

```
-bash-4.2$ cd /scratchfs/bes/gongjd/ReneSANCe-1.3.9/ReneSANCe-1.3.9-INSTALL/share/renesance/examples/101
-bash-4.2$ ls -lah
total 48K
drwxr-xr-x 2 gongjd physics 4.0K Apr 13 19:38 .
drwxr-xr-x 7 gongjd physics 4.0K Apr 13 19:38 ..
-rw-r--r-- 1 gongjd physics 1.9K Mar 29 2023 foam.conf
-rw-r--r-- 1 gongjd physics 91 Mar 29 2023 index.conf
-rw-r--r-- 1 gongjd physics 1.4K Mar 29 2023 proc.conf
-rw-r--r-- 1 gongjd physics 22K Mar 29 2023 res101.txt
-rw-r--r-- 1 gongjd physics 476 Mar 29 2023 sm.conf
```

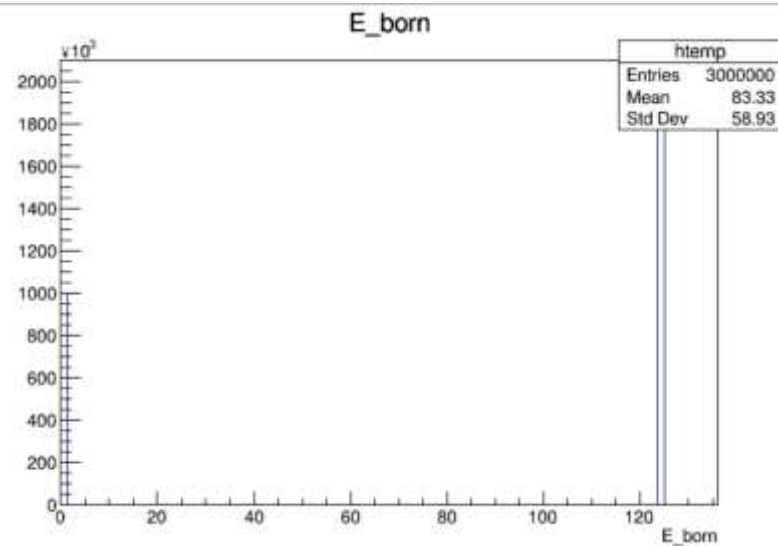
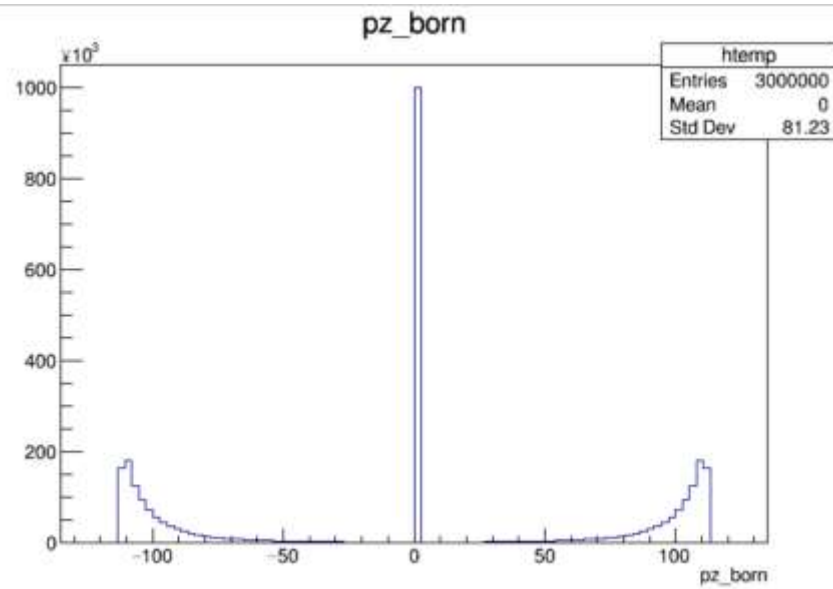
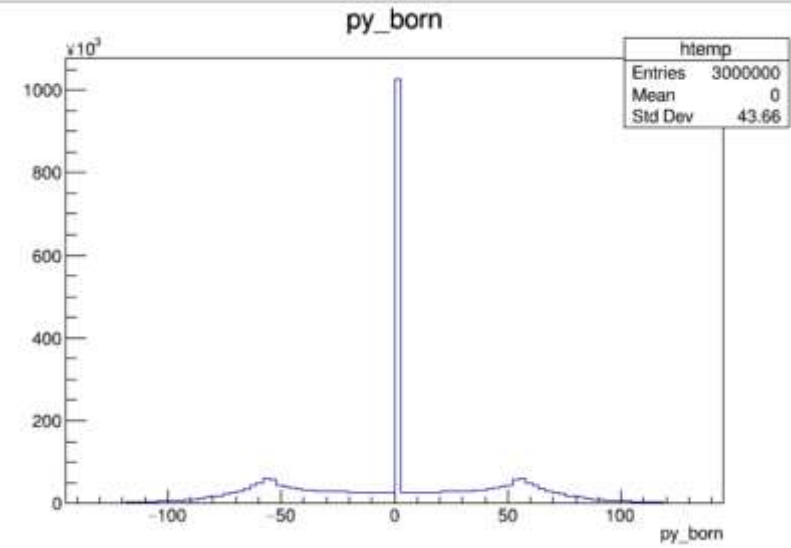
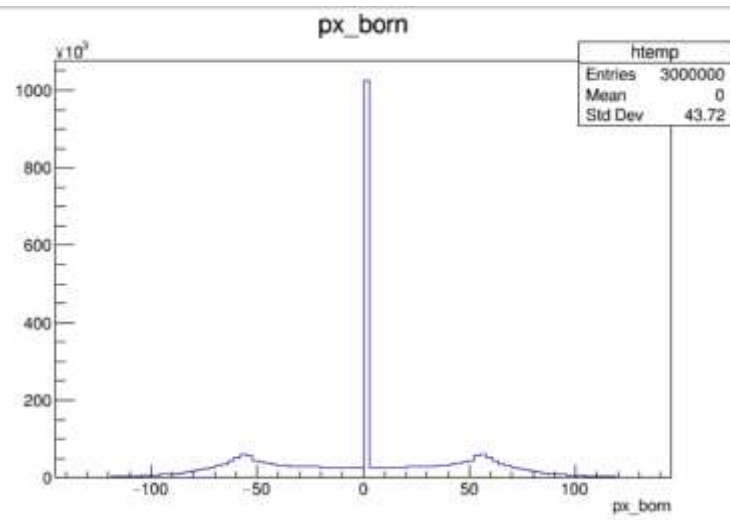
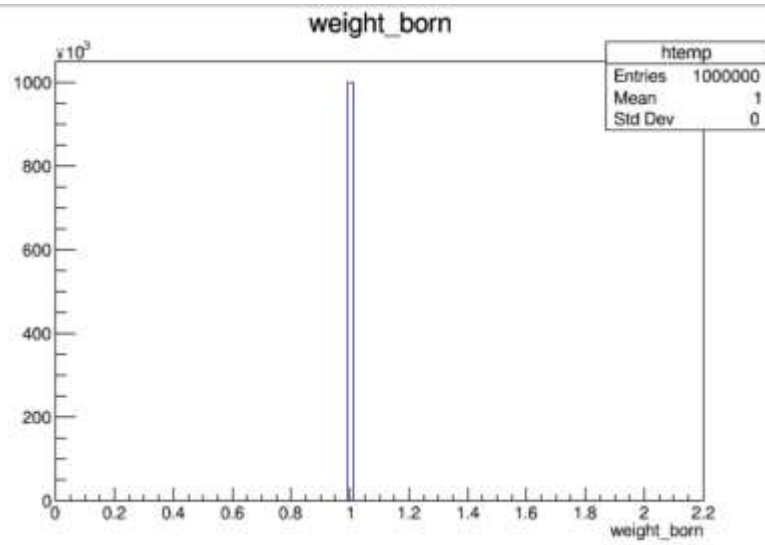
```
-bash-4.2$ cd ../EXAMPLE/
-bash-4.2$ ls -alh
total 12K
drwxr-xr-x 3 gongjd physics 4.0K Apr 13 20:10 .
drwxr-xr-x 5 gongjd physics 4.0K Apr 14 15:21 ..
drwxr-xr-x 3 gongjd physics 4.0K Apr 13 21:53 101
-bash-4.2$ cd ./101/
-bash-4.2$ ls -alh
total 2.4M
drwxr-xr-x 3 gongjd physics 4.0K Apr 13 21:53 .
drwxr-xr-x 3 gongjd physics 4.0K Apr 13 20:10 ..
-rw-r--r-- 1 gongjd physics 492K Apr 13 21:25 FoamBorn.root
-rw-r--r-- 1 gongjd physics 1.9K Apr 13 20:09 foam.conf
-rw-r--r-- 1 gongjd physics 1.7M Apr 13 21:53 FoamHard.root
-rw-r--r-- 1 gongjd physics 156K Apr 13 21:26 FoamVirt.root
-rw-r--r-- 1 gongjd physics 91 Apr 13 20:09 index.conf
-rw-r--r-- 1 gongjd physics 1.4K Apr 13 20:09 proc.conf
-rw-r--r-- 1 gongjd physics 22K Apr 13 20:09 res101.txt
drwxr-xr-x 2 gongjd physics 4.0K Apr 13 21:56 Results
-rw-r--r-- 1 gongjd physics 476 Apr 13 20:09 sm.conf
-rw-r--r-- 1 gongjd physics 22K Apr 13 21:56 test101.txt
```

vim ./proc.conf

```
#####  
# Process id:  
pid : 101  
# 101 - e+e- --> e-e+  
# 102 - e+e- --> ZH  
# 103 - e+e- --> mu-mu+  
# 104 - e+e- --> tau-tau+  
#####  
# ALR:  
alr : 0  
# 0 - sigma, 1 - sigmaRL-sigmaLR, 2 - sigmaRL+sigmaLR,  
# 3 - sigma0L-sigma0R, 4 - sigma0L+sigma0R  
#####  
# Longitudinal polarization of initial particles:  
lamep : 0.6 # e+ polarization  
lamem : -0.8 # e- polarization  
#####  
# EW scheme:  
gfscheme : 0  
# 0 - alpha(0)  
# 1 - gfermi  
# 2 - alpha(MZ)  
#####  
# Cuts:  
costhcut : 0.9 # cutn on |cos(theta)|  
thetacut : 0.0 # cut on theta in degrees (thetacut < theta < 180-thetacut)  
#####  
irun : 0  
iborn : 0  
iqed : 1  
iew : 1  
ilin : 1  
ifgg : 1  
ecm : 250 # collision CM energy  
ome: 1e-5 # E_gamma > ome*ecm/2  
#####  
exploreBorn : true  
exploreVirt : true  
exploreHard : true  
#####  
printLHE : true  
printROOT : true
```

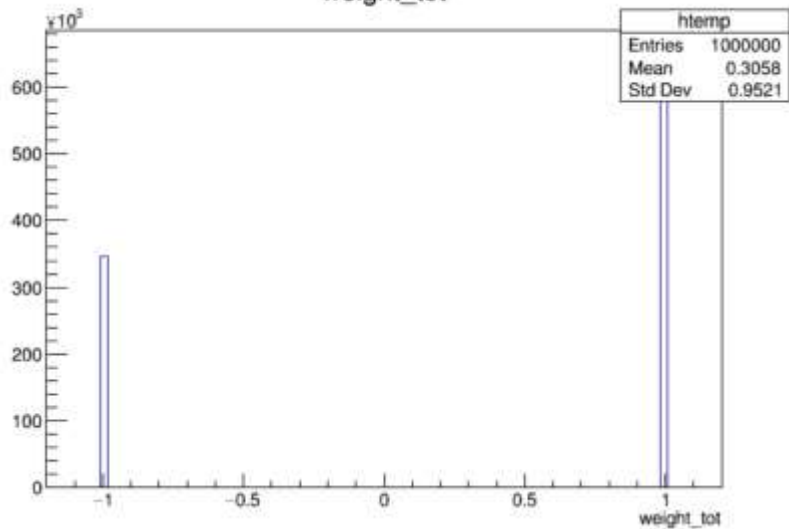
```
bash-4.2$ ls -alh
total 1.6G
drwxr-xr-x 2 gongjd physics 4.0K Apr 15 14:18 .
drwxr-xr-x 3 gongjd physics 4.0K Apr 15 13:47 ..
-rw-r--r-- 1 gongjd physics  12 Apr 13 21:56 events_L0.dat
-rw-r--r-- 1 gongjd physics 685M Apr 13 21:53 events_L0.lhe
-rw-r--r-- 1 gongjd physics  31M Apr 13 21:56 events_L0.root
-rw-r--r-- 1 gongjd physics  12 Apr 13 21:56 events_NL0.dat
-rw-r--r-- 1 gongjd physics 781M Apr 13 21:56 events_NL0.lhe
-rw-r--r-- 1 gongjd physics  70M Apr 13 21:56 events_NL0.root
bash-4.2$ root -l ./events_L0.root
root [0]
Attaching file ./events_L0.root as _file0...
(TFile *) 0x2c763a0
root [1] .ls
TFile**      ./events_L0.root
TFile*       ./events_L0.root
KEY: TTree   events_born;2  born events [current cycle]
KEY: TTree   events_born;1  born events [backup cycle]
root [2] events_born->Print()
*****
*Tree      :events_born: born events
*Entries : 1000000 : Total =      104311838 bytes File Size =  32035003 *
*          :          : Tree compression factor =  3.26
*****
*Br   0 :weight_born : weight_born[1]/D
*Entries : 1000000 : Total Size=    8025228 bytes File Size =    73663 *
*Baskets :   237 : Basket Size=  1231360 bytes Compression= 108.88
*
*.....
*Br   1 :px_born    : px_born[3]/D
*Entries : 1000000 : Total Size=  24071734 bytes File Size =  10388645 *
*Baskets :   707 : Basket Size=  3692544 bytes Compression=  2.32
*
*.....
*Br   2 :py_born    : py_born[3]/D
*Entries : 1000000 : Total Size=  24071734 bytes File Size =  10389361 *
*Baskets :   707 : Basket Size=  3692544 bytes Compression=  2.32
*
*.....
*Br   3 :pz_born    : pz_born[3]/D
*Entries : 1000000 : Total Size=  24071734 bytes File Size =  10513826 *
*Baskets :   707 : Basket Size=  3692544 bytes Compression=  2.29
*
*.....
*Br   4 :E_born     : E_born[3]/D
*Entries : 1000000 : Total Size=  24071023 bytes File Size =    648322 *
*Baskets :   707 : Basket Size=  3692544 bytes Compression=  37.11
*
*.....
```

```
bash-4.2$ root -l ./events_NL0.root
root [0]
Attaching file ./events_NL0.root as _file0...
(TFile *) 0x1219cb0
root [1] .ls
File**      ./events_NL0.root
TFile*      ./events_NL0.root
KEY: TTree   events_tot;3    tot events [current cycle]
KEY: TTree   events_tot;2    tot events [backup cycle]
KEY: TTree   events_hardvar;1  tot events
root [2] events_tot->Print()
*****
Tree      :events_tot: tot events
Entries : 1000000 : Total =      104137660 bytes File Size =  72929553 *
          :          : Tree compression factor =  1.43
*****
*Br   0 :weight_tot : weight_tot[1]/D
*Entries : 1000000 : Total Size=    8011566 bytes File Size =    537792 *
*Baskets :   109 : Basket Size=  1231360 bytes Compression=  14.89
*
*.....
*Br   1 :px_tot     : px_tot[3]/D
*Entries : 1000000 : Total Size=  24031508 bytes File Size =  19221865 *
*Baskets :   315 : Basket Size=  3692544 bytes Compression=  1.25
*
*.....
*Br   2 :py_tot     : py_tot[3]/D
*Entries : 1000000 : Total Size=  24031508 bytes File Size =  19222342 *
*Baskets :   315 : Basket Size=  3692544 bytes Compression=  1.25
*
*.....
*Br   3 :pz_tot     : pz_tot[3]/D
*Entries : 1000000 : Total Size=  24031508 bytes File Size =  19289474 *
*Baskets :   315 : Basket Size=  3692544 bytes Compression=  1.25
*
*.....
*Br   4 :E_tot      : E_tot[3]/D
*Entries : 1000000 : Total Size=  24031189 bytes File Size =  14646609 *
*Baskets :   315 : Basket Size=  3692544 bytes Compression=  1.64
*
*.....
```

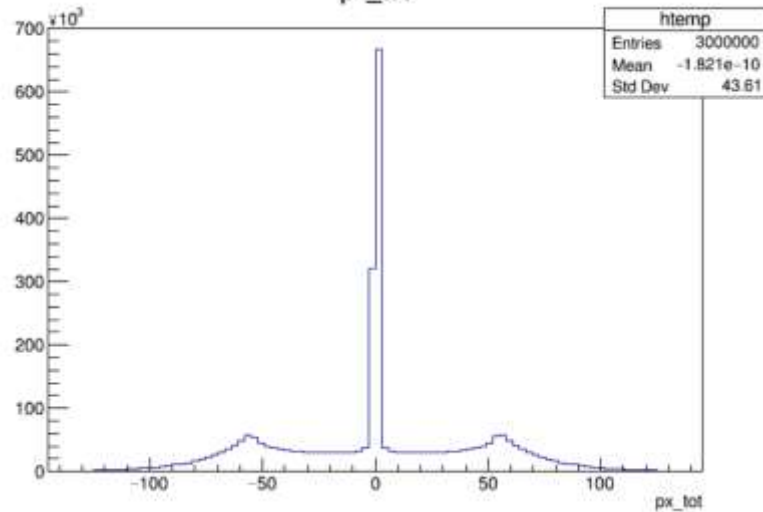


root -l events_LO.root

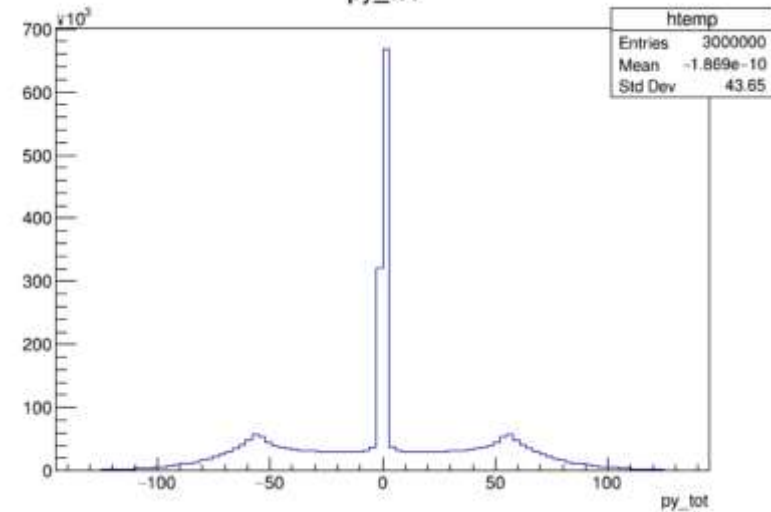
weight_tot



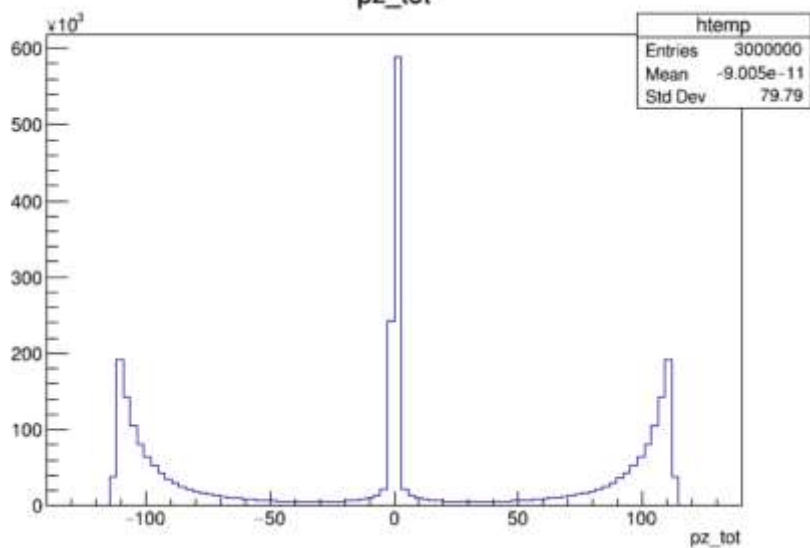
px_tot



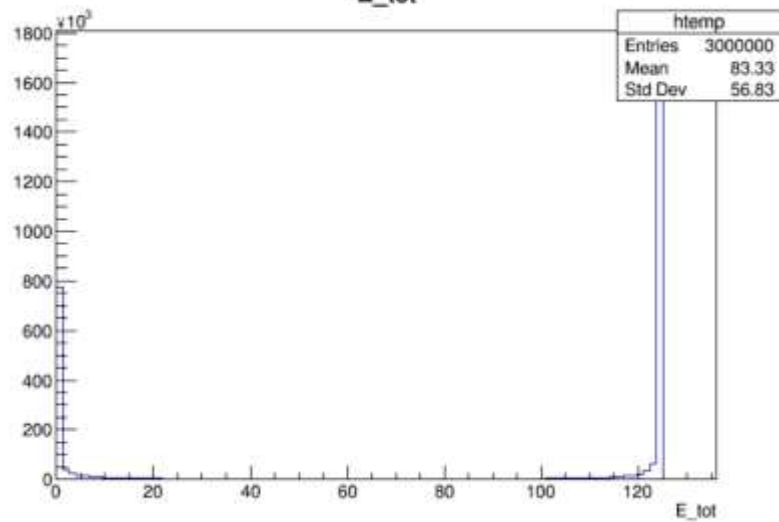
py_tot



pz_tot



E_tot



root -l events_NLO.root