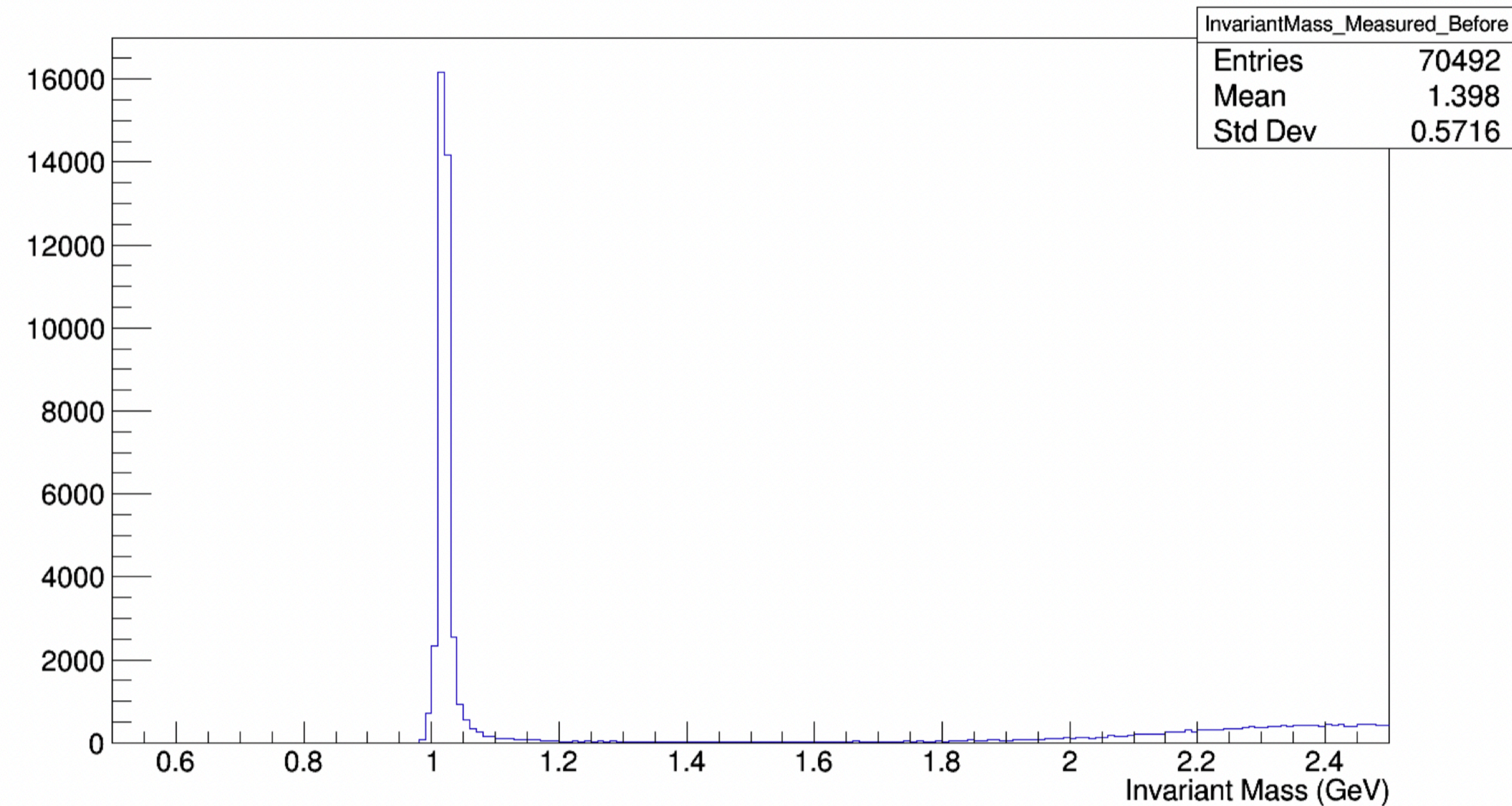# Simulation setup

- Generator: GCF of deuteron, courtesy of Jackson Pybus from Hen lab

- Tagged flux spectrum of Run 90220, courtesy of Sasha

- Sample of 100k events

- Run through GEANT4 version of GlueX model

- Reconstructed using the same code as real data

- $|t| > 1$ GeV, $|u| > 1$ GeV, can be adjusted later

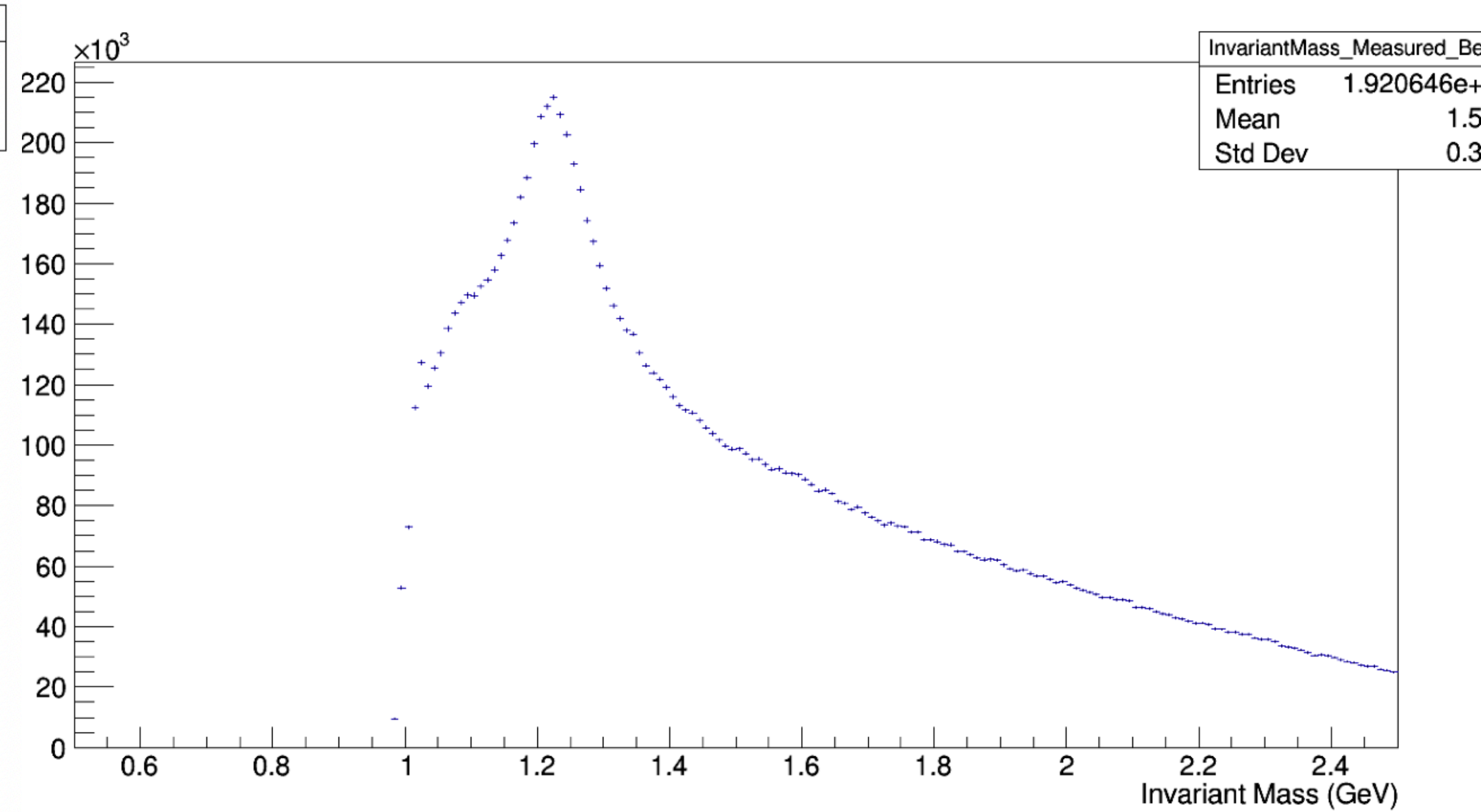- Random background not included, can be adjusted later

Simulation vs data

- Invariant mass of K^+K^- pair, using measured values
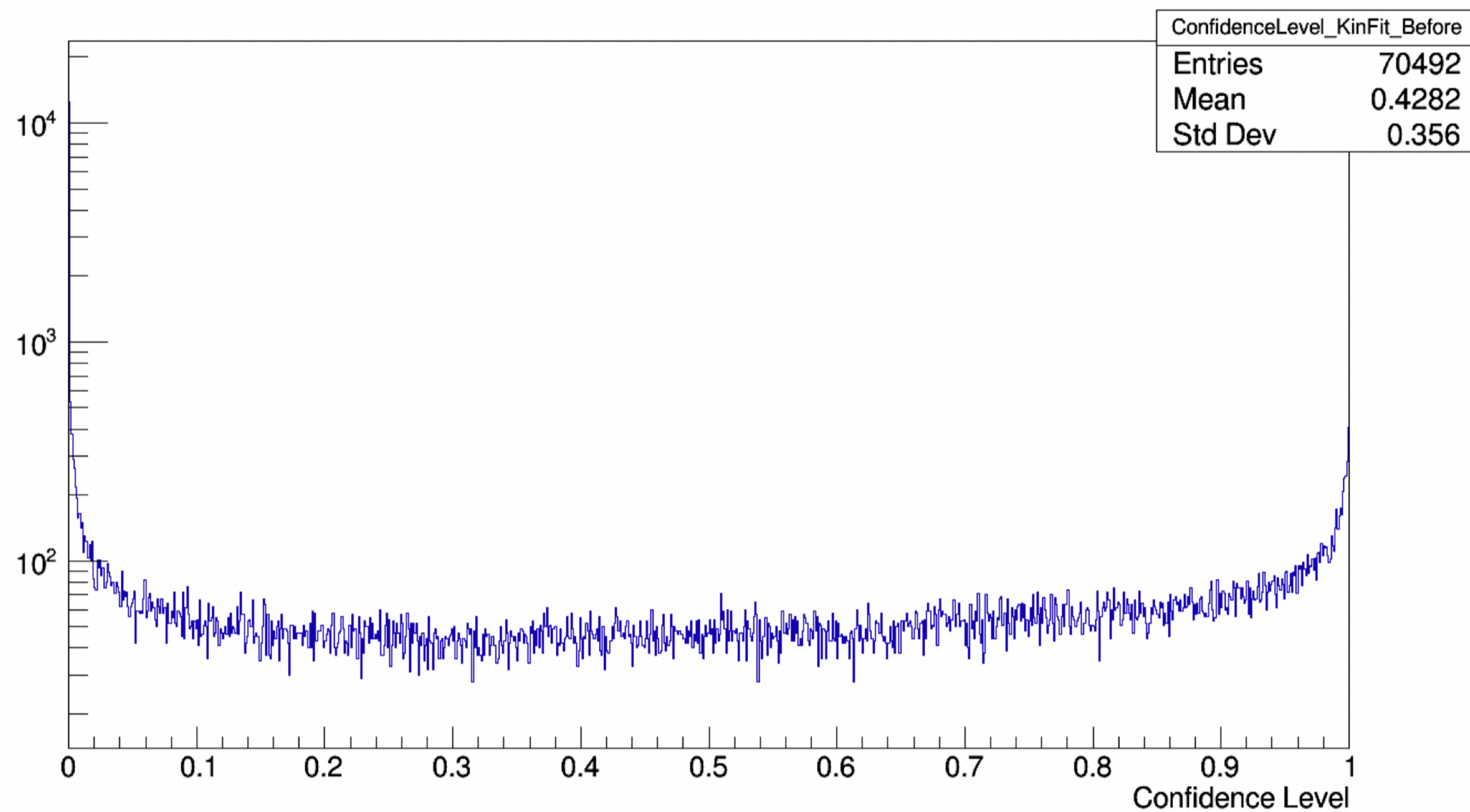
Simulation before all cuts
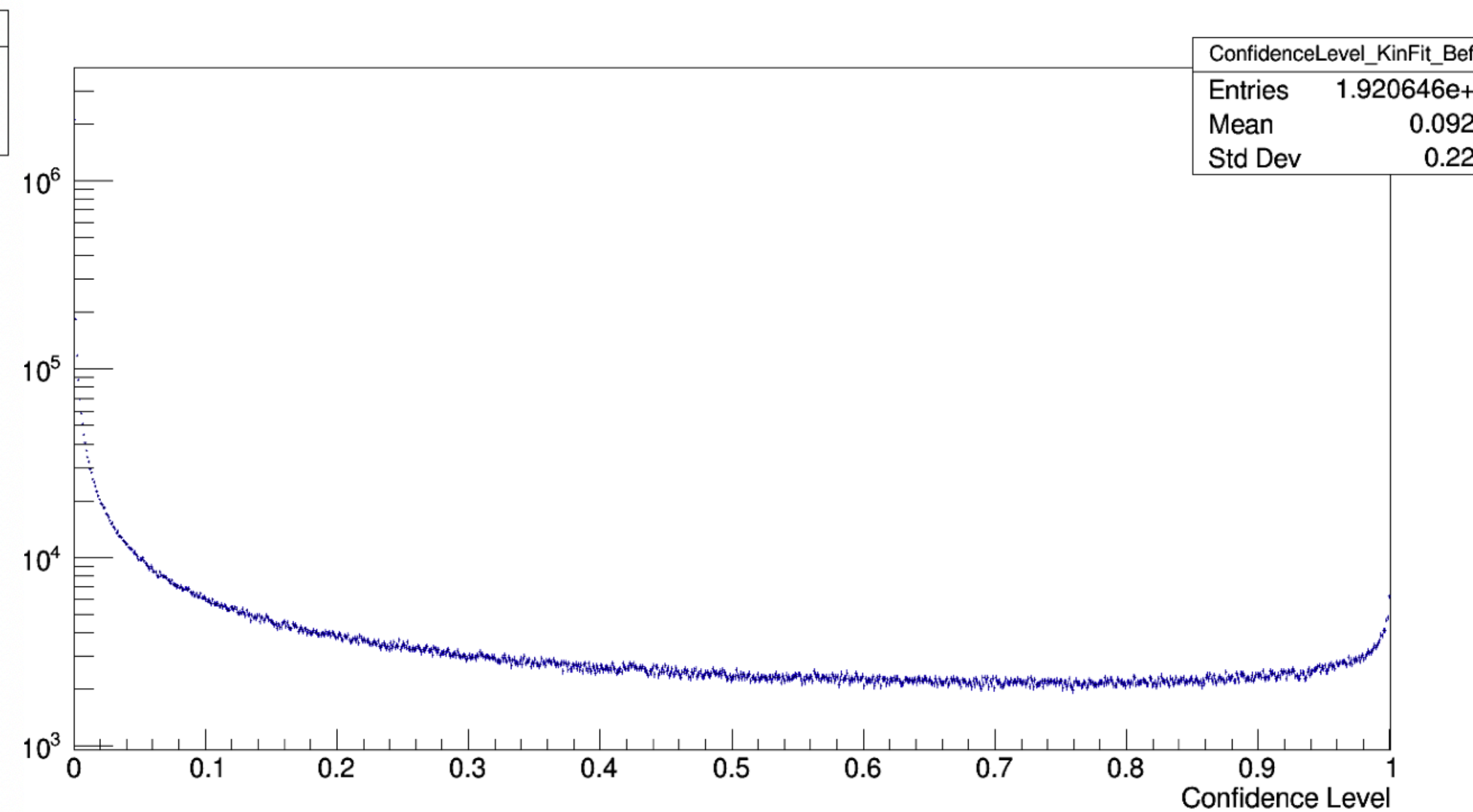
Data before all cuts

Simulation vs data
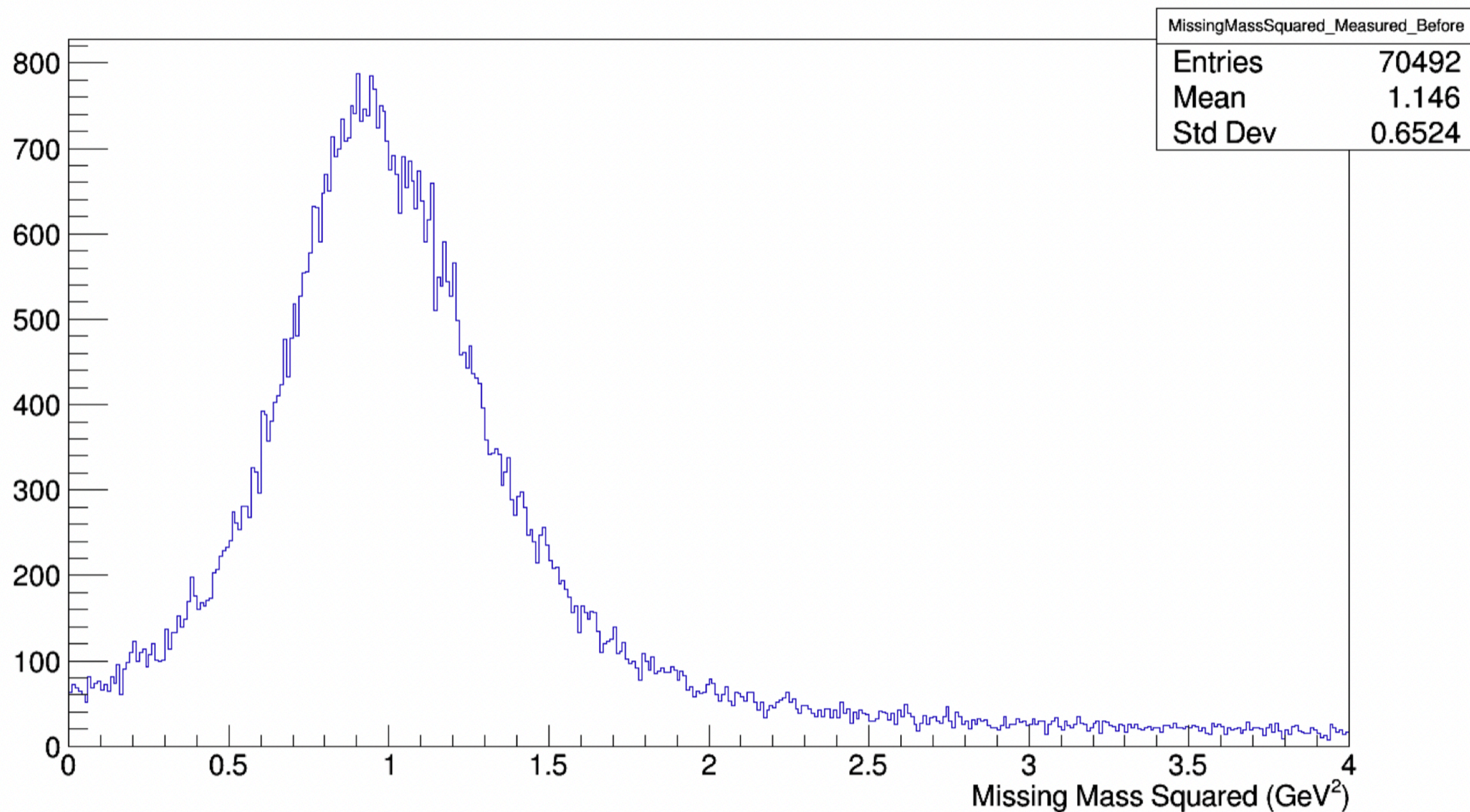
- Confidence level

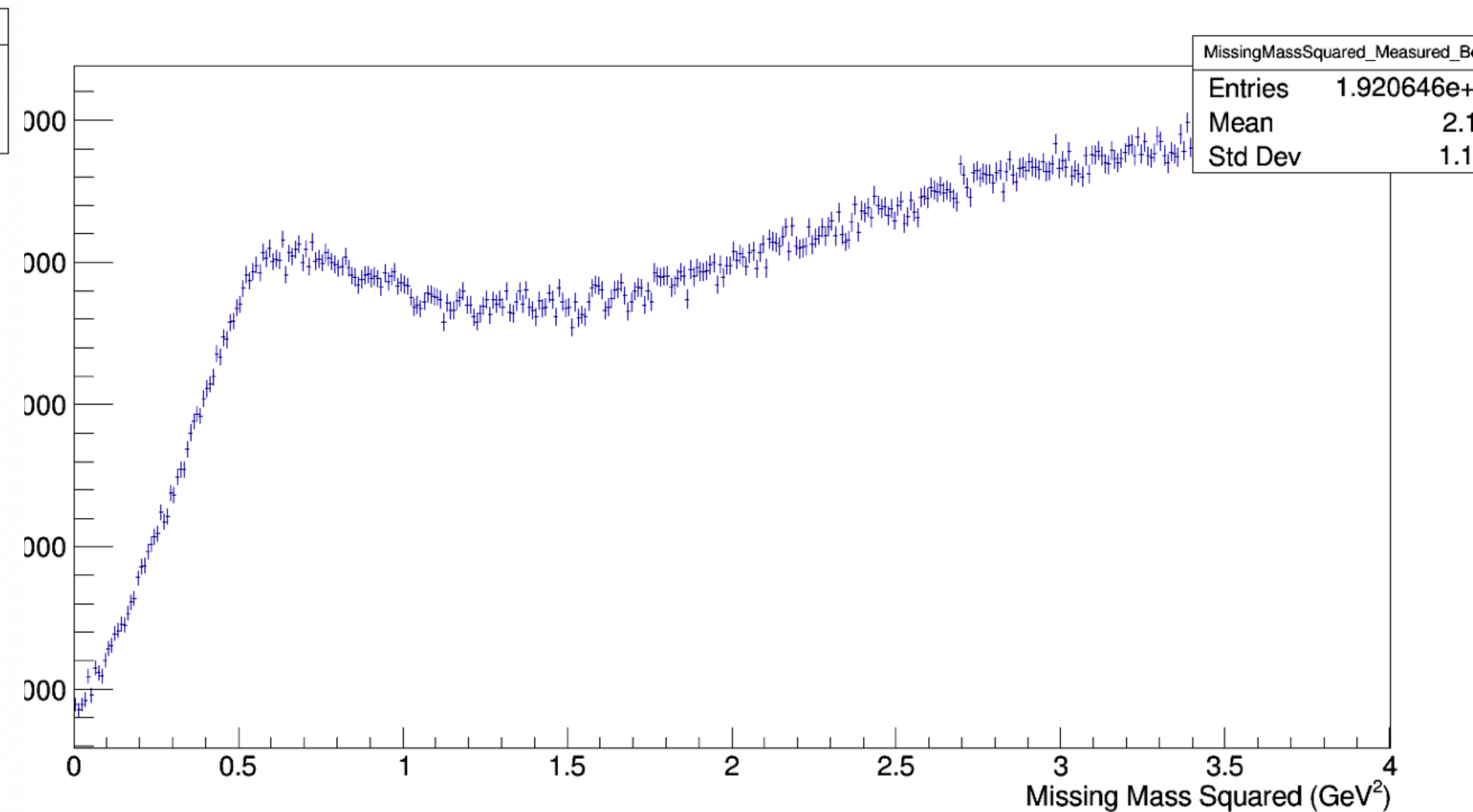Simulation before all cuts

Data before all cuts

Simulation vs data

- Missing mass squared $(p_\gamma + p_d - p_\phi - p_p)^2$, using measured values

- For data, peak is shifted from neutron mass. FSI? Resolution issue?
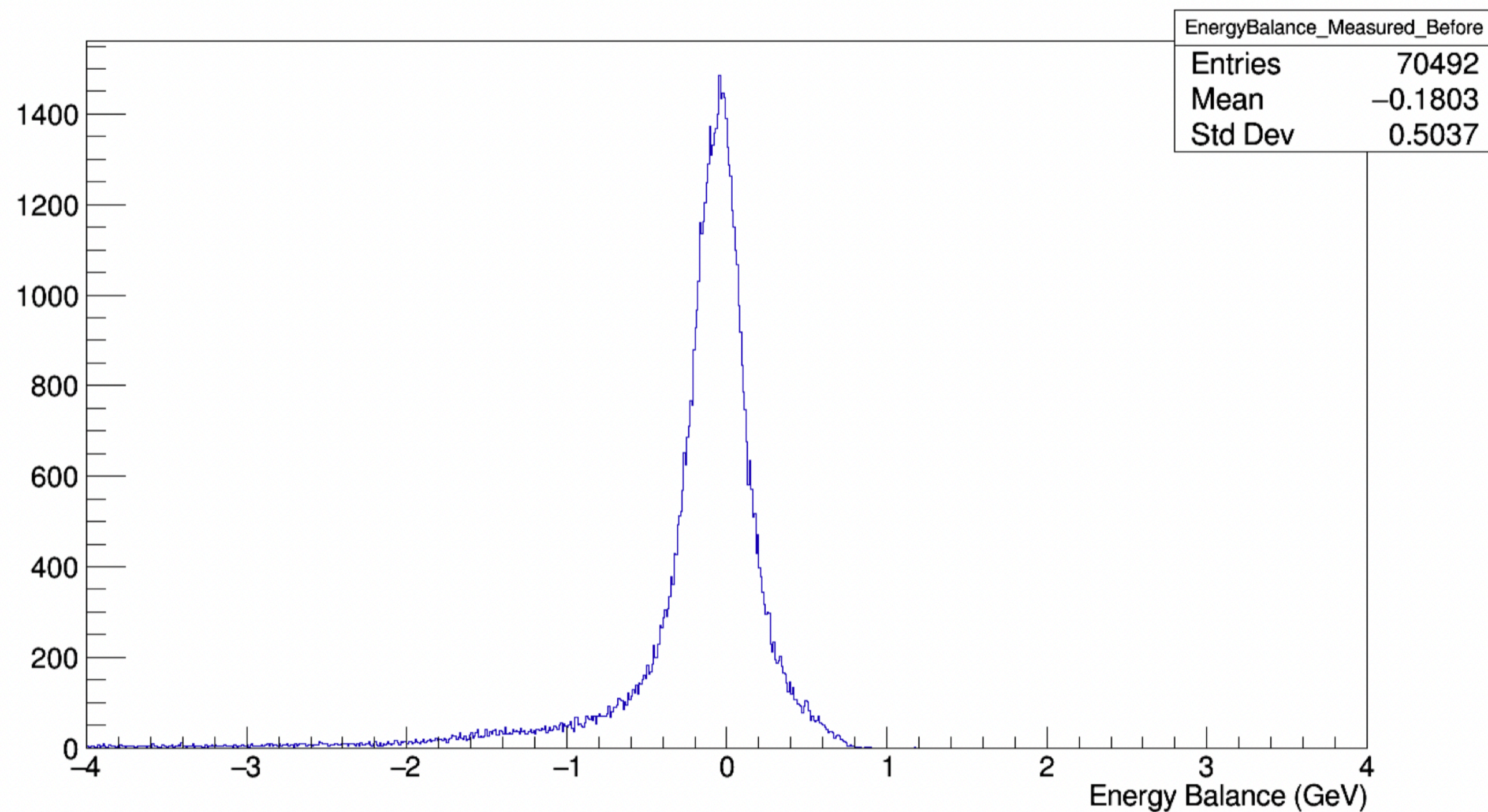

Simulation before all cuts
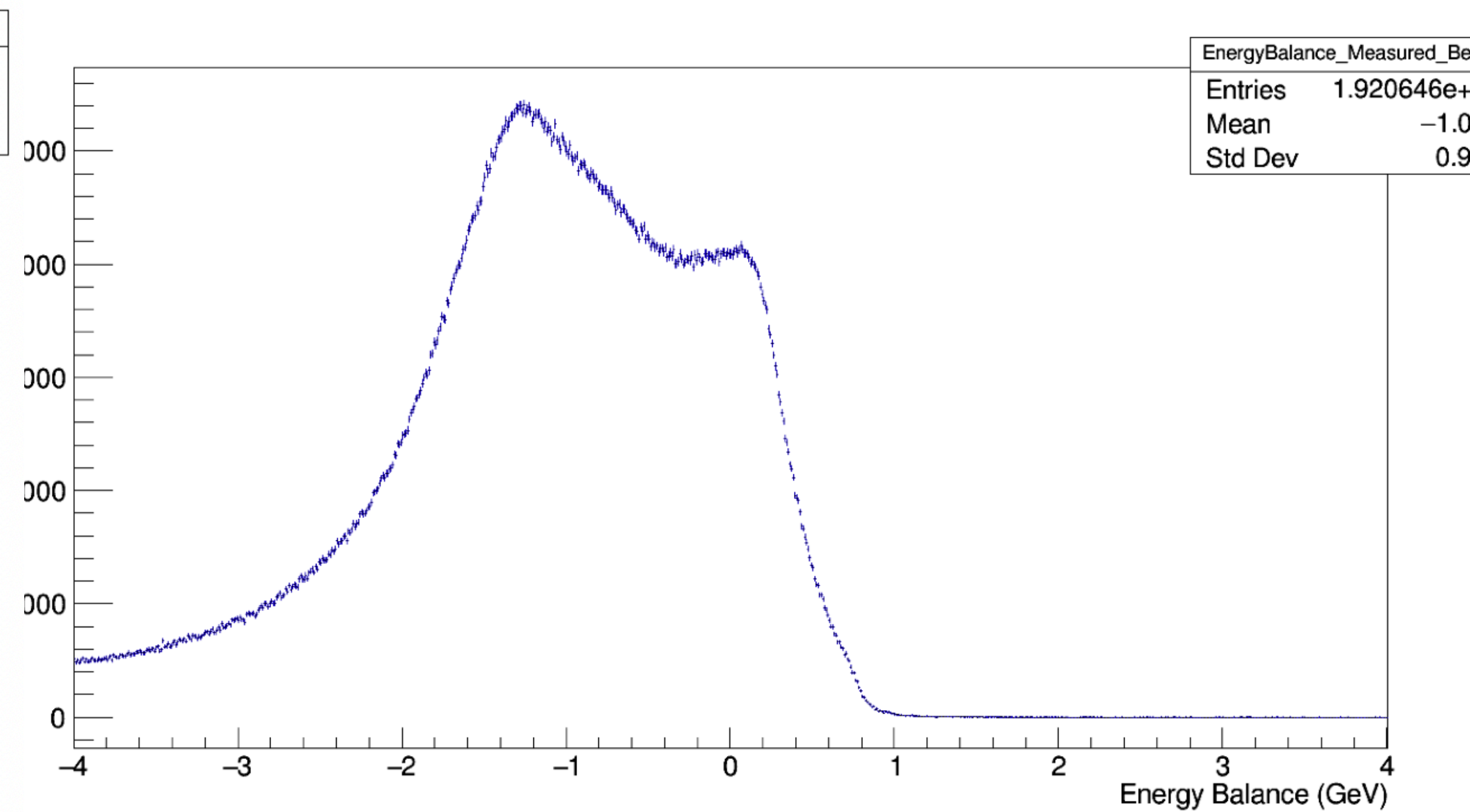
Data before all cuts

Simulation vs data

- Energy balance $|E_\phi + E_p - E_\gamma - m_p|$, using measured values

Simulation vs data
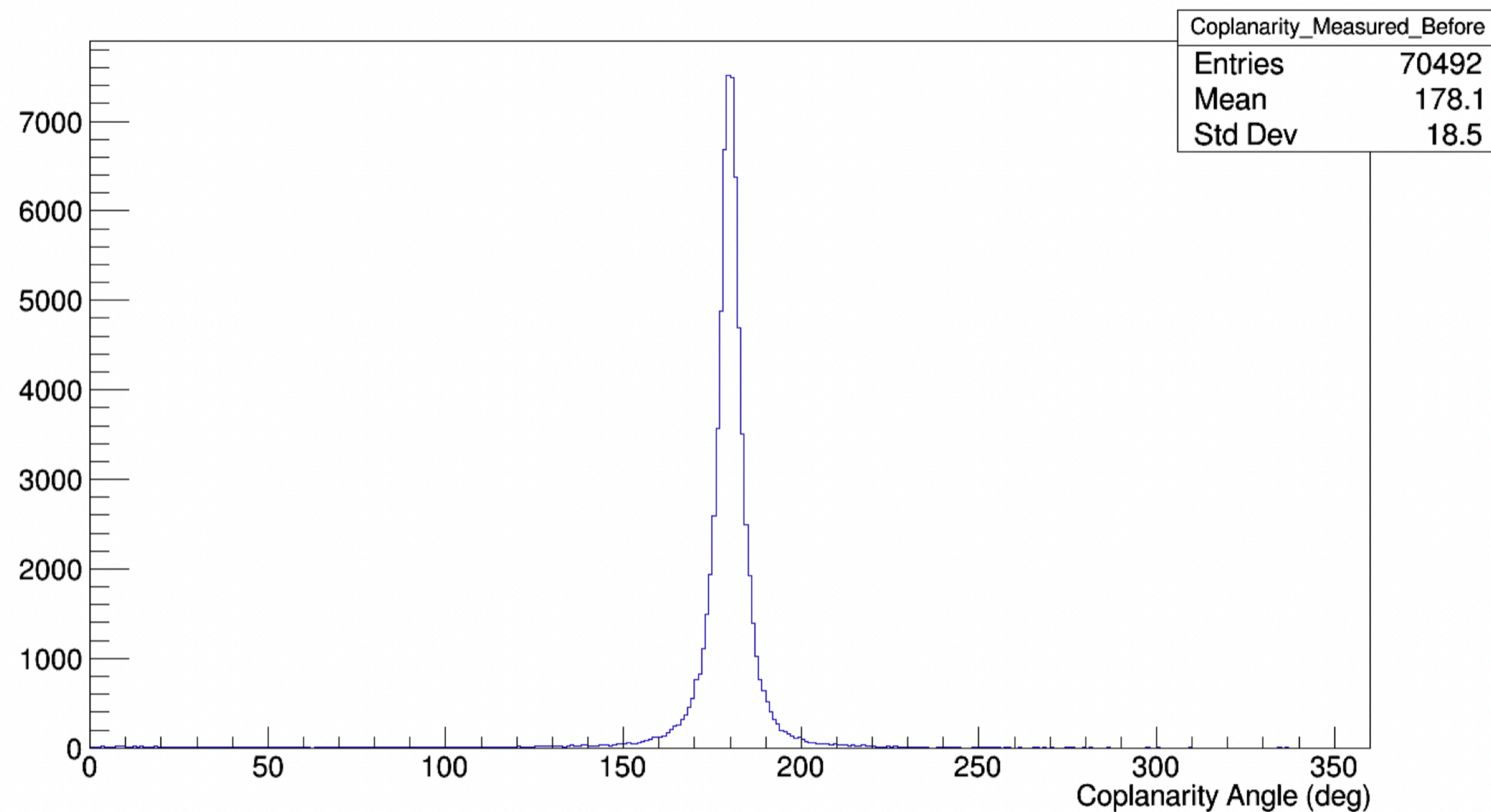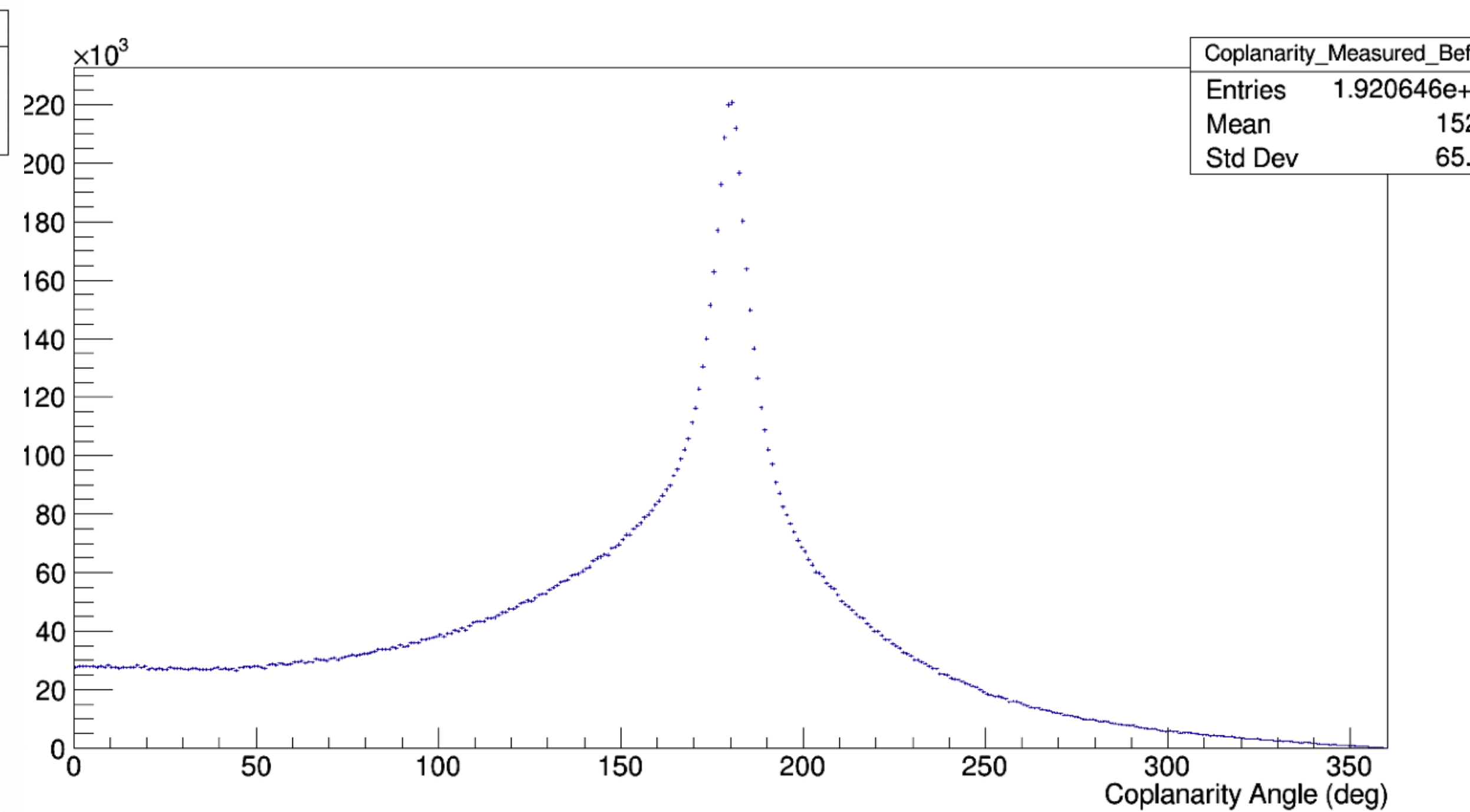
- Coplanarity angle $|\phi_\phi - \phi_p|$, using measured values

Simulation before all cuts

Coplanarity_Measured_Before	
Entries	70492
Mean	178.1
Std Dev	18.5

Data before all cuts

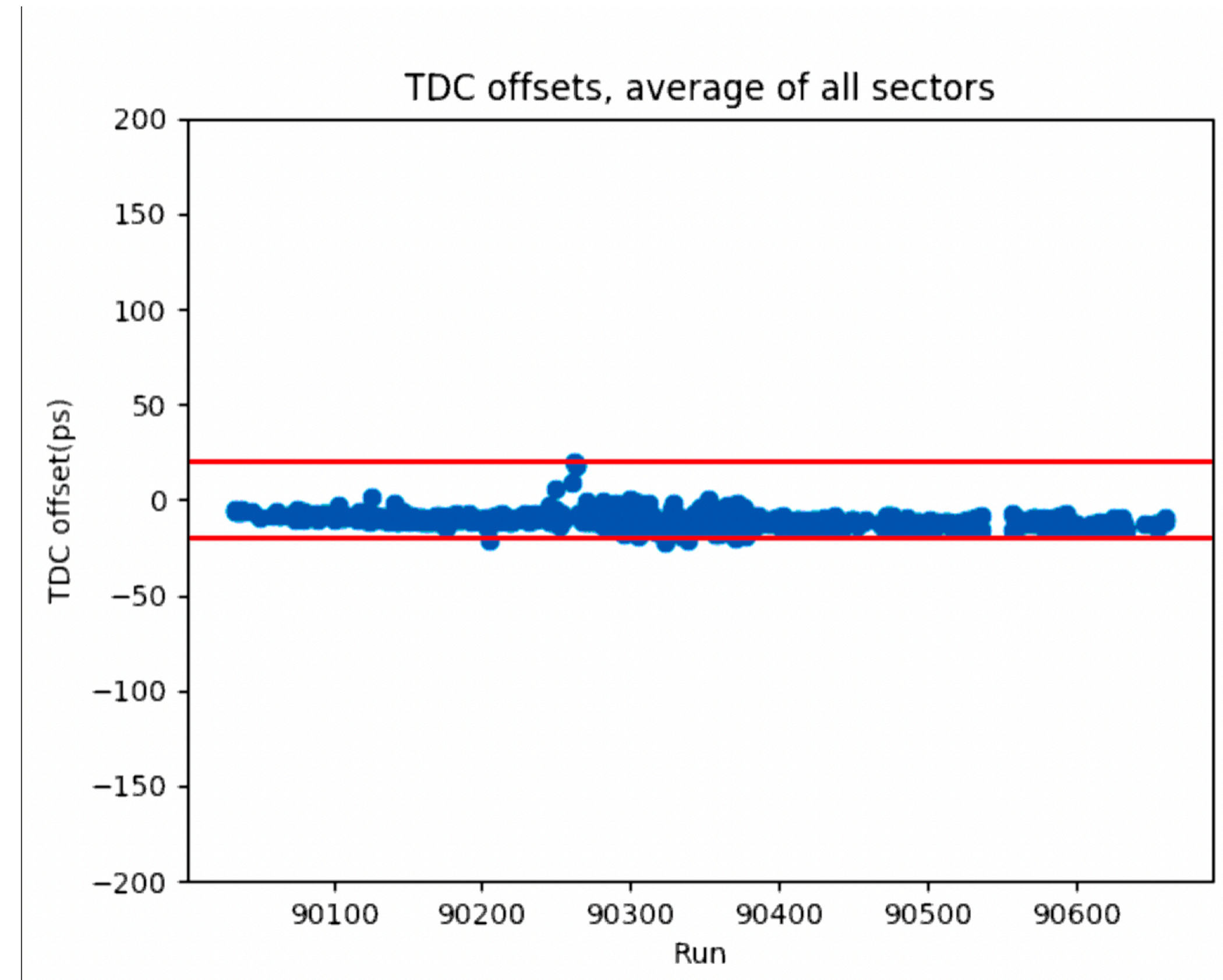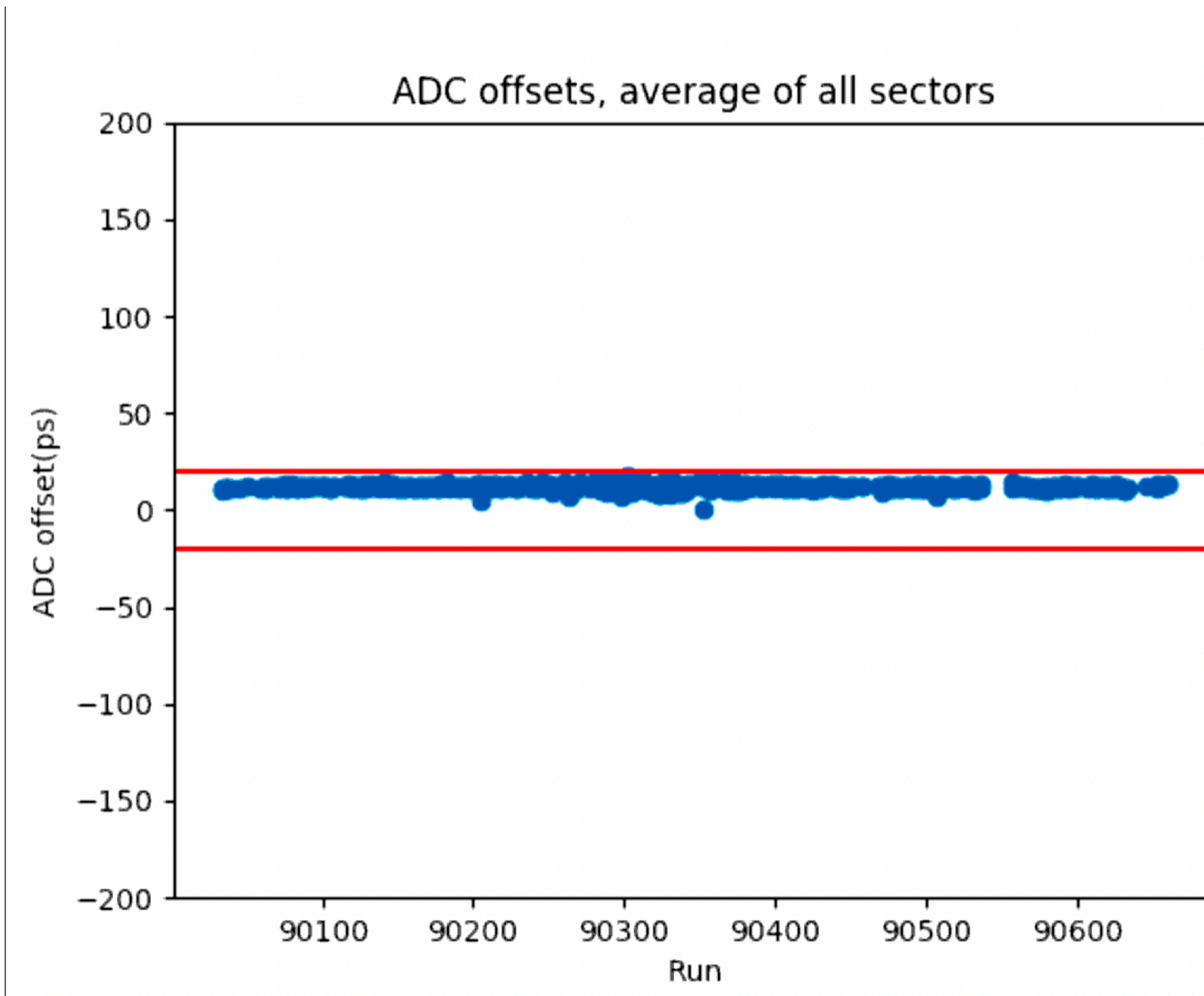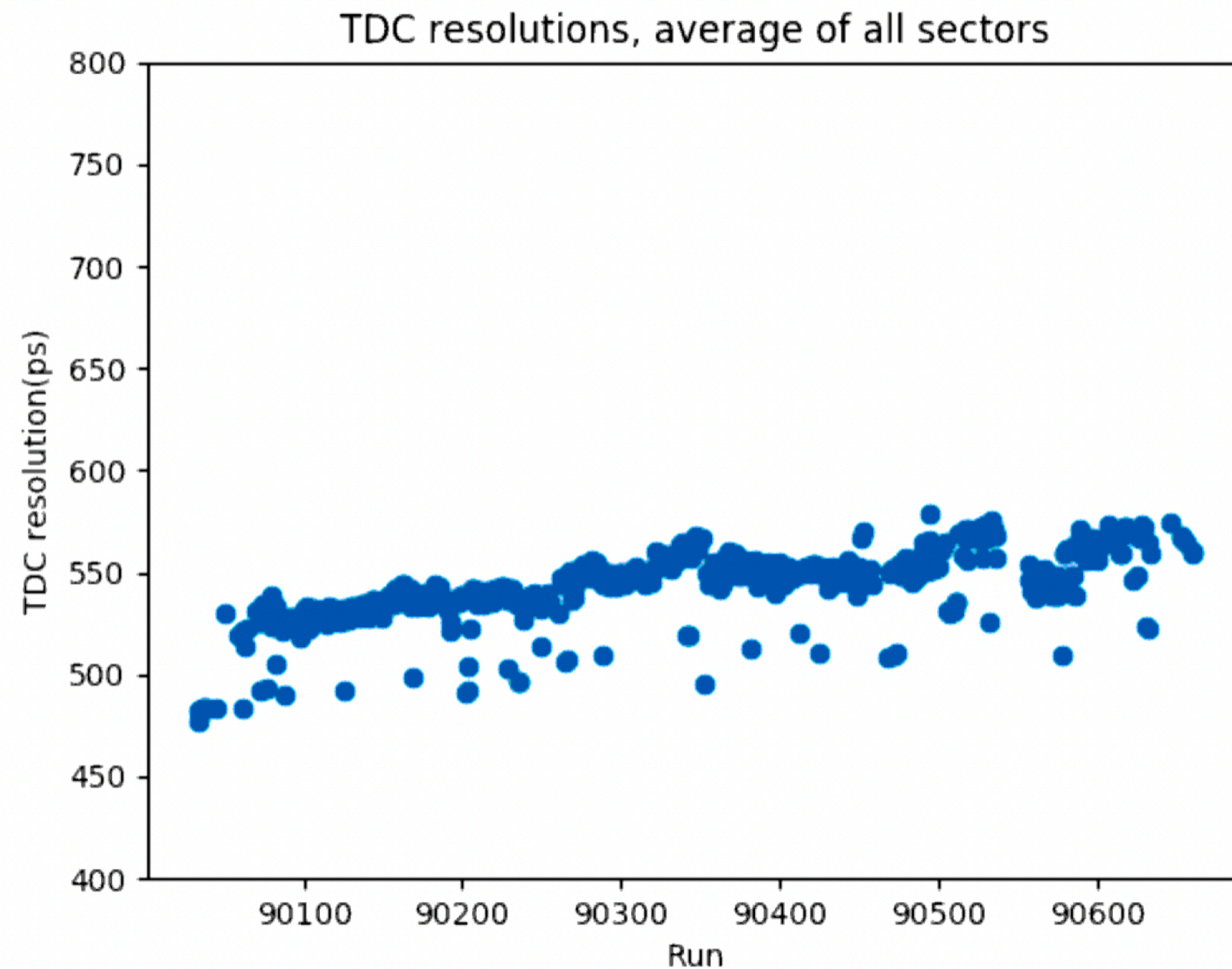| Coplanarity_Measured_Bef	
Entries	1.920646e+
Mean	152
Std Dev	65.

TAGM calibrations

- Monitoring version 5

- Average offset < 20 ps for all runs (channel 100 excluded)

TAGM calibrations

- Monitoring version 5

- TDC resolutions and remaining problems

TDC resolutions, average of all sectors

```
90102: max TDC offset is 225.00 ps, greater than 100 ps
90288: max TDC offset is 102.00 ps, greater than 100 ps
```

ST calibrations

- Monitoring version 5

- Average offset < 150 ps for all runs except 90615 and 90616