

HF PWG Weekly Meeting

High Pt NPE analysis on P+P Run2012
@200Gev

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Outline

- Event Cuts and Trigger combination
- Track quality cuts
- eID cuts detail
- Photo electron InvMass distribution of different cuts
- Partner nSigmaElectron and InvMass in different Pt Bin
- Inclusive electron and photo electron Pt spectra

Trigger combination and Event cuts

Trigger combination:

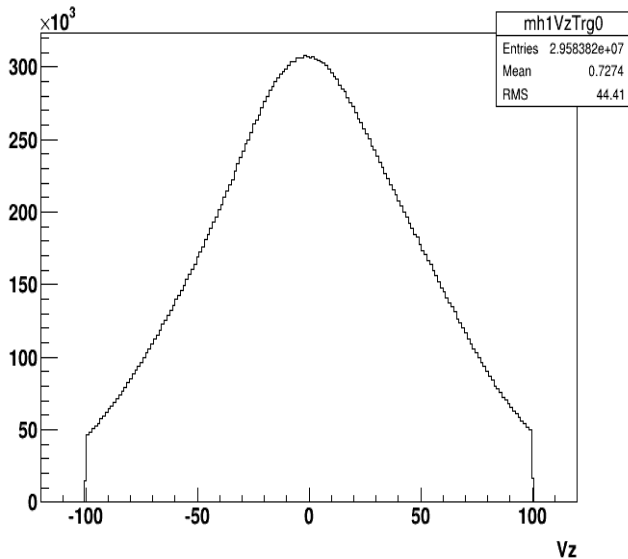
HT0BBCMBTof0 || HT1BBCMBTof0 || HT2BBCMB

Event cuts

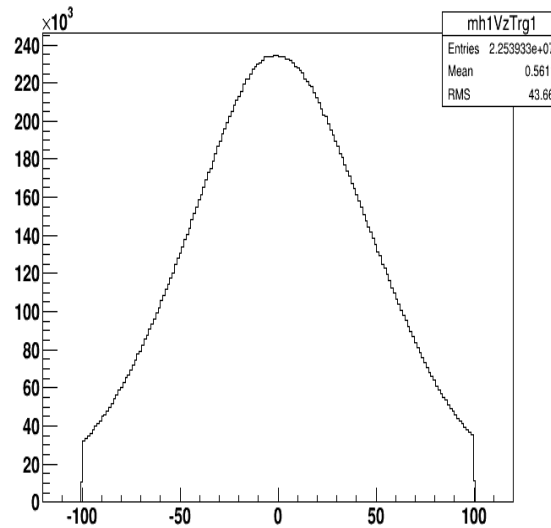
$|V_z| < 100$

Ranking > 0

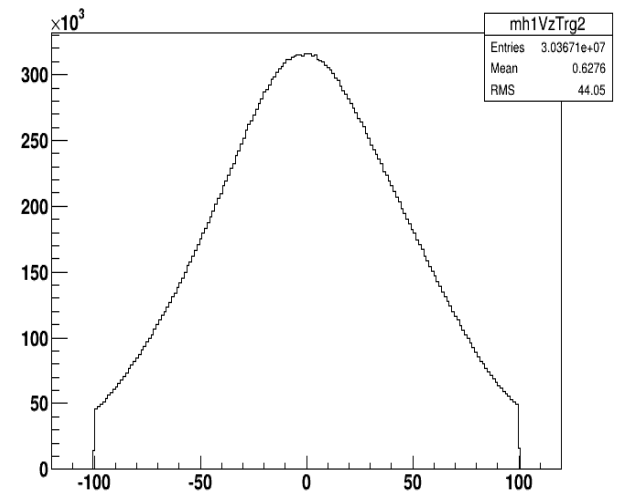
Vz Distribution In Different Trigger



HT0BBCMBTof0
(ADC>11)
2.9583816e+07



HT1BBCMBTof0
(ADC>15)
2.2539329e+07



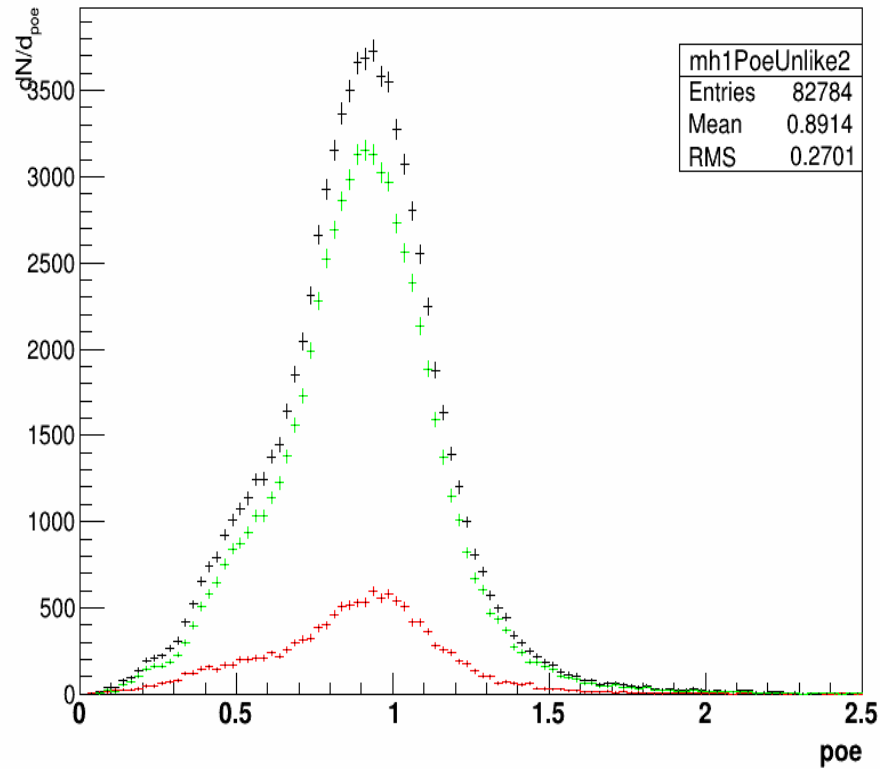
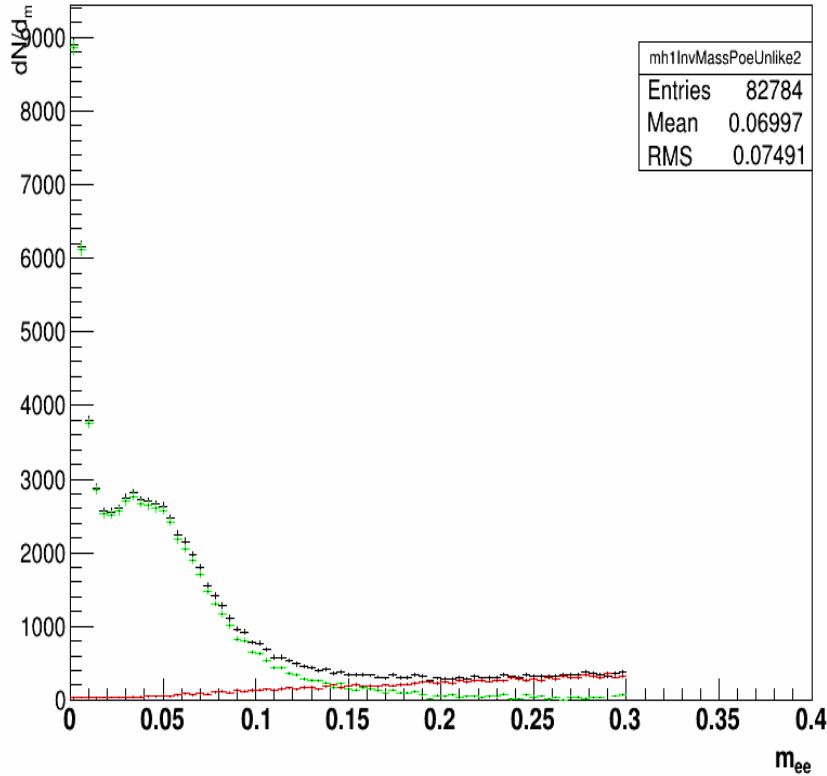
HT2BBCMB
(ADC>18)
3.0367099e+07

Track Quality Cuts and eID Cuts

- Track quality cuts:
nhits>20 && nhits/nhist_poss >0.52
&& nhitsDedx >15 && gDCA<1.5 && first_pointR <73
- eID Cuts
pMom> 0.2 && |eta|<1.0 && nEta >1 && nPhi>1
&& ((HT0BBCMBTof0 && ADC> 11) || (HT1BBCMBTof0 &&
ADC>15) || (TH2BBCMB && ADC >18))
&& 0.3<poe0<1.5 && |Dz|<3 && |Dphi| <0.015 && -1<nσe<3
- Partner cuts:
|nσe_partner|<5 && gMom>0.2
- Pair Cuts:
M_{ee}<0.3 && pairDCA<1.0

All Cuts Applied Except Poe

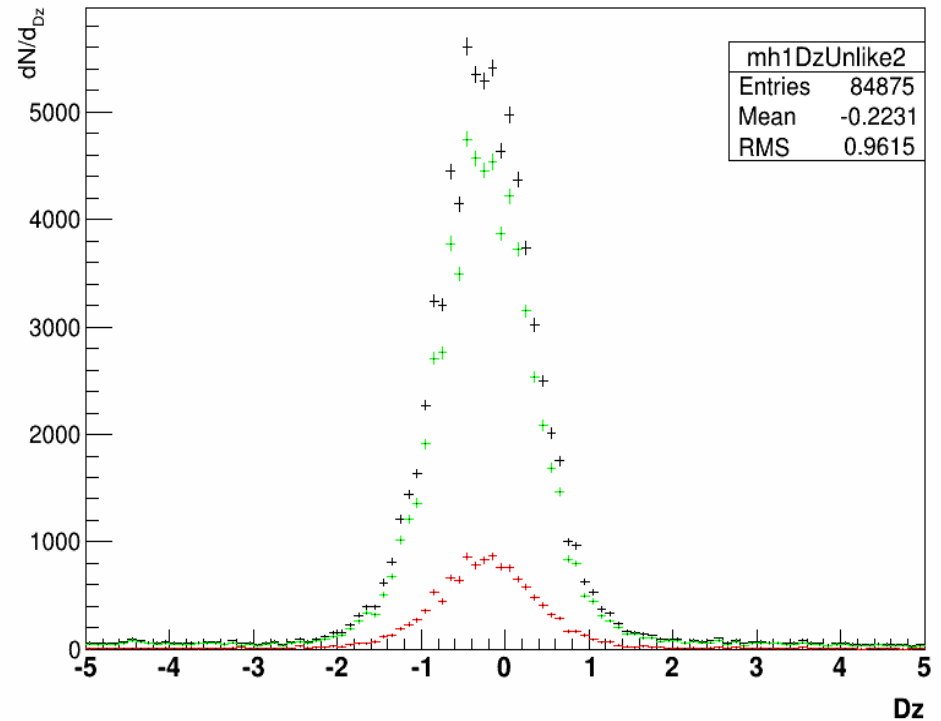
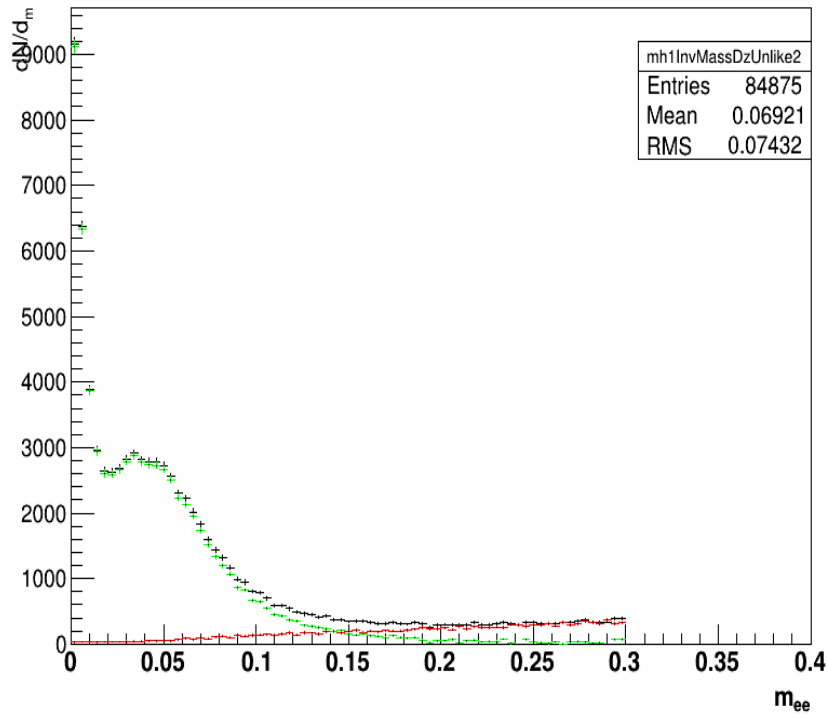
(Trigger combined)



Unlike Sign Like Sign Unlike-Like
(Final cut $0.3 < poe < 1.5$)

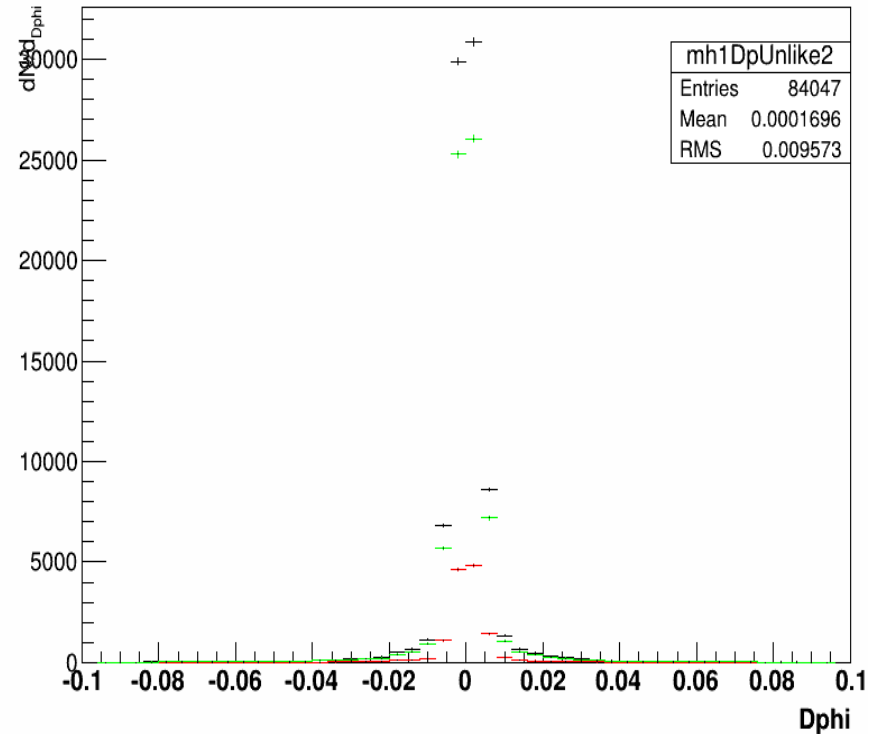
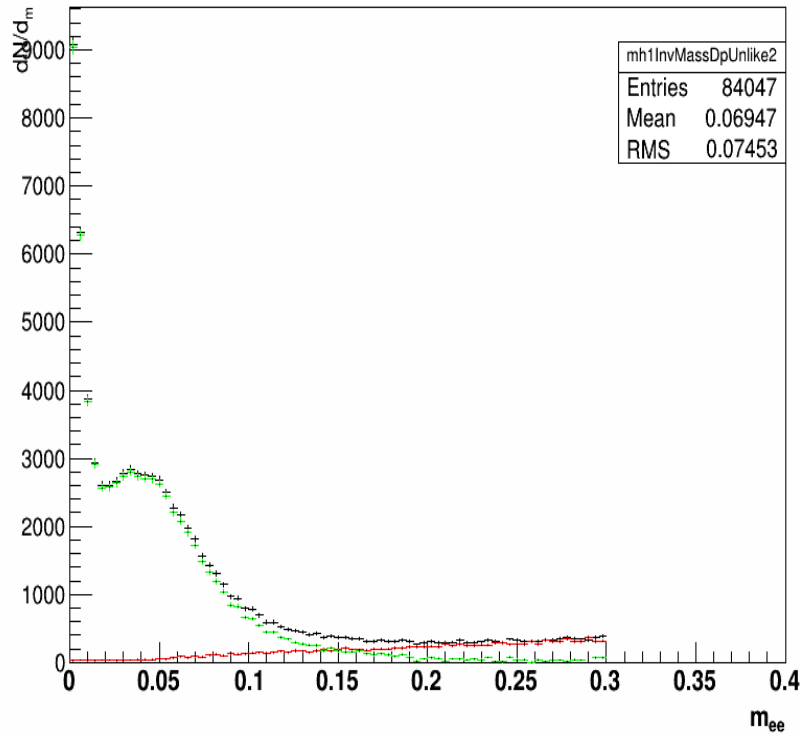
All Cuts Applied Except Dz

(Trigger combined)



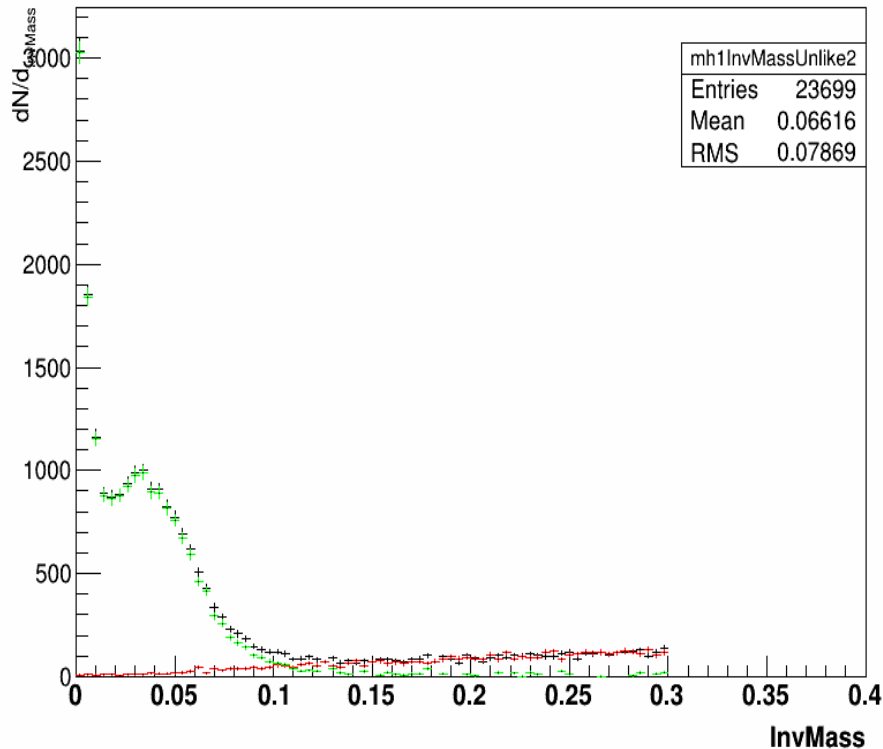
Unlike Sign Like Sign Unlike-Like
(Final cut $|Dz| < 3$)

All Cuts Applied Except Dphi (Trigger combined)



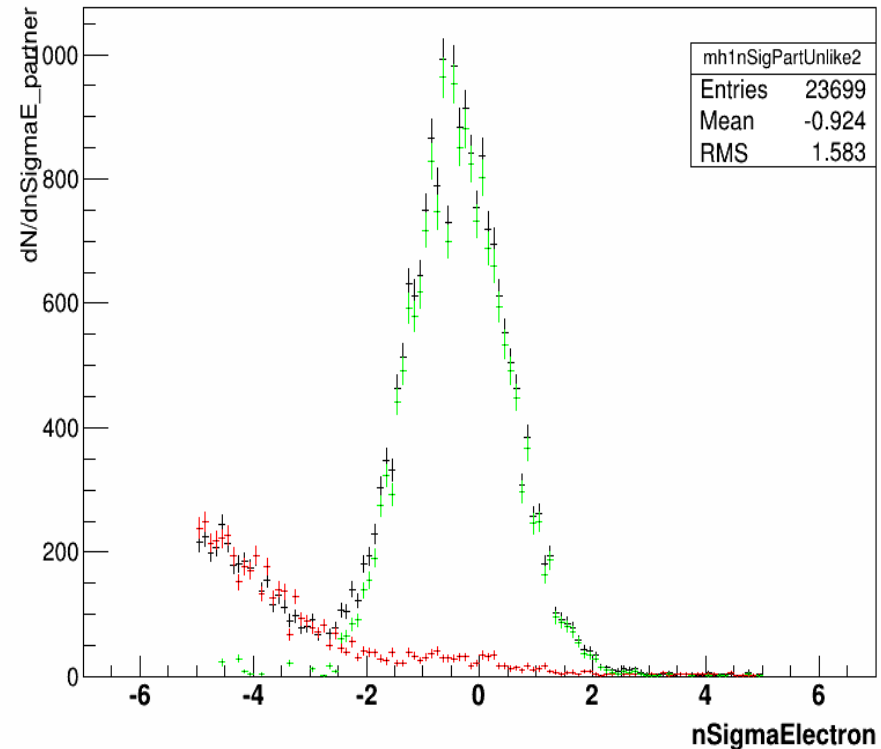
Unlike Sign Like Sign Unlike-Like
(Final cut $|Dphi| < 0.015$)

InvMass and nsigmaE_partner in different primary Electron Pt bin($P_t < 3$) all cuts applied



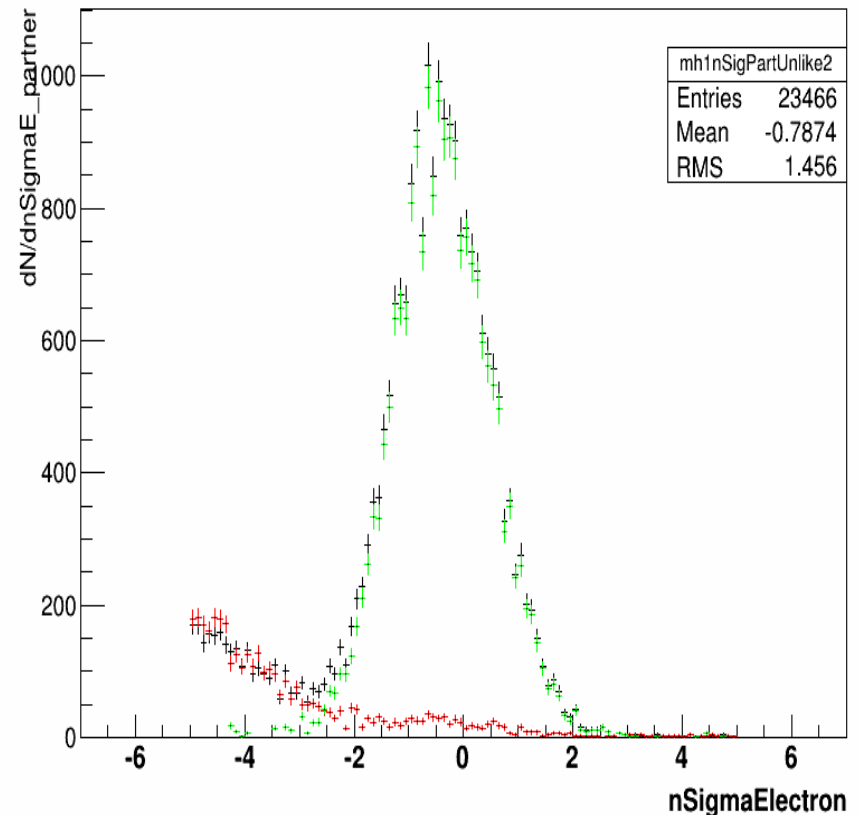
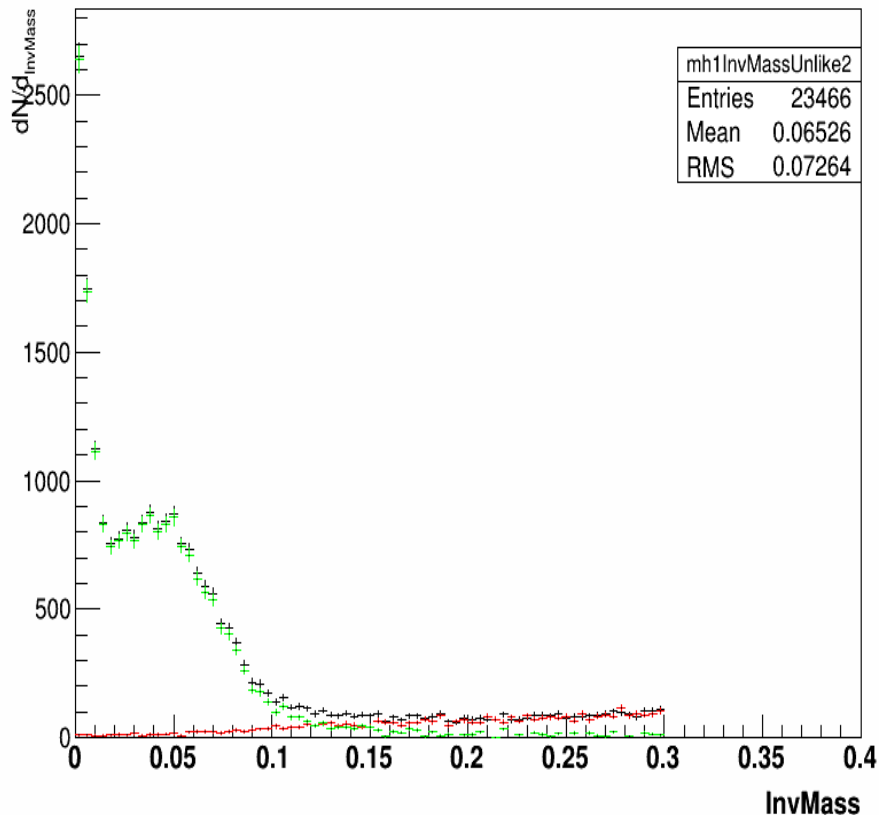
Unlike Sign

Like Sign

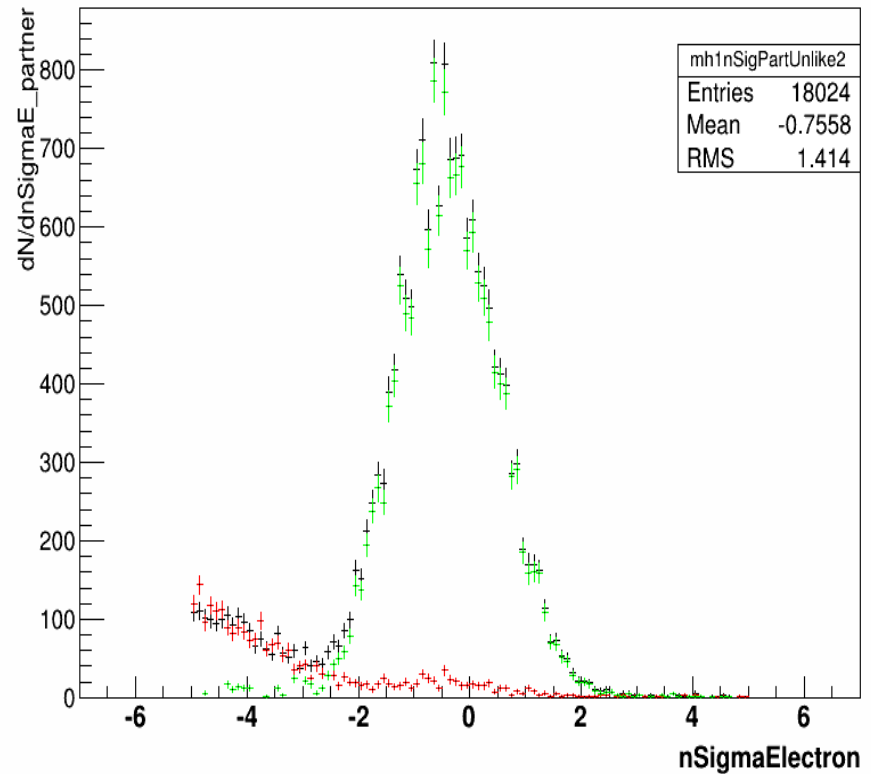
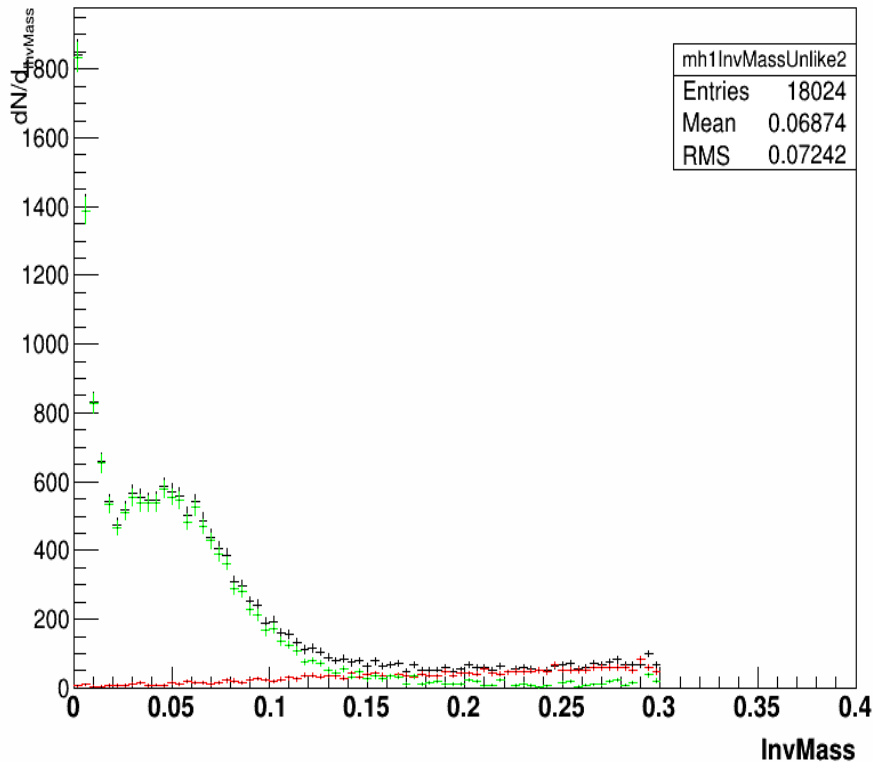


Unlike-Like

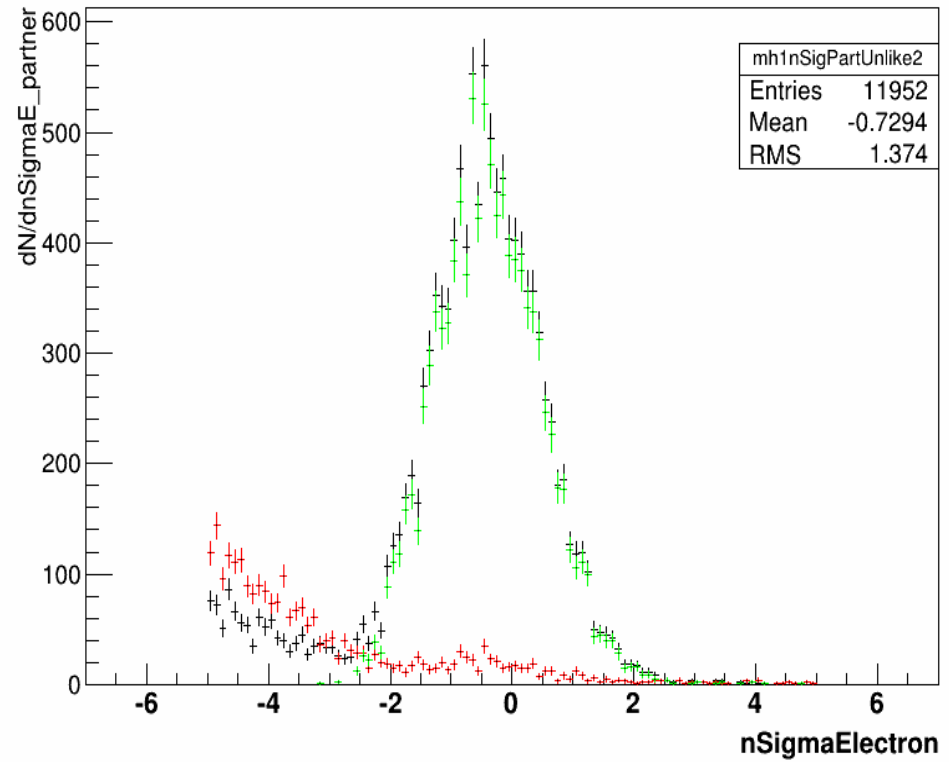
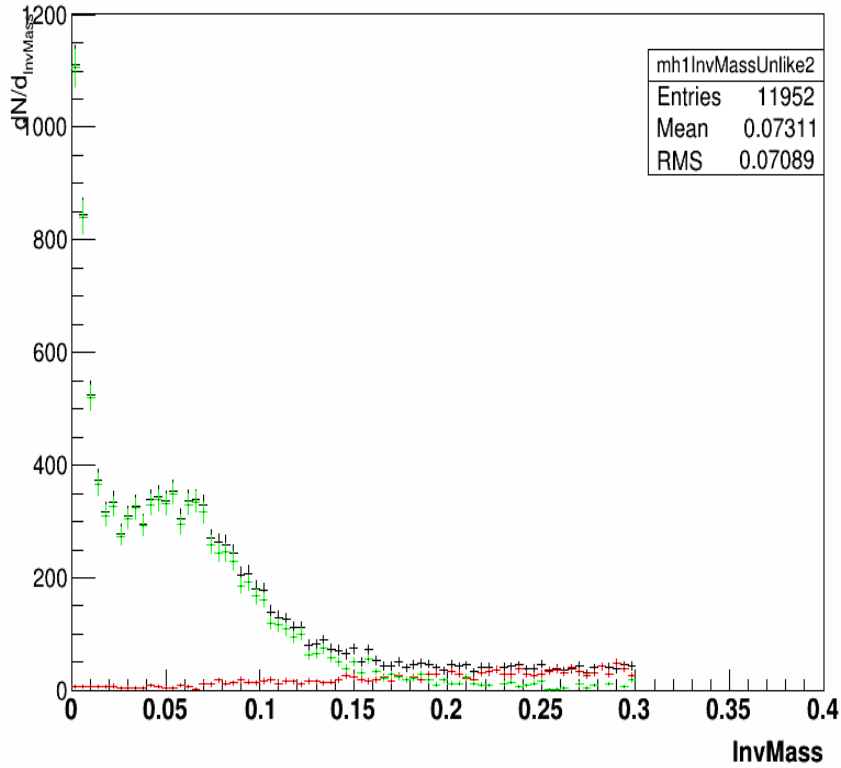
InvMass and nsigmaE_partner in different primary Electron Pt bin($3 < Pt < 4$) all cuts applied



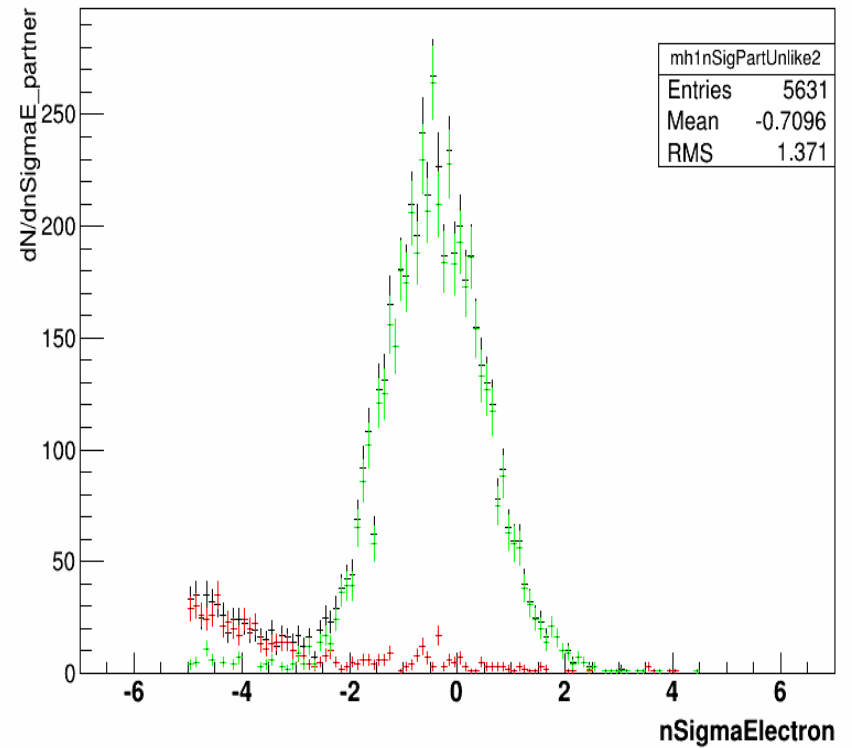
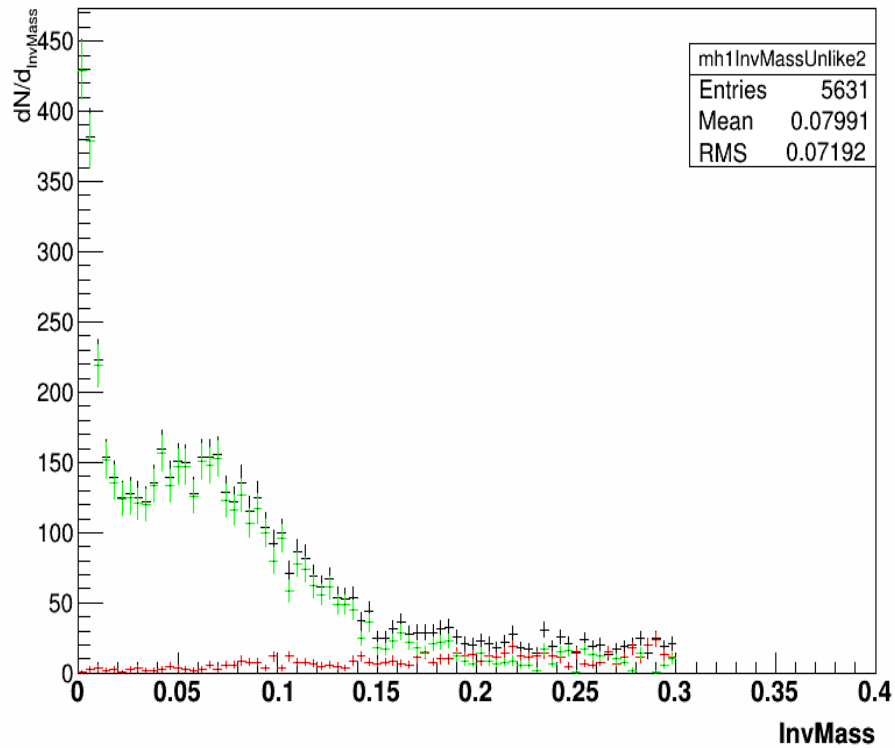
InvMass and nsigmaE_partner in different primary Electron Pt bin($4 < Pt < 5$) all cuts applied



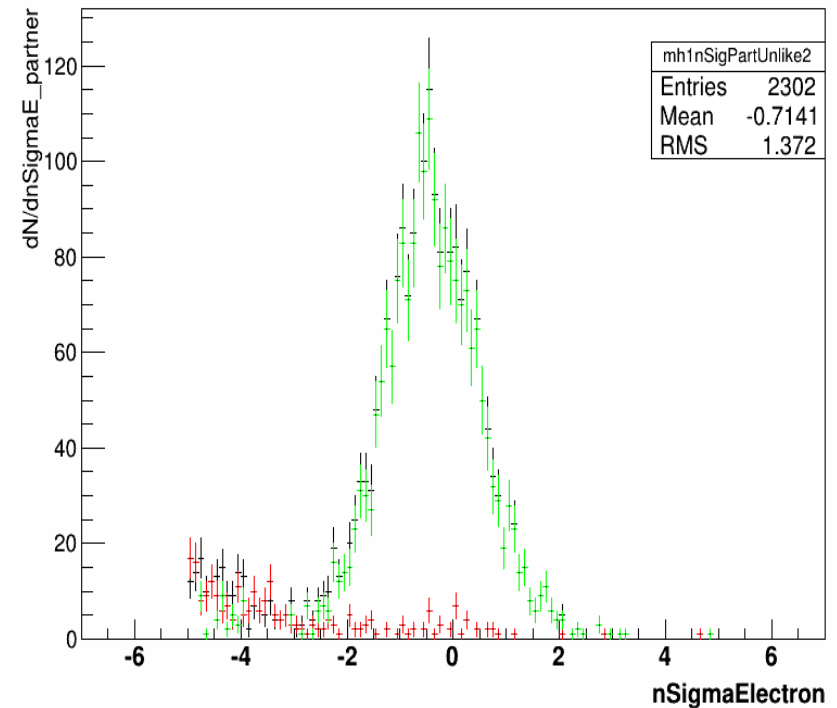
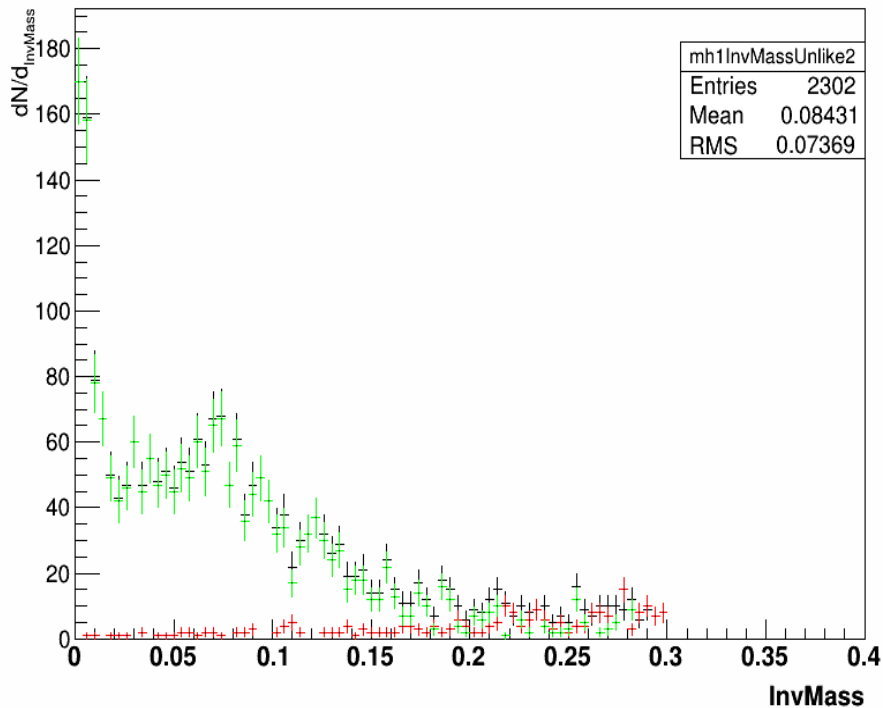
InvMass and nsigmaE_partner in different primary Electron Pt bin(5<Pt<6) all cuts applied



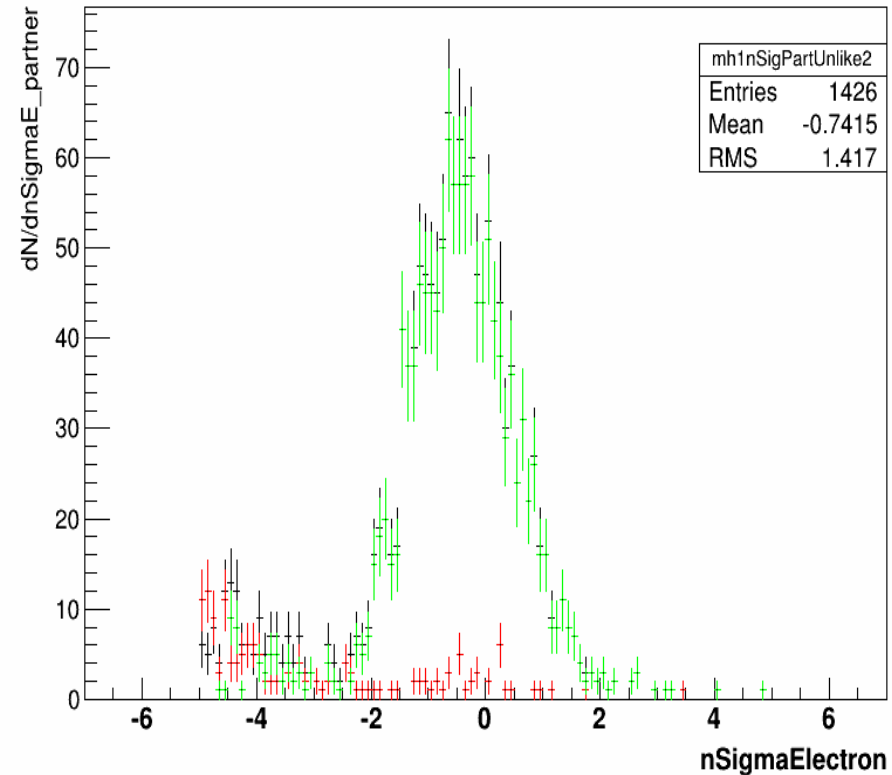
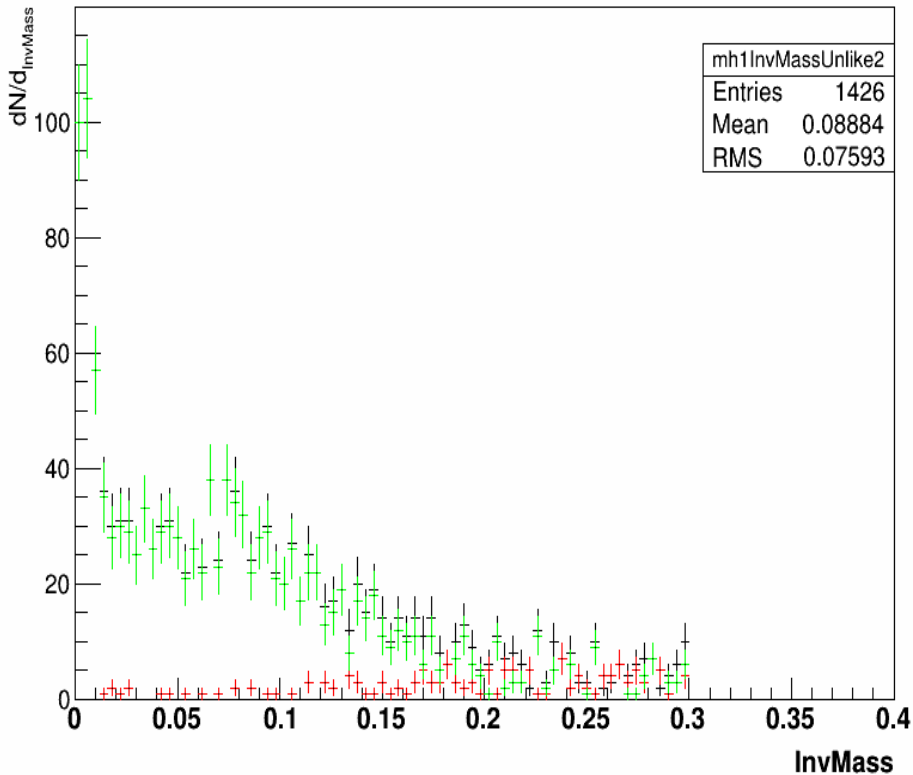
InvMass and nsigmaE_partner in different primary Electron Pt bin($6 < Pt < 7$) all cuts applied



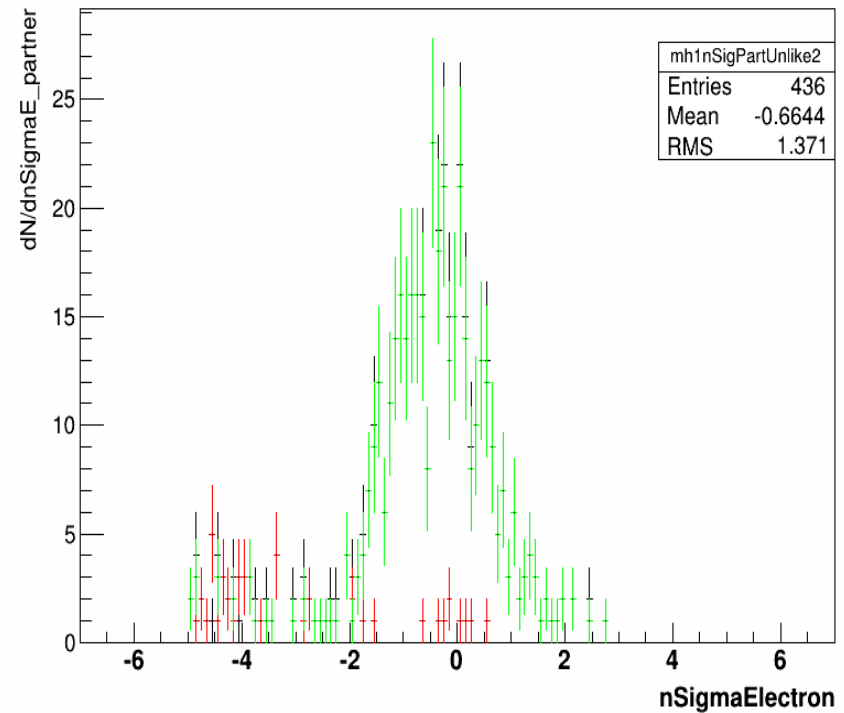
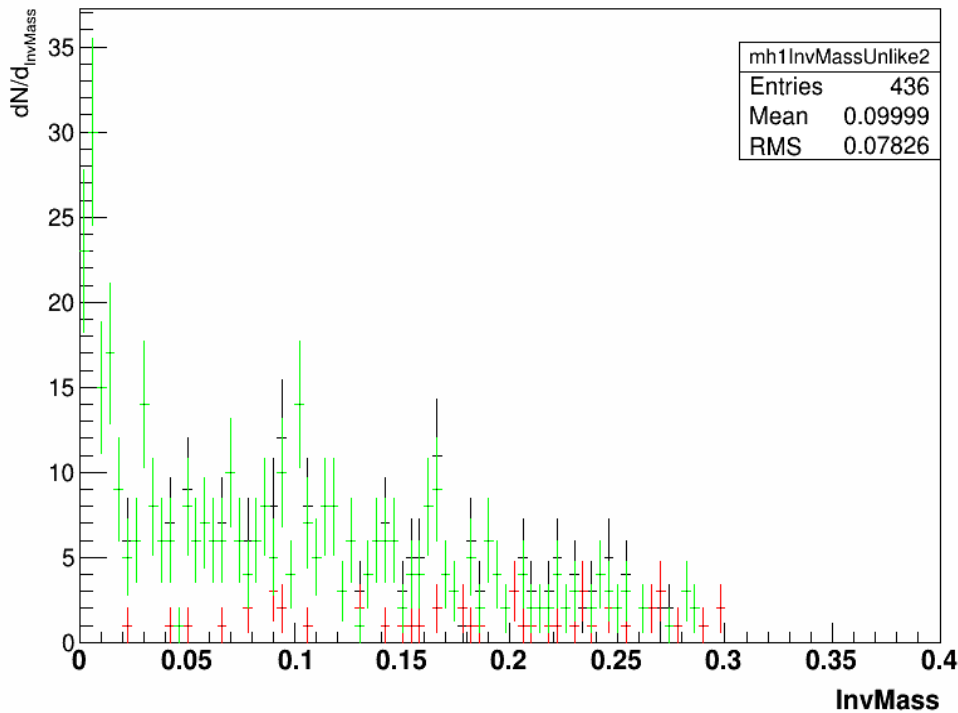
InvMass and nsigmaE_partner in different primary Electron Pt bin(7<Pt<8) all cuts applied



InvMass and nsigmaE_partner in different primary Electron Pt bin($8 < Pt < 10$) all cuts applied



InvMass and nsigmaE_partner in different primary Electron Pt bin($10 < Pt < 20$) all cuts applied



Pt spectra Vs different Trigger

Inclusive Electron Pt

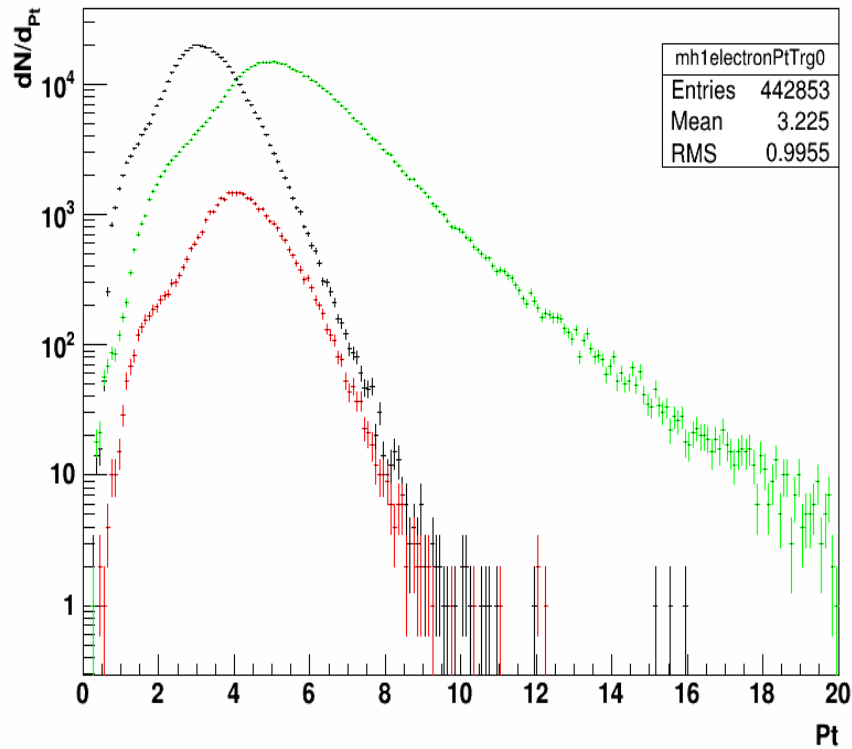
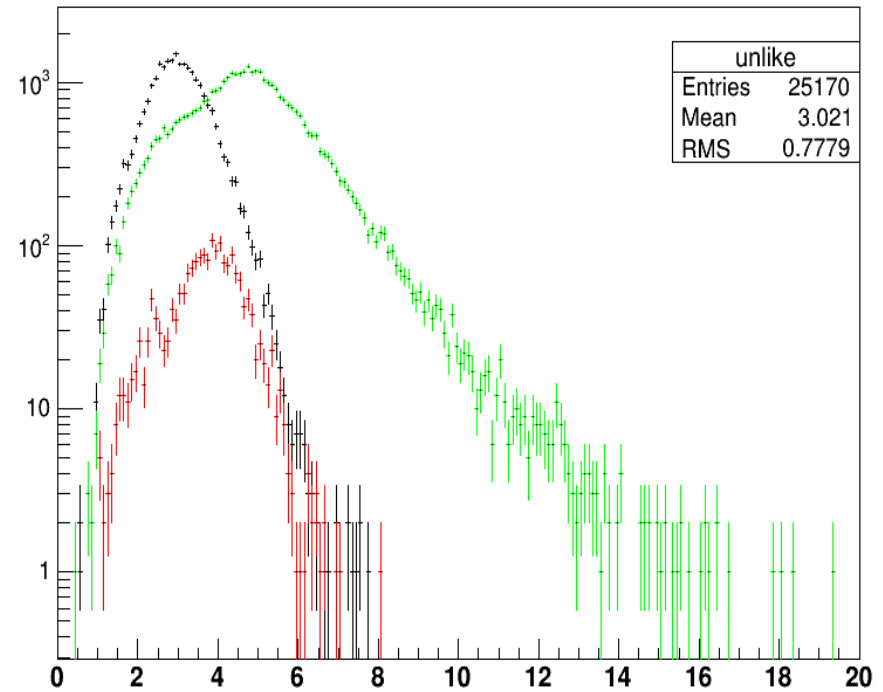


Photo Electron Pt



HT0BBCMBTof0

HT1BBCMBTof0

HT2BBCMB

What to do next step:

- Calculate eID efficiency.
- Calculate purity from data.
- Embedding needed for reconstruction efficiency.
- Calculate reconstruction efficiency.
- Calculate the total cross-section and compare to FONLL.

The analysis is on going

*Thanks for your attention
And Xin's Pico Data*