MC Validation

CDFSim Meeting 24/03/2005

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for the
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6.1.0 MC Validation:

- 6.1.0 vanilla vs 5.3.4
- 6.1.0 vanilla vs 6.1.0 opt

MC Processes

Current list of MC processes from Simulation group
SimulationMods/validation/validation.list
We have run 50k events of processes in red

1)Herwig_ttbar_EvtGen #ttbar with EvtGen for heavy flavour decay
2)Herwig_ttbar_QQ #ttbar with QQ for heavy flavour decay
3)Pythia_dijet_UE #20 GeV dijets with underlying event
4)Pythia_jet50_UE #jet 50 with underlying event added
5)Pythia_Zmumu_EWK #Z -> mumu, use Willis' pt tuning and add UE Tune A
6)Pythia_Zee_EWK #Z -> ee, use Willis' pt tuning and add UE Tune A
7)Pythia_Wmunu_EWK #W -> munu, use Willis' pt tuning and add UE Tune A
8)Pythia_Wenu_EWK #W -> enu, use Willis' pt tuning and add UE Tune A
9)Herwig_Wmunu #W -> munu with Pythia UE Tune A (mean 1, Poisson)
10)Herwig_Zmumu #Z -> mumu with no underlying event
11)Herwig_Wenu #W -> enu with MBR UE (mean 1, Poison distributed)
12)Bgenerator_BJPsiK_HepgFilter #Bgenerator B+ -> J/Psi K+ (dimuon pT>1.5 & |eta|<1.1)
13)Pythia_JPsi_mumu_HepgFilter #Pythia prompt J/Psi (dimuon pT>1.5 & |eta|<1.1)
14)Pythia_bb_generic #Pythia generic bbar

Results

Web page of reports:

http://lpnhe-lc.in2p3.fr/sidoti/val.html

Performed comparisons of:

5.3.4 Simulation

5.3.4 Production

6.1.0 Simulation

6.1.0 Production

6.1.0 ***opt*** Simulation

6.1.0 Production

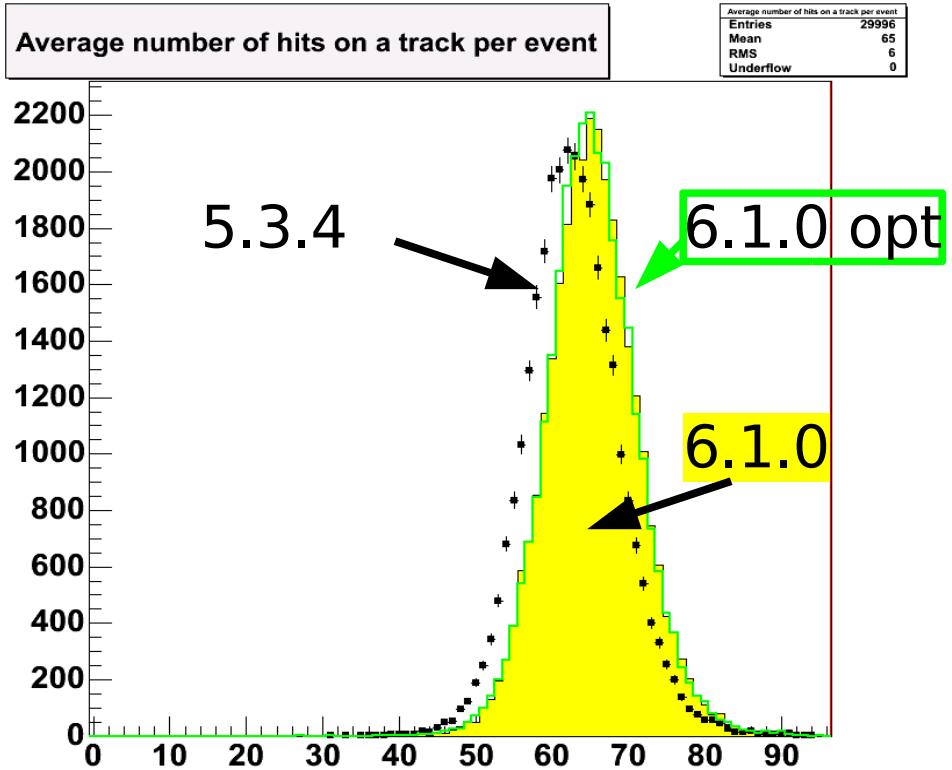
Results

process	core	min/avg/max	core	min/avg/max	core	min/avg/max
ttbar		266/670/934	3/10	580/706/971		414/469/484
z->mumu		362/43/557	4/10	358/472/617		255/302/369
W->enu		367/445/590	2/10?	378/473/493		261/302/312

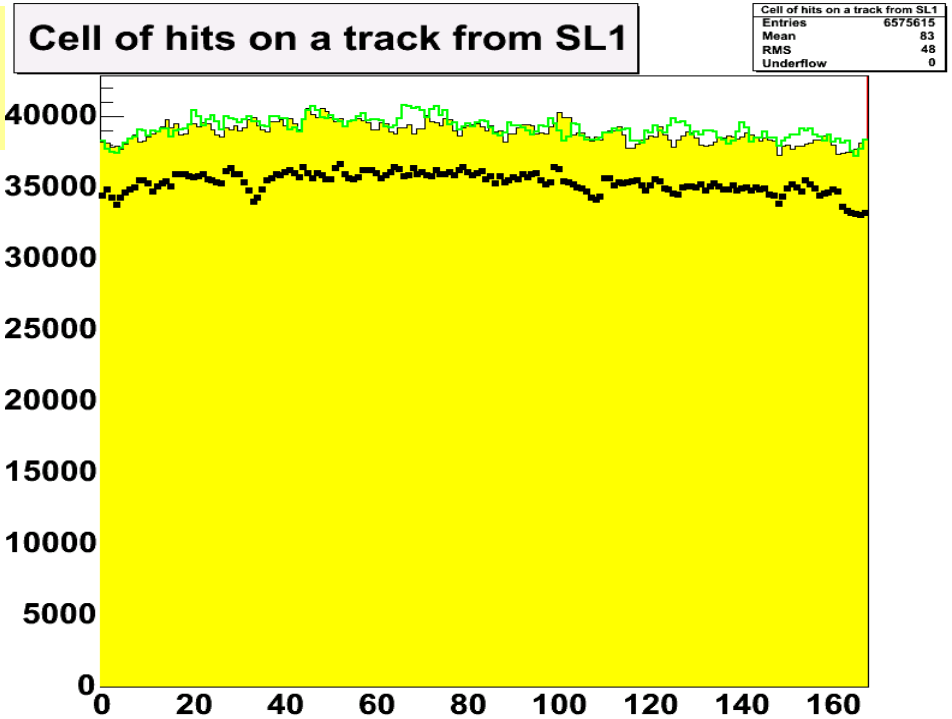
10 sections of 5k events each
time: CPU time in minutes

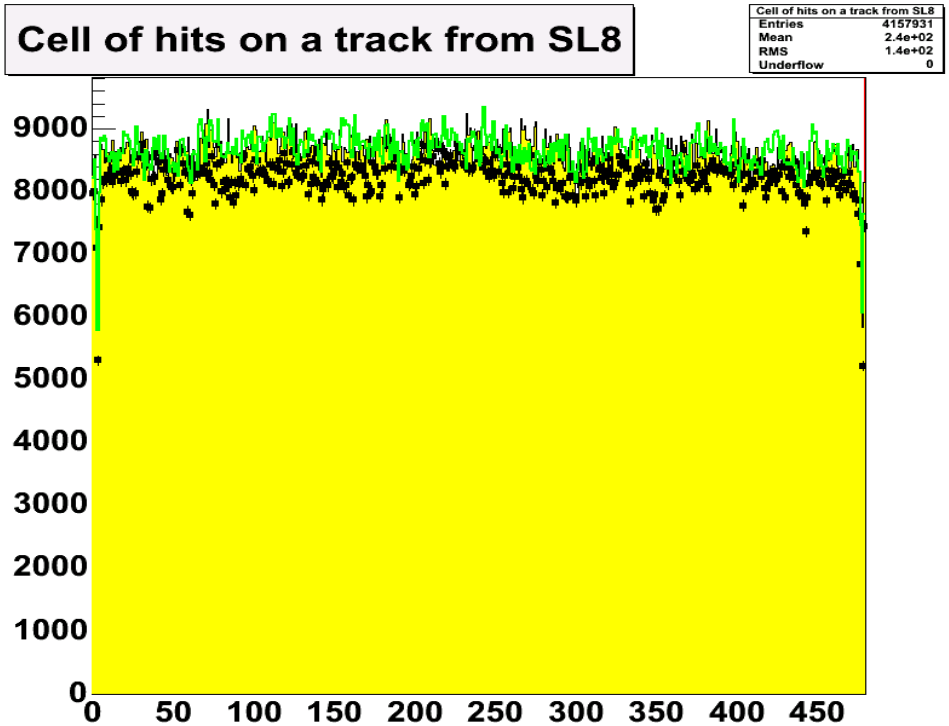
Differences

Number of hits in COT
more difference for inner layers
than for outer layers



Z->mumu





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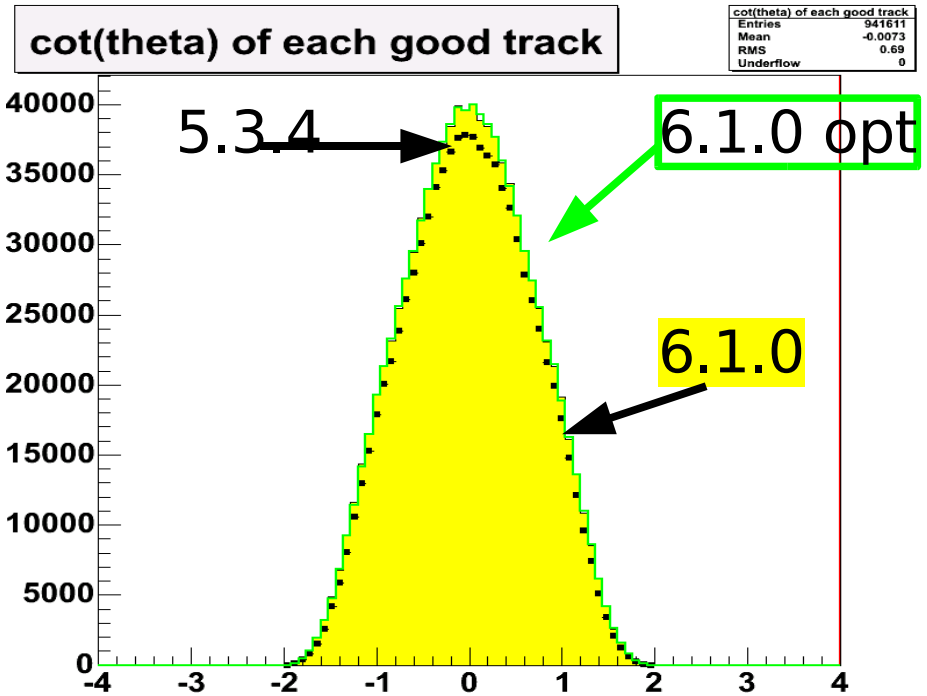
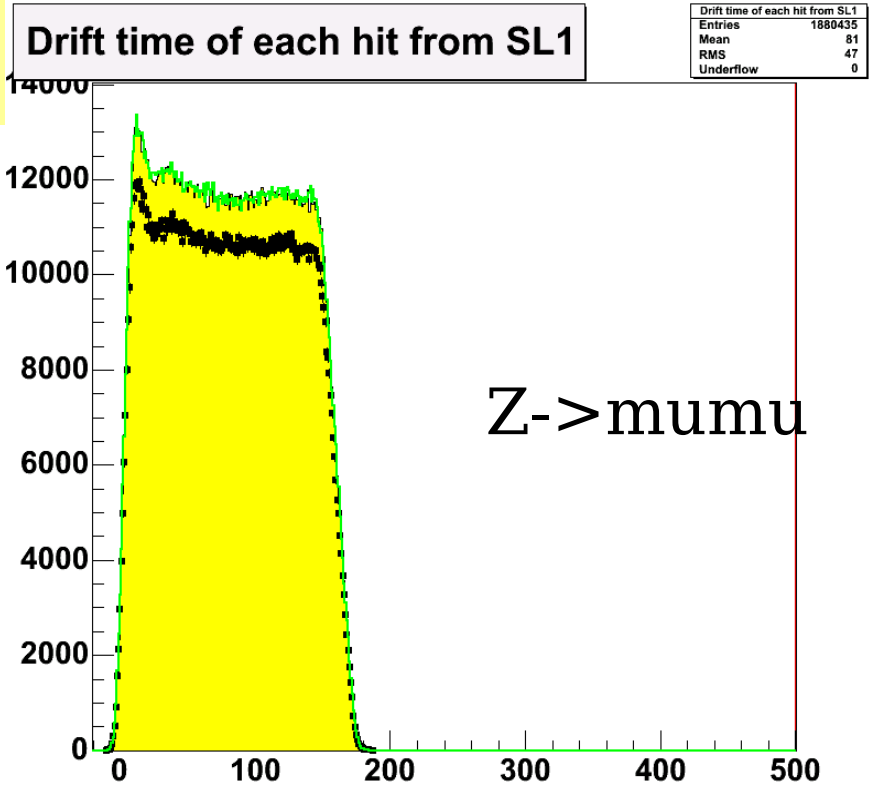
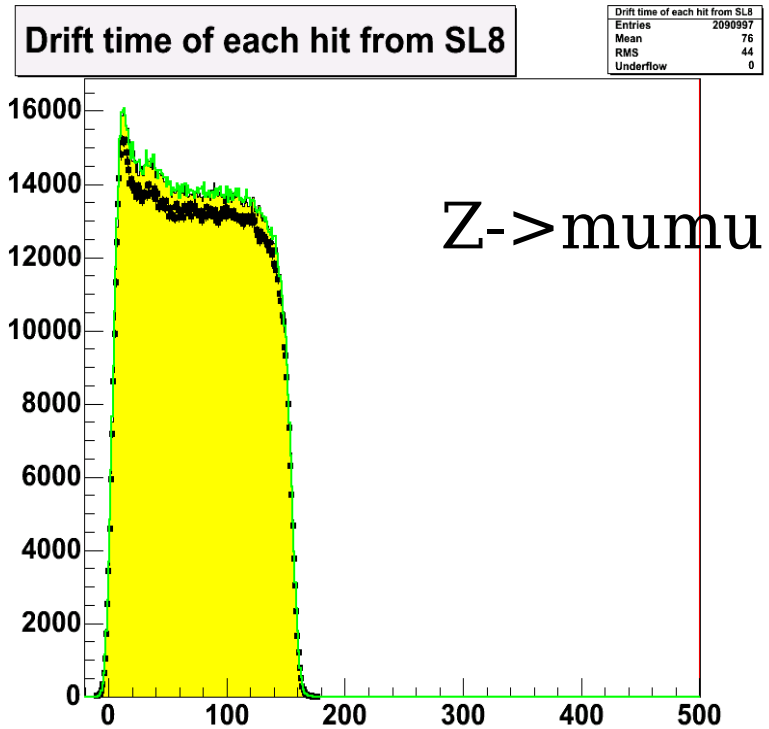


ttbar





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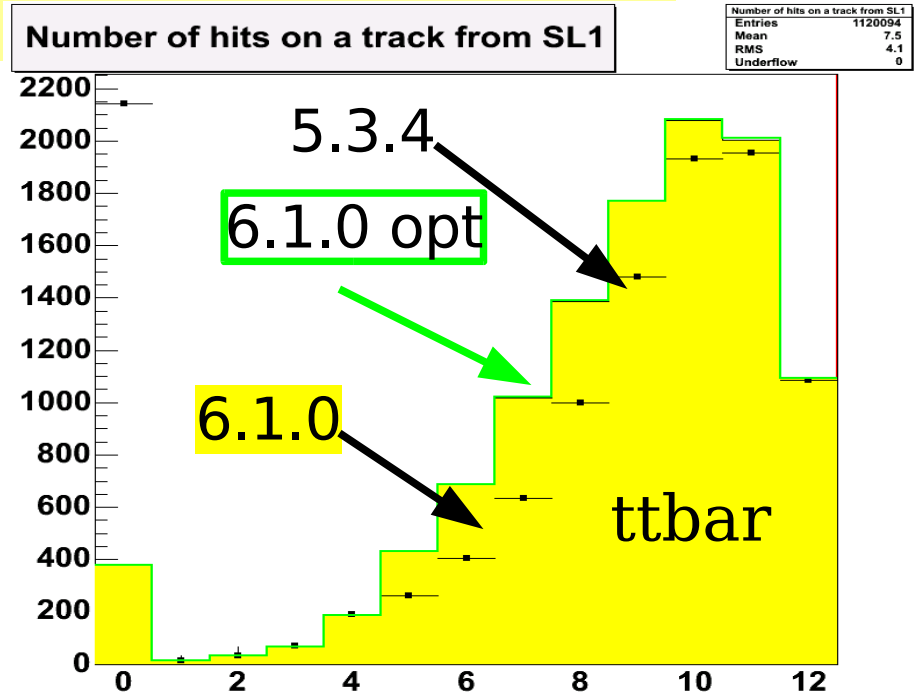

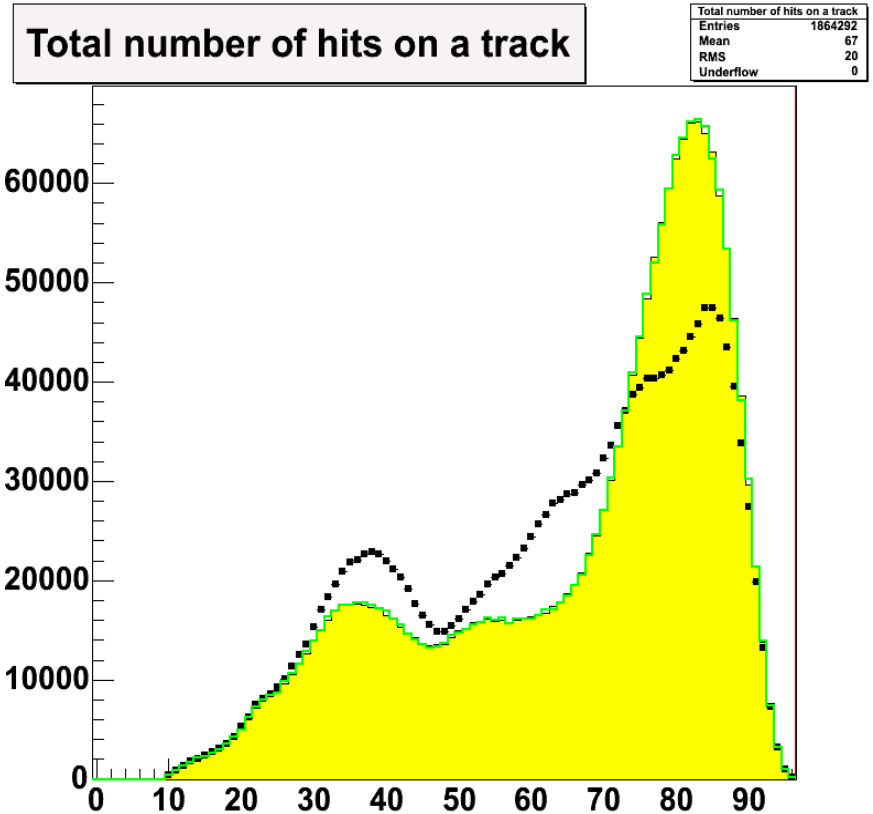

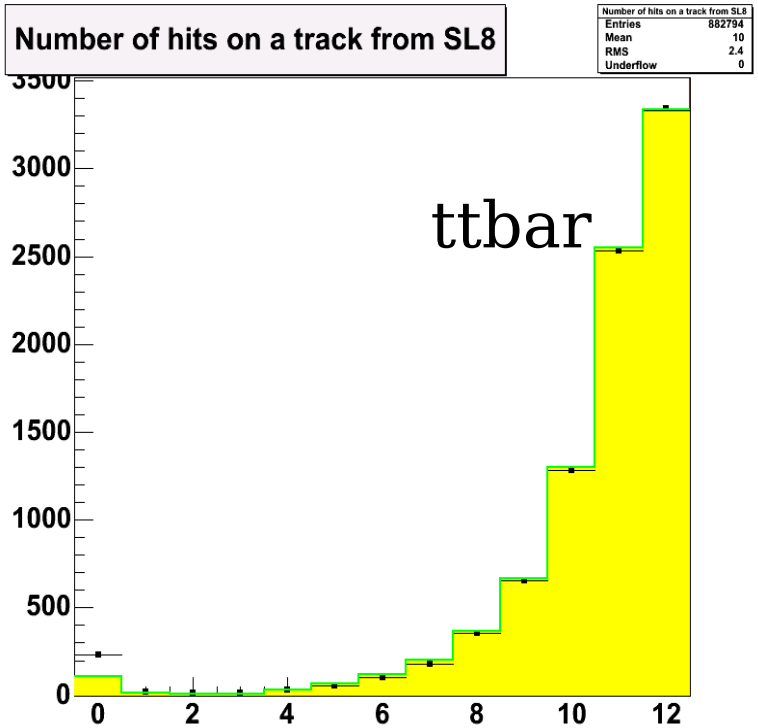

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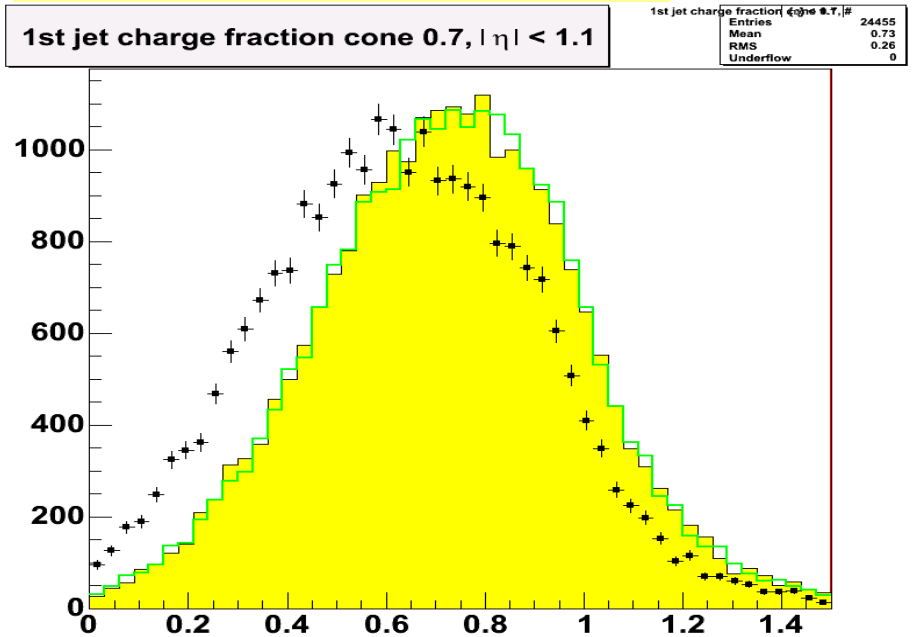

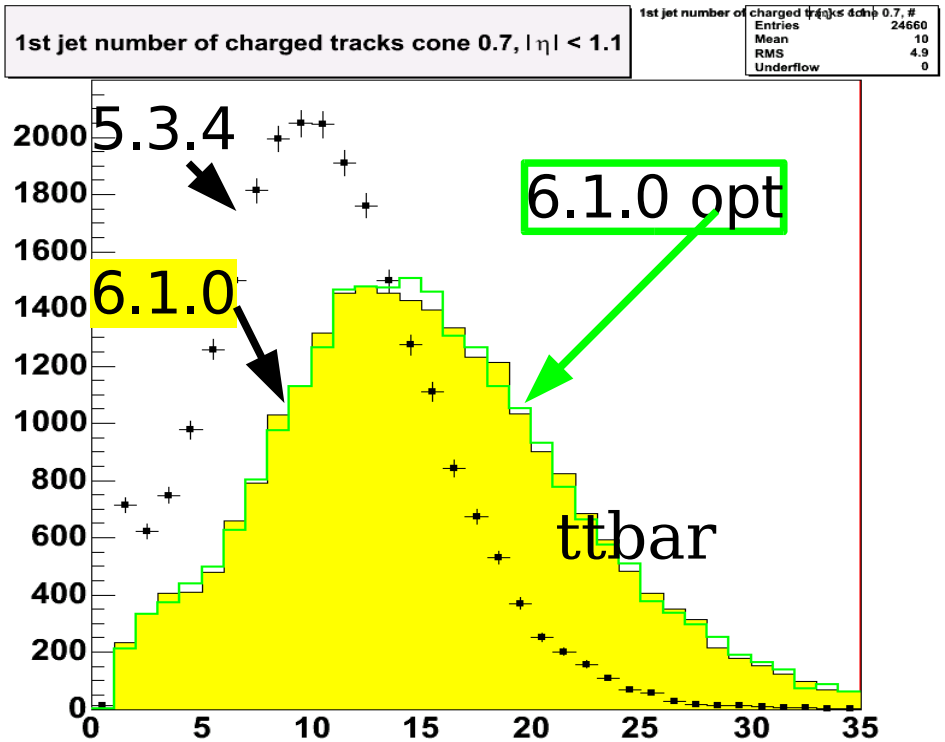

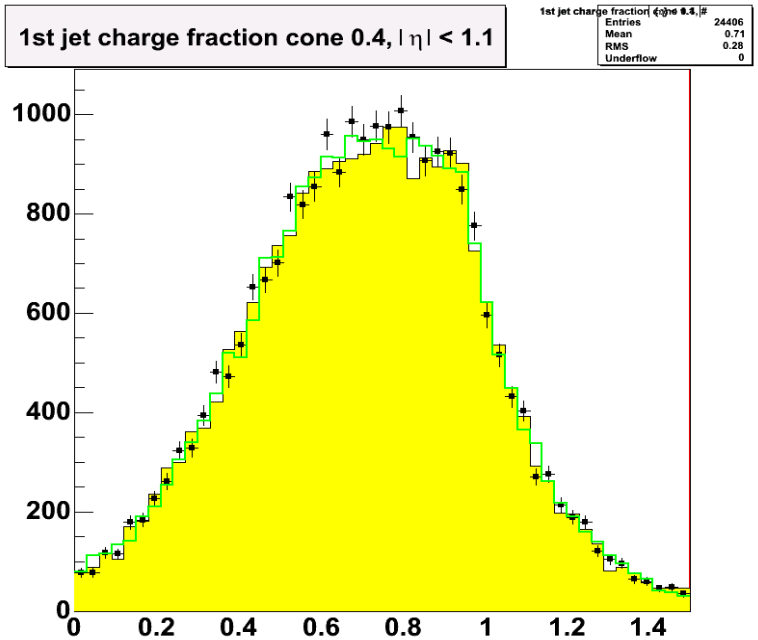

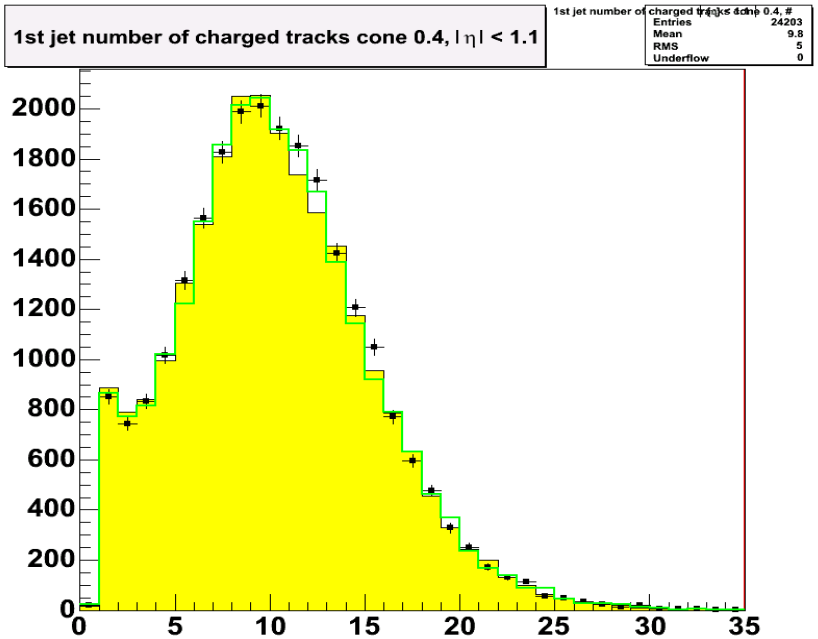

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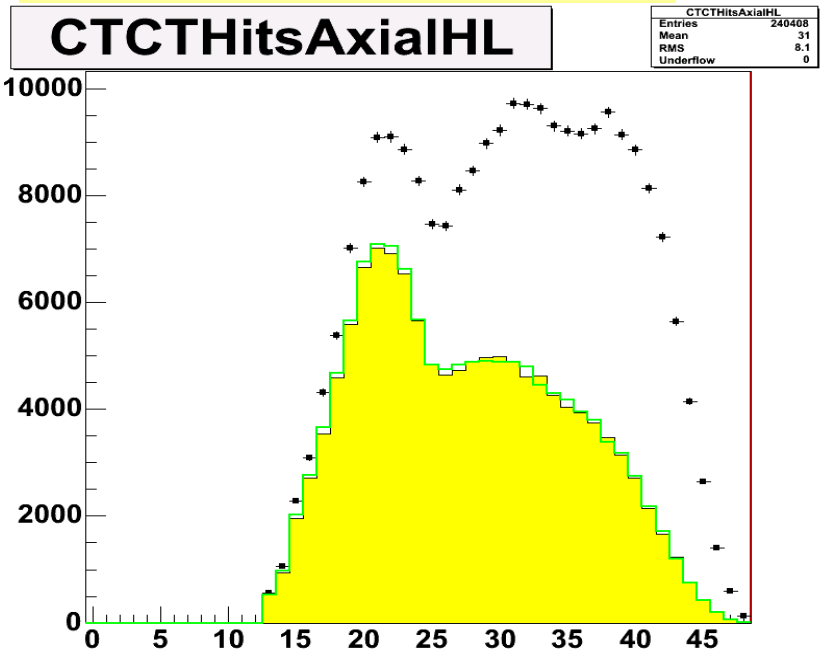

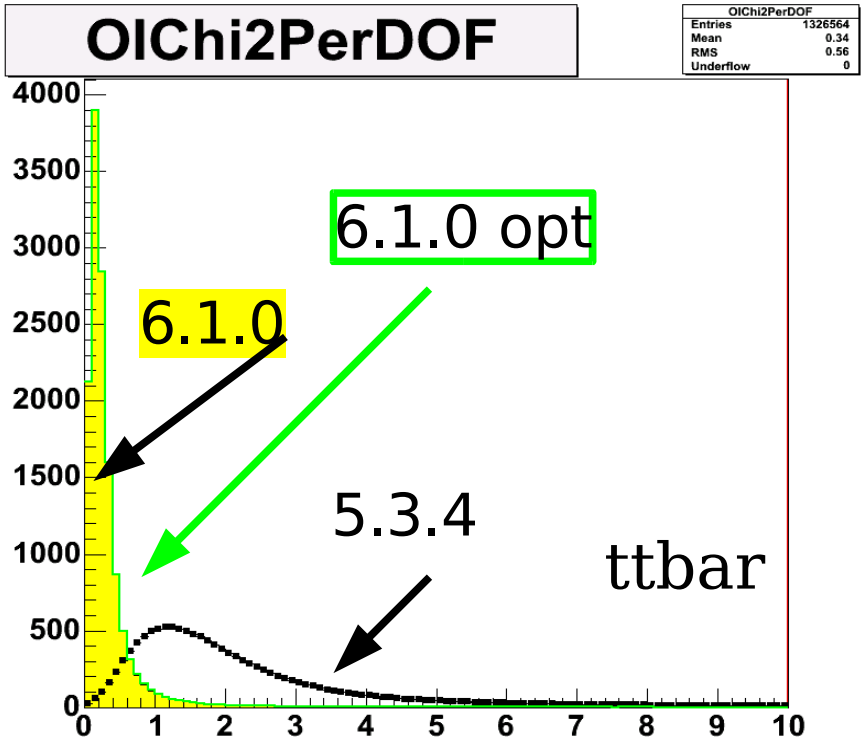

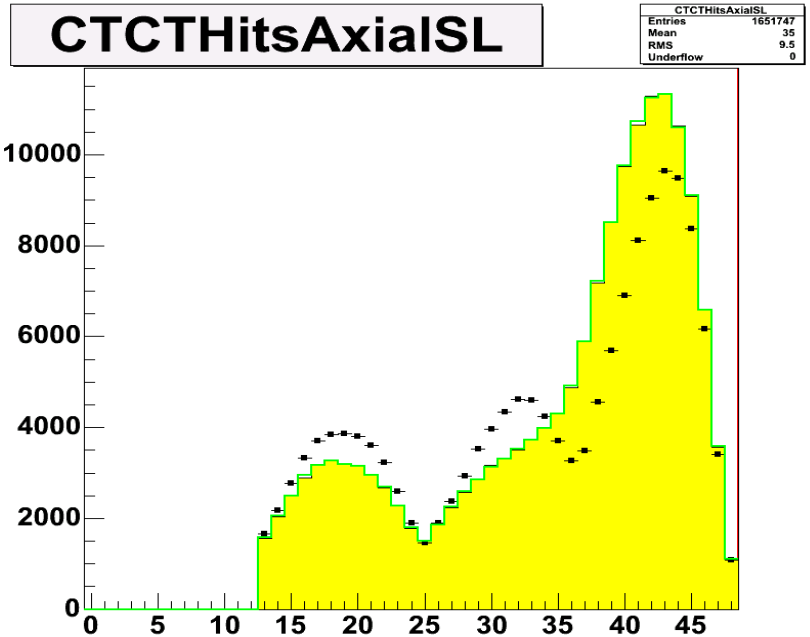

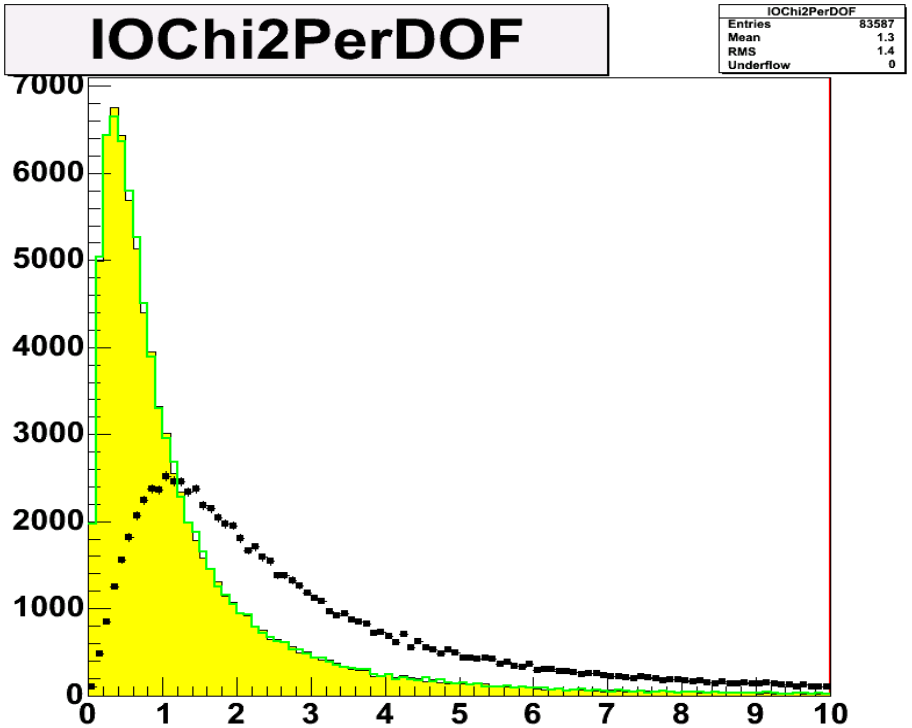

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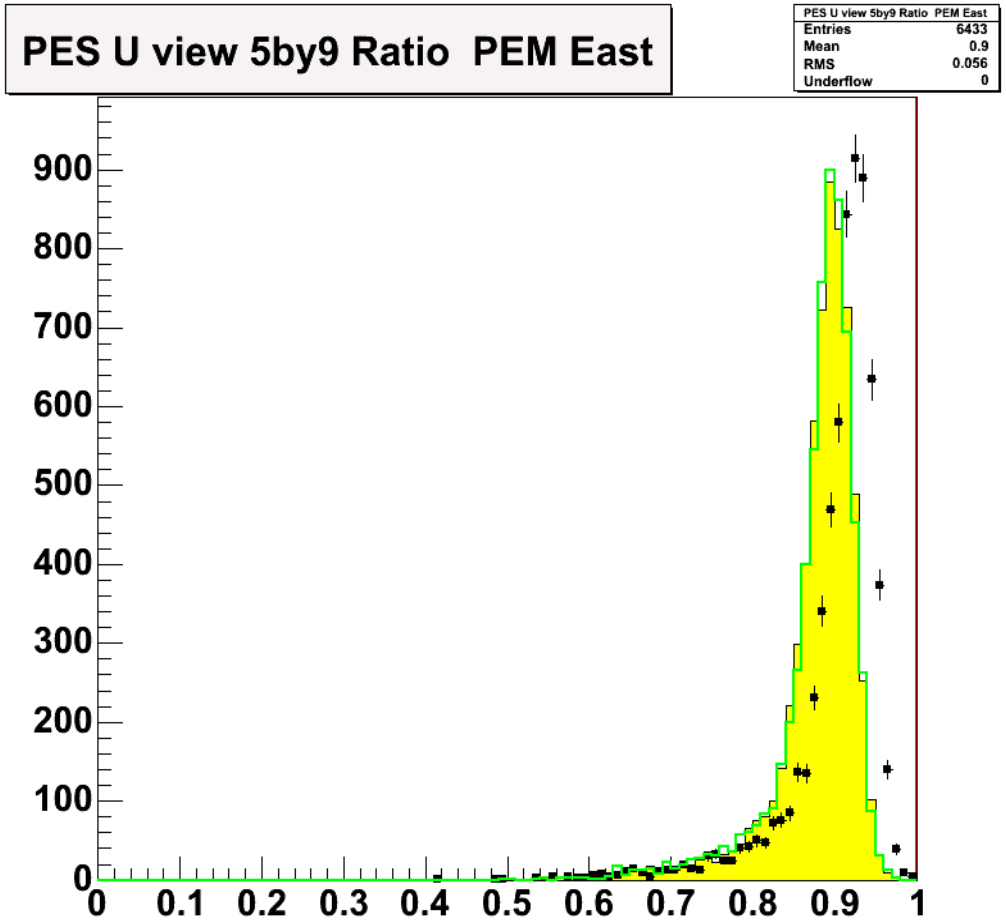

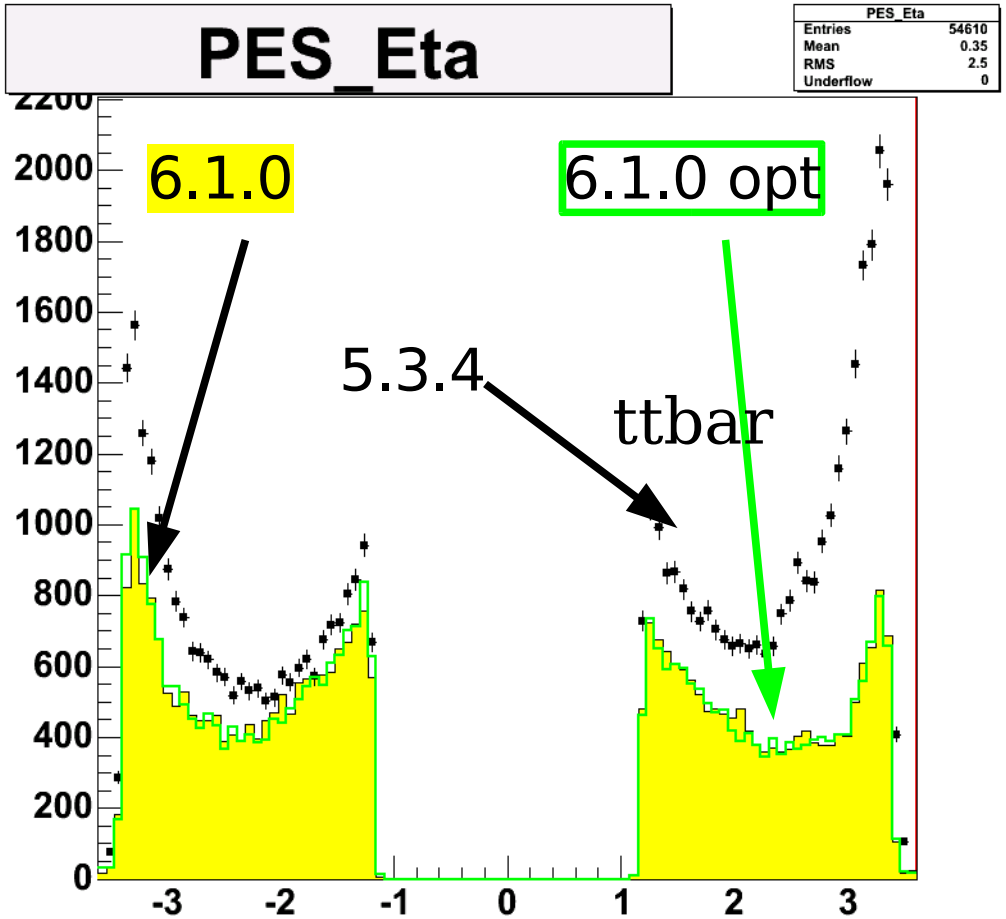

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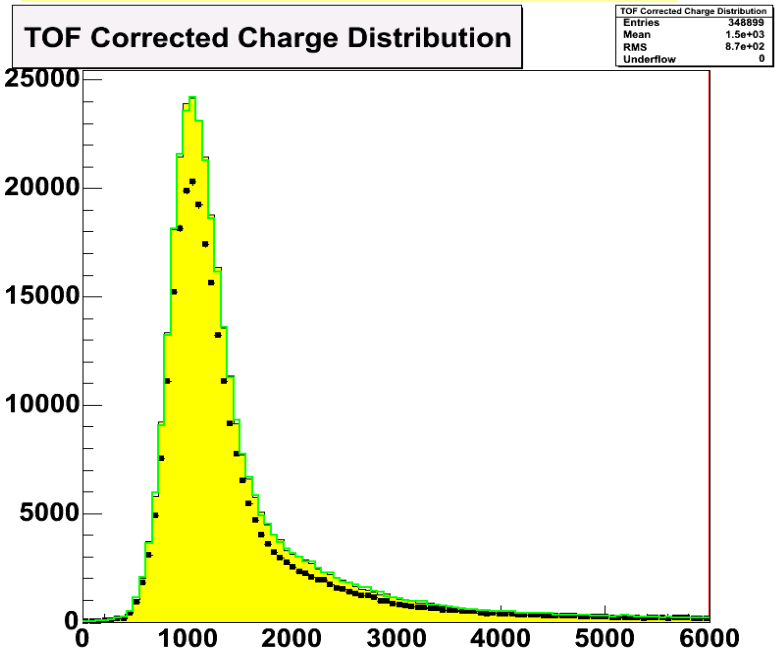

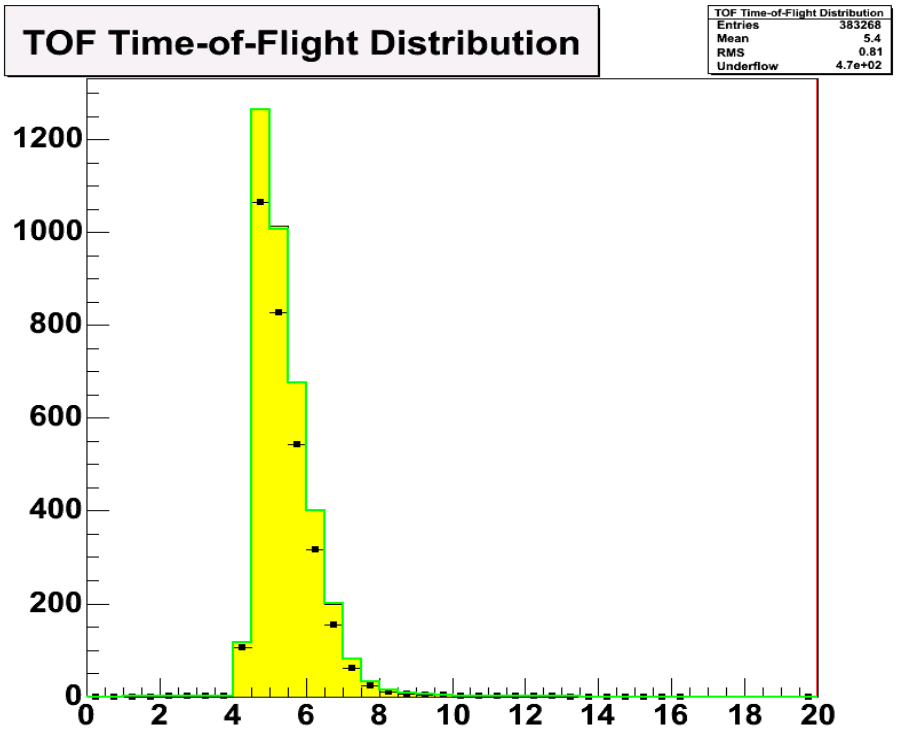

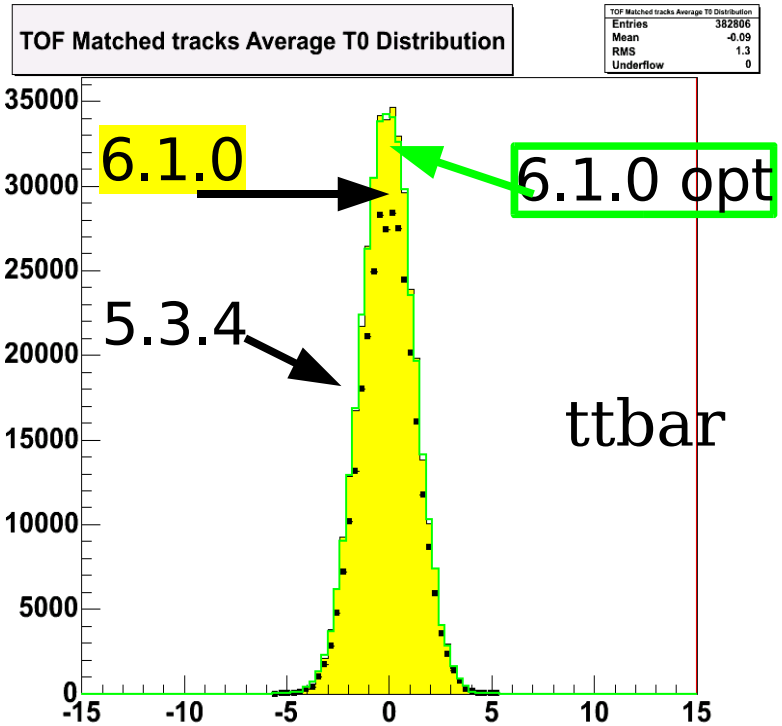

Conclusions

- CT tracking between 5.3.4 and 6.1.0 (vanilla and opt)
- Tof and PES simulation changed between 5.3.4 and 6.1.0
- No difference between 6.1.0 vanilla and opt(clear timing improvement)