

-- AmnonHarel - 23 Feb 2009

Introduction

See index in AmnonHarelDataMixing

The "V4" files tested here end up being not that interesting. See page AmnonHarelDataMixingRound4a for the interesting tests.

Testing Mike's DataMixer, circa 20 Feb, with his "V4" files. Goal was to see a plot of HPD discharge noise overlaid near / over MC signal.

Stopped when we realized they they contain the same problematic CRAFT data as the "V3" files.

Conclusions (on the overlaying process, and reconstruction)

- see AmnonHarelDataMixingRound2 for comments on reconstruction. Didn't have to reconstruct this time (thanks Mike).

Details

- **work area:** /uscms/home/aharel/CMSSW_3_1_0_pre/src/RecoJets/JetAnalyzers
 - ◆ Its setup is described below
- **data area:** contains both .log and .root files /uscms_data/d1/aharel
- **v4 MC events:**
 - /uscms_data/d1/mikeh/QCD_Pt_50_80_cfi_GEN_SIM_DIGI_L1_DIGI2RAW_NoNoise.root
 - ◆ examined using gdQCD4new.py --> gdQCD4.newlog * this file contains calorimeter digis, but no reco. calo jets
 - ◆ raw2digi, reco & translate to my sc.c format using prepQCD4.py --> prepQCD4.log, prepQCD4events.root (in CMSSW format) & prepQCD4.root (in my format)
 - ◇ see comments about raw2digi below
 - **Non-collision data events:** Turns out the wrong events were used (run 70664 instead of 68021)
 - ◆ ◇ Not sure why the raw2digi step is needed. Without it complains about:

```
Looking for type: edm::SortedCollection<ZDCDataFrame, edm::StrictWeakOrdering<ZDCDataFrame>>
Looking for module label: hcalDigis
Looking for productInstanceName:
```

- **Overlayed events:**
 - ◆ who's where: /uscms_data/d1/mikeh/Craft_on_QCD_v4_eventlist.txt
 - ◆ "processed to Digi stage": /uscms_data/d1/mikeh/CRAFT_on_QCD_NewHcal_Digis_v4.root
 - ◇ examined using gd04Digi.py --> gd04Digi.log
 - ◇ this file contains mixer calorimeter digis and no reconstructed jets (as expected)
 - ◆ "Reco version": /uscms_data/d1/mikeh/CRAFT_on_QCD_NewHcal_RECO_v4.root
 - ◇ examined using gd04Reco.py --> gd04Reco.log
 - ◇ this file contains reconstructed jets, and mixer calorimeter digis 😊
 - ◇ dump in my sc.c format for plots with dumpMix4.py --> dumpMix4.root
 - updated DigiInputTag, it's now "mix"
- new work area:
 - ◆ was set up with:

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```
cmsrel CMSSW_3_1_0_pre1
cd CMSSW_3_1_0_pre1/src
cmsenv
addpkg RecoJets
cd RecoJets/JetAnalyzers/interface/
ln -s ~/test/AHtest.h AHtest.h
cd ../src
ln -s ~/test/AHtest.cc AHtest.cc
cd ..
mkdir python
ln -s ~/test/AHtest_cfi.py python/AHtest_cfi.py
mv BuildFile BuildFile_org
ln -s ~/test/BuildFile_AHtest_CMSSW_3_1_0_pre1 BuildFile
scram b
```

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