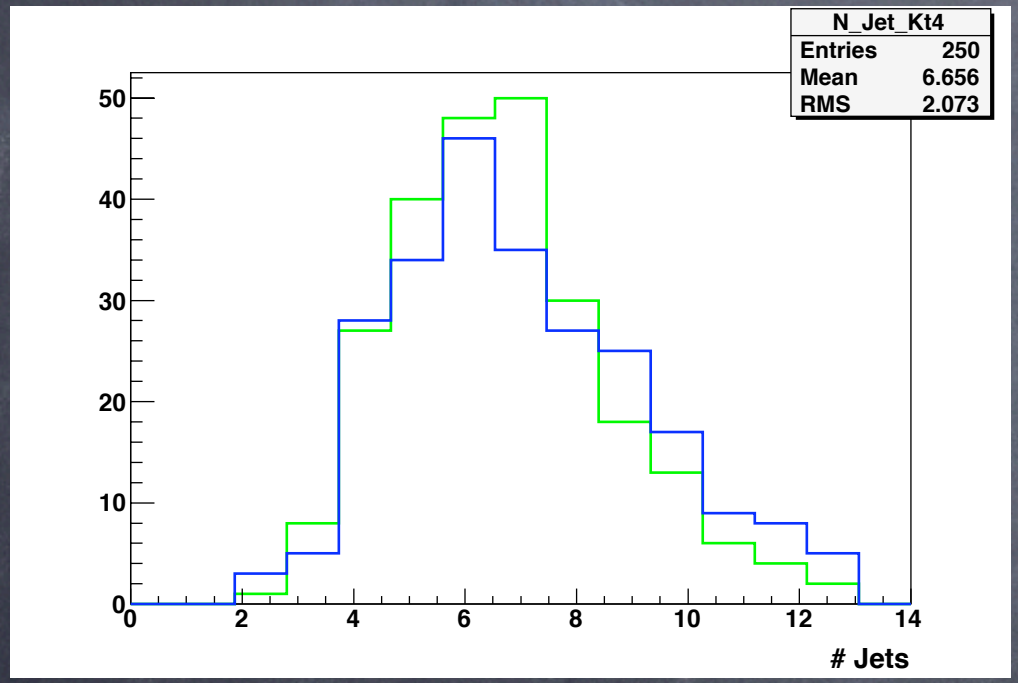
Basic Truth Plots for $X \rightarrow tt$

Heather M. Gray

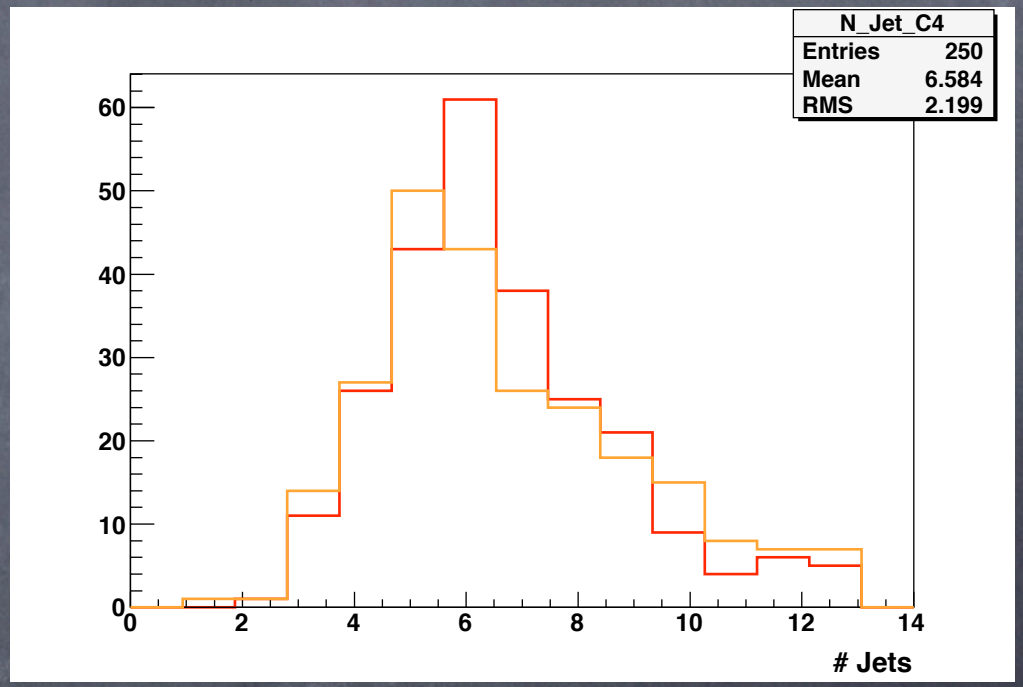
Samples Available

- Simulated using Pythia
  - jobOptions: http://alxr.usatlas.bnl.gov/lxr/source/atlas/Generators/DC3_joboptions/share/?v=current
- Z′ mass = 700, 1000, 1500, 2000, 3000 GeV
- I used 250 events with m = 700 GeV for these plots and used HighPtView
- TopView ntuples are on castor (try dq2_ls *Zprime*tt*)

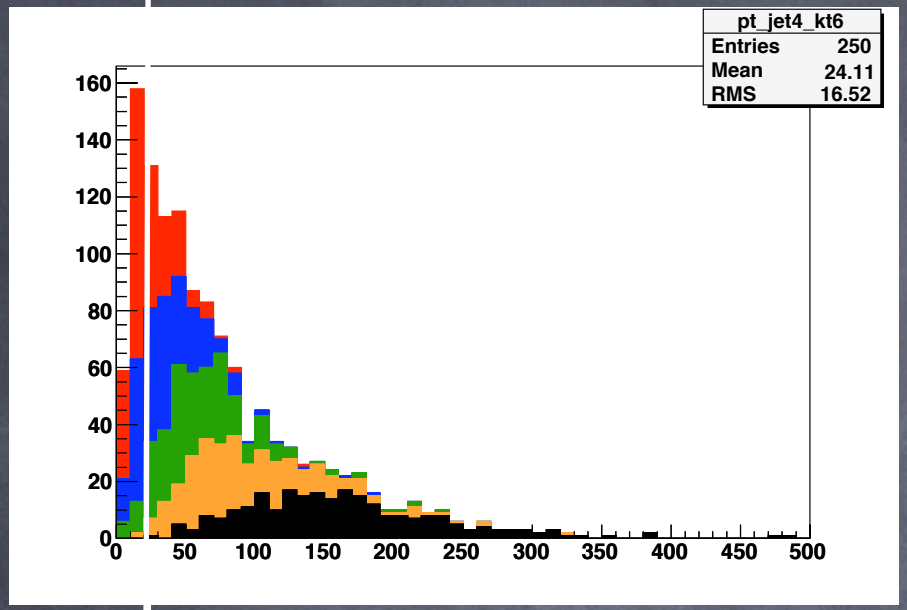
Kt Clustering



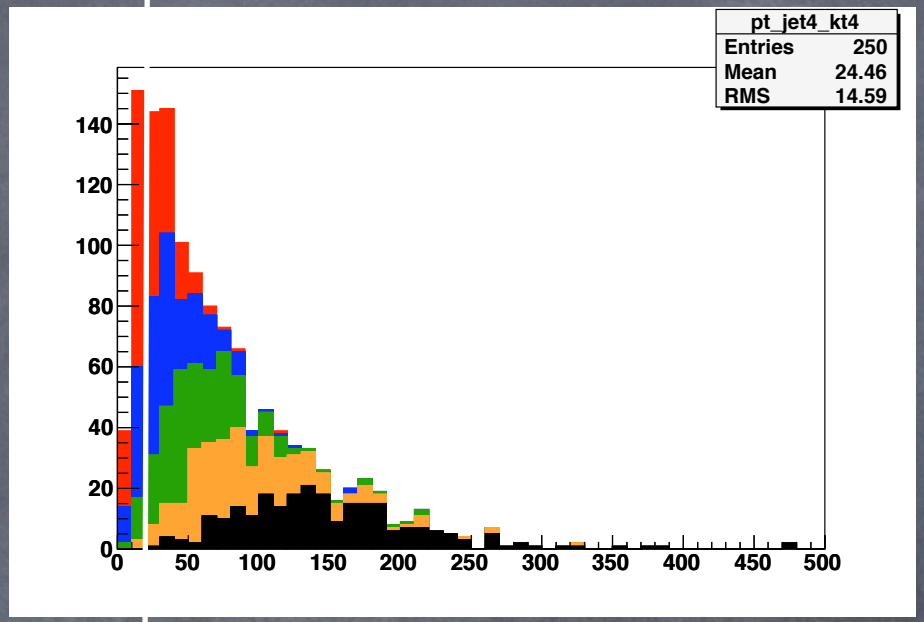
Cone Algorithm



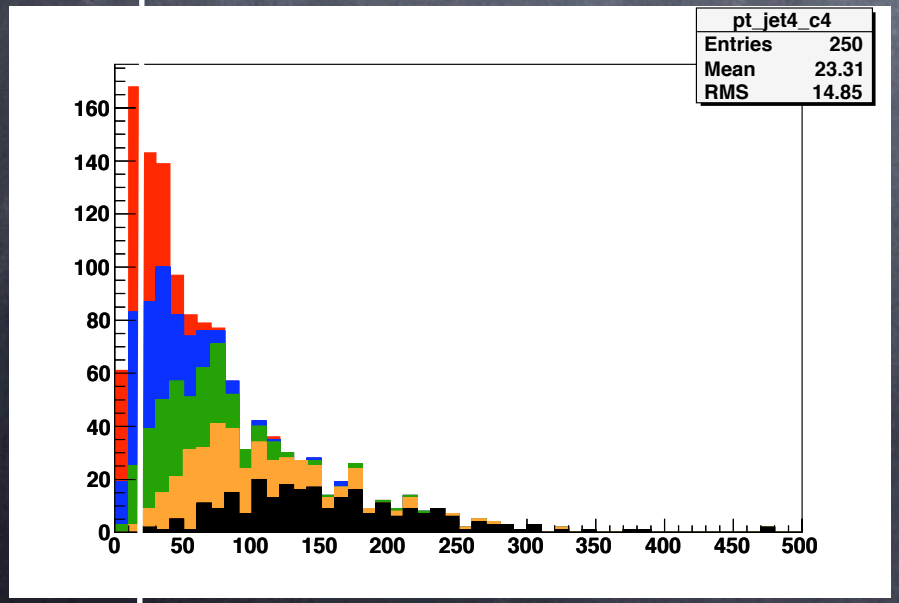
kt6


pt_jet4_kt6
Entries 250
Mean 24.11
RMS 16.52

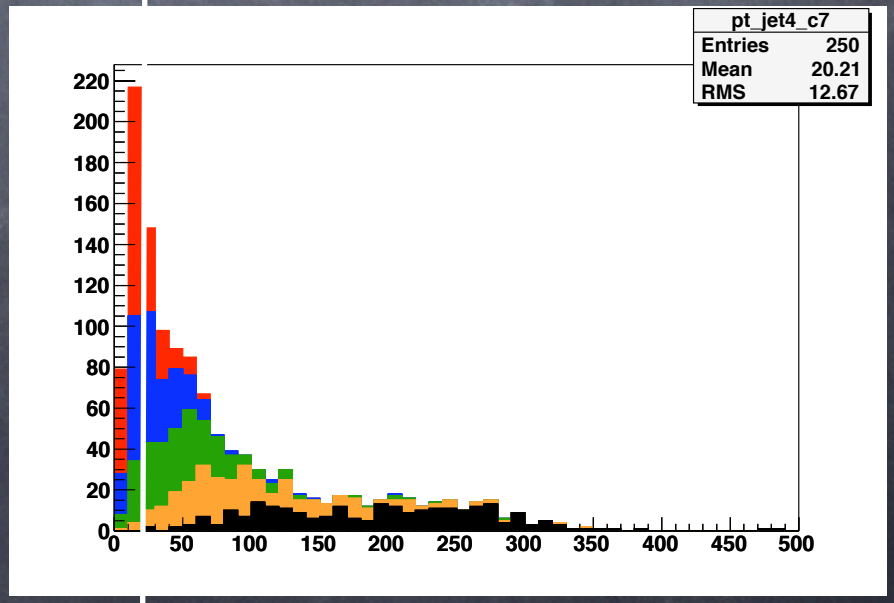
kt4


pt_jet4_kt4
Entries 250
Mean 24.46
RMS 14.59

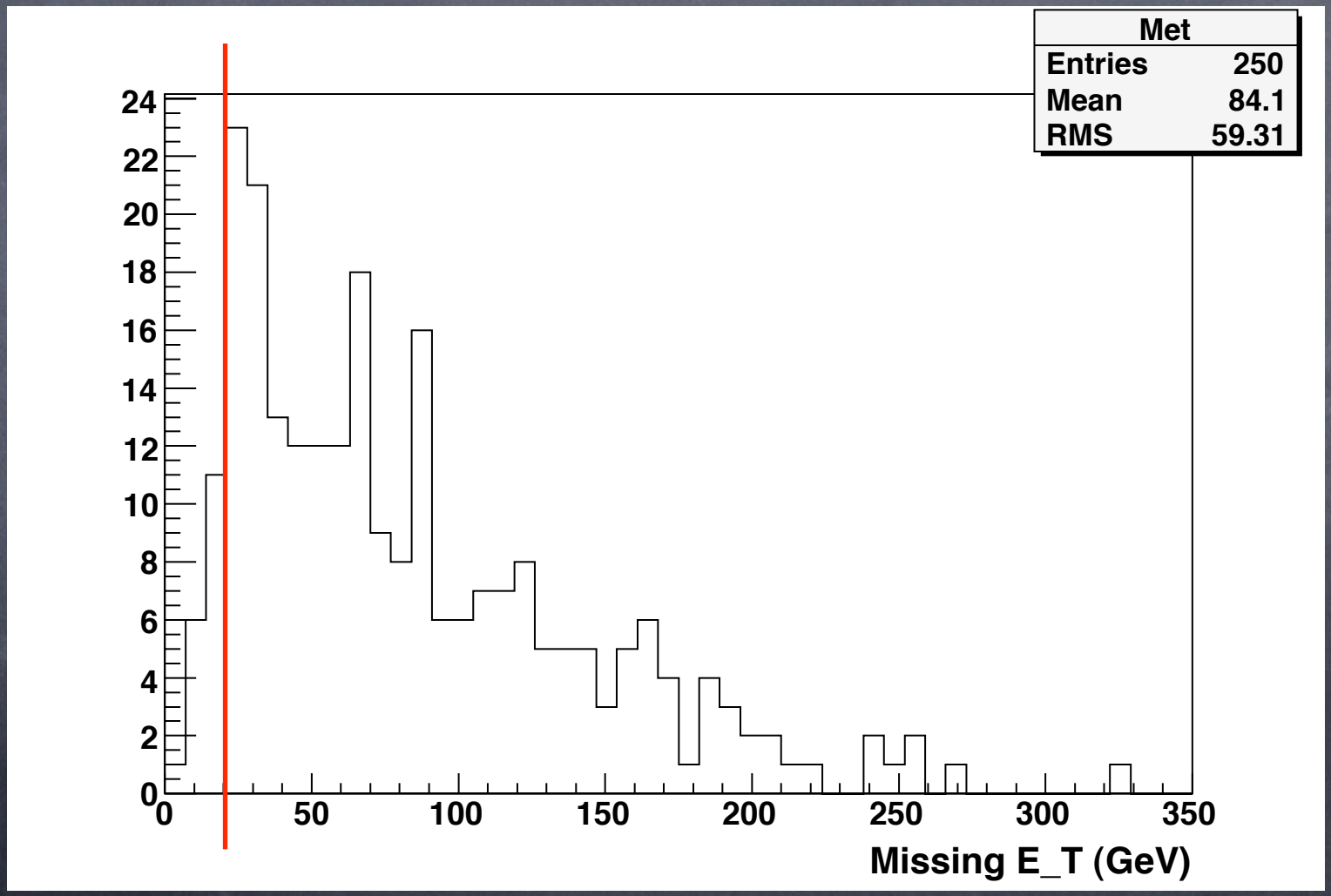
c4


pt_jet4_c4
Entries 250
Mean 23.31
RMS 14.85

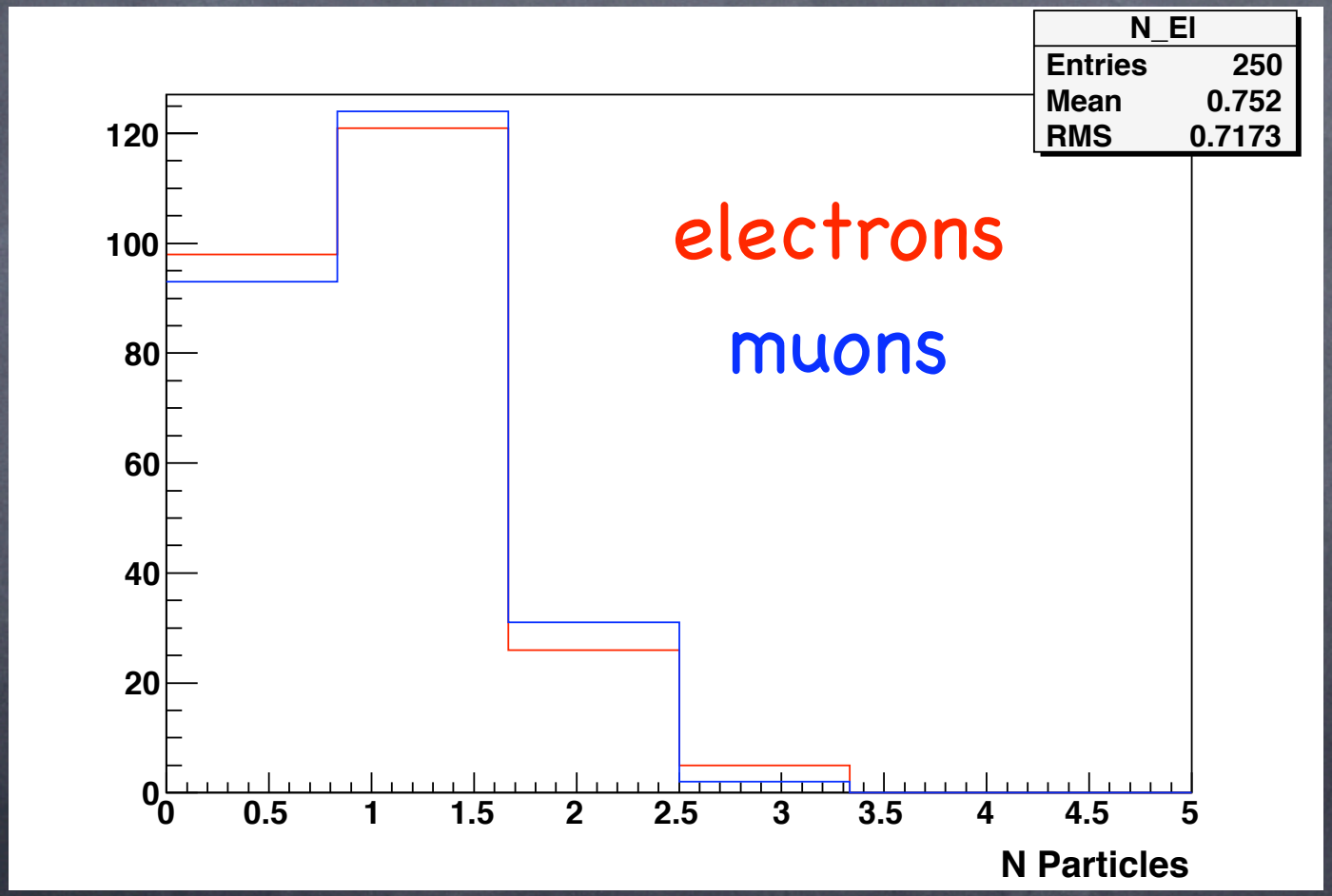
c7


pt_jet4_c7
Entries 250
Mean 20.21
RMS 12.67

Missing E_T

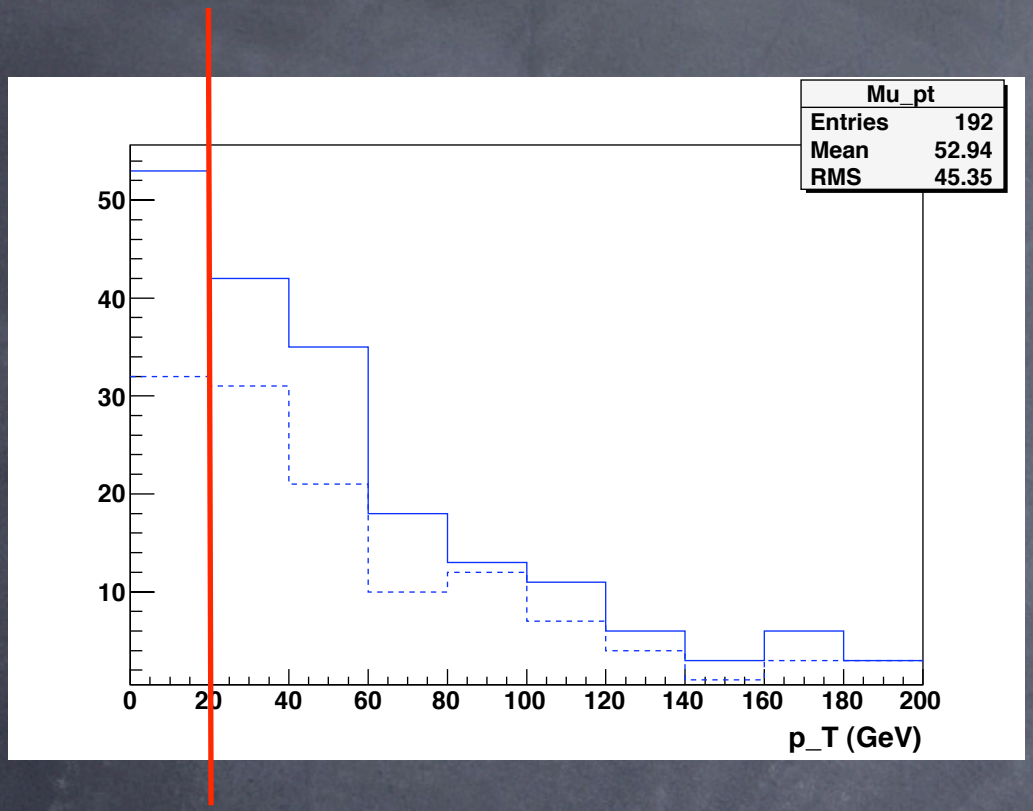

Met
Entries 250
Mean 84.1
RMS 59.31
0
2
4
6
8
10
12
14
16
18
20
22
24
0
50
100
150
200
250
300
350
Missing E_T (GeV)

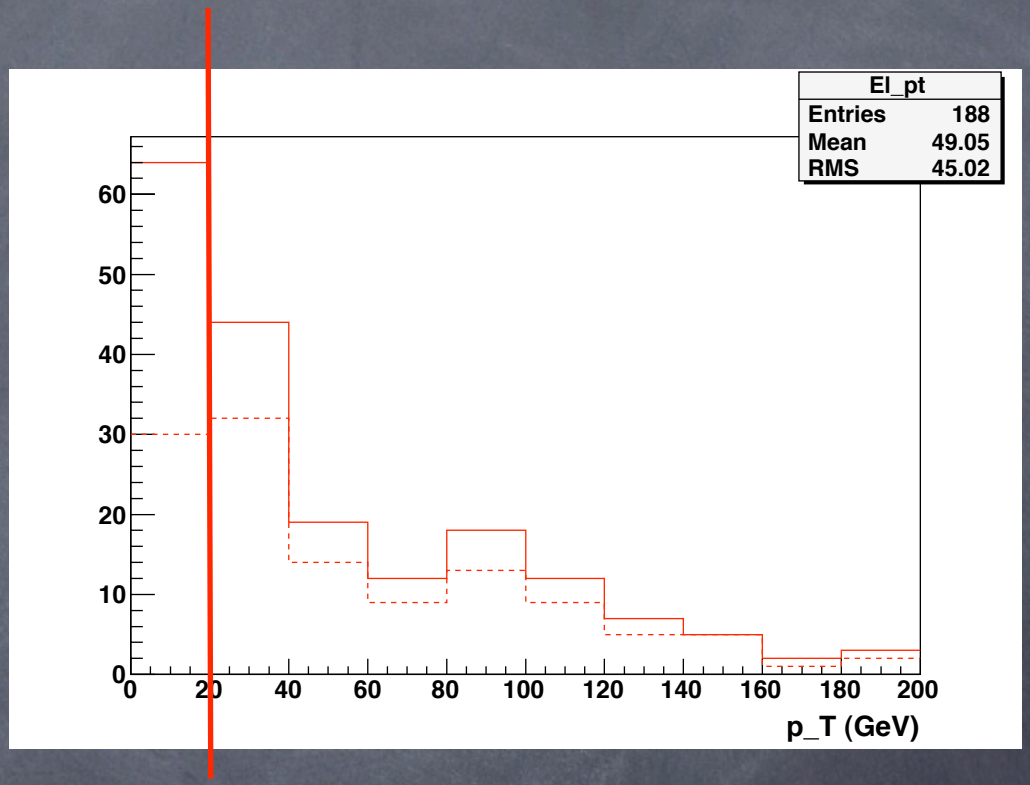
leptons



Truth Information only!

Lepton p_T distributions

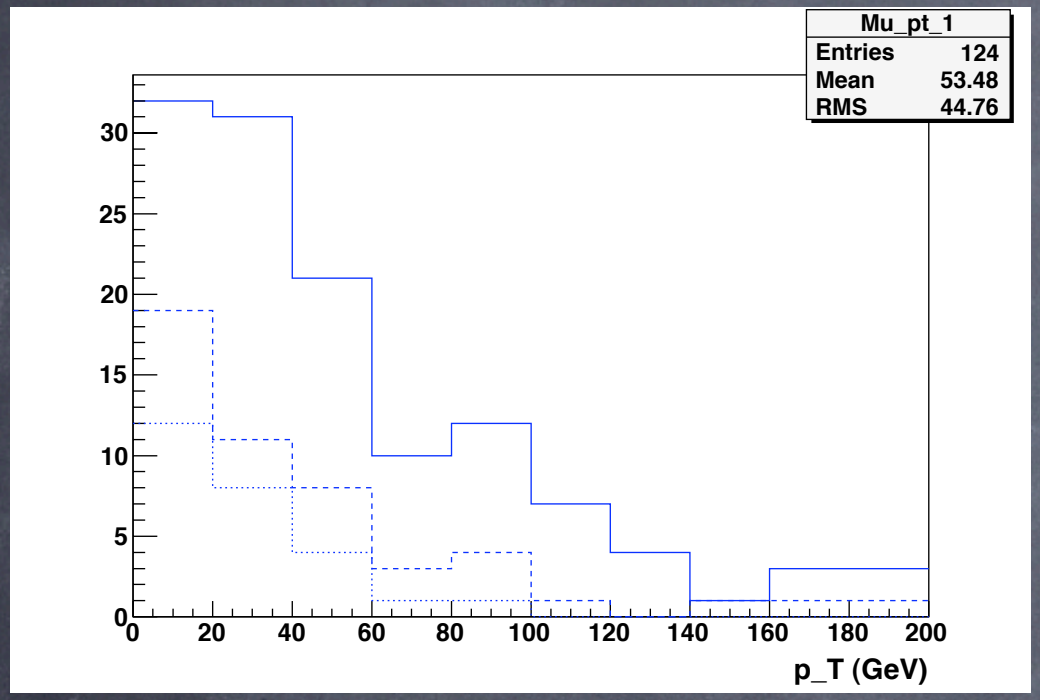


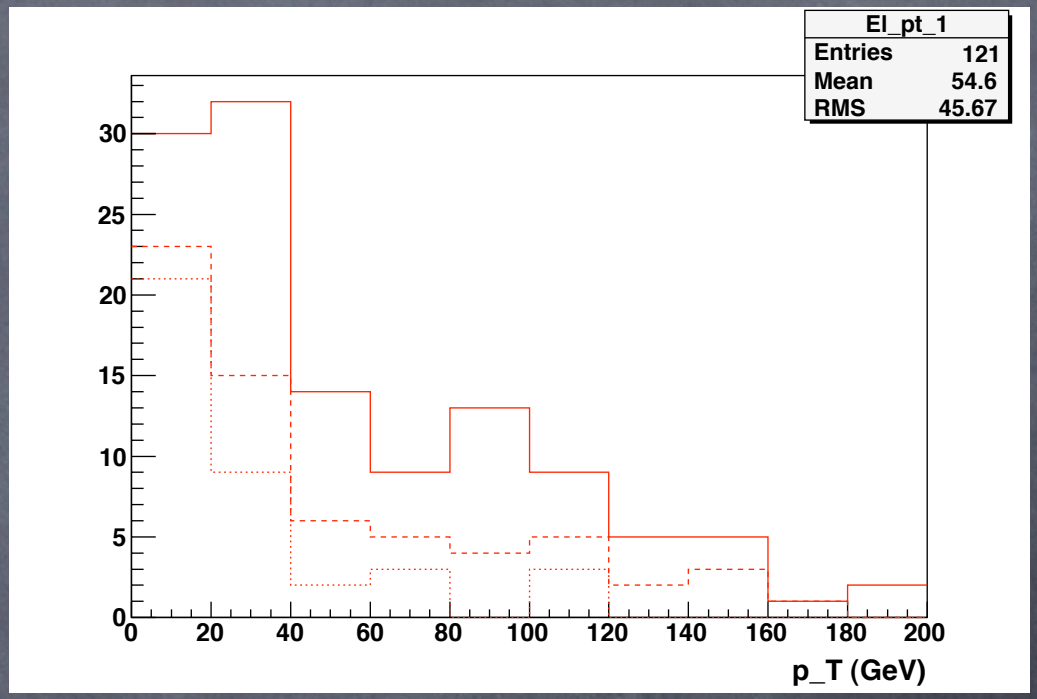


Solid = All leptons

Dashed = Leptons from events with only one lepton

Isolation Cut





Solid = Single lepton events

Dashed = ET cone (R = 0.2), ET > 1 GeV

Dotted = ET cone (R = 0.2), ET > 7 GeV

TopView vs HighPtView

- I don't really have a preference
- Easier if we choose one and stick to it
- Both similar, but TopView has larger ntuples because it includes analysis information
- Politics: Top group uses TopView
- I still haven't got the TruthAll0 tree in either

Exotics Report

- Preliminary CSC results for summer conferences
- Data set replication: http://gridui03.usatlas.bnl.gov:25880/server/pandamon/query?mode=listAODReplications
- Developing something similar to HighPtView
- Tags should be used for basic event preselection: https://twiki.cern.ch/twiki/bin/view/Atlas/

Exotics Report II

- Next meeting July 5
- Problem with triggering high pT electrons: efficiency with isolation cut drops off very rapidly
- Didn't hear anything about $X \rightarrow tt$ ☺