

Background Estimation

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PROCESS(BEAM : RUN65, 42kW)

gsim4test

```
ID=${1}

gsim4test Klpipipi0_RUN65_42kW.mac ./tmp/MC_${ID}.root 1000000 ${ID} ${ID}

if [ "$?" -eq 0 ] ; then
    mv ./tmp/MC_${ID}.root ./rawMC/MC_${ID}.root;
```

gsim2dst

```
GsimFileName=./rawMC/MC_${ID}.root
DstFileName=./DST/dst_${ID}.root
DstFileNameTmp=./tmp/dst_${ID}.root
AccidentalFileDir=/home/had/nkota/Work/RUN64_65/AccidentalOverlay/AccidentalWaveform/
RUN65_42kW
NAccidentalFiles=3074
Seed=${ID}

${MY_TOP_DIR}/AnalysisCode/gsim2dst2015/bin/gsim2dst2015 ${GsimFileName} $
{DstFileNameTmp} ${AccidentalFileDir} ${NAccidentalFiles} ${Seed}

if [ "$?" -eq 0 ] ; then
    mv ${DstFileNameTmp} ${DstFileName}
    rm -f ${GsimFileName}
```

clustering

```
CorrectionDataDir=/home/had/nkota/Work/KOT0AnalysisLibrary/data/DSTCorrection/2015run_v0
BlindingFlag=0
ClusteringFileName=./clustering/clustering_${1}.root
ClusteringFileNameTmp=./tmp/clustering_${1}.root

${MY_TOP_DIR}/AnalysisCode/clusteringFromDst2015/bin/clusteringFromDst2015 ${DstFileName}
${ClusteringFileNameTmp} ${1}

    if [ "$?" -eq 0 ] ; then
        mv ${ClusteringFileNameTmp} ${ClusteringFileName}
        rm -f ${DstFileName}
```

g2ana

```
g2anaFileName=./g2ana/g2ana_${1}.root;
g2anaFileNameTmp=./tmp/g2ana_${1}.root;

${MY_TOP_DIR}/AnalysisCode/g2ana2015/bin/g2ana2015 ${ClusteringFileName} $
${g2anaFileNameTmp}

if [ "$?" -eq 0 ] ; then
    mv ${g2anaFileNameTmp} ${g2anaFileName}
```

```
a=0
while [ $a -lt 100 ]
do

bsub -q l -o log${a} "./job2_exe.sh $a"

a=$(( $a + 1 ))
done
```

Plot Codes

```
for(int i=0;i<nevents;i++){
    tin->GetEntry(i);

    if( (CutCondition|0xc)!=0xc ) continue;
    if( (AddCutCondition|0xc0)!=0xc0 ) continue;

    if( BHGCVetoEne > 2.5 ) continue;
    if( newBHCVVetoEne > 886.0e-6/4.0 ) continue;
    if( BPCVVetoEne > 1.0 ) continue;

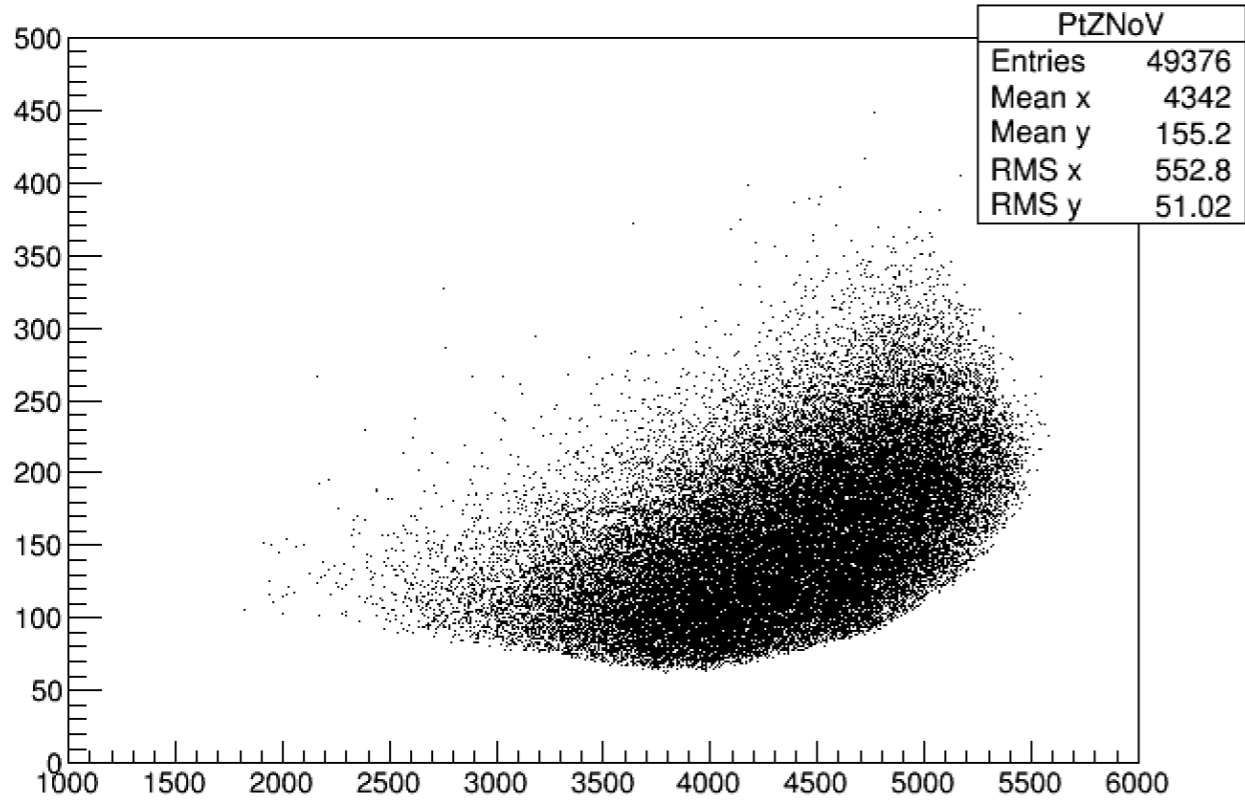
    PtZNoV->Fill( Pi0RecZ[0], Pi0Pt[0] );

    if( MyVetoCondition == 0 ){
        if( NCCVetoEne > 1.0 ) continue;
        if( FBARVetoEne > 1.0 ) continue;
        if( CBARVetoEne > 1.0 ) continue;
        if( BCVVetoEne > 0.5 ) continue;
        if( OEVVetoEne > 1.0 ) continue;
        if( NCCScintiVetoEne > 1.0 ) continue;

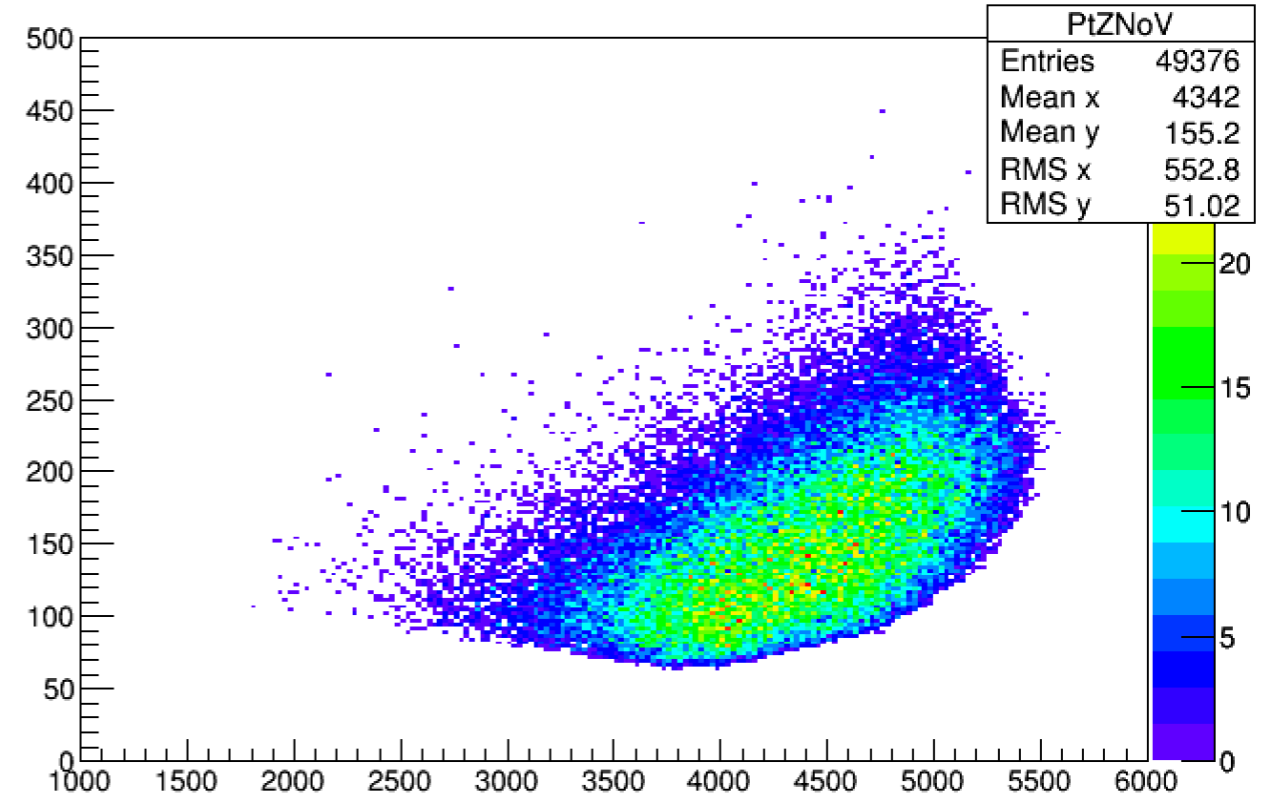
        PtZ->Fill( Pi0RecZ[0], Pi0Pt[0] );
        if( MaxShapeChisq > 4.6 ) continue;
        if( MinCSDVal < 0.8 ) continue;
        if( MaxThetaChisq > 4.5 ) continue;

        PtZtight->Fill( Pi0RecZ[0], Pi0Pt[0] );
    }
}
```

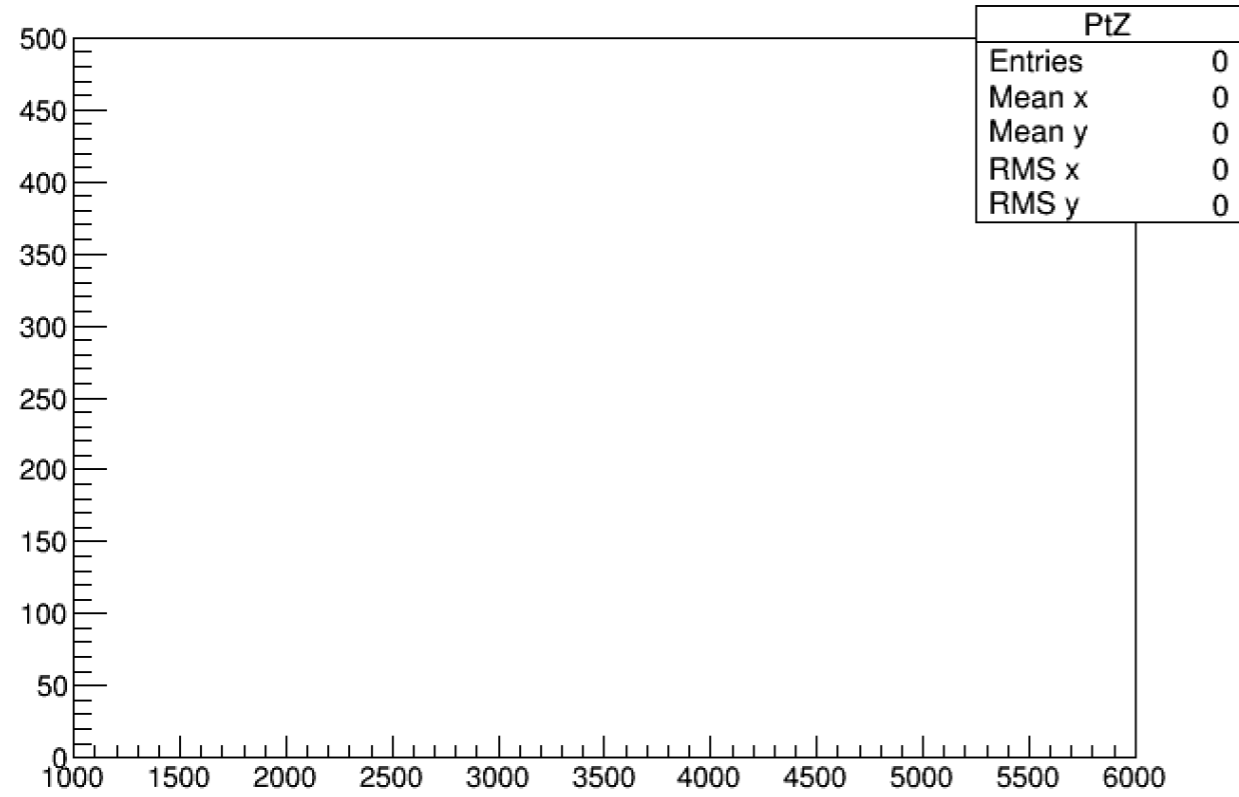
PtZNoV



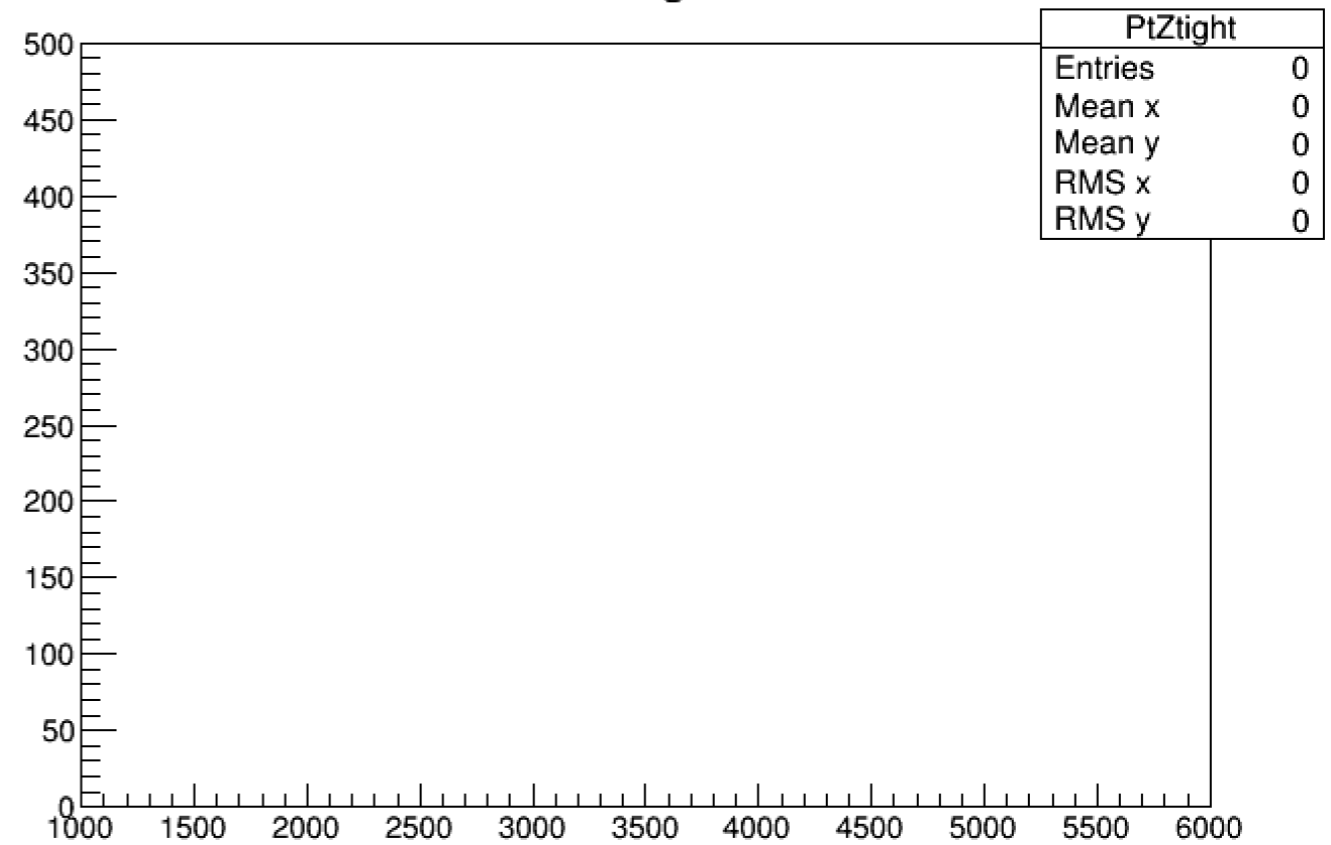
PtZNoV



PtZ



PtZtight



Now

- BEAM : RUN65, 42kW
- Number of KL : 10000
- Random Seed : 100~2000