Z-> e e + jets

- Comparing pass 1 to pass 2

Samples

- **Data**:
  - EM1TRK skim
  - Single EM triggers
  - Run range: 20 April 2002 - 28 June 2004 (Runs 151,817 - 194,566)
  - Rejecting bad runs (CAL, SMT, CFT, Jet/Met, Lumi)
  - $323 pb^{-1}$
  - No T42 applied
  - Jetcorr v5.1
  - Processed with ATHENA (v01-05-02)

MC:

Z/Gamma* > e^+e^- +X: 400k Pythia

Processed with ATHENA (v01-05-02)

Comparison data

diem skim

pass 2

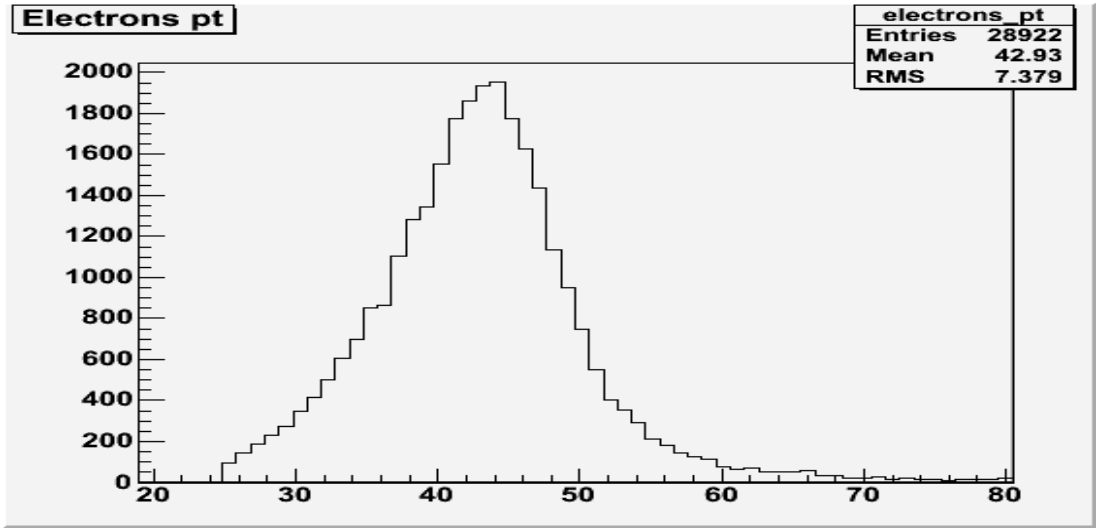
different jetcor

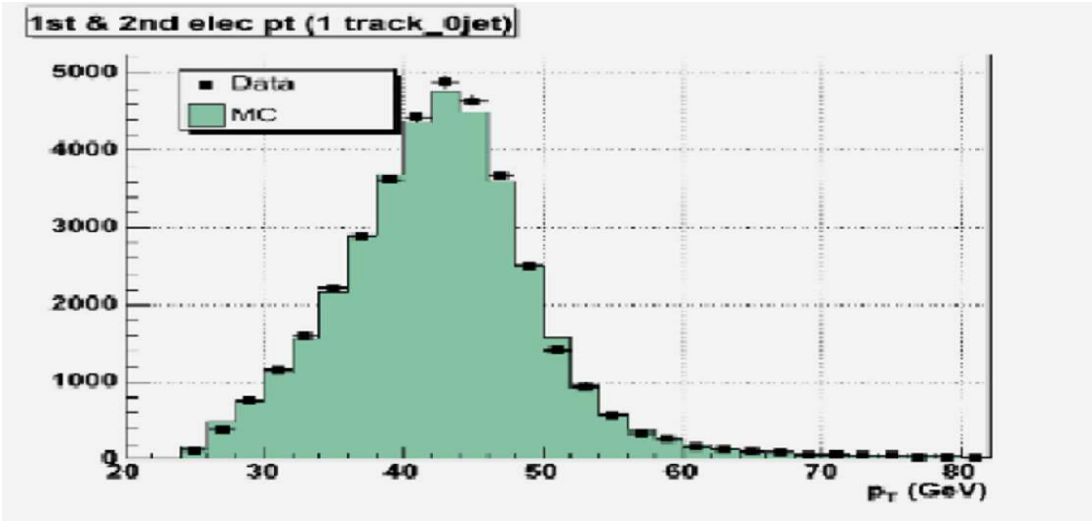
new version of Athena

Selection Criteria

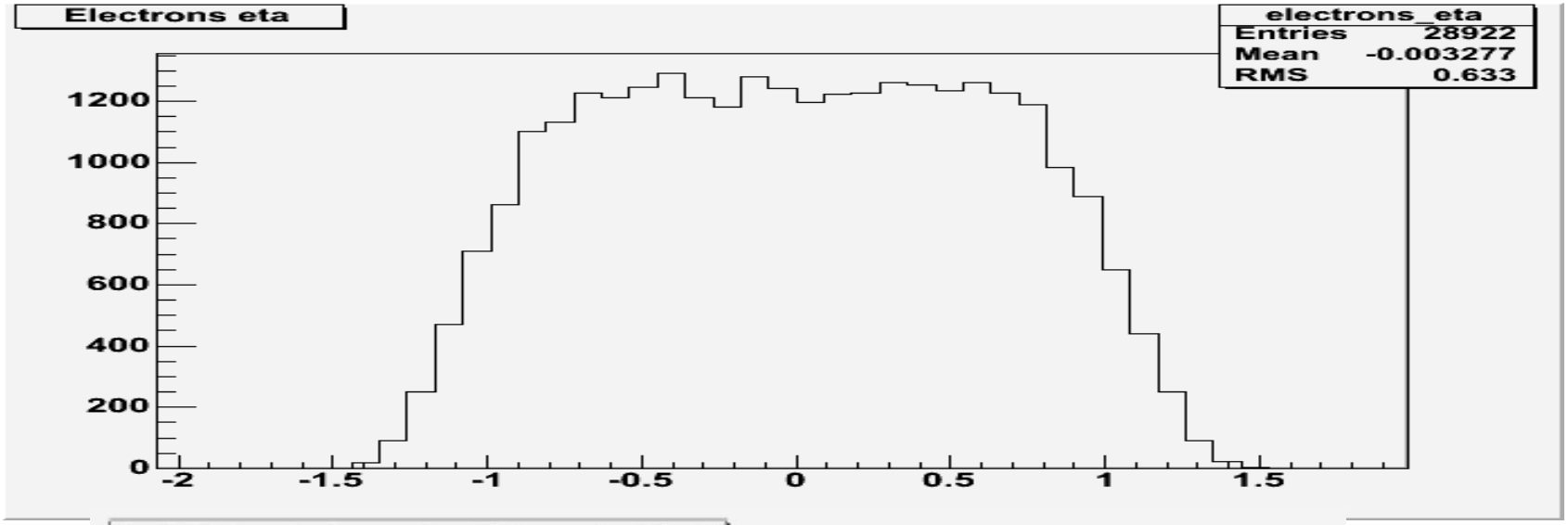
- Removing bad runs/LBNs & dupli events
- PVX cut: |z|<60cm
- Using unprescaled single EM triggers
- Electron selection:
  - |ID|=10,11
  - EMF>0.9
  - Iso<0.15
  - HMx(7)<12
  - p_T>25GeV
  - |det_eta|<1.1
  - Including phi cracks
- Z selection:
  - 75GeV < M_{ee} < 105GeV
  - At least one trackmatched electron
  - At least one electron needs to fire the trigger
- Jet selection:
  - 0.05 < EMF < 0.95
  - HotF < 10
  - N90>1
  - CHF<0.4
  - L1conf
  - JES corrected p_T>20GeV
  - |det_eta|<2.5
  - Removal of jets overlapping with electrons from Z within dR of 0.4

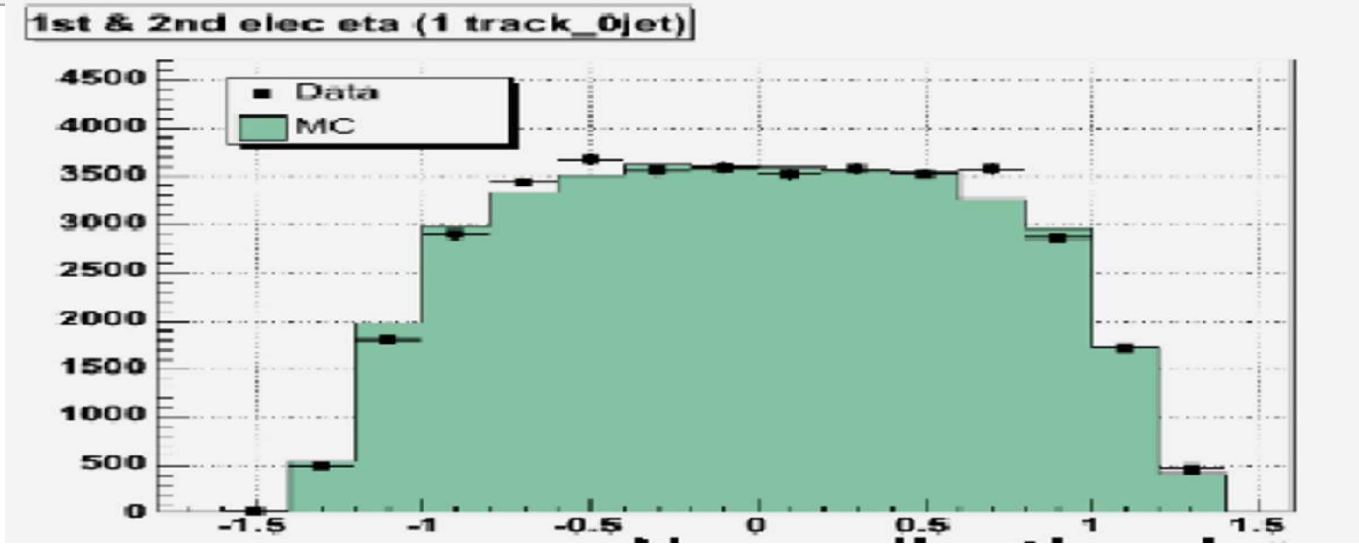
Data vs MC: Z(ee) + X



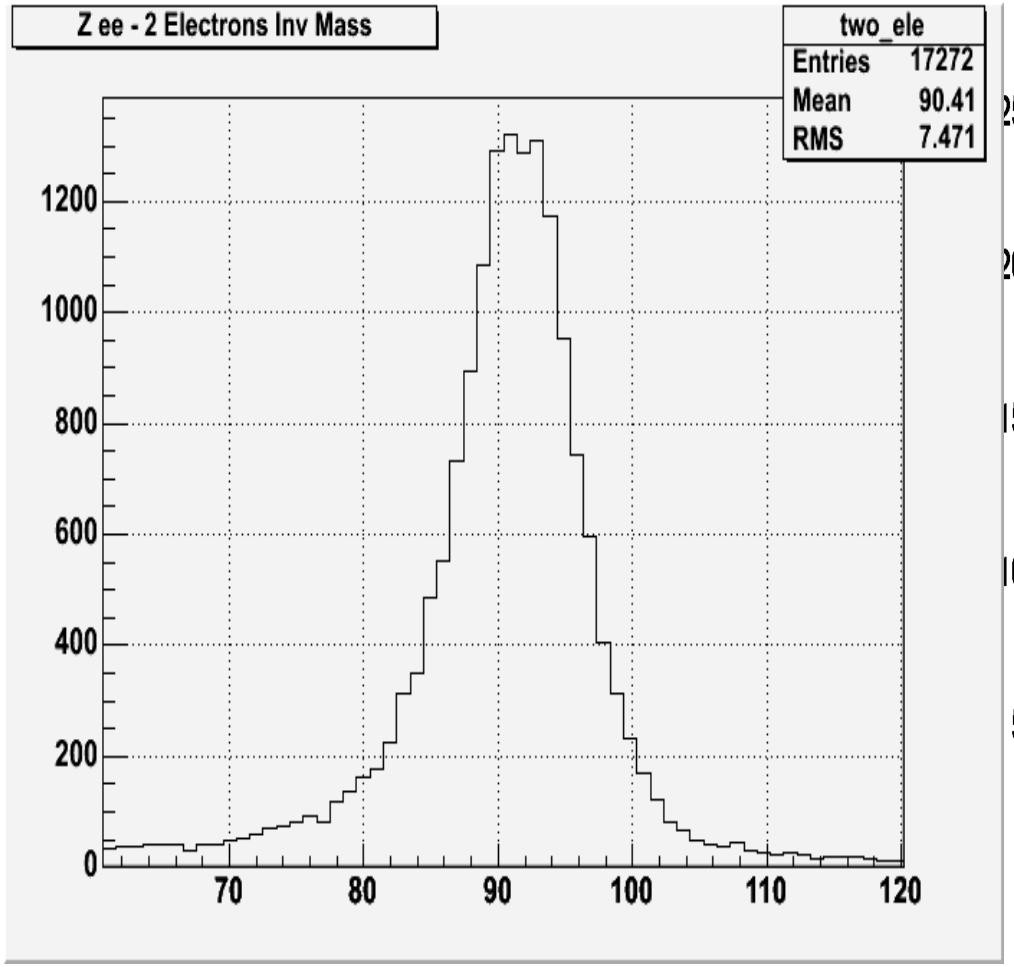


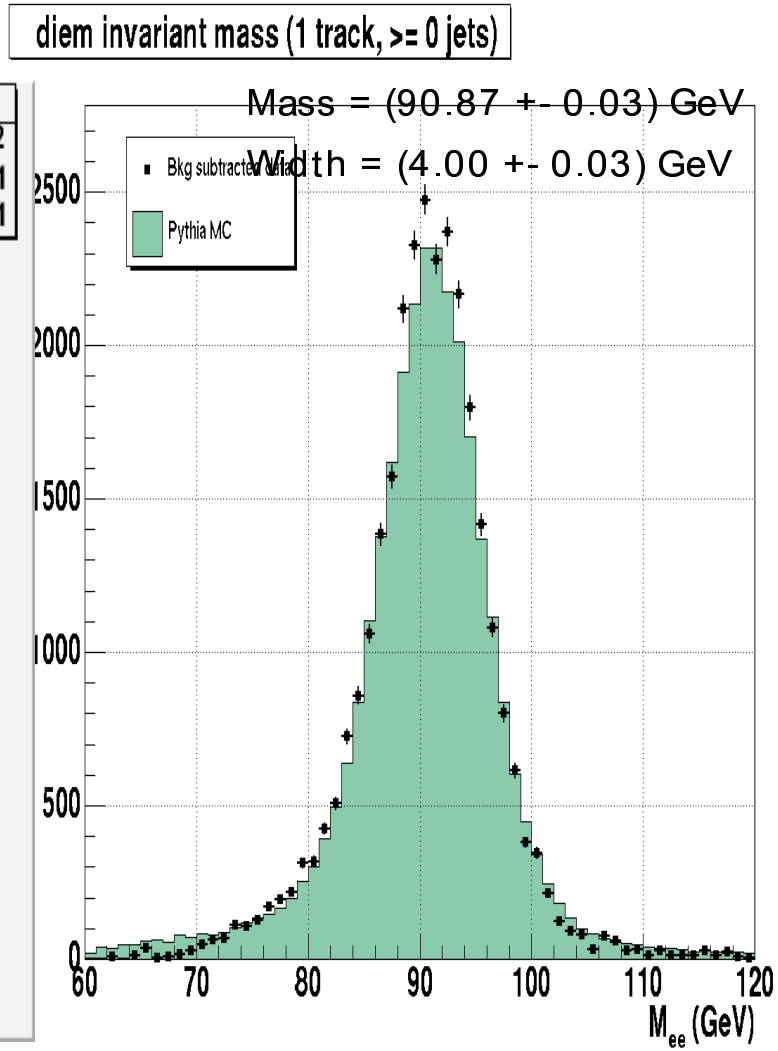
Electrons eta



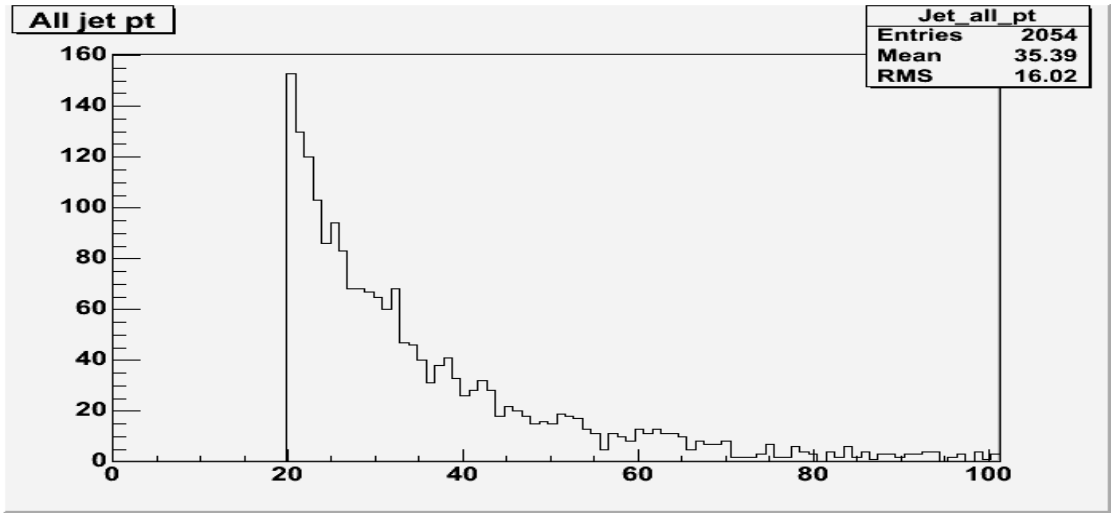


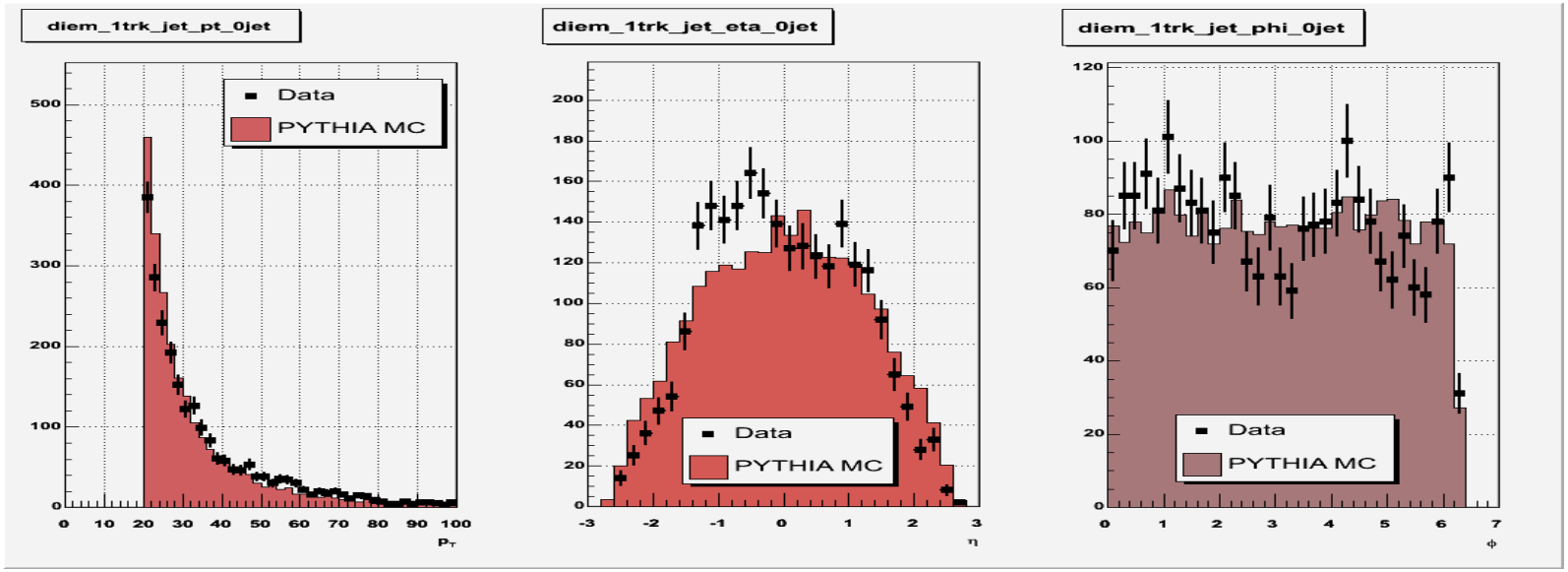
Data vs MC: Z(ee) + X





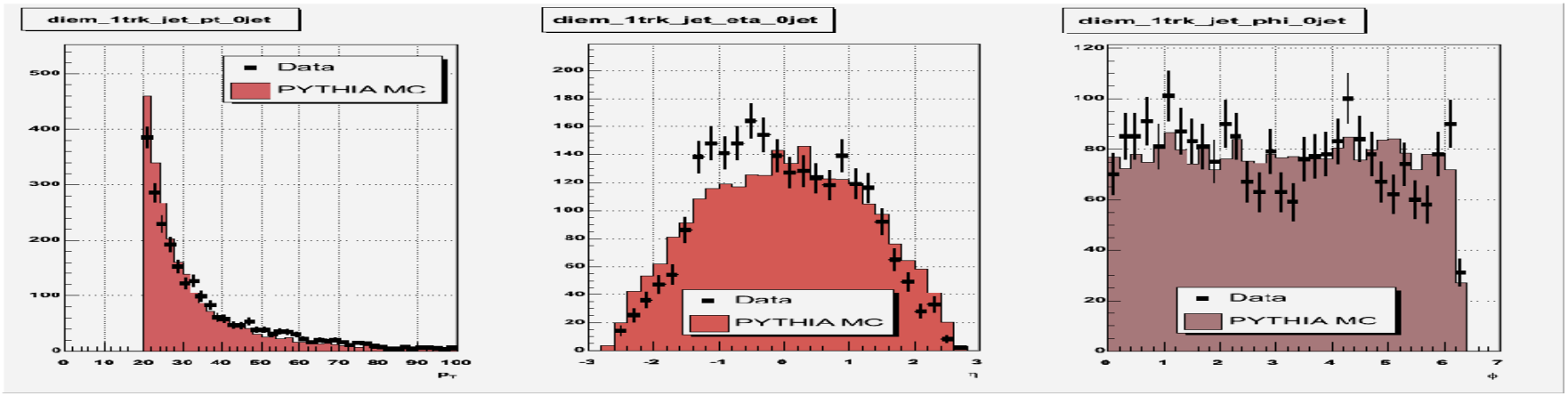
Jet Phi


All jet pt
Jet_all_pt
Entries 2054
Mean 35.39
RMS 16.02

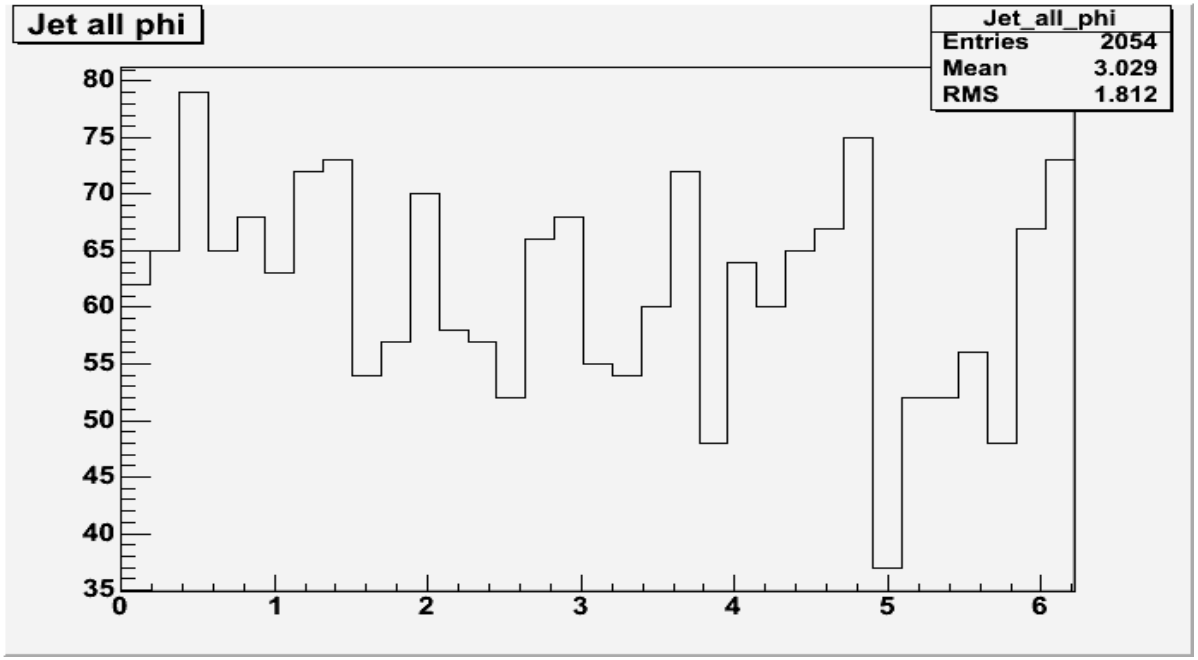

diem_1trk_jet_pt_0jet
Data
PYTHIA MC
p_T
diem_1trk_jet_eta_0jet
Data
PYTHIA MC
η
diem_1trk_jet_phi_0jet
Data
PYTHIA MC
φ

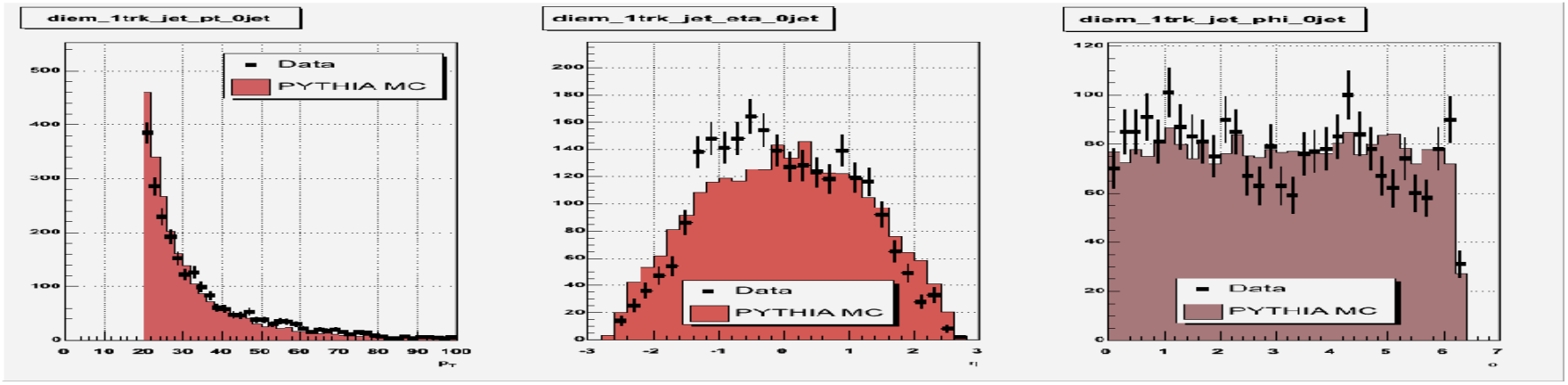
Jet Eta

Jet all eta
Jet_all_eta
Entries 2054
Mean 0.01288
RMS 1.156


diem_1trk_jet_pt_0jet
Data
PYTHIA MC
diem_1trk_jet_eta_0jet
Data
PYTHIA MC
diem_1trk_jet_phi_0jet
Data
PYTHIA MC

Jet phi


Jet all phi
Jet_all_phi
Entries 2054
Mean 3.029
RMS 1.812


diem_1trk_jet_pt_0jet
Data
PYTHIA MC
diem_1trk_jet_eta_0jet
Data
PYTHIA MC
diem_1trk_jet_phi_0jet
Data
PYTHIA MC