

Progress Report on Tau Final States of TTTT

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Outline

BSM Check Step

- Check BSM locally
 - go through python configuration file and spot no skimming setting
 - cmsRun 1000, 5000 and 10000 TTTT and TT samples locally, observe no skim of events
- Check crab output
 - submit TTTT_TuneCUETP8M2T4_13TeV-amcatnlo-pythia8 crab job again
 - compare number of events in MCM(MINIAOD), crab report(number of events read by crab), final output ntuples.

BSM Checking

- TTTT_TuneCUETP8M2T4_13TeV-amcatnlo-pythia8:
 - in old v2 ntuple: 2413460
 - in MCM : 2,456,040
 - Crab report: 2456040
 - in new ntuple :2456040
- TTTT_TuneCUETP8M2T4_PSweights_13TeV-amcatnlo-pythia8
 - v2 ntuple: 2456500
 - MCM: 2,500,000
- TT_TuneCUETP8M2T4_13TeV-powheg-pythia8
 - v2 ntuple: 76915550
 - MCM: 77,615,423
- Check for JetHTBlockC and JetHTBlockD, the number in ntuple match the number read by crab

Conclusion and Next Step

- Conclusion from check
 - BSM code is fine and crab job is fine
 - the loss of events could be in transfer from T2 to T3, or that the job is not totally completed(jobs have to be resubmitted several times to be finished)
 - unfortunately we have to resubmit jobs for all samples, it will take around a week
- Version 3 ntuple preparation
 - Have added genWeight histogram in ntuple with no skimming of events
 - Should we add any selection in BSM step? any suggestions?
 - For v3 ntuple production I plan to submit all the samples by myself and monitor job status and copy to T2 myself to avoid mismatch

Other stuff that I have done

- have copied some samples from the new SE to /publicfs/cms/data/TopQuark/FourTop_hua/
 - TTToSemiLeptonic_TuneCP5_PSweights_13TeV-powheg-pythia8
 - TTTToHadronic_TuneCP5_PSweights_13TeV-powheg-pythia8
 - JetHT