Event Selection

- Gamma + Deuterium → Piplus + PiMinus + Proton + X
- Event Selection:

  C.L > 0.001

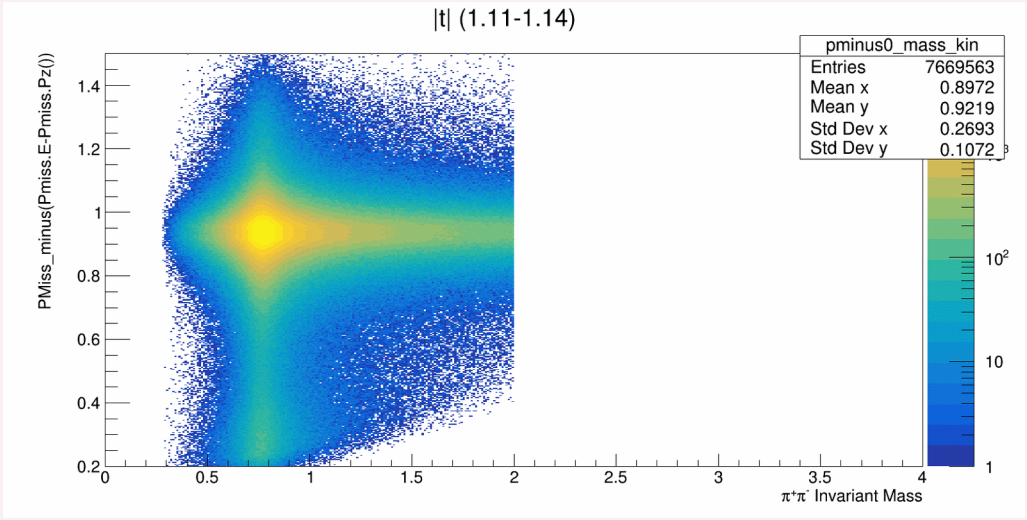
  Vertex(51,78)

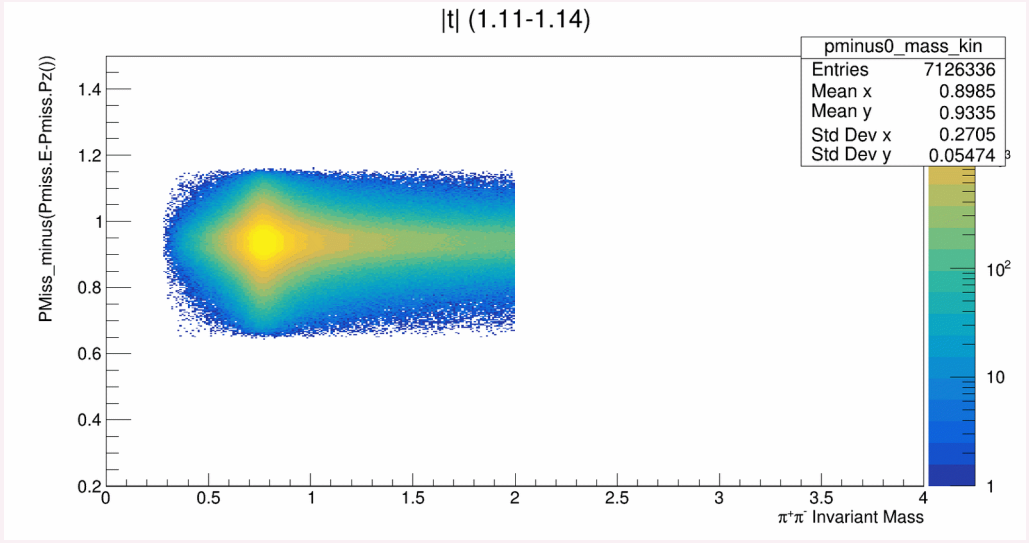
  Beam Energy > 6.5

  No Extra track && shower

Thrown: Before and After applying cut on Missing Momentum:

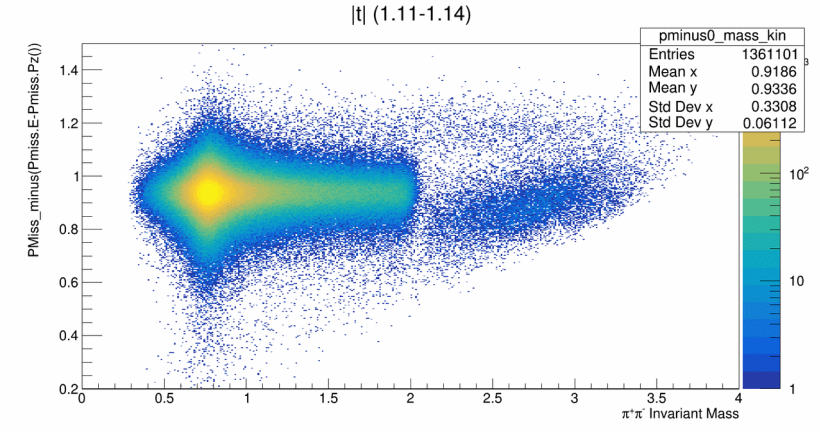
Missing_Momentum < 250 Mev/c



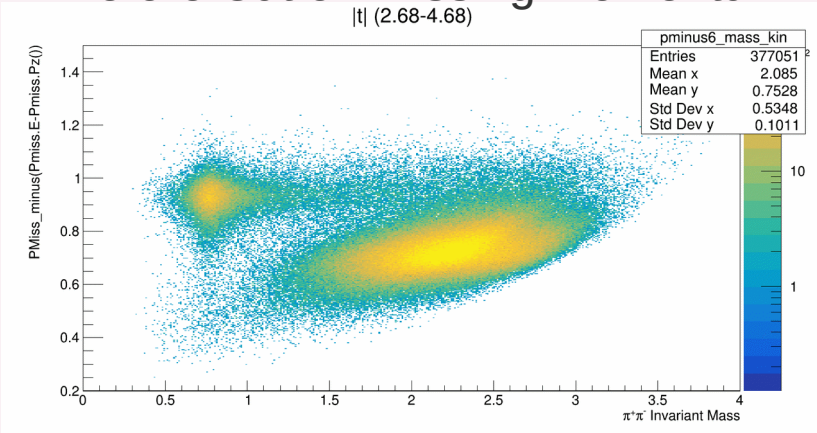


Recons:Simulation(Before and after applying cut on Missing Momentum)

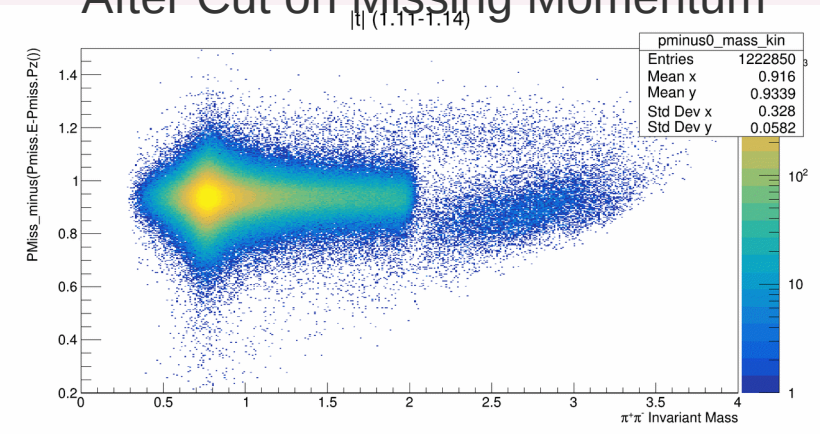
Before Cut on Missing Momentum



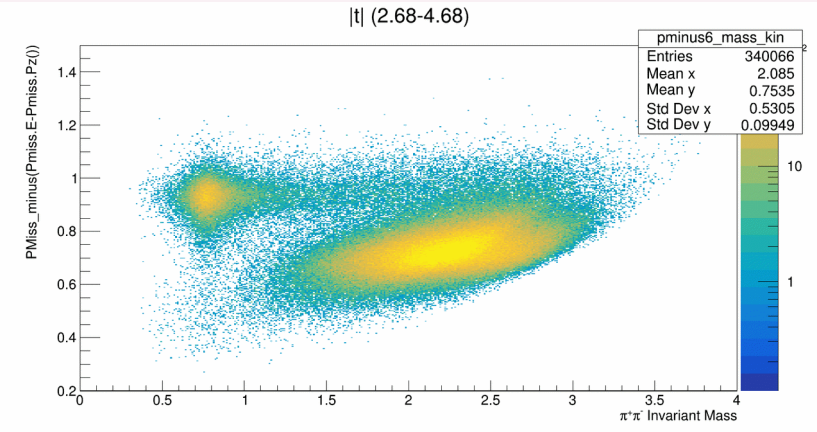
Before Cut on Missing Momentum



After Cut on Missing Momentum



After Cut on Missing Momentum



Event Selection

- Gamma + Deuterium → Piplus + PiMinus + Proton + X
- Event Selection:

  C.L > 0.001

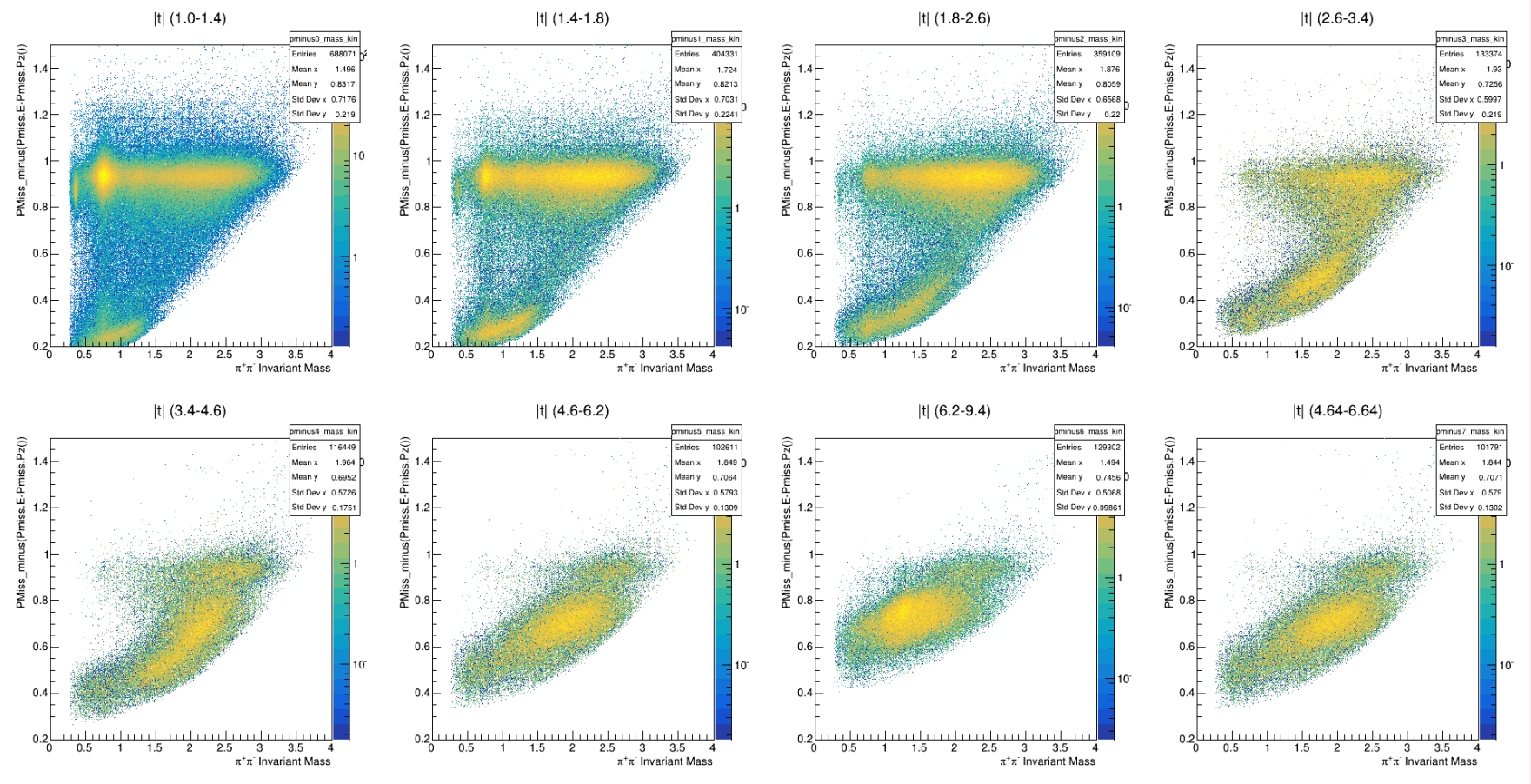
  Vertex(51,78)

  Beam Energy > 6.5

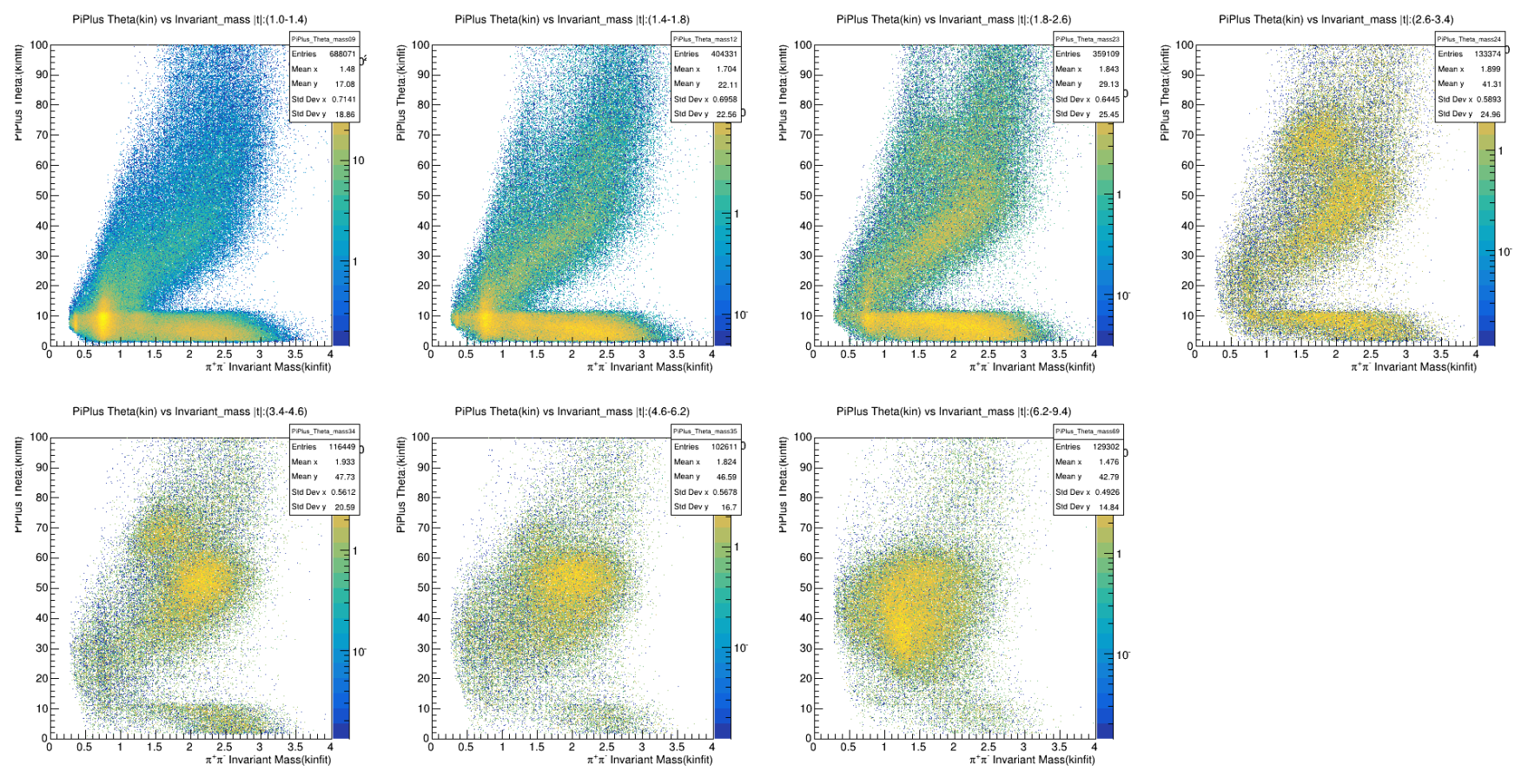
  No Extra track && shower

  Pmiss < 250 MeV/C

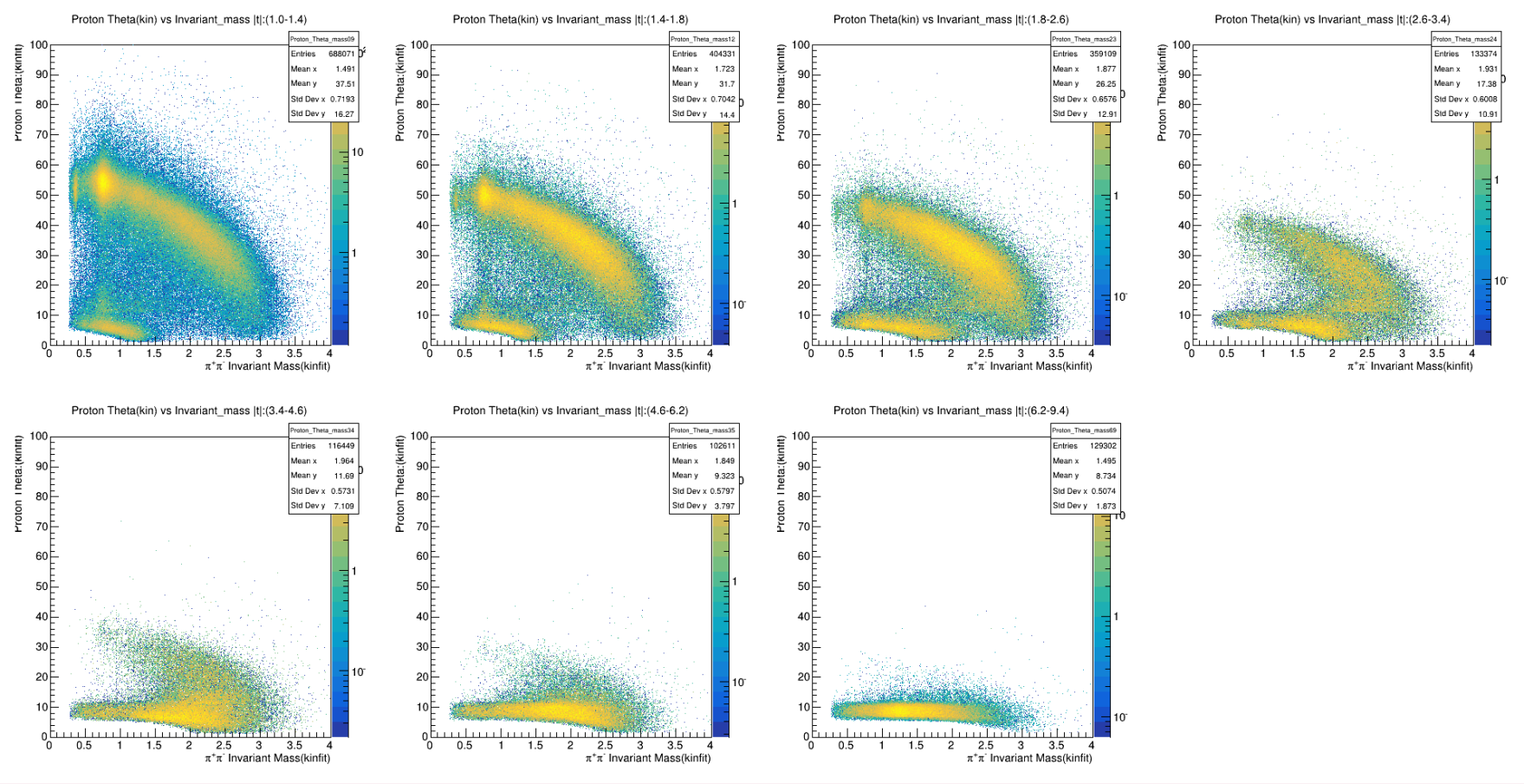
Data:Pmiss_minus vs Invariant Mass



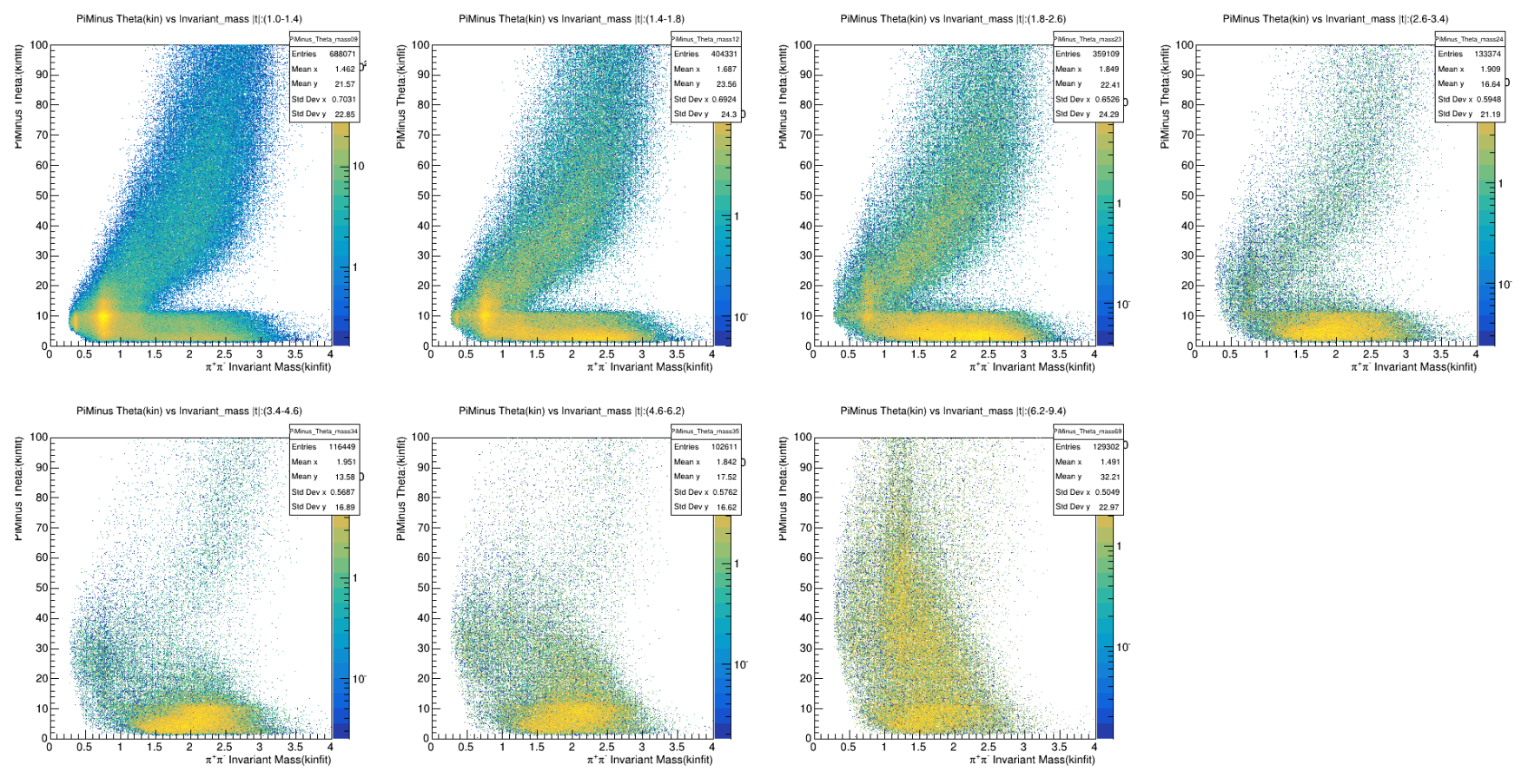
Data: PiPlus_Theta vs Invariant Mass



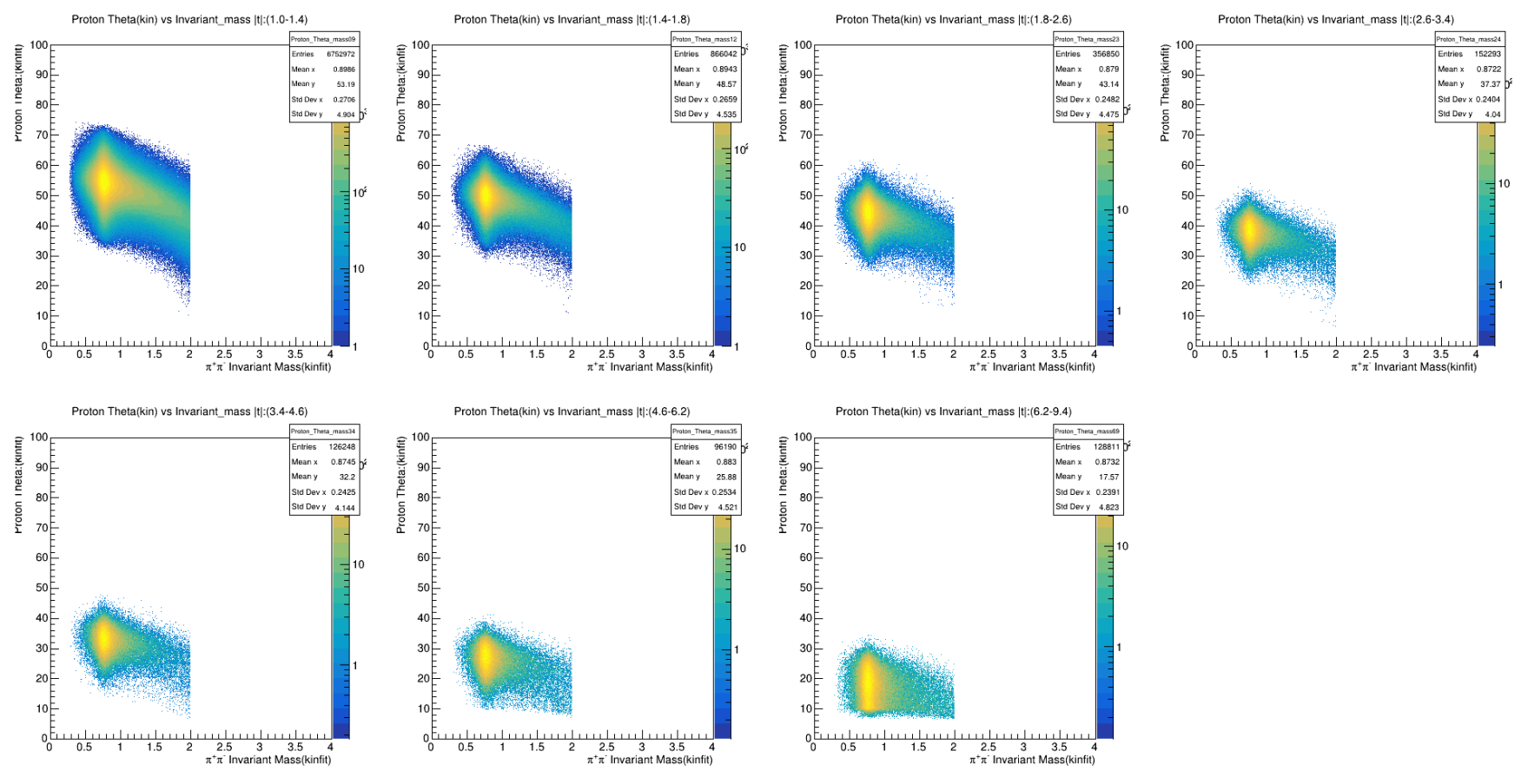
Data:Proton Theta vs Invariant Mass



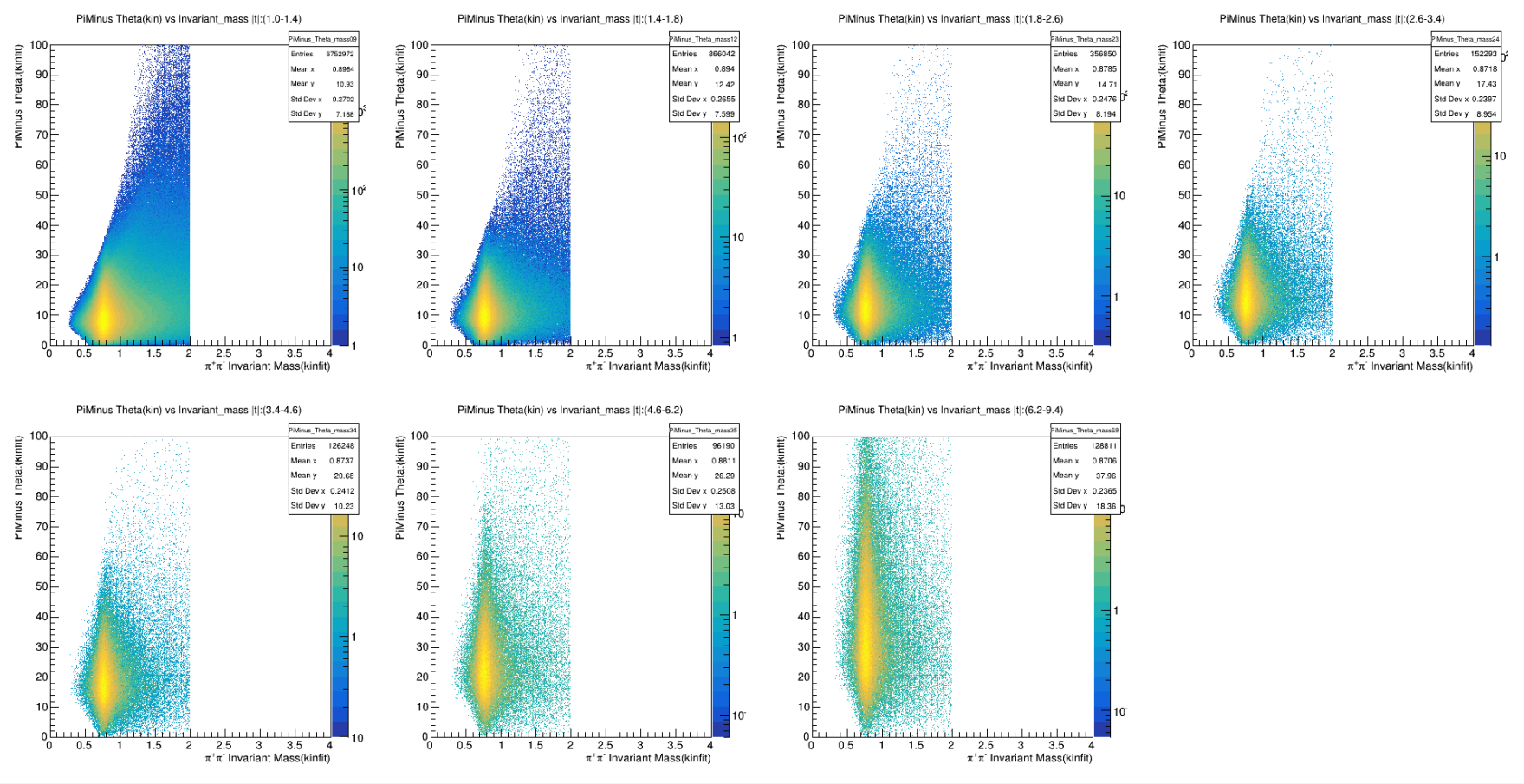
Data:PiMinus Theta vs Invariant Mass



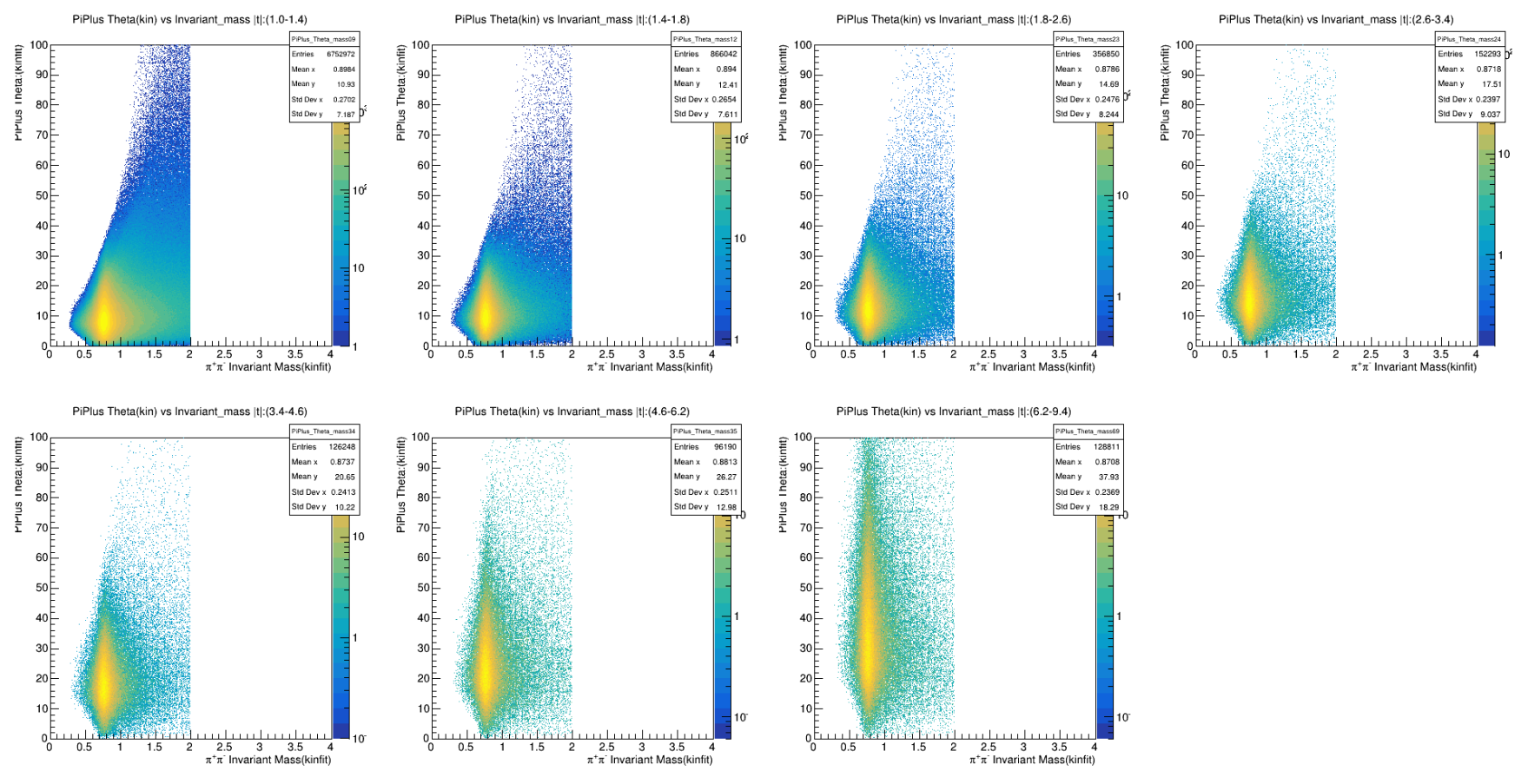
Thrown: Proton angle



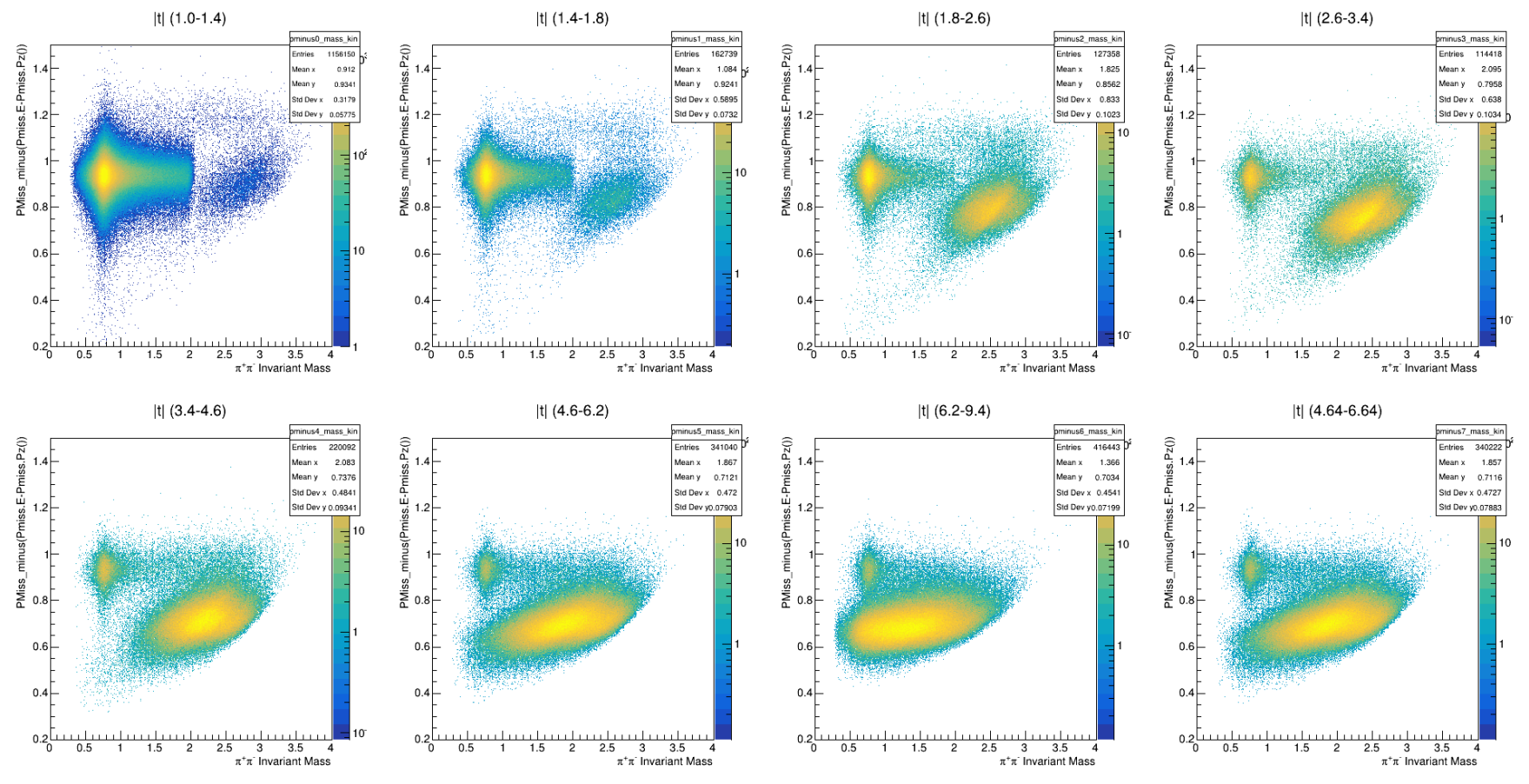
Thrown:PiMinus Angle



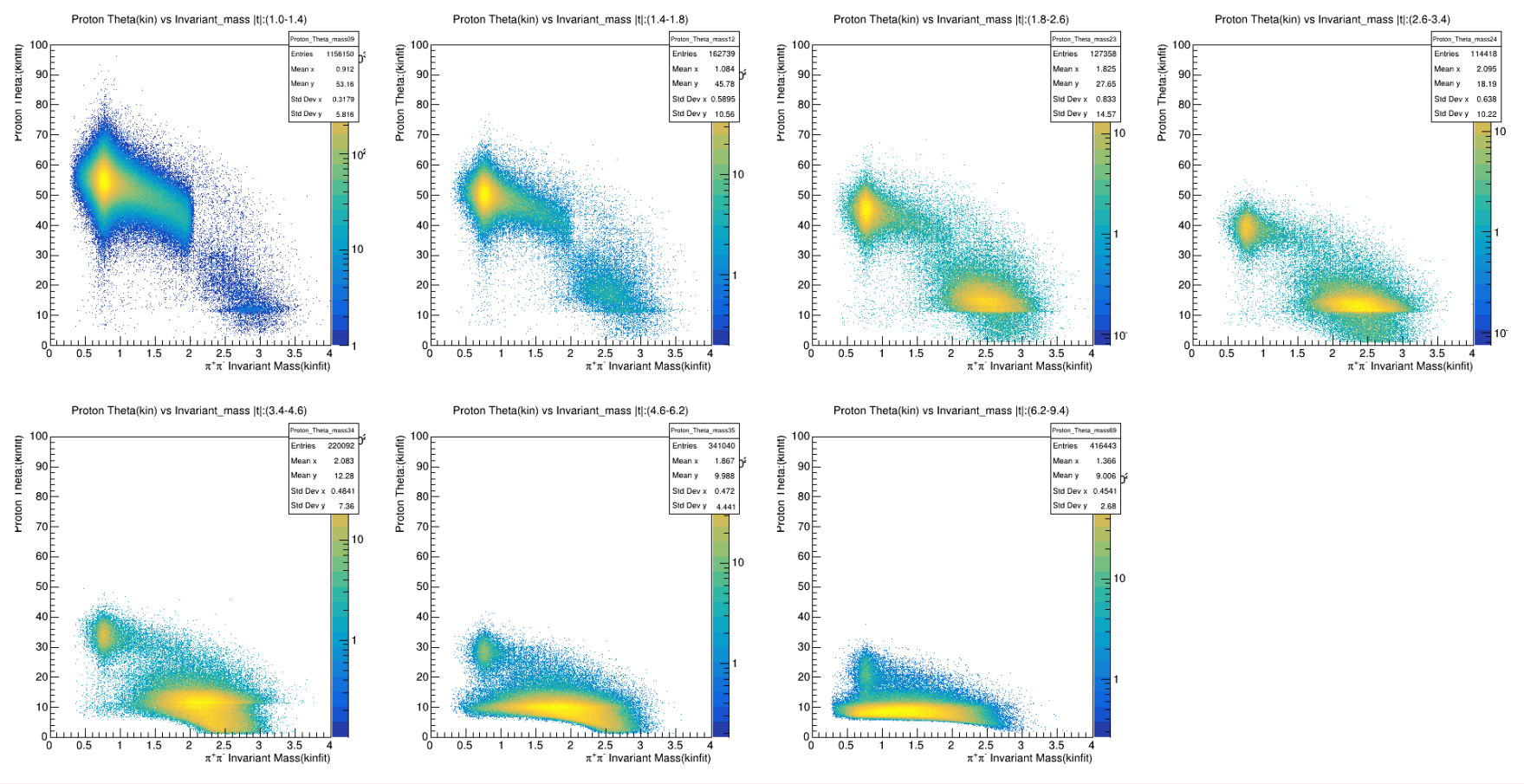
Thrown: PiPlus angle



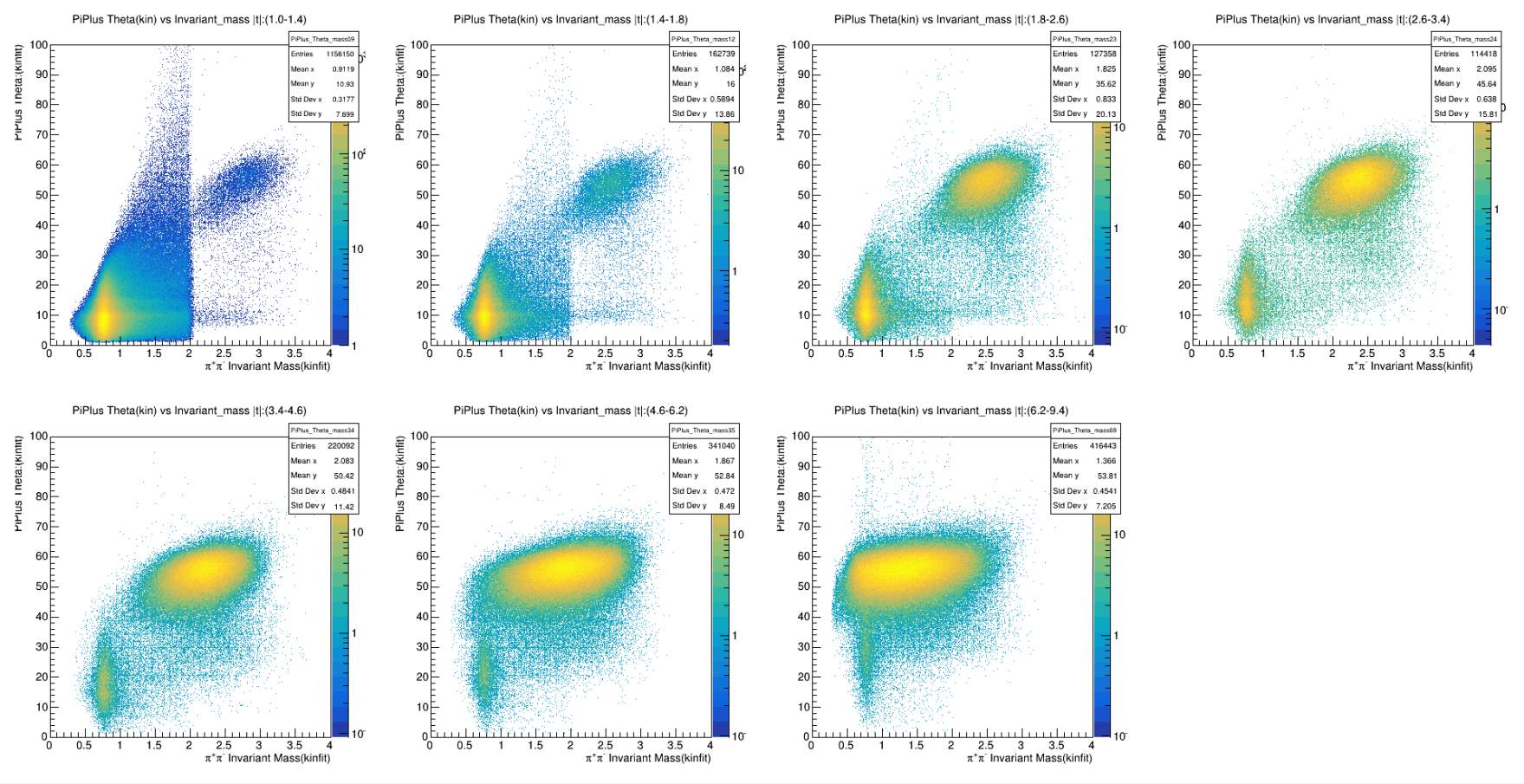
Recons:PMinus_Miss



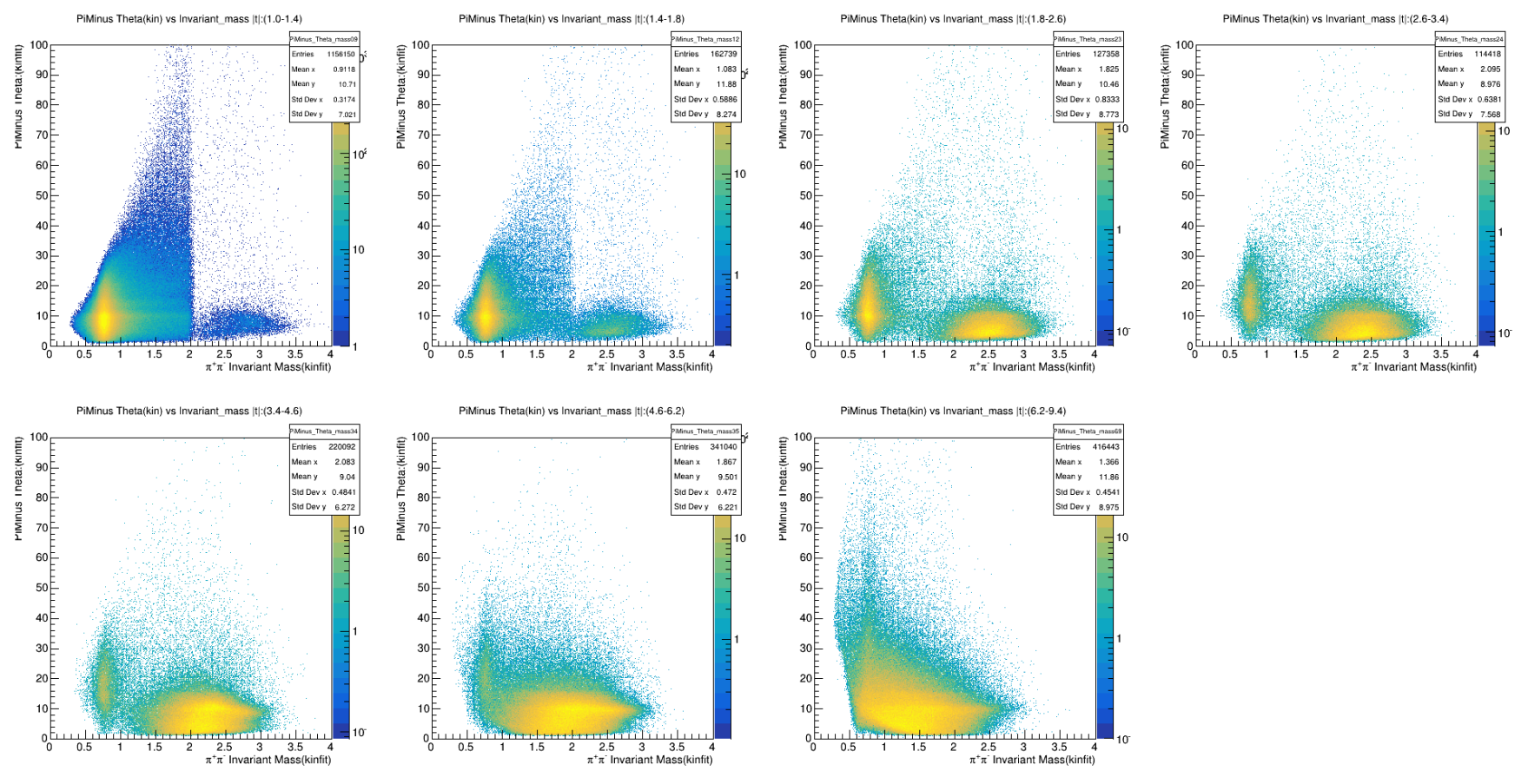
Recons: Proton Angle



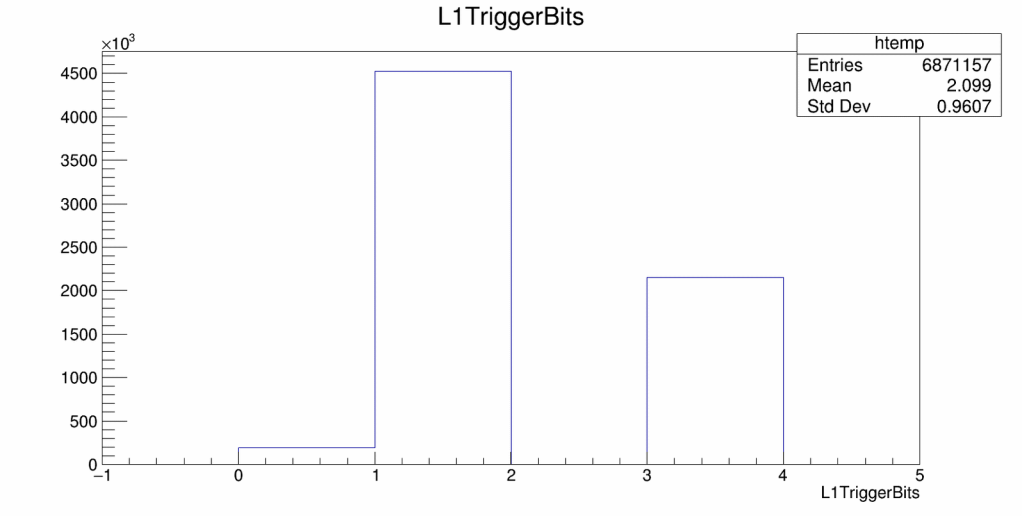
Recons:PiPlus Angle

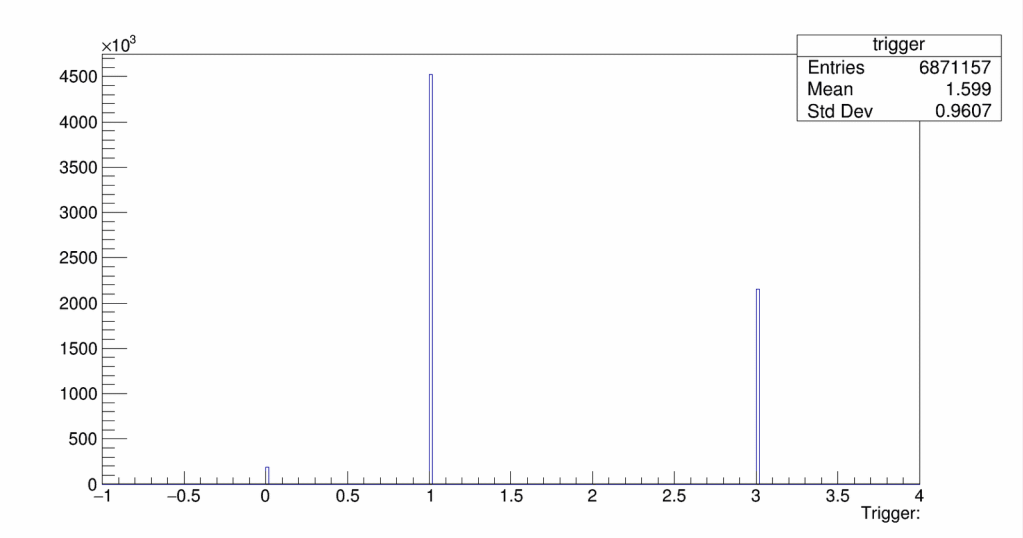


Recons:PiMinus Angle

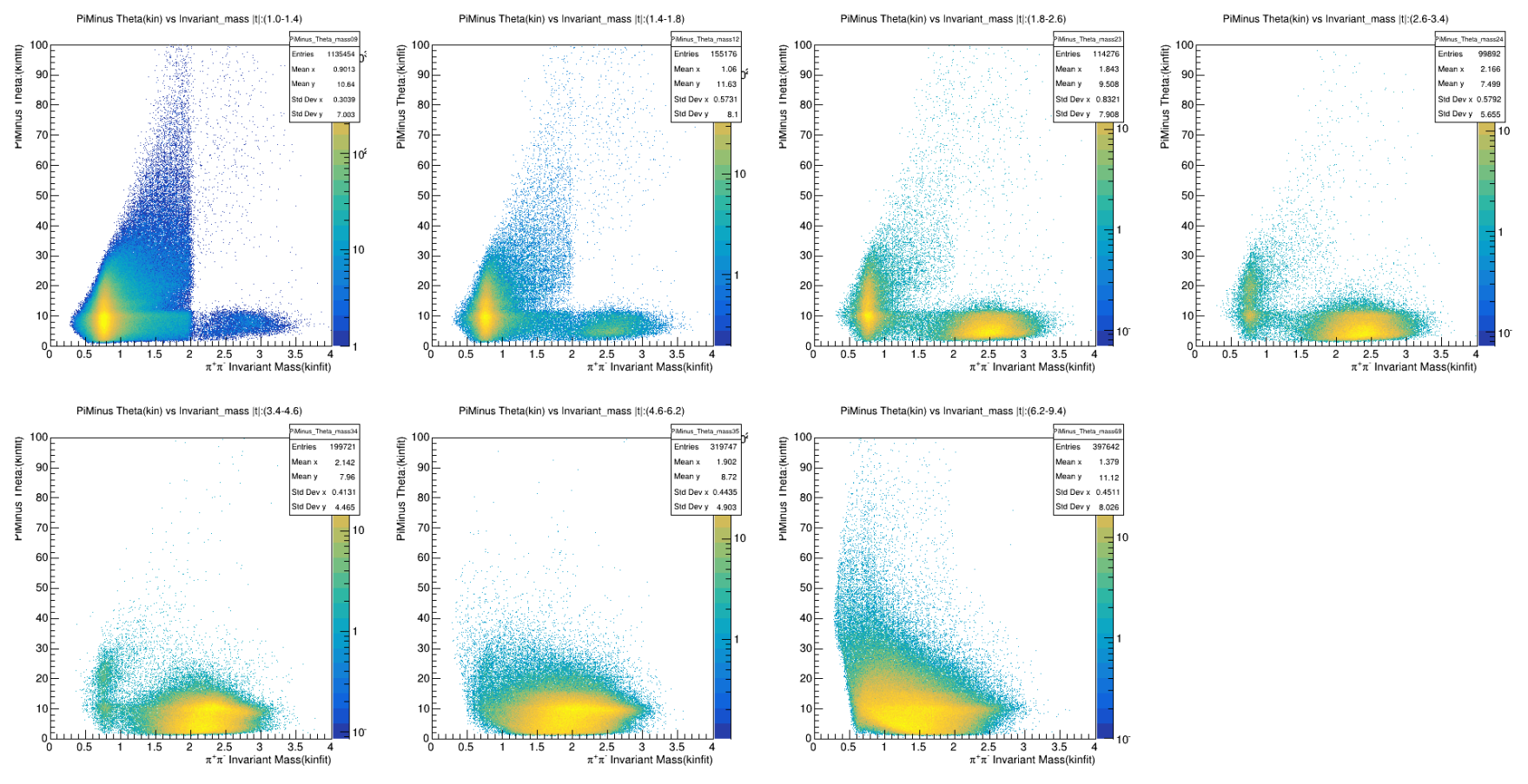


L1TriggerBits

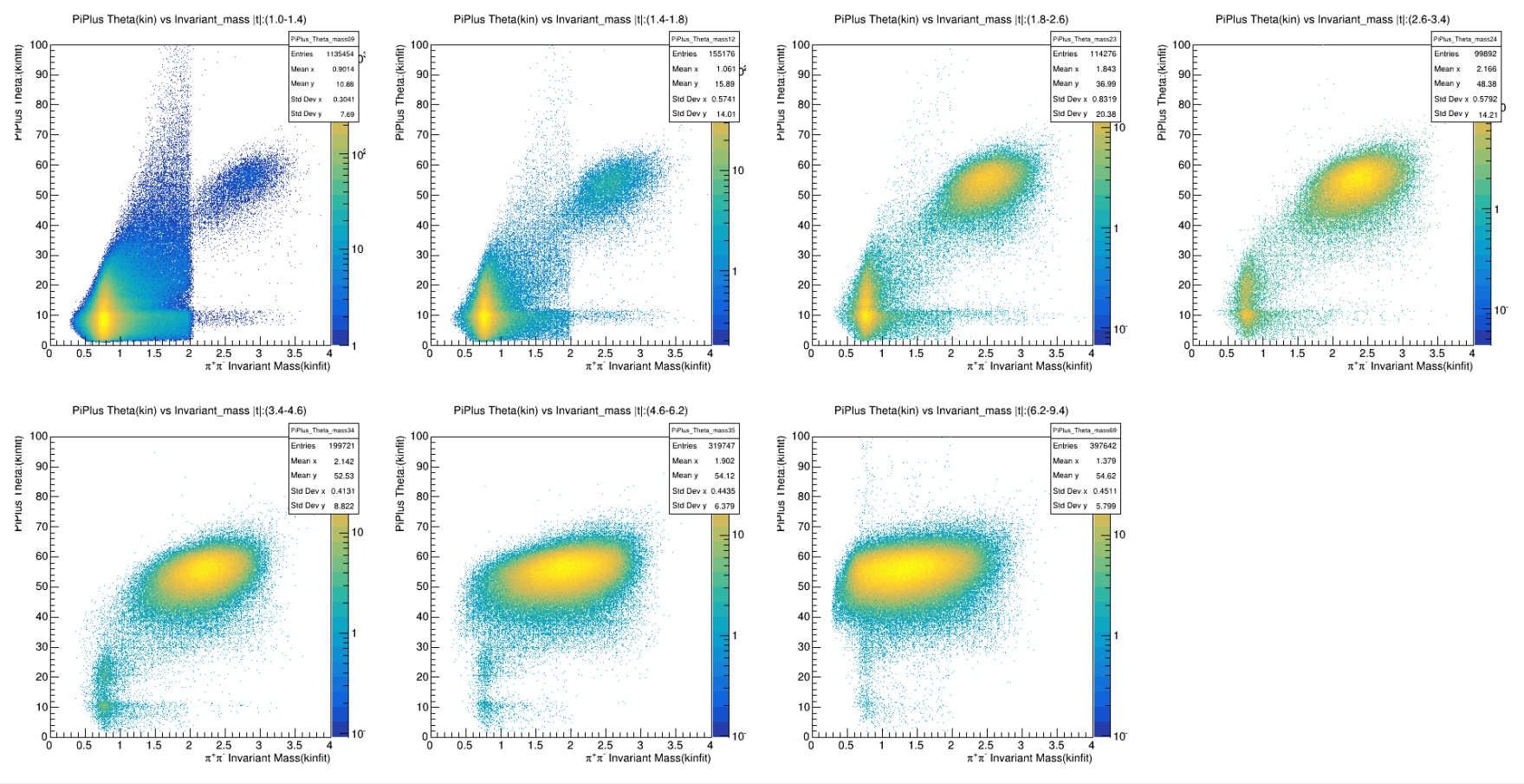




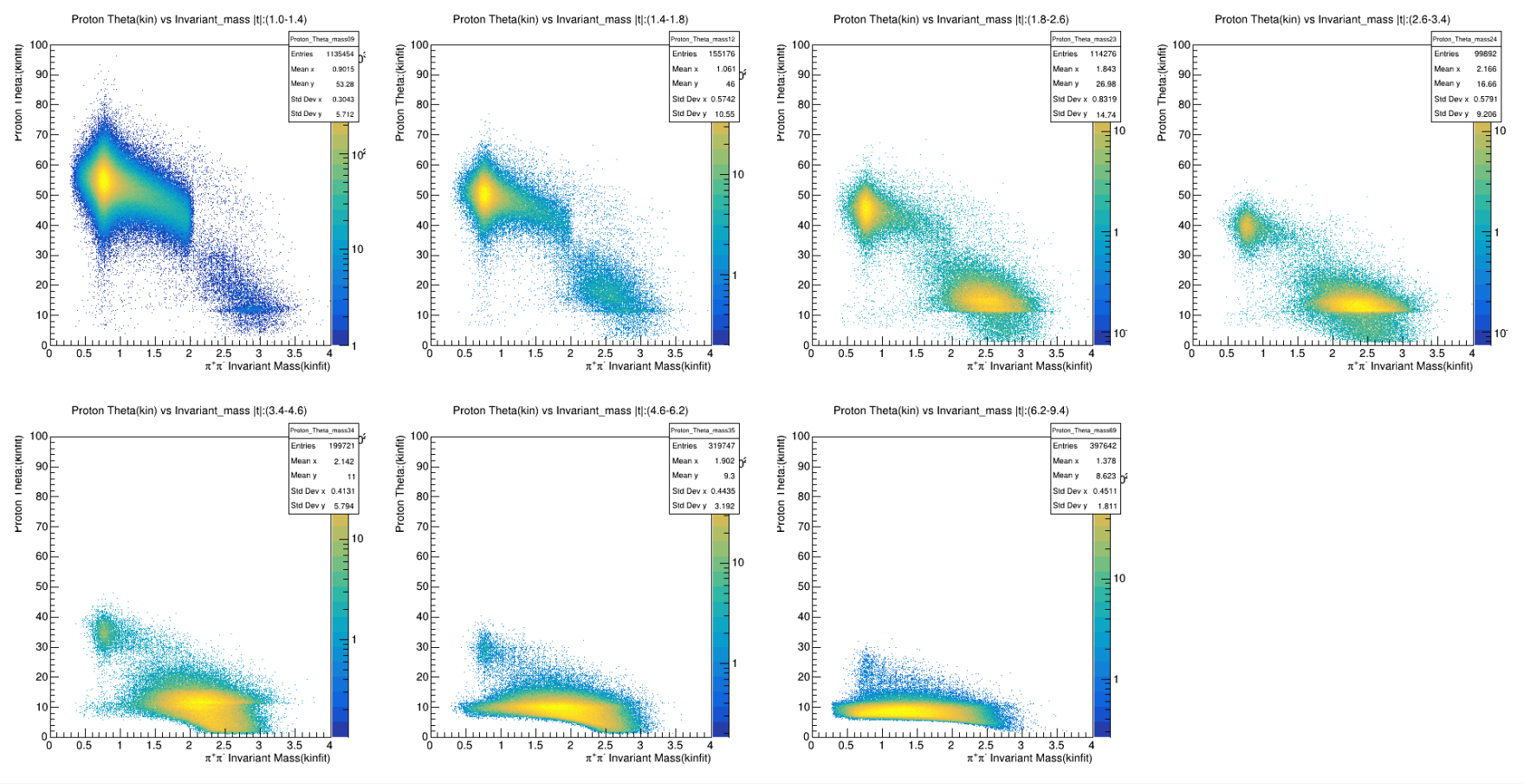
Applying L1TriggerBits >0: Recons PiMinus_angle



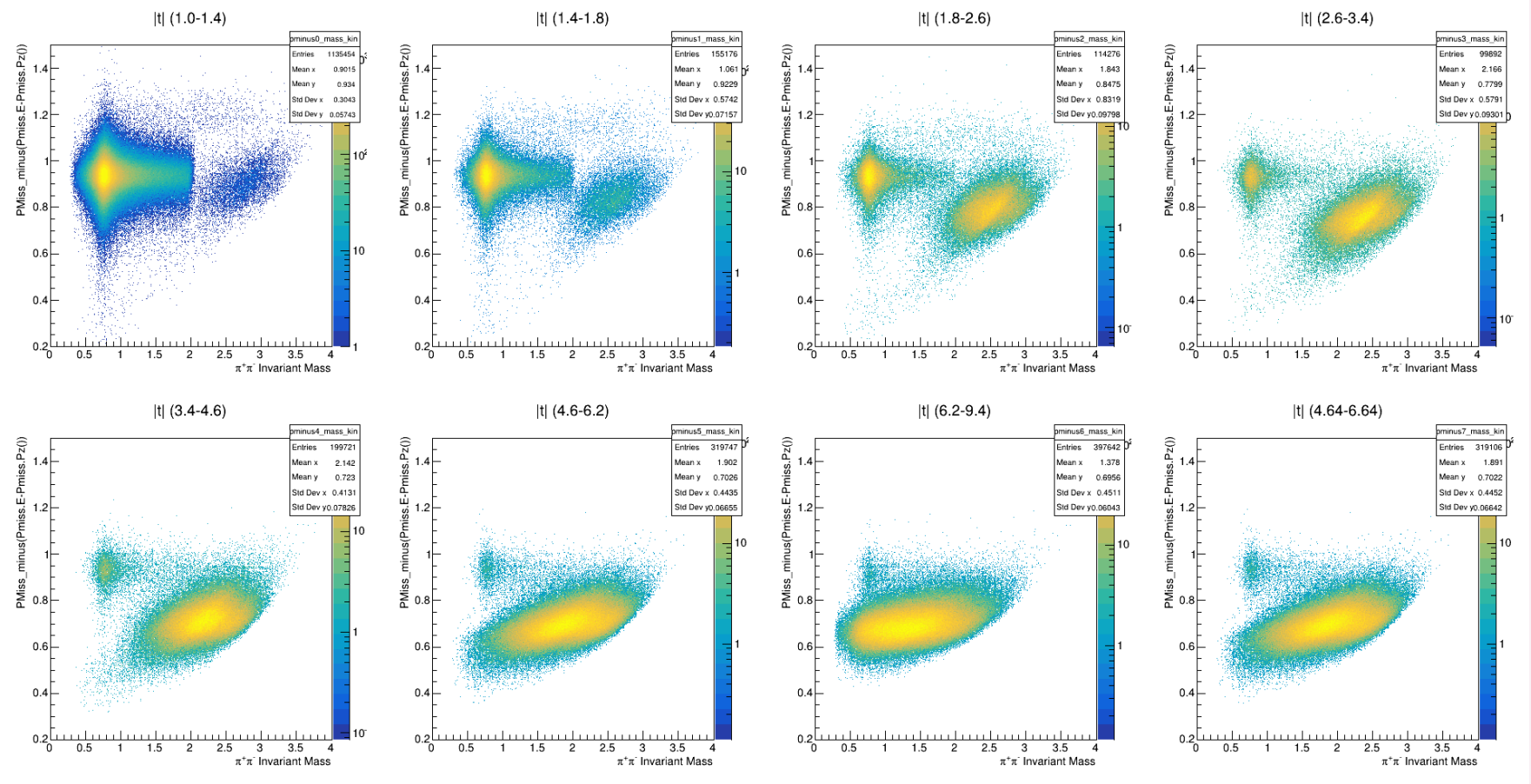
Applying L1TriggerBits >0: Recons PiPlus_angle



Applying L1TriggerBits >0: Recons Proton_angle



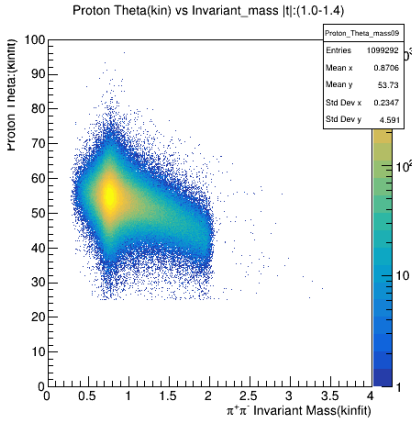
Applying L1TriggerBits >0: Recons PMiss_Minus

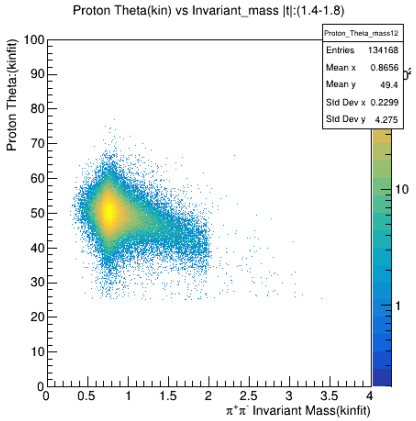


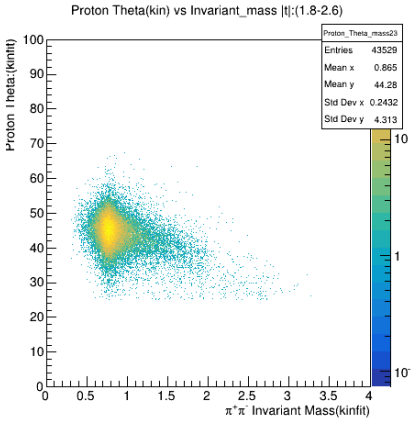
Event Selection:

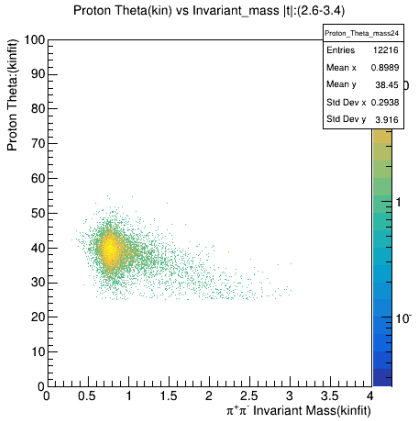
S.N	Range |t|	PiPlus Theta	Protn Theta	PiMInus Theta			
1	1.0-1.4	<35	>25	<35			
2	1.4-1.8	<35	>25	<35			
3	1.8-2.6	<35	>25	<35			
4	2.6-3.4	<35	>25	<35			
5	3.4-4.6	<35	>20	<35			
6	4.6-6.2	<35	>20	<35			

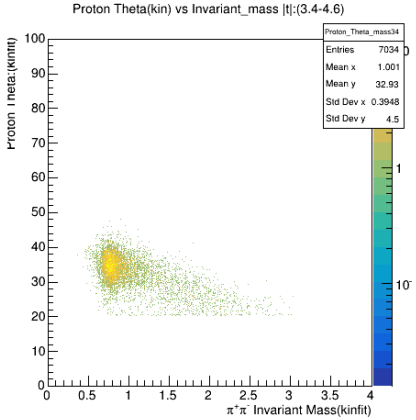
Recons Simulation: Proton Theta (After all cut)

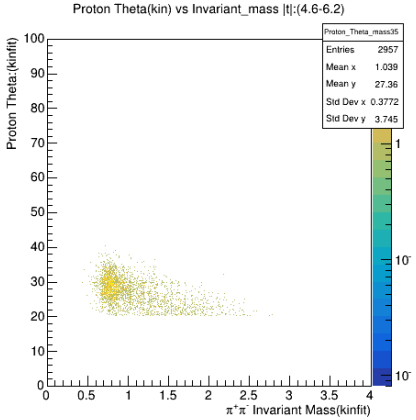




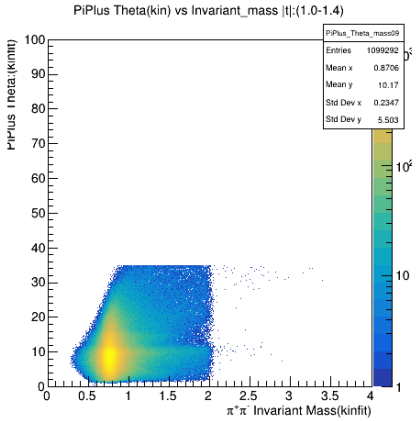


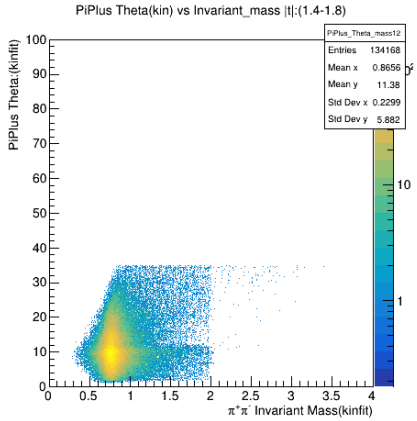


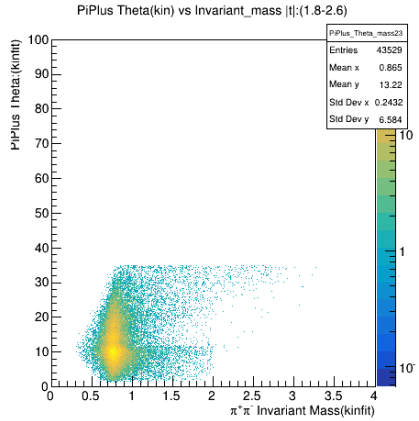


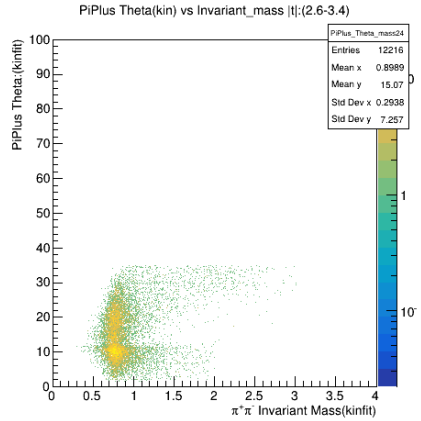


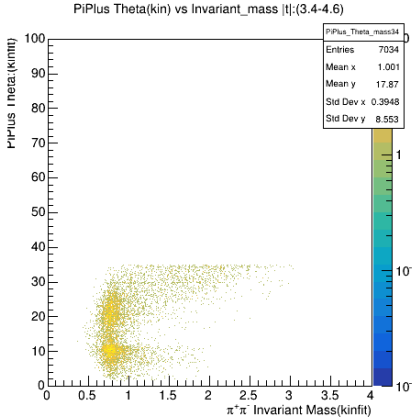
Recons Simulation: PiPlus Theta (After all cut)

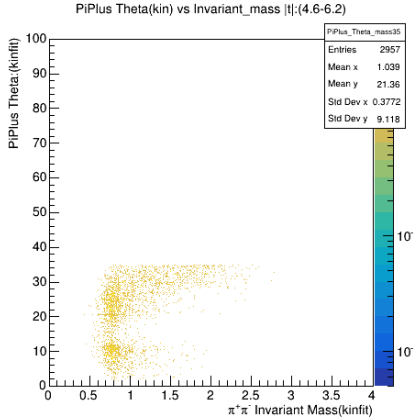




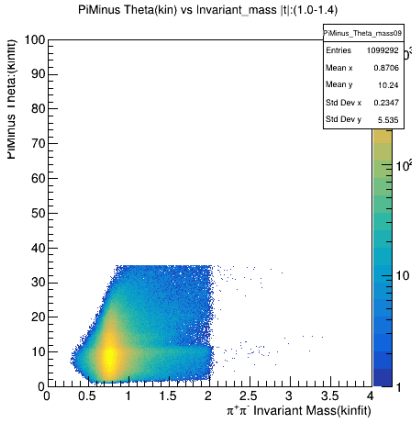


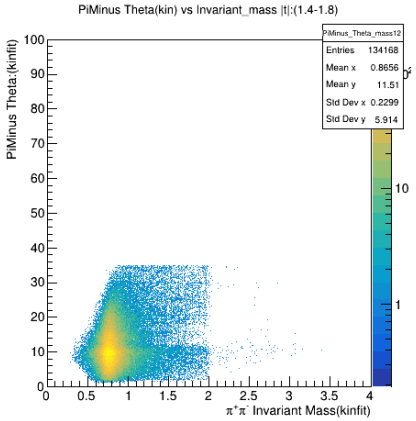


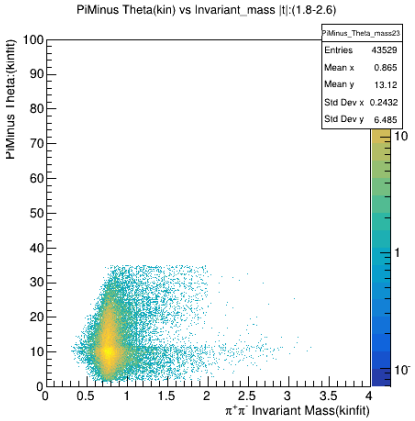


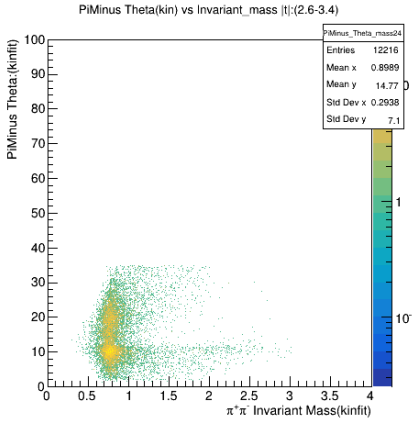


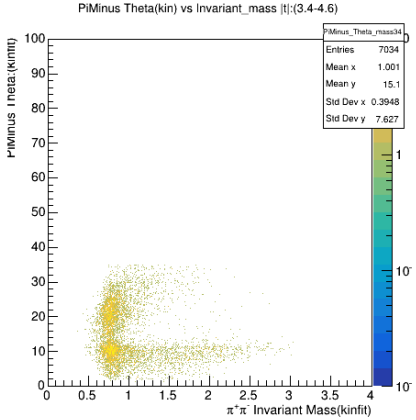
Recons Simulation: PiMinus Theta (After all cut)

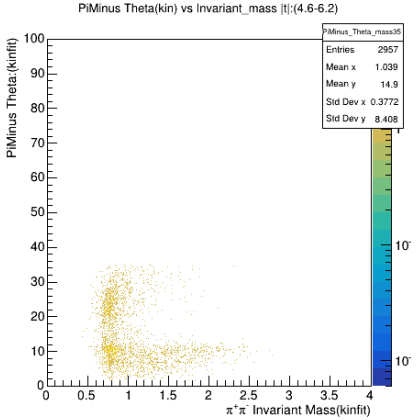




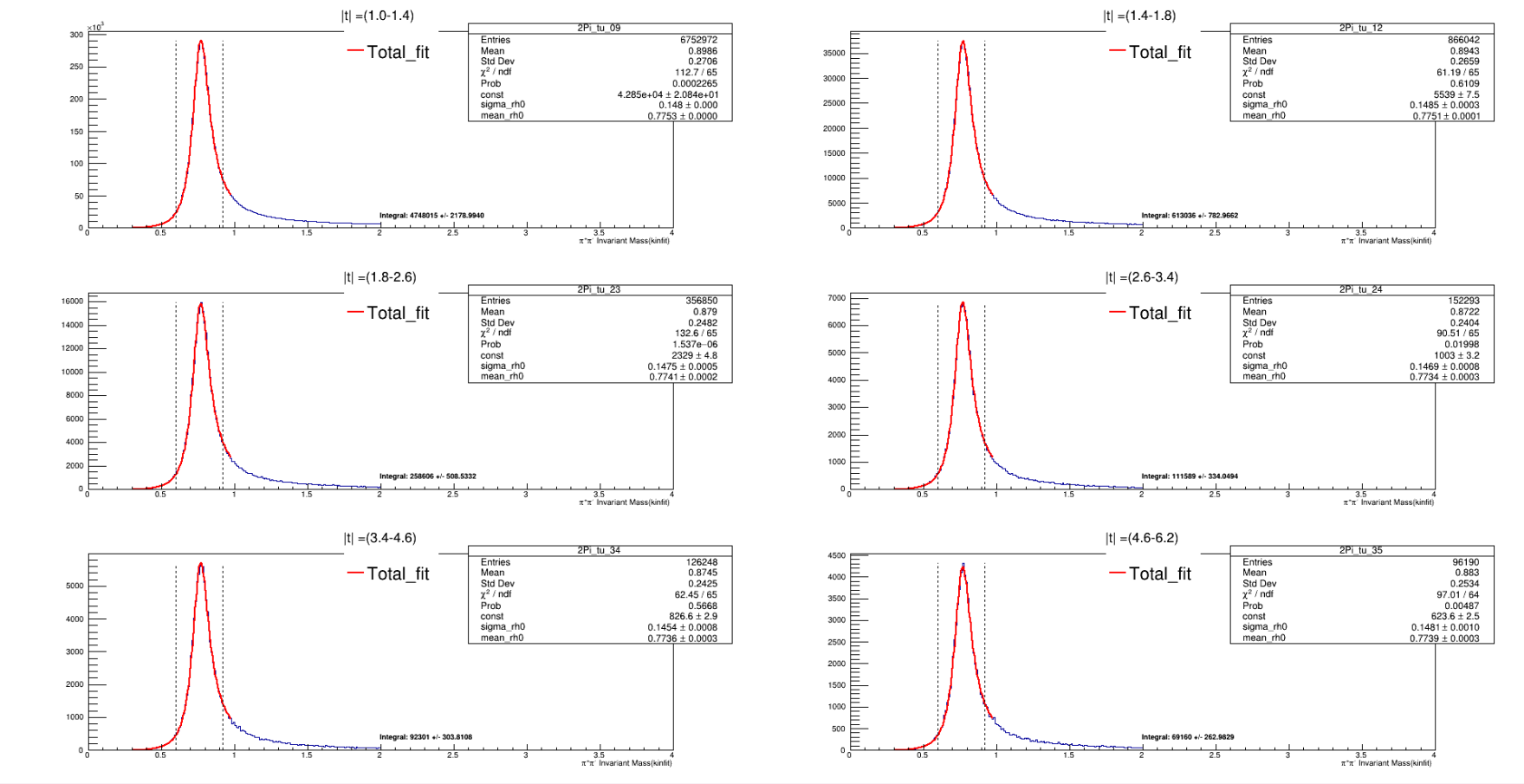




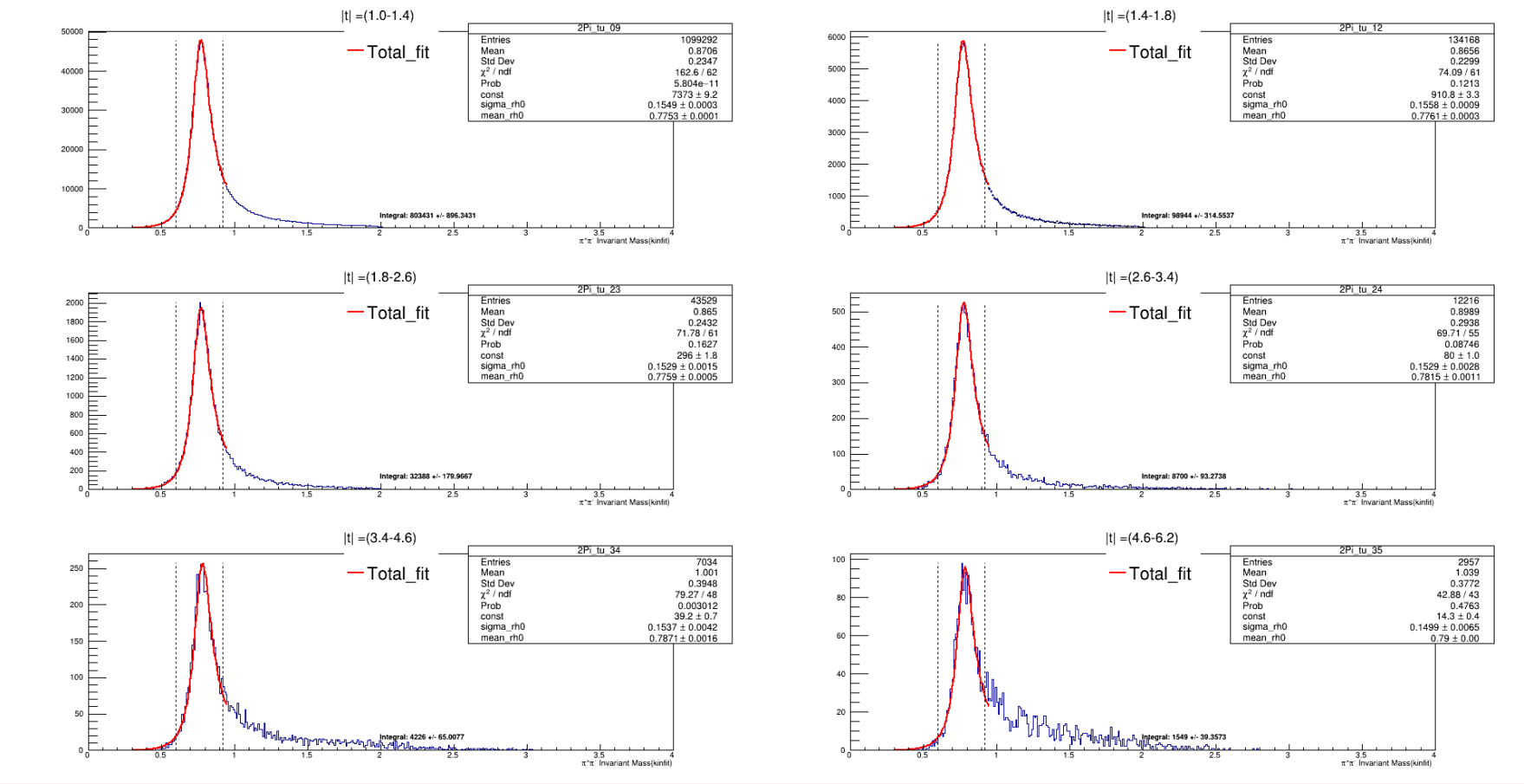




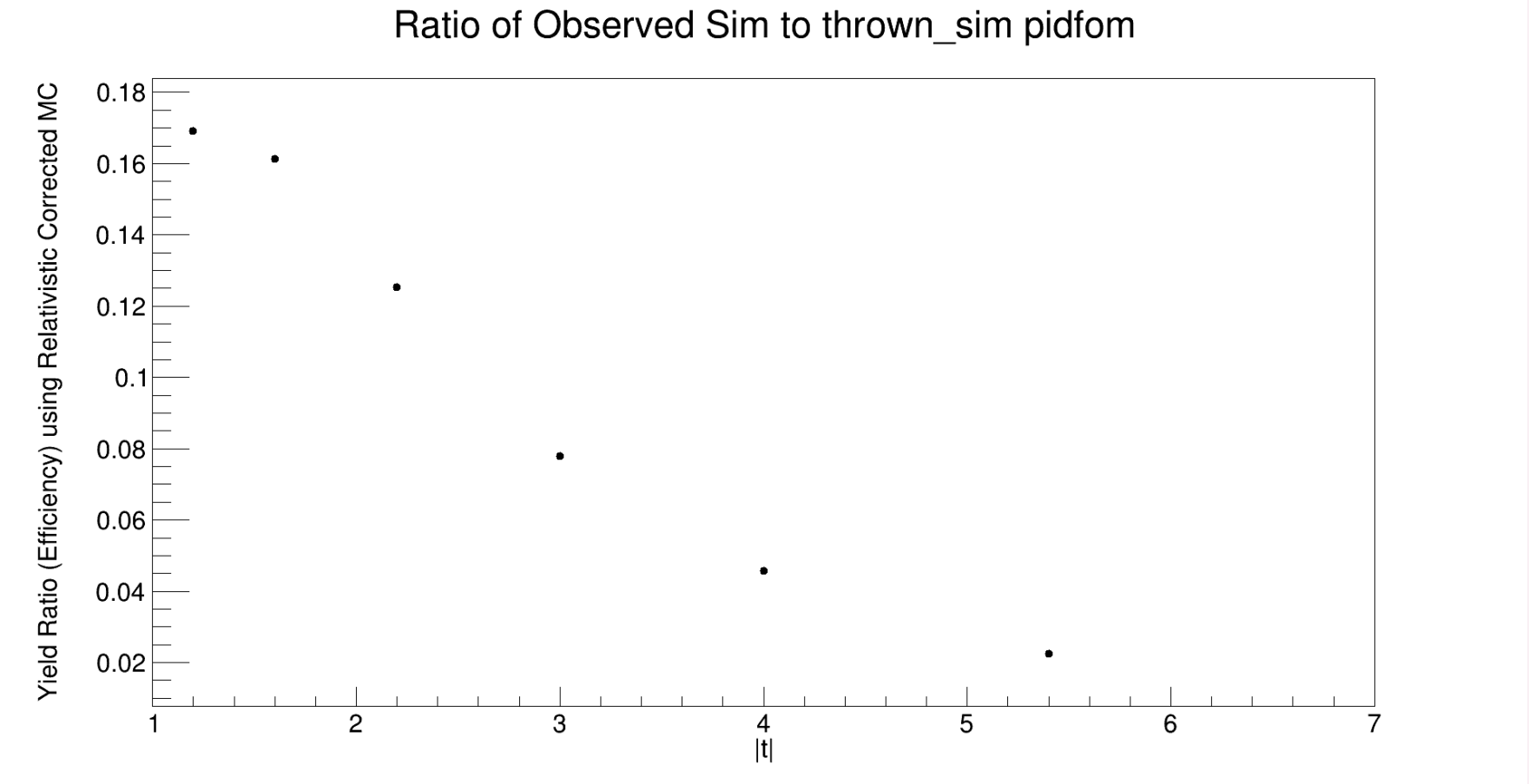
Invariant Mass of Rho0 meson:Thrown Events



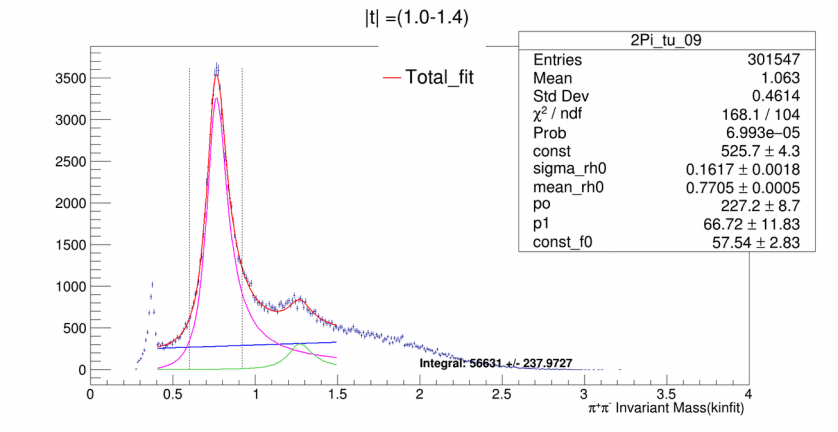
Invariant Mass of Rho0 Meson : Reconstruction Meson

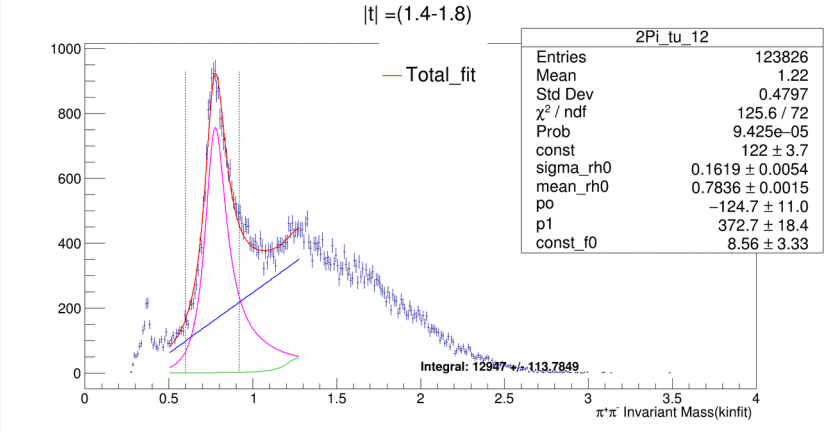


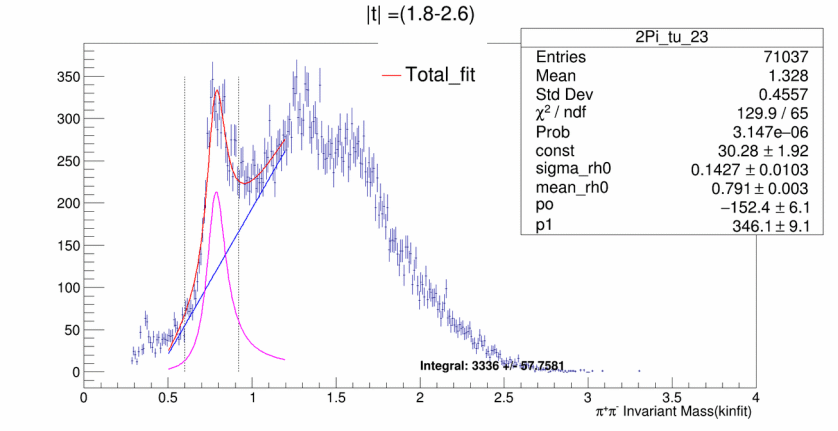
Efficiency

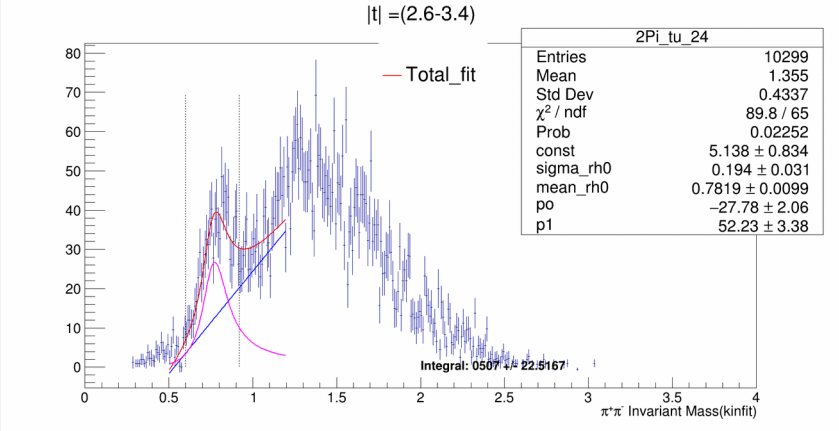

Ratio of Observed Sim to thrown_sim pidfom
Yield Ratio (Efficiency) using Relativistic Corrected MC
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
1
2
3
4
5
6
7
|t|

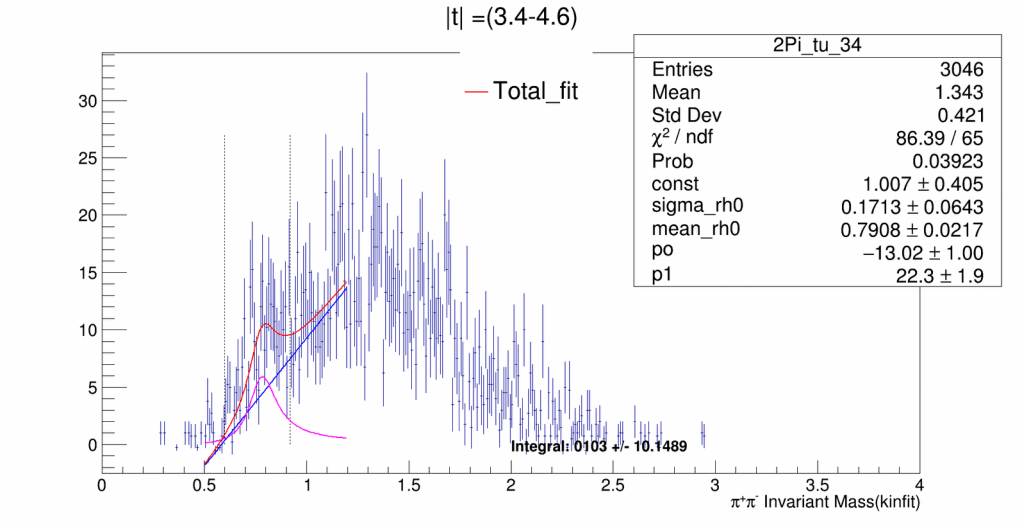
Data: After Applying all cut.

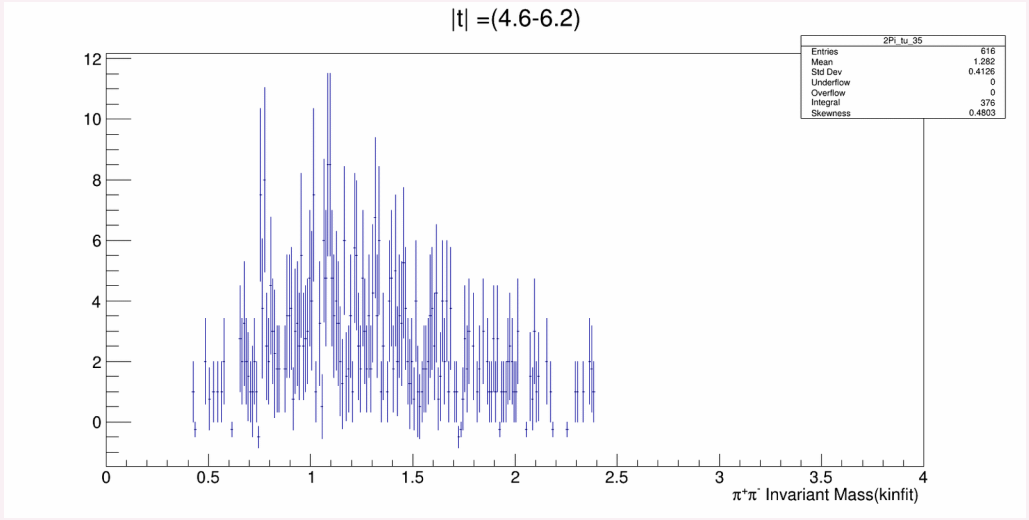


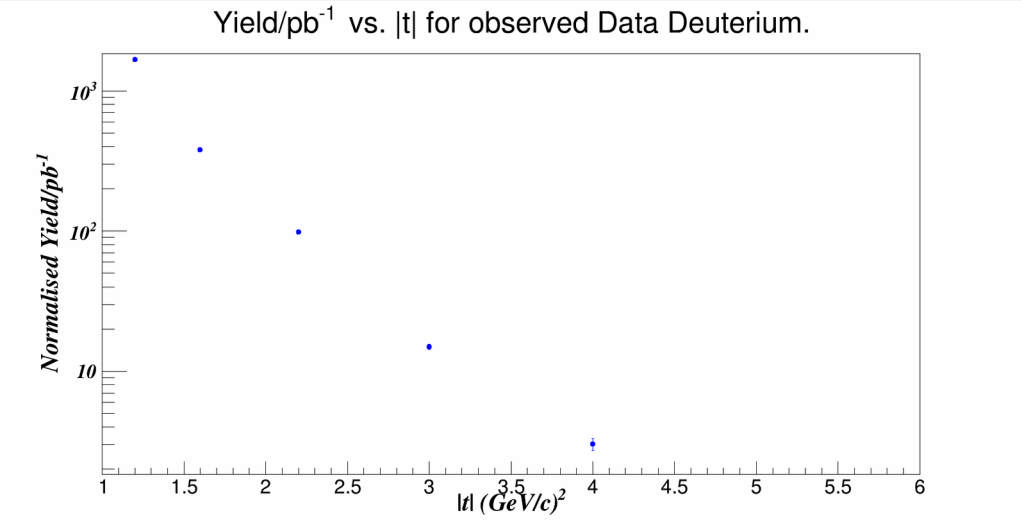


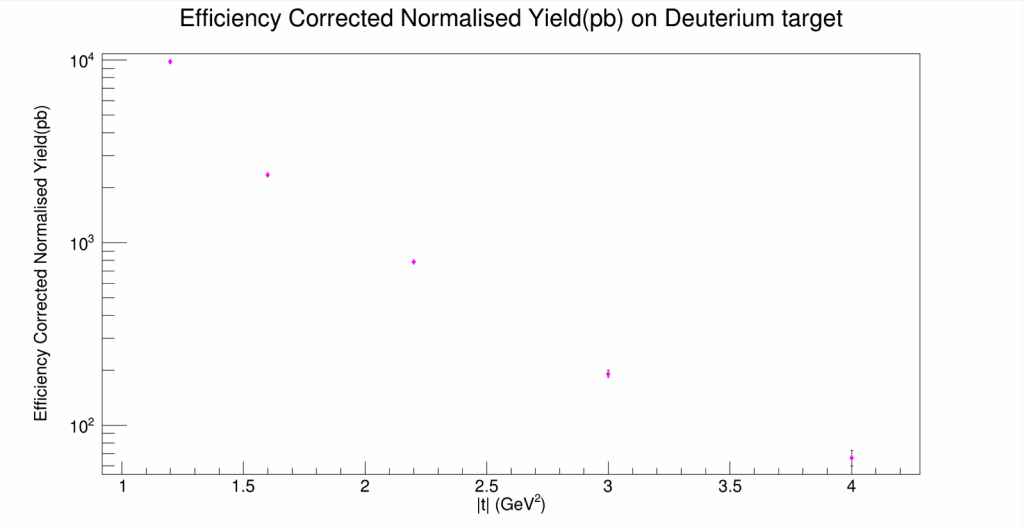




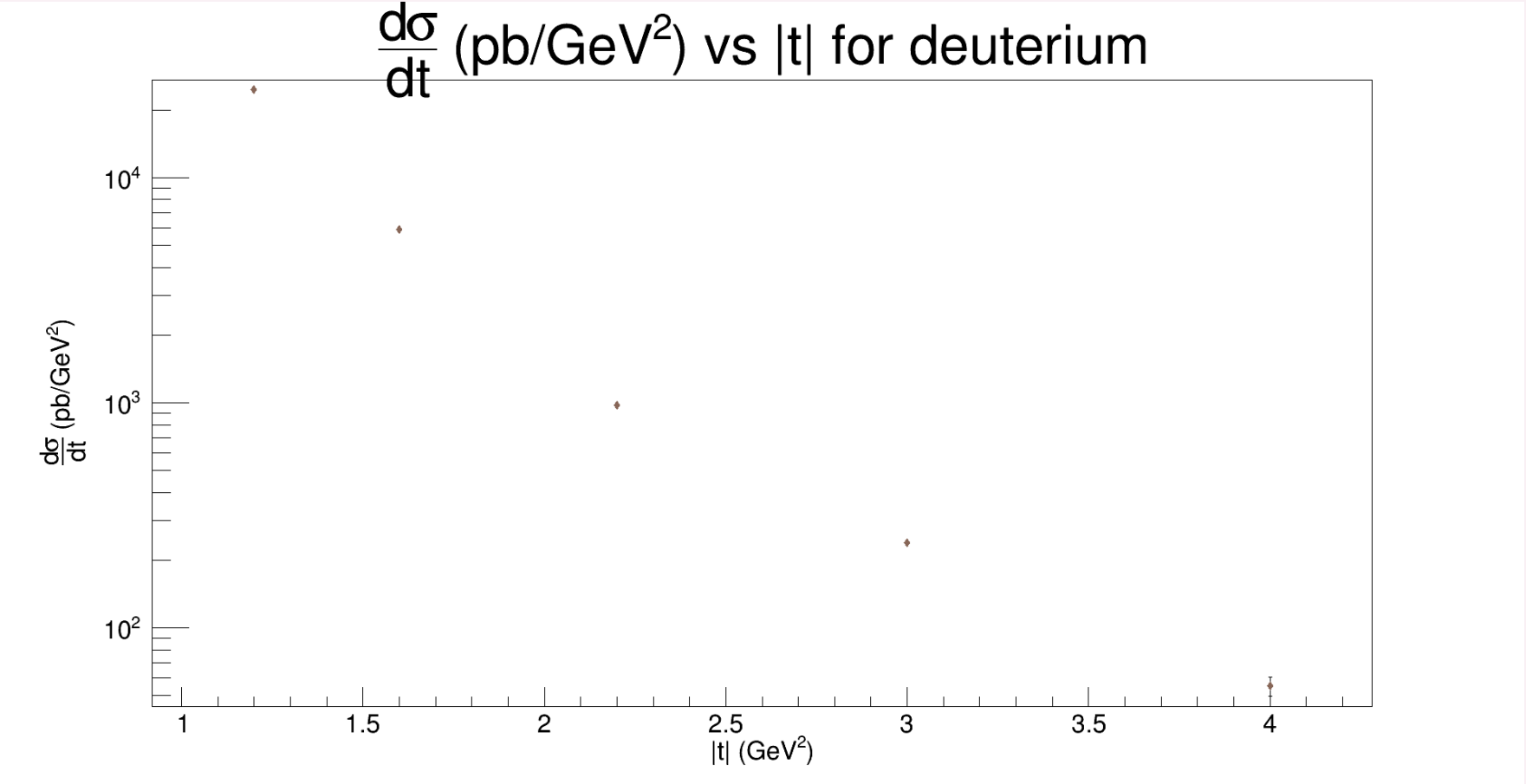

|t| =(3.4-4.6)
Total_fit
2Pi_tu_34
Entries 3046
Mean 1.343
Std Dev 0.421
χ² / ndf 86.39 / 65
Prob 0.03923
const 1.007 ± 0.405
sigma_rh0 0.1713 ± 0.0643
mean_rh0 0.7908 ± 0.0217
po −13.02 ± 1.00
p1 22.3 ± 1.9
Integral: 0103 +/- 10.1489
π⁺π⁻ Invariant Mass(kinfit)


|t| =(4.6-6.2)
2Pi_tu_35
Entries 616
Mean 1.282
Std Dev 0.4126
Underflow 0
Overflow 0
Integral 376
Skewness 0.4803
π⁺π⁻ Invariant Mass(kinfit)

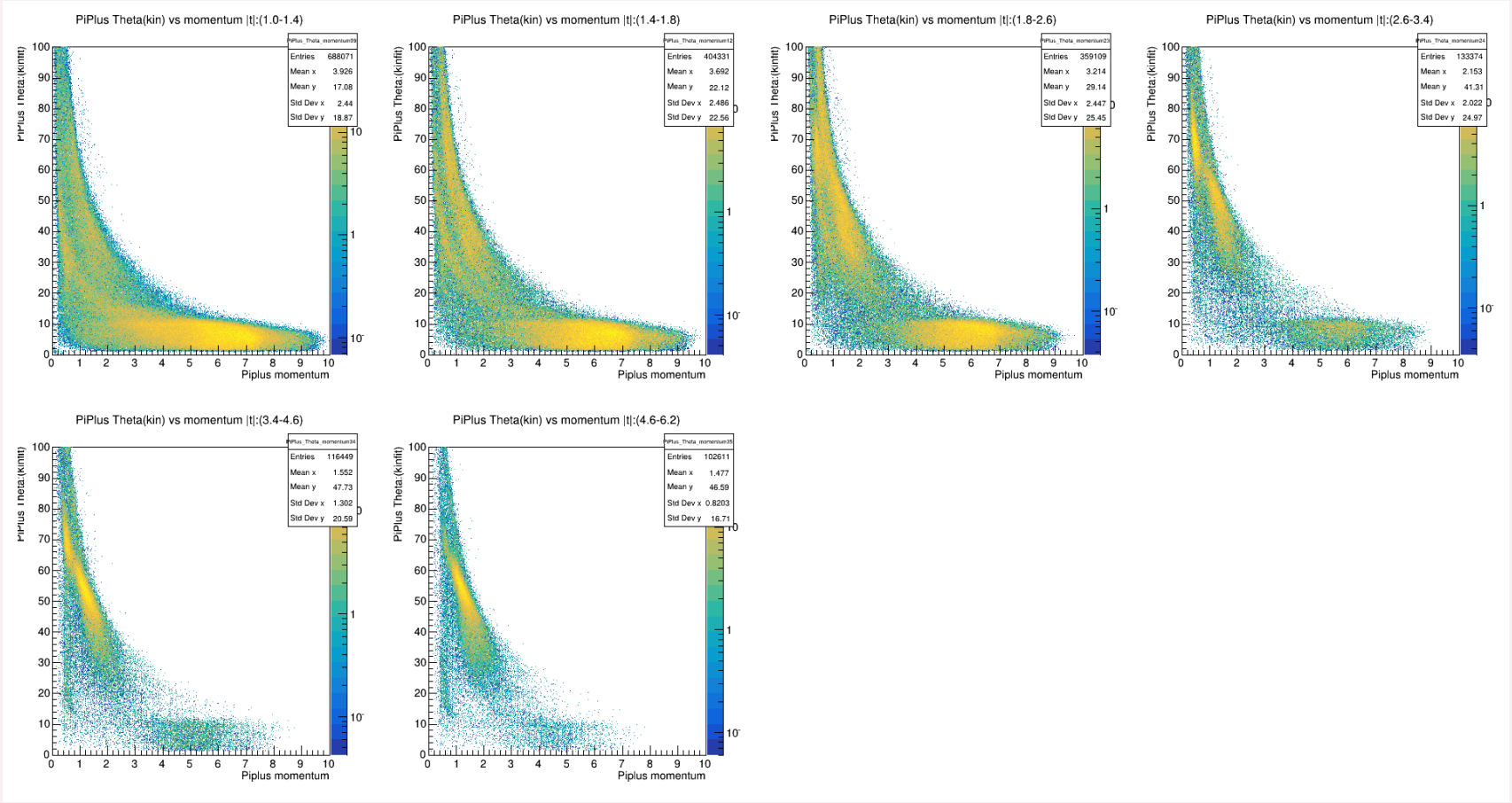

Yield/pb^{-1} vs. |t| for observed Data Deuterium.
Normalised Yield/pb^{-1}
10^3
10^2
10
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
|t| (GeV/c)^2


Efficiency Corrected Normalised Yield(pb) on Deuterium target
Efficiency Corrected Normalised Yield(pb)
10^4
10^3
10^2
1
1.5
2
2.5
3
3.5
4
|t| (GeV^2)

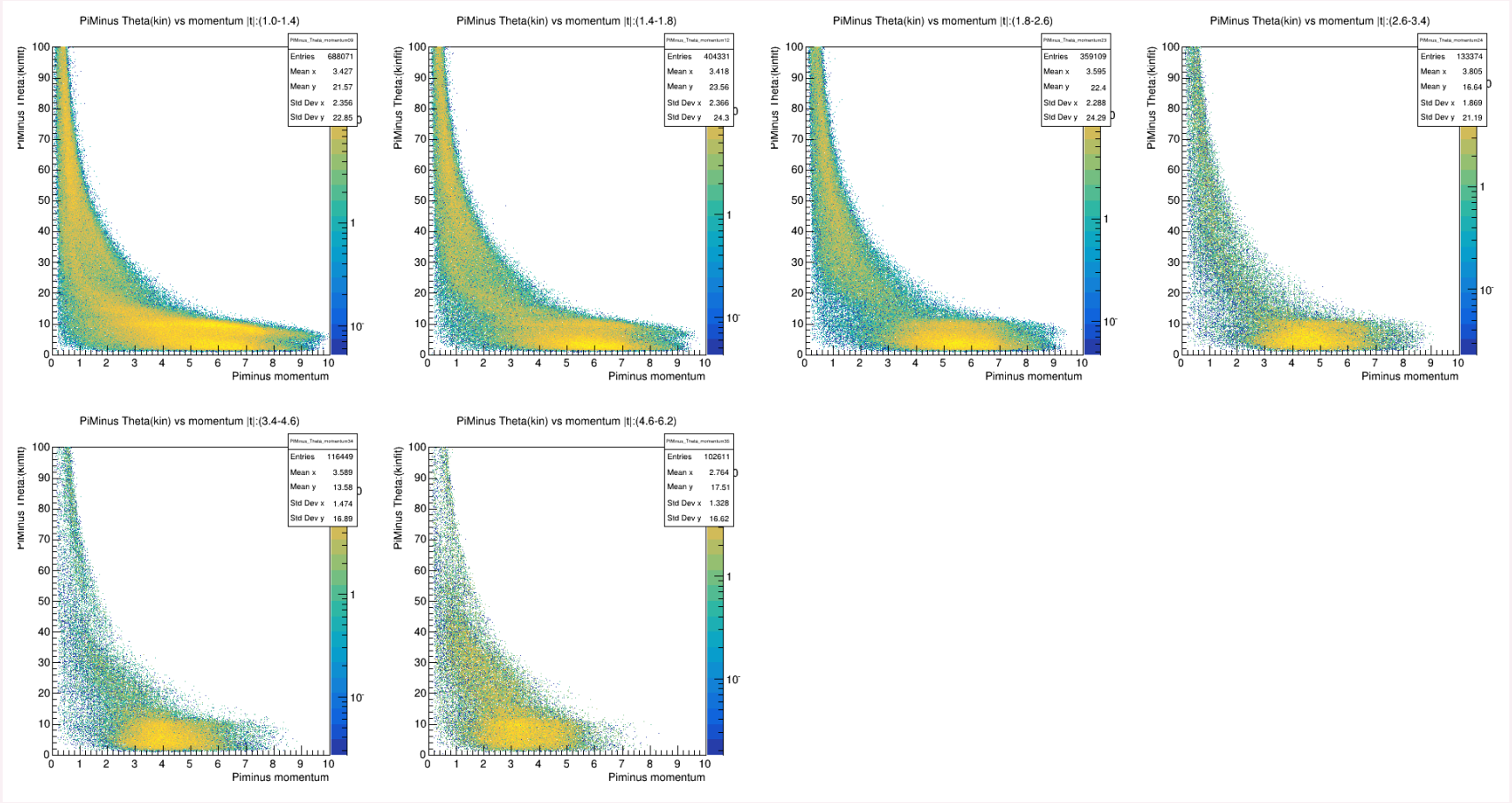
Prelim: Cross_section of Deuterium



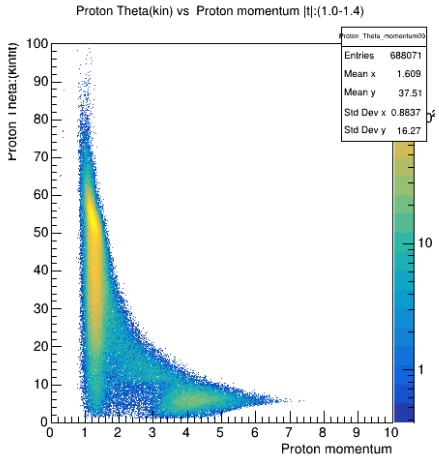
Backup: PiPlus Theta vs Momentum Data

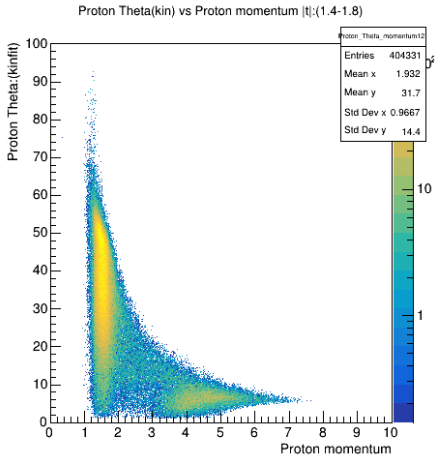


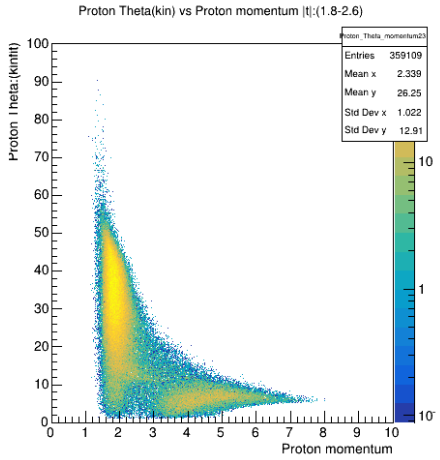
Backup: PiMinus Theta vs Momentum Data

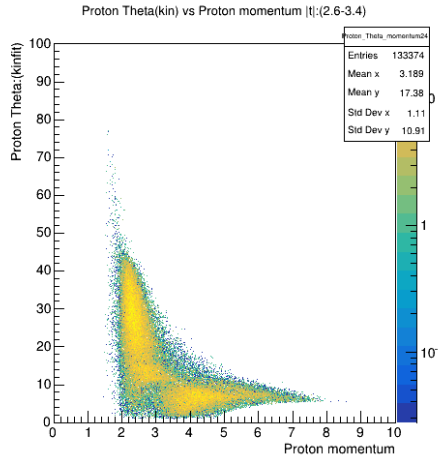


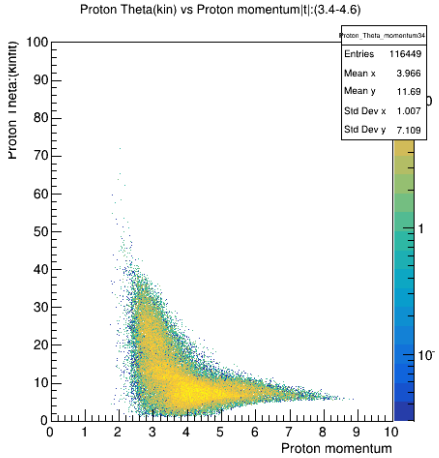
Backup: Proton Theta vs Momentum Data

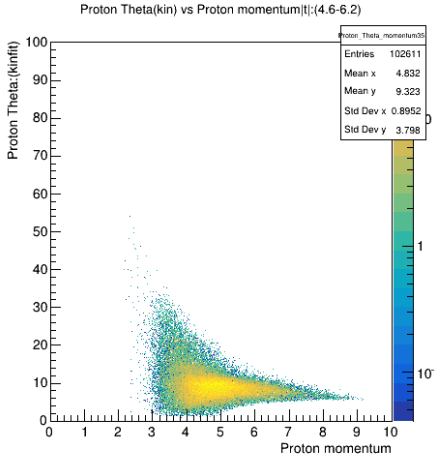




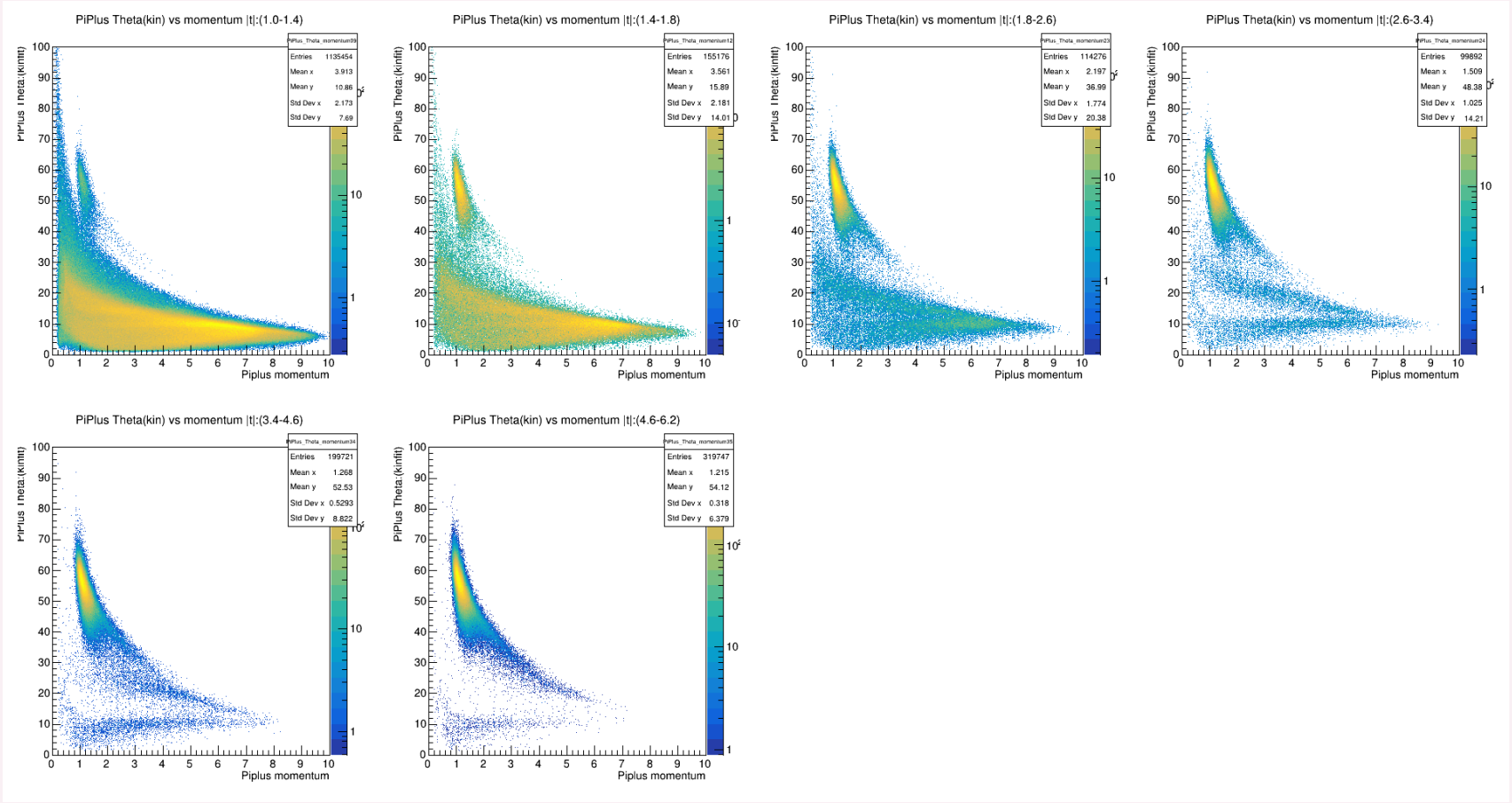




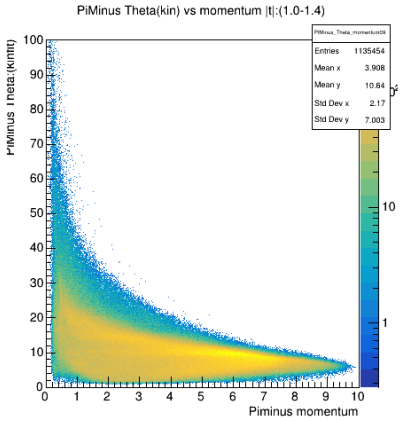


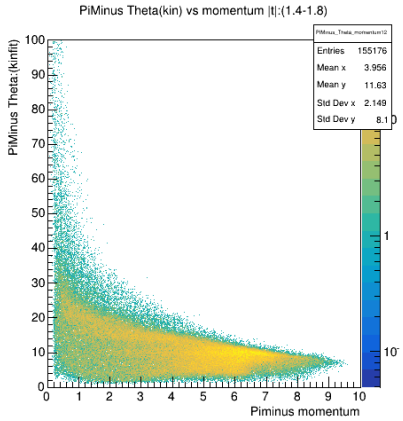


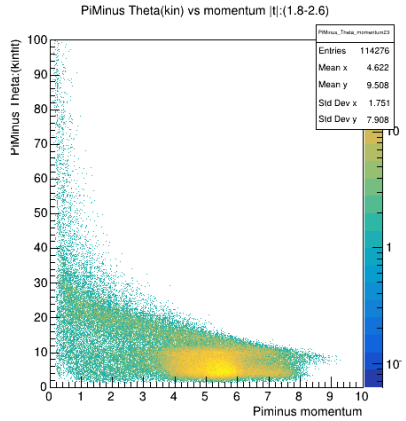
Backup: PiPlus Theta vs Momentum Recons MC

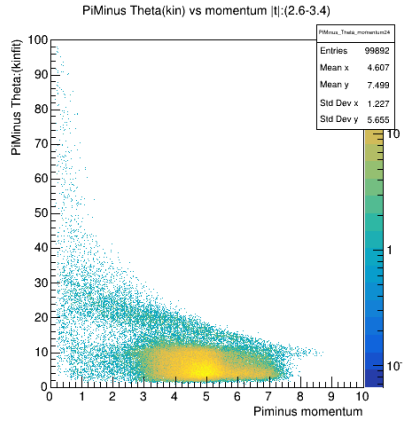


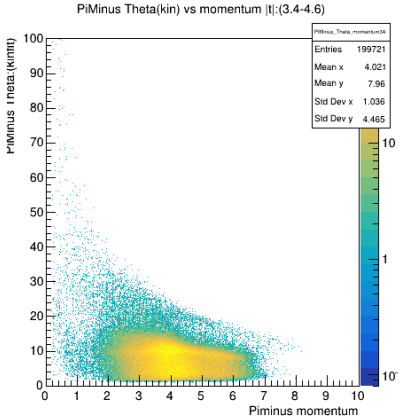
Backup: PiMinus Theta vs Momentum Recons MC

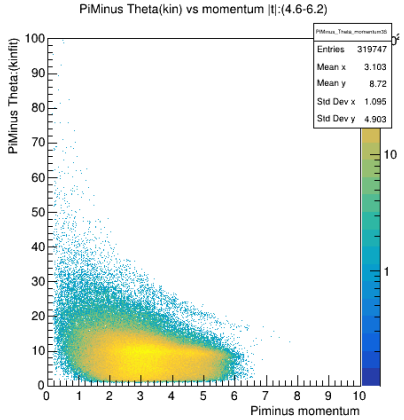












Backup: Proton Theta vs Momentum Recons MC