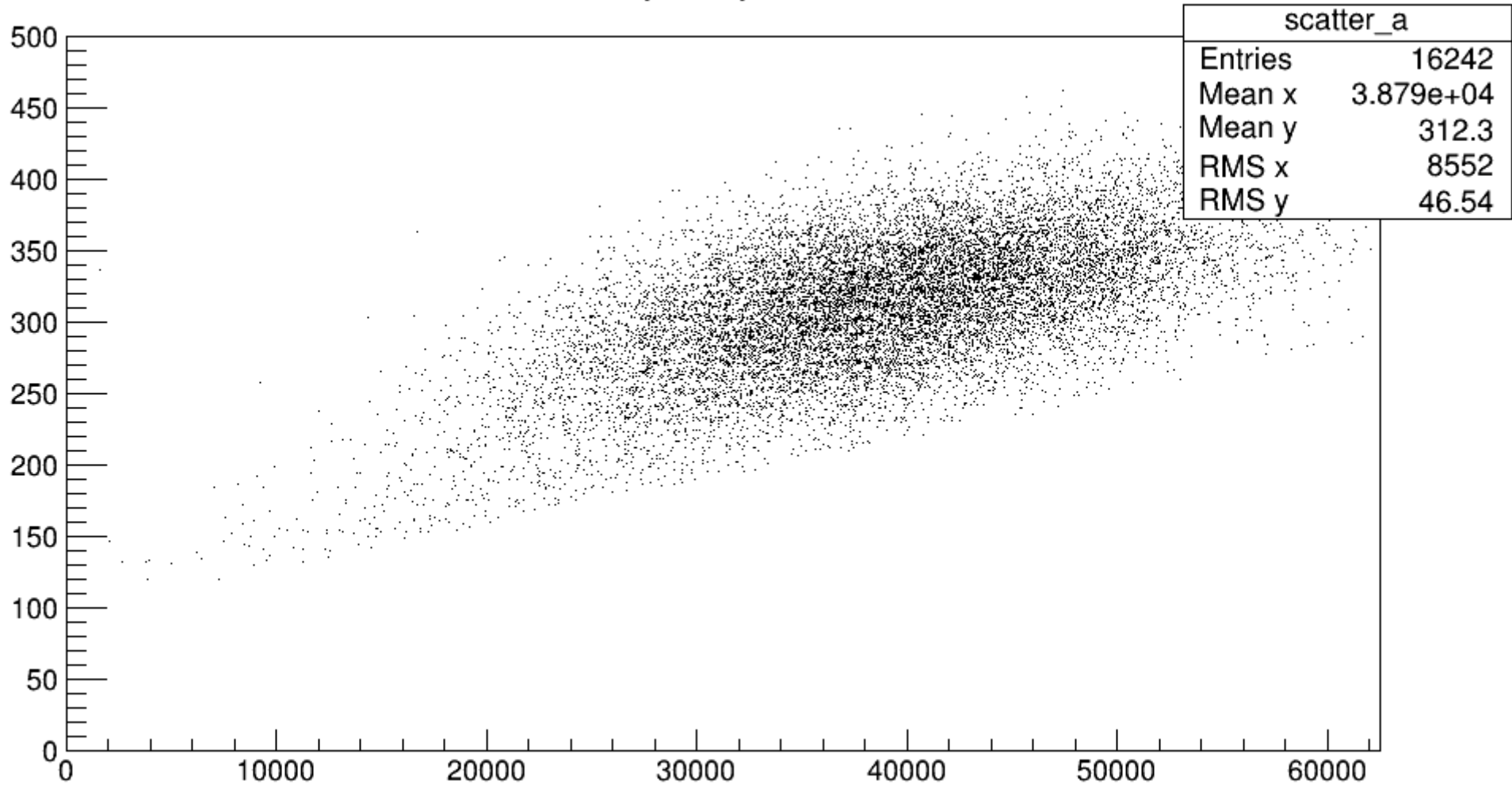
30 nF + 20 bin integration + LG

Amplitude vs Area



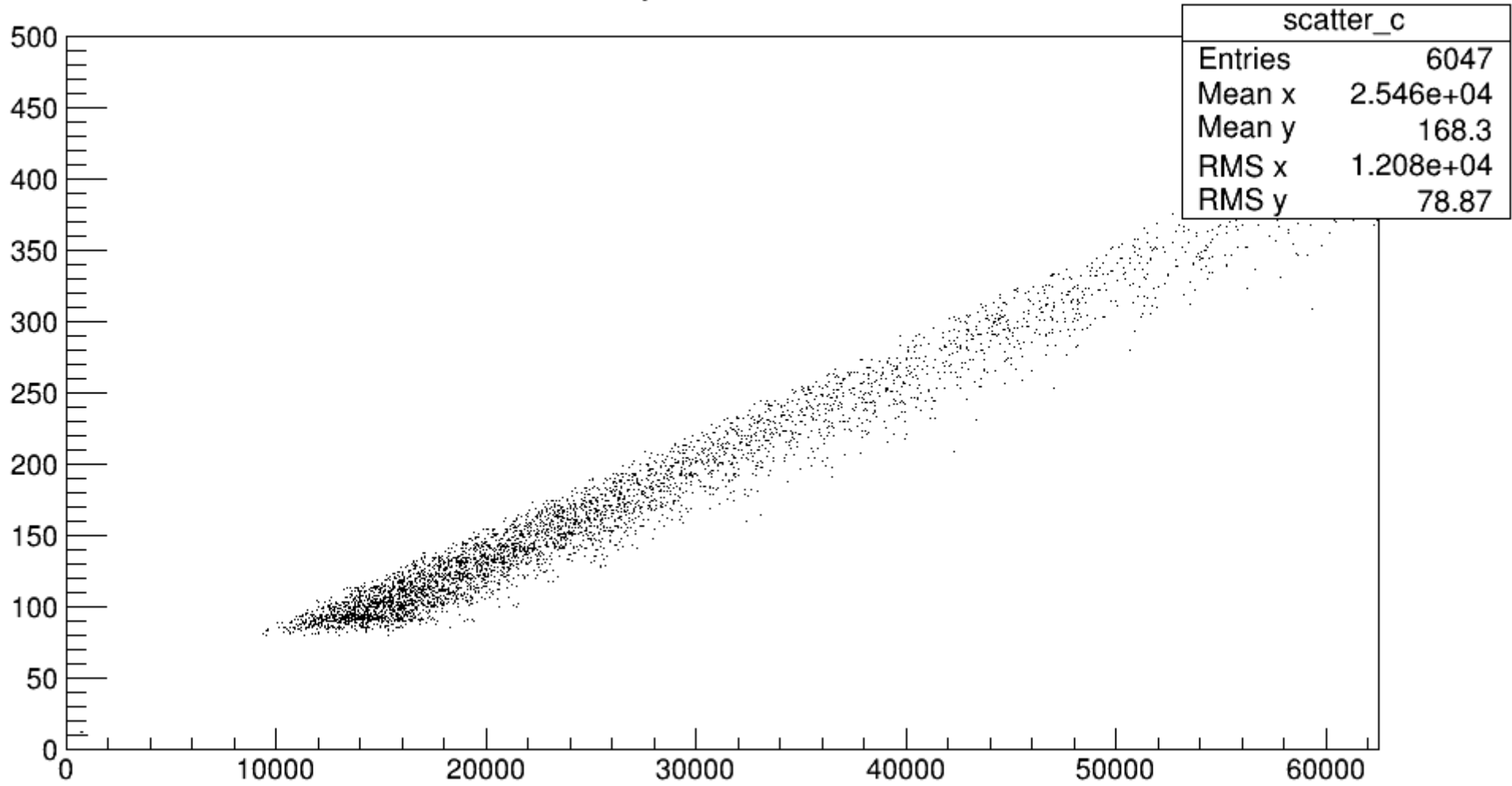
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Area and Amp - alpha candidates



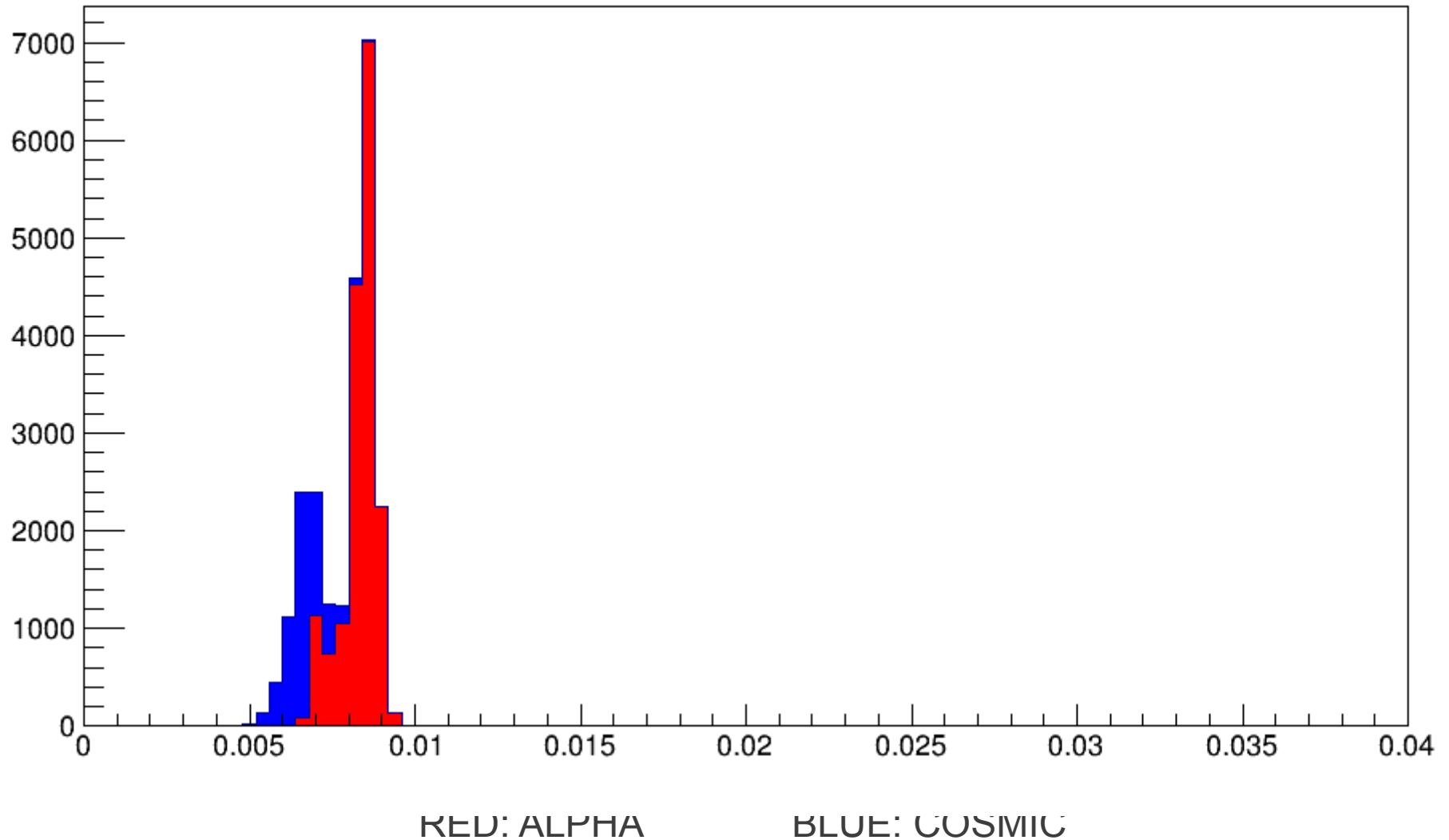
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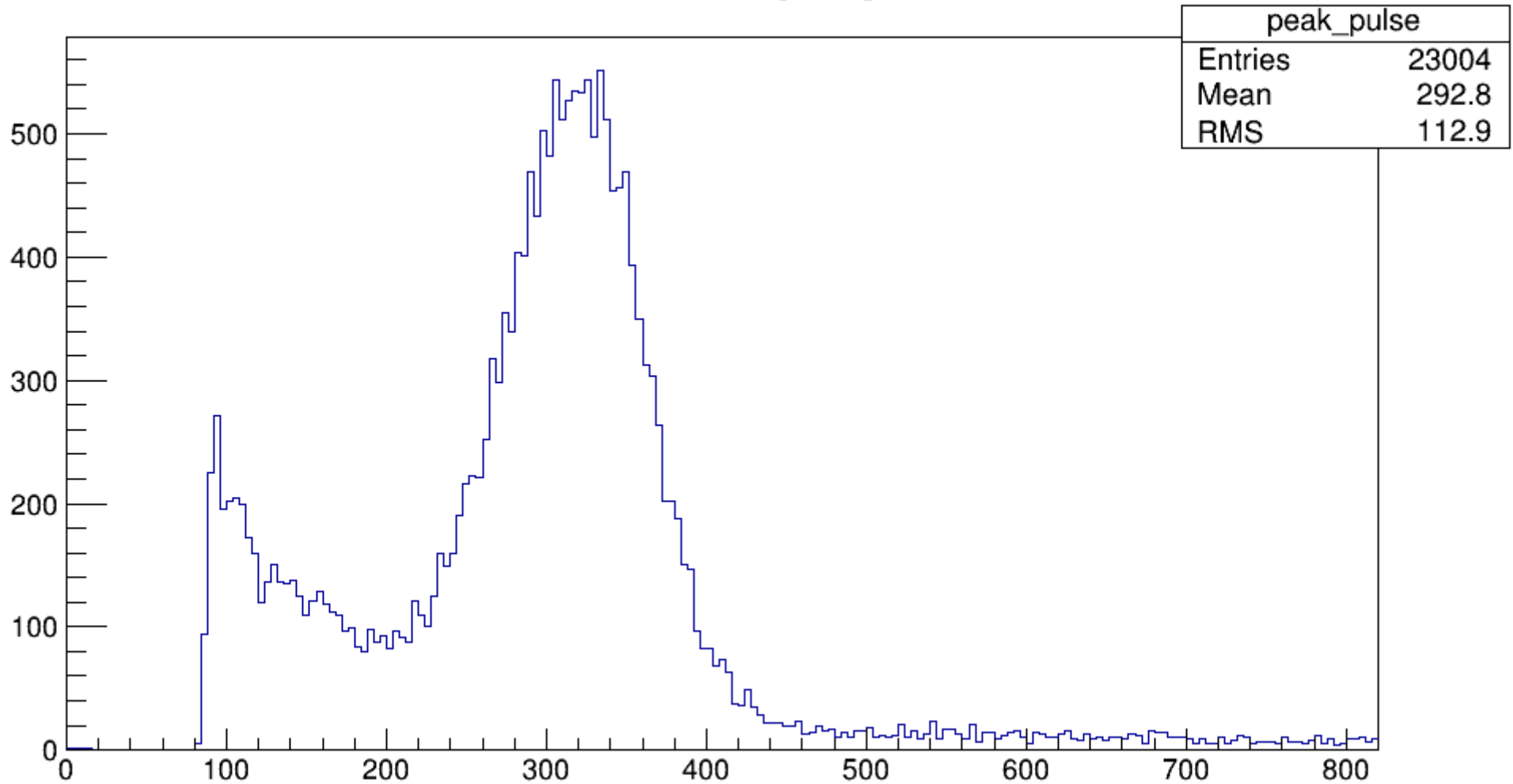
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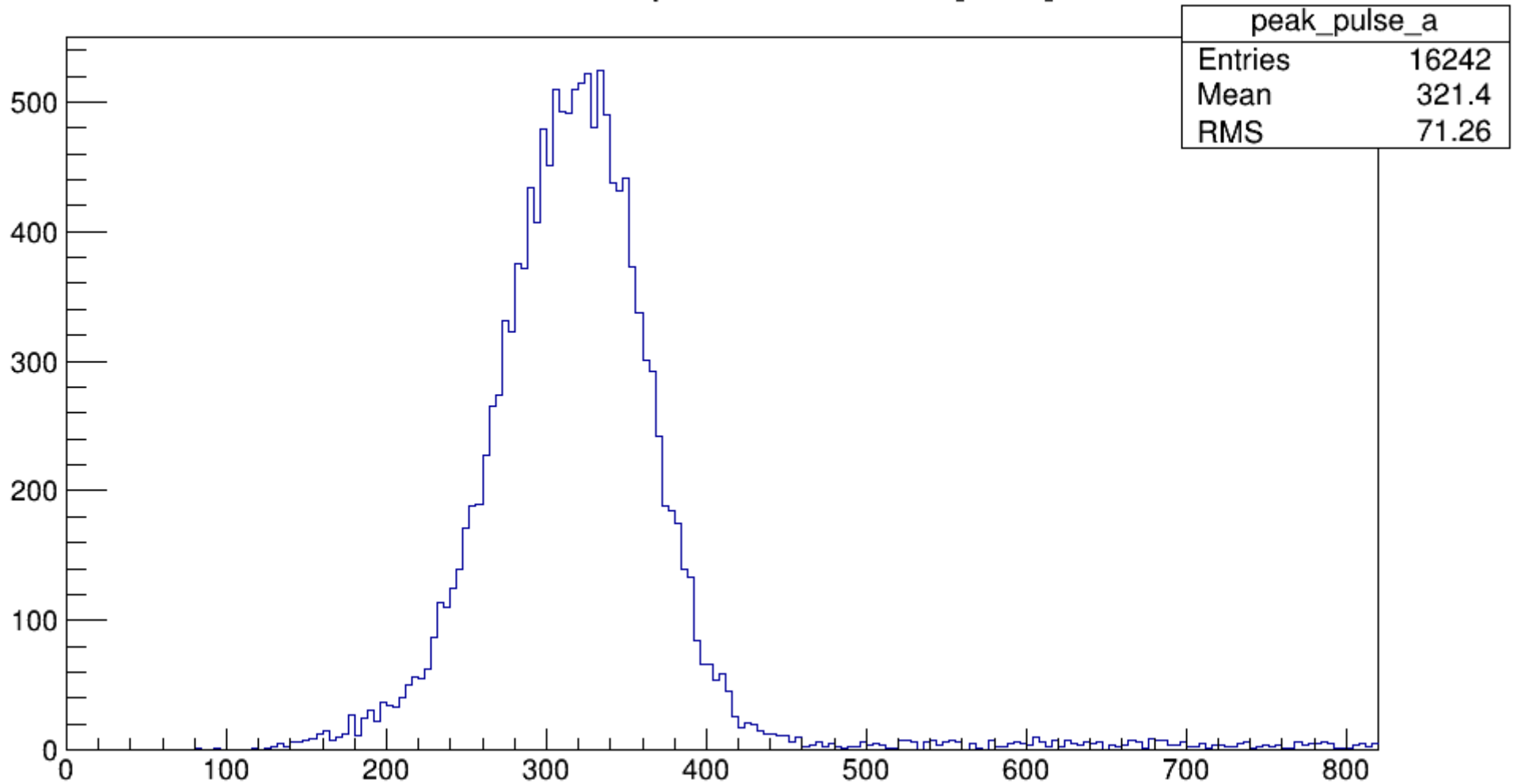
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Pulse Peak [PEs]



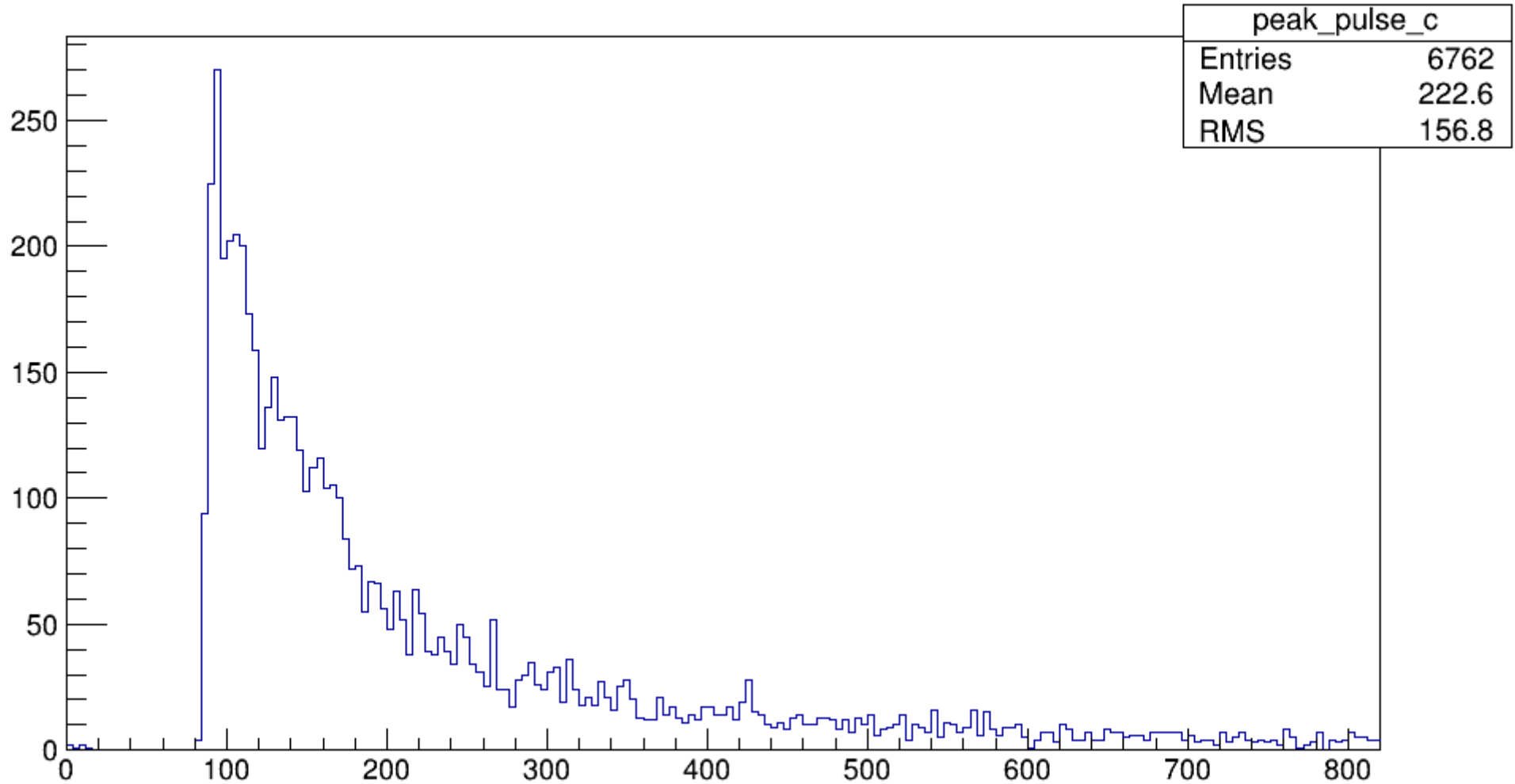
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Pulse Peak - alpha candidates [PEs]



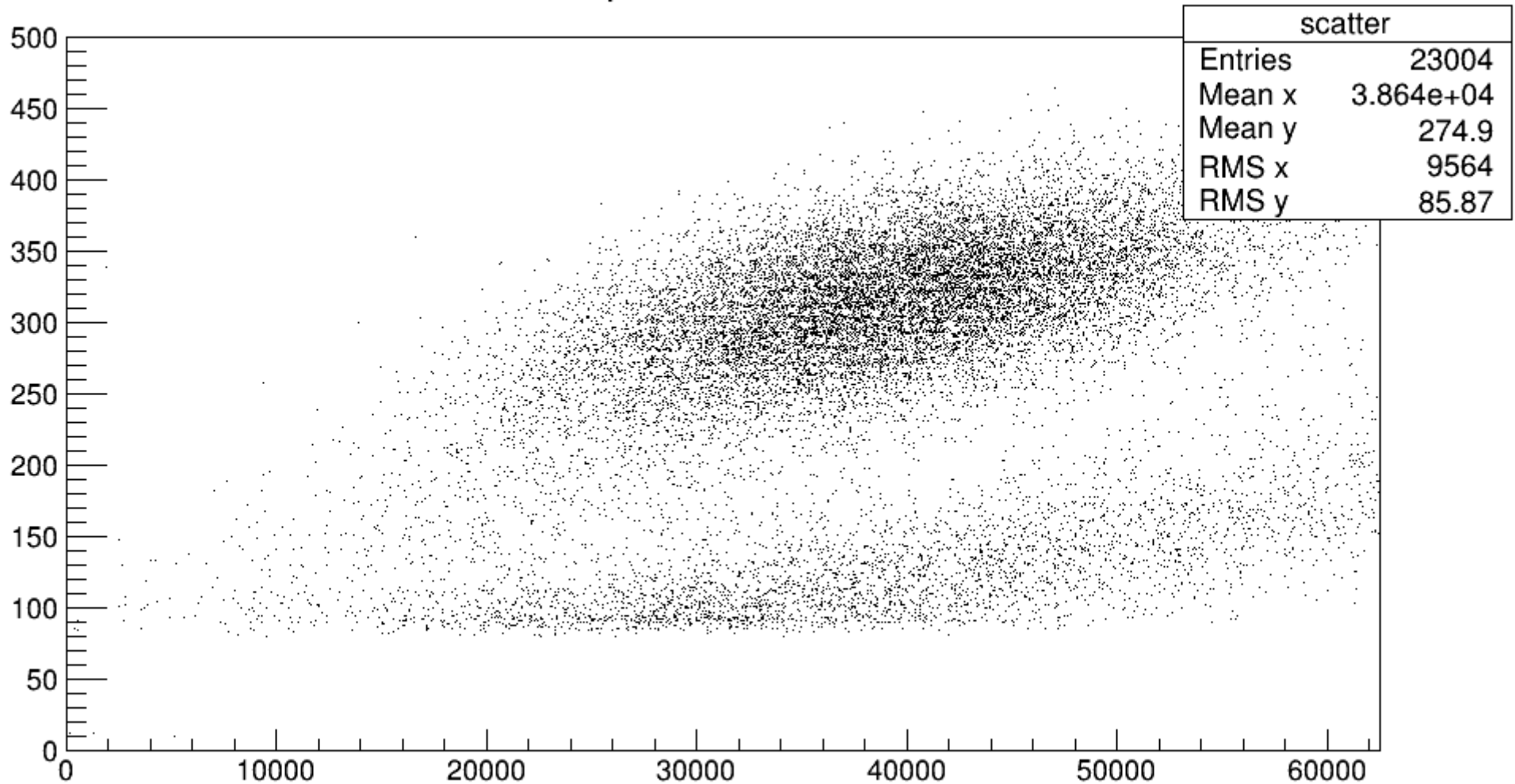
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Pulse Peak cosmic candidates [PEs]



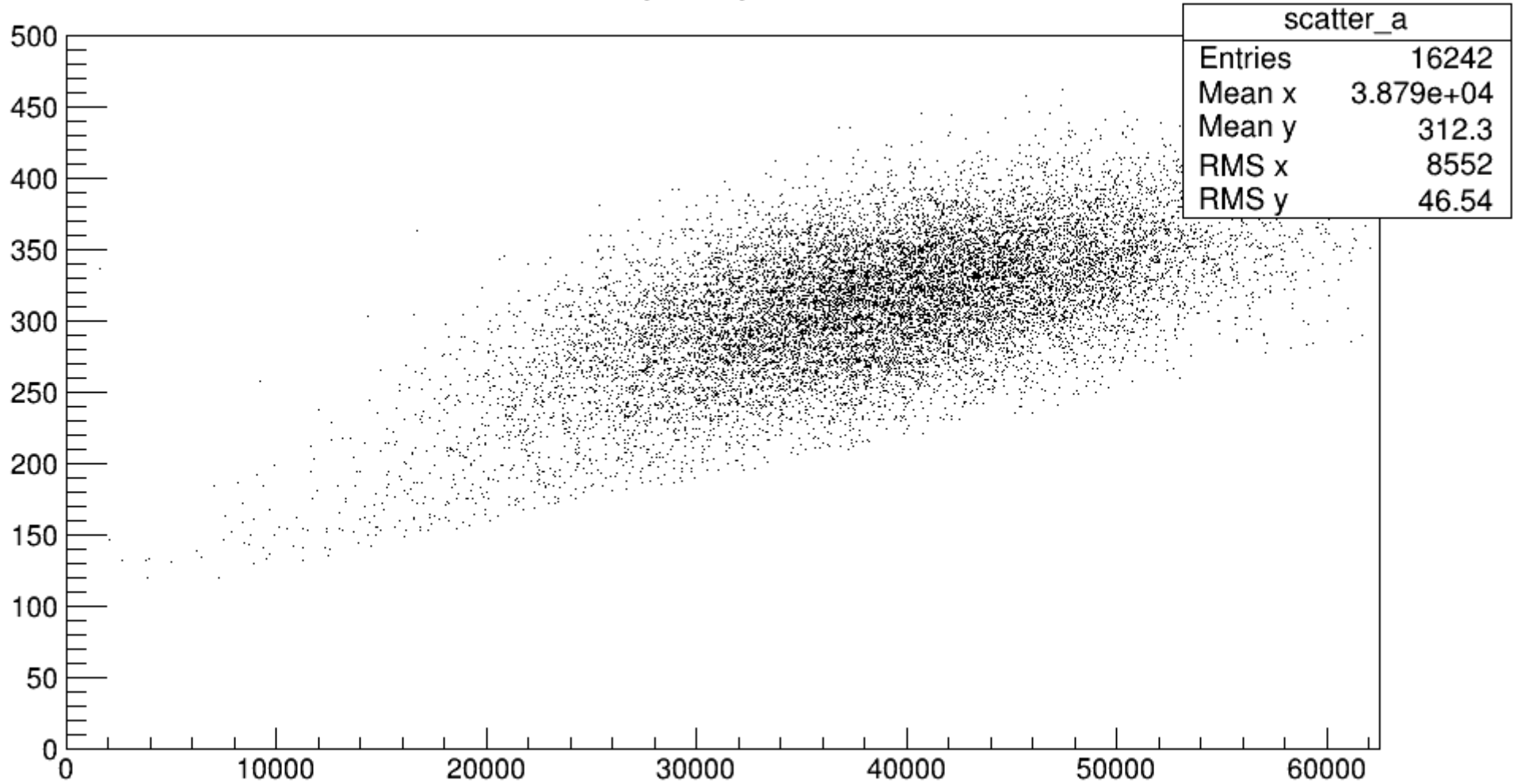
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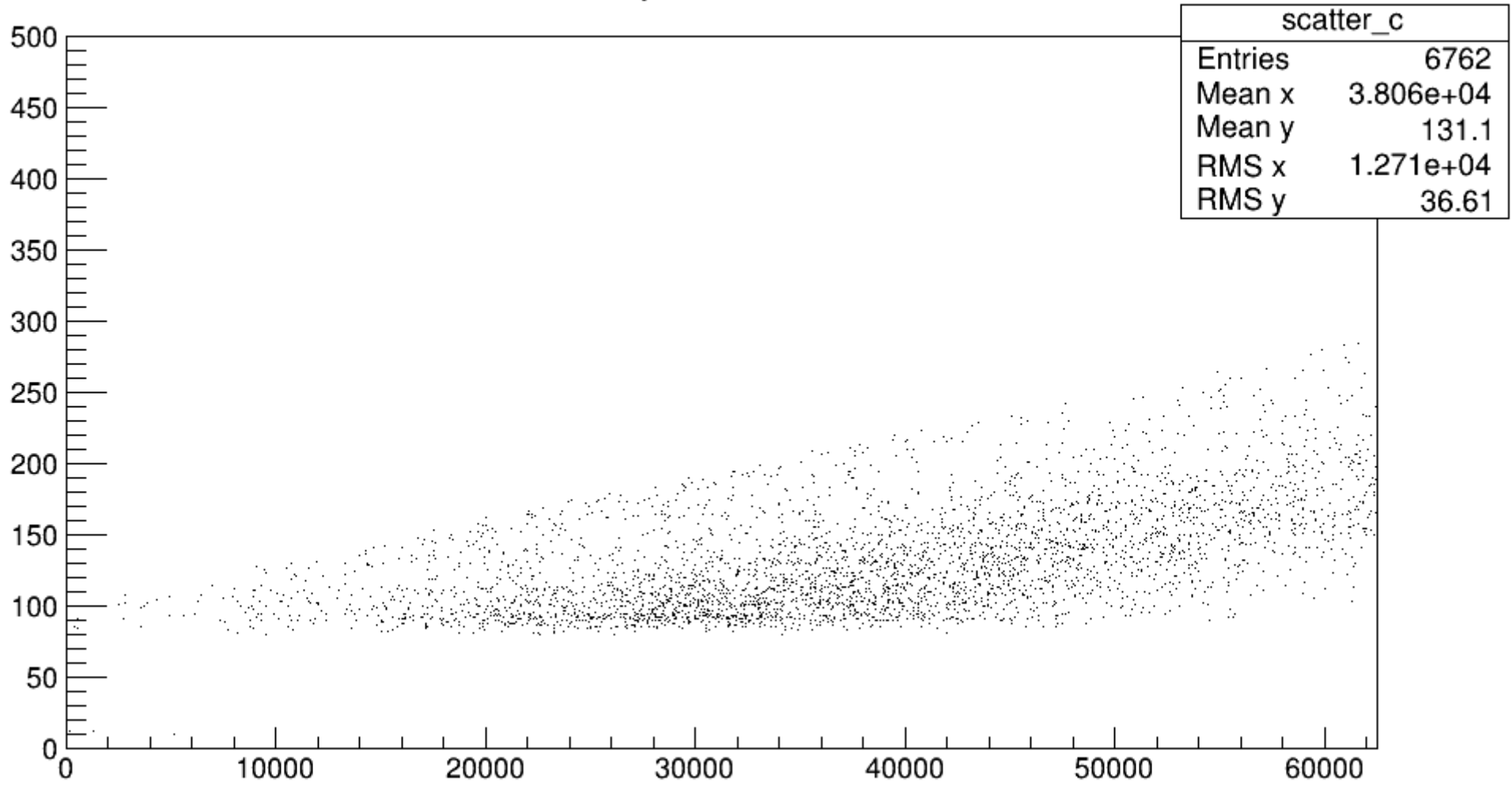
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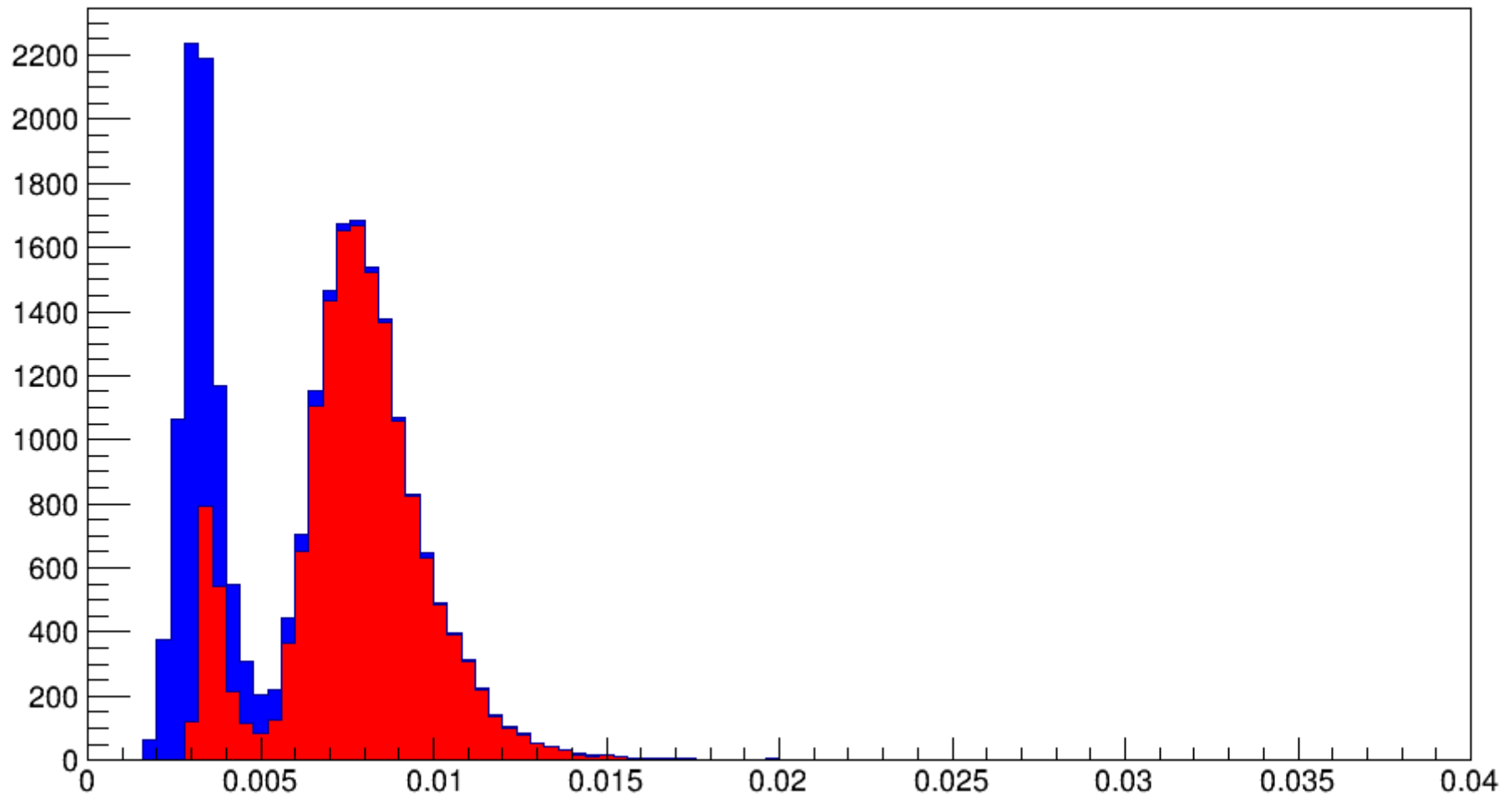
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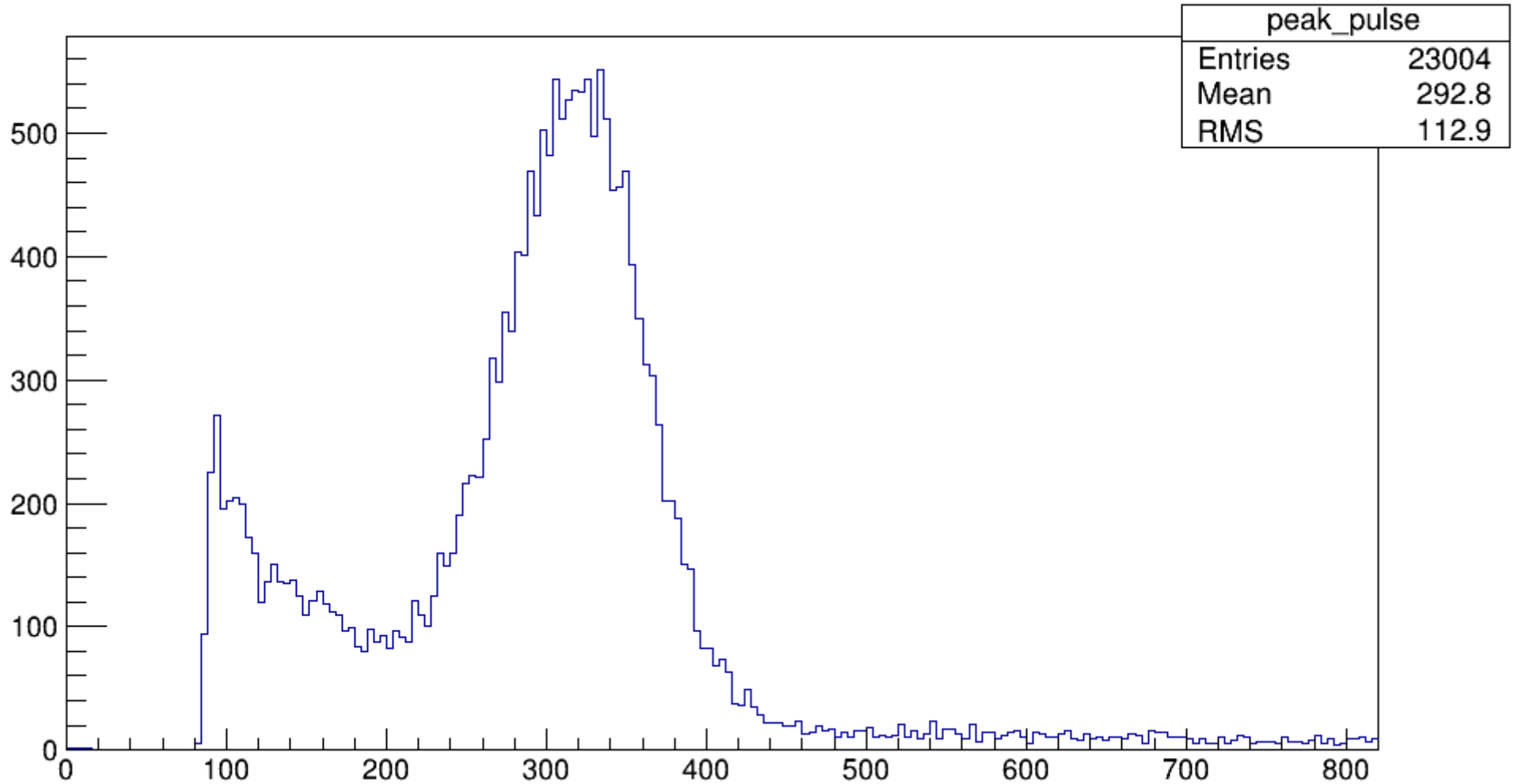


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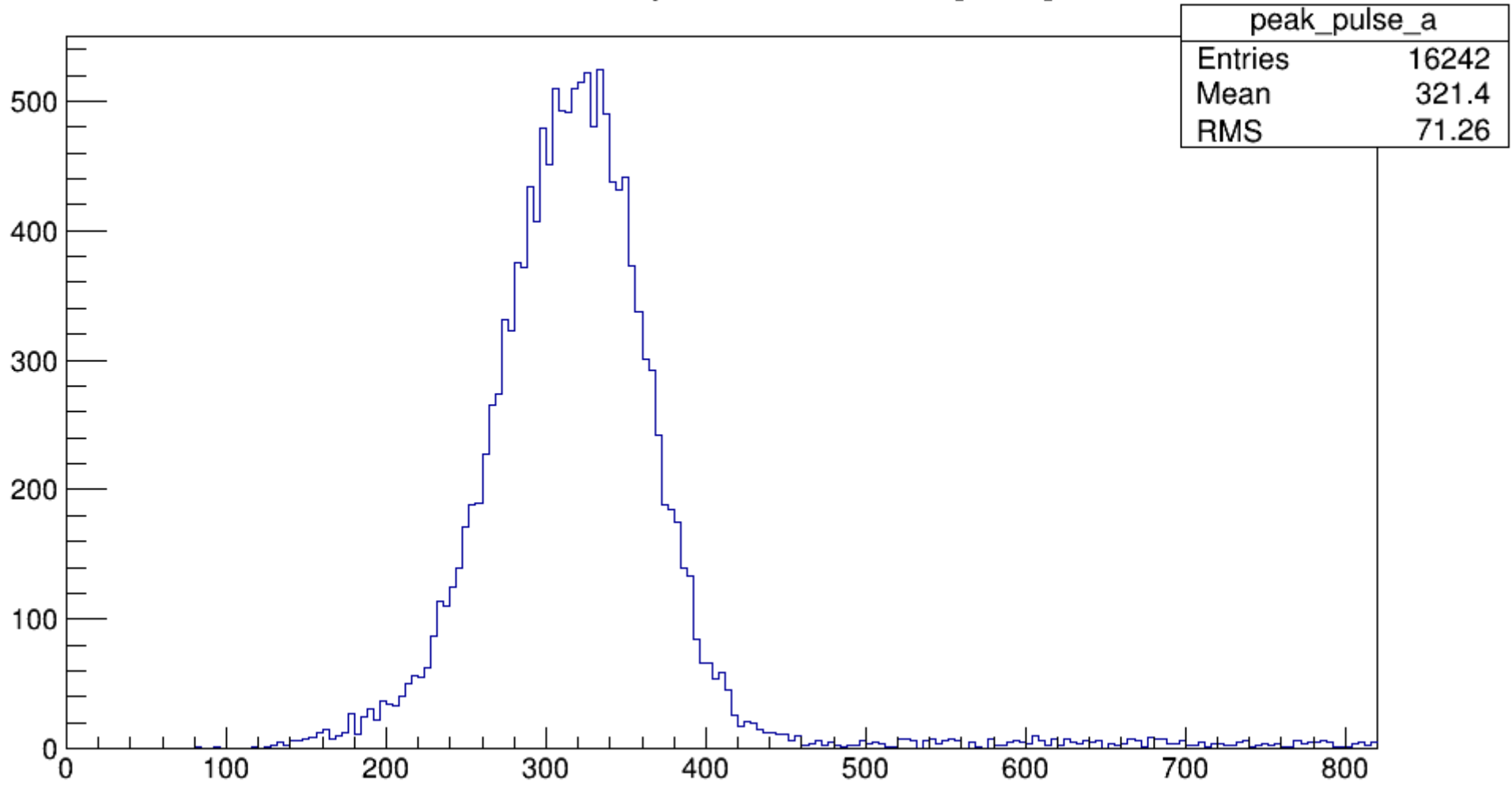
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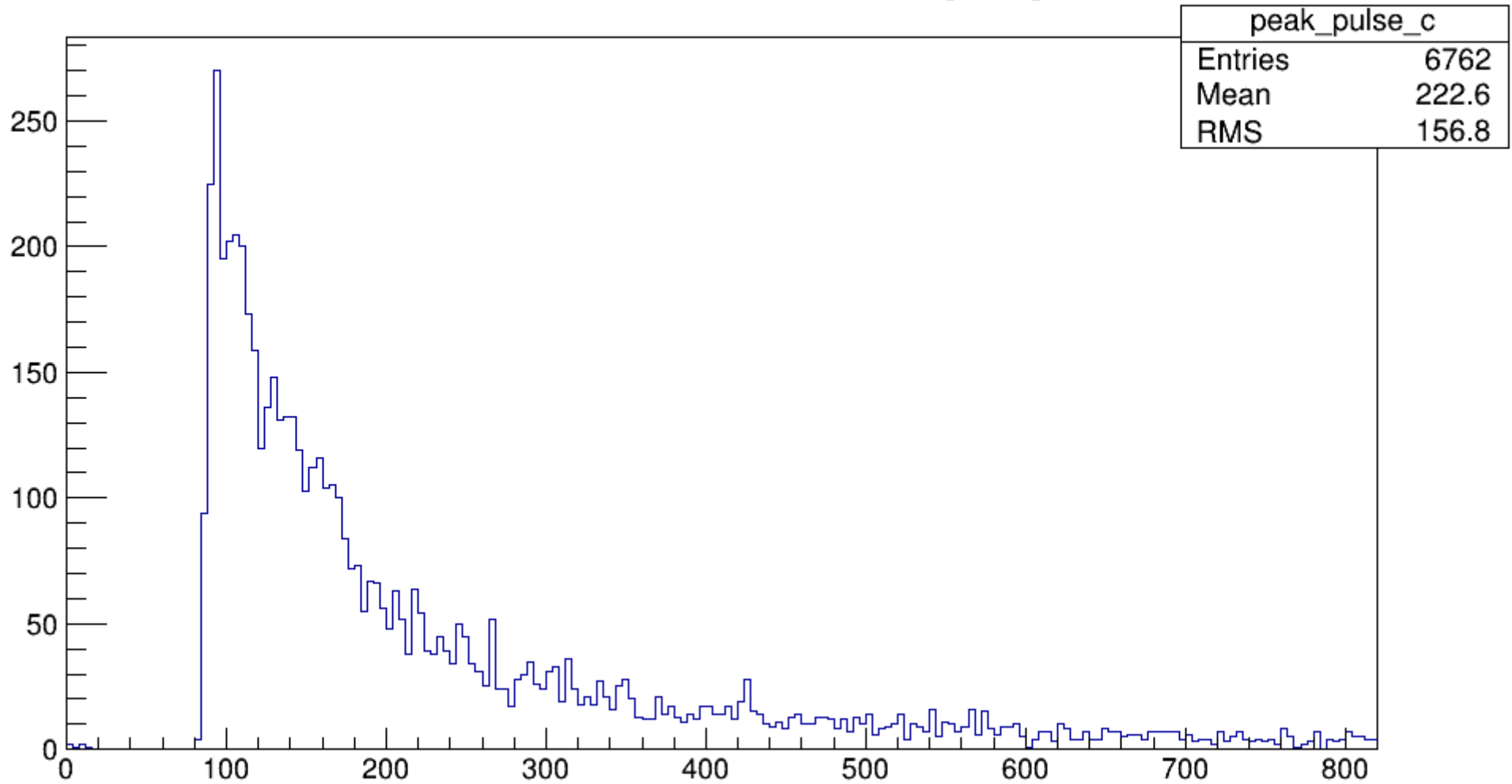
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Pulse Peak - alpha candidates [PEs]



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Pulse Peak cosmic candidates [PEs]

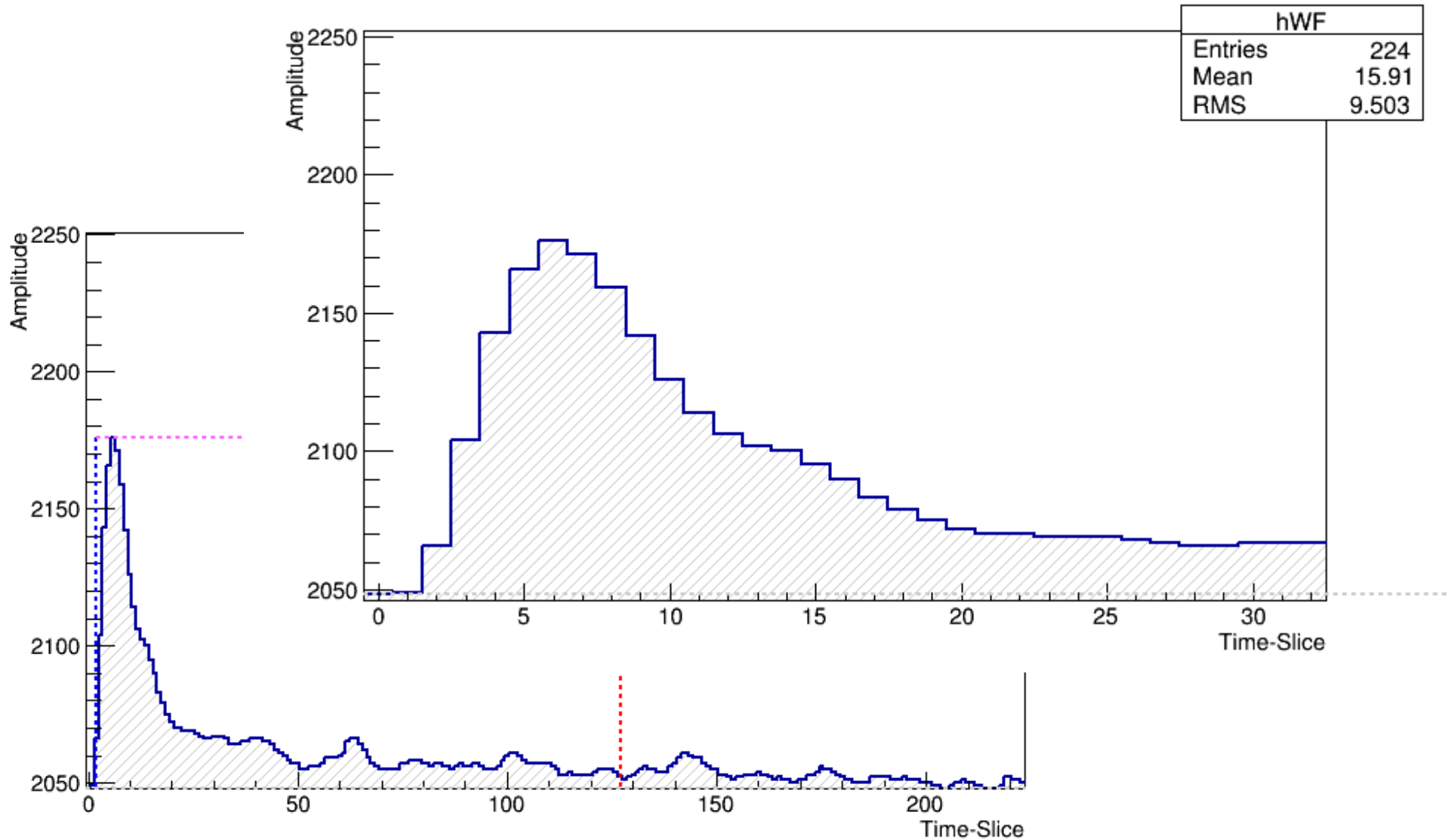


Looking at Pulses

- First 2 “cosmics”, then 2 “alphas”
- NOTE: whether I integrate with 20 bins or 200, the same events get placed in the same category (cosmic/alpha).
(this generally true...did not check thoroughly)
- Following pulses taken from LG 30nF run
- Ignore box around pulse...not used in analysis

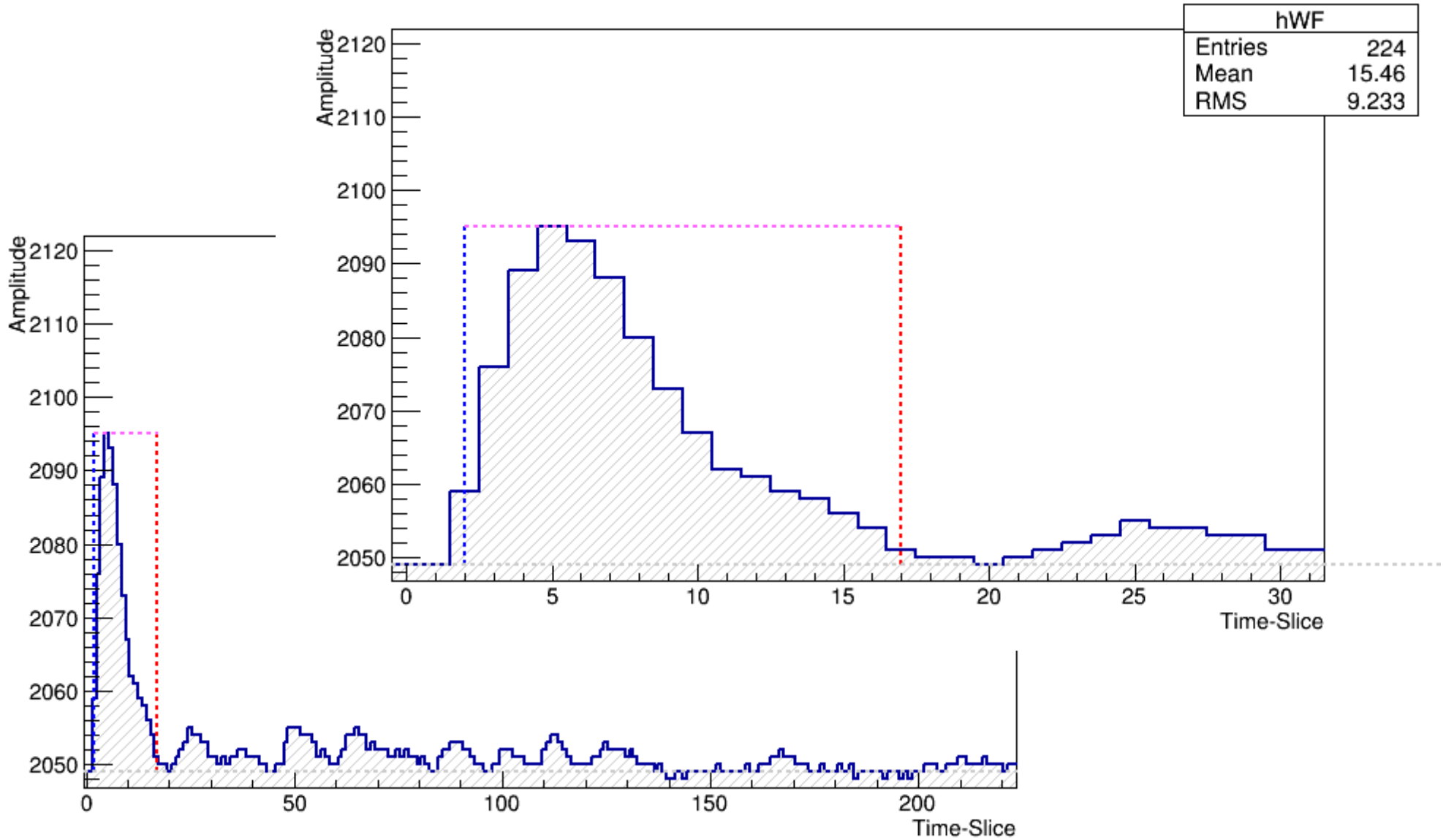
“alpha”

Channel 2 Reconstructed Pulse



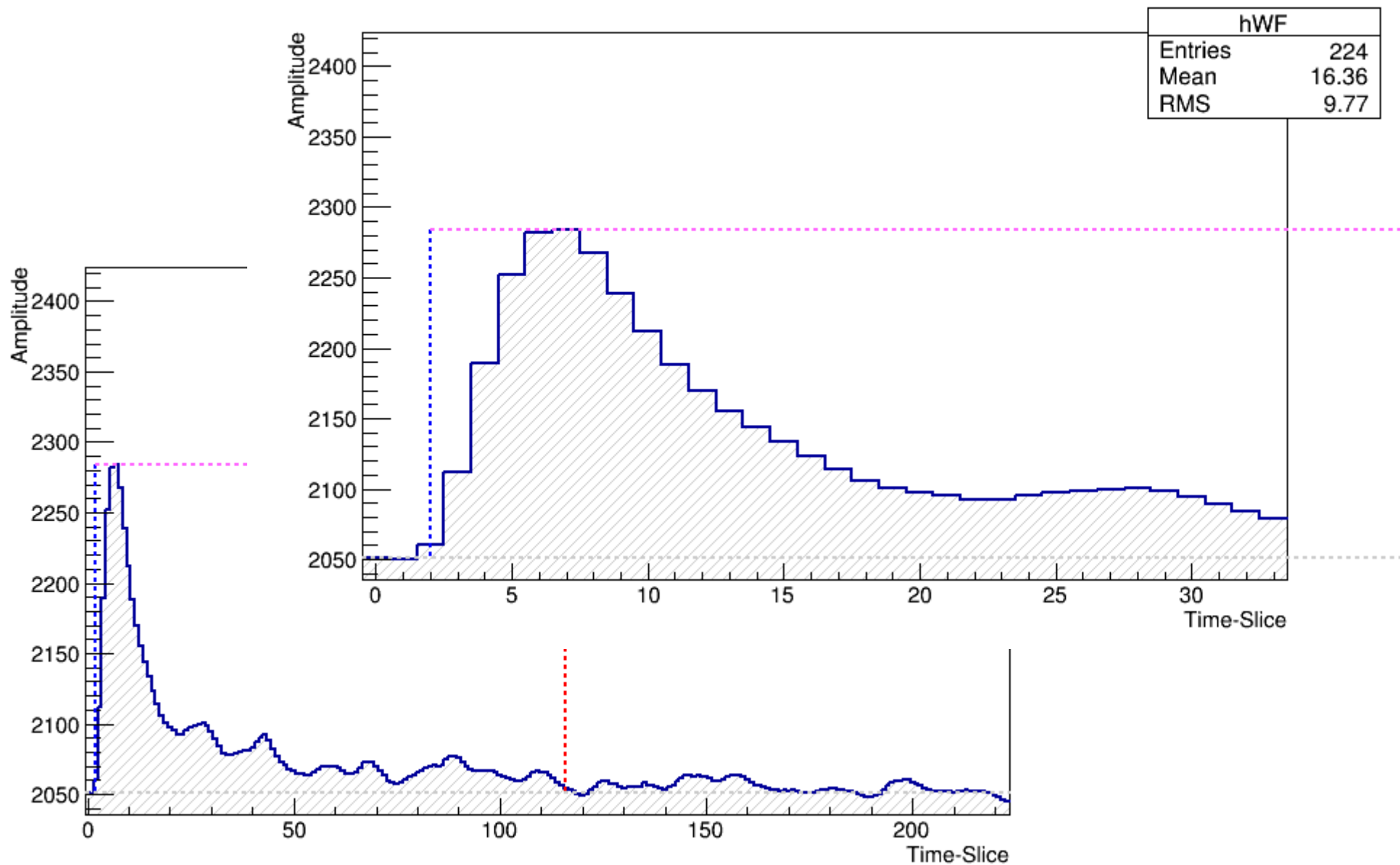
“alpha”

Channel 2 Reconstructed Pulse



“cosmic”

Channel 2 Reconstructed Pulse



“cosmic”

Channel 2 Reconstructed Pulse

