'/store/relval/CMSSW_2_2_0/RelValSingleMuPt10/GEN-SIM-RECO/IDEAL_V9_v1/0000/10C12A24-74B9-DD11-85B2-001617DBCF6A.root',
'/store/relval/CMSSW_2_2_0/RelValSingleMuPt10/GEN-SIM-RECO/IDEAL_V9_v1/0000/3A14ADED-B4B9-DD11-8F0B-001617E30D40.root' ,
))

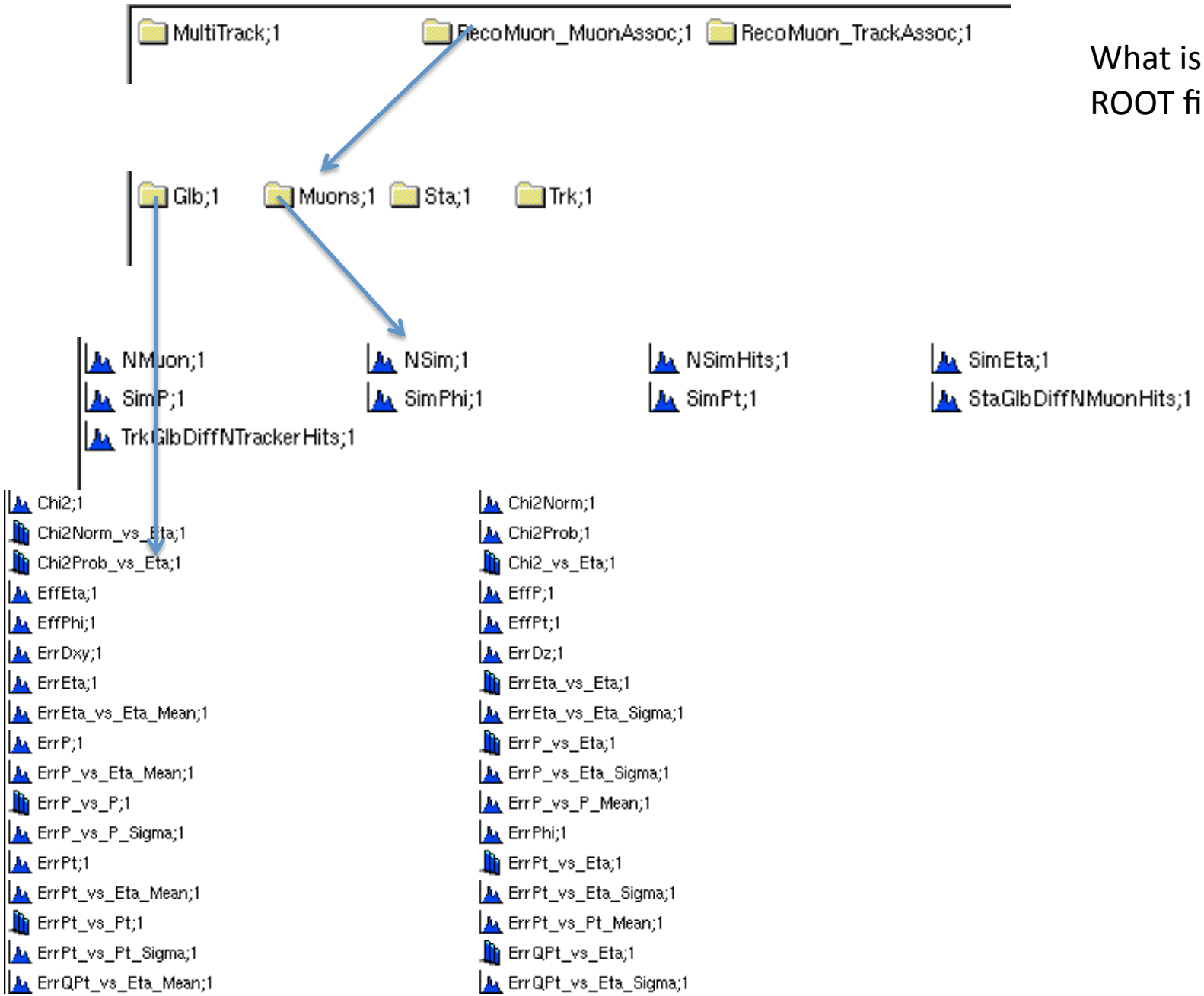
Input Files

secFiles.extend((
'/store/relval/CMSSW_2_2_0/RelValSingleMuPt10/GEN-SIM-DIGI-RAW-HLTDEBUG/IDEAL_V9_v1/0000/526D7CD6-68B9-DD11-886D-001617DBD224.root',
'/store/relval/CMSSW_2_2_0/RelValSingleMuPt10/GEN-SIM-DIGI-RAW-HLTDEBUG/IDEAL_V9_v1/0000/A2C70EEE-B4B9-DD11-8170-001617DBD316.root',
'/store/relval/CMSSW_2_2_0/RelValSingleMuPt10/GEN-SIM-DIGI-RAW-HLTDEBUG/IDEAL_V9_v1/0000/D437AC21-6FB9-DD11-BEA1-001617E30CC8.root'

RecoMuonValidator_cfi.py

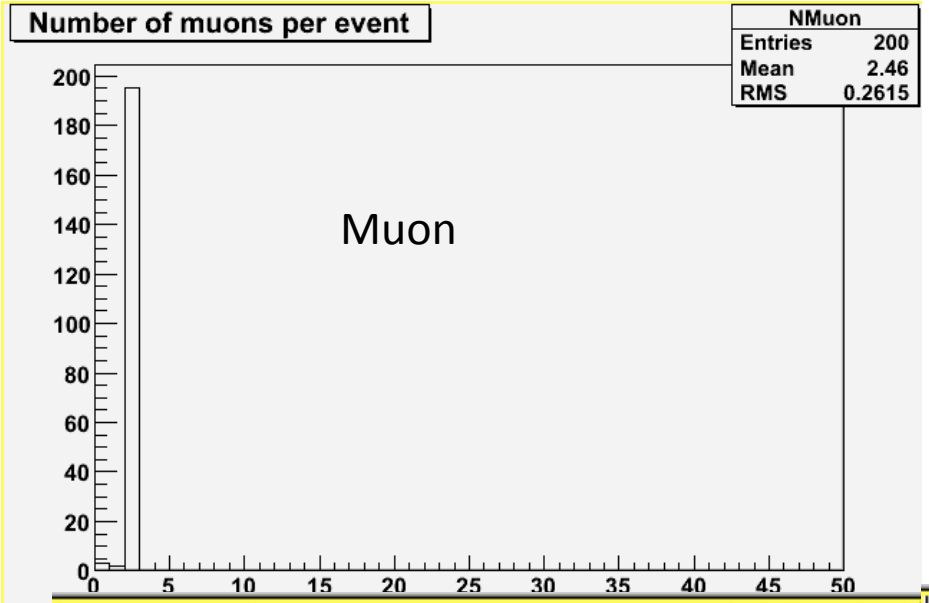
```
import FWCore.ParameterSet.Config as cms
from RecoMuon.TrackingTools.MuonServiceProxy_cff import MuonServiceProxy
from Validation.RecoMuon.selectors_cff import muonTPSet



from PhysicsTools.PatAlgos.patLayer0_cff import *
from PhysicsTools.PatAlgos.patLayer1_cff import *

from PhysicsTools.PatAlgos.selectionLayer1.muonSelector_cfi      import selectedLayer1Muons
selectedLayer1Muons.cut      = cms.string('pt > 10. & abs(eta) < 2.4')


recoMuonValidator = cms.EDFilter("RecoMuonValidator",
   MuonServiceProxy,
   tpSelector = muonTPSet,

   simLabel = cms.InputTag("mergedtruth","MergedTrackTruth"),
   trkMuLabel = cms.InputTag("generalTracks"),
   staMuLabel = cms.InputTag("standalonemuons:UpdatedAtVtx"),
   glbMuLabel = cms.InputTag("globalMuons"),
#   muonLabel = cms.InputTag("muons"),
   muonLabel = cms.InputTag("selectedLayer1Muons"),
```

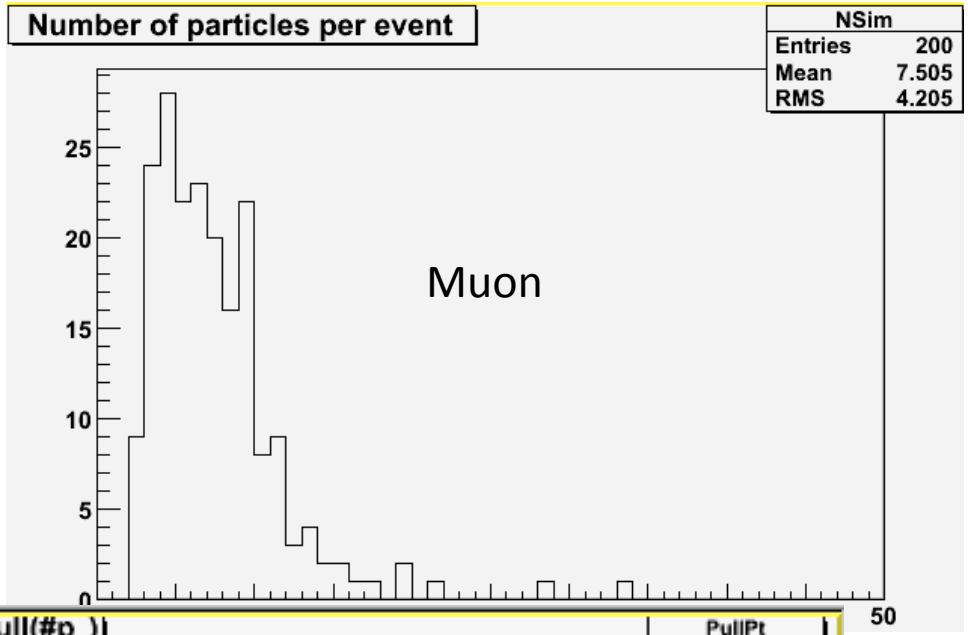
What is in the ROOT file

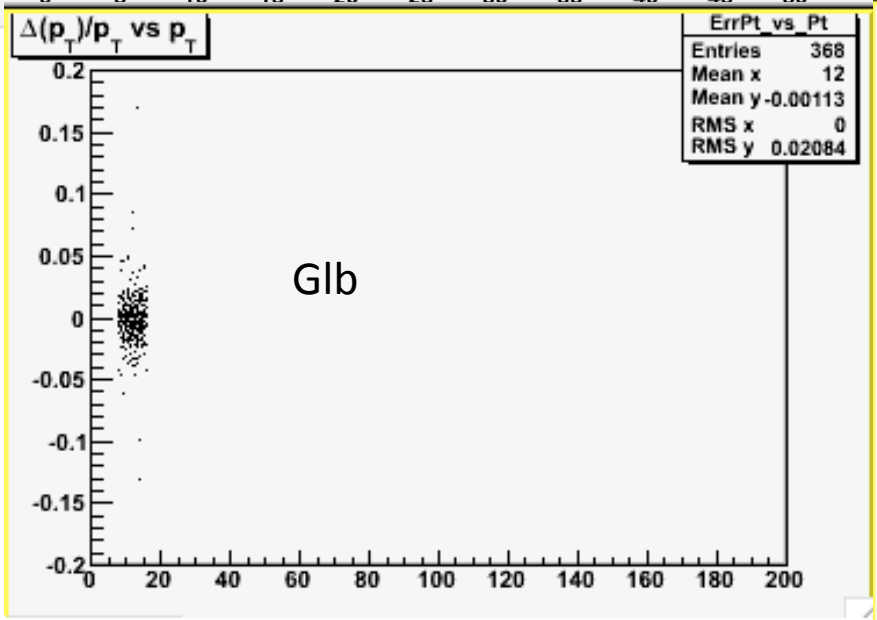


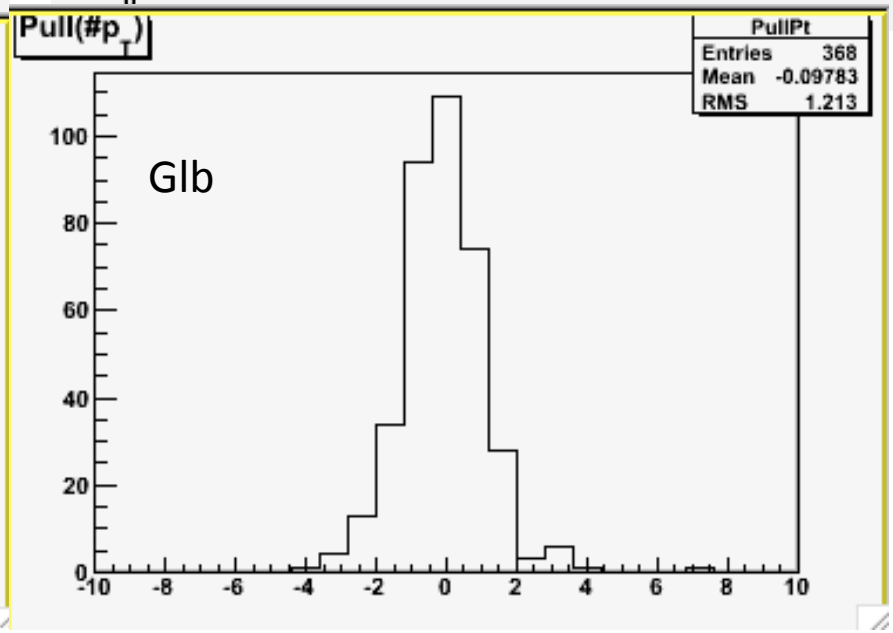
- Muon object has its own structure and information
  - 3 kind of muon tracks are linked in one object
    - Differences between tracker-standalone-global muons
- Directory structure for RecoMuonValidator
  - /Muons : Common, muon specific variables
  - /Trk : track variables for Tracker muons
  - /Sta : track variables for standalone muons
  - /Glb : track variables for global muons

muonLabel = cms.InputTag("muons"),
NO CUTS

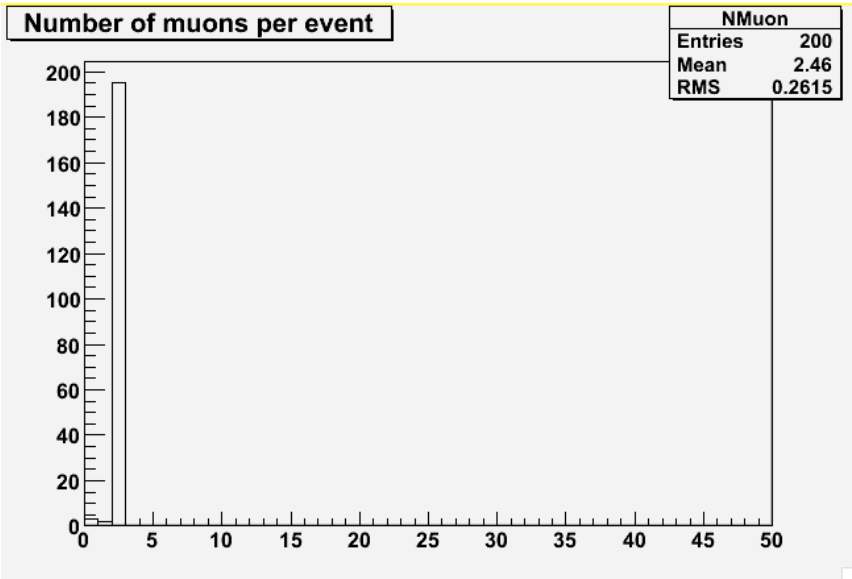


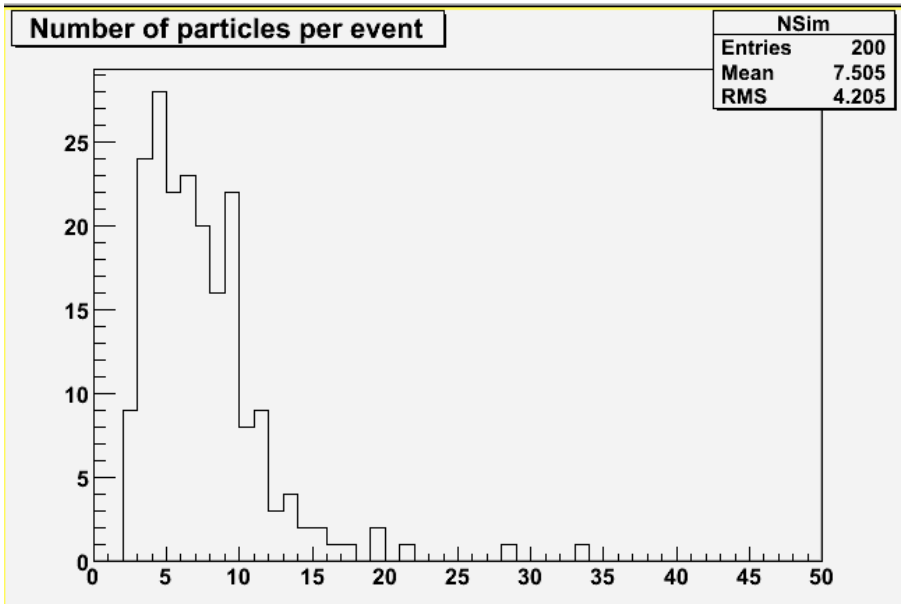


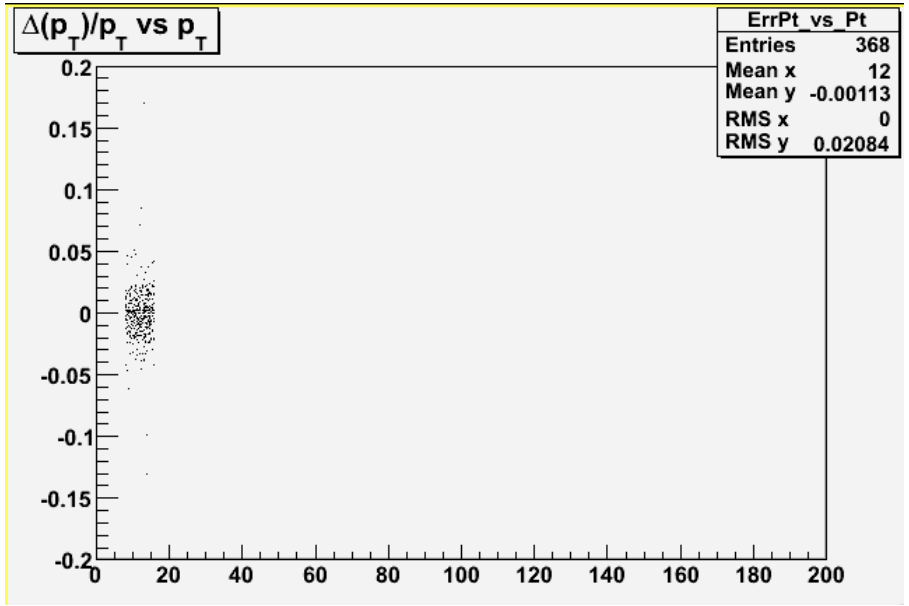


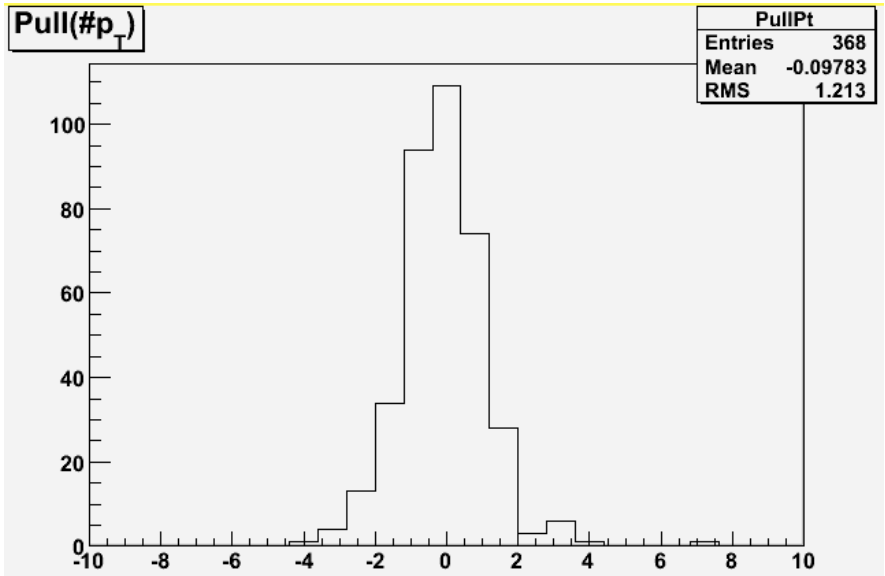


muonLabel =cms.InputTag("selectedLayer1Muons"),
NO CUTS



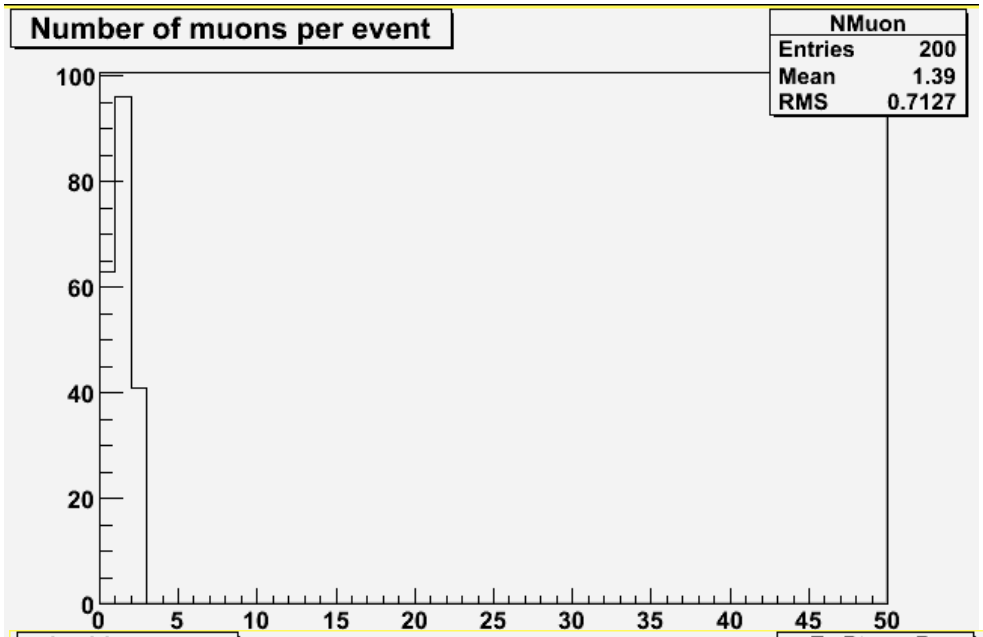


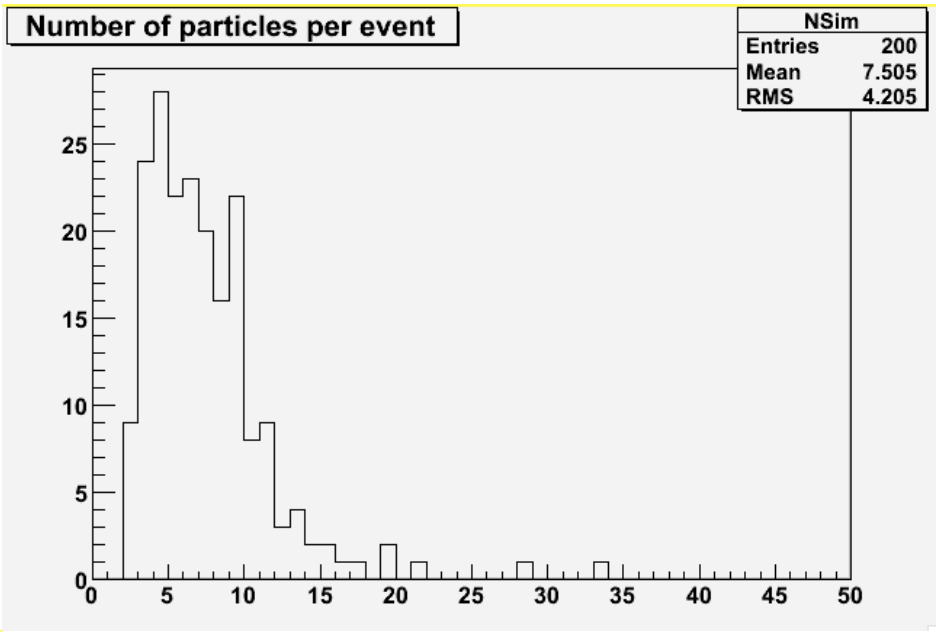


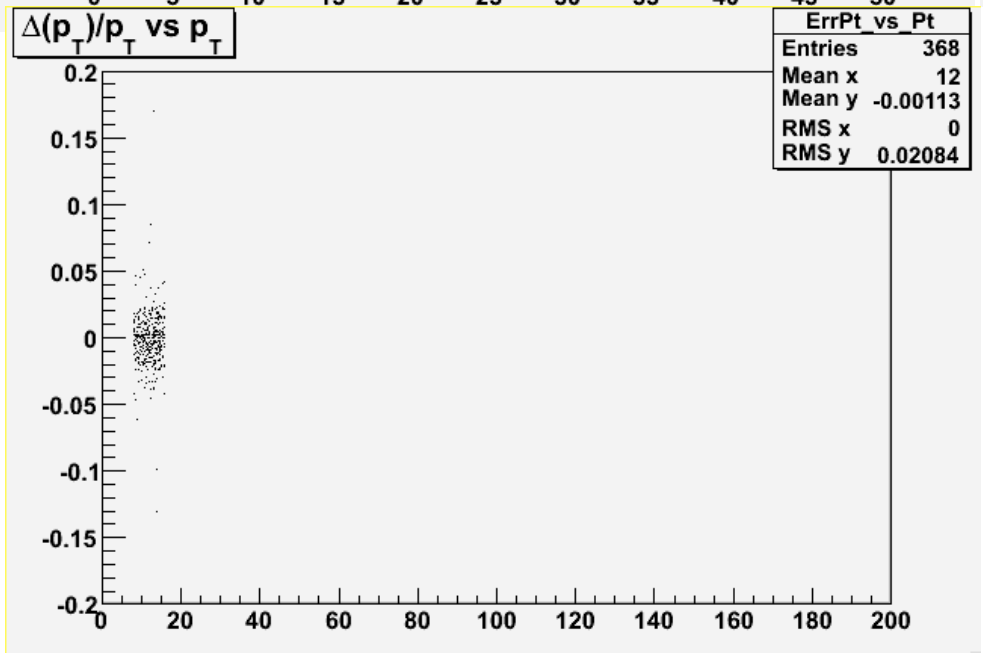


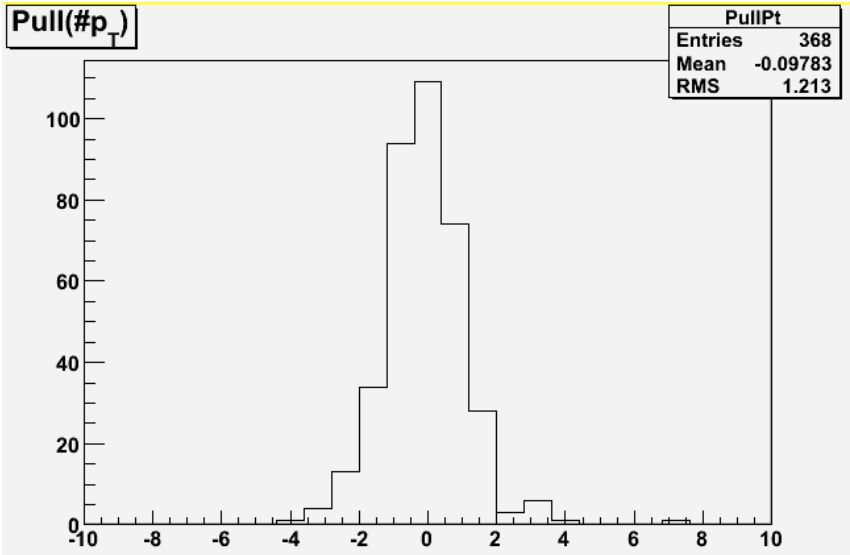
muonLabel = cms.InputTag("selectedLayer1Muons"),

selectedLayer1Muons.cut = cms.string('pt > 10. & abs(eta) < 2.4')



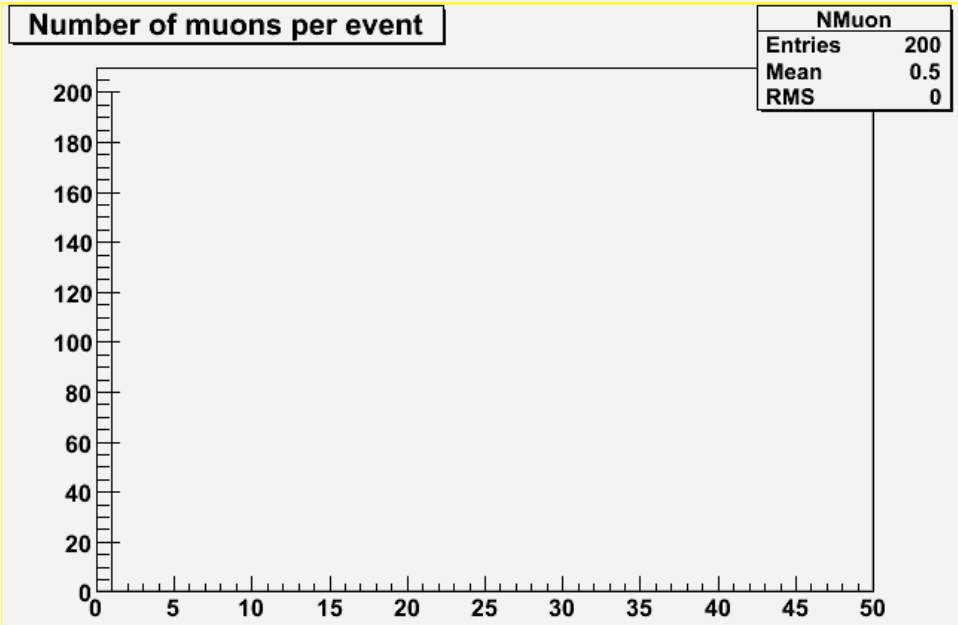


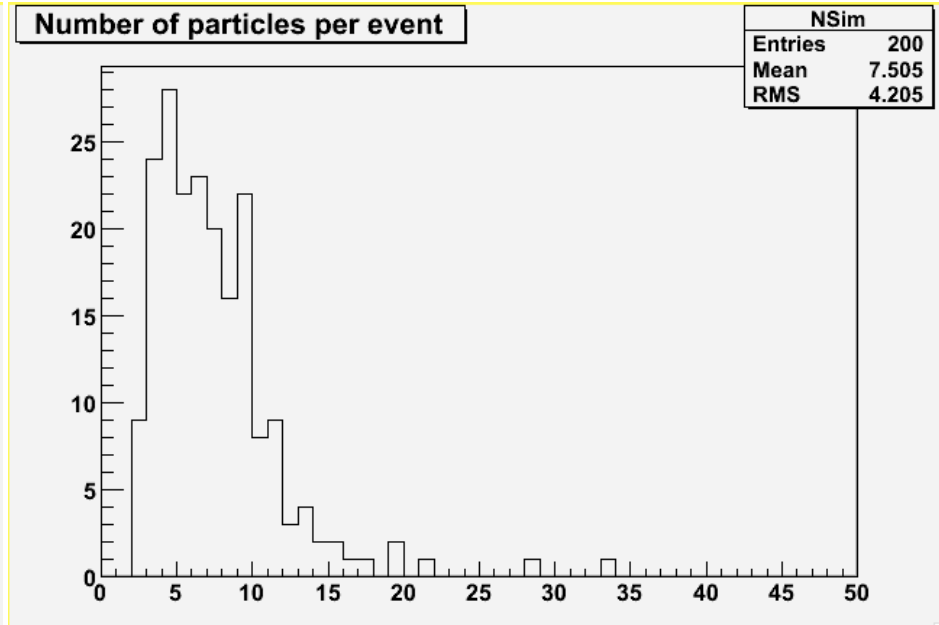


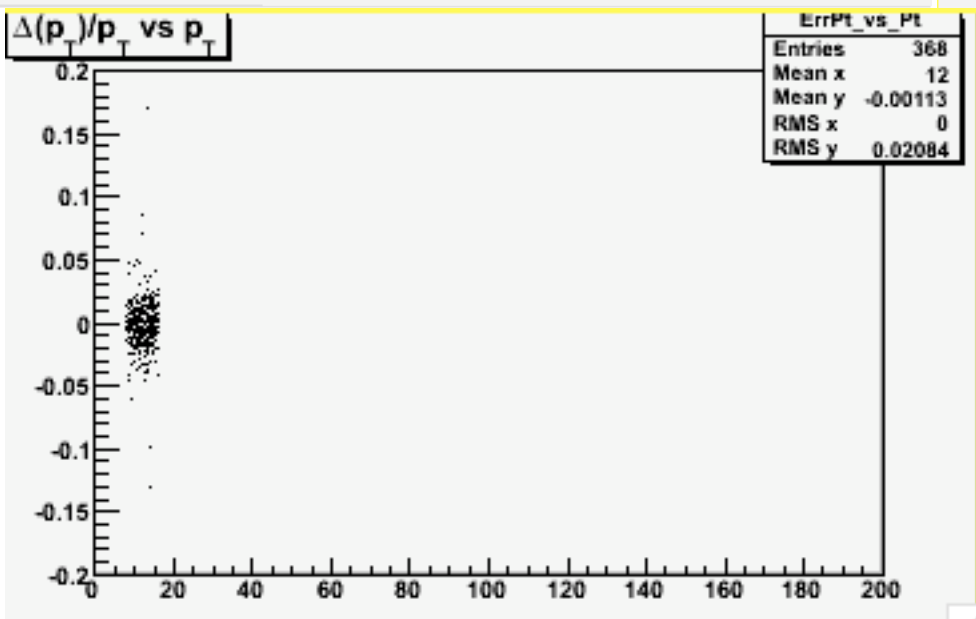


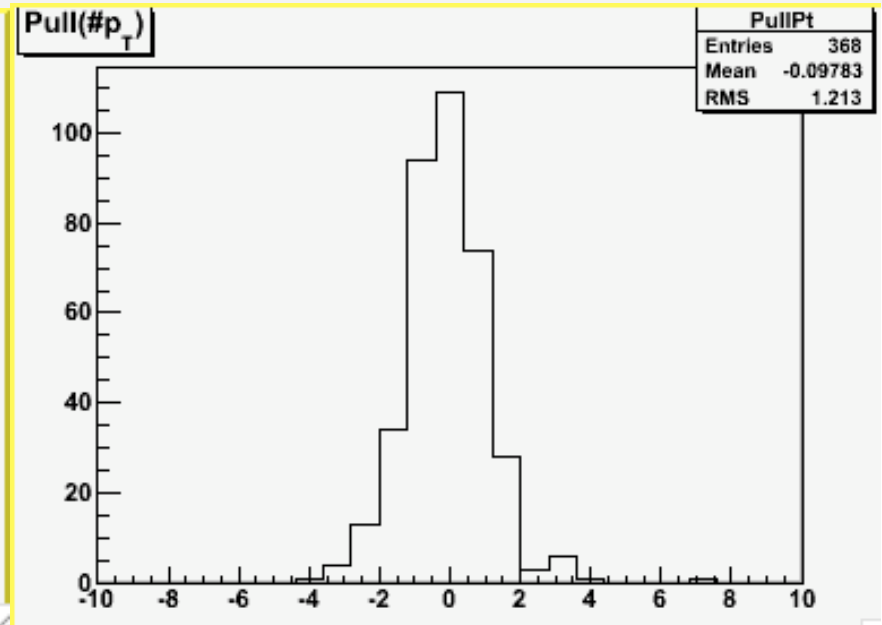
muonLabel = cms.InputTag("selectedLayer1Muons"),

selectedLayer1Muons.cut = cms.string('pt > 15. & abs(eta) < 2.4')









RecoMuonValidator.cc

```
// Get Muon Tracks
 Handle<View<Track> > trkMuHandle;
 event.getByLabel(trkMuLabel_, trkMuHandle);
 View<Track> trkMuColl = *(trkMuHandle.product());

 Handle<View<Track> > staMuHandle;
 event.getByLabel(staMuLabel_, staMuHandle);
 View<Track> staMuColl = *(staMuHandle.product());

 Handle<View<Track> > glbMuHandle;
 event.getByLabel(glbMuLabel_, glbMuHandle);
 View<Track> glbMuColl = *(glbMuHandle.product());

//  Get Muons
 Handle<View<Muon> > muonHandle;
 event.getByLabel(muonLabel_, muonHandle);
 View<Muon> muonColl = *(muonHandle.product());
```

- Why track,global and standalone muons can't be obtained from the muon Handle just like pat muons??
- If I want both "muons" and "selectedLayer1Muons" , how to do it?