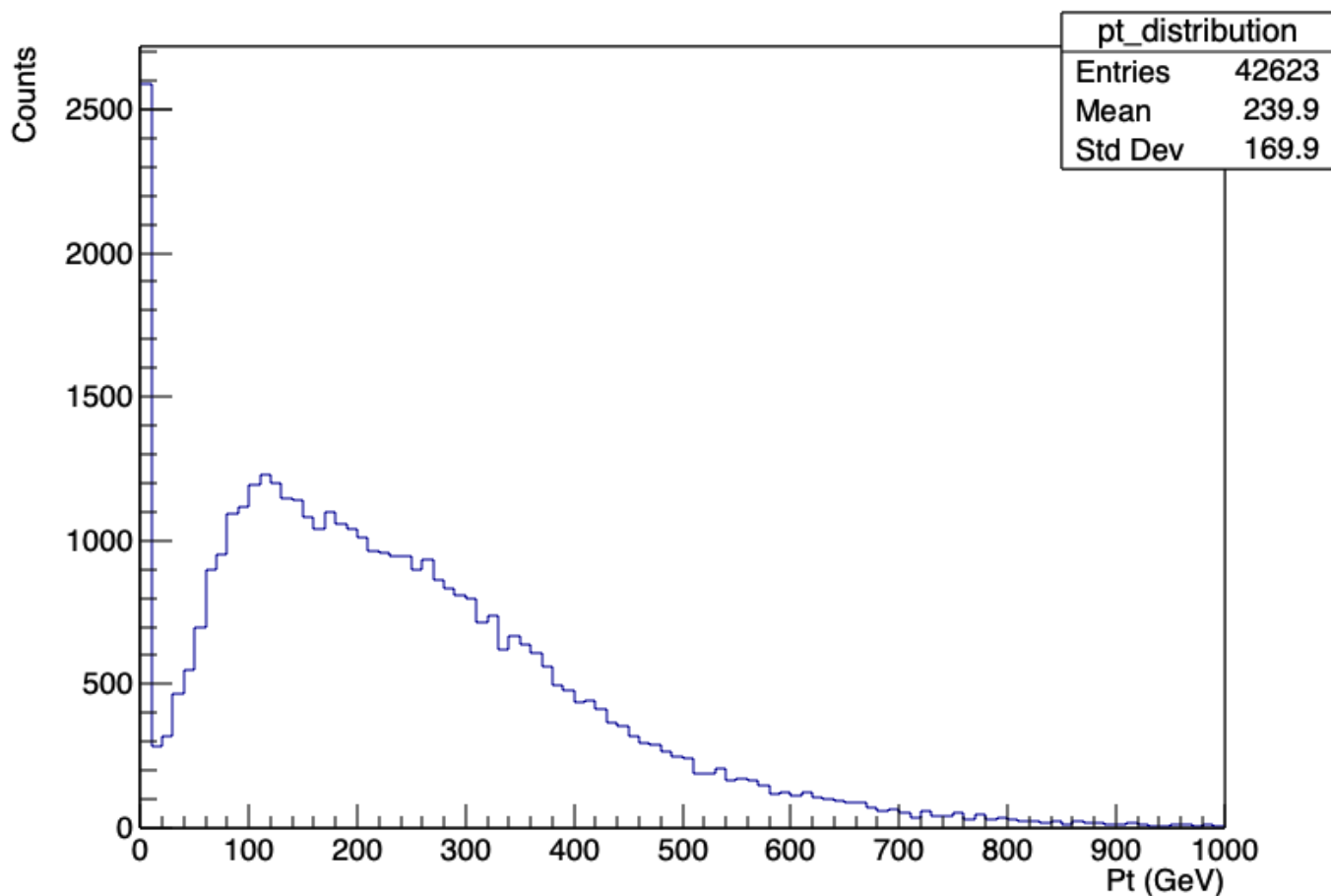


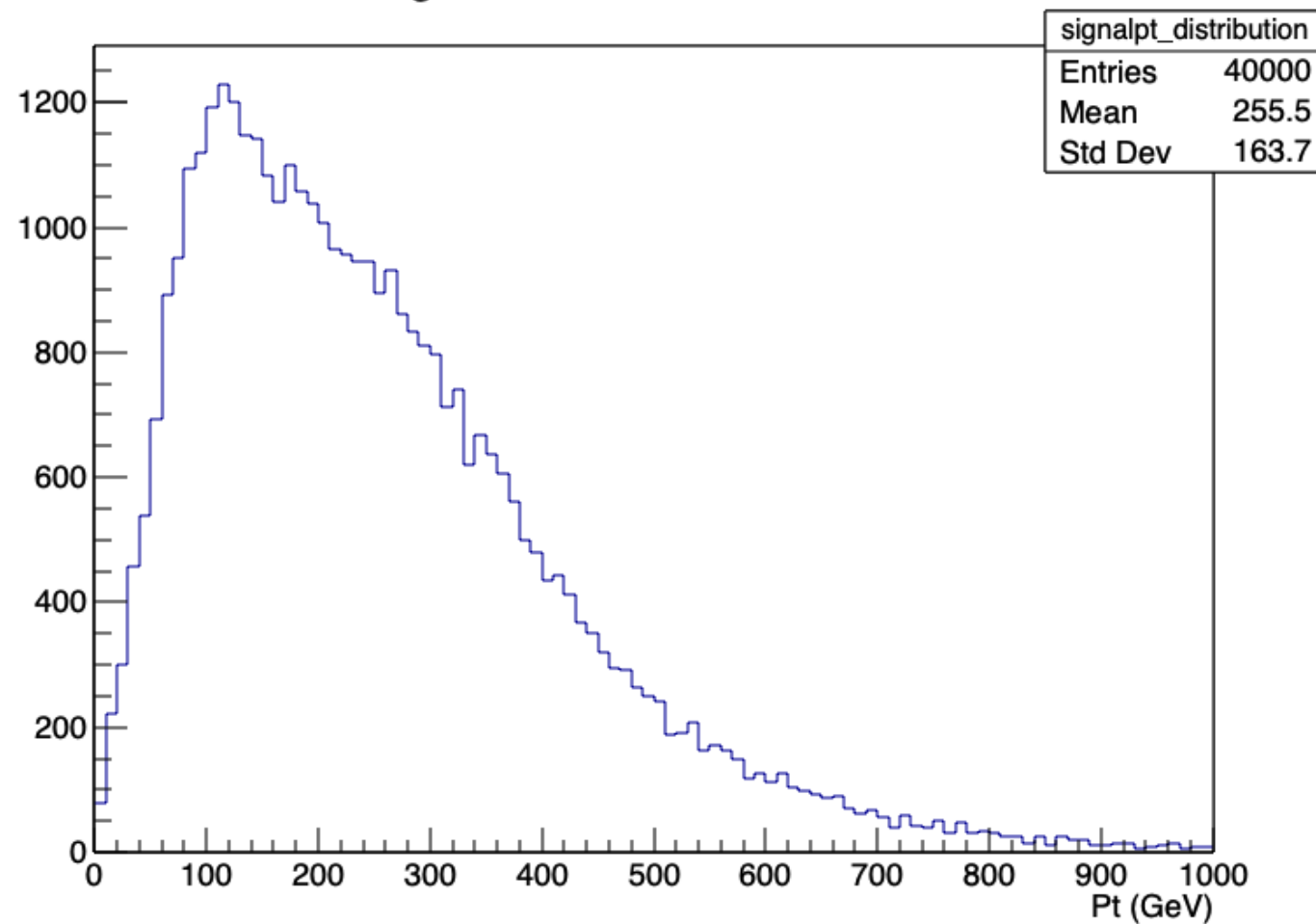
Alaa Weekly Update July 21st

- Last week: Samples are validated, time to make the basic plots of variables for acceptance
This week: More validation by looking into events with “unexpected decay outcomes”
- Last week: If they look good start cutting on acceptance variables
This week: plotted pt and eta, found an issue with pt and fixed it, and applied their cuts.
- Last week: Compare to acceptances in the paper
- This week: Currently plotting d0 and delta_R
- For each variable there are two plots before applying any cuts:
one for the signal muons (final status muons), and one for the truth signal muons (final status muons from smuon decay)
- Created a GitHub repo and started to write clean code

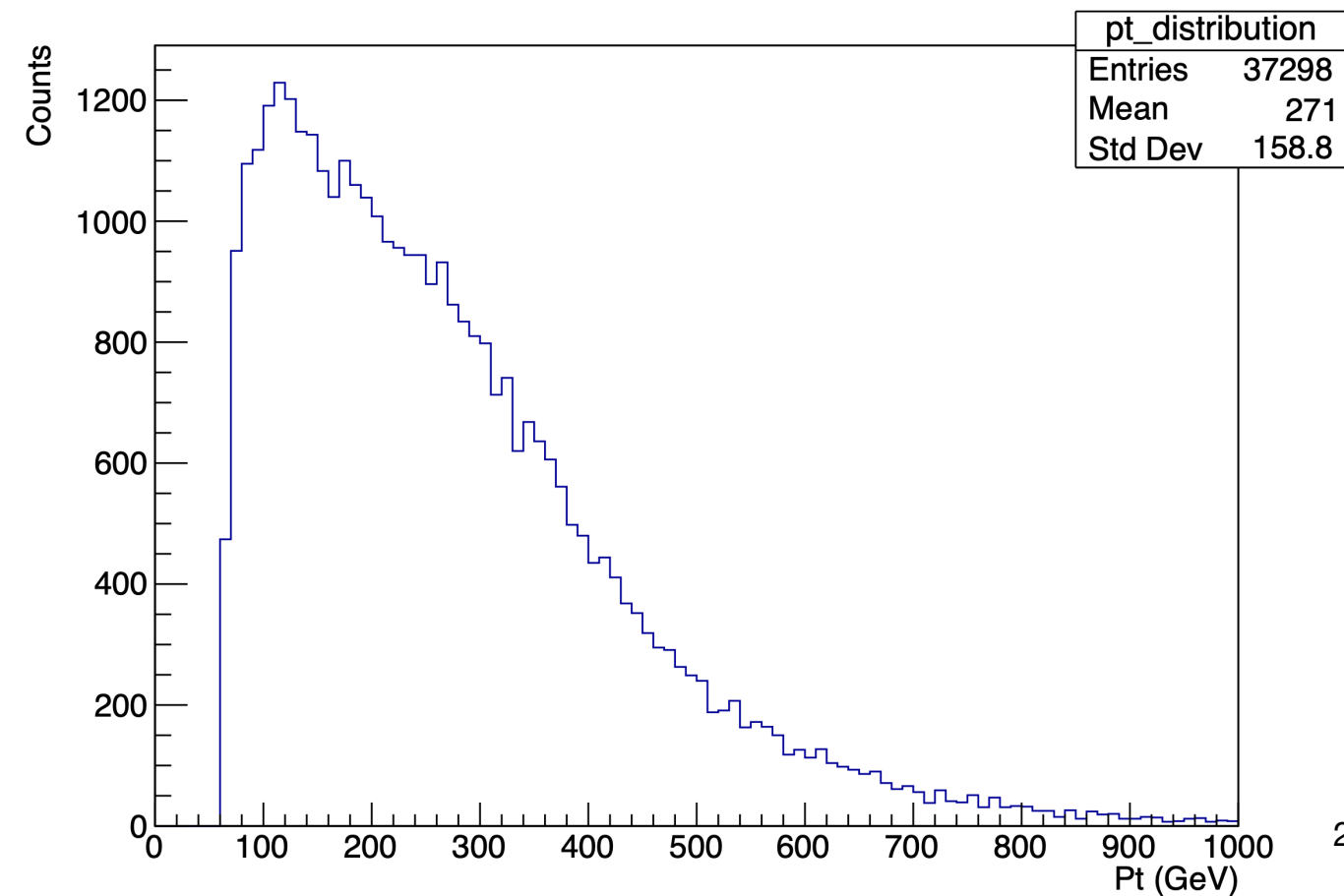
Final Muons Pt Distribution



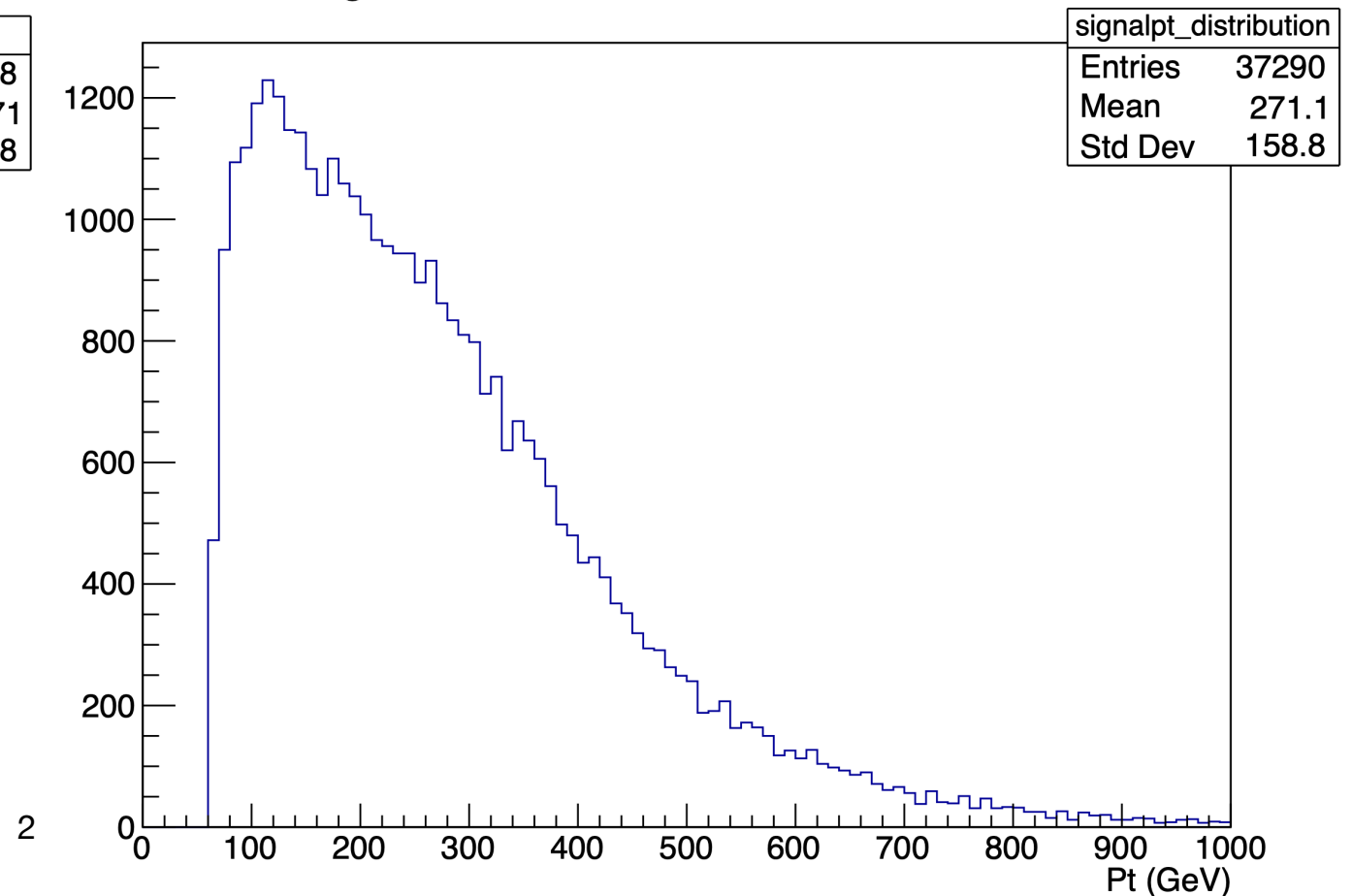
Signal Muons Pt Distribution



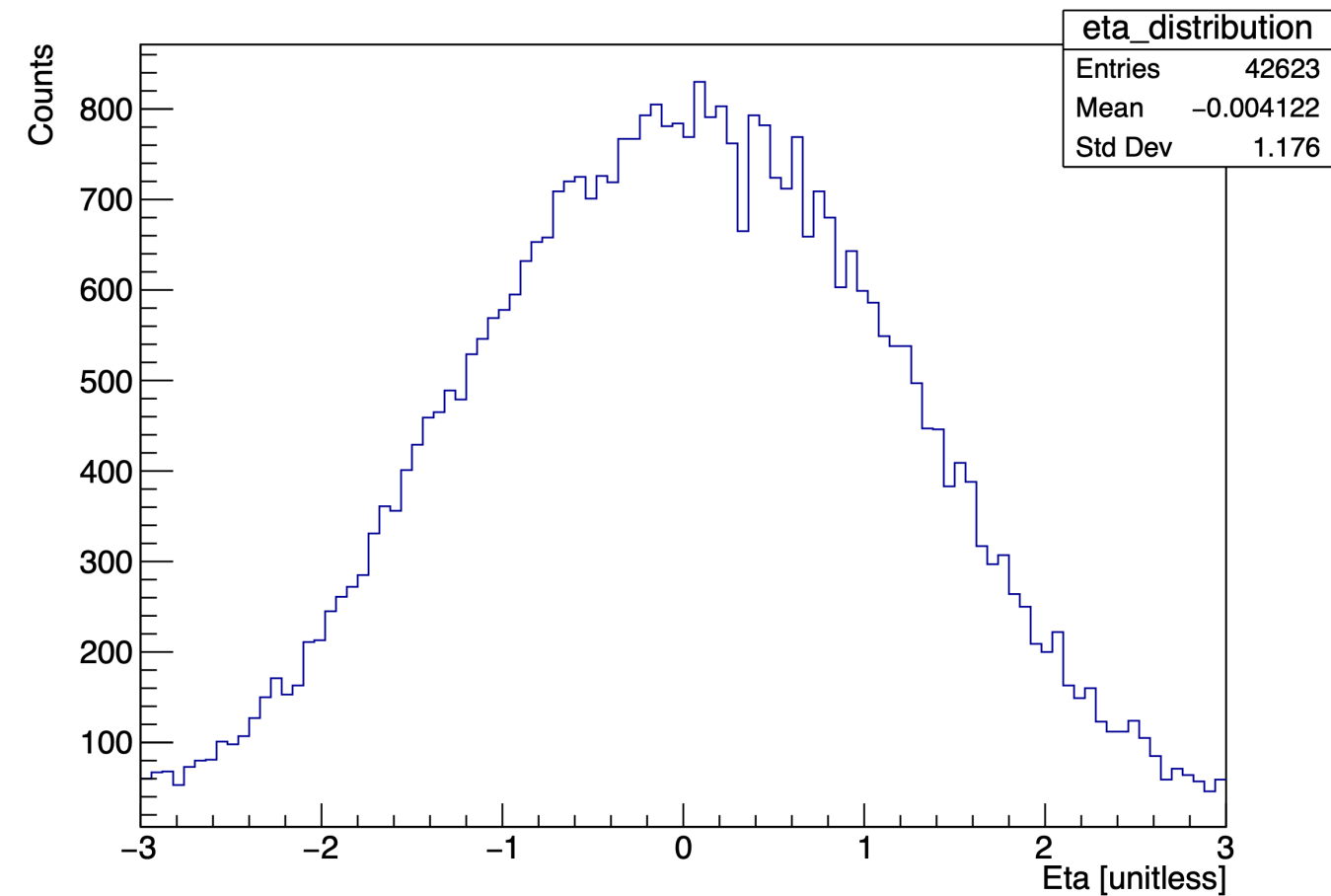
Final Muons Pt > 65GeV Distribution



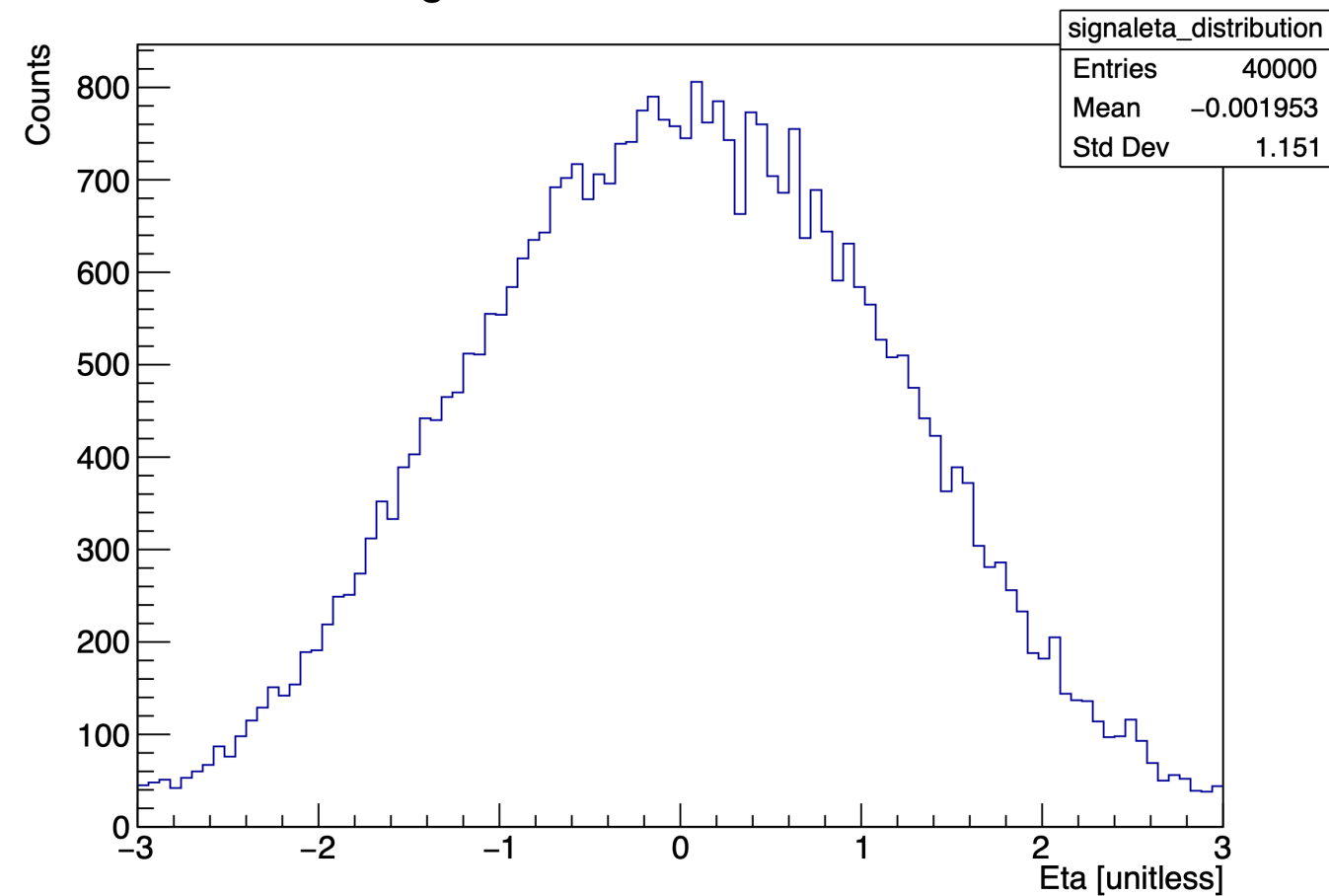
Signal Muons Pt > 65GeV Distribution



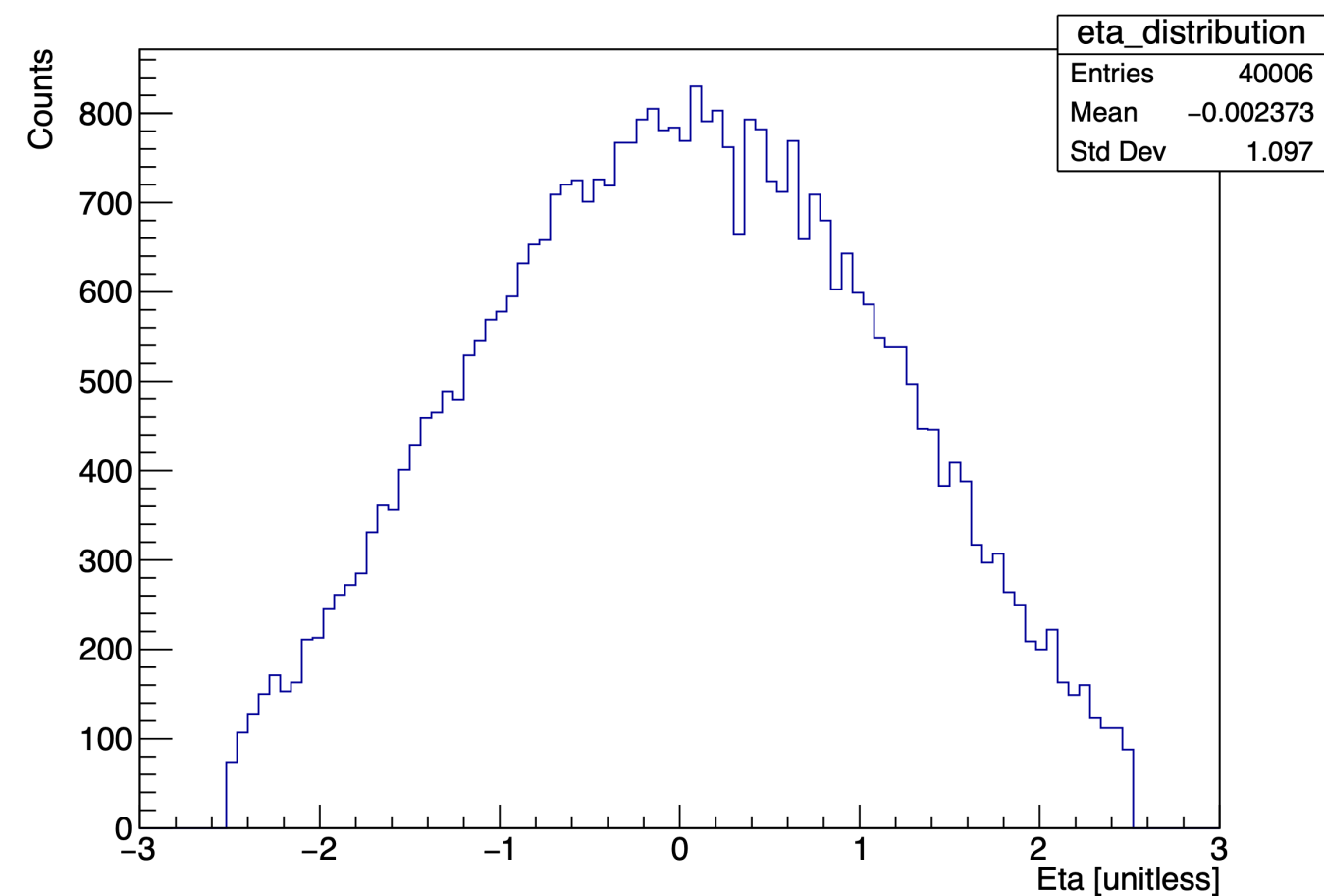
Final Muons Eta Distribution



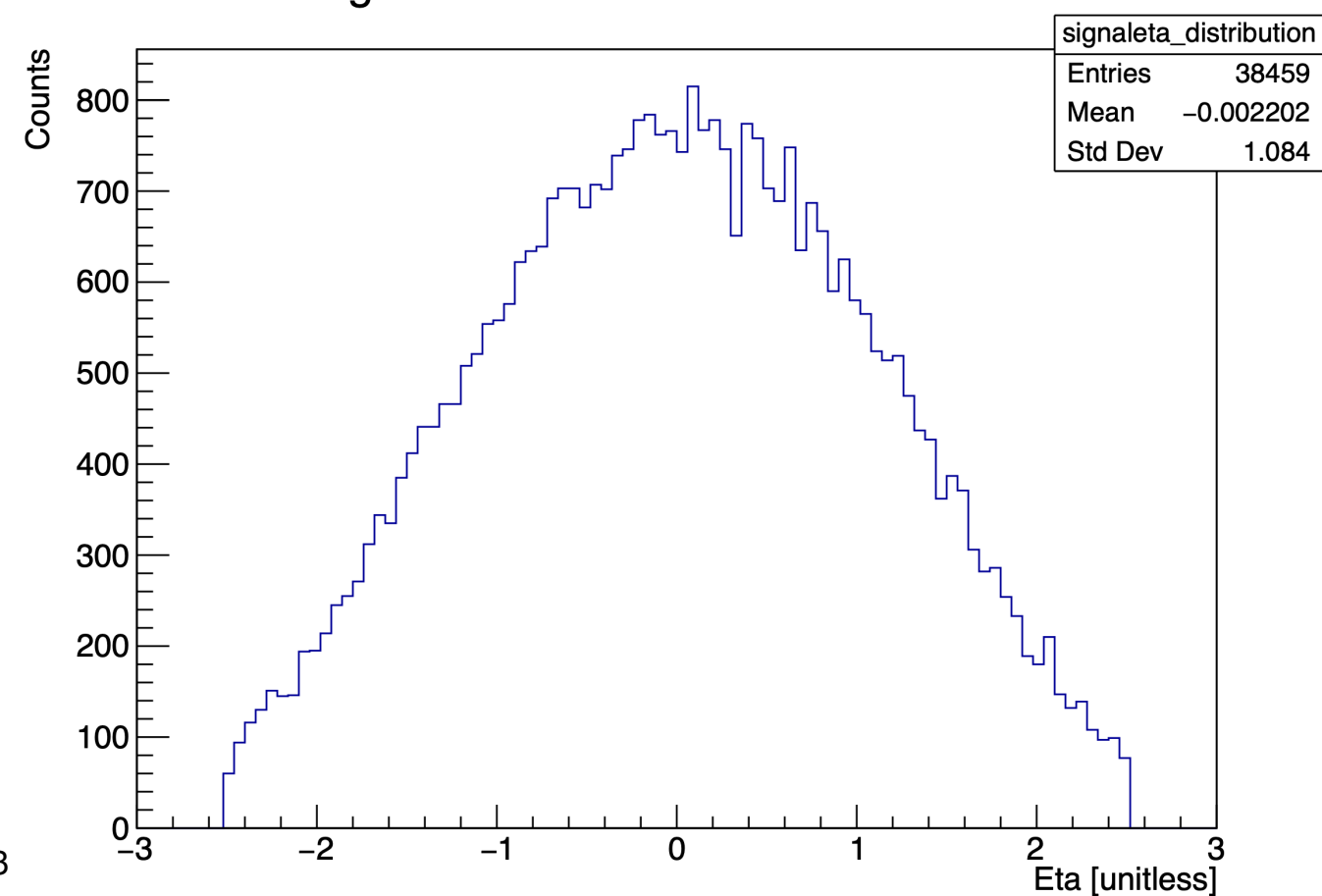
Signal Muons Eta Distribution



Final Muons |Eta| < 2.5 Distribution

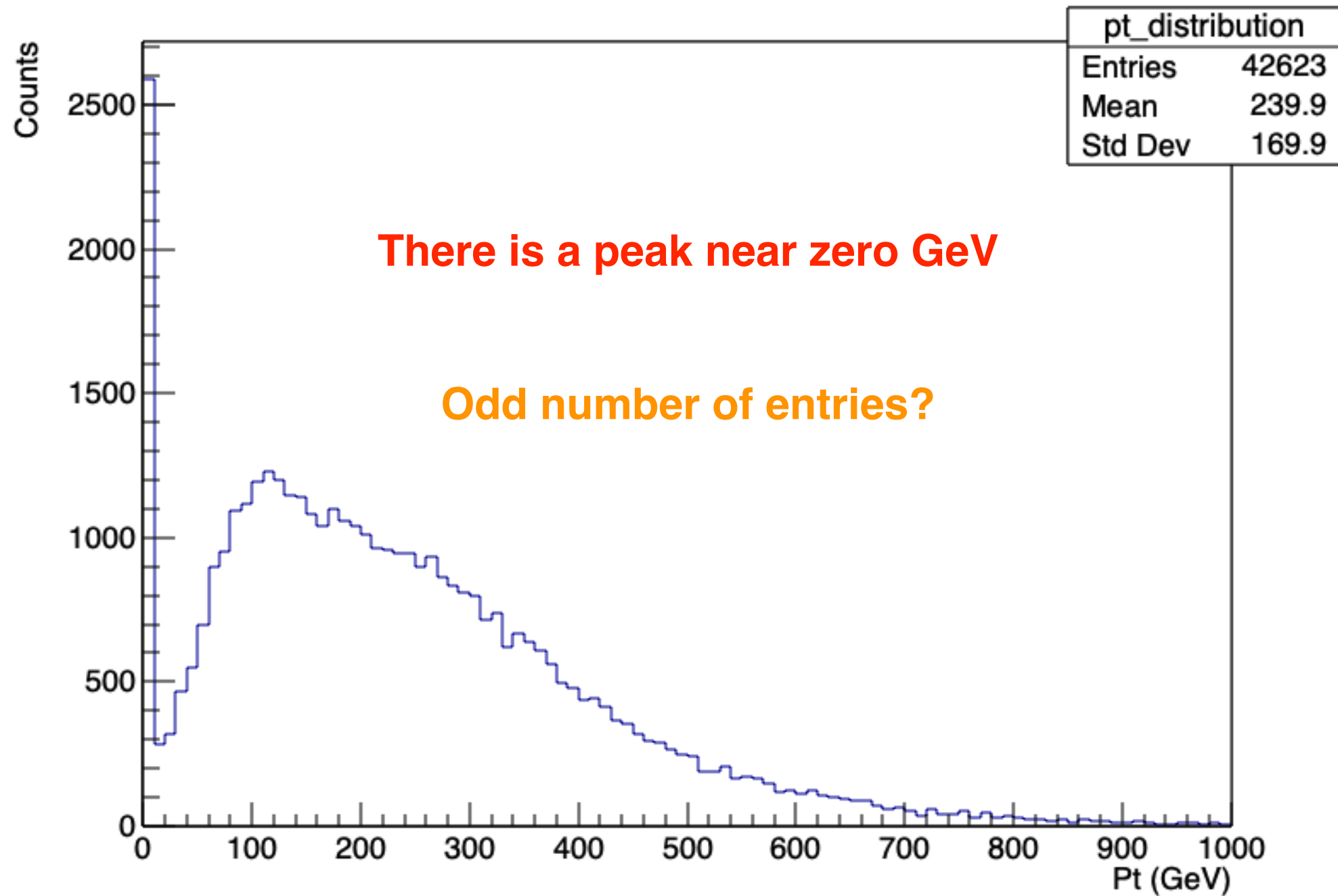


Signal Muons |Eta| < 2.5 Distribution



Back-up Slide #1

Final Muons Pt Distribution

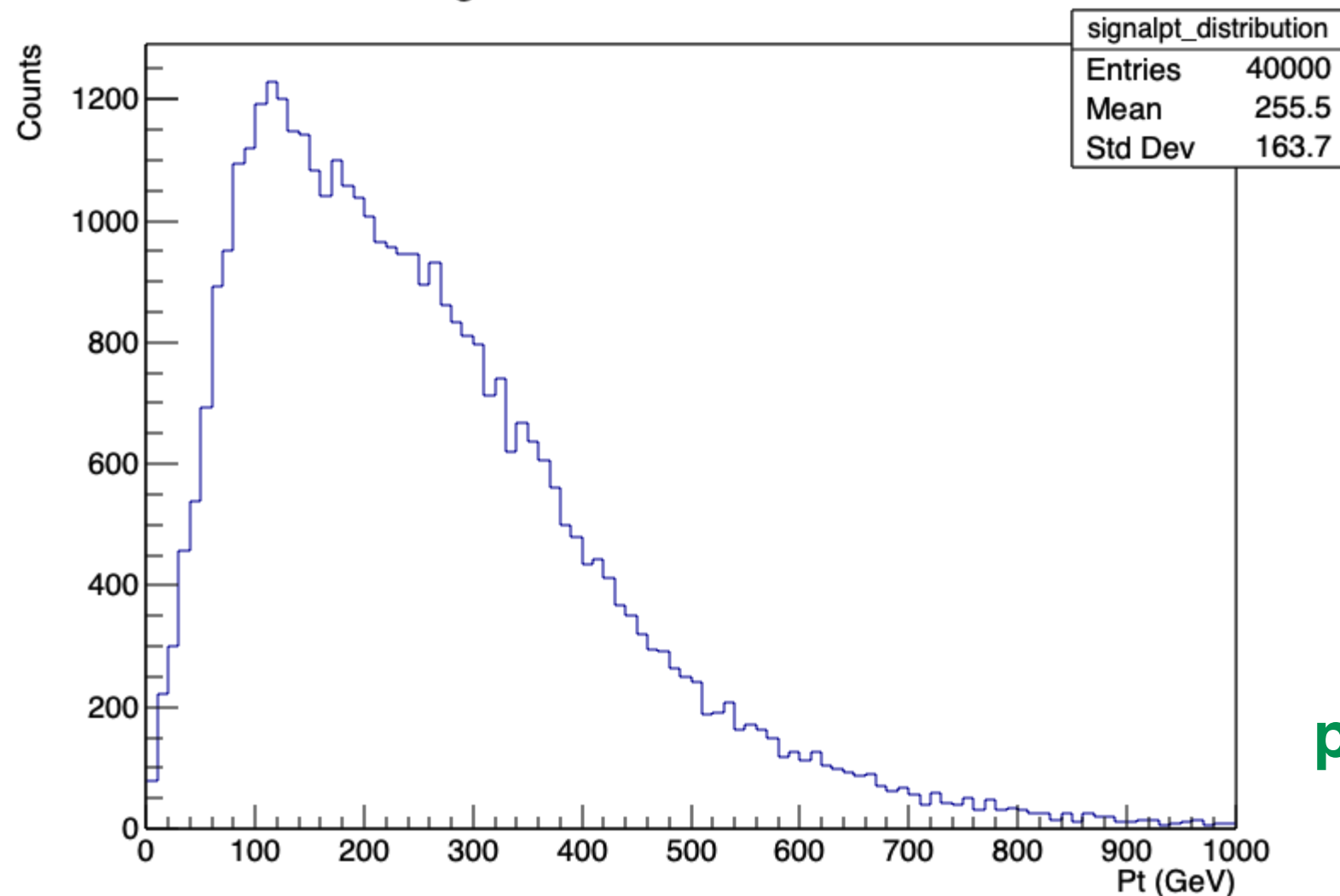


Back-up Slide #2

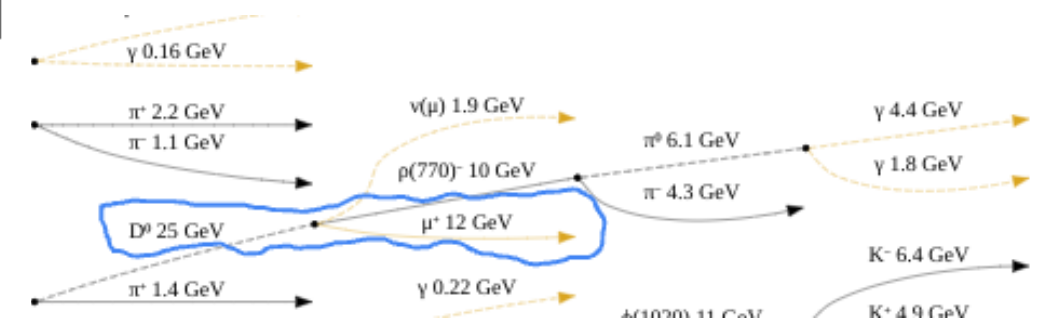
Signal muons,

“signal” means they are “final” status
and produced by a smuon decay

Signal Muons Pt Distribution



An event with low pt final muon



Produced by a meson

A single (anti) muon, not a pair
pt ~ 1 GeV, total energy ~12 GeV

Only 40000 entries

No peak at zero GeV

Back-up Slide #3

All unexpected particles come from photon interactions

