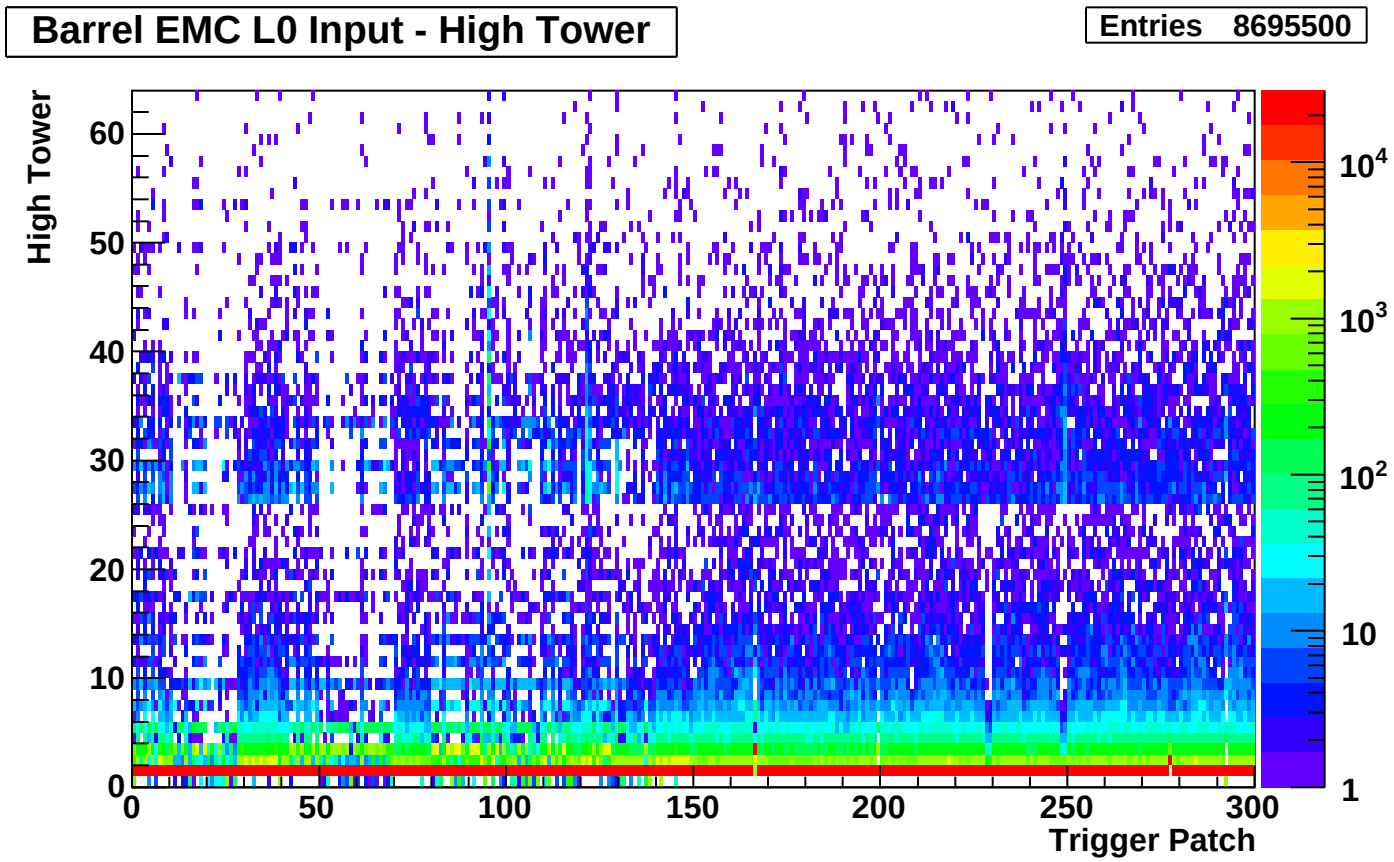
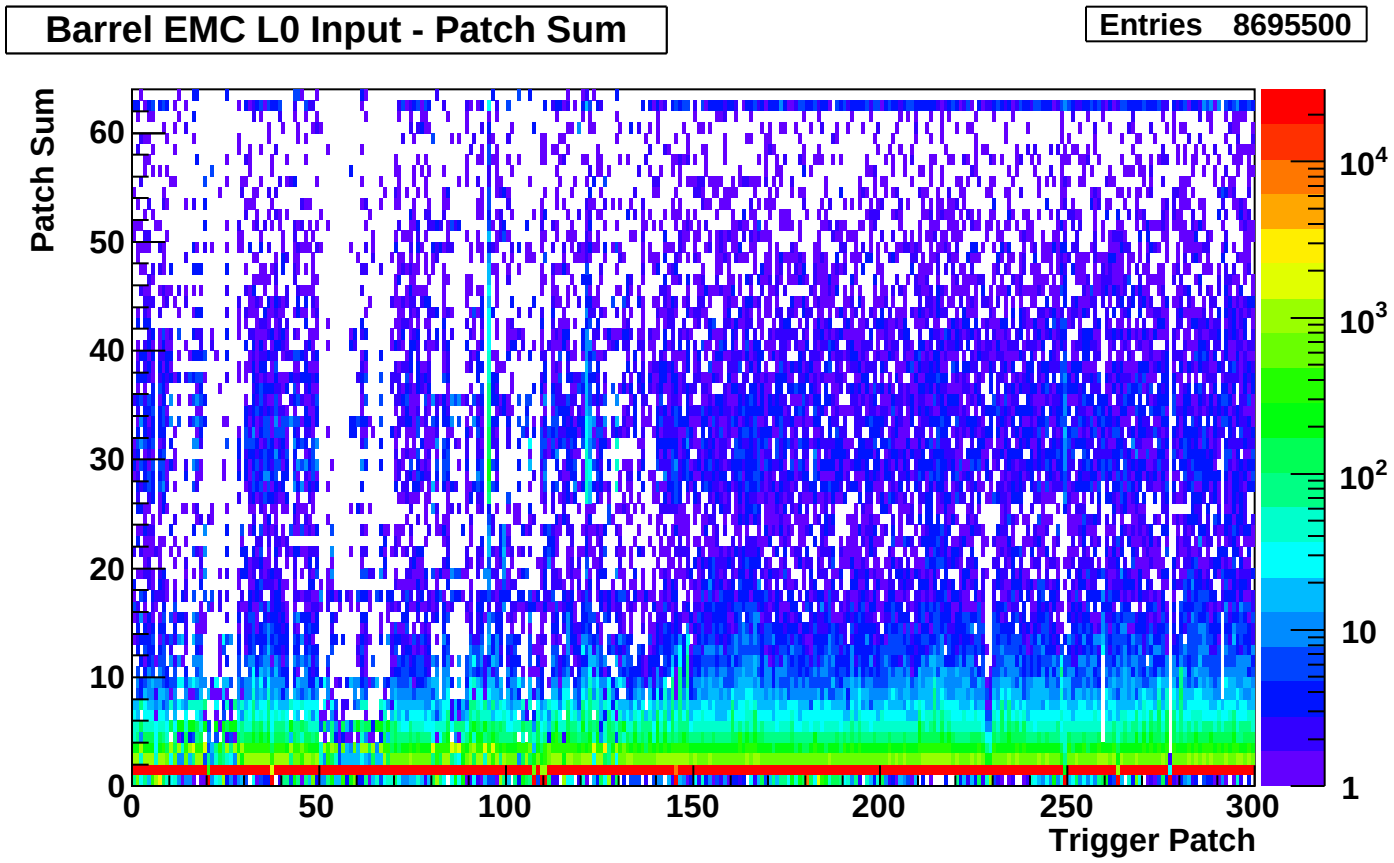
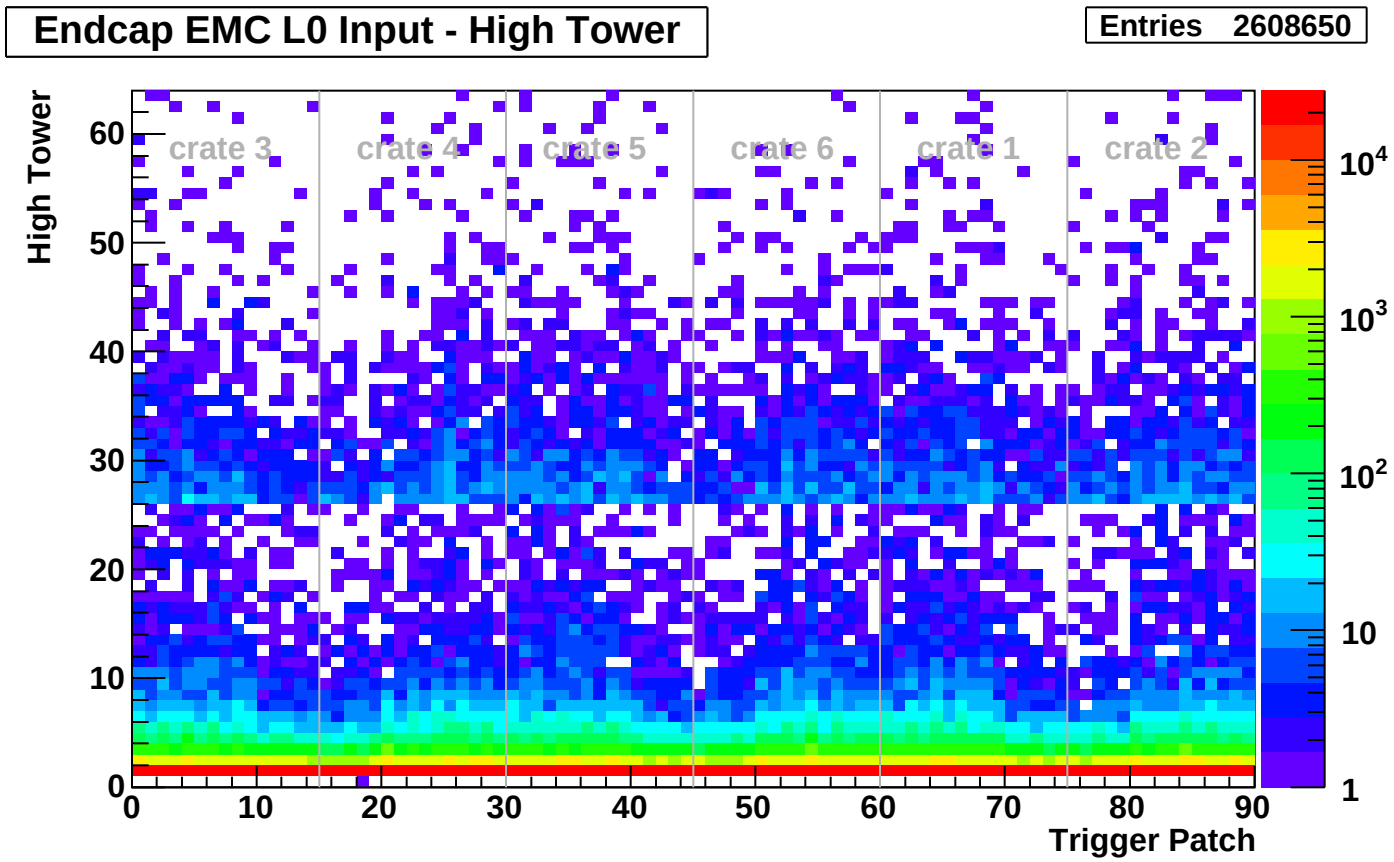
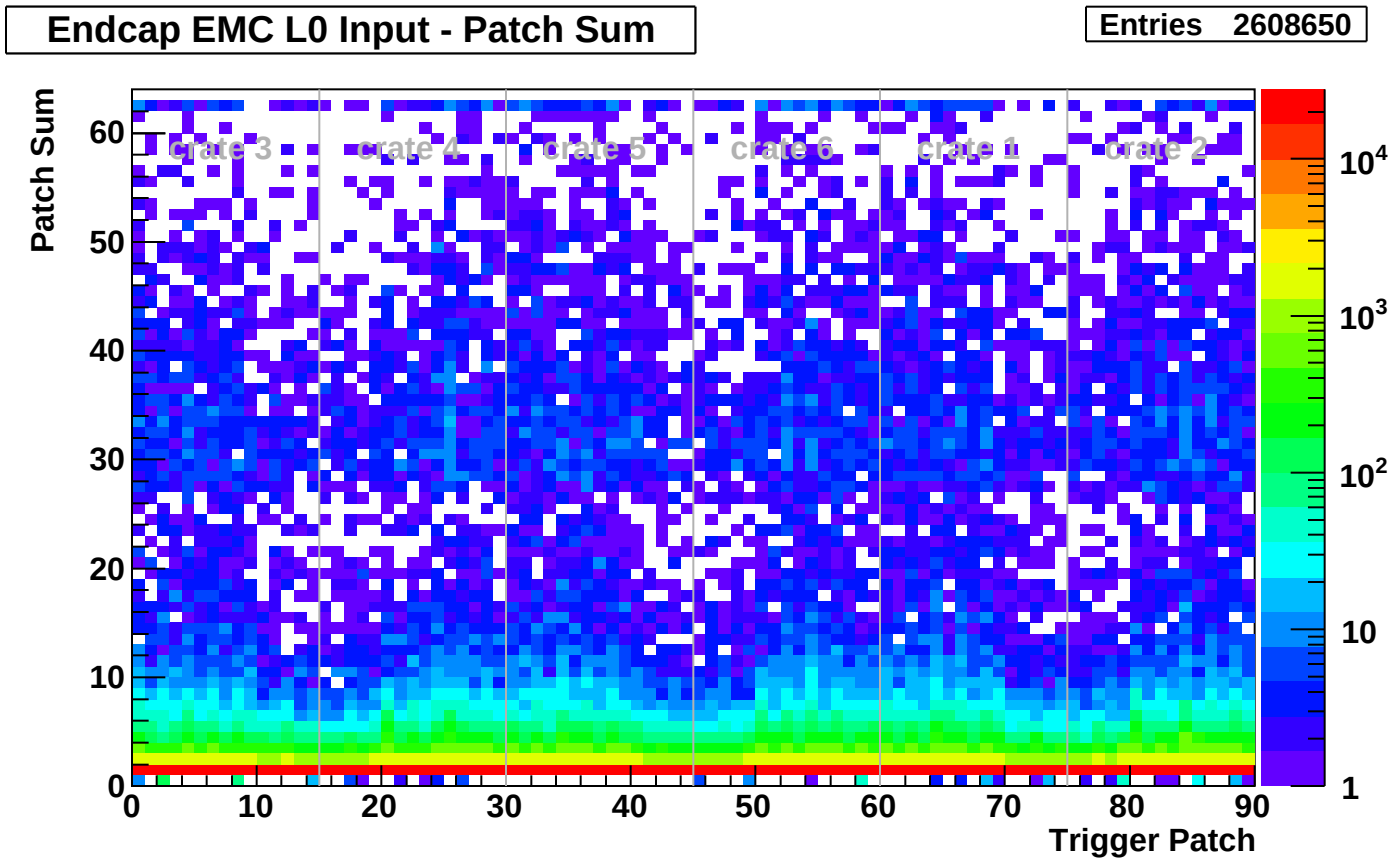
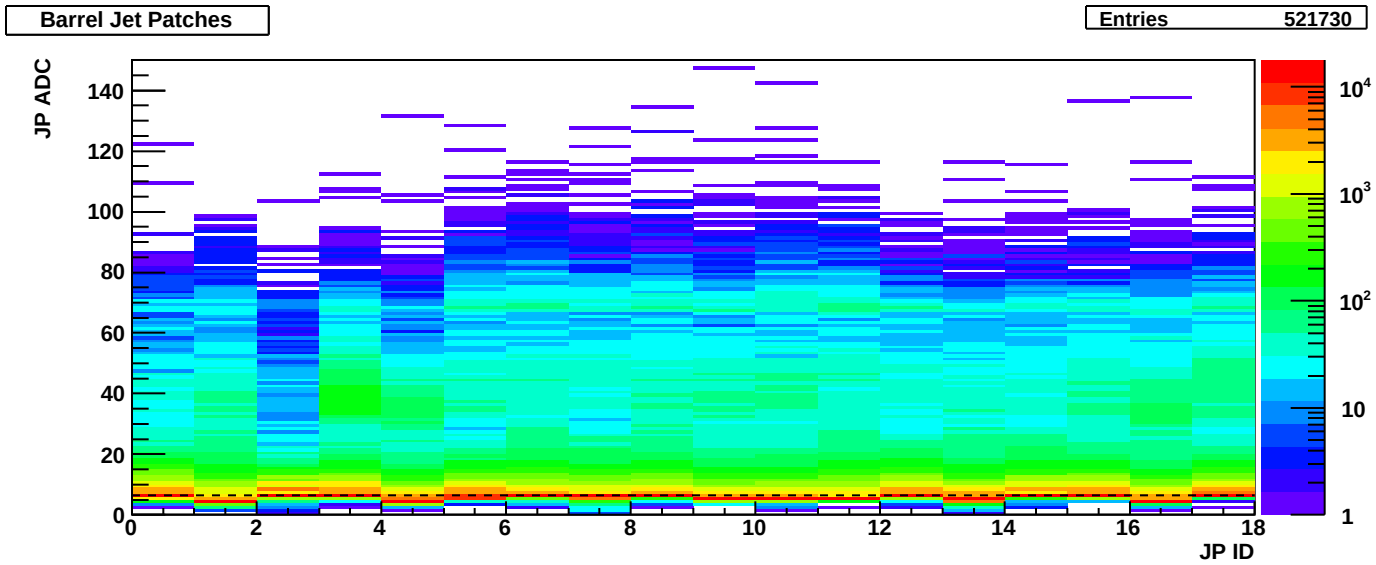
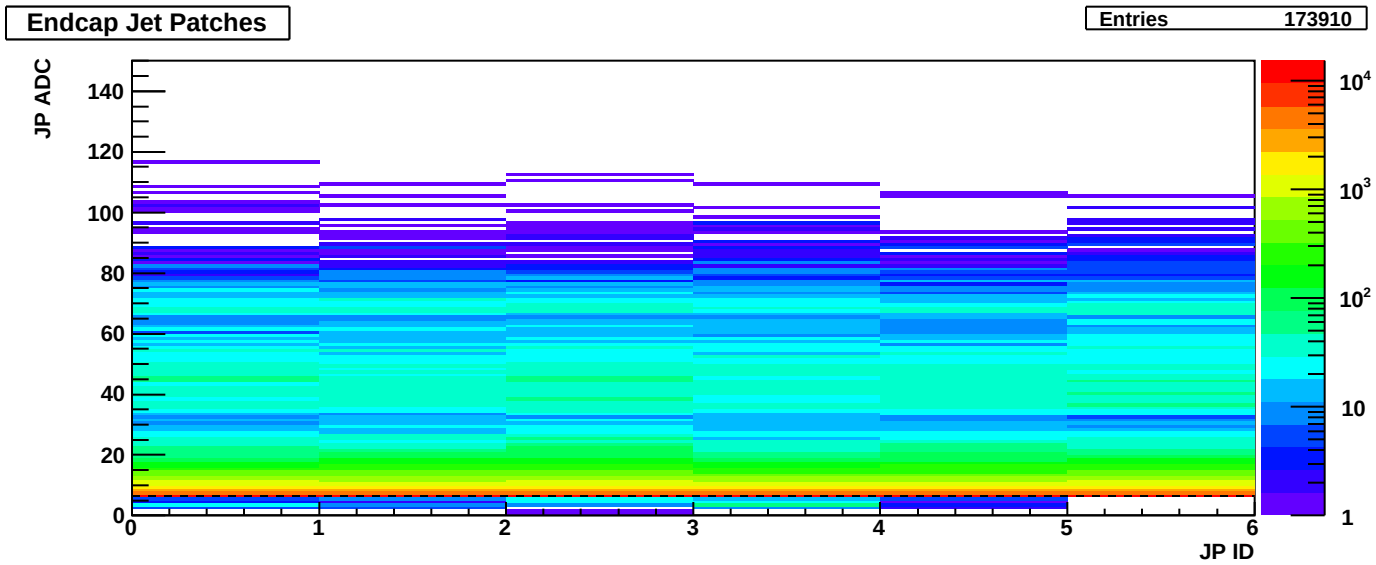

Barrel EMC L0 Input - High Tower
Entries 8695500
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

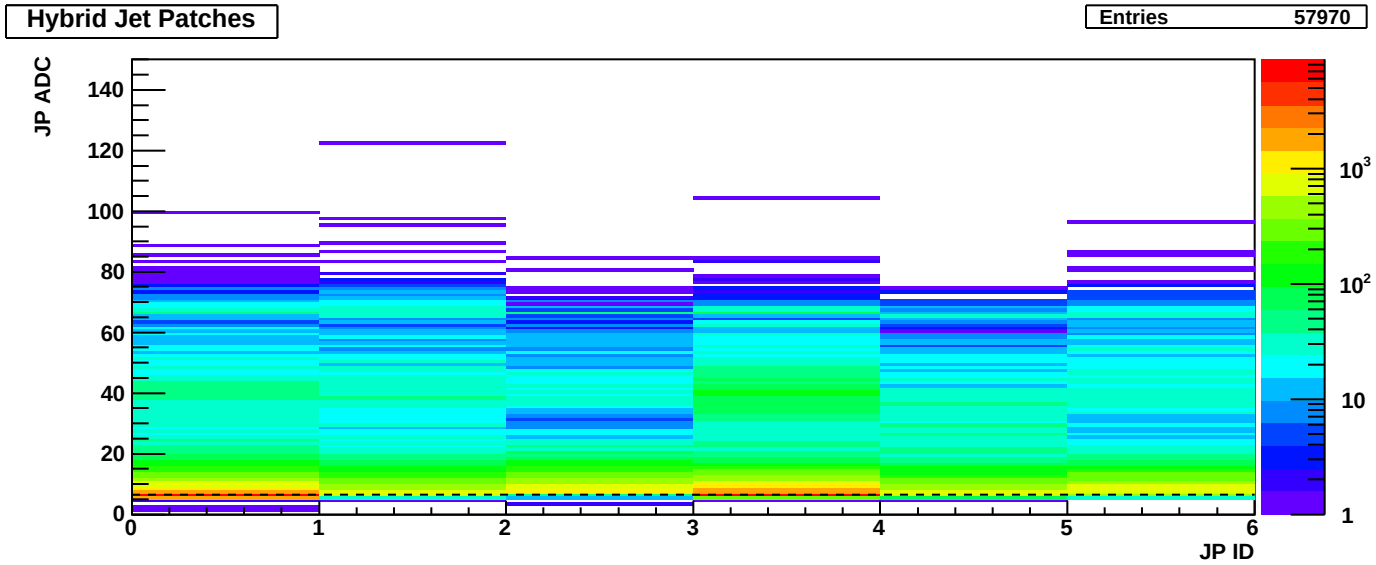

Barrel EMC L0 Input - Patch Sum
Entries 8695500
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

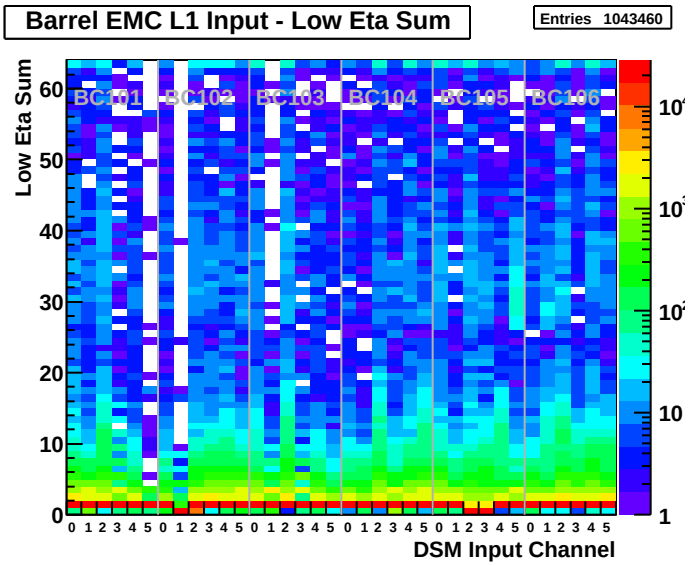

Endcap EMC L0 Input - High Tower
Entries 2608650
High Tower
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

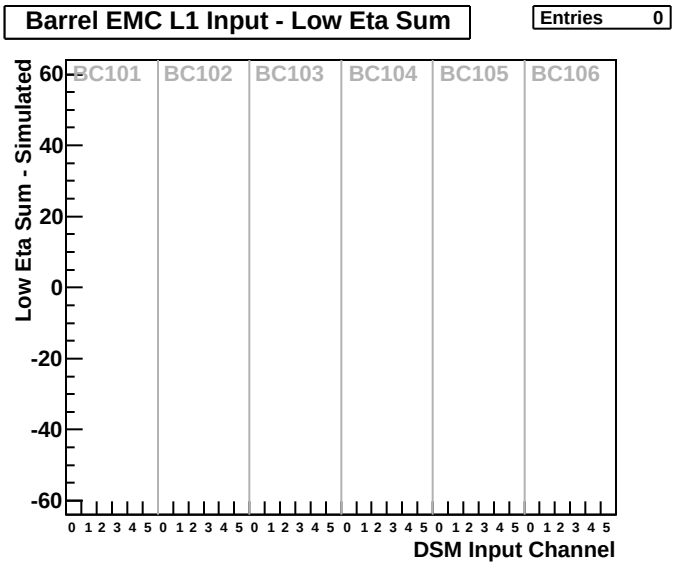

Endcap EMC L0 Input - Patch Sum
Entries 2608650
Patch Sum
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

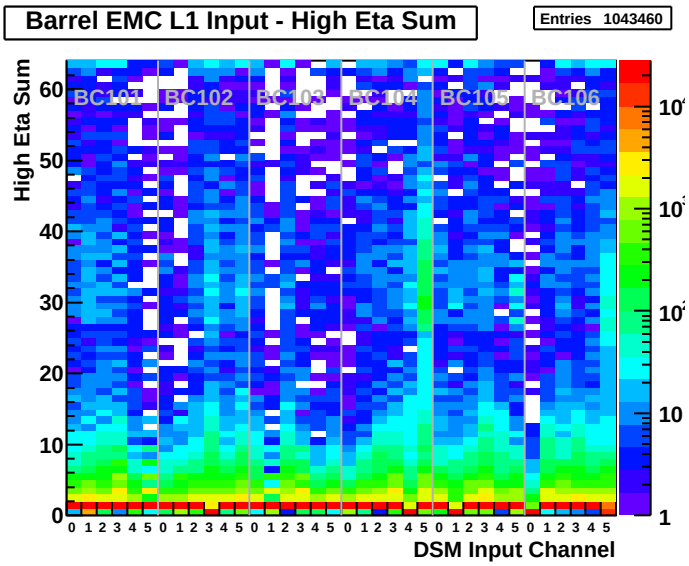

Barrel Jet Patches
Entries 521730
JP ADC
JP ID

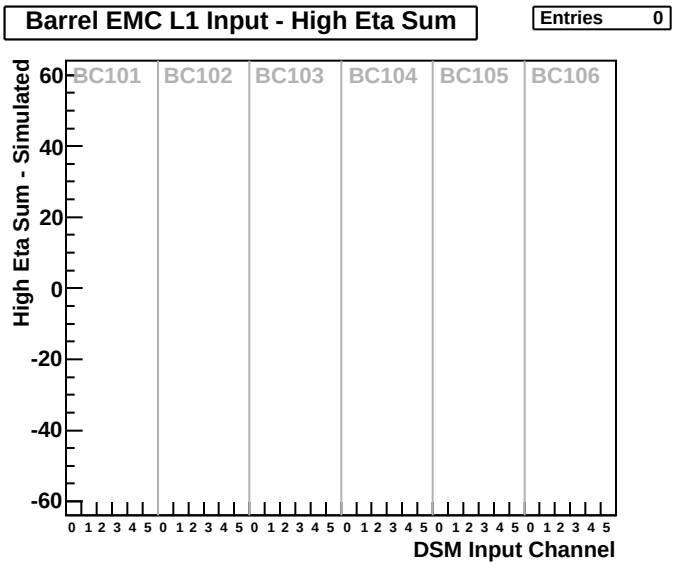

Endcap Jet Patches
Entries 173910
JP ADC
JP ID

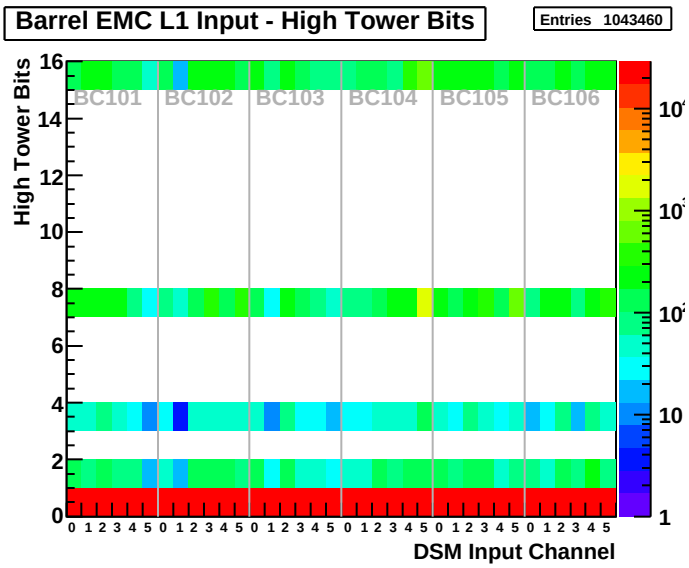

Hybrid Jet Patches
Entries 57970
JP ADC
JP ID

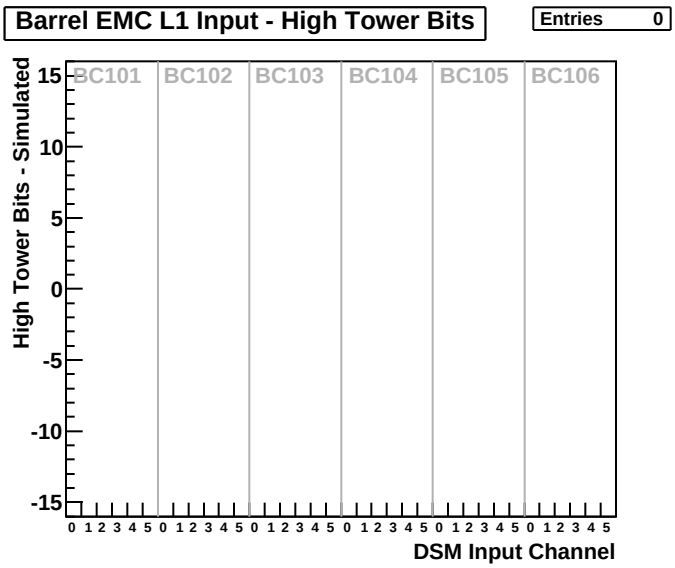

Barrel EMC L1 Input - Low Eta Sum
Entries 1043460
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

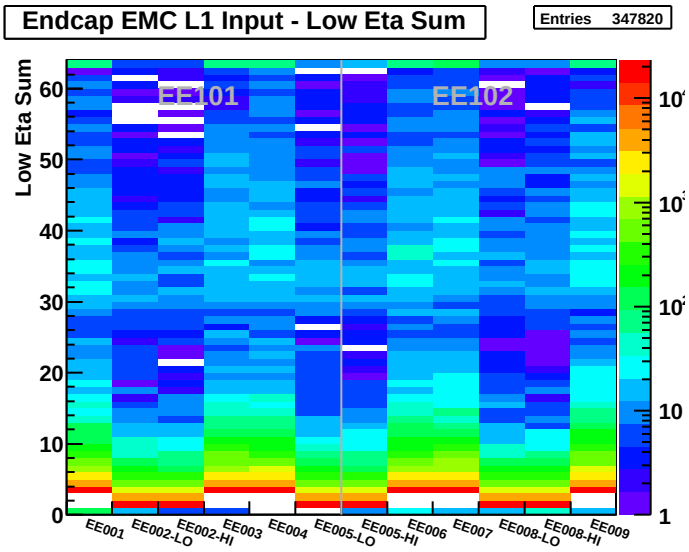

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

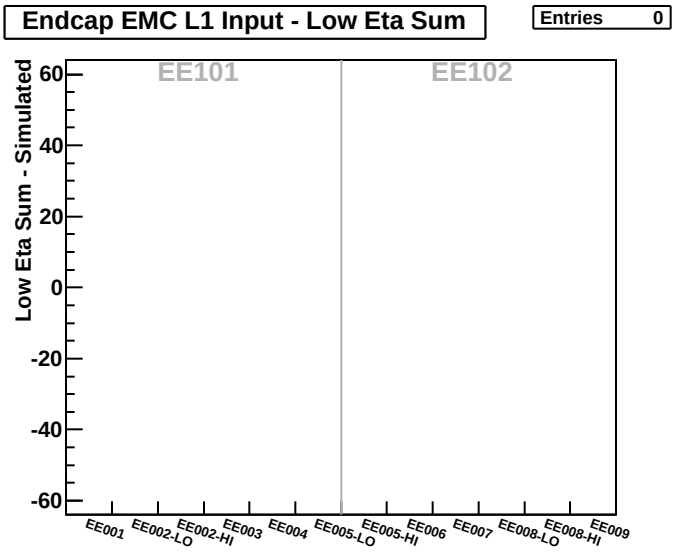

Barrel EMC L1 Input - High Eta Sum
Entries 1043460
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

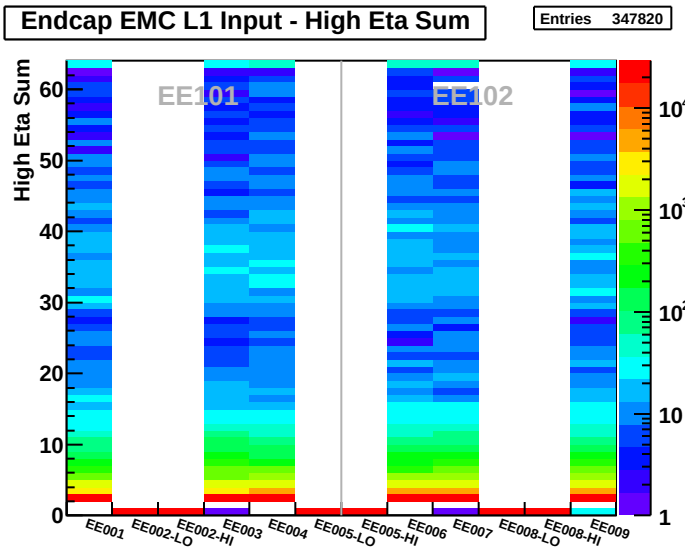

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

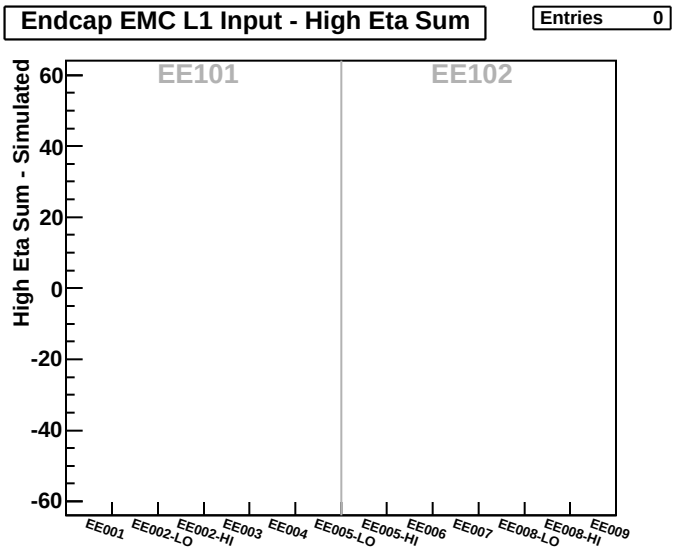

Barrel EMC L1 Input - High Tower Bits
Entries 1043460
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

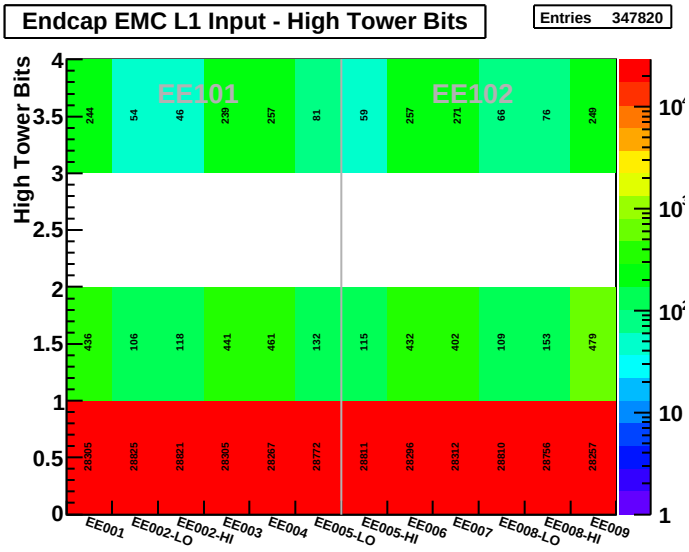

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

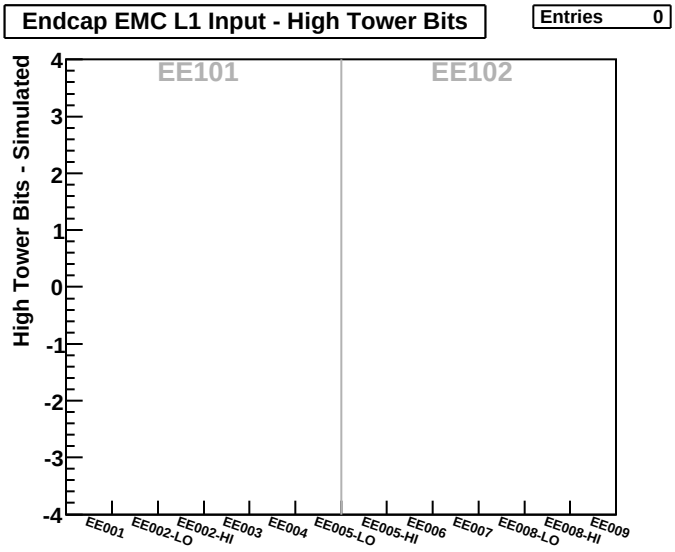

Endcap EMC L1 Input - Low Eta Sum
Entries 347820
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

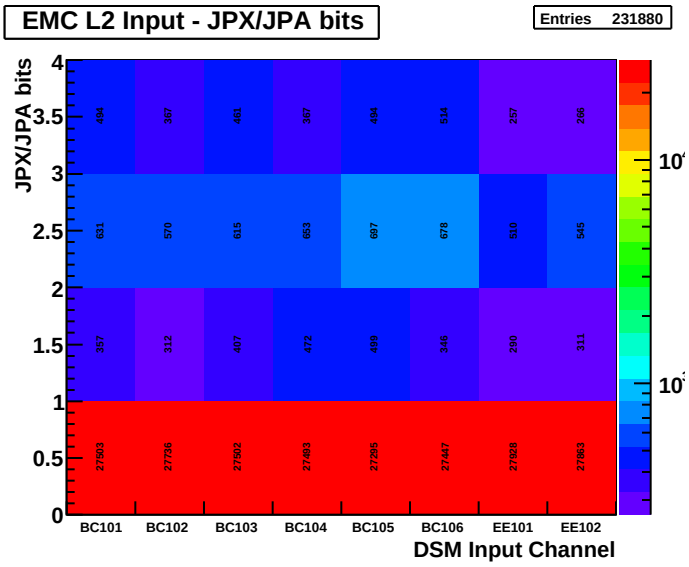

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

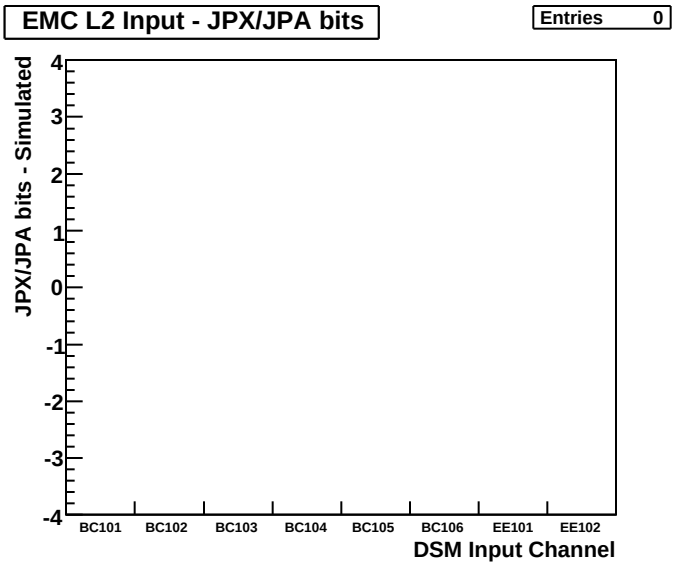

Endcap EMC L1 Input - High Eta Sum
Entries 347820
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

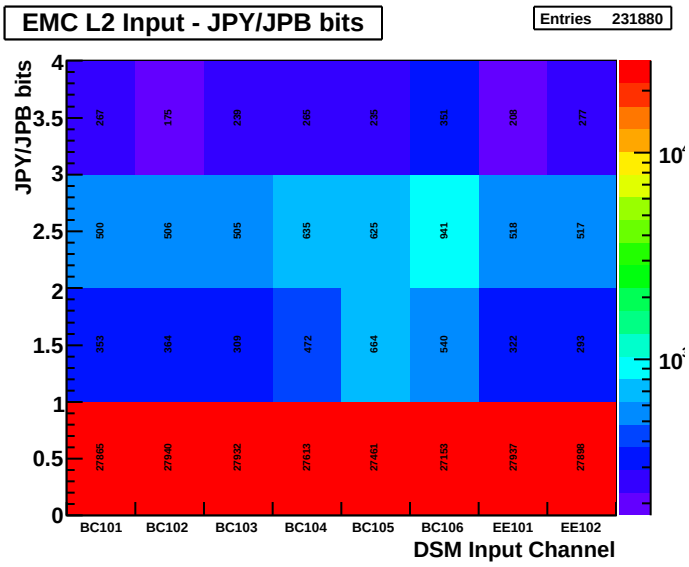

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

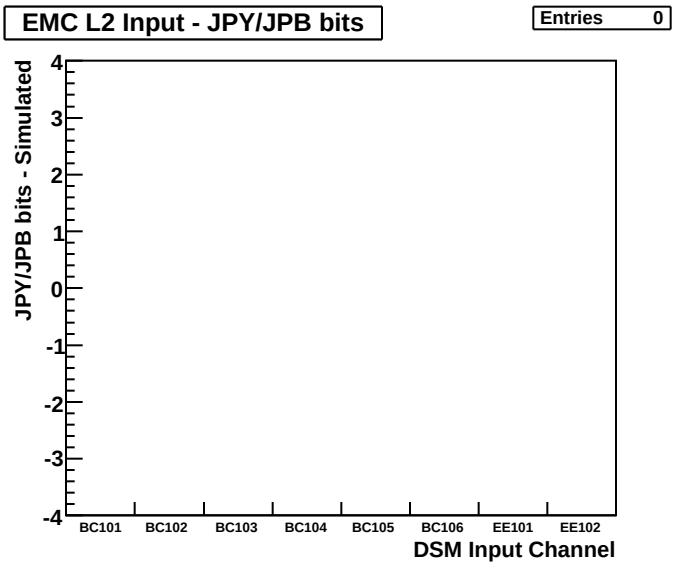

Endcap EMC L1 Input - High Tower Bits
Entries 347820
High Tower Bits
EE101
EE102
244 54 46 239 257 81 59 257 271 66 76 249
436 106 118 441 461 132 115 432 402 109 153 479
28305 28825 28821 28305 28357 28772 28811 28296 28312 28810 28756 28257
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

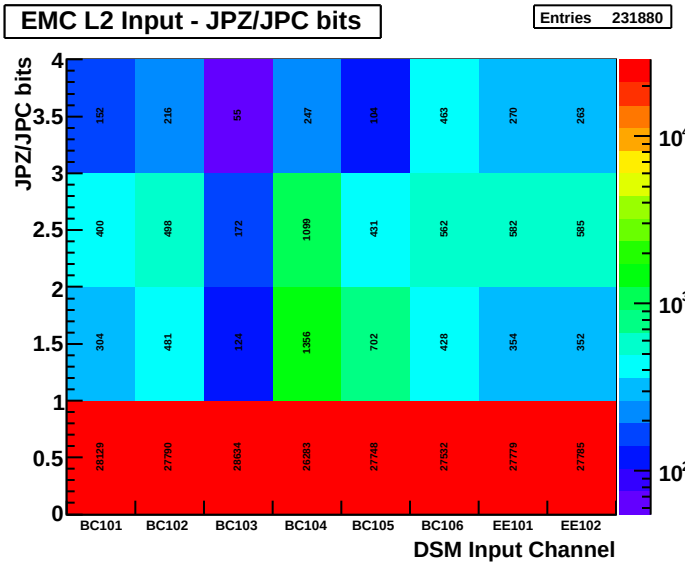

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

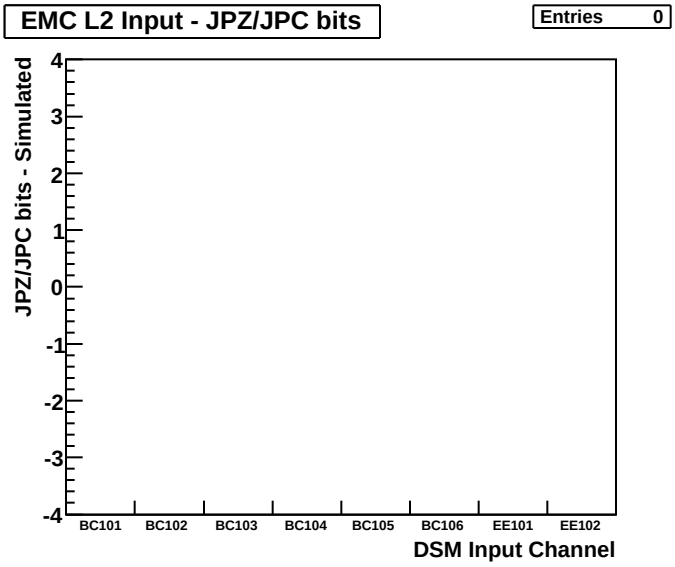

EMC L2 Input - JPX/JPA bits
Entries 231880
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
494 367 461 367 494 514 257 266
631 570 615 653 697 678 510 545
357 312 407 472 499 346 290 311
27503 27736 27502 27493 27295 27447 27928 27863

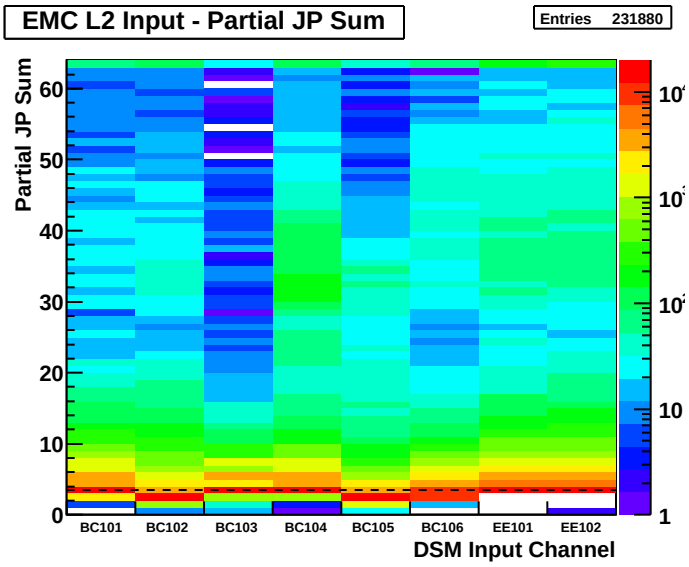

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

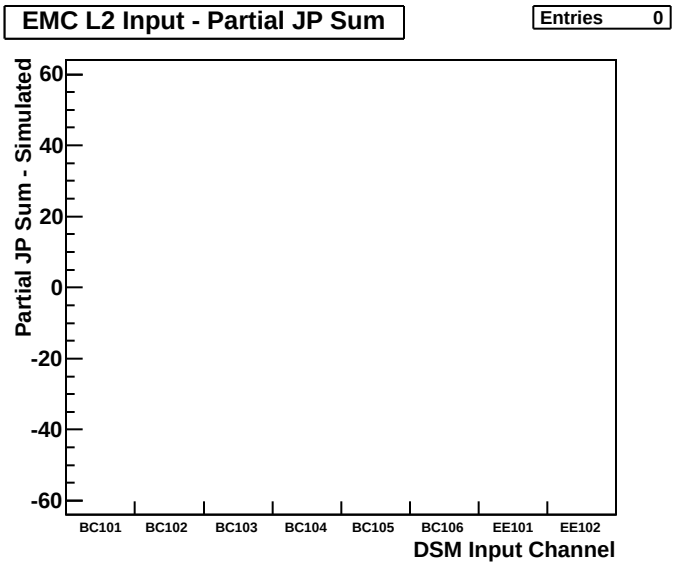

EMC L2 Input - JPY/JPB bits
Entries 231880
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
267 175 239 266 235 351 208 277
500 506 505 635 625 941 518 517
353 364 309 472 664 540 322 293
27865 27940 27932 27613 27461 27153 27937 27698

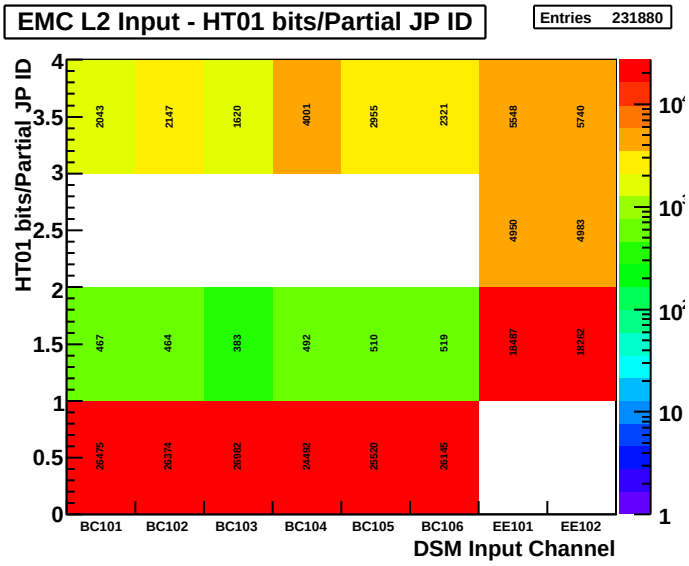

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

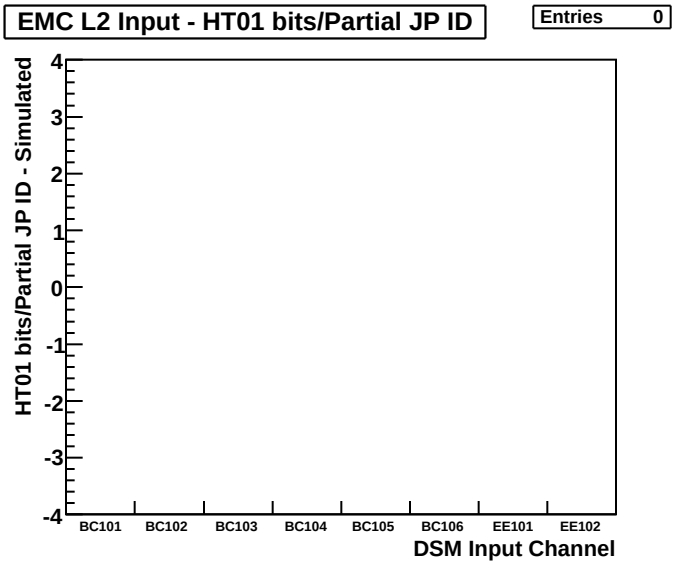

EMC L2 Input - JPZ/JPC bits
Entries 231880
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
152 216 55 247 104 463 270 263
400 498 172 1099 431 562 582 585
304 481 124 1356 702 428 354 352
28129 27790 28624 26383 27748 27532 27779 27785

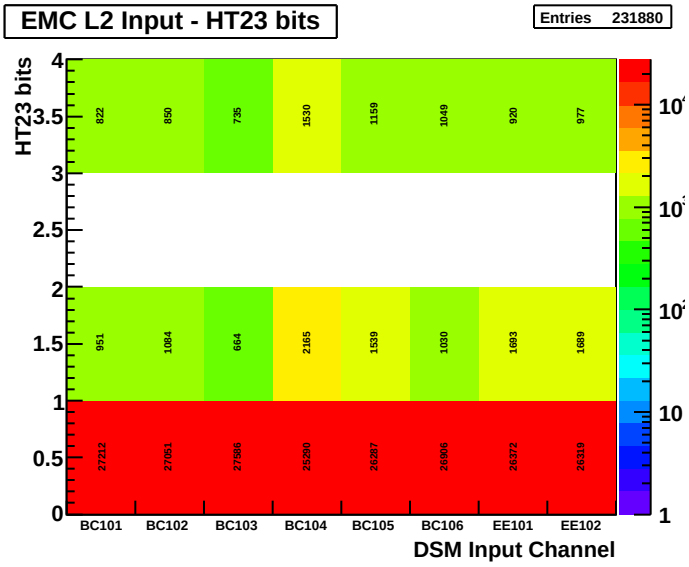

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

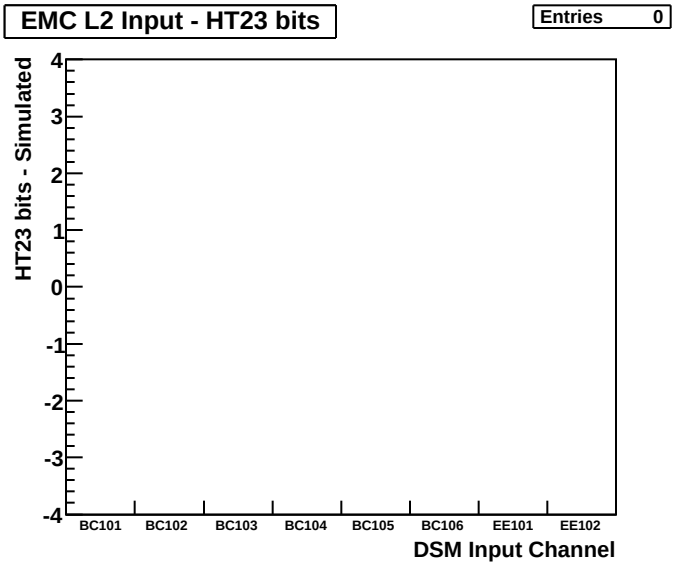

EMC L2 Input - Partial JP Sum
Entries 231880
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

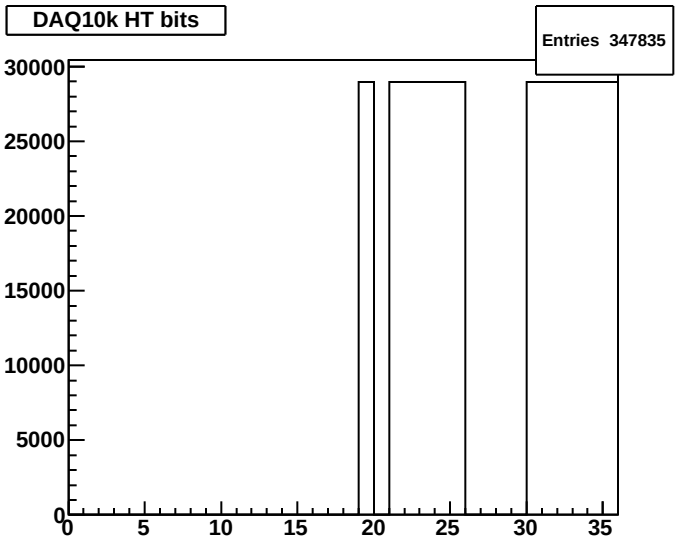

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

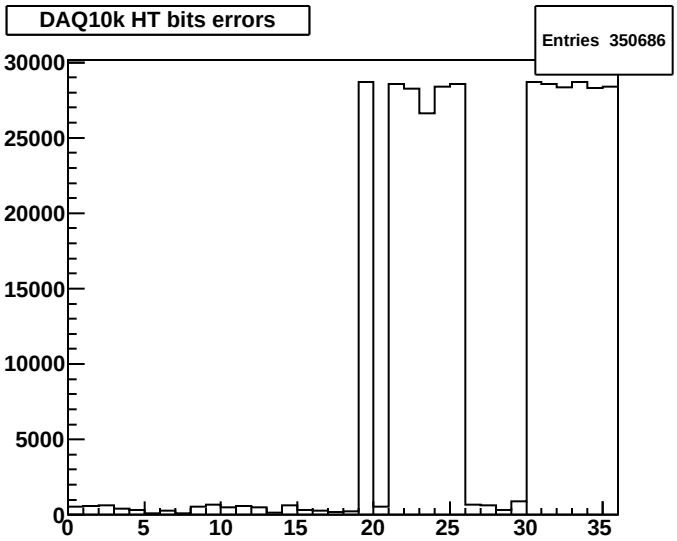

EMC L2 Input - HT01 bits/Partial JP ID
Entries 231880
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

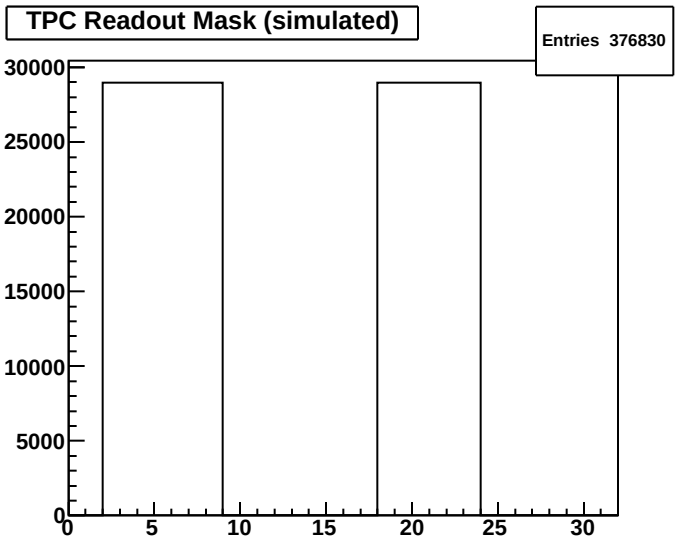

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

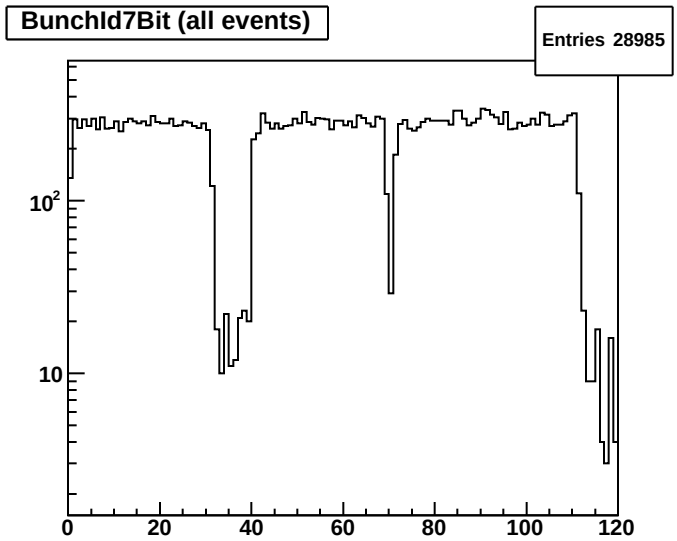

EMC L2 Input - HT23 bits
Entries 231880
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

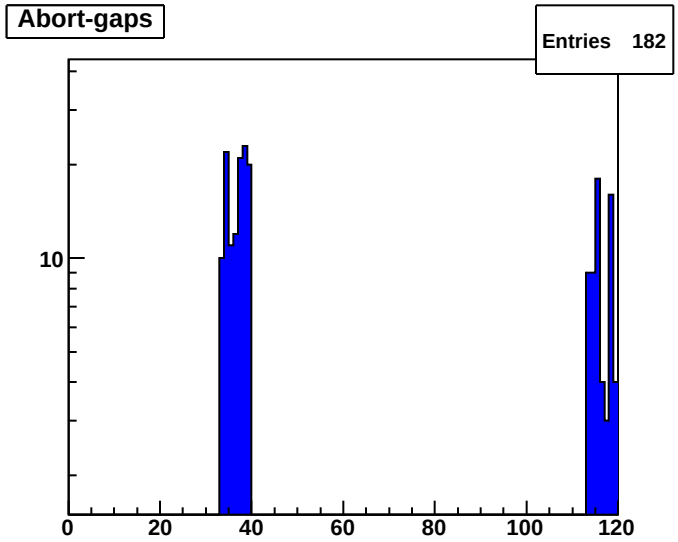

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

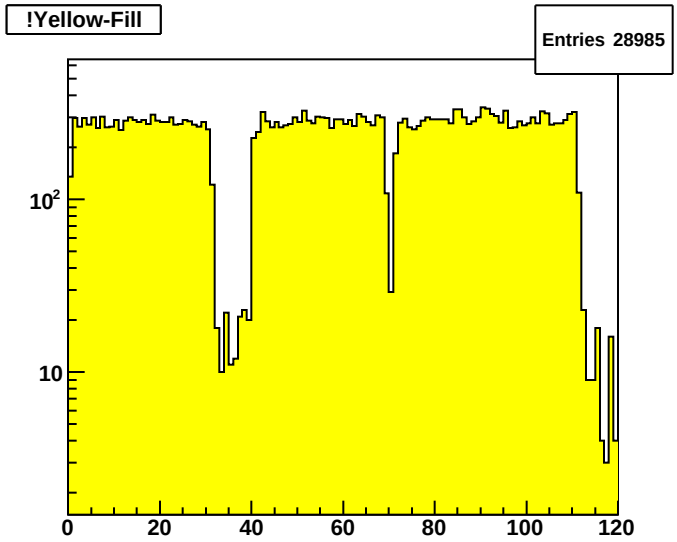

DAQ10k HT bits
Entries 347835
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

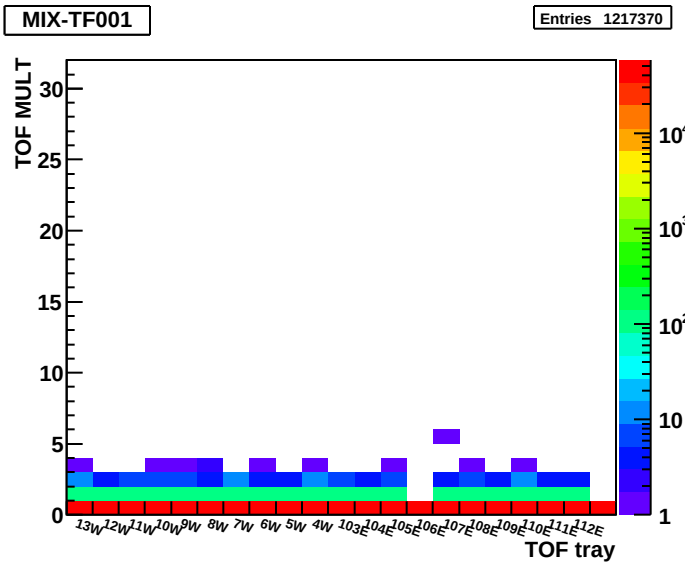

DAQ10k HT bits errors
Entries 350686
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

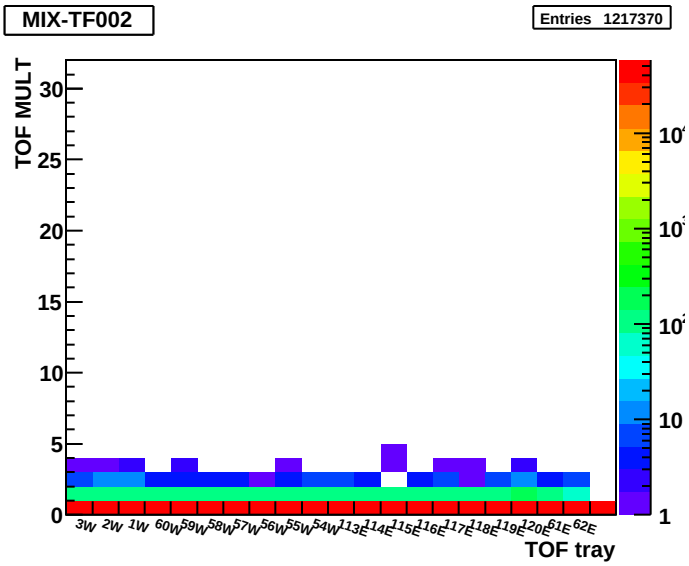

TPC Readout Mask (simulated)
Entries 376830
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30

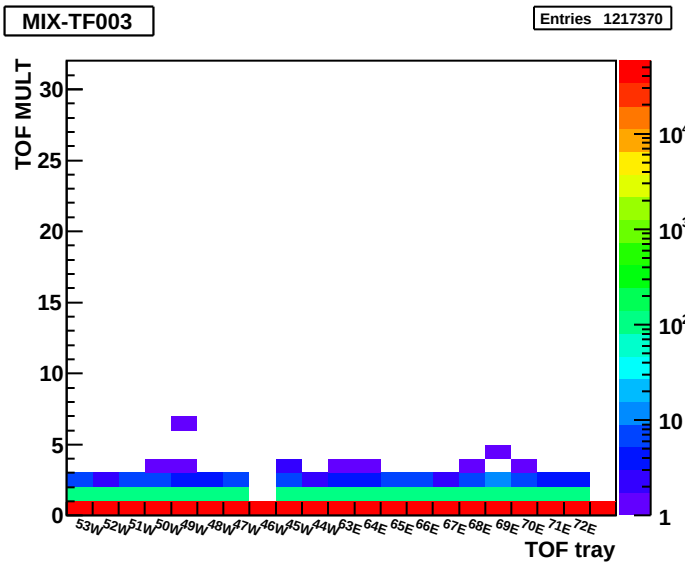

BunchId7Bit (all events)
Entries 28985
10^2
10
0 20 40 60 80 100 120

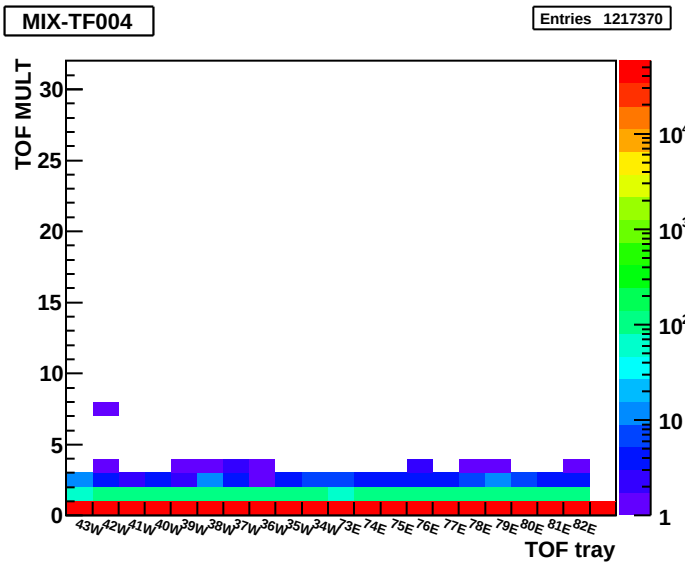

Abort-gaps
Entries 182
10
0 20 40 60 80 100 120

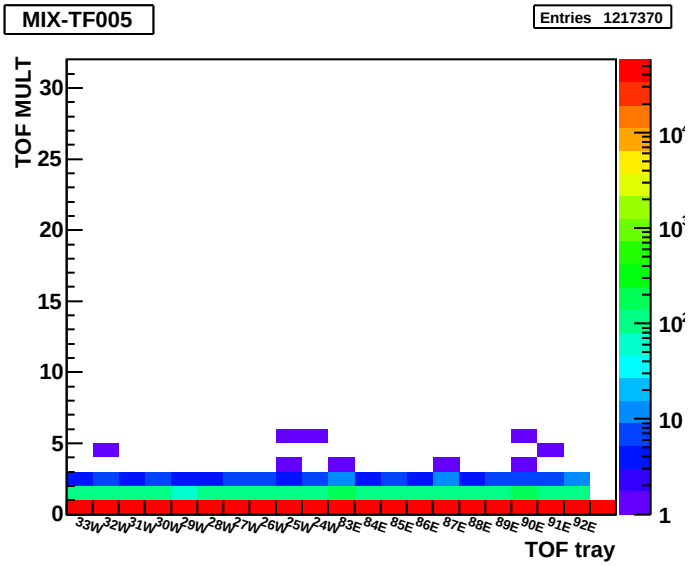

!Yellow-Fill
Entries 28985
10^2
10
0 20 40 60 80 100 120

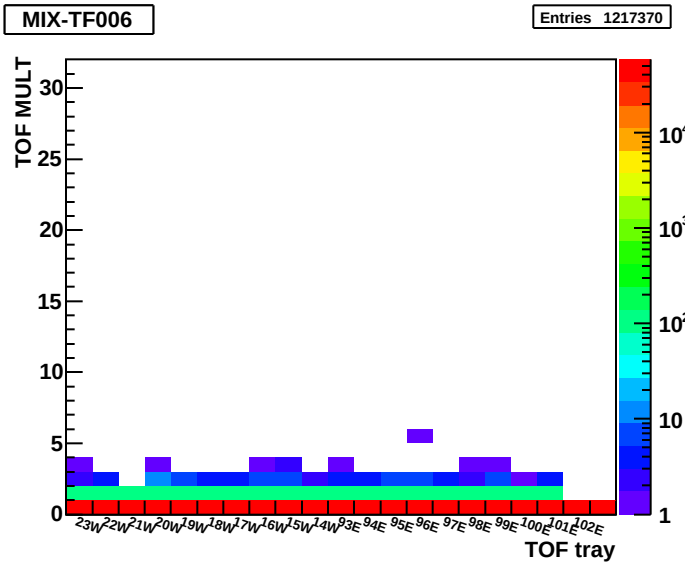

MIX-TF001
Entries 1217370
TOF MULT
TOF tray

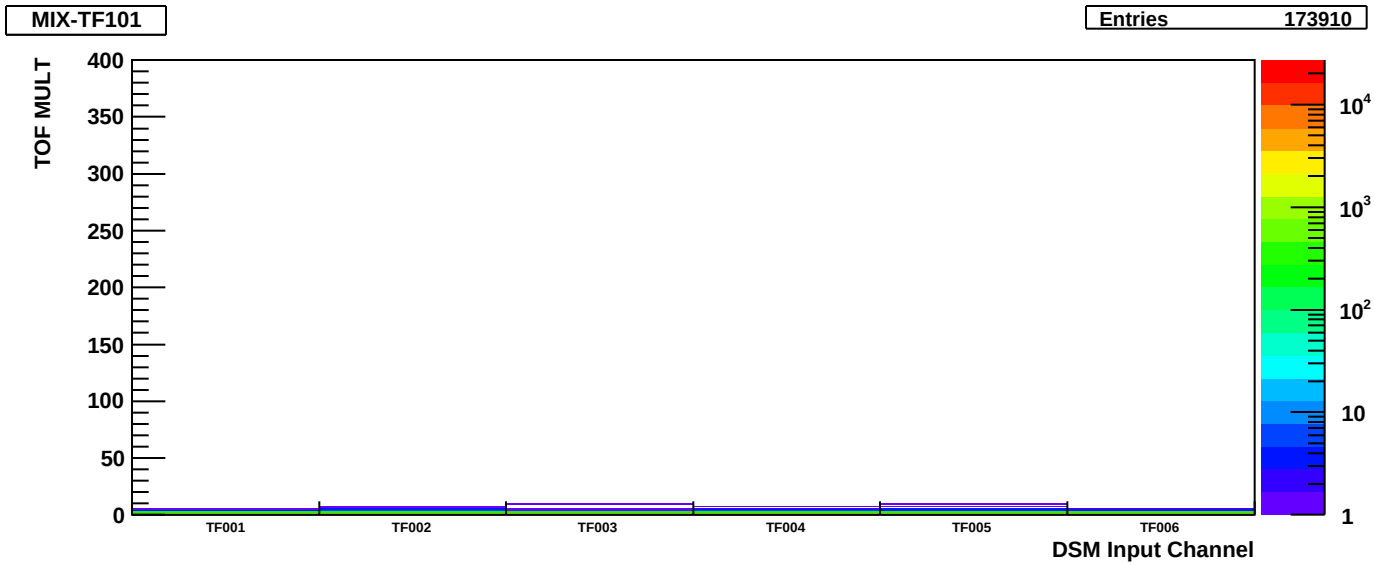

MIX-TF002
Entries 1217370
TOF MULT
TOF tray

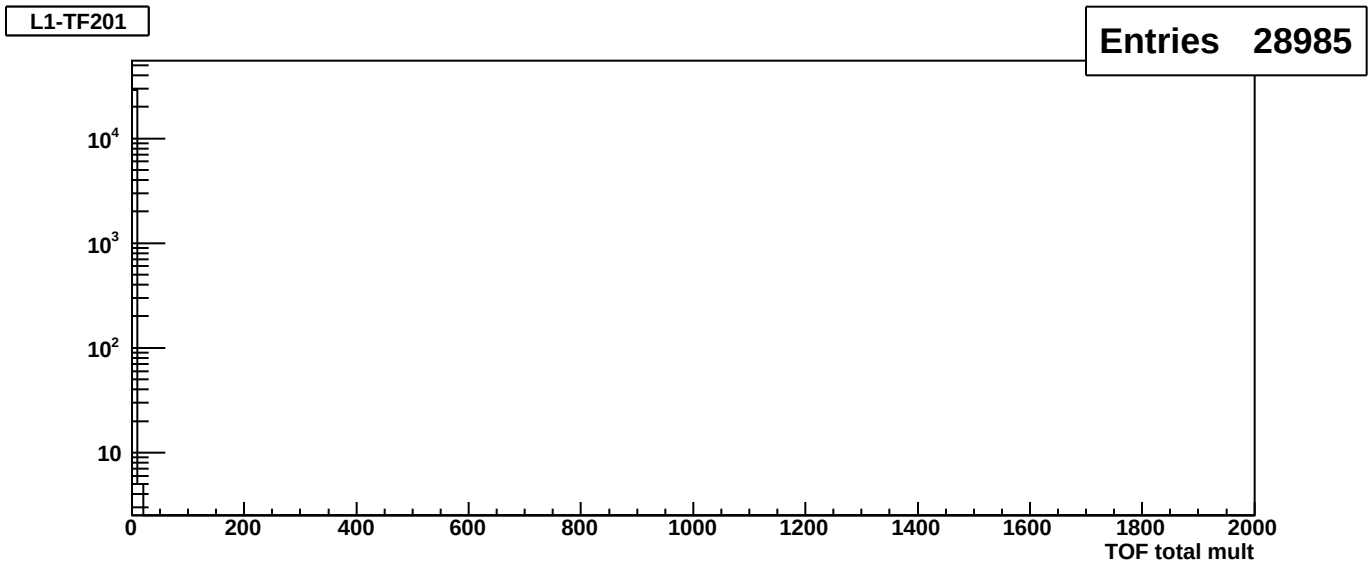

MIX-TF003
Entries 1217370
TOF MULT
TOF tray

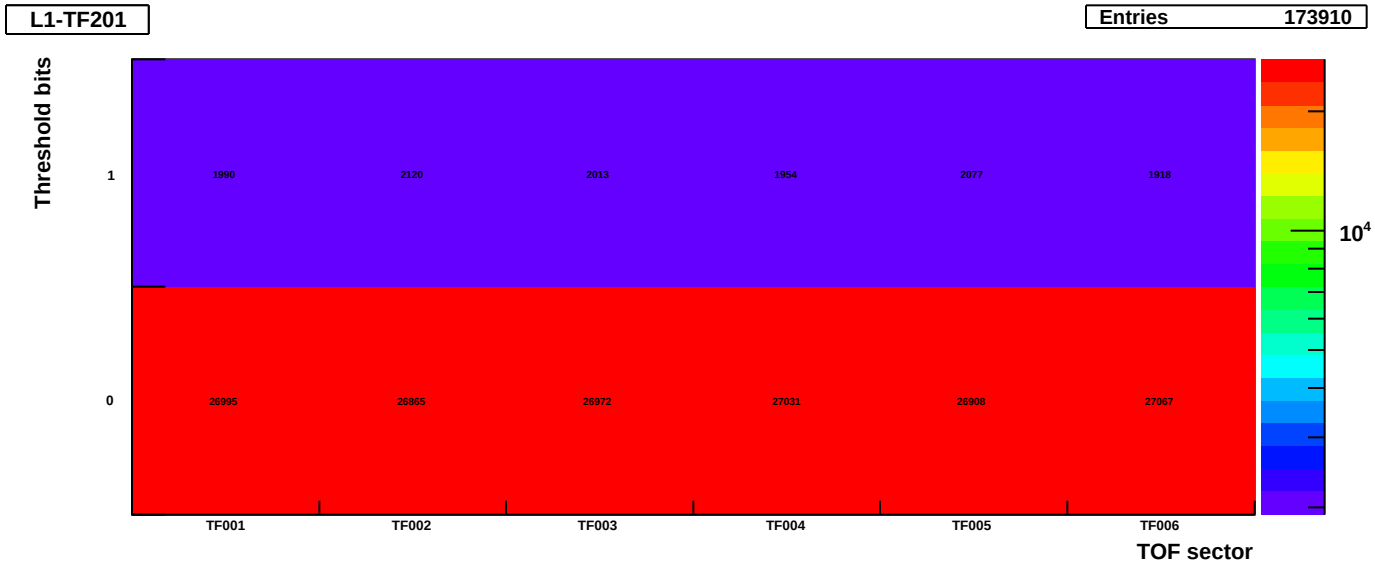

MIX-TF004
Entries 1217370
TOF MULT
TOF tray

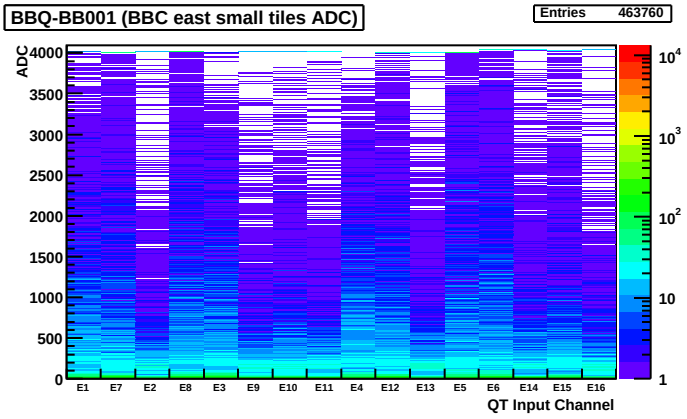

MIX-TF005
Entries 1217370
TOF MULT
TOF tray

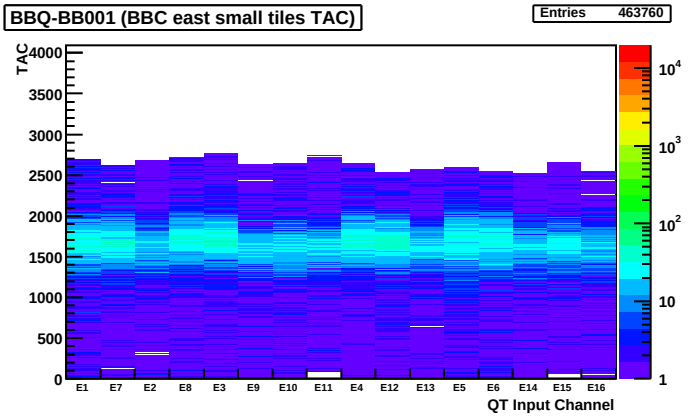

MIX-TF006
Entries 1217370
TOF MULT
TOF tray

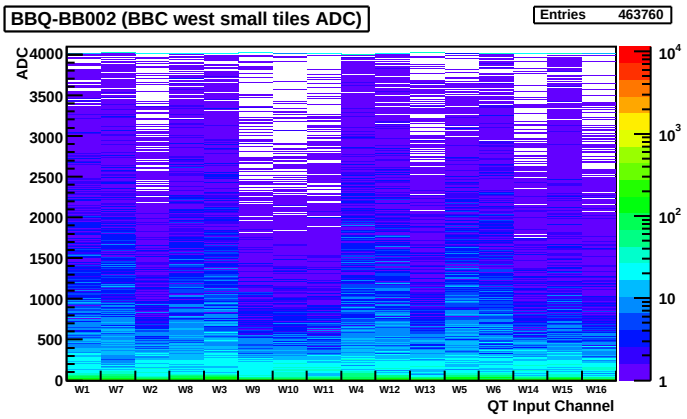

MIX-TF101
Entries 173910
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

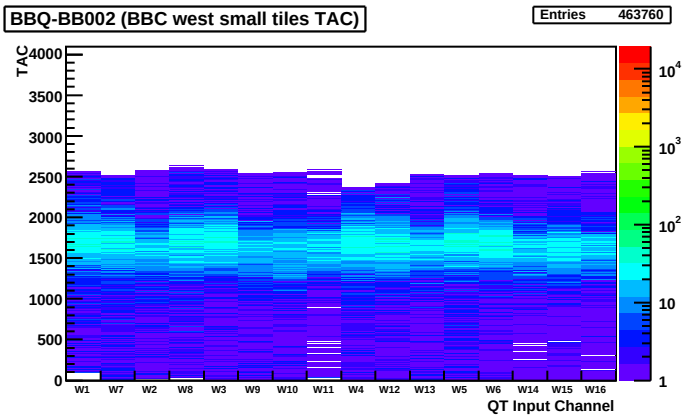

L1-TF201
Entries 28985
10^4
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

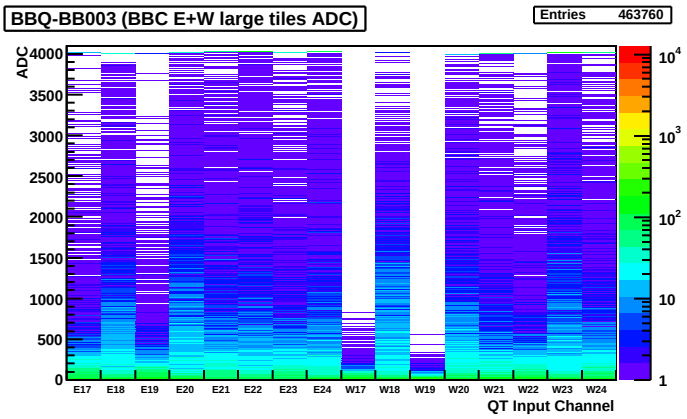

L1-TF201
Entries 173910
Threshold bits
1
0
1990
2120
2013
1954
2077
1918
26995
26865
26972
27031
26908
27067
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4

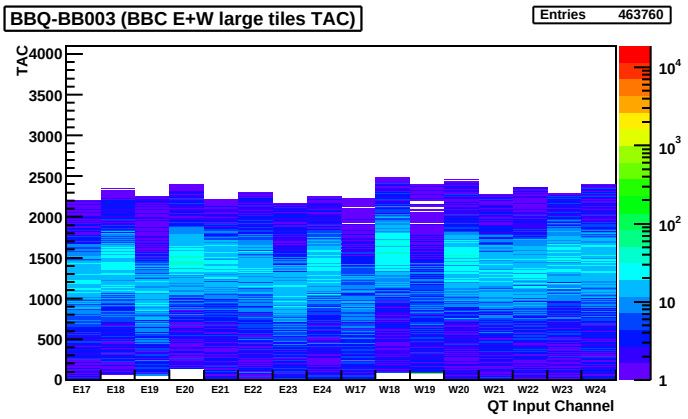

BBQ-BB001 (BBC east small tiles ADC)
Entries 463760
ADC
QT Input Channel

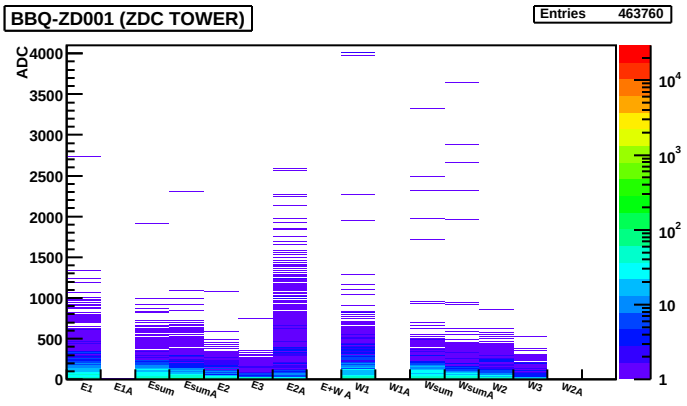

BBQ-BB001 (BBC east small tiles TAC)
Entries 463760
TAC
QT Input Channel

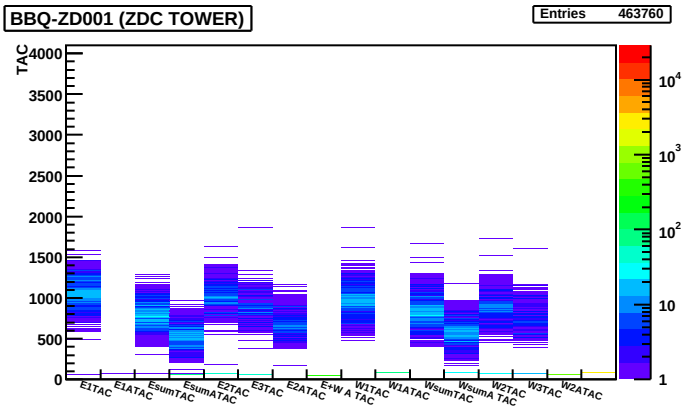

BBQ-BB002 (BBC west small tiles ADC)
Entries 463760
ADC
QT Input Channel

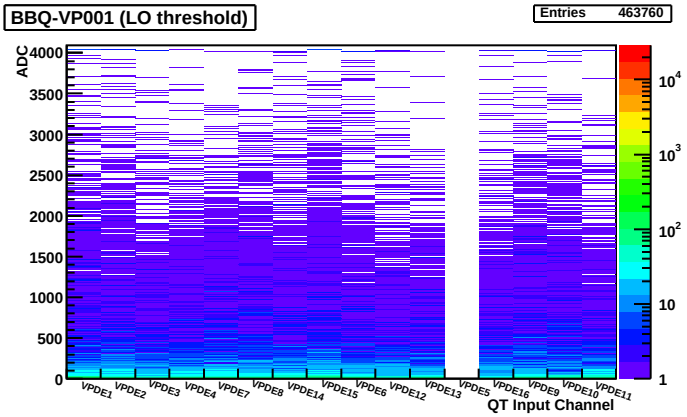

BBQ-BB002 (BBC west small tiles TAC)
Entries 463760
TAC
QT Input Channel

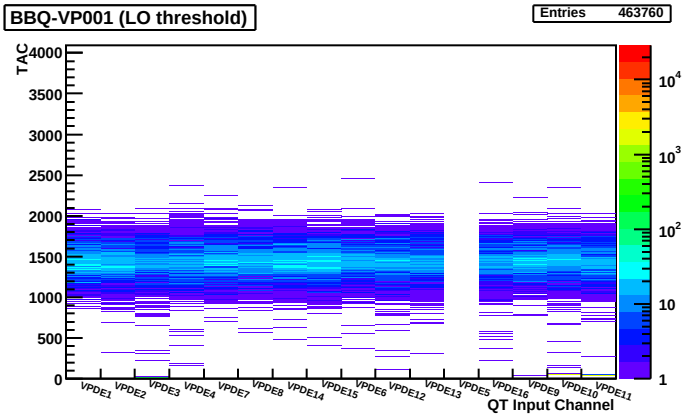

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 463760
ADC
QT Input Channel

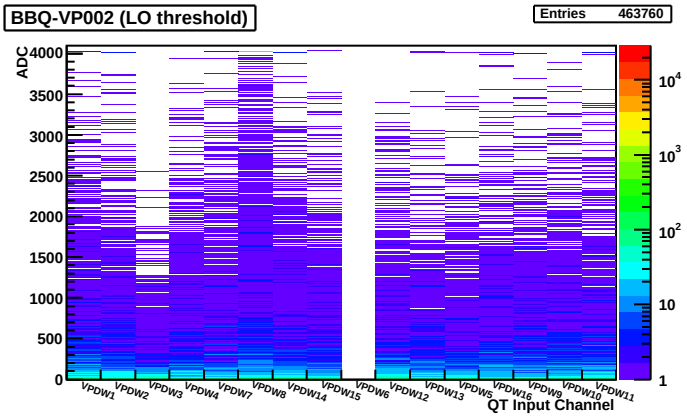

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 463760
TAC
QT Input Channel

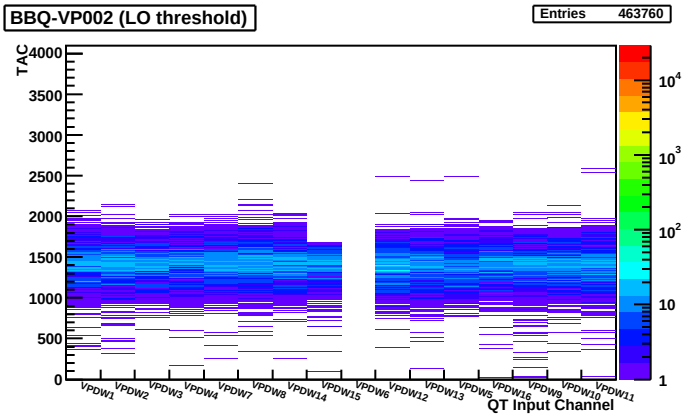

BBQ-ZD001 (ZDC TOWER)
Entries 463760
ADC

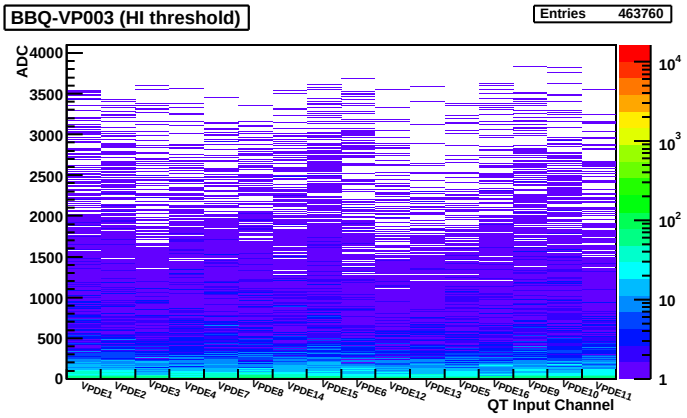

BBQ-ZD001 (ZDC TOWER)
Entries 463760
TAC

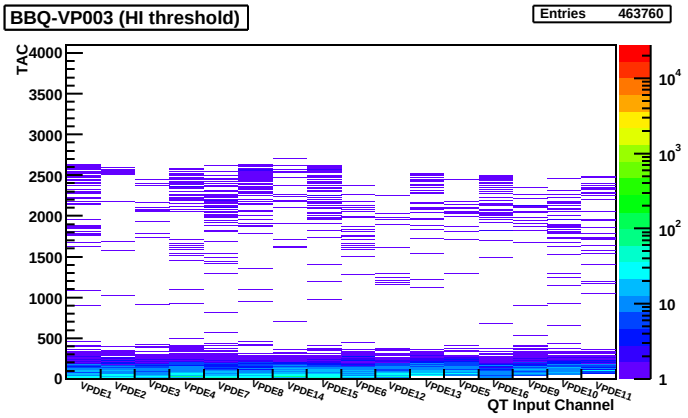

BBQ-VP001 (LO threshold)
Entries 463760
ADC
QT Input Channel

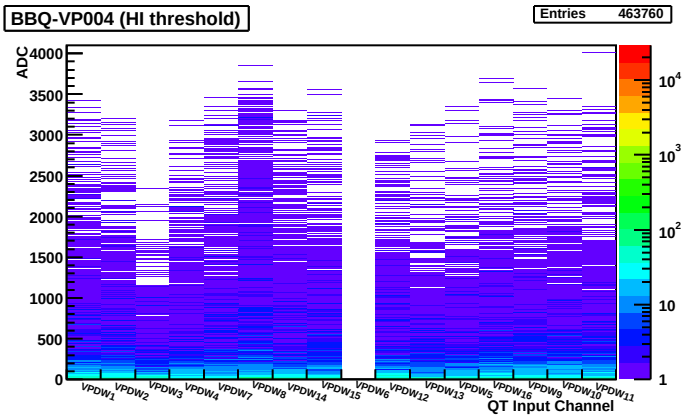

BBQ-VP001 (LO threshold)
Entries 463760
TAC
QT Input Channel

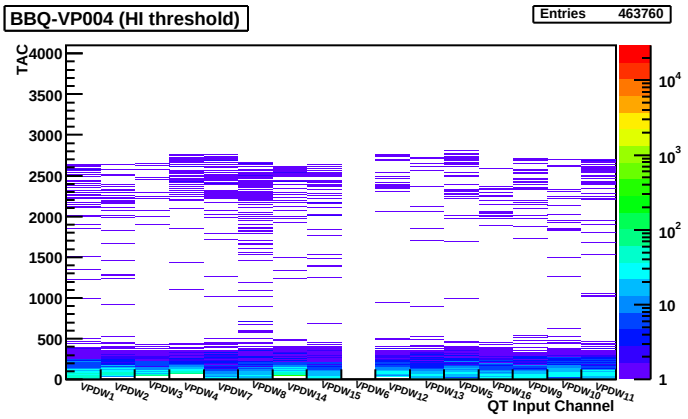

BBQ-VP002 (LO threshold)
Entries 463760
ADC
QT Input Channel

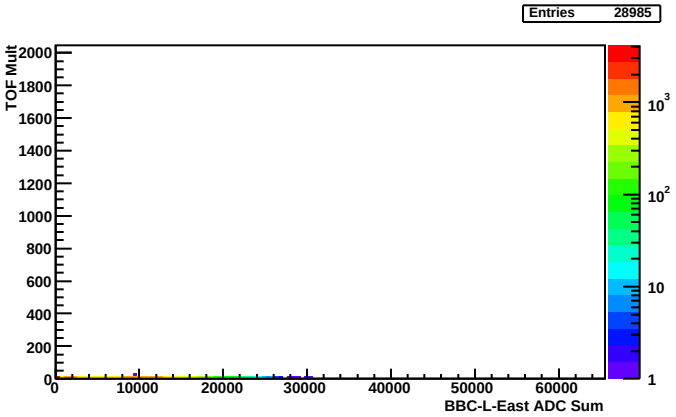

BBQ-VP002 (LO threshold)
Entries 463760
TAC
QT Input Channel

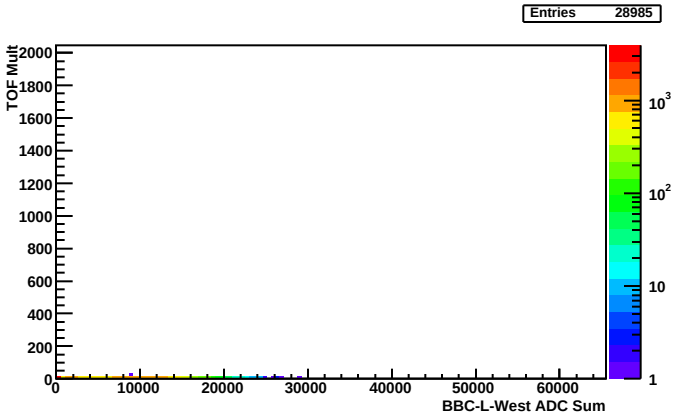

BBQ-VP003 (HI threshold)
Entries 463760
ADC
QT Input Channel

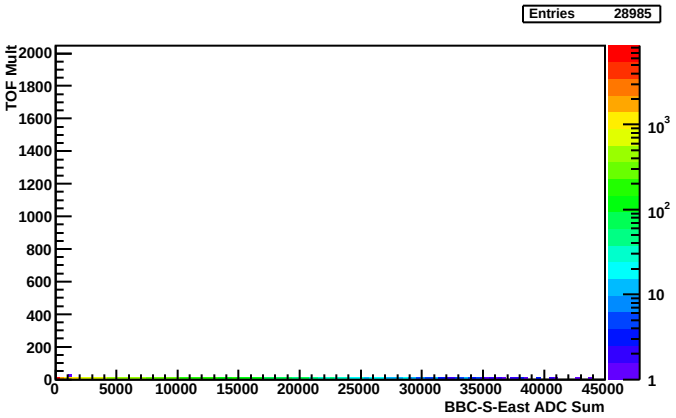

BBQ-VP003 (HI threshold)
Entries 463760
TAC
QT Input Channel

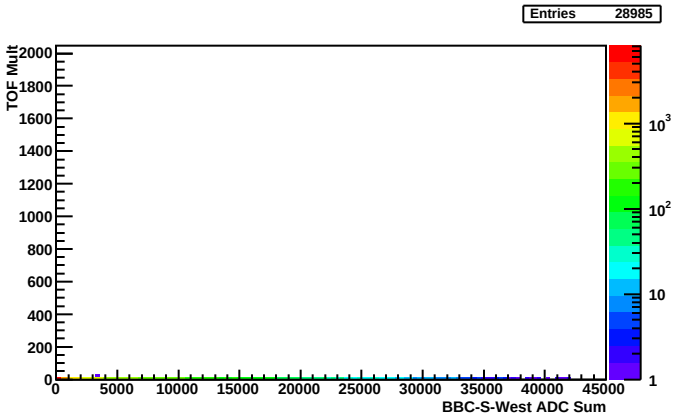

BBQ-VP004 (HI threshold)
Entries 463760
ADC
QT Input Channel

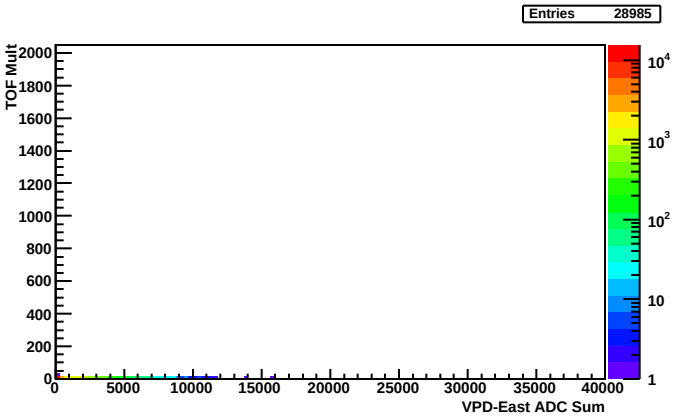

BBQ-VP004 (HI threshold)
Entries 463760
TAC
QT Input Channel

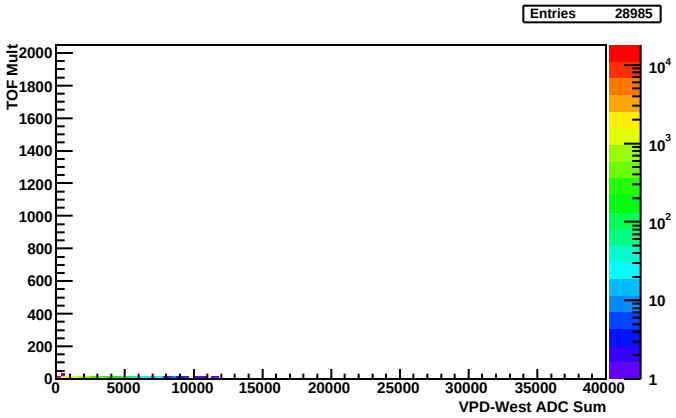

Entries 28985
TOF Mult
BBC-L-East ADC Sum

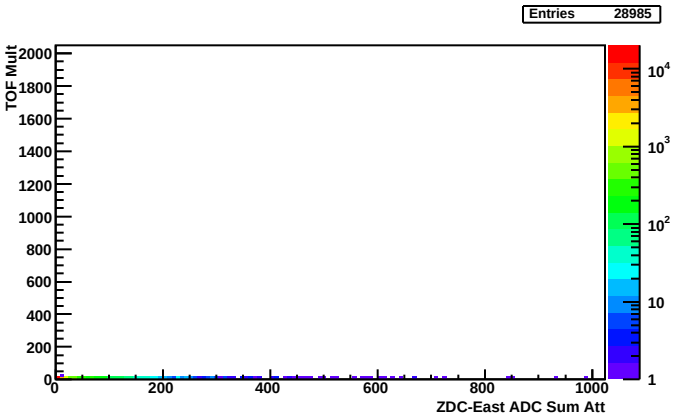

Entries 28985
TOF Mult
BBC-L-West ADC Sum

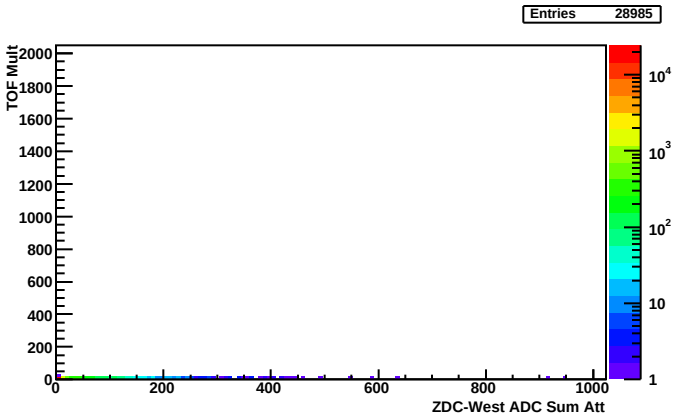

Entries 28985
TOF Mult
BBC-S-East ADC Sum

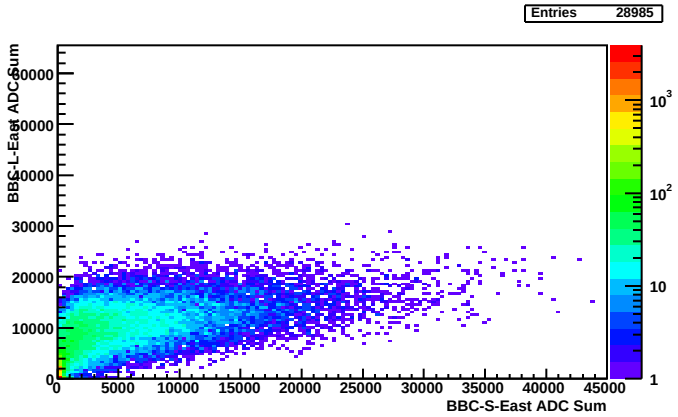

Entries 28985
TOF Mult
BBC-S-West ADC Sum

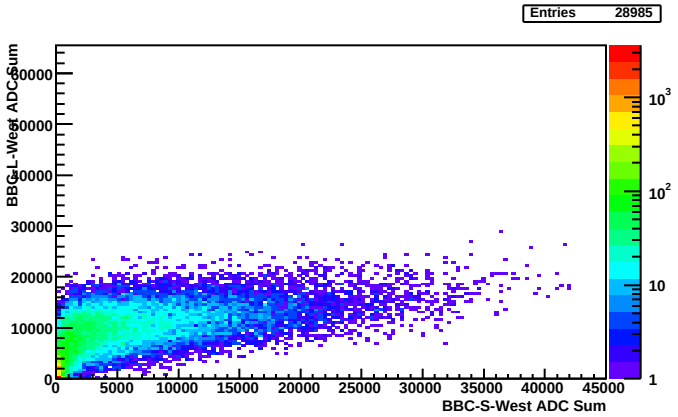

Entries 28985
TOF Mult
VPD-East ADC Sum

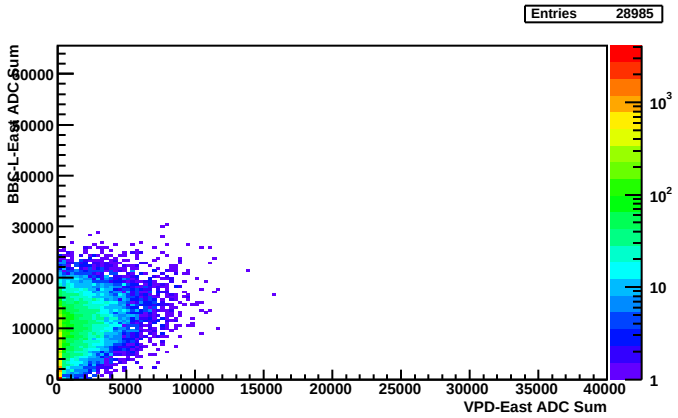

Entries 28985
TOF Mult
VPD-West ADC Sum

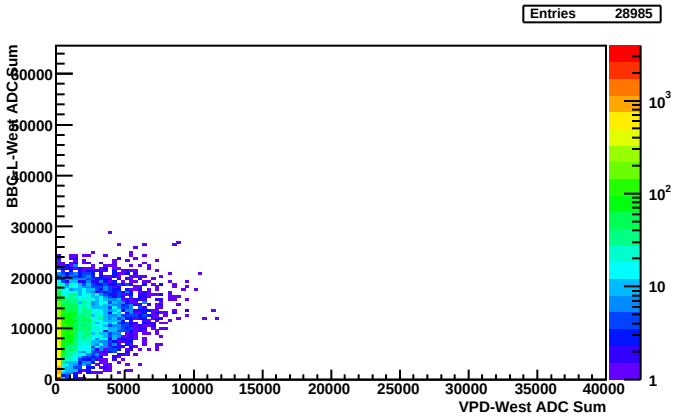

Entries 28985
TOF Mult
ZDC-East ADC Sum Att

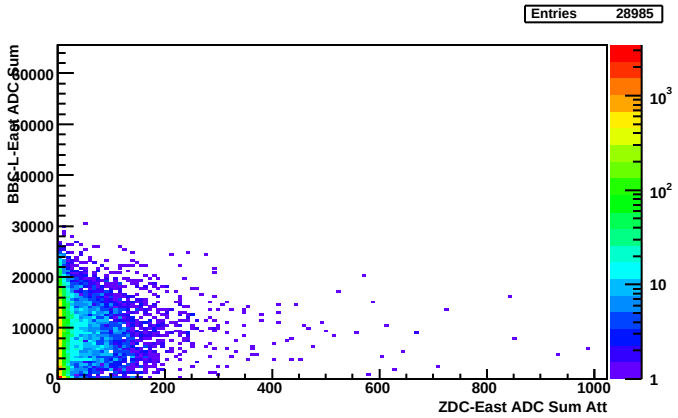

Entries 28985
TOF Mult
ZDC-West ADC Sum Att

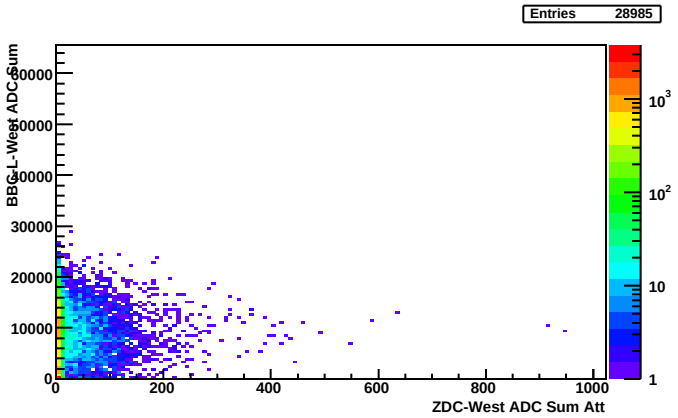

Entries 28985
BBC-L-East ADC Sum
BBC-S-East ADC Sum

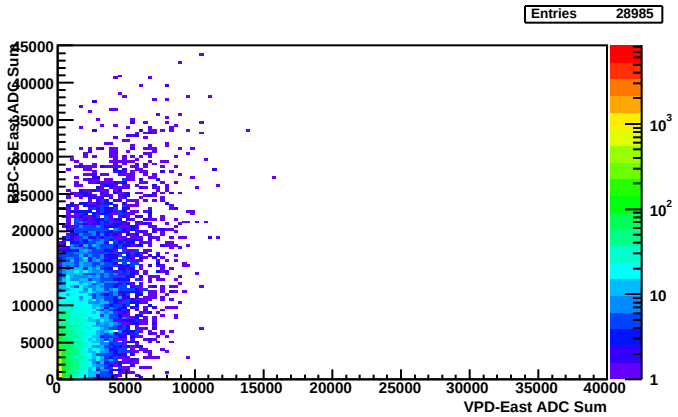

Entries 28985
BBC-L-West ADC Sum
BBC-S-West ADC Sum

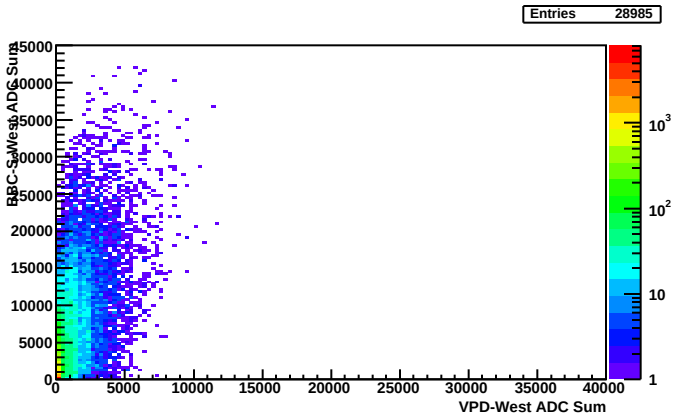

Entries 28985
BBC-L-East ADC Sum
VPD-East ADC Sum

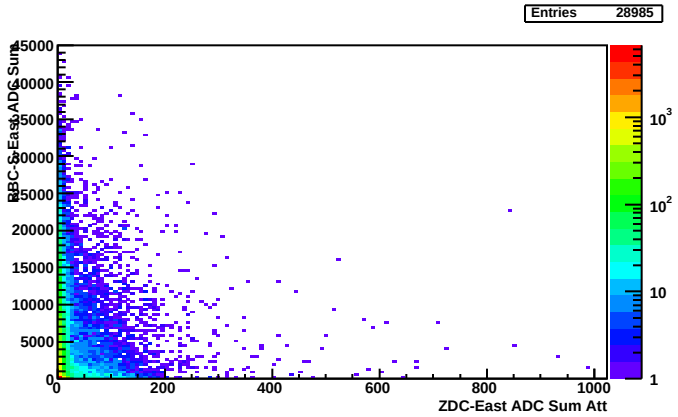

Entries 28985
BBC-L-West ADC Sum
VPD-West ADC Sum

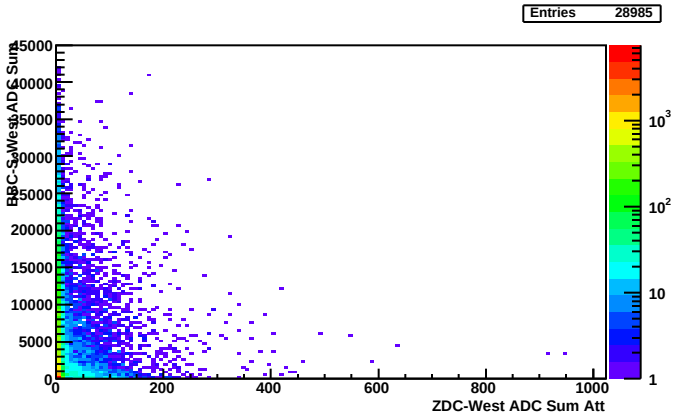

Entries 28985
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

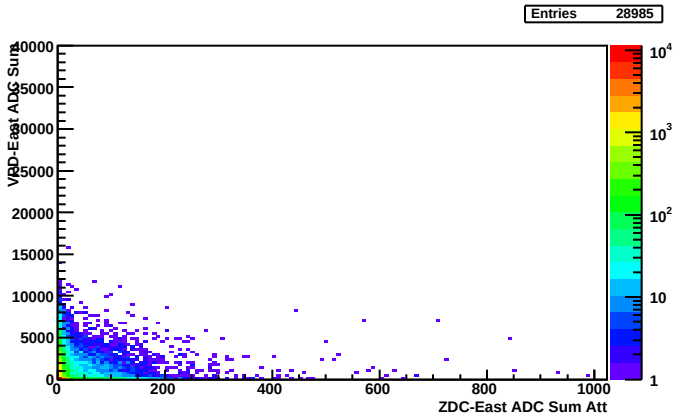

Entries 28985
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

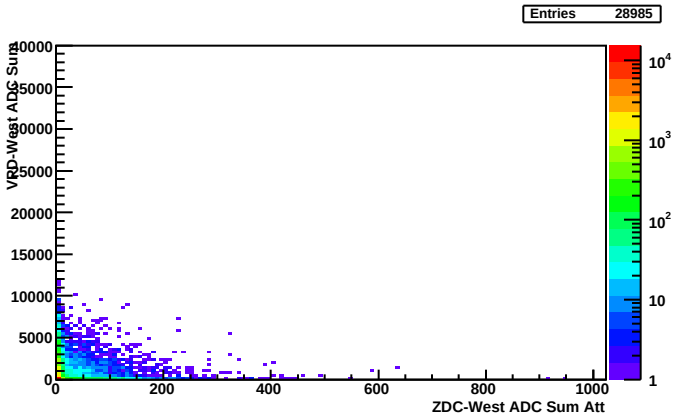

Entries 28985
BBC-S-East ADC Sum
VPD-East ADC Sum

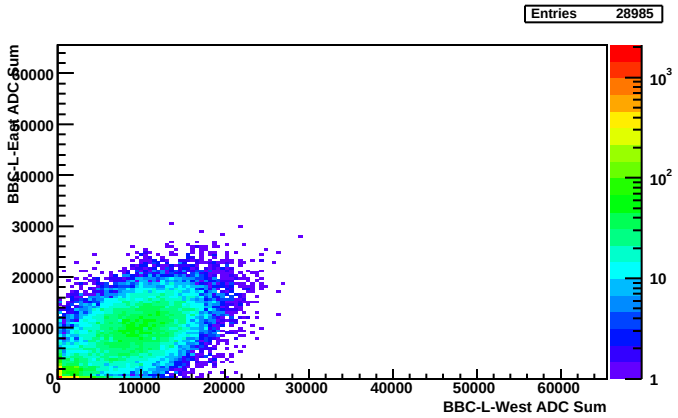

Entries 28985
BBC-S-West ADC Sum
VPD-West ADC Sum

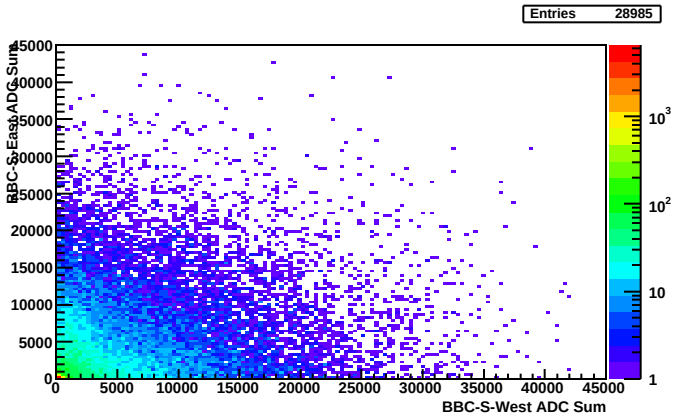

Entries 28985
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

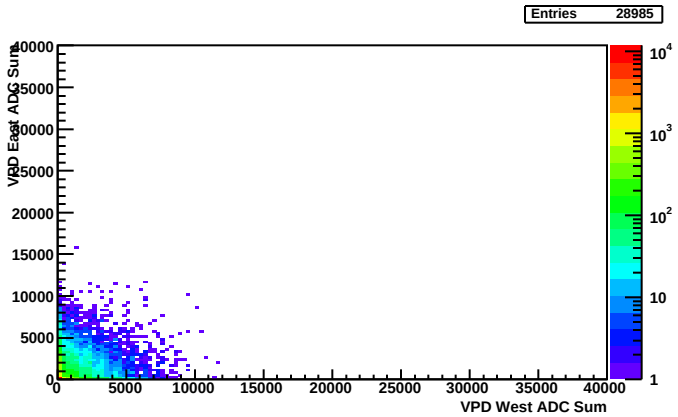

Entries 28985
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

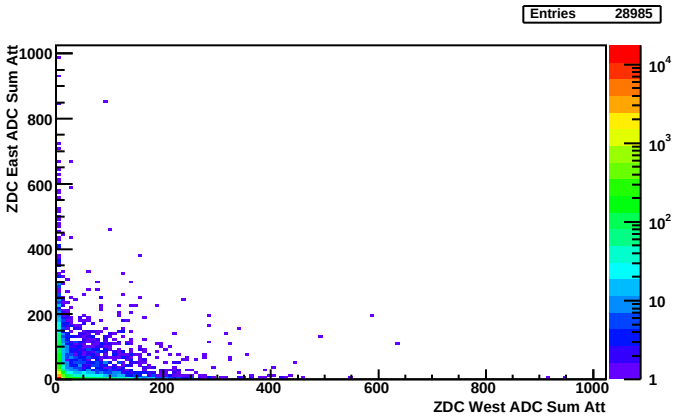

Entries 28985
VPD-East ADC Sum
ZDC-East ADC Sum Att

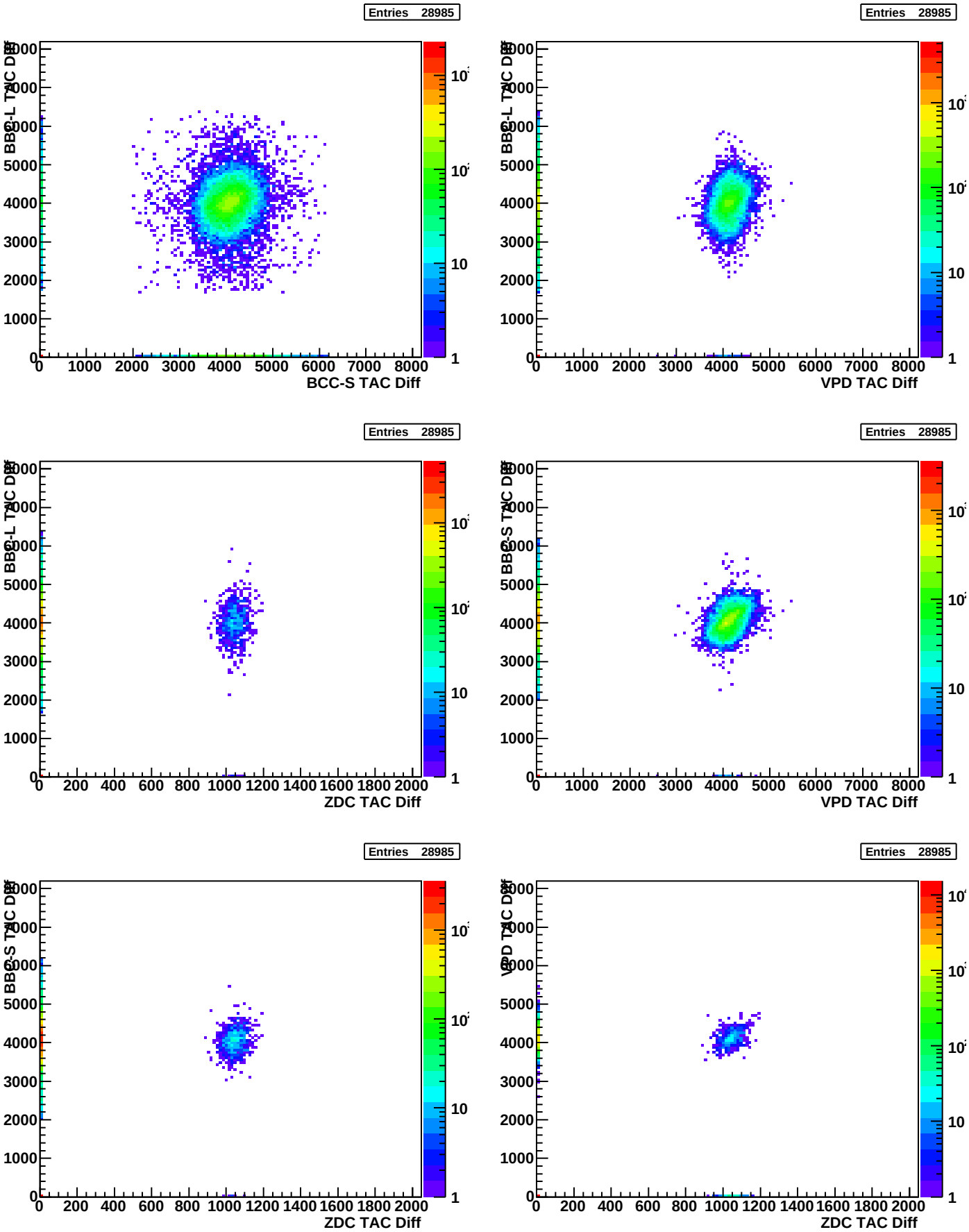

Entries 28985
VPD-West ADC Sum
ZDC-West ADC Sum Att

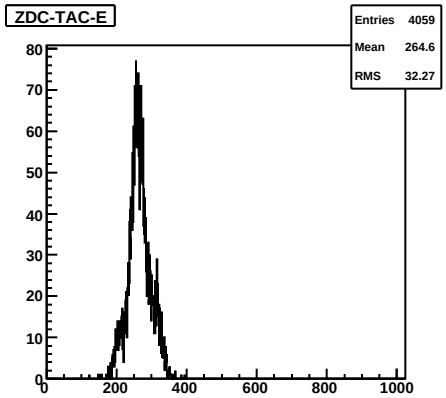

Entries 28985
BBC-L-East ADC Sum
BBC-L-West ADC Sum

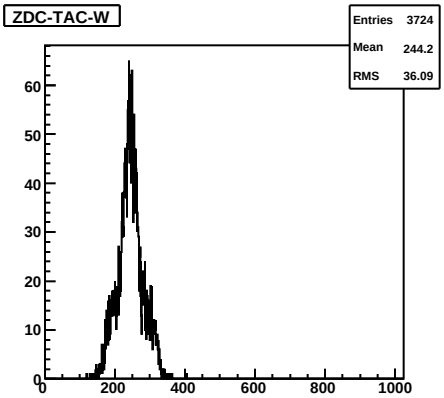

Entries 28985
BBC-S-East ADC Sum
BBC-S-West ADC Sum

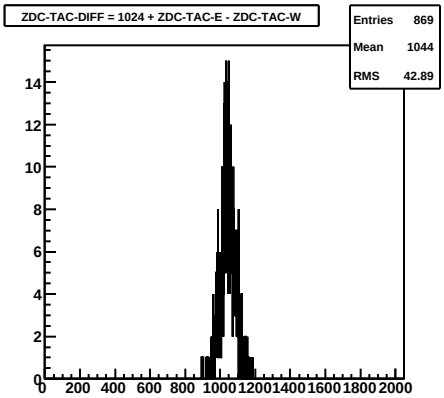

Entries 28985
VPD East ADC Sum
VPD West ADC Sum

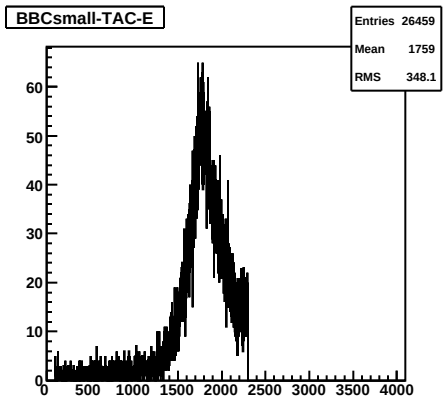

Entries 28985
ZDC East ADC Sum Att
ZDC West ADC Sum Att

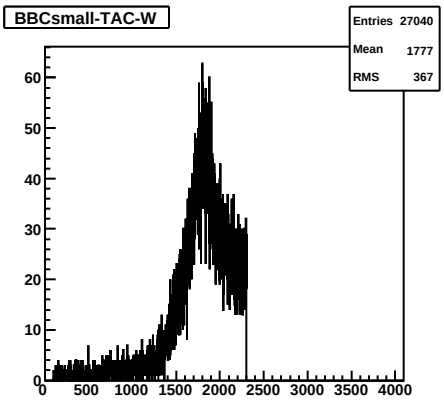

Entries 28985
BBC-L TAC Diff
BCC-S TAC Diff
Entries 28985
BBC-L TAC Diff
VPD TAC Diff
Entries 28985
BBC-L TAC Diff
ZDC TAC Diff
Entries 28985
BBC-S TAC Diff
VPD TAC Diff
Entries 28985
BBC-S TAC Diff
ZDC TAC Diff
Entries 28985
VPD TAC Diff
ZDC TAC Diff

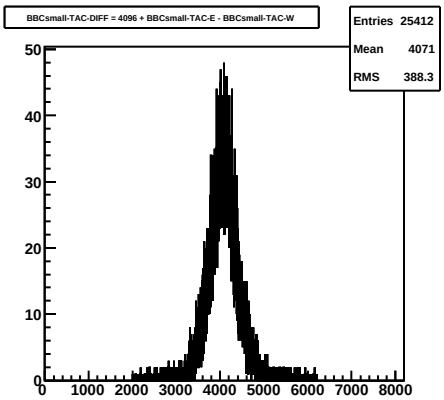

ZDC-TAC-E
Entries 4059
Mean 264.6
RMS 32.27

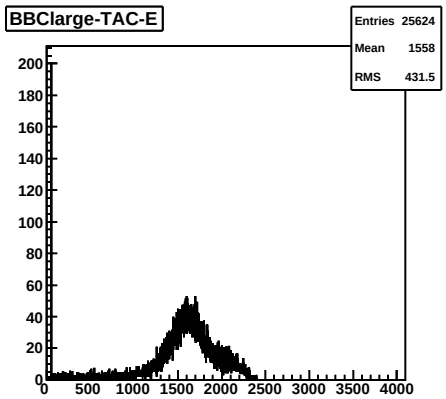

ZDC-TAC-W
Entries 3724
Mean 244.2
RMS 36.09

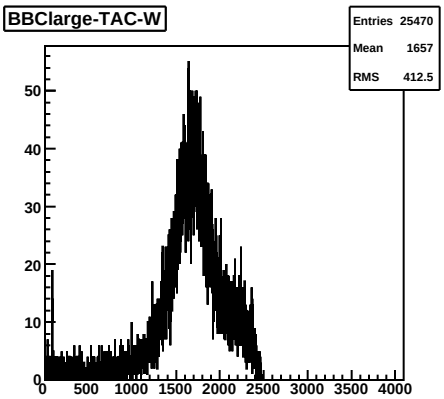

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 869
Mean 1044
RMS 42.89

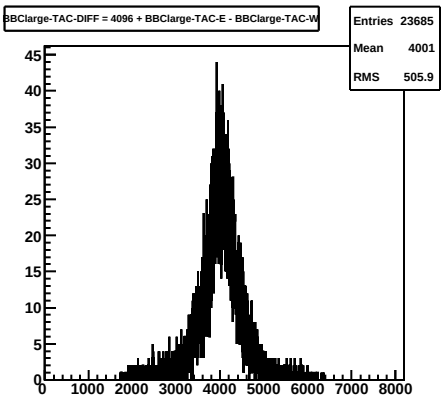

BBCsmall-TAC-E
Entries 26459
Mean 1759
RMS 348.1

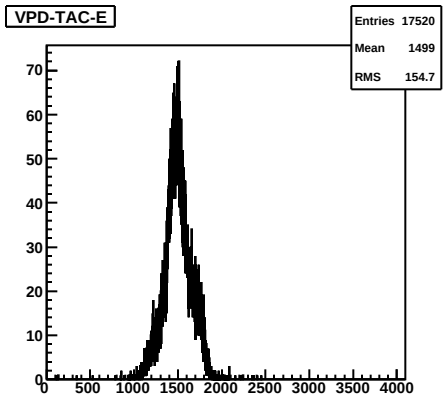

BBCsmall-TAC-W
Entries 27040
Mean 1777
RMS 367

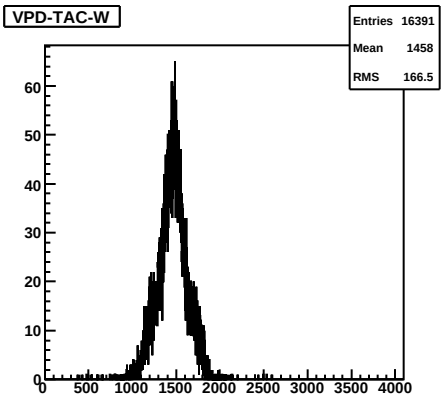

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 25412
Mean 4071
RMS 388.3

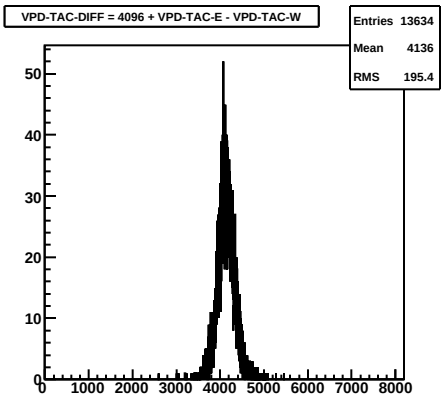

BBClarge-TAC-E
Entries 25624
Mean 1558
RMS 431.5

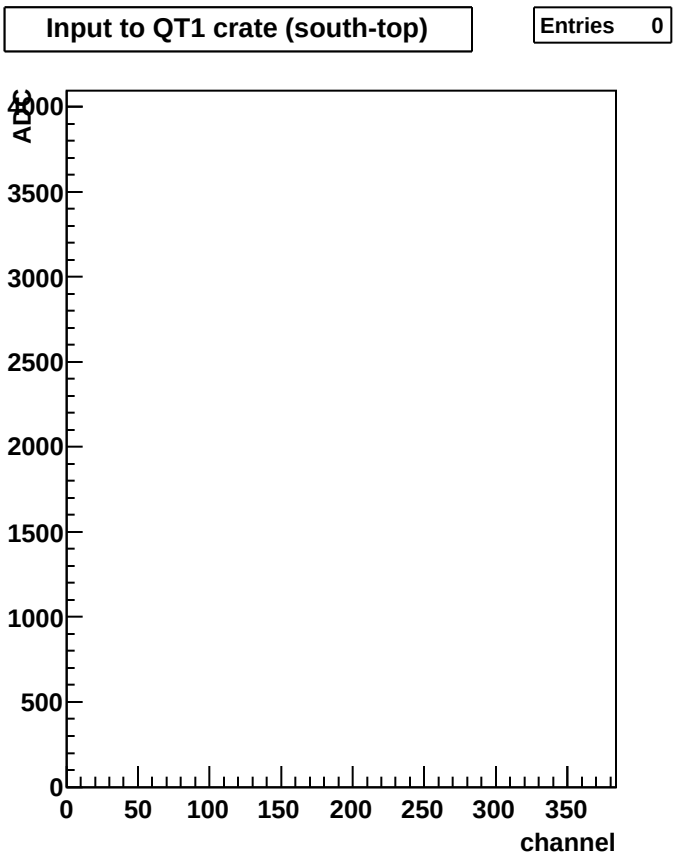

BBClarge-TAC-W
Entries 25470
Mean 1657
RMS 412.5

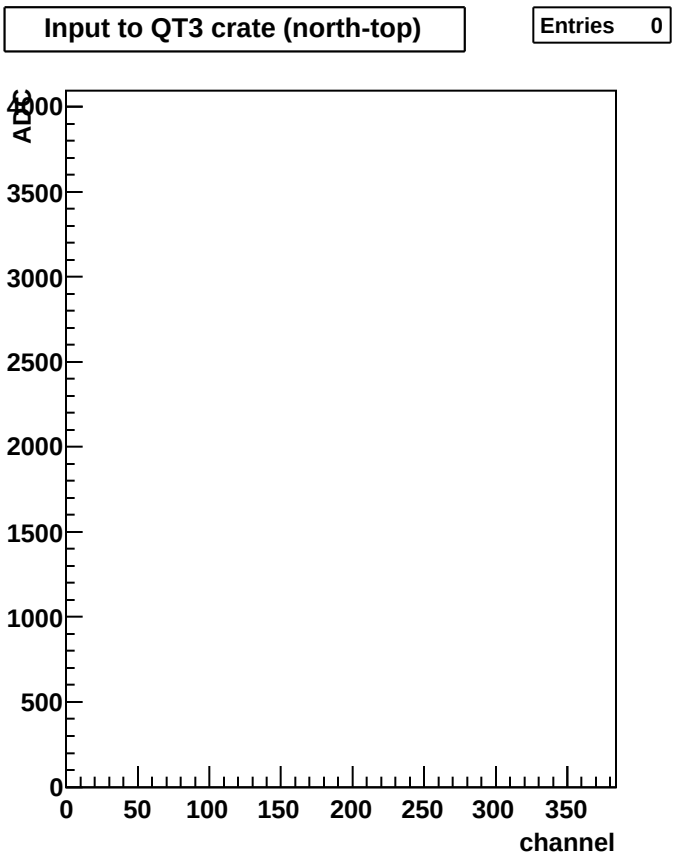

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 23685
Mean 4001
RMS 505.9

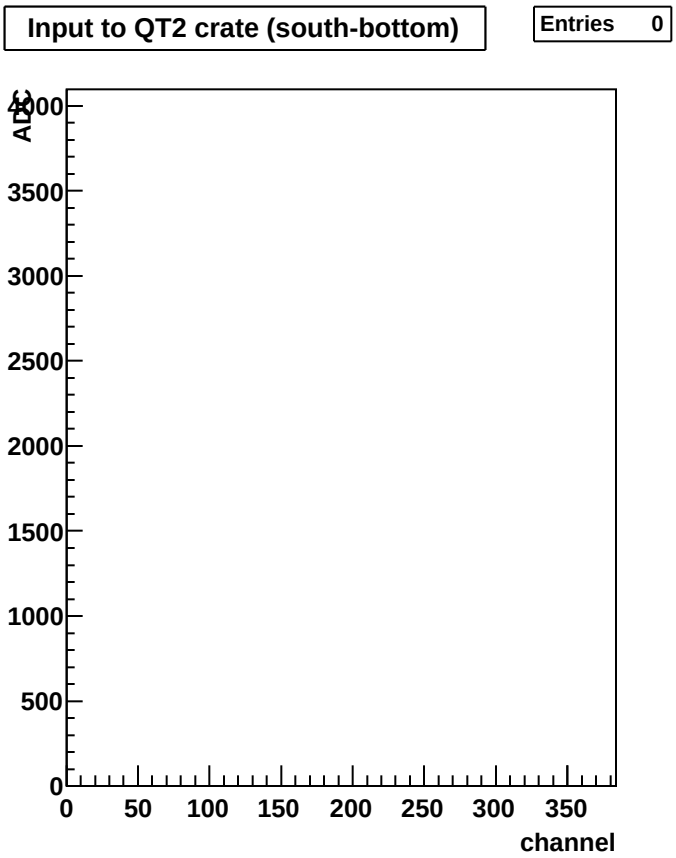

VPD-TAC-E
Entries 17520
Mean 1499
RMS 154.7

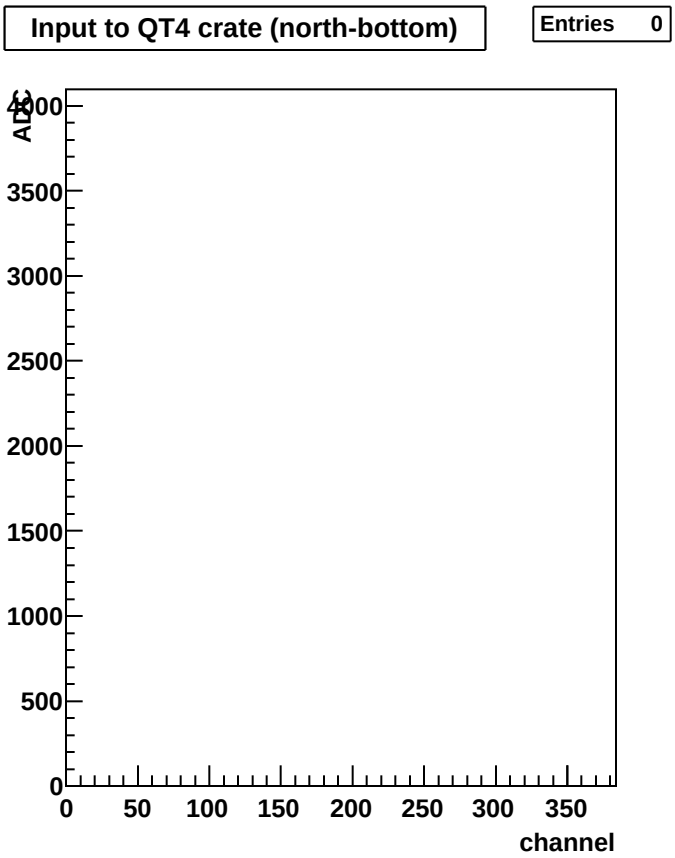

VPD-TAC-W
Entries 16391
Mean 1458
RMS 166.5

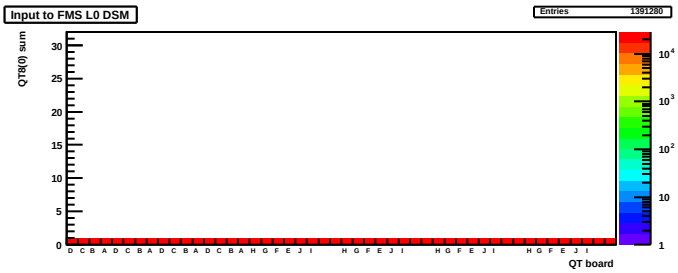

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 13634
Mean 4136
RMS 195.4

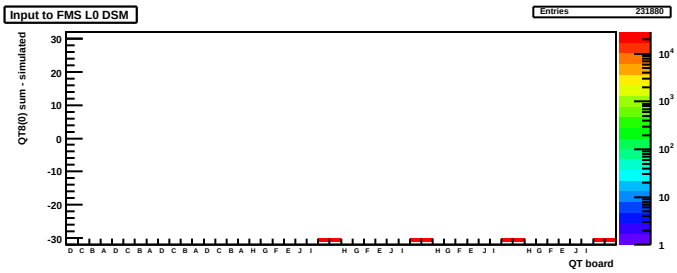

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

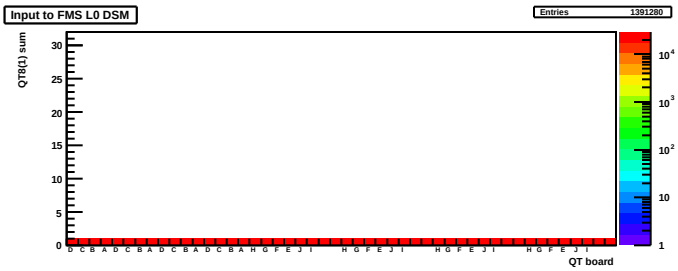

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

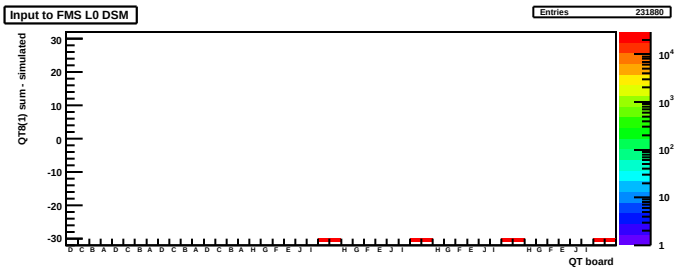

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

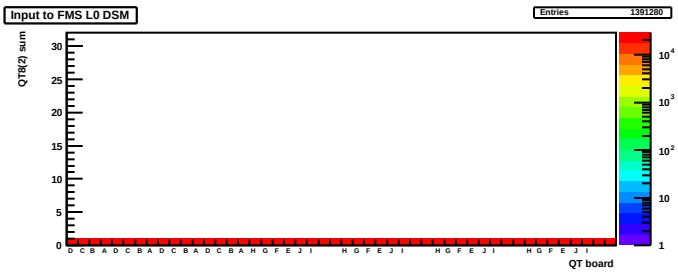

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

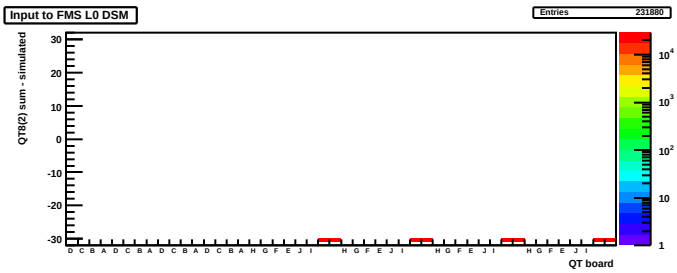

Input to FMS L0 DSM
Entries 1391280
QT8(0) sum
QT board

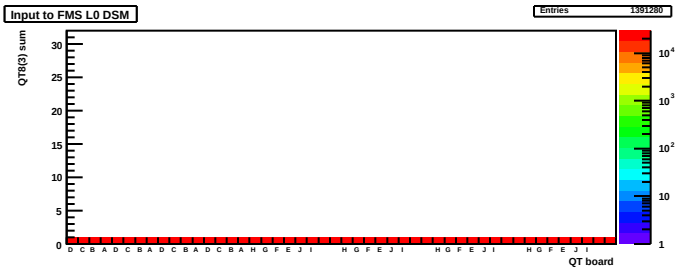

Input to FMS L0 DSM
Entries 231880
QT8(0) sum - simulated
QT board

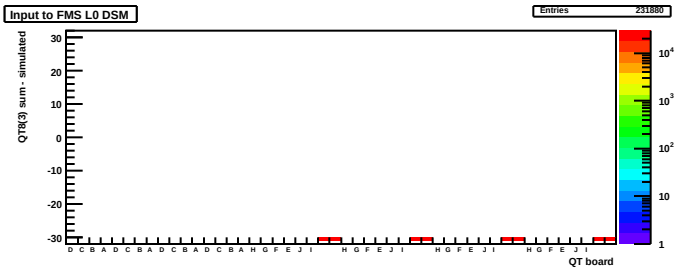

Input to FMS L0 DSM
Entries 1391280
QT8(1) sum
QT board

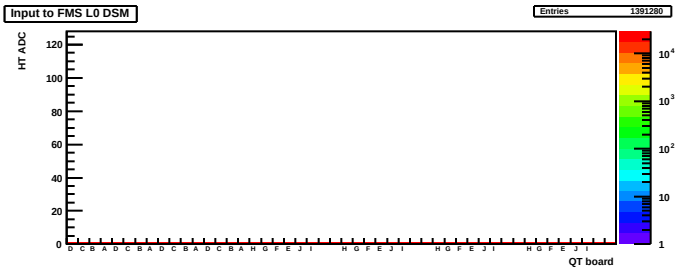

Input to FMS L0 DSM
Entries 231880
QT8(1) sum - simulated
QT board

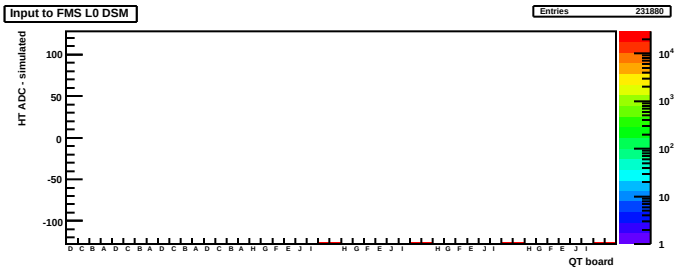

Input to FMS L0 DSM
Entries 1391280
QT8(2) sum
QT board

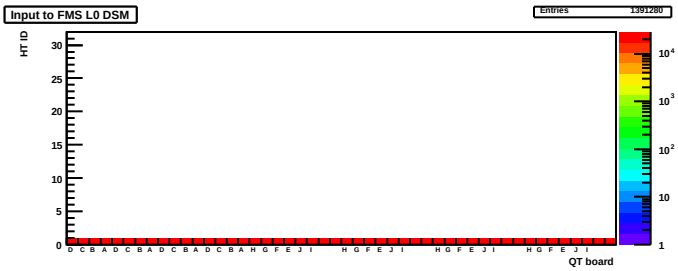

Input to FMS L0 DSM
Entries 231880
QT8(2) sum - simulated
QT board

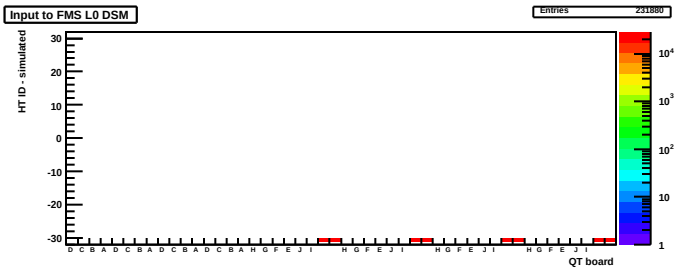

Input to FMS L0 DSM
Entries 1391280
QT8(3) sum
QT board

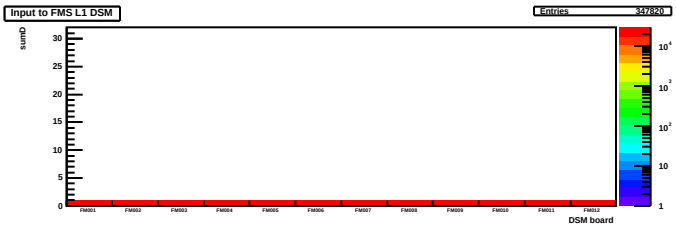

Input to FMS L0 DSM
Entries 231880
QT8(3) sum - simulated
QT board

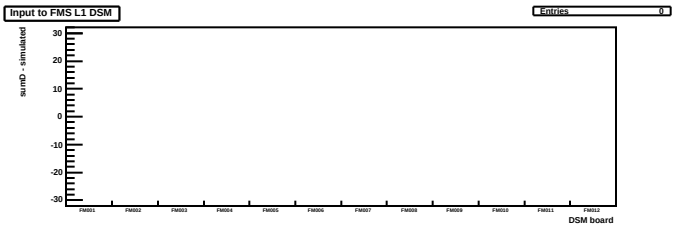

Input to FMS L0 DSM
Entries 1391280
HT ADC
QT board

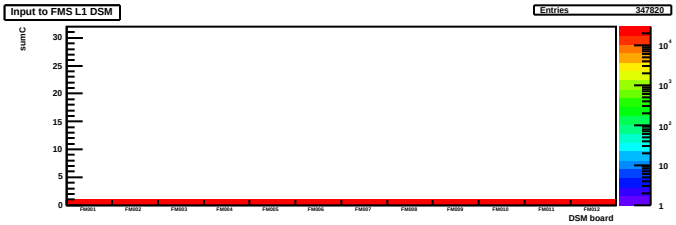

Input to FMS L0 DSM
Entries 231880
HT ADC - simulated
QT board

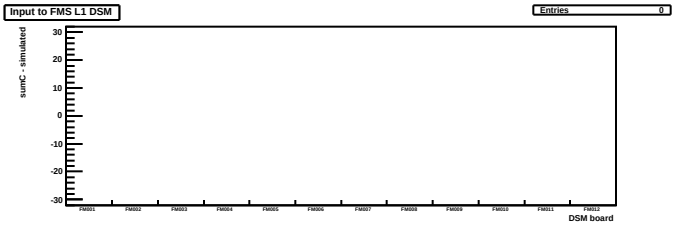

Input to FMS L0 DSM
Entries 1391280
HT ID
QT board

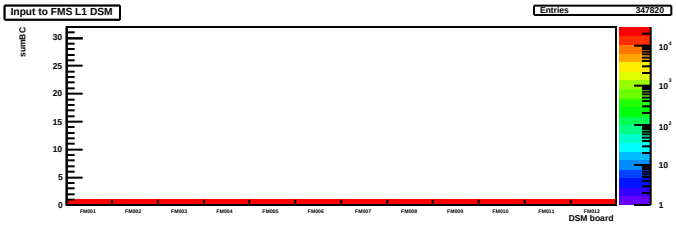

Input to FMS L0 DSM
Entries 231880
HT ID - simulated
QT board

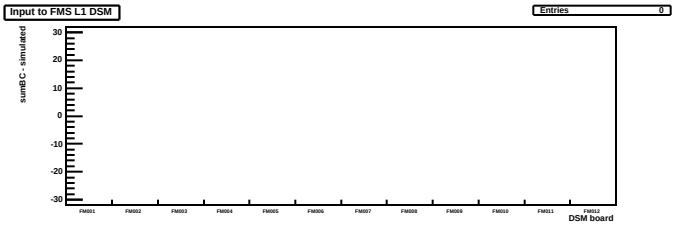

Input to FMS L1 DSM
Entries 347820
sumD
DSM board

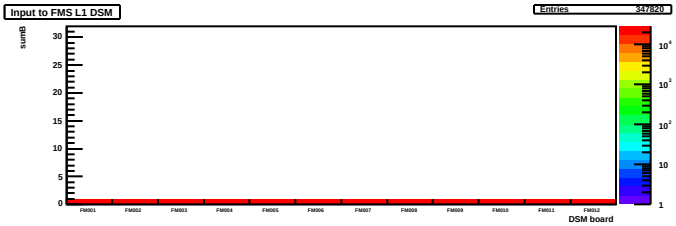

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

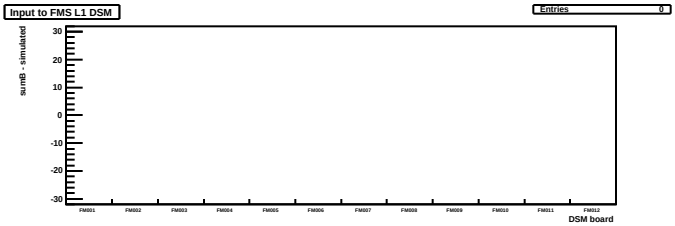

Input to FMS L1 DSM
Entries 347820
sumC
DSM board

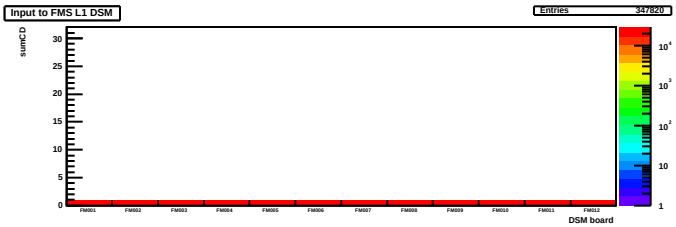

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

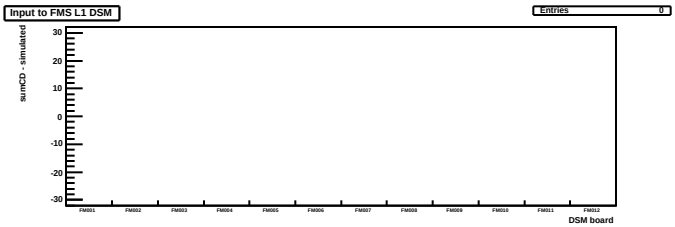

Input to FMS L1 DSM
Entries 347820
sumBC
DSM board

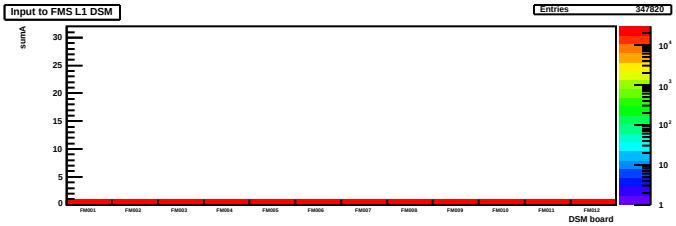

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

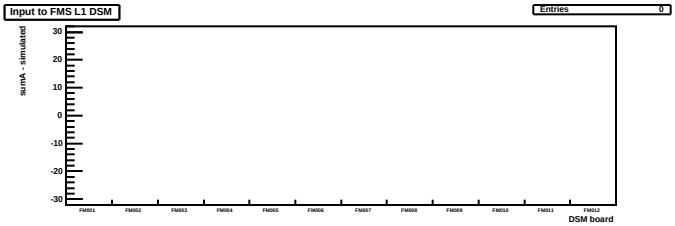

Input to FMS L1 DSM
Entries 347820
sumB
DSM board

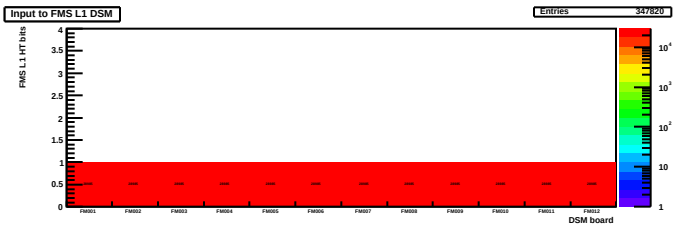

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

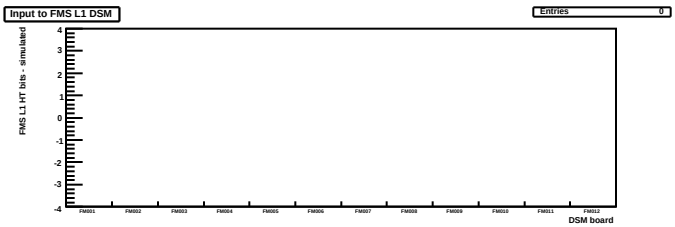

Input to FMS L1 DSM
Entries 347820
sumCD
DSM board

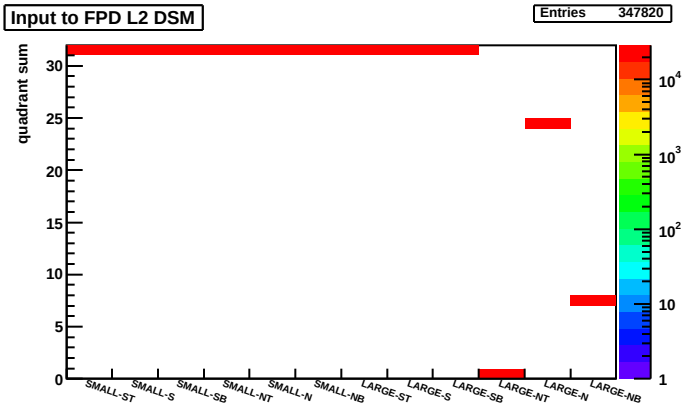

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

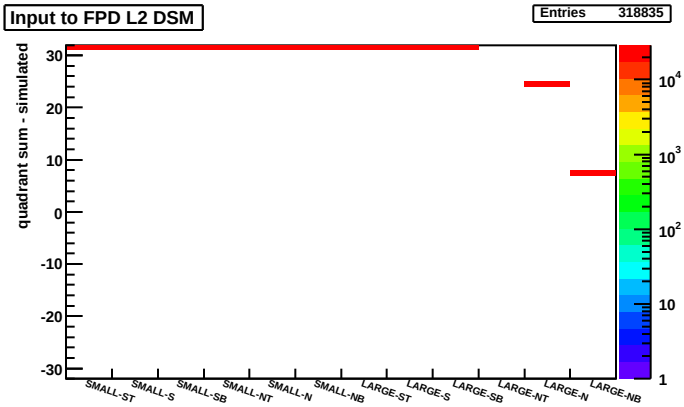

Input to FMS L1 DSM
Entries 347820
sumA
DSM board

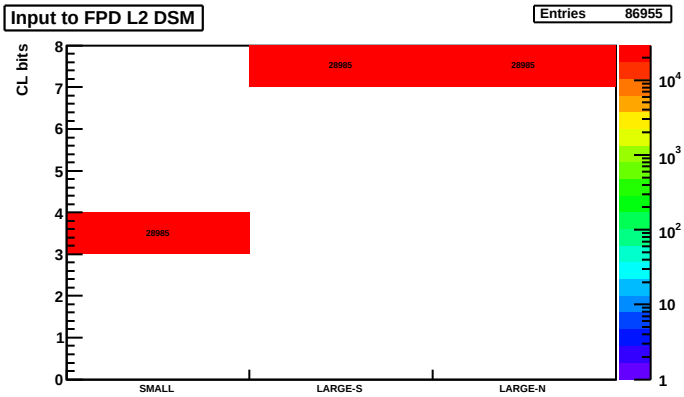

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

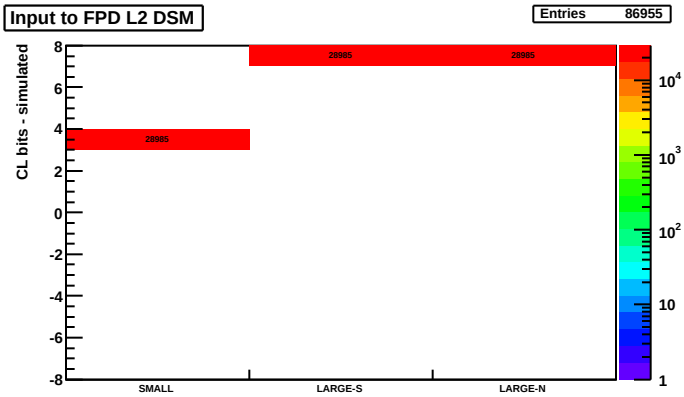

Input to FMS L1 DSM
Entries 347820
FMS L1 HT bits
DSM board

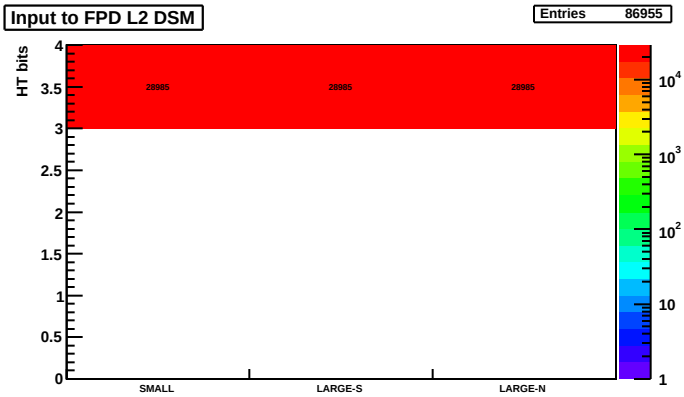

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

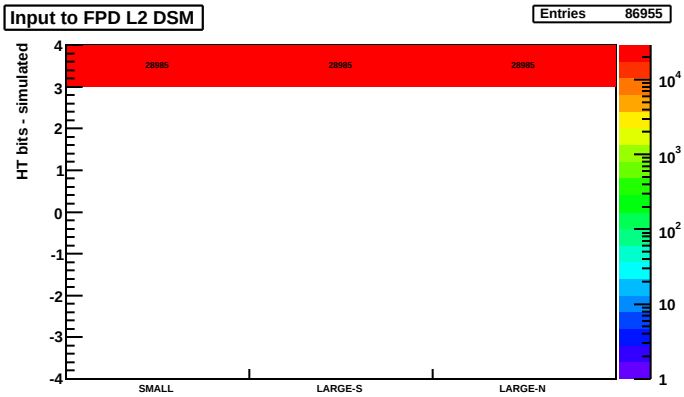

Input to FPD L2 DSM
Entries 347820
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

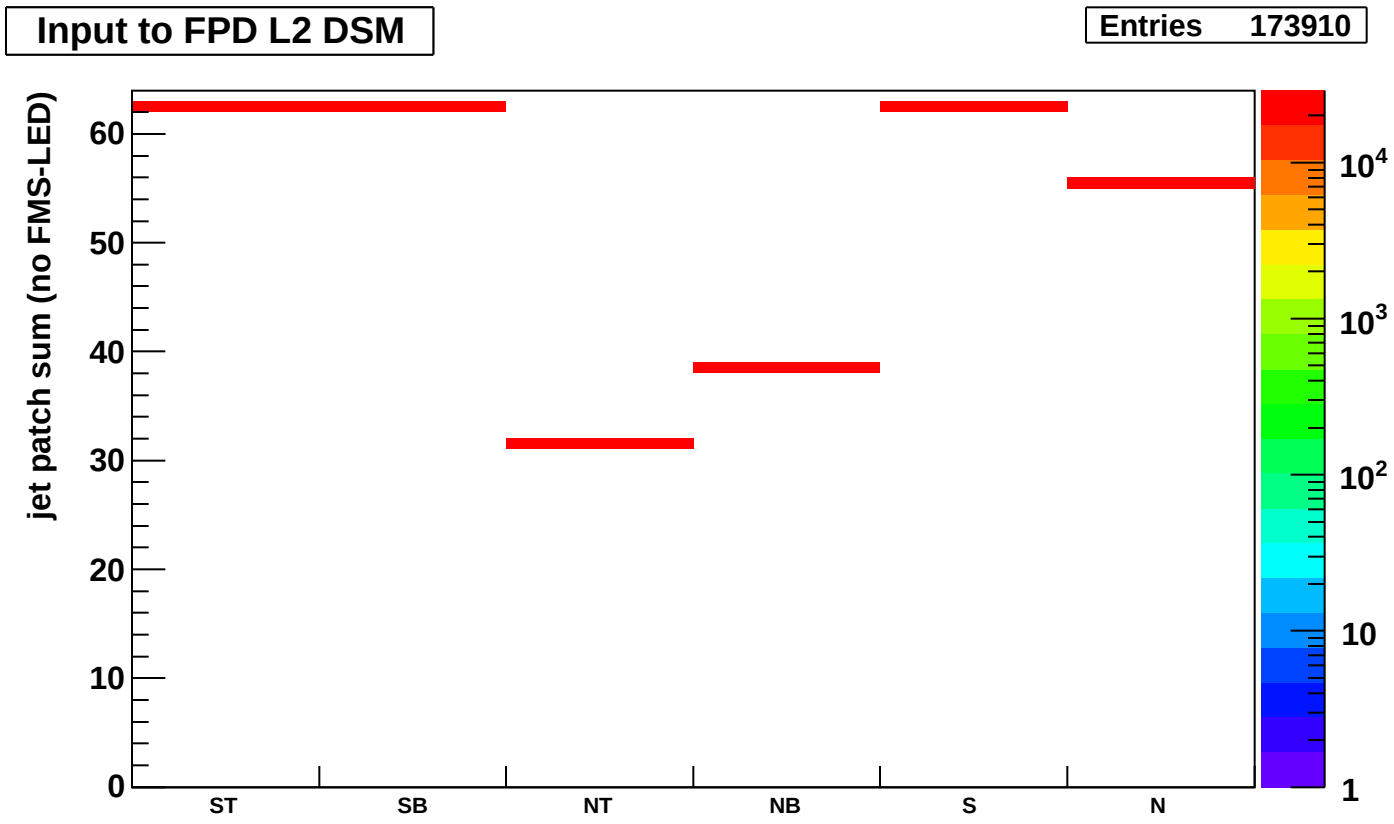

Input to FPD L2 DSM
Entries 318835
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

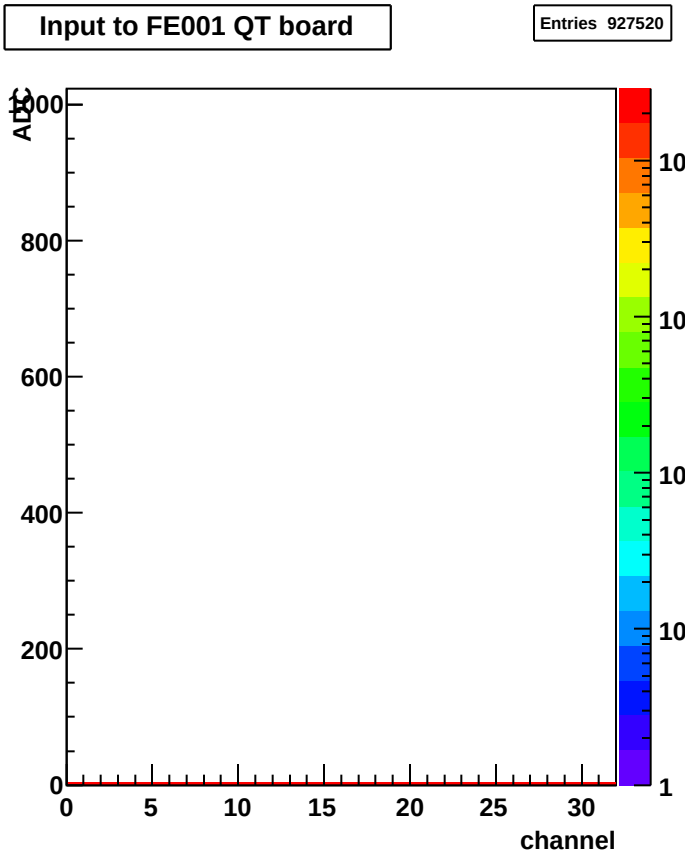

Input to FPD L2 DSM
Entries 86955
CL bits
28985
28985
28985
SMALL
LARGE-S
LARGE-N

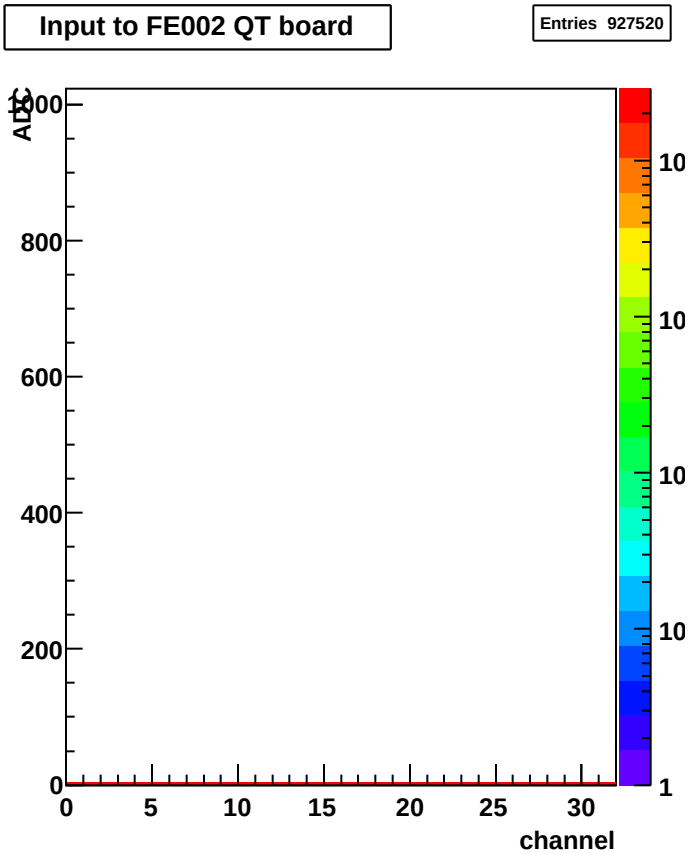

Input to FPD L2 DSM
Entries 86955
CL bits - simulated
28985
28985
28985
SMALL
LARGE-S
LARGE-N

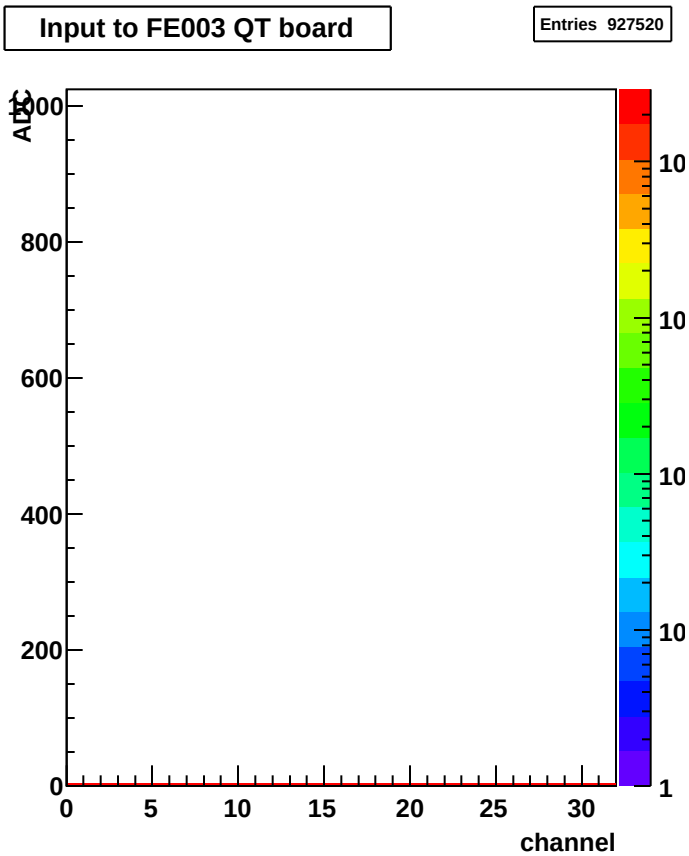

Input to FPD L2 DSM
Entries 86955
HT bits
28985
28985
28985
SMALL
LARGE-S
LARGE-N

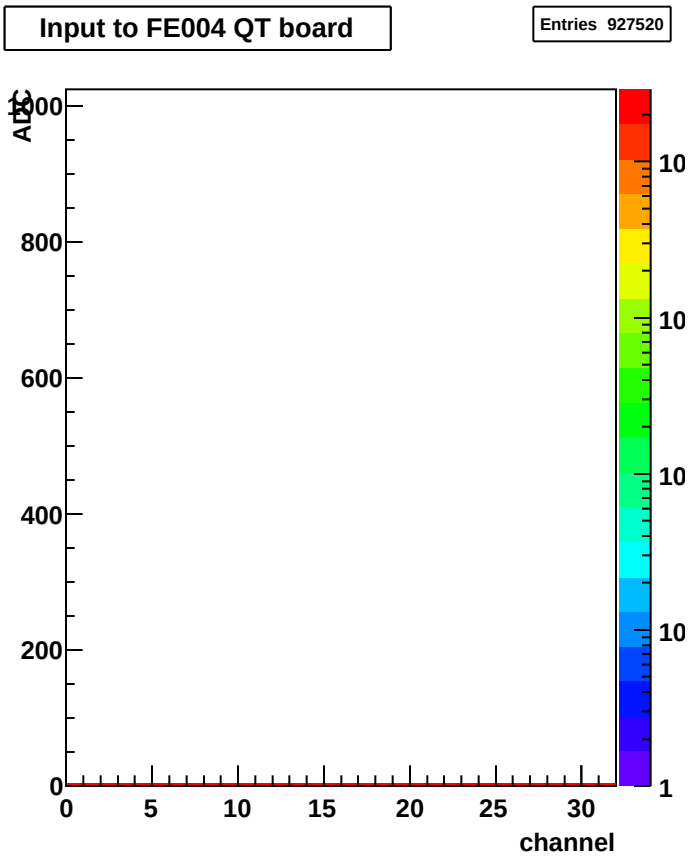

Input to FPD L2 DSM
Entries 86955
HT bits - simulated
28985
28985
28985
SMALL
LARGE-S
LARGE-N

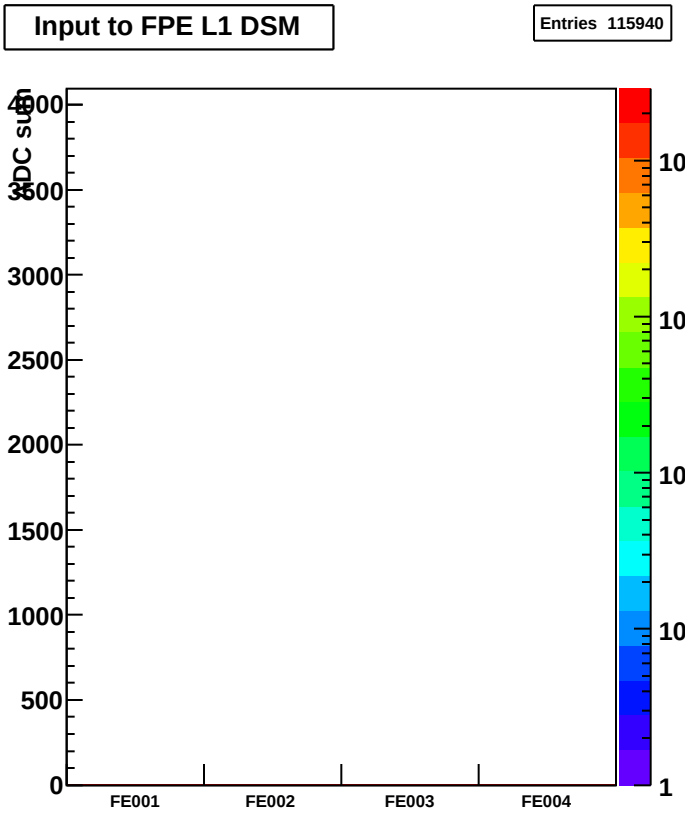

Input to FPD L2 DSM
Entries 173910
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

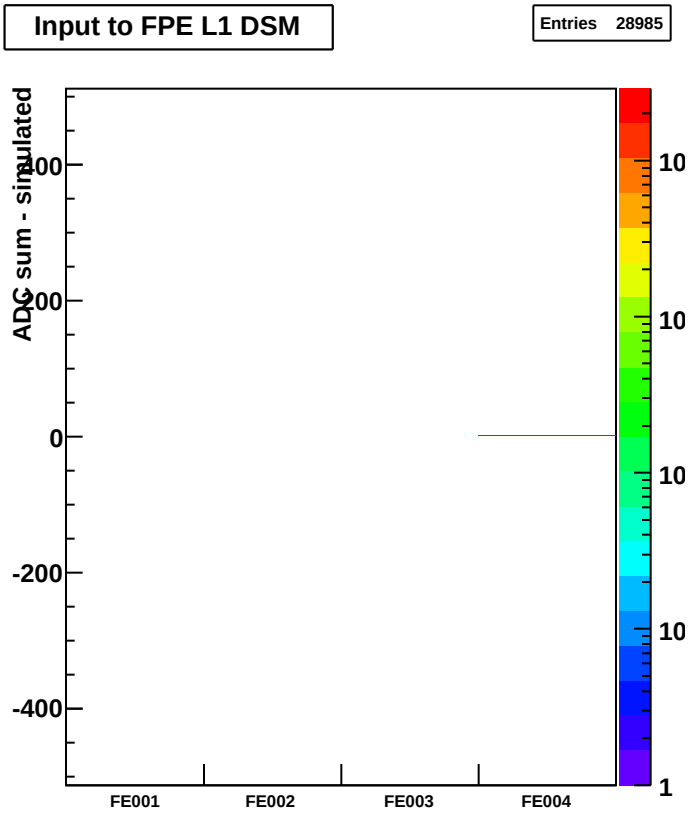

Input to FE001 QT board
Entries 927520
ADC
channel


Input to FE002 QT board
Entries 927520
ADC
channel

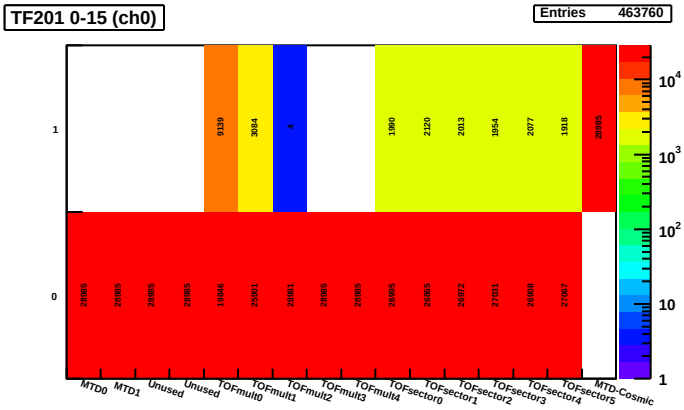

Input to FE003 QT board
Entries 927520
ADC
channel


Input to FE004 QT board
Entries 927520
ADC
channel

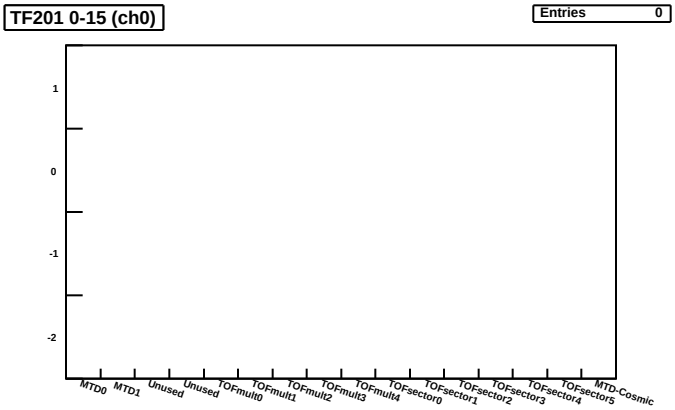

Input to FPE L1 DSM
Entries 115940
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1


Input to FPE L1 DSM
Entries 28985
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1

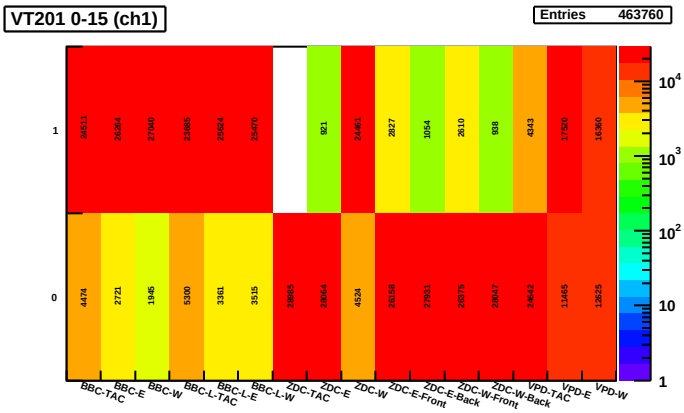
TF201 0-15 (ch0)



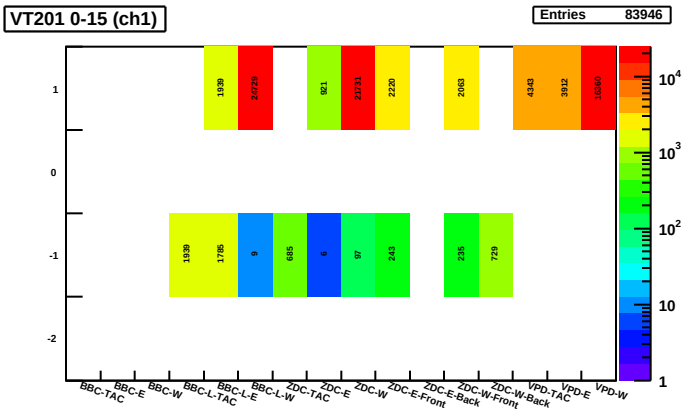
TF201 0-15 (ch0)



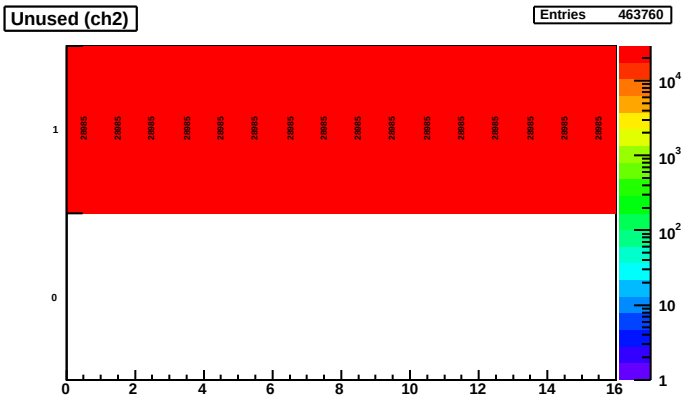
VT201 0-15 (ch1)

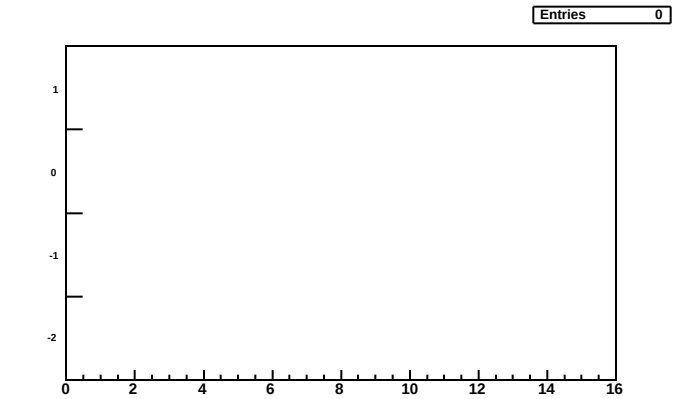


VT201 0-15 (ch1)



Unused (ch2)





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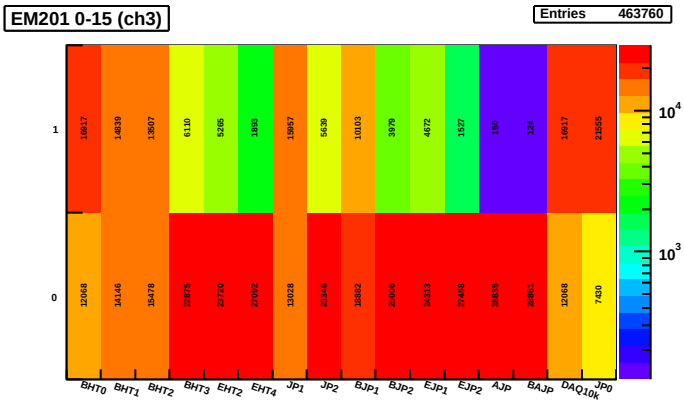

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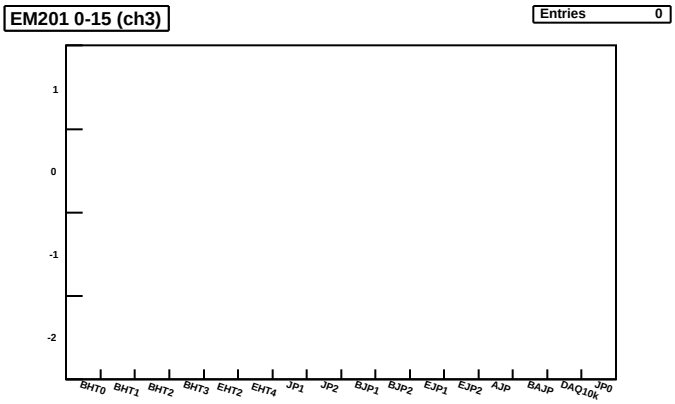
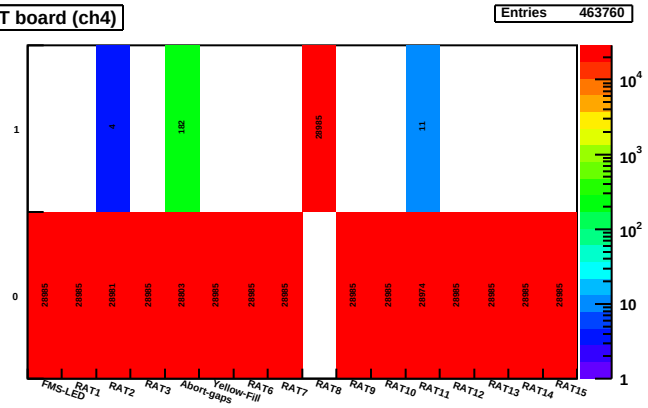
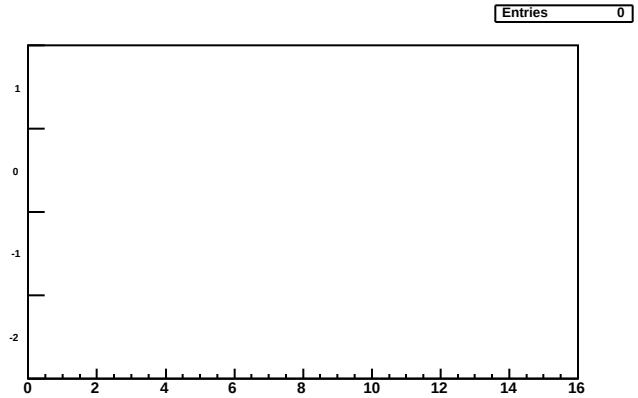


RAT board (ch4)





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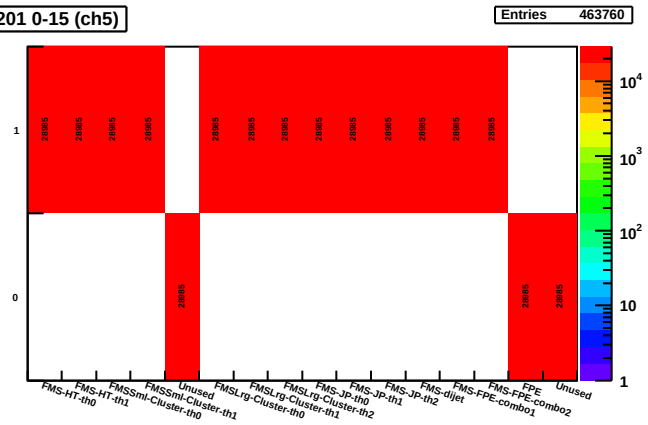

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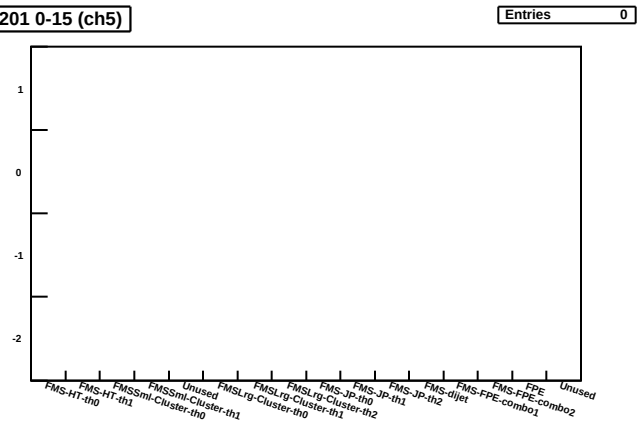

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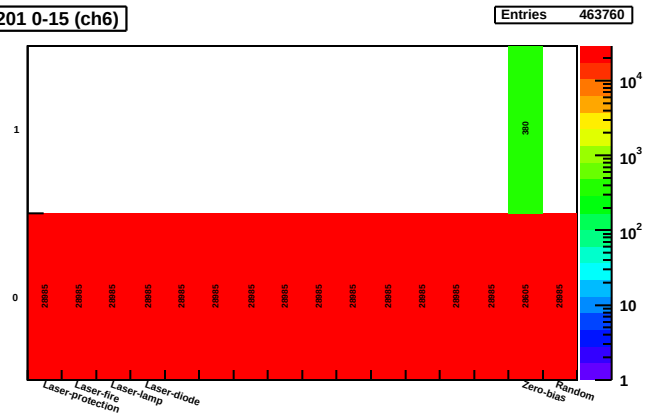

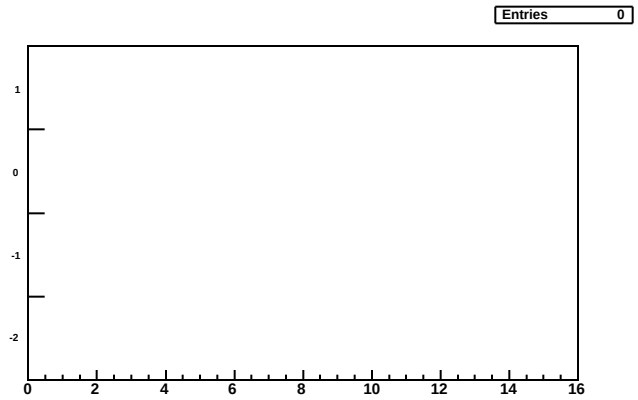
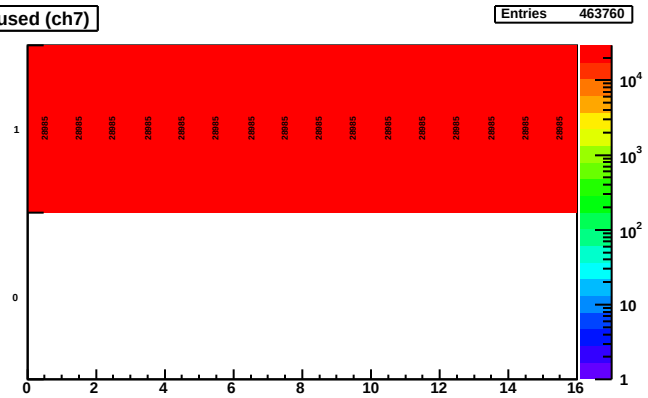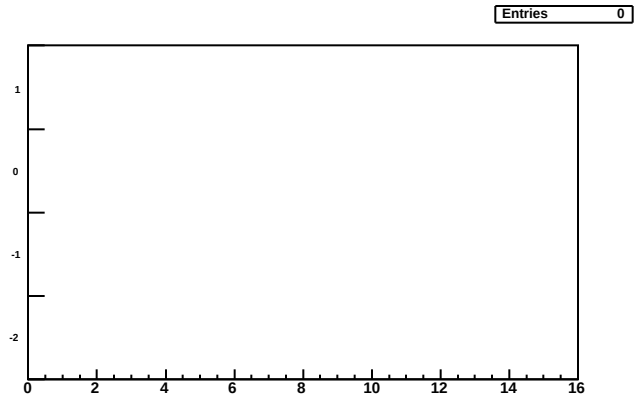
Unused (ch7)