First checks on sid02

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Auxillary files

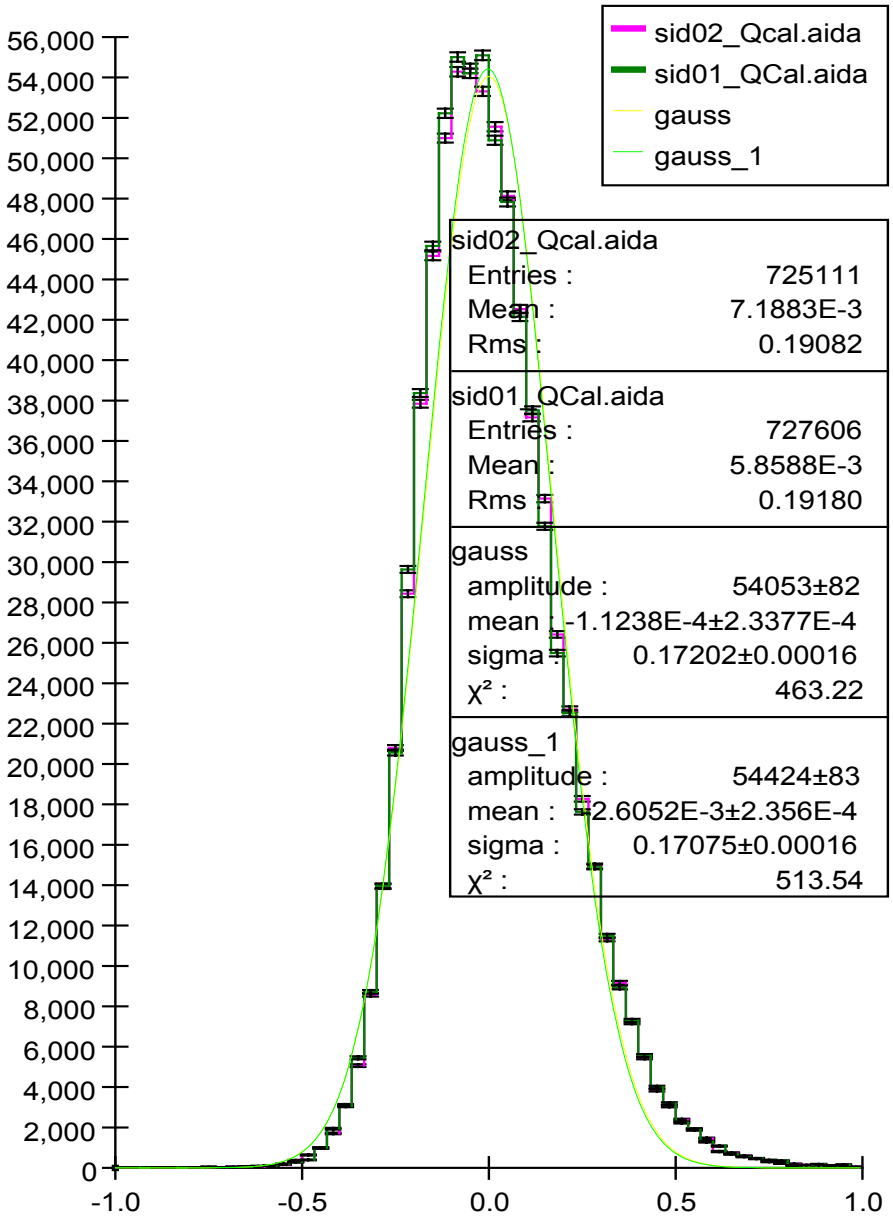
- Property files needed for sid02 have been added, although tracking and fastMC files are copies of sid01. Sampling fractions and calibration have been generated, and are in the process of being checked.
- The confluence page https://confluence.slac.stanford.edu/display/ilc/Defining+a+Detector is being modified to reflect the steps needed for generating these files.

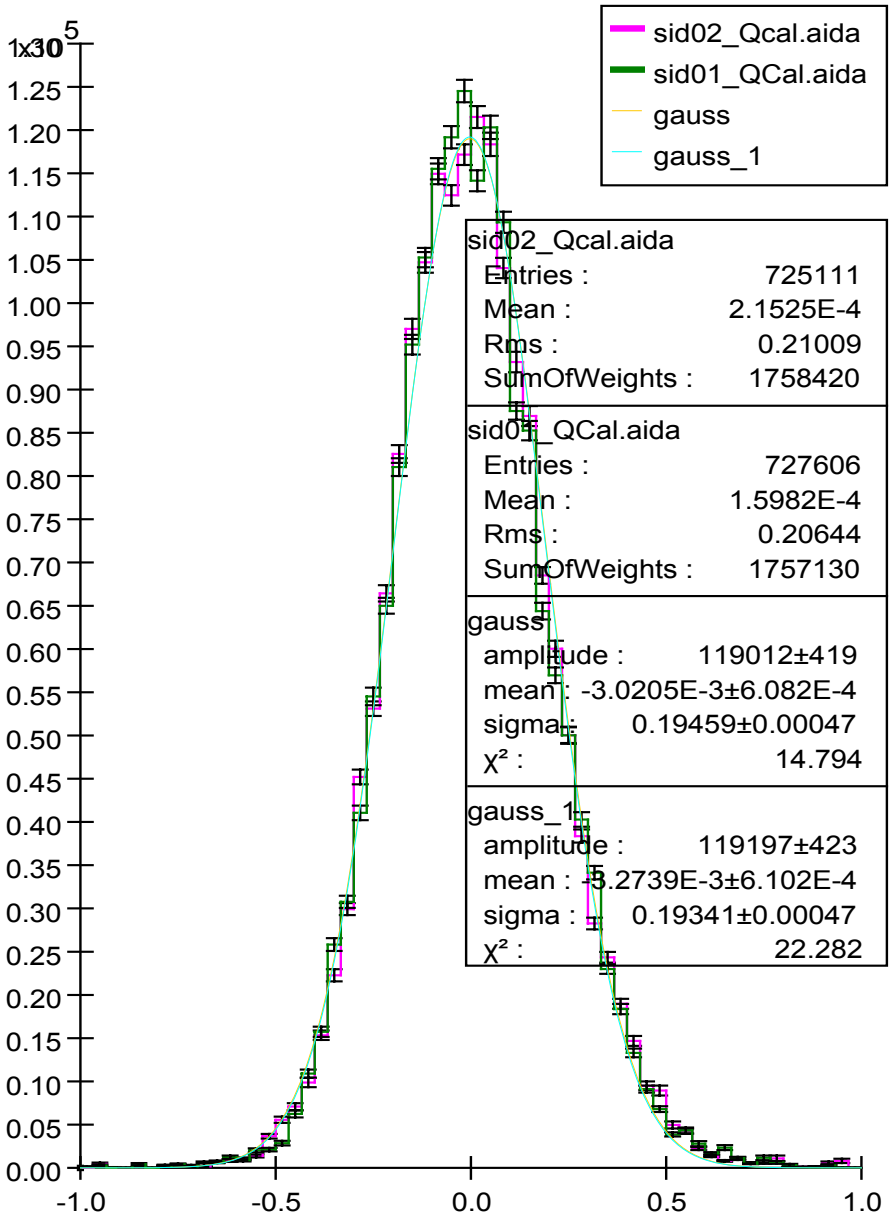
Sampling fractions

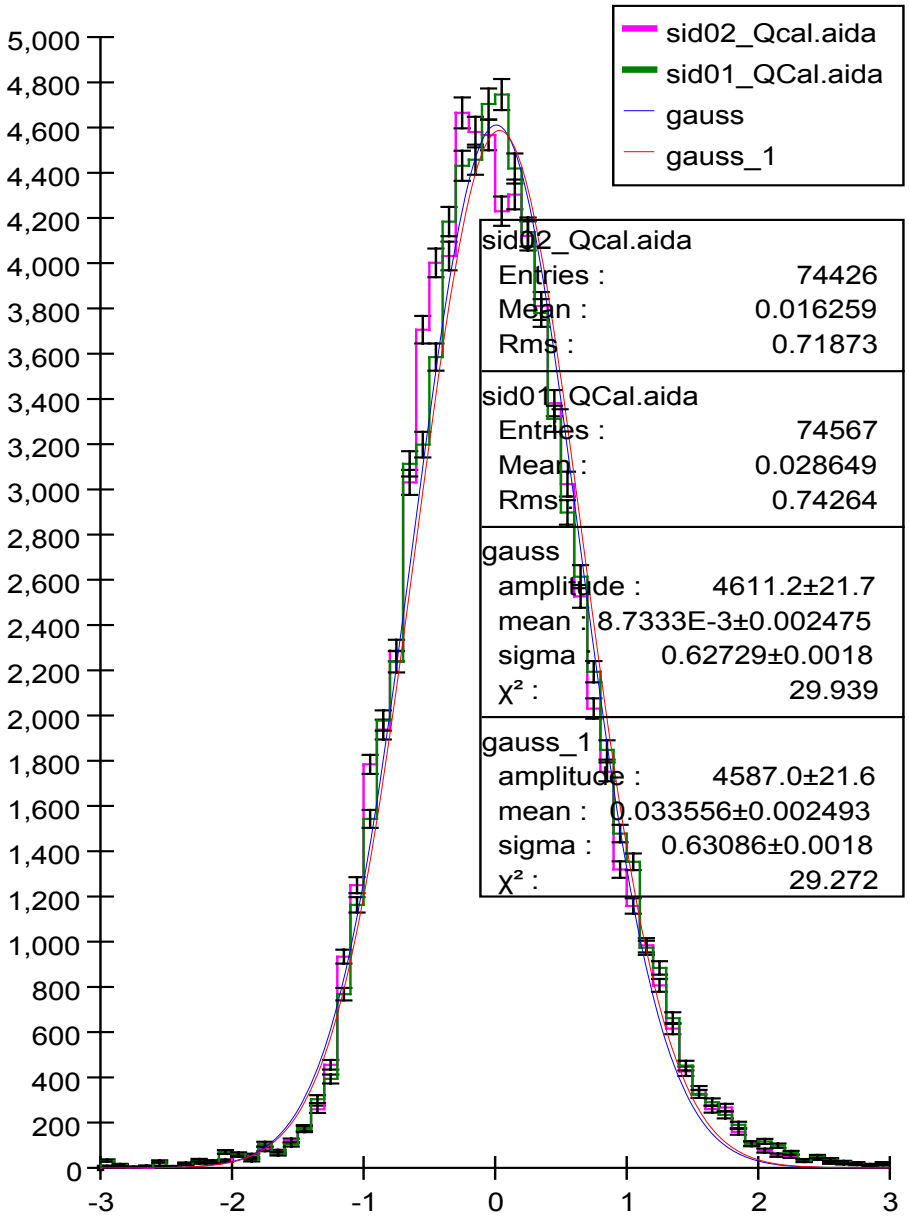
- Calculate sampling fractions from qq data.
- Compare sid01, sid02. For the cm energies 100,200 and 500 Gev, using only the EM and Had calorimeters and their sampling fractions, show rms90 of the dE distribution.
- 100 200 500
- Sid01 5.76 8.55 20.58
- Sid02 5.46 8.15 18.53

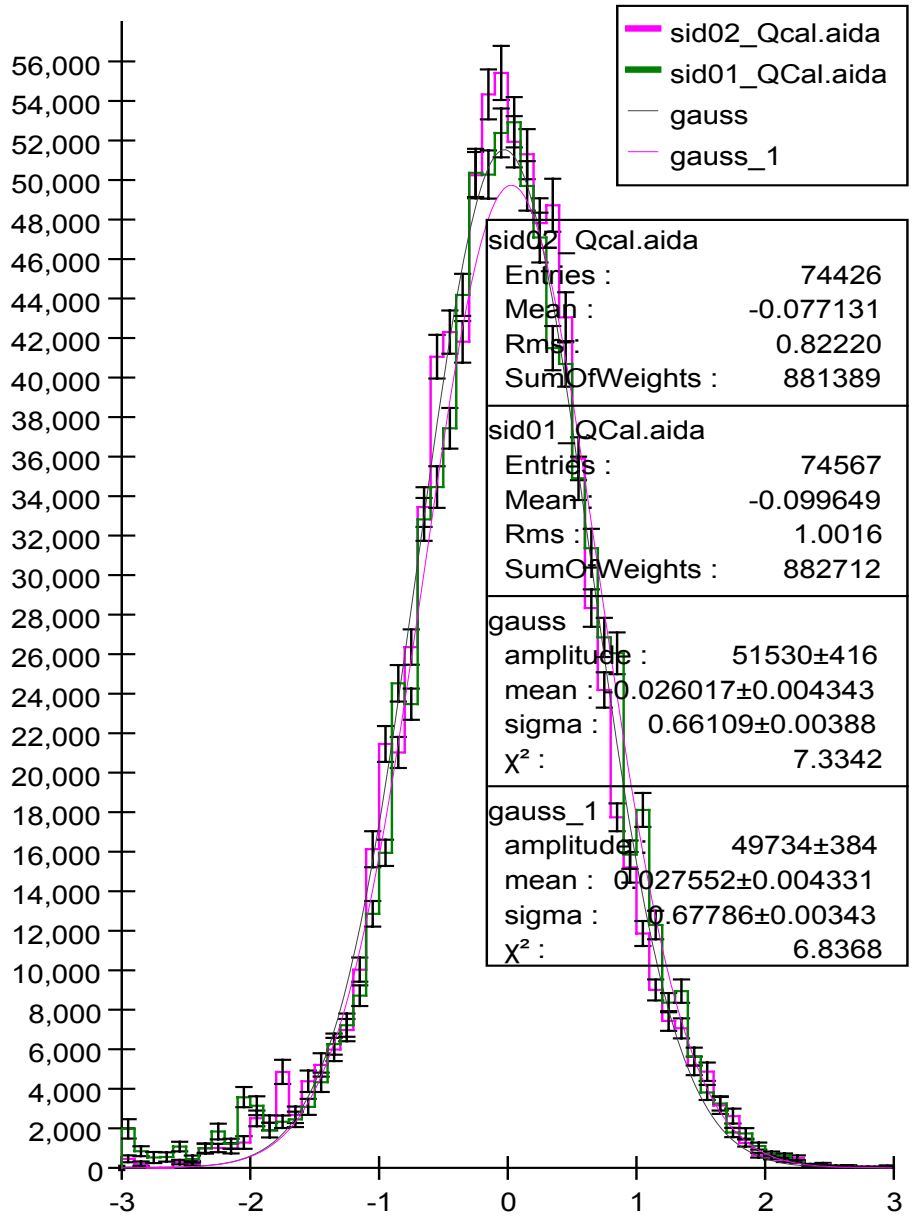
Calibration

- Calibration constants generated using ZZ->qqnunu data


photons: dE/sqrtE
sid02_Qcal.aida
sid01_QCal.aida
gauss
gauss_1
sid02_Qcal.aida
Entries : 725111
Mean : 7.1883E-3
Rms : 0.19082
sid01_QCal.aida
Entries : 727606
Mean : 5.8588E-3
Rms : 0.19180
gauss
amplitude : 54053±82
mean : -1.1238E-4±2.3377E-4
sigma : 0.17202±0.00016
X² : 463.22
gauss_1
amplitude : 54424±83
mean : 2.6052E-3±2.356E-4
sigma : 0.17075±0.00016
X² : 513.54
56,000
54,000
52,000
50,000
48,000
46,000
44,000
42,000
40,000
38,000
36,000
34,000
32,000
30,000
28,000
26,000
24,000
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
-1.0
-0.5
0.0
0.5
1.0

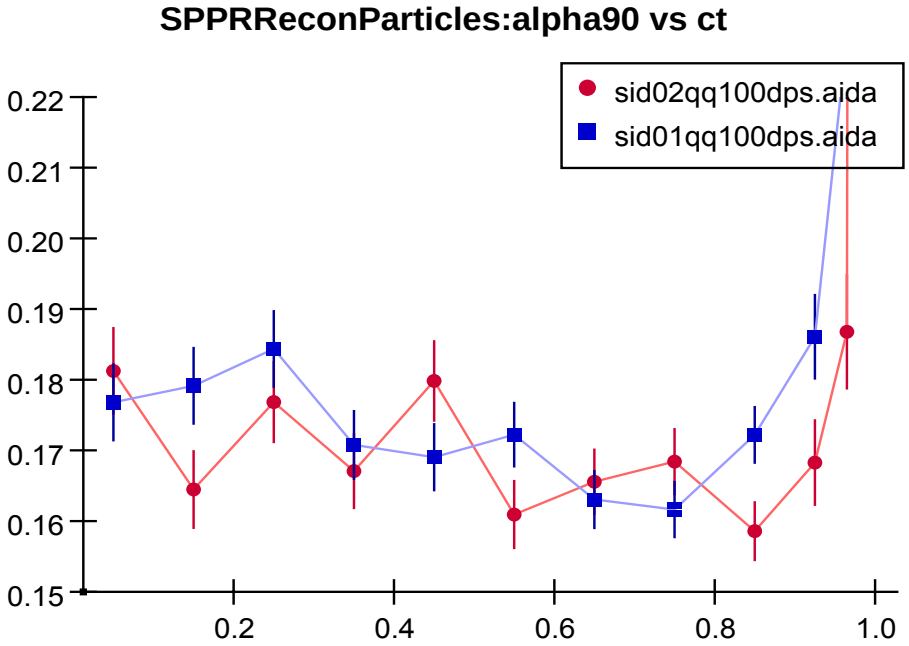

photons: wted dE/sqrtE
1x10⁵
sid02_Qcal.aida
sid01_QCal.aida
gauss
gauss_1
sid02_Qcal.aida
Entries : 725111
Mean : 2.1525E-4
Rms : 0.21009
SumOfWeights : 1758420
sid01_QCal.aida
Entries : 727606
Mean : 1.5982E-4
Rms : 0.20644
SumOfWeights : 1757130
gauss
amplitude : 119012±419
mean : -3.0205E-3±6.082E-4
sigma : 0.19459±0.00047
X² : 14.794
gauss_1
amplitude : 119197±423
mean : -3.2739E-3±6.102E-4
sigma : 0.19341±0.00047
X² : 22.282
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
-1.0
-0.5
0.0
0.5
1.0

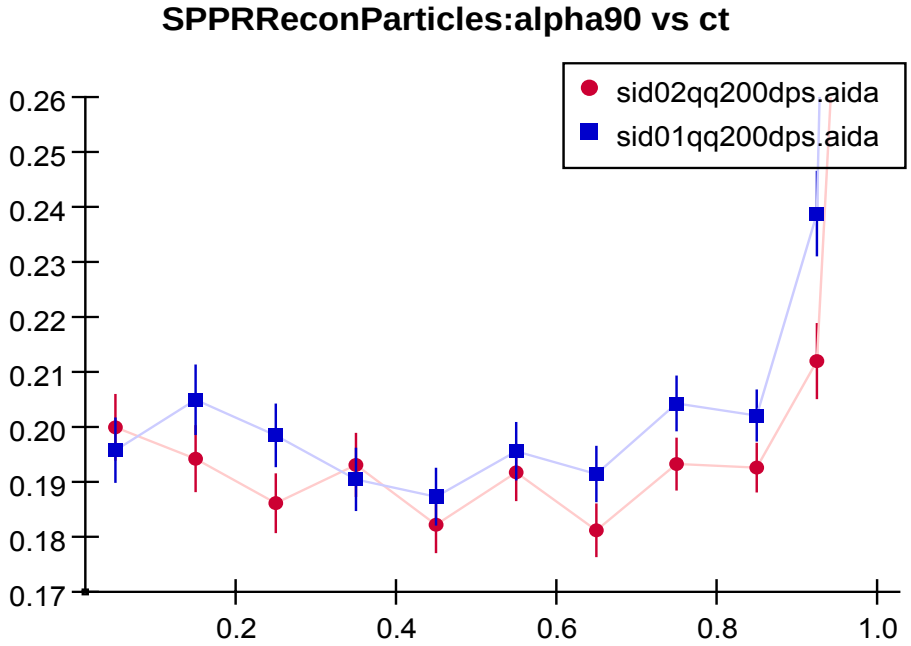

neutral hadrons: dE/sqrtE
sid02_Qcal.aida
sid01_QCal.aida
gauss
gauss_1
sid02_Qcal.aida
Entries : 74426
Mean : 0.016259
Rms : 0.71873
sid01_QCal.aida
Entries : 74567
Mean : 0.028649
Rms : 0.74264
gauss
amplitude : 4611.2±21.7
mean : 8.7333E-3±0.002475
sigma : 0.62729±0.0018
χ² : 29.939
gauss_1
amplitude : 4587.0±21.6
mean : 0.033556±0.002493
sigma : 0.63086±0.0018
χ² : 29.272

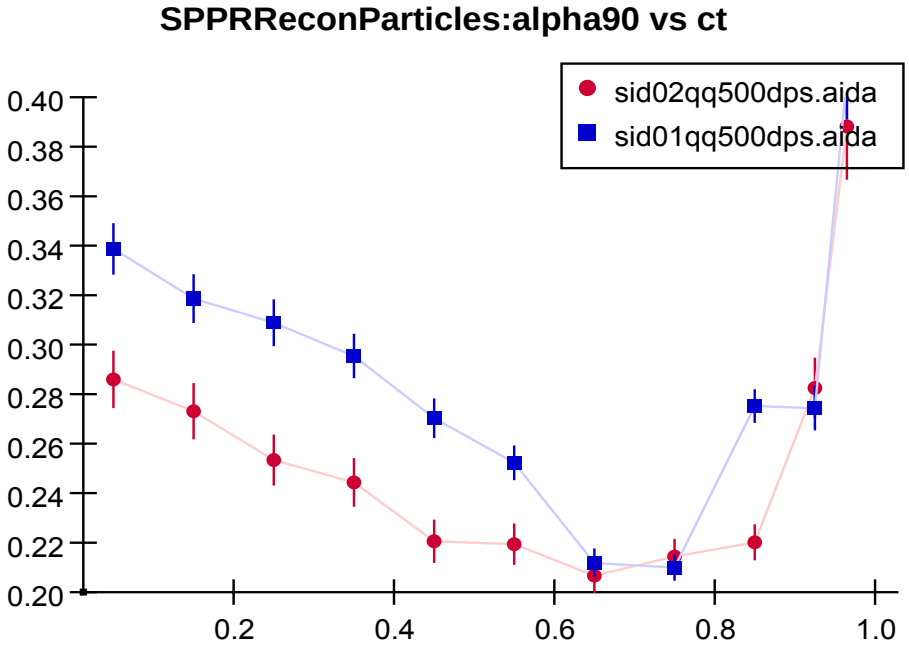

neutral hadrons: wted dE/sqrtE
sid02_Qcal.aida
sid01_QCal.aida
gauss
gauss_1
sid02_Qcal.aida
Entries : 74426
Mean : -0.077131
Rms : 0.82220
SumOfWeights : 881389
sid01_QCal.aida
Entries : 74567
Mean : -0.099649
Rms : 1.0016
SumOfWeights : 882712
gauss
amplitude : 51530±416
mean : -0.026017±0.004343
sigma : 0.66109±0.00388
χ² : 7.3342
gauss_1
amplitude : 49734±384
mean : -0.027552±0.004331
sigma : 0.67786±0.00343
χ² : 6.8368

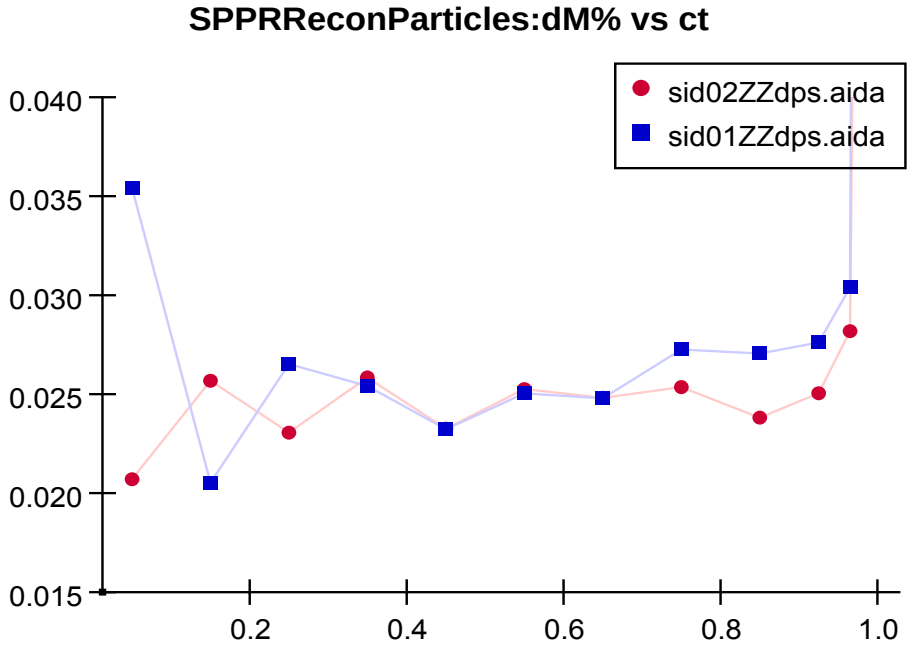
PPR

- Check that perfect pattern recognition reconstruction gives reasonable results.


SPPRReconParticles:alpha90 vs ct
sid02qq100dps.aida
sid01qq100dps.aida
0.22
0.21
0.20
0.19
0.18
0.17
0.16
0.15
0.2
0.4
0.6
0.8
1.0


SPPRReconParticles:alpha90 vs ct
sid02qq200dps.aida
sid01qq200dps.aida
0.26
0.25
0.24
0.23
0.22
0.21
0.20
0.19
0.18
0.17
0.2
0.4
0.6
0.8
1.0


SPPRReconParticles:alpha90 vs ct
sid02qq500dps.aida
sid01qq500dps.aida
0.40
0.38
0.36
0.34
0.32
0.30
0.28
0.26
0.24
0.22
0.20
0.2
0.4
0.6
0.8
1.0


SPPRReconParticles:dM% vs ct
sid02ZZdps.aida
sid01ZZdps.aida
0.040
0.035
0.030
0.025
0.020
0.015
0.2
0.4
0.6
0.8
1.0

PPR

- Compare alpha90 for qq events with cos theta cut of 0.9
- jetE sid01 sid02
- 50 .171 .168
- 100 .197 .190
- 250 .263 .232

Further checks

- Single particles – photons, neutral hadrons – calibration constants from ZZ data run with SLIC v2r3p10, Geant v9r0p1, other data files with Geant v9r1p2. Could be different and create problems.
- Run real PFA reconstructions.