TrigSim cert & L2 status and cert

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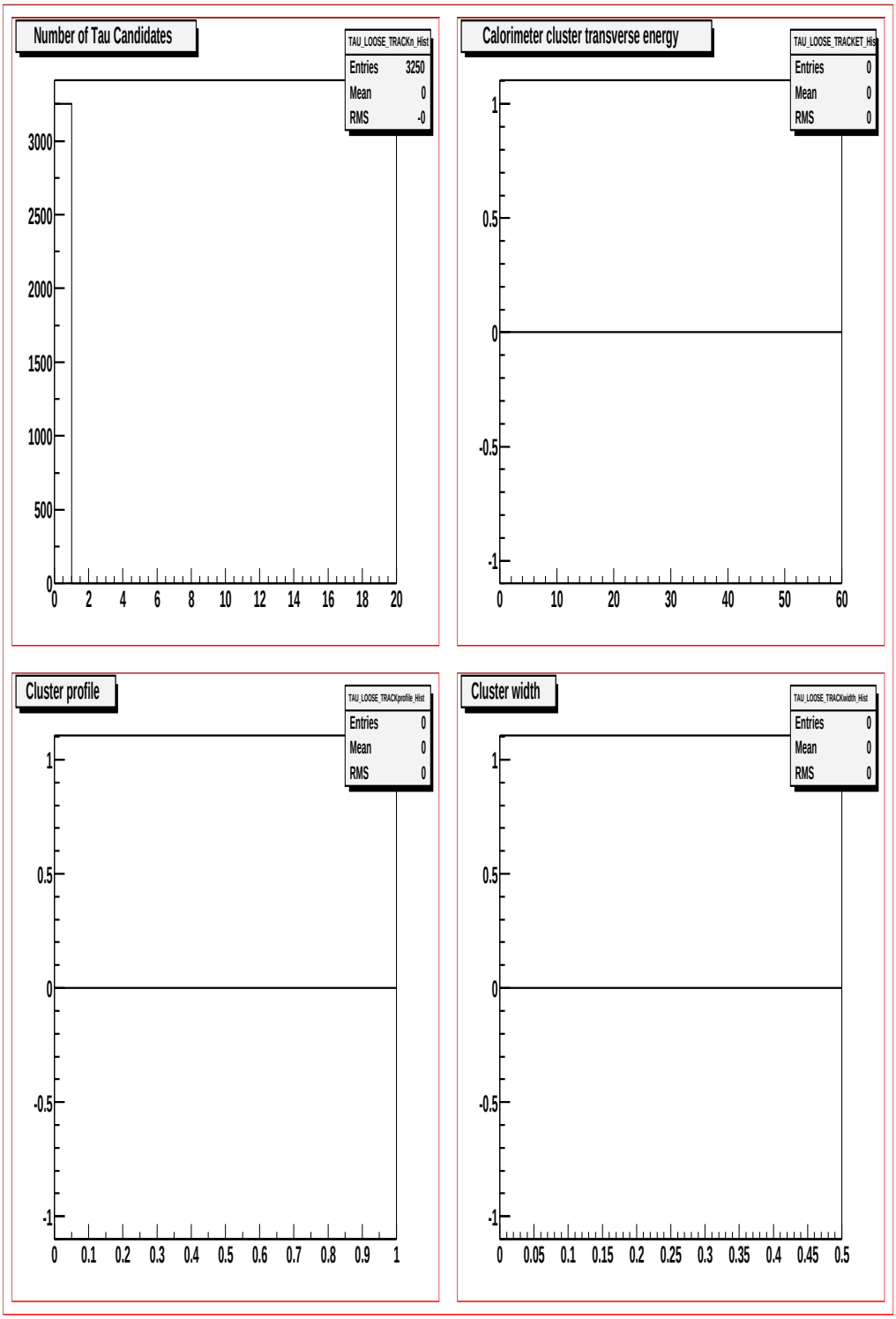
Trigsim Certification

- **Run Trigsim over the RECO certification set to produce n-tuples on the latest and greatest**
- **processes:wenu, wmunu, wtaunu, qcd, ttbar, gam+jets, zee, zmumu, ztautau, wh_wenu, wh_wmunu, wh_wtaunu**
- **Post incantation, n-tuples, macro, pdf file**
- **www-d0.fnal.gov/computing/trigsim/cert/trigsimcert.html**
- **I tend to be the first line of defense**


Number of Tau Candidates
TAU_LOOSE_TRACKn_Hist
Entries 3250
Mean 0
RMS -0
Calorimeter cluster transverse energy
TAU_LOOSE_TRACKET_Hist
Entries 0
Mean 0
RMS 0
Cluster profile
TAU_LOOSE_TRACKprofile_Hist
Entries 0
Mean 0
RMS 0
Cluster width
TAU_LOOSE_TRACKwidth_Hist
Entries 0
Mean 0
RMS 0

L2 Status

- **Running p13.05.00 online since early Dec.**
- **using muon and cal preprocessors and global**
- **triggering on muons in the forward and central region, jets, and EM objects**

Triggerlist 10

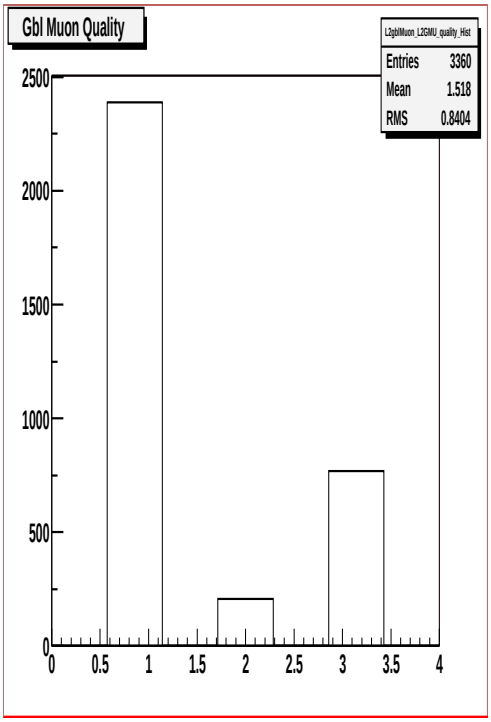
- EM cuts (minEt, EMF)
- Jet cuts (minEt)
- Ht cut
- Muon quality cuts (med, loose, minEt)
- Muon separation cuts (ietaminsep, iphiminsep)

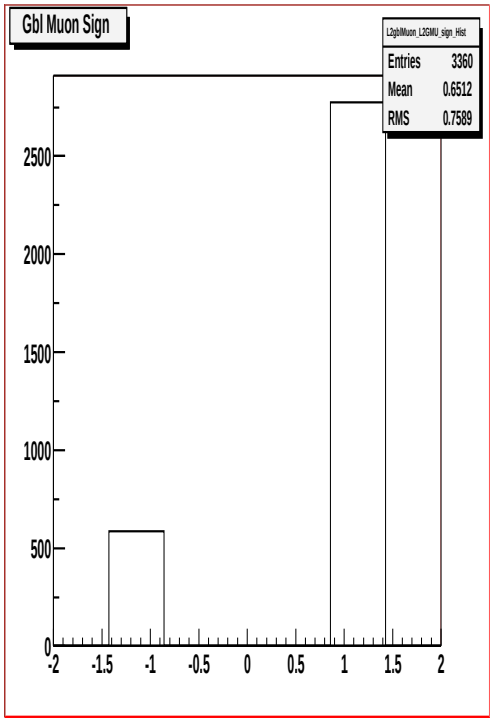
L2 Improvements-new and coming

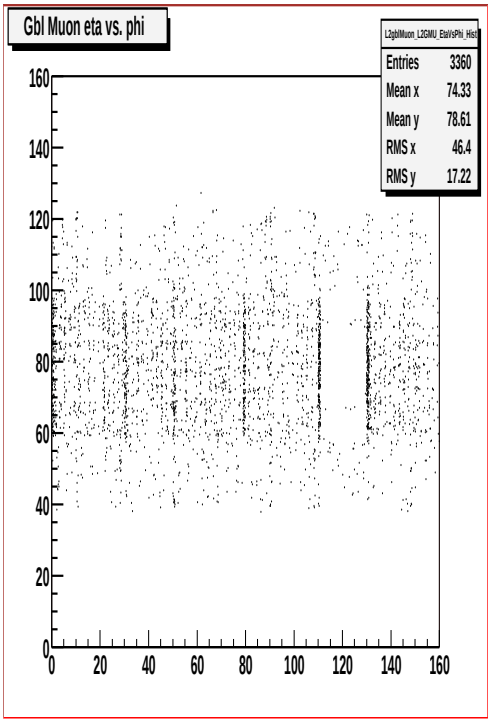
- **Jets were 3x3 and are now 5x5 (p13.05.00)**
- **Now, jet and EM algorithms configured by coorsim so you can change jet size in your triggerlist (p13.05.00)**
- **New MJT (MHT) Filter (next release)**
- **New Acoplanarity Filter (next release)**
- **Developing an L2 offline certification**

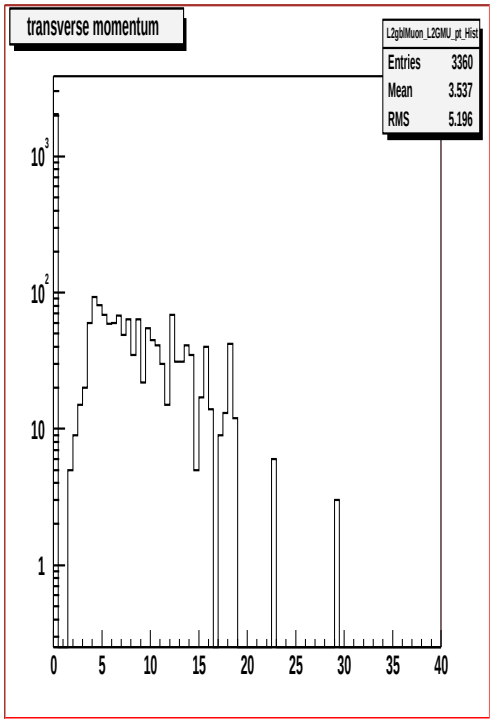
L2 Certification

- **An L2 certification is being developed, similar to trigsim only in its infant stage...**
- **Currently, it is a set of plots everyone needs to look at...**
- **Should be come more similar to the L2 examine for the Global Monitor Shifter written by Joe Steele.**


Gbl Muon Quality
L2gblMuon_L2GMU_quality_Hist
Entries 3360
Mean 1.518
RMS 0.8404
2500
2000
1500
1000
500
0
0 0.5 1 1.5 2 2.5 3 3.5 4


Gbl Muon Sign
L2gblMuon_L2GMU_sign_Hist
Entries 3360
Mean 0.6512
RMS 0.7589
2500
2000
1500
1000
500
0
-2 -1.5 -1 -0.5 0 0.5 1 1.5 2


Gbl Muon eta vs. phi
L2gblMuon_L2GMU_EtaVsPhi_Hist
Entries 3360
Mean x 74.33
Mean y 78.61
RMS x 46.4
RMS y 17.22
160
140
120
100
80
60
40
20
0
0 20 40 60 80 100 120 140 160


transverse momentum
L2gblMuon_L2GMU_pt_Hist
Entries 3360
Mean 3.537
RMS 5.196
10^3
10^2
10
1
0 5 10 15 20 25 30 35 40

more L2 certification

- **The future...make a "correct" set of reference plots, run a set of plots over each release and have them compared to the reference, and finally generate a report of plots that were more than ~1%different.**
- **These plots can then be taken to the person in charge of that branch, and they have to either fix the error, or explain the improvement and show that this is the correct result.**
- **This will hopefully become very automated...type go and get your report.**

Conclusions

- **Trigsim cert is going fine...as long as people keep looking at their plots**
- **L2 is running fine both on and offline**
- **L2 certification is about to start working, and promises to keep getting better and more automated.**