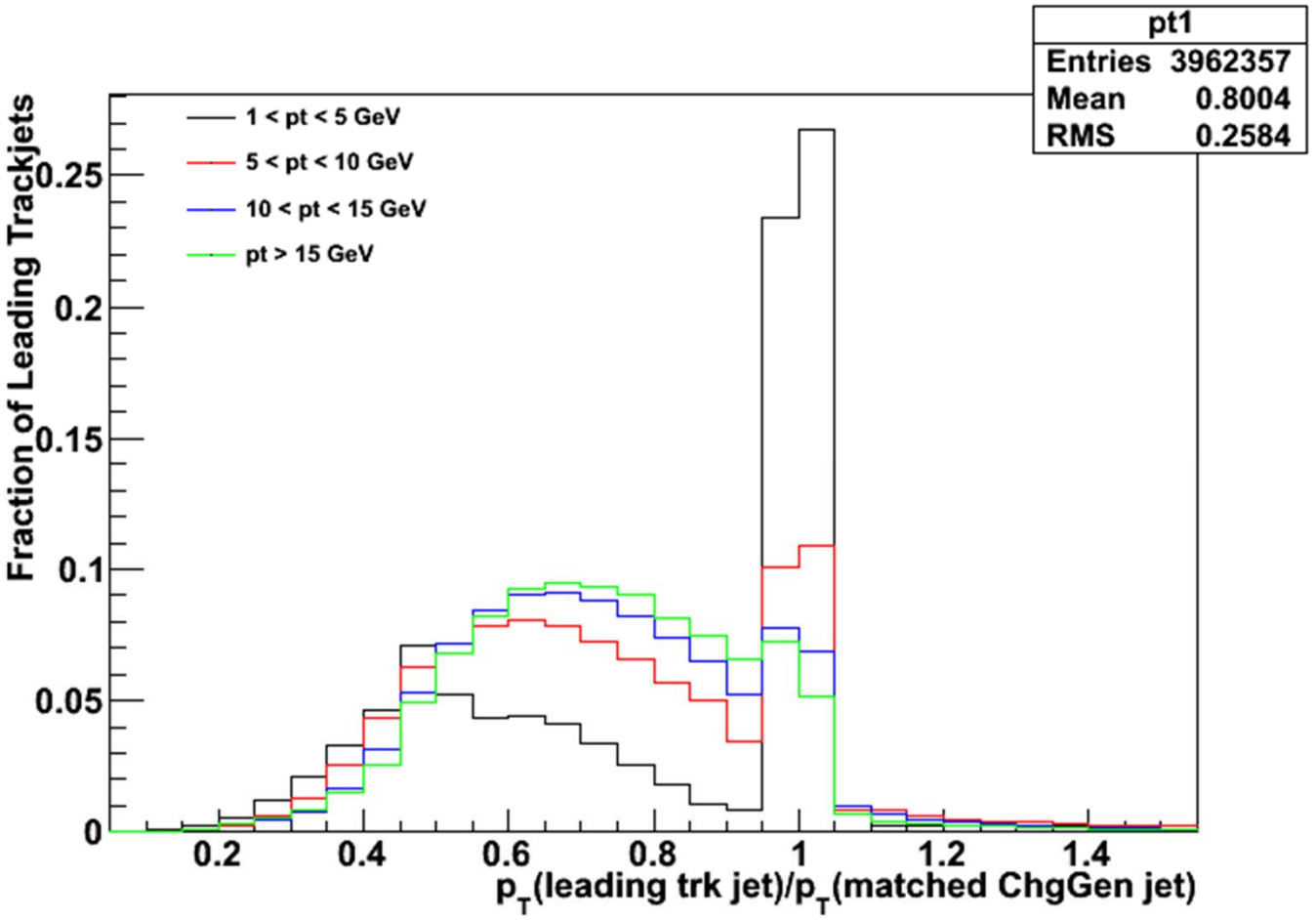
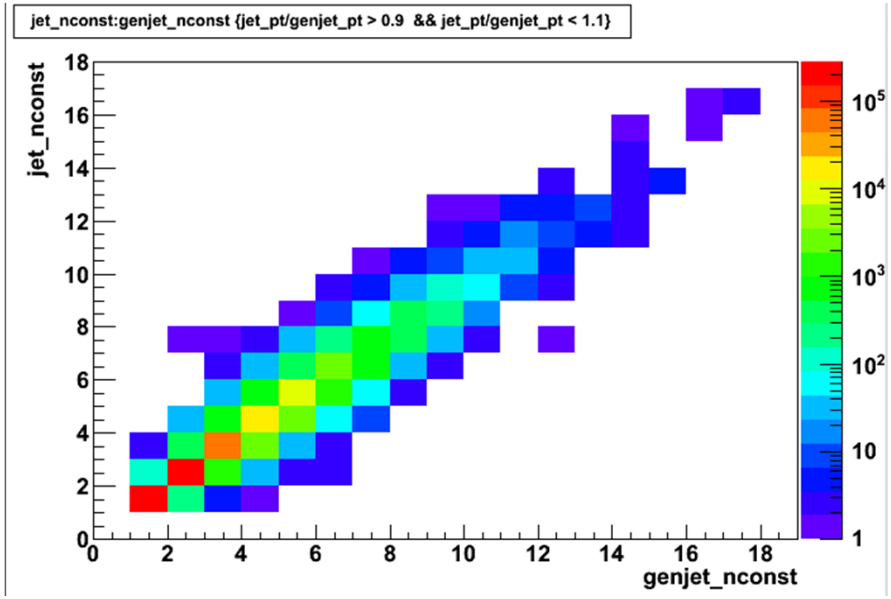
ReReco TrackJets



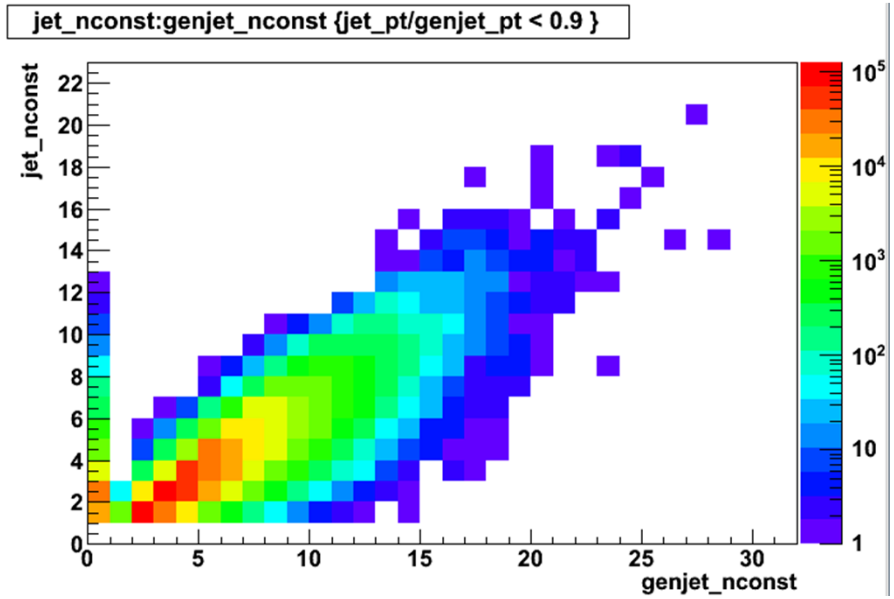
Cuts on track parameters applied as shown later

Jet Constituents

Ptratio between 0.9 and 1.1:

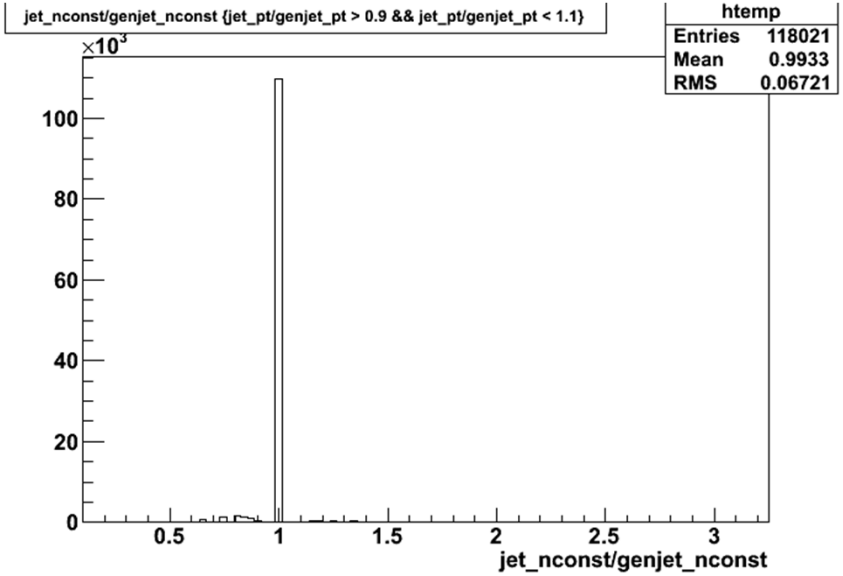


Ptratio < 0.9

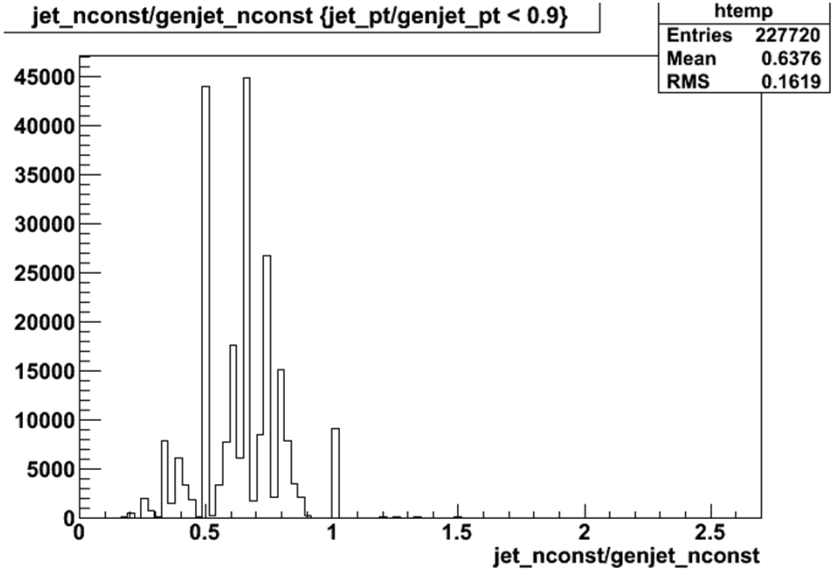


Jet Constituents: Ratio

Ptratio between 0.9 and 1.1:

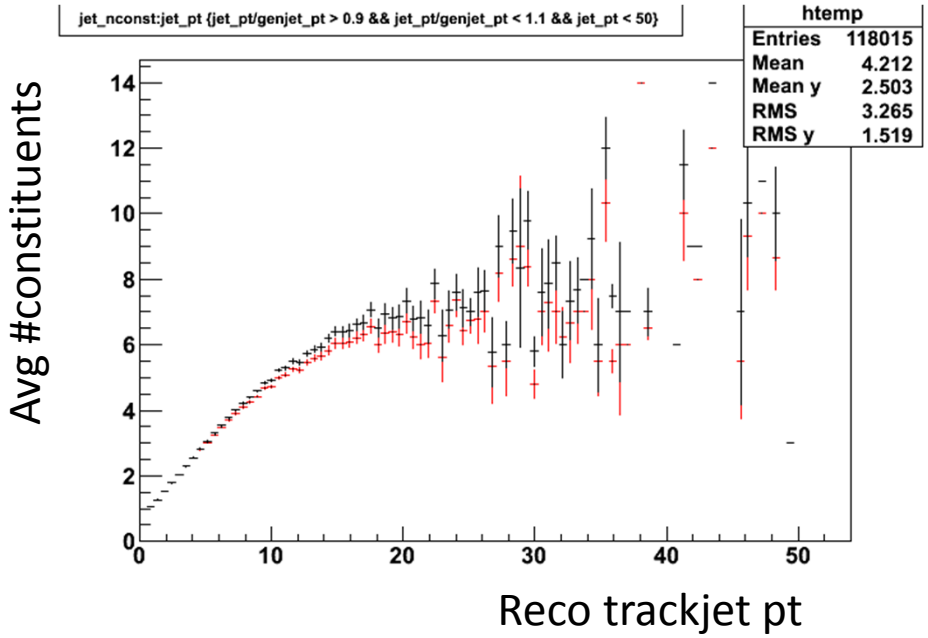


Ptratio < 0.9

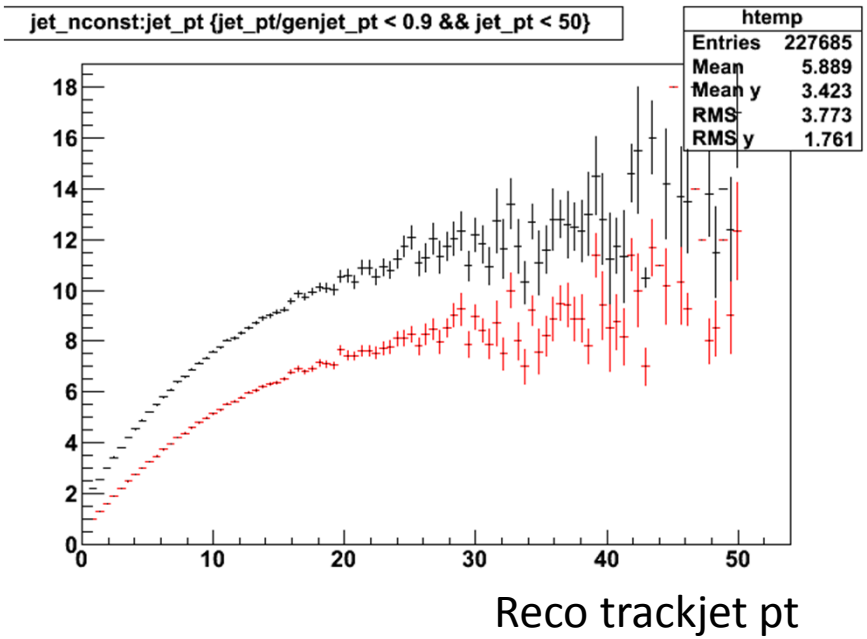


Jet Constituents: vs jetPt

Ptratio between 0.9 and 1.1:



Ptratio < 0.9



Parameters: Tracks

```
selectTracks = cms.EDFilter(“recoTrackSelector",
    src = cms.InputTag("generalTracks"),
    tip = cms.double(3),                  #d0/sigmad0
    lip = cms.double(3),                  #dz/sigmadz
    maxChi2 = cms.double(10000.0),
    quality = cms.vstring('highPurity'),
    minRapidity = cms.double(-2.5),
    maxRapidity = cms.double(2.5),
    ptMin = cms.double(0.5),
   ptErr_pt = cms.double(0.05),              #5%
   minHit = cms.int32(3),                  #selection tracks with at least 4 layers crossed
    min3DHit = cms.int32(0),
   beamSpot = cms.InputTag("offlineBeamSpot"),
    vertexCollection = cms.InputTag("offlinePrimaryVertices"),
```

Parameters: Jet

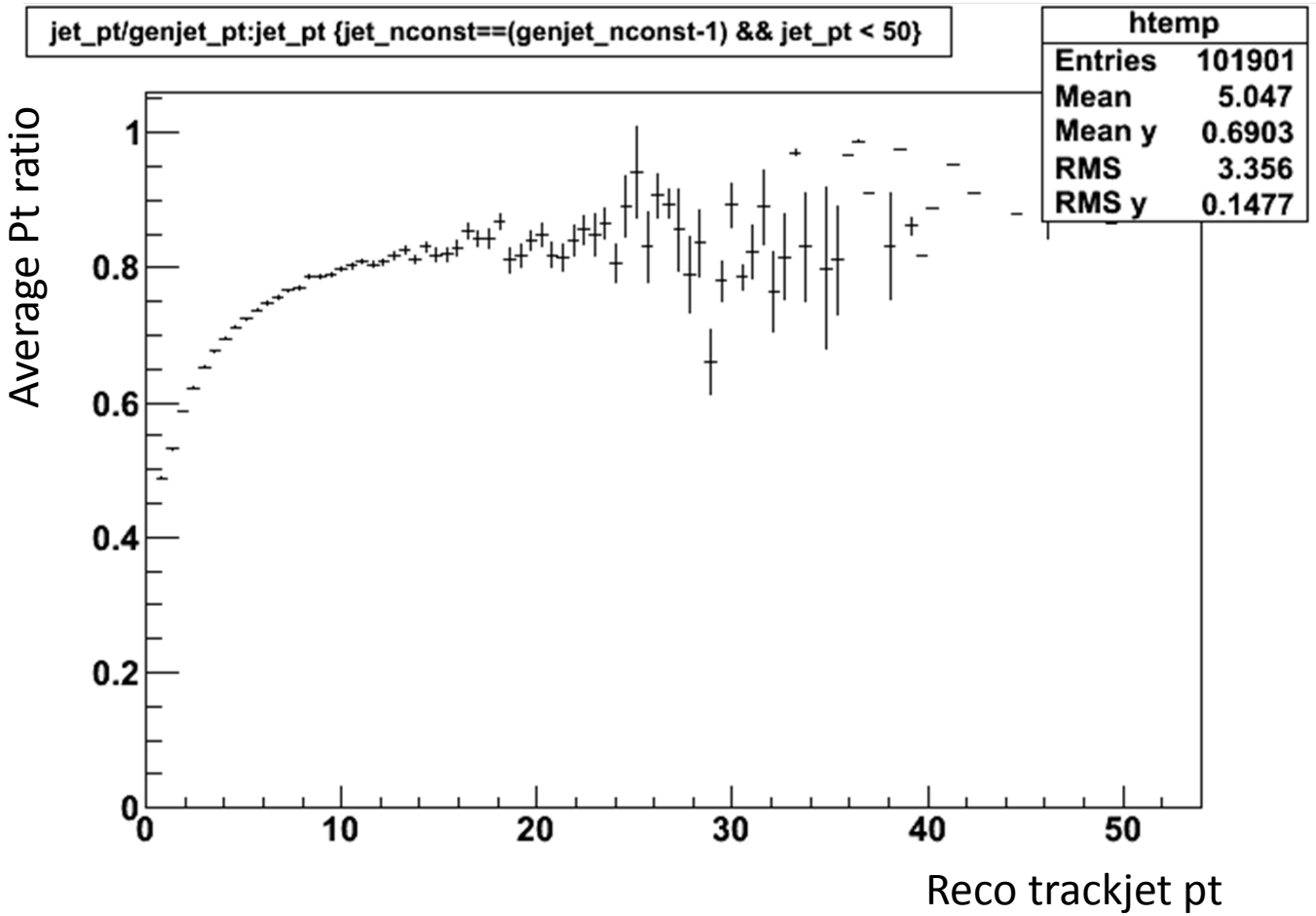
```
ueAk5TracksJet =  ak5TrackJets.clone(
    src = cms.InputTag("goodTracks"),
    jetPtMin       = cms.double(1.0),
    inputEtMin     = cms.double(0.5)
)
```

Parameters: Tracks (Luca)

```
selectTracks = cms.EDFilter("RecoTrackSelector",
   src = cms.InputTag("generalTracks"),
   maxChi2 = cms.double(10000.0),
   tip = cms.double(3),                  #d0/sigmad0
   minRapidity = cms.double(-2.5),
   lip = cms.double(3),                  #dz/sigmadz
   ptMin = cms.double(0.5),
   maxRapidity = cms.double(2.5),
   vtxntk = cms.double(3),               #selection evets with vertex recostructed with at least 3 tracks non attivo
   ndof= cms.double(4),
   pxlLayerMinCut = cms.double(0),       #selection tracks with at least 2 hits in the pixel
   requirePIX1 = cms.bool(False),        #selection tracks with a hit a first layer of the pixel barrel or endcap
   quality = cms.vstring('highPurity'),
   algorithm = cms.vstring(),
   minHit = cms.int32(3),                #selection tracks with at least 4 layers crossed
   min3DHit = cms.int32(0),
   beamSpot = cms.InputTag("offlineBeamSpot"),
   vertexCollection = cms.InputTag("offlinePrimaryVertices"),
##    vertexCollection = cms.InputTag("offlinePrimaryVertices","","modifiedZsep"),
   diffvtxbs =cms.double(10.),           #change selection from 10 to 15
   ptErr_pt = cms.double(0.05),          #5%
    bsuse = cms.bool(False),
   allowTriplets = cms.bool(False)       #change UE3 selection

)
```

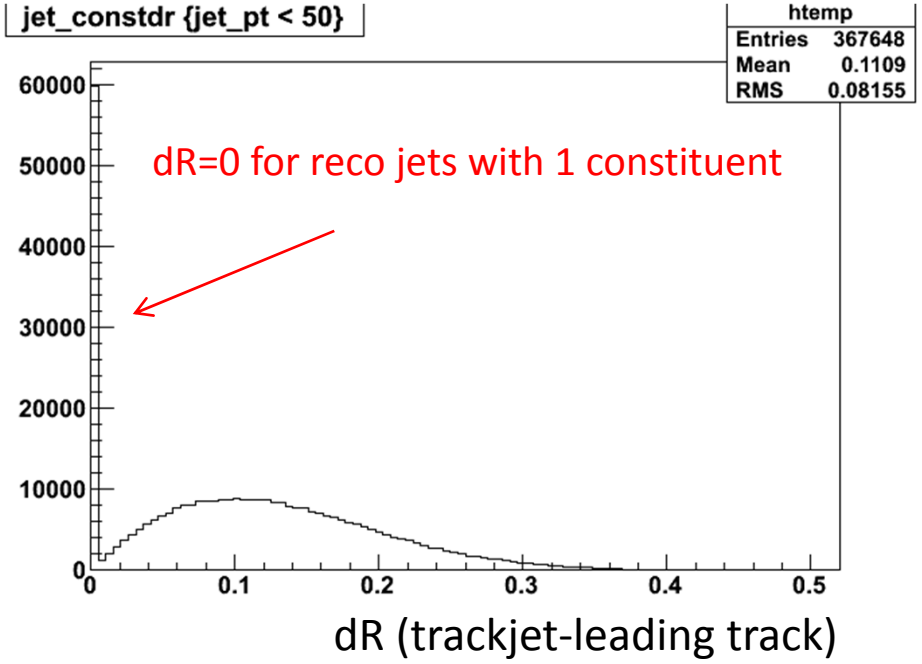
Scale

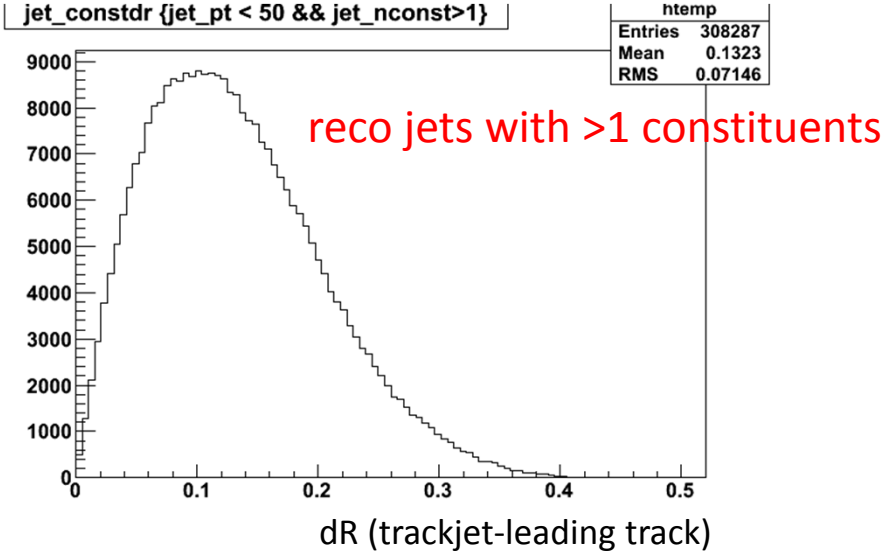


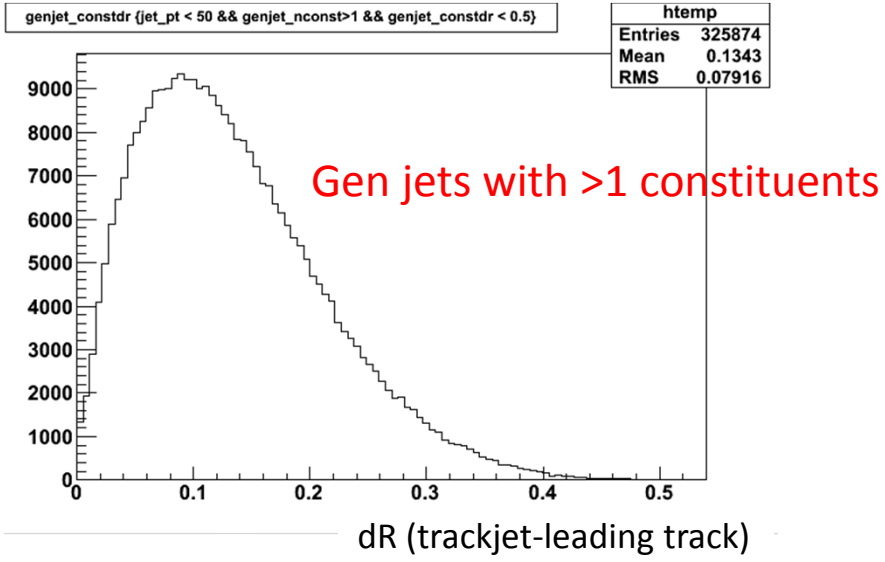
Pt ratio for reconstructed trackjets which have N-1 constituents (N = constituents in the matched gen trackjet)

- Ratio approaches 0.85 (track reco efficiency) for reco trackjet pt > 20 GeV

dR (trackjet-leading track)



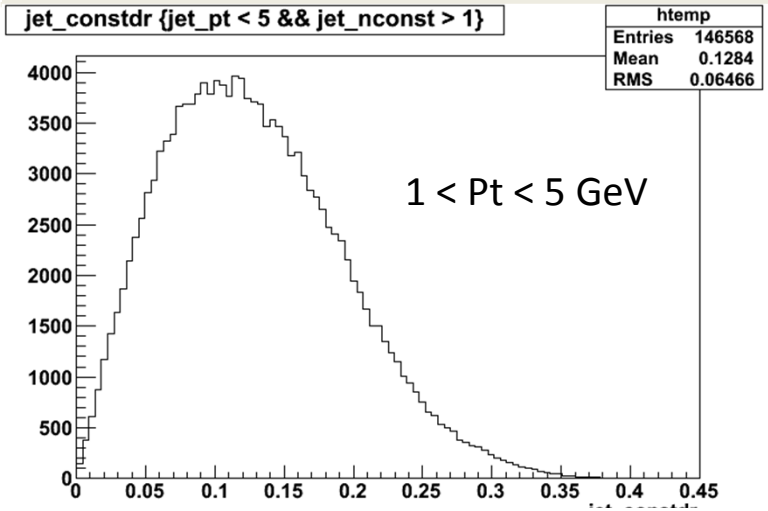


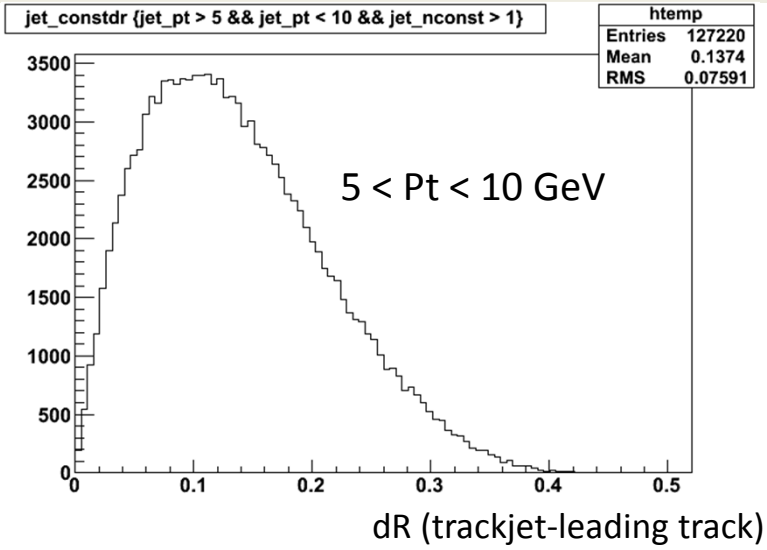


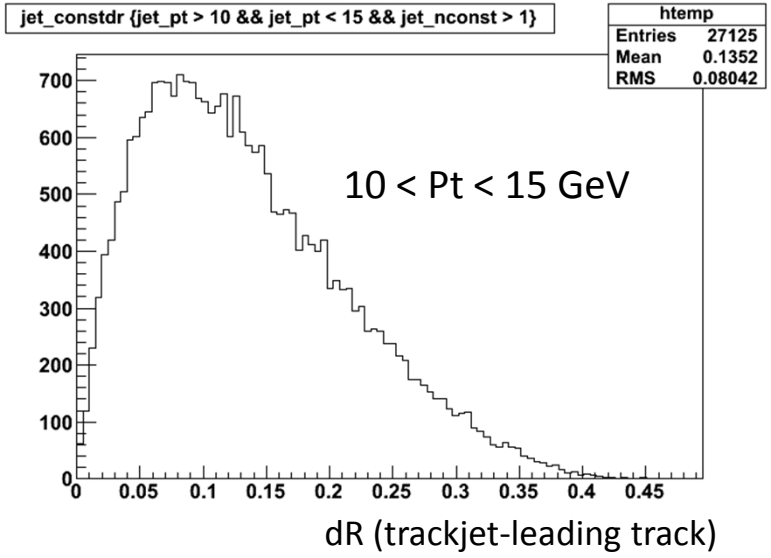
dR (in eta-phi) between the reconstructed leading trackjet direction and the direction of the leading track (within that trackjet).

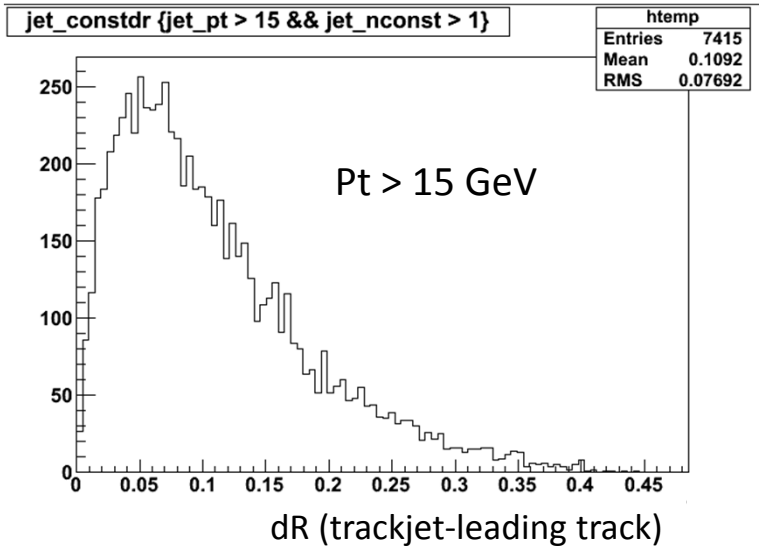
- dR of the leading track inside the matched gen trackjet similar to lead. track in the reco trackjet (in rms/mean, i.e. on average)

dR (trackjet-leading track)



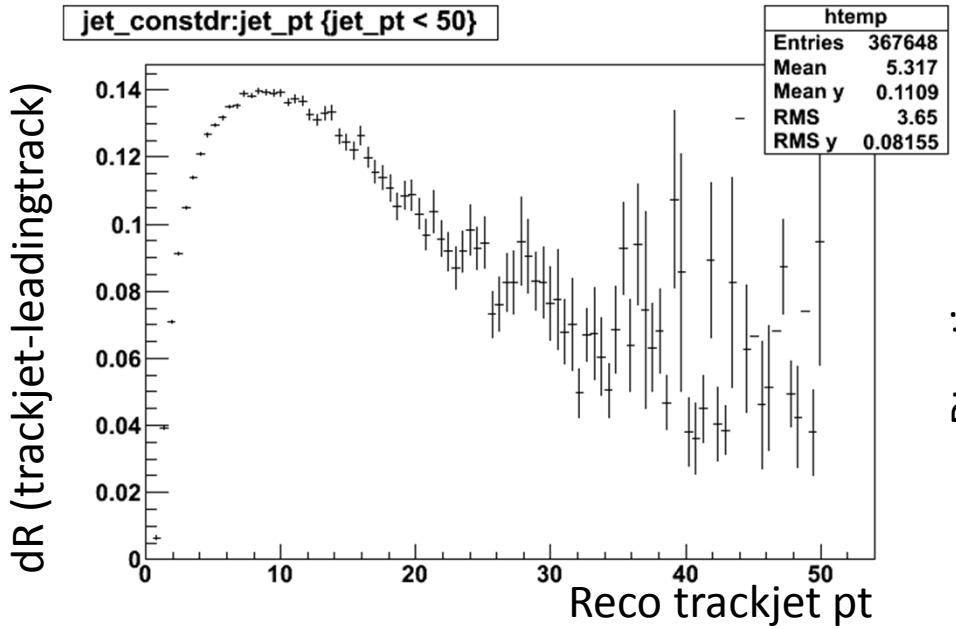


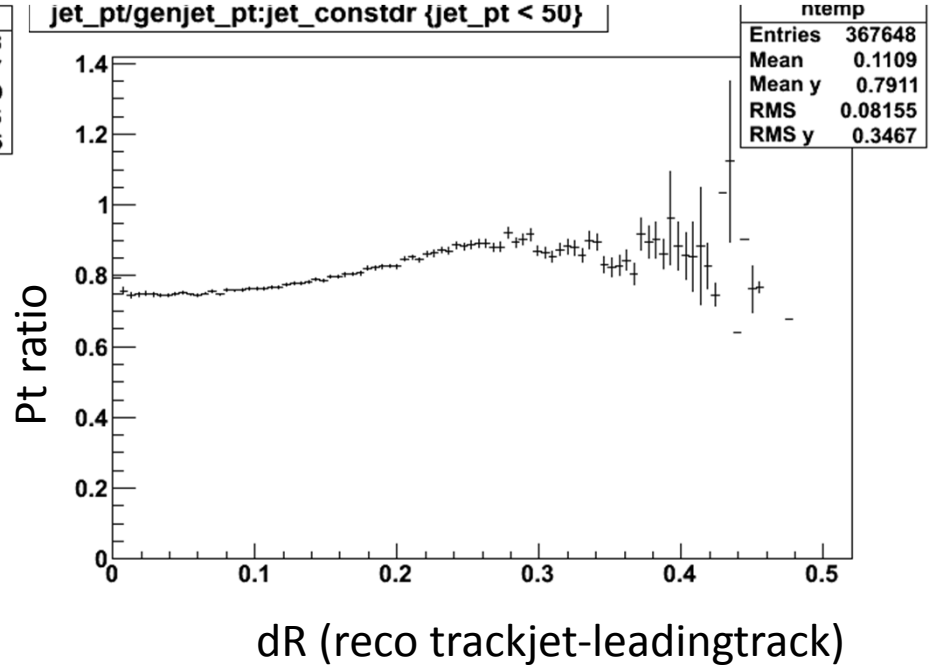




Rms of dR for different reco trackjet pt bins – increasing with pt

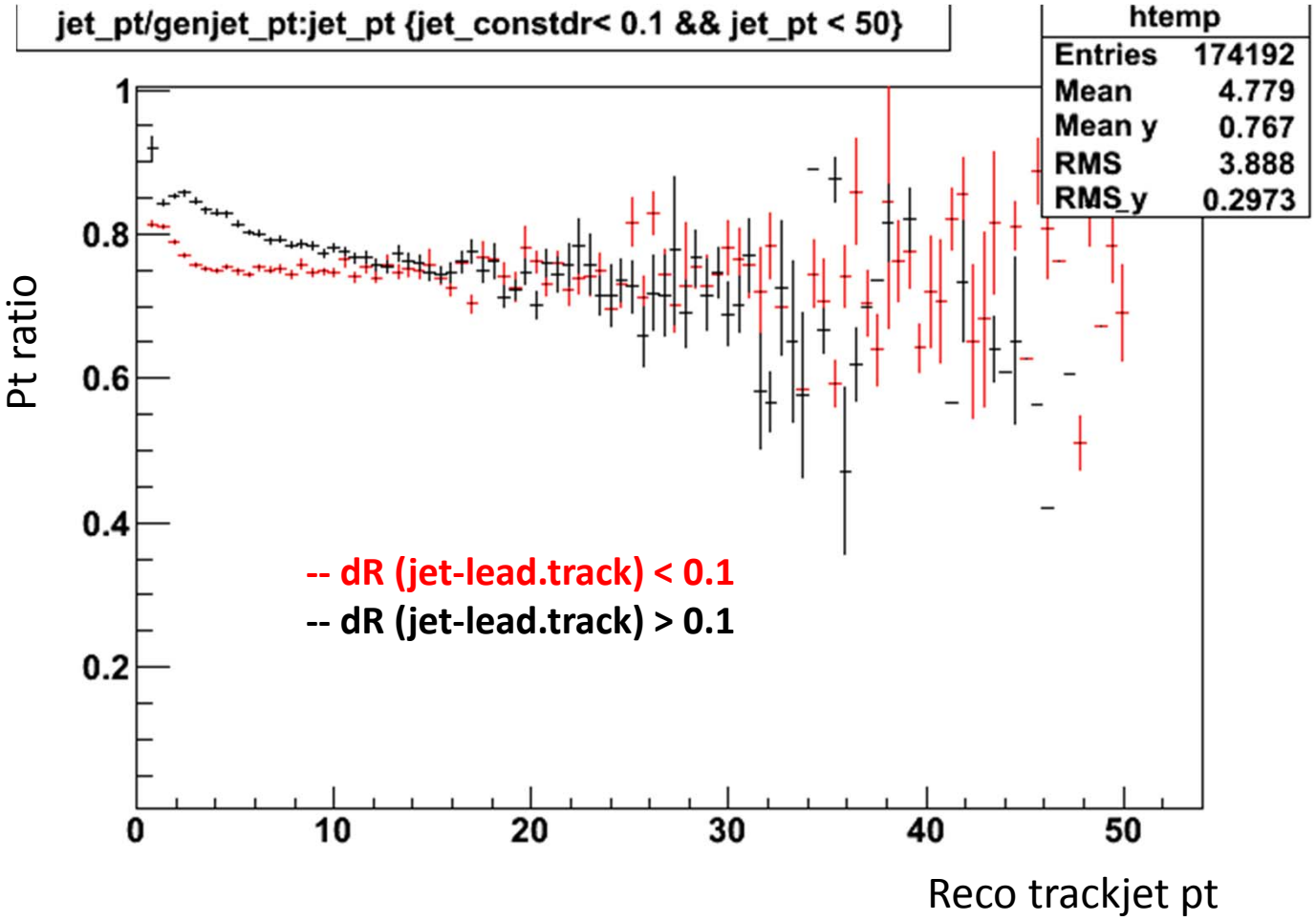
dR (trackjet-leading track)



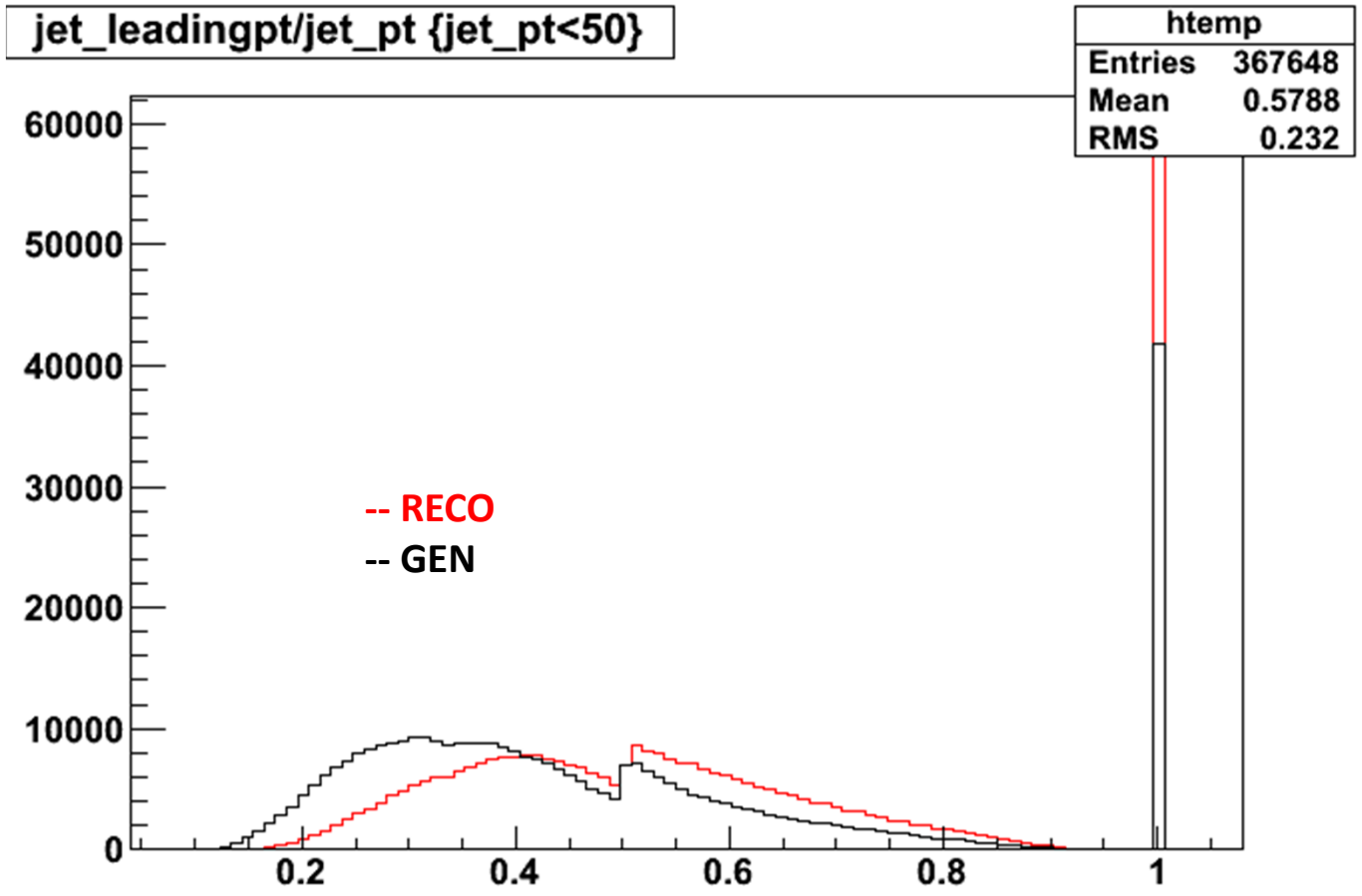


The more the reco leading track direction deviates from the direction of the trackjet, the higher the pt ratio (puzzling)

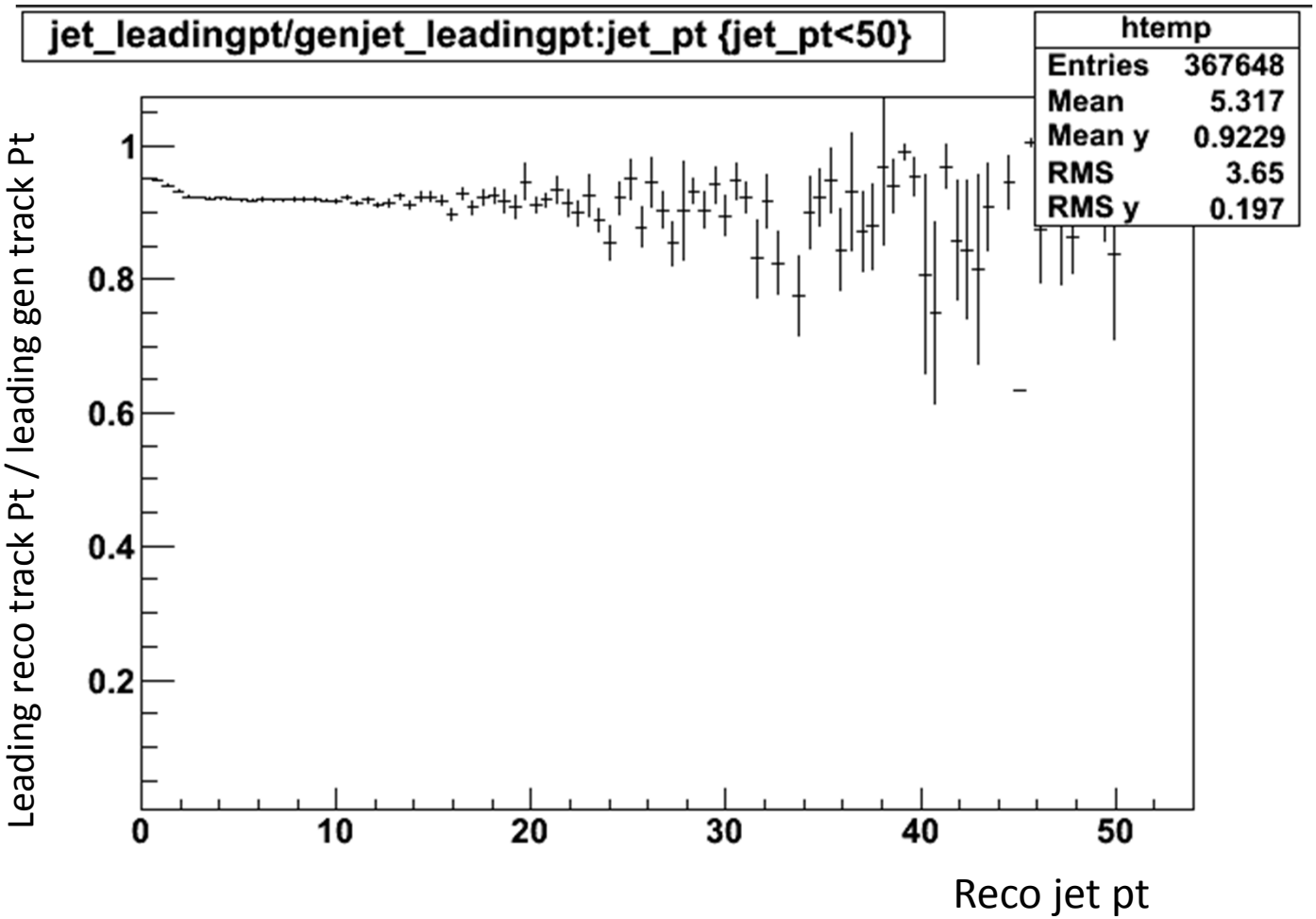
dR (trackjet-leading track)



Leading track within jet



Leading track within jet



Pt of the leading track of the reco trackjet has 5-10% smaller value (on average) than the leading track inside the matched gen jet.