

Figure 1: Progress of P_{Sum} Max cut.

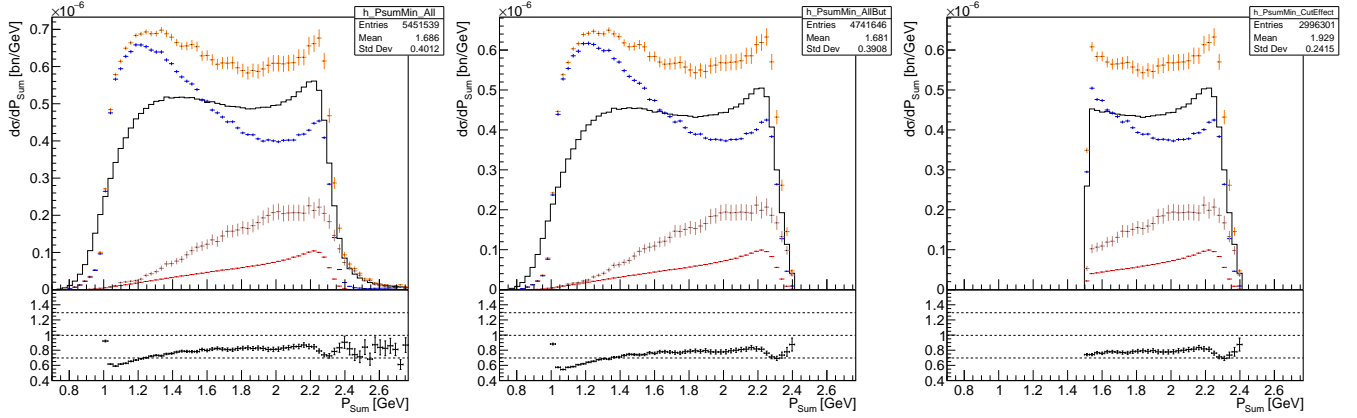


Figure 2: Progress of P_{Sum} Min cut.

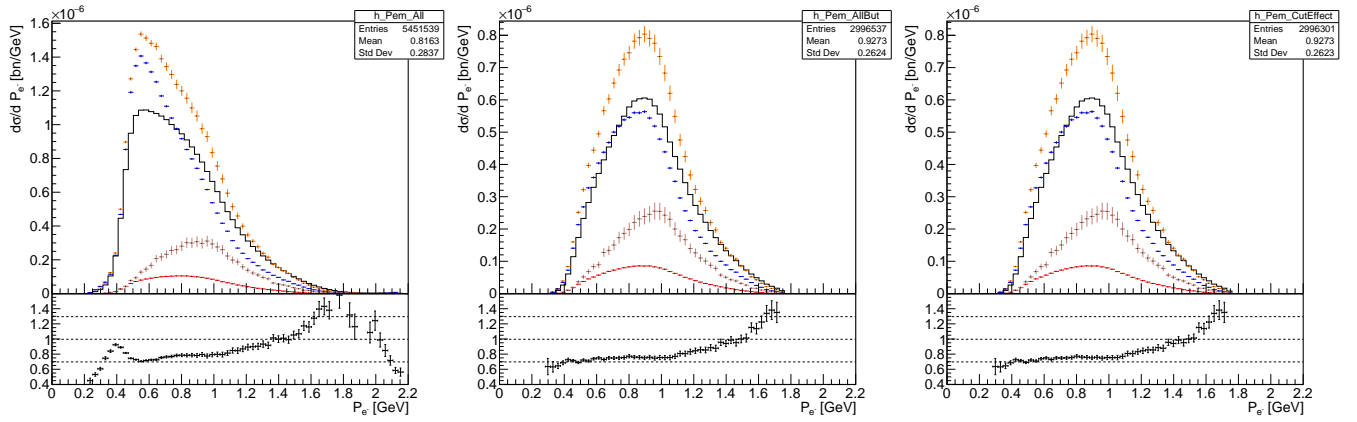


Figure 3: Progress of P_{e^-} cut.

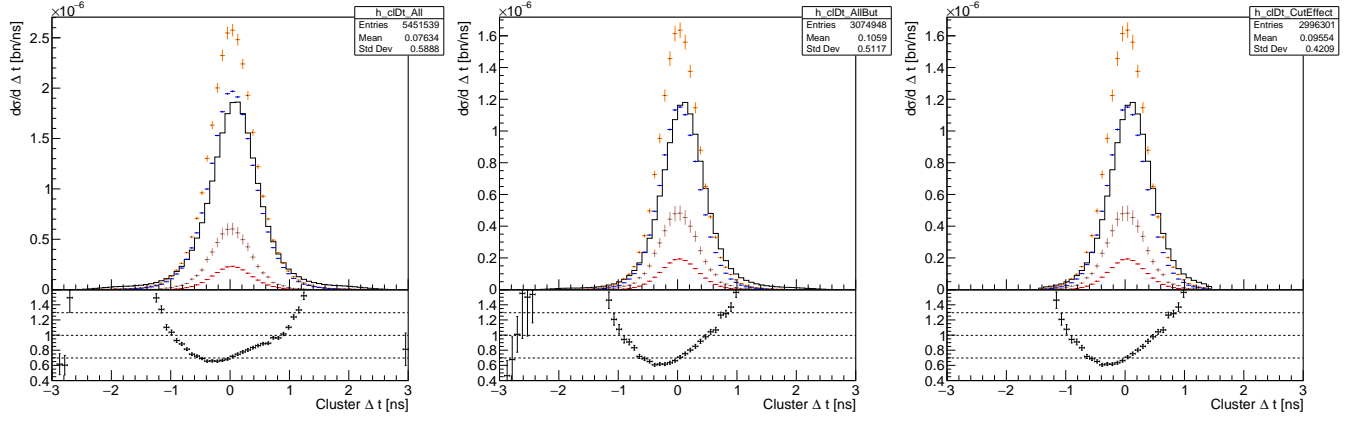


Figure 4: Progress of Cluster time difference cut.

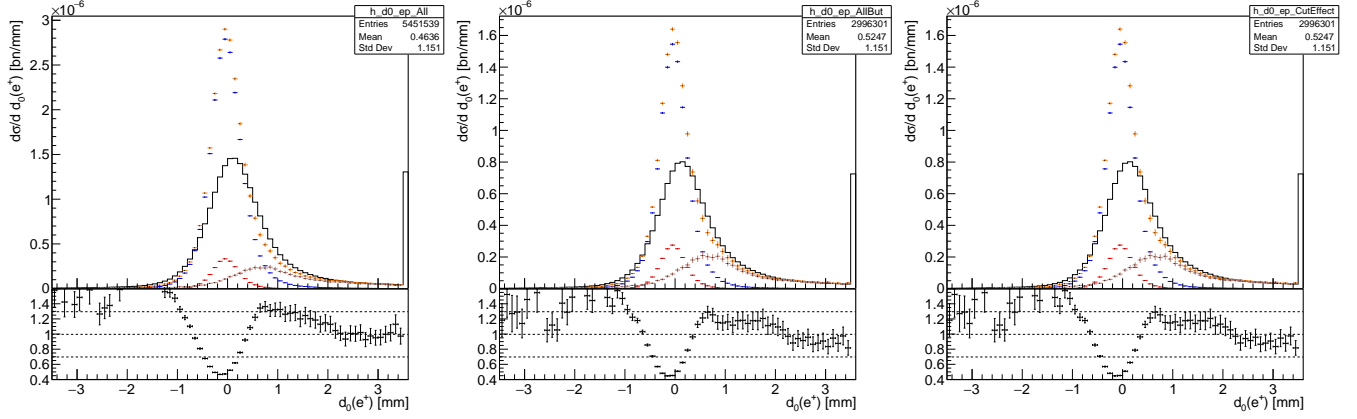


Figure 5: Progress of positron d_0 cut.

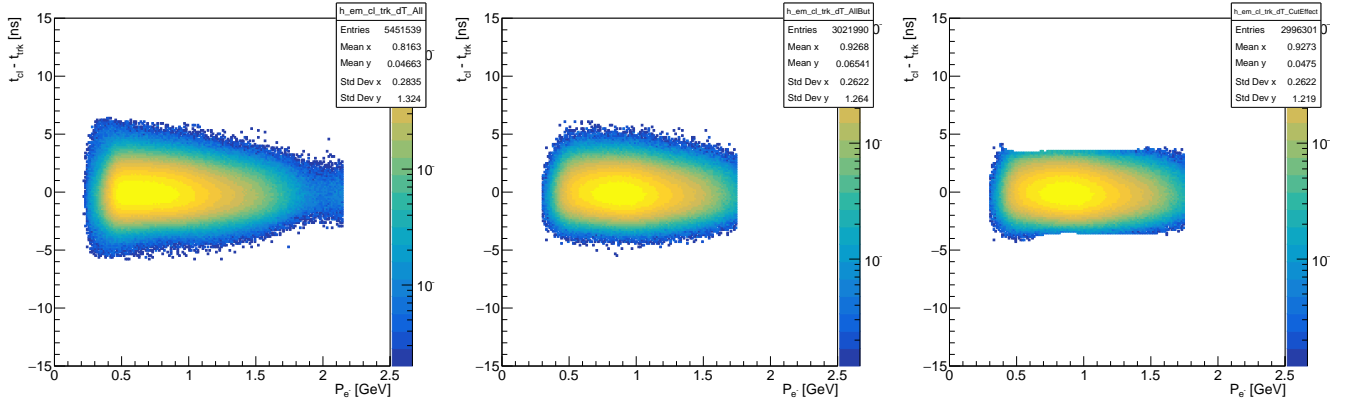


Figure 6: Electrons Data: Cluster track time difference as a function of Momentum.

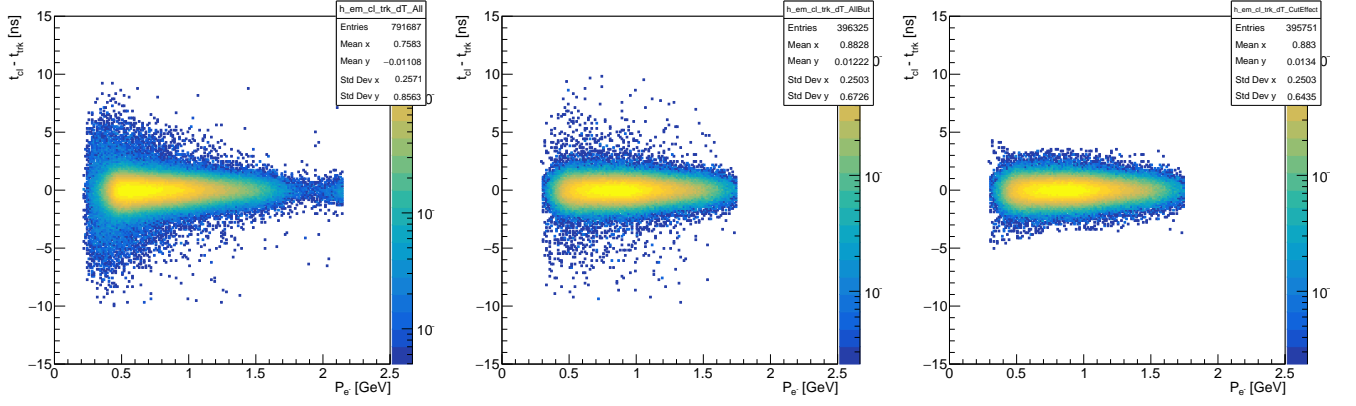


Figure 7: Electrons Tridents: Cluster track time difference as a function of Momentum.

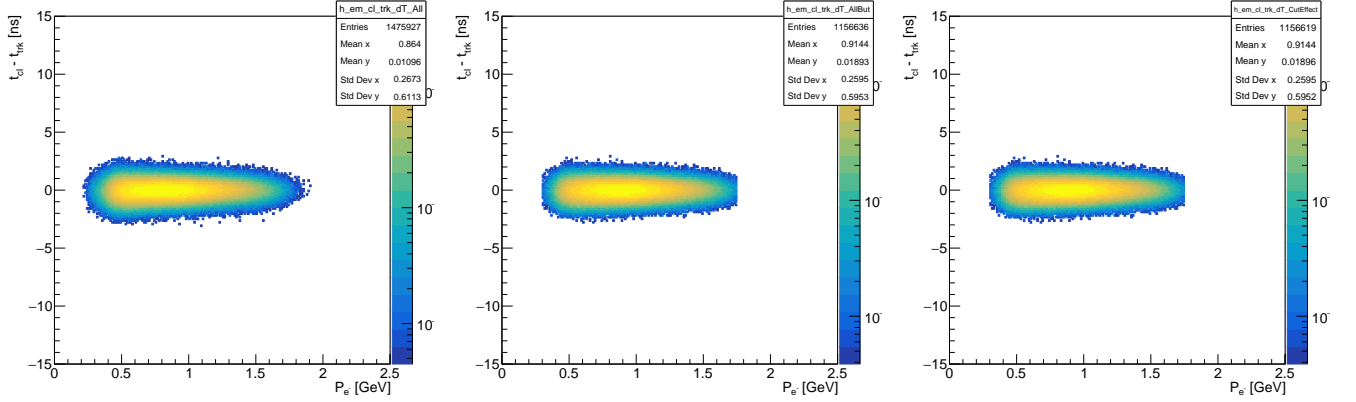


Figure 8: Electrons Rad Tridents: Cluster track time difference as a function of Momentum.

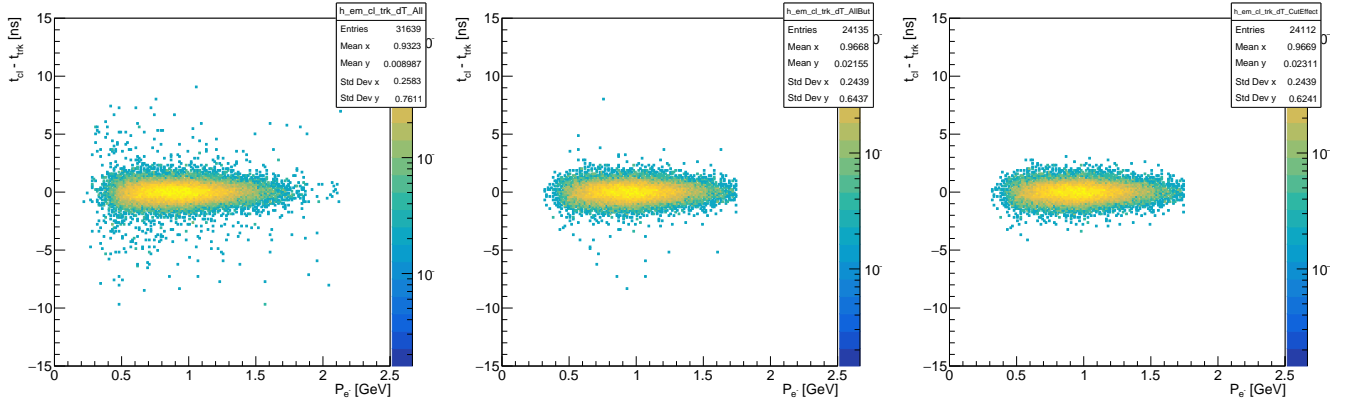


Figure 9: Electrons WABs: Cluster track time difference as a function of Momentum.

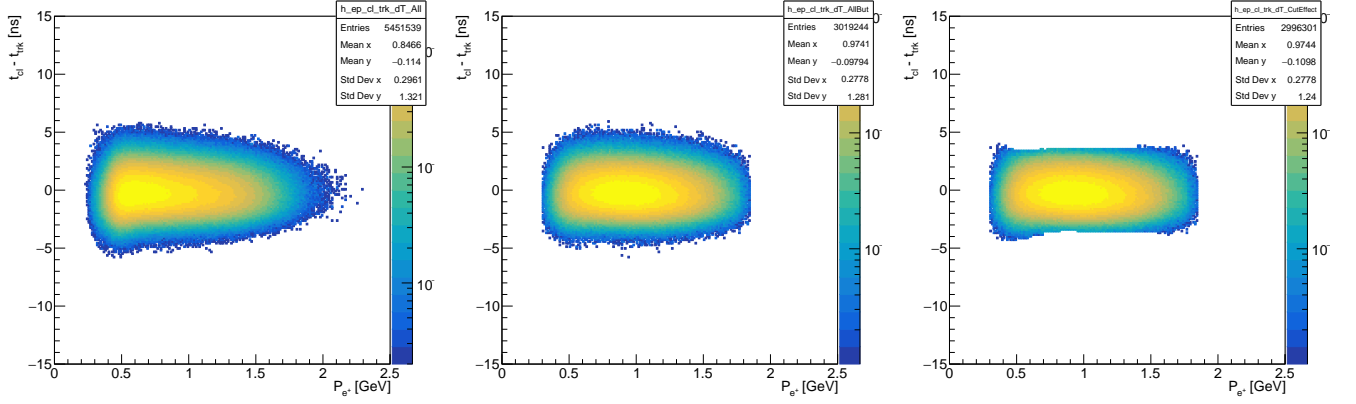


Figure 10: Positrons Data: Cluster track time difference as a function of Momentum.

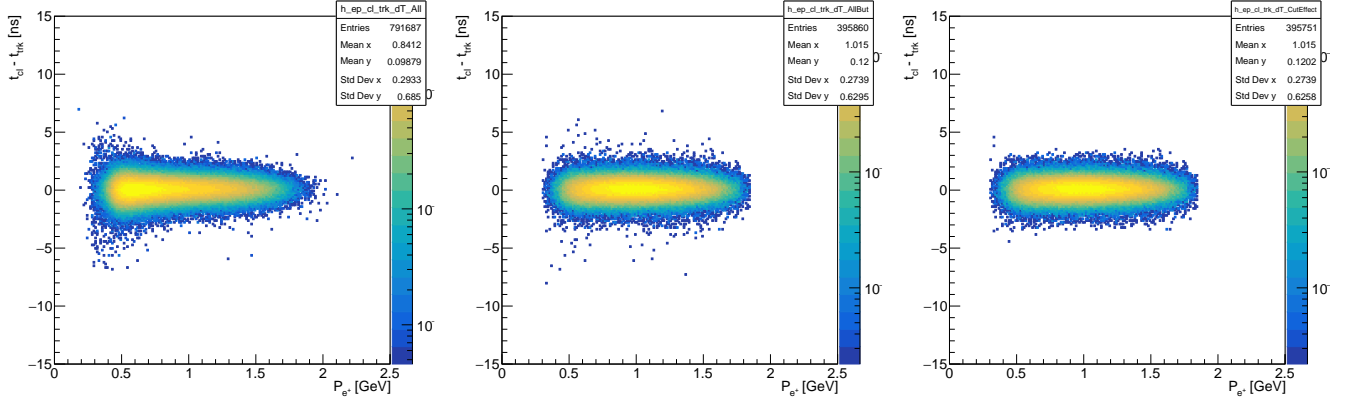


Figure 11: Positrons Tridents: Cluster track time difference as a function of Momentum.

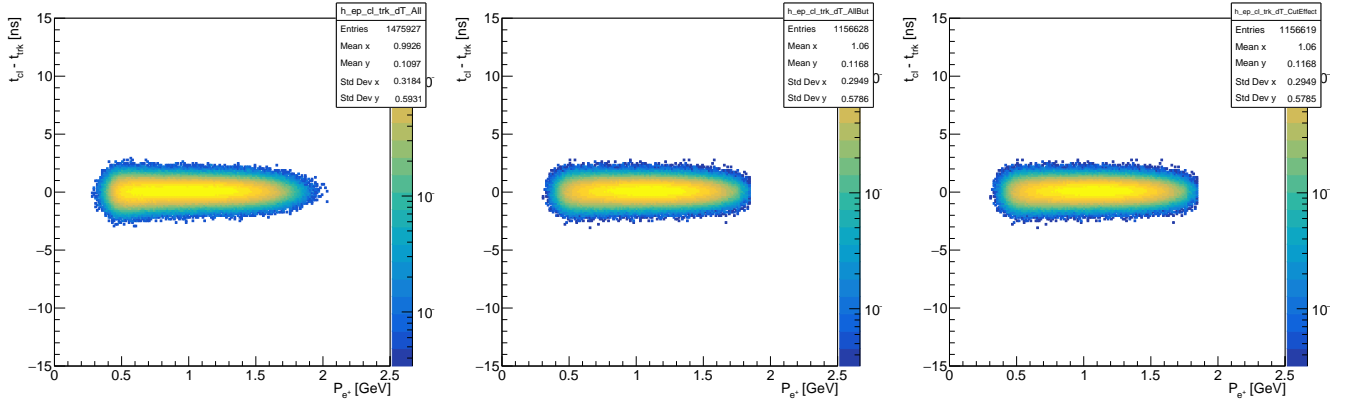


Figure 12: Positrons Rad Tridents: Cluster track time difference as a function of Momentum.

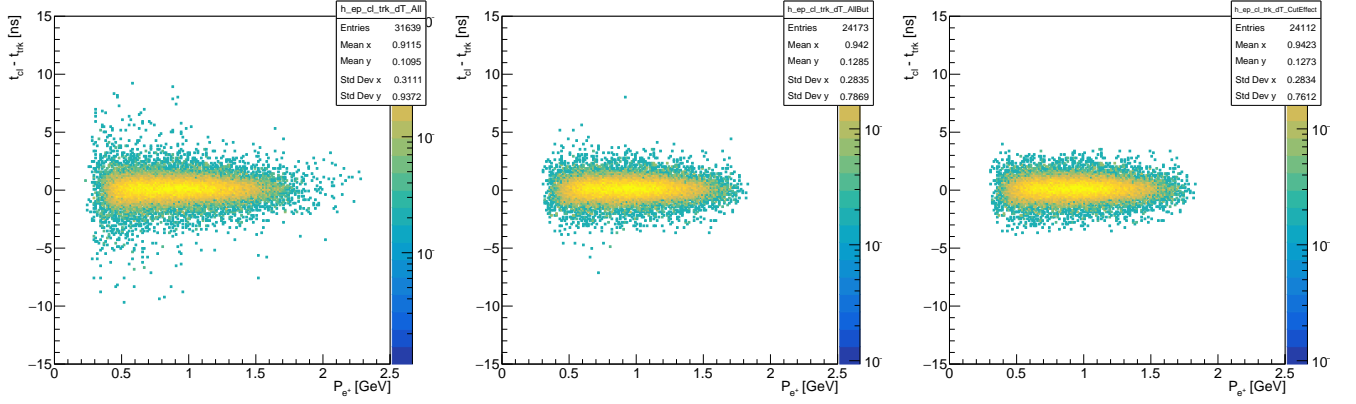


Figure 13: Positrons WABs: Cluster track time difference as a function of Momentum.

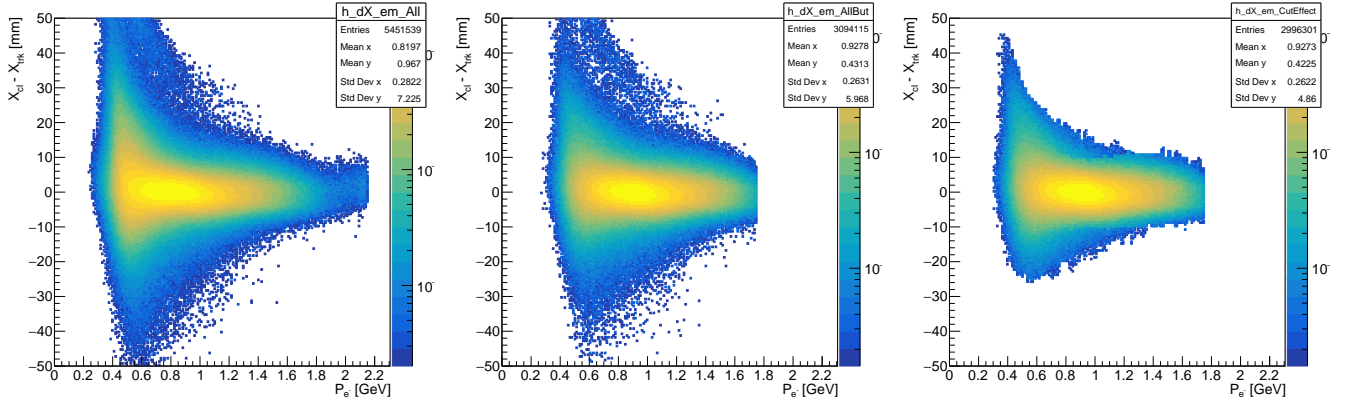


Figure 14: Electrons Data: Cluster track X coordinate difference as a function of momentum.

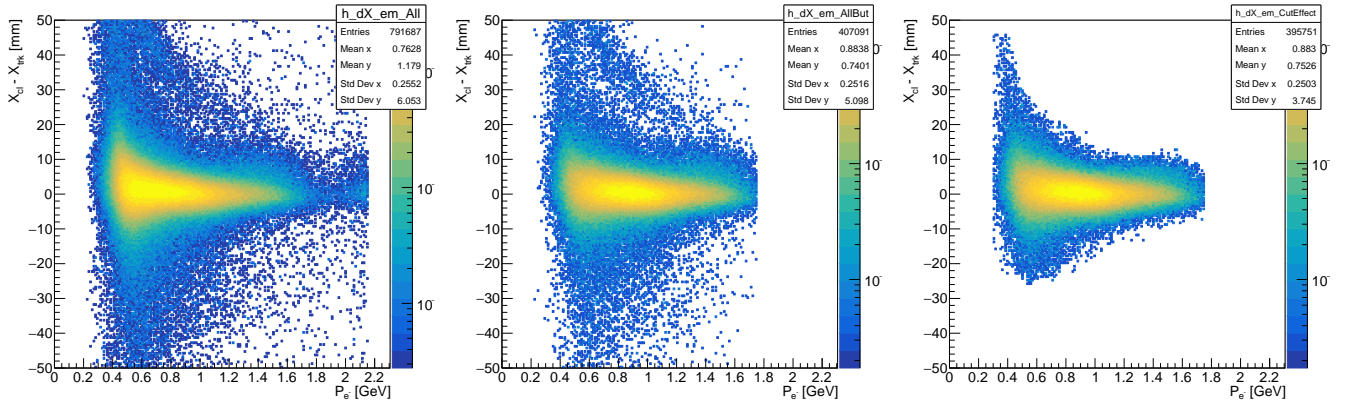


Figure 15: Electrons Tridents: Cluster track X coordinate difference as a function of momentum.

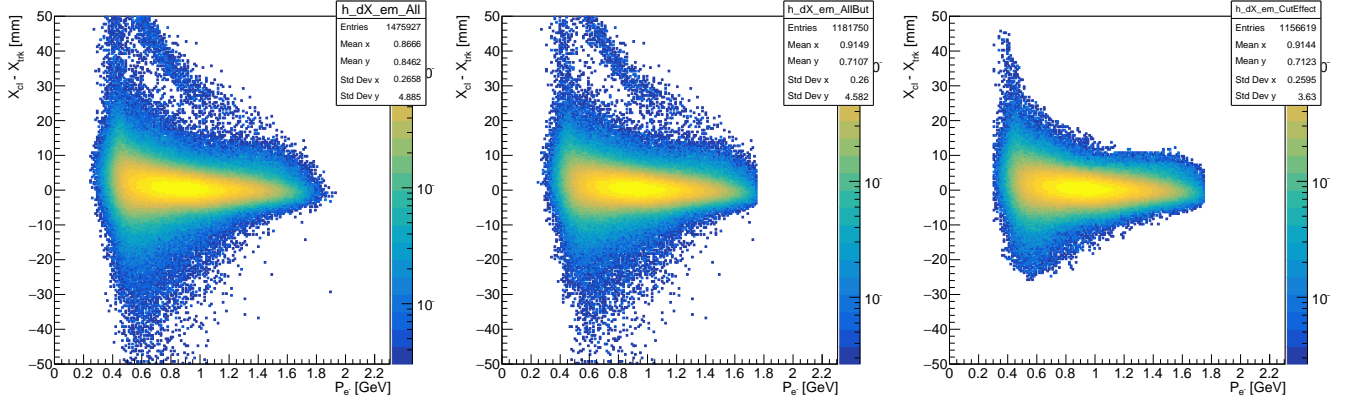


Figure 16: Electrons Rad Tridents: Cluster track X coordinate difference as a function of momentum.

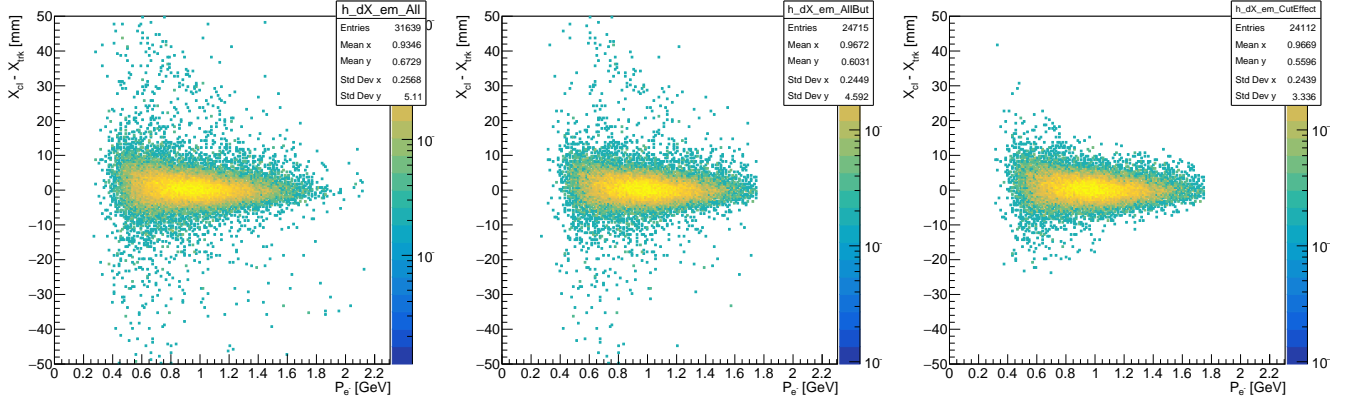


Figure 17: Positrons Rad Tridents: Cluster track X coordinate difference as a function of momentum.

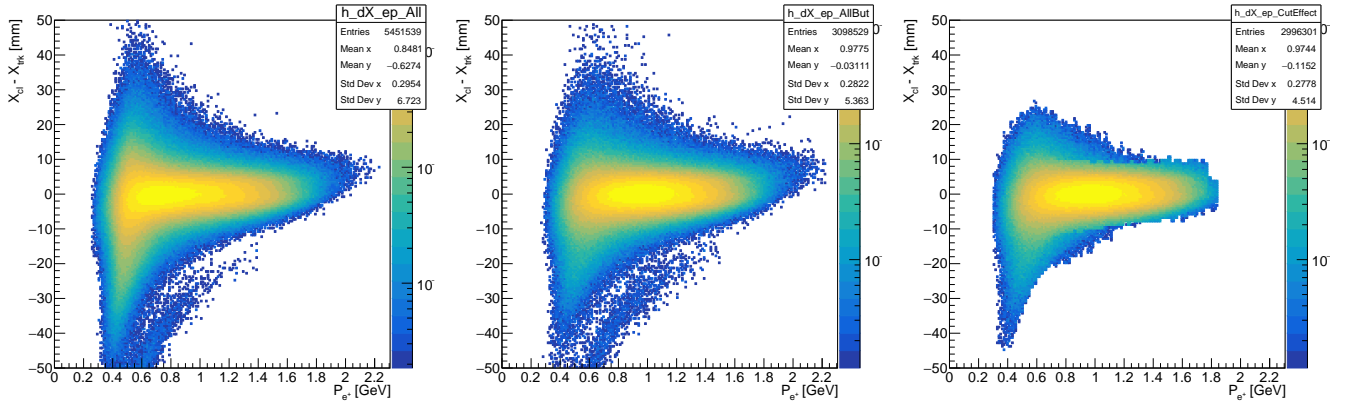


Figure 18: Positrons Data: Cluster track X coordinate difference as a function of momentum.

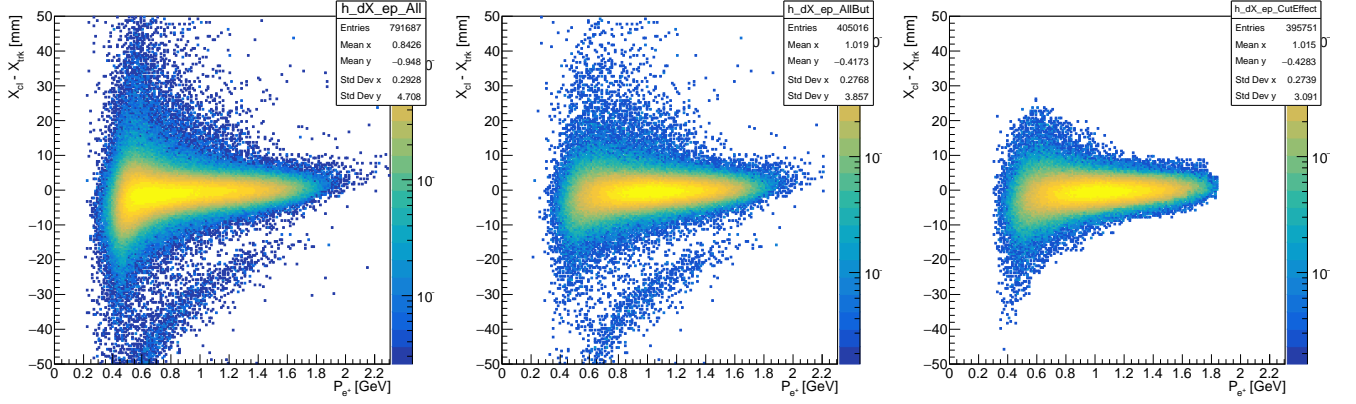


Figure 19: Positrons Tridents: Cluster track X coordinate difference as a function of momentum.

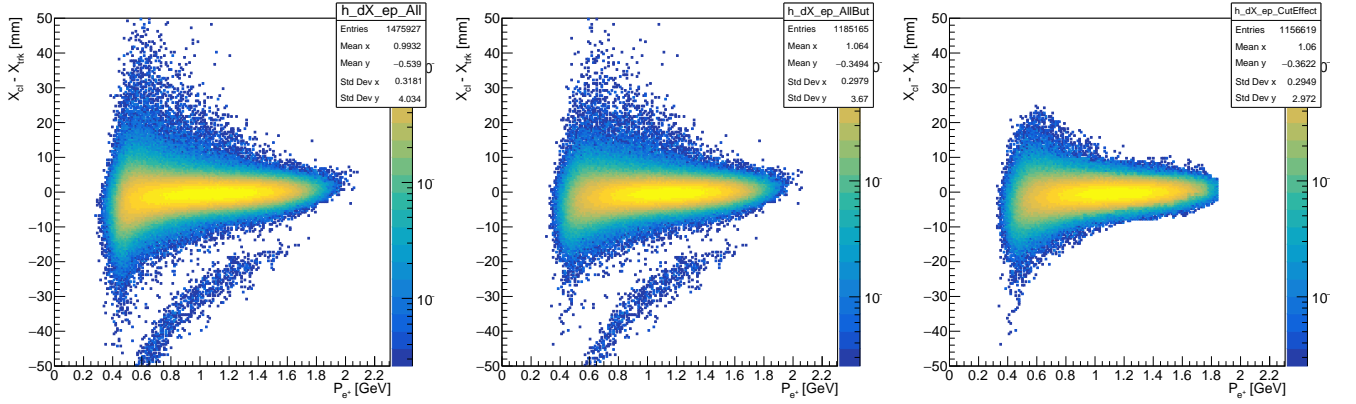


Figure 20: Positrons Rad Tridents: Cluster track X coordinate difference as a function of momentum.

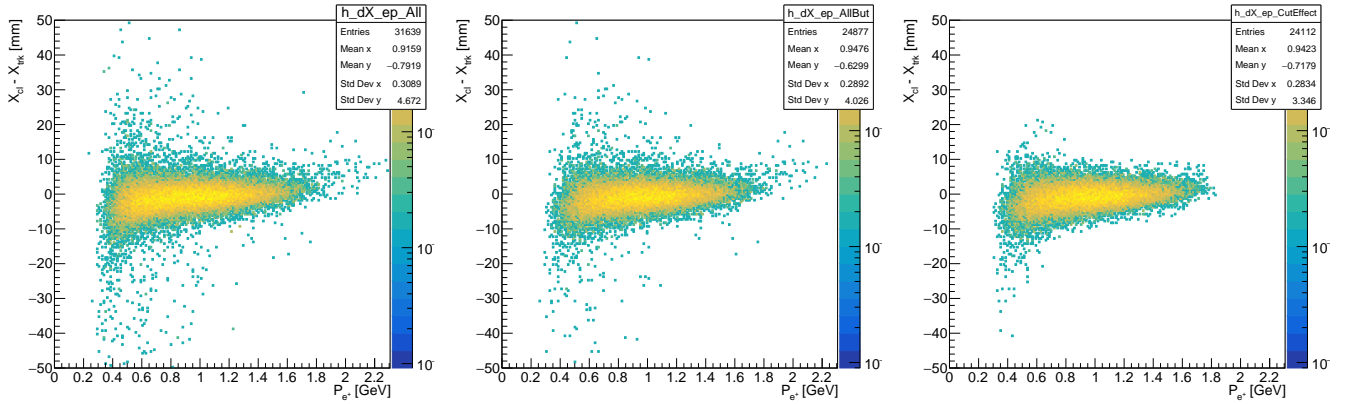


Figure 21: Positrons Rad Tridents: Cluster track X coordinate difference as a function of momentum.

1 PSum comparison for different mass bins

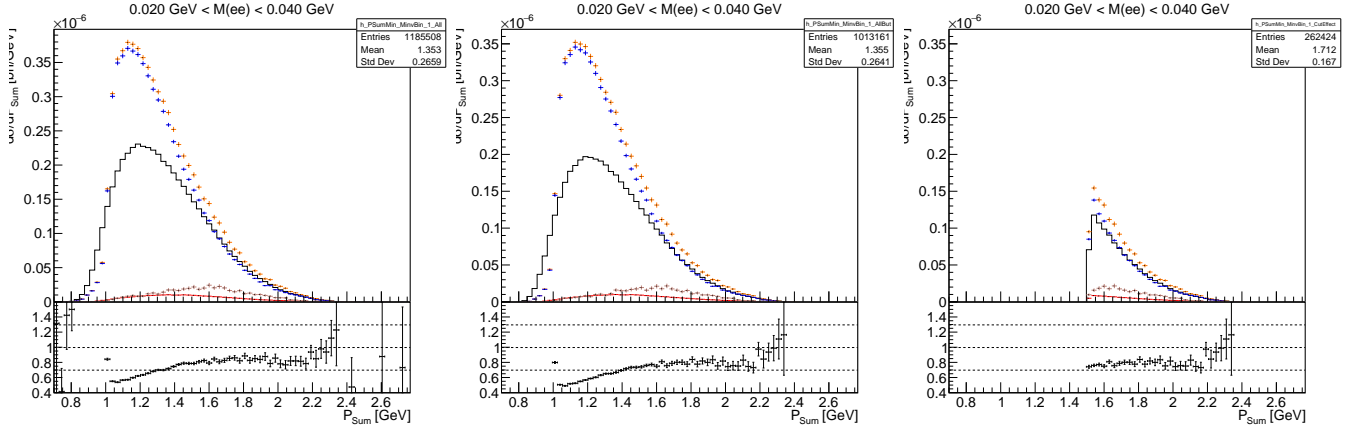


Figure 22: Progress of P_{Sum} Min cut, for the $20 \text{ MeV} < M(ee) < 40 \text{ MeV}$

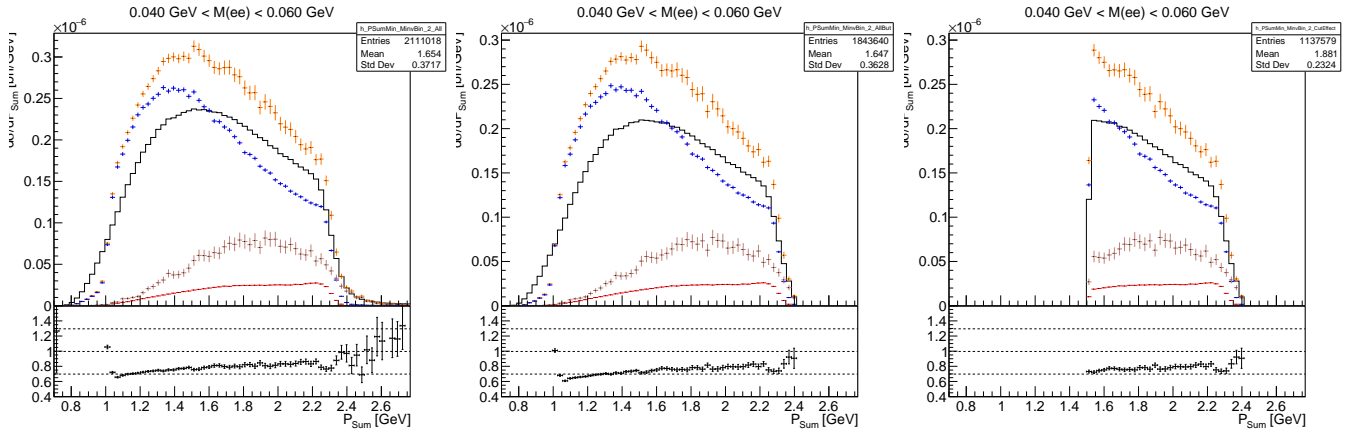


Figure 23: Progress of P_{Sum} Min cut, for the $40 \text{ MeV} < M(ee) < 60 \text{ MeV}$

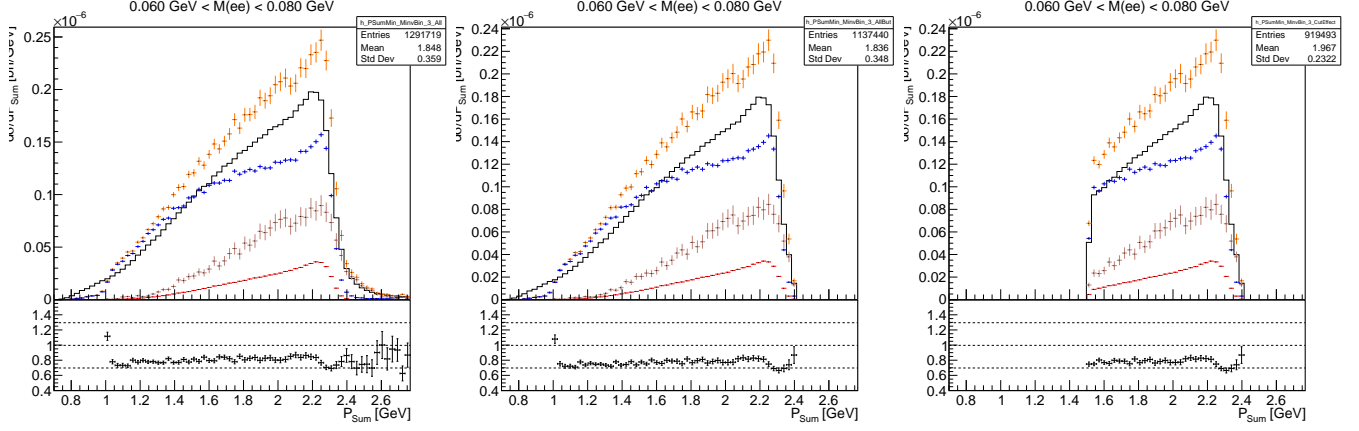


Figure 24: Progress of P_{Sum} Min cut, for the $60 \text{ MeV} < M(ee) < 80 \text{ MeV}$

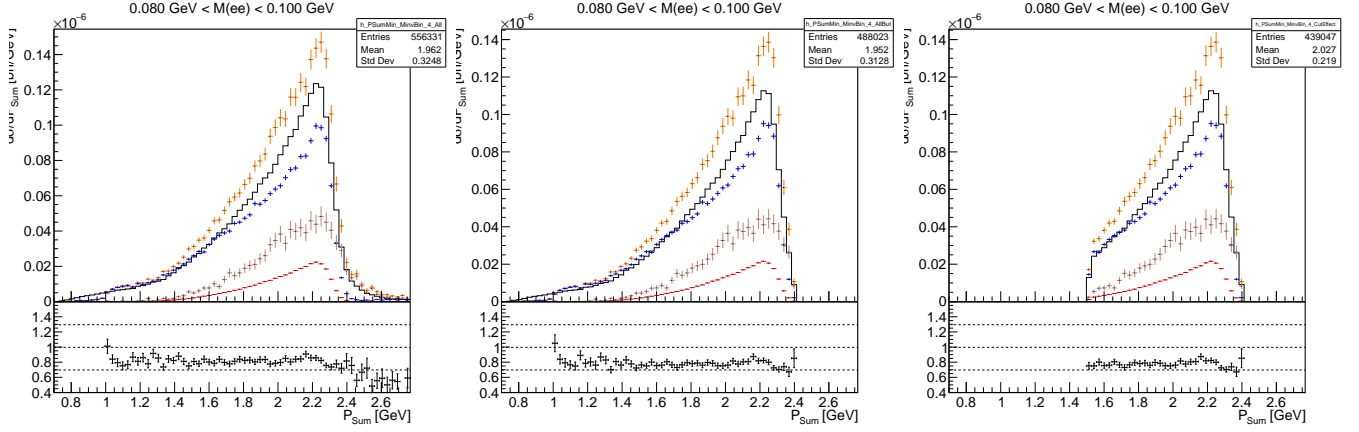


Figure 25: Progress of P_{Sum} Min cut, for the $80 \text{ MeV} < M(ee) < 100 \text{ MeV}$

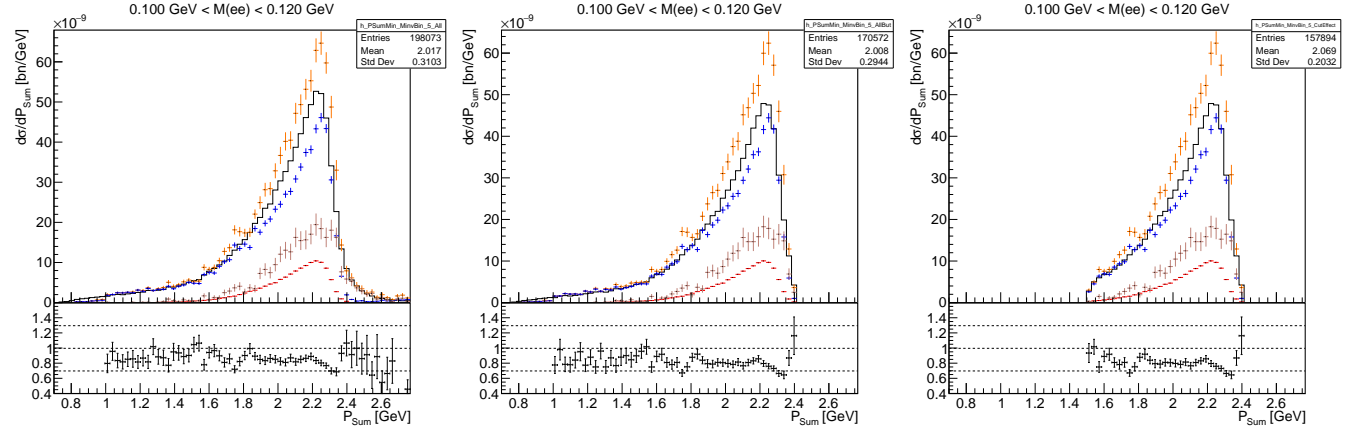


Figure 26: Progress of P_{Sum} Min cut, for the $100 \text{ MeV} < M(ee) < 120 \text{ MeV}$

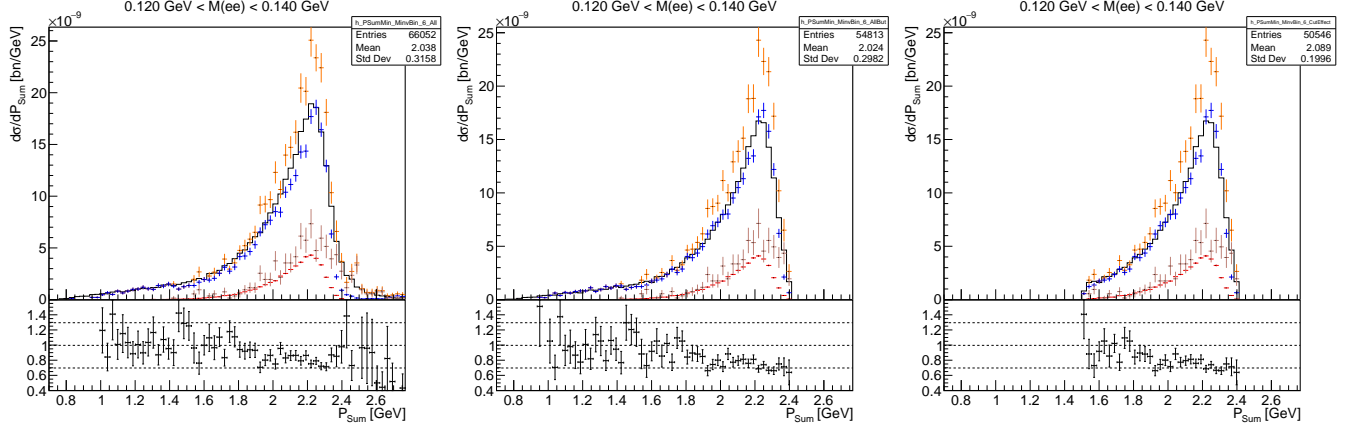


Figure 27: Progress of P_{Sum} Min cut, for the $120 \text{ MeV} < M(ee) < 140 \text{ MeV}$

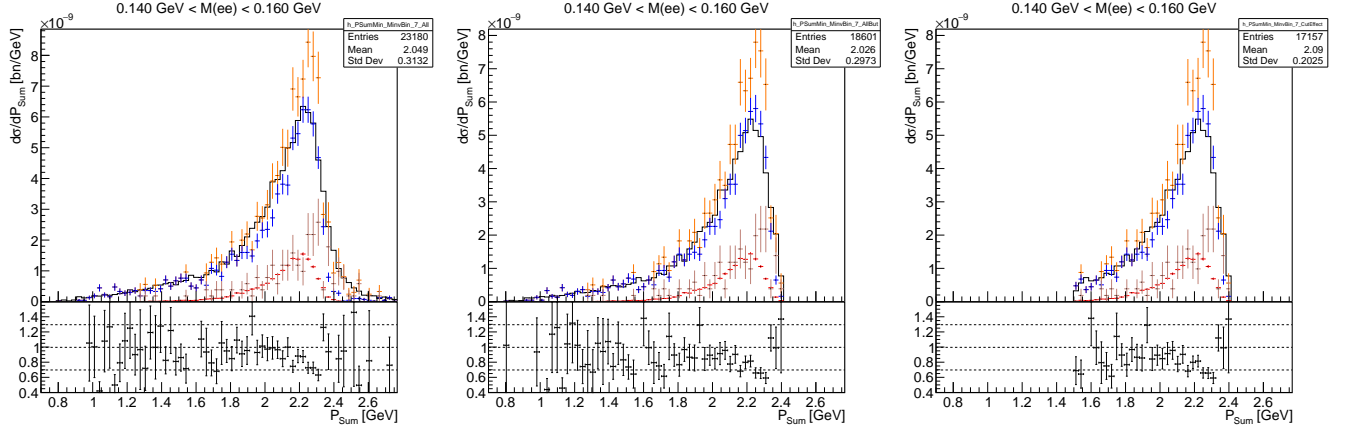


Figure 28: Progress of P_{Sum} Min cut, for the $140 \text{ MeV} < M(ee) < 160 \text{ MeV}$

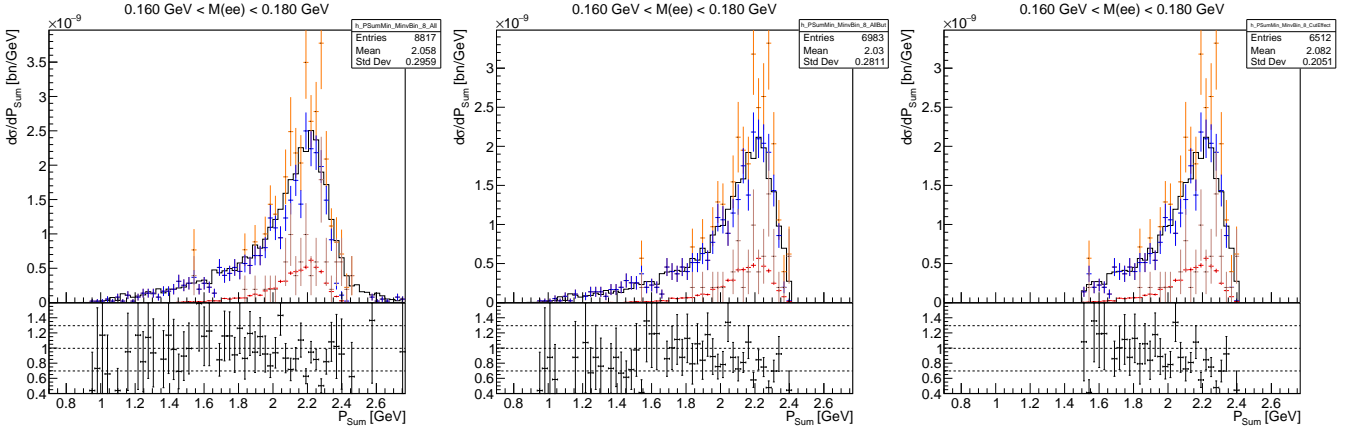


Figure 29: Progress of P_{Sum} Min cut, for the $160 \text{ MeV} < M(ee) < 180 \text{ MeV}$

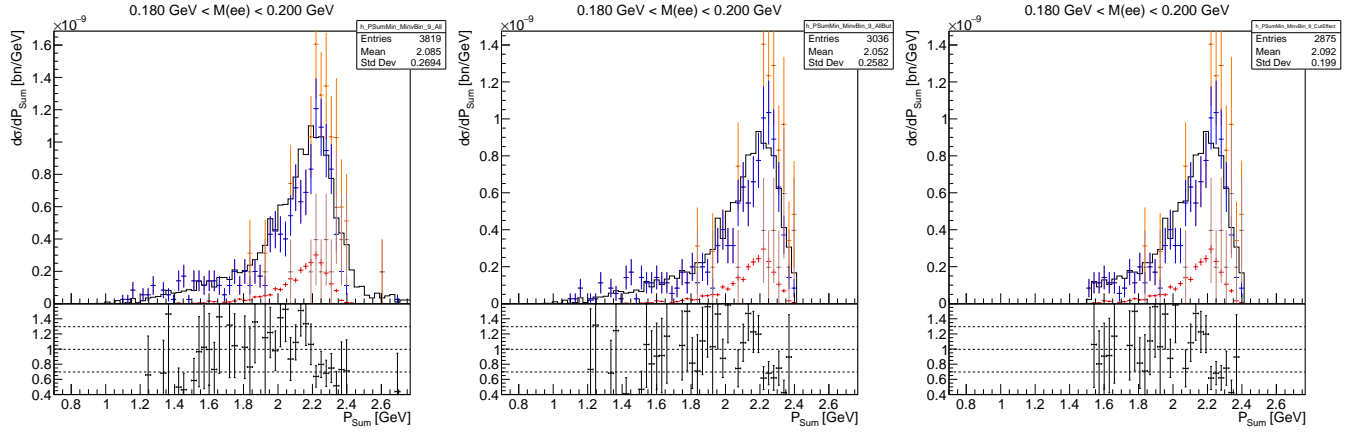


Figure 30: Progress of P_{Sum} Min cut, for the $180 \text{ MeV} < M(ee) < 200 \text{ MeV}$

2 CutEfficiencies

CutDescription	Data	Tri-beam	Rad-beam	Wab-beam	Tri + Wab
PsumMax	0.996642	0.998874	0.99886	0.986888	0.99791
PsumMin	0.577276	0.539613	0.82845	0.904647	0.557511
clDt	0.973965	0.99436	0.997402	0.992964	0.994249
Pem	0.999911	0.999972	0.999969	1	0.999975
d0_ep	0.922387	0.958224	0.970544	0.495193	0.892889
em_cl_trk_dT	0.991506	0.998557	0.999986	0.999115	0.998602
ep_cl_trk_dT	0.993081	0.999867	0.999992	0.996909	0.999631
dX_em	0.971858	0.978334	0.983098	0.979822	0.978452
dX_ep	0.970964	0.982677	0.980798	0.959015	0.980751
PSumMin_MinvBin_0	0	0	0	-nan	0
PSumMin_MinvBin_1	0.19857	0.186411	0.406967	0.569364	0.191415
PSumMin_MinvBin_2	0.546532	0.537062	0.785559	0.871142	0.553007
PSumMin_MinvBin_3	0.769339	0.765048	0.916863	0.959658	0.779528
PSumMin_MinvBin_4	0.883268	0.882856	0.964886	0.977893	0.890604
PSumMin_MinvBin_5	0.916717	0.916973	0.979517	0.981481	0.922139
PSumMin_MinvBin_6	0.913699	0.922699	0.984234	1	0.928075
PSumMin_MinvBin_7	0.912254	0.917006	0.983266	0.966667	0.920878
PSumMin_MinvBin_8	0.924821	0.917559	0.987507	1	0.922718
PSumMin_MinvBin_9	0.935687	0.917333	0.993248	1	0.920279
PSumMin_MinvBin_10	0.963074	0.964912	1	1	0.966279
PSumMin_MinvBin_11	0.97546	1	0.98951	1	1

3 Rad Fraction

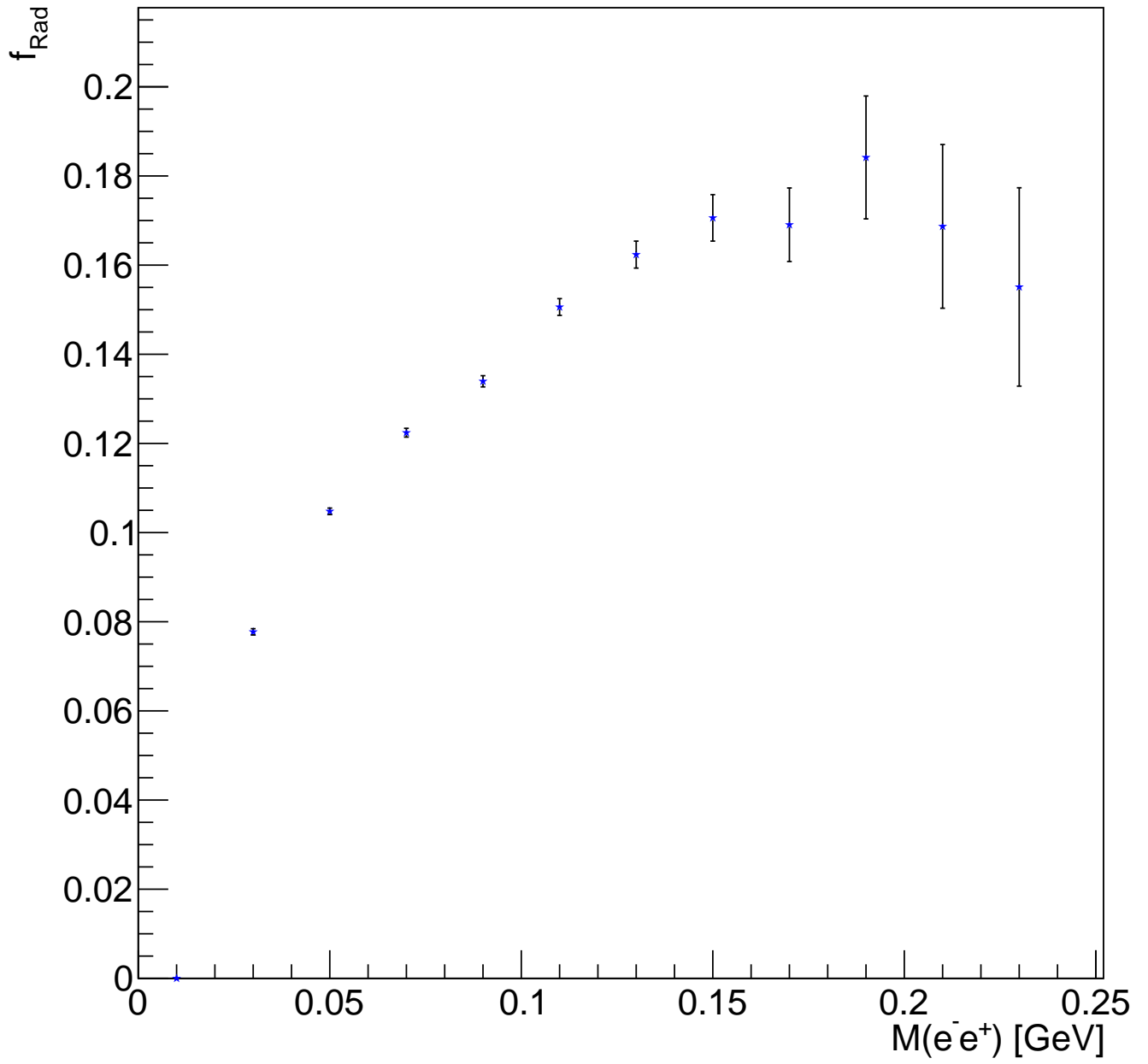


Figure 31: Radiative fraction as a function of mass.

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```
// ===== The Cut Keyword
// ===== |----- L1 requirement for e+ (1: required, 0: Not required)
// ===== |
// ===== | ----- d0 cut (1: applied, 0: Not applied)
// ===== | |
// ===== | | --- # of V0 candidates: (1: if # of V0s with a given conditions is one, 0: otherwise)
// ===== | | |
// ===== | | |
// ===== | | |
// = bit - - 6 5 4 3 2 1 0
```

Figure 32: Bit representation of cut set.

14 Invariant mass distributions

15 Figures in this section represent 10% of all 2016 run data, more preciesly fils that have file number ending eith 0.

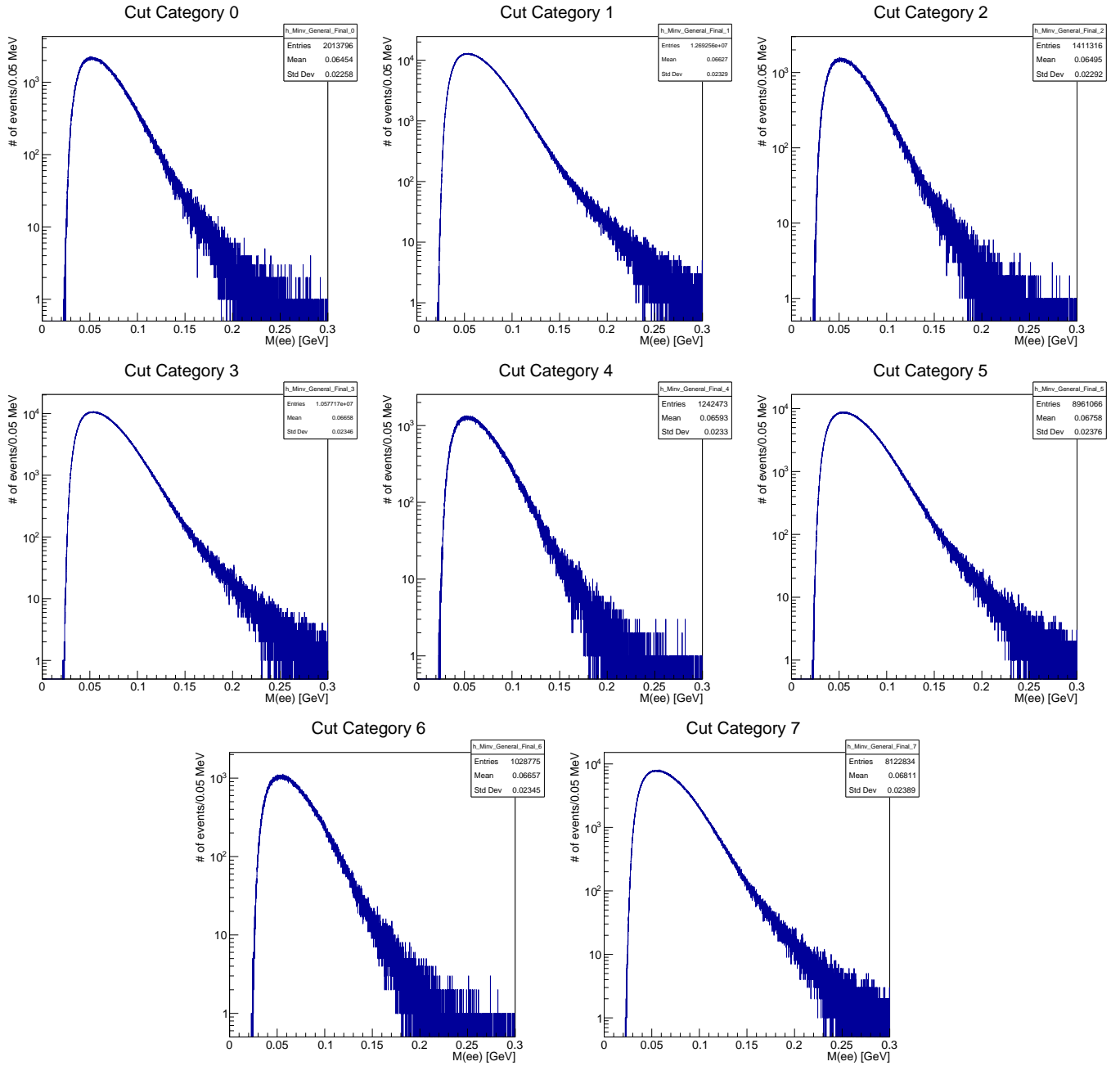


Figure 33: The mass distributions for difference cut categories. These figures represent the blinded 10% sample of rh 2016 Run.

17 Run By Run Variations

18 Note the Run 8043 is excluded from these plots, I think the luminosity is not properly calculated for
 19 this particular run. it's normalization is about $\times 4$ is off from the rest of runs.

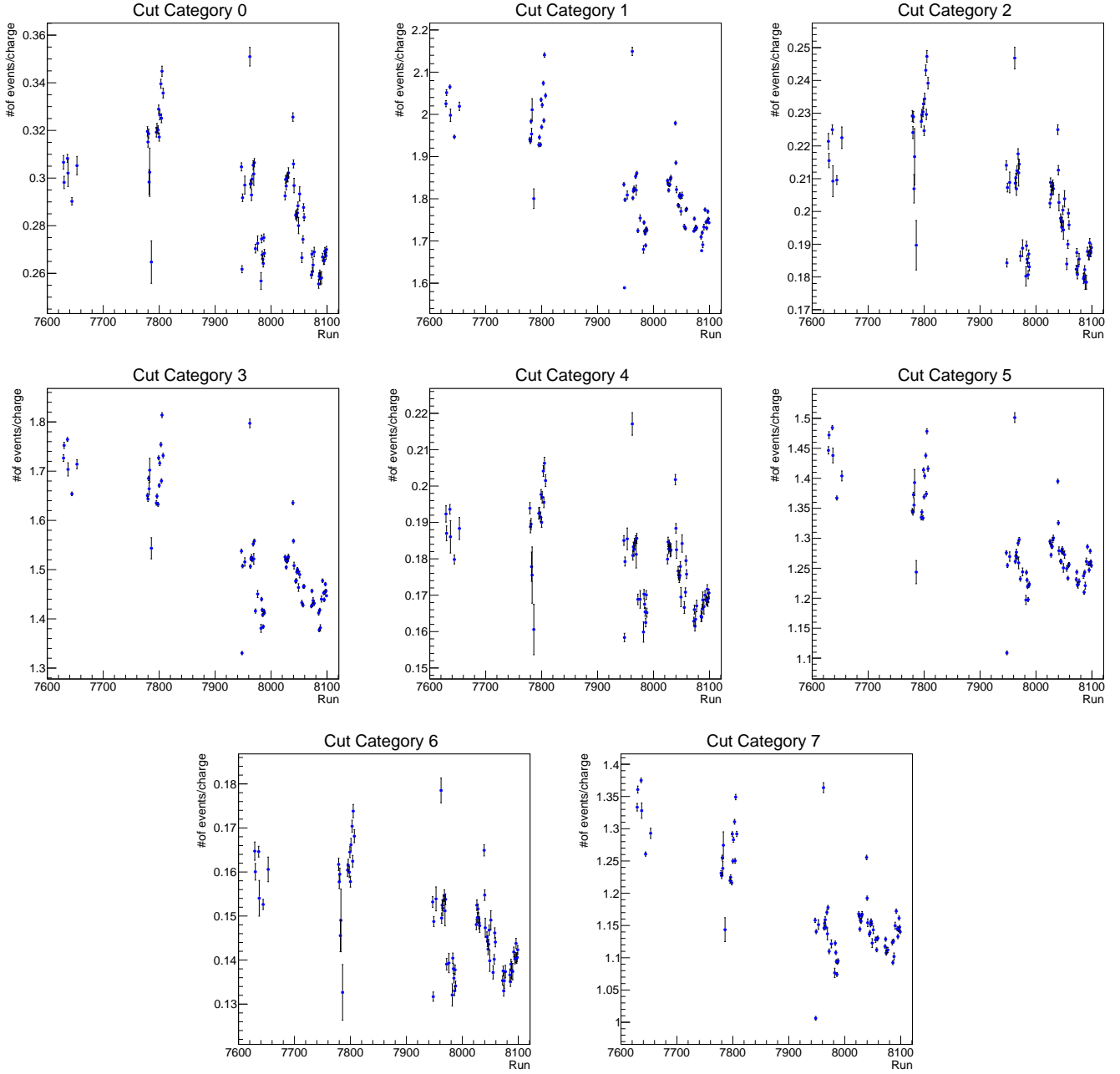


Figure 34: Integrated number of final events normalized by charge for different runs. different plots represent different cut categoried.