FXT Pico Dst production

main directory - /star/data01/pwg/tlusty/FixedTarget
`script for the scheduler - FXT15.xml`
macro - makePicoDst.C
`StMuDstMaker, St_db_Maker, StTriggerSimuMaker`, and `StPicoDstMaker`

`StPicoDstMaker` is in the `StRoot` subdirectory and needs to be compiled using the command `cons with SL16a`

`MakeWrite() is the main method that writes branches from MuDst to PicoDst`

Analysis of the pico dots

The code is designed to run locally on any computer with ROOT5 or higher.

1) Running in the command line:

cp **FixedTarget**/dcaGeometry/**src**/Engine_Local.cpp
FixedTarget/dcaGeometry/**src**/Engine.cpp

2) Running with condor:

cp **FixedTarget**/dcaGeometry/**src**/EngineMacFrank.cpp
FixedTarget/dcaGeometry/**src**/Engine.cpp

need to have proper path to deuterons dE/dx
in method:

```
void PicoDst::Init(TTree *tree, Char_t *outputFile)
{
…
  TFile *fLnDedx = new TFile("/macstar/star3/tlusty/FixedTarget/BichselGraphs.root");
//  TFile *fLnDedx = new TFile("BichselGraphs.root");
  gDeuterons = (TGraph*)fLnDedx->Get("deuterons")
  fLnDedx->Close();
…
}
```

Lambda Background:

cp **FixedTarget**/dcaGeometry/**src**/BackgroundBBC.cpp
FixedTarget/dcaGeometry/**src**/PicoDst.cpp

compile
FixedTarget/dcaGeometry/**bin**/fullbuild

run
FixedTarget/dcaGeometry/**bin**/app <list of pico dsts> <#max number of events> <output root file>

K0 background:

cp **FixedTarget**/dcaGeometry/**src**/Kbg.cpp
FixedTarget/dcaGeometry/**src**/PicoDst.cpp

Lambda:

cp **FixedTarget**/dcaGeometry/**src**/LambdaBBC.C
FixedTarget/dcaGeometry/**src**/PicoDst.cpp

K0:

cp **FixedTarget**/dcaGeometry/**src**/K0BBC.C
FixedTarget/dcaGeometry/**src**/PicoDst.cpp

V1 Calculation

Event Plane Resolution:

open the root file
run .x EvtPlaneResolution.C

V1 of Lambda Background:
```
root -l 'DirectedFlowBackground.c("Background.root",1,0.4,"V1vsM",0,1)'
```

V1 of K0 Background:
```
root -l 'DirectedFlowKbg.c("k0bg.root",1,0.4,"V1vsM",0,1)'
```

V1 of Lambda:
```
root -l 'DirectedFlowLambda.c("midcuts2.root",1,0.4,"V1vsM",0,2)'
root -l 'DirectedFlowLambda.c("midcuts2.root",1,0.675,"V1tpc",0,2)'
```

V1 of K0:
```
root -l 'DirectedFlowK.c("kmid3.root",1,0.675,"V1tpc",0,1)'
root -l 'DirectedFlowK.c("kmid3.root",1,0.423,"V1vsM",0,1)'
```

Note:
root -l '<Macro>.C("<input file>",<rebin of inv. mass>,<event pl. resolution>,<name of histogram>,<0 - cubic fit, 1-linear fit>, <peak range in sigma>)'