

Shoe update

TAGnameManager (i)

- Interface in Reco classes:

- Parameters:

```
fpParGeoBm = new TAGparaDsc("bmGeo", new TABMparGeo());
```



```
fpParGeoBm = new TAGparaDsc(new TABMparGeo());
```

➡ Just removing parameter Dsc name

- Data containers:

```
fpNtuTrackBm = new TAGdataDsc("bmTrack", new TABMntuTrack());
```



```
fpNtuTrackBm = new TAGdataDsc(new TABMntuTrack());
```

➡ Just removing data Dsc name

TAGnameManager (ii)

- Reminder, does not work in case of TAMCntuHit:

```
fpNtuMcBm = new TAGdataDsc("bmMc", new TAMCntuHit());
```



```
fpNtuMcBm = new TAGdataDsc(FootDataDscMcName(kBM), new TAMCntuHit());
```

- Actions:

```
fActClusVtx = new TAVTactNtuCluster("vtActClus", fpNtuHitVtx, fpNtuClusVtx, fpParConfVtx, fpParGeoVtx);
```



```
const Char_t* name = FootActionDscName("TAVTactNtuCluster");  
fActClusVtx = new TAVTactNtuCluster(name, fpNtuHitVtx, fpNtuClusVtx, fpParConfVtx, fpParGeoVtx);
```

TAGnameManager (iii)

- Branch name:

```
fActEvtWriter->SetupElementBranch(fpNtuMcEvt, TAMCntuEvent::GetBranchName());
```



```
fActEvtWriter->SetupElementBranch(fpNtuMcEvt);
```

```
void TAGactTreeWriter::SetupElementBranch(TAGdataDsc* p_data, Int_t i_size, Int_t i_compress)
{
    TAGdata* obj = p_data->Object();
    TString name(obj->ClassName());
    const char* branch = TAGnameManager::GetBranchName(name);
    TAGactTreeWriterBranch* p_chan = new TAGactTreeWriterBranch(p_data, branch, i_size, i_compress, kFALSE);

    AddDataIn(p_data, "TAGdata");          // ??? be more specific ???
    fpBranchList->Add(p_chan);
    return;
}
```

TAGnameManager (iv)

- Branch name:

```
fActEvtReader->SetupBranch(fpNtuTrackBm, TABMntuTrack::GetBranchName());
```



```
fActEvtReader->SetupBranch(fpNtuTrackBm);
```

```
void TAGactTreeReader::SetupBranch(TAGdataDsc* p_data)
{
    TAGdata* obj = p_data->Object();
    TString name(obj->ClassName());
    const char* branch = TAGnameManager::GetBranchName(name);

    TAGactTreeReaderBranch* p_chan = new TAGactTreeReaderBranch(p_data, branch);
    AddDataOut(p_data, "TAGdata");      // ??? be more specific ???
    fpBranchList->Add(p_chan);
    return;
}
```

TAGnameManager (v)

- Branch name:
 - Special case for TAMCntuHit

```
fActEvtWriter->SetupElementBranch(fpNtuMcSt, TAMCntuHit::GetStcBranchName());
```



```
fActEvtWriter->SetupElementBranch(fpNtuMcSt, FootBranchMcName(kST));
```

- ➡ Removing the static member for branch/parameter names in TA*ntu*/TA*parGeo classes
- ➡ No backward compatibility.

TAGrecoManager (i)

- FootGlobal.par:

EnableTree:	y
EnableHisto:	y
EnableTracking:	y
EnableSaveHits:	n
EnableRootObject:	y
EnableRegionMc:	n
EnableElecNoiseMc:	n

```
class TAGrecoManager : public TObject{
    . . .
    public:
        . . .
        //! MC electronics noise flag
        Bool_t IsElecNoiseMc() const { return fEnableElecNoiseMc; }
    private:
        . . .
        Bool_t fEnableRegionMc;          ///< Enable MC region reading
        Bool_t fEnableElecNoiseMc;      ///< Enable electronics noise in MC
        . . .
};
```

```
void TAGrecoManager::FromFile()
{
    . . .
    if (key.Contains("EnableElecNoiseMc:") ) {
        if ( item.Contains("y")) fEnableElecNoiseMc = true;
        else fEnableElecNoiseMc = false;
        if (fDebugLevel > 0)
            printf("EnableElecNoiseMc: %d\n", fEnableRegionMc);
    }
    . . .
}
```

➡ Add new flag for electronics noise

TAGrecoManager (ii)

- Interface:
 - E.g.: TAVTbaseActNtuHitMC

```
TAVTactBaseNtuHitMC::TAVTactBaseNtuHitMC(const char* name, TAGparaDsc* pGeoMap, TAGparaDsc* pConfig)
: TAGaction(name, "TAVTactBaseNtuHitMC - NTuplize hit MC data"),
  fpGeoMap(pGeoMap),
  fpConfig(pConfig),
  fNoisyPixelsN(0),
  fPileup(false),
  fSigmaNoiseLevel(-1)
{
  . . .

  if (TAGrecoManager::GetPar()->IsElecNoiseMc())
    fSigmaNoiseLevel = parConf->GetAnalysisPar().McNoiseLevel;
}
```

- TAVTdetector.cfg

- ➡ Set electronics noise level
 - Done as well for IT
 - For MSD taken from pedestal file (?)
(Handling also dead channels)
 - For BM, add global flag

```
// -+-+-+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
// Parameters for Analysis
// -+-+-+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
TrackingFlag:                0
TrackingAlgo:                "Full"
TracksMaximum:               30
PlanesForTrackMinimum:      3
SearchHitDistance:           0.03
TrackChi2Limit:              8.
BMTrackChi2Limit:            10.
McPileUpPar:                 0.
McNoiseLevel:             5.
Sensors:                     4
```


Night build (i)

- Scripts:

- Each step of night build: pull, compile, run & test ref. histograms

➡ Check the status (when status $\neq 0$, printout a pattern error word)

```
#build last version
echo "execute cmake & make"
cd $FOOTBUILD
cmake $FOOTSRC -DCMAKE_BUILD_TYPE=Debug -DANC_DIR=ON -DFILECOPY=ON
if ( $status == 0 ) then
  echo "Configuration fine"
else
  echo "PatternError"
endif
echo " "
```

- When error occurs sending a message

```
#!/bin/tcsh
#define sbgli server env

set file = 'nightbuild.new'
set pattern = 'PatternError'

if ( { grep -q $pattern $file } ) then
  echo "sending mail"
  cat nightbuild.new | mail -s "shoe night build" cfinck@iphc.cnrs.fr
else
  echo "No error found"
endif
```

Could change email address

➡ Need two scripts (nightbuild_ui10.csh & nightbuild_li.csh.)

Night build (ii)

- Crontab:
 - Launch two crontab's
 - One on each server (cos only sbgli is interfaced with mail, not able to set a tunnelling)

```
sbgui10:
```

```
30 23 * * * cd /grid_mnt/work__desis/F00T/build/Reconstruction/ && ./nightbuild_ui10.csh >> nightbuild.log 2>&1
```

```
sbgli:
```

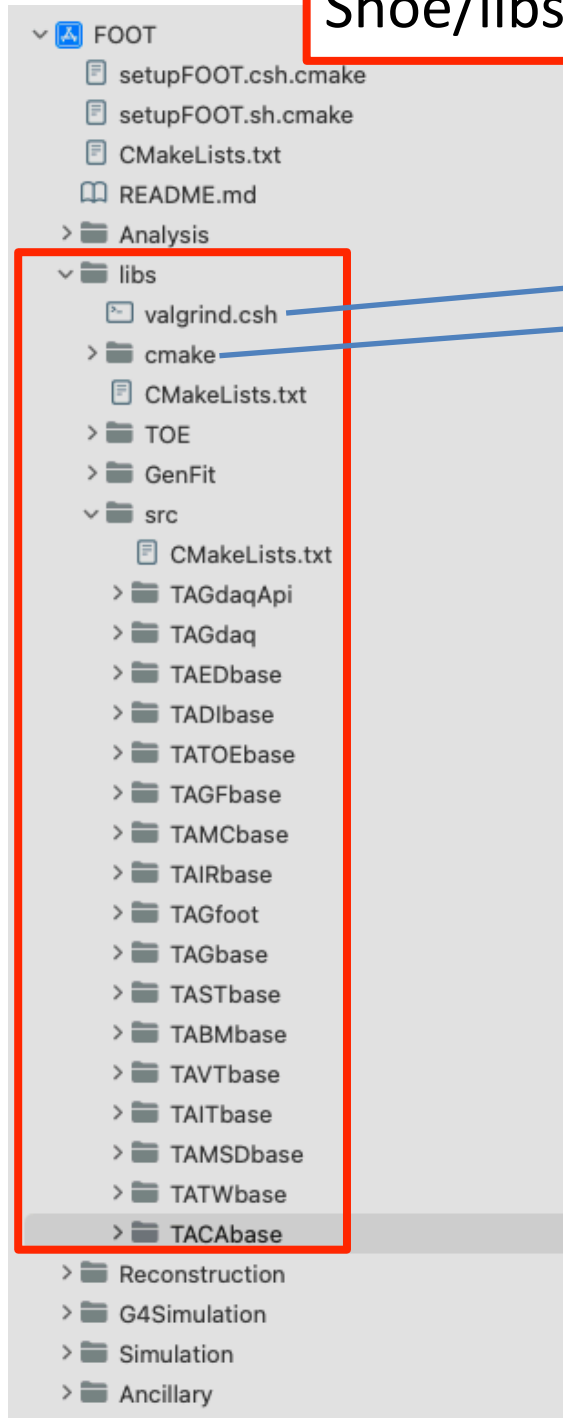
```
40 23 * * * cd /iphc-work/desis/F00T/build/Reconstruction && ./nightbuild_li.csh
```

- ➡ Launch the second cron 10 min after the first
(Disc not mounted with the same name !!!)
- ➡ Tested at night, it seems to work, receiving a message on error
- ➡ Don't use Chi2 test for histograms with only 1-2 bins filled, testing mean difference

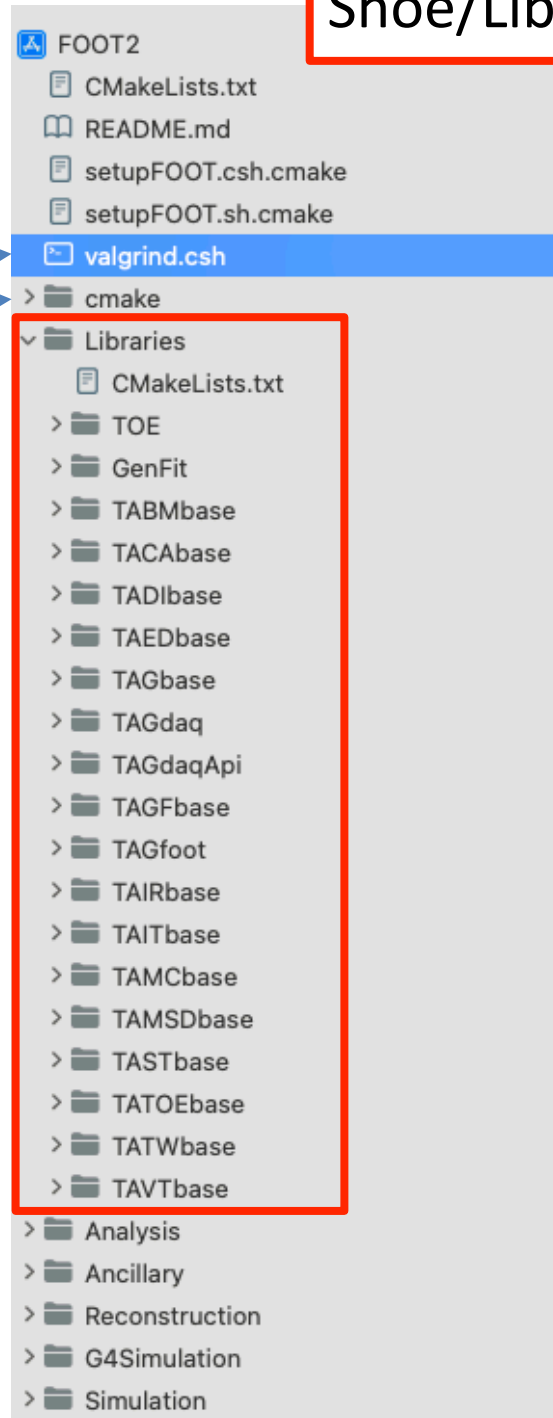
Structure

- Libs folder:

Shoe/libs/src



Shoe/Libraries



- ➡ Change name of libs: Libraries
- ➡ Move items out of src
Remove src folder
- ➡ Moving cmake folder under shoe

Conclusions

- Reco Manager
 - Add MC noise flag
 - Interfaced with MC hit actions (BM/VTX/ITR/MSD) no need for ST/TW
 - ➡ Implementation for CAL ?
 - Add MC flag for MSD/CAL cluster action constructor (for energy calibration handling)
 - Night builds on server sbgui10, working every night at 23:30
 - Pushed in **newgeom_v1.0**
 - Name Manager & structure
 - Including all the changes with the Name Manager
 - Remove sub-folder (“src”) in “libs” (changed “libs” to “Libraries”)
 - Move cmake folder out of “Libraries” folder
 - Pushed in **newgeom_v2.0**
- ➡ New tag in shoe (**v0323**) for production purposes