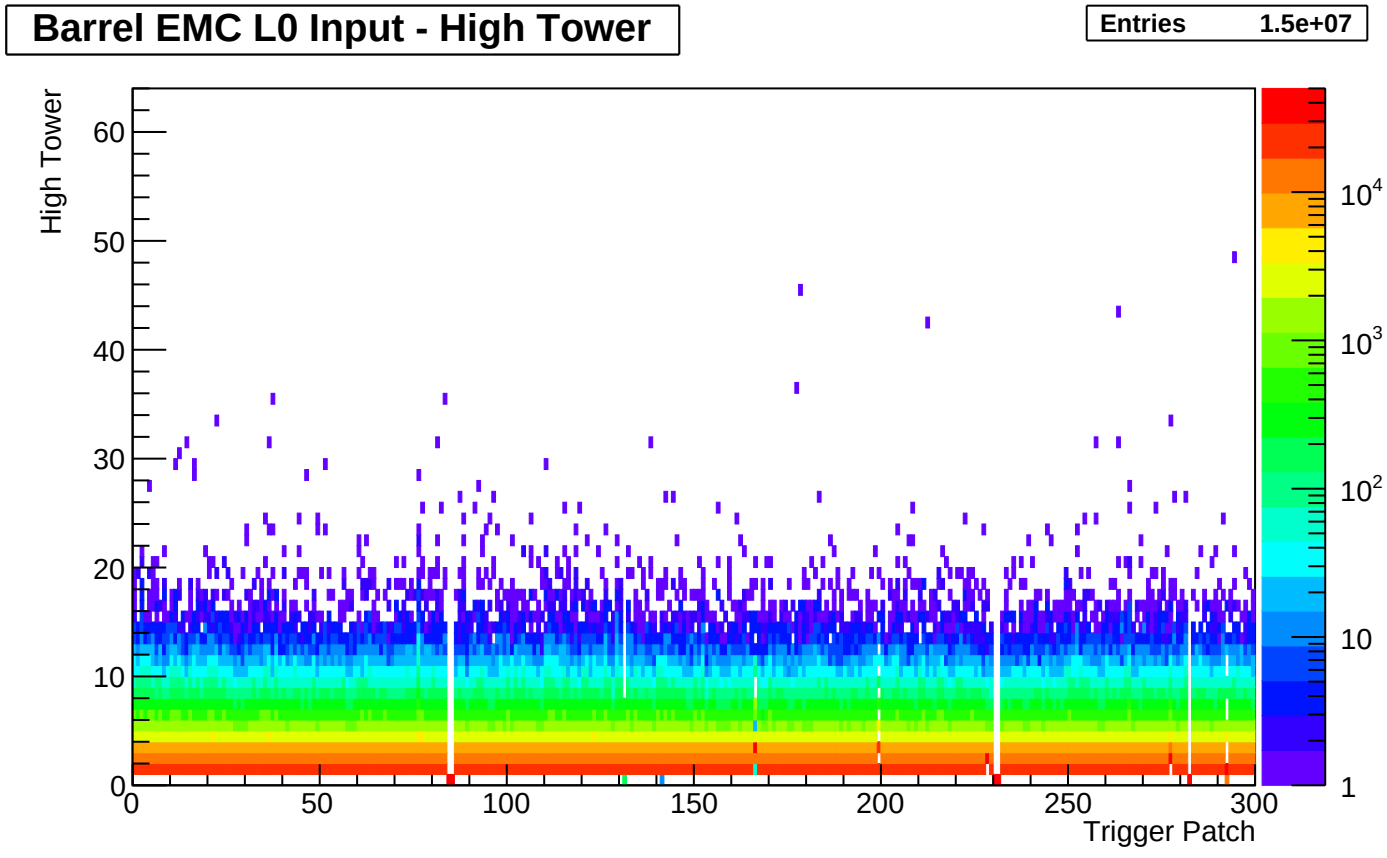
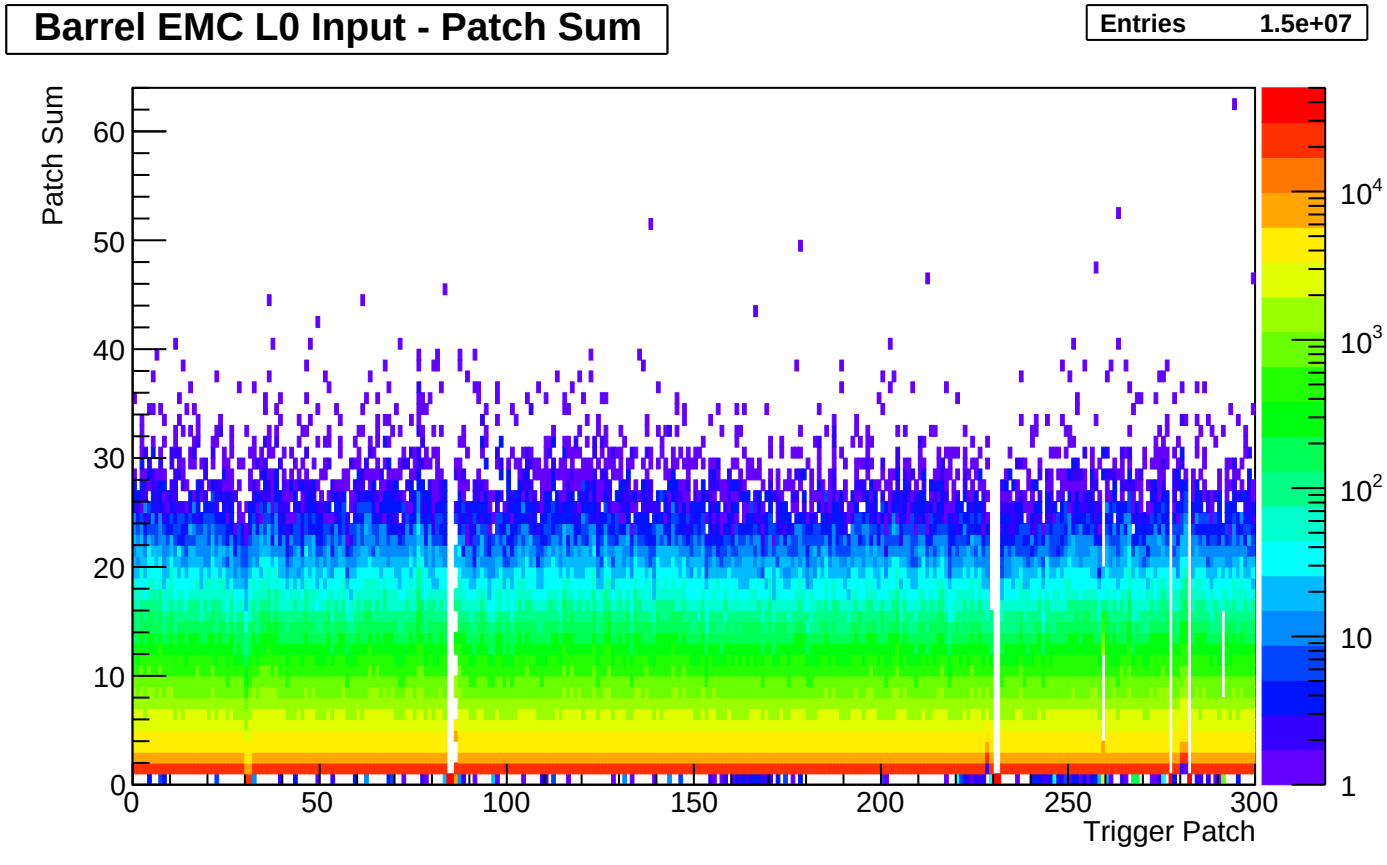
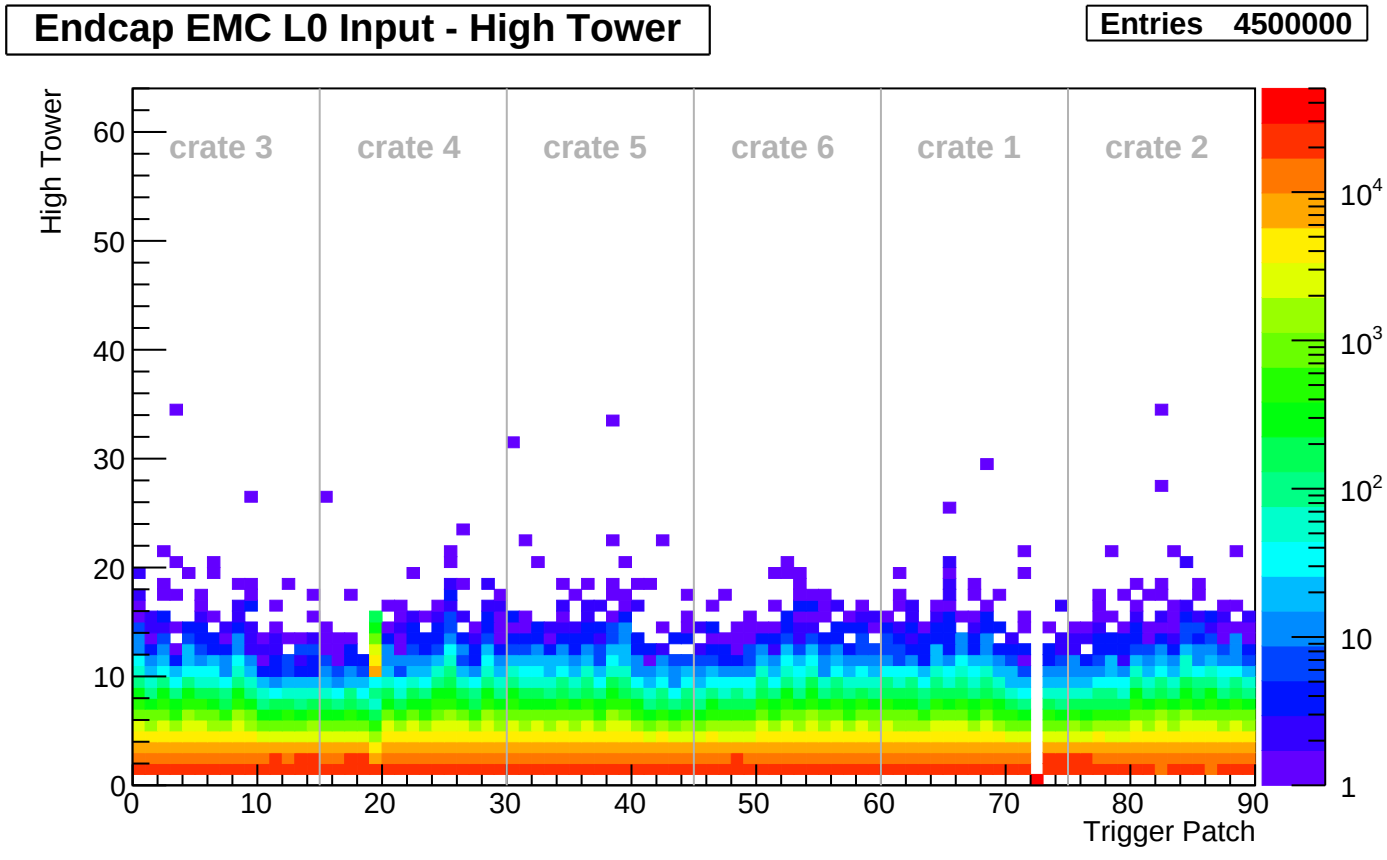
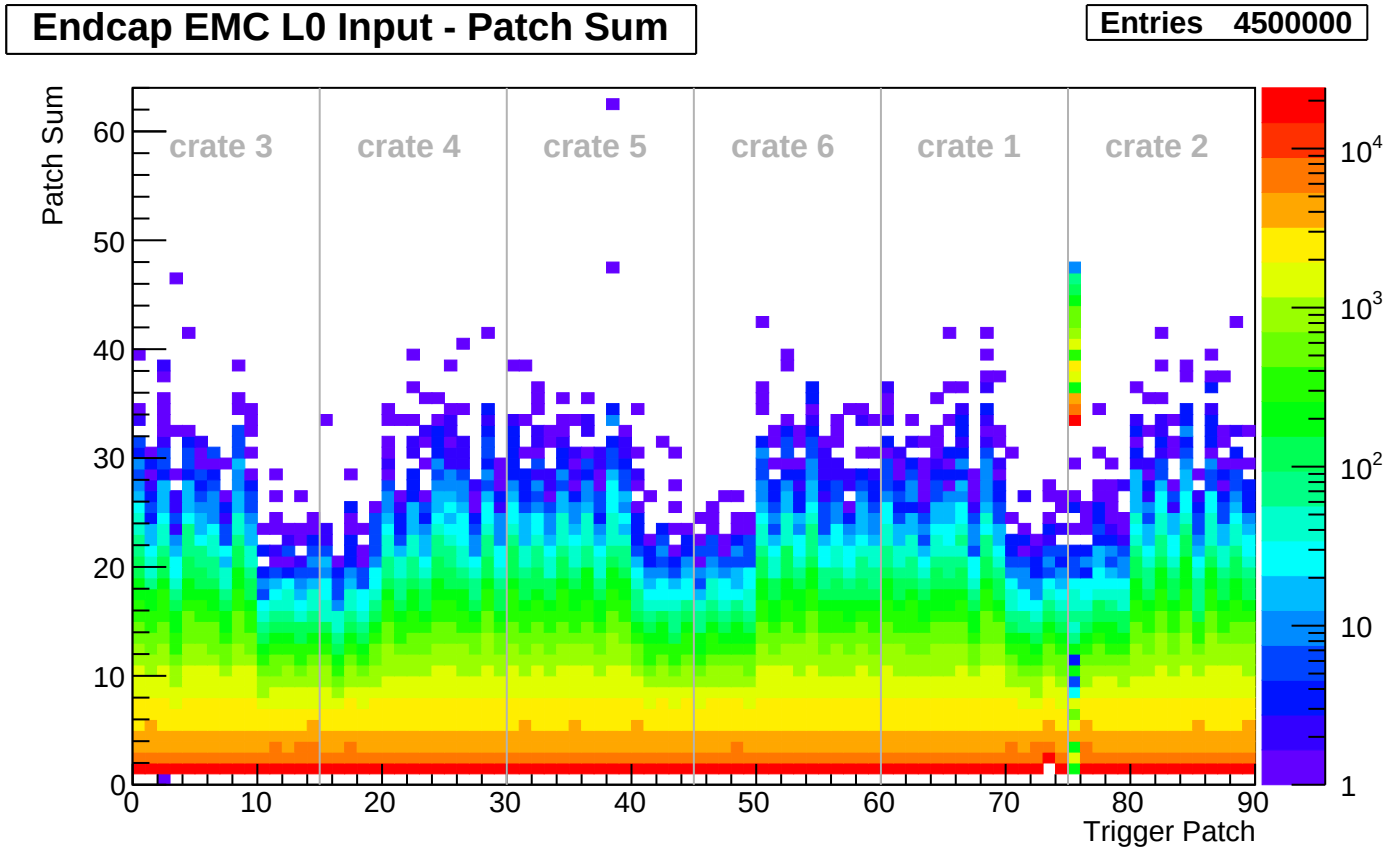
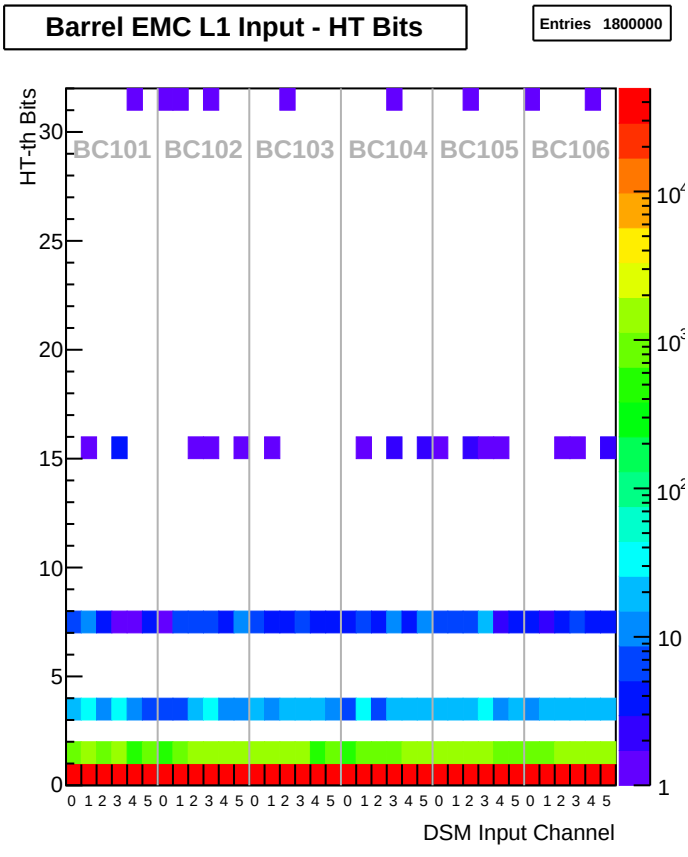
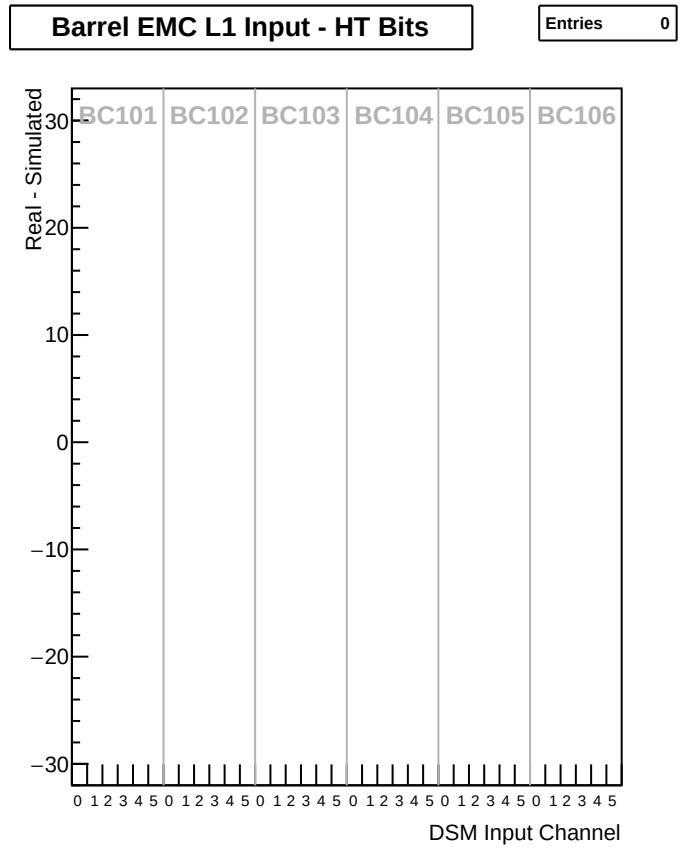

Barrel EMC L0 Input - High Tower
Entries 1.5e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

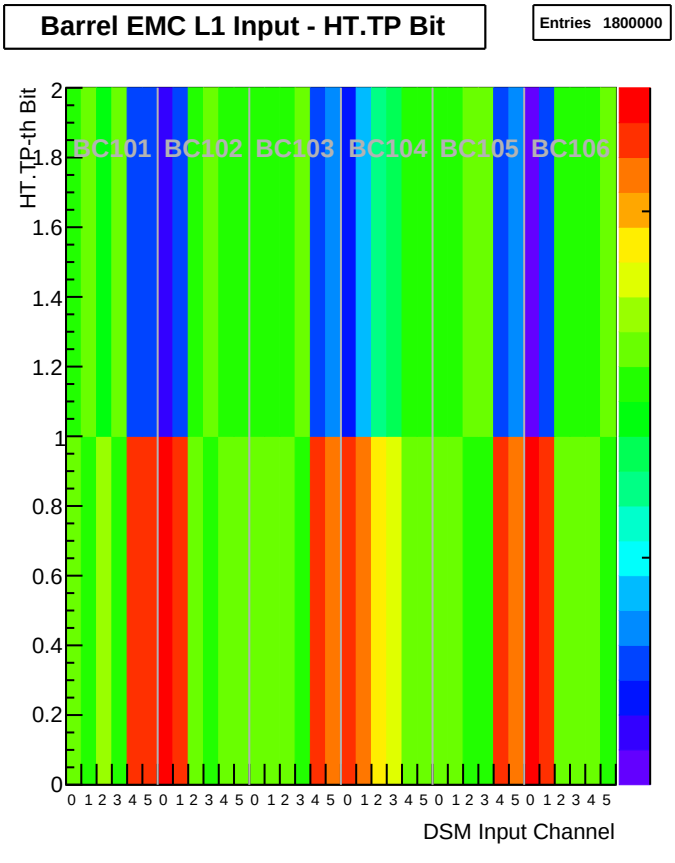

Barrel EMC L0 Input - Patch Sum
Entries 1.5e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

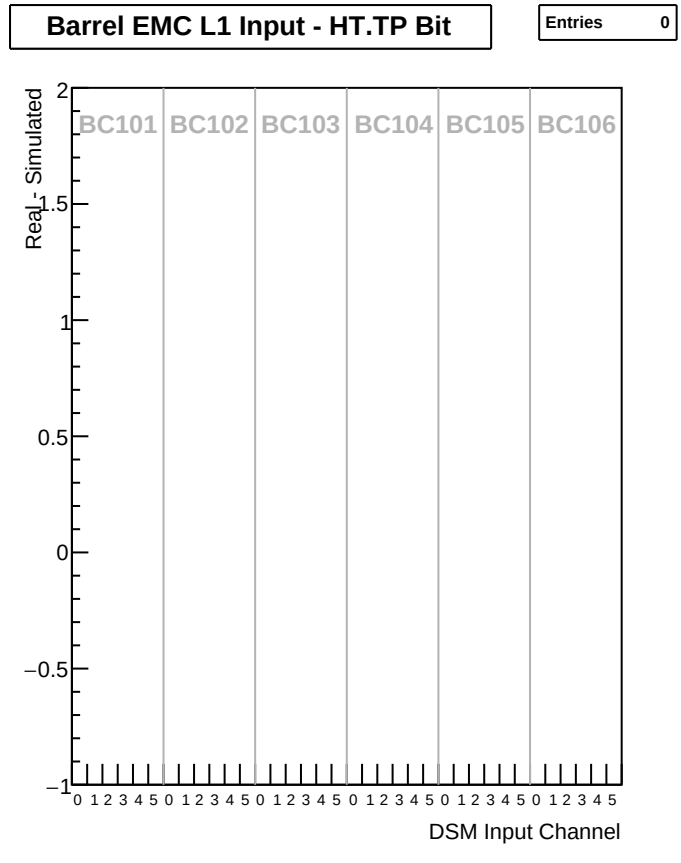

Endcap EMC L0 Input - High Tower
Entries 4500000
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

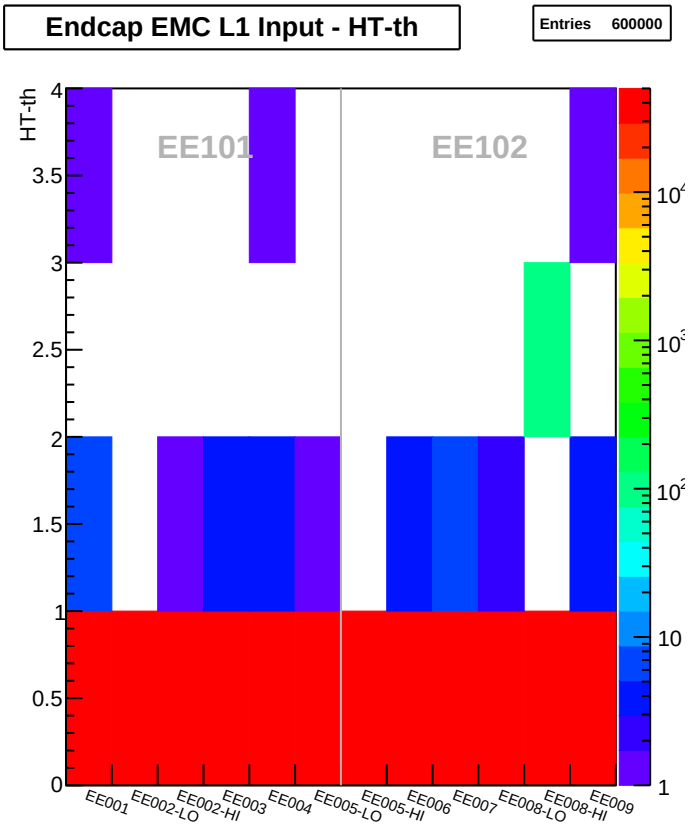

Endcap EMC L0 Input - Patch Sum
Entries 4500000
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

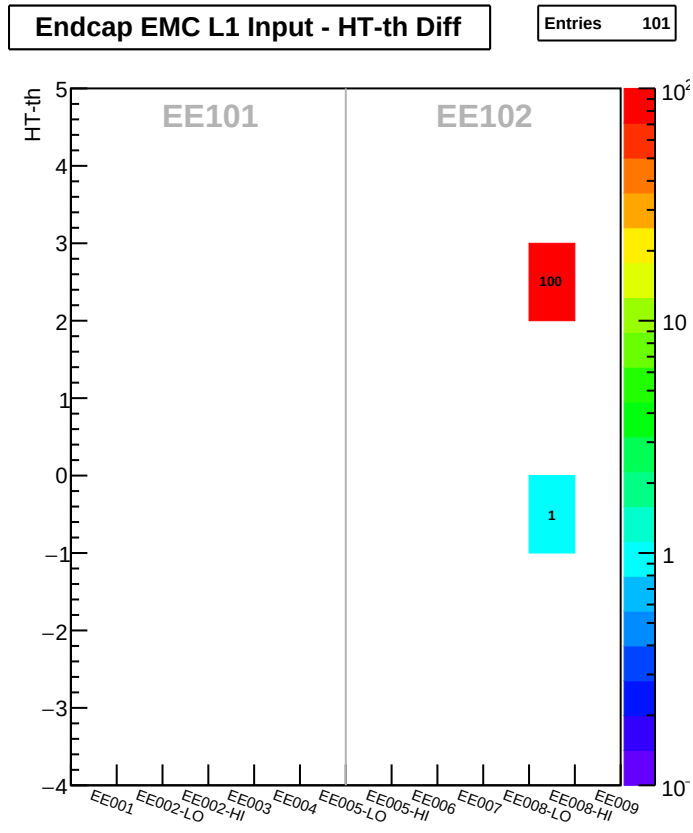

Barrel EMC L1 Input - HT Bits
Entries 1800000
HT-th Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

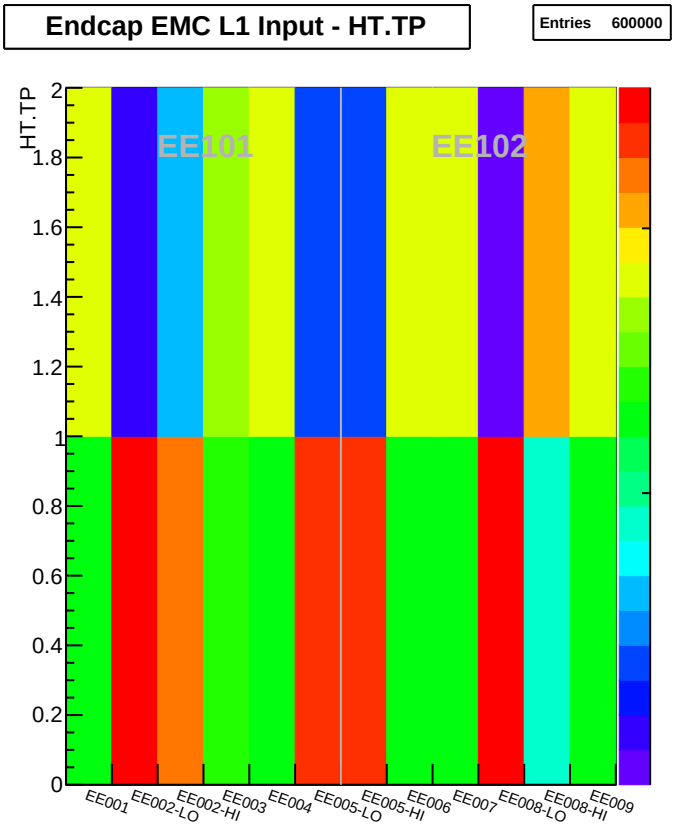

Barrel EMC L1 Input - HT Bits
Entries 0
Real - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

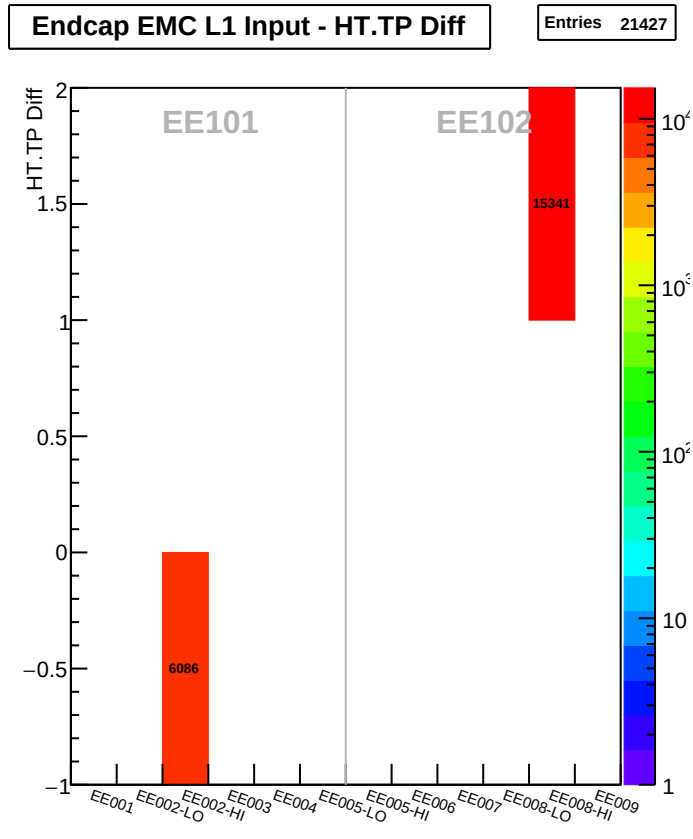

Barrel EMC L1 Input - HT.TP Bit
Entries 1800000
HT.TP-th Bit
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

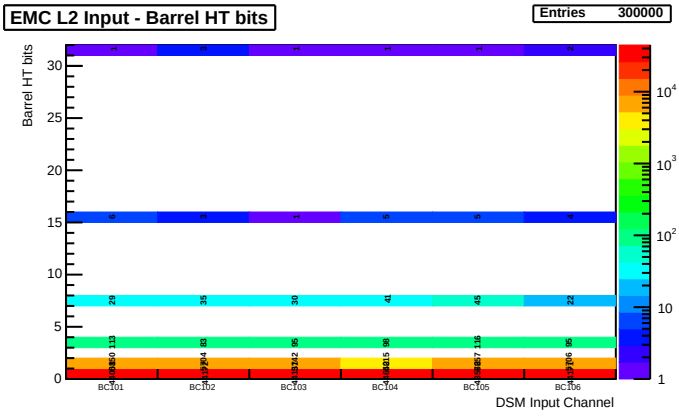

Barrel EMC L1 Input - HT.TP Bit
Entries 0
Real - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

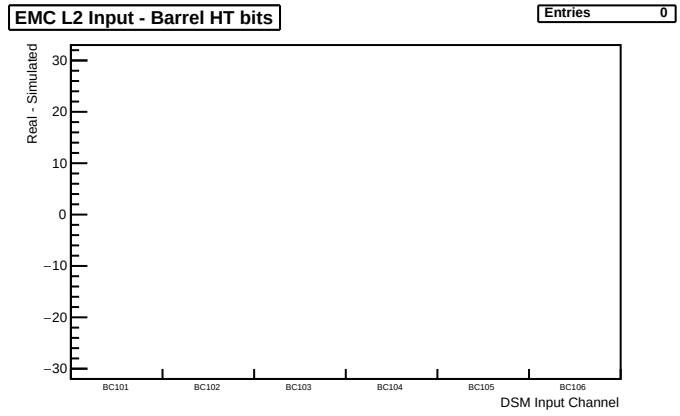

Endcap EMC L1 Input - HT-th
Entries 600000
HT-th
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

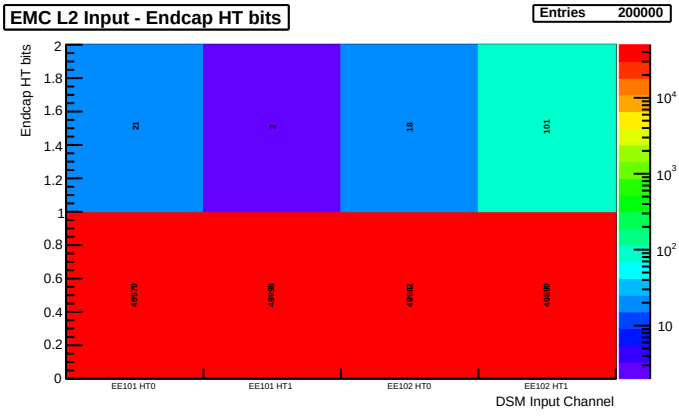

Endcap EMC L1 Input - HT-th Diff
Entries 101
HT-th
EE101
EE102
100
1
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

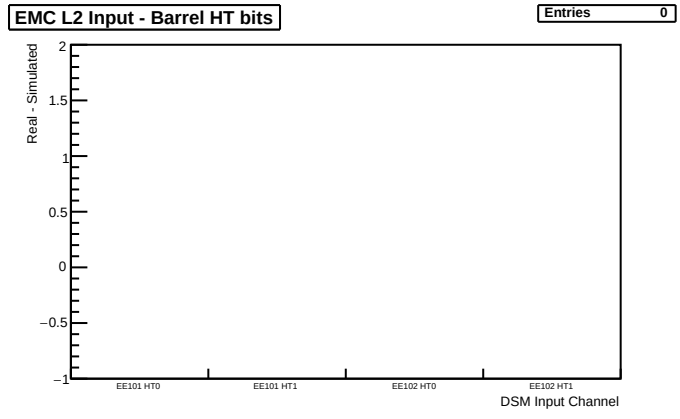

Endcap EMC L1 Input - HT.TP
Entries 600000
HT.TP
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

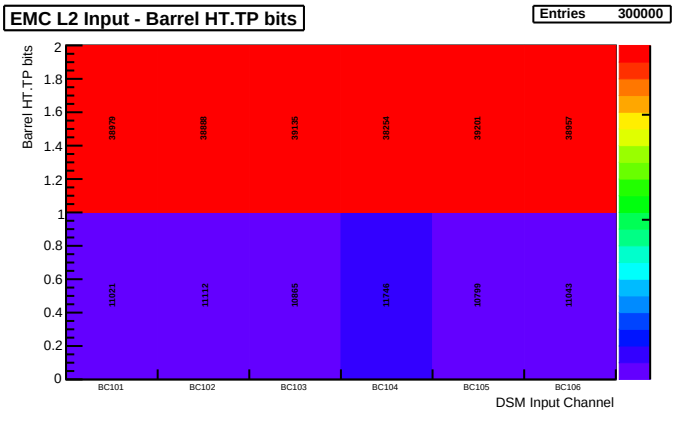

Endcap EMC L1 Input - HT.TP Diff
Entries 21427
HT.TP Diff
EE101
EE102
15341
6086
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

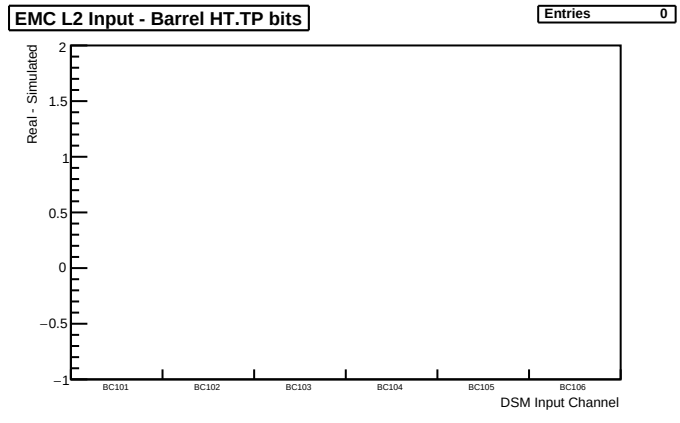

EMC L2 Input - Barrel HT bits
Entries 300000
Barrel HT bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106

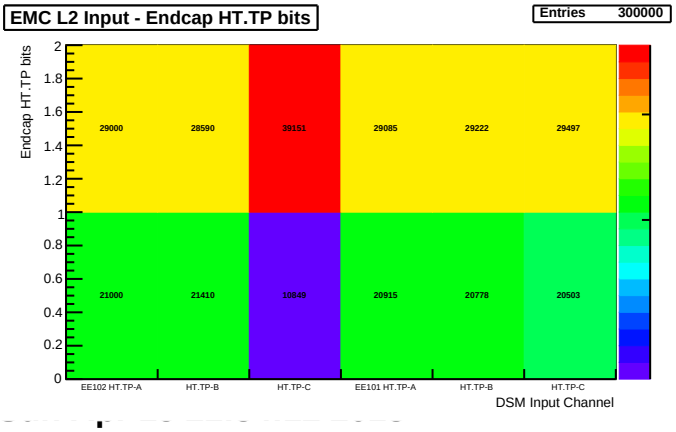

EMC L2 Input - Barrel HT bits
Entries 0
Real - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106

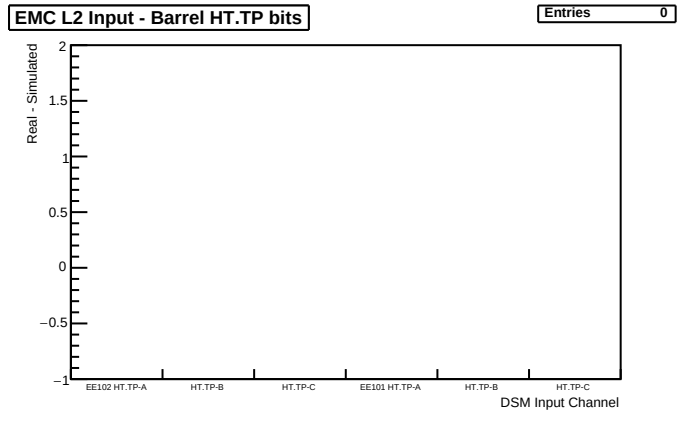

EMC L2 Input - Endcap HT bits
Entries 200000
Endcap HT bits
DSM Input Channel
EE101 HT0
EE101 HT1
EE102 HT0
EE102 HT1

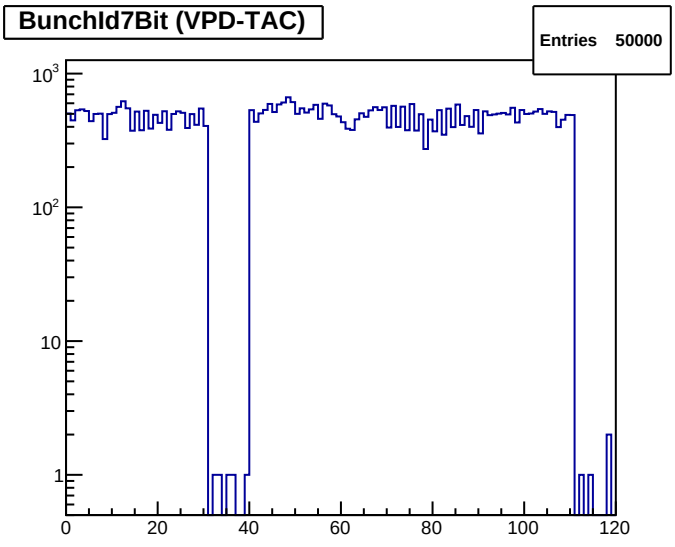

EMC L2 Input - Barrel HT bits
Entries 0
Real - Simulated
DSM Input Channel
EE101 HT0
EE101 HT1
EE102 HT0
EE102 HT1

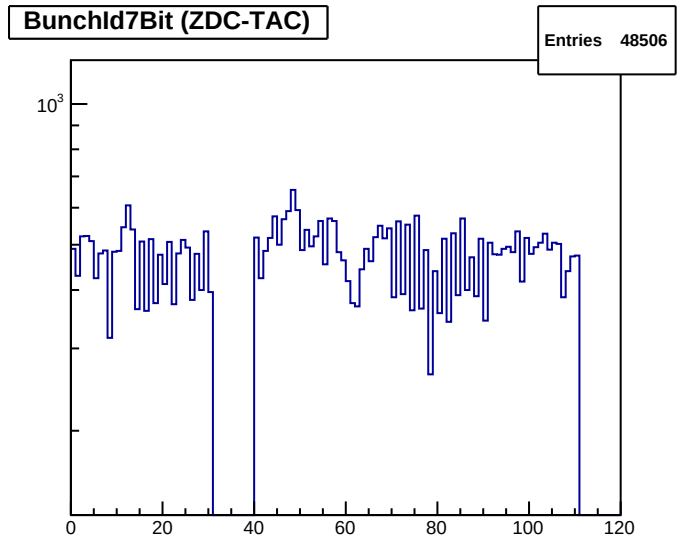

EMC L2 Input - Barrel HT.TP bits
Entries 300000
Barrel HT.TP bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106

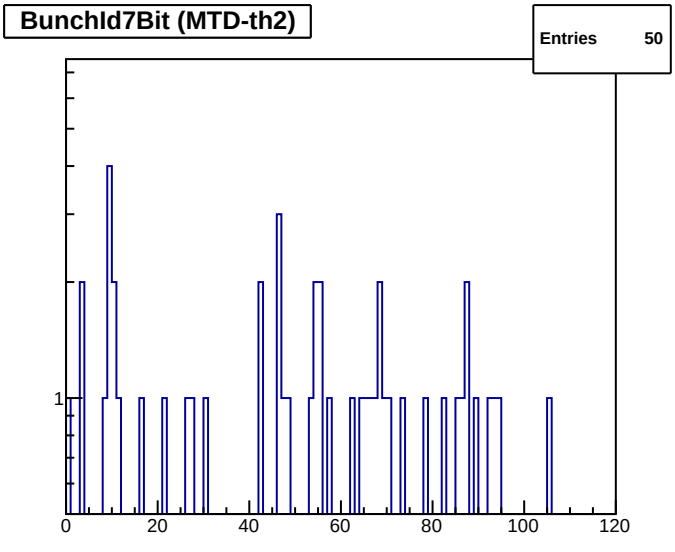

EMC L2 Input - Barrel HT.TP bits
Entries 0
Real - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106

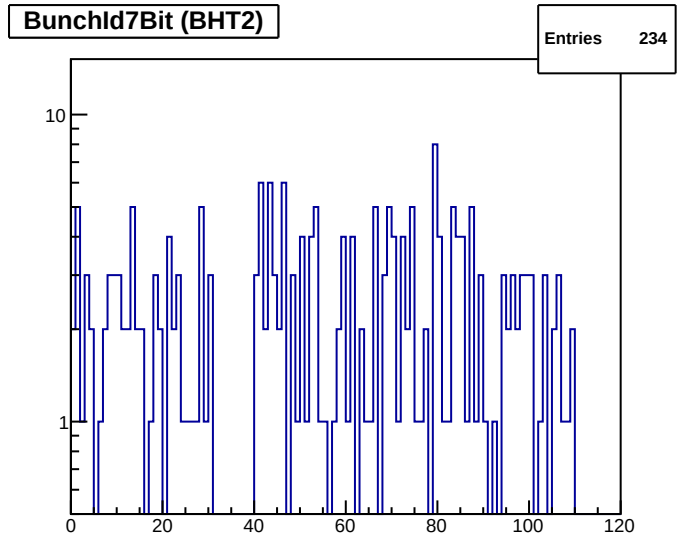

EMC L2 Input - Endcap HT.TP bits
Entries 300000
Endcap HT.TP bits
DSM Input Channel
EE102 HT.TP-A
HT.TP-B
HT.TP-C
EE101 HT.TP-A
HT.TP-B
HT.TP-C

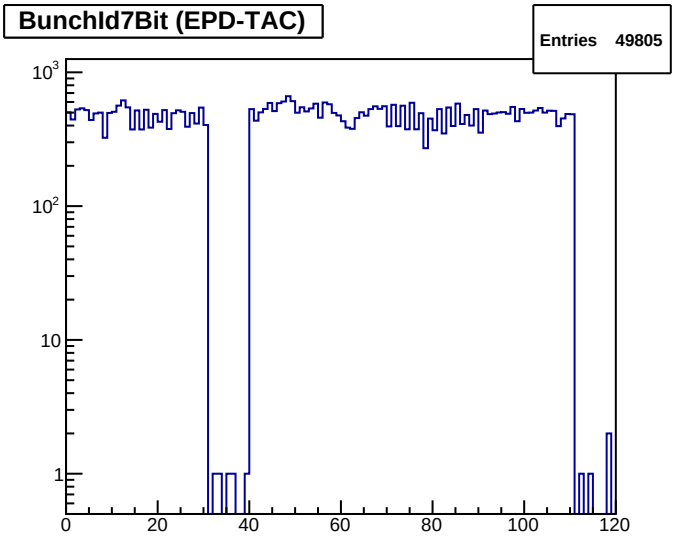

EMC L2 Input - Barrel HT.TP bits
Entries 0
Real - Simulated
DSM Input Channel
EE102 HT.TP-A
HT.TP-B
HT.TP-C
EE101 HT.TP-A
HT.TP-B
HT.TP-C

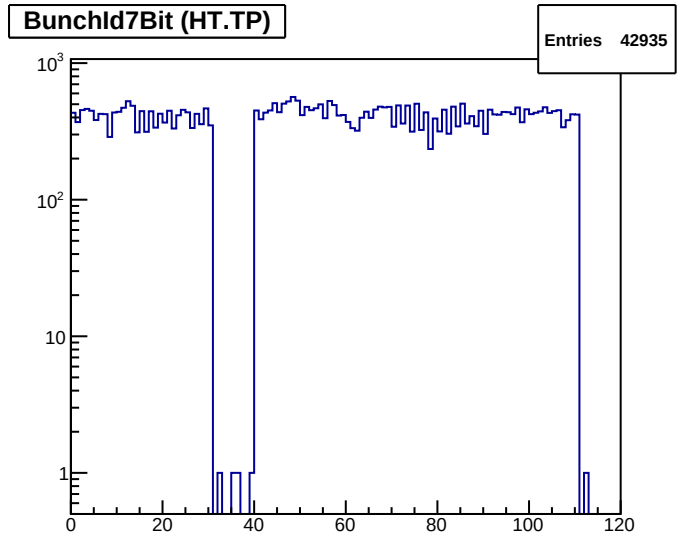

BunchId7Bit (VPD-TAC)
Entries 50000

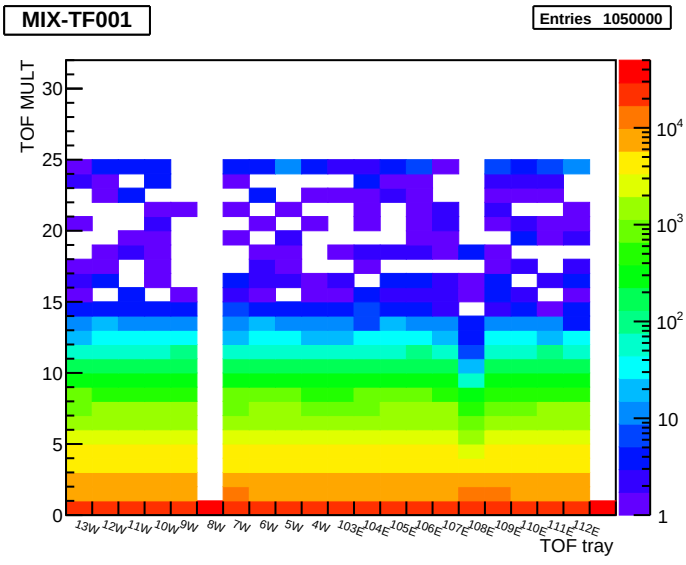

BunchId7Bit (ZDC-TAC)
Entries 48506

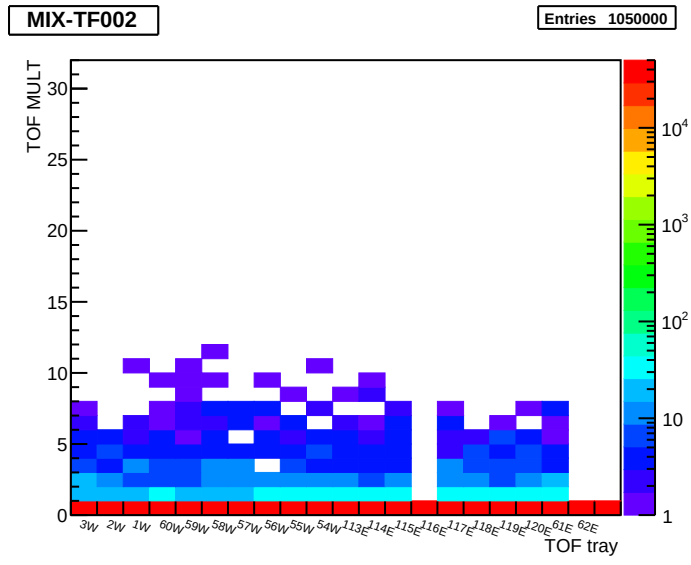

BunchId7Bit (MTD-th2)
Entries 50

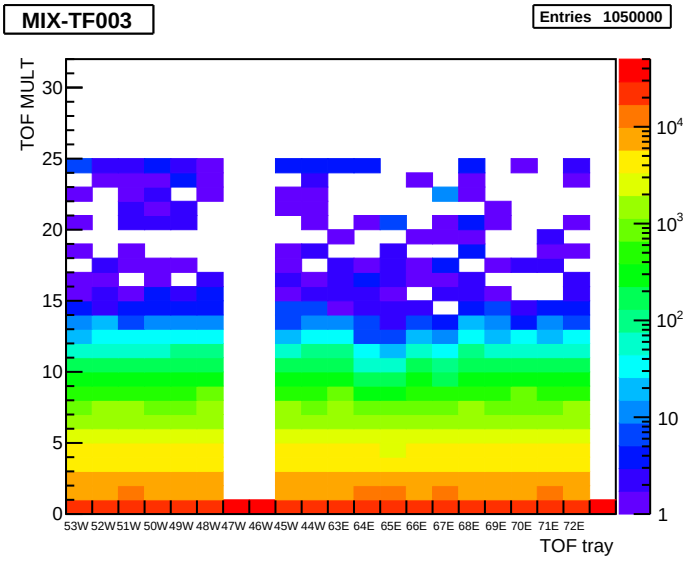

BunchId7Bit (BHT2)
Entries 234

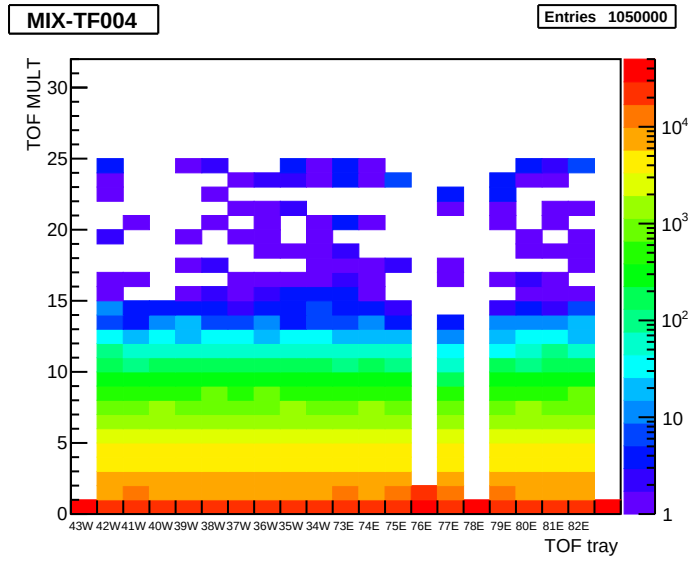

BunchId7Bit (EPD-TAC)
Entries 49805

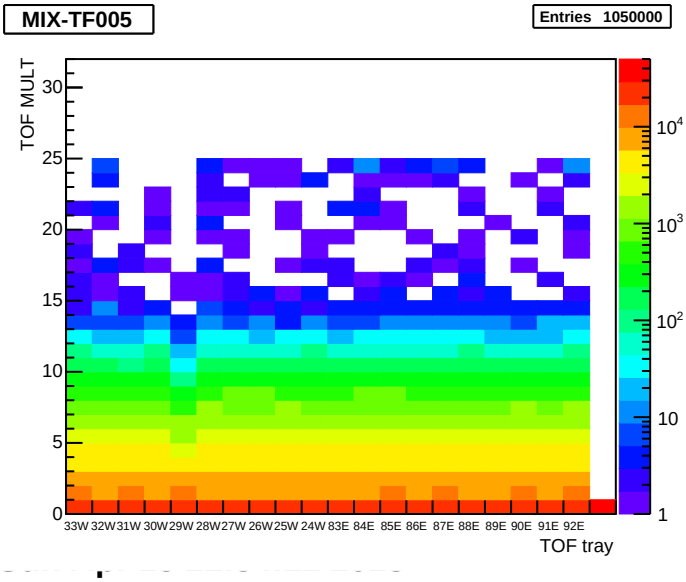

BunchId7Bit (HT.TP)
Entries 42935

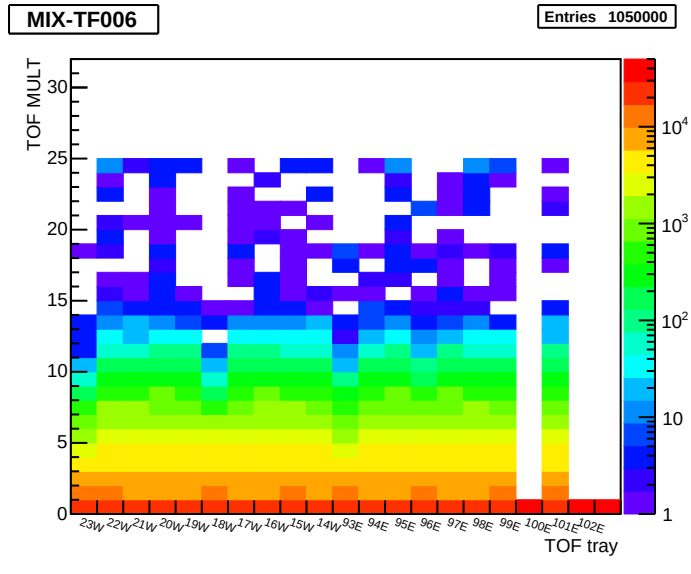

MIX-TF001
Entries 1050000
TOF MULT
TOF tray

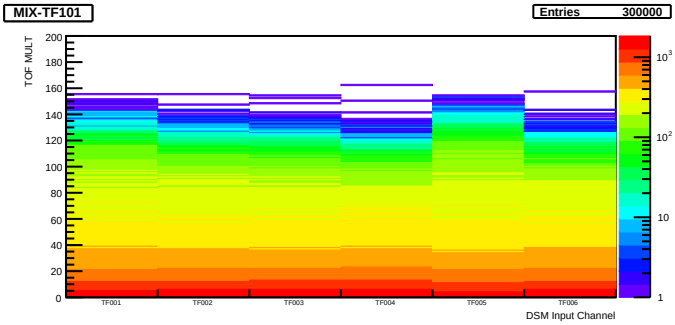

MIX-TF002
Entries 1050000
TOF MULT
TOF tray

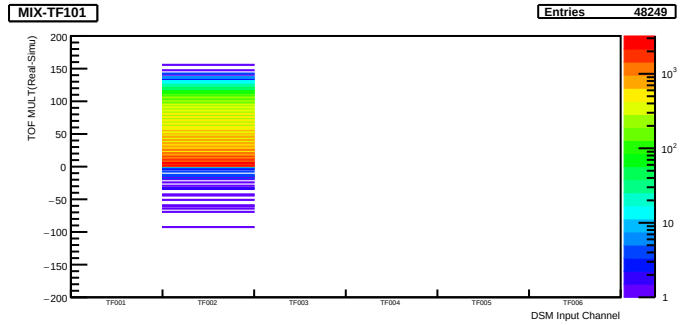

MIX-TF003
Entries 1050000
TOF MULT
TOF tray

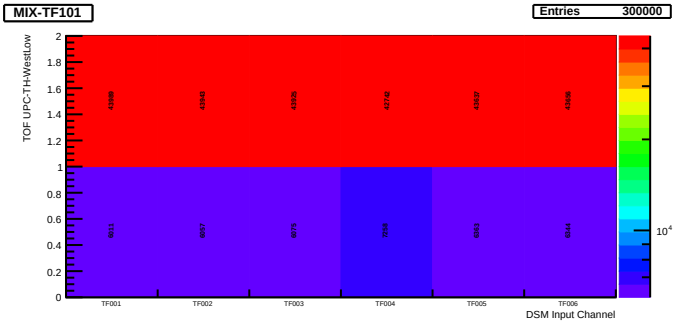

MIX-TF004
Entries 1050000
TOF MULT
TOF tray

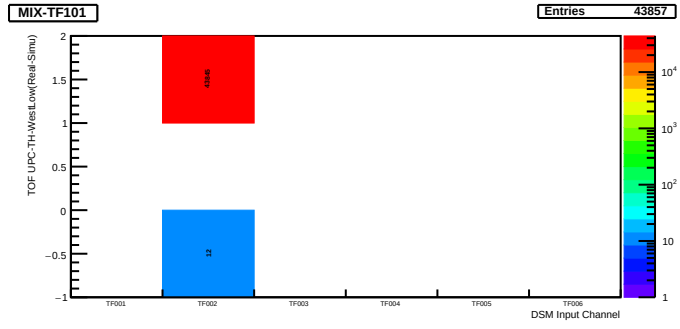

MIX-TF005
Entries 1050000
TOF MULT
TOF tray

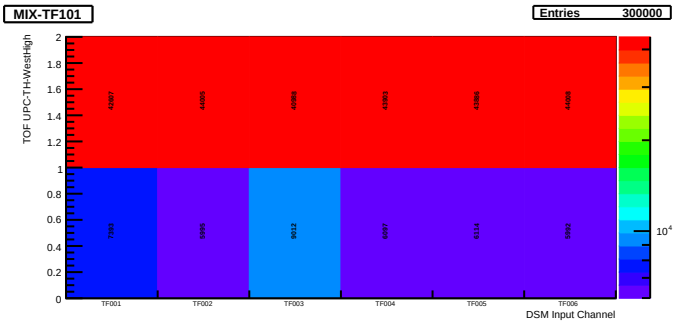

MIX-TF006
Entries 1050000
TOF MULT
TOF tray

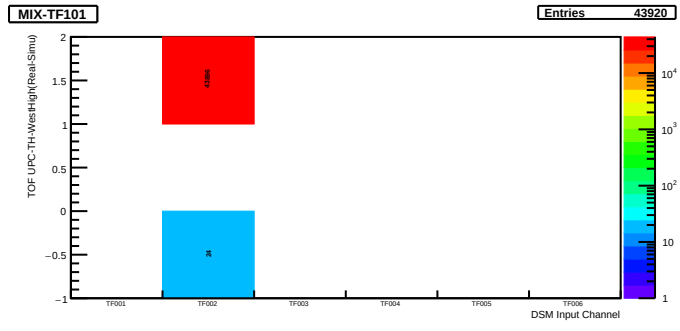

MIX-TF101
Entries 300000
TOF MULT
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

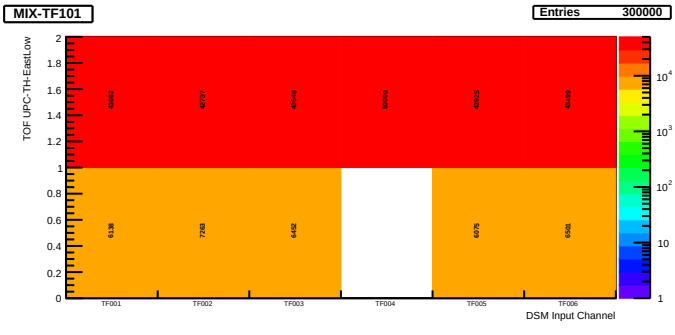

MIX-TF101
Entries 48249
TOF MULT(Real-Simu)
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

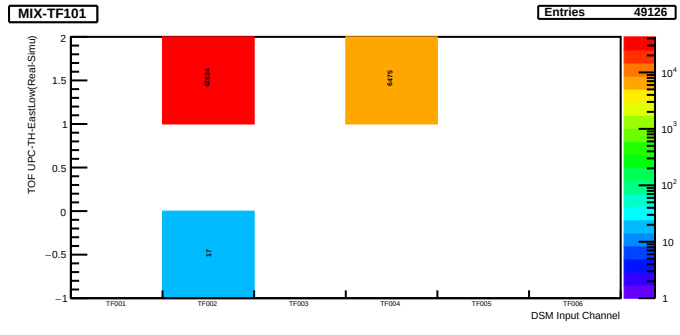

MIX-TF101
Entries 300000
TOF UPC-TH-WestLow
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

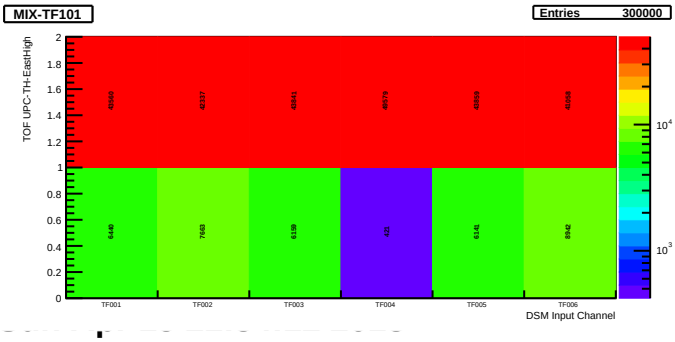

MIX-TF101
Entries 43857
TOF UPC-TH-WestLow(Real-Simu)
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

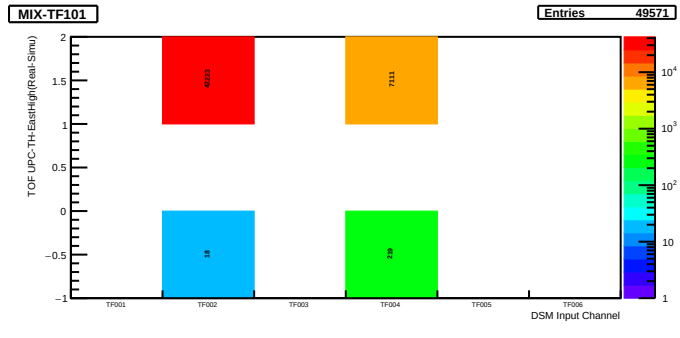

MIX-TF101
Entries 300000
TOF UPC-TH-WestHigh
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

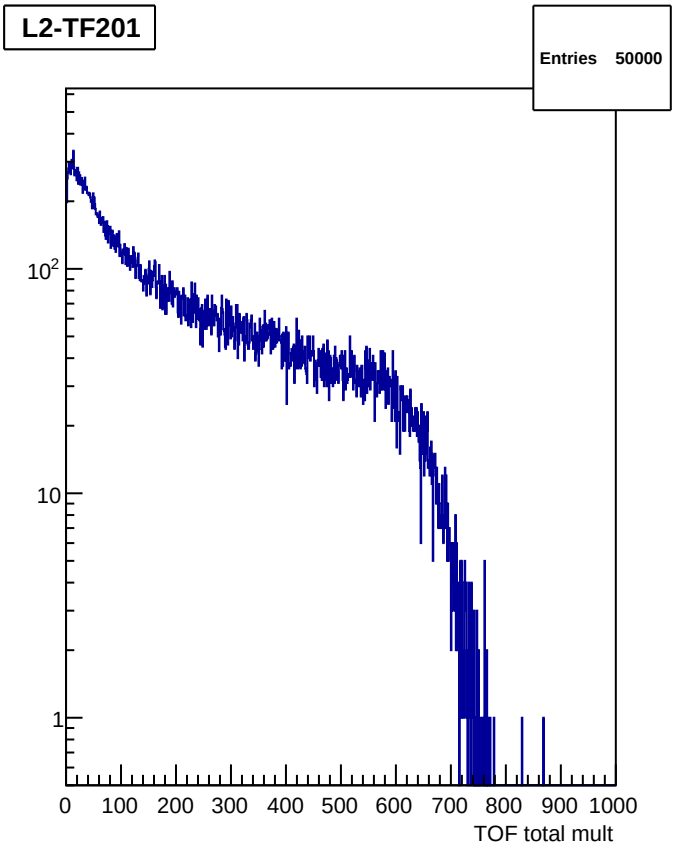

MIX-TF101
Entries 43920
TOF UPC-TH-WestHigh(Real-Simu)
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

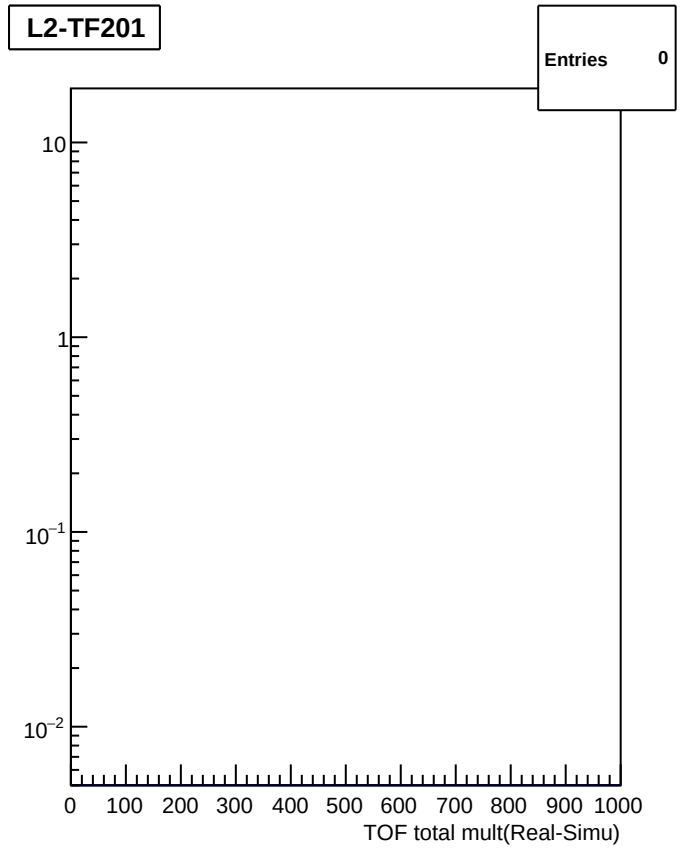

MIX-TF101
Entries 300000
TOF UPC-TH-EastLow
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

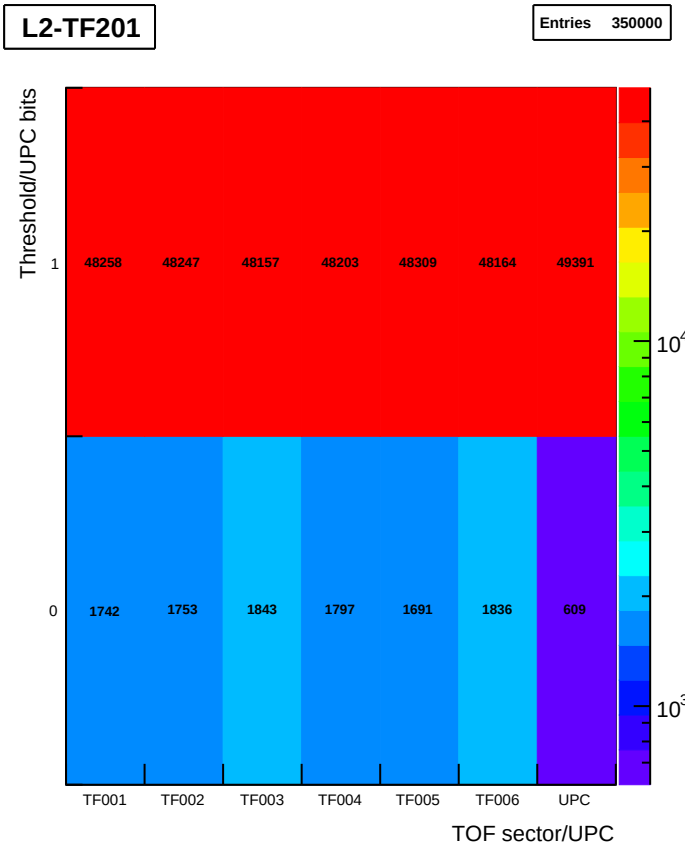

MIX-TF101
Entries 49126
TOF UPC-TH-EastLow(Real-Simu)
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

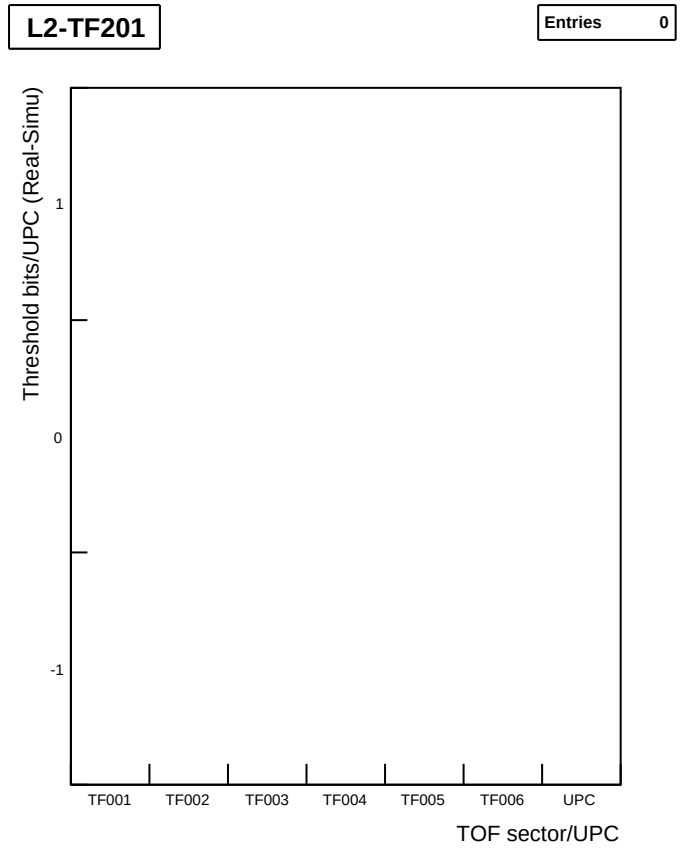

MIX-TF101
Entries 300000
TOF UPC-TH-EastHigh
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

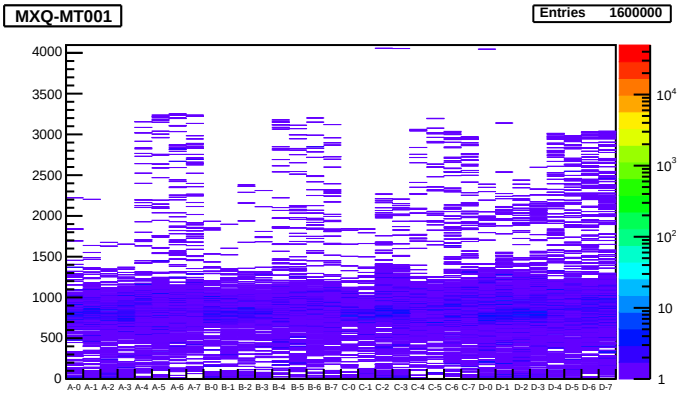

MIX-TF101
Entries 49571
TOF UPC-TH-EastHigh(Real-Simu)
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

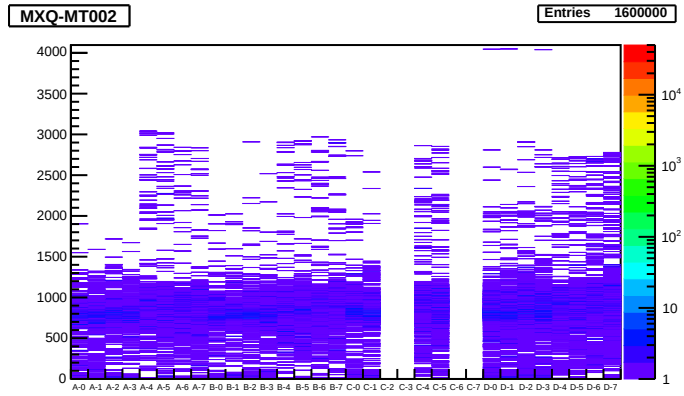

L2-TF201
Entries 50000
10^2
10
1
0 100 200 300 400 500 600 700 800 900 1000
TOF total mult

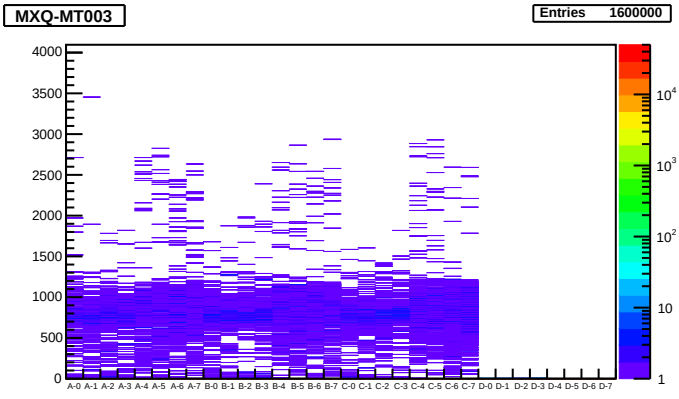

L2-TF201
Entries 0
10
1
10^{-1}
10^{-2}
0 100 200 300 400 500 600 700 800 900 1000
TOF total mult(Real-Simu)

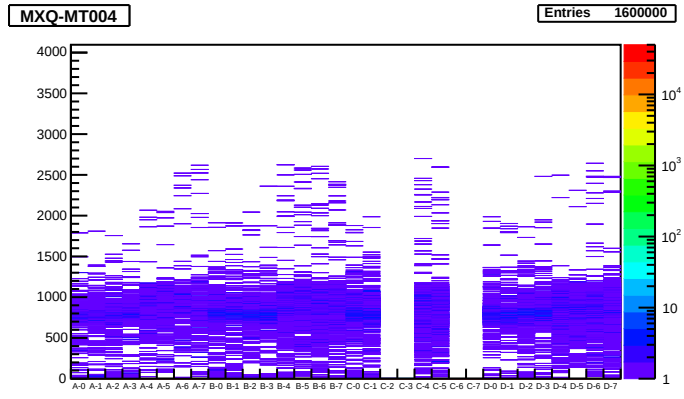

L2-TF201
Entries 350000
Threshold/UPC bits
1
0
48258 48247 48157 48203 48309 48164 49391
1742 1753 1843 1797 1691 1836 609
TF001 TF002 TF003 TF004 TF005 TF006 UPC
TOF sector/UPC

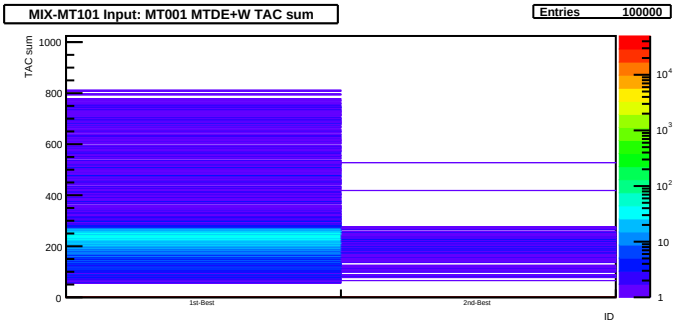

L2-TF201
Entries 0
Threshold bits/UPC (Real-Simu)
1
0
-1
TF001 TF002 TF003 TF004 TF005 TF006 UPC
TOF sector/UPC

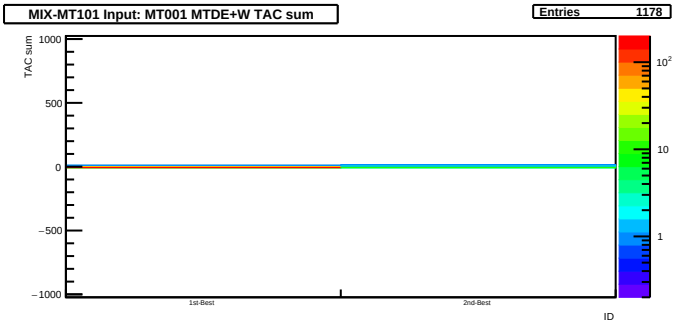

MXQ-MT001
Entries 1600000
4000
3500
3000
2500
2000
1500
1000
500
0
A-0 A-1 A-2 A-3 A-4 A-5 A-6 A-7 B-0 B-1 B-2 B-3 B-4 B-5 B-6 B-7 C-0 C-1 C-2 C-3 C-4 C-5 C-6 C-7 D-0 D-1 D-2 D-3 D-4 D-5 D-6 D-7
10^4
10^3
10^2
10
1

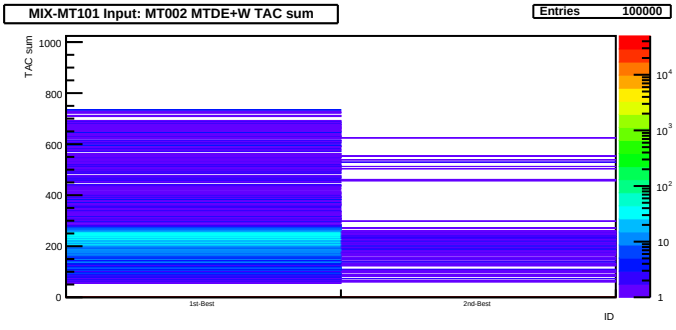

MXQ-MT002
Entries 1600000
4000
3500
3000
2500
2000
1500
1000
500
0
A-0 A-1 A-2 A-3 A-4 A-5 A-6 A-7 B-0 B-1 B-2 B-3 B-4 B-5 B-6 B-7 C-0 C-1 C-2 C-3 C-4 C-5 C-6 C-7 D-0 D-1 D-2 D-3 D-4 D-5 D-6 D-7
10^4
10^3
10^2
10
1

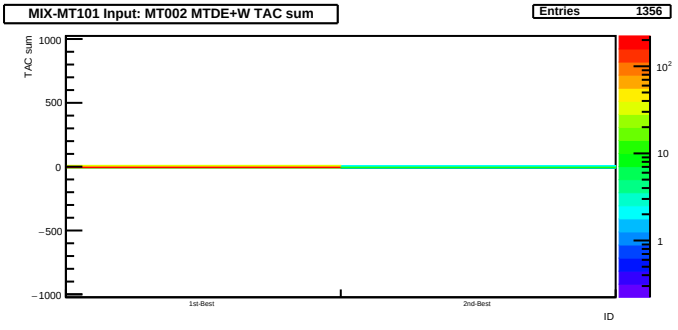

MXQ-MT003
Entries 1600000
4000
3500
3000
2500
2000
1500
1000
500
0
A-0 A-1 A-2 A-3 A-4 A-5 A-6 A-7 B-0 B-1 B-2 B-3 B-4 B-5 B-6 B-7 C-0 C-1 C-2 C-3 C-4 C-5 C-6 C-7 D-0 D-1 D-2 D-3 D-4 D-5 D-6 D-7
10^4
10^3
10^2
10
1

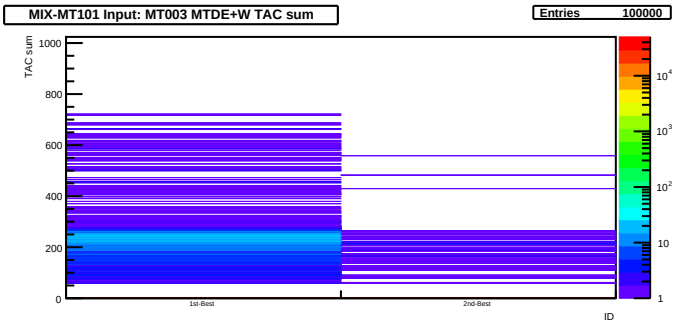

MXQ-MT004
Entries 1600000
4000
3500
3000
2500
2000
1500
1000
500
0
A-0 A-1 A-2 A-3 A-4 A-5 A-6 A-7 B-0 B-1 B-2 B-3 B-4 B-5 B-6 B-7 C-0 C-1 C-2 C-3 C-4 C-5 C-6 C-7 D-0 D-1 D-2 D-3 D-4 D-5 D-6 D-7
10^4
10^3
10^2
10
1

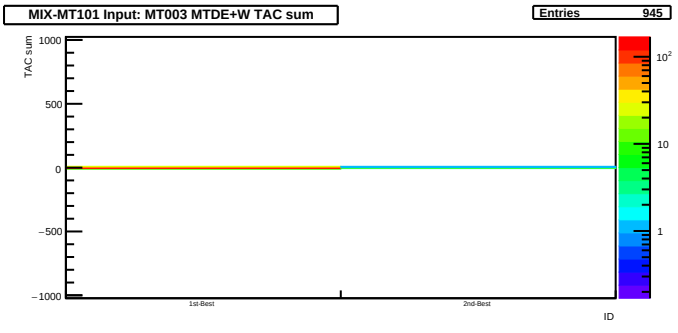

MIX-MT101 Input: MT001 MTDE+W TAC sum
Entries 100000
TAC sum
1st-Best
2nd-Best
ID

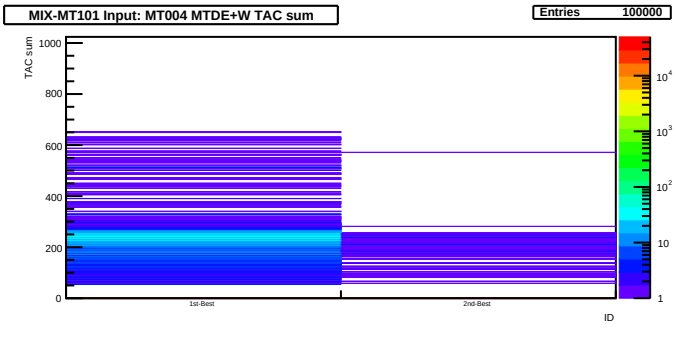

MIX-MT101 Input: MT001 MTDE+W TAC sum
Entries 1178
TAC sum
1st-Best
2nd-Best
ID

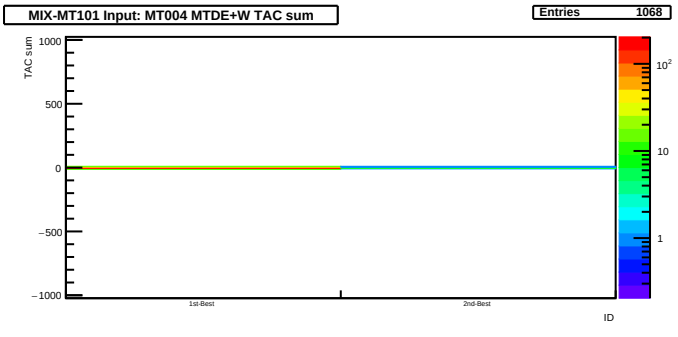

MIX-MT101 Input: MT002 MTDE+W TAC sum
Entries 100000
TAC sum
1st-Best
2nd-Best
ID

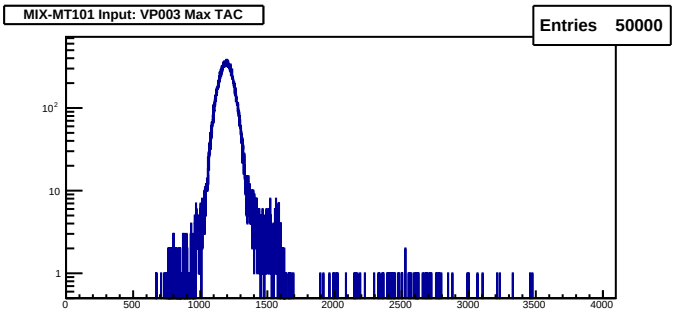

MIX-MT101 Input: MT002 MTDE+W TAC sum
Entries 1356
TAC sum
1st-Best
2nd-Best
ID

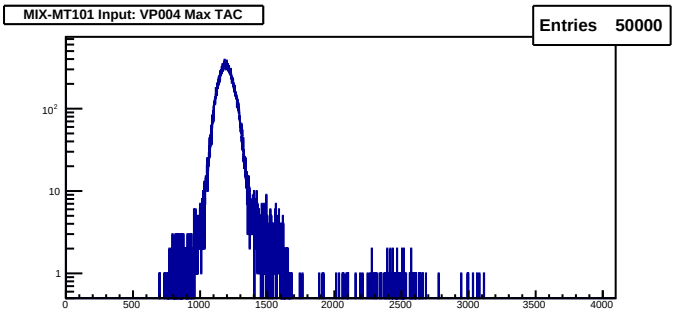

MIX-MT101 Input: MT003 MTDE+W TAC sum
Entries 100000
TAC sum
1st-Best
2nd-Best
ID

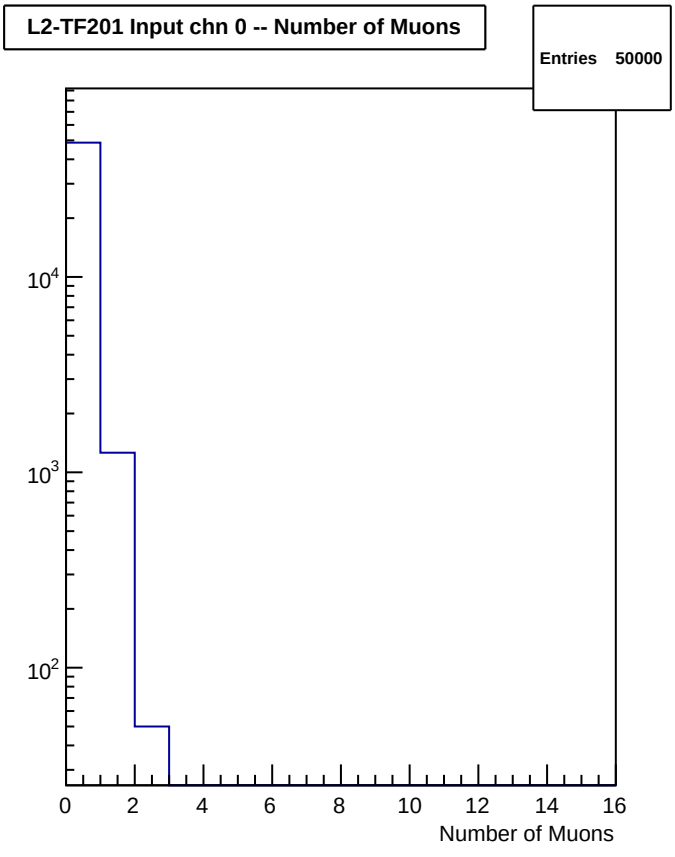

MIX-MT101 Input: MT003 MTDE+W TAC sum
Entries 945
TAC sum
1st-Best
2nd-Best
ID

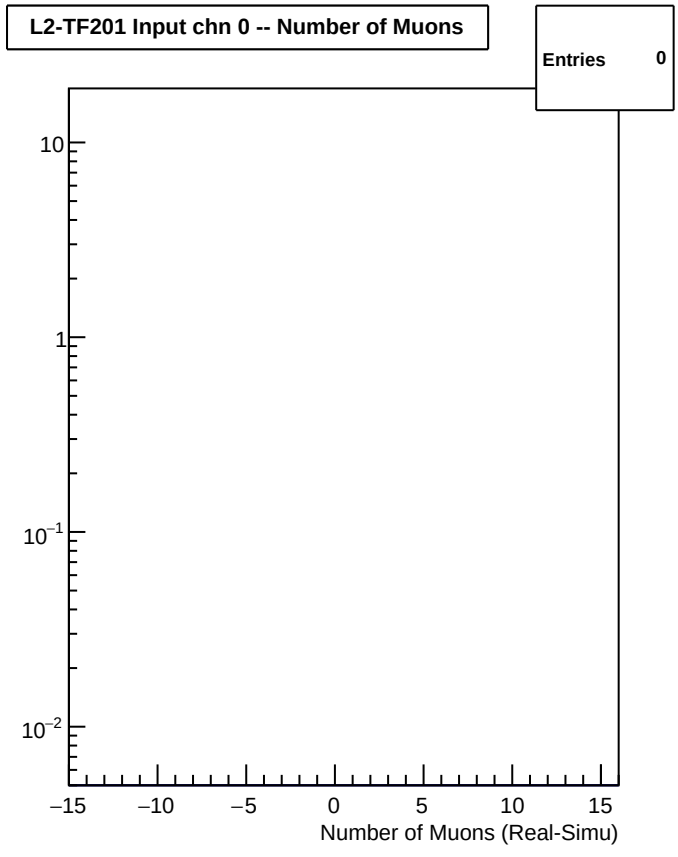

MIX-MT101 Input: MT004 MTDE+W TAC sum
Entries 100000
TAC sum
1st-Best
2nd-Best
ID

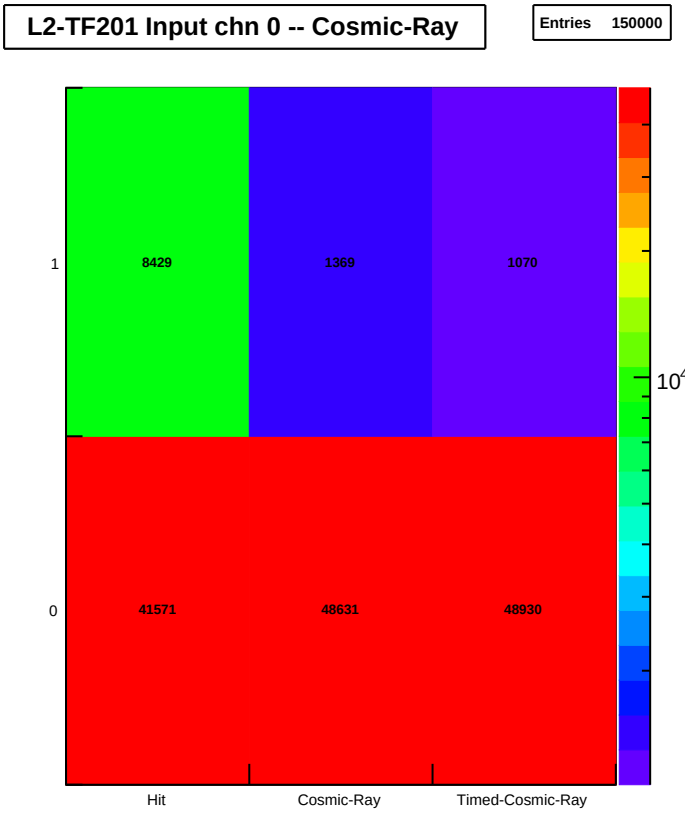

MIX-MT101 Input: MT004 MTDE+W TAC sum
Entries 1068
TAC sum
1st-Best
2nd-Best
ID

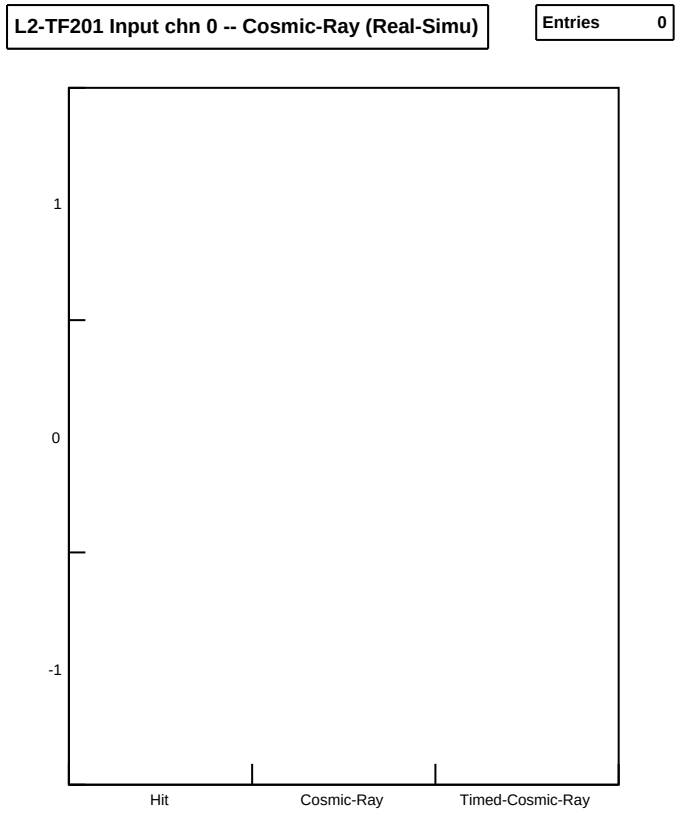

MIX-MT101 Input: VP003 Max TAC
Entries 50000

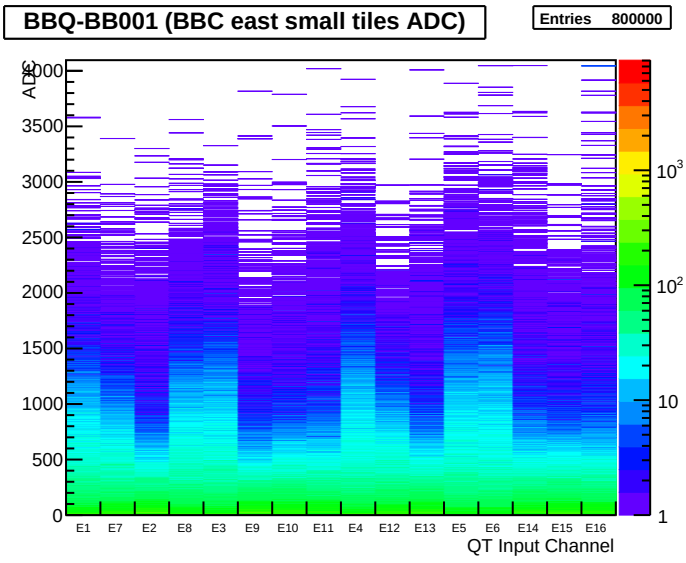

MIX-MT101 Input: VP004 Max TAC
Entries 50000

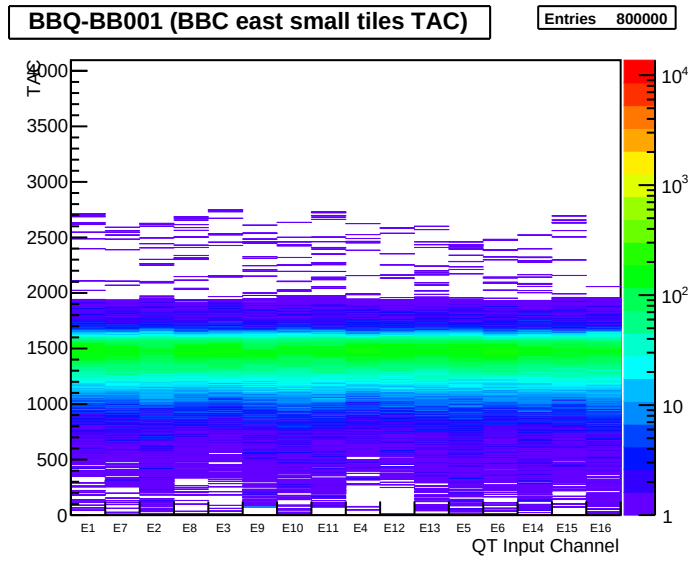

L2-TF201 Input chn 0 -- Number of Muons
Entries 50000
10^4
10^3
10^2
0 2 4 6 8 10 12 14 16
Number of Muons

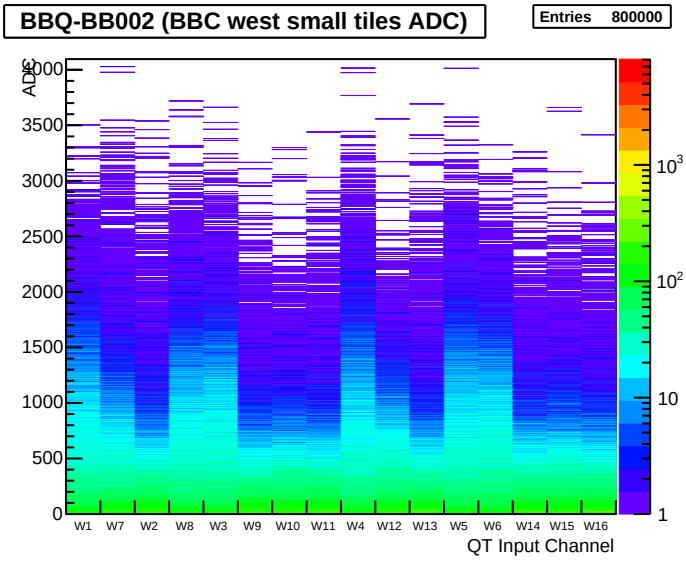

L2-TF201 Input chn 0 -- Number of Muons
Entries 0
10
1
10^{-1}
10^{-2}
–15 –10 –5 0 5 10 15
Number of Muons (Real-Simu)

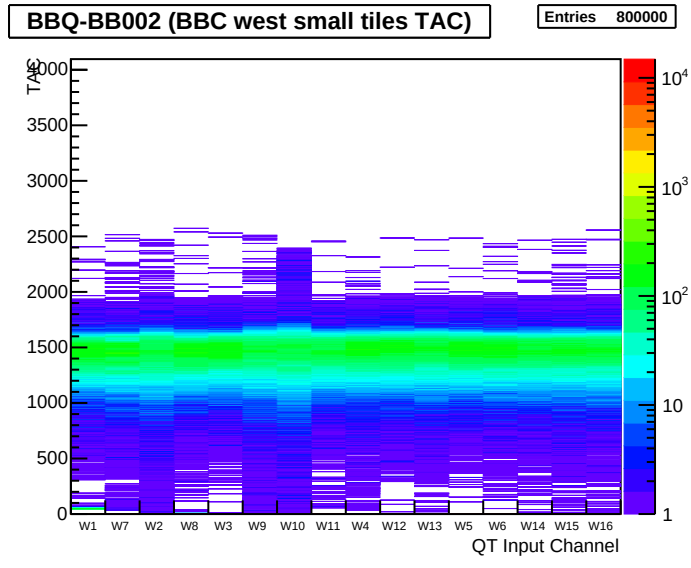

L2-TF201 Input chn 0 -- Cosmic-Ray
Entries 150000
1
0
8429
1369
1070
41571
48631
48930
Hit
Cosmic-Ray
Timed-Cosmic-Ray

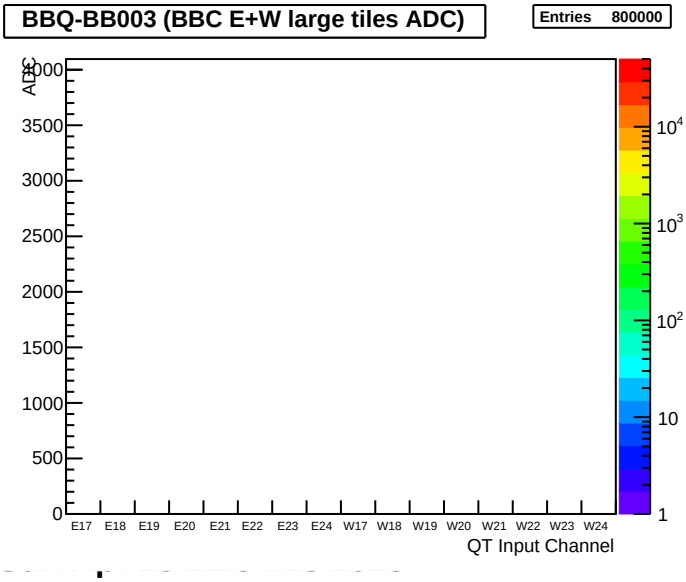

L2-TF201 Input chn 0 -- Cosmic-Ray (Real-Simu)
Entries 0
1
0
-1
Hit
Cosmic-Ray
Timed-Cosmic-Ray

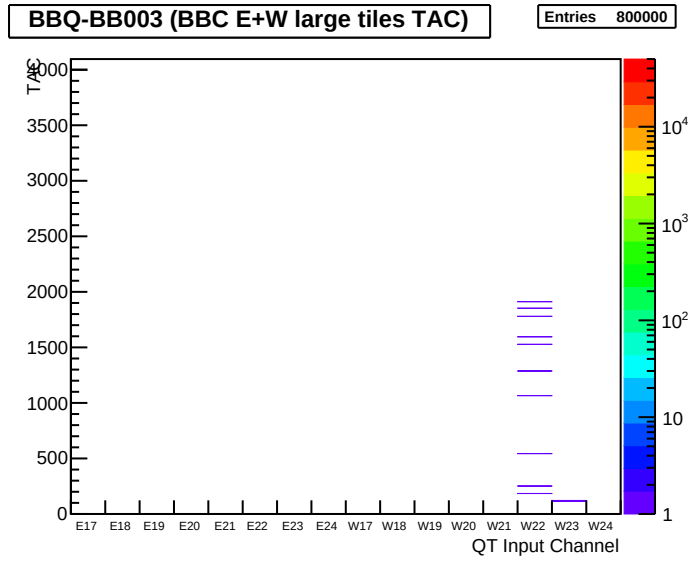

BBQ-BB001 (BBC east small tiles ADC)
Entries 800000
ADC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

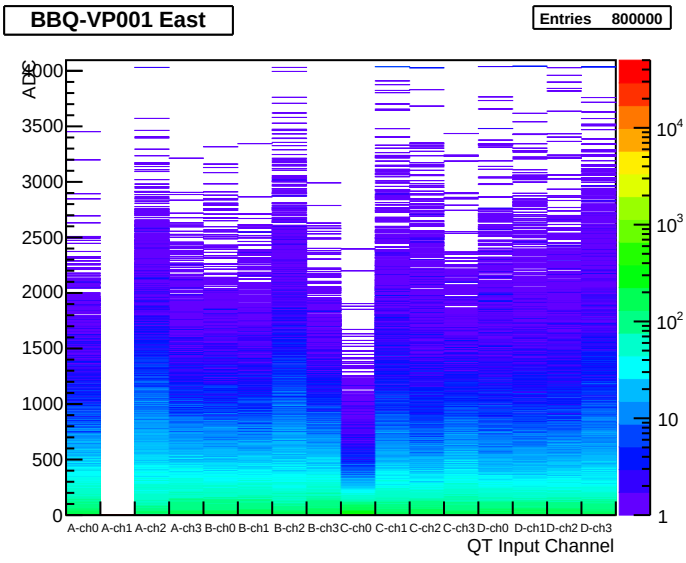

BBQ-BB001 (BBC east small tiles TAC)
Entries 800000
TAC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

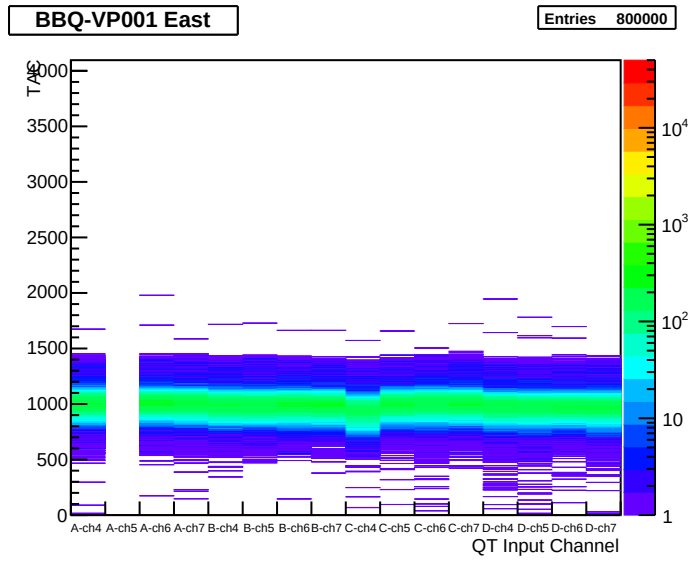

BBQ-BB002 (BBC west small tiles ADC)
Entries 800000
ADC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

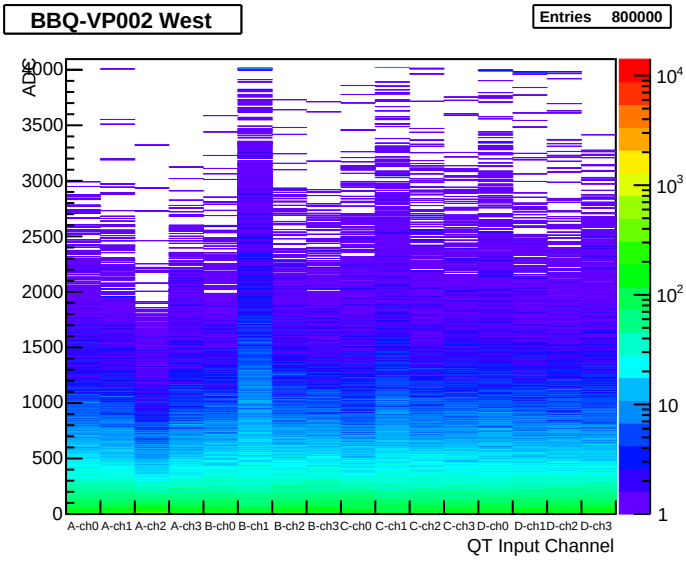

BBQ-BB002 (BBC west small tiles TAC)
Entries 800000
TAC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

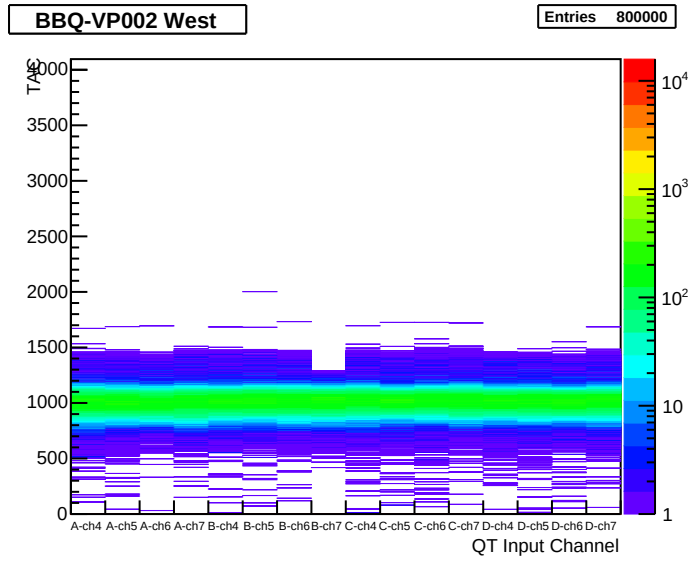

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 800000
ADC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

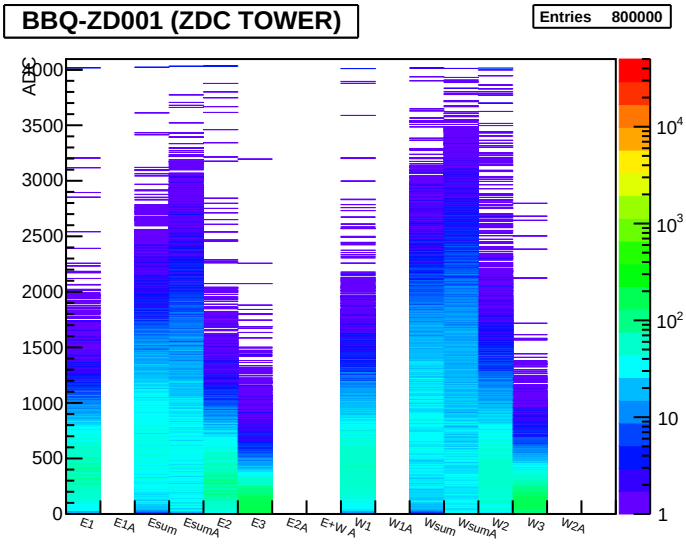

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 800000
TAC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

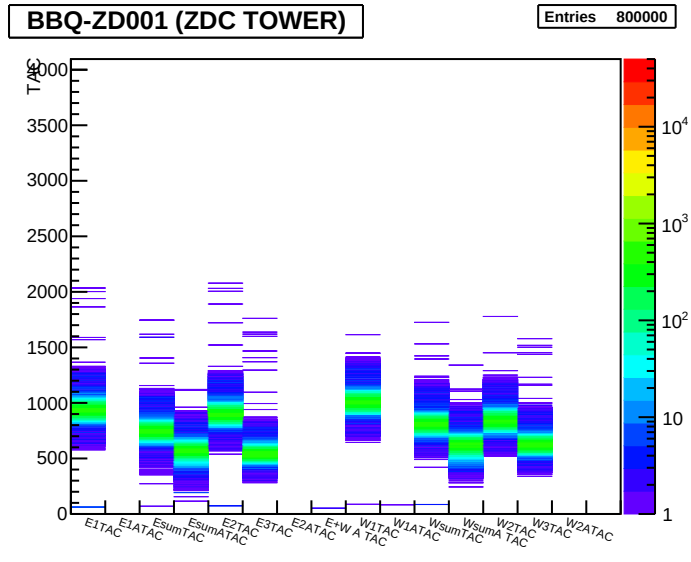

BBQ-VP001 East
Entries 800000
ADC
QT Input Channel

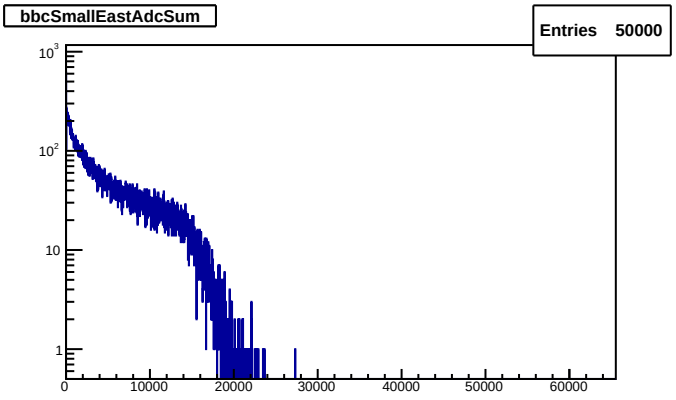

BBQ-VP001 East
Entries 800000
TAC
QT Input Channel

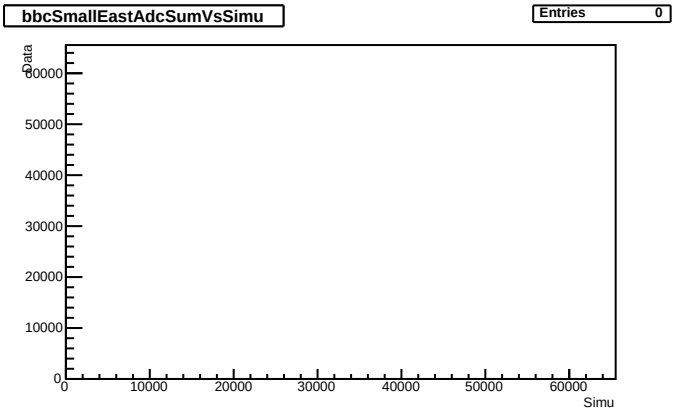

BBQ-VP002 West
Entries 800000
ADC
QT Input Channel

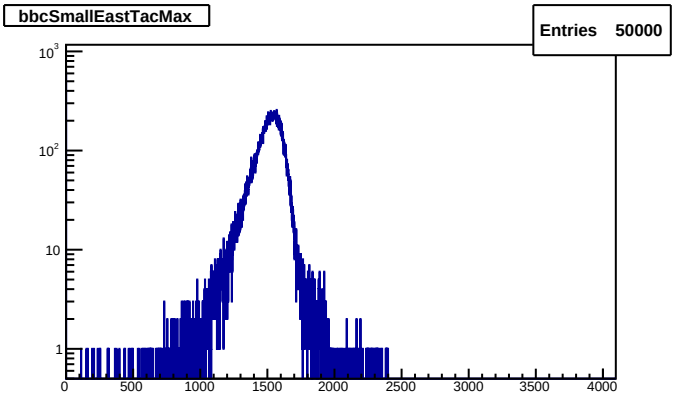

BBQ-VP002 West
Entries 800000
TAC
QT Input Channel

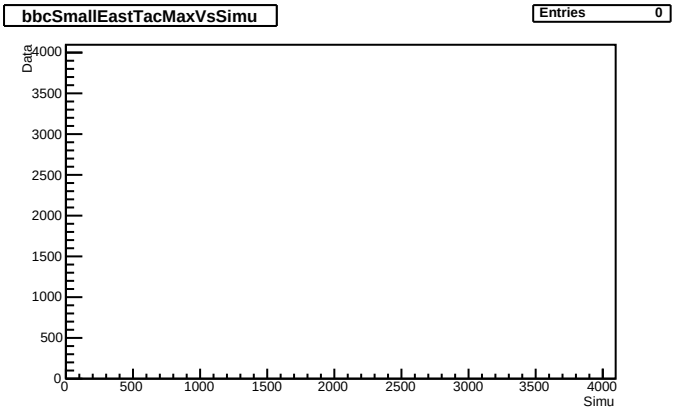

BBQ-ZD001 (ZDC TOWER)
Entries 800000
ADC

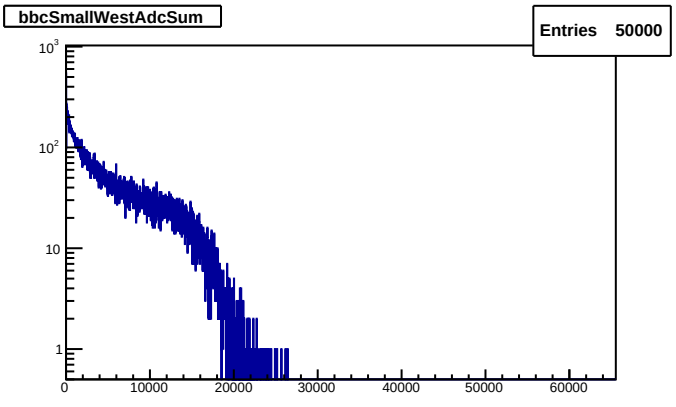

BBQ-ZD001 (ZDC TOWER)
Entries 800000
TAC

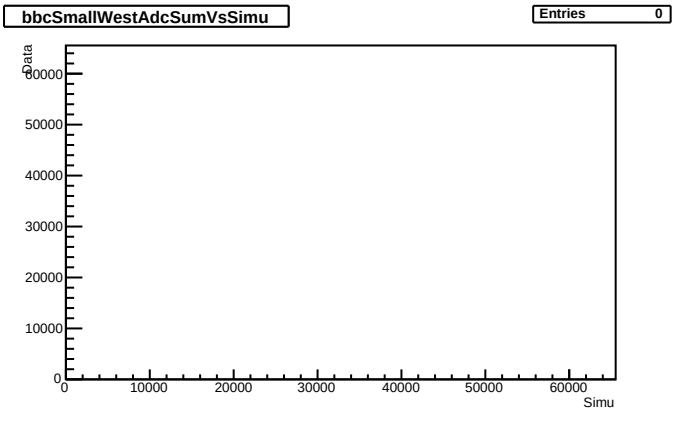

bbcSmallEastAdcSum
Entries 50000

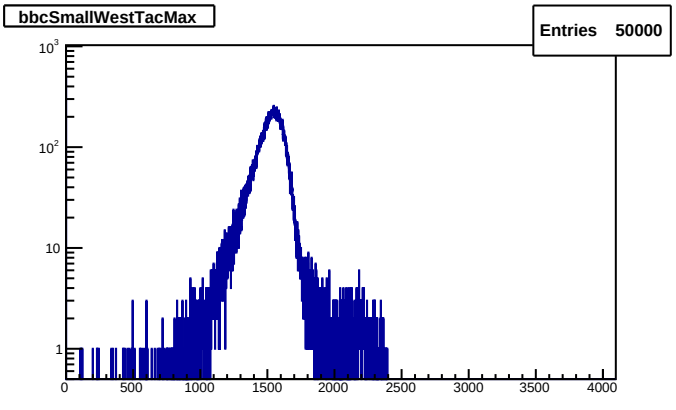

bbcSmallEastAdcSumVsSimu
Entries 0
Data
Simu

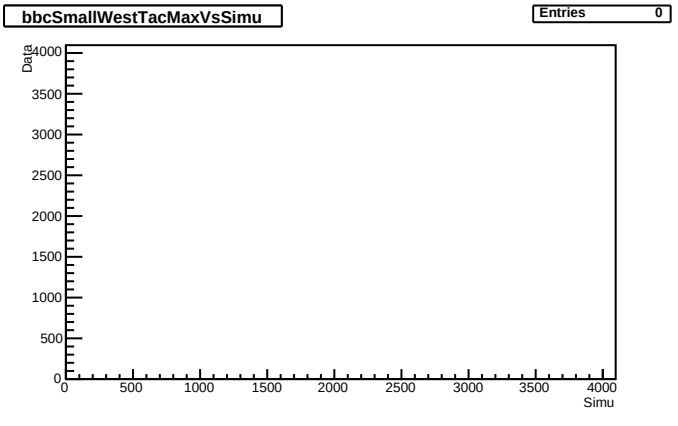

bbcSmallEastTacMax
Entries 50000

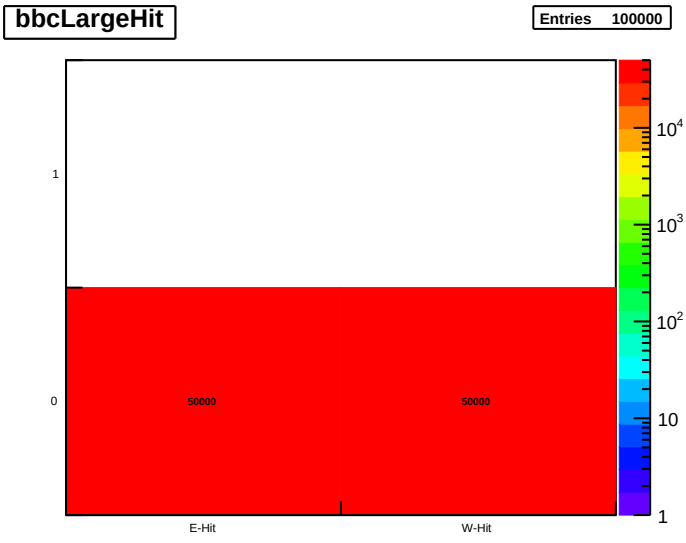

bbcSmallEastTacMaxVsSimu
Entries 0
Data
Simu

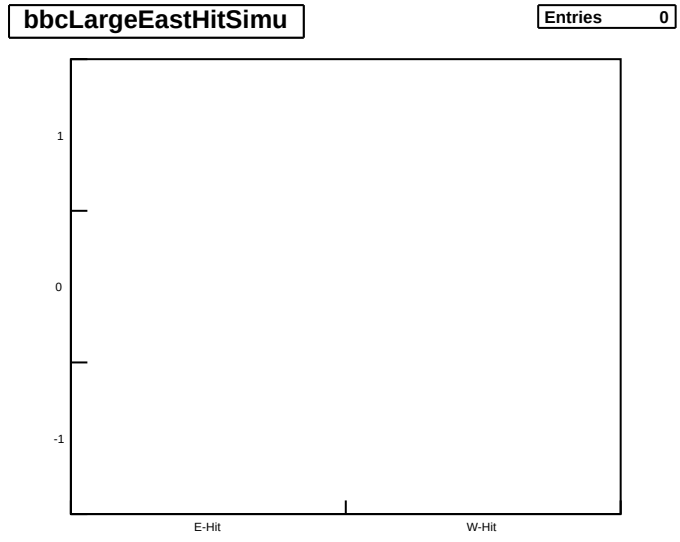

bbcSmallWestAdcSum
Entries 50000

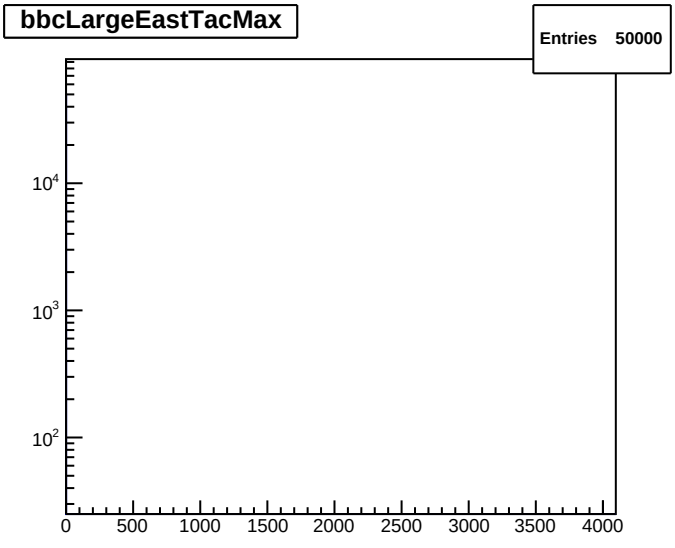

bbcSmallWestAdcSumVsSimu
Entries 0
Data
Simu

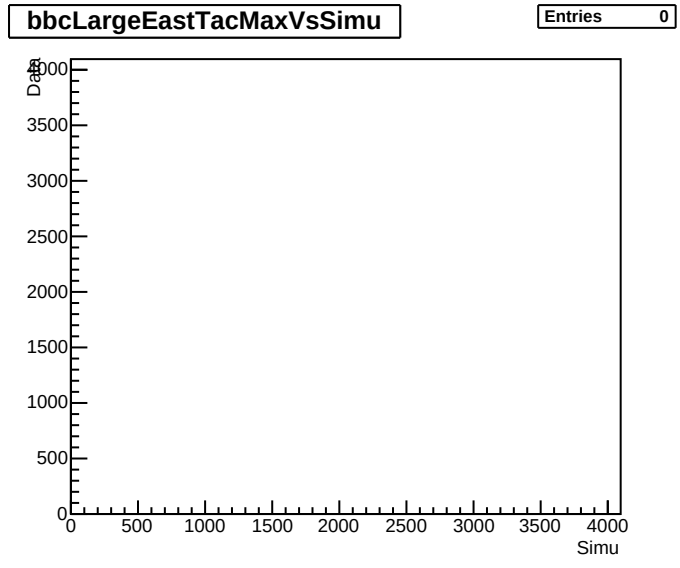

bbcSmallWestTacMax
Entries 50000

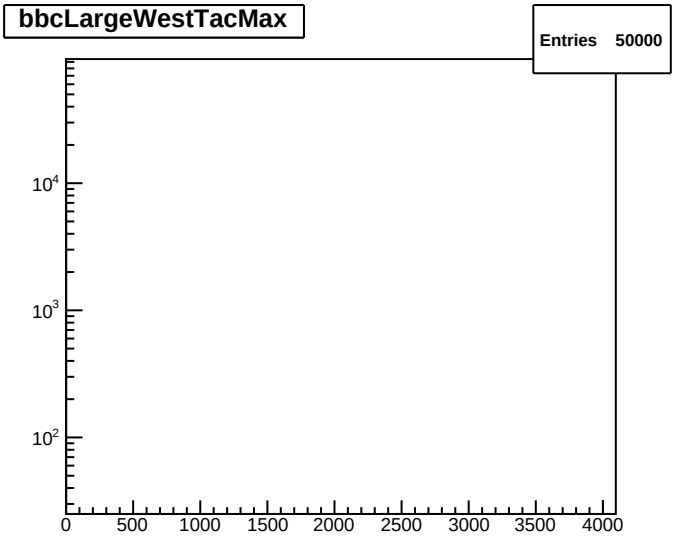

bbcSmallWestTacMaxVsSimu
Entries 0
Data
Simu

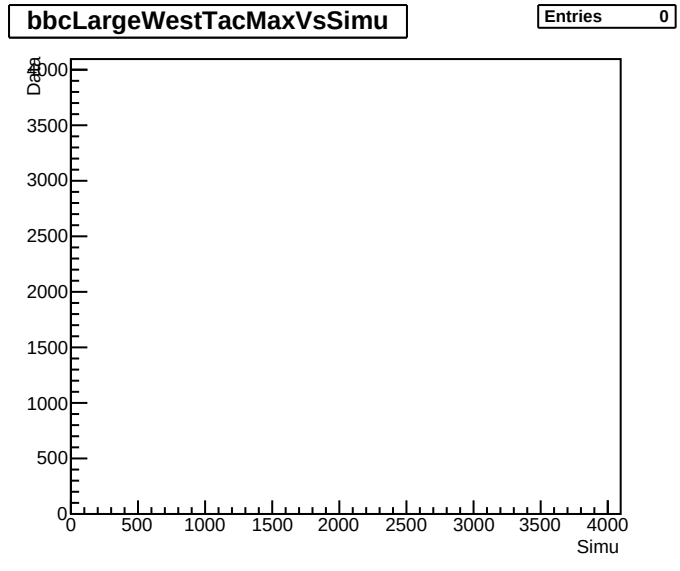

bbcLargeHit
Entries 100000
1
0
50000
50000
E-Hit
W-Hit
10^4
10^3
10^2
10
1

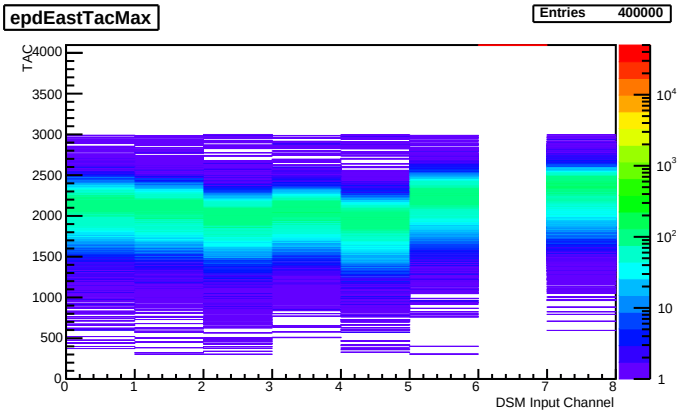

bbcLargeEastHitSimu
Entries 0
1
0
-1
E-Hit
W-Hit

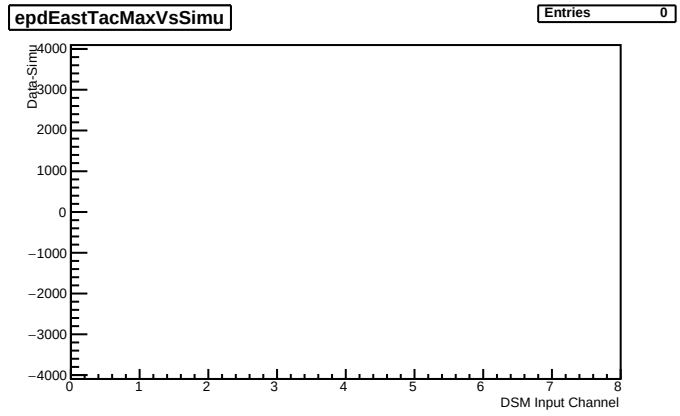

bbcLargeEastTacMax
Entries 50000
10^4
10^3
10^2
0
500
1000
1500
2000
2500
3000
3500
4000

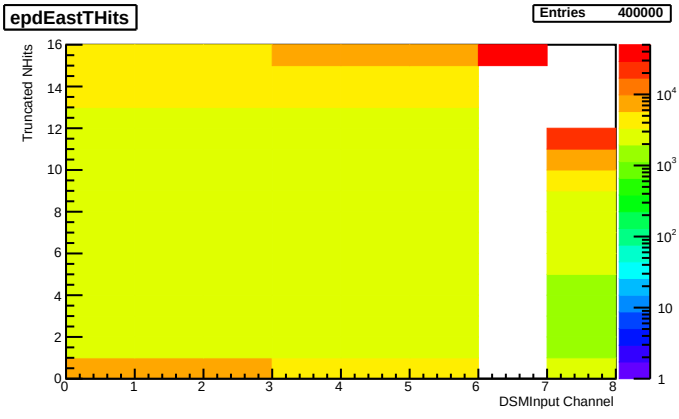

bbcLargeEastTacMaxVsSimu
Entries 0
Data
4000
3500
3000
2500
2000
1500
1000
500
0
Simu

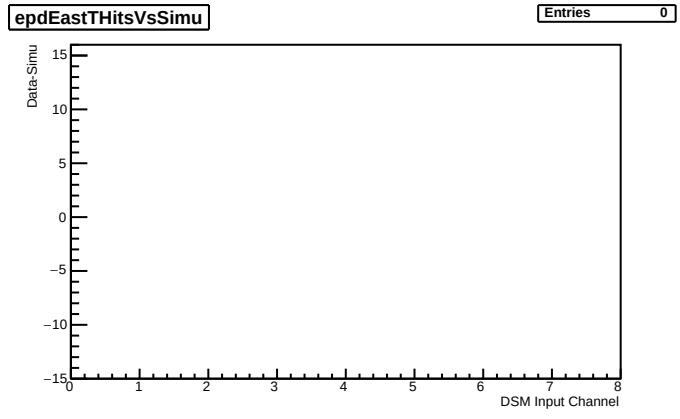

bbcLargeWestTacMax
Entries 50000
10^4
10^3
10^2
0
500
1000
1500
2000
2500
3000
3500
4000

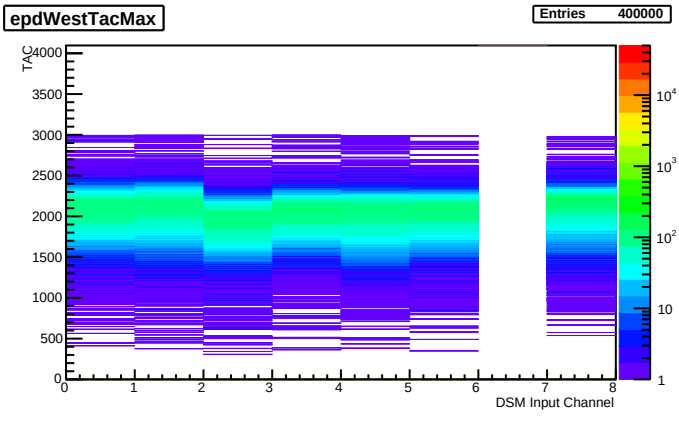

bbcLargeWestTacMaxVsSimu
Entries 0
Data
4000
3500
3000
2500
2000
1500
1000
500
0
Simu

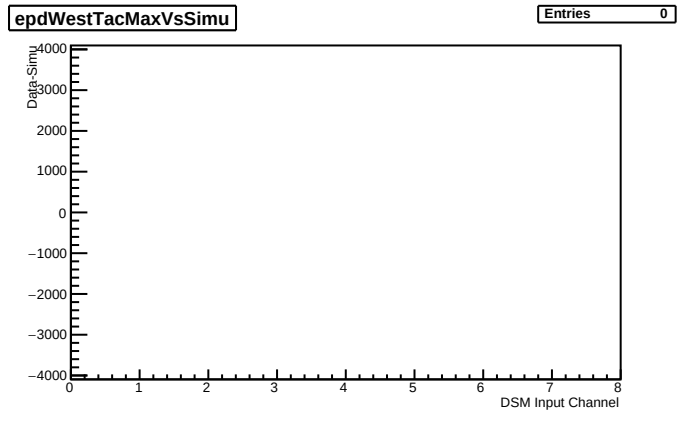

epdEastTacMax
Entries 400000
TAC
DSM Input Channel

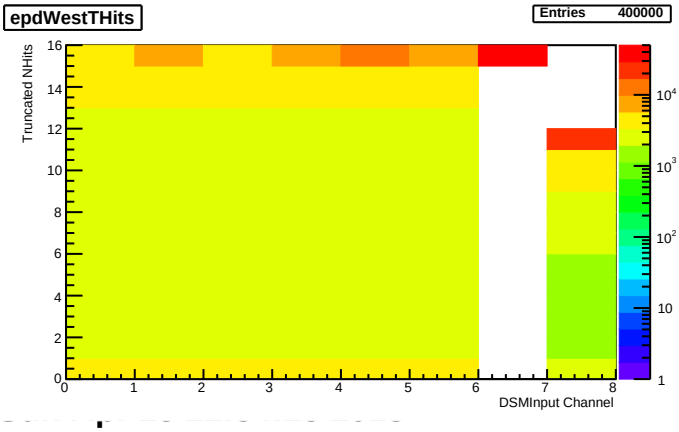

epdEastTacMaxVsSimu
Entries 0
Data-Simu
DSM Input Channel

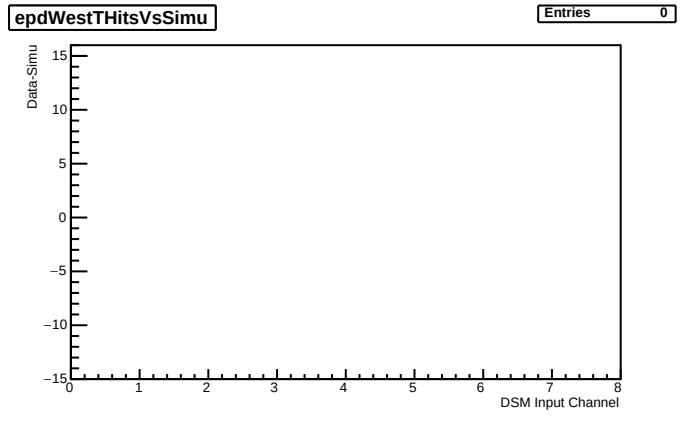

epdEastTHits
Entries 400000
Truncated NHits
DSMInput Channel

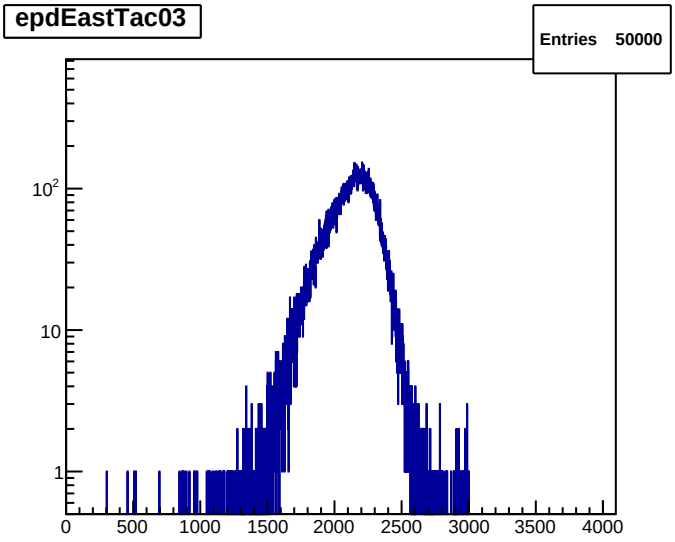

epdEastTHitsVsSimu
Entries 0
Data-Simu
DSM Input Channel

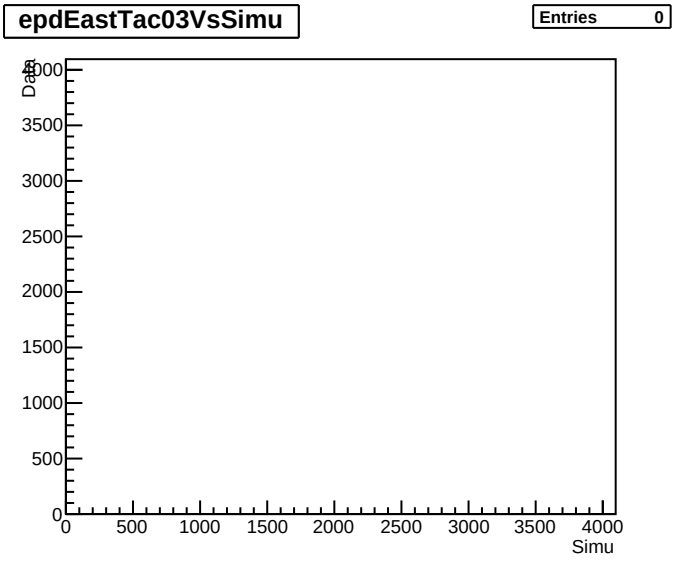

epdWestTacMax
Entries 400000
TAC
DSM Input Channel

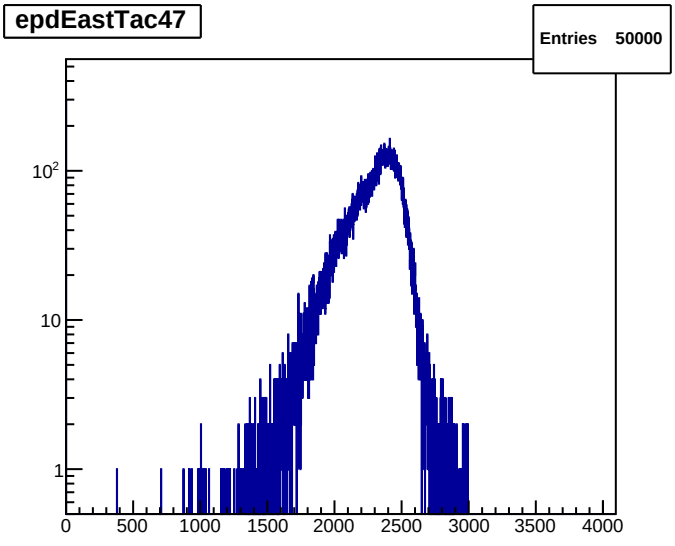

epdWestTacMaxVsSimu
Entries 0
Data-Simu
DSM Input Channel

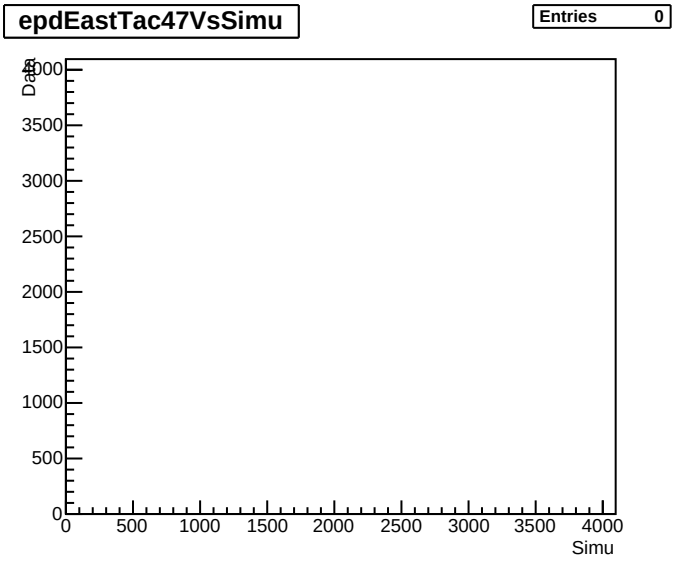

epdWestTHits
Entries 400000
Truncated NHits
DSMInput Channel

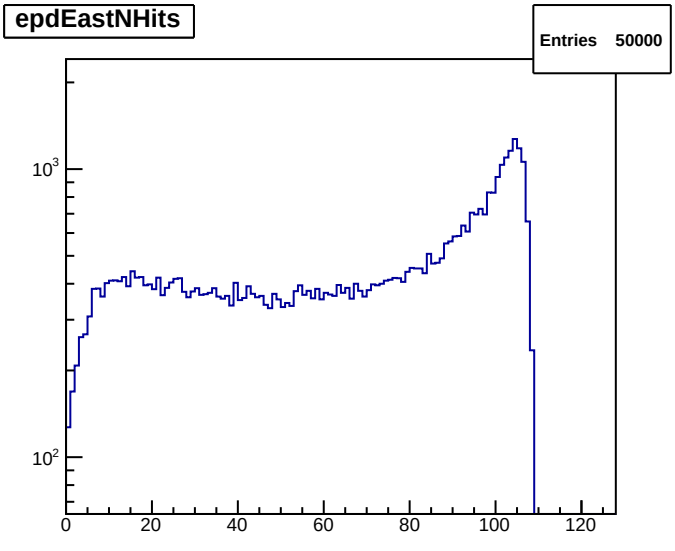

epdWestTHitsVsSimu
Entries 0
Data-Simu
DSM Input Channel

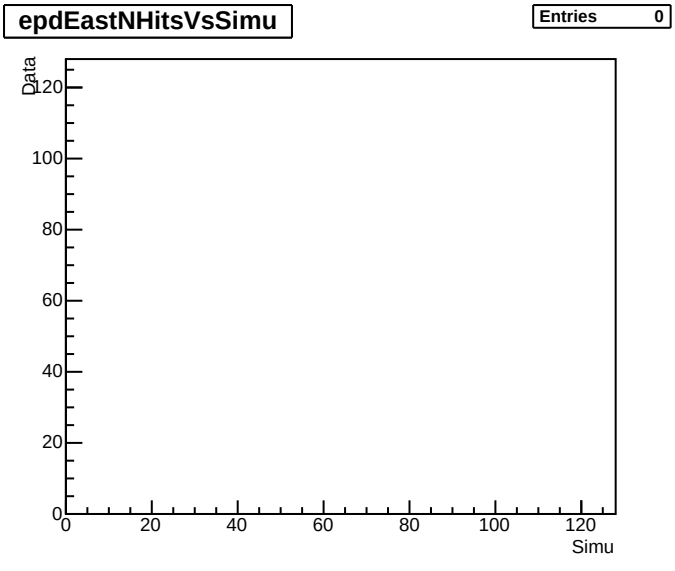

epdEastTac03
Entries 50000
10^2
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

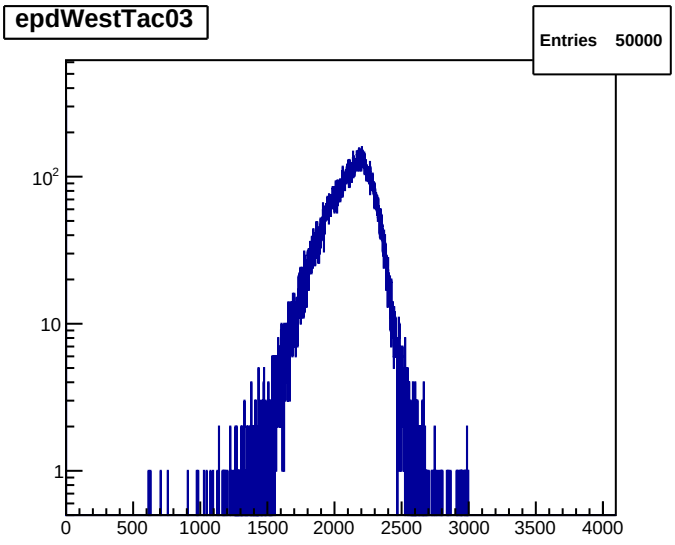

epdEastTac03VsSimu
Entries 0
Data
4000 3500 3000 2500 2000 1500 1000 500 0
0 500 1000 1500 2000 2500 3000 3500 4000
Simu

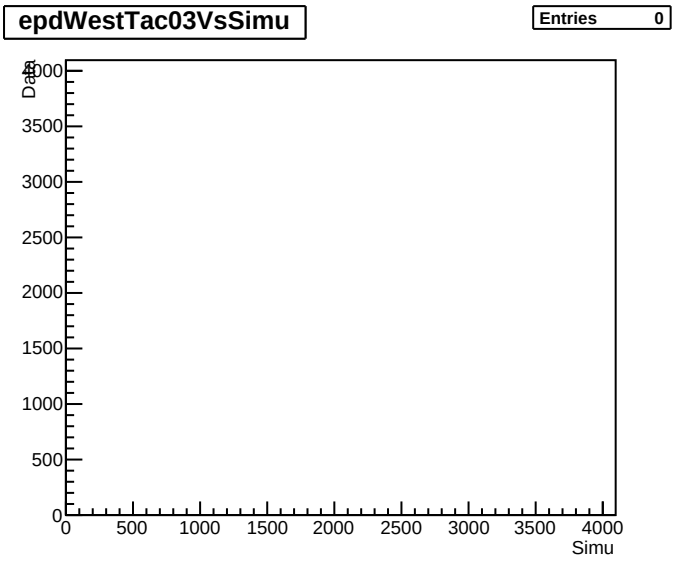

epdEastTac47
Entries 50000
10^2
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

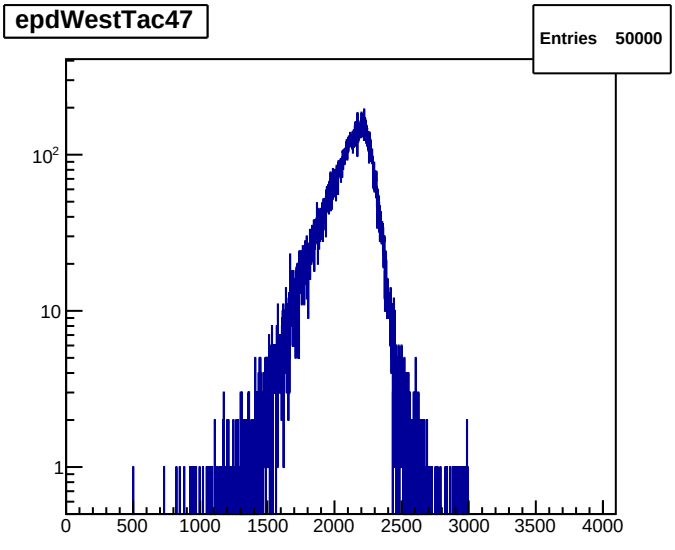

epdEastTac47VsSimu
Entries 0
Data
4000 3500 3000 2500 2000 1500 1000 500 0
0 500 1000 1500 2000 2500 3000 3500 4000
Simu

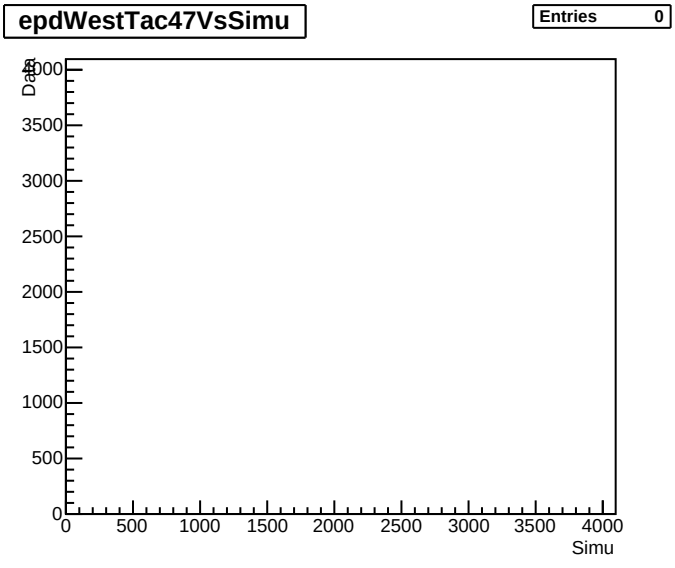

epdEastNHits
Entries 50000
10^3
10^2
0 20 40 60 80 100 120

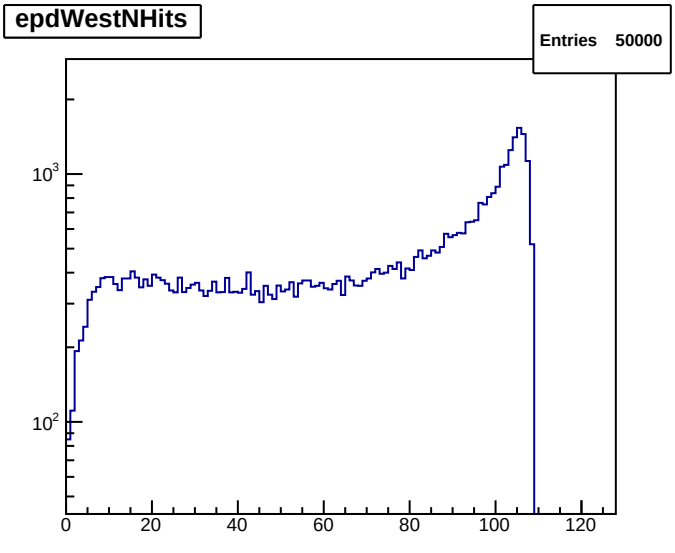

epdEastNHitsVsSimu
Entries 0
Data
120 100 80 60 40 20 0
0 20 40 60 80 100 120
Simu

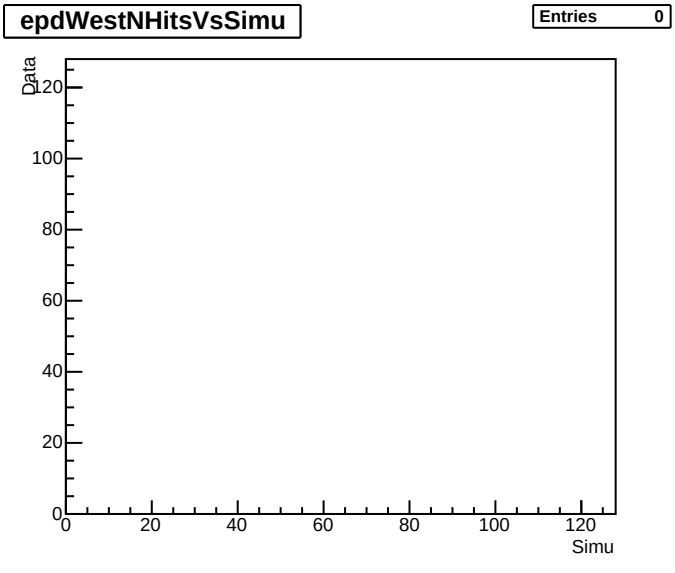

epdWestTac03
Entries 50000
10^2
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

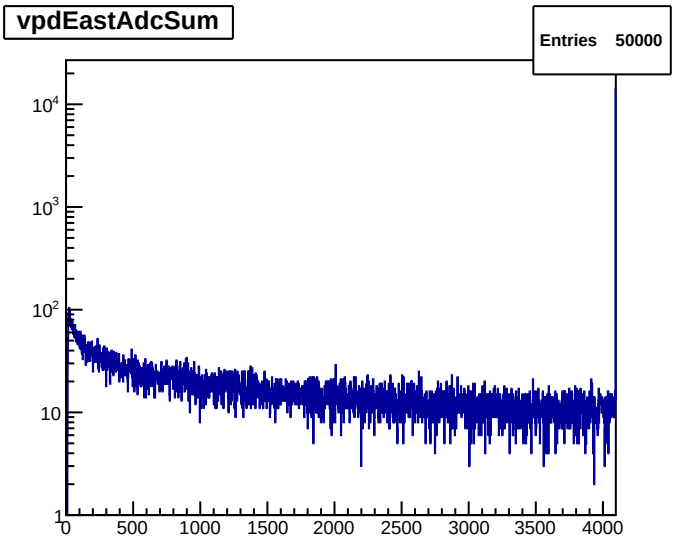

epdWestTac03VsSimu
Entries 0
Data
4000 3500 3000 2500 2000 1500 1000 500 0
0 500 1000 1500 2000 2500 3000 3500 4000
Simu

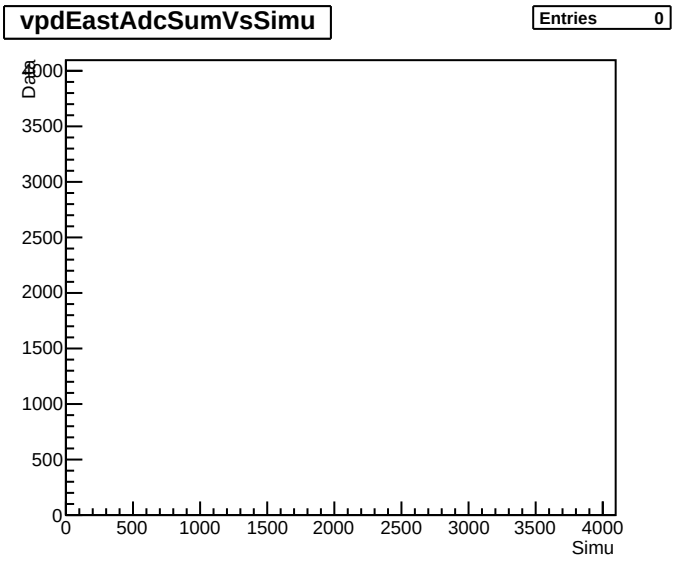

epdWestTac47
Entries 50000
10^2
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

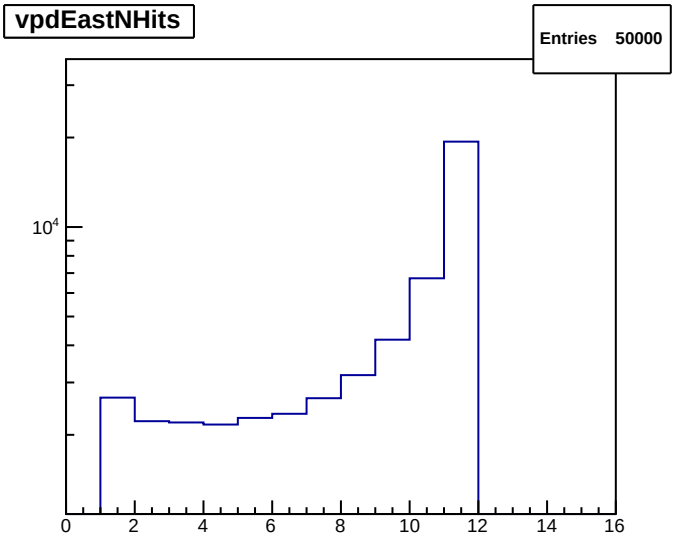

epdWestTac47VsSimu
Entries 0
Data
4000 3500 3000 2500 2000 1500 1000 500 0
0 500 1000 1500 2000 2500 3000 3500 4000
Simu

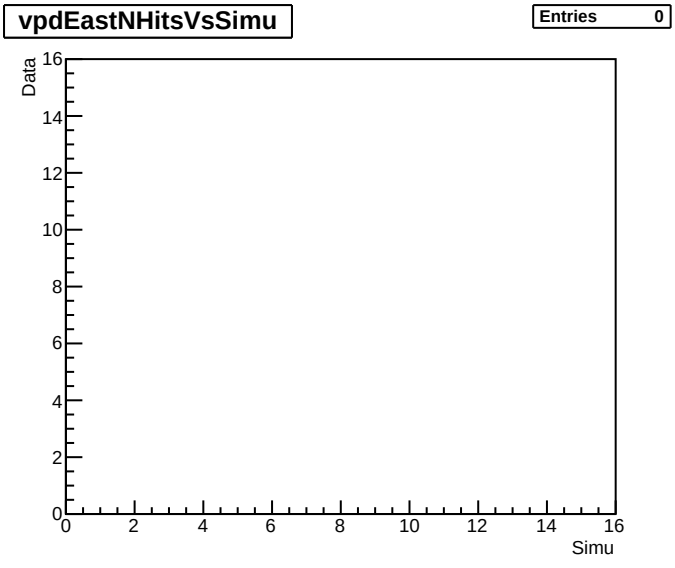

epdWestNHits
Entries 50000
10^3
10^2
0 20 40 60 80 100 120

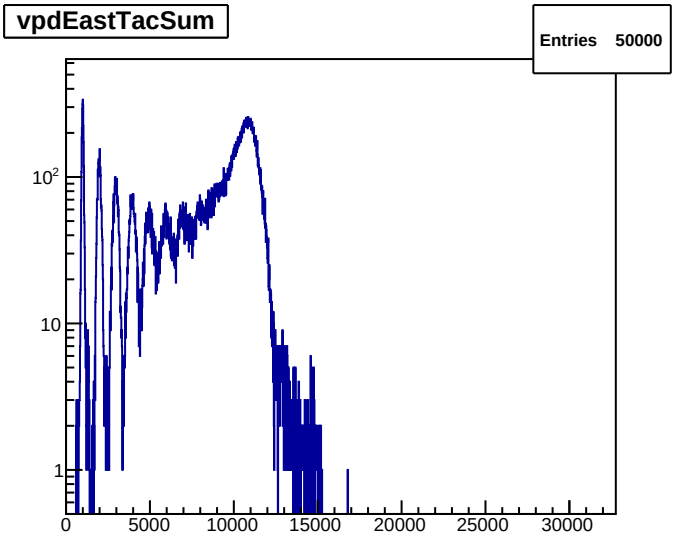

epdWestNHitsVsSimu
Entries 0
Data
120 100 80 60 40 20 0
0 20 40 60 80 100 120
Simu

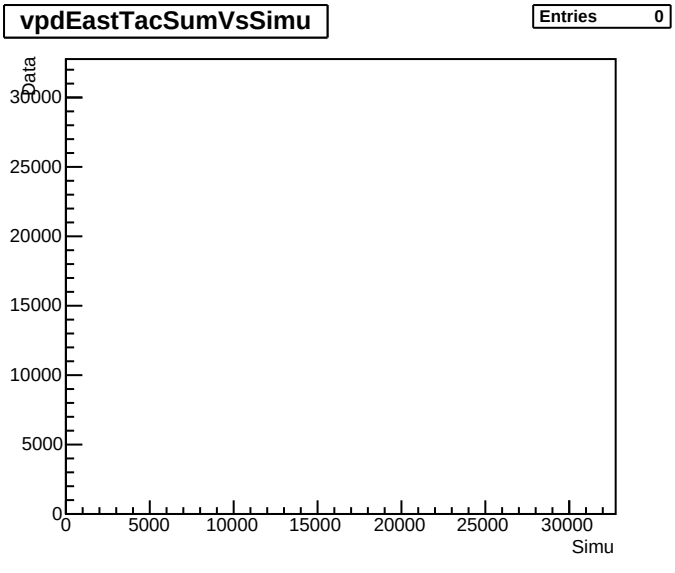

vpdEastAdcSum
Entries 50000

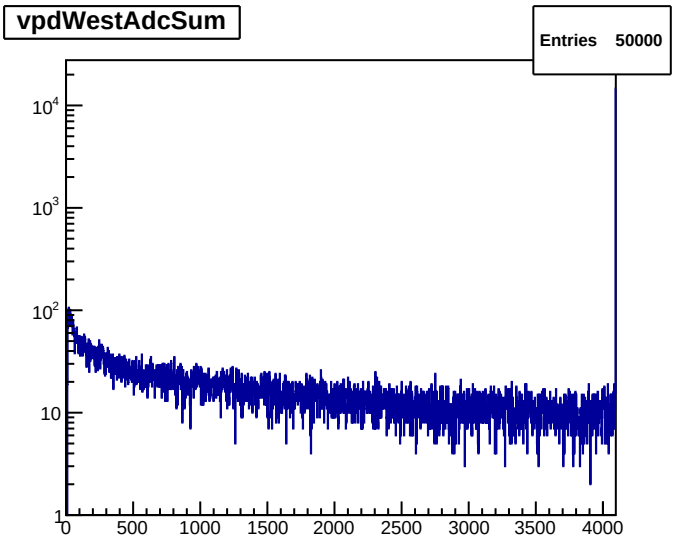

vpdEastAdcSumVsSimu
Entries 0
Data
Simu

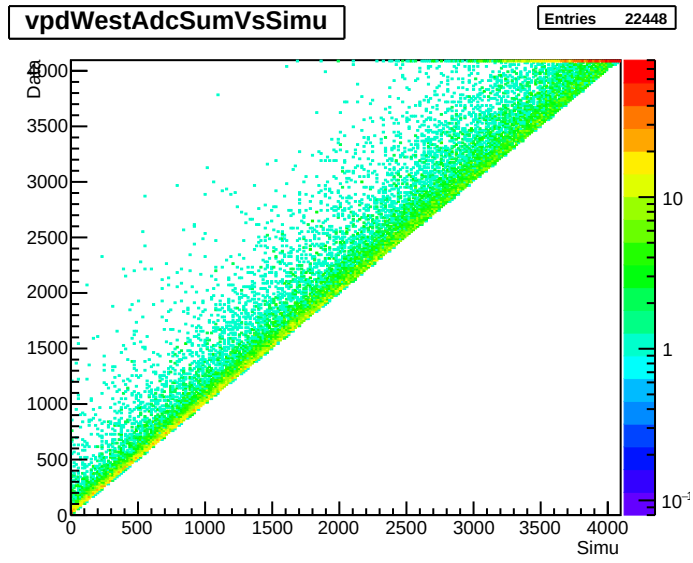

vpdEastNHits
Entries 50000

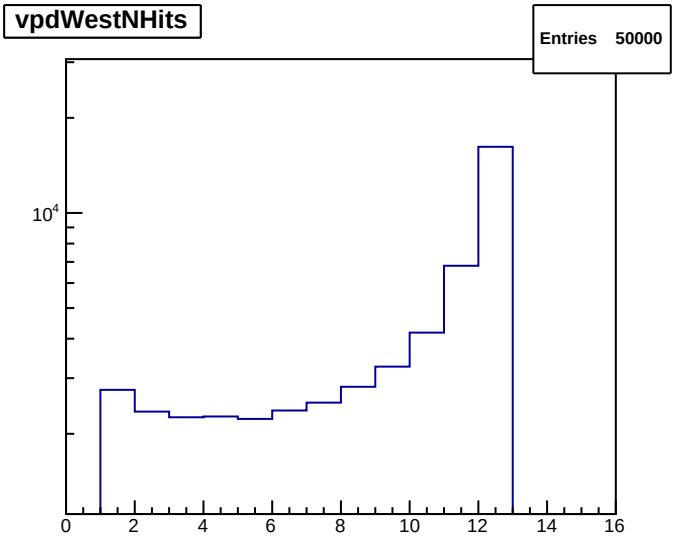

vpdEastNHitsVsSimu
Entries 0
Data
Simu

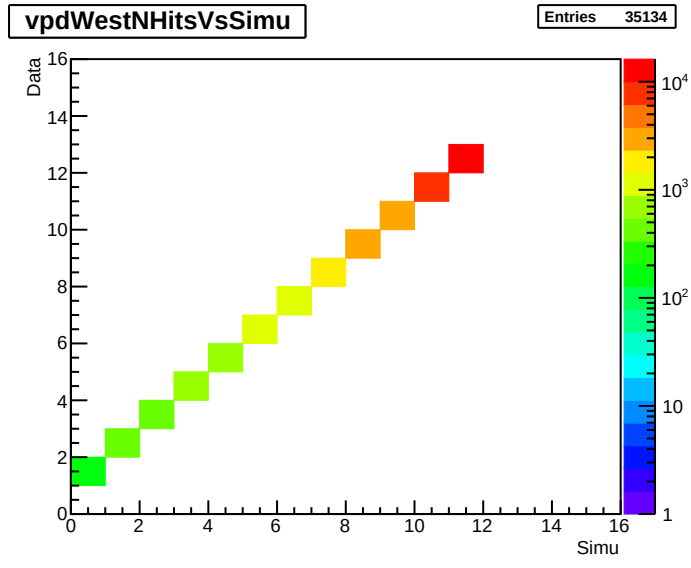

vpdEastTacSum
Entries 50000

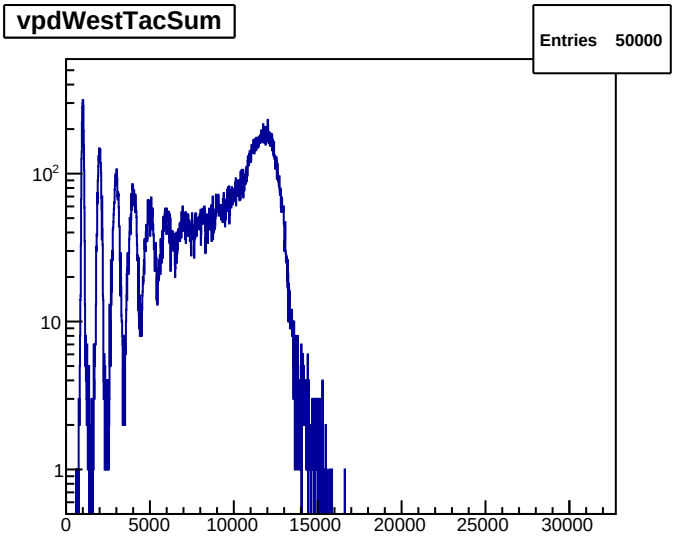

vpdEastTacSumVsSimu
Entries 0
Data
Simu

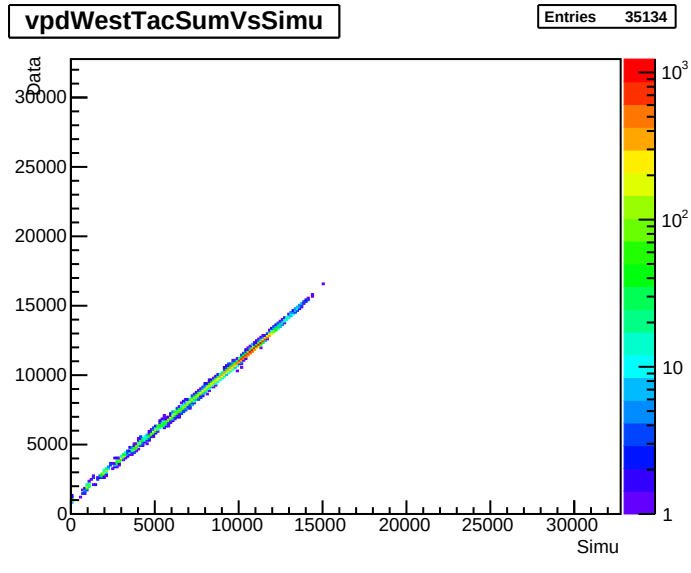

vpdWestAdcSum
Entries 50000

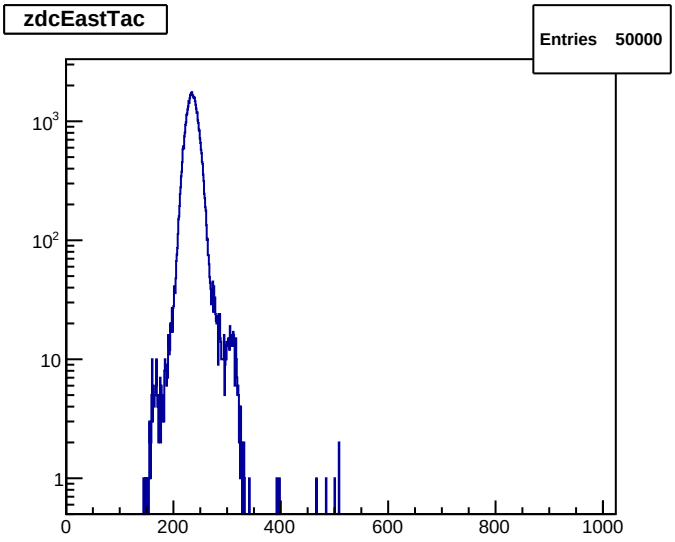

vpdWestAdcSumVsSimu
Entries 22448
Data
Simu

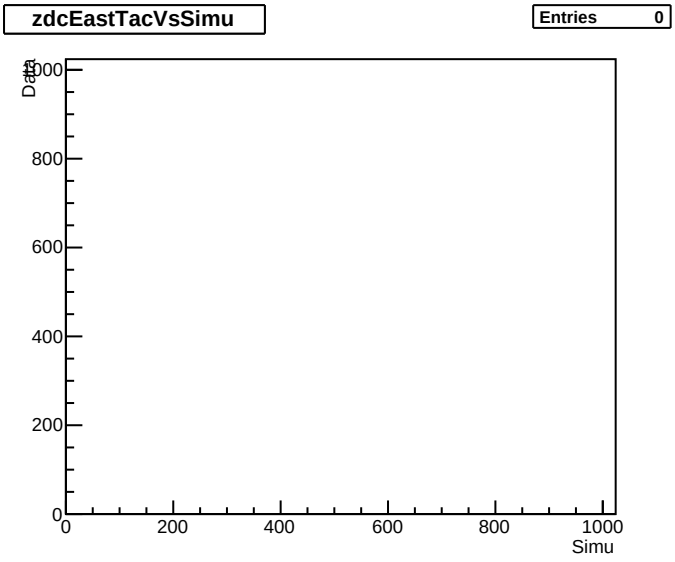

vpdWestNHits
Entries 50000

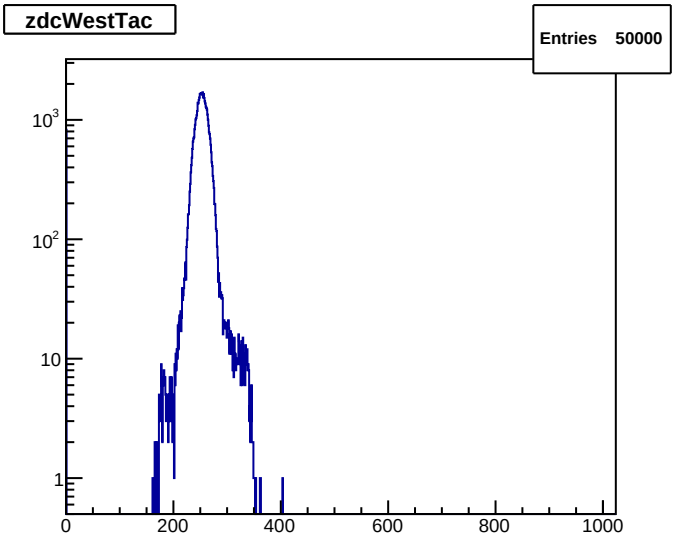

vpdWestNHitsVsSimu
Entries 35134
Data
Simu

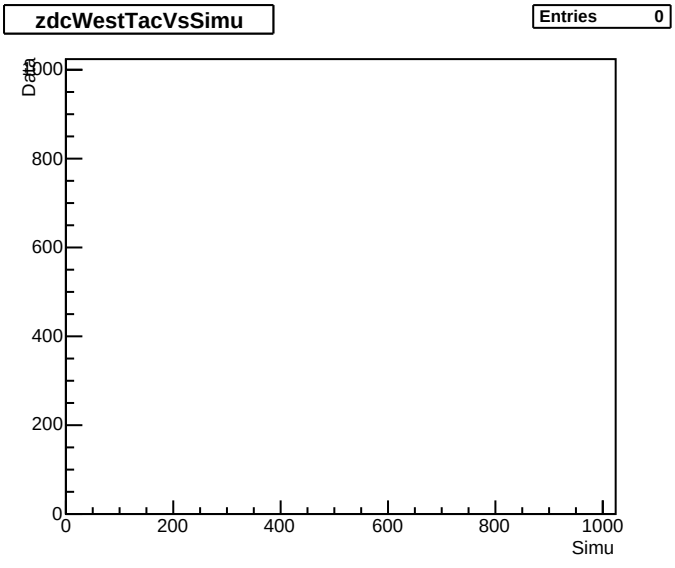

vpdWestTacSum
Entries 50000

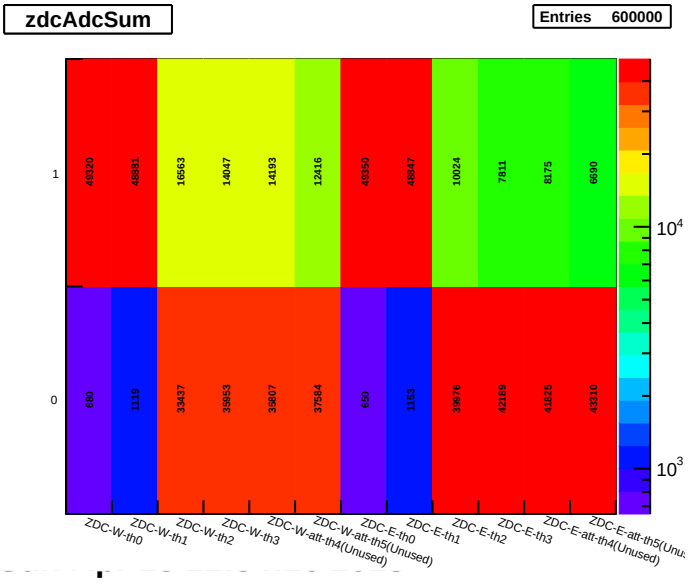

vpdWestTacSumVsSimu
Entries 35134
Data
Simu

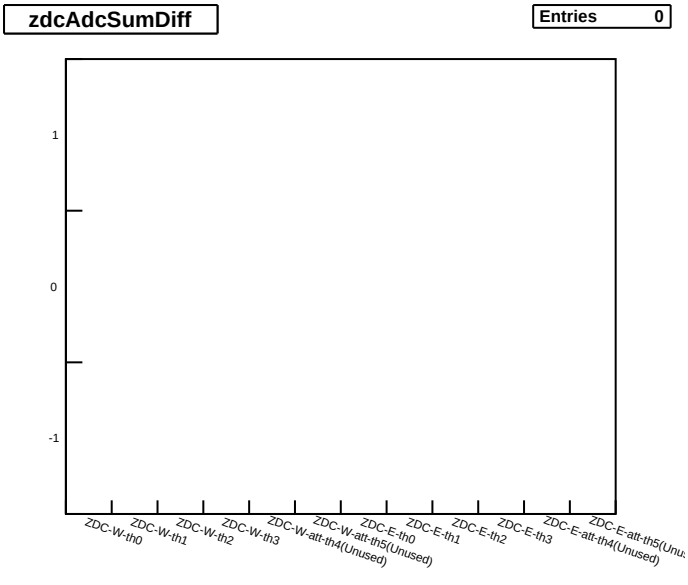

zdcEastTac
Entries 50000
10^3
10^2
10
1
0
200
400
600
800
1000

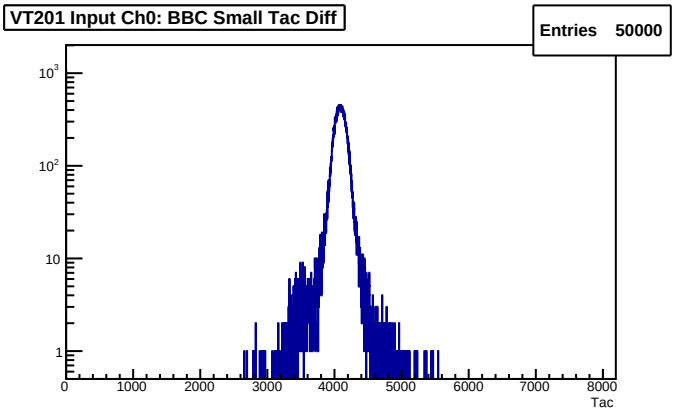

zdcEastTacVsSimu
Entries 0
Data
1000
800
600
400
200
0
0
200
400
600
800
1000
Simu

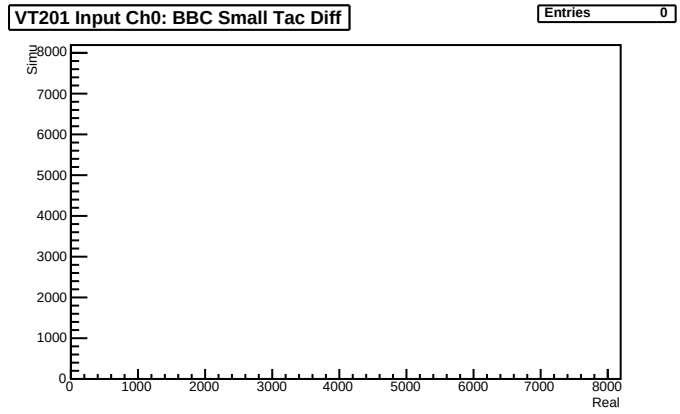

zdcWestTac
Entries 50000
10^3
10^2
10
1
0
200
400
600
800
1000

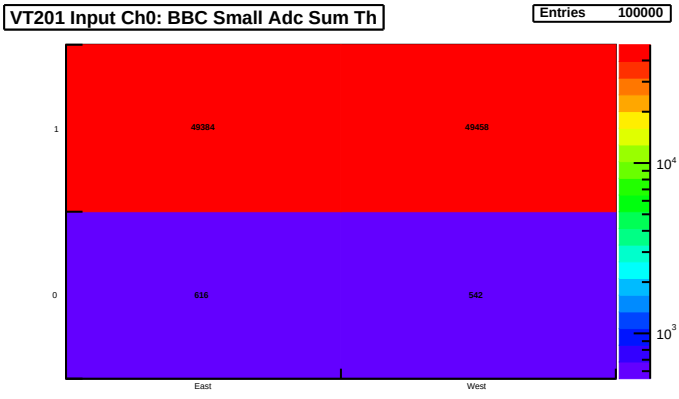

zdcWestTacVsSimu
Entries 0
Data
1000
800
600
400
200
0
0
200
400
600
800
1000
Simu

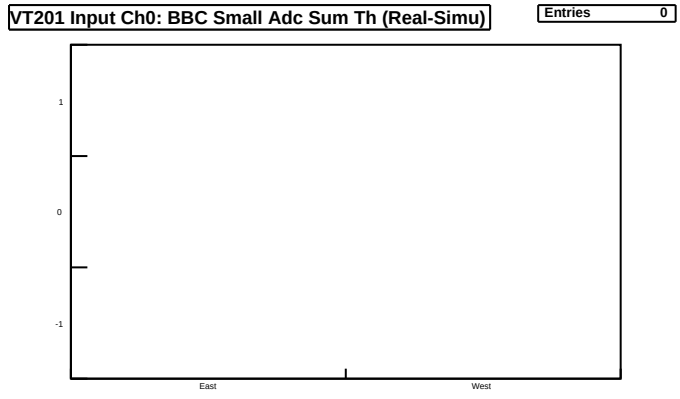

zdcAdcSum
Entries 600000
1
0
49320
48881
16563
14047
14193
12416
49350
48847
10024
7811
8175
6690
680
1119
33437
39953
39807
37584
650
1153
39976
42189
41825
43310
10^4
10^3
ZDC-W-th0
ZDC-W-th1
ZDC-W-th2
ZDC-W-th3
ZDC-W-att-th4(Unused)
ZDC-W-att-th5(Unused)
ZDC-E-th0
ZDC-E-th1
ZDC-E-th2
ZDC-E-th3
ZDC-E-att-th4(Unused)
ZDC-E-att-th5(Unu

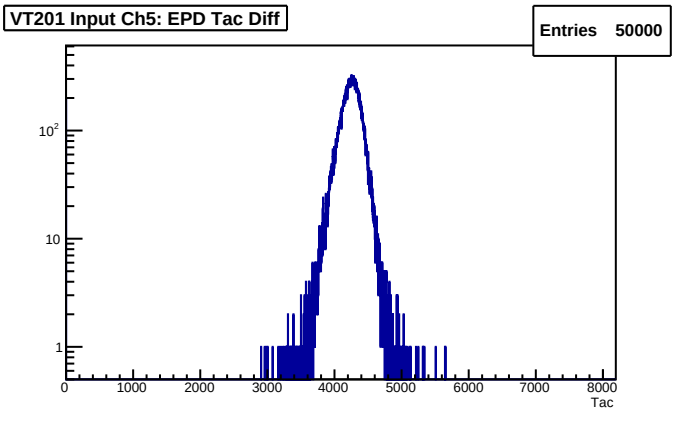

zdcAdcSumDiff
Entries 0
1
0
-1
ZDC-W-th0
ZDC-W-th1
ZDC-W-th2
ZDC-W-th3
ZDC-W-att-th4(Unused)
ZDC-W-att-th5(Unused)
ZDC-E-th0
ZDC-E-th1
ZDC-E-th2
ZDC-E-th3
ZDC-E-att-th4(Unused)
ZDC-E-att-th5(Unu

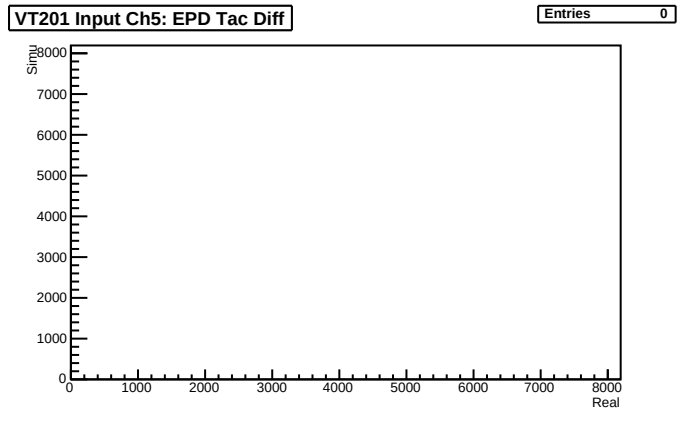

VT201 Input Ch0: BBC Small Tac Diff
Entries 50000
Tac

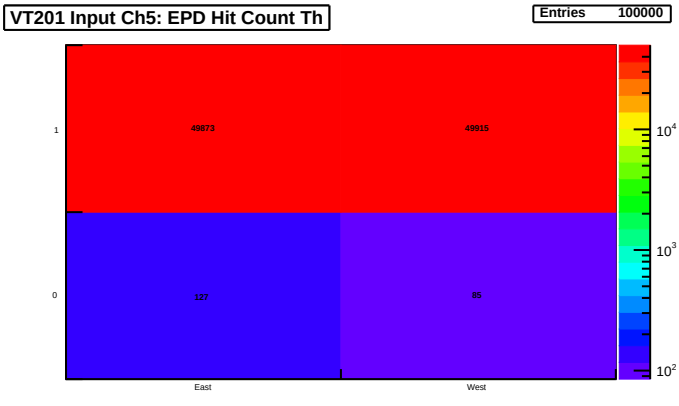

VT201 Input Ch0: BBC Small Tac Diff
Entries 0
Simu
Real

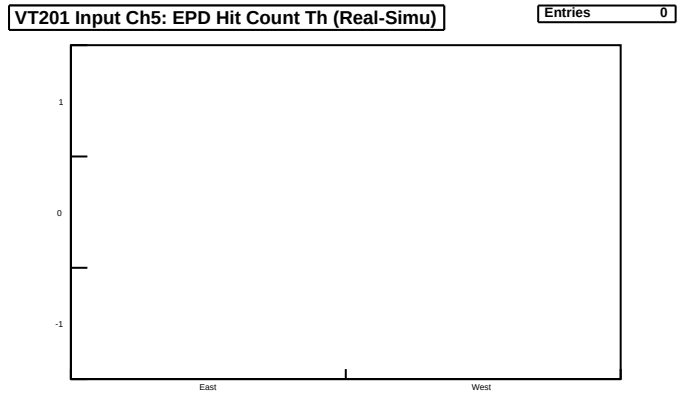

VT201 Input Ch0: BBC Small Adc Sum Th
Entries 100000
49384
49458
616
542
East
West

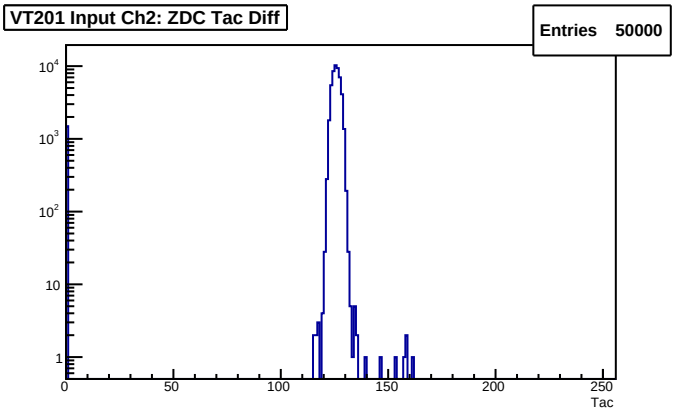

VT201 Input Ch0: BBC Small Adc Sum Th (Real-Simu)
Entries 0
East
West

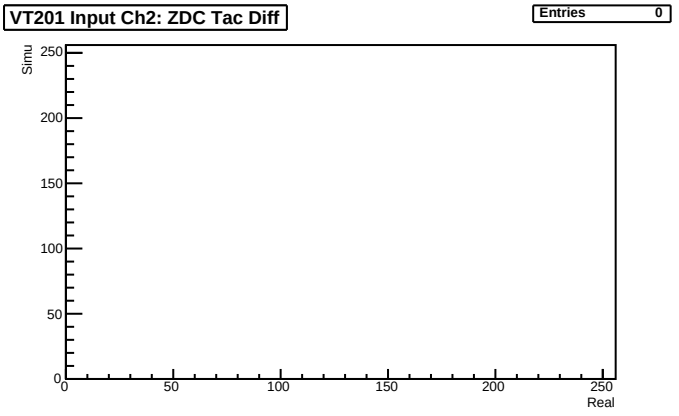

VT201 Input Ch5: EPD Tac Diff
Entries 50000
Tac

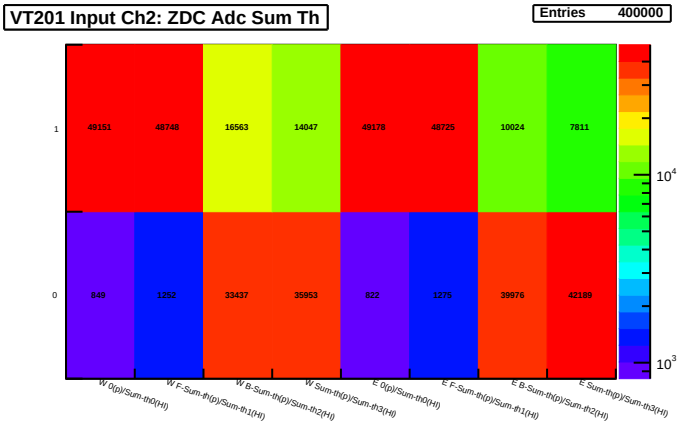

VT201 Input Ch5: EPD Tac Diff
Entries 0
Simu
Real

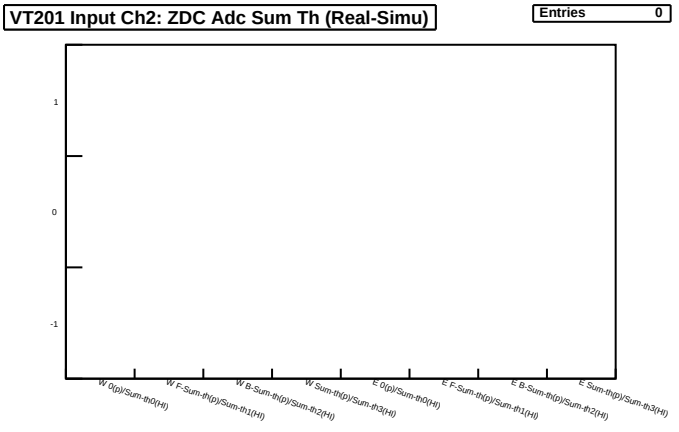

VT201 Input Ch5: EPD Hit Count Th
Entries 100000
49873
49915
127
85
East
West

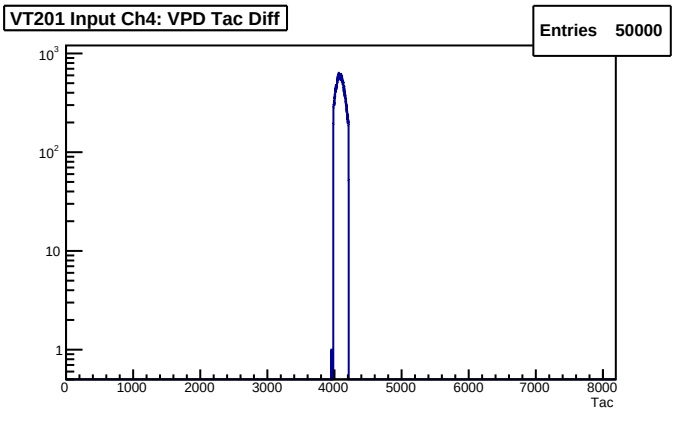

VT201 Input Ch5: EPD Hit Count Th (Real-Simu)
Entries 0
East
West

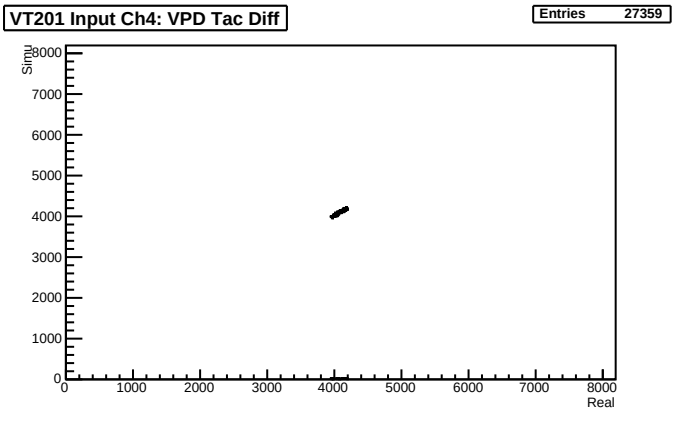

VT201 Input Ch2: ZDC Tac Diff
Entries 50000
Tac

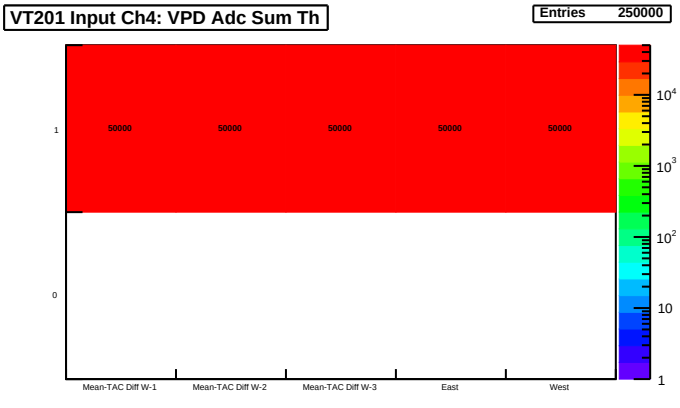

VT201 Input Ch2: ZDC Tac Diff
Entries 0
Simu
Real

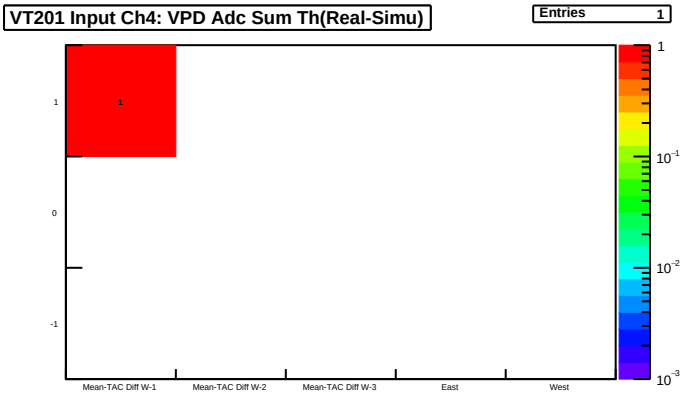

VT201 Input Ch2: ZDC Adc Sum Th
Entries 400000
49151
48748
16563
14047
49178
48725
10024
7811
849
1252
33437
35953
822
1275
39976
42189
W 0(p)/Sum-th0(Hl)
W F-Sum-th(p)/Sum-th1(Hl)
W B-Sum-th(p)/Sum-th2(Hl)
W Sum-th(p)/Sum-th3(Hl)
E 0(p)/Sum-th0(Hl)
E F-Sum-th(p)/Sum-th1(Hl)
E B-Sum-th(p)/Sum-th2(Hl)
E Sum-th(p)/Sum-th3(Hl)

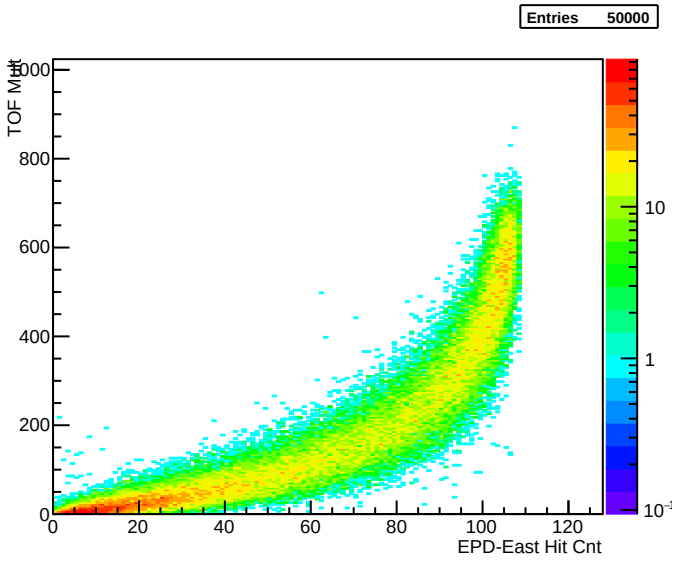

VT201 Input Ch2: ZDC Adc Sum Th (Real-Simu)
Entries 0
W 0(p)/Sum-th0(Hl)
W F-Sum-th(p)/Sum-th1(Hl)
W B-Sum-th(p)/Sum-th2(Hl)
W Sum-th(p)/Sum-th3(Hl)
E 0(p)/Sum-th0(Hl)
E F-Sum-th(p)/Sum-th1(Hl)
E B-Sum-th(p)/Sum-th2(Hl)
E Sum-th(p)/Sum-th3(Hl)

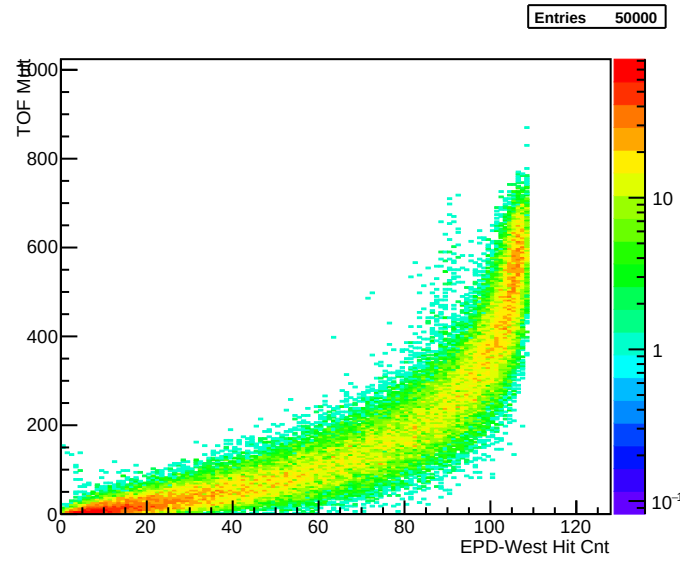

VT201 Input Ch4: VPD Tac Diff
Entries 50000
Tac

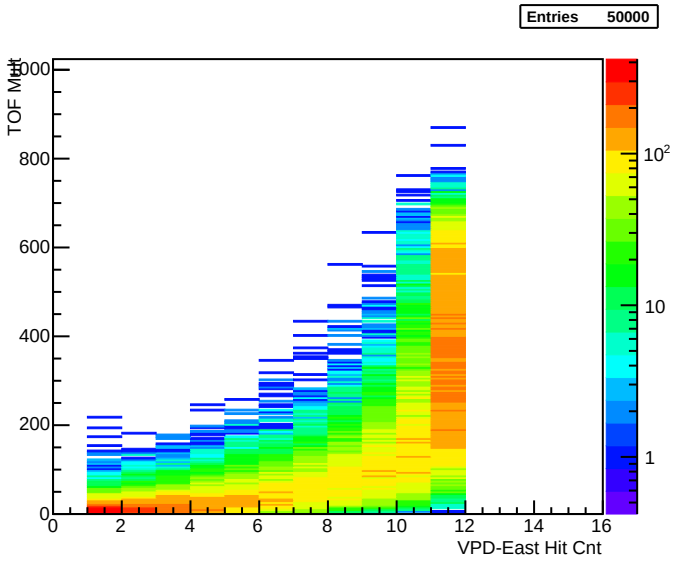

VT201 Input Ch4: VPD Tac Diff
Entries 27359
Simu
Real

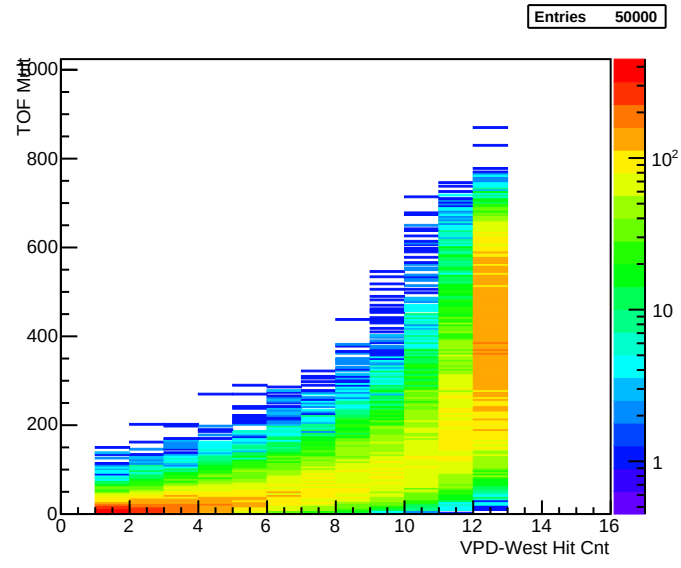

VT201 Input Ch4: VPD Adc Sum Th
Entries 250000
50000
50000
50000
50000
50000
Mean-TAC Diff W-1
Mean-TAC Diff W-2
Mean-TAC Diff W-3
East
West

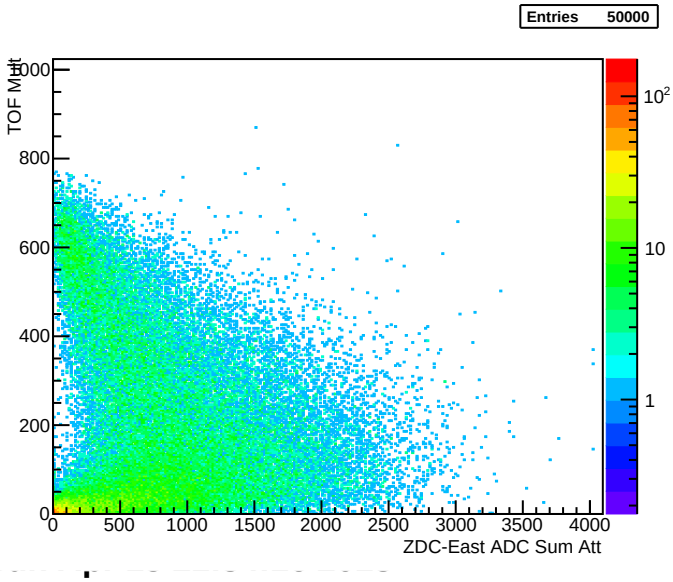

VT201 Input Ch4: VPD Adc Sum Th(Real-Simu)
Entries 1
1
Mean-TAC Diff W-1
Mean-TAC Diff W-2
Mean-TAC Diff W-3
East
West

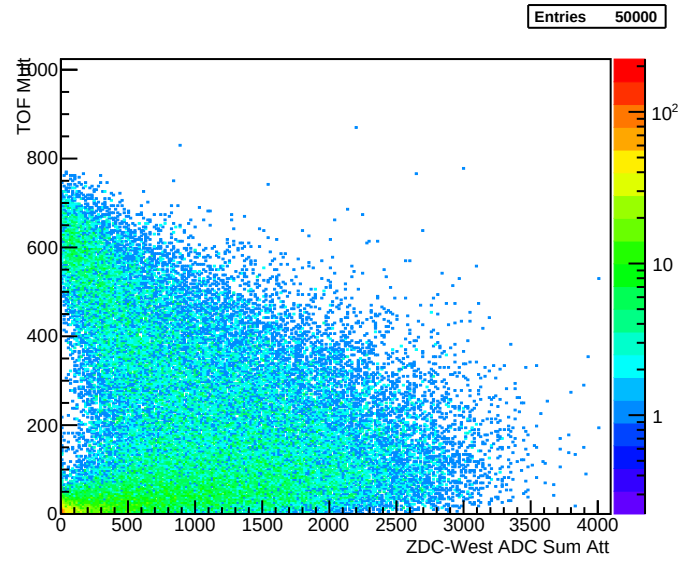

Entries 50000
TOF Mult
EPD-East Hit Cnt

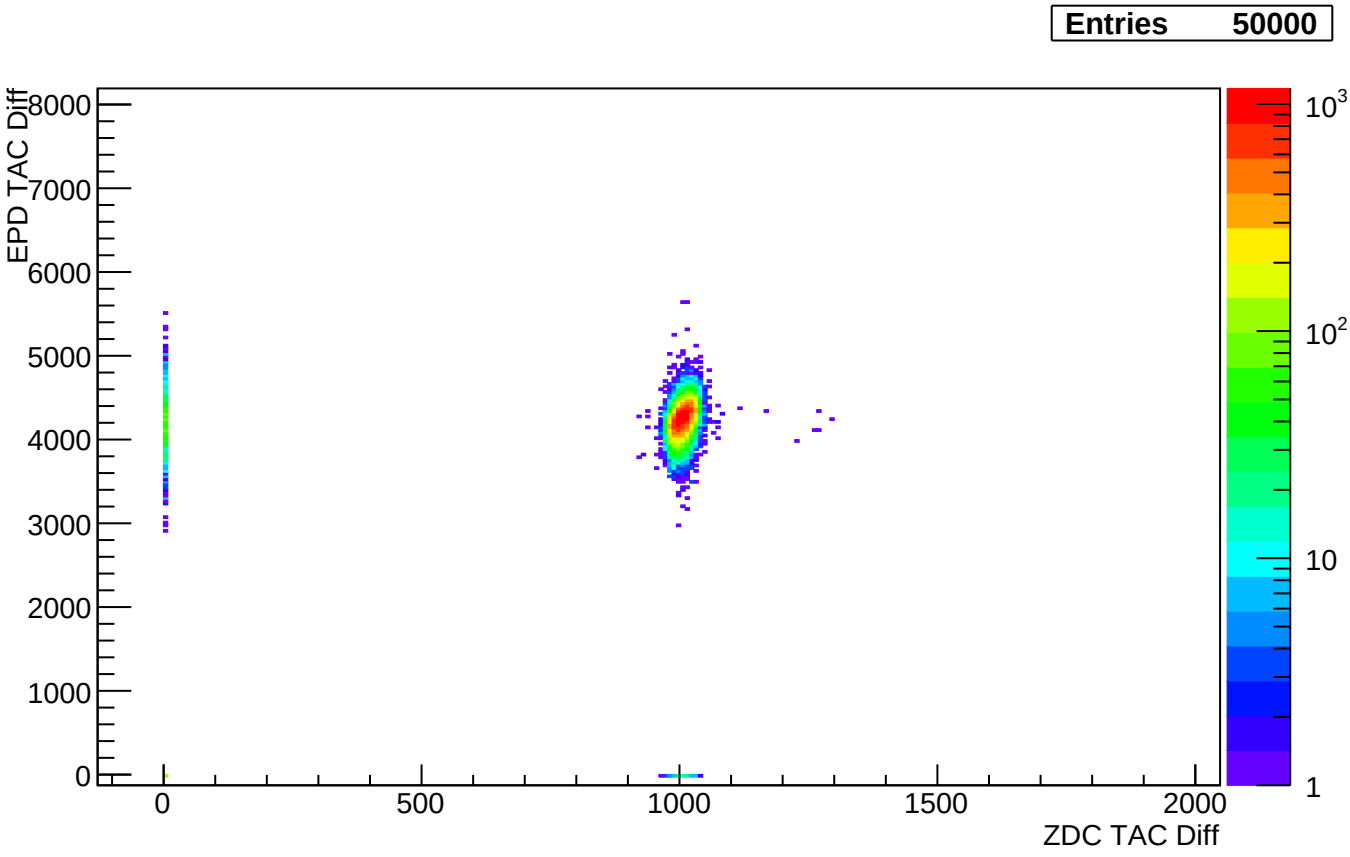

Entries 50000
TOF Mult
EPD-West Hit Cnt

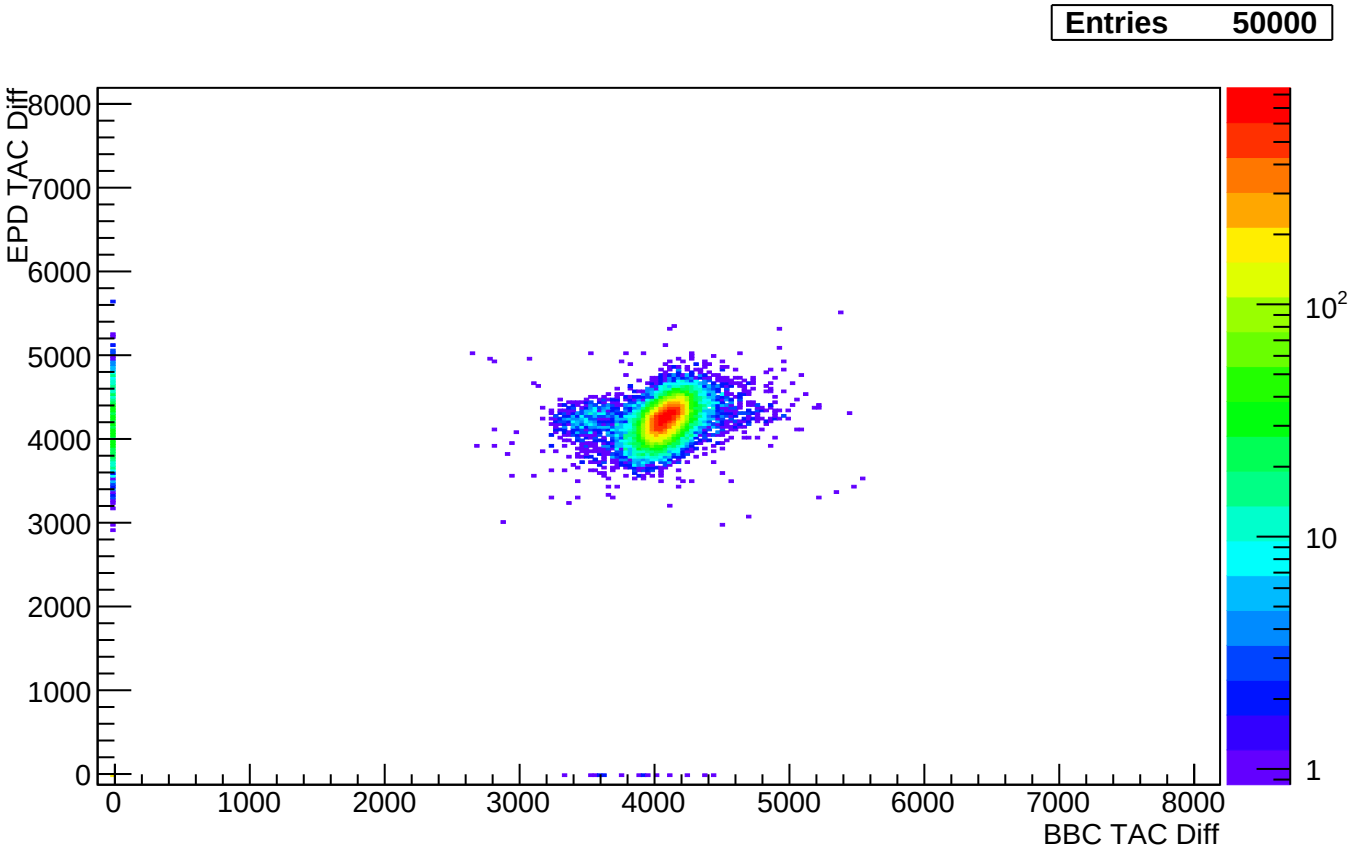

Entries 50000
TOF Mult
VPD-East Hit Cnt

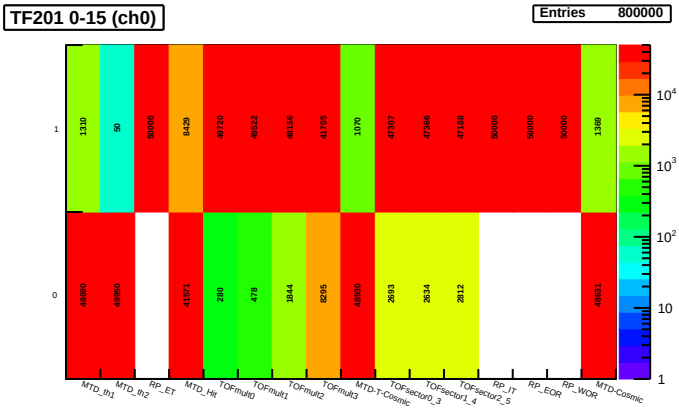

Entries 50000
TOF Mult
VPD-West Hit Cnt

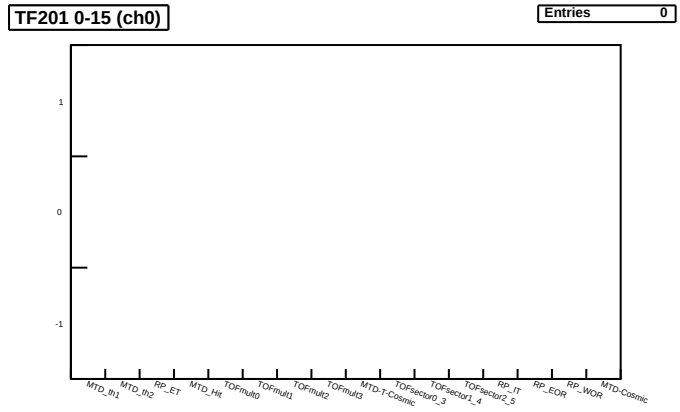

Entries 50000
TOF Mult
ZDC-East ADC Sum Att

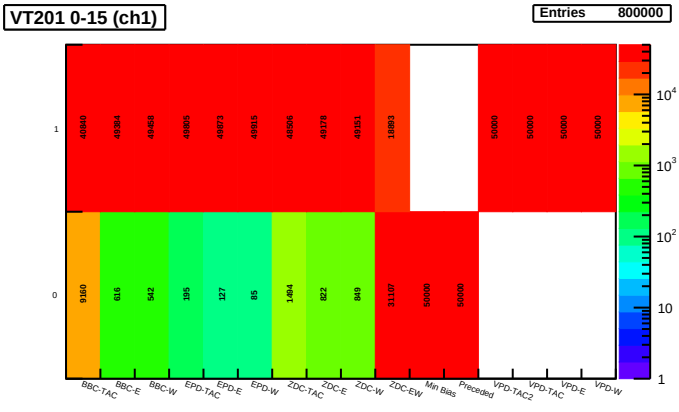

Entries 50000
TOF Mult
ZDC-West ADC Sum Att

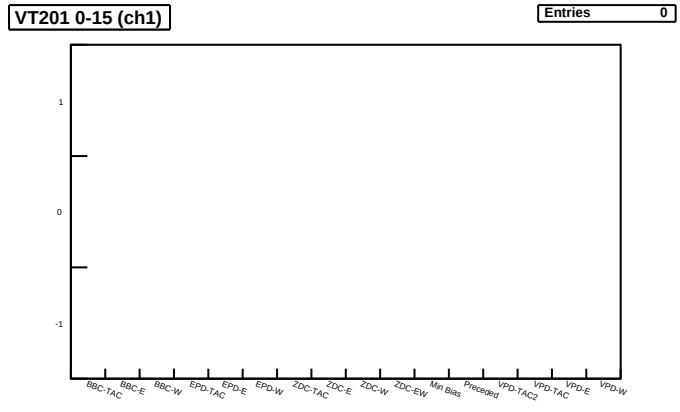

Entries 50000
EPD TAC Diff
ZDC TAC Diff
0
500
1000
1500
2000
1000
2000
3000
4000
5000
6000
7000
8000
1
10
10^2
10^3

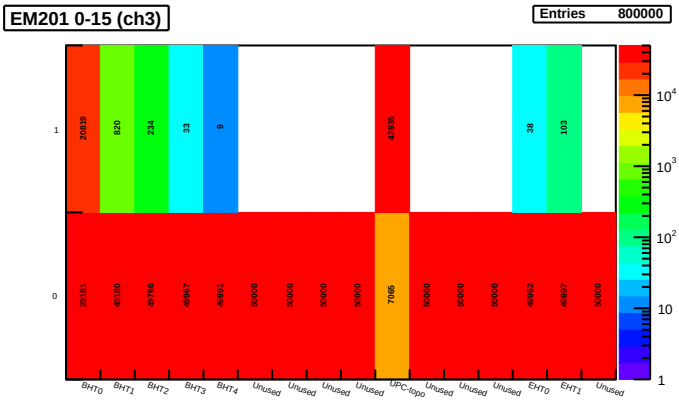

Entries 50000
EPD TAC Diff
BBC TAC Diff
0
1000
2000
3000
4000
5000
6000
7000
8000
1
10
10^2

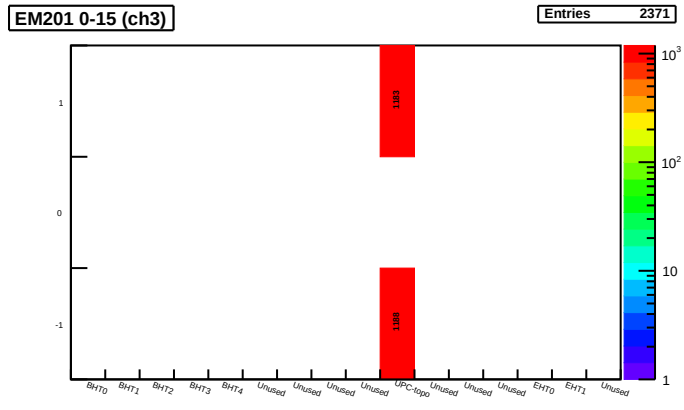

TF201 0-15 (ch0)
Entries 800000
1310 50 50000 8429 49720 49522 48156 41705 1070 47307 47366 47188 50000 50000 50000 1369
48880 49950 41571 280 478 1844 8295 48880 2693 2634 2812 48831
MTD_th1 MTD_th2 RP_ET MTD_Hit TOFmult0 TOFmult1 TOFmult2 TOFmult3 MTD-T-Cosmic TOFsector0_3 TOFsector1_4 TOFsector2_5 RP_IT RP_EOR RP_WOR MTD-Cosmic

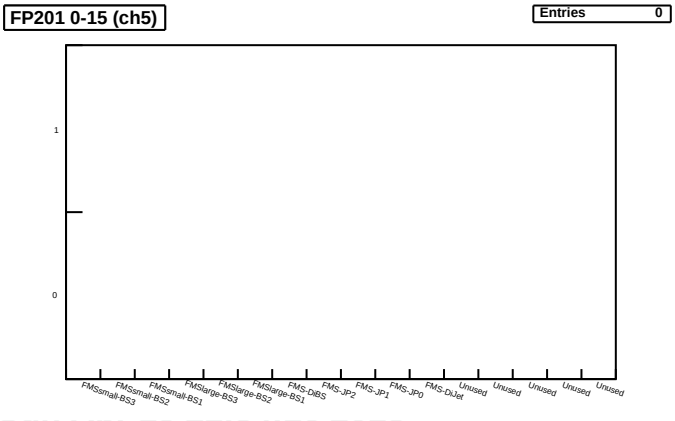

TF201 0-15 (ch0)
Entries 0
MTD_th1 MTD_th2 RP_ET MTD_Hit TOFmult0 TOFmult1 TOFmult2 TOFmult3 MTD-T-Cosmic TOFsector0_3 TOFsector1_4 TOFsector2_5 RP_IT RP_EOR RP_WOR MTD-Cosmic

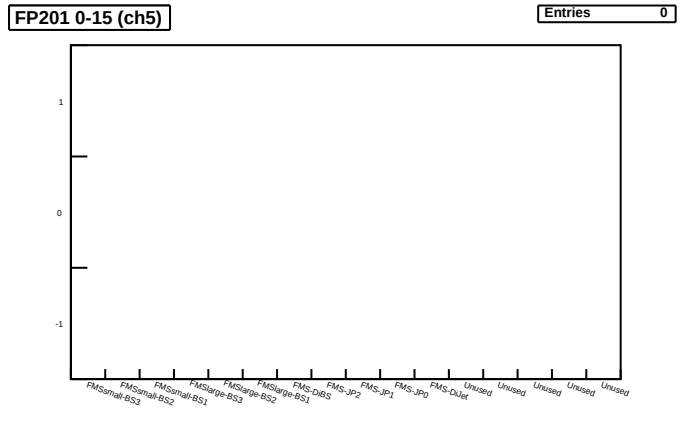

VT201 0-15 (ch1)
Entries 800000
49840 49384 49458 49805 49873 49915 49306 49178 49151 13883 50000 50000 50000 50000
9160 616 542 195 127 85 1484 822 849 31107 50000 50000
BBC-TAC BBC-E BBC-W EPD-TAC EPD-E EPD-W ZDC-TAC ZDC-E ZDC-W ZDC-EW Min Bias Preceded VPD-TAC2 VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 0
BBC-TAC BBC-E BBC-W EPD-TAC EPD-E EPD-W ZDC-TAC ZDC-E ZDC-W ZDC-EW Min Bias Preceded VPD-TAC2 VPD-TAC VPD-E VPD-W


EM201 0-15 (ch3)
Entries 800000
20519 820 234 33 9 42935 38 103
29181 49160 49766 49967 49931 50000 50000 50000 50000 7065 50000 50000 50000 49962 49937 50000
BHT0 BHT1 BHT2 BHT3 BHT4 Unused Unused Unused Unused UPC-topo Unused Unused Unused EHT0 EHT1 Unused


EM201 0-15 (ch3)
Entries 2371
1183
1188
BHT0 BHT1 BHT2 BHT3 BHT4 Unused Unused Unused Unused UPC-topo Unused Unused Unused EHT0 EHT1 Unused


FP201 0-15 (ch5)
Entries 0
FMSsmall-BS3 FMSsmall-BS2 FMSsmall-BS1 FMSlarge-BS3 FMSlarge-BS2 FMSlarge-BS1 FMS-DiBS FMS-JP2 FMS-JP1 FMS-JP0 FMS-DiJet Unused Unused Unused Unused Unused


FP201 0-15 (ch5)
Entries 0
FMSsmall-BS3 FMSsmall-BS2 FMSsmall-BS1 FMSlarge-BS3 FMSlarge-BS2 FMSlarge-BS1 FMS-DiBS FMS-JP2 FMS-JP1 FMS-JP0 FMS-DiJet Unused Unused Unused Unused Unused