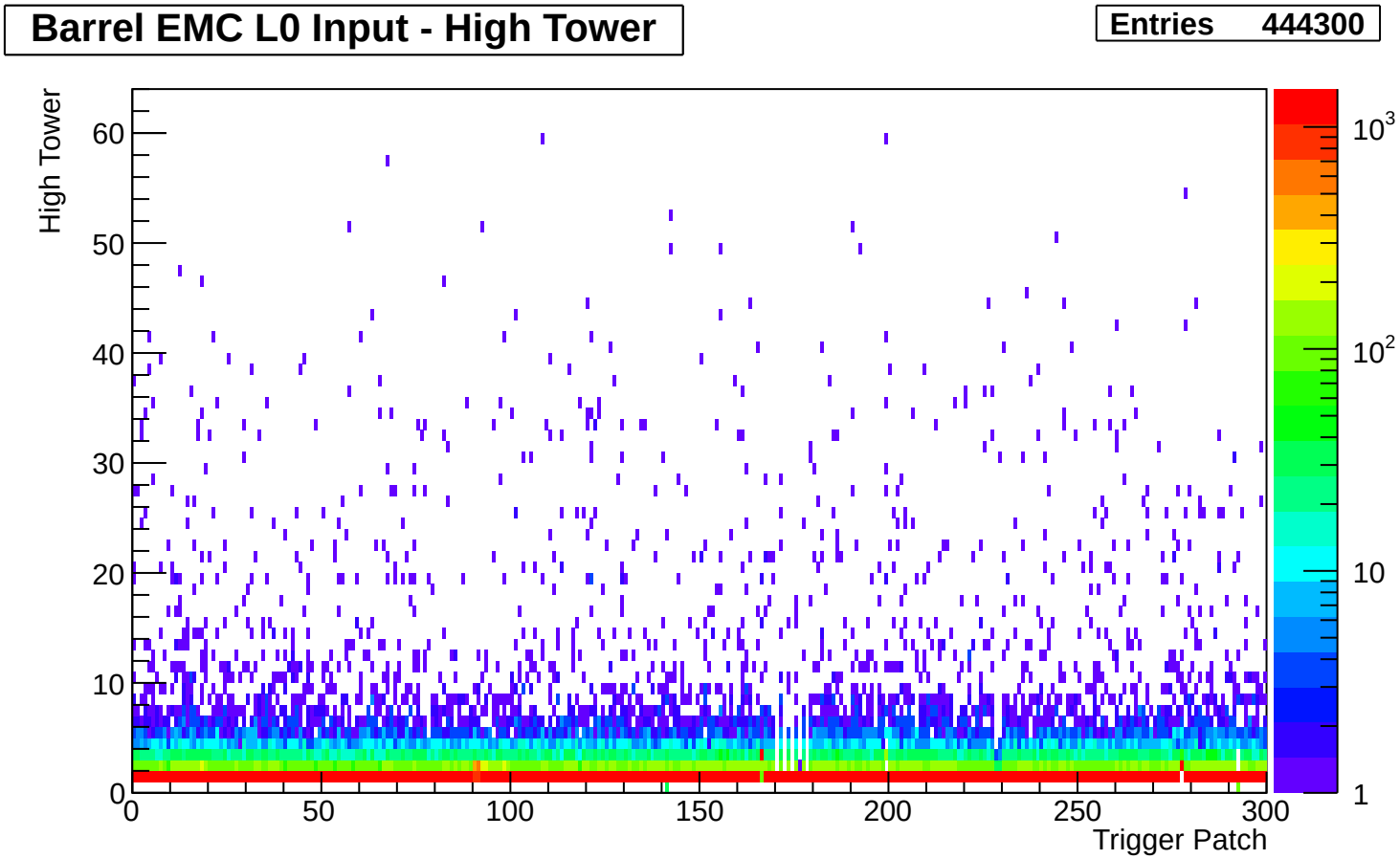
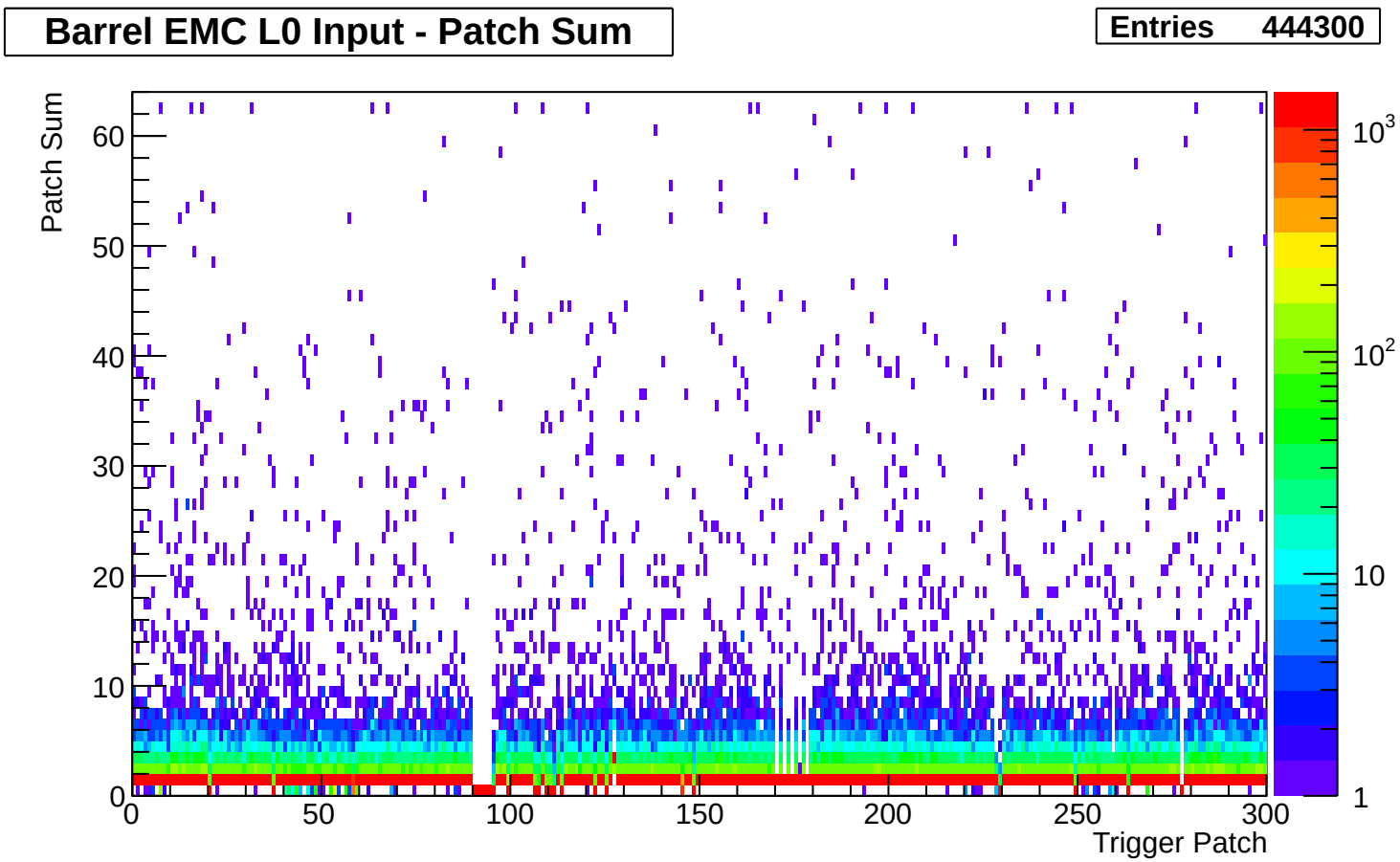
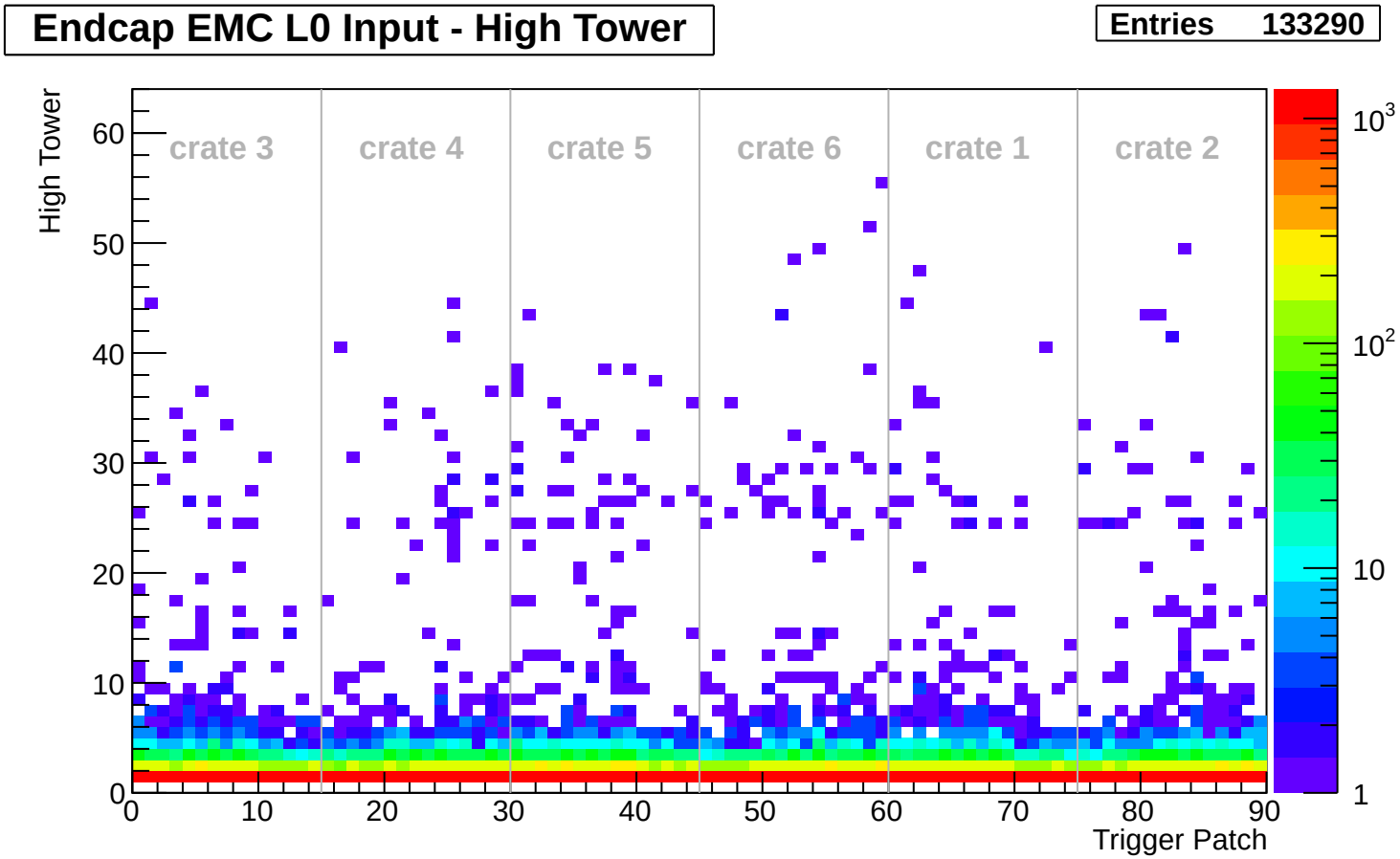
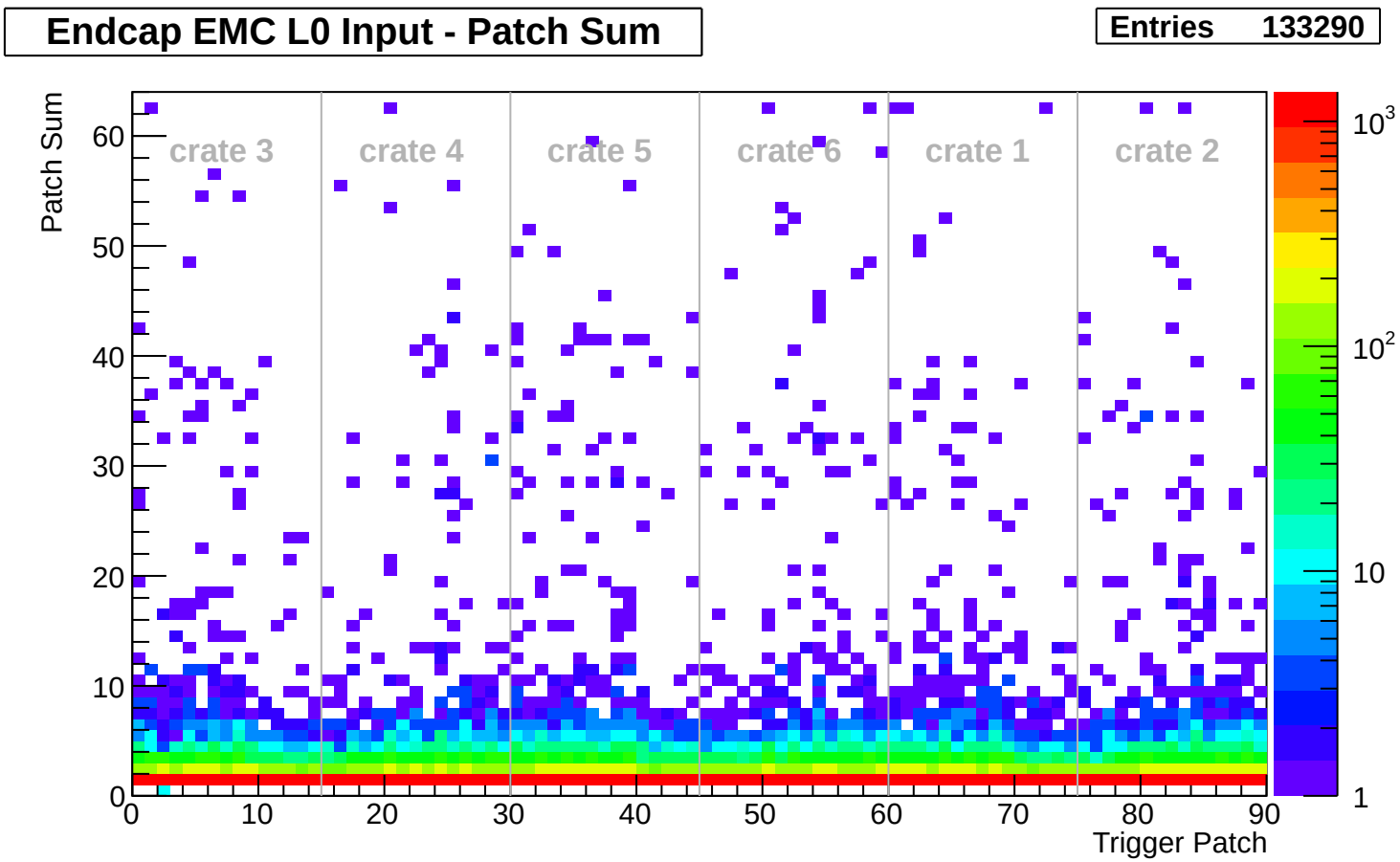
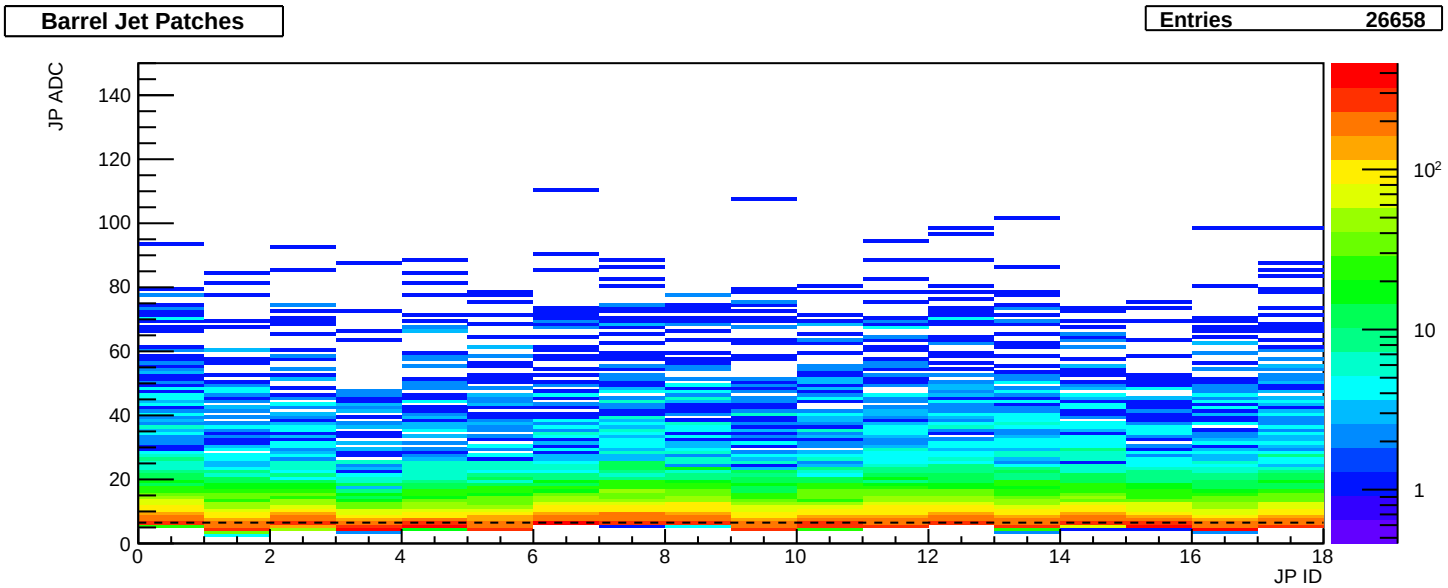
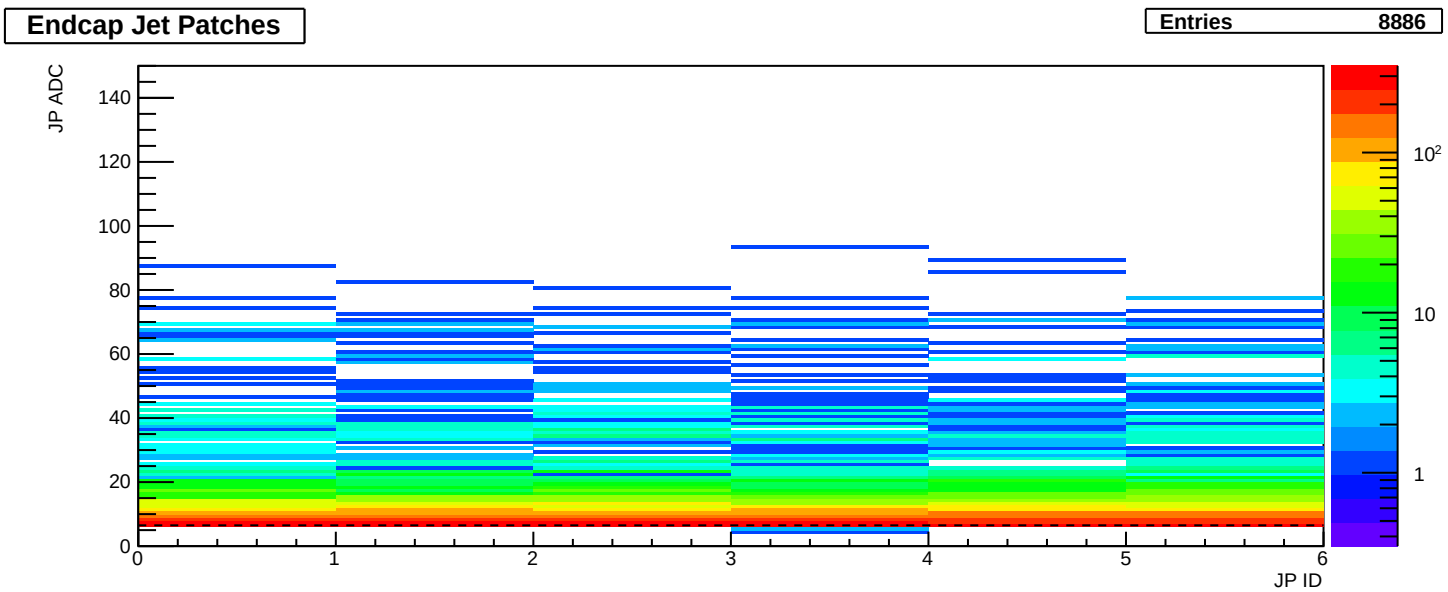

Barrel EMC L0 Input - High Tower
Entries 444300
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$

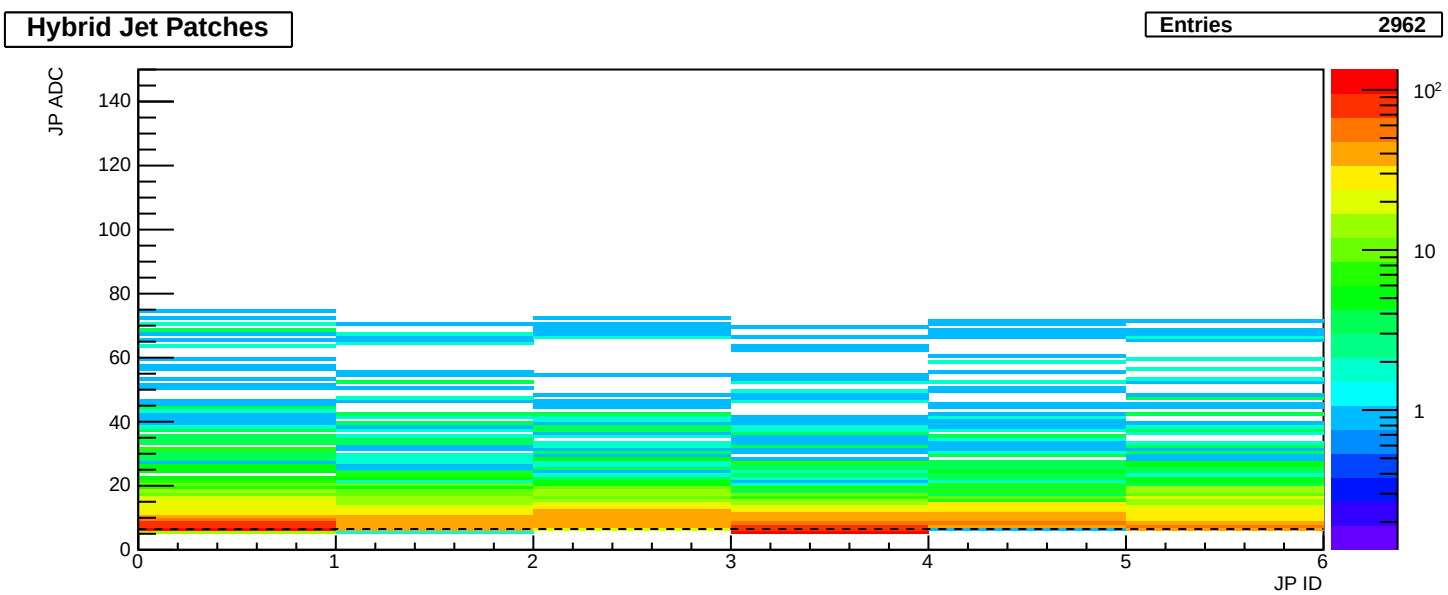

Barrel EMC L0 Input - Patch Sum
Entries 444300
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$

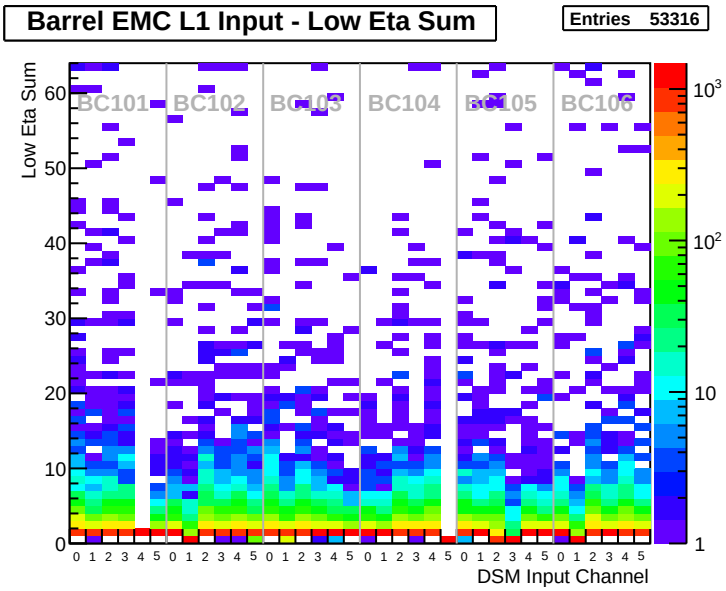

Endcap EMC L0 Input - High Tower
Entries 133290
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
$10^2$
$10^3$

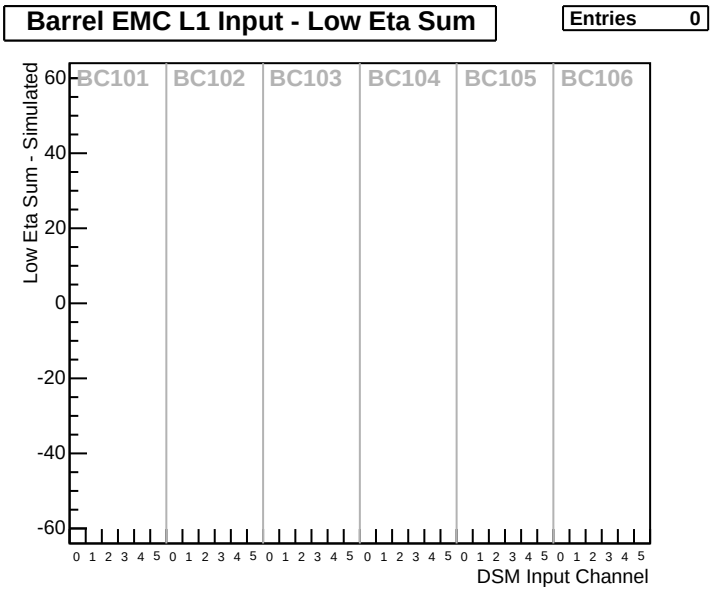

Endcap EMC L0 Input - Patch Sum
Entries 133290
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
$10^2$
$10^3$

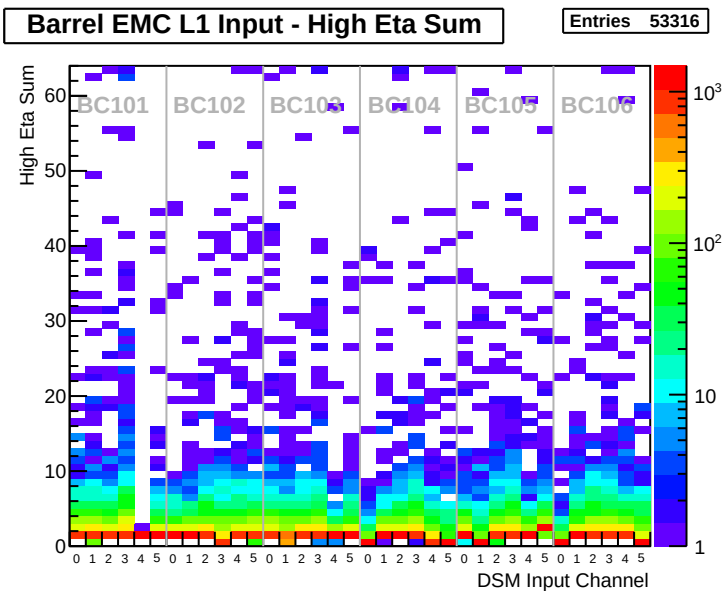

Barrel Jet Patches
Entries 26658
JP ADC
JP ID

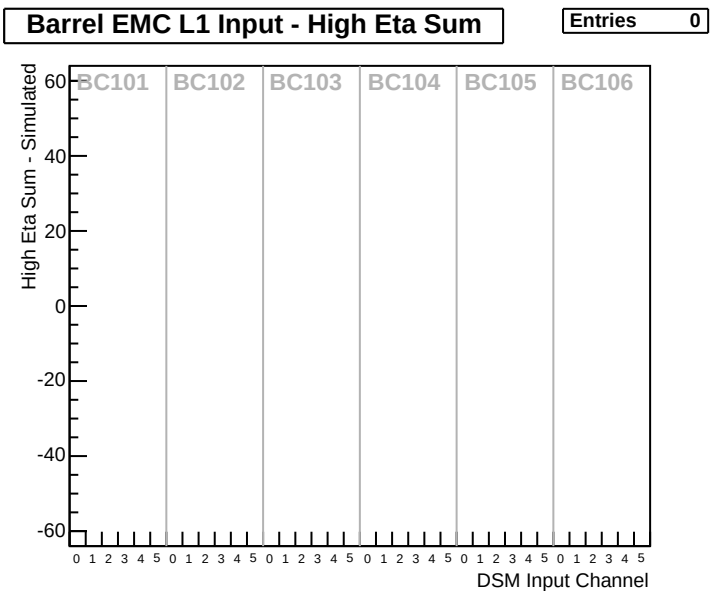

Endcap Jet Patches
Entries 8886
JP ADC
JP ID

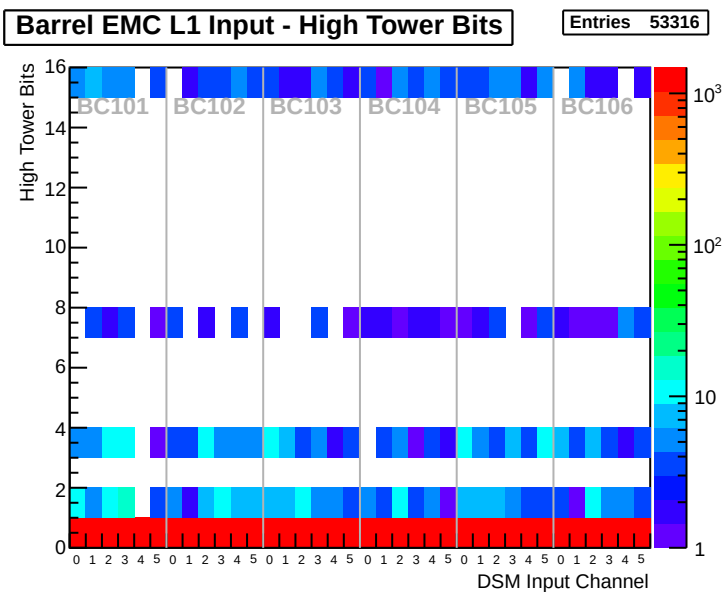

Hybrid Jet Patches
Entries 2962
JP ADC
JP ID

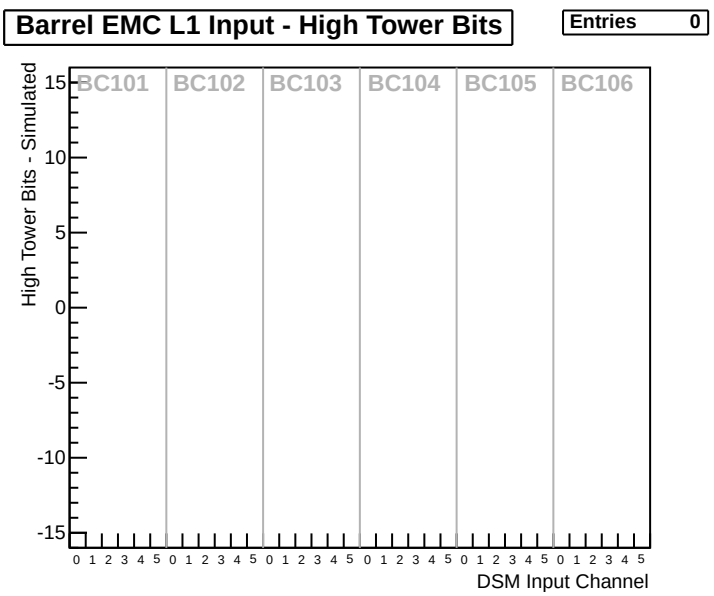

Barrel EMC L1 Input - Low Eta Sum
Entries 53316
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

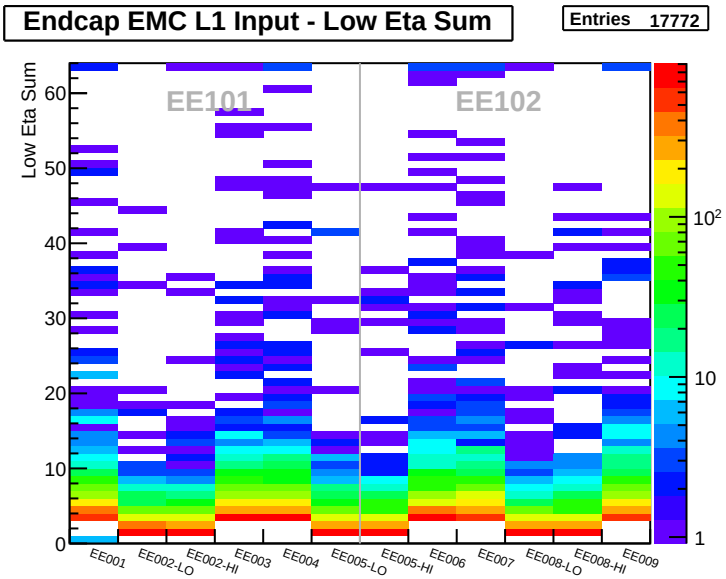

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

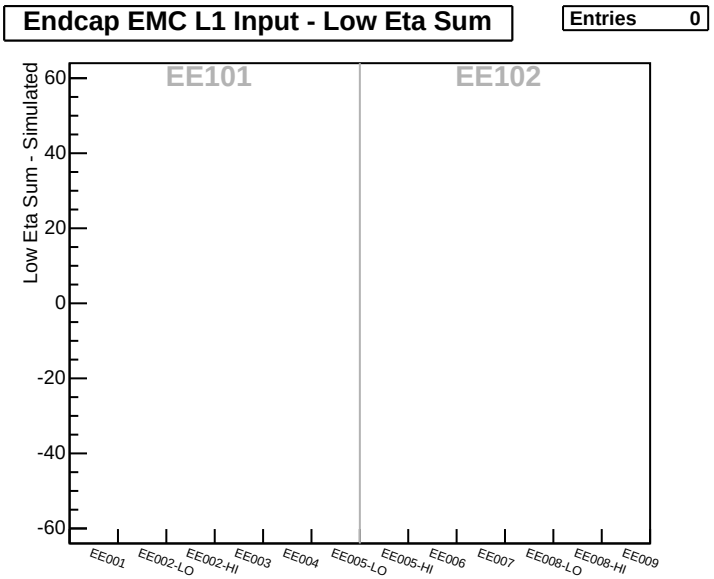

Barrel EMC L1 Input - High Eta Sum
Entries 53316
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

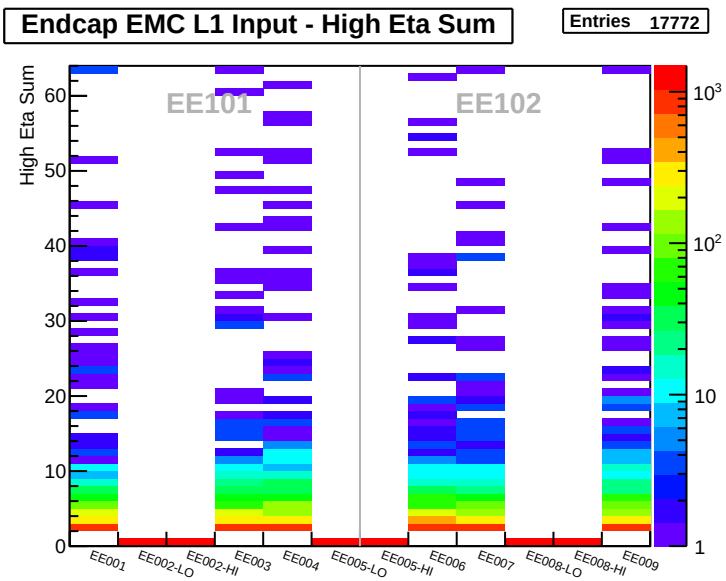

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

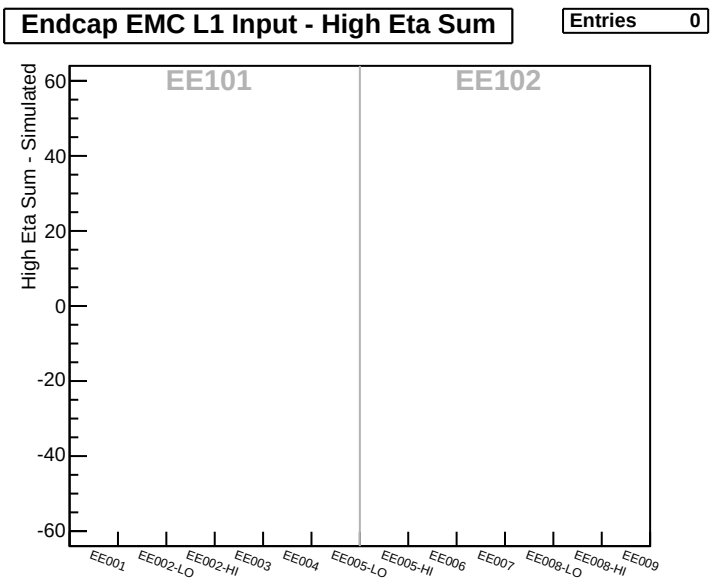

Barrel EMC L1 Input - High Tower Bits
Entries 53316
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

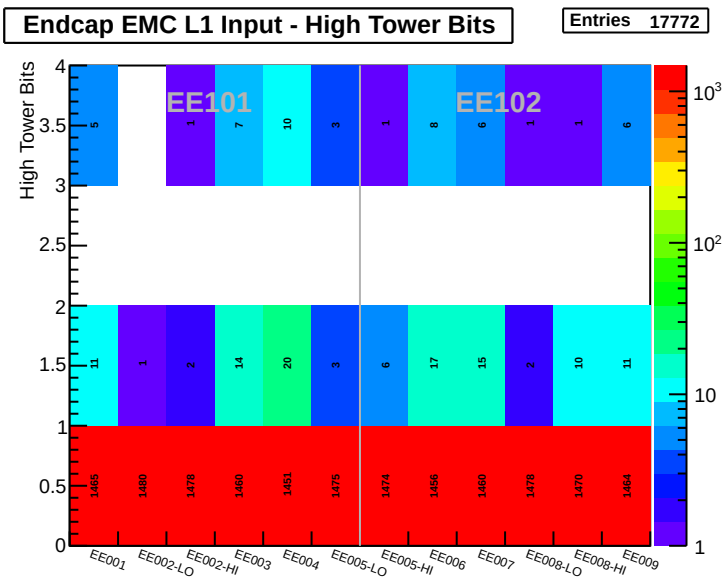

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

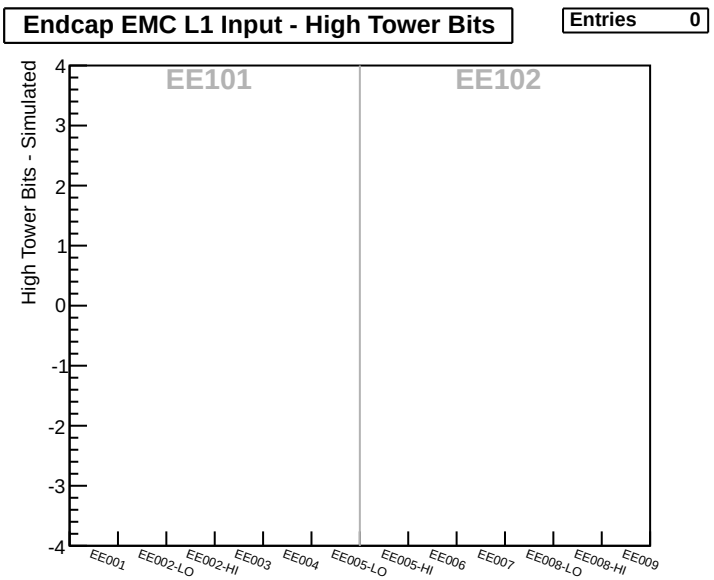

Endcap EMC L1 Input - Low Eta Sum
Entries 17772
Low Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

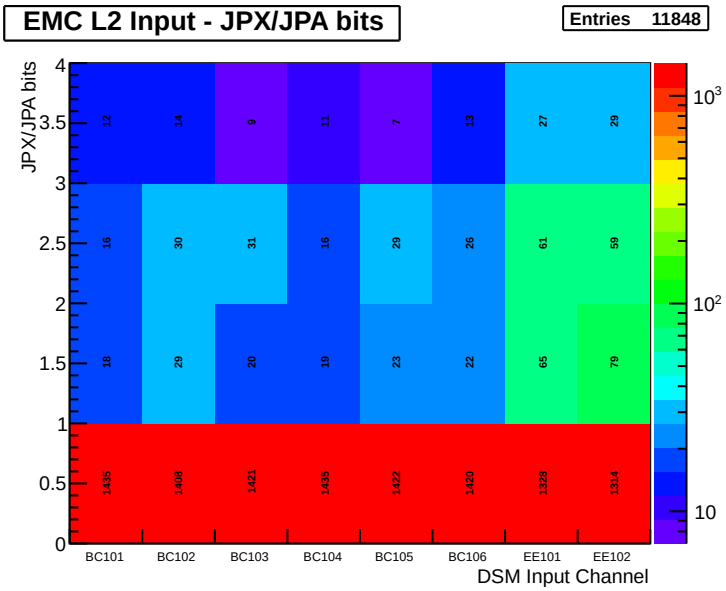

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

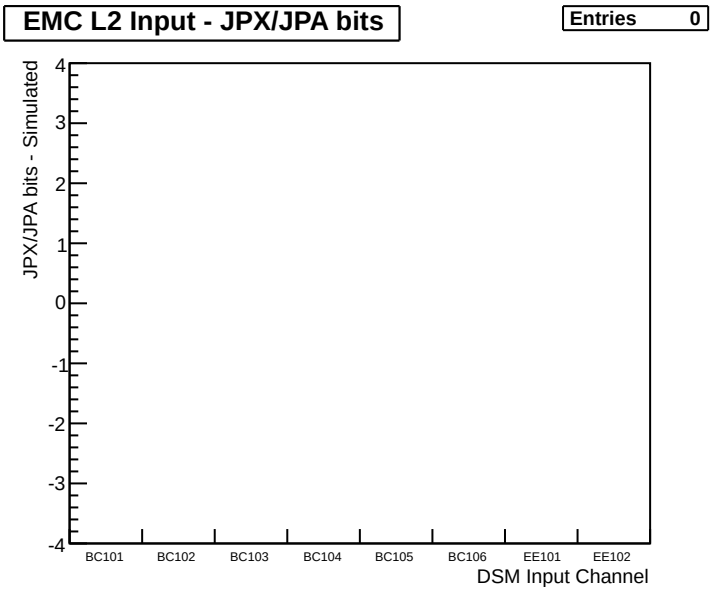

Endcap EMC L1 Input - High Eta Sum
Entries 17772
High Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

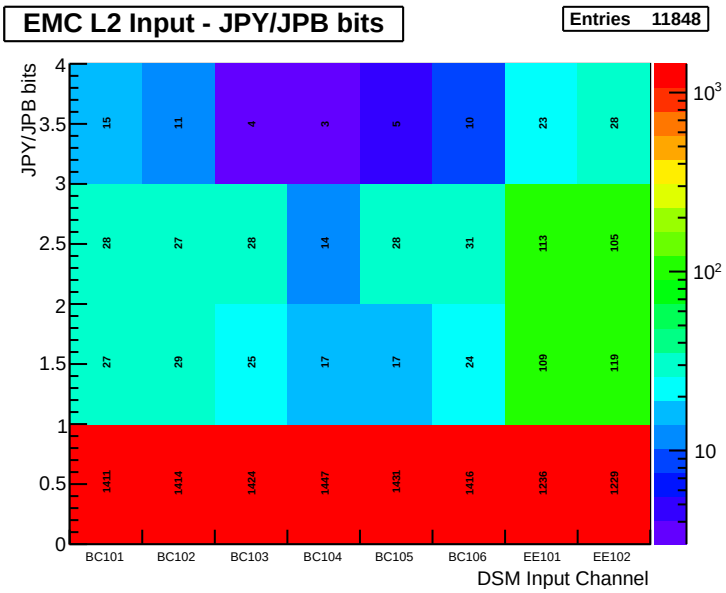

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

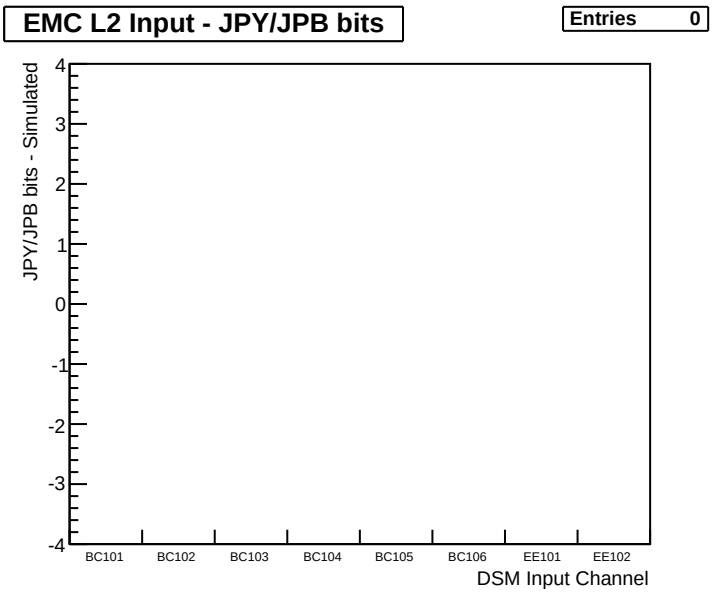

Endcap EMC L1 Input - High Tower Bits
Entries 17772
High Tower Bits
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

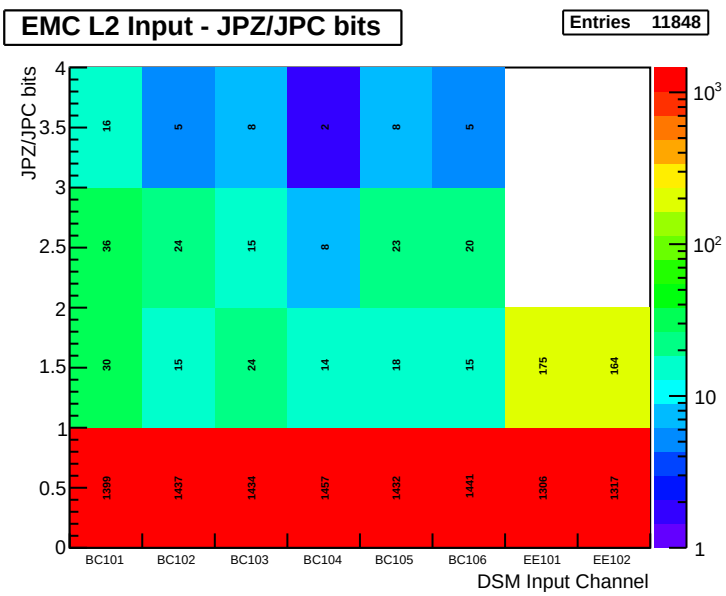

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

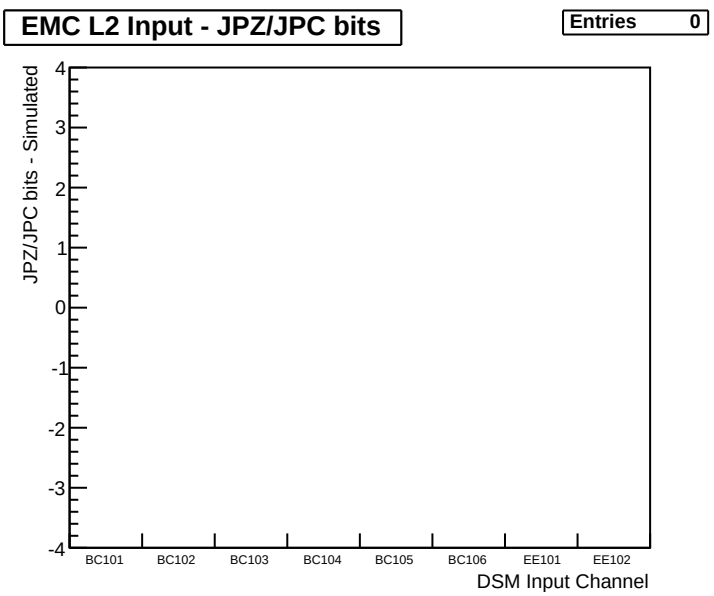

EMC L2 Input - JPX/JPA bits
Entries 11848
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
12 14 9 11 7 13 27 29
16 30 31 16 29 26 61 59
18 29 20 19 23 22 65 79
1435 1408 1421 1435 1422 1420 1328 1314

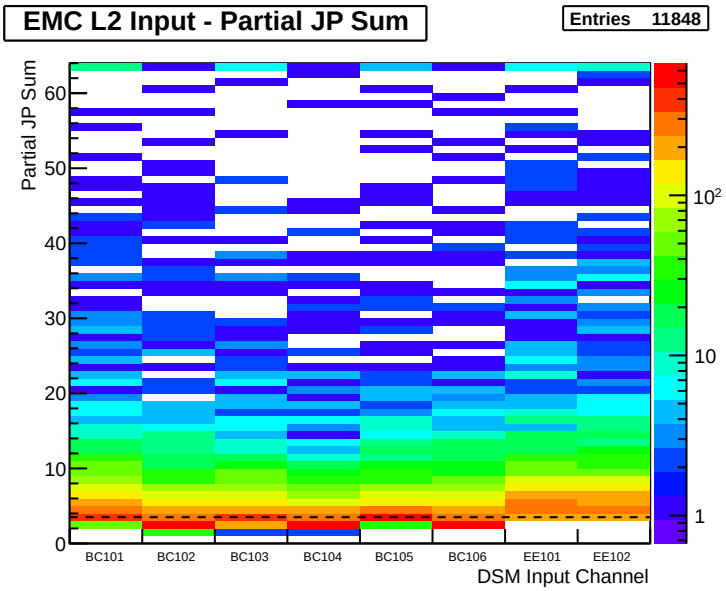

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

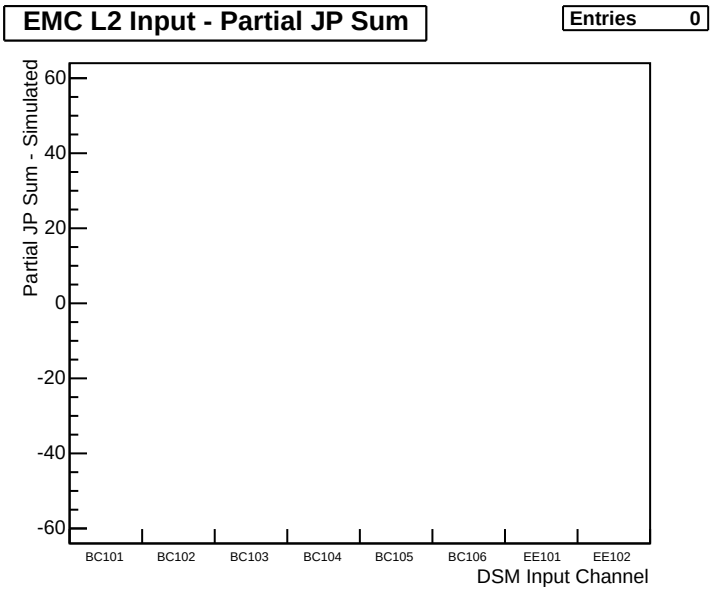

EMC L2 Input - JPY/JPB bits
Entries 11848
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
15 11 4 3 5 10 23 28
28 27 28 14 28 31 113 105
27 29 25 17 17 24 109 119
1411 1414 1424 1447 1431 1416 1236 1229

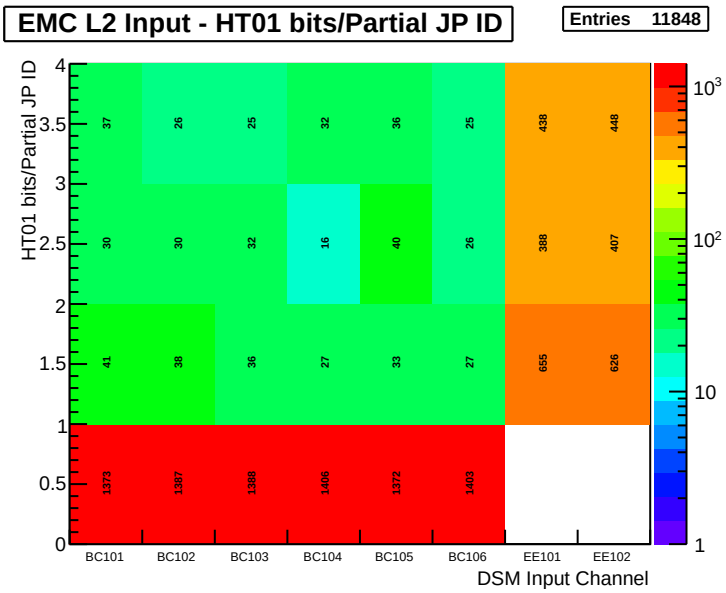

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

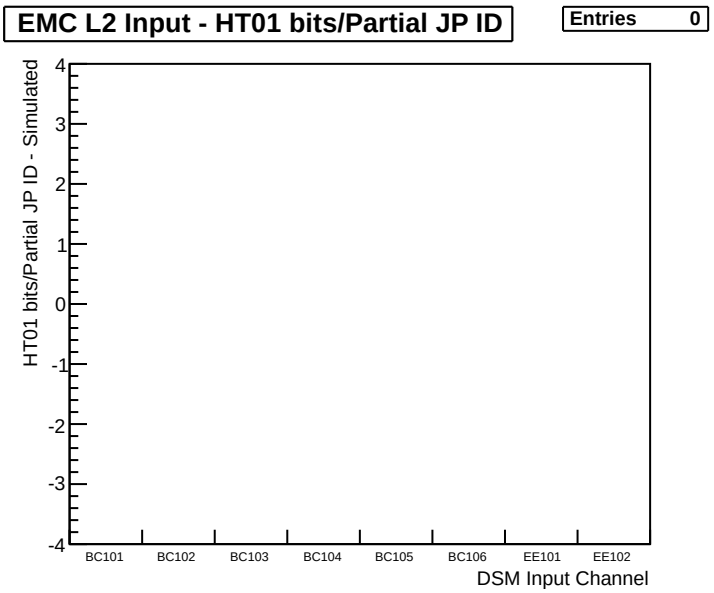

EMC L2 Input - JPZ/JPC bits
Entries 11848
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
16 5 8 2 8 5
36 24 15 8 23 20
30 15 24 14 18 15 175 164
1399 1437 1434 1457 1432 1441 1306 1317

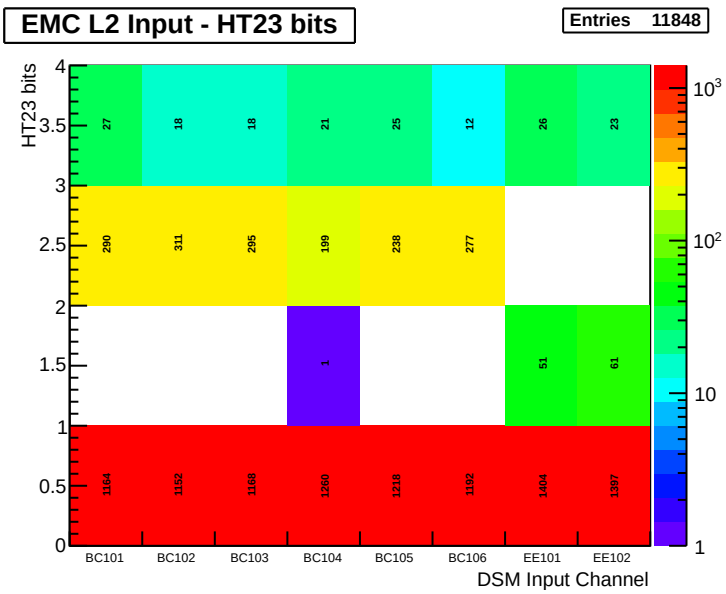

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

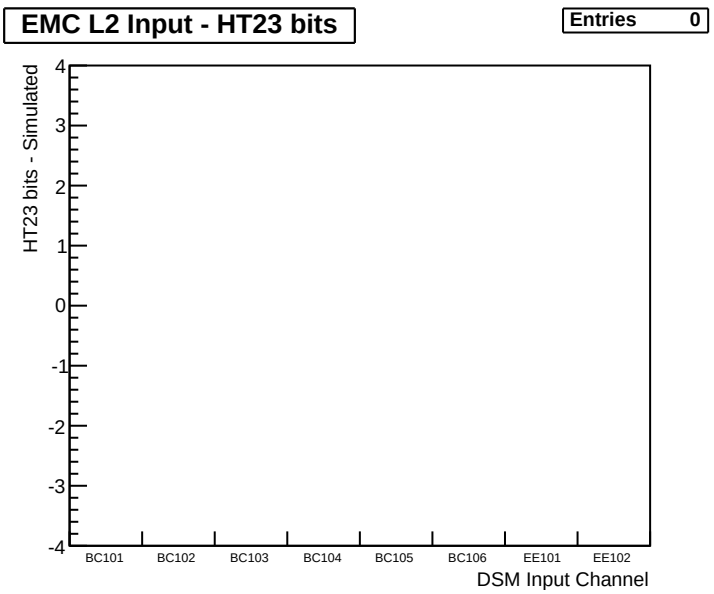

EMC L2 Input - Partial JP Sum
Entries 11848
Partial JP Sum
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

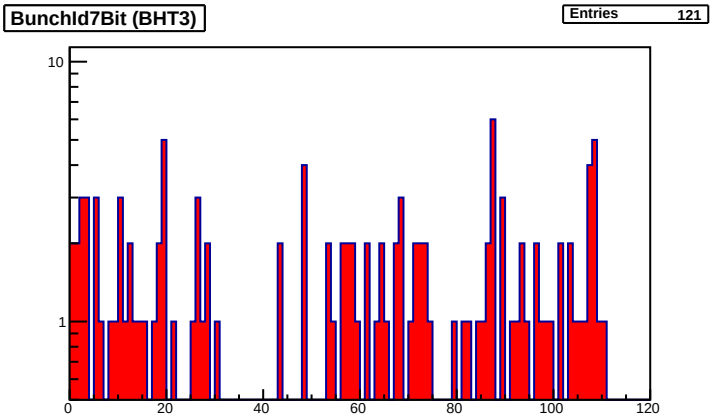

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

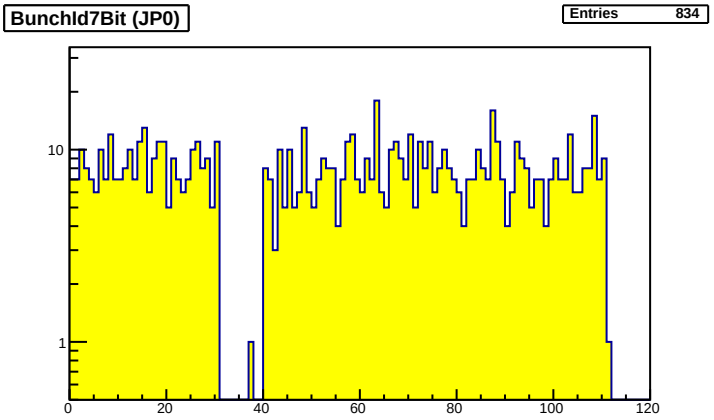

EMC L2 Input - HT01 bits/Partial JP ID
Entries 11848
HT01 bits/Partial JP ID
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

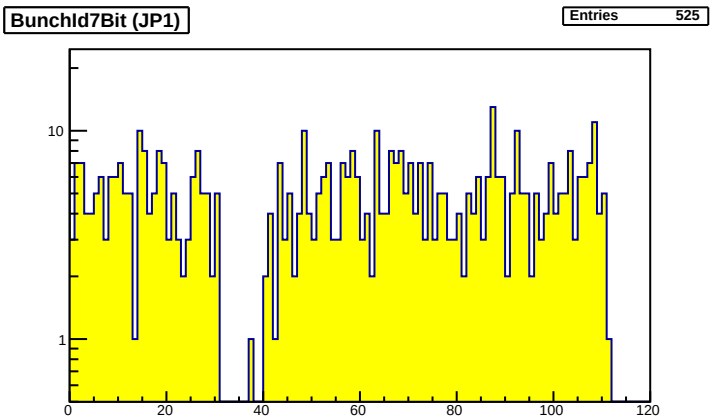

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

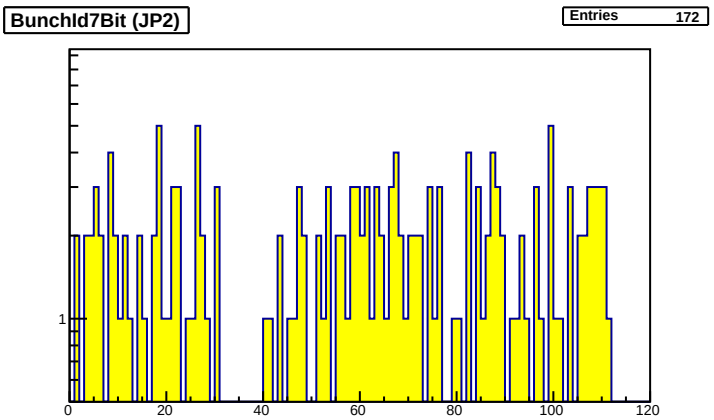

EMC L2 Input - HT23 bits
Entries 11848
HT23 bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

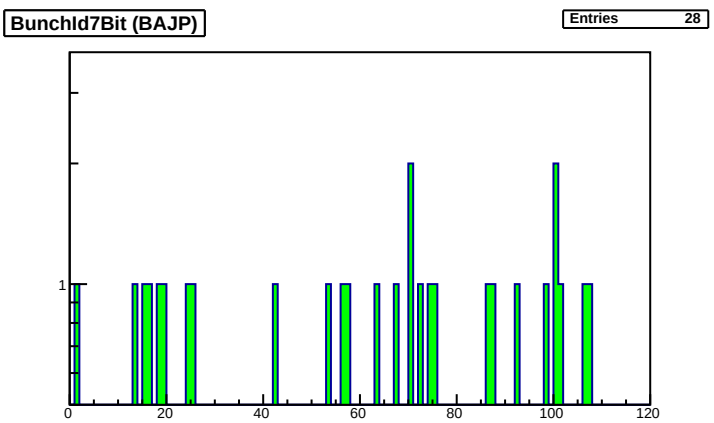

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

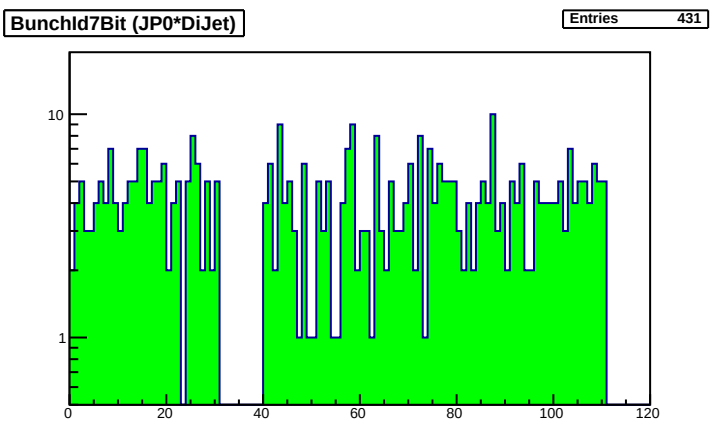

BunchId7Bit (BHT3)
Entries 121

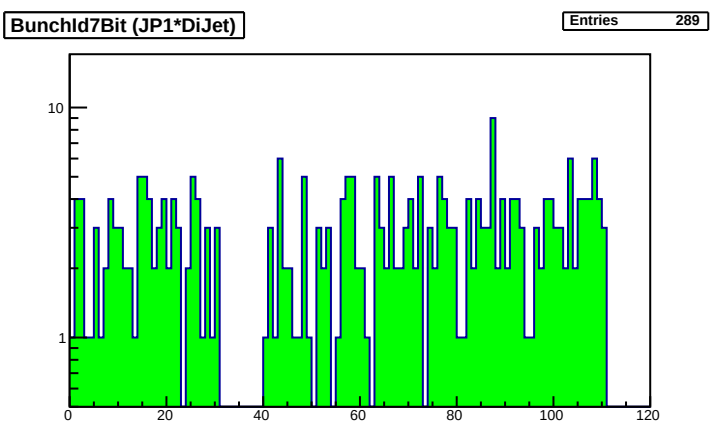

BunchId7Bit (JP0)
Entries 834

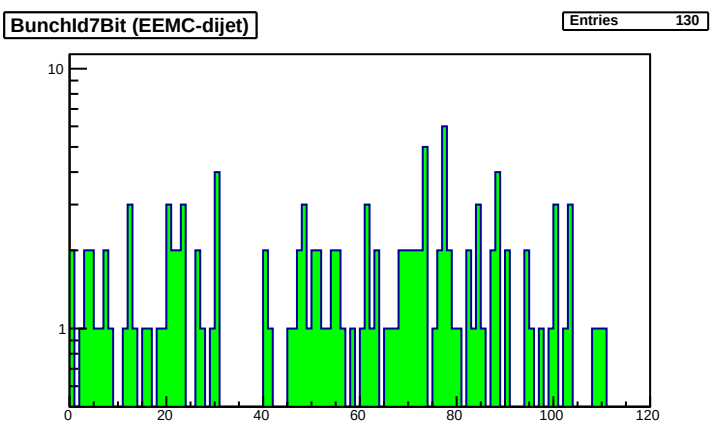

BunchId7Bit (JP1)
Entries 525

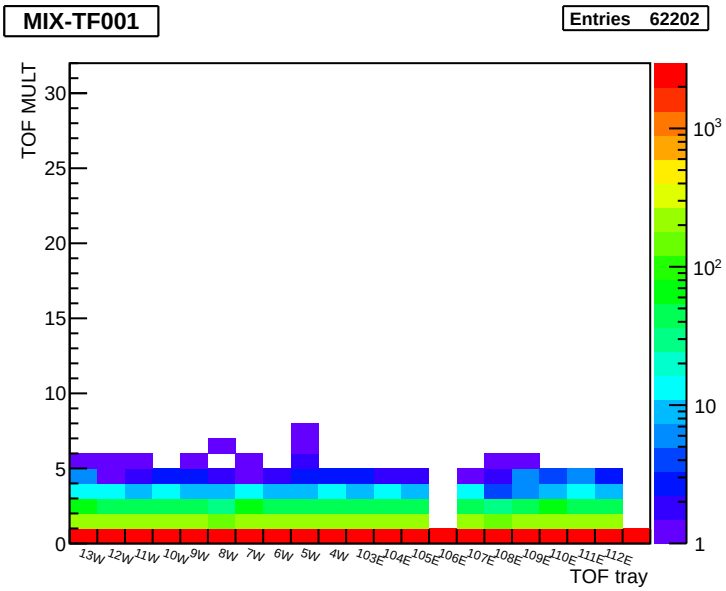

BunchId7Bit (JP2)
Entries 172

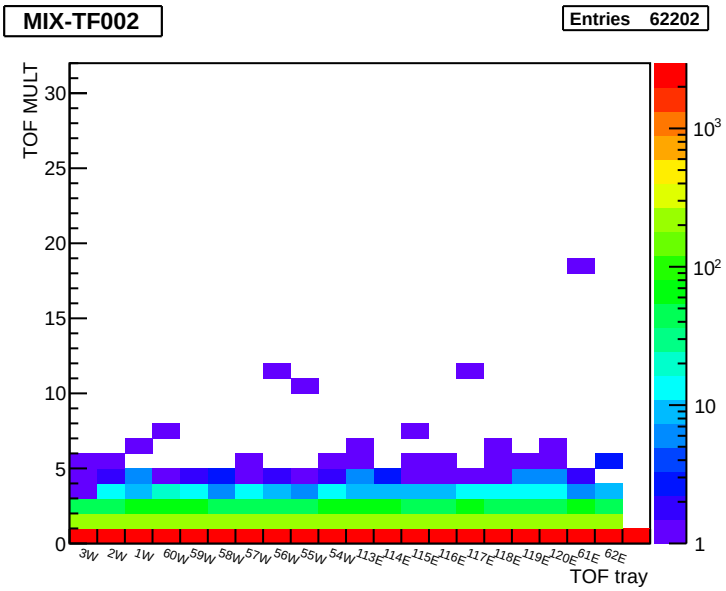

BunchId7Bit (BAJP)
Entries 28

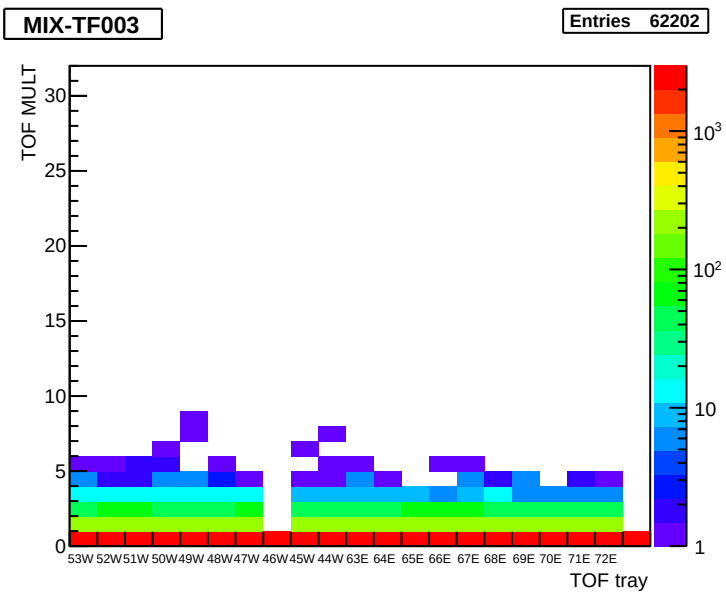

BunchId7Bit (JP0*DiJet)
Entries 431

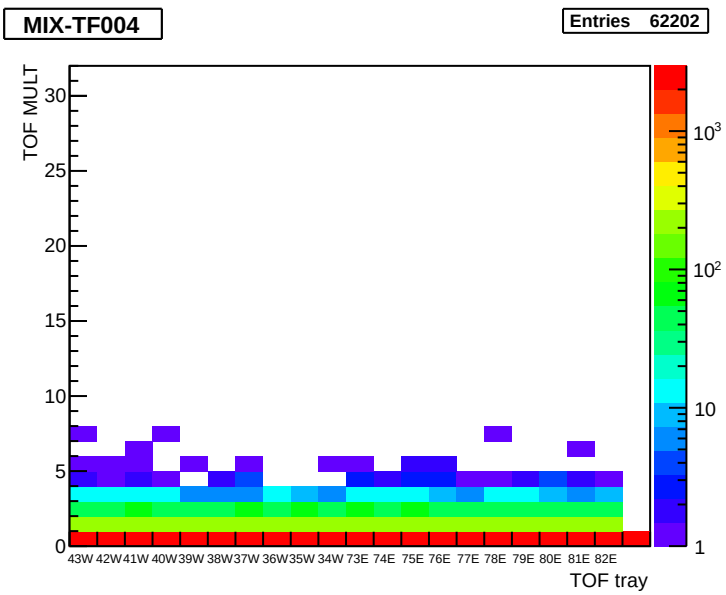

BunchId7Bit (JP1*DiJet)
Entries 289

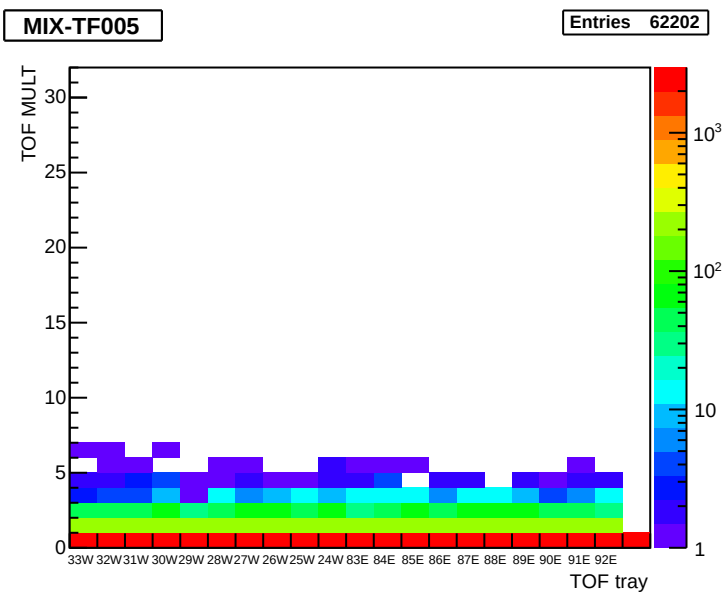

BunchId7Bit (EEMC-dijet)
Entries 130

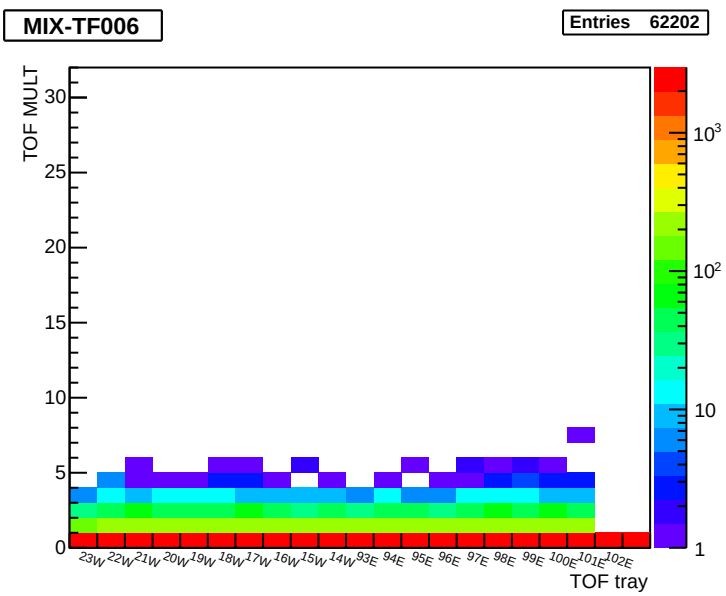

MIX-TF001
Entries 62202
TOF MULT
TOF tray

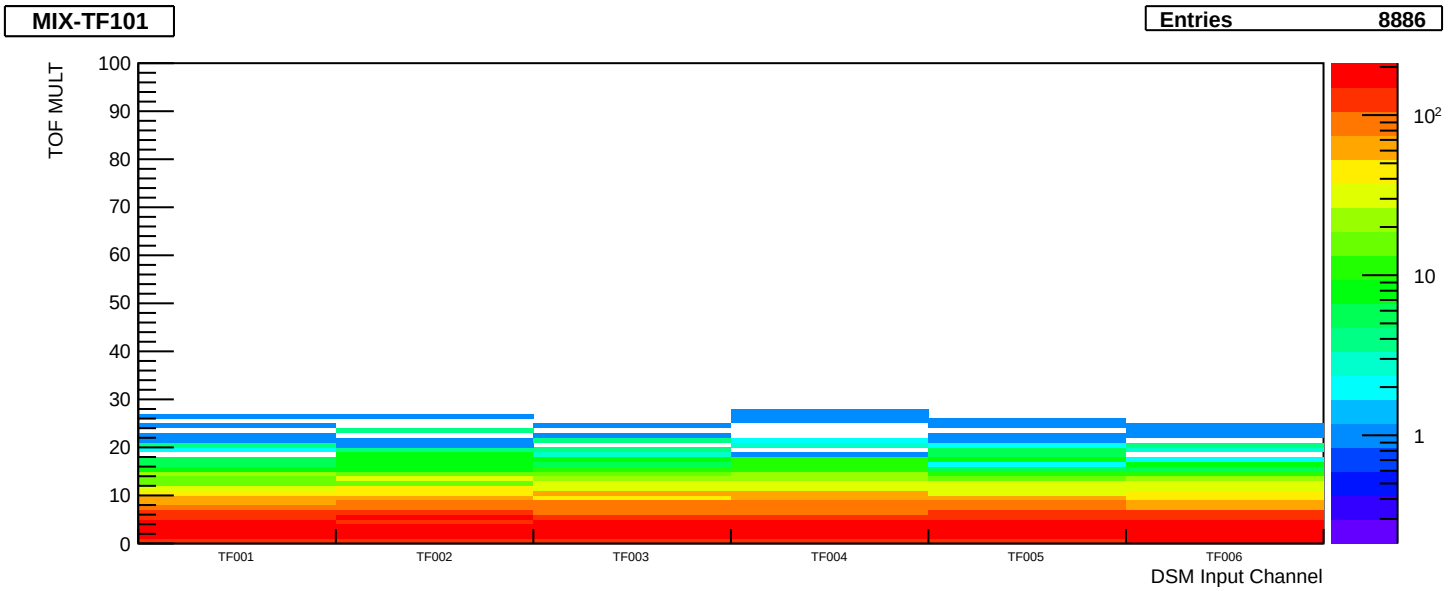

MIX-TF002
Entries 62202
TOF MULT
TOF tray

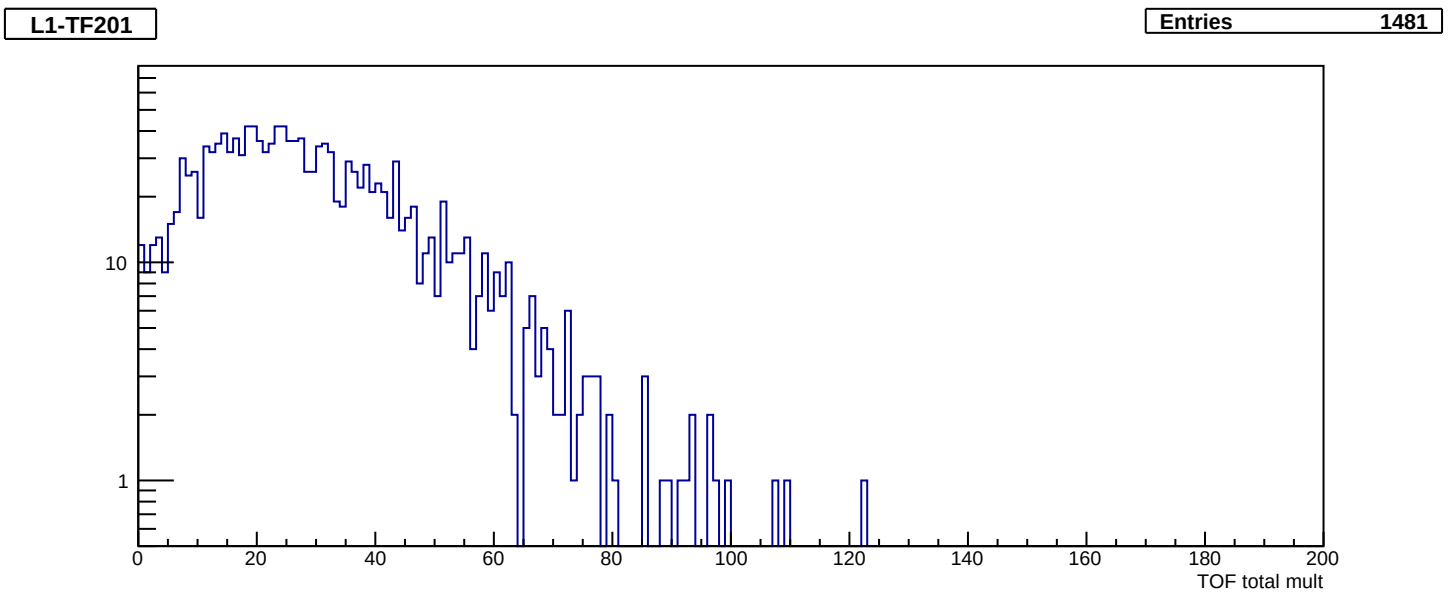

MIX-TF003
Entries 62202
TOF MULT
TOF tray

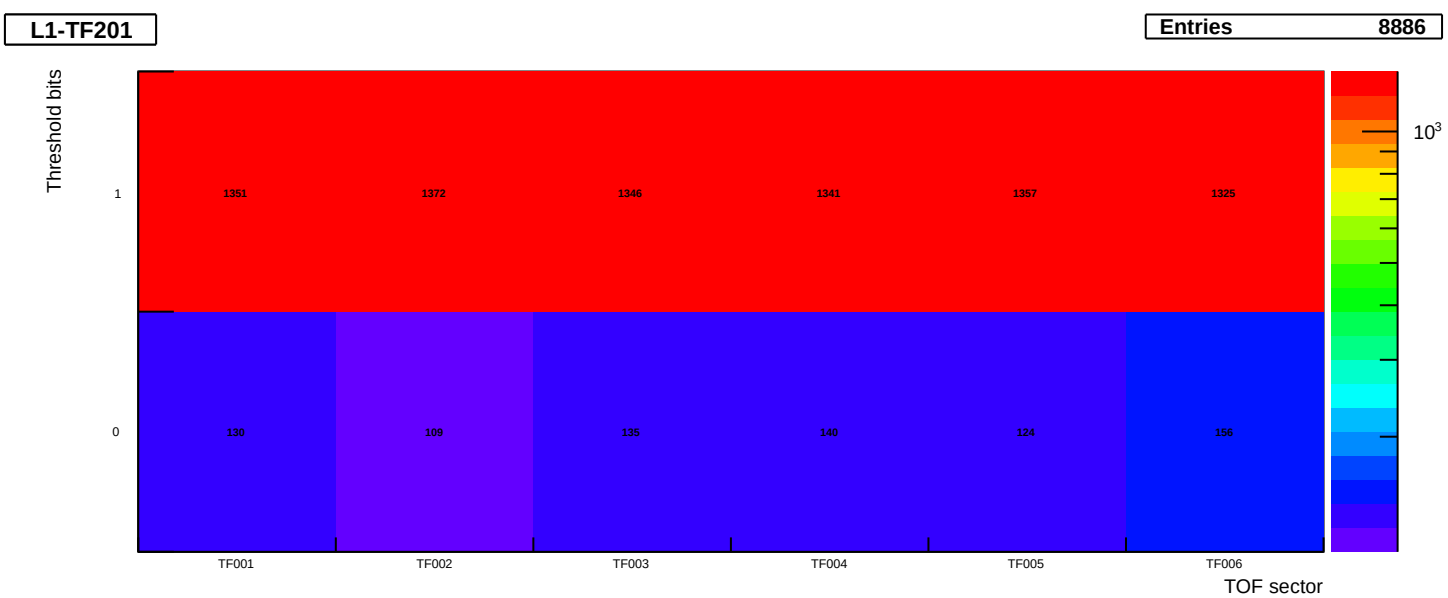

MIX-TF004
Entries 62202
TOF MULT
TOF tray

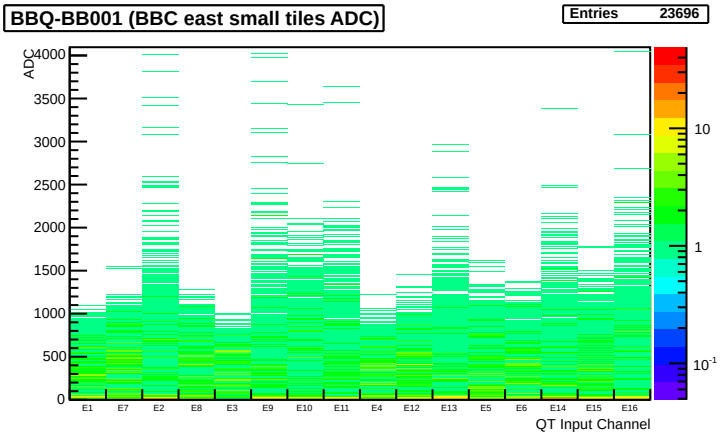

MIX-TF005
Entries 62202
TOF MULT
TOF tray

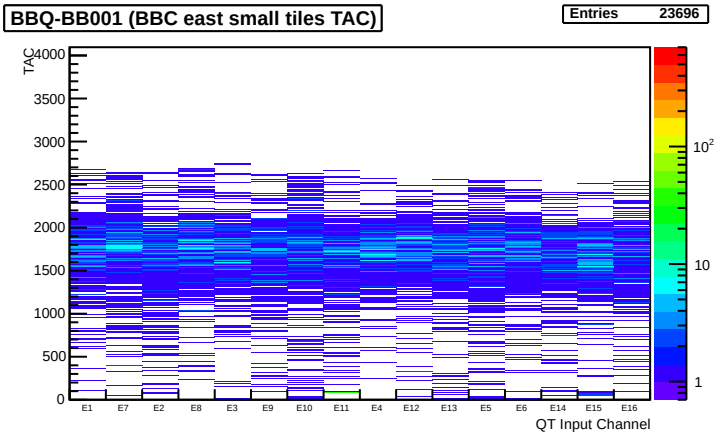

MIX-TF006
Entries 62202
TOF MULT
TOF tray

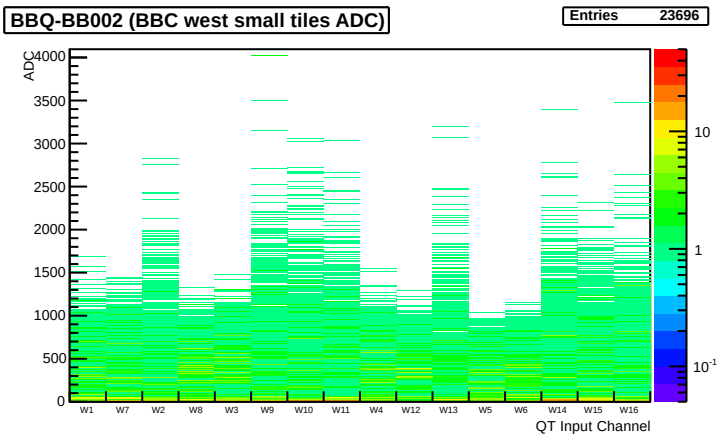

MIX-TF101
Entries 8886
TOF MULT
100
90
80
70
60
50
40
30
20
10
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
$10^2$
10
1

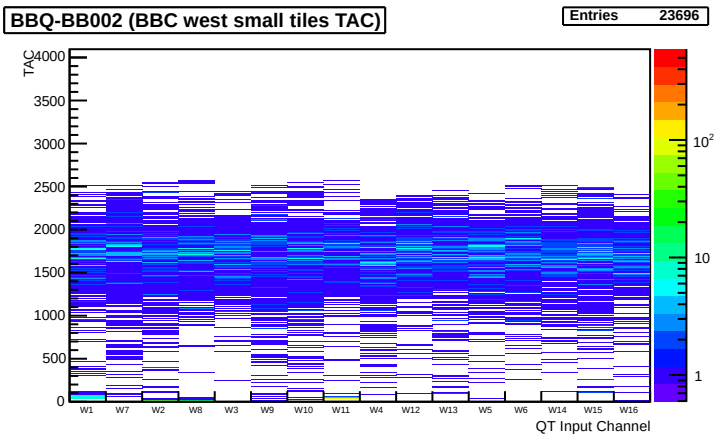

L1-TF201
Entries 1481
10
1
0
20
40
60
80
100
120
140
160
180
200
TOF total mult

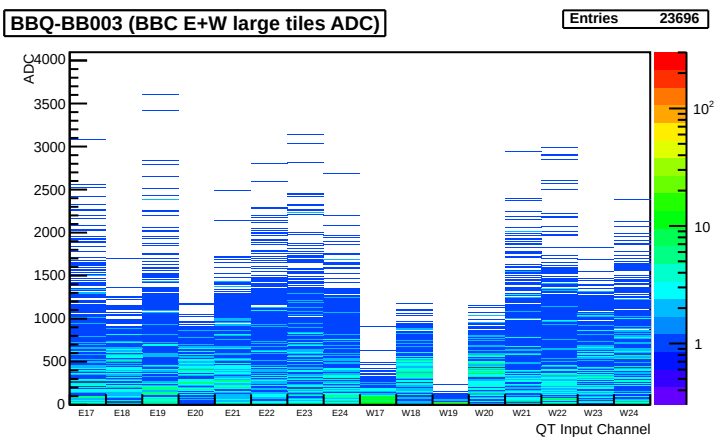

L1-TF201
Entries 8886
Threshold bits
1
0
1351
1372
1346
1341
1357
1325
130
109
135
140
124
156
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
$10^3$

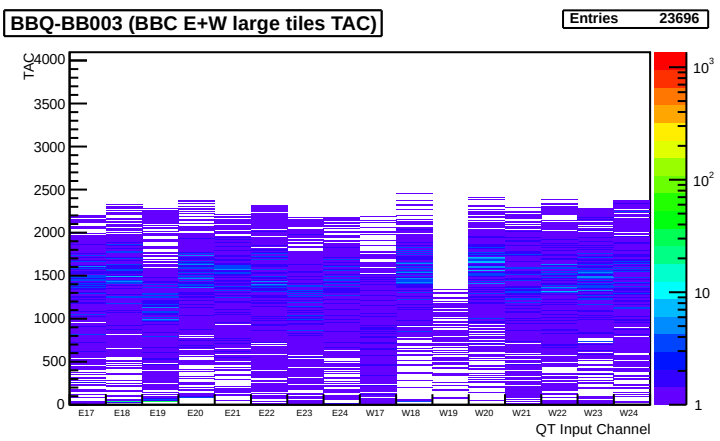

BBQ-BB001 (BBC east small tiles ADC)
Entries 23696
ADC
QT Input Channel

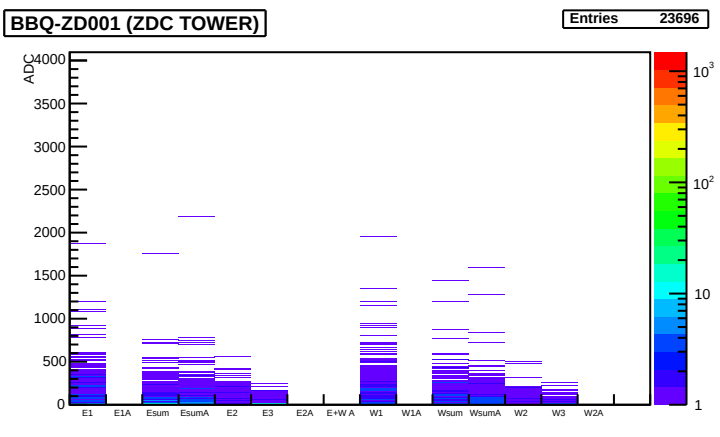

BBQ-BB001 (BBC east small tiles TAC)
Entries 23696
TAC
QT Input Channel

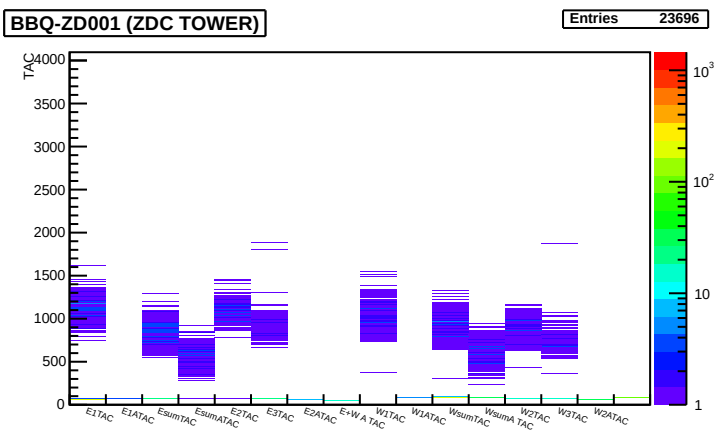

BBQ-BB002 (BBC west small tiles ADC)
Entries 23696
ADC
QT Input Channel

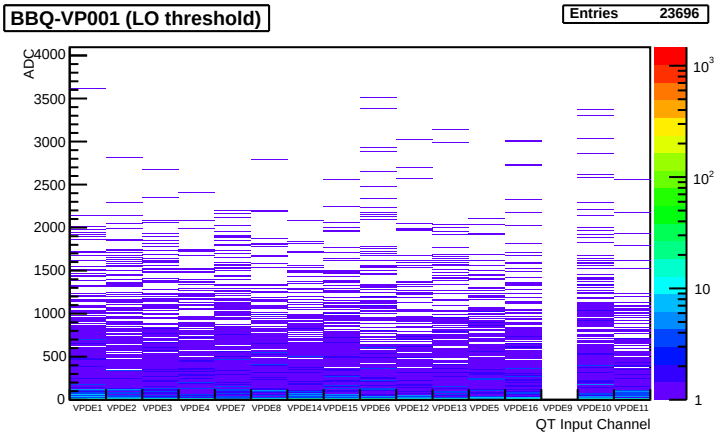

BBQ-BB002 (BBC west small tiles TAC)
Entries 23696
TAC
QT Input Channel

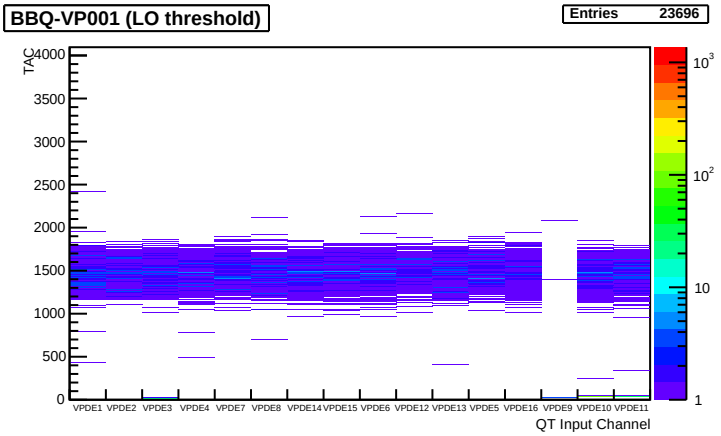

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 23696
ADC
QT Input Channel

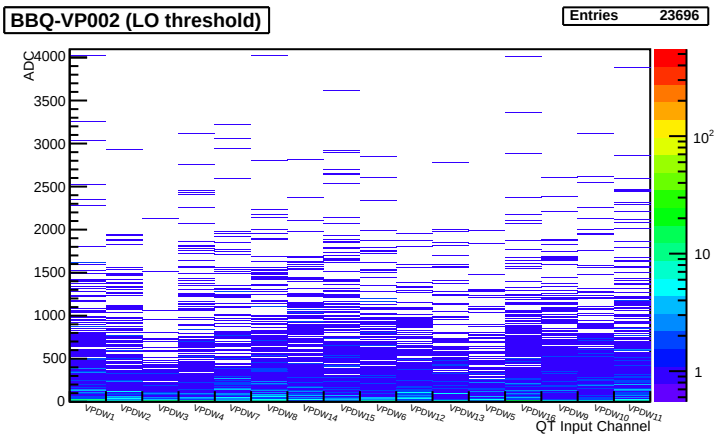

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 23696
TAC
QT Input Channel

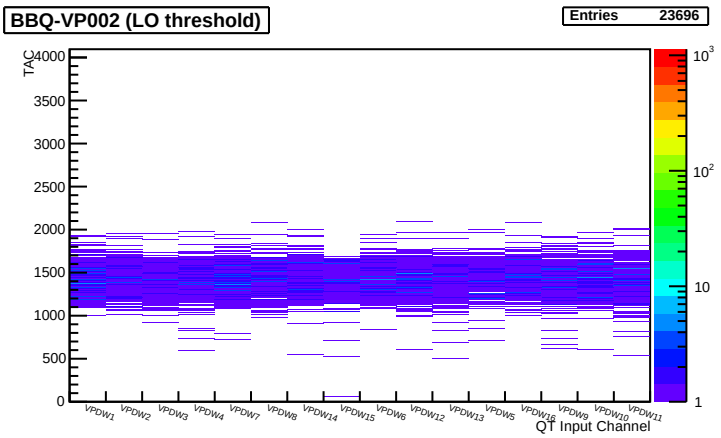

BBQ-ZD001 (ZDC TOWER)
Entries 23696
ADC

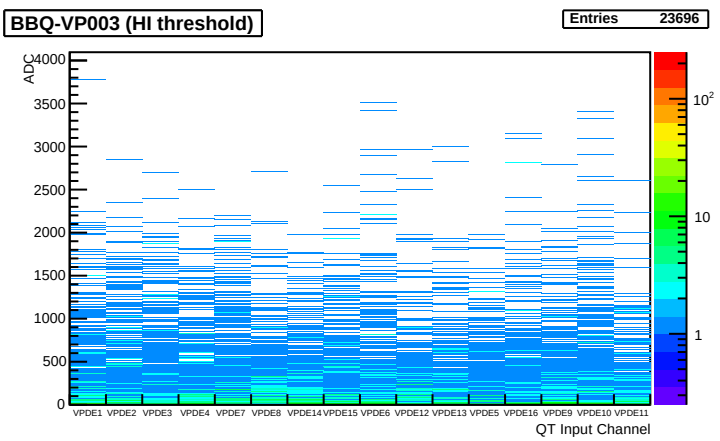

BBQ-ZD001 (ZDC TOWER)
Entries 23696
TAC

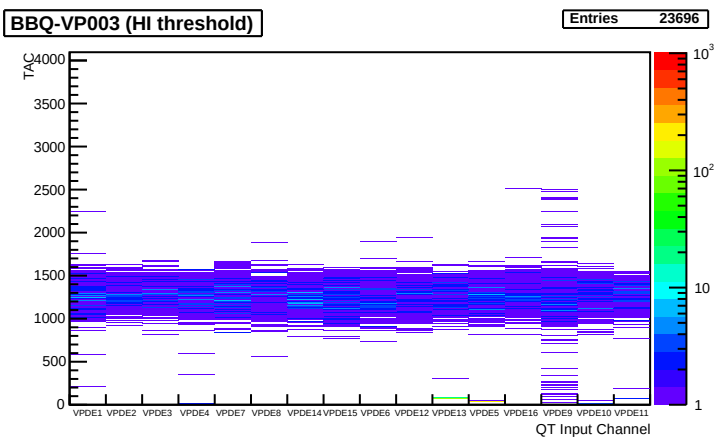

BBQ-VP001 (LO threshold)
Entries 23696
ADC
QT Input Channel

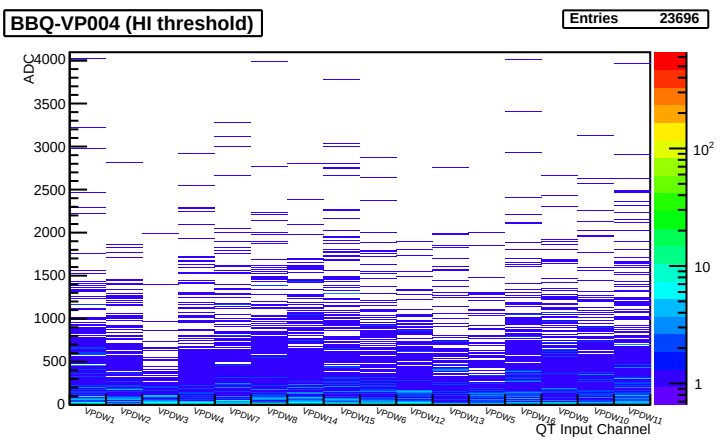

BBQ-VP001 (LO threshold)
Entries 23696
TAC
QT Input Channel

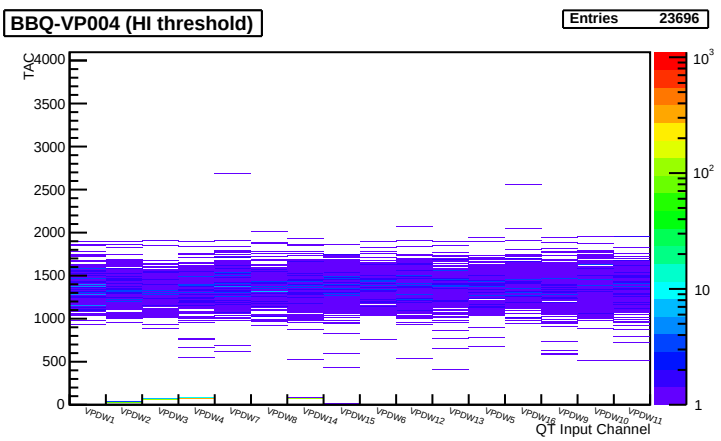

BBQ-VP002 (LO threshold)
Entries 23696
ADC
QT Input Channel

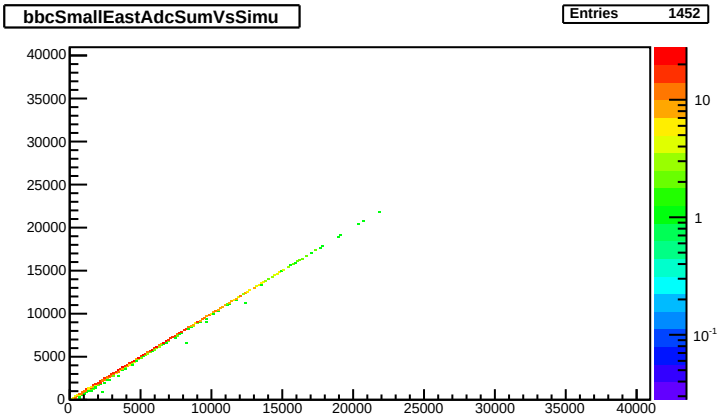

BBQ-VP002 (LO threshold)
Entries 23696
TAC
QT Input Channel

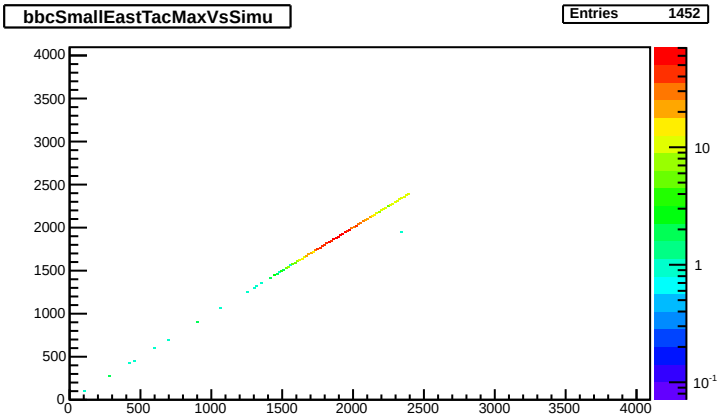

BBQ-VP003 (HI threshold)
Entries 23696
ADC
QT Input Channel

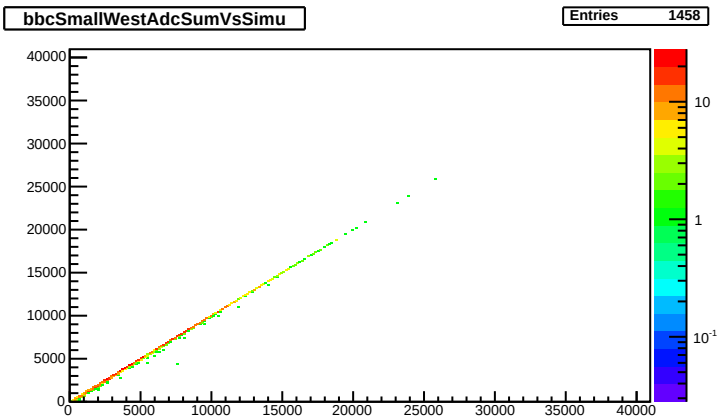

BBQ-VP003 (HI threshold)
Entries 23696
TAC
QT Input Channel

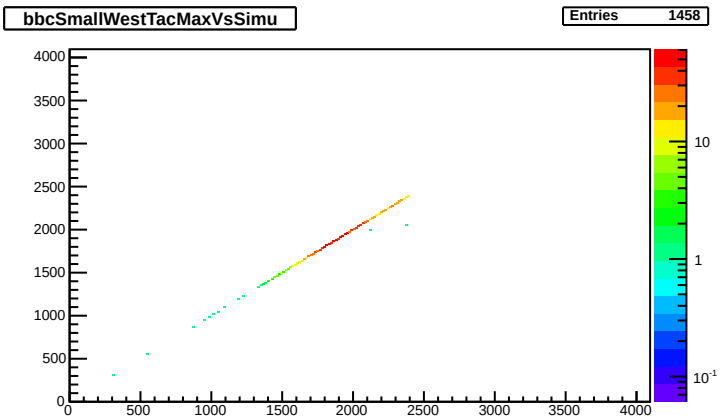

BBQ-VP004 (HI threshold)
Entries 23696
ADC
QT Input Channel

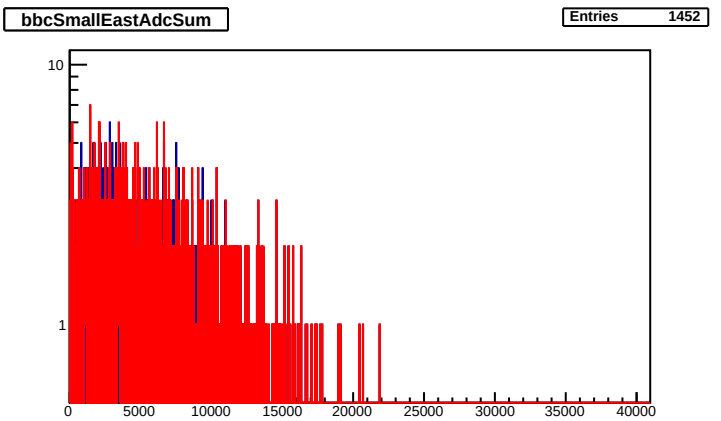

BBQ-VP004 (HI threshold)
Entries 23696
TAC
QT Input Channel

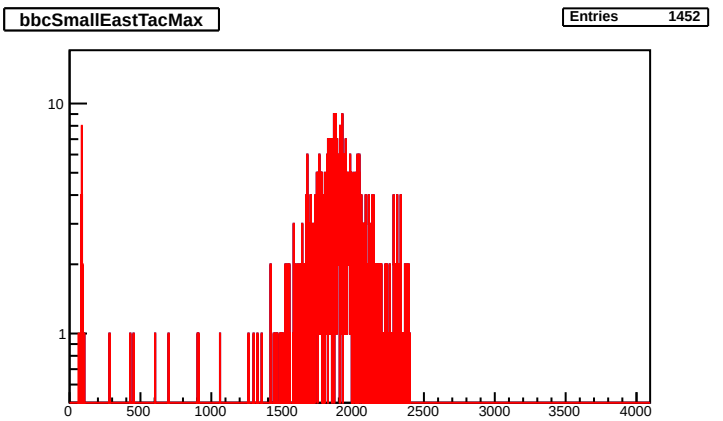

bbcSmallEastAdcSumVsSimu
Entries 1452

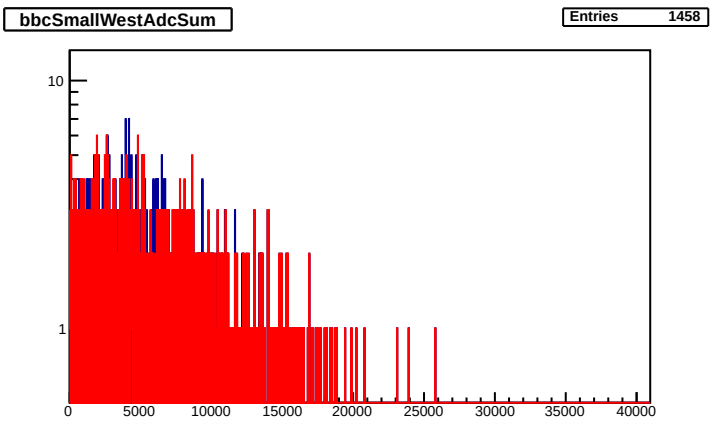

bbcSmallEastTacMaxVsSimu
Entries 1452

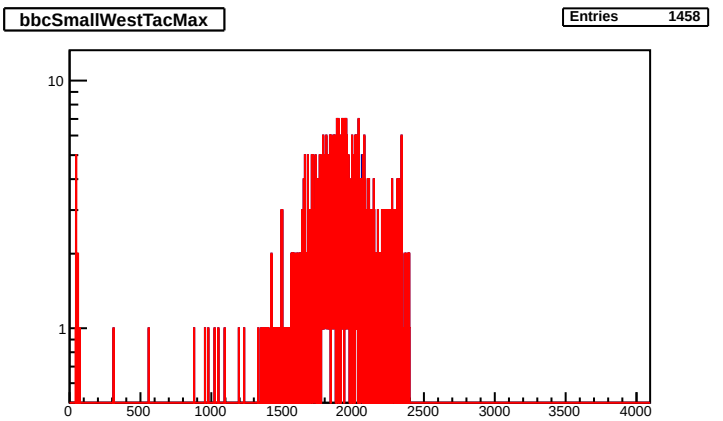

bbcSmallWestAdcSumVsSimu
Entries 1458

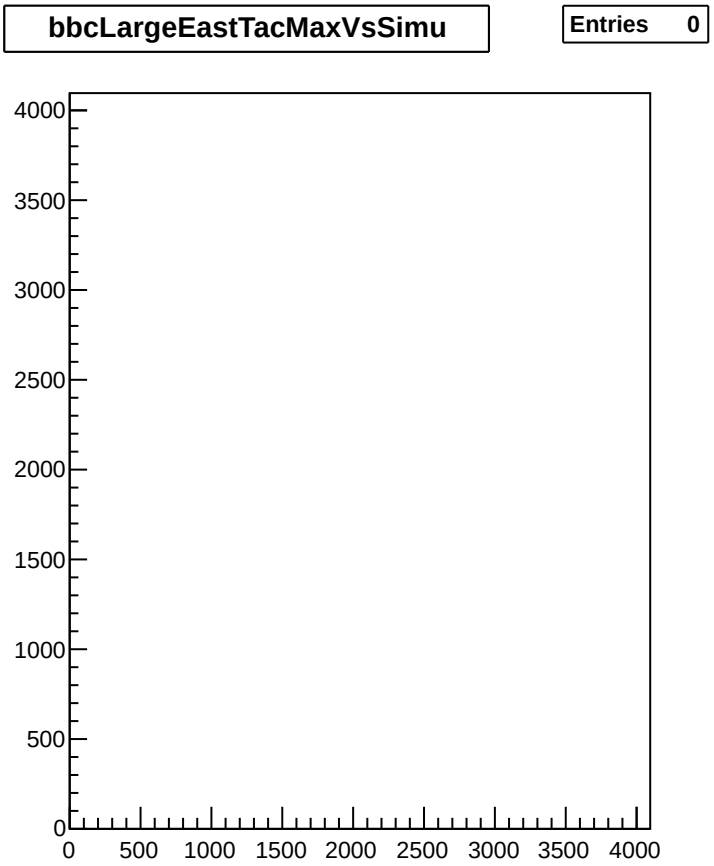

bbcSmallWestTacMaxVsSimu
Entries 1458

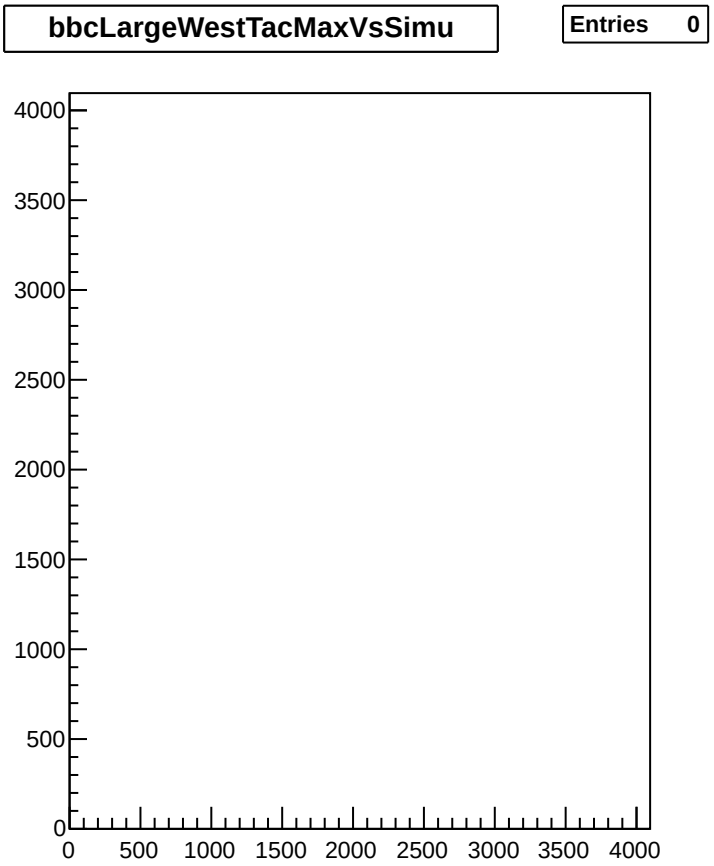

bbcSmallEastAdcSum
Entries 1452

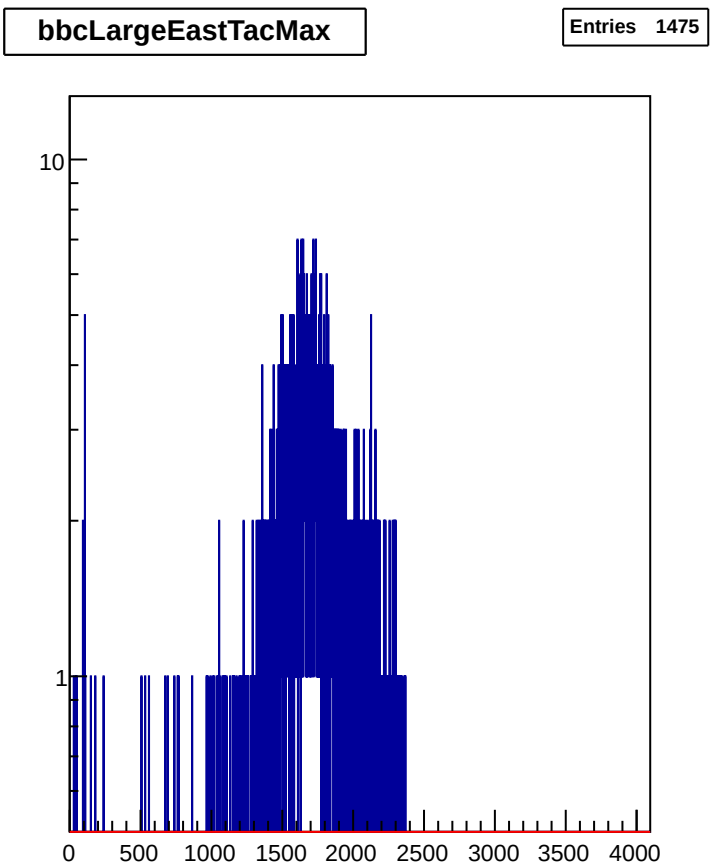

bbcSmallEastTacMax
Entries 1452

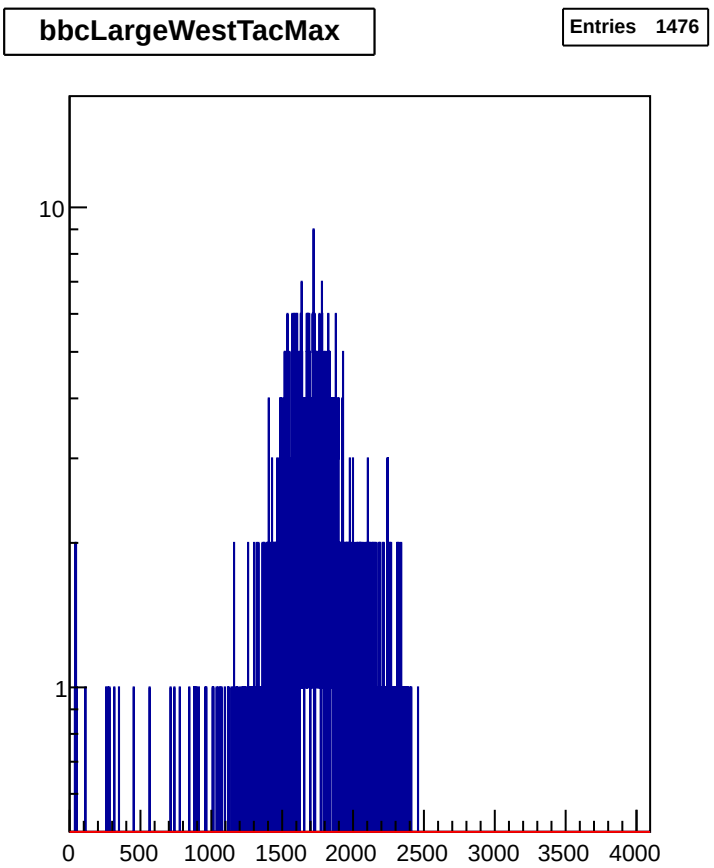

bbcSmallWestAdcSum
Entries 1458

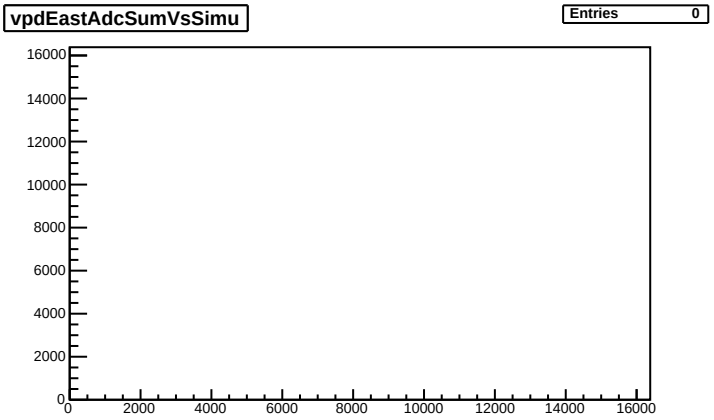

bbcSmallWestTacMax
Entries 1458

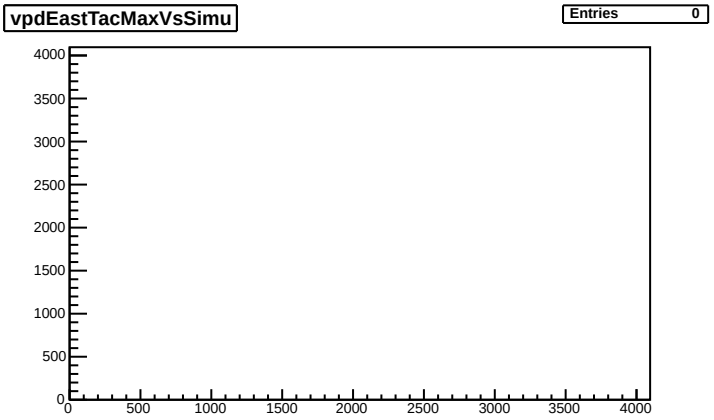

bbcLargeEastTacMaxVsSimu
Entries 0
4000
3500
3000
2500
2000
1500
1000
500
0
0 500 1000 1500 2000 2500 3000 3500 4000

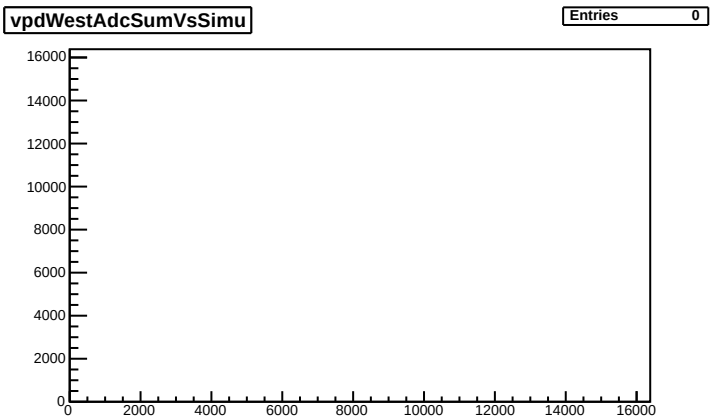

bbcLargeWestTacMaxVsSimu
Entries 0
4000
3500
3000
2500
2000
1500
1000
500
0
0 500 1000 1500 2000 2500 3000 3500 4000

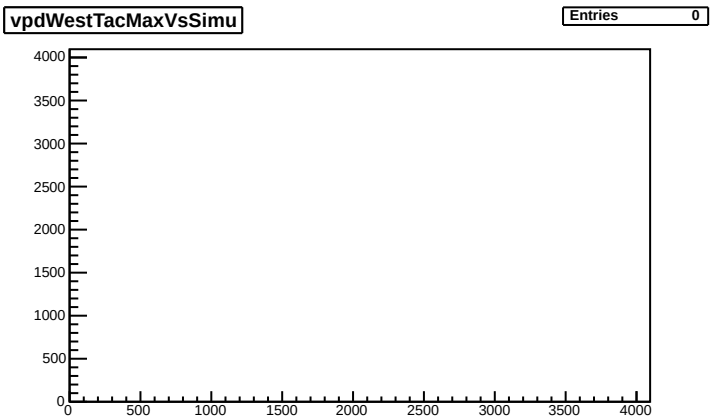

bbcLargeEastTacMax
Entries 1475
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

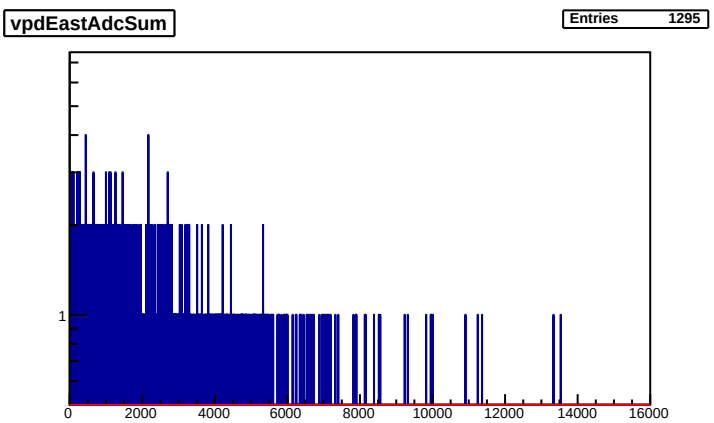

bbcLargeWestTacMax
Entries 1476
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

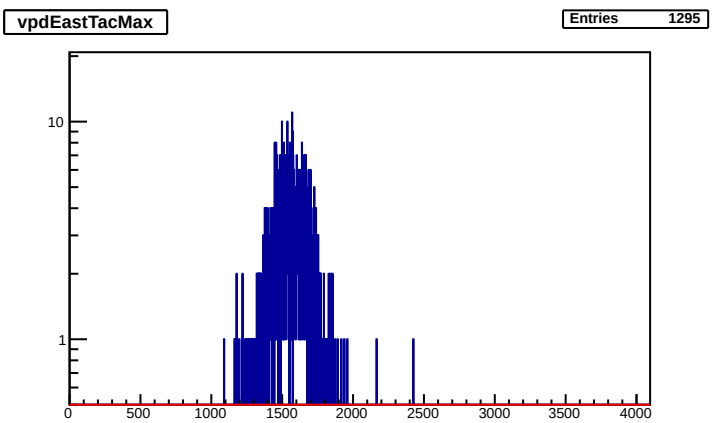

vpdEastAdcSumVsSimu
Entries 0

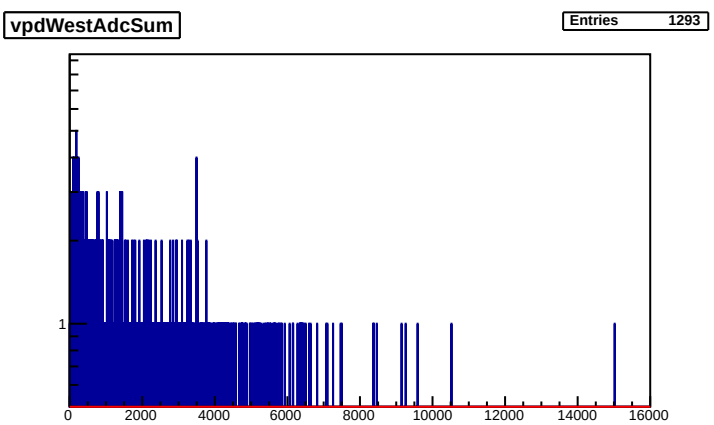

vpdEastTacMaxVsSimu
Entries 0

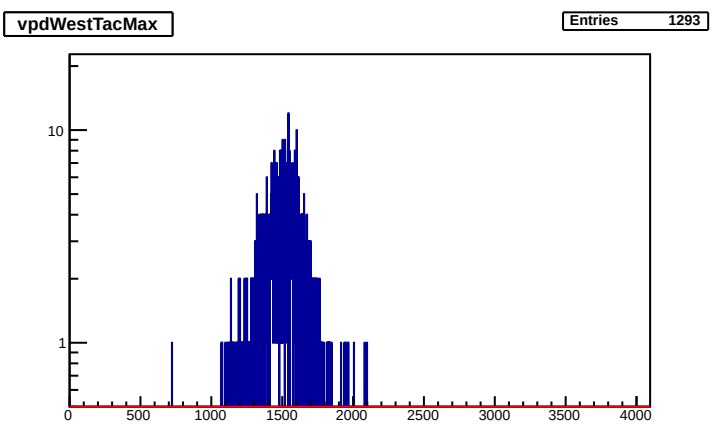

vpdWestAdcSumVsSimu
Entries 0

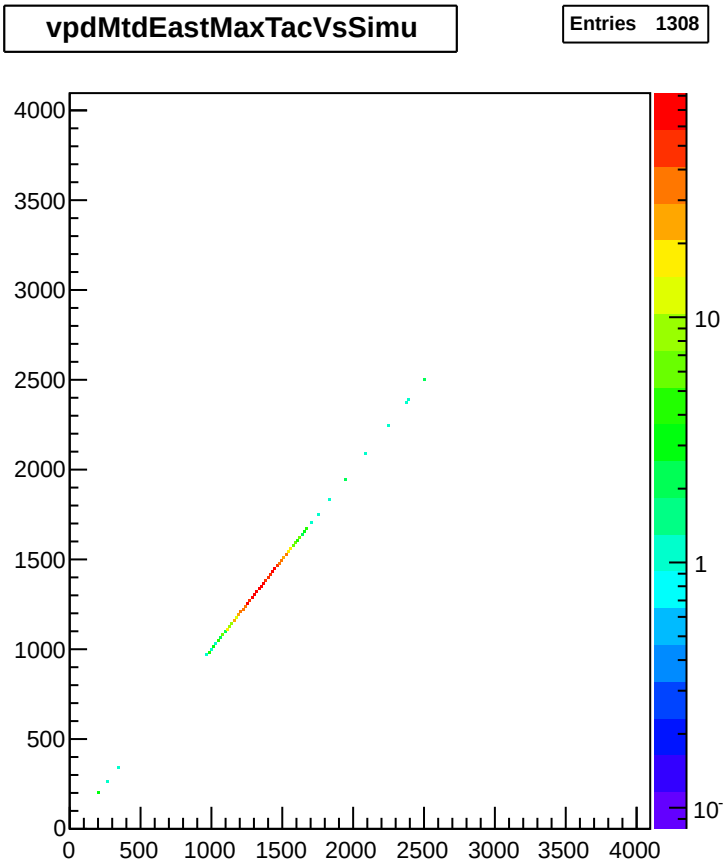

vpdWestTacMaxVsSimu
Entries 0

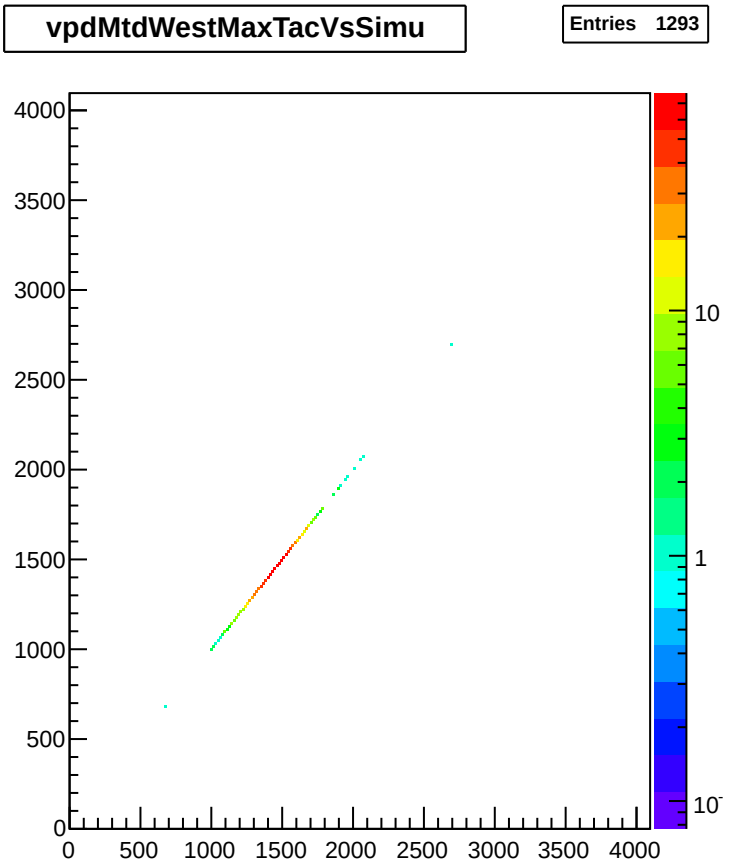

vpdEastAdcSum
Entries 1295

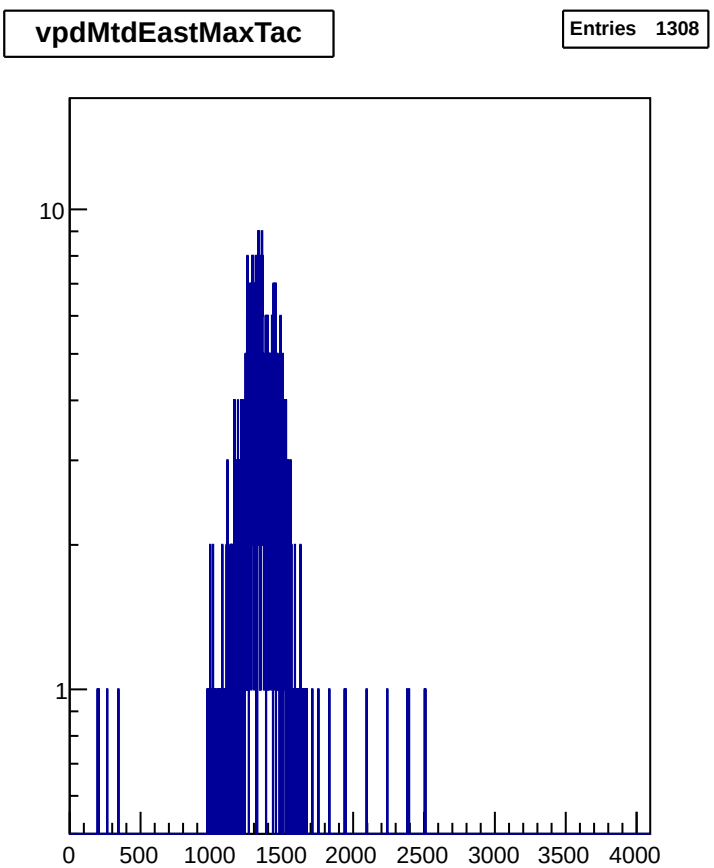

vpdEastTacMax
Entries 1295

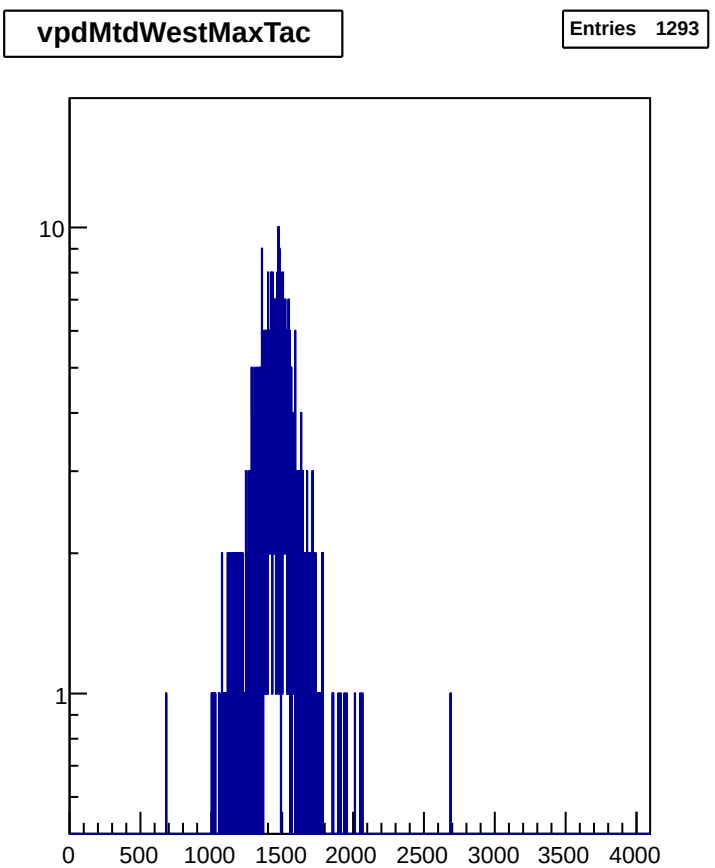

vpdWestAdcSum
Entries 1293

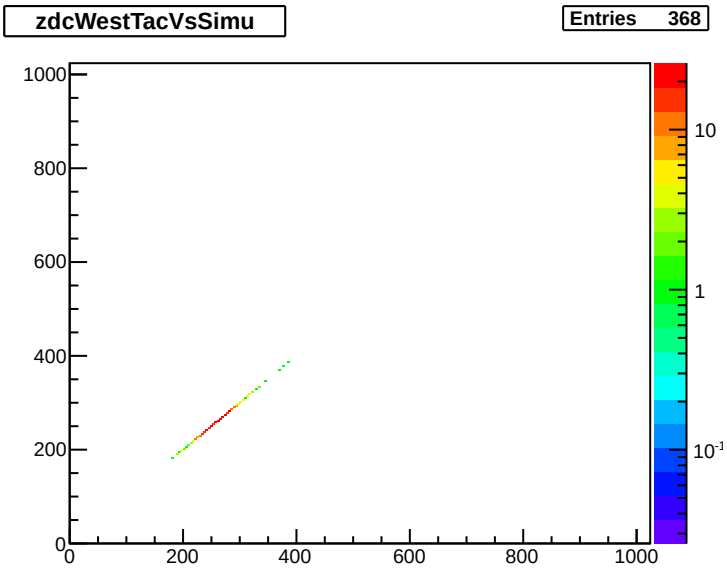

vpdWestTacMax
Entries 1293

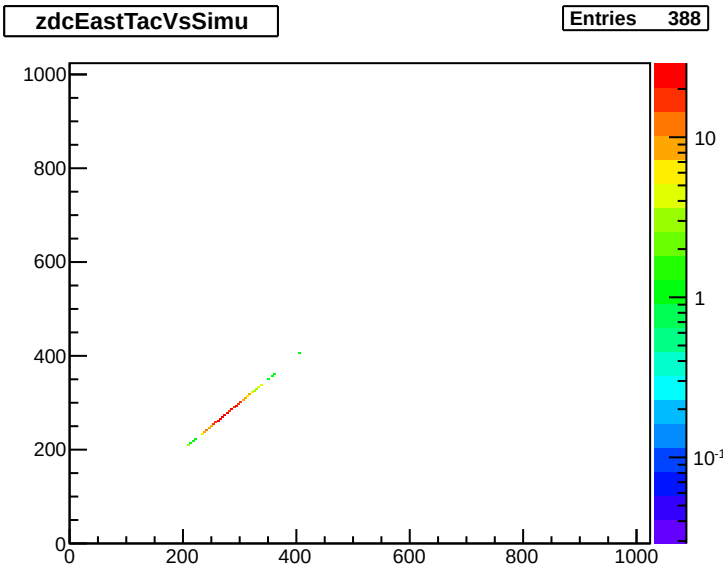

vpdMtdEastMaxTacVsSimu
Entries 1308
4000
3500
3000
2500
2000
1500
1000
500
0
0 500 1000 1500 2000 2500 3000 3500 4000
10
1
10

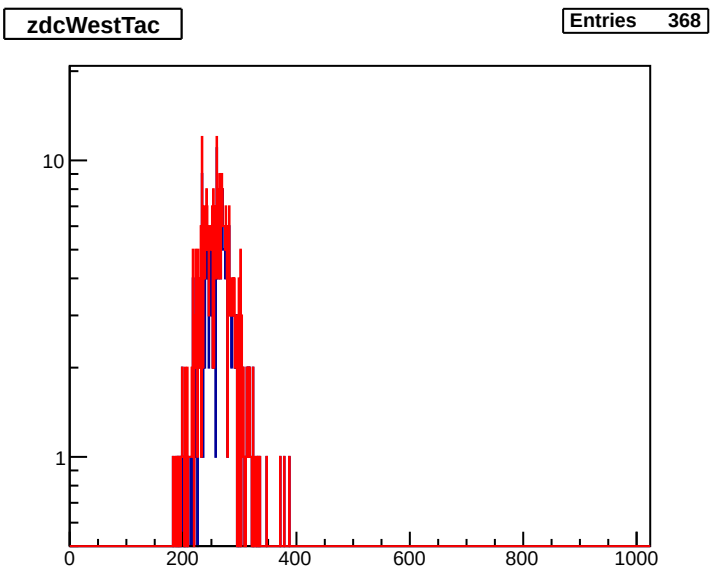

vpdMtdWestMaxTacVsSimu
Entries 1293
4000
3500
3000
2500
2000
1500
1000
500
0
0 500 1000 1500 2000 2500 3000 3500 4000
10
1
10

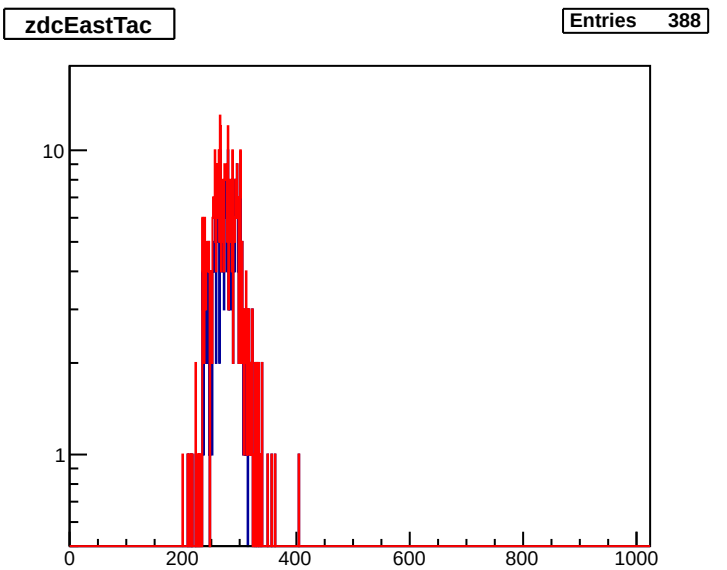

vpdMtdEastMaxTac
Entries 1308
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

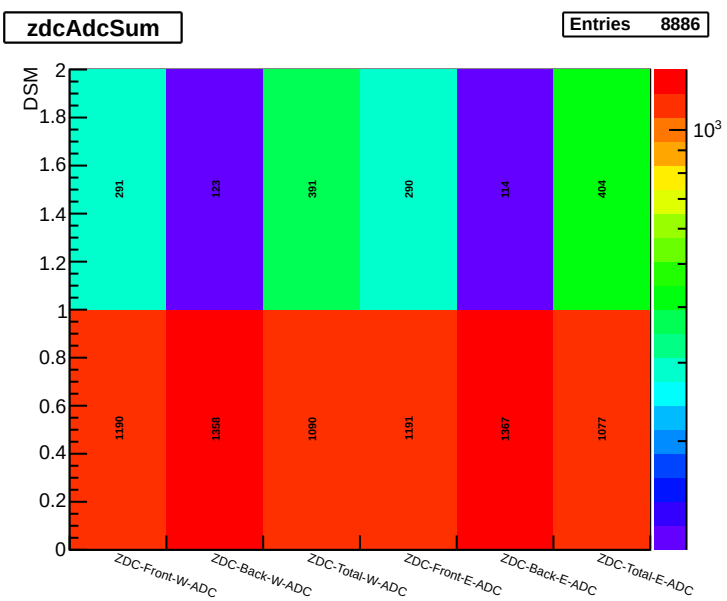

vpdMtdWestMaxTac
Entries 1293
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

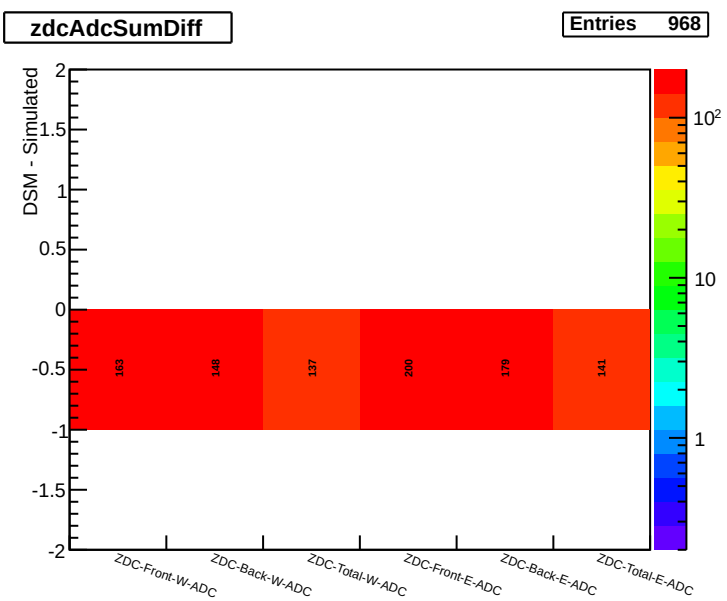

zdcWestTacVsSimu
Entries 368

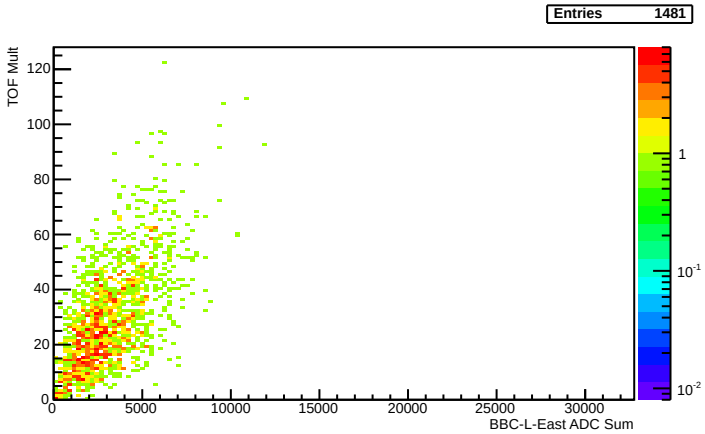

zdcEastTacVsSimu
Entries 388

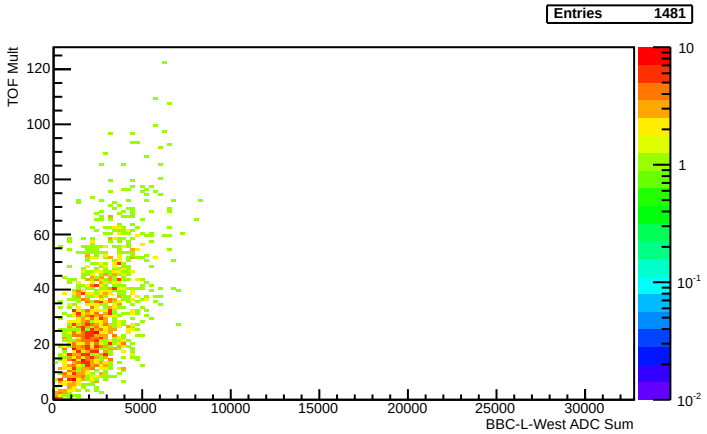

zdcWestTac
Entries 368

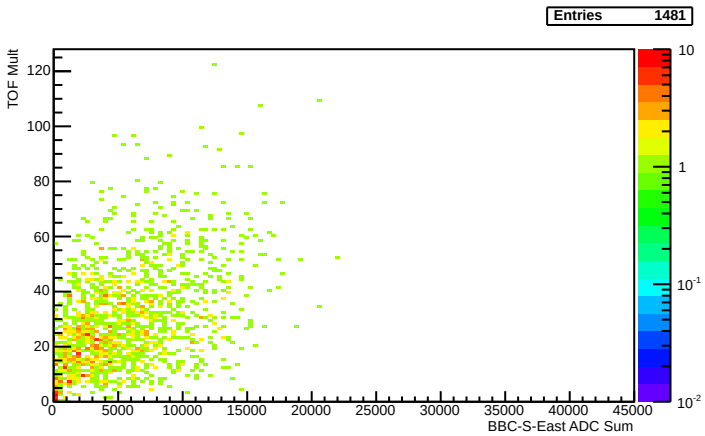

zdcEastTac
Entries 388

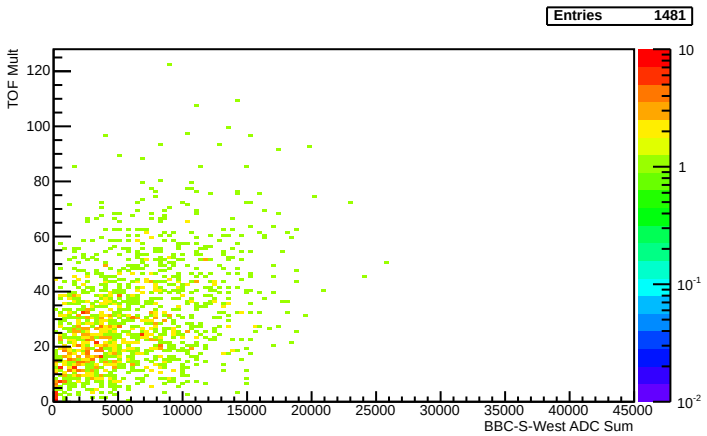

zdcAdcSum
Entries 8886
DSM
291
123
391
290
114
404
1190
1358
1090
1191
1367
1077
ZDC-Front-W-ADC
ZDC-Back-W-ADC
ZDC-Total-W-ADC
ZDC-Front-E-ADC
ZDC-Back-E-ADC
ZDC-Total-E-ADC

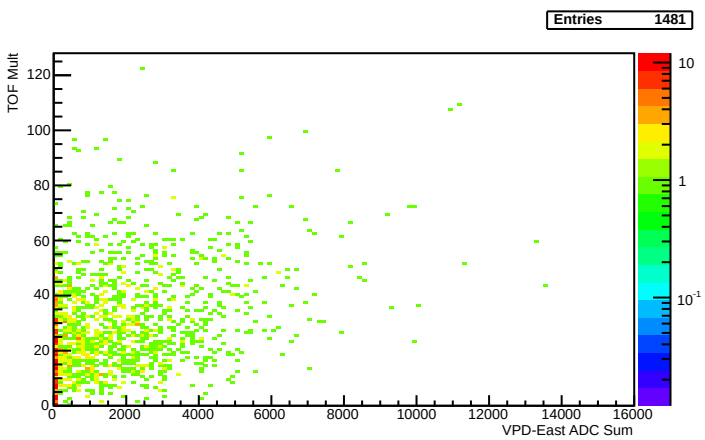

zdcAdcSumDiff
Entries 968
DSM - Simulated
163
148
137
200
179
141
ZDC-Front-W-ADC
ZDC-Back-W-ADC
ZDC-Total-W-ADC
ZDC-Front-E-ADC
ZDC-Back-E-ADC
ZDC-Total-E-ADC

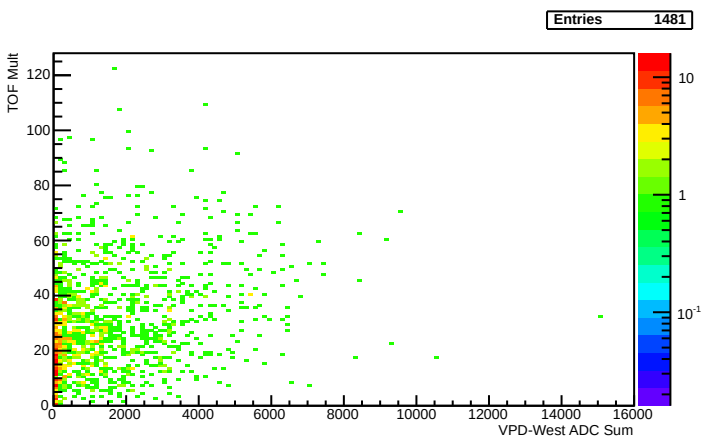

Entries 1481
TOF Mult
BBC-L-East ADC Sum

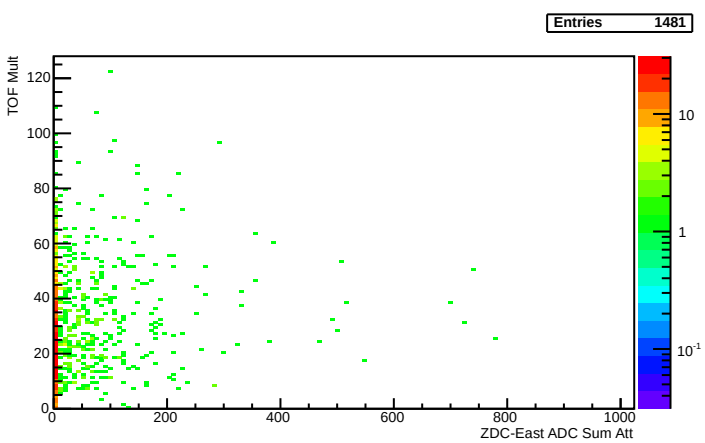

Entries 1481
TOF Mult
BBC-L-West ADC Sum

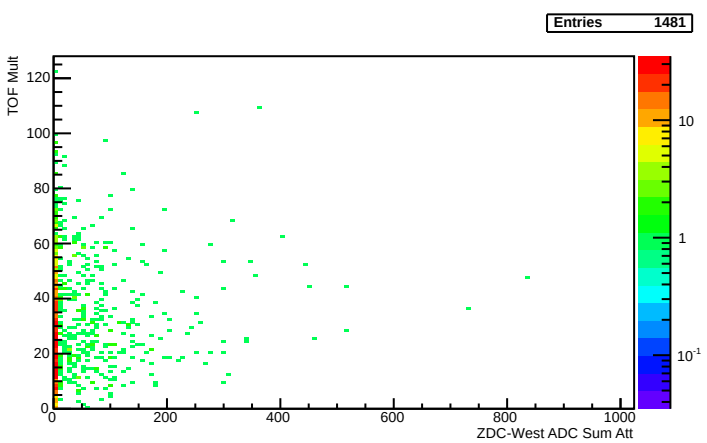

Entries 1481
TOF Mult
BBC-S-East ADC Sum

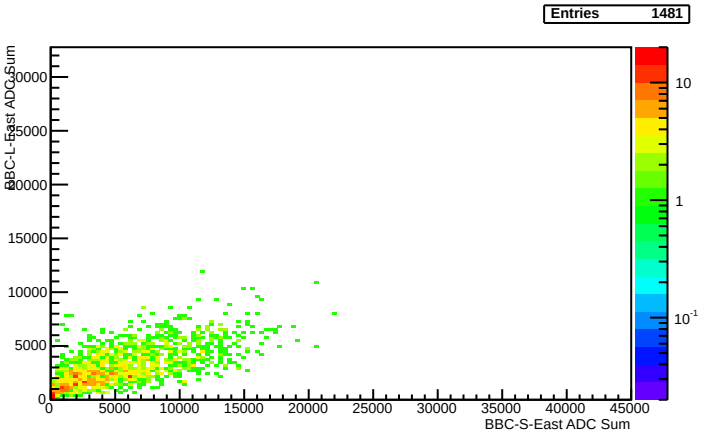

Entries 1481
TOF Mult
BBC-S-West ADC Sum

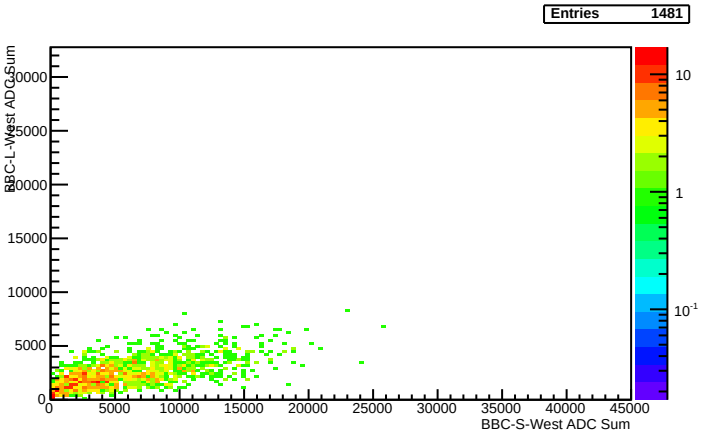

Entries 1481
TOF Mult
VPD-East ADC Sum

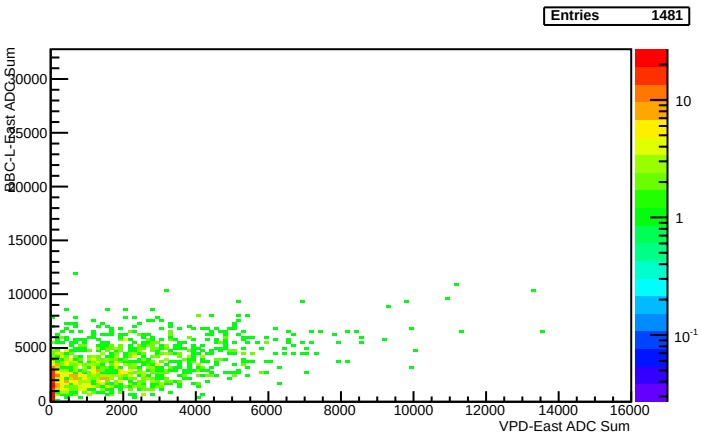

Entries 1481
TOF Mult
VPD-West ADC Sum

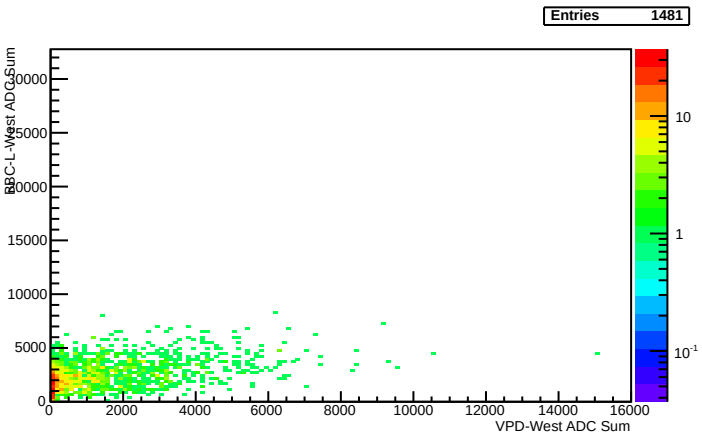

Entries 1481
TOF Mult
ZDC-East ADC Sum Att

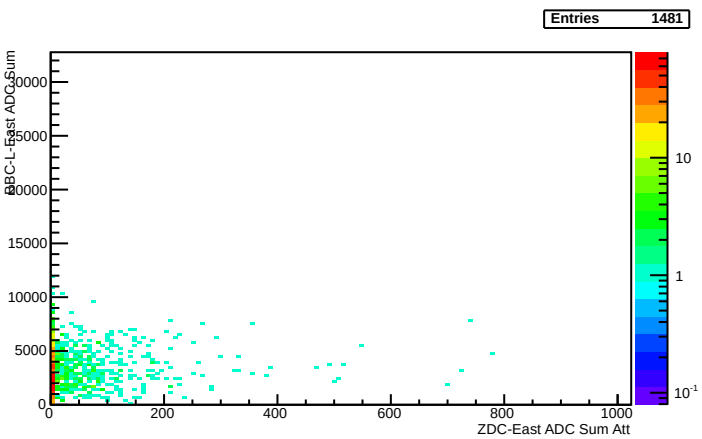

Entries 1481
TOF Mult
ZDC-West ADC Sum Att

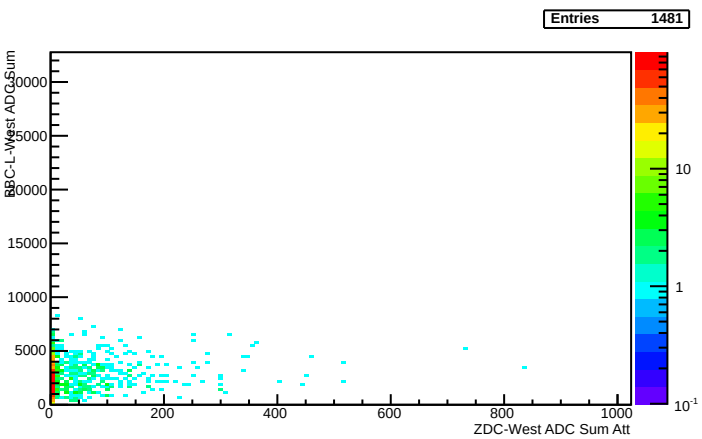

Entries 1481
BBC-L-East ADC Sum
BBC-S-East ADC Sum

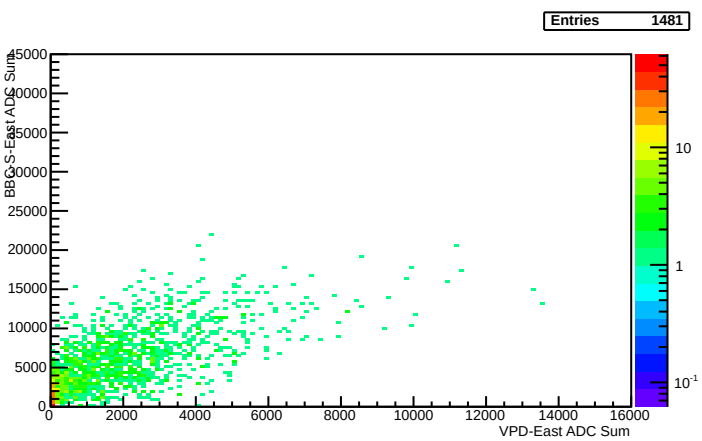

Entries 1481
BBC-L-West ADC Sum
BBC-S-West ADC Sum

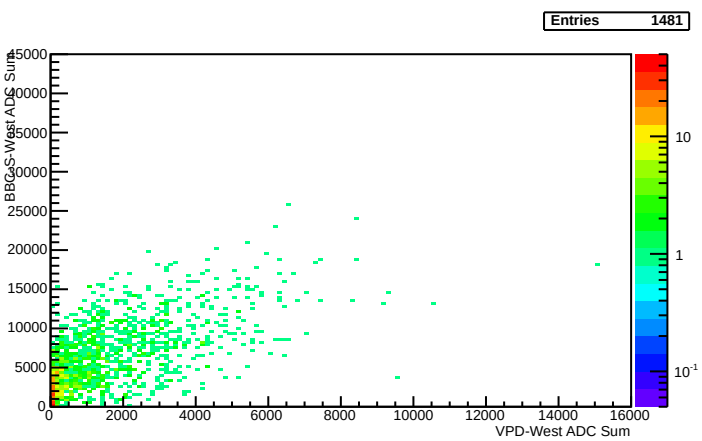

Entries 1481
BBC-L-East ADC Sum
VPD-East ADC Sum

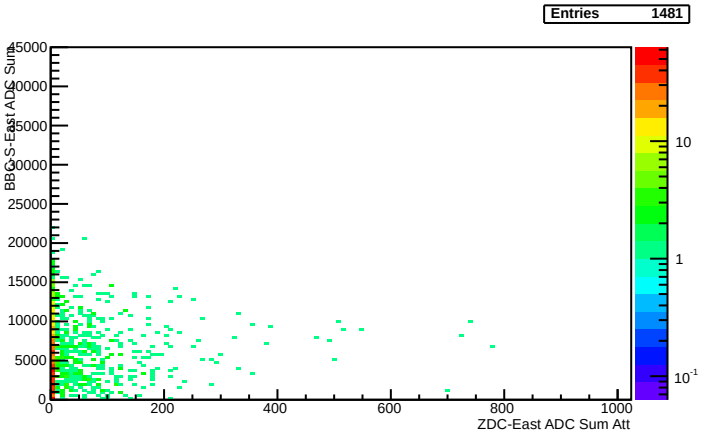

Entries 1481
BBC-L-West ADC Sum
VPD-West ADC Sum

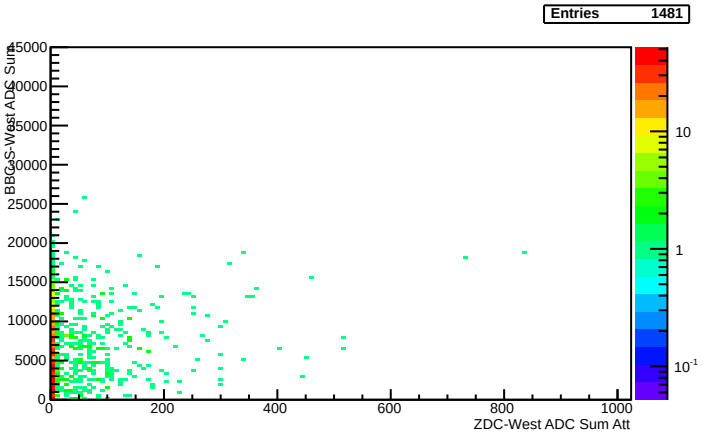

Entries 1481
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

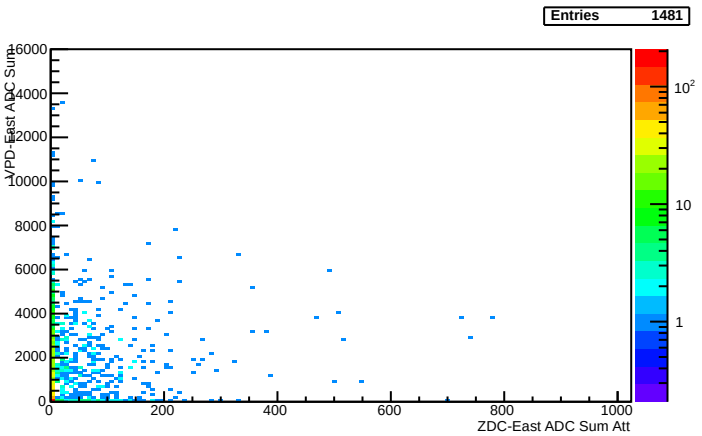

Entries 1481
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

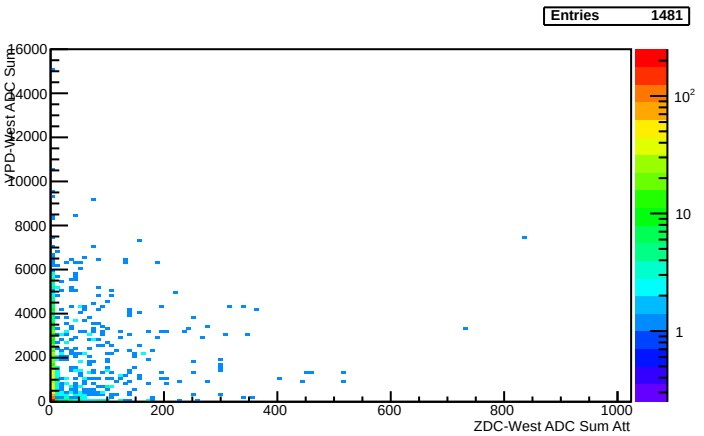

Entries 1481
BBC-S-East ADC Sum
VPD-East ADC Sum

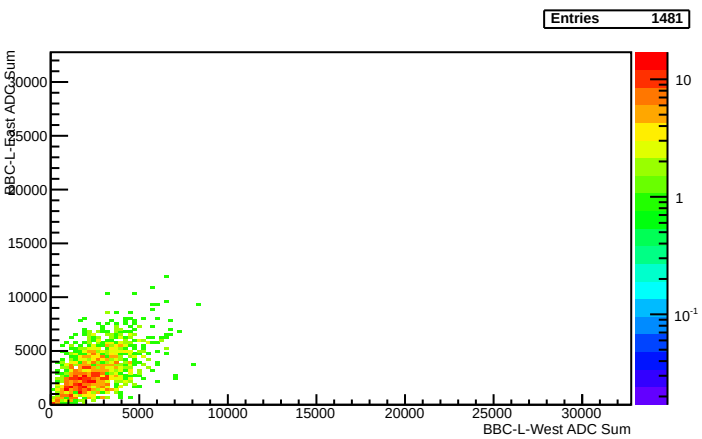

Entries 1481
BBC-S-West ADC Sum
VPD-West ADC Sum

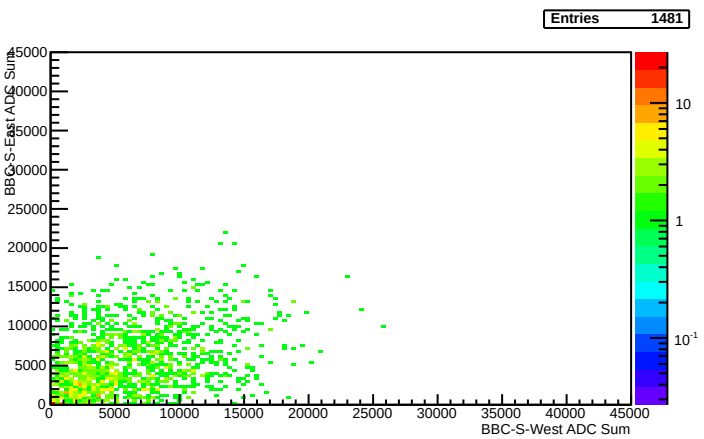

Entries 1481
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

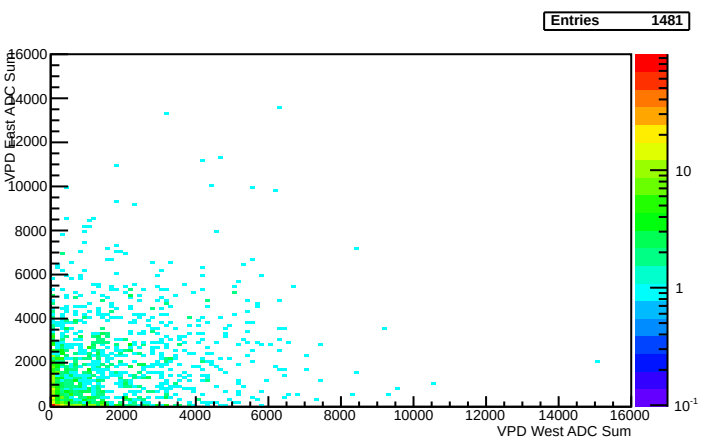

Entries 1481
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

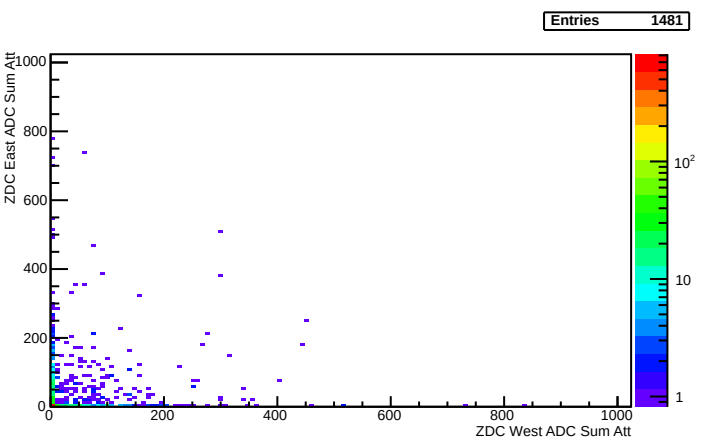

Entries 1481
VPD-East ADC Sum
ZDC-East ADC Sum Att

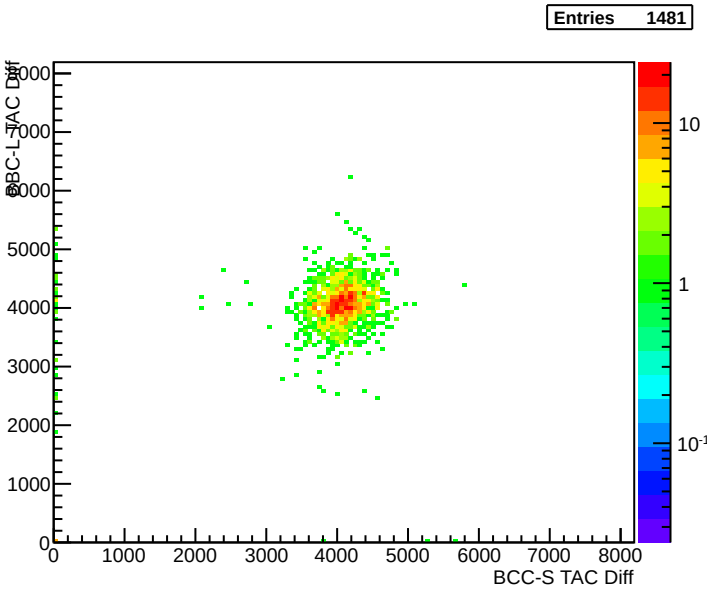

Entries 1481
VPD-West ADC Sum
ZDC-West ADC Sum Att

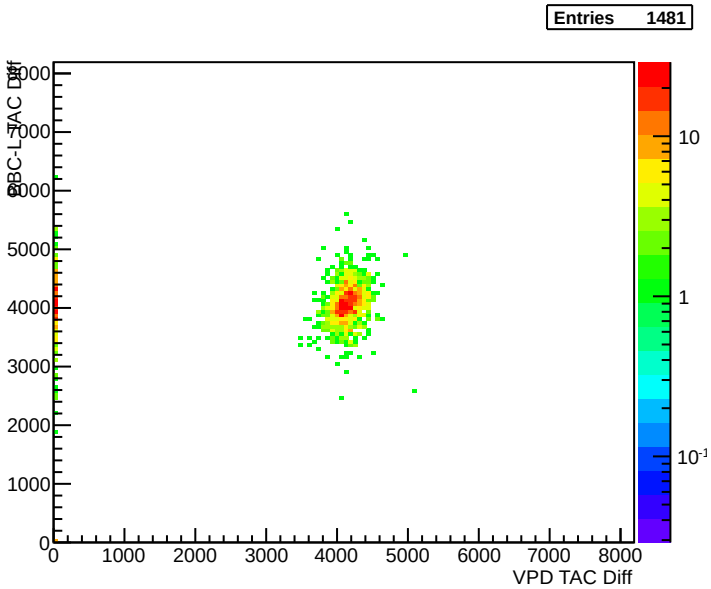

Entries 1481
BBC-L-East ADC Sum
BBC-L-West ADC Sum

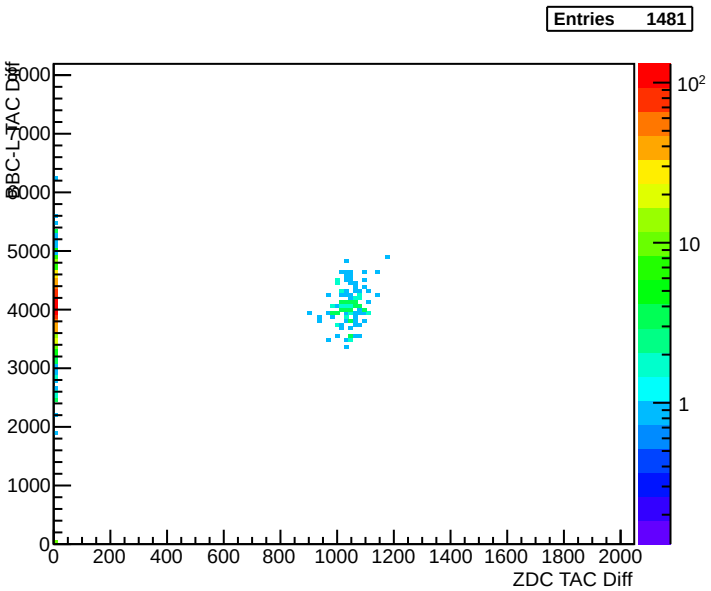

Entries 1481
BBC-S-East ADC Sum
BBC-S-West ADC Sum

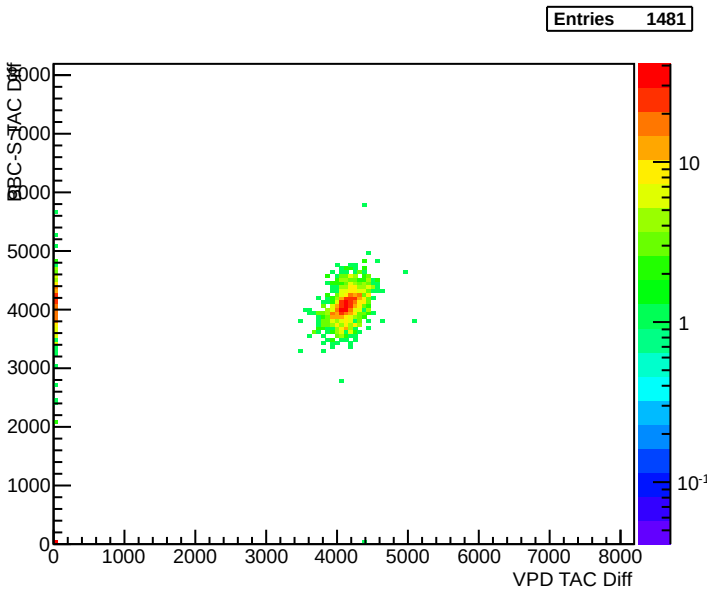

Entries 1481
VPD East ADC Sum
VPD West ADC Sum

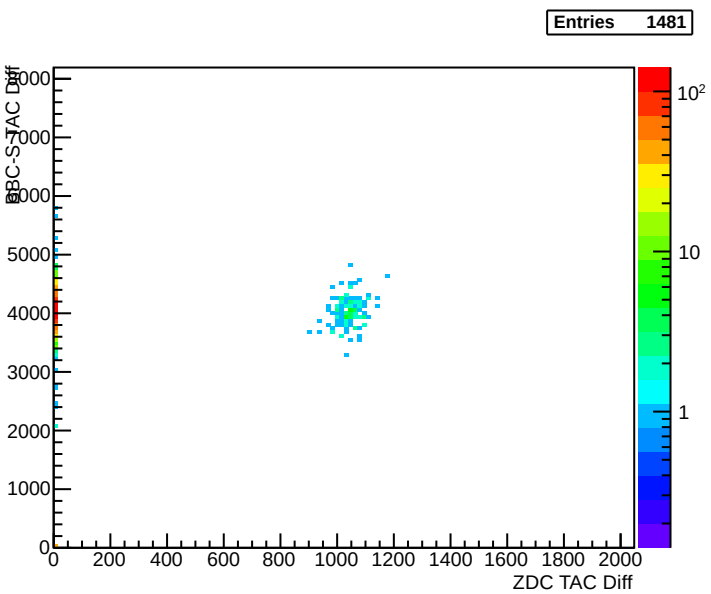

Entries 1481
ZDC East ADC Sum Att
ZDC West ADC Sum Att

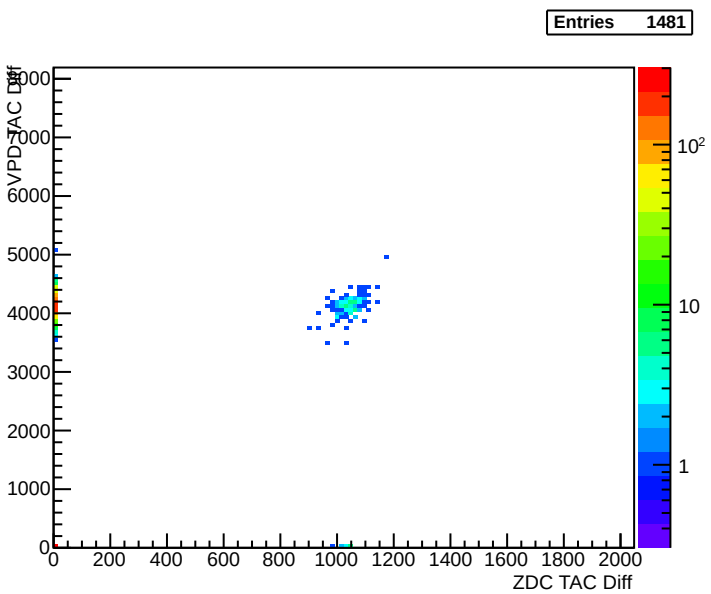

Entries 1481
BBC-L TAC Diff
BCC-S TAC Diff

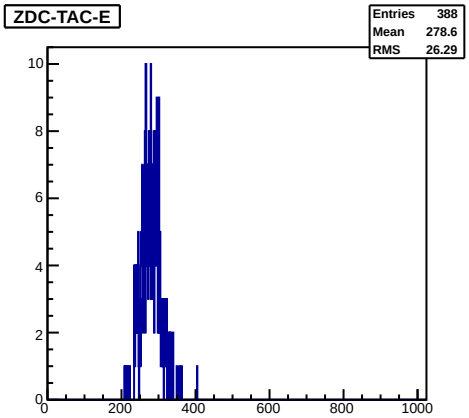

Entries 1481
BBC-L TAC Diff
VPD TAC Diff

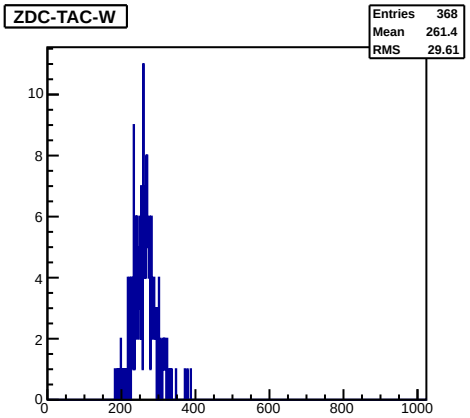

Entries 1481
BBC-L TAC Diff
ZDC TAC Diff

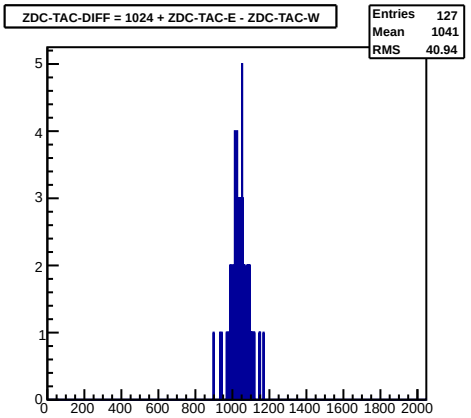

Entries 1481
BBC-S TAC Diff
VPD TAC Diff

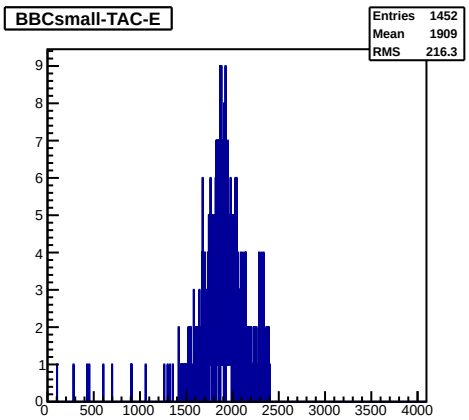

Entries 1481
BBC-S TAC Diff
ZDC TAC Diff

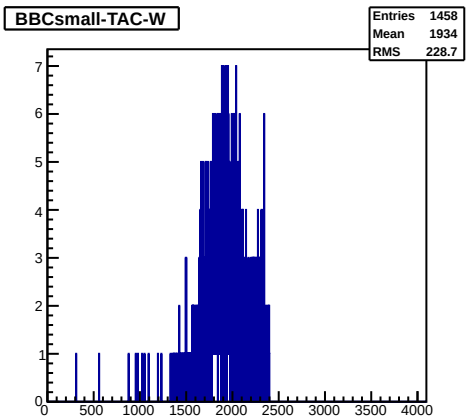

Entries 1481
VPD TAC Diff
ZDC TAC Diff

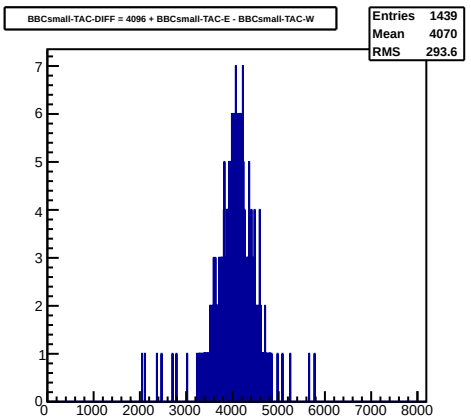

ZDC-TAC-E
Entries 388
Mean 278.6
RMS 26.29

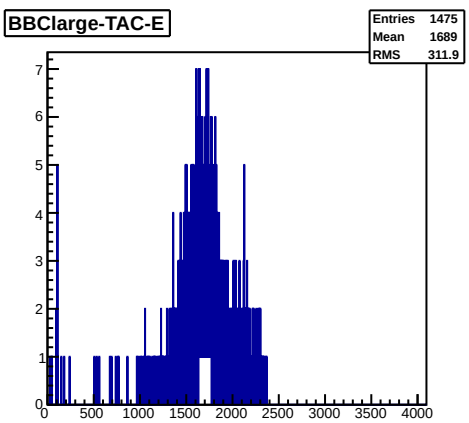

ZDC-TAC-W
Entries 368
Mean 261.4
RMS 29.61

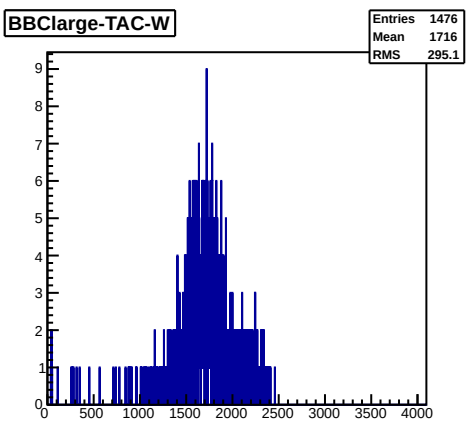

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 127
Mean 1041
RMS 40.94

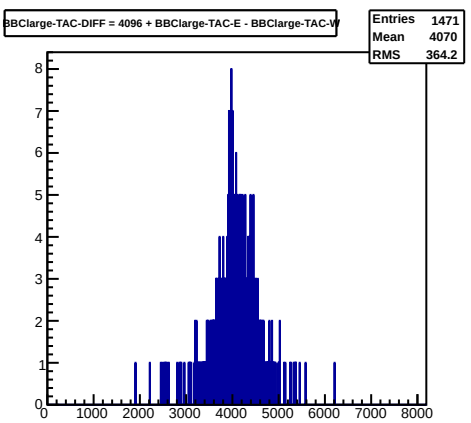

BBCsmall-TAC-E
Entries 1452
Mean 1909
RMS 216.3

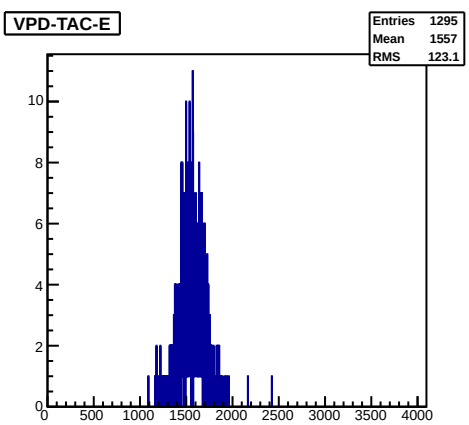

BBCsmall-TAC-W
Entries 1458
Mean 1934
RMS 228.7

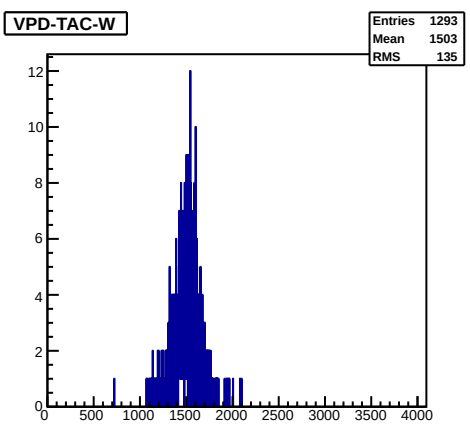

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 1439
Mean 4070
RMS 293.6

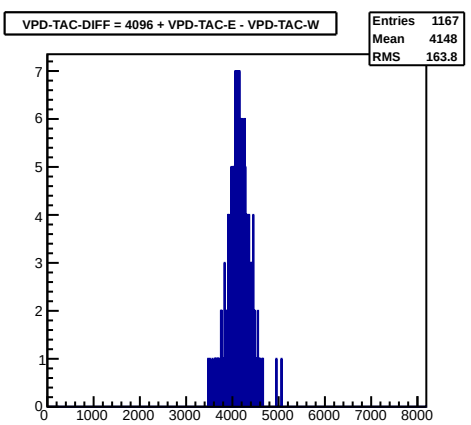

BBClarge-TAC-E
Entries 1475
Mean 1689
RMS 311.9

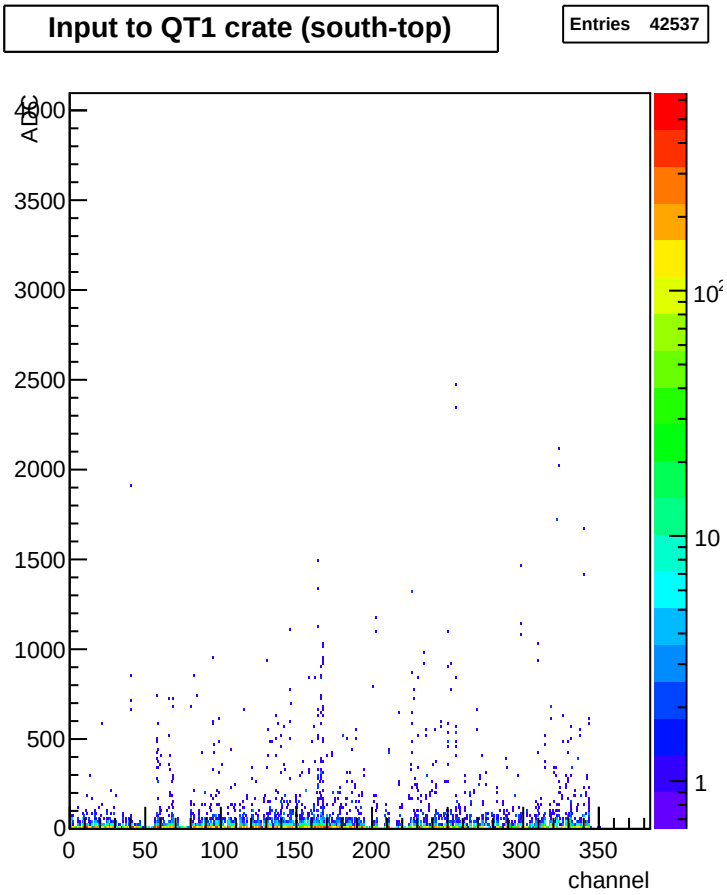

BBClarge-TAC-W
Entries 1476
Mean 1716
RMS 295.1

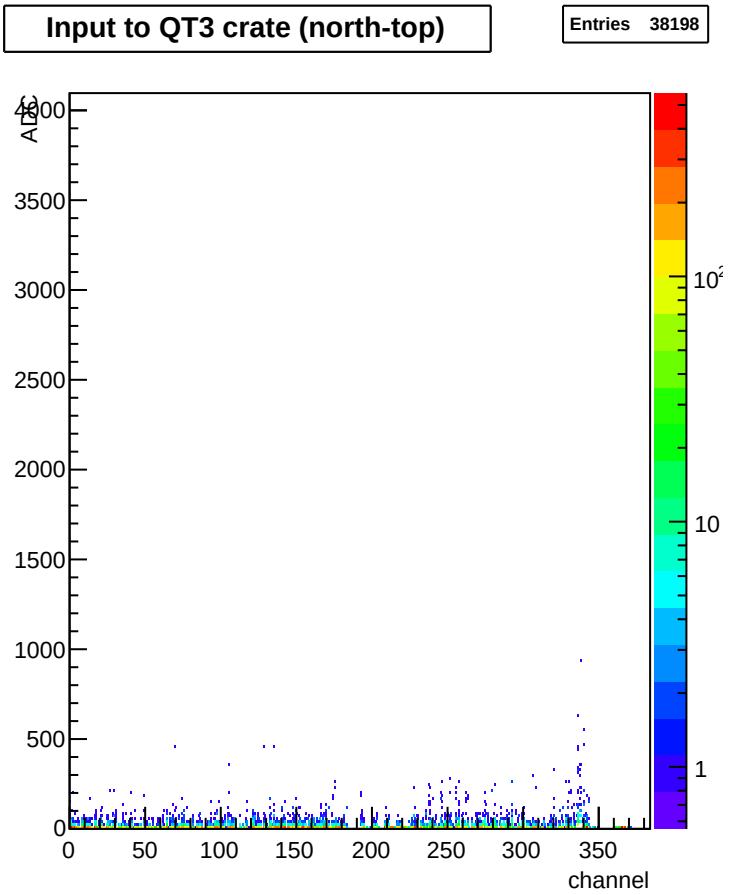

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 1471
Mean 4070
RMS 364.2

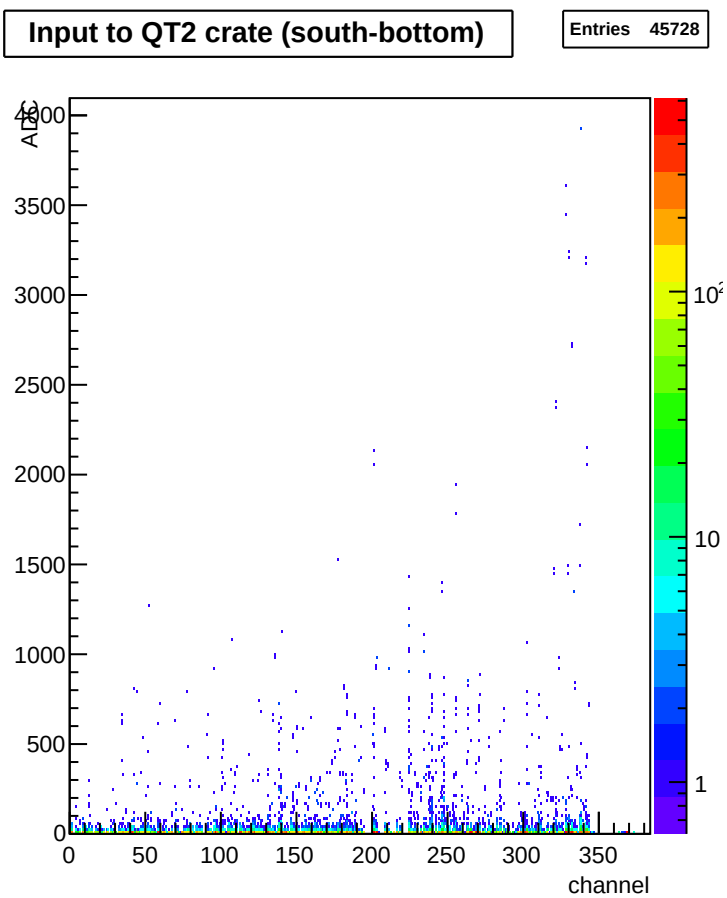

VPD-TAC-E
Entries 1295
Mean 1557
RMS 123.1

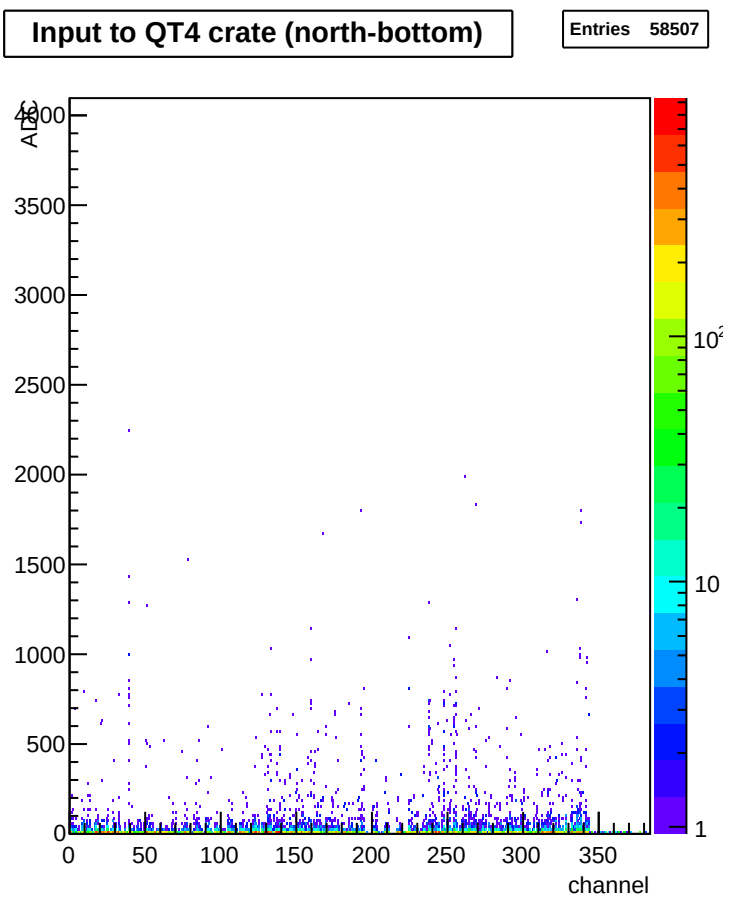

VPD-TAC-W
Entries 1293
Mean 1503
RMS 135

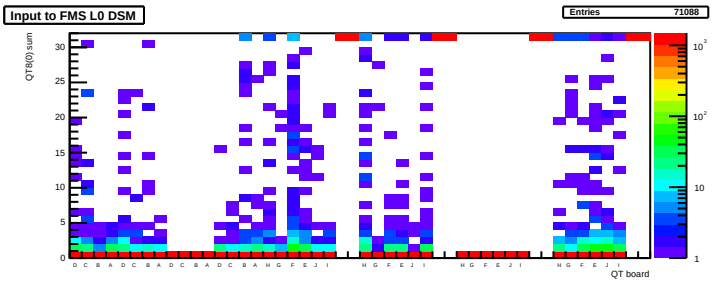

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 1167
Mean 4148
RMS 163.8

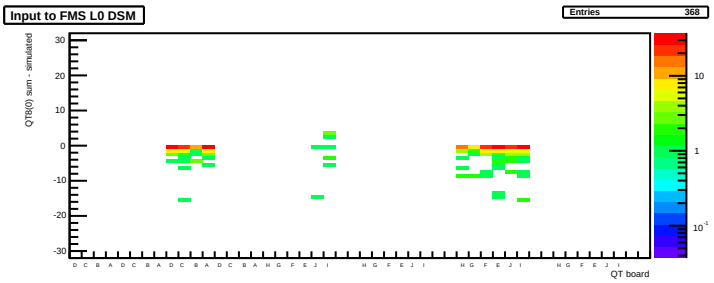

Input to QT1 crate (south-top)
Entries 42537
ADC
channel

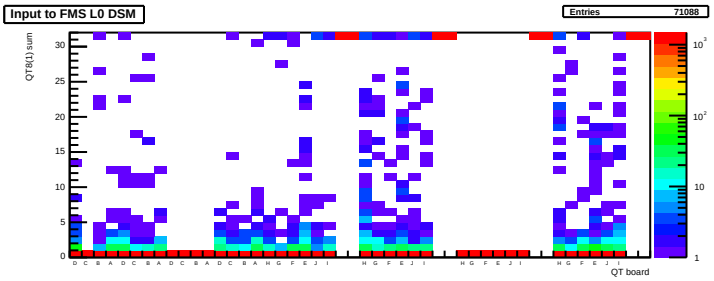

Input to QT3 crate (north-top)
Entries 38198
ADC
channel

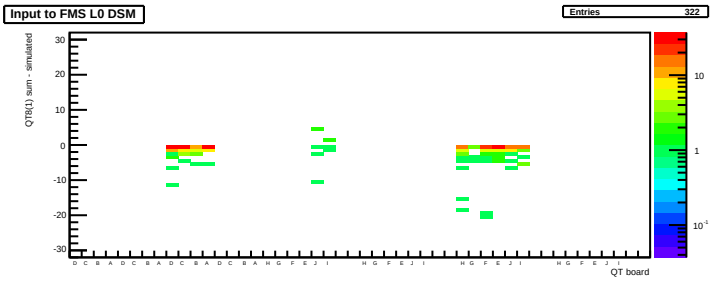

Input to QT2 crate (south-bottom)
Entries 45728
ADC
channel

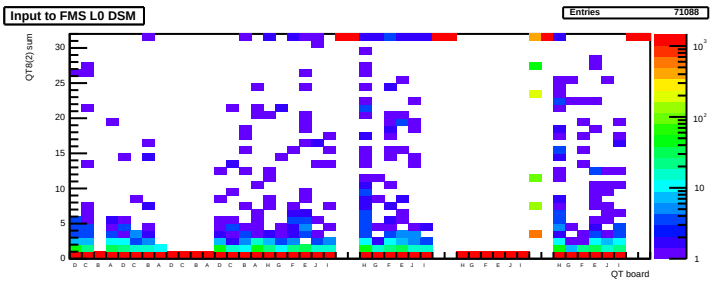

Input to QT4 crate (north-bottom)
Entries 58507
ADC
channel

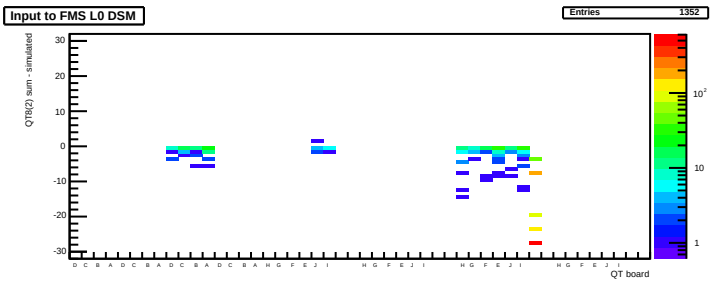

Input to FMS L0 DSM
Entries 71088
QT8(0) sum
QT board

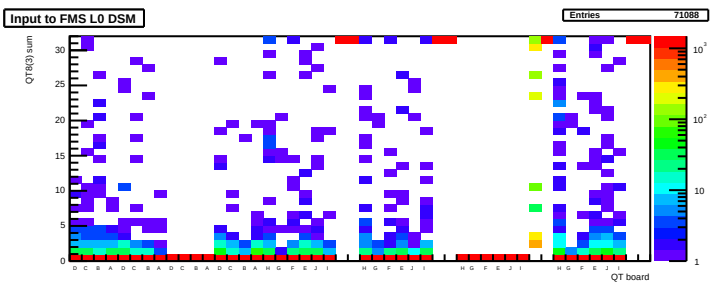

Input to FMS L0 DSM
Entries 368
QT8(0) sum - simulated
QT board

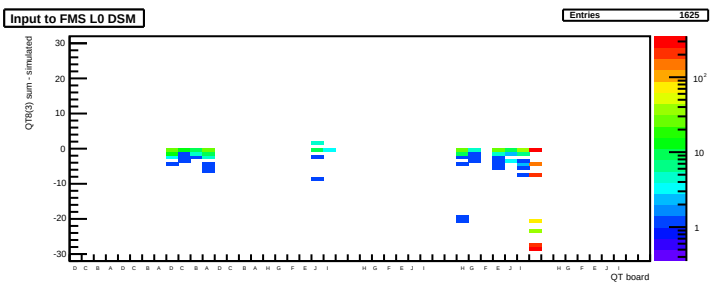

Input to FMS L0 DSM
Entries 71088
QT8(1) sum
QT board

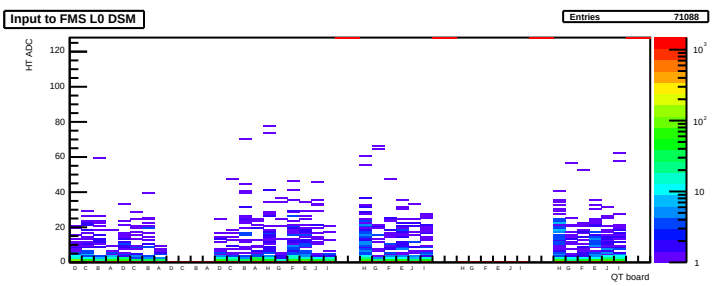

Input to FMS L0 DSM
Entries 322
QT8(1) sum - simulated
QT board

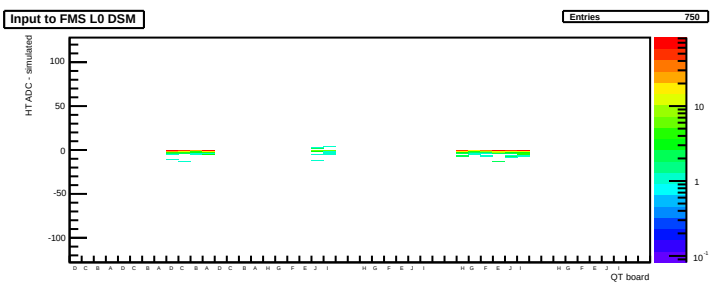

Input to FMS L0 DSM
Entries 71088
QT8(2) sum
QT board

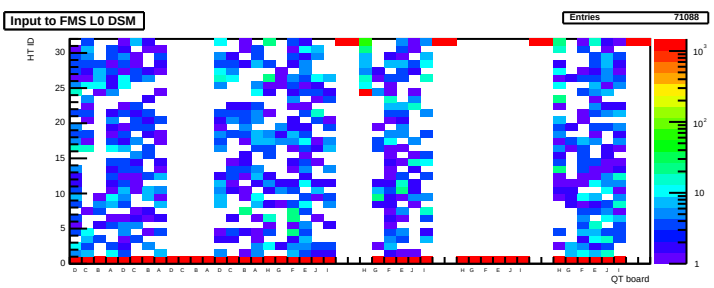

Input to FMS L0 DSM
Entries 1352
QT8(2) sum - simulated
QT board

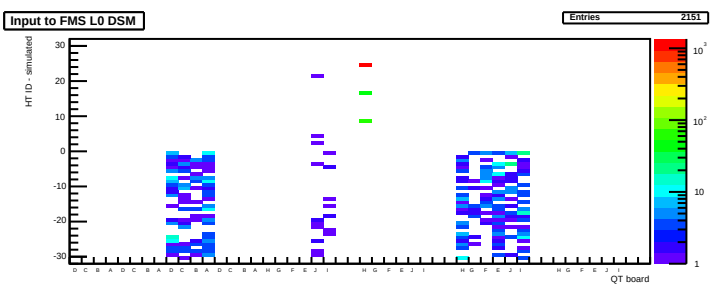

Input to FMS L0 DSM
Entries 71088
QT8(3) sum
QT board

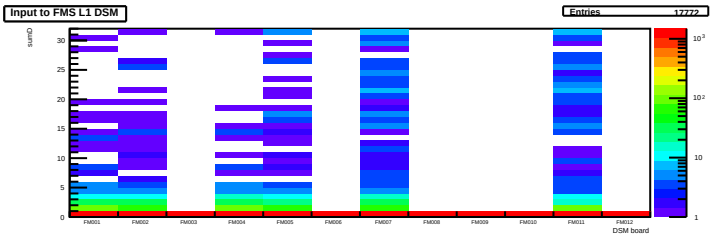

Input to FMS L0 DSM
Entries 1625
QT8(3) sum - simulated
QT board

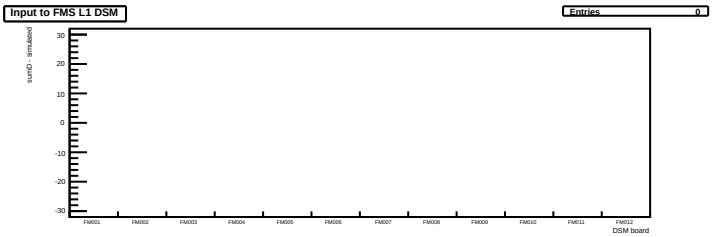

Input to FMS L0 DSM
Entries 71088
HT ADC
QT board

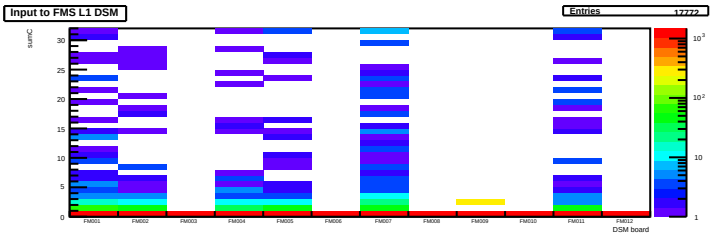

Input to FMS L0 DSM
Entries 750
HT ADC - simulated
QT board

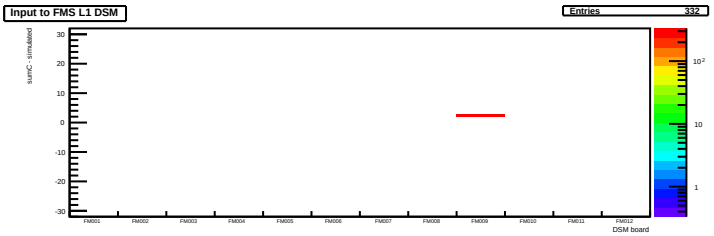

Input to FMS L0 DSM
Entries 71088
HT ID
QT board

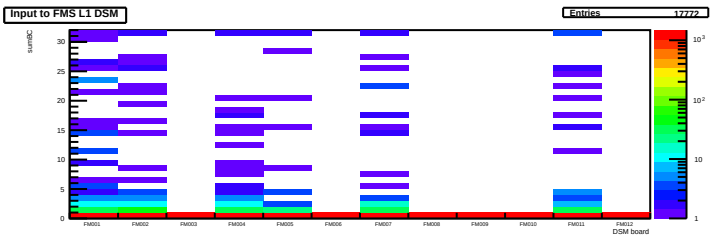

Input to FMS L0 DSM
Entries 2151
HT ID - simulated
QT board

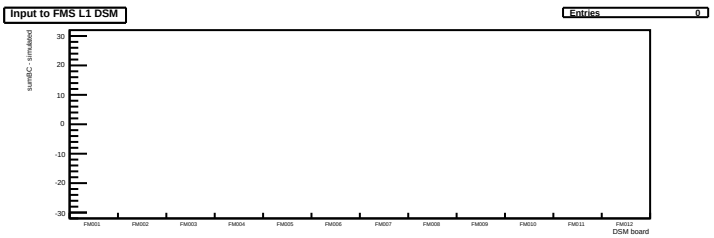

Input to FMS L1 DSM
Entries 17772
sumD
DSM board

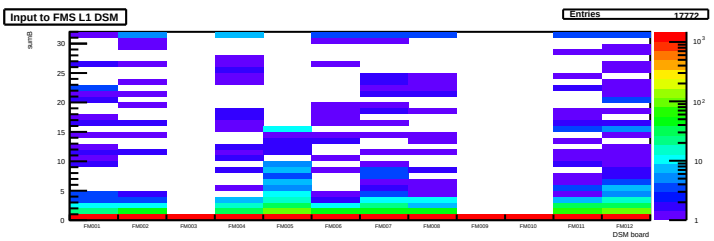

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

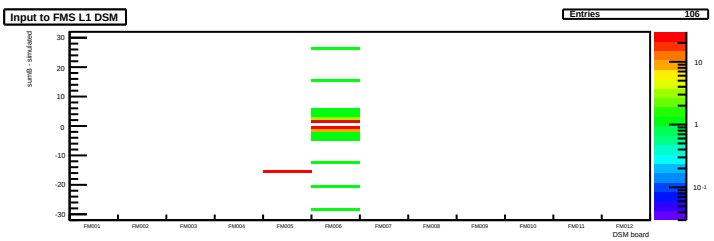

Input to FMS L1 DSM
Entries 17772
sumC
DSM board

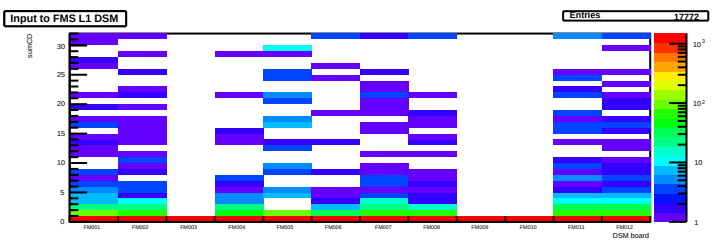

Input to FMS L1 DSM
Entries 332
sumC - simulated
DSM board

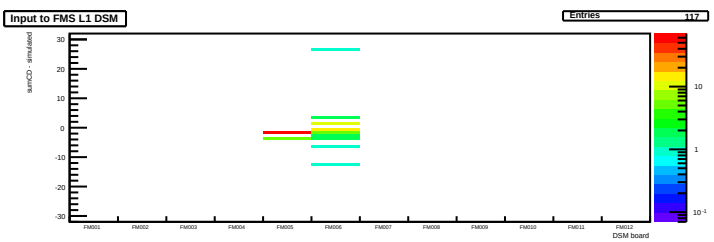

Input to FMS L1 DSM
Entries 17772
sumBC
DSM board

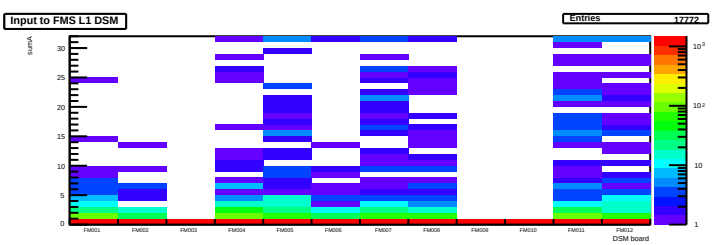

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

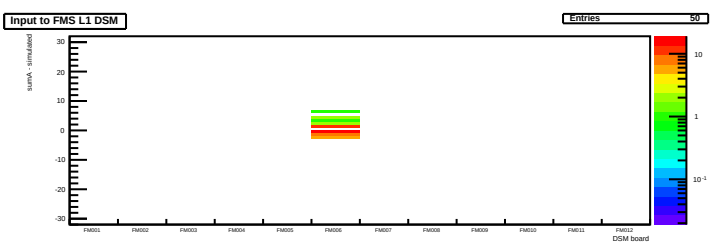

Input to FMS L1 DSM
Entries 17772
sumB
DSM board

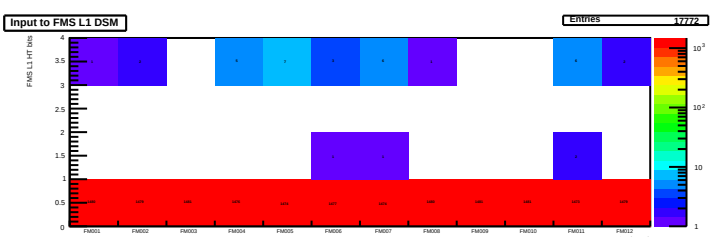

Input to FMS L1 DSM
Entries 106
sumB - simulated
DSM board

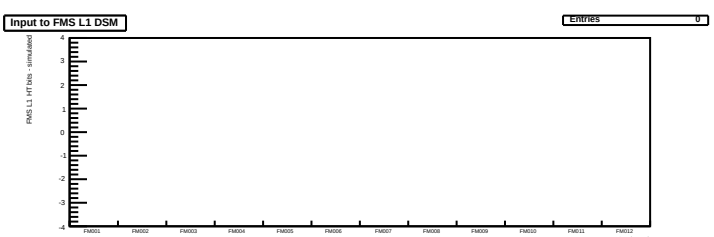

Input to FMS L1 DSM
Entries 17772
sumCD
DSM board

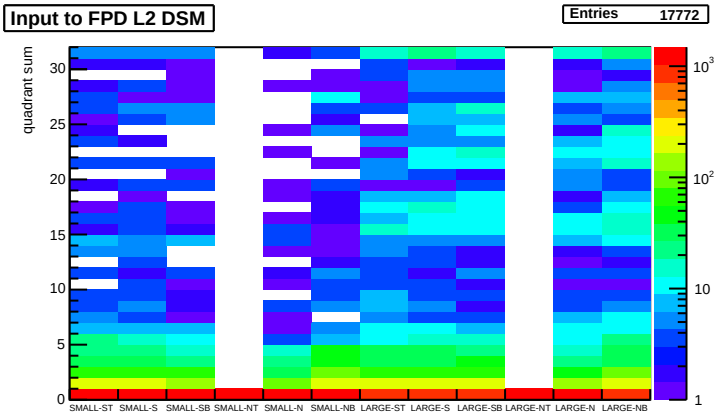

Input to FMS L1 DSM
Entries 117
sumCD - simulated
DSM board

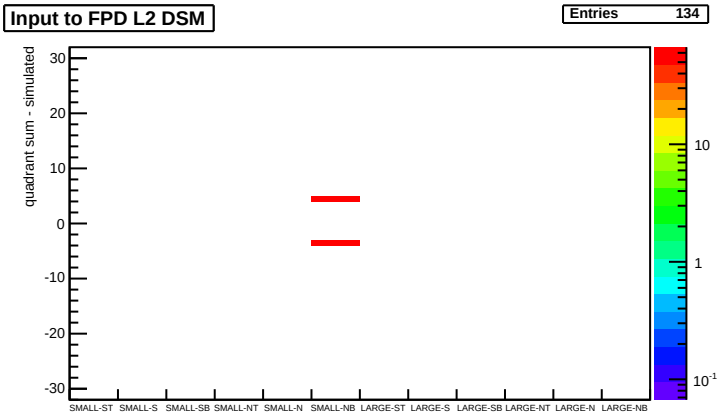

Input to FMS L1 DSM
Entries 17772
sumA
DSM board

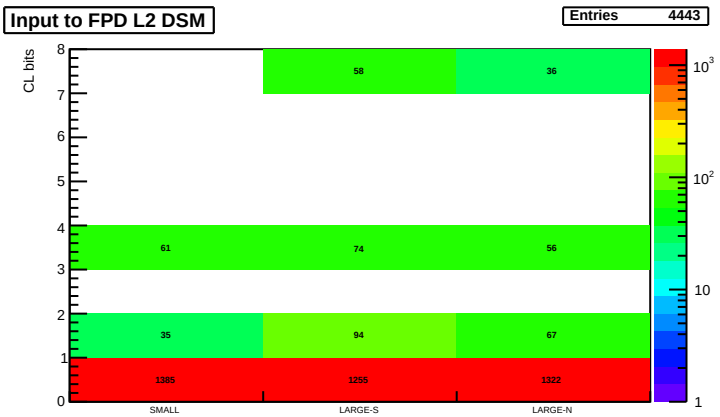

Input to FMS L1 DSM
Entries 50
sumA - simulated
DSM board

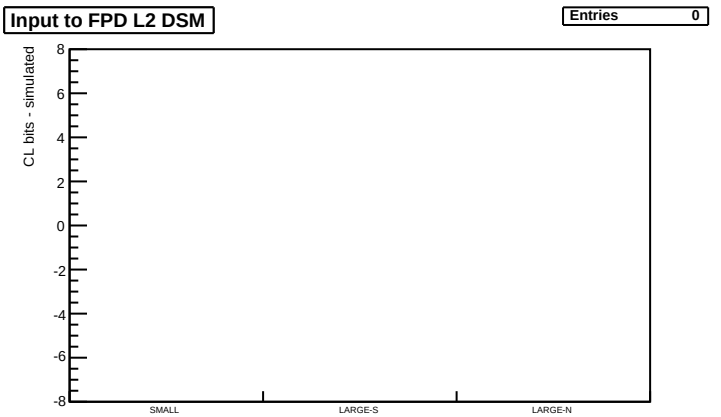

Input to FMS L1 DSM
Entries 17772
FMS L1 HT bits
DSM board

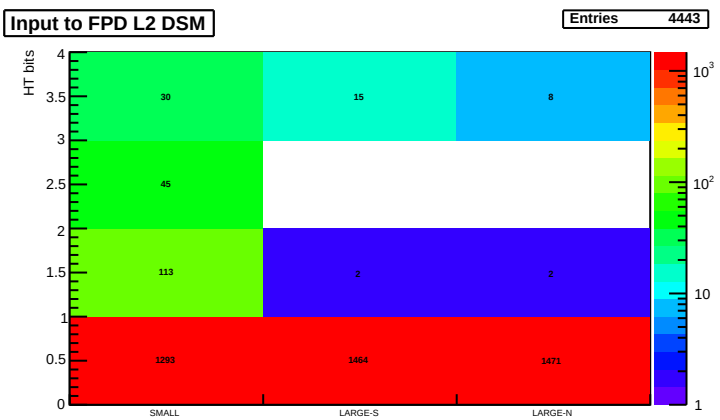

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

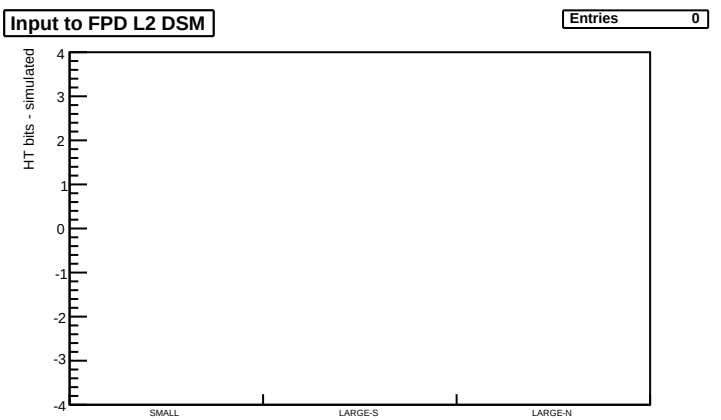

Input to FPD L2 DSM
Entries 17772
quadrant sum
SMALL-ST SMALL-S SMALL-SB SMALL-NT SMALL-N SMALL-NB LARGE-ST LARGE-S LARGE-SB LARGE-NT LARGE-N LARGE-NB

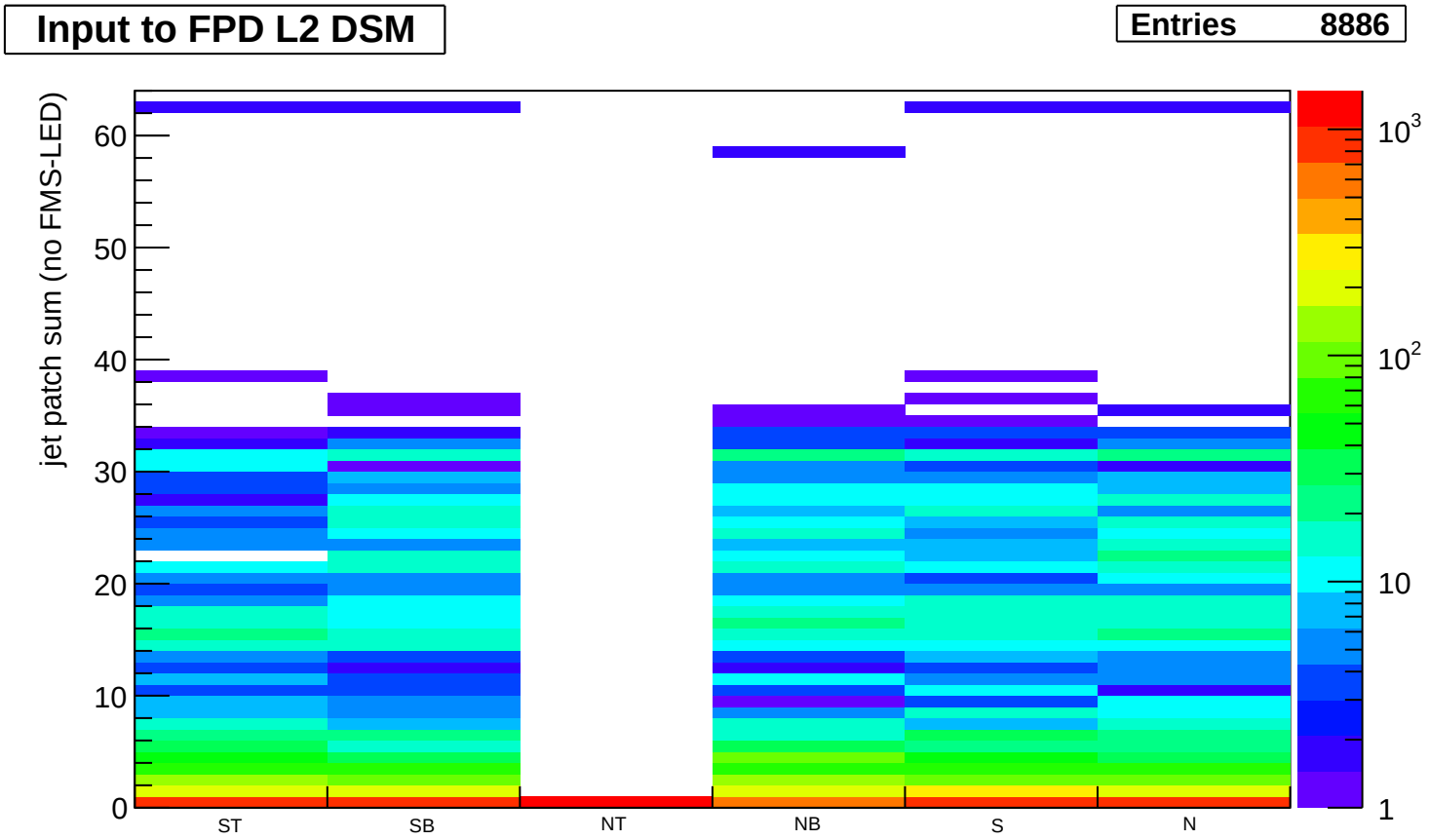

Input to FPD L2 DSM
Entries 134
quadrant sum - simulated
SMALL-ST SMALL-S SMALL-SB SMALL-NT SMALL-N SMALL-NB LARGE-ST LARGE-S LARGE-SB LARGE-NT LARGE-N LARGE-NB

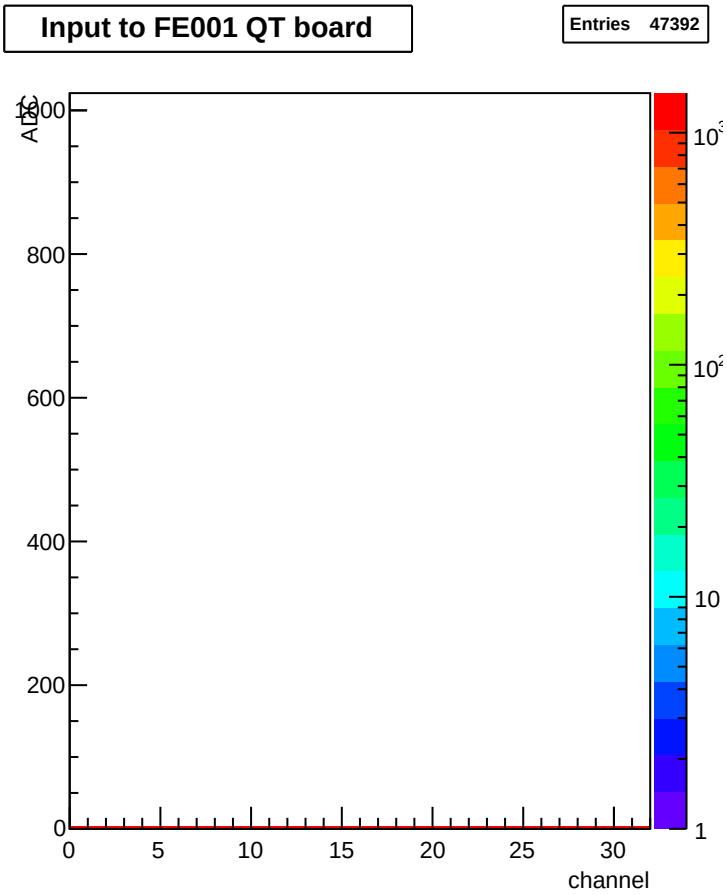

Input to FPD L2 DSM
Entries 4443
CL bits
58
36
61
74
56
35
94
67
1385
1255
1322
SMALL
LARGE-S
LARGE-N

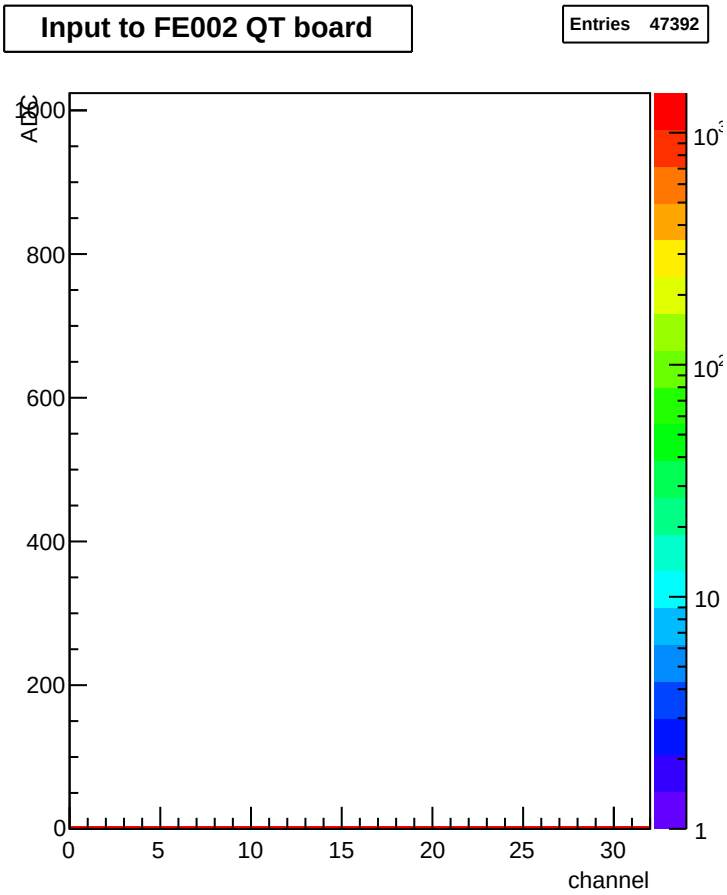

Input to FPD L2 DSM
Entries 0
CL bits - simulated
SMALL
LARGE-S
LARGE-N

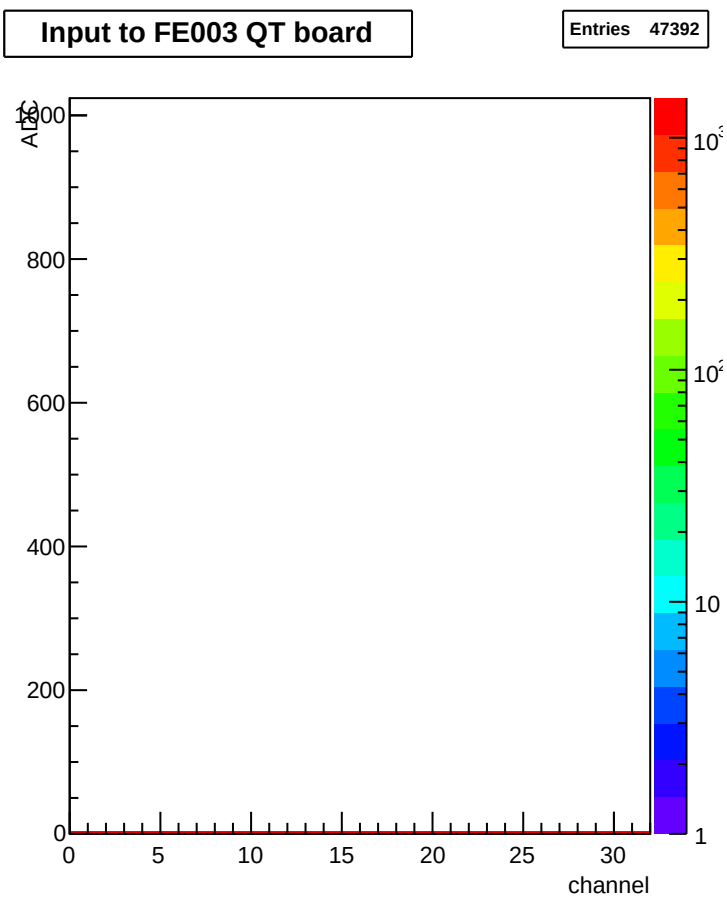

Input to FPD L2 DSM
Entries 4443
HT bits
30
15
8
45
113
2
2
1293
1464
1471
SMALL
LARGE-S
LARGE-N

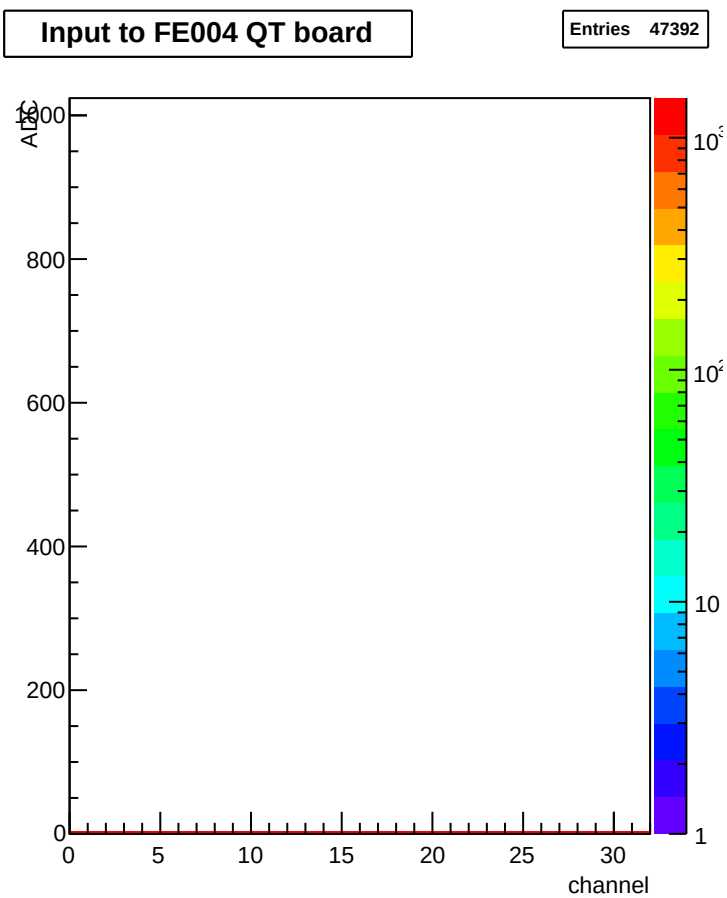

Input to FPD L2 DSM
Entries 0
HT bits - simulated
SMALL
LARGE-S
LARGE-N

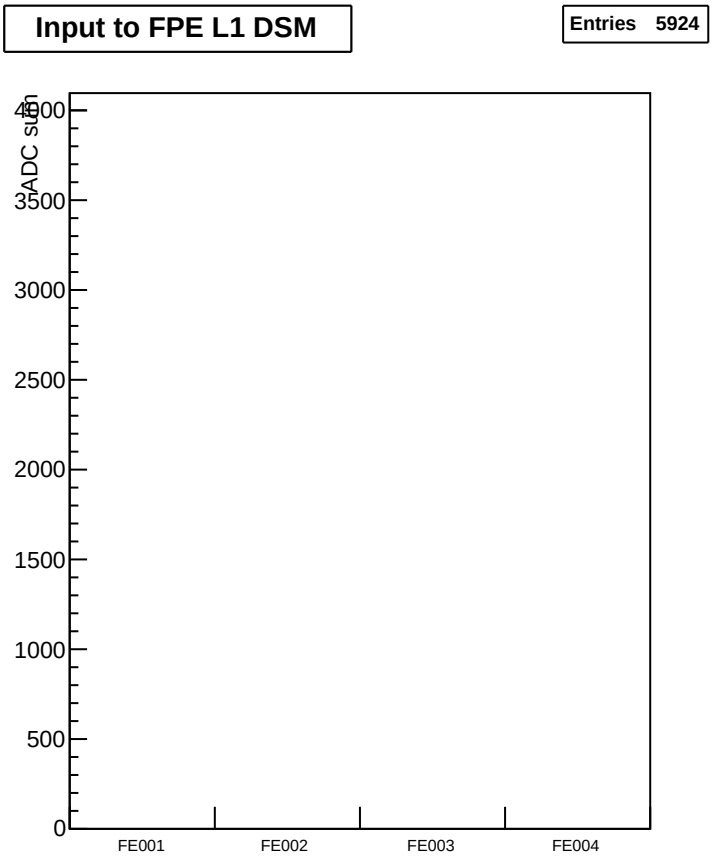

Input to FPD L2 DSM
Entries 8886
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
$10^2$
$10^3$

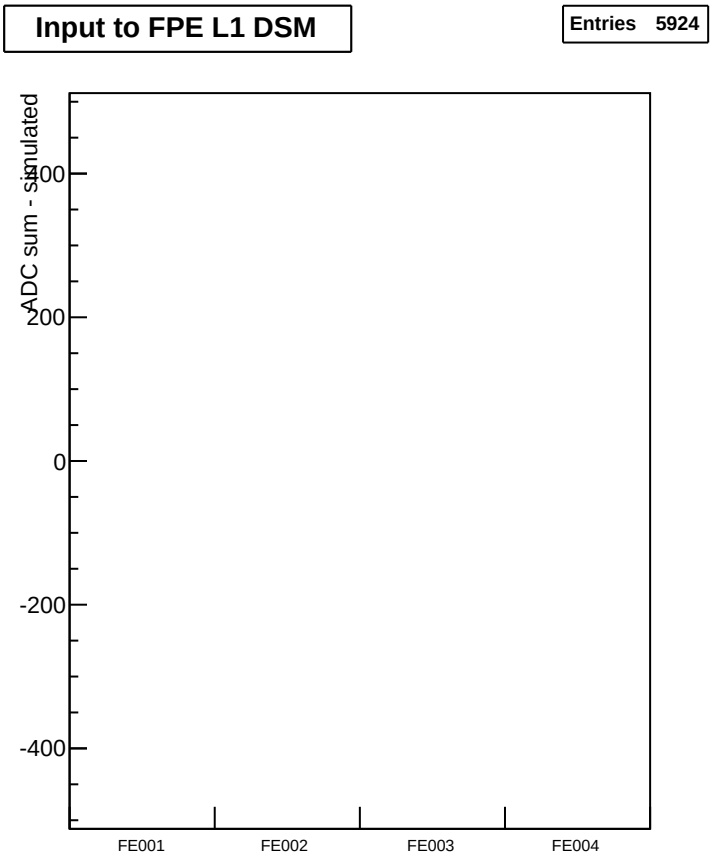

Input to FE001 QT board
Entries 47392
ADC
channel

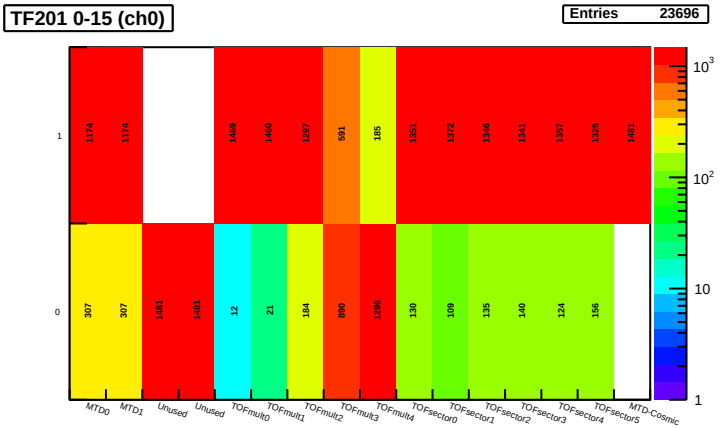

Input to FE002 QT board
Entries 47392
ADC
channel

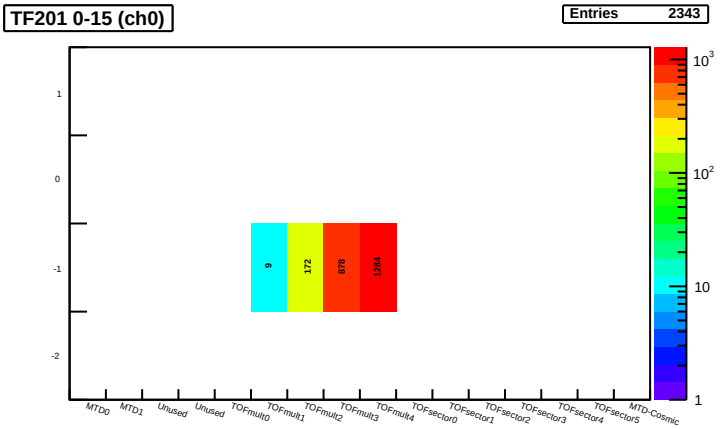

Input to FE003 QT board
Entries 47392
ADC
channel

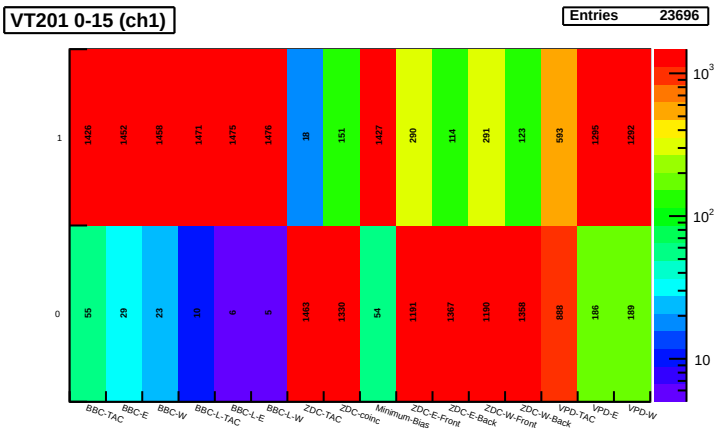

Input to FE004 QT board
Entries 47392
ADC
channel

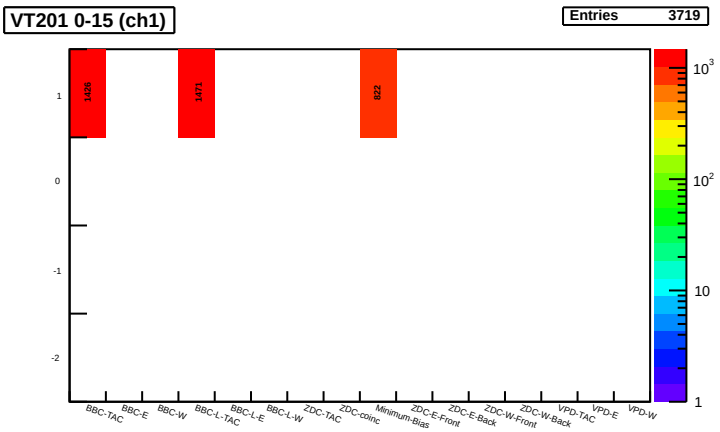

Input to FPE L1 DSM
Entries 5924
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004

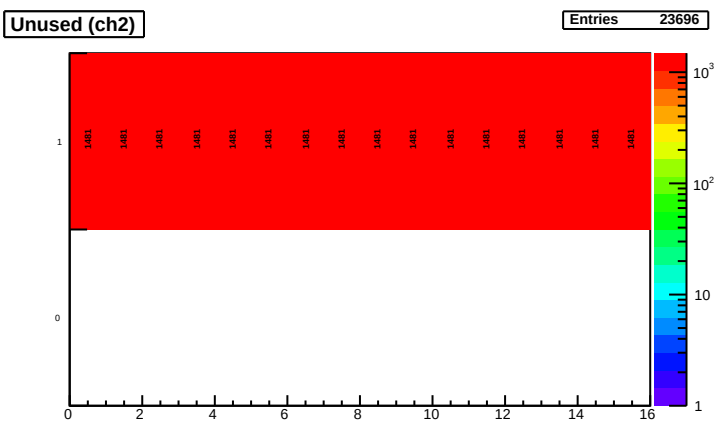

Input to FPE L1 DSM
Entries 5924
ADC sum - simulated
400
200
0
-200
-400
FE001
FE002
FE003
FE004

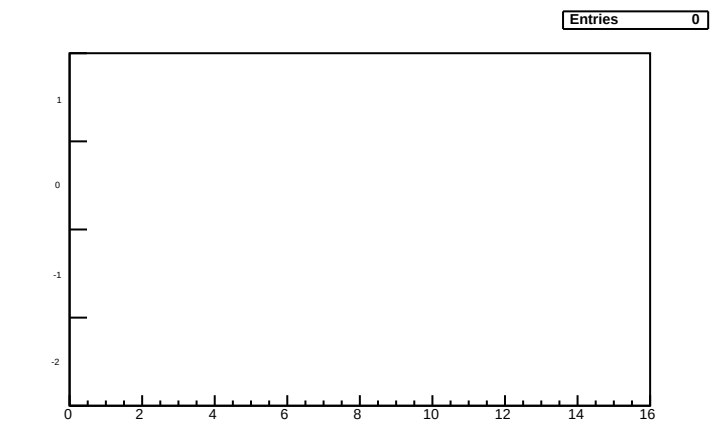

TF201 0-15 (ch0)
Entries 23696
1 1174 1174 1469 1460 1297 591 185 1351 1372 1346 1341 1357 1295 1481
0 307 307 1481 1481 12 21 184 890 1286 130 109 135 140 124 156
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic
$10^3$
$10^2$
10
1

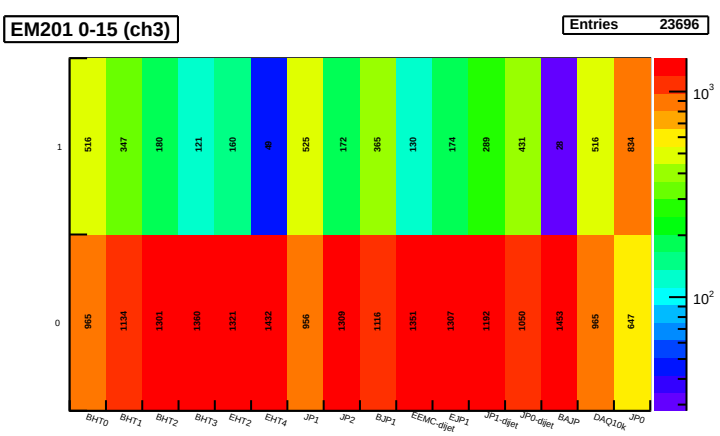

TF201 0-15 (ch0)
Entries 2343
9 172 878 1284
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic
$10^3$
$10^2$
10
1

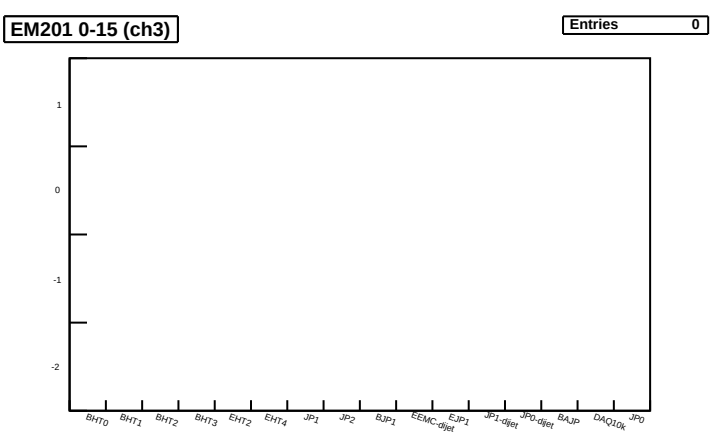

VT201 0-15 (ch1)
Entries 23696
1 1426 1452 1458 1471 1475 1476 18 151 1427 290 114 291 123 593 1295 1292
0 55 29 23 10 6 5 1463 1330 54 1191 1367 1190 1358 888 186 189
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W
$10^3$
$10^2$
10


VT201 0-15 (ch1)
Entries 3719
1 1426 1471 822
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W
$10^3$
$10^2$
10
1

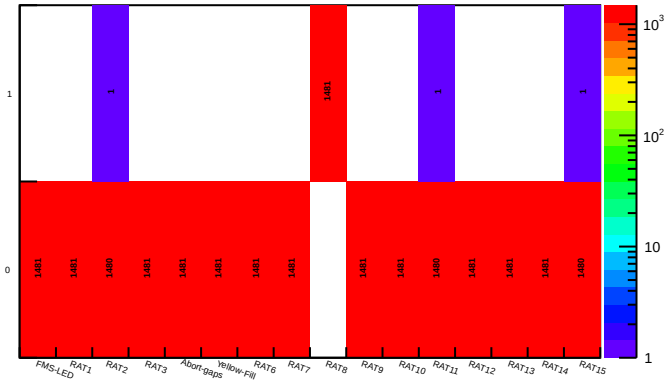

Unused (ch2)
Entries 23696
1 1481 1481 1481 1481 1481 1481 1481 1481 1481 1481 1481 1481 1481 1481 1481
0
0 2 4 6 8 10 12 14 16
$10^3$
$10^2$
10
1

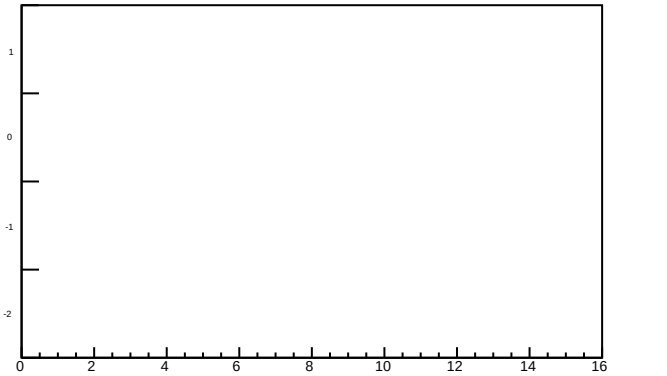

Entries 0
0 2 4 6 8 10 12 14 16


EM201 0-15 (ch3)
Entries 23696
1 516 347 180 121 160 49 525 172 365 130 174 289 431 26 516 834
0 965 1134 1301 1360 1321 1432 956 1309 1116 1351 1307 1192 1050 1453 965 647
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 EEMC-dijet EJP1 JP1-dijet JP0-dijet BAJP DAQ10k JP0
$10^3$
$10^2$

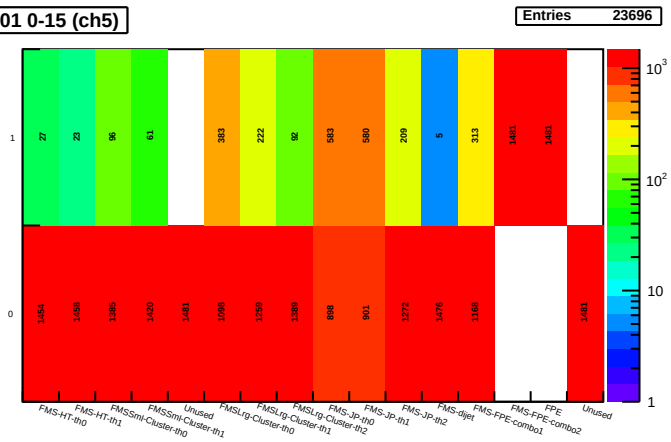

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 EEMC-dijet EJP1 JP1-dijet JP0-dijet BAJP DAQ10k JP0

## RAT board (ch4)

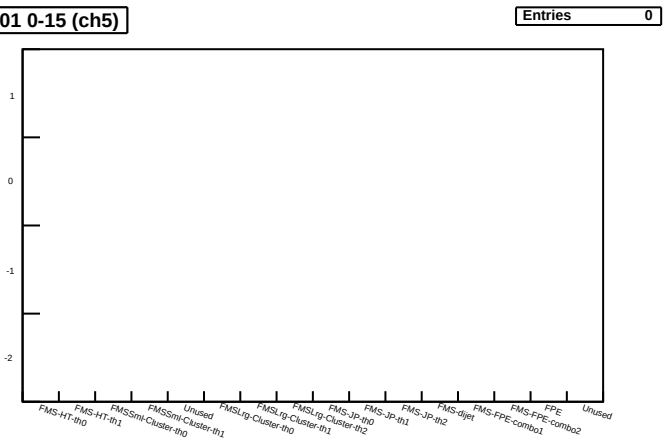


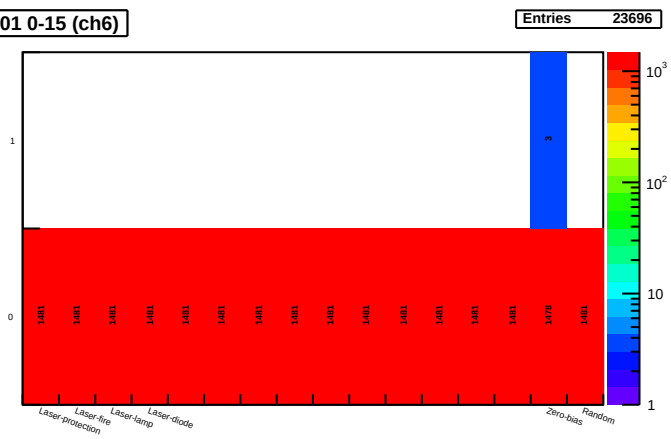

## FP201 0-15 (ch5)

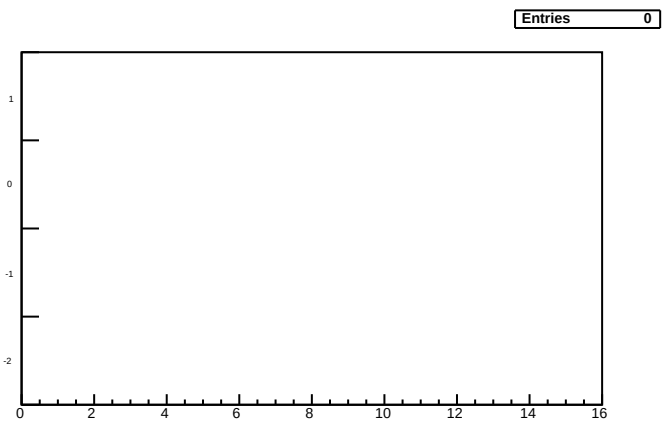


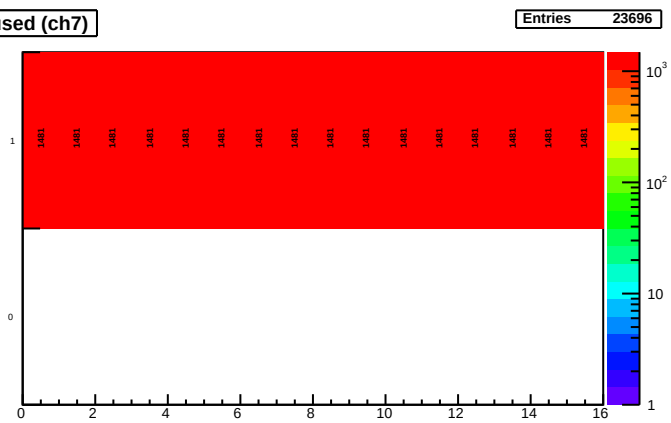
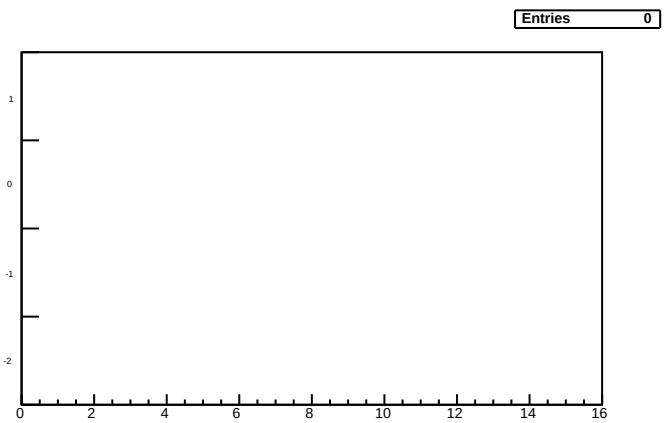

## FP201 0-15 (ch5)




## ST201 0-15 (ch6)




## Unused (ch7)