Adding Tag&Probe Variables into Trees

Status of Studies with T&P Muons with Very High Pt

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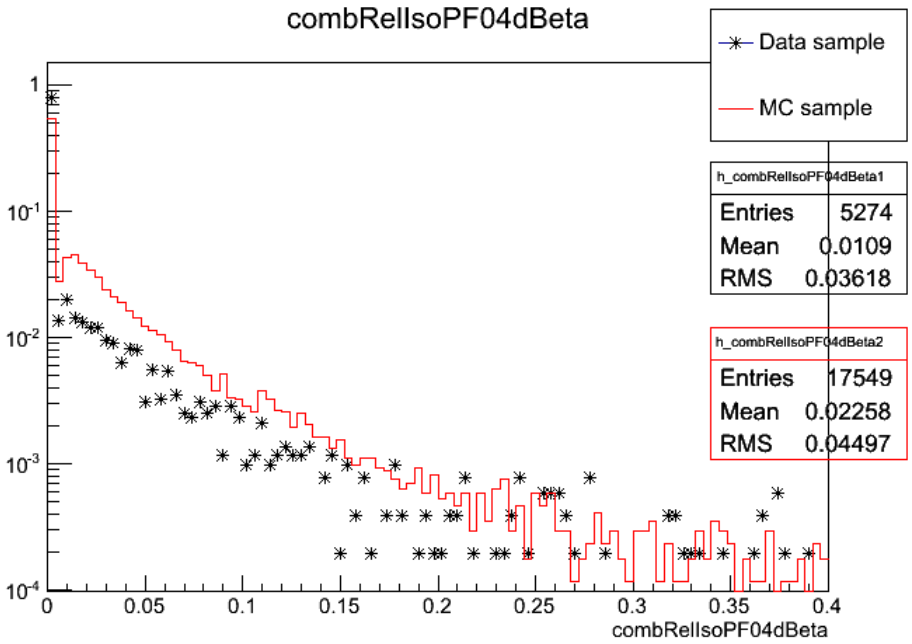
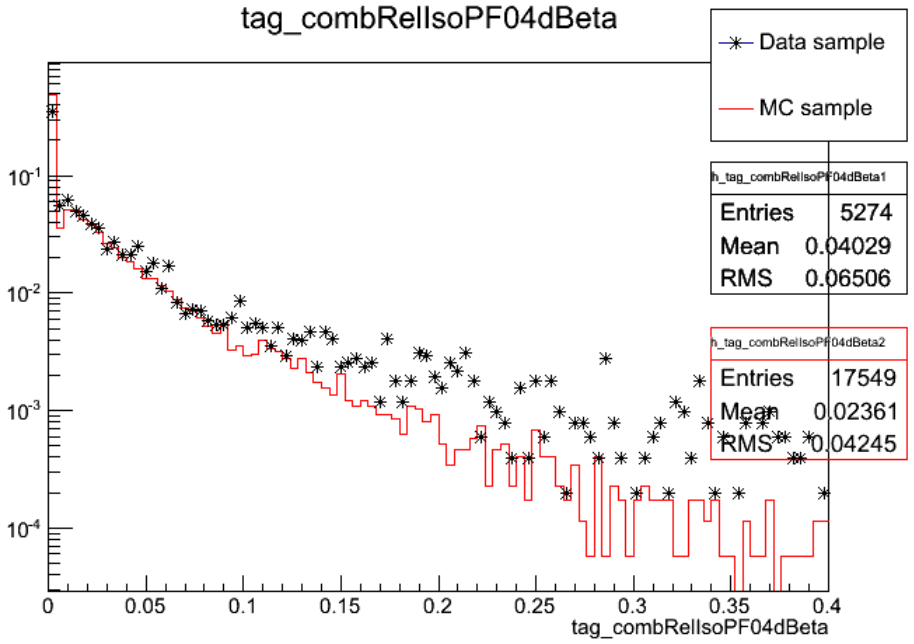
Introduction

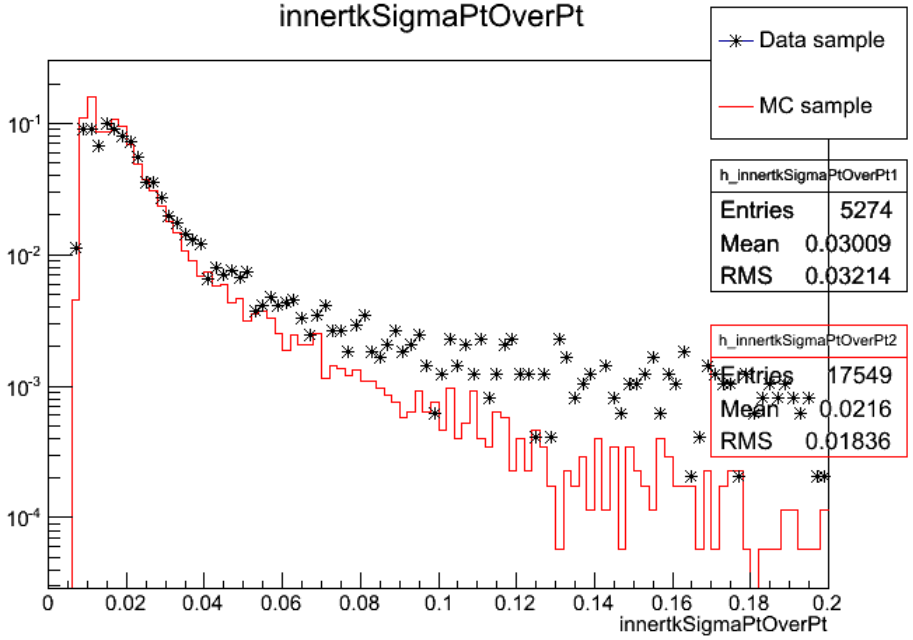
- Samples
  - Use 20k events from
    - Data (ReReco)
    - MC Z->mumu
- T&P tool
  - We consider recipe 8 using CMSSW_5_3_10
    - MuonSelector with HighPt muons with NewTuneP
- Distributions
  - The idea is just to show you the new variables implemented before start the new trees production
  - The Tags/Probes/Pairs are defined as in the default recipe
    - Tags: Tight Muons, pT>15(data)8(MC)GeV and PF Loose Isolation
    - Probes: General tracks
    - Pairs: |dz|<4cm and T&P with opposite charges
  - All the distributions are normalized

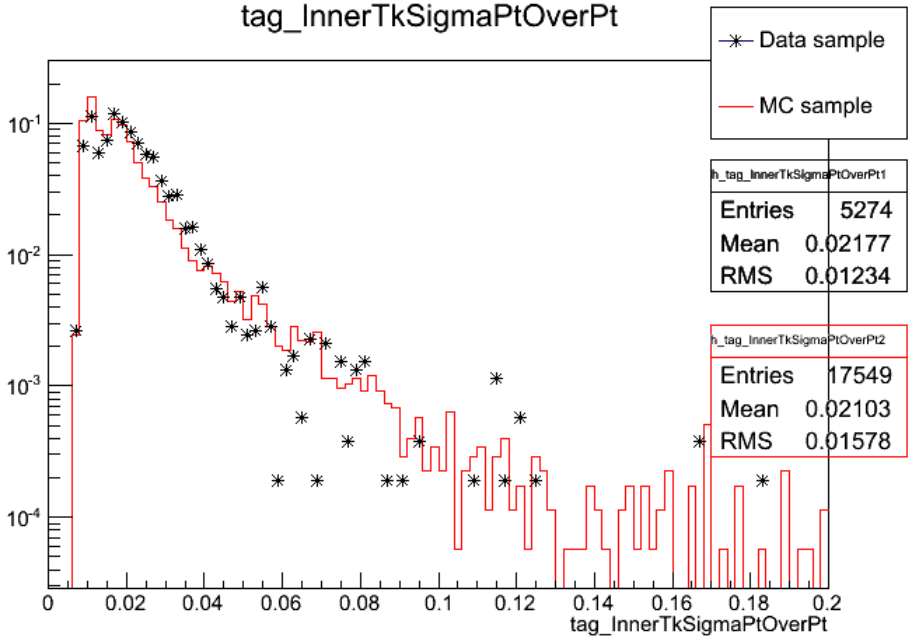
Combined RelIsoPF04dBeta



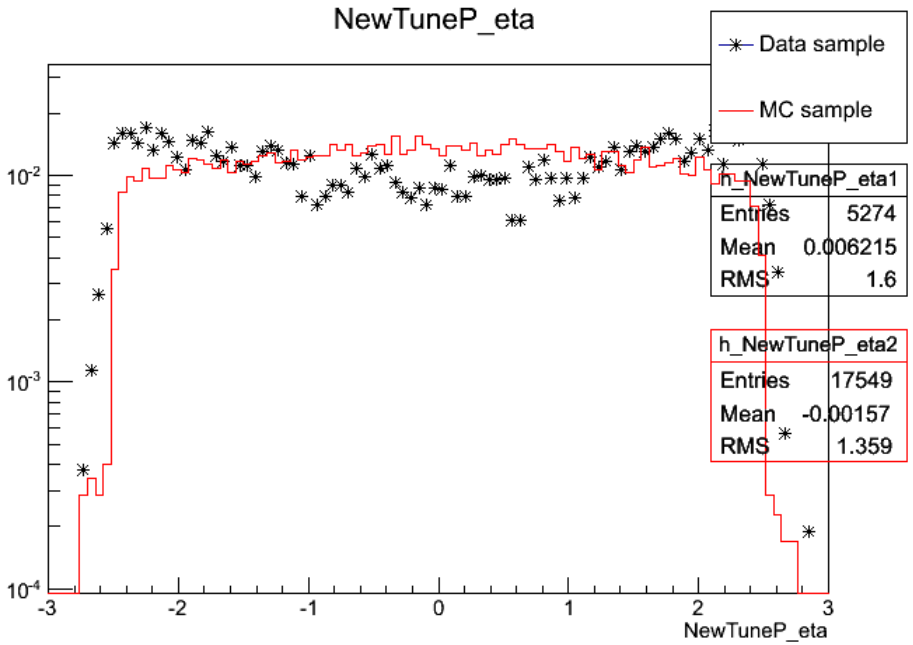


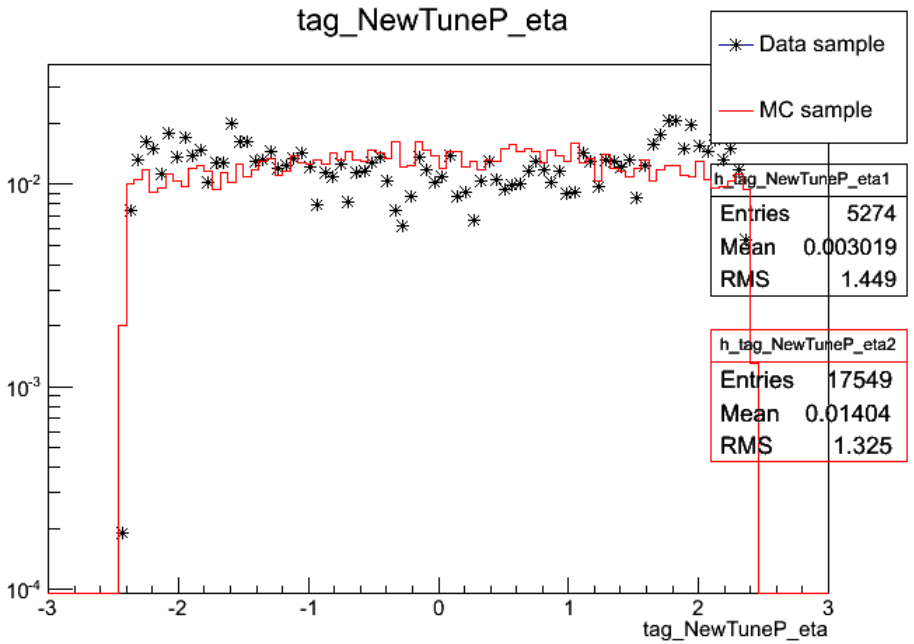
SigmaPt/Pt (inner track)



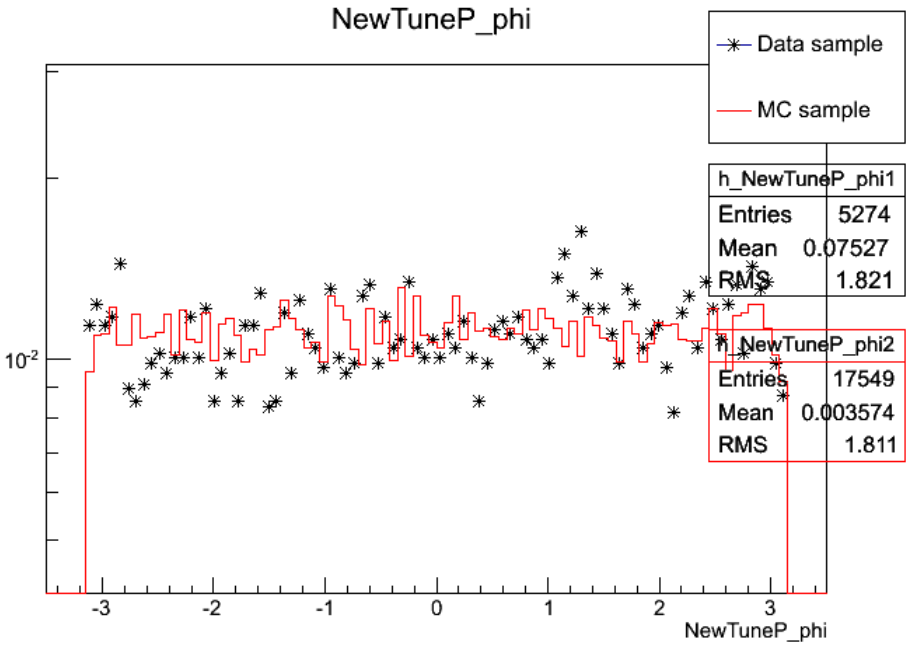


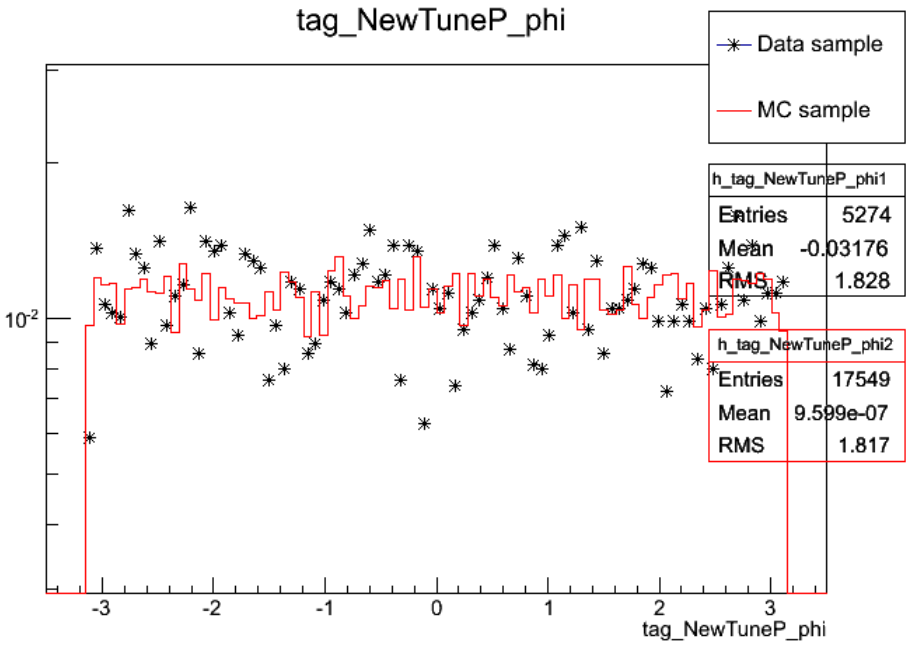
Using NewTuneP - Eta



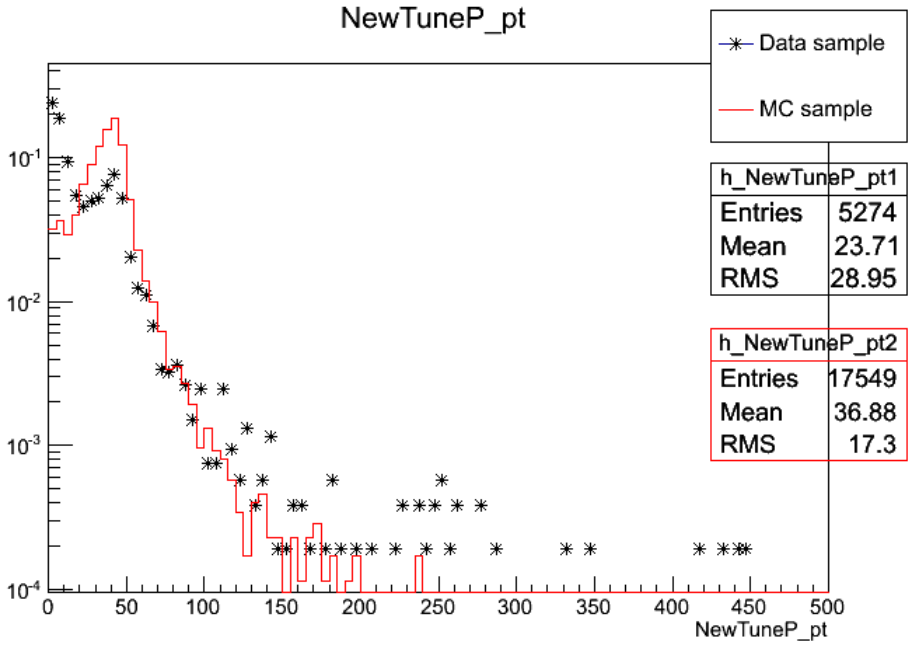


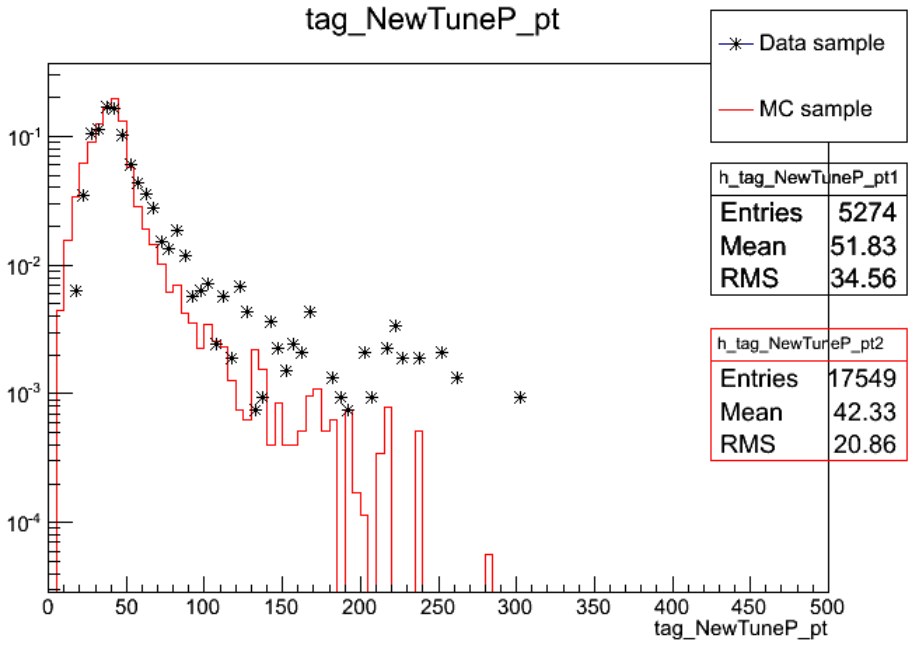
Using NewTuneP - Phi



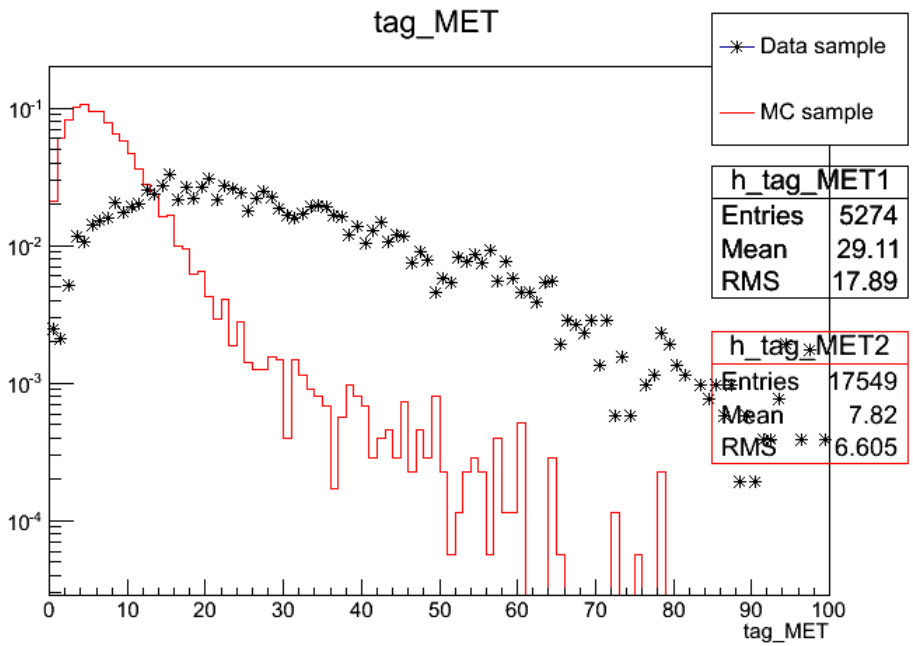


Using NewTuneP - Pt





PF MET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Data sample
MC sample
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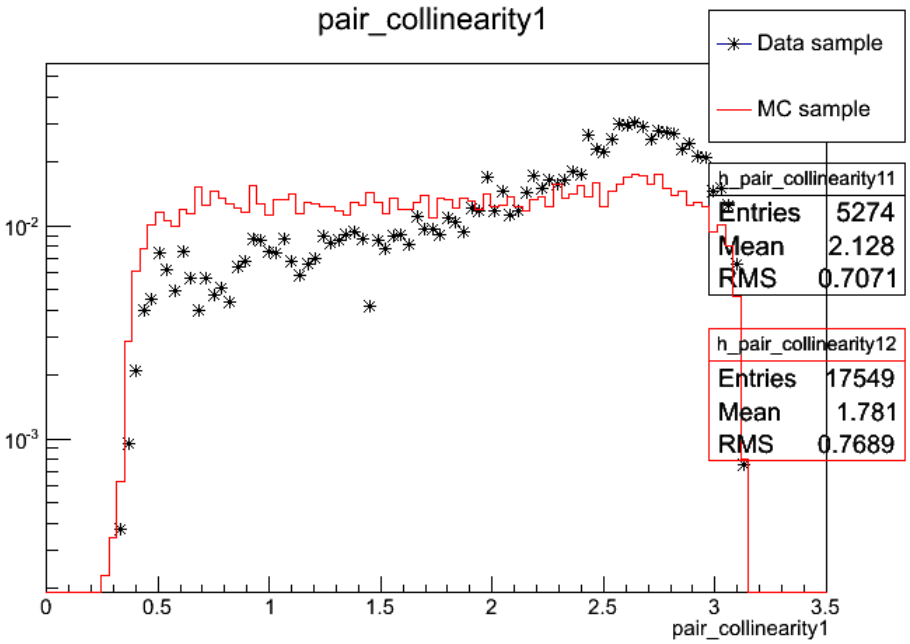
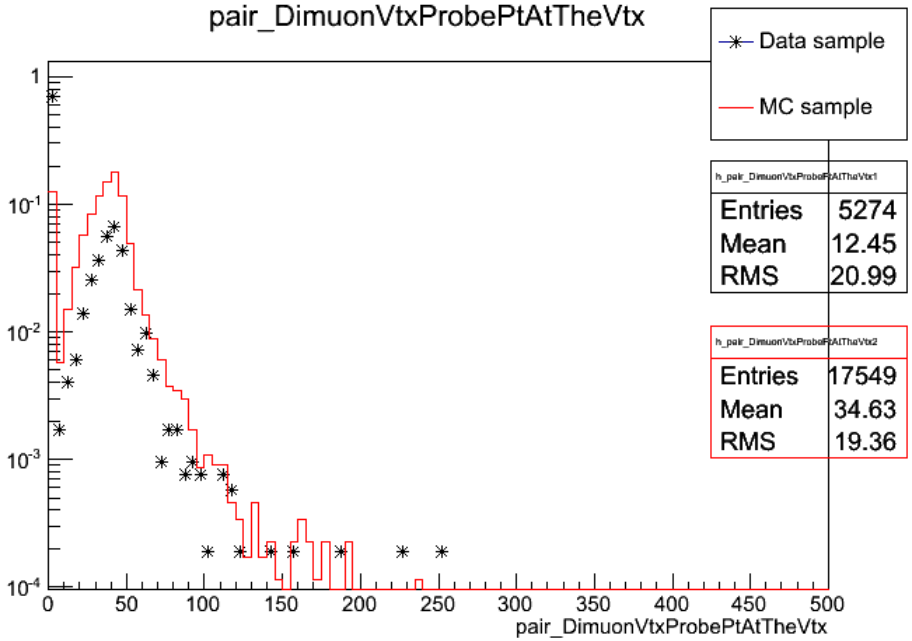
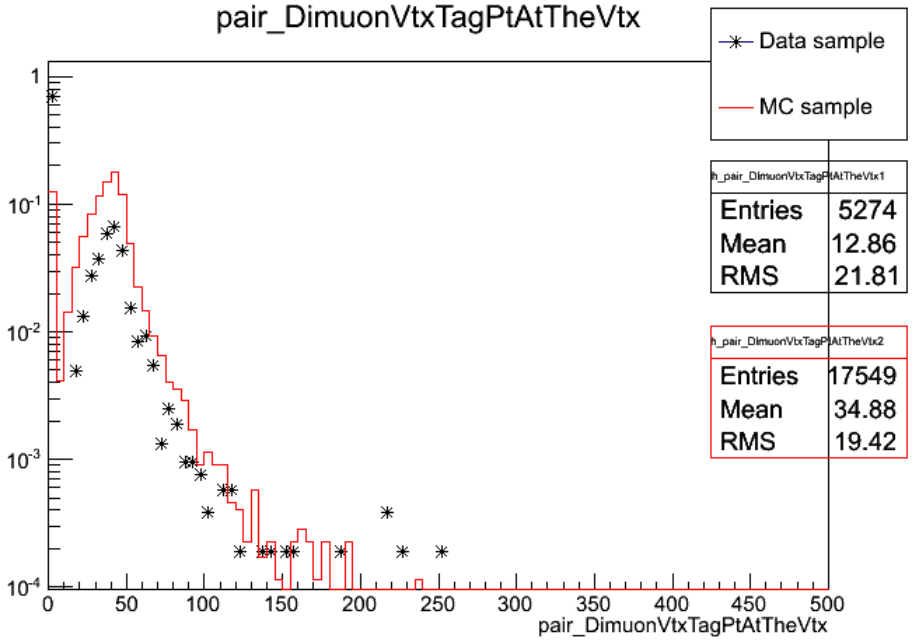
Entries 5274
Mean 29.11
RMS 17.89
h_tag_MET2
Entries 17549
Mean 7.82
RMS 6.605
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0 10 20 30 40 50 60 70 80 90 100
tag_MET

Angle Between the T&P 3-Momentum

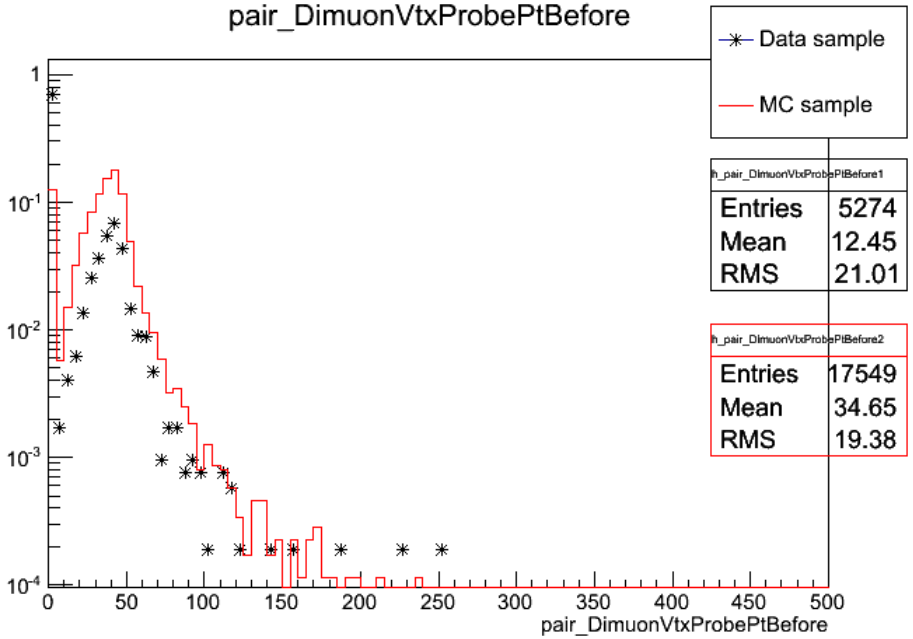


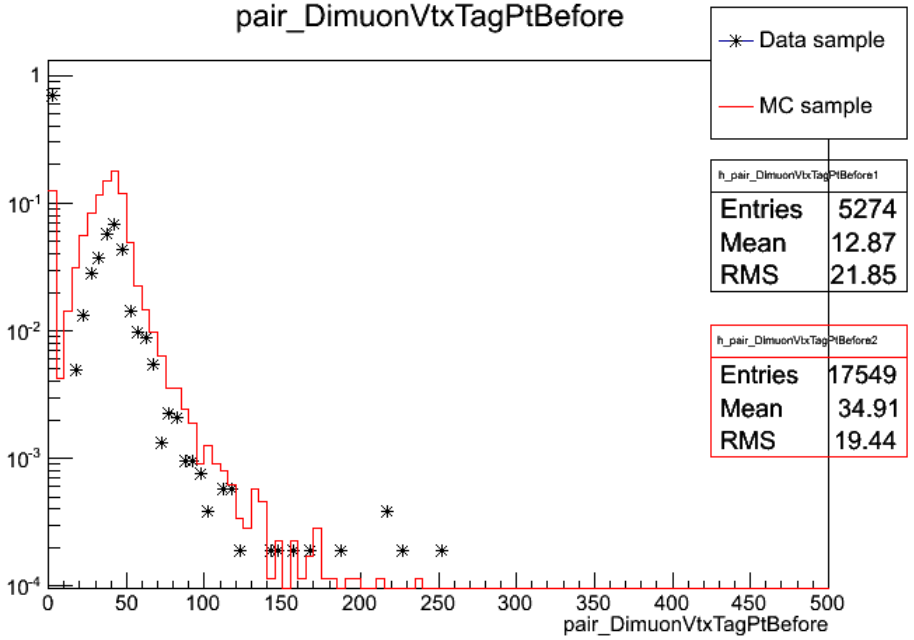
Pt After the Dimuon Vertex Fit



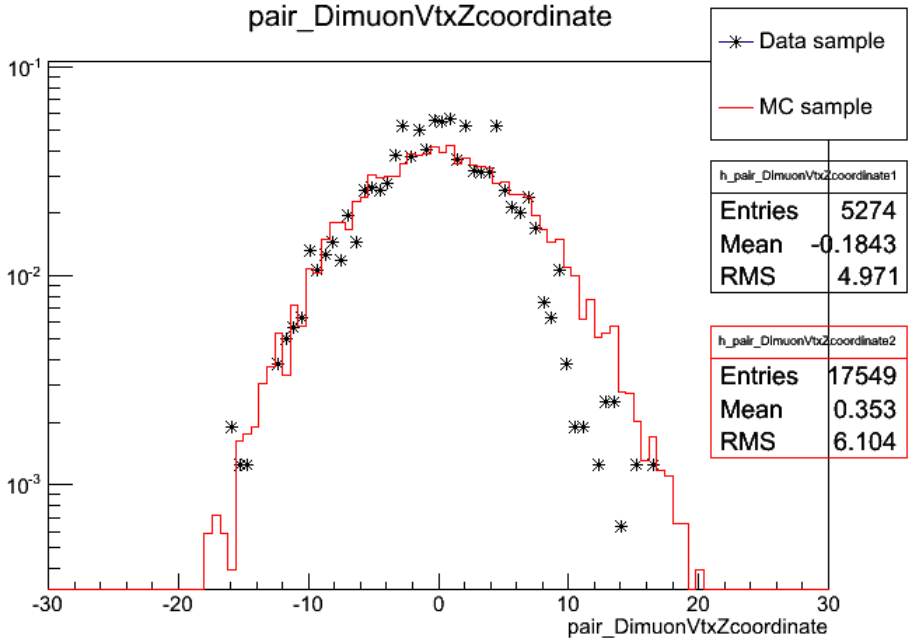


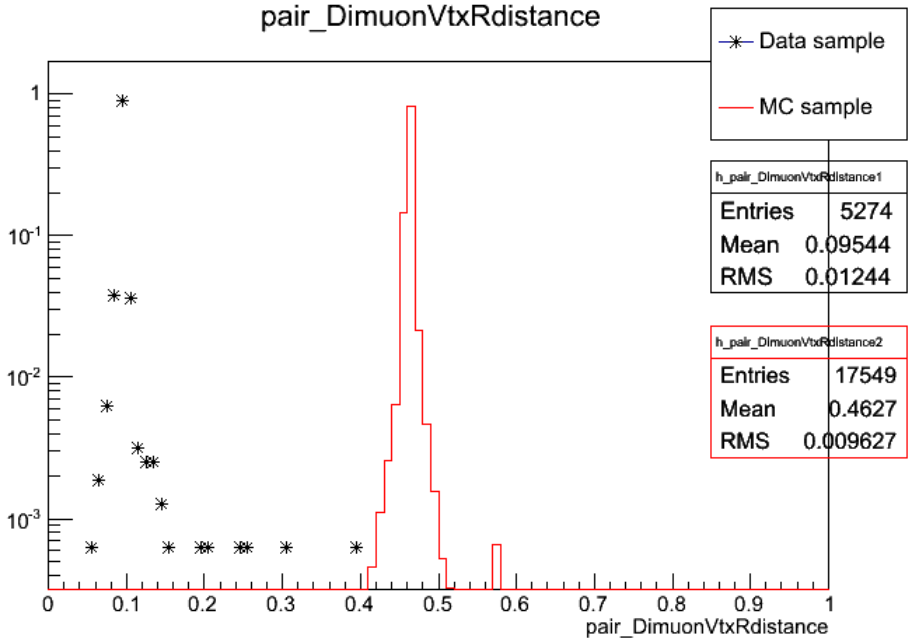
Pt Before the Dimuon Vertex Fit



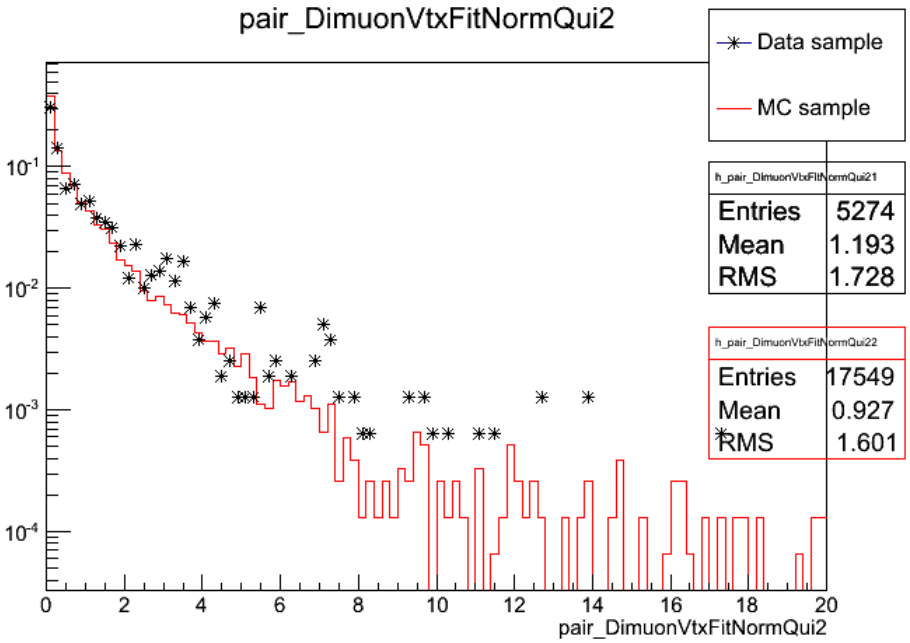


Z coord. and R distance of the DiMu Vtx

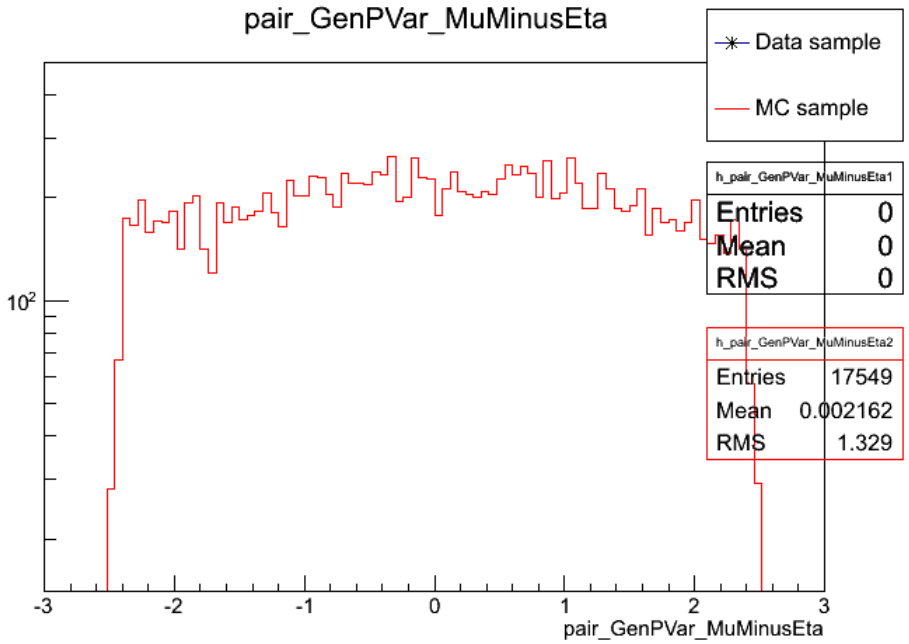


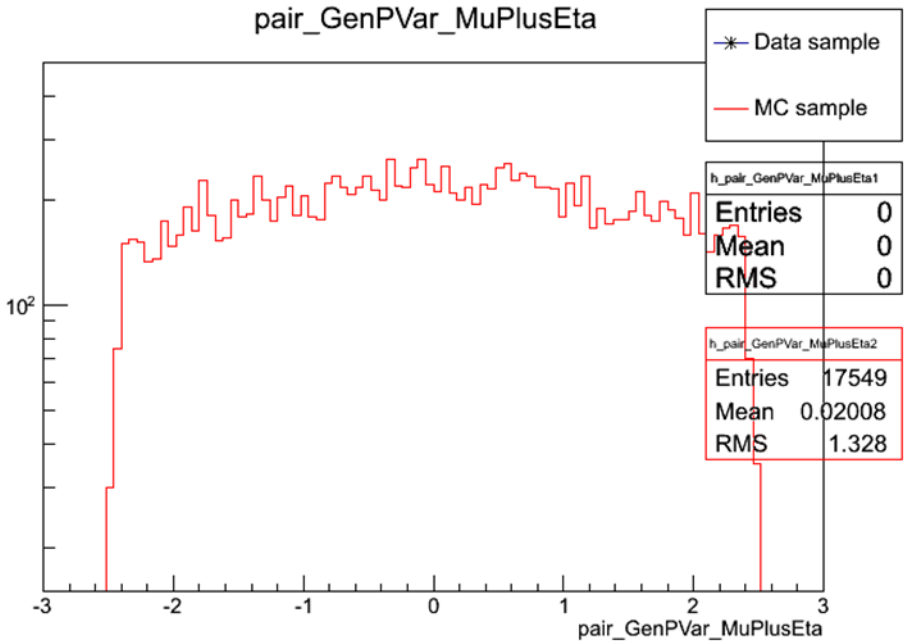


Qui²/n.o.f of the DiMu Vertex Fit

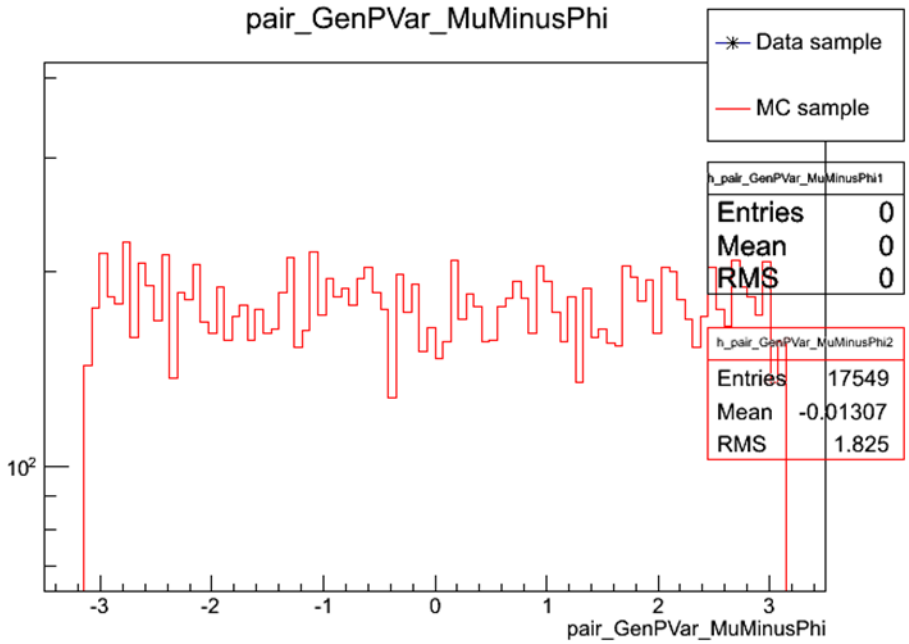


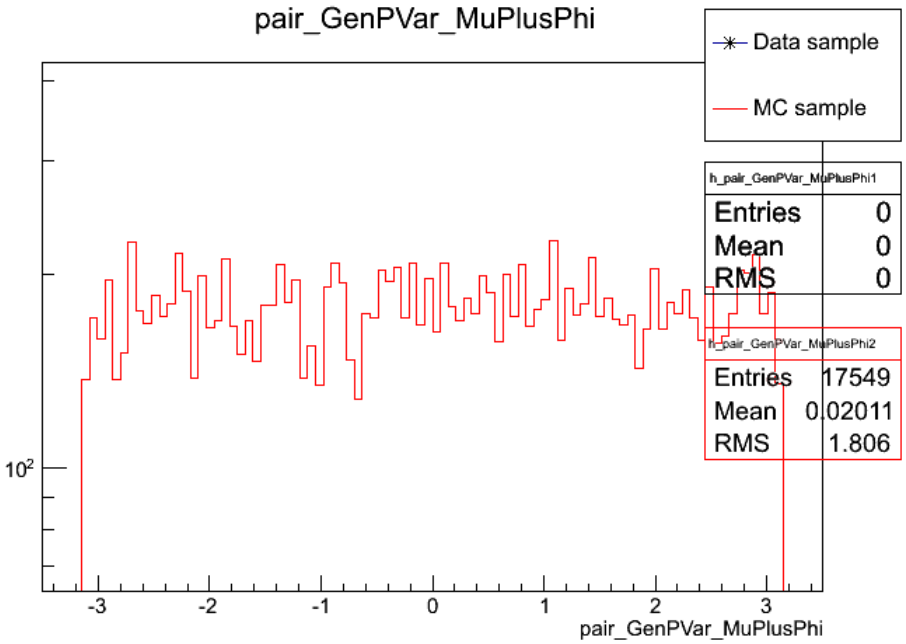
GenMuons - Eta



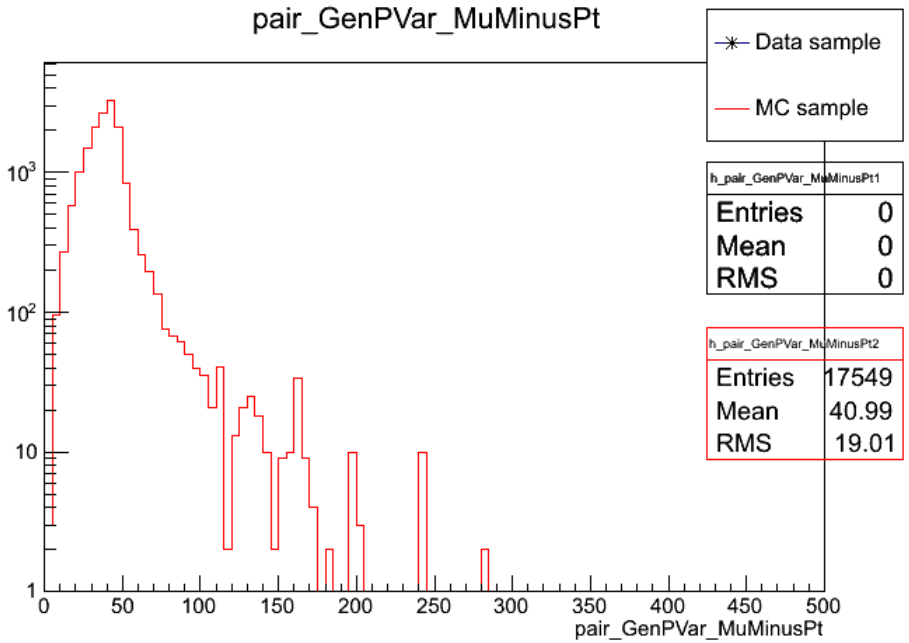


GenMuons - Phi





GenMuons - Pt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Data sample
MC sample
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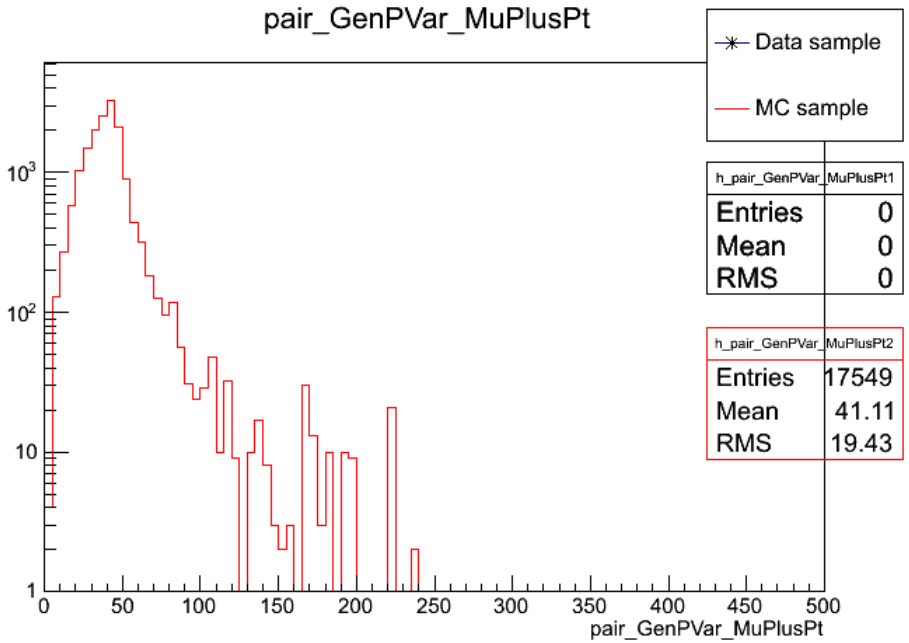
Mean 0
RMS 0
h_pair_GenPVar_MuMinusPt2
Entries 17549
Mean 40.99
RMS 19.01
pair_GenPVar_MuMinusPt


pair_GenPVar_MuPlusPt
Data sample
MC sample
h_pair_GenPVar_MuPlusPt1
Entries 0
Mean 0
RMS 0
h_pair_GenPVar_MuPlusPt2
Entries 17549
Mean 41.11
RMS 19.43
pair_GenPVar_MuPlusPt

GenMuons - DimuMass