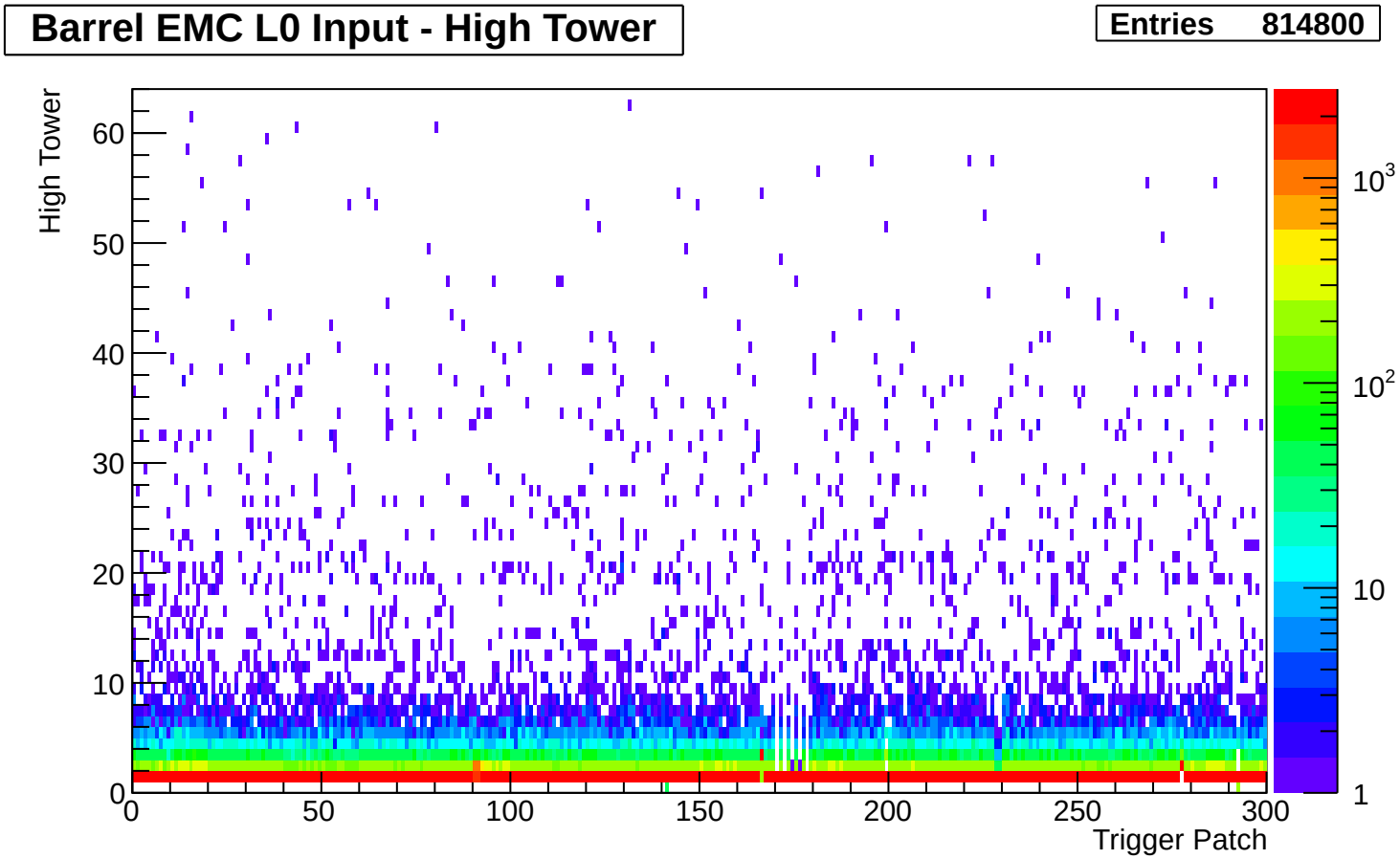
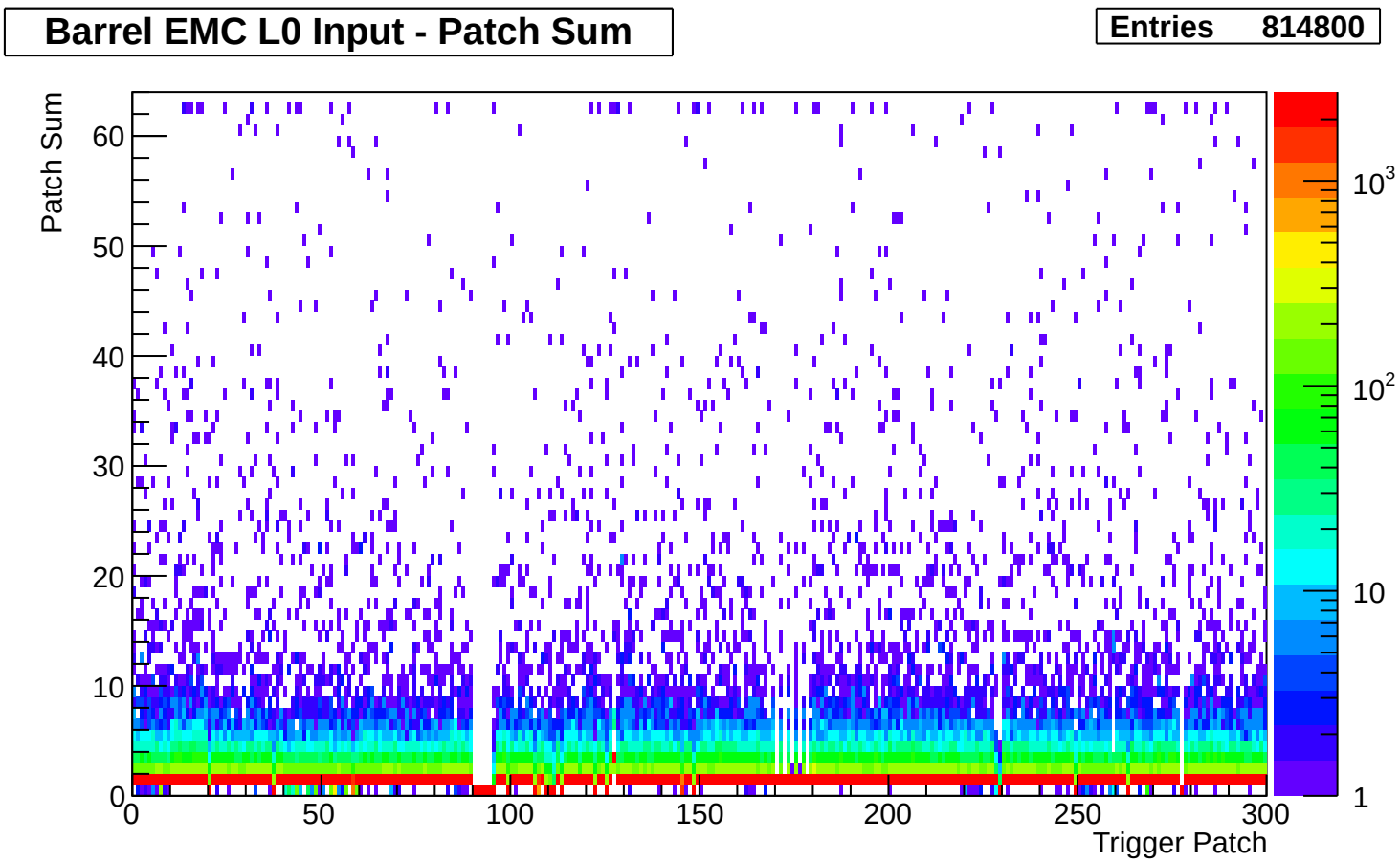
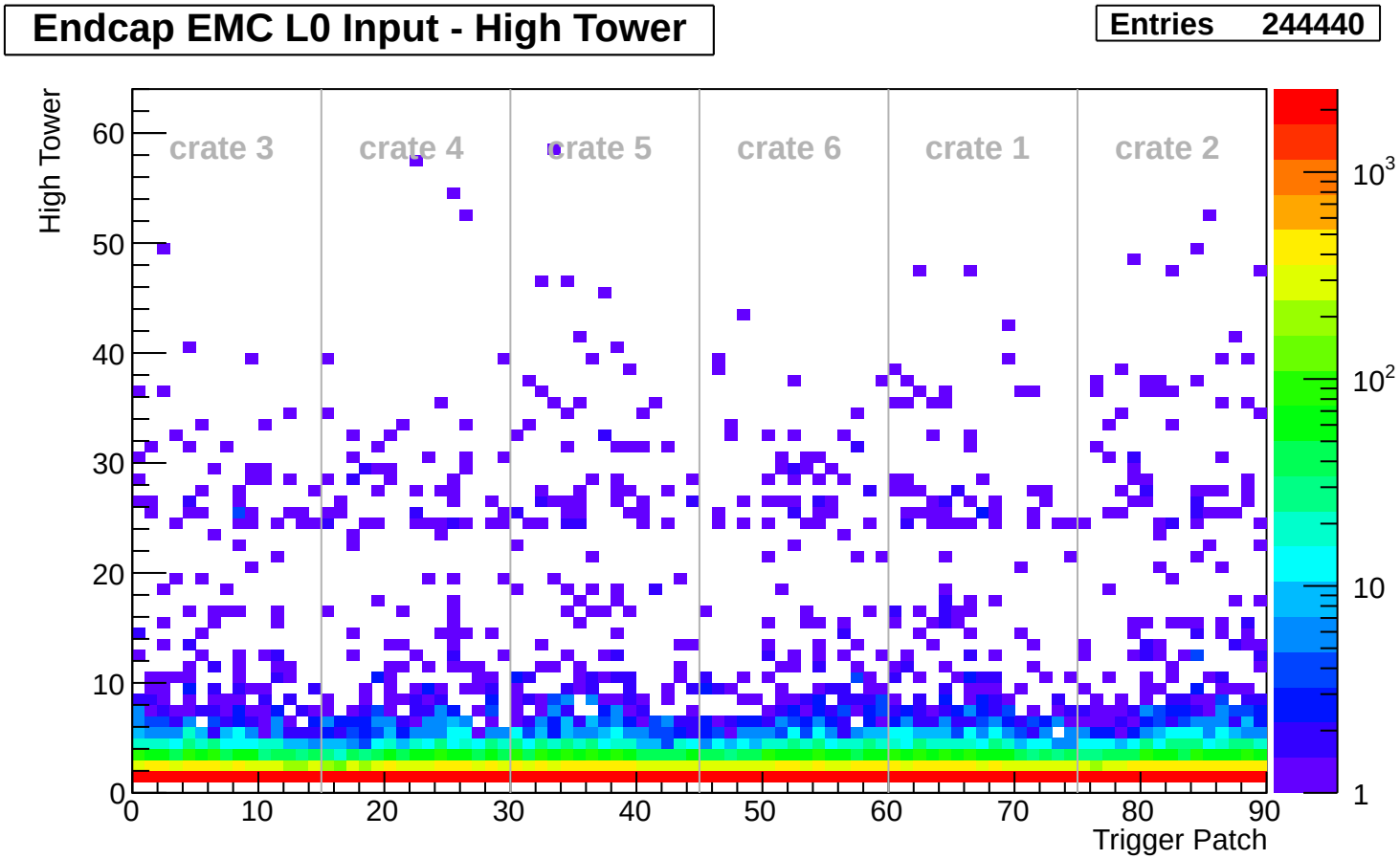
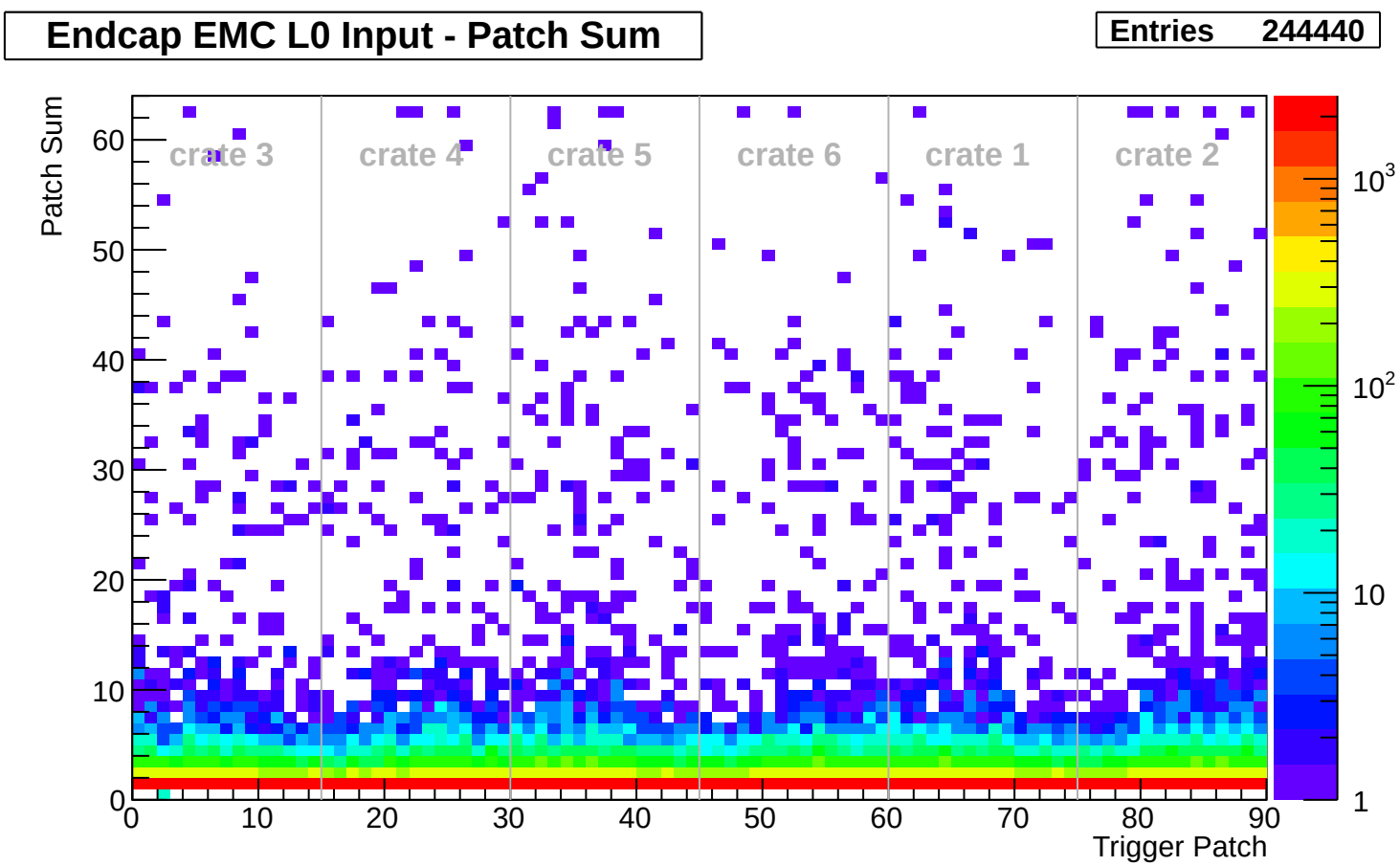
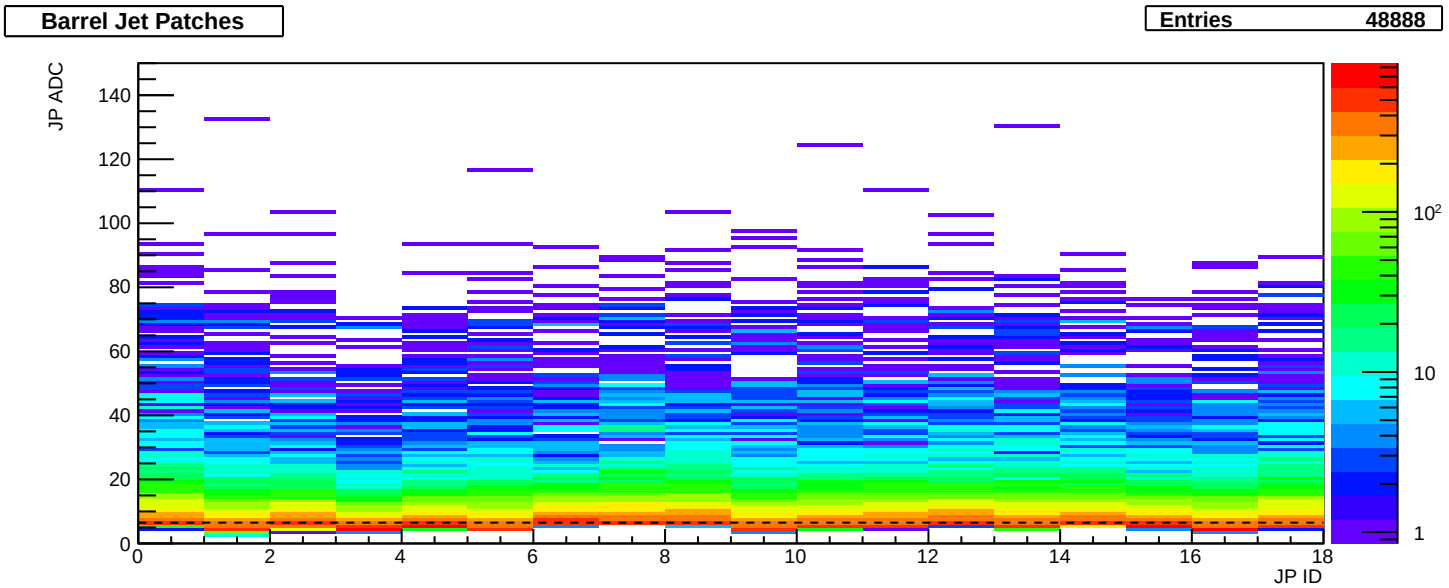
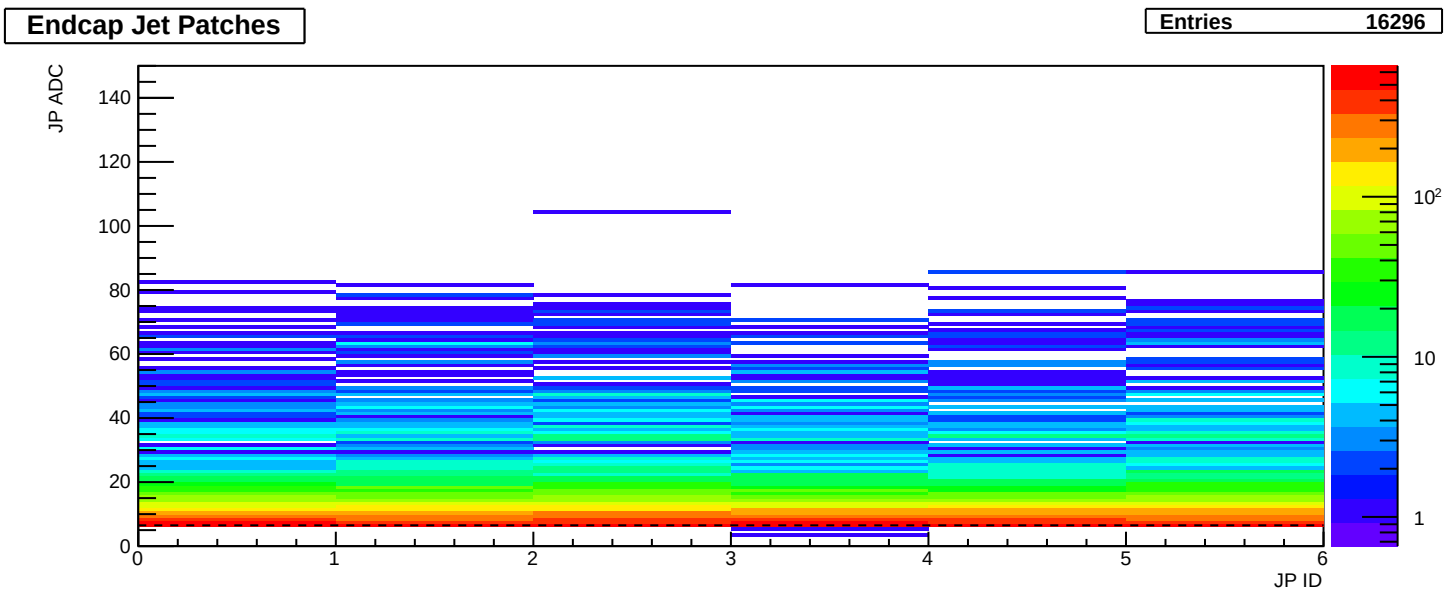

Barrel EMC L0 Input - High Tower
Entries 814800
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

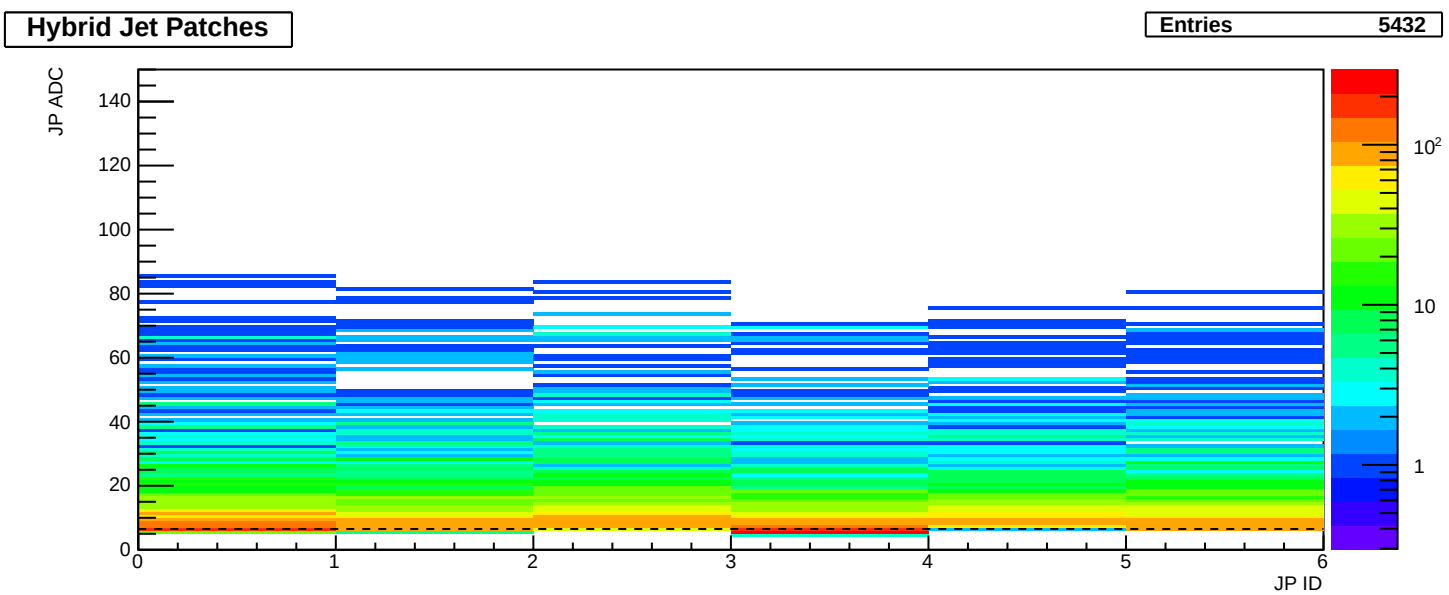

Barrel EMC L0 Input - Patch Sum
Entries 814800
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

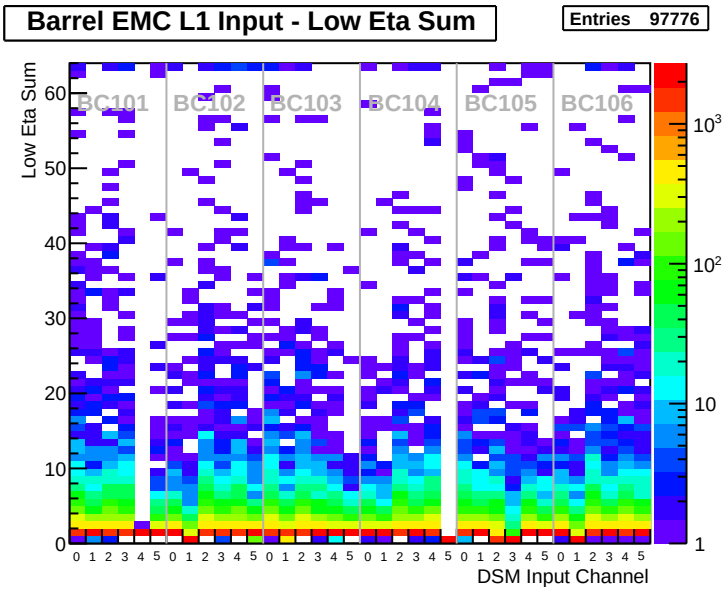

Endcap EMC L0 Input - High Tower
Entries 244440
High Tower
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

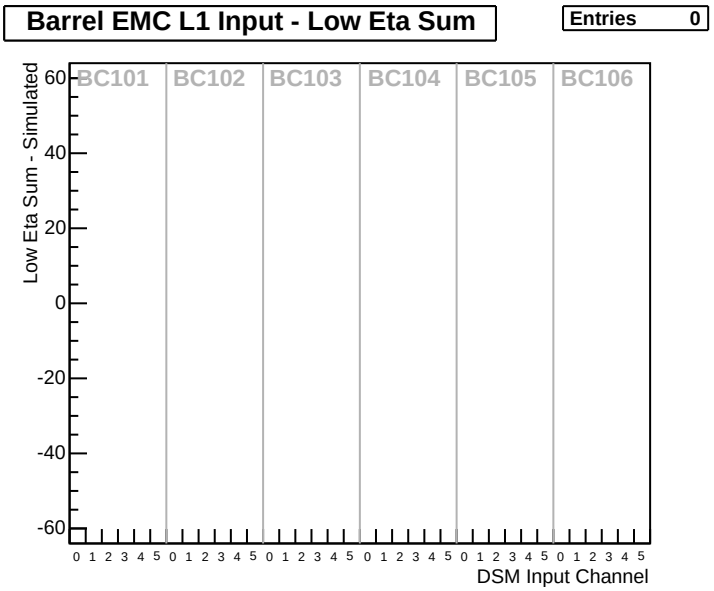

Endcap EMC L0 Input - Patch Sum
Entries 244440
Patch Sum
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

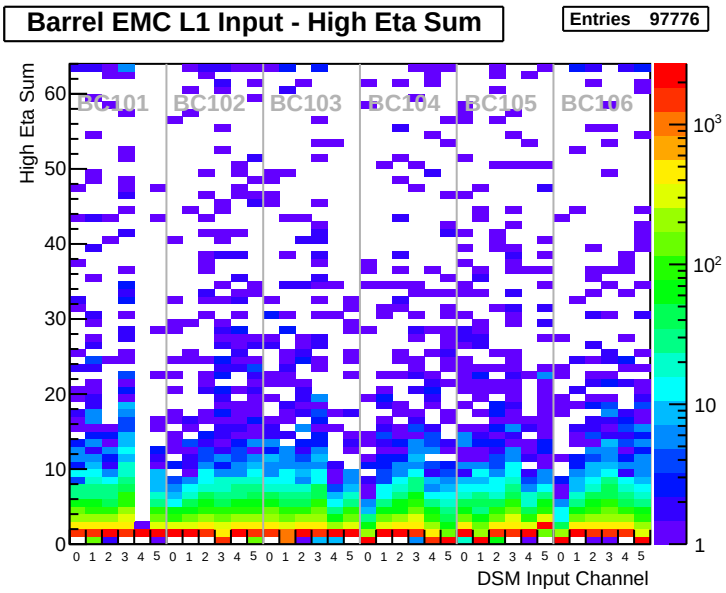

Barrel Jet Patches
Entries 48888
JP ADC
JP ID

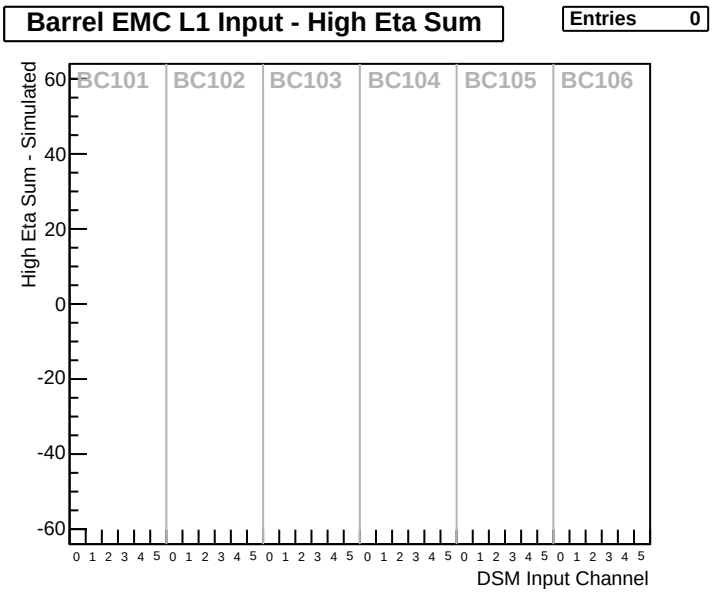

Endcap Jet Patches
Entries 16296
JP ADC
JP ID

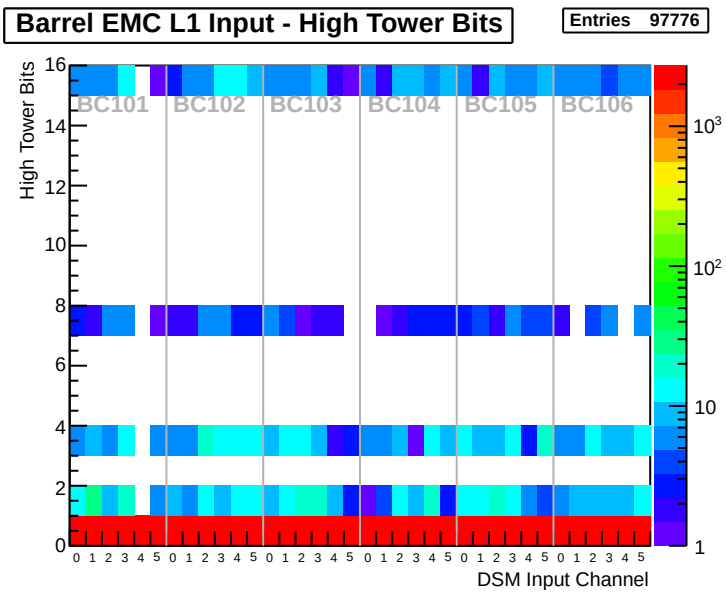

Hybrid Jet Patches
Entries 5432
JP ADC
JP ID

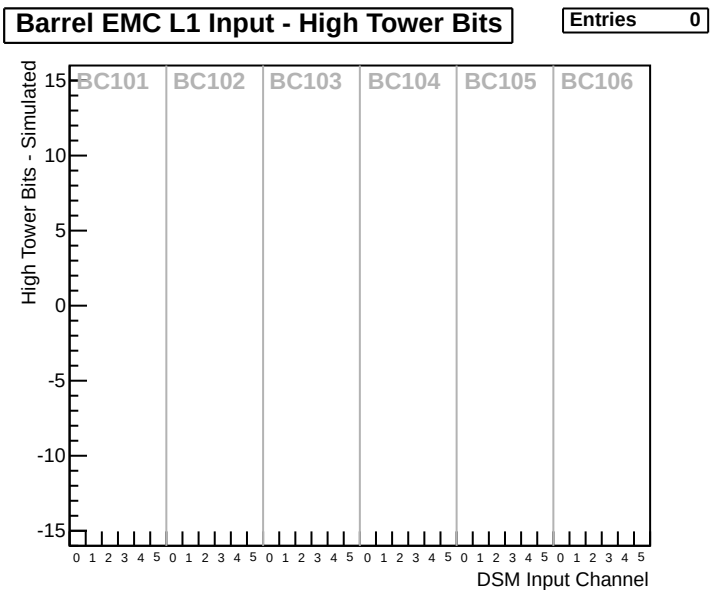

Barrel EMC L1 Input - Low Eta Sum
Entries 97776
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

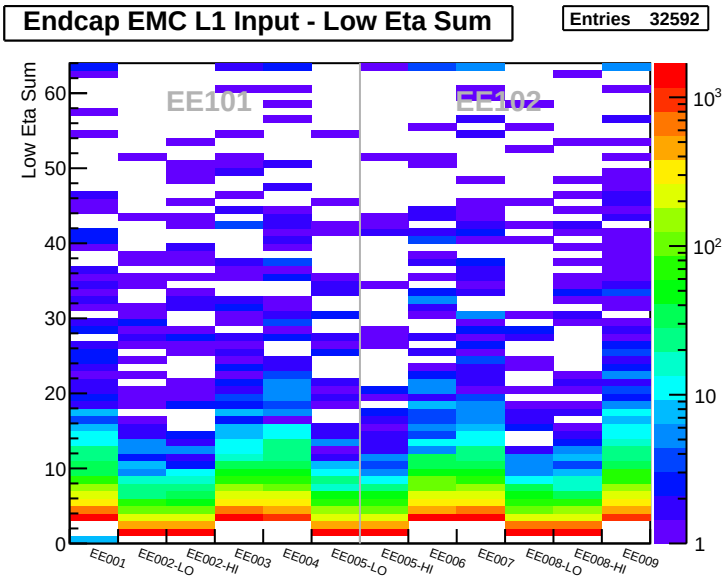

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

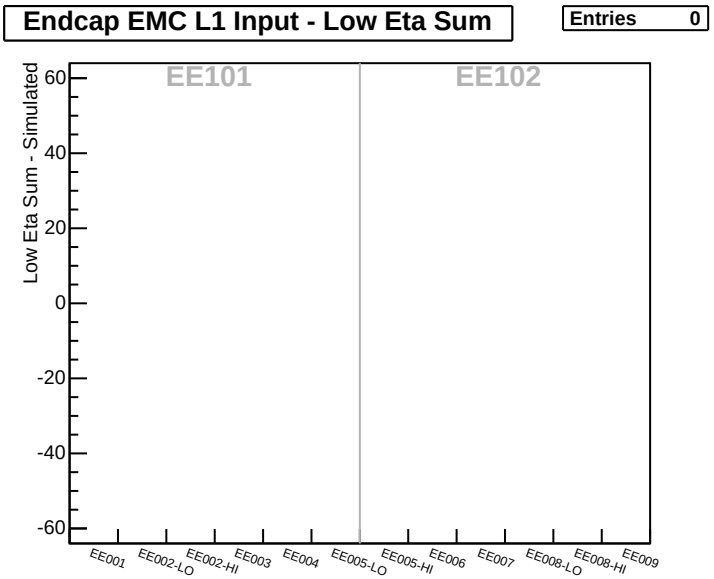

Barrel EMC L1 Input - High Eta Sum
Entries 97776
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

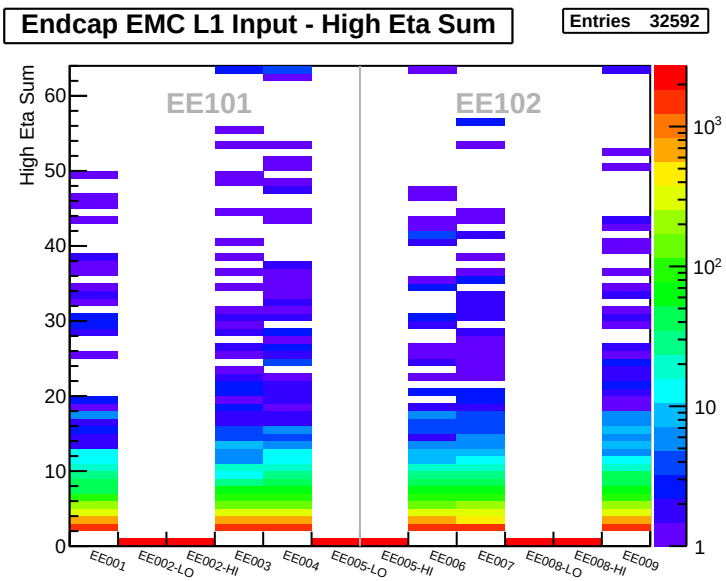

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

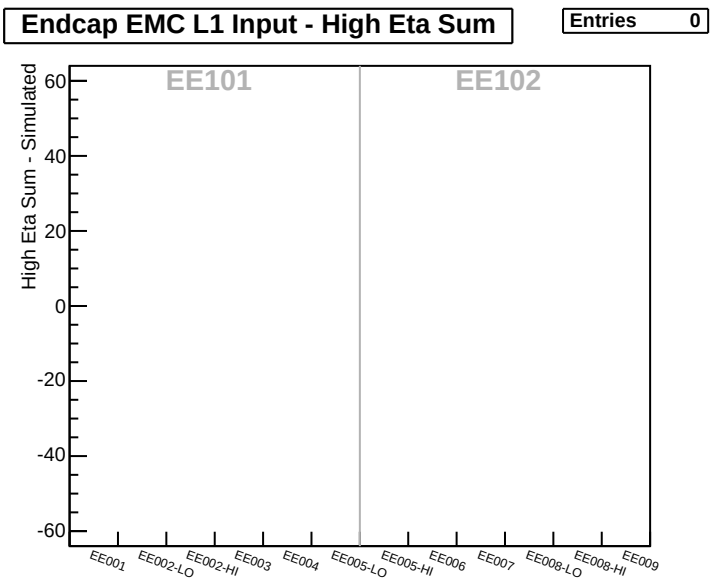

Barrel EMC L1 Input - High Tower Bits
Entries 97776
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

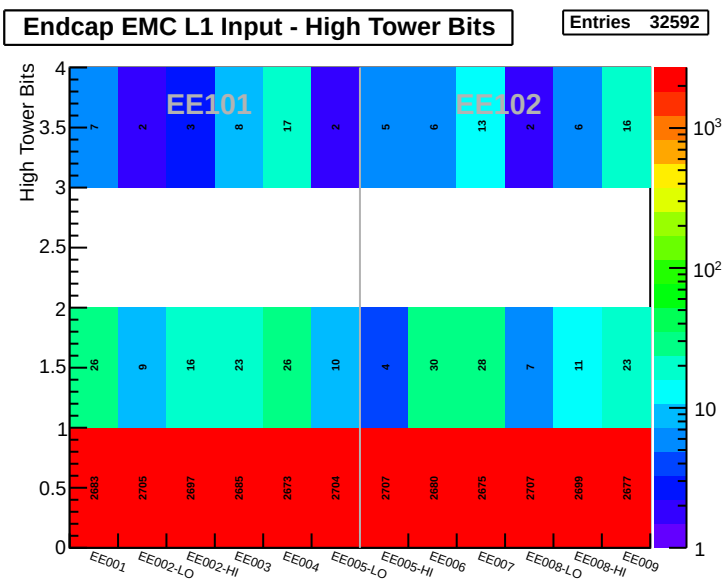

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

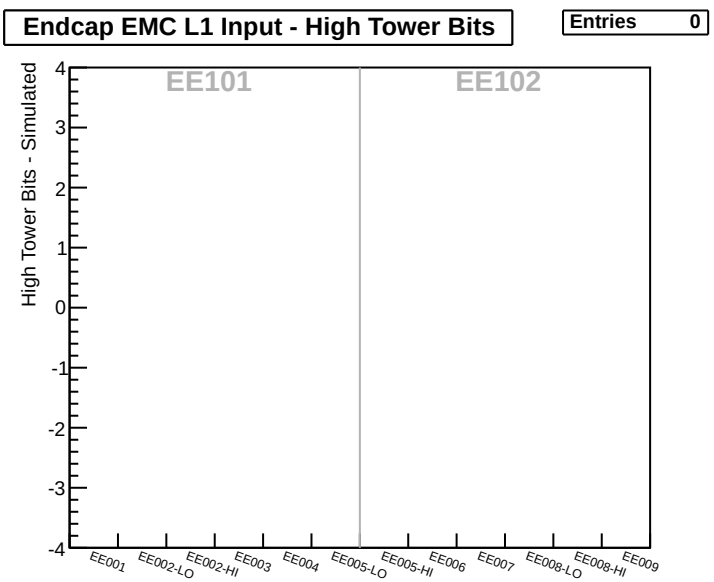

Endcap EMC L1 Input - Low Eta Sum
Entries 32592
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

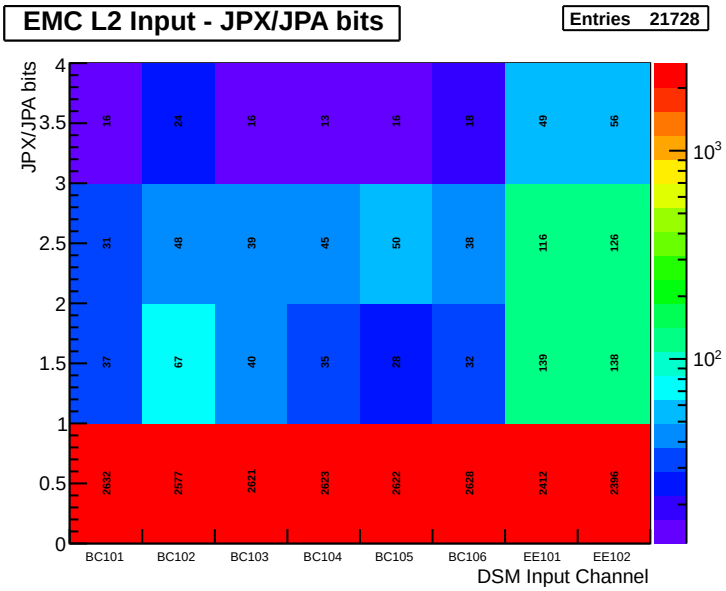

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

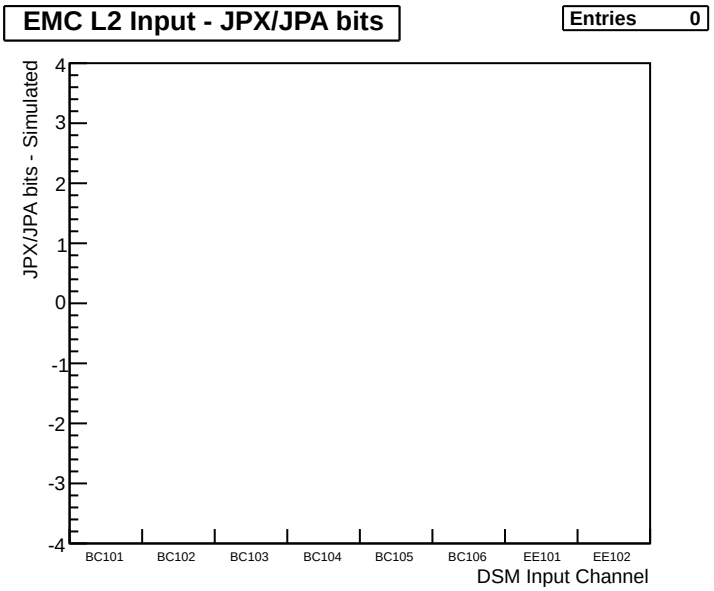

Endcap EMC L1 Input - High Eta Sum
Entries 32592
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

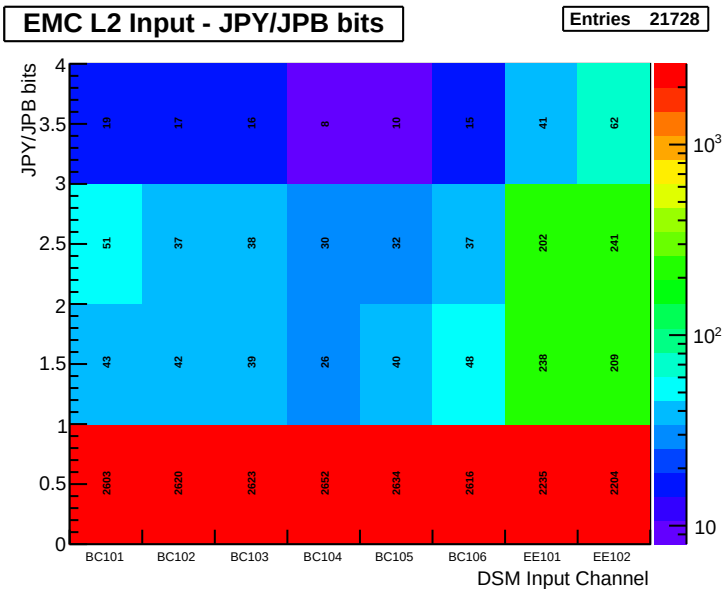

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

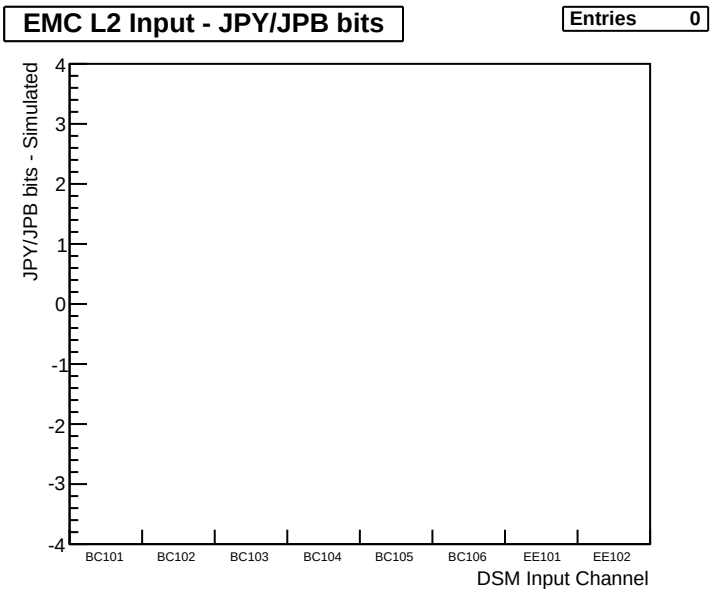

Endcap EMC L1 Input - High Tower Bits
Entries 32592
High Tower Bits
EE101
EE102
7 2 3 8 17 2 5 6 13 2 6 16
26 9 16 23 26 10 4 30 28 7 11 23
2683 2705 2697 2685 2673 2704 2707 2680 2675 2707 2699 2677
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

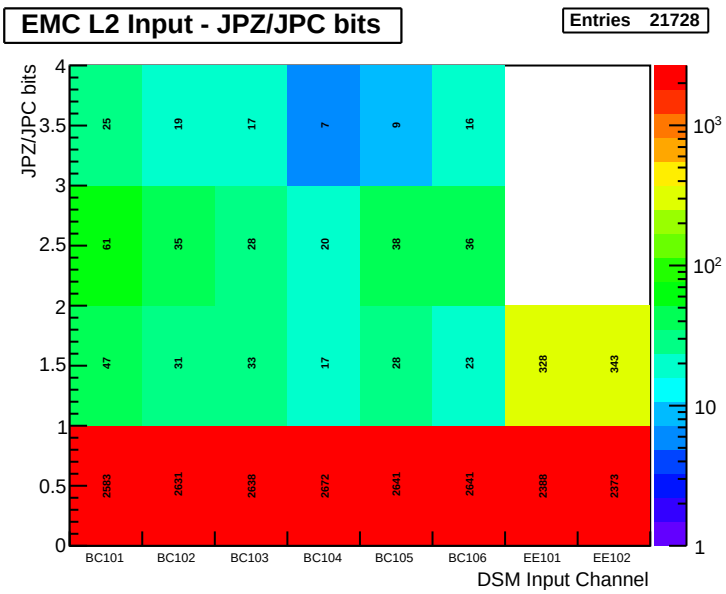

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

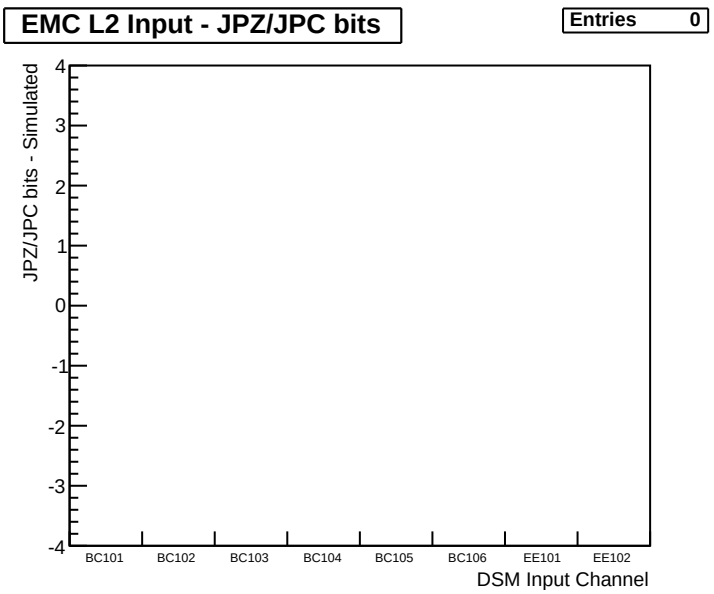

EMC L2 Input - JPX/JPA bits
Entries 21728
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
16 24 16 13 16 18 49 56
31 48 39 45 50 38 116 126
37 67 40 35 28 32 139 138
2632 2577 2621 2623 2622 2628 2412 2396

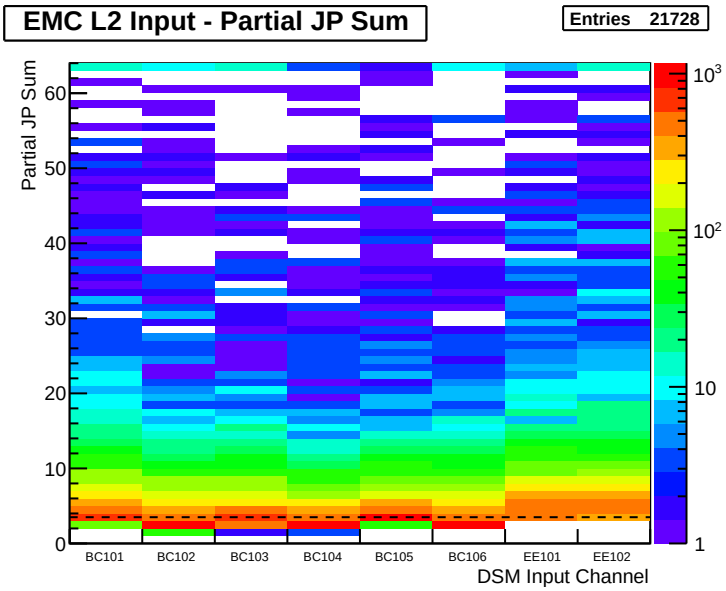

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

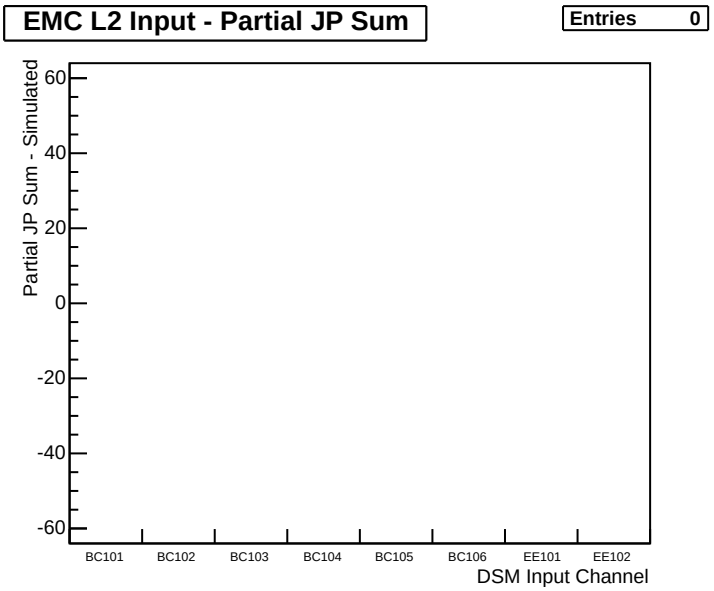

EMC L2 Input - JPY/JPB bits
Entries 21728
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
19 17 16 8 10 15 41 62
51 37 38 30 32 37 202 241
43 42 39 26 40 48 238 209
2603 2620 2623 2652 2634 2616 2235 2204

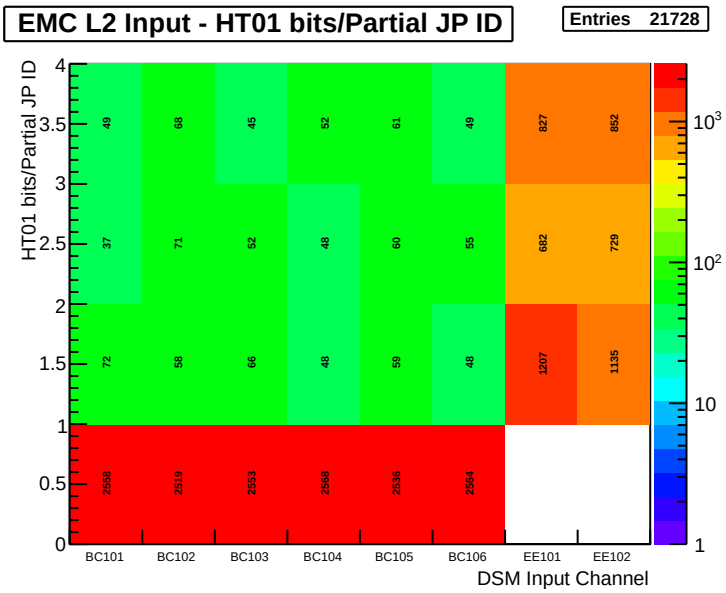

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

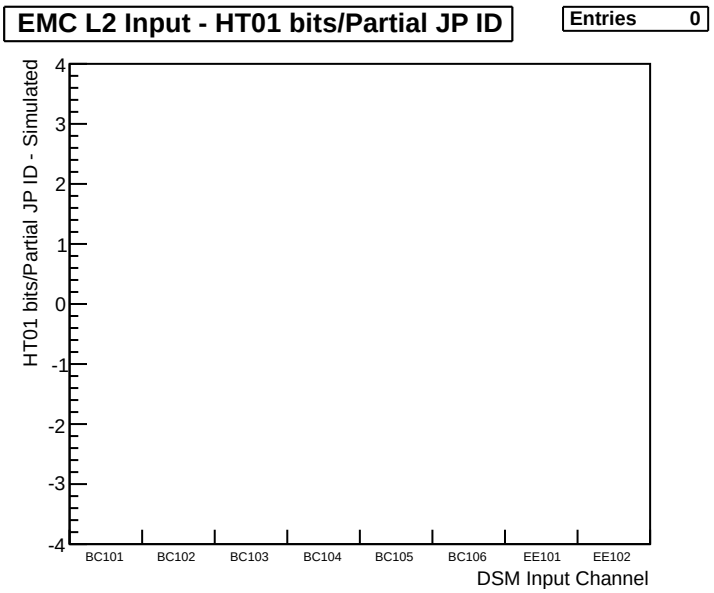

EMC L2 Input - JPZ/JPC bits
Entries 21728
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
25 19 17 7 9 16
61 35 28 20 38 36
47 31 33 17 28 23 328 343
2583 2631 2638 2672 2641 2641 2388 2373

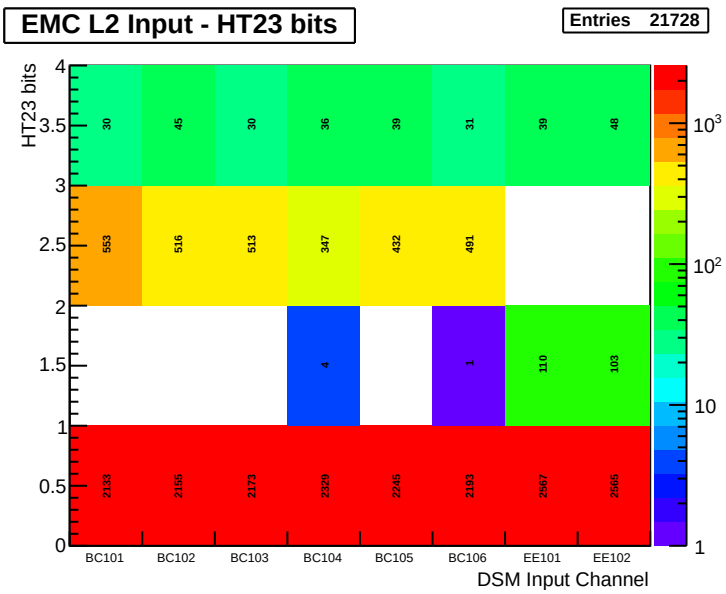

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

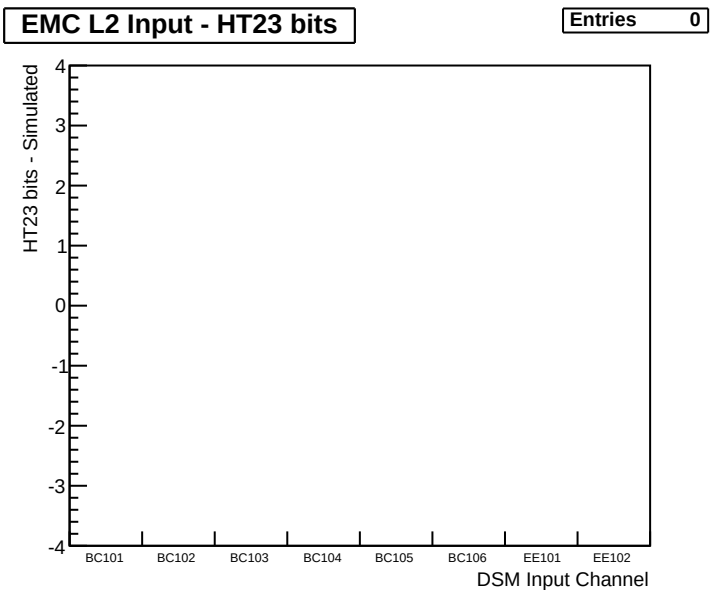

EMC L2 Input - Partial JP Sum
Entries 21728
Partial JP Sum
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

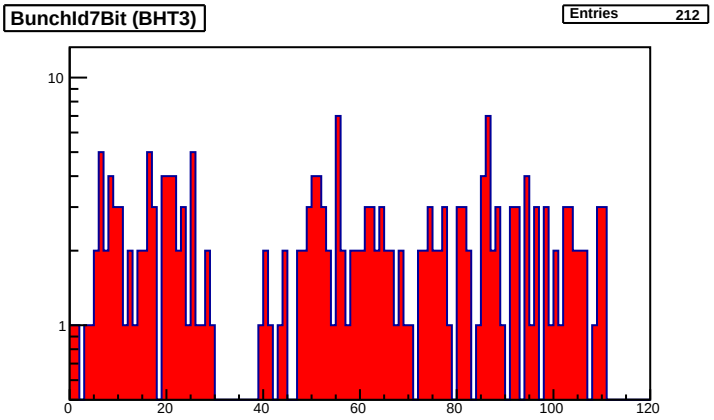

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

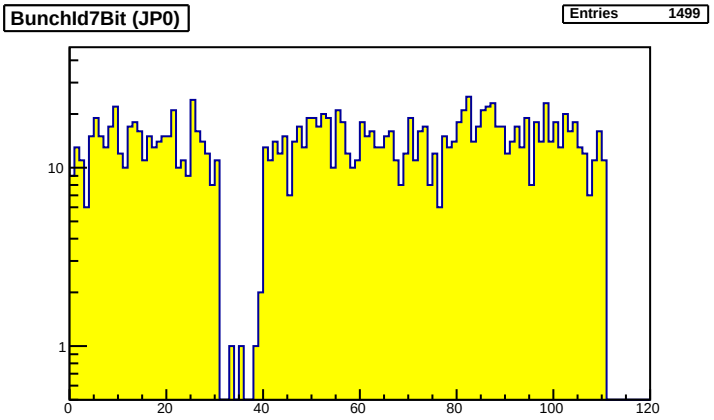

EMC L2 Input - HT01 bits/Partial JP ID
Entries 21728
HT01 bits/Partial JP ID
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

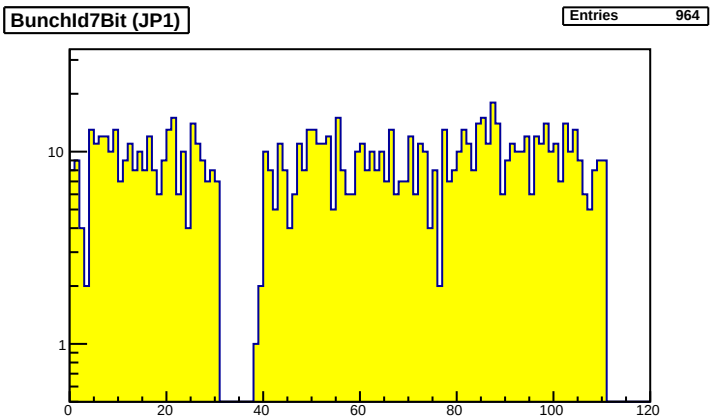

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

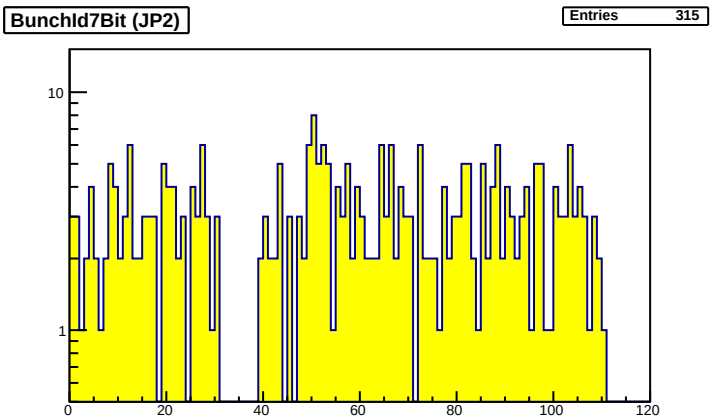

EMC L2 Input - HT23 bits
Entries 21728
HT23 bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

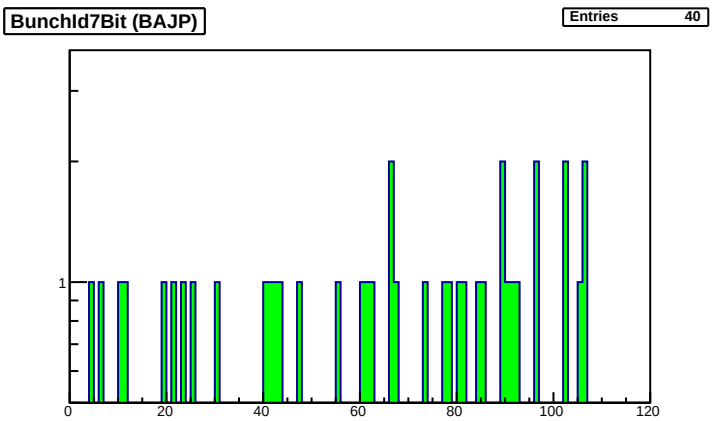

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

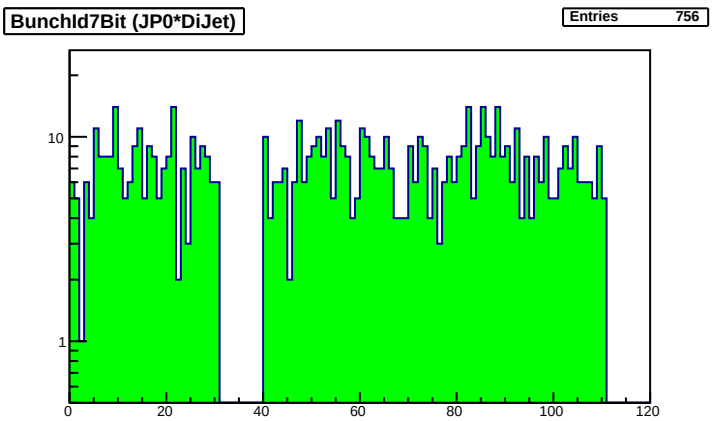

BunchId7Bit (BHT3)
Entries 212

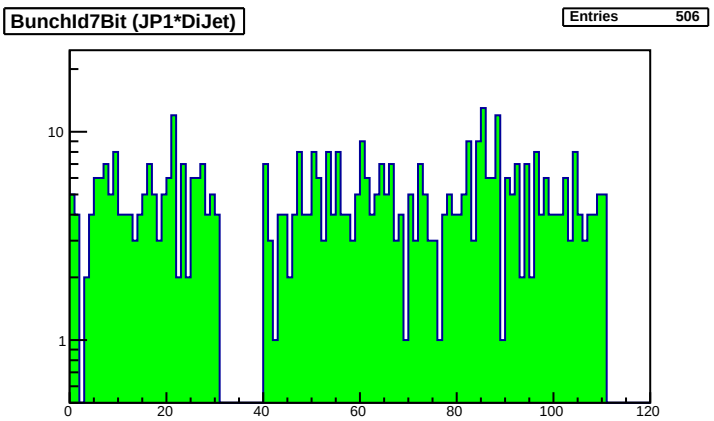

BunchId7Bit (JP0)
Entries 1499

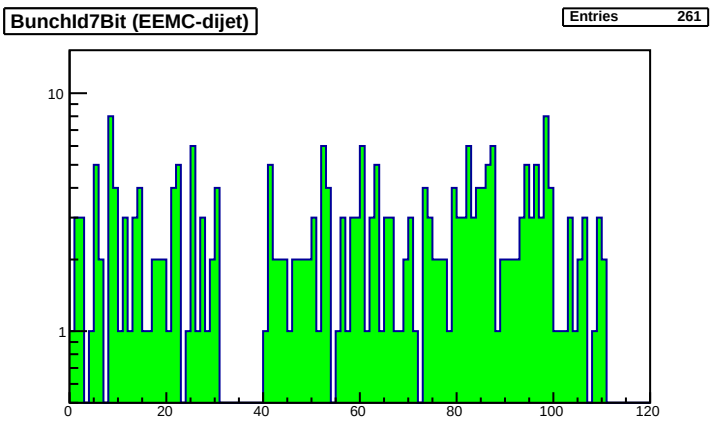

BunchId7Bit (JP1)
Entries 964

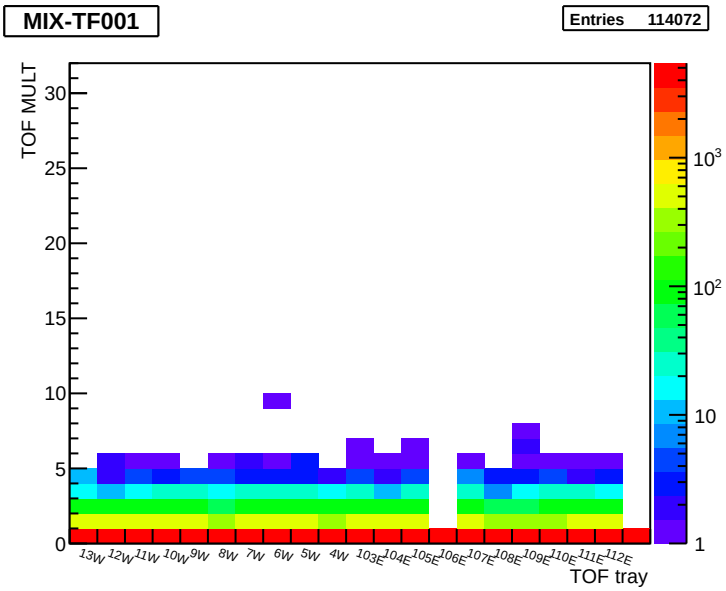

BunchId7Bit (JP2)
Entries 315

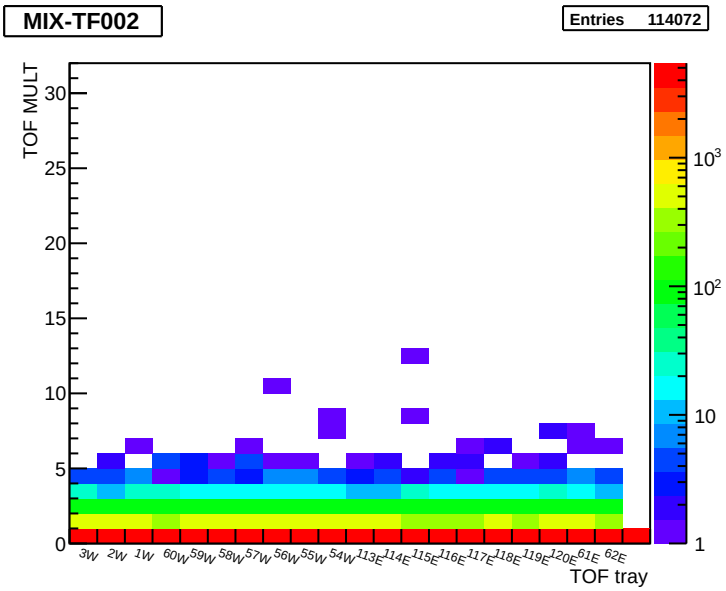

BunchId7Bit (BAJP)
Entries 40

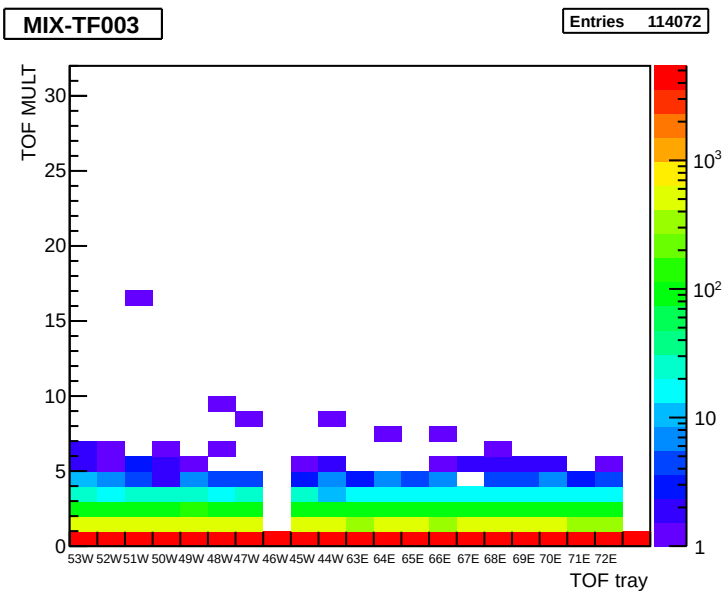

BunchId7Bit (JP0*DiJet)
Entries 756

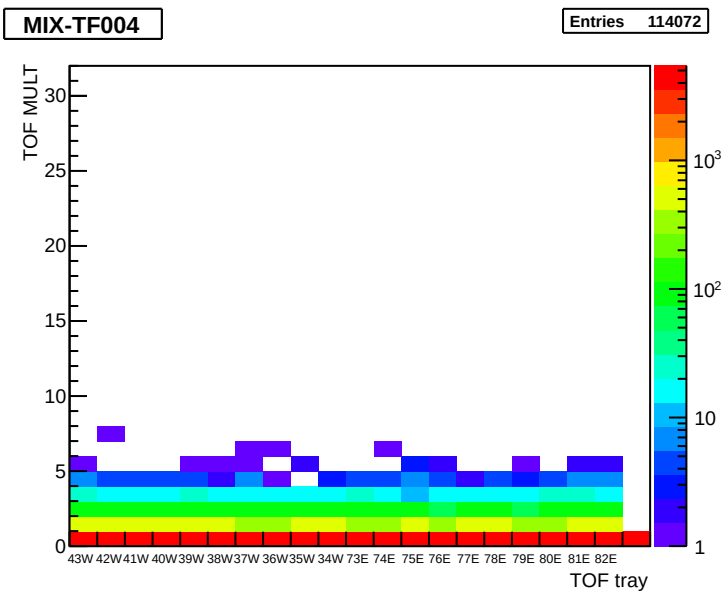

BunchId7Bit (JP1*DiJet)
Entries 506

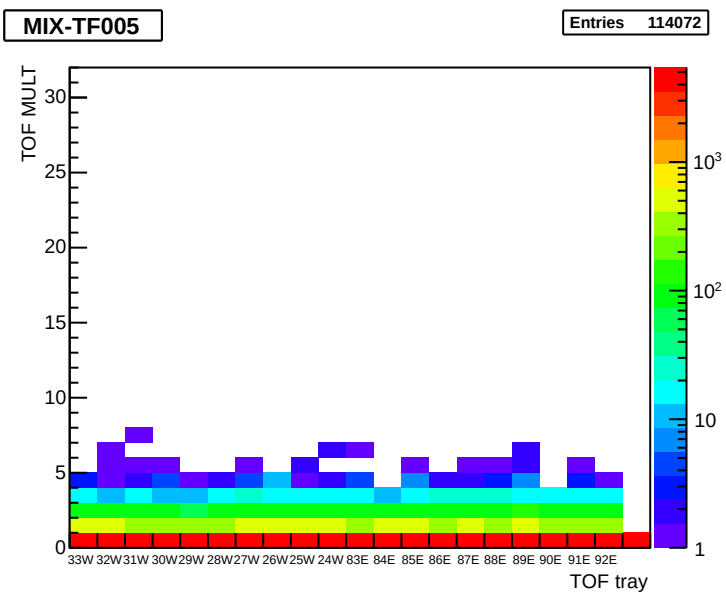

BunchId7Bit (EEMC-dijet)
Entries 261

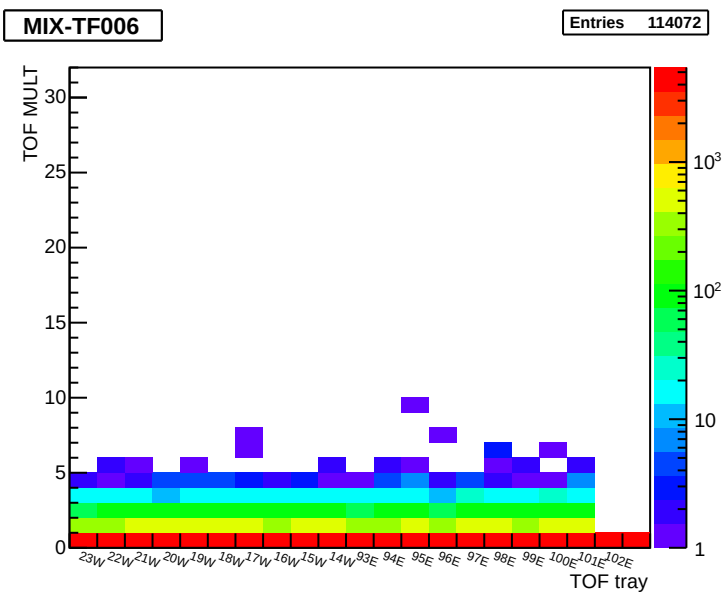

MIX-TF001
Entries 114072
TOF MULT
TOF tray

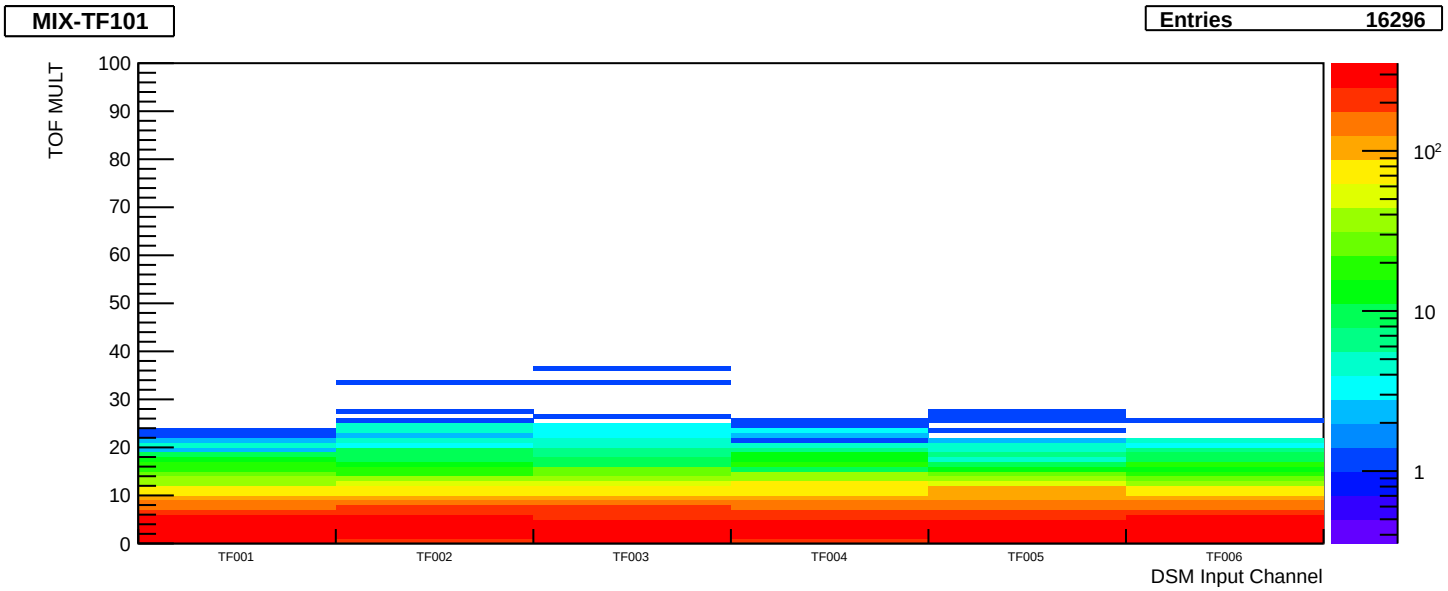

MIX-TF002
Entries 114072
TOF MULT
TOF tray

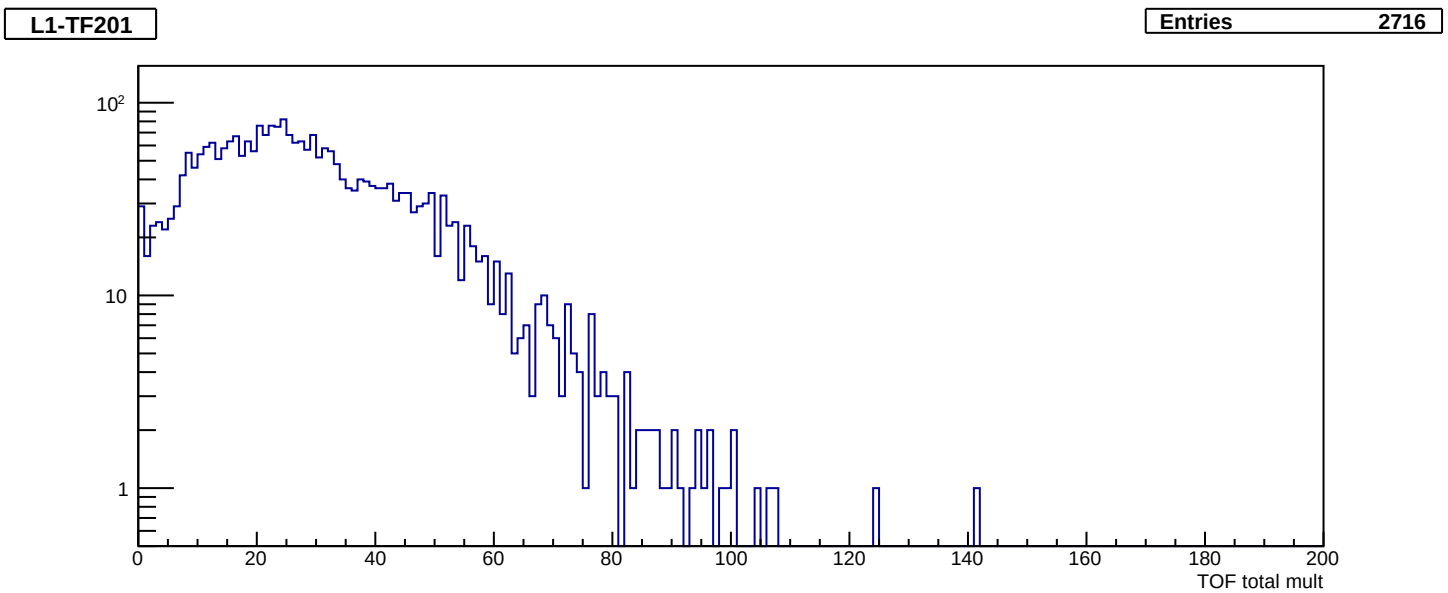

MIX-TF003
Entries 114072
TOF MULT
TOF tray

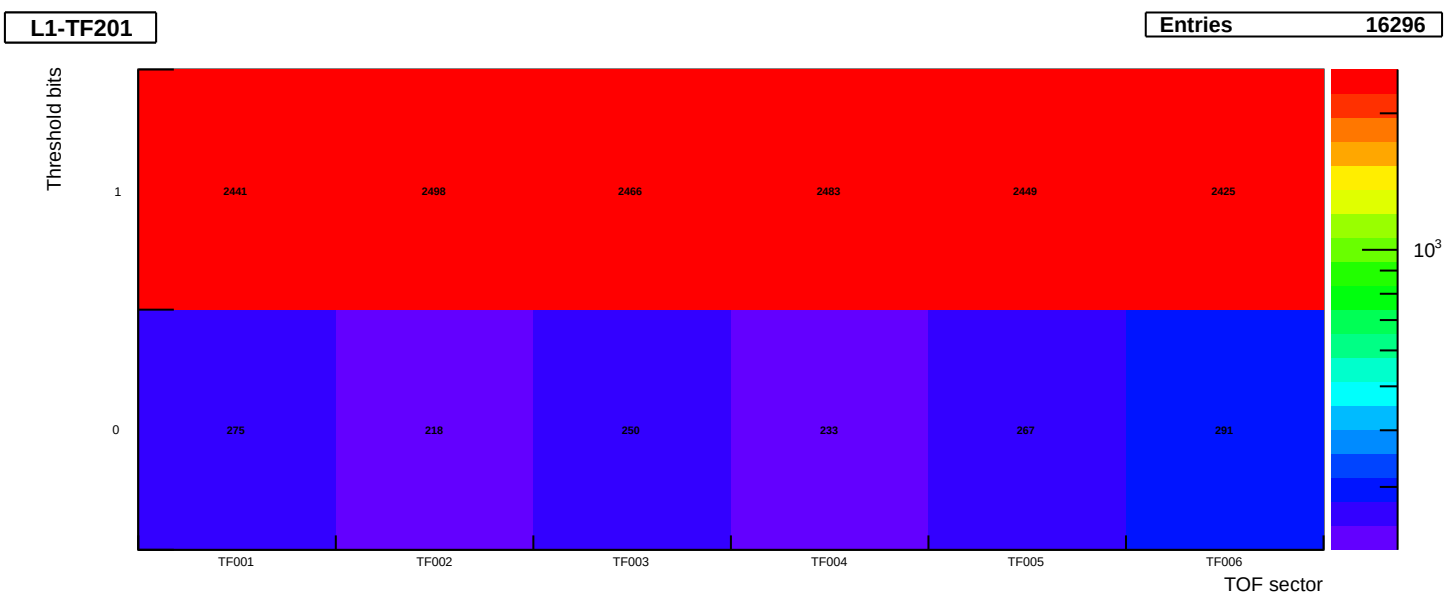

MIX-TF004
Entries 114072
TOF MULT
TOF tray

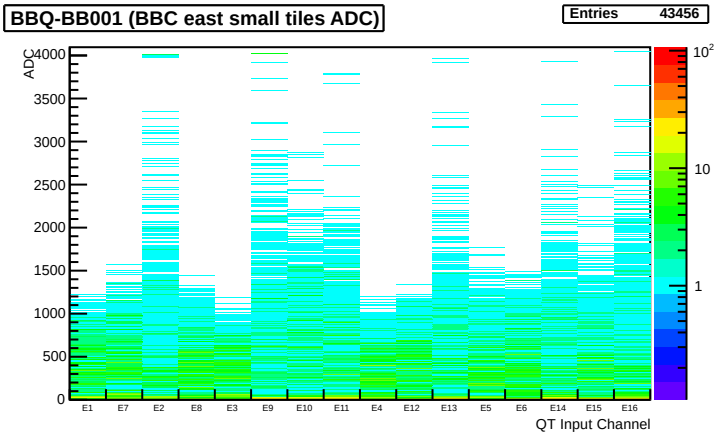

MIX-TF005
Entries 114072
TOF MULT
TOF tray

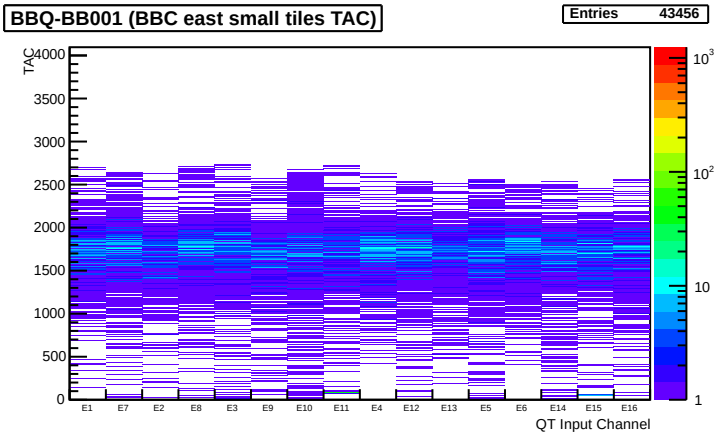

MIX-TF006
Entries 114072
TOF MULT
TOF tray

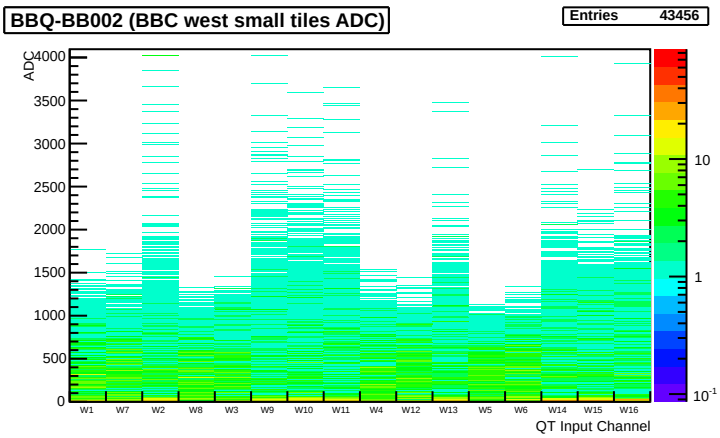

MIX-TF101
Entries 16296
TOF MULT
100
90
80
70
60
50
40
30
20
10
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^2
10
1

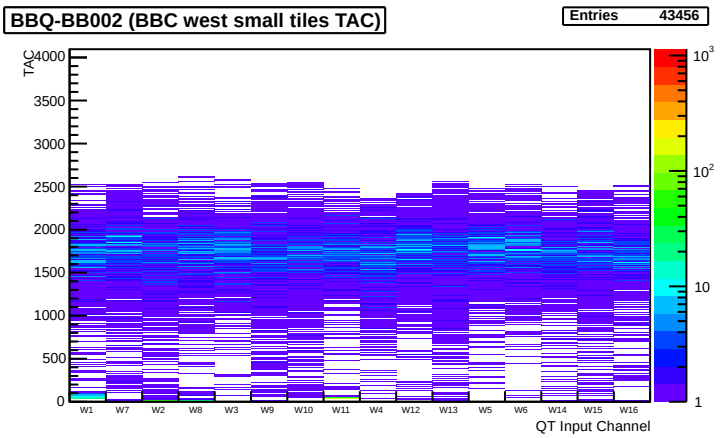

L1-TF201
Entries 2716
10^2
10
1
0
20
40
60
80
100
120
140
160
180
200
TOF total mult

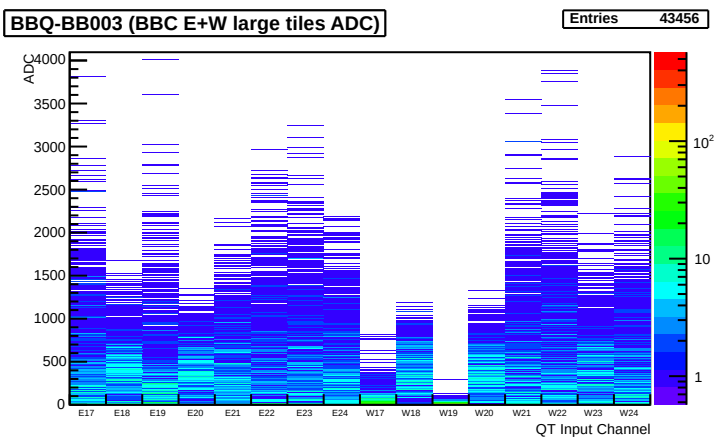

L1-TF201
Entries 16296
Threshold bits
1
0
2441
2498
2466
2483
2449
2425
275
218
250
233
267
291
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^3

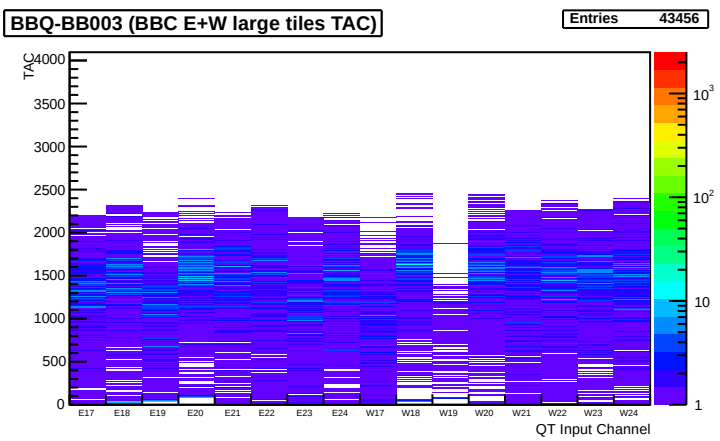

BBQ-BB001 (BBC east small tiles ADC)
Entries 43456
ADC
QT Input Channel

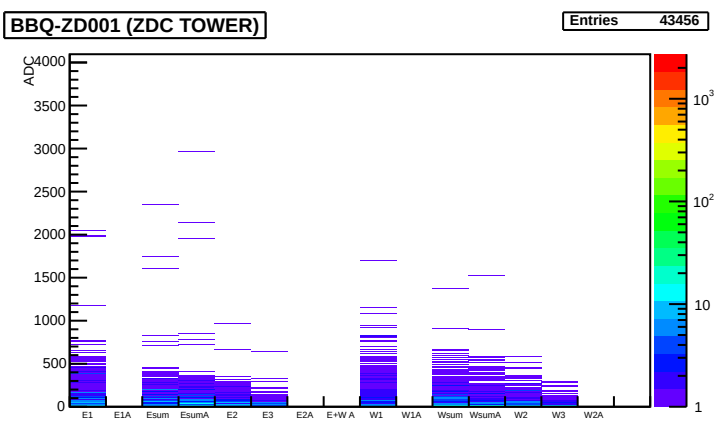

BBQ-BB001 (BBC east small tiles TAC)
Entries 43456
TAC
QT Input Channel

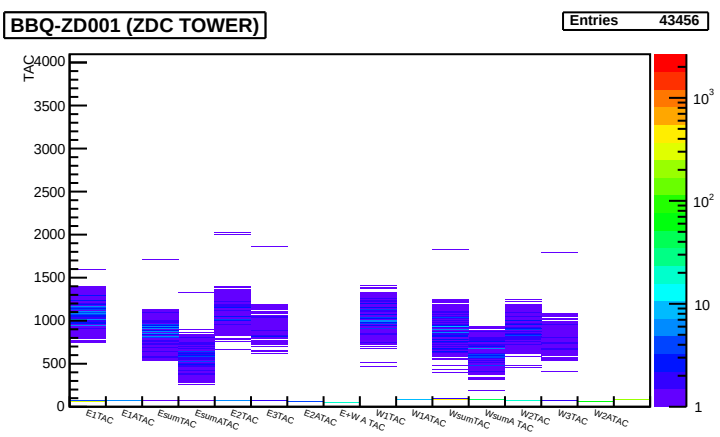

BBQ-BB002 (BBC west small tiles ADC)
Entries 43456
ADC
QT Input Channel

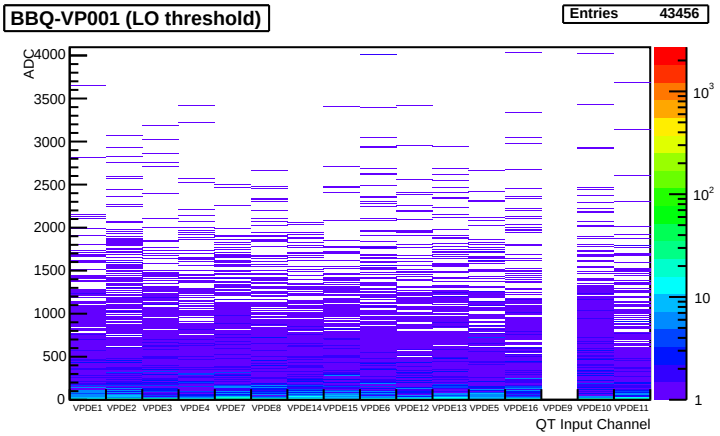

BBQ-BB002 (BBC west small tiles TAC)
Entries 43456
TAC
QT Input Channel

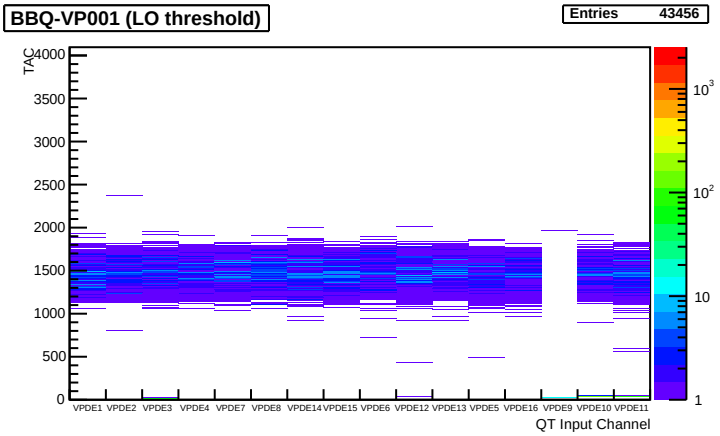

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 43456
ADC
QT Input Channel

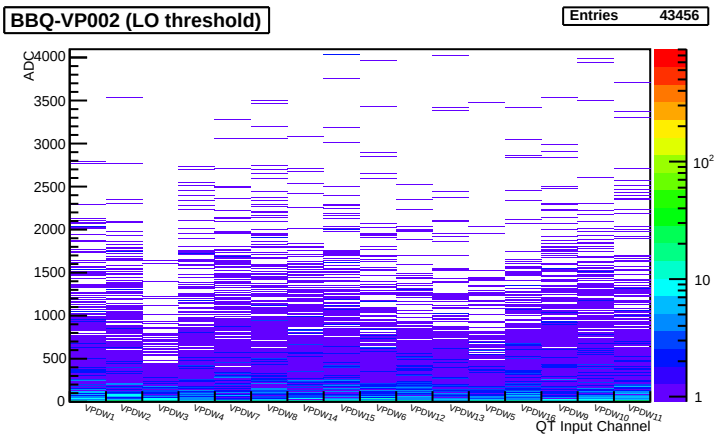

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 43456
TAC
QT Input Channel

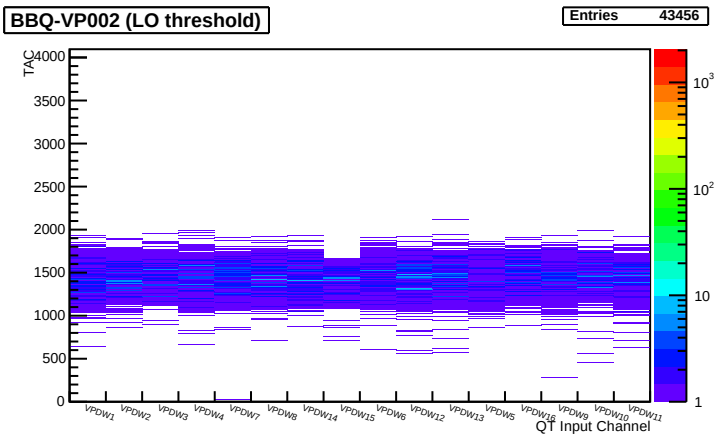

BBQ-ZD001 (ZDC TOWER)
Entries 43456
ADC

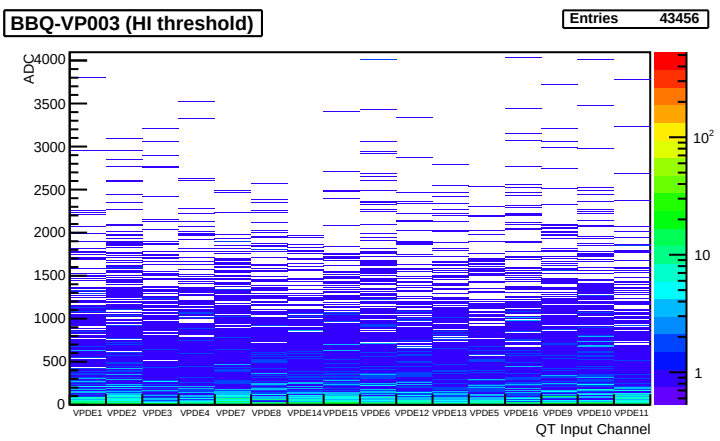

BBQ-ZD001 (ZDC TOWER)
Entries 43456
TAC

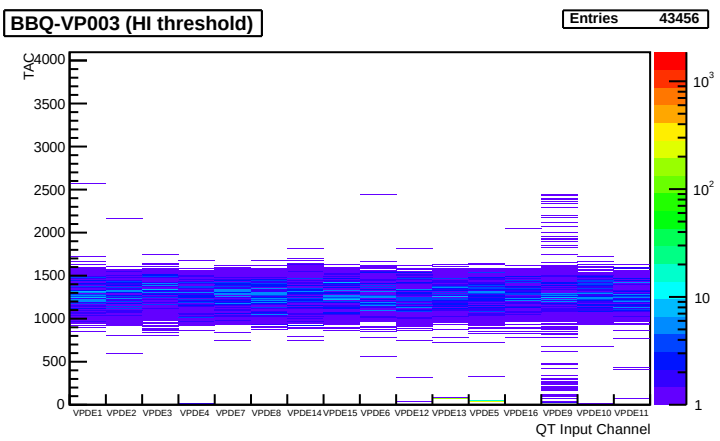

BBQ-VP001 (LO threshold)
Entries 43456
ADC
QT Input Channel

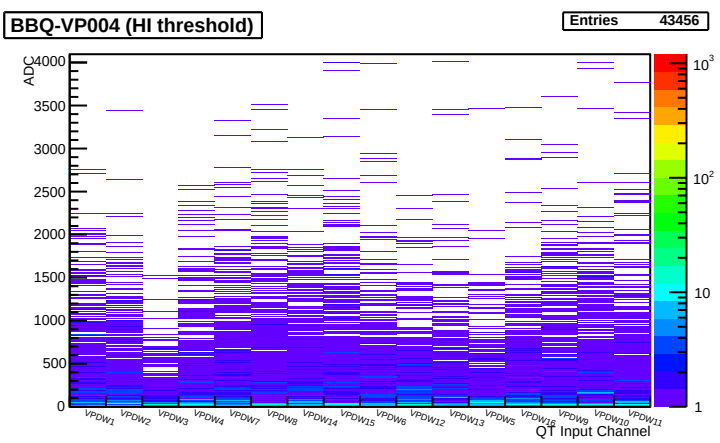

BBQ-VP001 (LO threshold)
Entries 43456
TAC
QT Input Channel

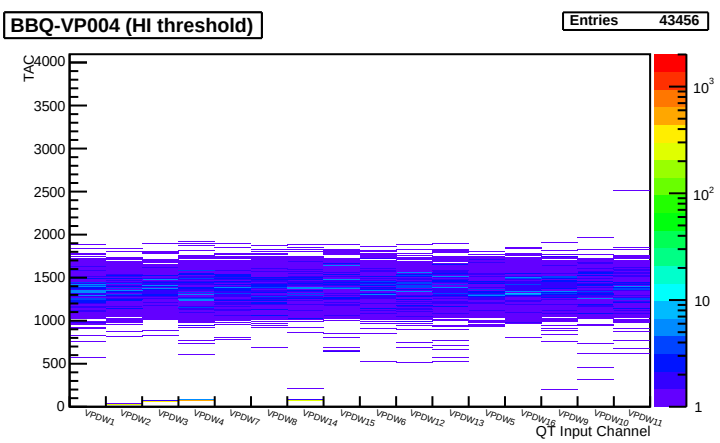

BBQ-VP002 (LO threshold)
Entries 43456
ADC
QT Input Channel

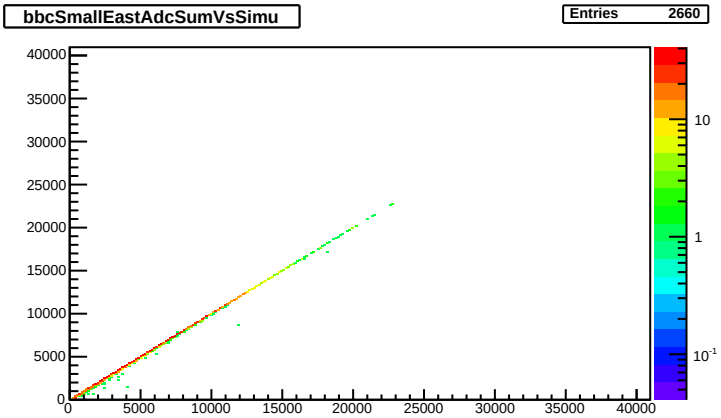

BBQ-VP002 (LO threshold)
Entries 43456
TAC
QT Input Channel

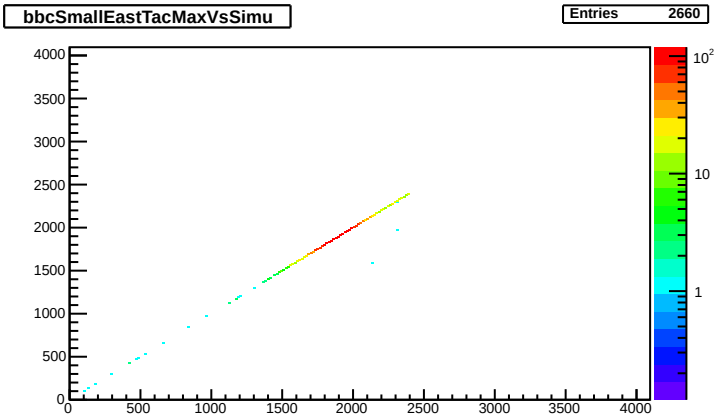

BBQ-VP003 (HI threshold)
Entries 43456
ADC
QT Input Channel

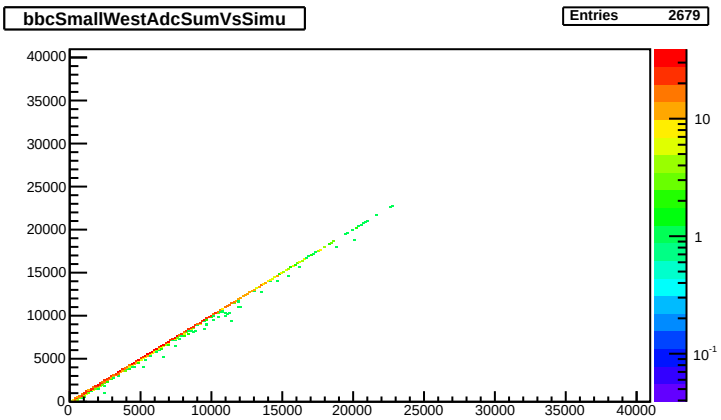

BBQ-VP003 (HI threshold)
Entries 43456
TAC
QT Input Channel

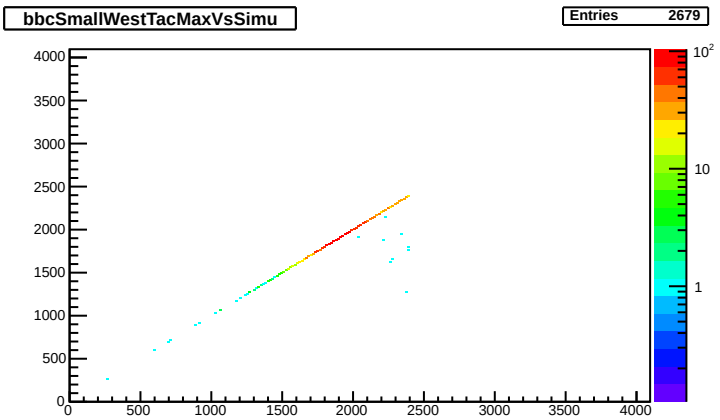

BBQ-VP004 (HI threshold)
Entries 43456
ADC
QT Input Channel

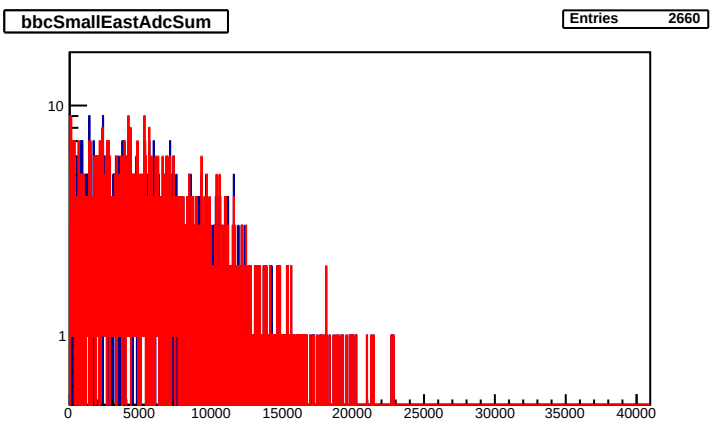

BBQ-VP004 (HI threshold)
Entries 43456
TAC
QT Input Channel

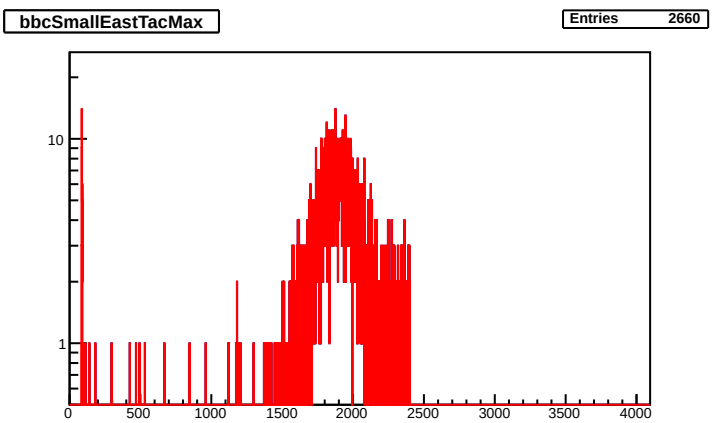

bbcSmallEastAdcSumVsSimu
Entries 2660

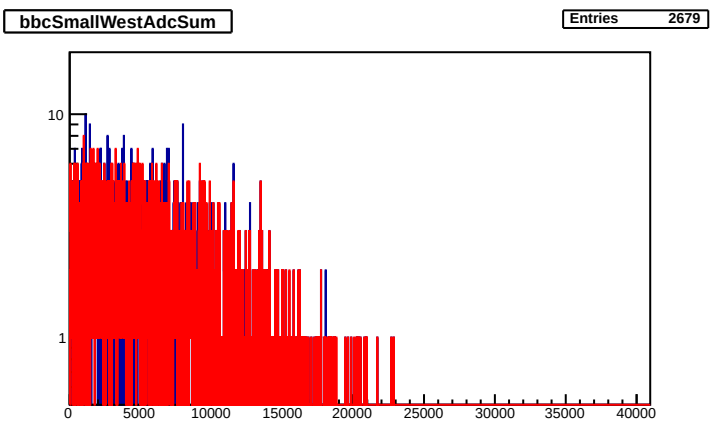

bbcSmallEastTacMaxVsSimu
Entries 2660

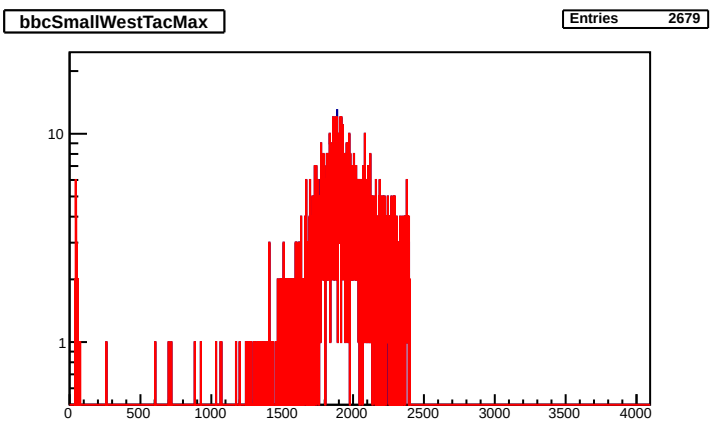

bbcSmallWestAdcSumVsSimu
Entries 2679

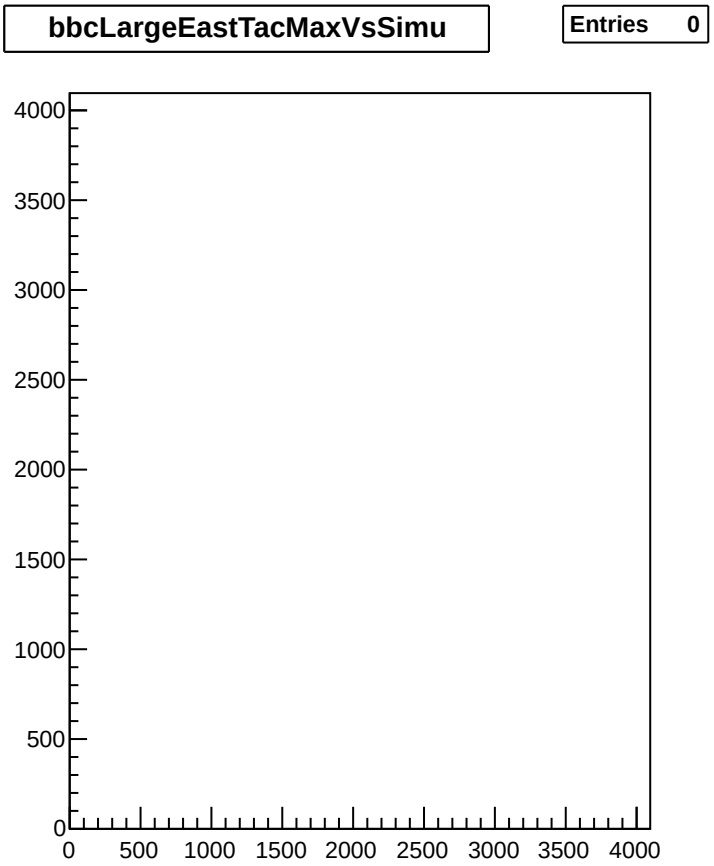

bbcSmallWestTacMaxVsSimu
Entries 2679

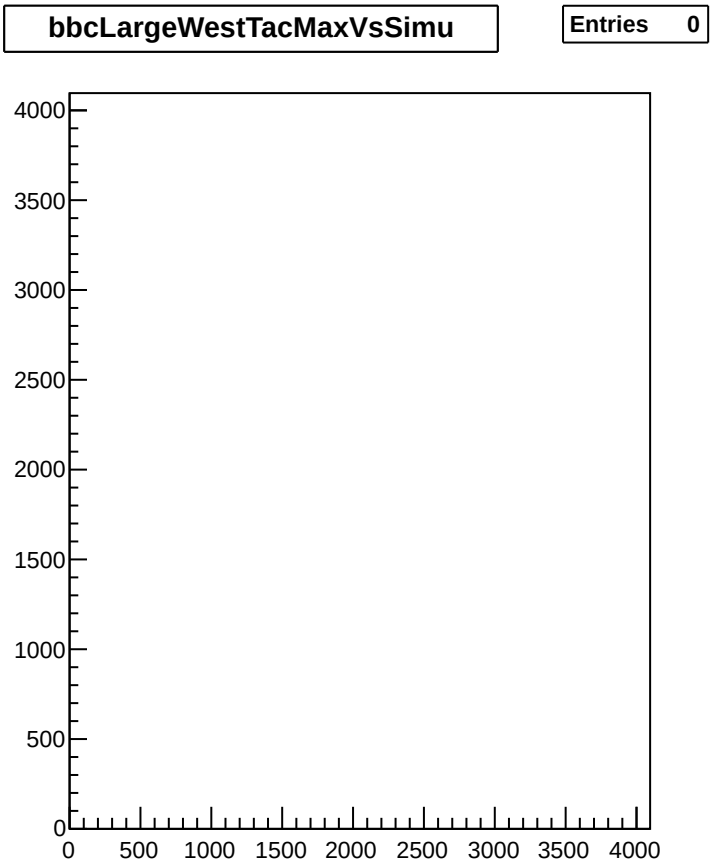

bbcSmallEastAdcSum
Entries 2660

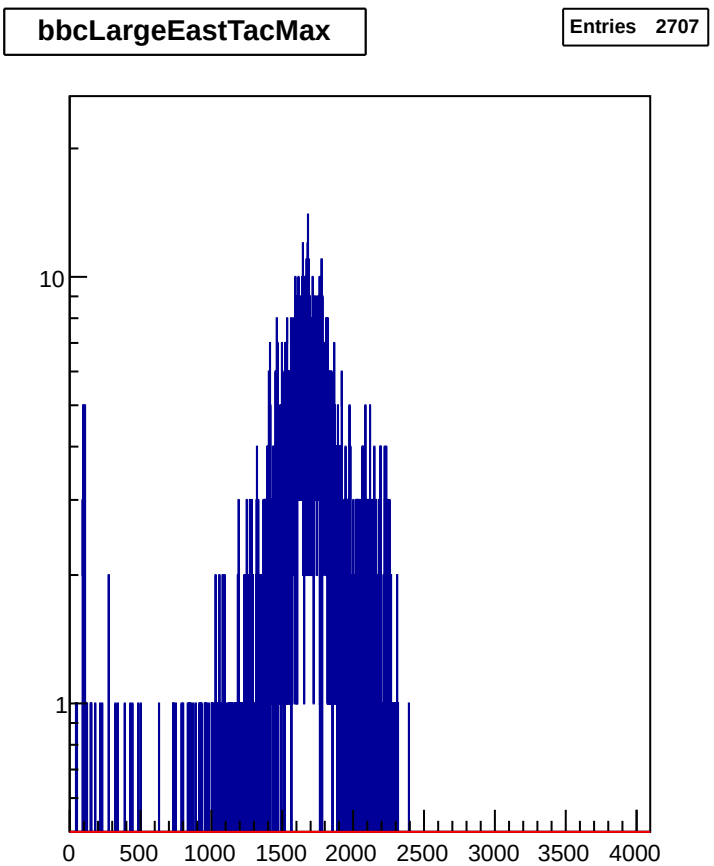

bbcSmallEastTacMax
Entries 2660

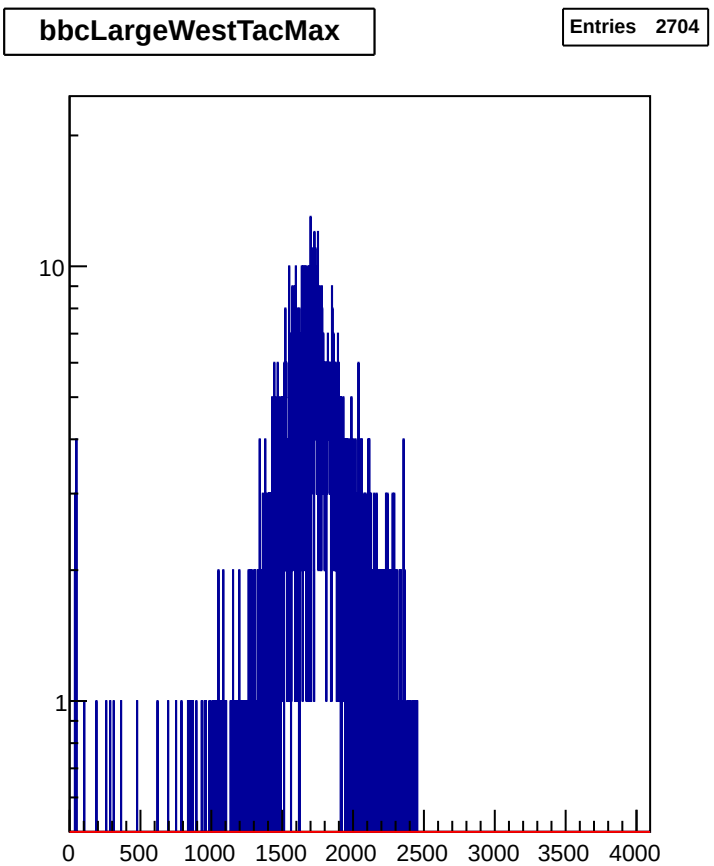

bbcSmallWestAdcSum
Entries 2679

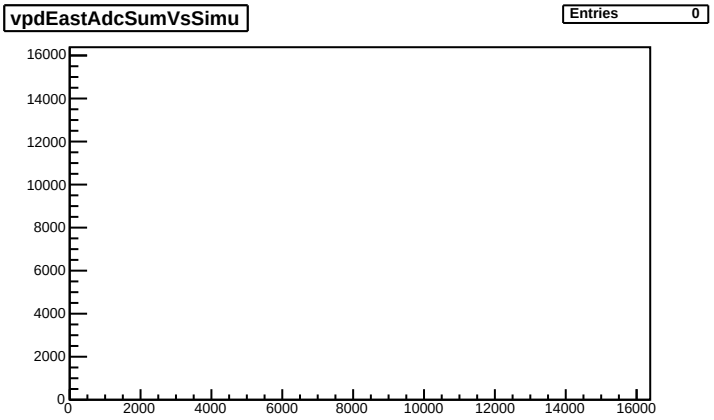

bbcSmallWestTacMax
Entries 2679

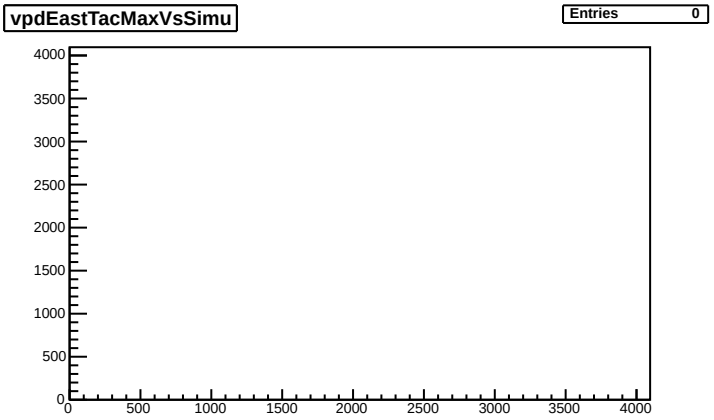

bbcLargeEastTacMaxVsSimu
Entries 0
4000
3500
3000
2500
2000
1500
1000
500
0
0 500 1000 1500 2000 2500 3000 3500 4000

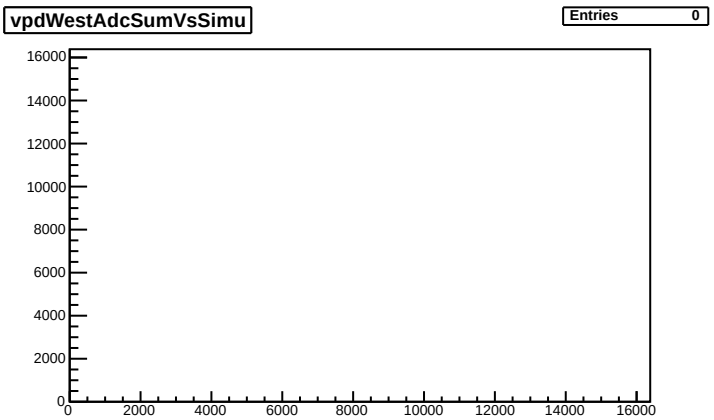

bbcLargeWestTacMaxVsSimu
Entries 0
4000
3500
3000
2500
2000
1500
1000
500
0
0 500 1000 1500 2000 2500 3000 3500 4000

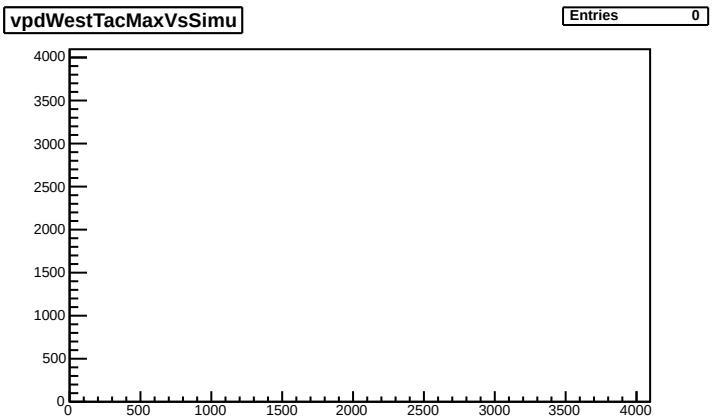

bbcLargeEastTacMax
Entries 2707
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

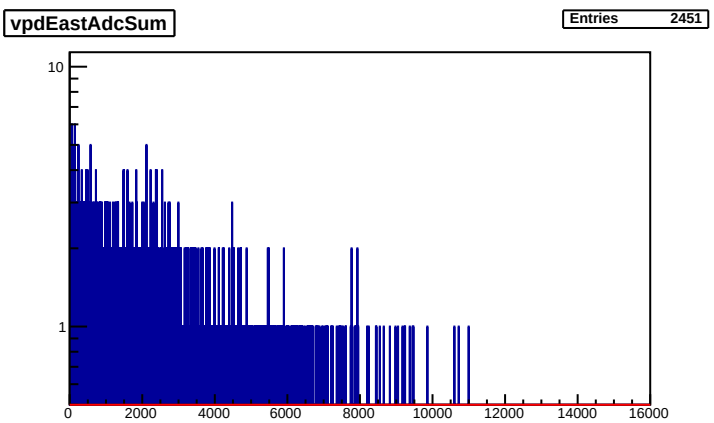

bbcLargeWestTacMax
Entries 2704
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

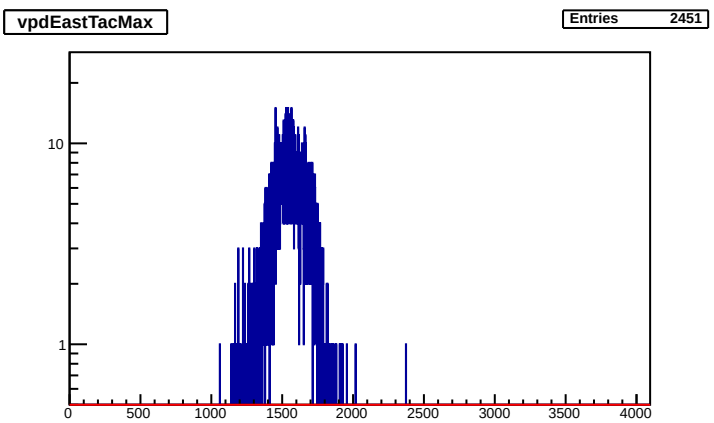

vpdEastAdcSumVsSimu
Entries 0

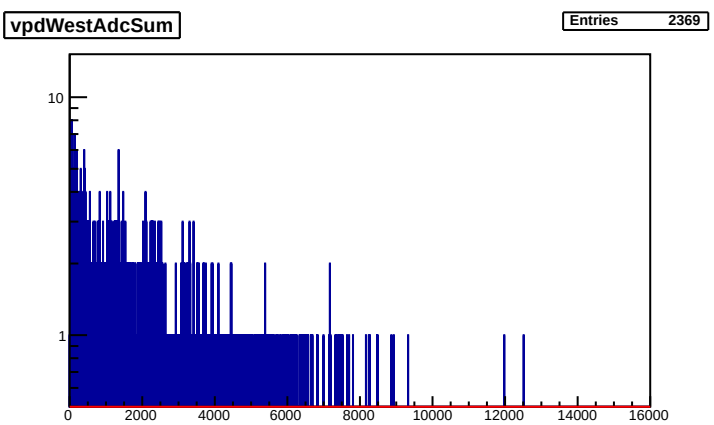

vpdEastTacMaxVsSimu
Entries 0

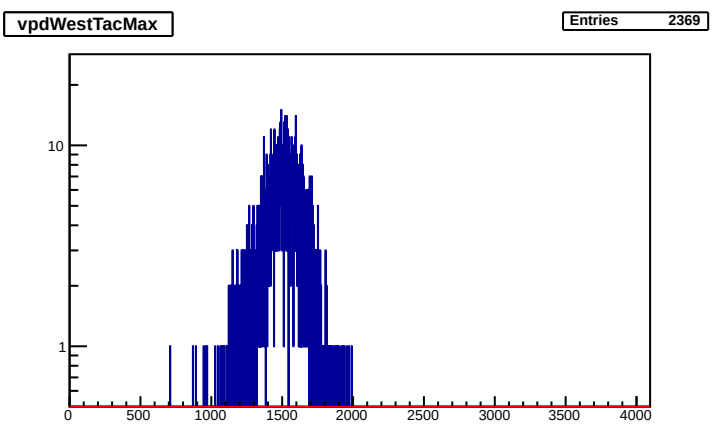

vpdWestAdcSumVsSimu
Entries 0

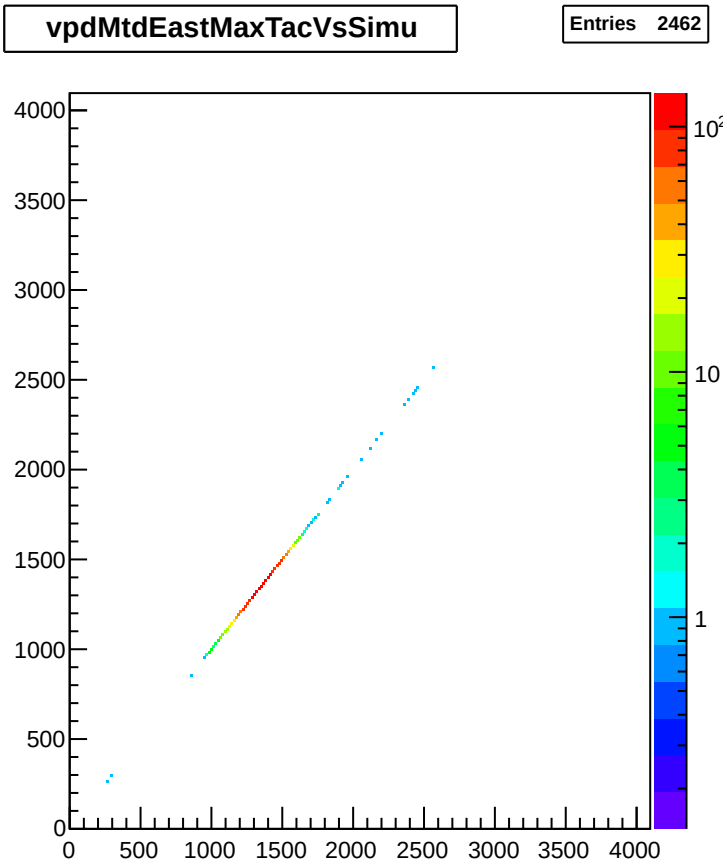

vpdWestTacMaxVsSimu
Entries 0

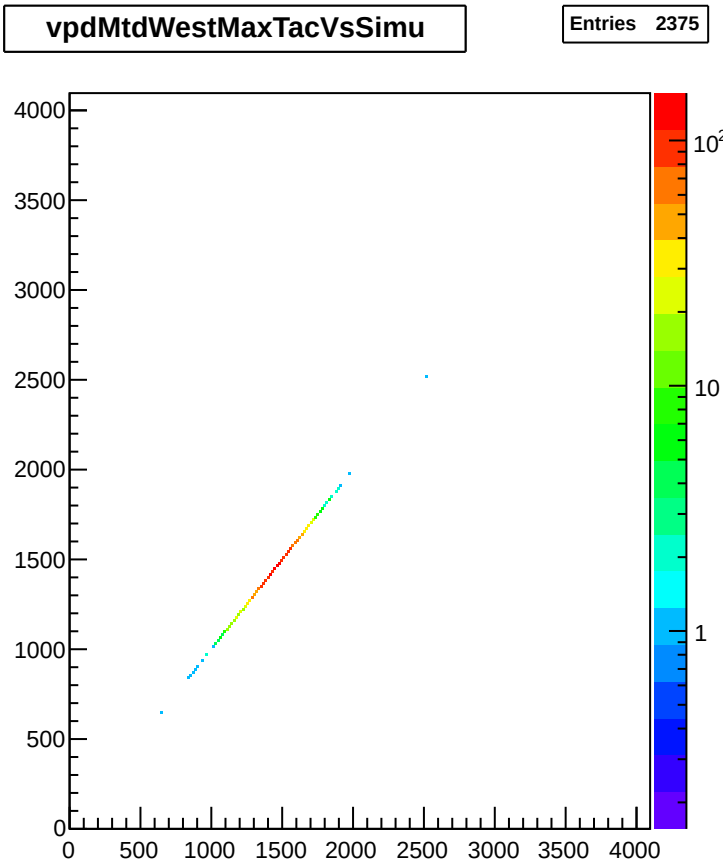

vpdEastAdcSum
Entries 2451

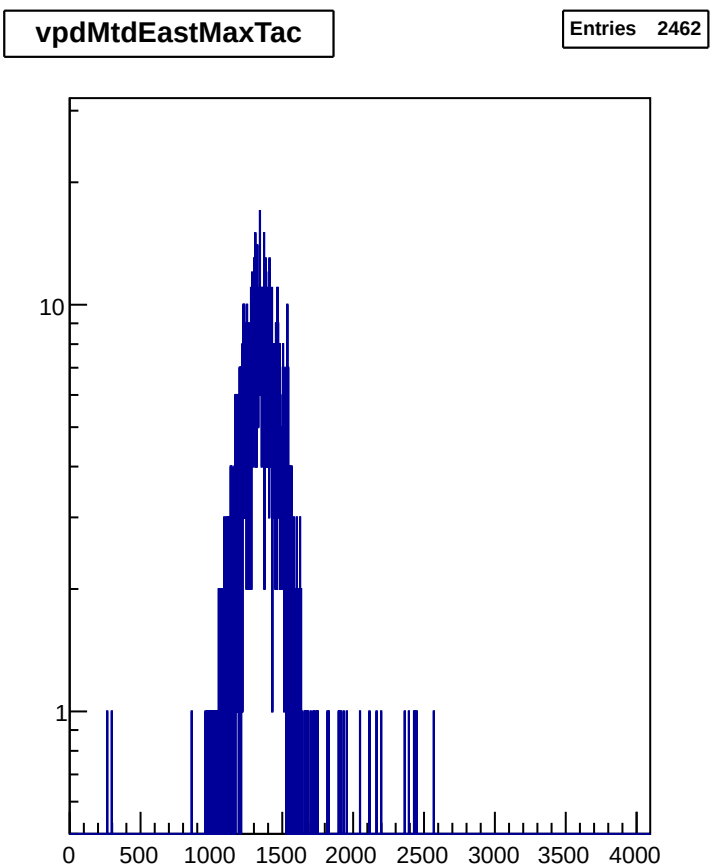

vpdEastTacMax
Entries 2451

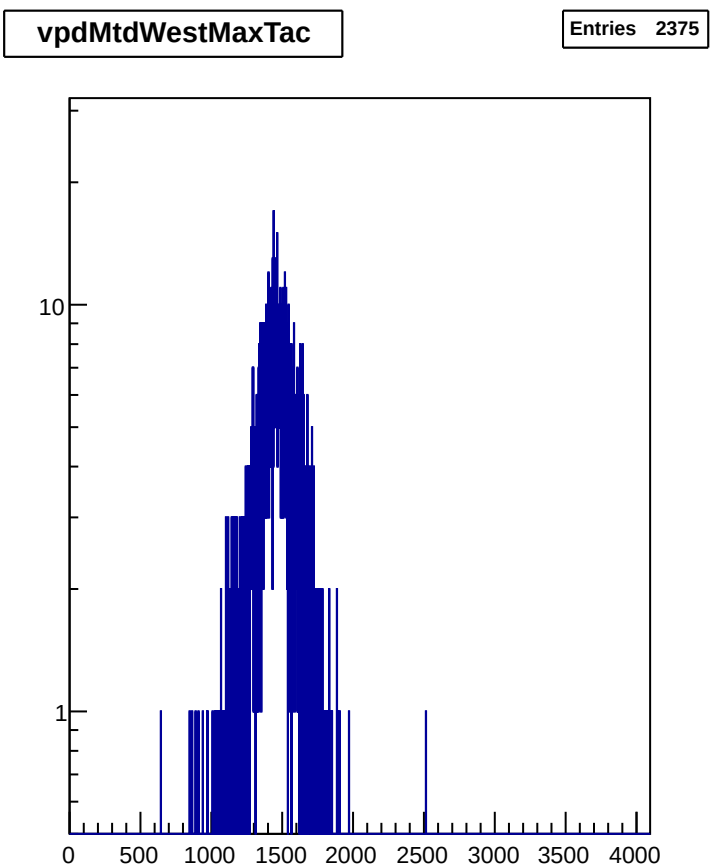

vpdWestAdcSum
Entries 2369

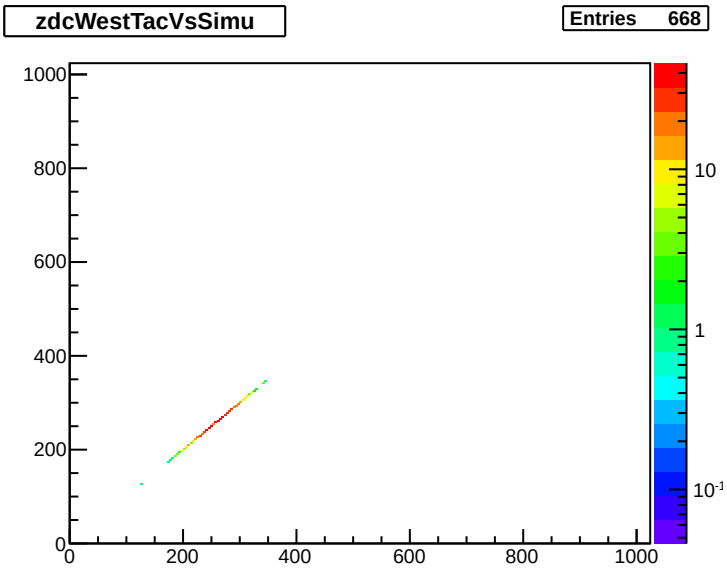

vpdWestTacMax
Entries 2369

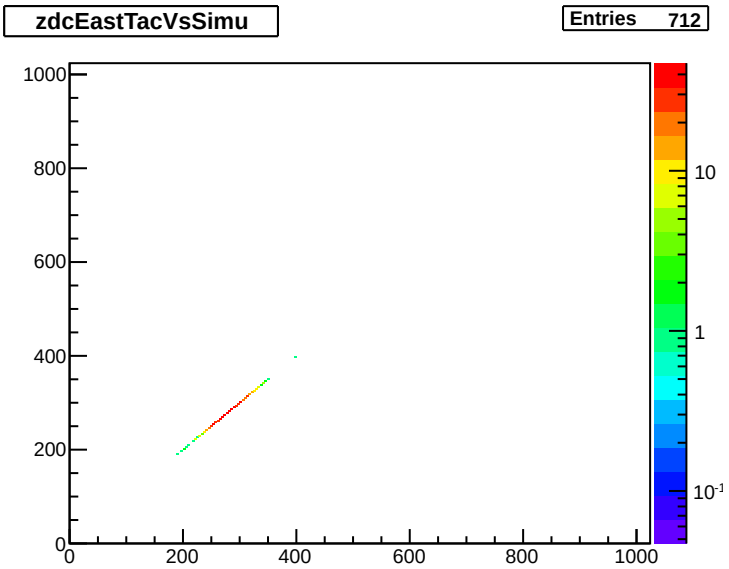

vpdMtdEastMaxTacVsSimu
Entries 2462
4000
3500
3000
2500
2000
1500
1000
500
0
0 500 1000 1500 2000 2500 3000 3500 4000
10
1

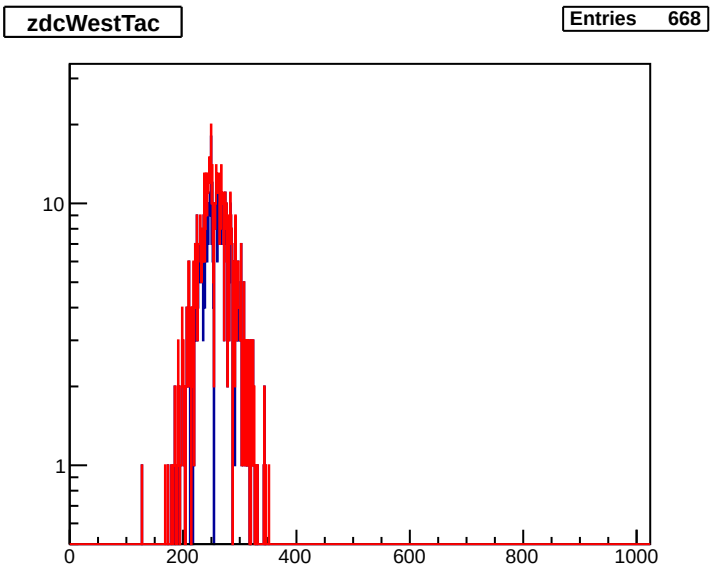

vpdMtdWestMaxTacVsSimu
Entries 2375
4000
3500
3000
2500
2000
1500
1000
500
0
0 500 1000 1500 2000 2500 3000 3500 4000
10
1

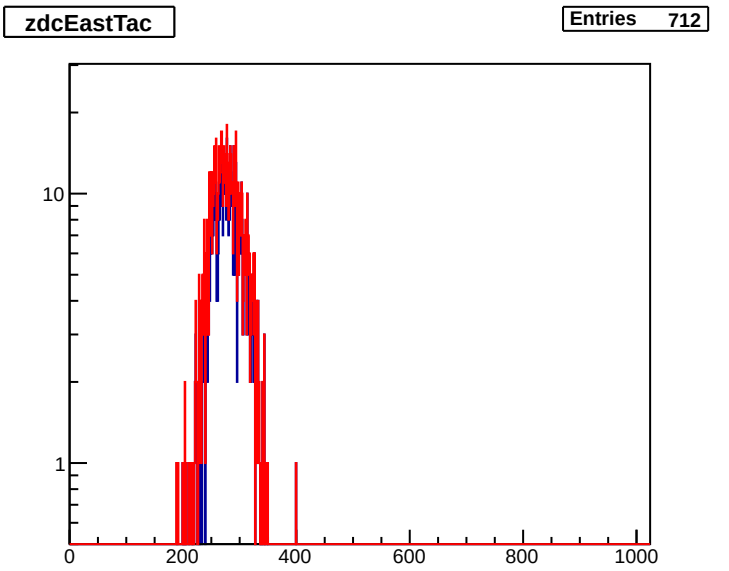

vpdMtdEastMaxTac
Entries 2462
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

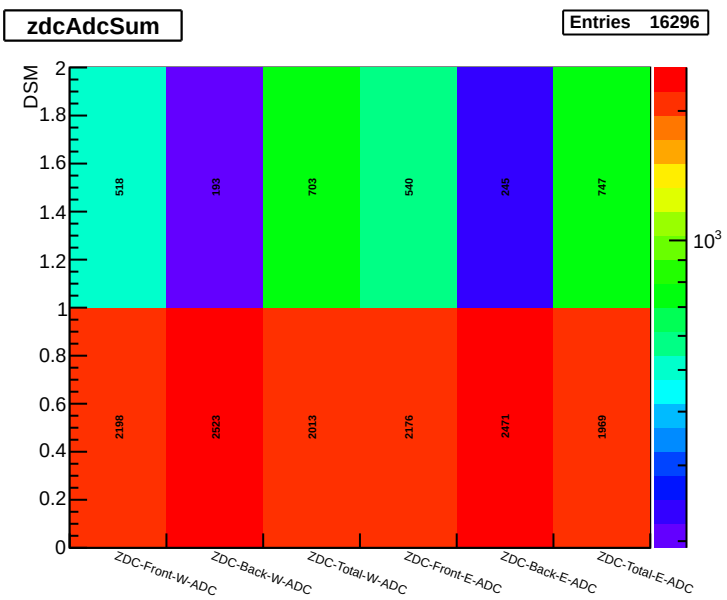

vpdMtdWestMaxTac
Entries 2375
10
1
0 500 1000 1500 2000 2500 3000 3500 4000

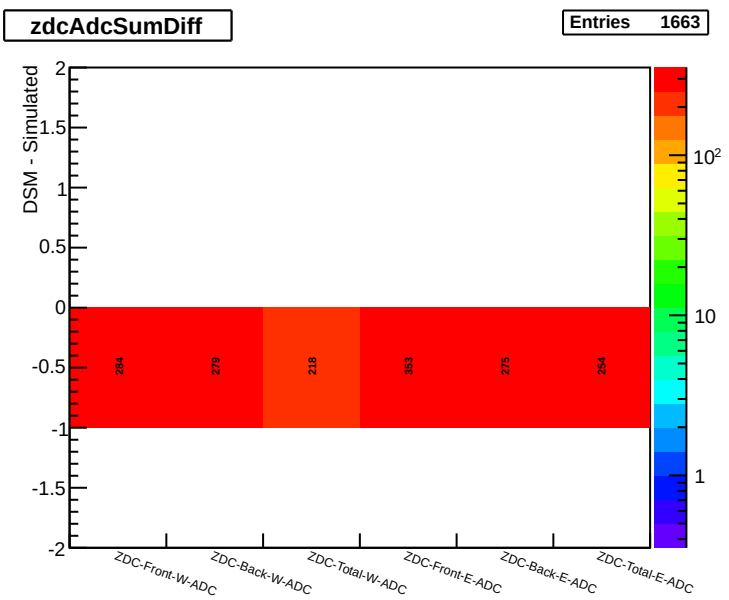

zdcWestTacVsSimu
Entries 668
1000
800
600
400
200
0
0
200
400
600
800
1000
10
1
10^{-1}

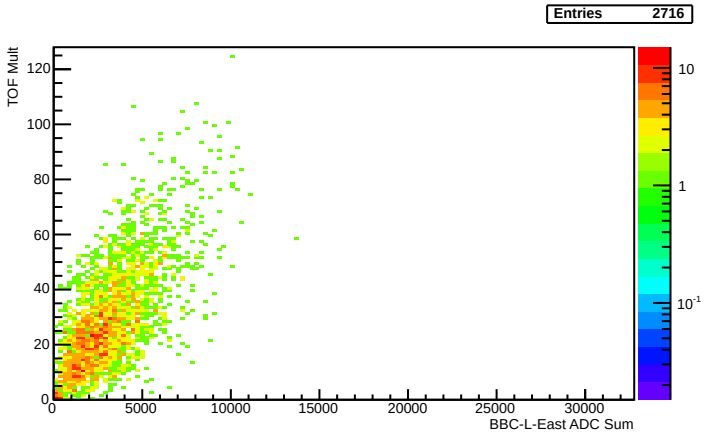

zdcEastTacVsSimu
Entries 712
1000
800
600
400
200
0
0
200
400
600
800
1000
10
1
10^{-1}

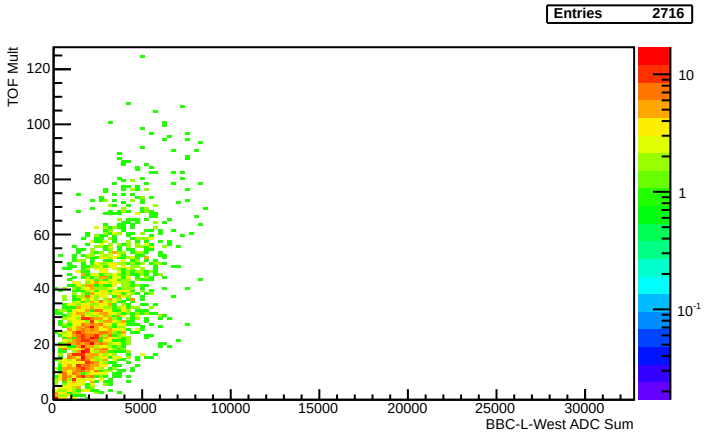

zdcWestTac
Entries 668
10
1
0
200
400
600
800
1000

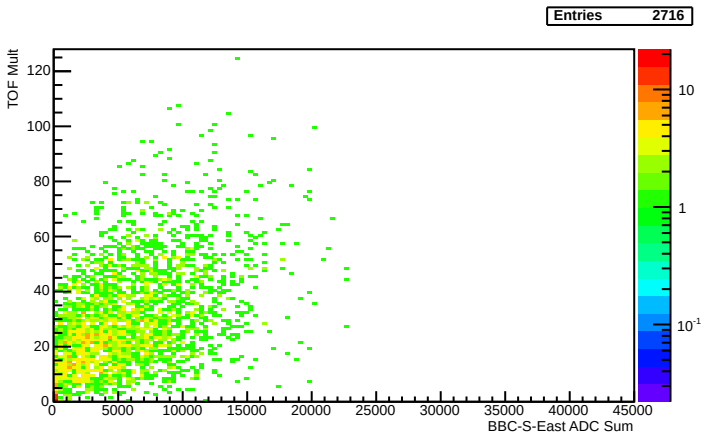

zdcEastTac
Entries 712
10
1
0
200
400
600
800
1000

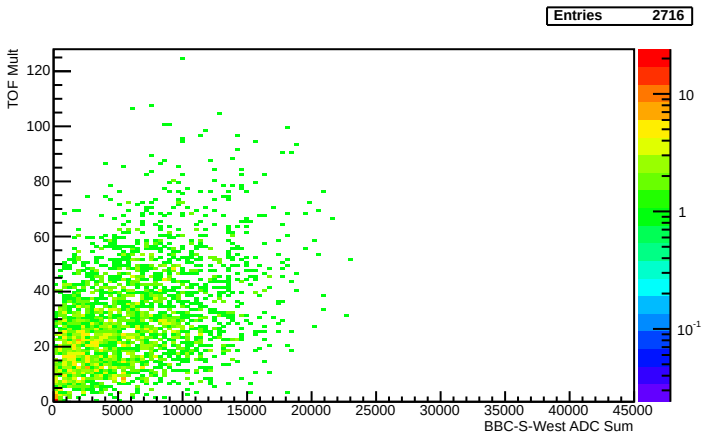

zdcAdcSum
Entries 16296
DSM
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
518
193
703
540
245
747
2198
2523
2013
2176
2471
1969
10^3
ZDC-Front-W-ADC
ZDC-Back-W-ADC
ZDC-Total-W-ADC
ZDC-Front-E-ADC
ZDC-Back-E-ADC
ZDC-Total-E-ADC

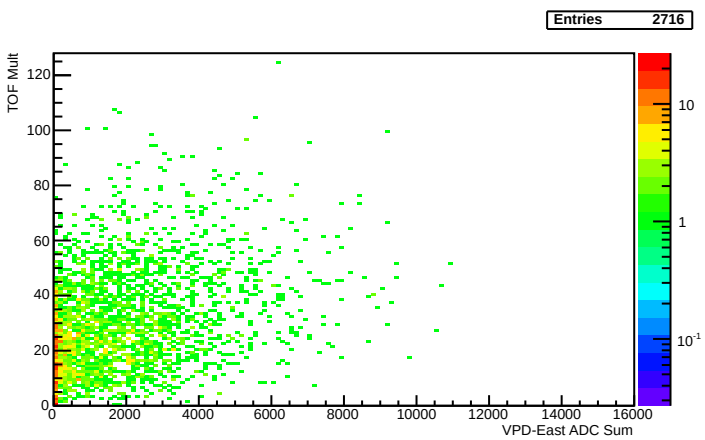

zdcAdcSumDiff
Entries 1663
DSM - Simulated
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
284
279
218
353
275
254
10^2
10
1
ZDC-Front-W-ADC
ZDC-Back-W-ADC
ZDC-Total-W-ADC
ZDC-Front-E-ADC
ZDC-Back-E-ADC
ZDC-Total-E-ADC

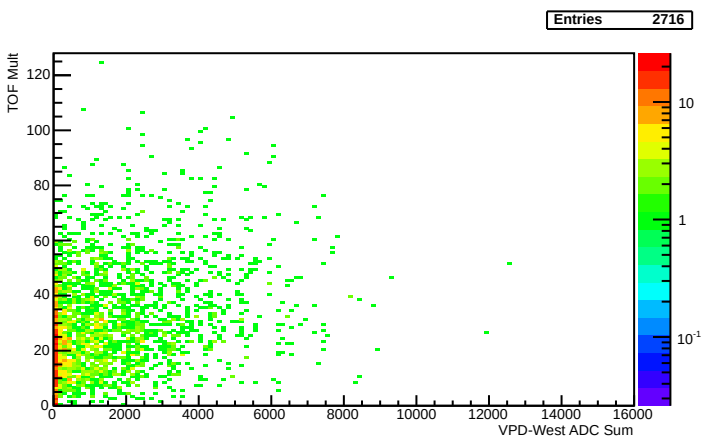

Entries 2716
TOF Mult
BBC-L-East ADC Sum

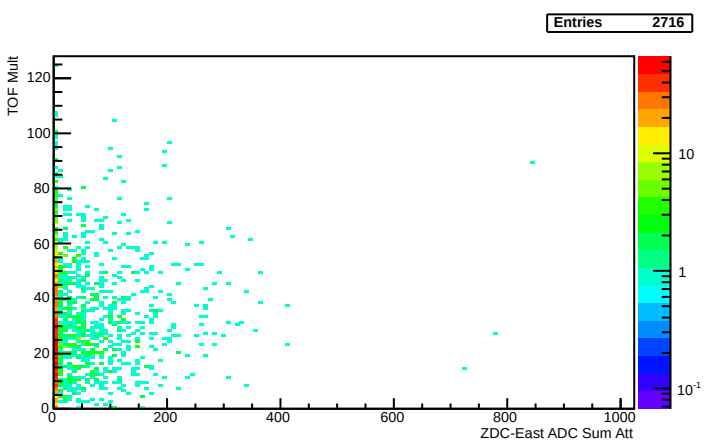

Entries 2716
TOF Mult
BBC-L-West ADC Sum

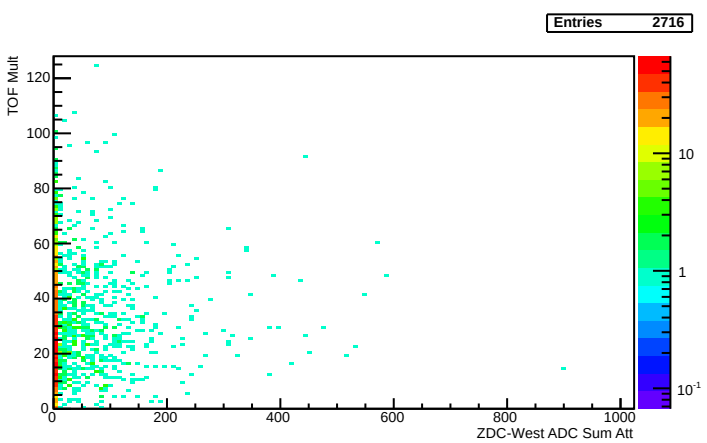

Entries 2716
TOF Mult
BBC-S-East ADC Sum

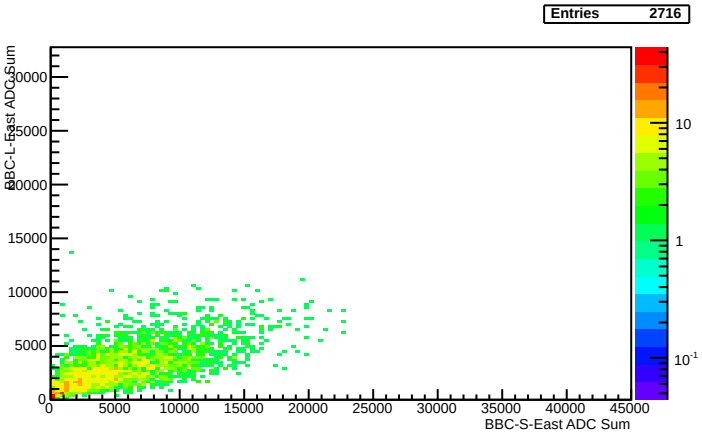

Entries 2716
TOF Mult
BBC-S-West ADC Sum

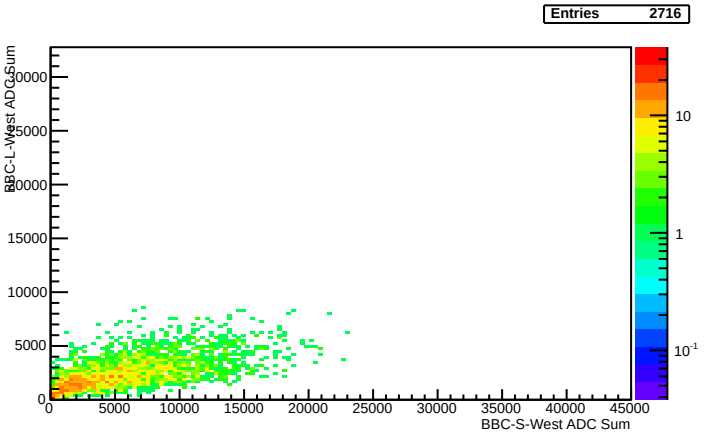

Entries 2716
TOF Mult
VPD-East ADC Sum

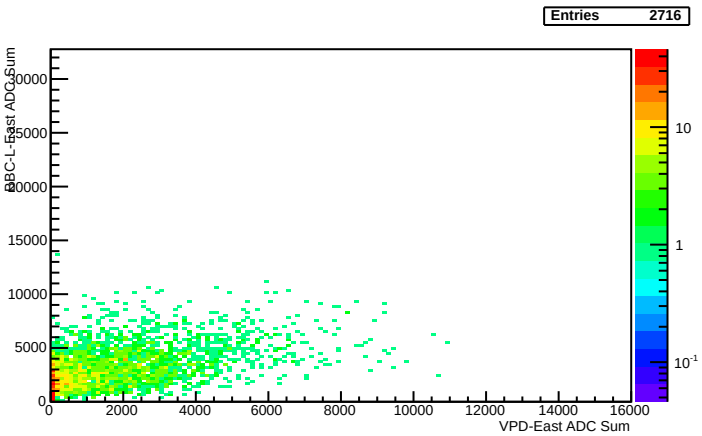

Entries 2716
TOF Mult
VPD-West ADC Sum

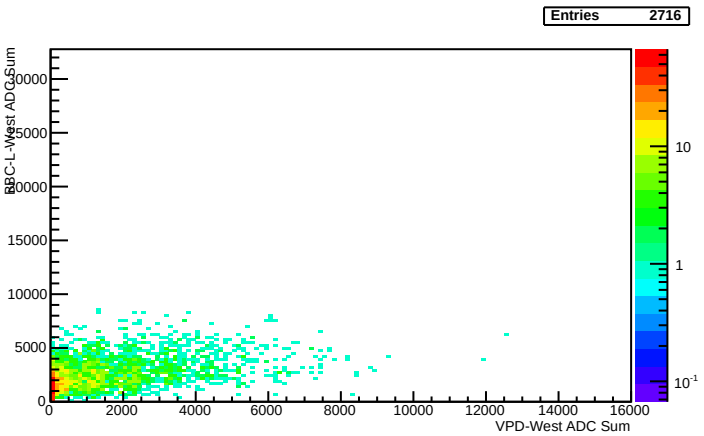

Entries 2716
TOF Mult
ZDC-East ADC Sum Att

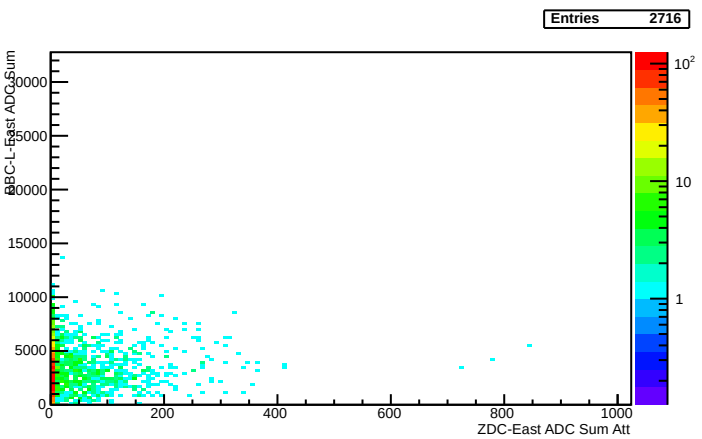

Entries 2716
TOF Mult
ZDC-West ADC Sum Att

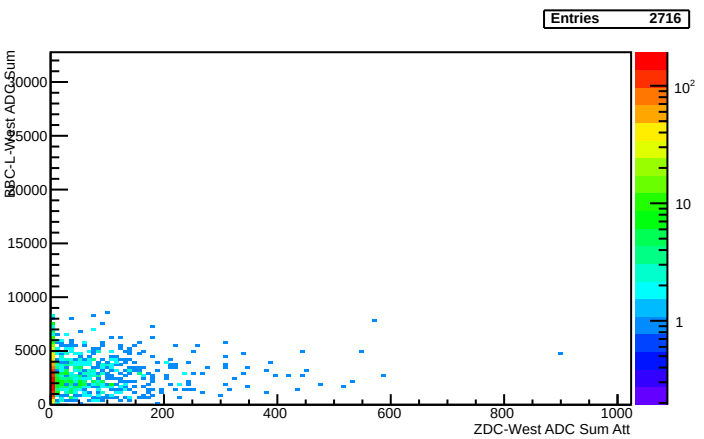

Entries 2716
BBC-L-East ADC Sum
BBC-S-East ADC Sum

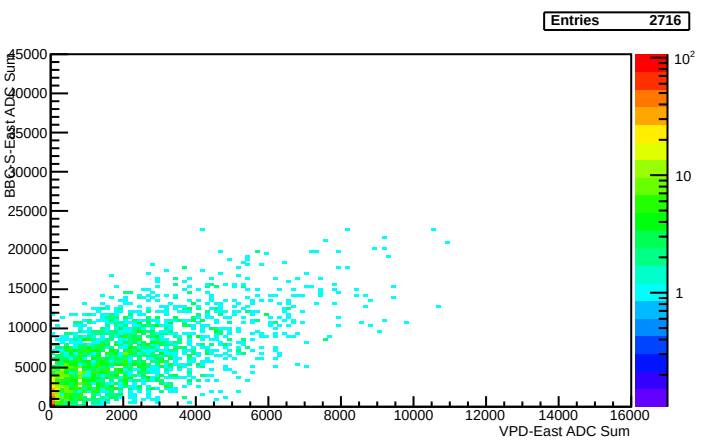

Entries 2716
BBC-L-West ADC Sum
BBC-S-West ADC Sum

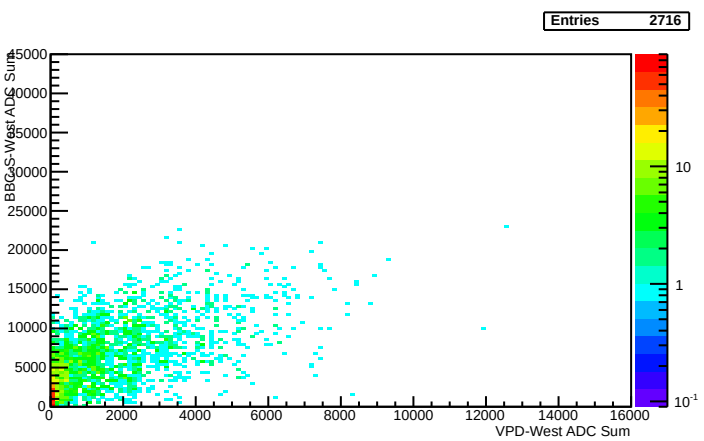

Entries 2716
BBC-L-East ADC Sum
VPD-East ADC Sum

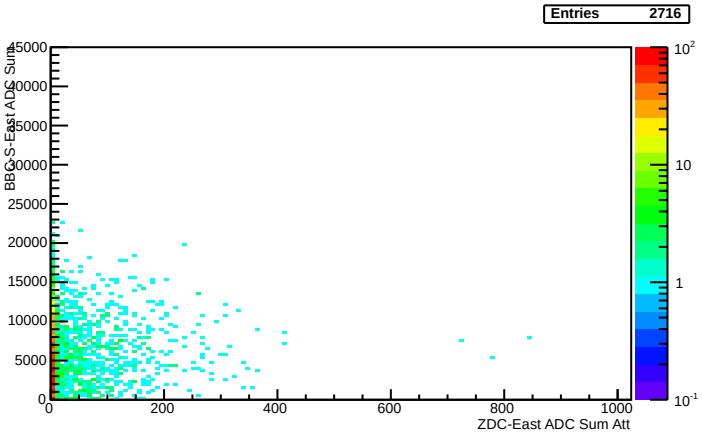

Entries 2716
BBC-L-West ADC Sum
VPD-West ADC Sum

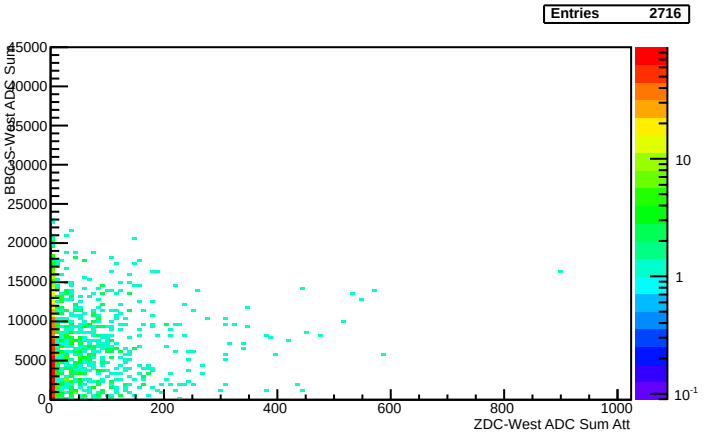

Entries 2716
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

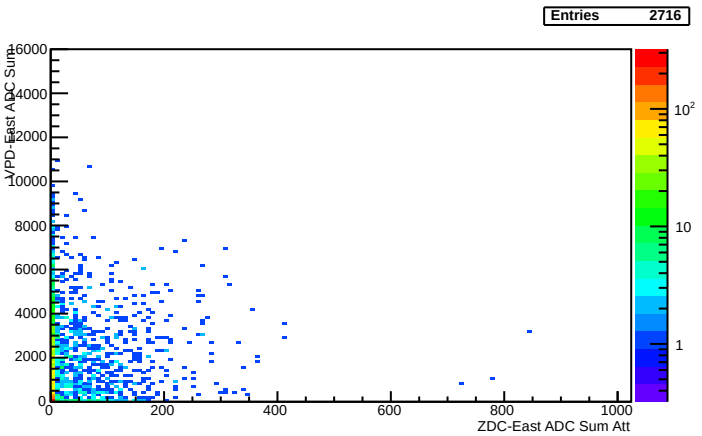

Entries 2716
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

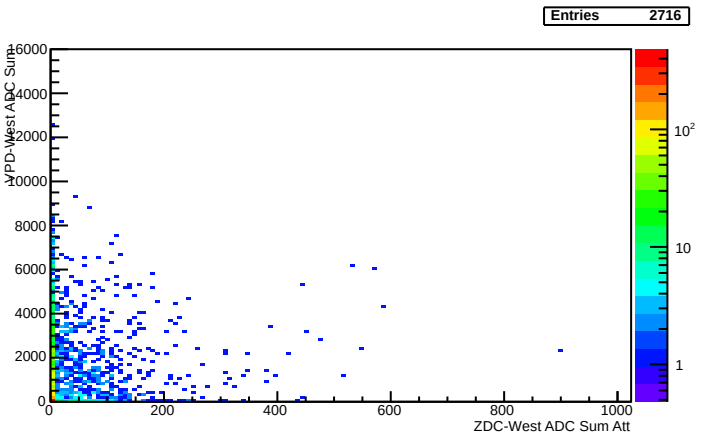

Entries 2716
BBC-S-East ADC Sum
VPD-East ADC Sum

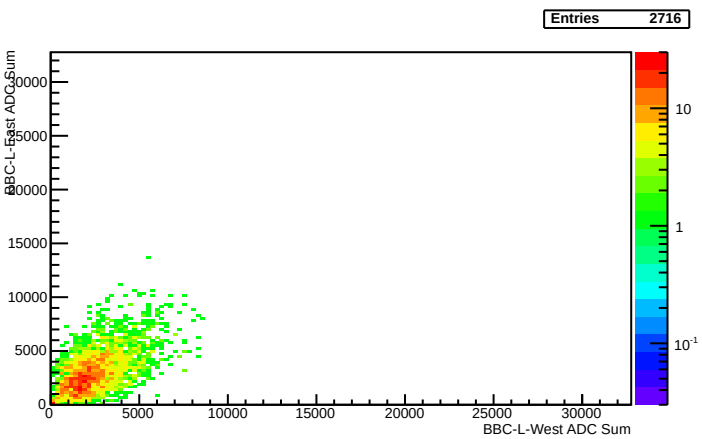

Entries 2716
BBC-S-West ADC Sum
VPD-West ADC Sum

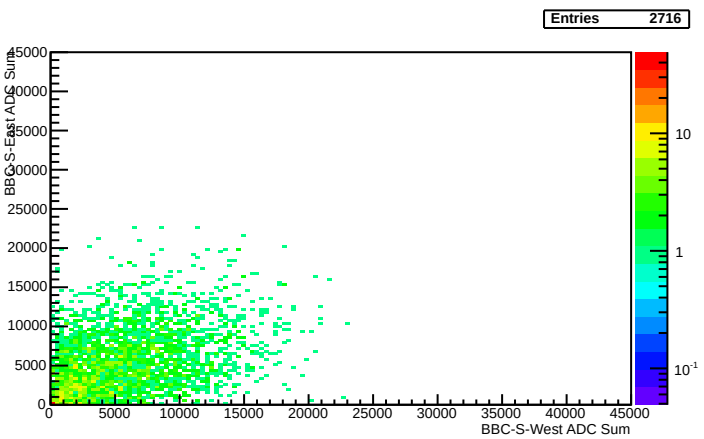

Entries 2716
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

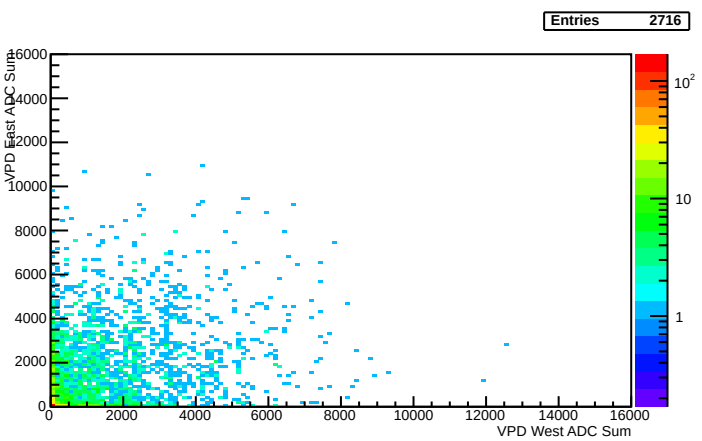

Entries 2716
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

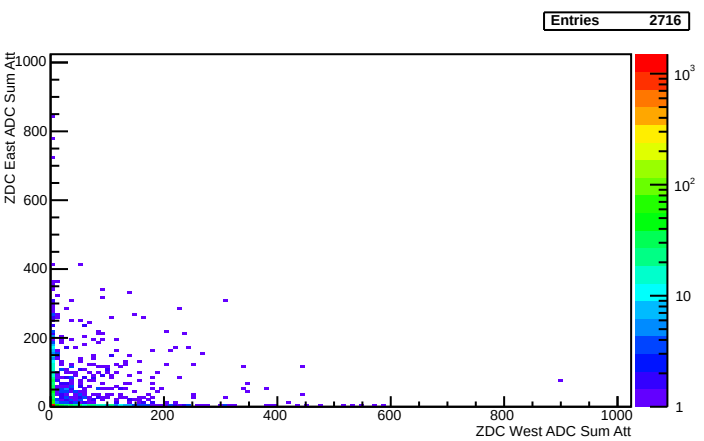

Entries 2716
VPD-East ADC Sum
ZDC-East ADC Sum Att

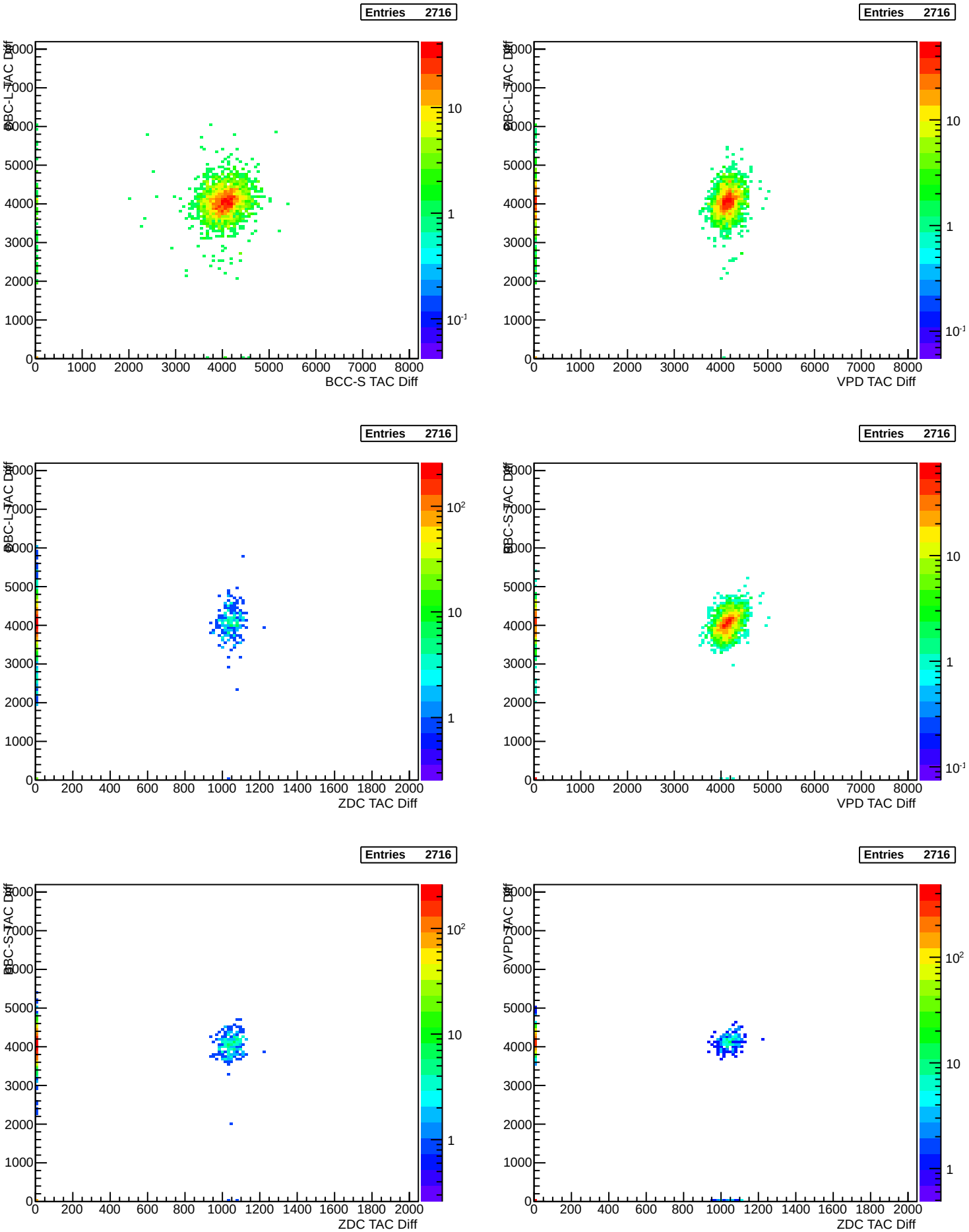

Entries 2716
VPD-West ADC Sum
ZDC-West ADC Sum Att

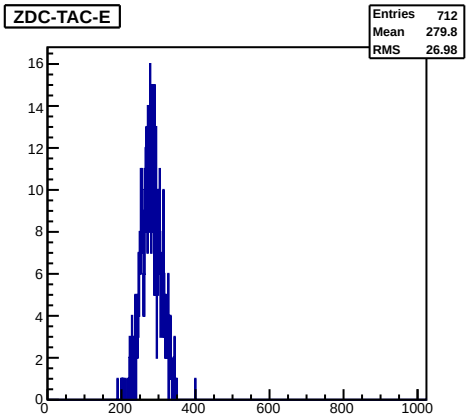

Entries 2716
BBC-L-East ADC Sum
BBC-L-West ADC Sum

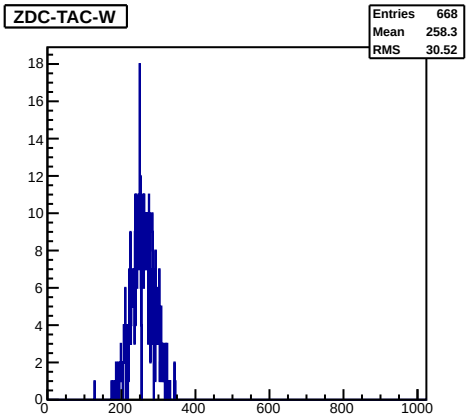

Entries 2716
BBC-S-East ADC Sum
BBC-S-West ADC Sum

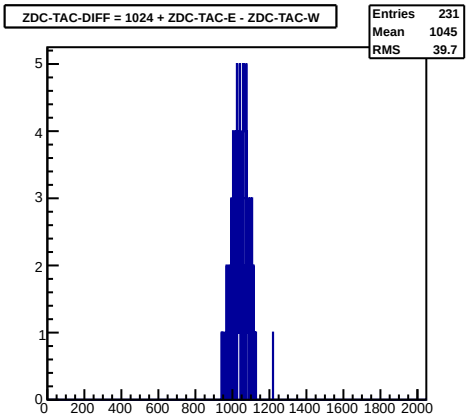

Entries 2716
VPD East ADC Sum
VPD West ADC Sum

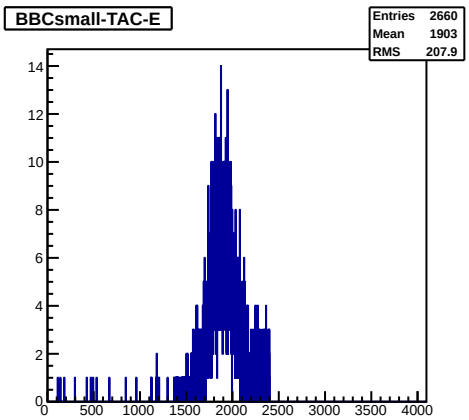

Entries 2716
ZDC East ADC Sum Att
ZDC West ADC Sum Att

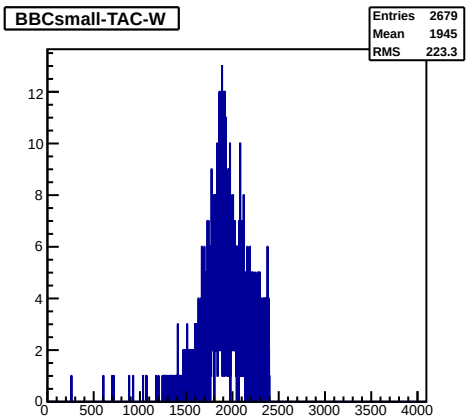

Entries 2716
BBC-L TAC Diff
BCC-S TAC Diff
Entries 2716
BBC-L TAC Diff
VPD TAC Diff
Entries 2716
BBC-L TAC Diff
ZDC TAC Diff
Entries 2716
BBC-S TAC Diff
VPD TAC Diff
Entries 2716
BBC-S TAC Diff
ZDC TAC Diff
Entries 2716
VPD TAC Diff
ZDC TAC Diff

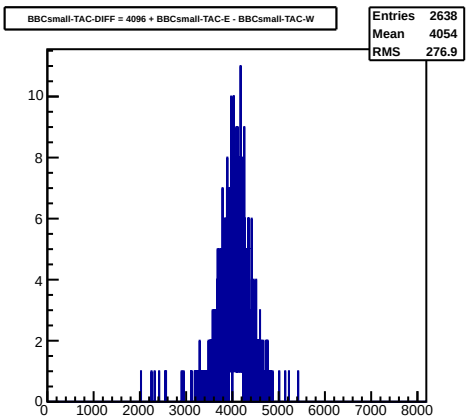

ZDC-TAC-E
Entries 712
Mean 279.8
RMS 26.98

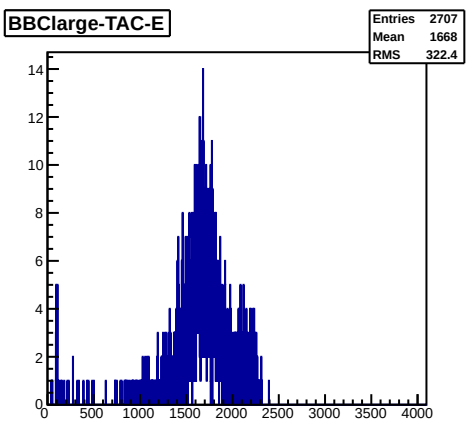

ZDC-TAC-W
Entries 668
Mean 258.3
RMS 30.52

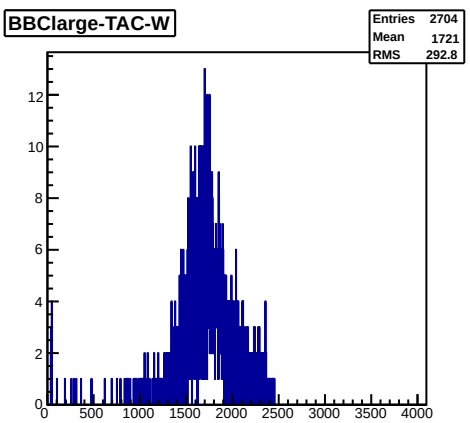

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 231
Mean 1045
RMS 39.7

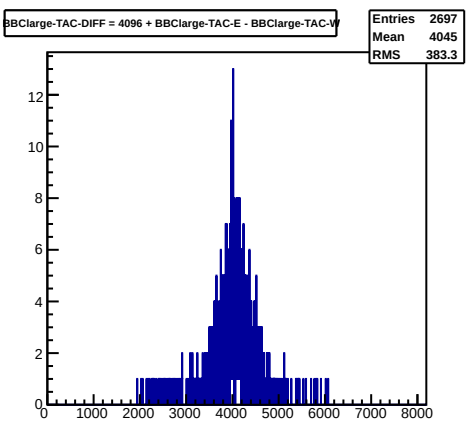

BBCsmall-TAC-E
Entries 2660
Mean 1903
RMS 207.9

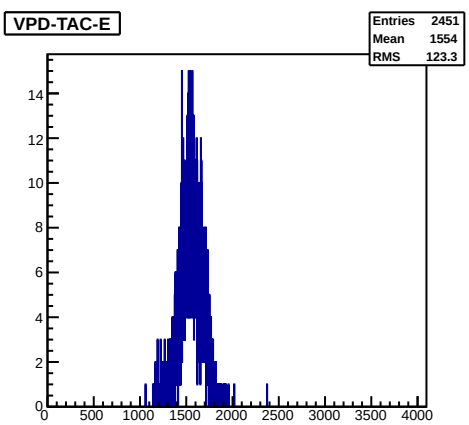

BBCsmall-TAC-W
Entries 2679
Mean 1945
RMS 223.3

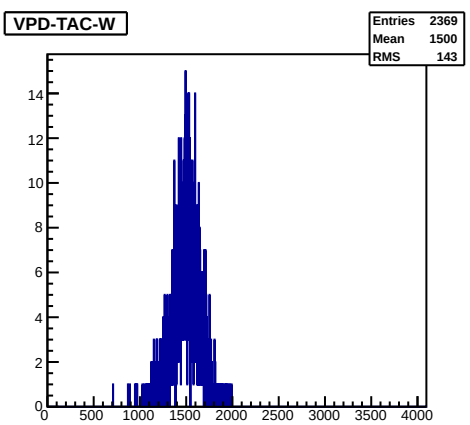

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 2638
Mean 4054
RMS 276.9

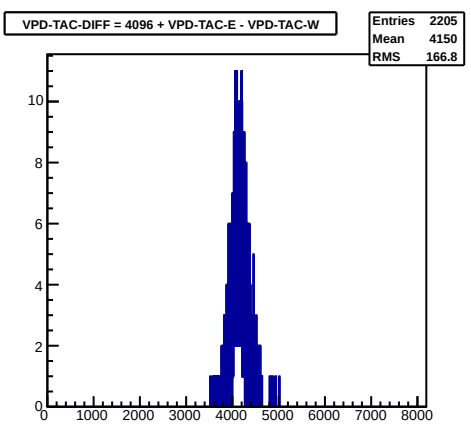

BBClarge-TAC-E
Entries 2707
Mean 1668
RMS 322.4

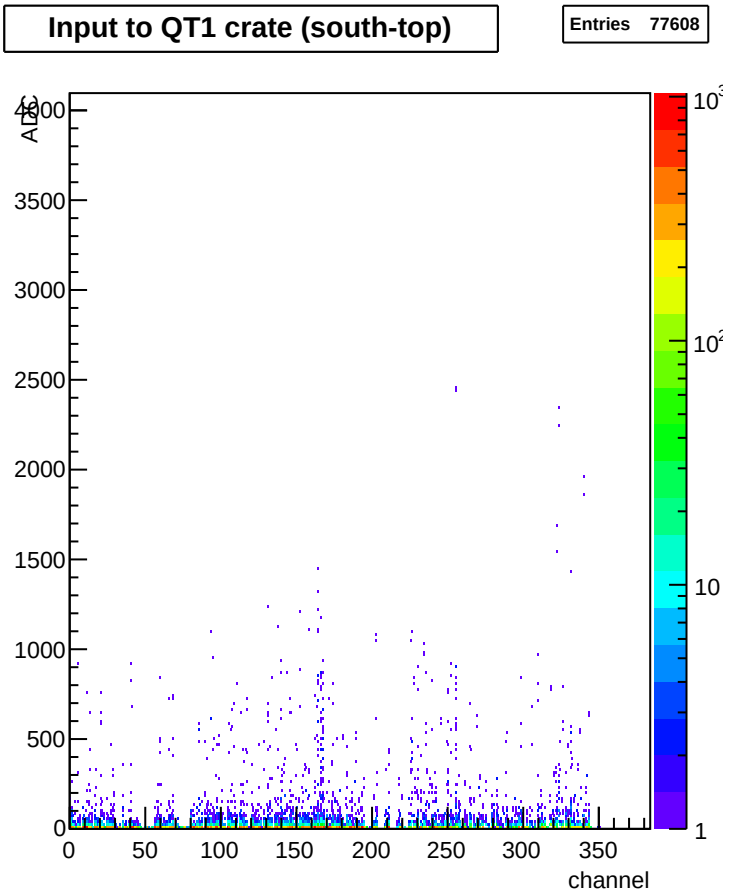

BBClarge-TAC-W
Entries 2704
Mean 1721
RMS 292.8

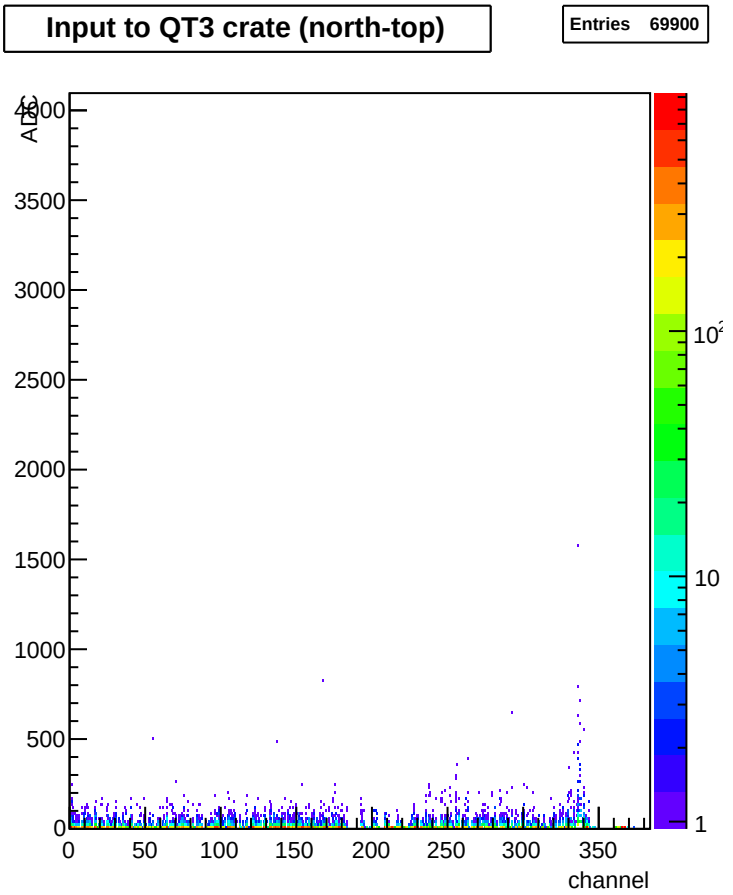

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 2697
Mean 4045
RMS 383.3

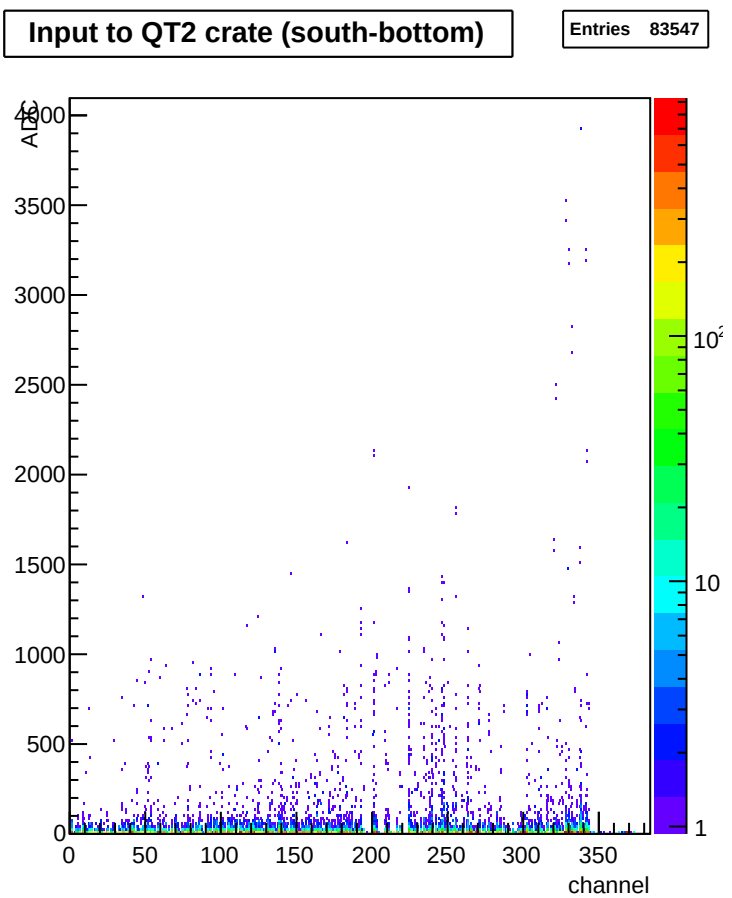

VPD-TAC-E
Entries 2451
Mean 1554
RMS 123.3

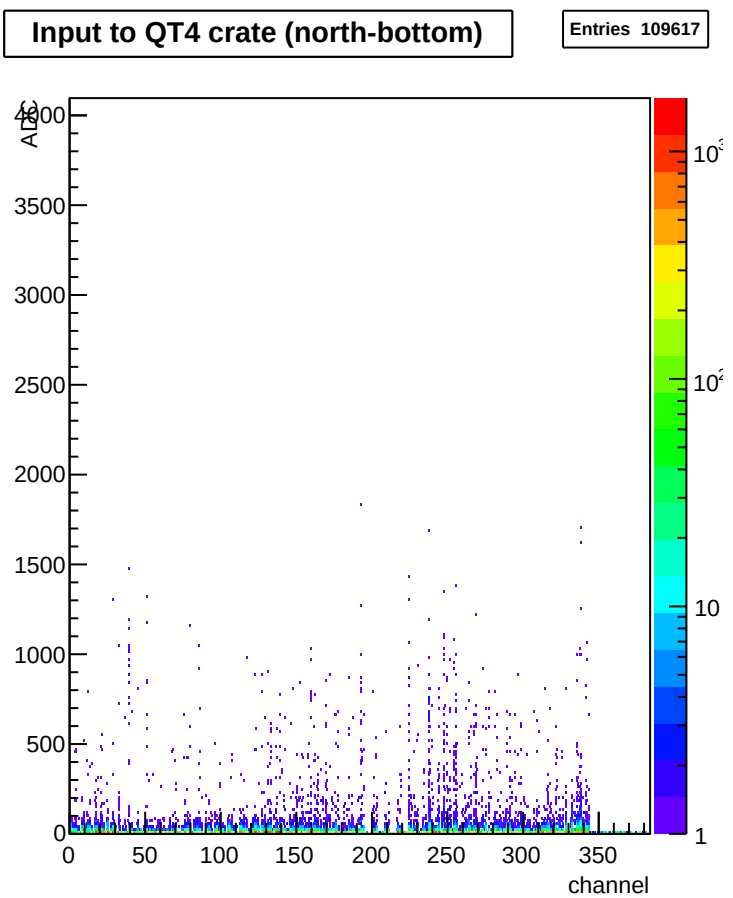

VPD-TAC-W
Entries 2369
Mean 1500
RMS 143

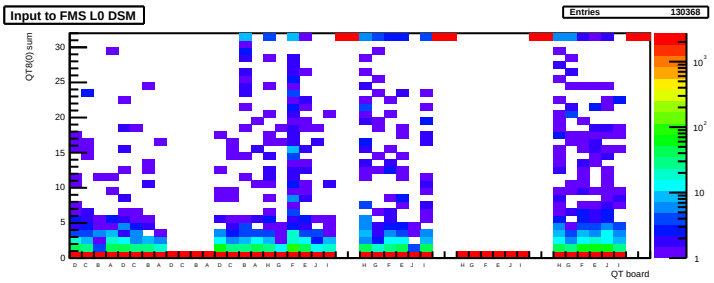

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 2205
Mean 4150
RMS 166.8

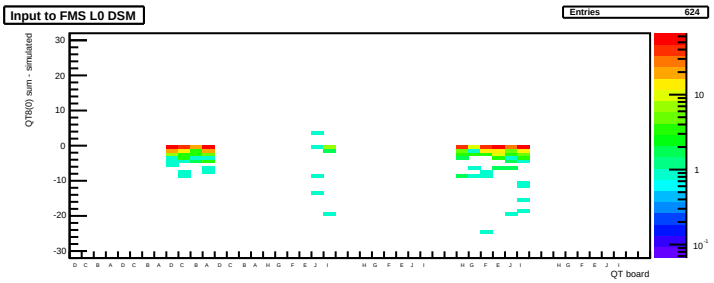

Input to QT1 crate (south-top)
Entries 77608
ADC
channel

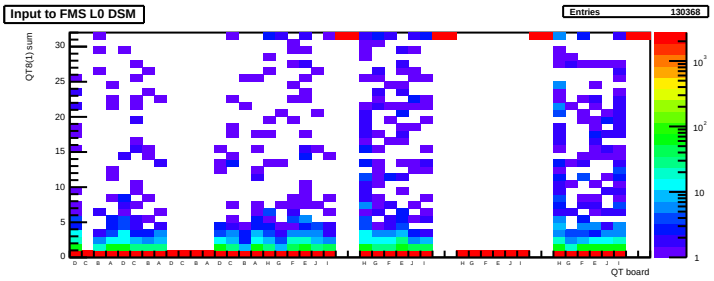

Input to QT3 crate (north-top)
Entries 69900
ADC
channel

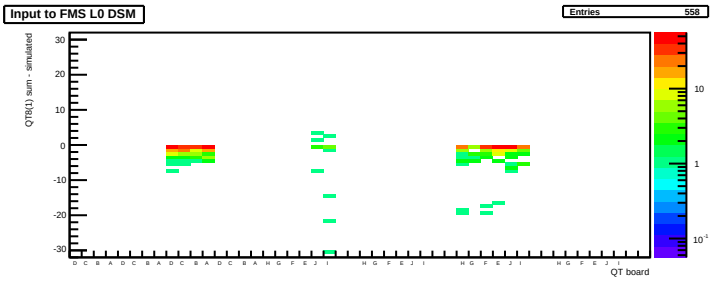

Input to QT2 crate (south-bottom)
Entries 83547
ADC
channel

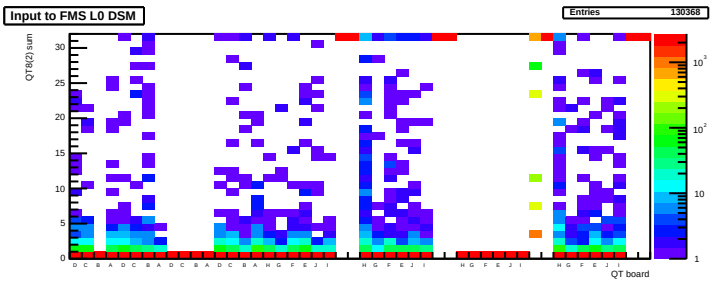

Input to QT4 crate (north-bottom)
Entries 109617
ADC
channel

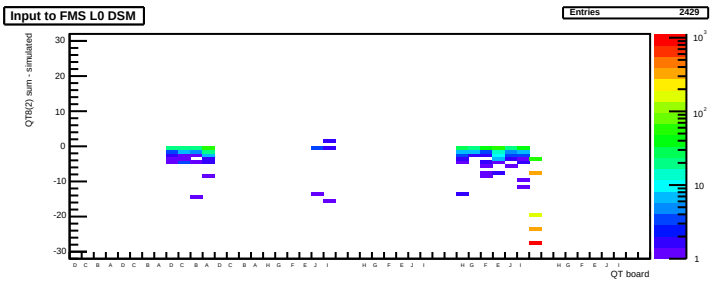

Input to FMS L0 DSM
Entries 130368
QT8(0) sum
QT board

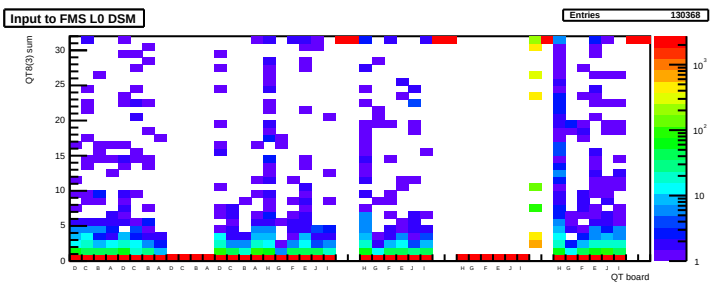

Input to FMS L0 DSM
Entries 624
QT8(0) sum - simulated
QT board

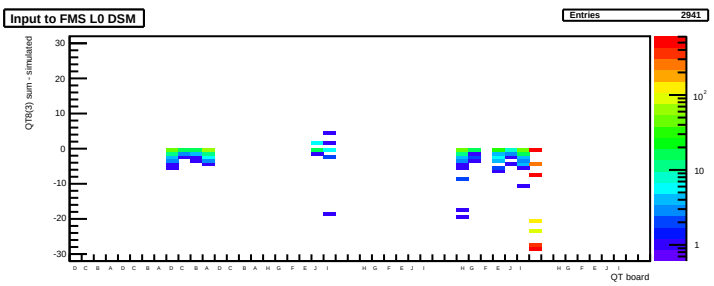

Input to FMS L0 DSM
Entries 130368
QT8(1) sum
QT board

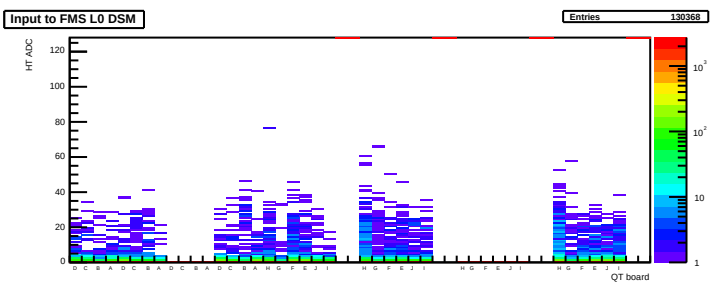

Input to FMS L0 DSM
Entries 558
QT8(1) sum - simulated
QT board

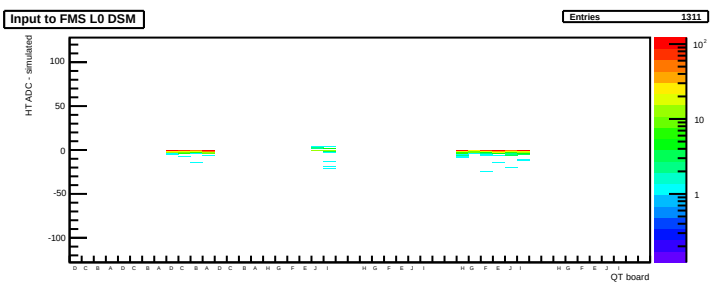

Input to FMS L0 DSM
Entries 130368
QT8(2) sum
QT board

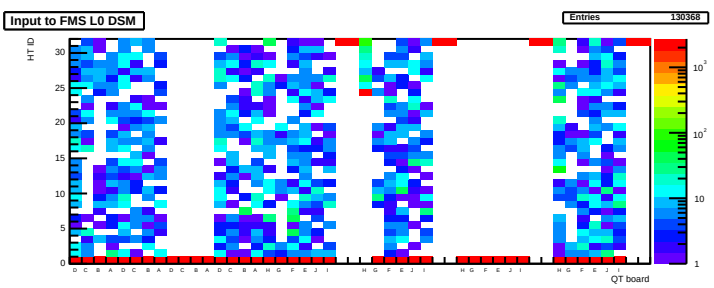

Input to FMS L0 DSM
Entries 2429
QT8(2) sum - simulated
QT board

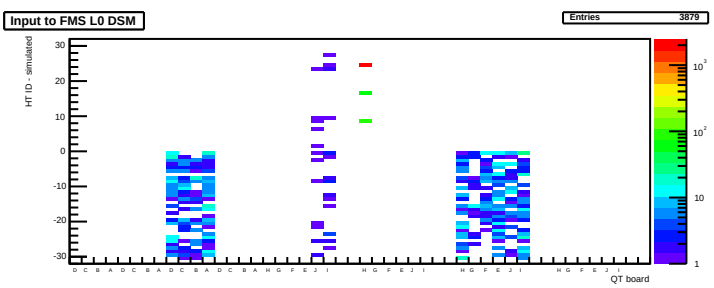

Input to FMS L0 DSM
Entries 130368
QT8(3) sum
QT board

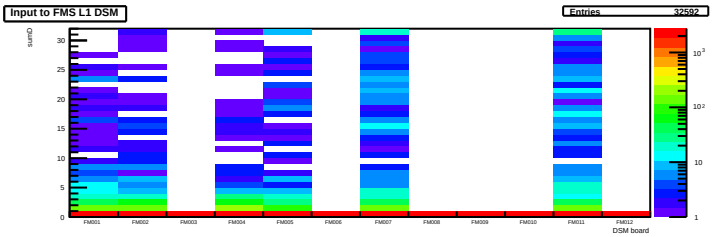

Input to FMS L0 DSM
Entries 2941
QT8(3) sum - simulated
QT board

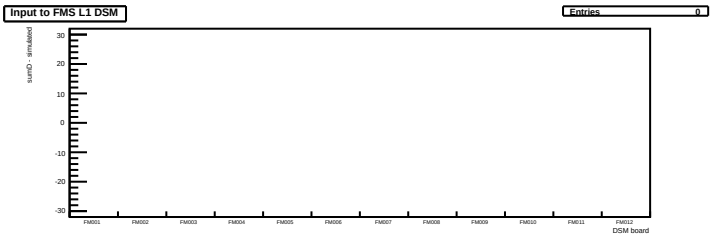

Input to FMS L0 DSM
Entries 130368
HT ADC
QT board

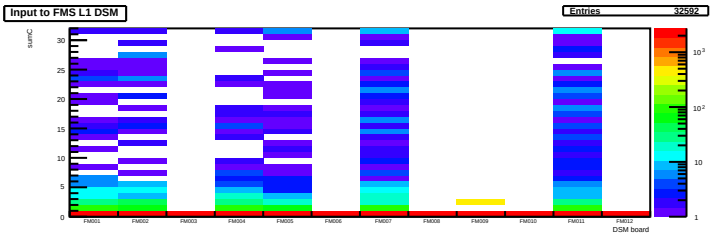

Input to FMS L0 DSM
Entries 1311
HT ADC - simulated
QT board

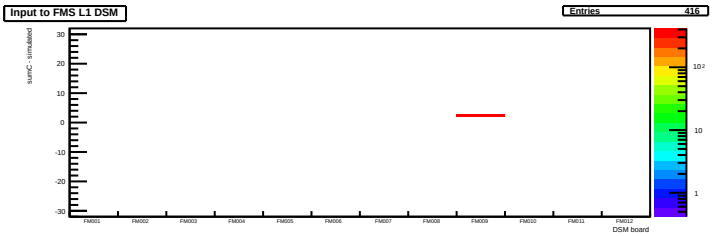

Input to FMS L0 DSM
Entries 130368
HT ID
QT board

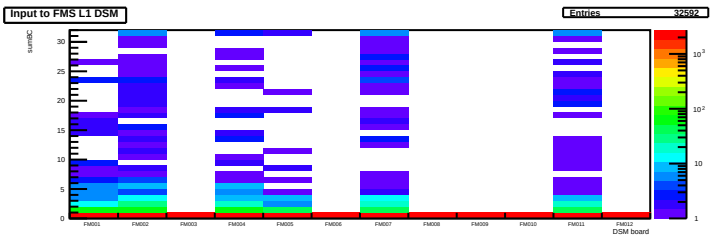

Input to FMS L0 DSM
Entries 3879
HT ID - simulated
QT board

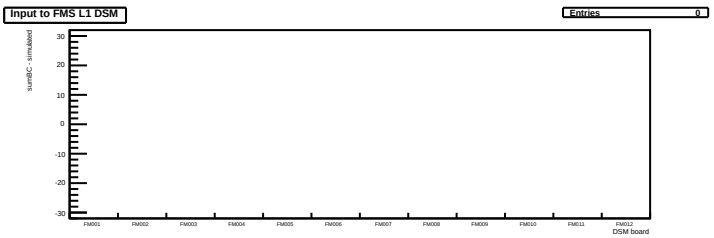

Input to FMS L1 DSM
Entries 32592
sumD
DSM board

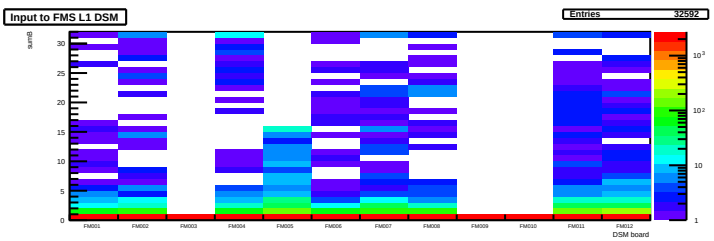

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

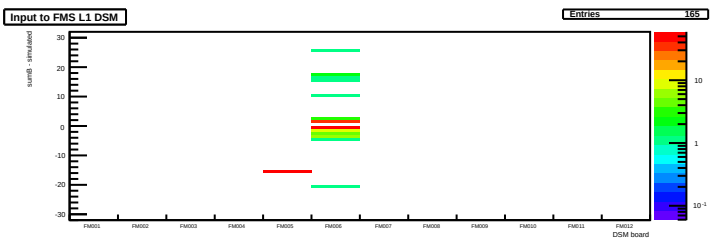

Input to FMS L1 DSM
Entries 32592
sumC
DSM board

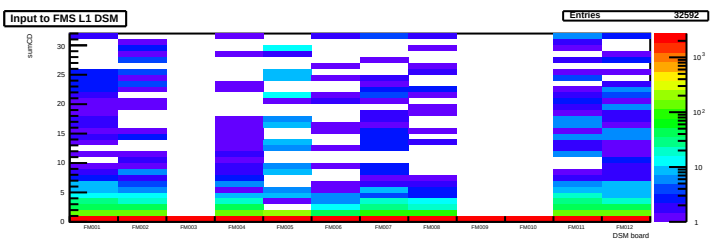

Input to FMS L1 DSM
Entries 416
sumC - simulated
DSM board

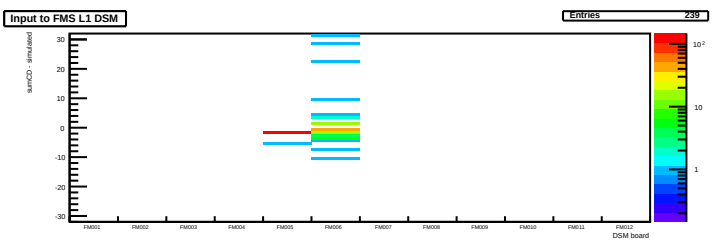

Input to FMS L1 DSM
Entries 32592
sumBC
DSM board

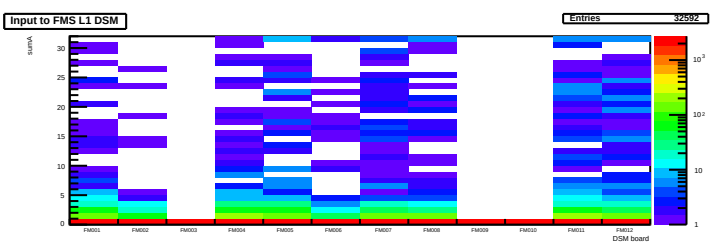

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

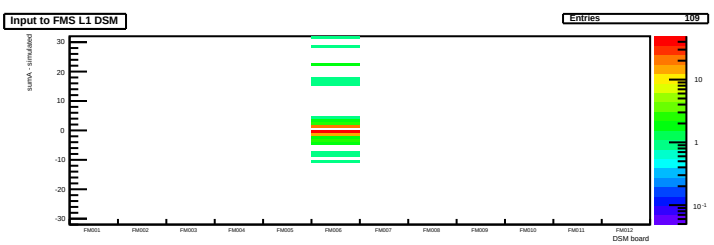

Input to FMS L1 DSM
Entries 32592
sumB
DSM board

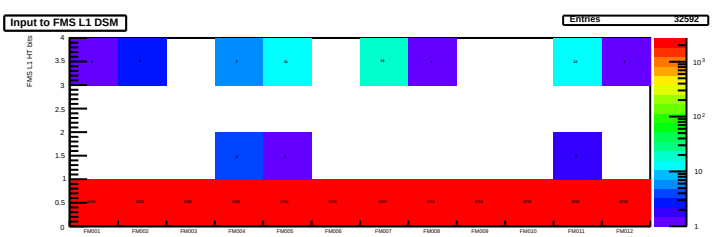

Input to FMS L1 DSM
Entries 165
sumB - simulated
DSM board

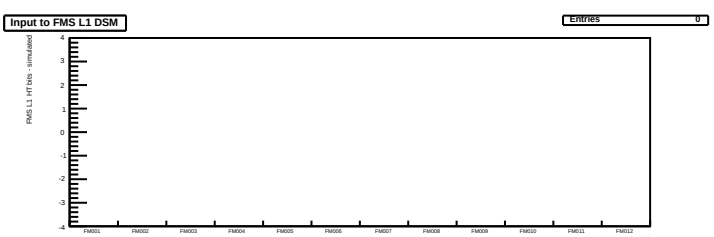

Input to FMS L1 DSM
Entries 32592
sumCD
DSM board

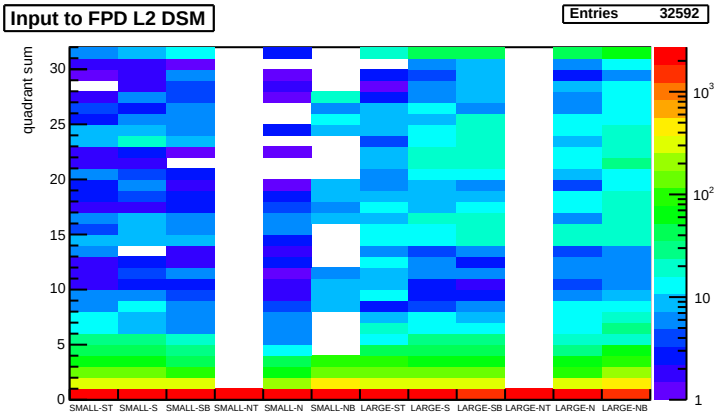

Input to FMS L1 DSM
Entries 239
sumCD - simulated
DSM board

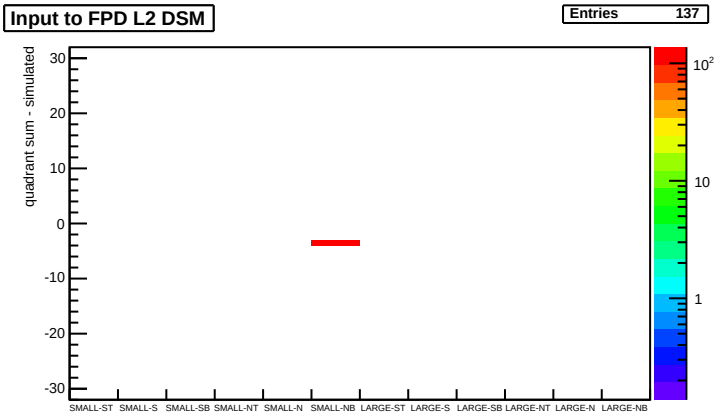

Input to FMS L1 DSM
Entries 32592
sumA
DSM board

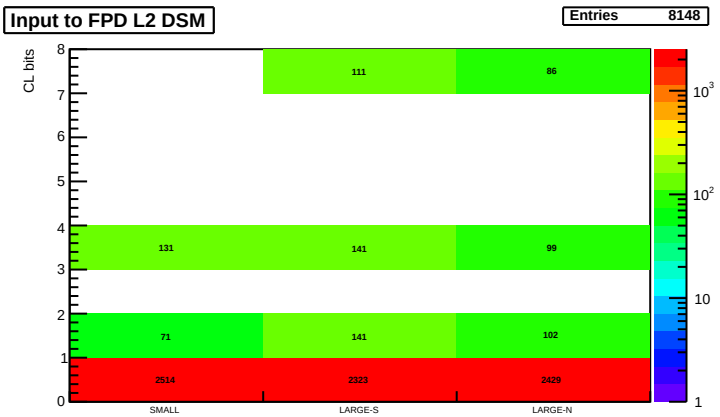

Input to FMS L1 DSM
Entries 109
sumA - simulated
DSM board

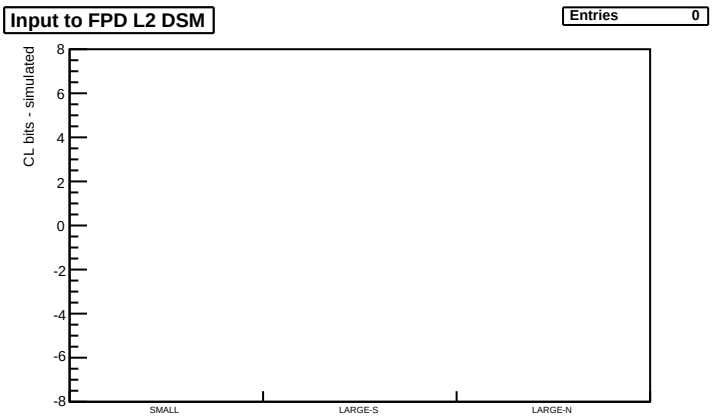

Input to FMS L1 DSM
Entries 32592
FMS L1 HT bits
DSM board

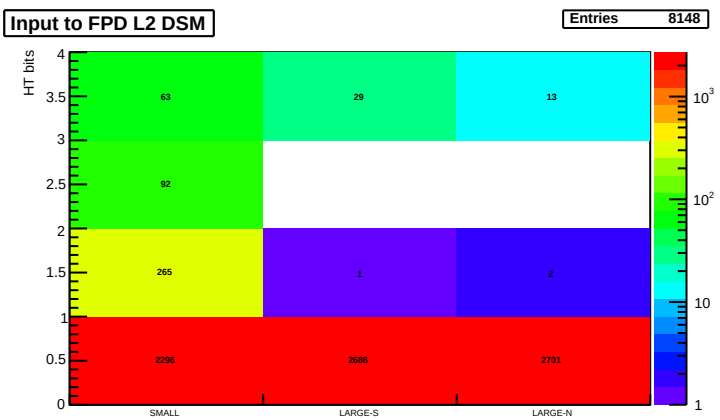

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

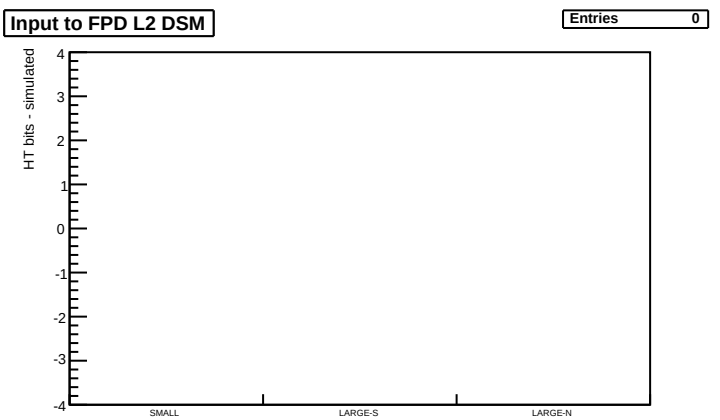

Input to FPD L2 DSM
Entries 32592
quadrant sum
SMALL-ST SMALL-S SMALL-SB SMALL-NT SMALL-N SMALL-NB LARGE-ST LARGE-S LARGE-SB LARGE-NT LARGE-N LARGE-NB

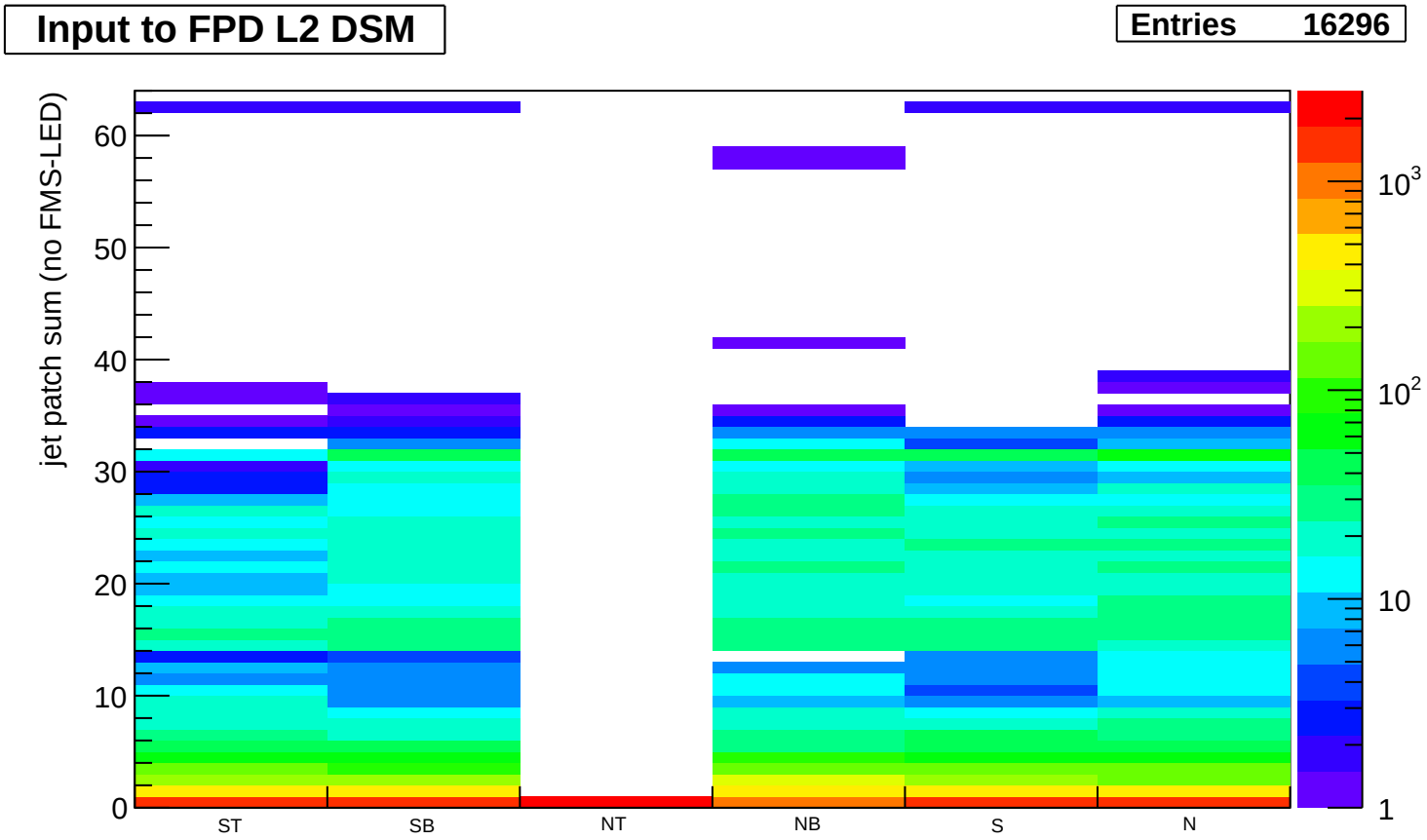

Input to FPD L2 DSM
Entries 137
quadrant sum - simulated
SMALL-ST SMALL-S SMALL-SB SMALL-NT SMALL-N SMALL-NB LARGE-ST LARGE-S LARGE-SB LARGE-NT LARGE-N LARGE-NB

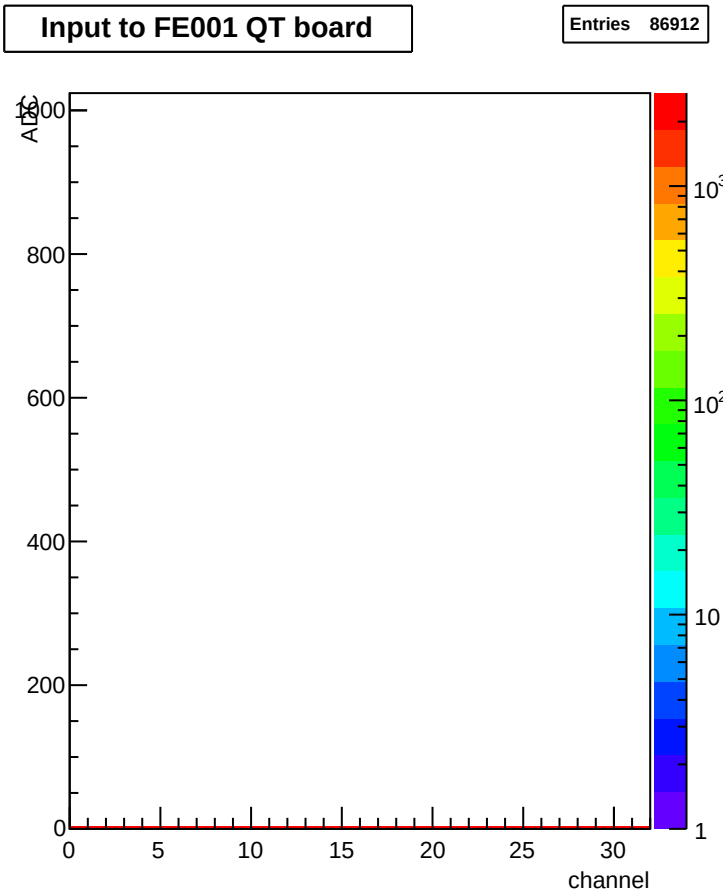

Input to FPD L2 DSM
Entries 8148
CL bits
111
86
131
141
99
71
141
102
2514
2323
2429
SMALL
LARGE-S
LARGE-N

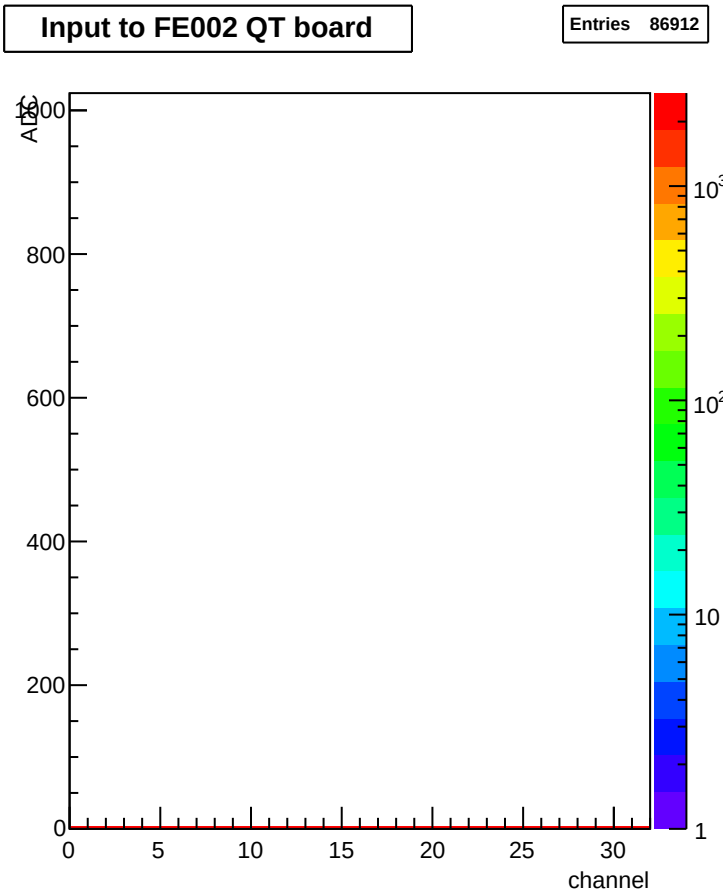

Input to FPD L2 DSM
Entries 0
CL bits - simulated
SMALL
LARGE-S
LARGE-N

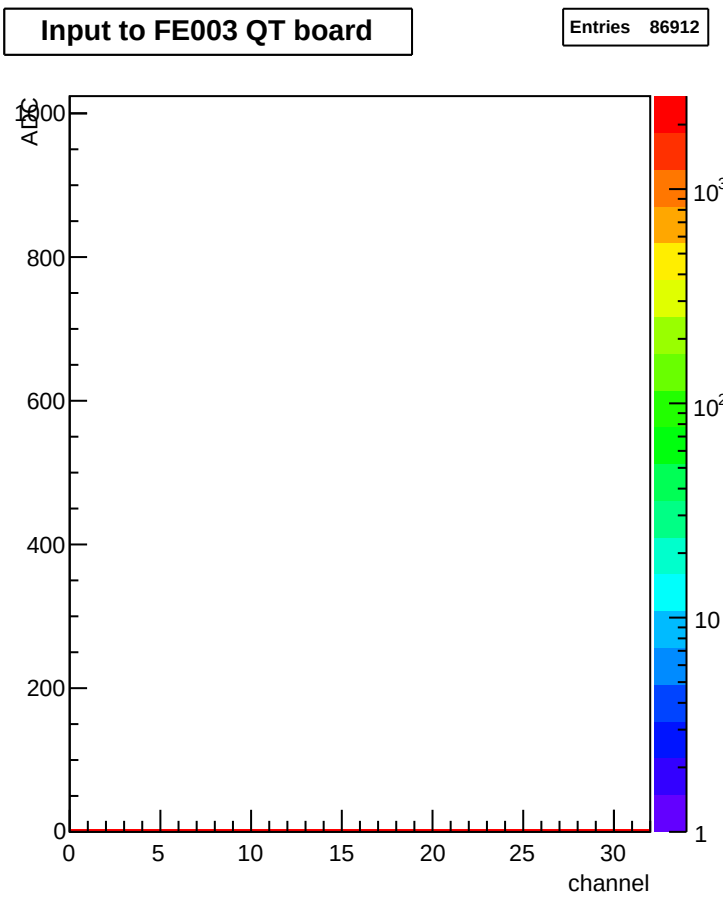

Input to FPD L2 DSM
Entries 8148
HT bits
63
29
13
92
265
1
2
2296
2686
2701
SMALL
LARGE-S
LARGE-N

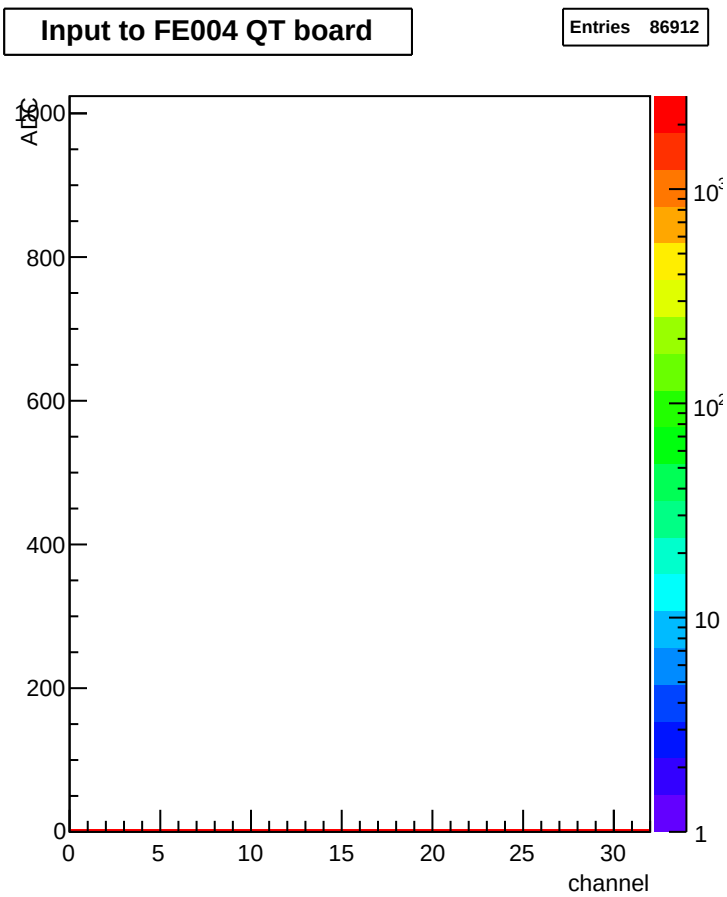

Input to FPD L2 DSM
Entries 0
HT bits - simulated
SMALL
LARGE-S
LARGE-N

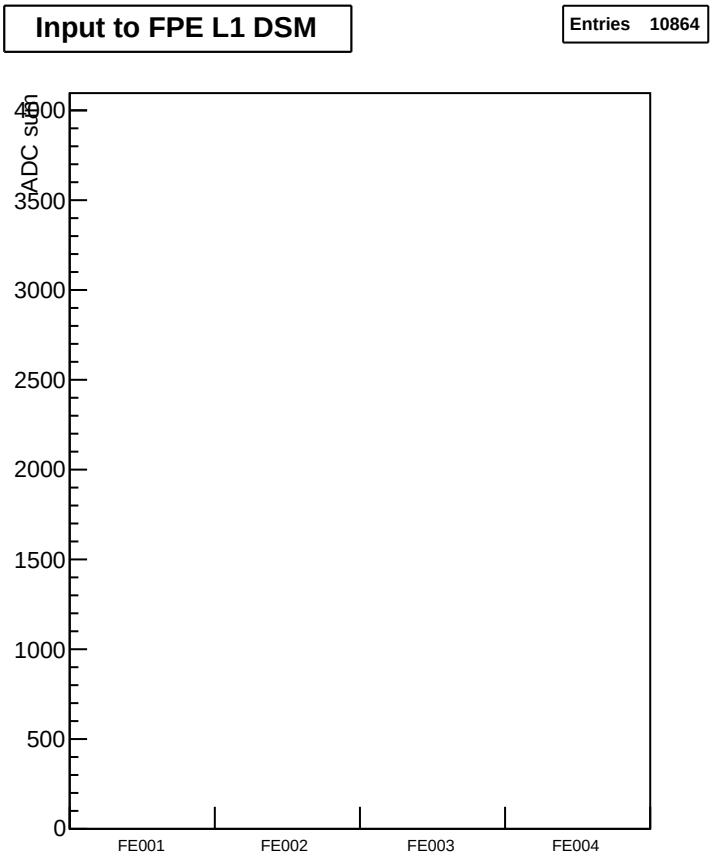

Input to FPD L2 DSM
Entries 16296
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3

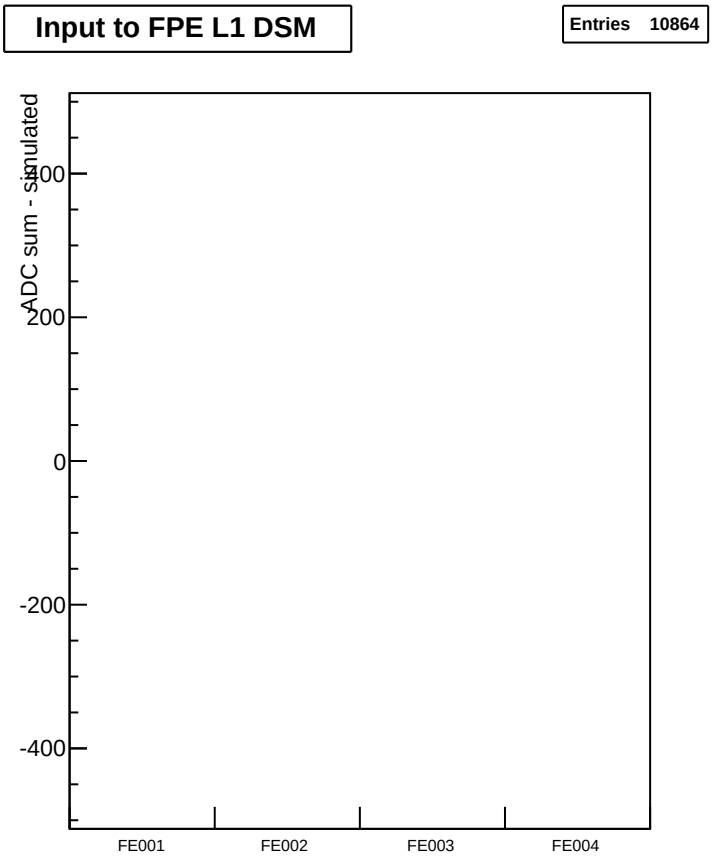

Input to FE001 QT board
Entries 86912
ADC
channel

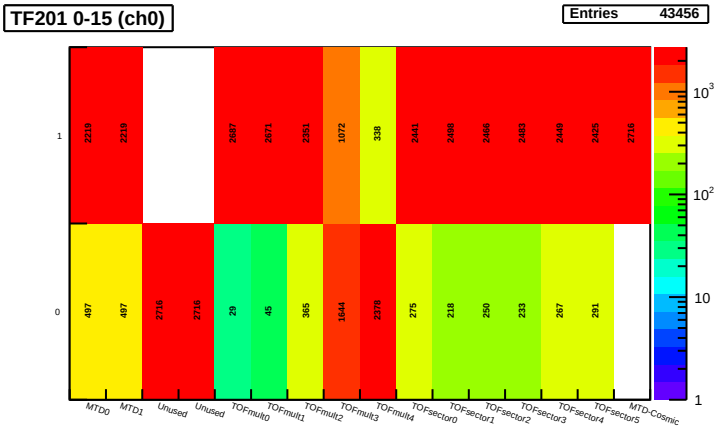

Input to FE002 QT board
Entries 86912
ADC
channel

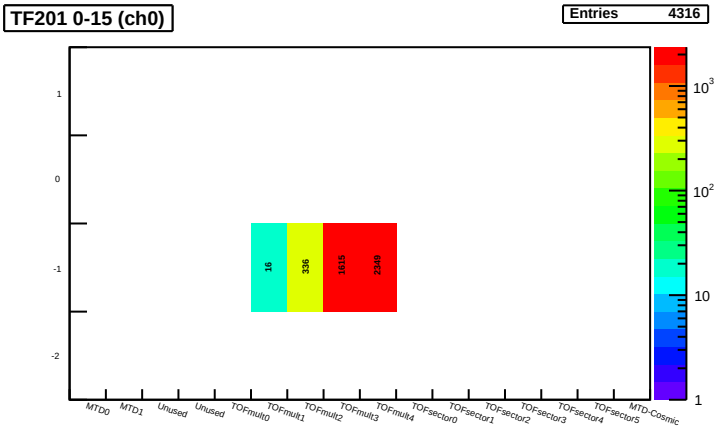

Input to FE003 QT board
Entries 86912
ADC
channel

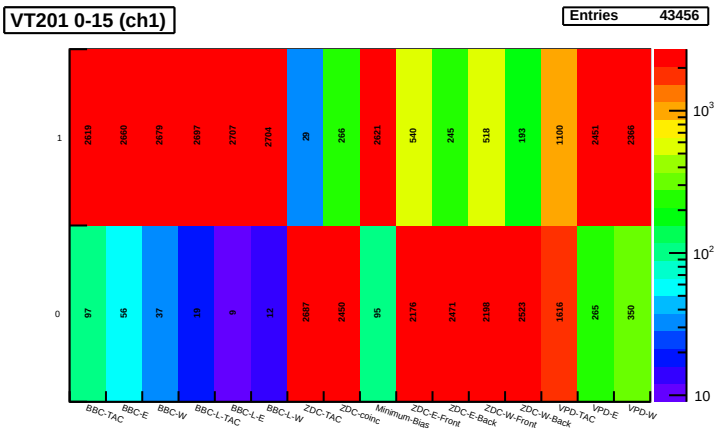

Input to FE004 QT board
Entries 86912
ADC
channel

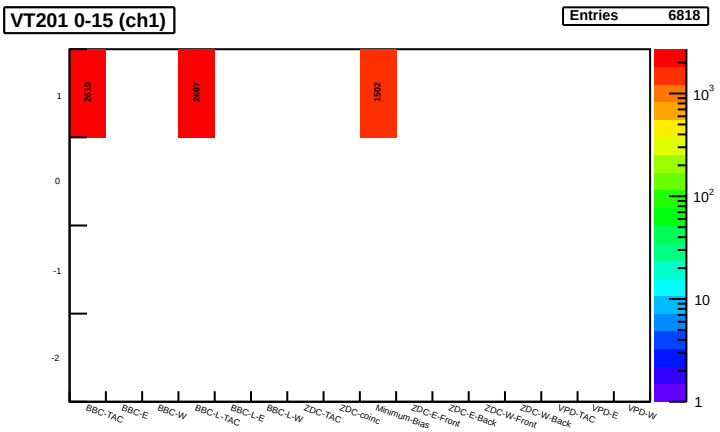

Input to FPE L1 DSM
Entries 10864
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004

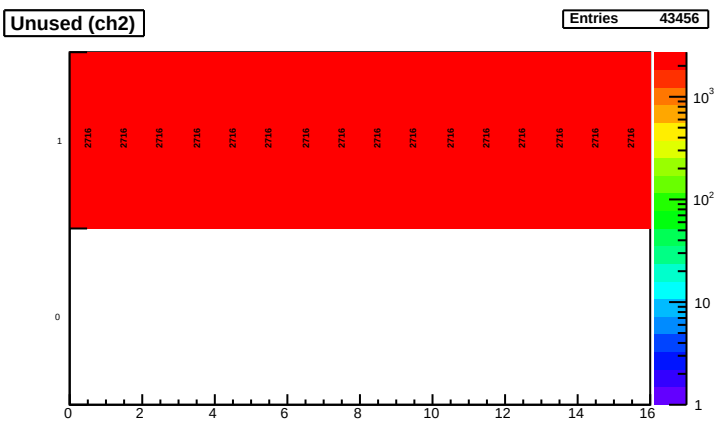

Input to FPE L1 DSM
Entries 10864
ADC sum - simulated
400
200
0
-200
-400
FE001
FE002
FE003
FE004

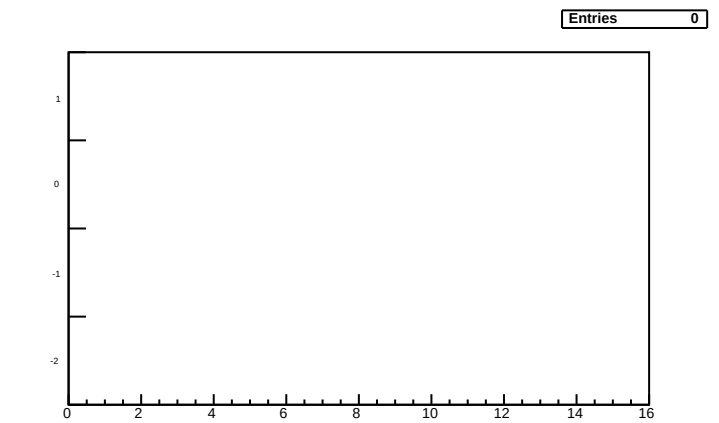

TF201 0-15 (ch0)
Entries 43456
2219 2219 2687 2671 2351 1072 338 2441 2498 2466 2483 2449 2425 2716
497 497 2716 2716 29 45 365 1644 2378 275 218 250 233 267 291
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

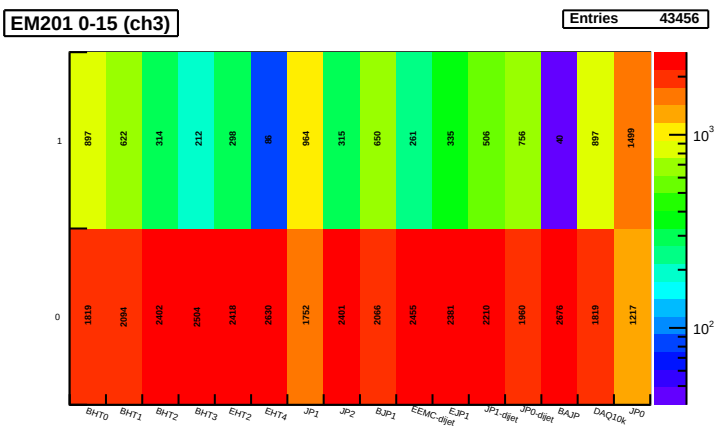

TF201 0-15 (ch0)
Entries 4316
16 336 1615 2349
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

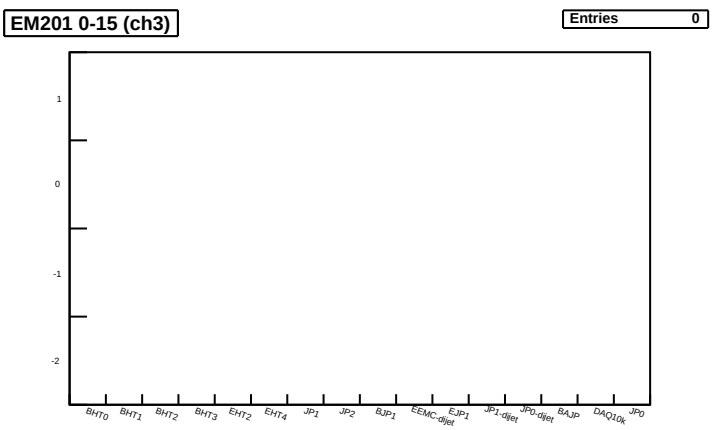

VT201 0-15 (ch1)
Entries 43456
2619 2660 2679 2697 2707 2704 29 266 2621 540 245 518 193 1100 2451 2366
97 56 37 19 9 12 2887 2450 95 2176 2471 2198 2523 1616 265 390
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

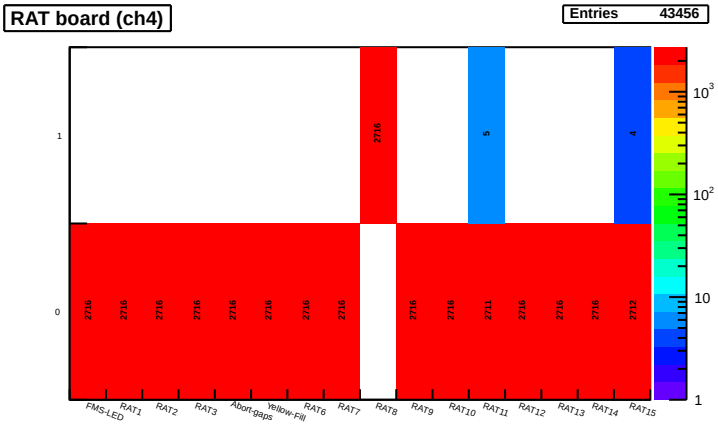

VT201 0-15 (ch1)
Entries 6818
2619 2697 1502
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

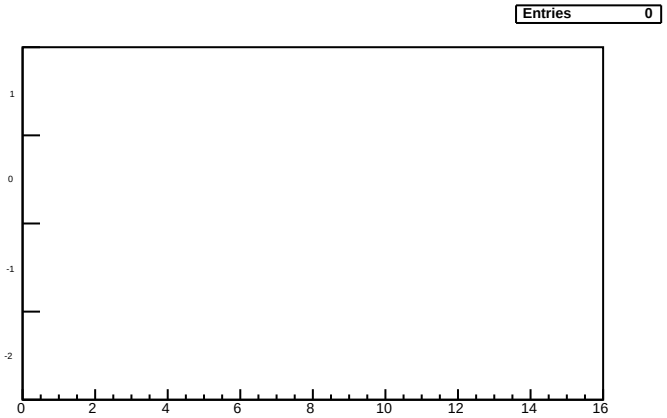

Unused (ch2)
Entries 43456
2716 2716 2716 2716 2716 2716 2716 2716 2716 2716 2716 2716 2716 2716 2716

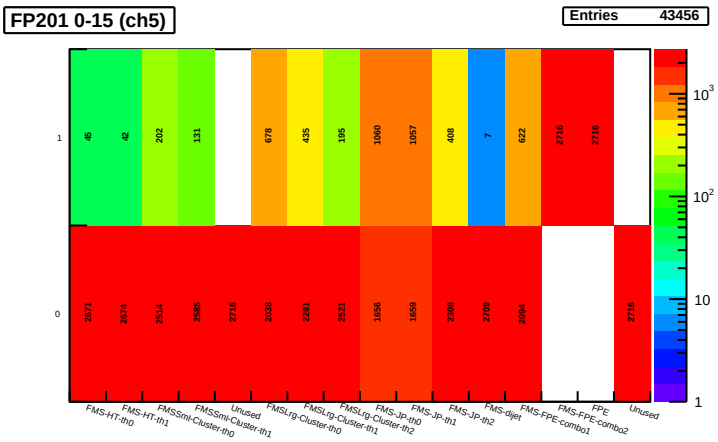

Entries 0

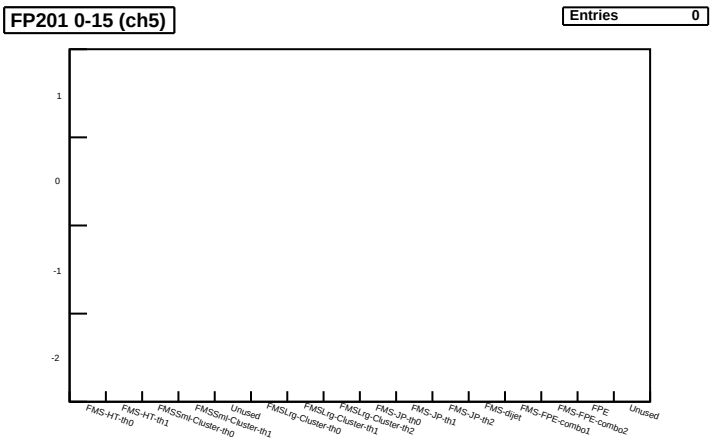

EM201 0-15 (ch3)
Entries 43456
897 622 314 212 298 85 964 315 650 261 335 506 756 40 897 1499
1819 2094 2402 2504 2418 2630 1752 2401 2066 2455 2381 2210 1960 2676 1819 1217
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 EEMC-dijet EJP1 JP1-dijet JP0-dijet BAJP DAQ10k JP0

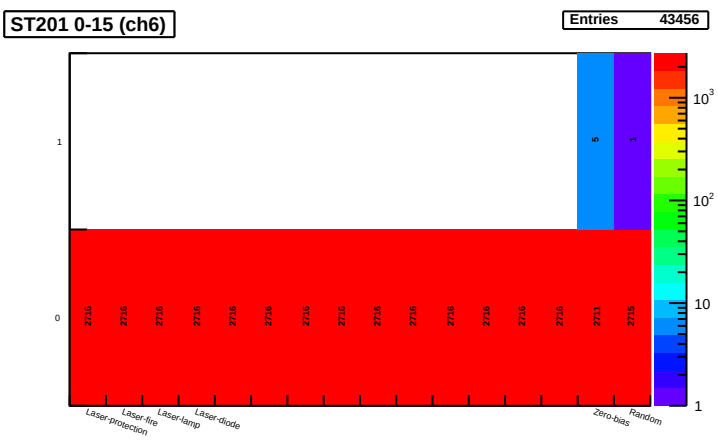

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 EEMC-dijet EJP1 JP1-dijet JP0-dijet BAJP DAQ10k JP0

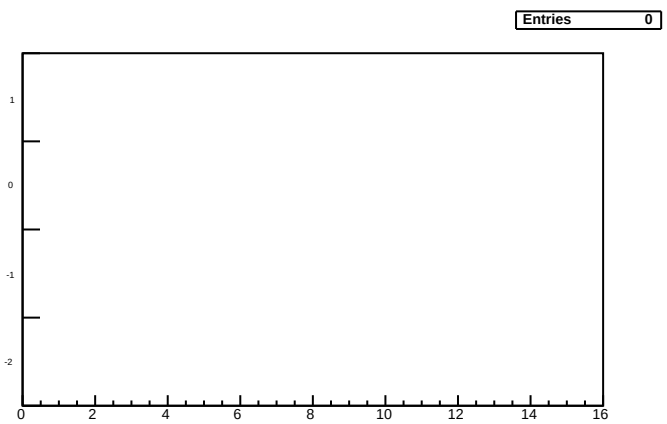

RAT board (ch4)
Entries 43456
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15

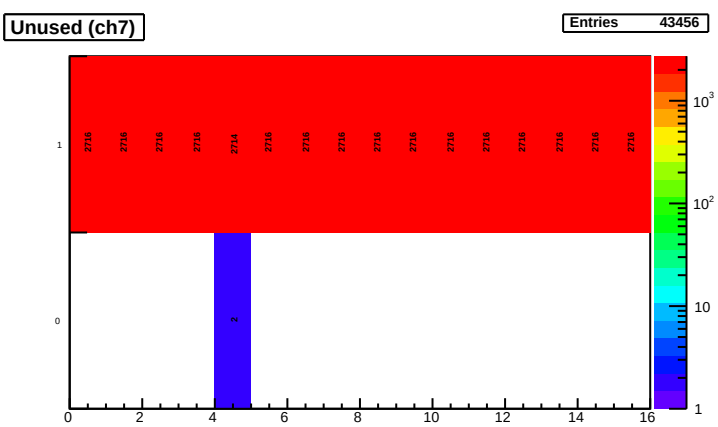

Entries 0

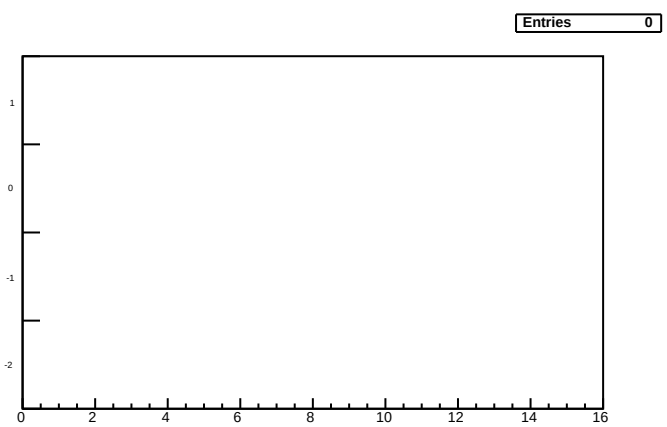

FP201 0-15 (ch5)
Entries 43456
FMS-HT-th0
FMS-HT-th1
FMSSmi-Cluster-th0
FMSSmi-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMSLrg-Cluster-th2
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FMS-FPE-combo2
FPE
Unused


FP201 0-15 (ch5)
Entries 0
FMS-HT-th0
FMS-HT-th1
FMSSmi-Cluster-th0
FMSSmi-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMSLrg-Cluster-th2
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FMS-FPE-combo2
FPE
Unused


ST201 0-15 (ch6)
Entries 43456
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random


Entries 0


Unused (ch7)
Entries 43456


Entries 0