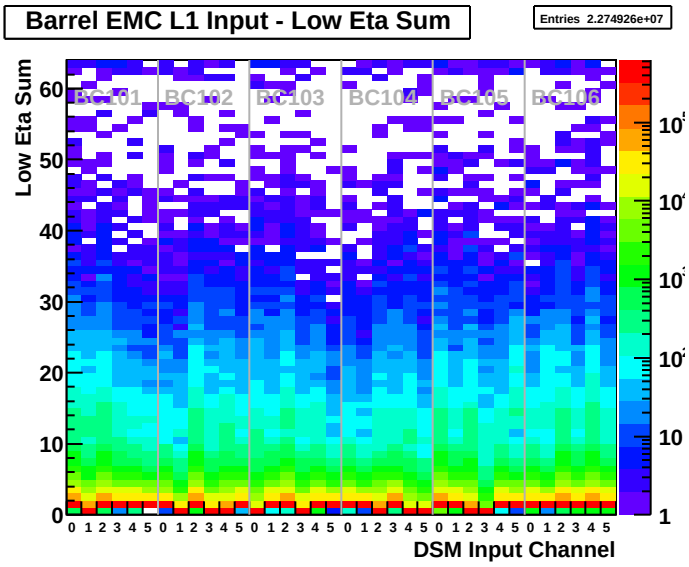
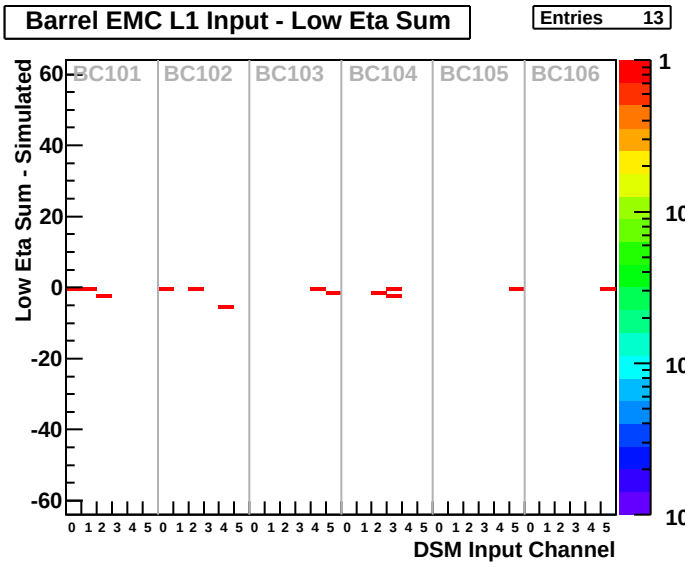
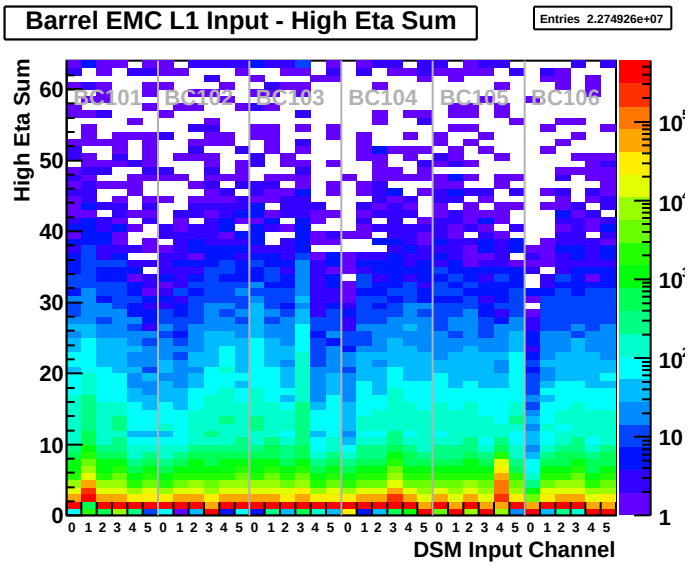
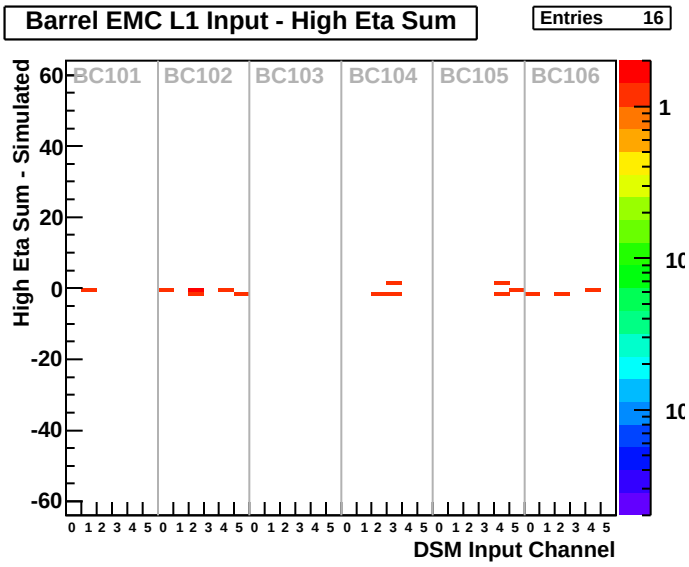
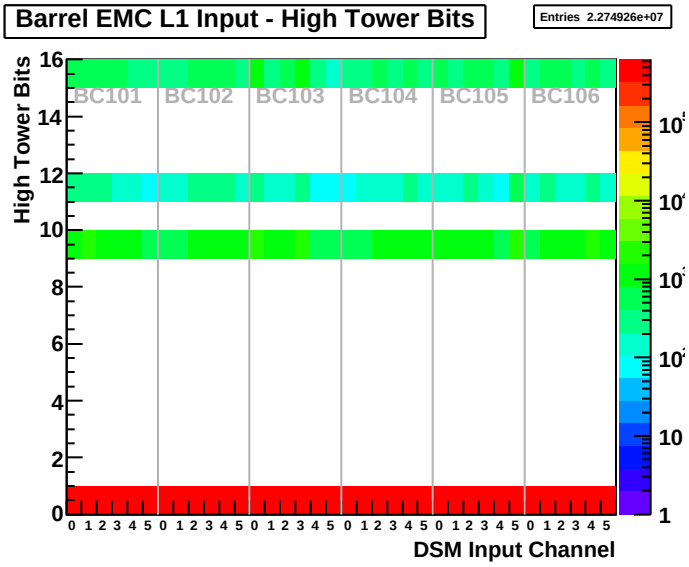
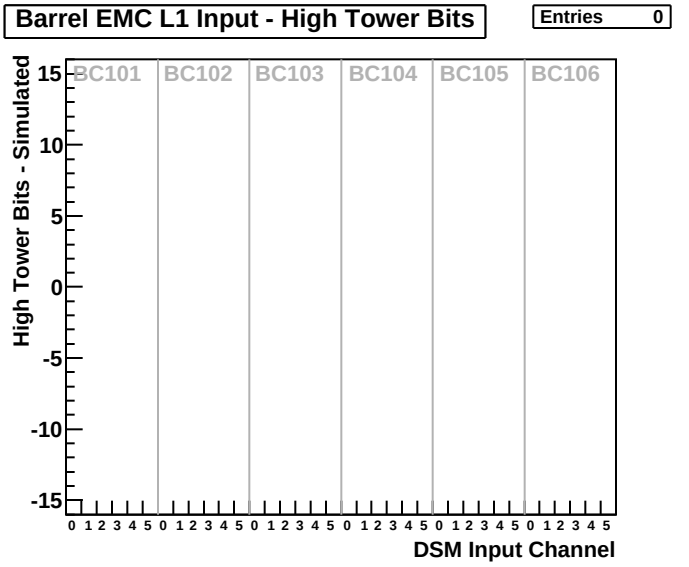

Barrel EMC L1 Input - Low Eta Sum
Entries 2.274926e+07
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

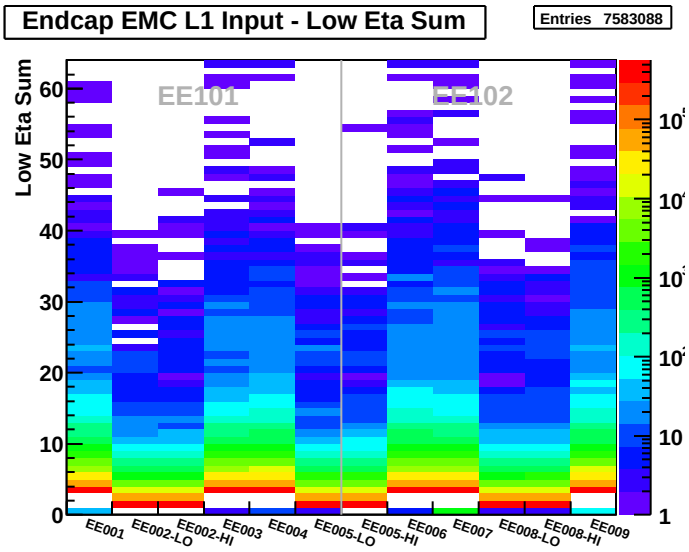

Barrel EMC L1 Input - Low Eta Sum
Entries 13
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

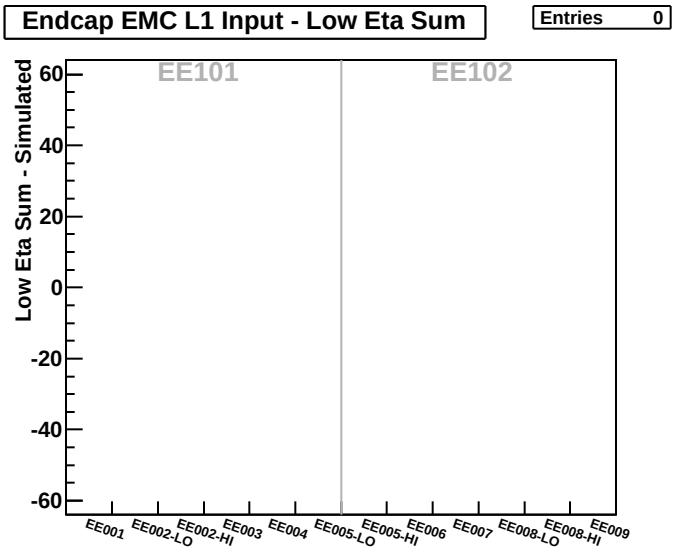

Barrel EMC L1 Input - High Eta Sum
Entries 2.274926e+07
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

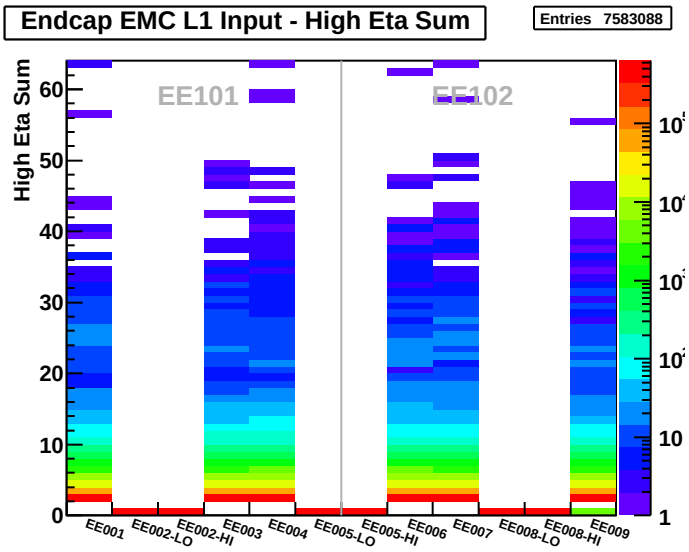

Barrel EMC L1 Input - High Eta Sum
Entries 16
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

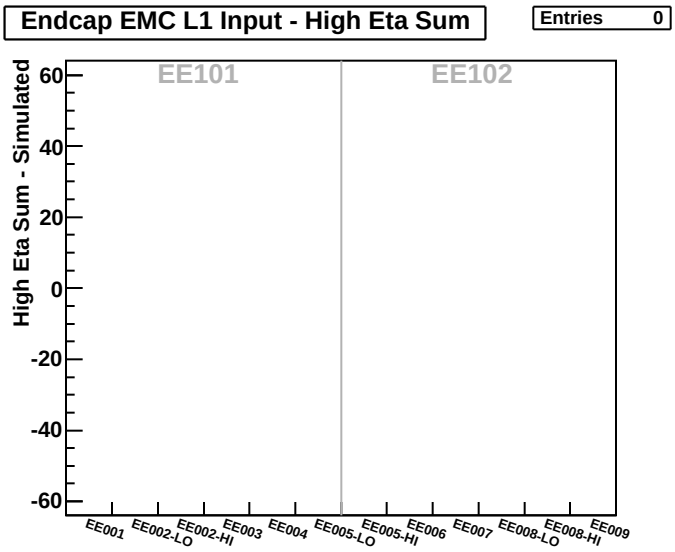

Barrel EMC L1 Input - High Tower Bits
Entries 2.274926e+07
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

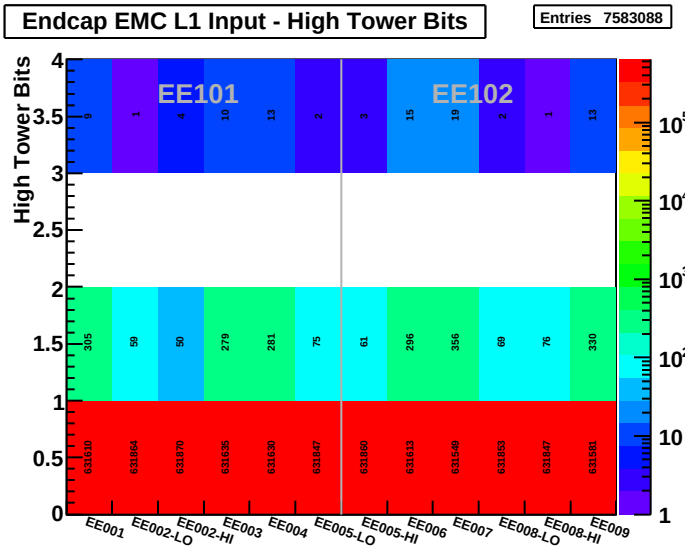

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

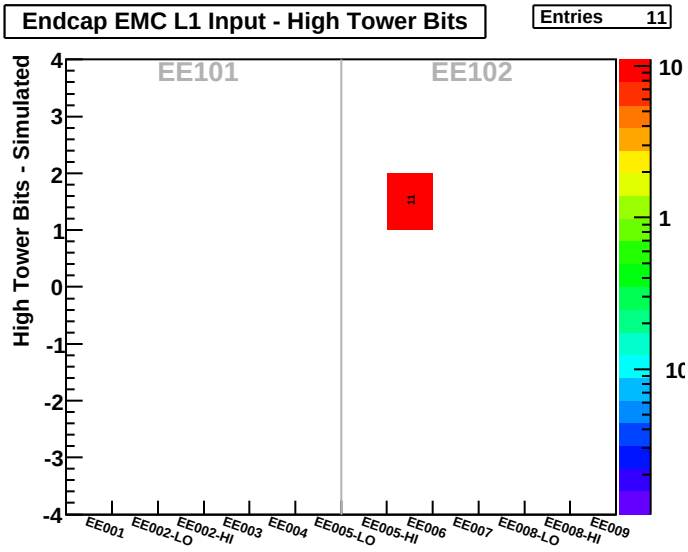

Endcap EMC L1 Input - Low Eta Sum
Entries 7583088
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

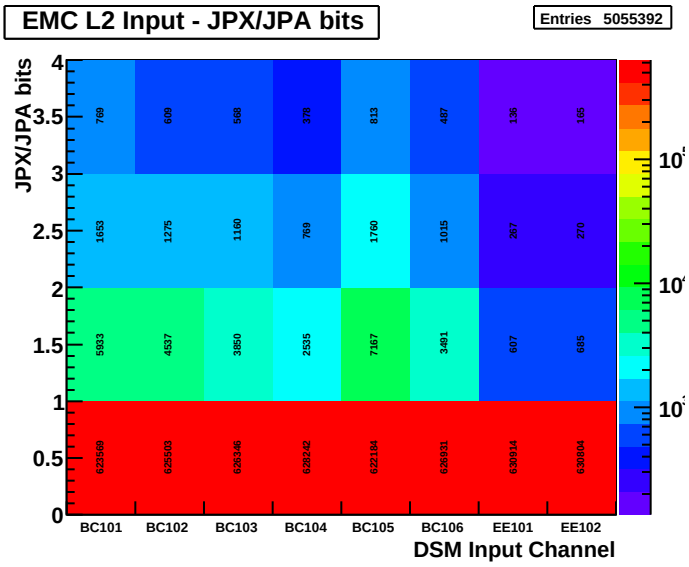

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

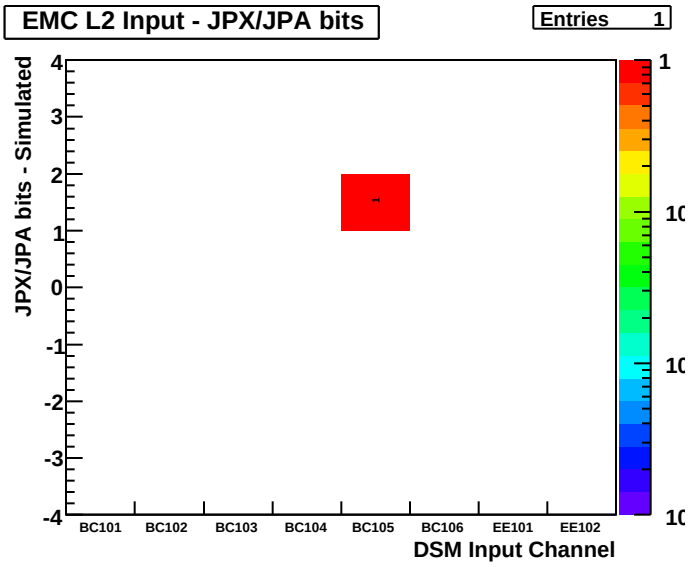

Endcap EMC L1 Input - High Eta Sum
Entries 7583088
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

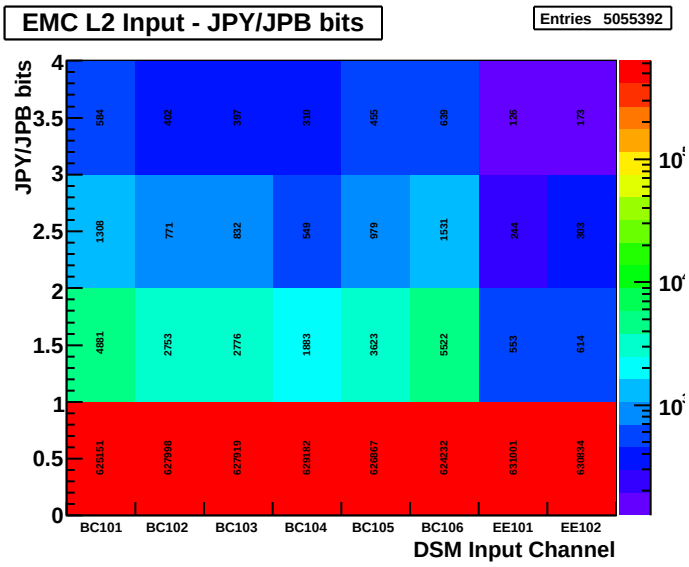

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

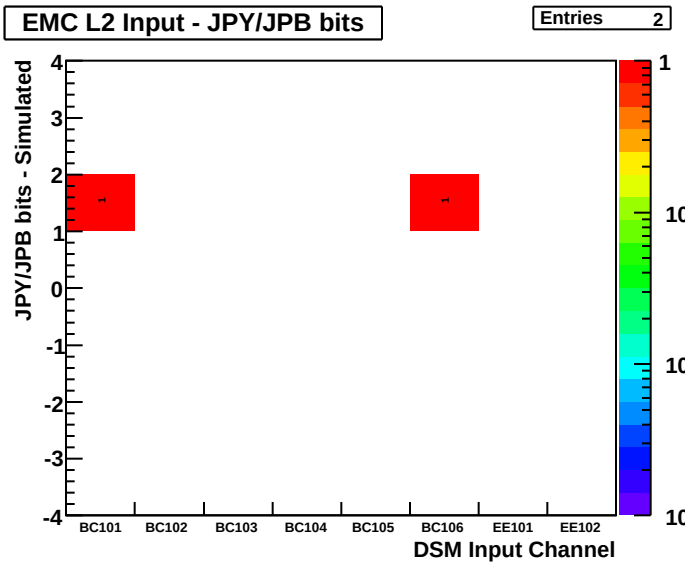

Endcap EMC L1 Input - High Tower Bits
Entries 7583088
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

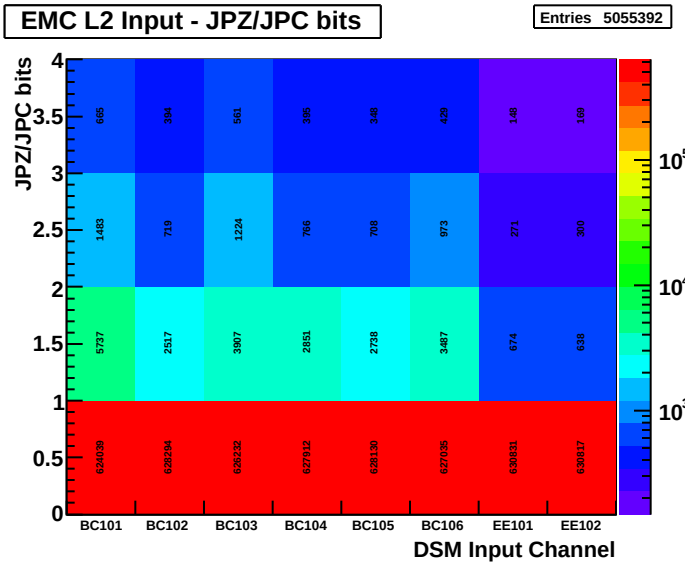

Endcap EMC L1 Input - High Tower Bits
Entries 11
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

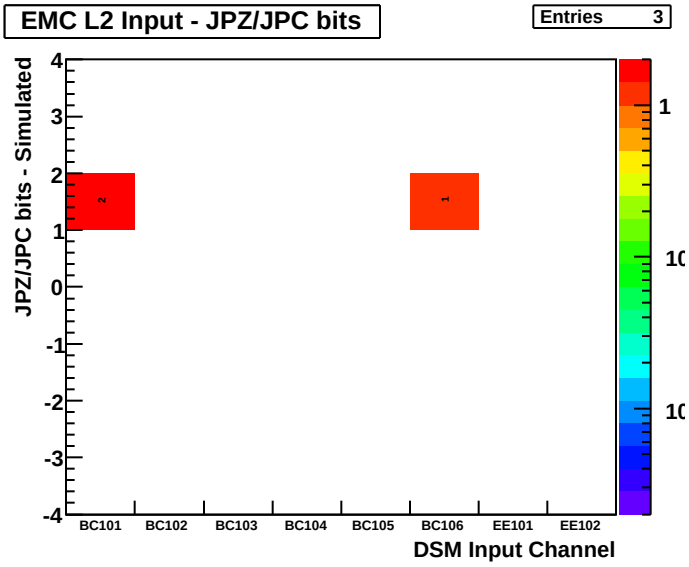

EMC L2 Input - JPX/JPA bits
Entries 5055392
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
789 609 568 378 813 487 136 165
1653 1275 1160 769 1760 1015 287 270
5933 4537 3850 2535 7167 3491 607 685
625569 625503 628346 628242 622184 626931 630914 630804

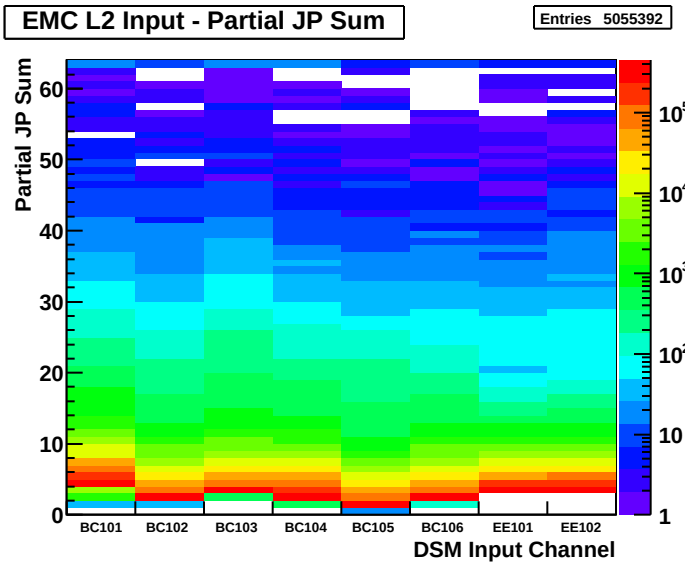

EMC L2 Input - JPX/JPA bits
Entries 1
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
1

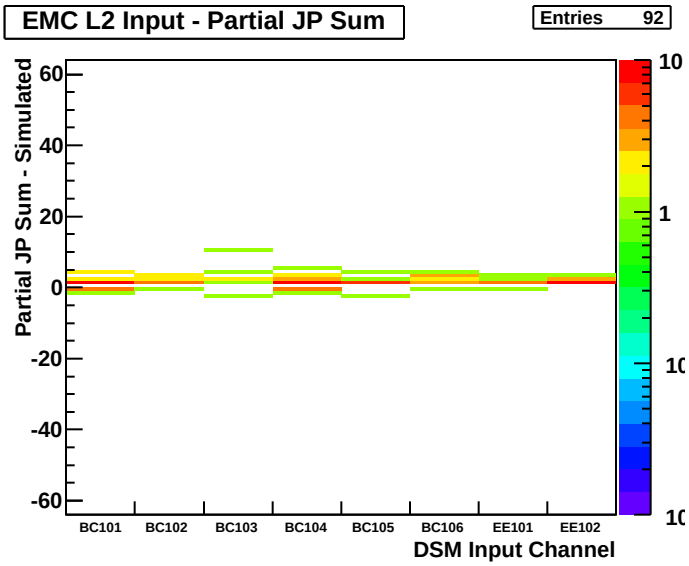

EMC L2 Input - JPY/JPB bits
Entries 5055392
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
584 402 397 310 455 639 126 173
1308 771 832 549 979 1531 244 303
4861 2753 2776 1983 3623 5522 553 614
625151 627998 627919 628182 626867 624232 631001 630834

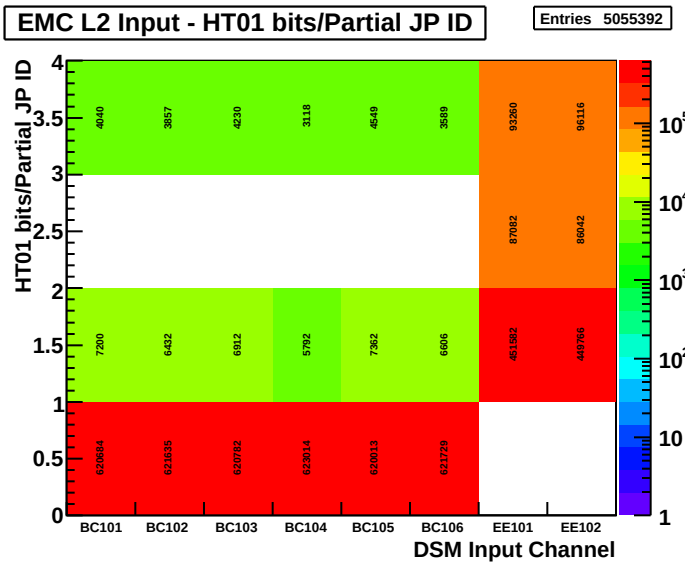

EMC L2 Input - JPY/JPB bits
Entries 2
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
1 1

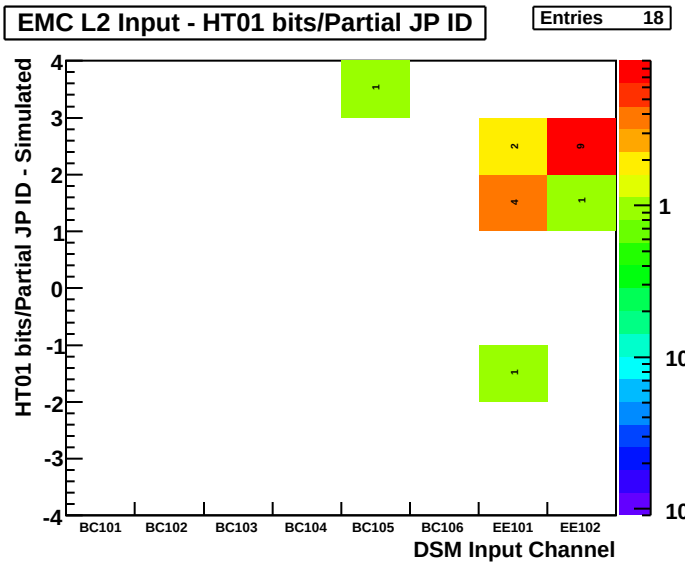

EMC L2 Input - JPZ/JPC bits
Entries 5055392
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
685 394 561 395 349 429 149 169
1483 719 1224 766 708 973 271 300
5737 2517 3907 2951 2738 3487 674 638
624039 628294 626232 627912 628130 627035 630831 630817

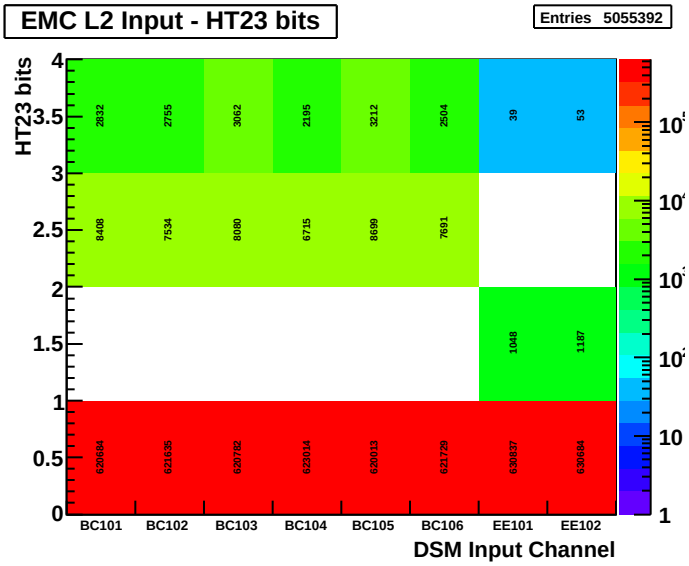

EMC L2 Input - JPZ/JPC bits
Entries 3
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
2 1

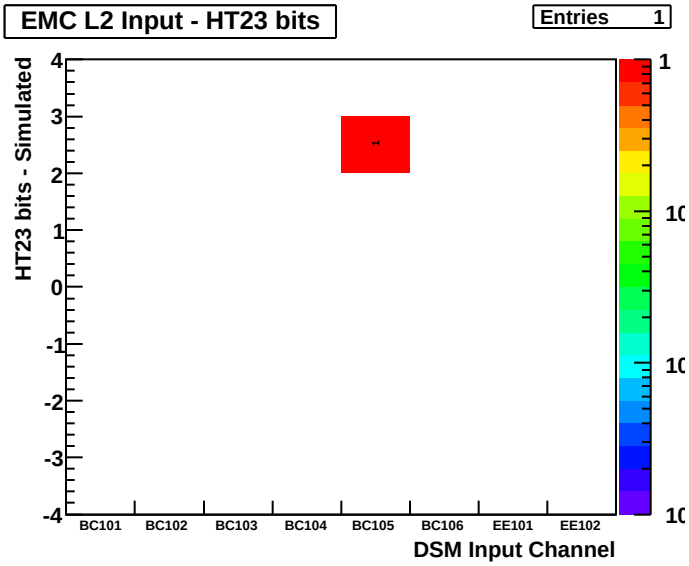

EMC L2 Input - Partial JP Sum
Entries 5055392
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

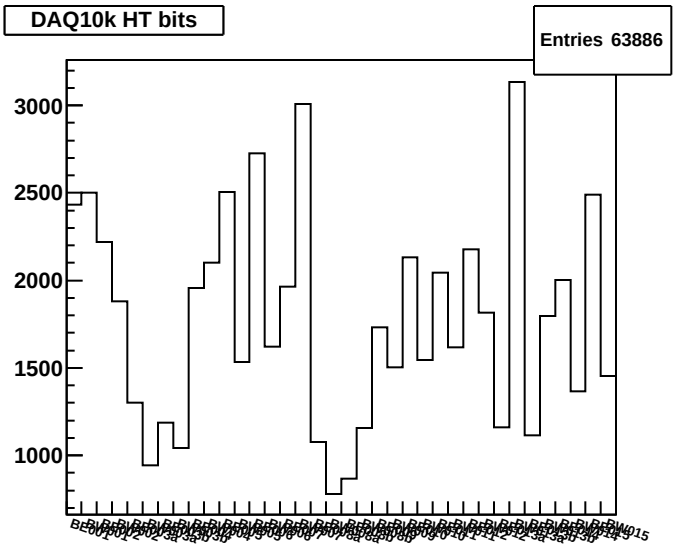

EMC L2 Input - Partial JP Sum
Entries 92
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

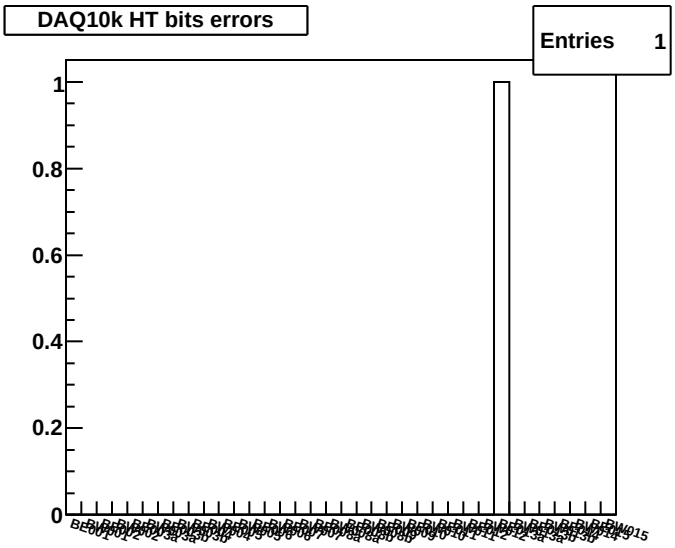

EMC L2 Input - HT01 bits/Partial JP ID
Entries 5055392
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

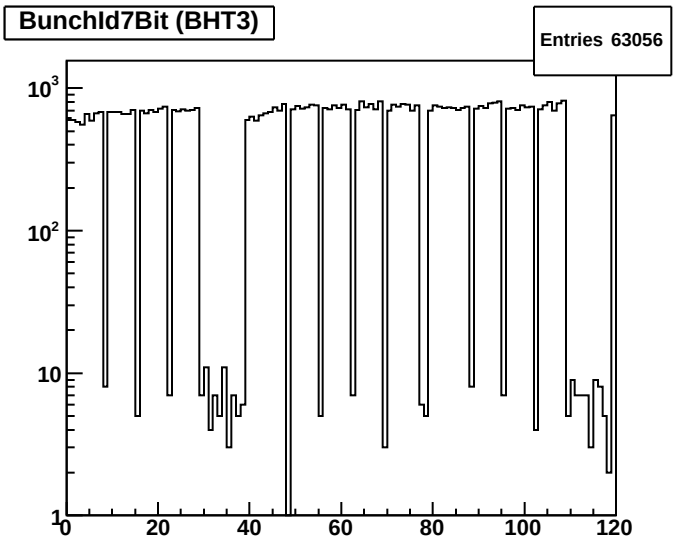

EMC L2 Input - HT01 bits/Partial JP ID
Entries 18
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

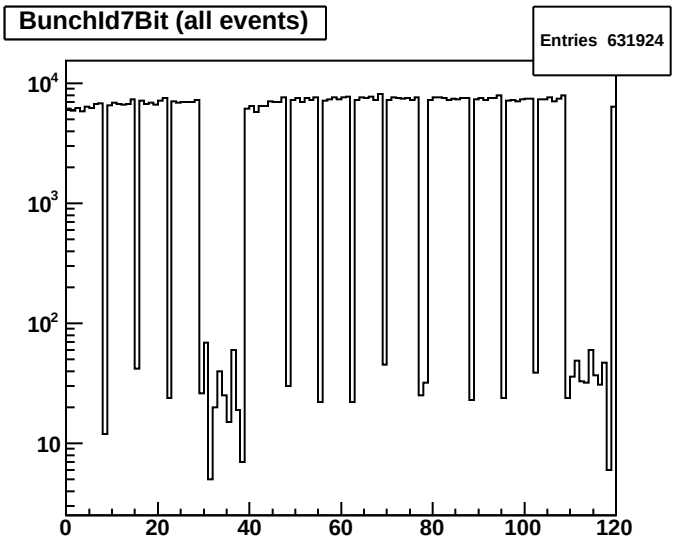

EMC L2 Input - HT23 bits
Entries 5055392
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

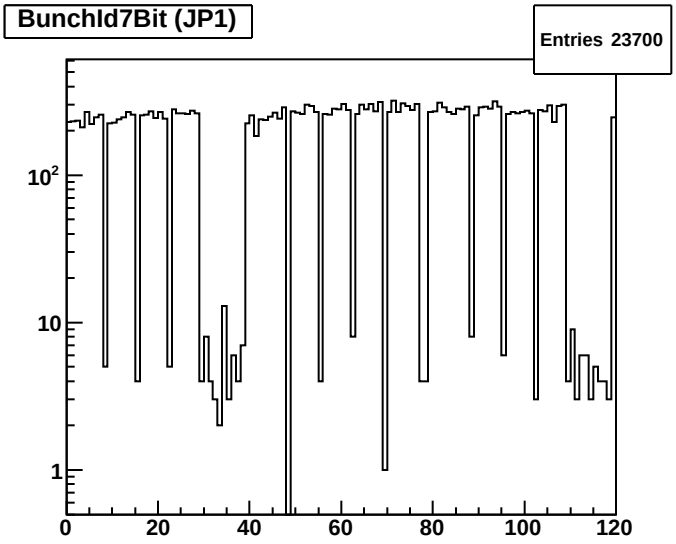

EMC L2 Input - HT23 bits
Entries 1
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

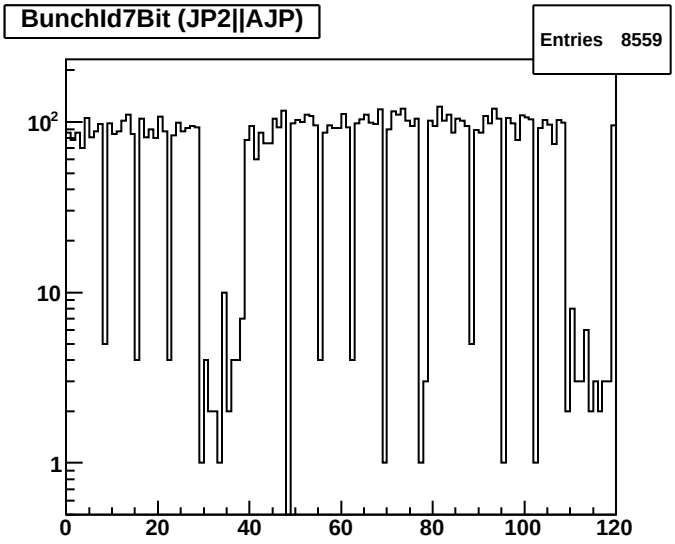

DAQ10k HT bits
Entries 63886
3000
2500
2000
1500
1000

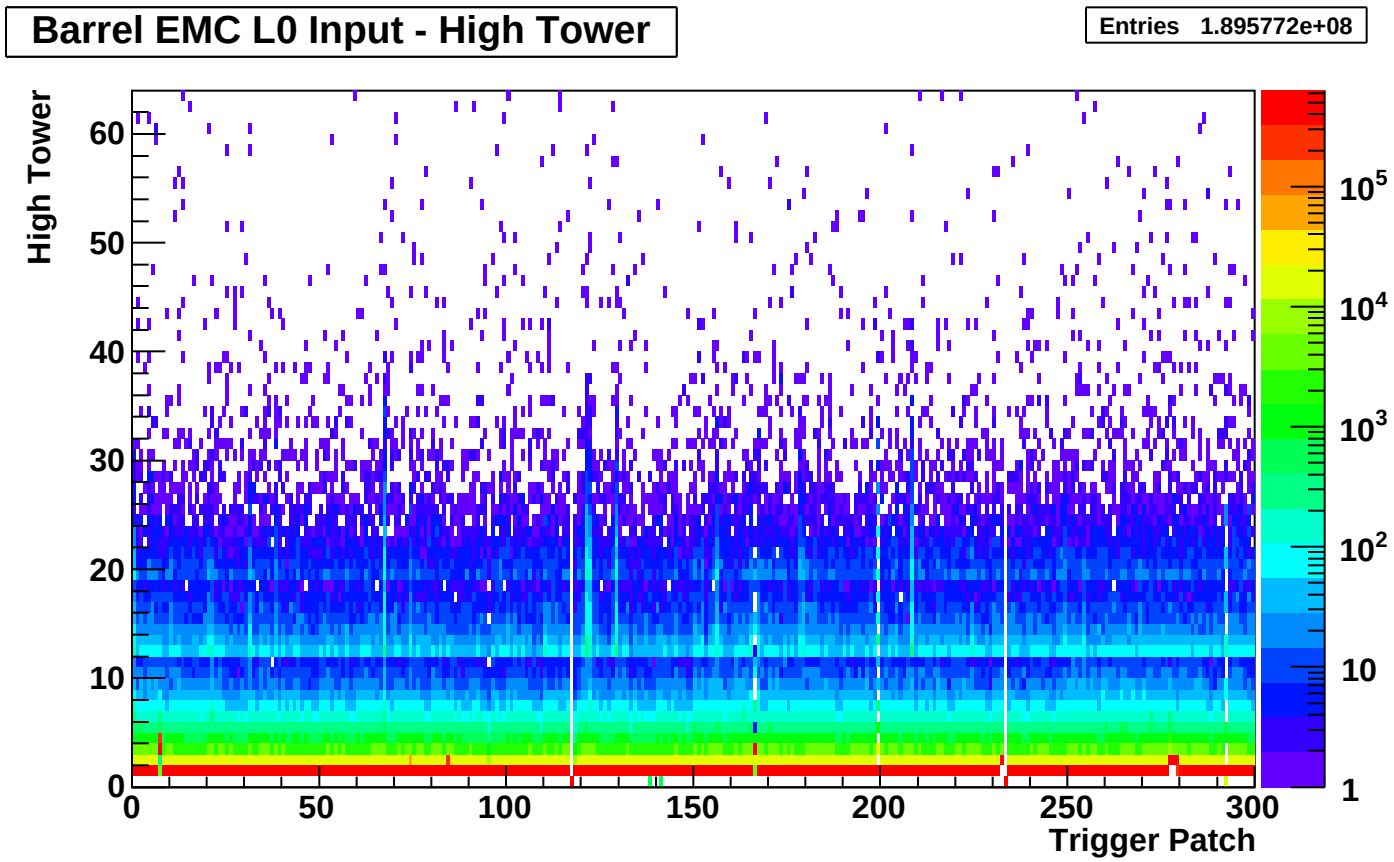

DAQ10k HT bits errors
Entries 1
1
0.8
0.6
0.4
0.2
0

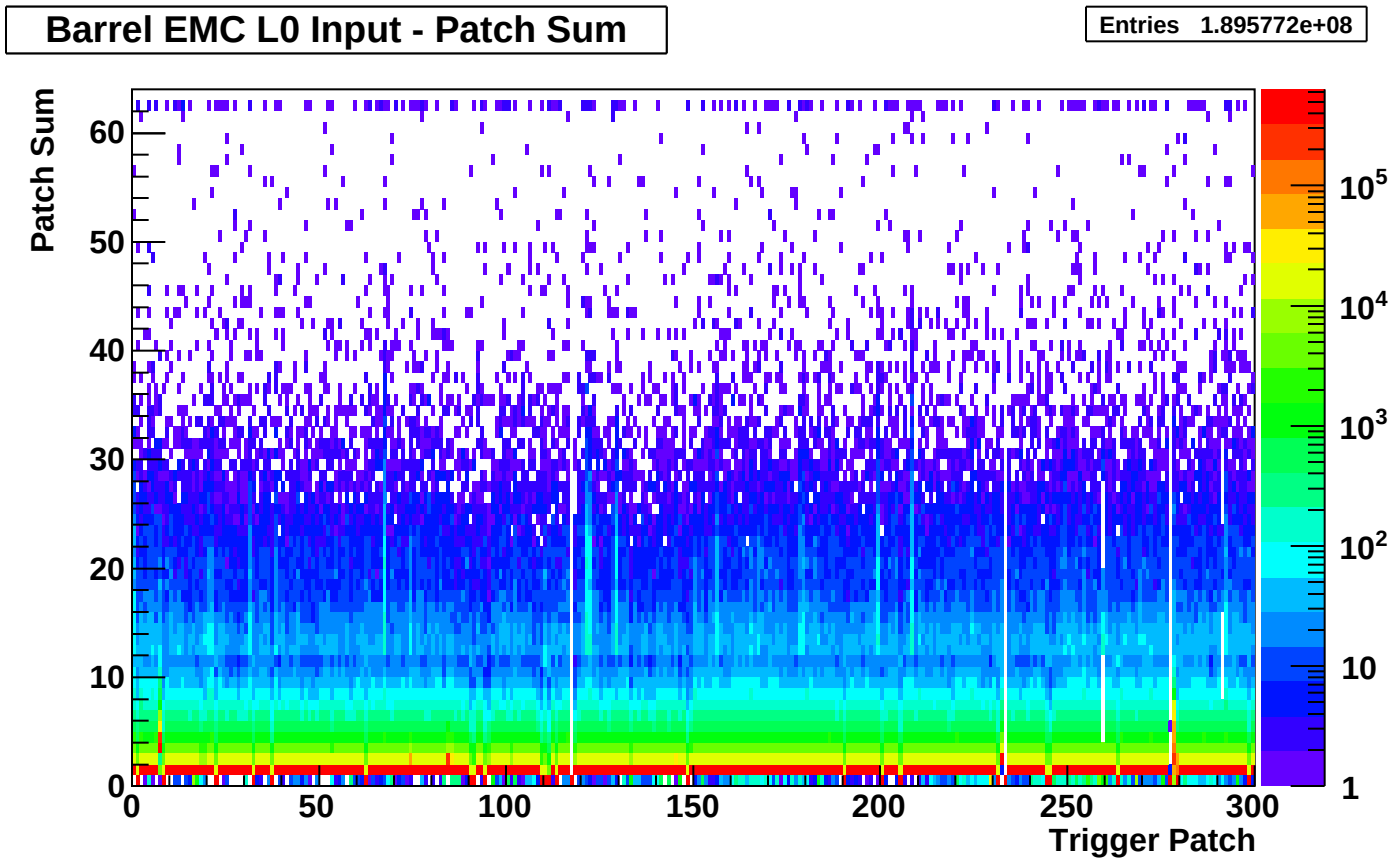

BunchId7Bit (BHT3)
Entries 63056
10^3
10^2
10
1
0
20
40
60
80
100
120

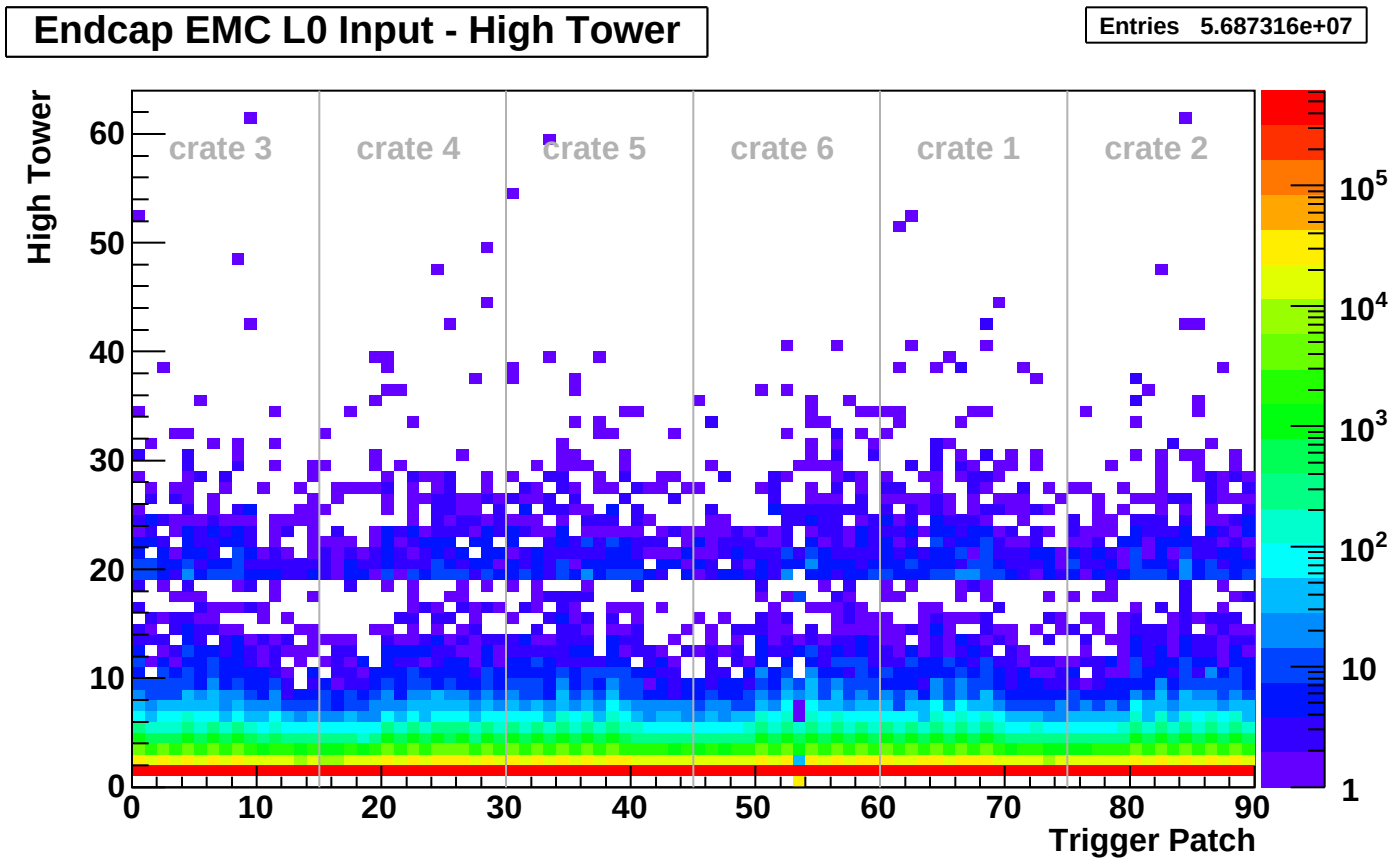

BunchId7Bit (all events)
Entries 631924
10^4
10^3
10^2
10
0
20
40
60
80
100
120

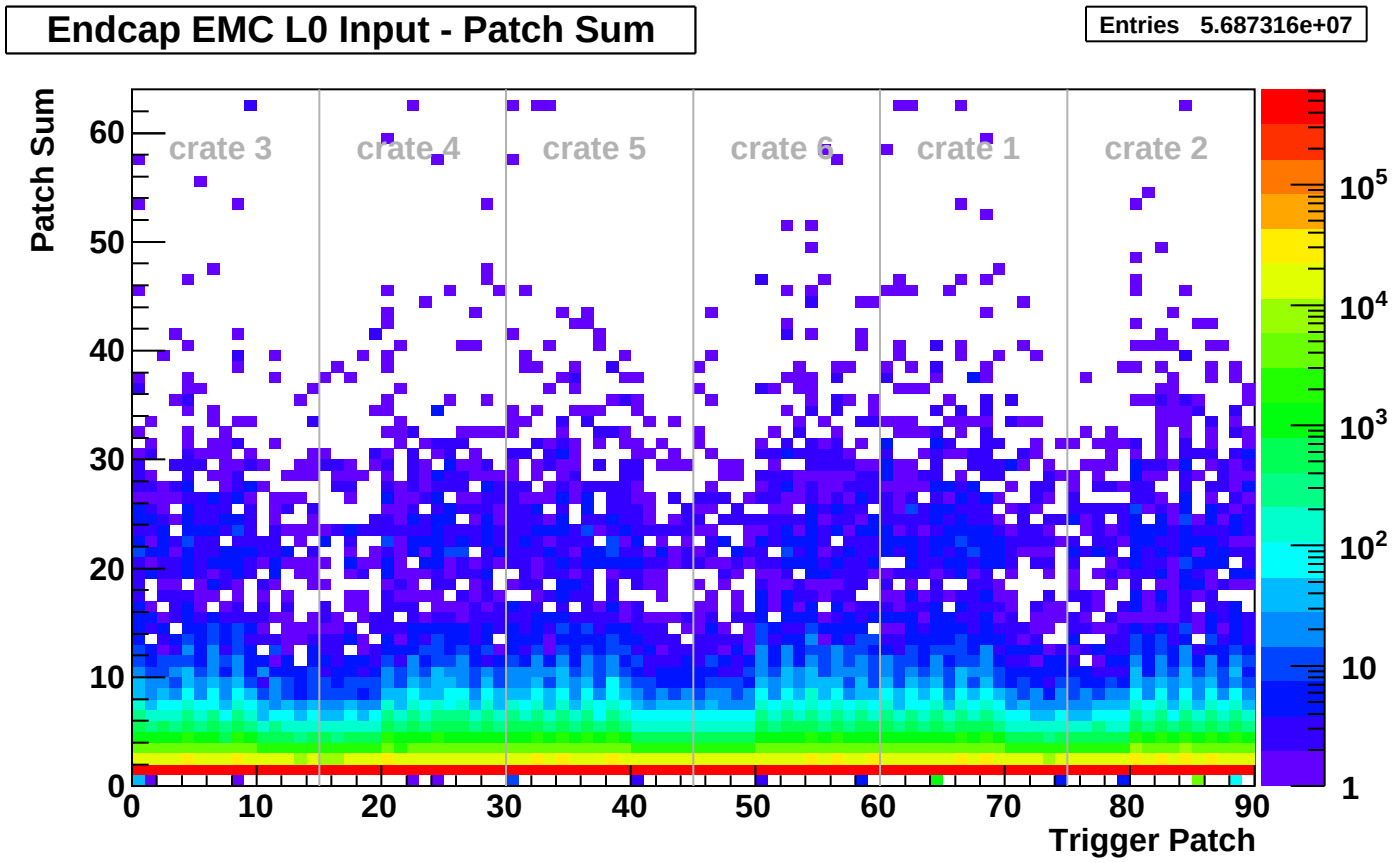

BunchId7Bit (JP1)
Entries 23700
10^2
10
1
0
20
40
60
80
100
120

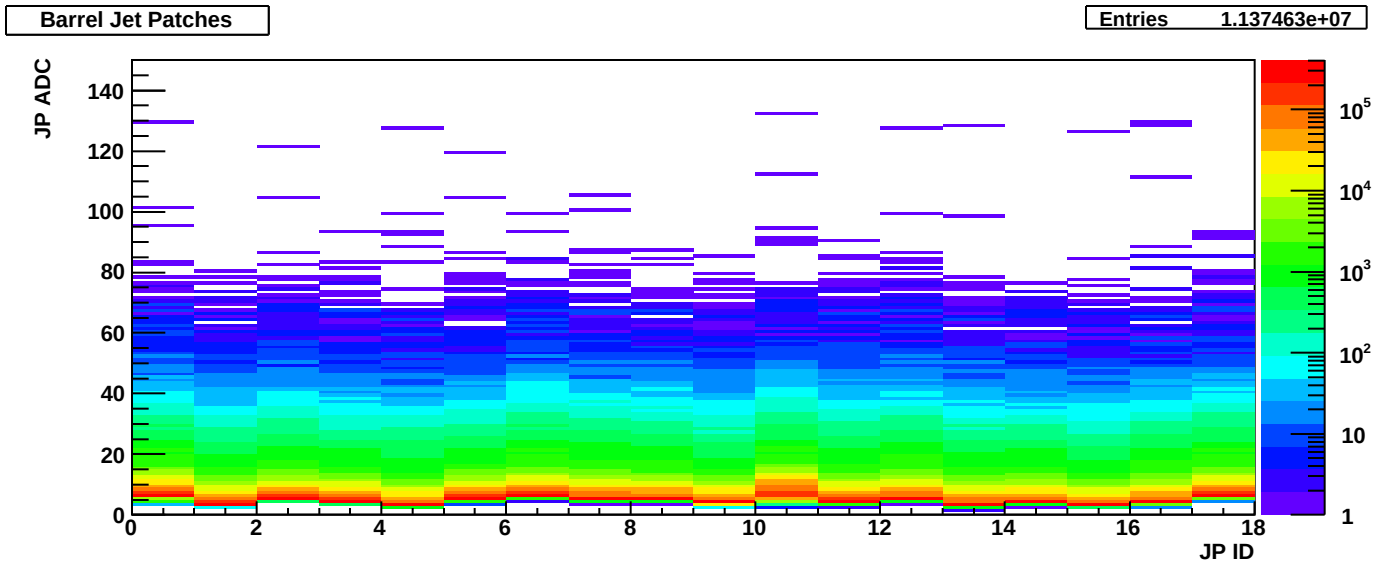

BunchId7Bit (JP2||AJP)
Entries 8559
10^2
10
1
0
20
40
60
80
100
120

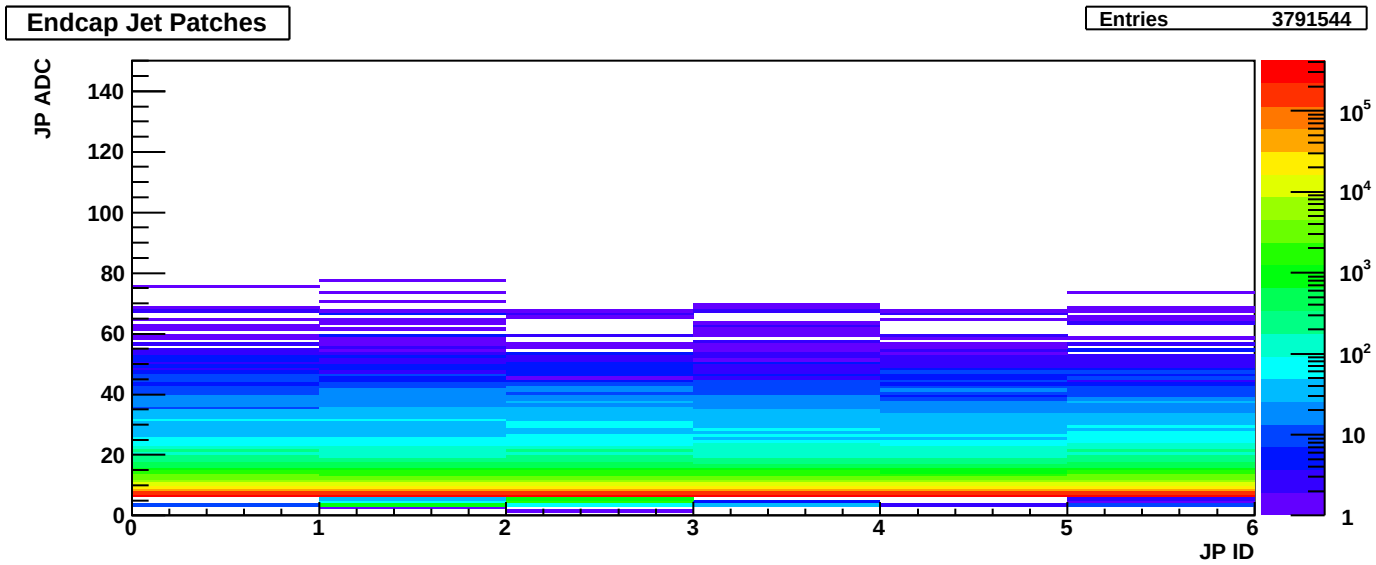

Barrel EMC L0 Input - High Tower
Entries 1.895772e+08
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

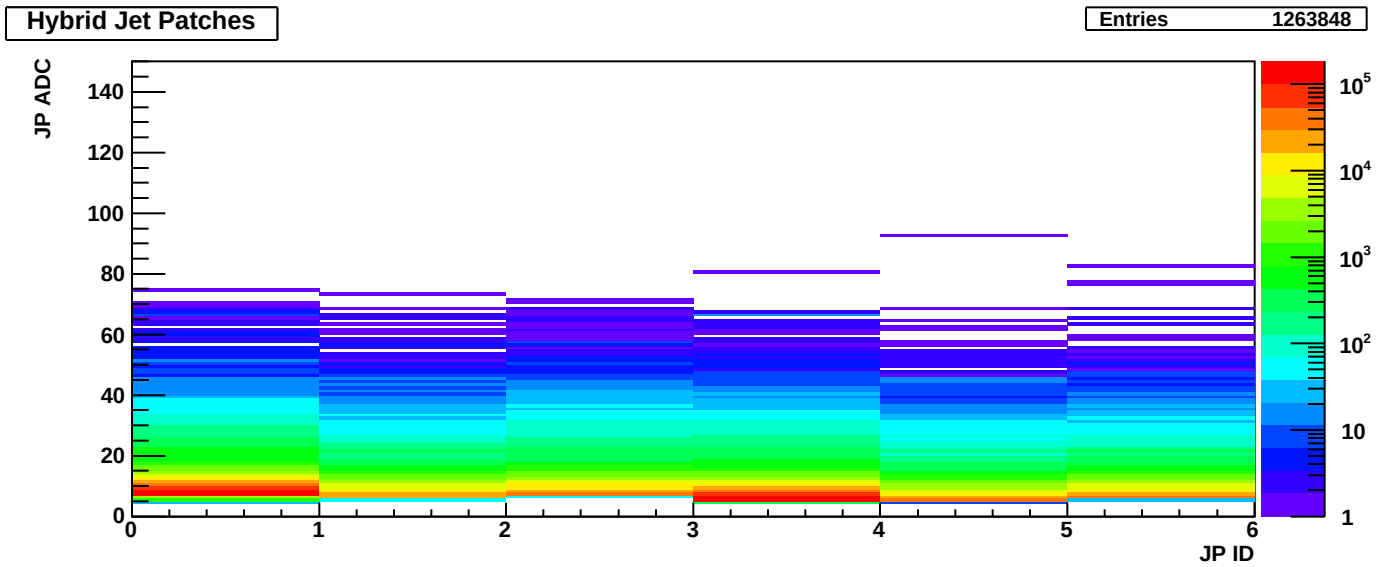

Barrel EMC L0 Input - Patch Sum
Entries 1.895772e+08
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

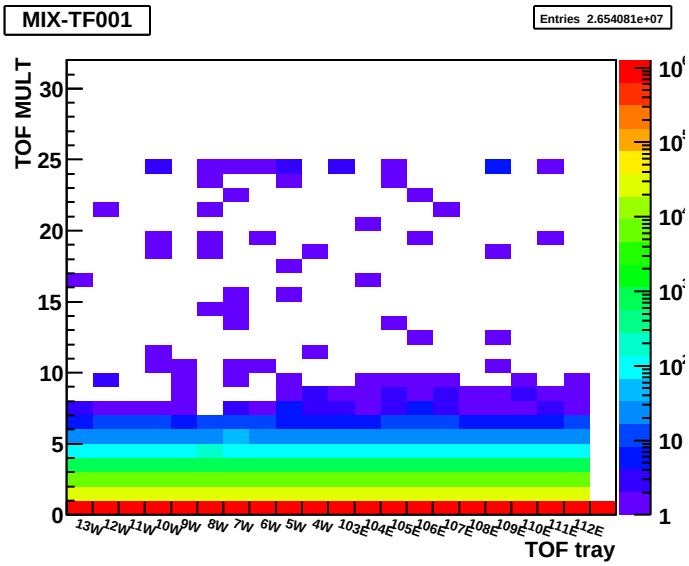

Endcap EMC L0 Input - High Tower
Entries 5.687316e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

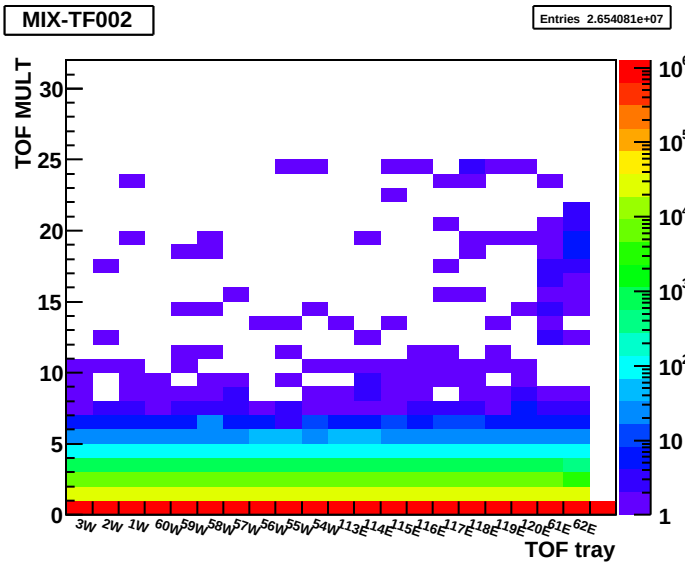

Endcap EMC L0 Input - Patch Sum
Entries 5.687316e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

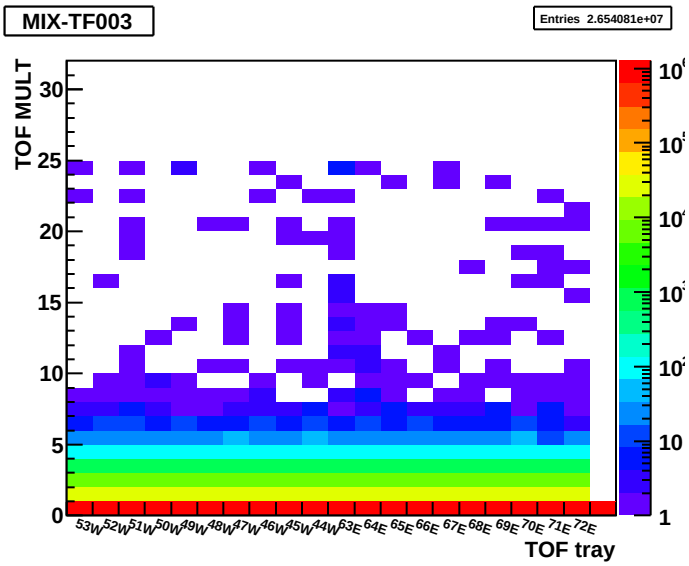

Barrel Jet Patches
Entries 1.137463e+07
JP ADC
JP ID

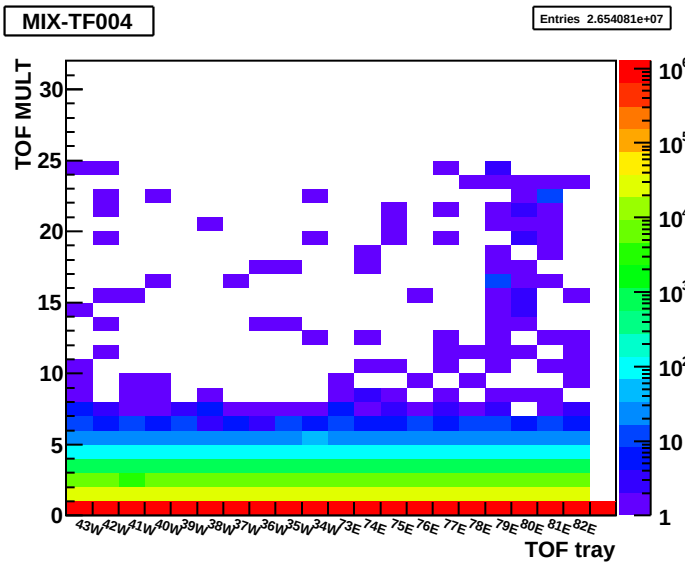

Endcap Jet Patches
Entries 3791544
JP ADC
JP ID

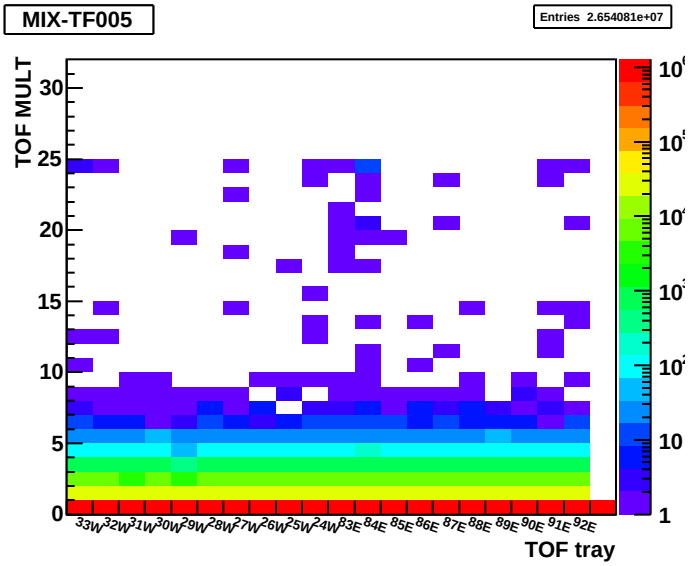

Hybrid Jet Patches
Entries 1263848
JP ADC
JP ID

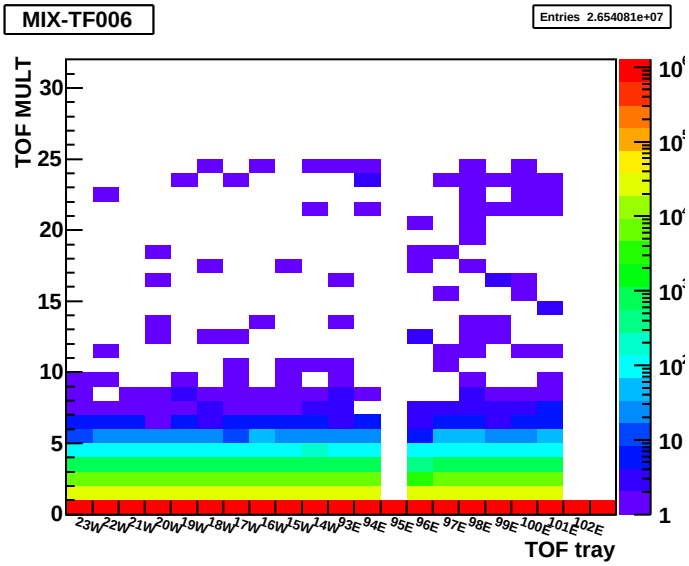

MIX-TF001
Entries 2.654081e+07
TOF MULT
TOF tray

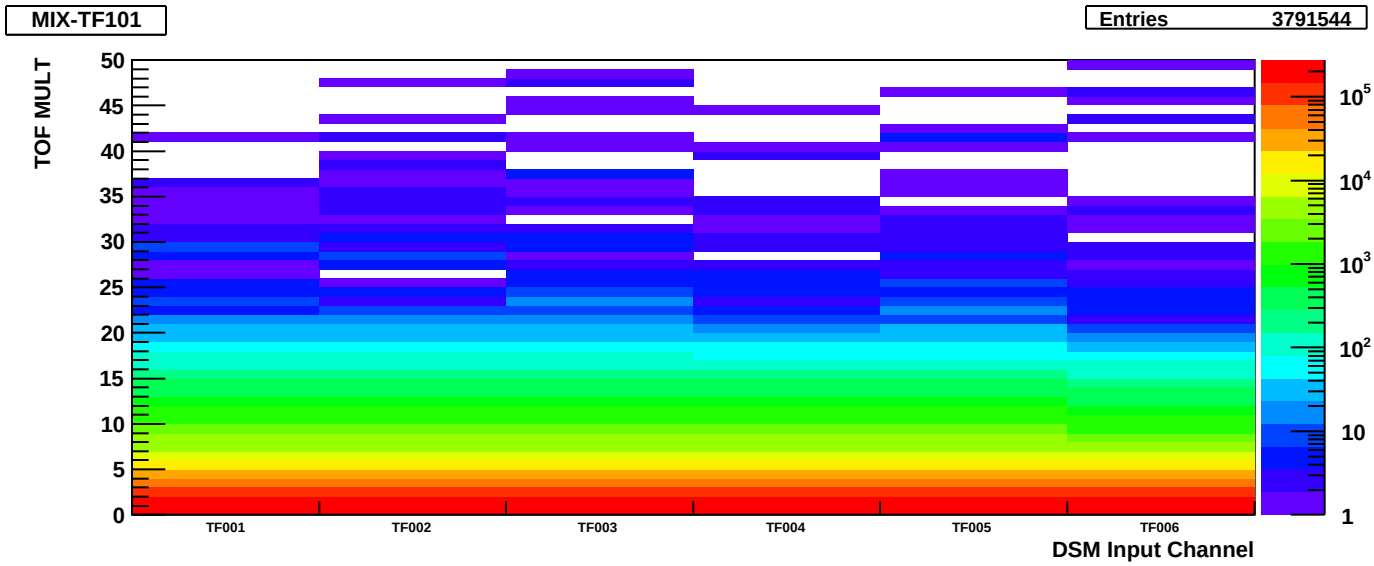

MIX-TF002
Entries 2.654081e+07
TOF MULT
TOF tray

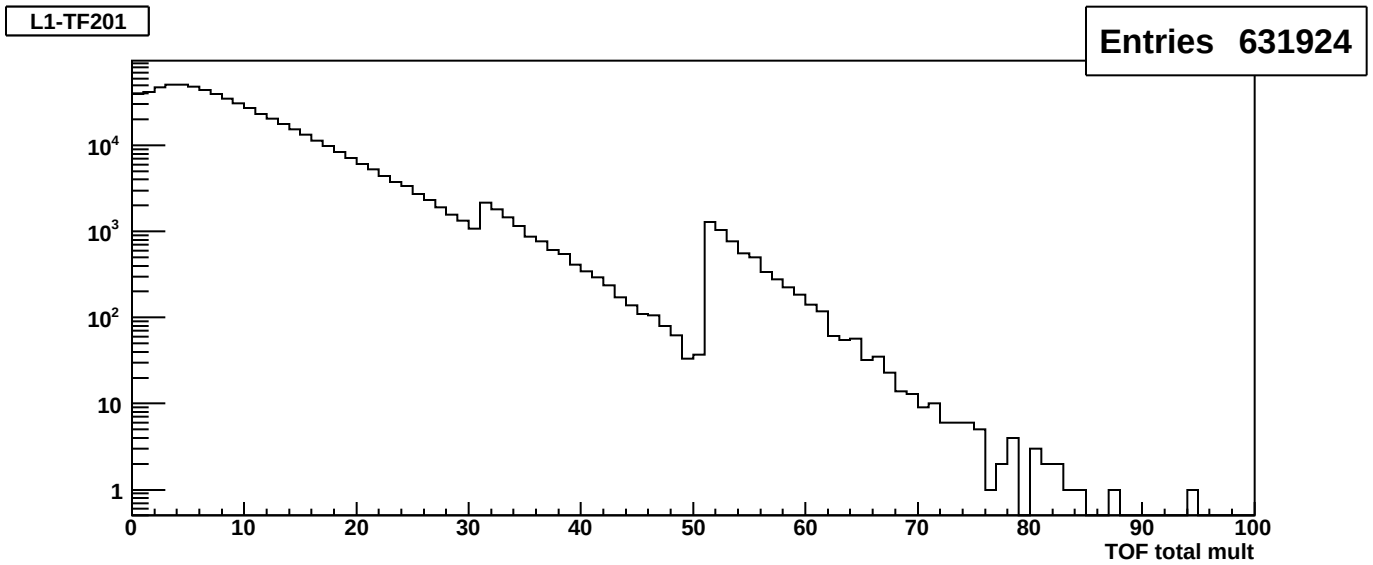

MIX-TF003
Entries 2.654081e+07
TOF MULT
TOF tray

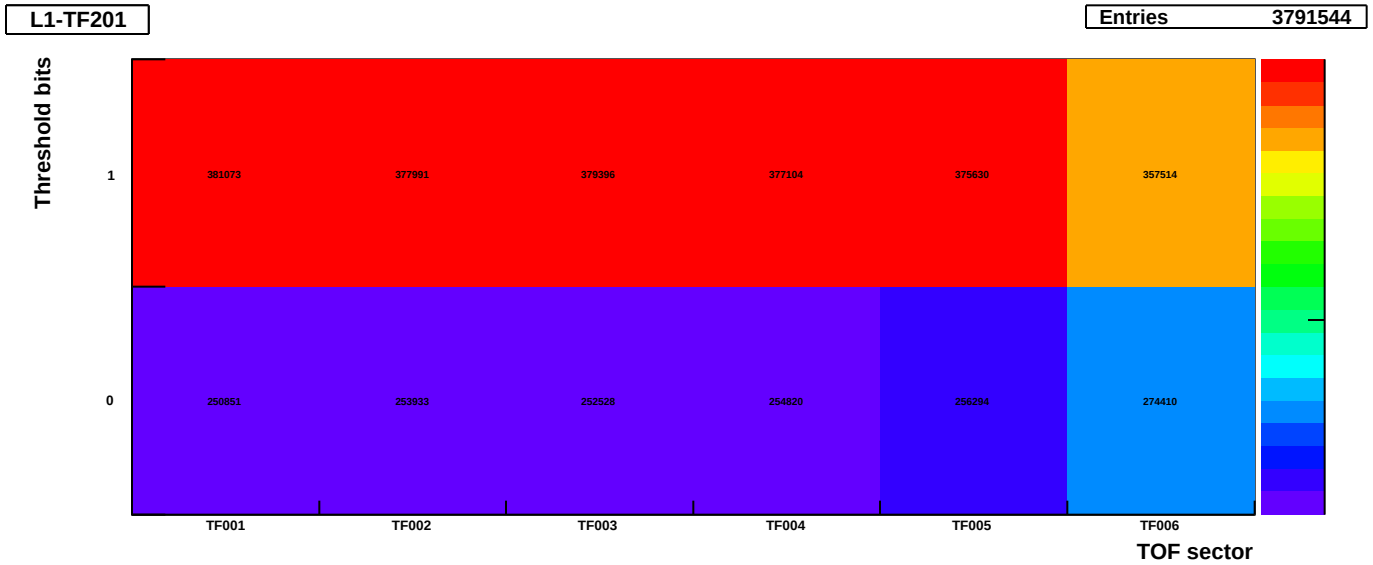

MIX-TF004
Entries 2.654081e+07
TOF MULT
TOF tray

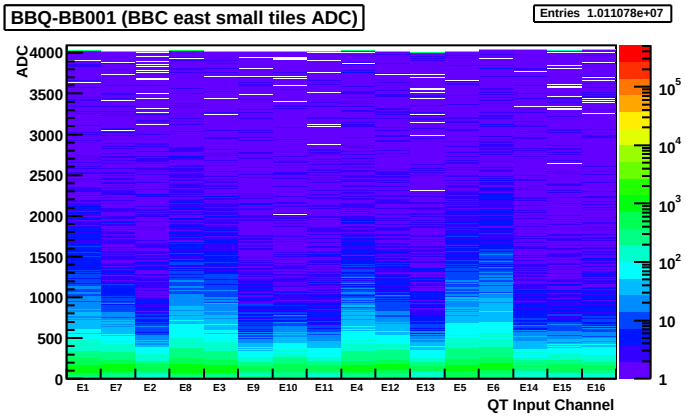

MIX-TF005
Entries 2.654081e+07
TOF MULT
TOF tray

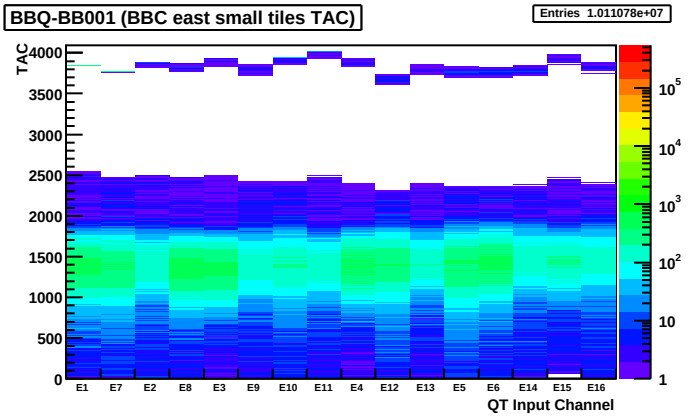

MIX-TF006
Entries 2.654081e+07
TOF MULT
TOF tray

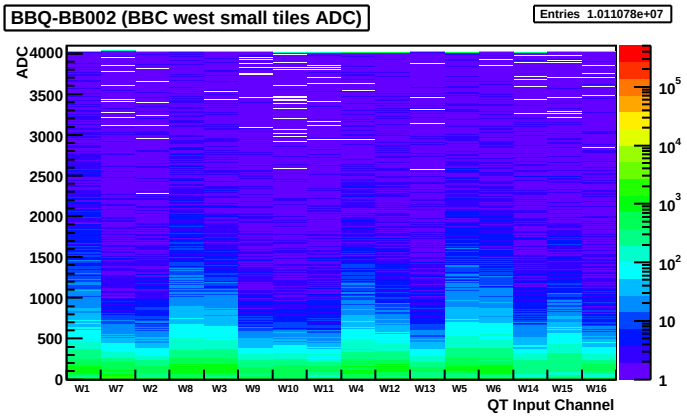

MIX-TF101
Entries 3791544
TOF MULT
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

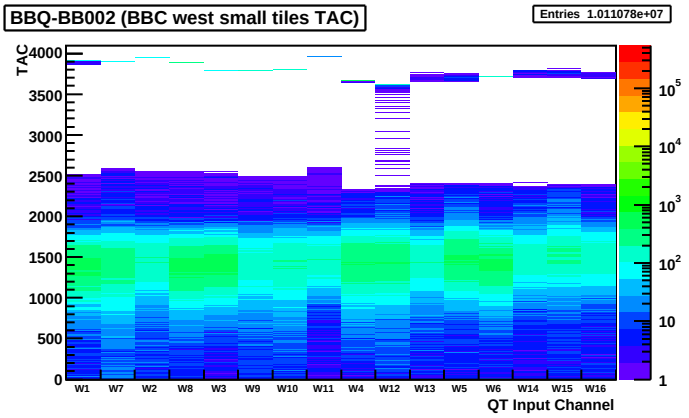

L1-TF201
Entries 631924
TOF total mult

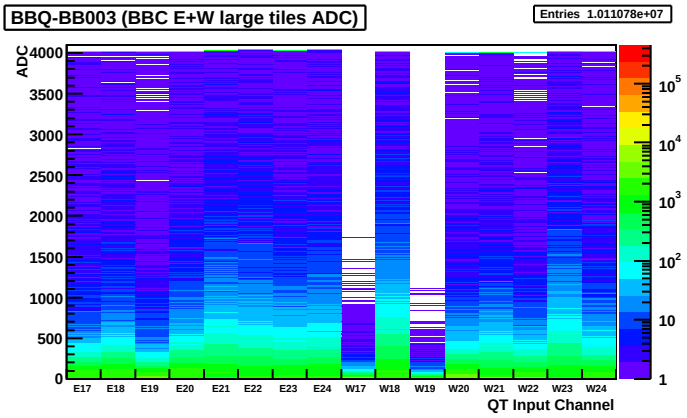

L1-TF201
Entries 3791544
Threshold bits
381073
377991
379396
377104
375630
357514
250851
253933
252528
254820
256294
274410
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

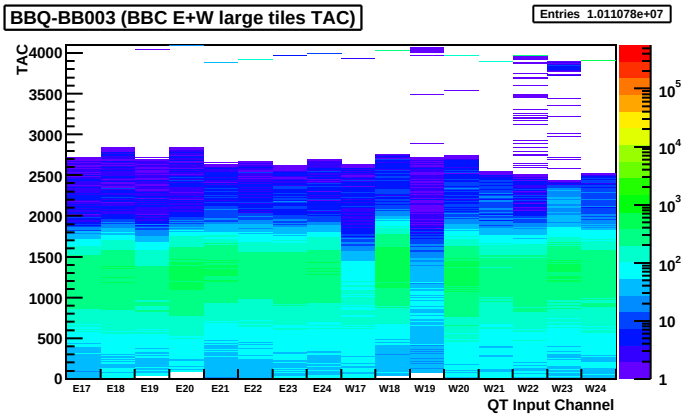

BBQ-BB001 (BBC east small tiles ADC)
Entries 1.011078e+07
ADC
QT Input Channel

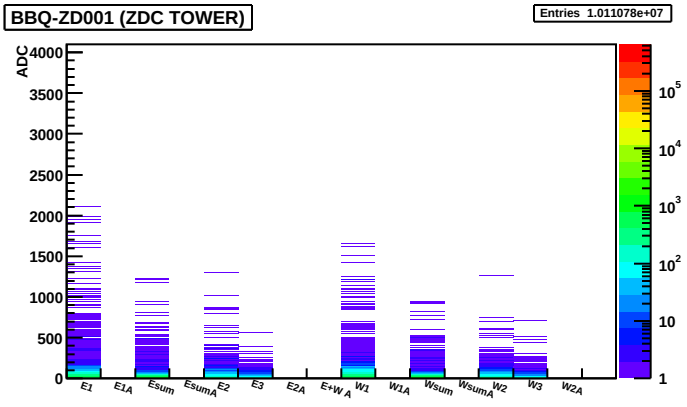

BBQ-BB001 (BBC east small tiles TAC)
Entries 1.011078e+07
TAC
QT Input Channel

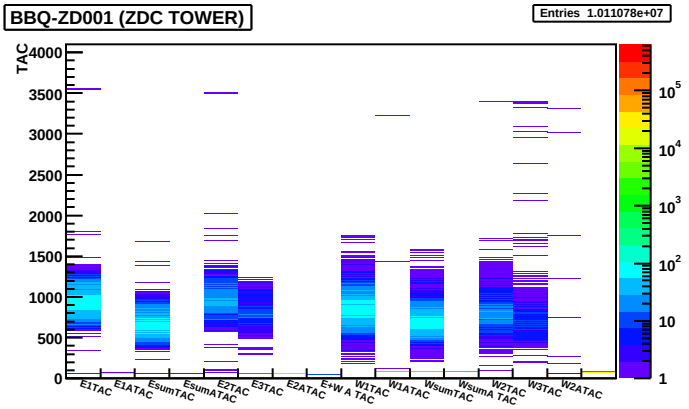

BBQ-BB002 (BBC west small tiles ADC)
Entries 1.011078e+07
ADC
QT Input Channel

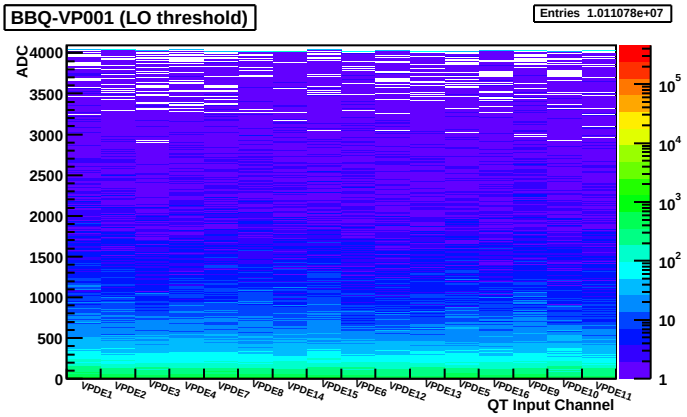

BBQ-BB002 (BBC west small tiles TAC)
Entries 1.011078e+07
TAC
QT Input Channel

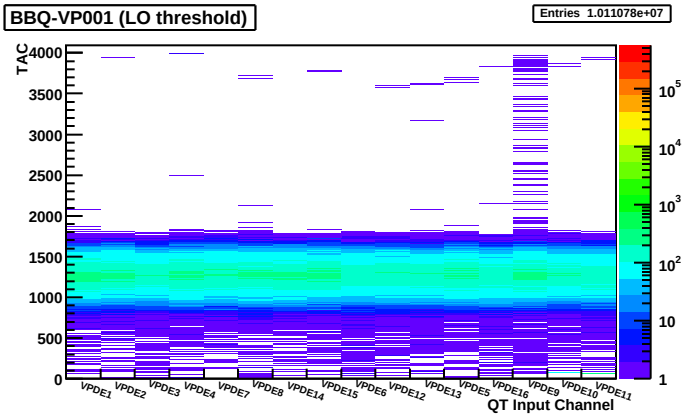

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1.011078e+07
ADC
QT Input Channel

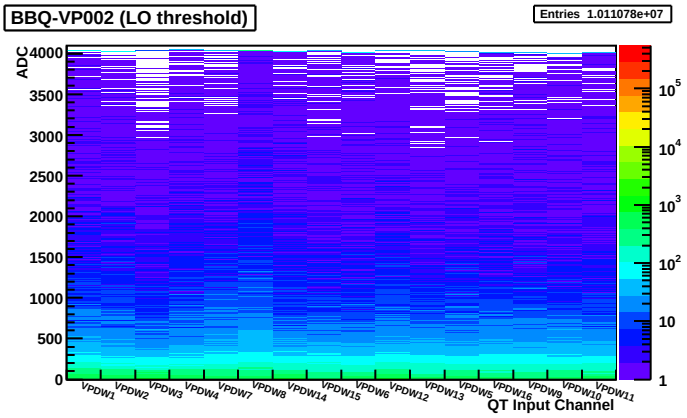

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1.011078e+07
TAC
QT Input Channel

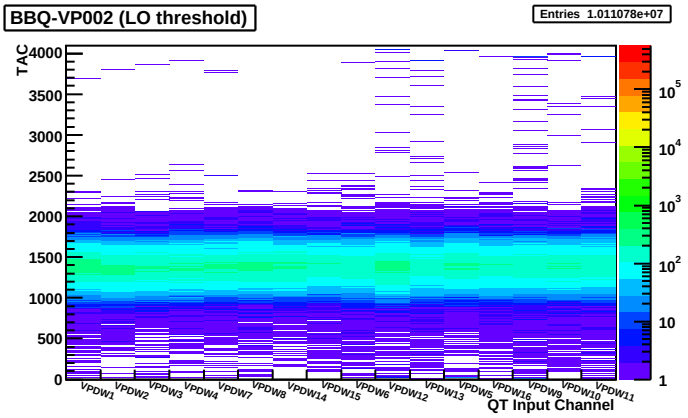

BBQ-ZD001 (ZDC TOWER)
Entries 1.011078e+07
ADC

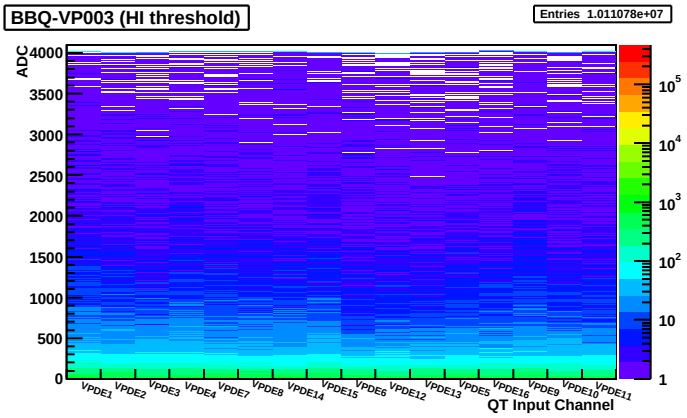

BBQ-ZD001 (ZDC TOWER)
Entries 1.011078e+07
TAC

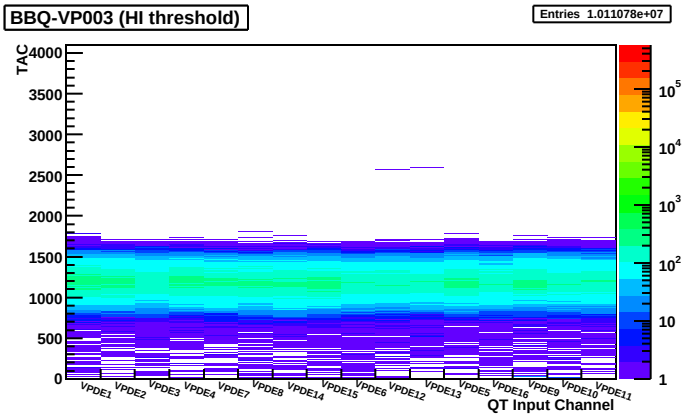

BBQ-VP001 (LO threshold)
Entries 1.011078e+07
ADC
QT Input Channel

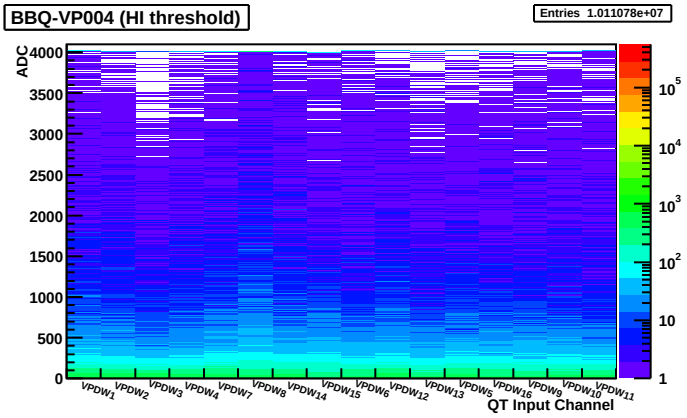

BBQ-VP001 (LO threshold)
Entries 1.011078e+07
TAC
QT Input Channel

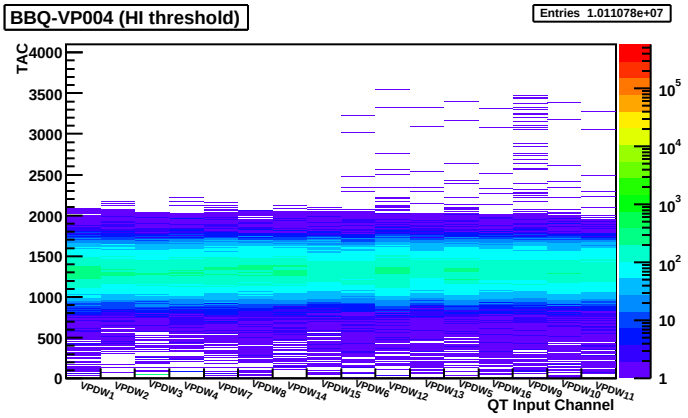

BBQ-VP002 (LO threshold)
Entries 1.011078e+07
ADC
QT Input Channel

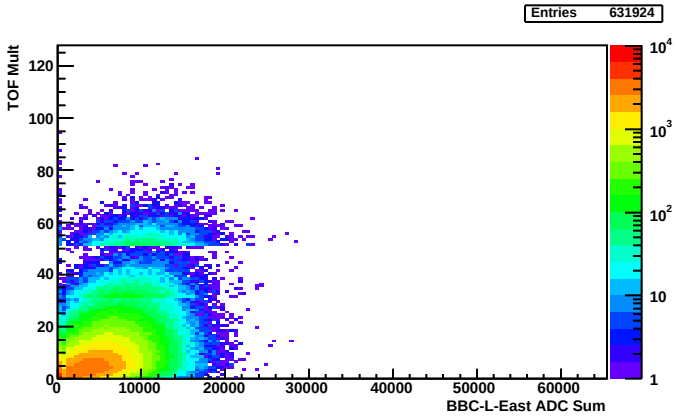

BBQ-VP002 (LO threshold)
Entries 1.011078e+07
TAC
QT Input Channel

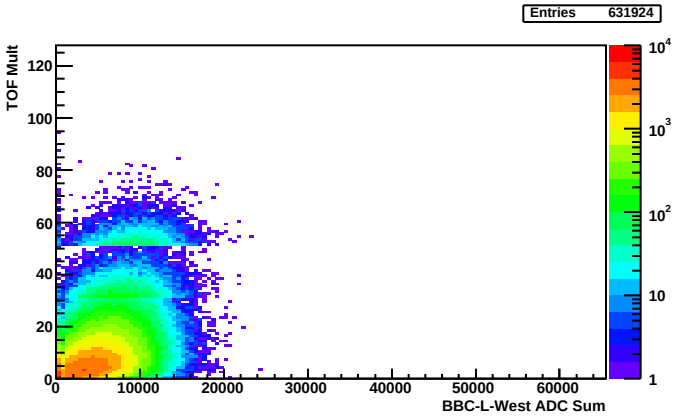

BBQ-VP003 (HI threshold)
Entries 1.011078e+07
ADC
QT Input Channel

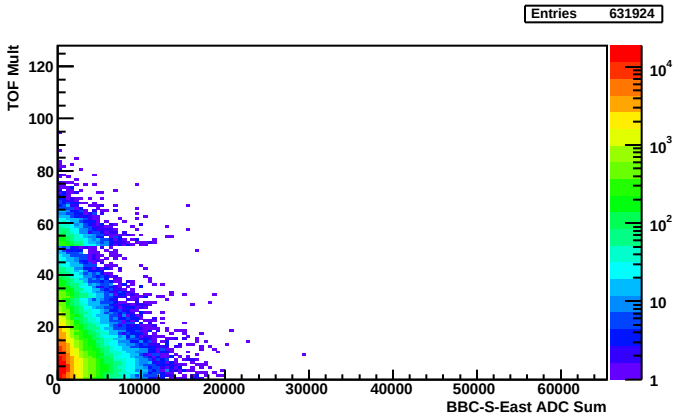

BBQ-VP003 (HI threshold)
Entries 1.011078e+07
TAC
QT Input Channel

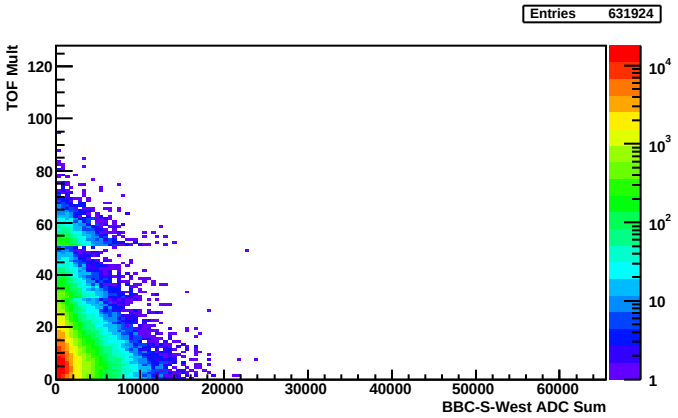

BBQ-VP004 (HI threshold)
Entries 1.011078e+07
ADC
QT Input Channel

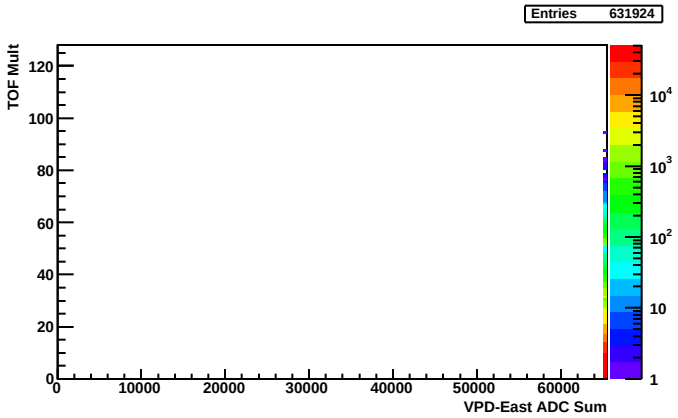

BBQ-VP004 (HI threshold)
Entries 1.011078e+07
TAC
QT Input Channel

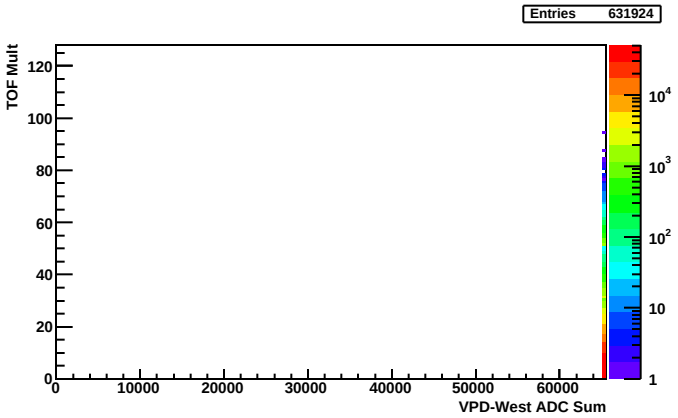

Entries 631924
TOF Mult
BBC-L-East ADC Sum

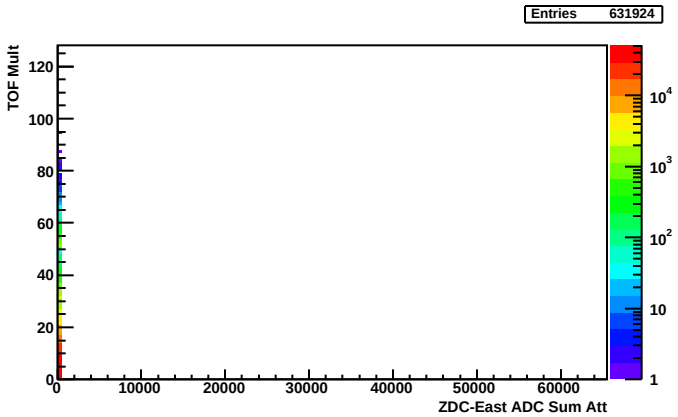

Entries 631924
TOF Mult
BBC-L-West ADC Sum

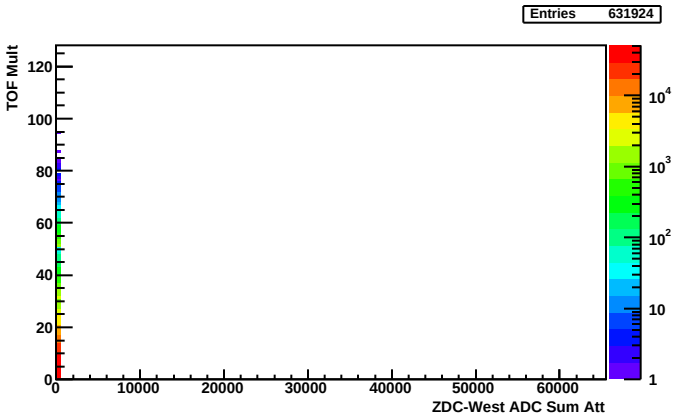

Entries 631924
TOF Mult
BBC-S-East ADC Sum

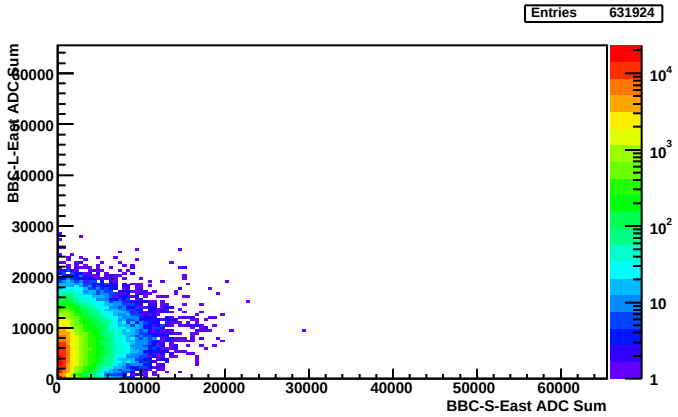

Entries 631924
TOF Mult
BBC-S-West ADC Sum

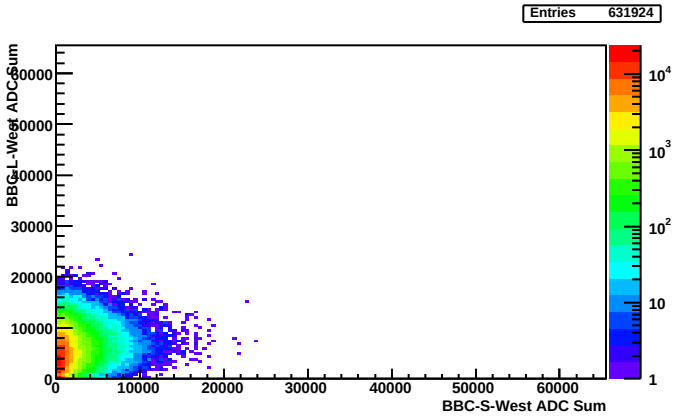

Entries 631924
TOF Mult
VPD-East ADC Sum

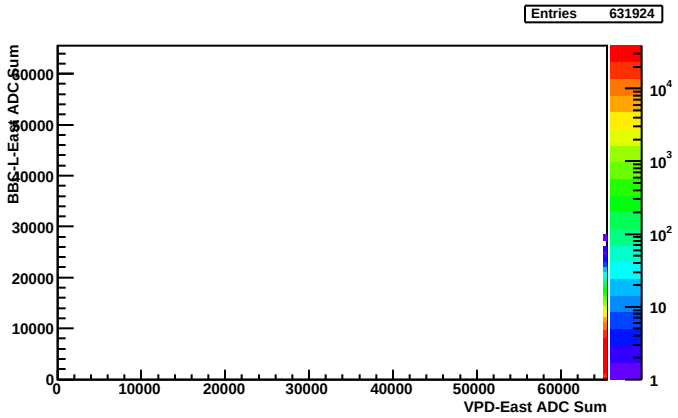

Entries 631924
TOF Mult
VPD-West ADC Sum

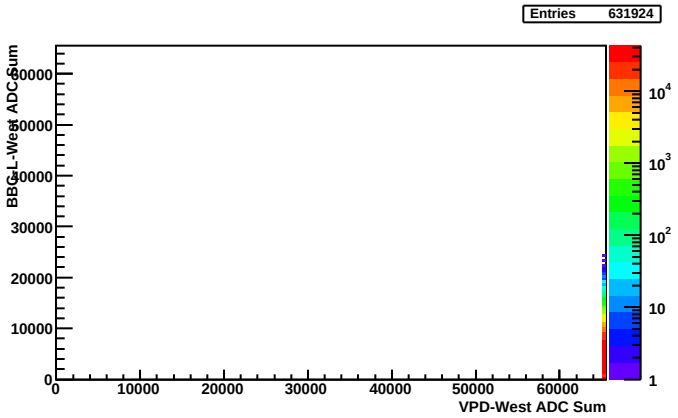

Entries 631924
TOF Mult
ZDC-East ADC Sum Att

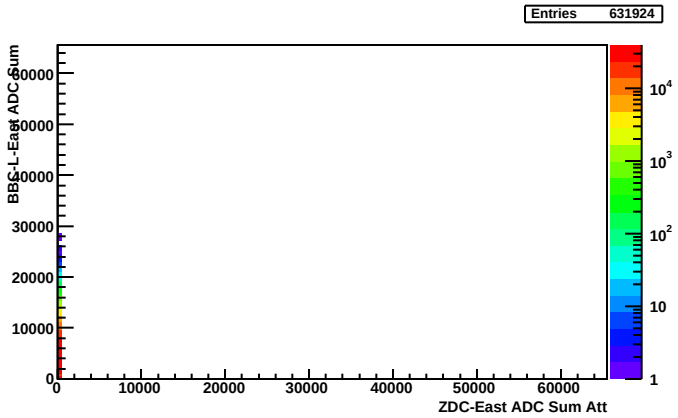

Entries 631924
TOF Mult
ZDC-West ADC Sum Att

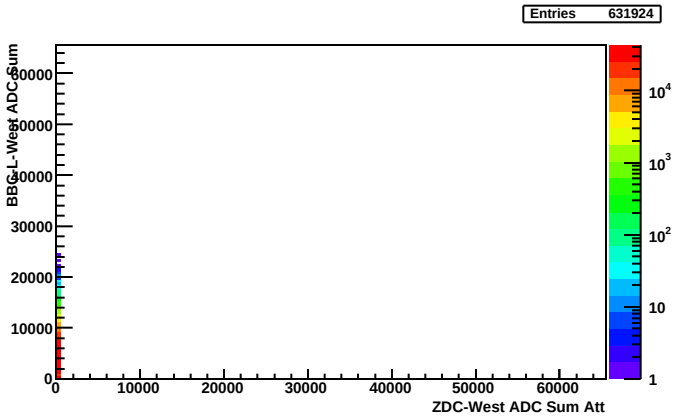

Entries 631924
BBC-L-East ADC Sum
BBC-S-East ADC Sum

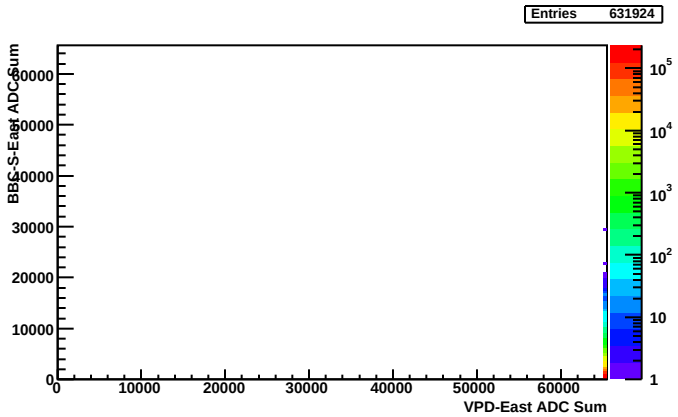

Entries 631924
BBC-L-West ADC Sum
BBC-S-West ADC Sum

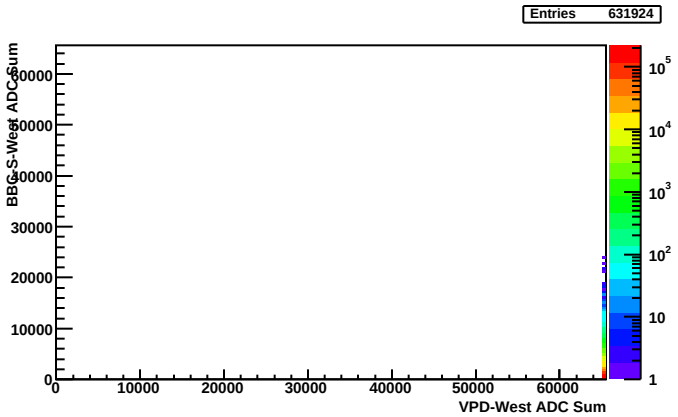

Entries 631924
BBC-L-East ADC Sum
VPD-East ADC Sum

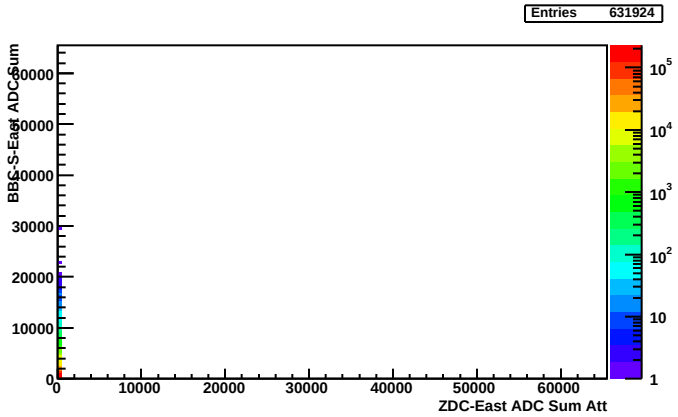

Entries 631924
BBC-L-West ADC Sum
VPD-West ADC Sum

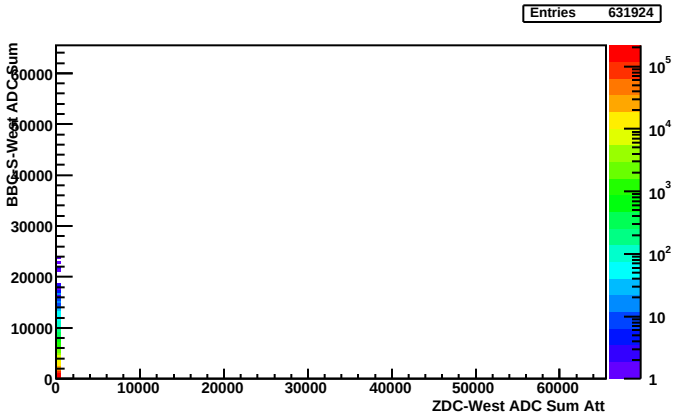

Entries 631924
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

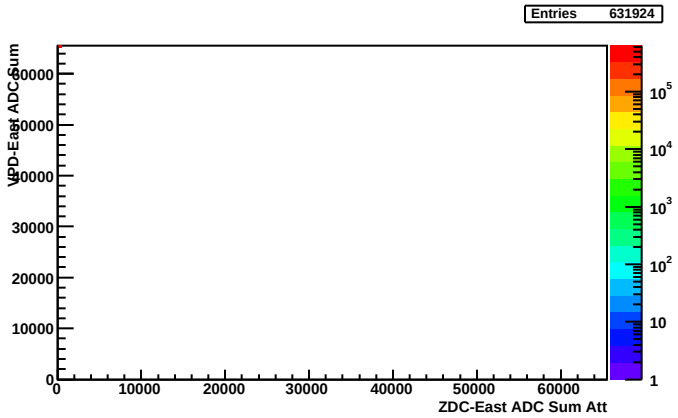

Entries 631924
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

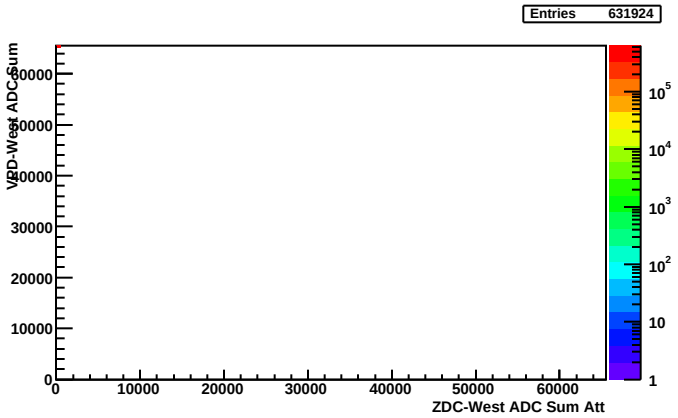

Entries 631924
BBC-S-East ADC Sum
VPD-East ADC Sum


Entries 631924
BBC-S-West ADC Sum
VPD-West ADC Sum


Entries 631924
BBC-S-East ADC Sum
ZDC-East ADC Sum Att


Entries 631924
BBC-S-West ADC Sum
ZDC-West ADC Sum Att


Entries 631924
VPD-East ADC Sum
ZDC-East ADC Sum Att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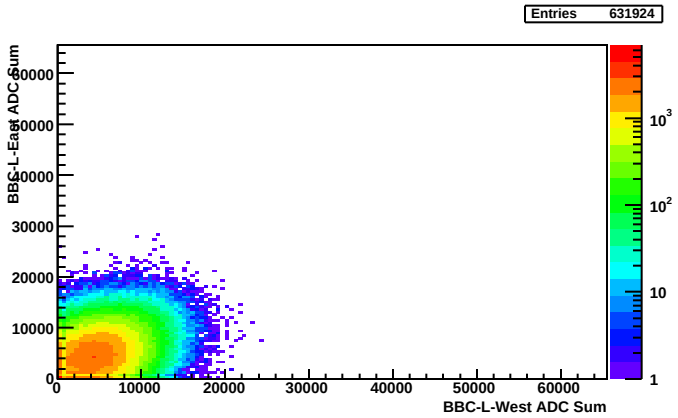
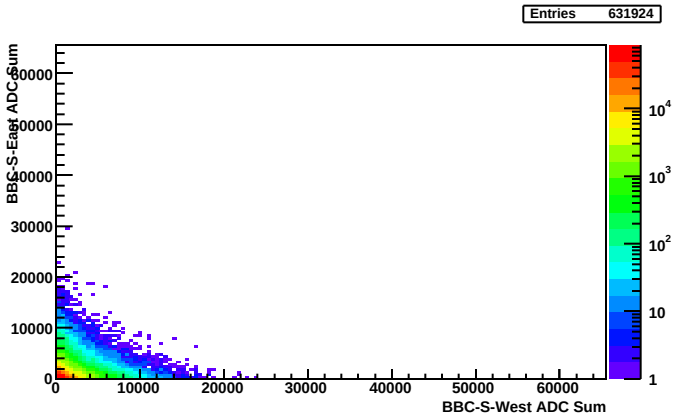
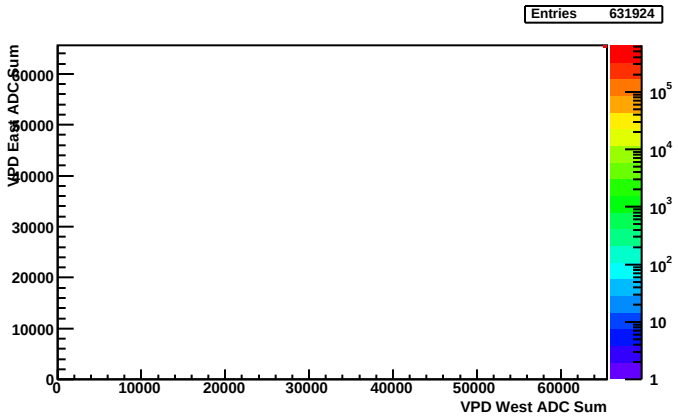
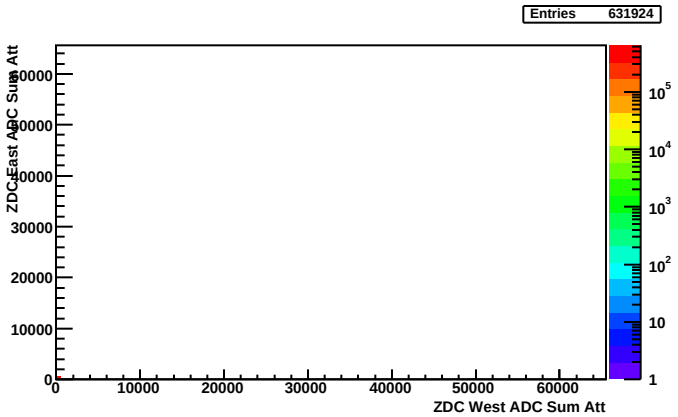
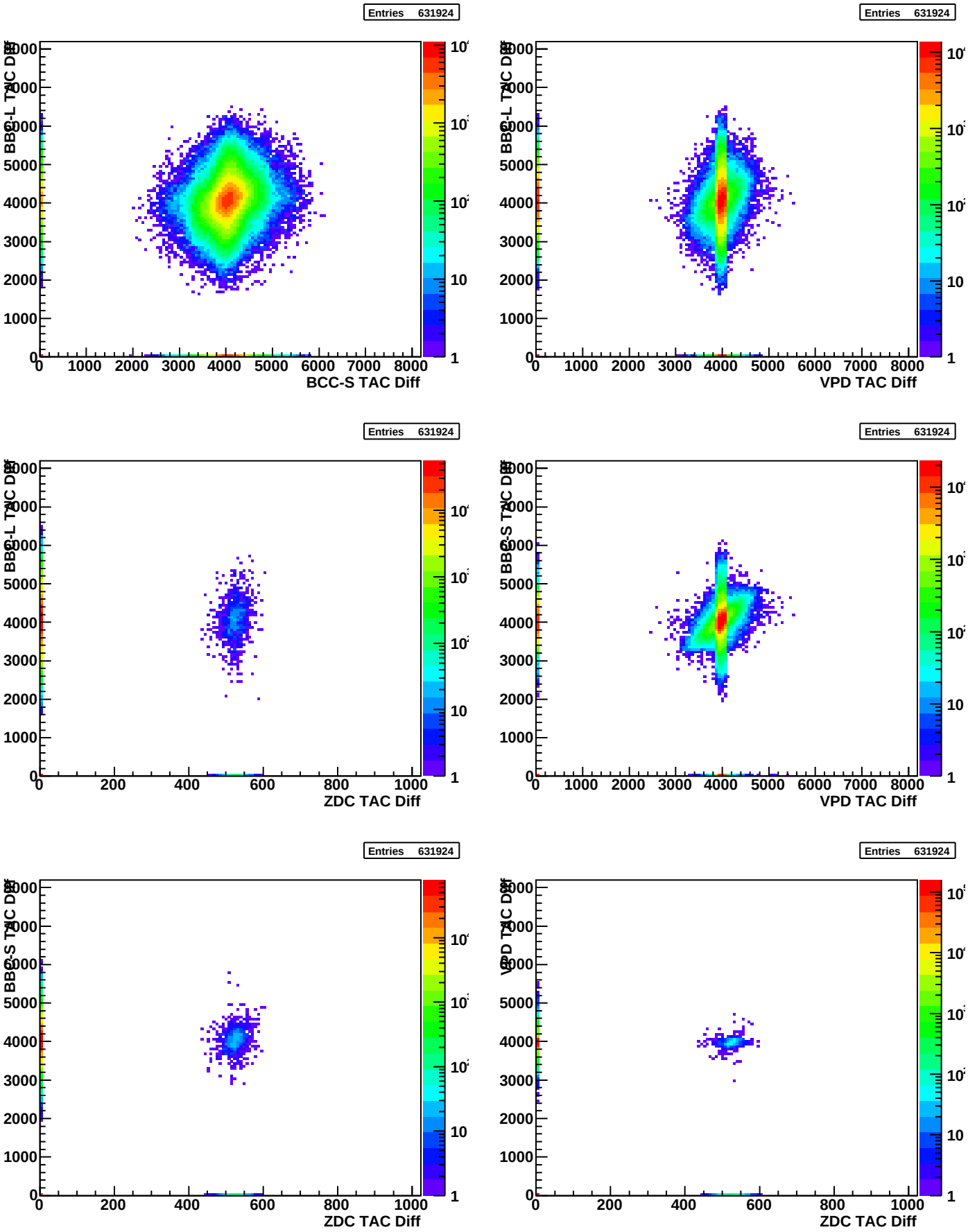
VPD-West ADC Sum
ZDC-West ADC Sum Att

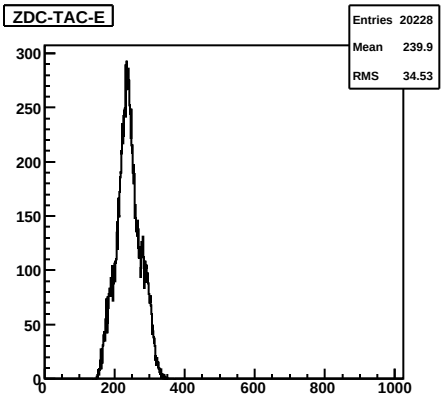

Entries 631924
BBC-L-East ADC Sum
BBC-L-West ADC Sum

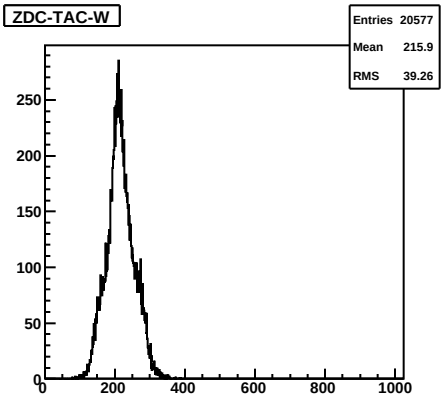

Entries 631924
BBC-S-East ADC Sum
BBC-S-West ADC Sum

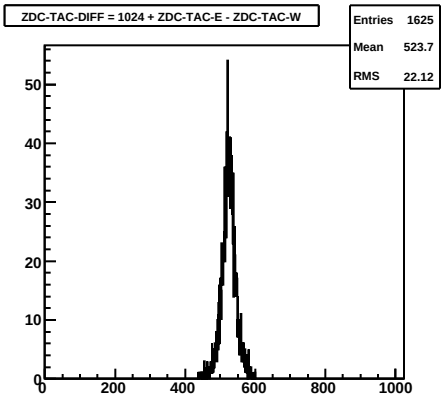

Entries 631924
VPD East ADC Sum
VPD West ADC Sum

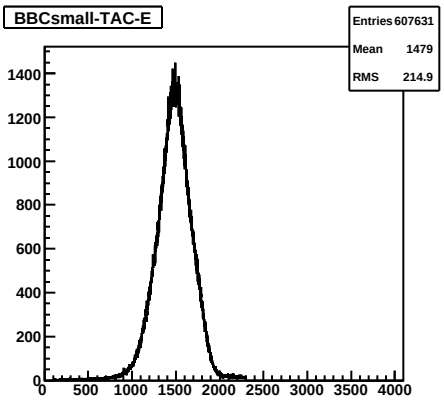

Entries 631924
ZDC East ADC Sum Att
ZDC West ADC Sum Att

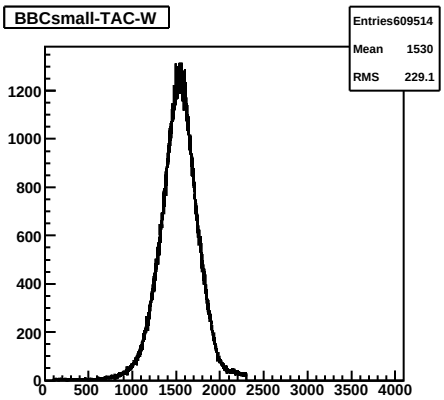

Entries 631924
BBC-L TAC Diff
BCC-S TAC Diff
Entries 631924
BBC-L TAC Diff
VPD TAC Diff
Entries 631924
BBC-L TAC Diff
ZDC TAC Diff
Entries 631924
BBC-S TAC Diff
VPD TAC Diff
Entries 631924
BBC-S TAC Diff
ZDC TAC Diff
Entries 631924
VPD TAC Diff
ZDC TAC Diff

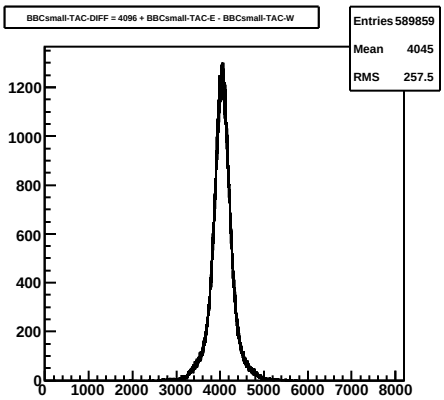

ZDC-TAC-E
Entries 20228
Mean 239.9
RMS 34.53

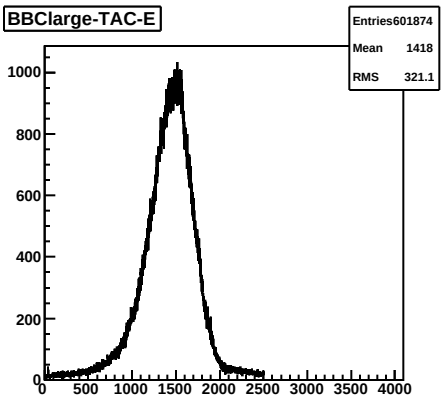

ZDC-TAC-W
Entries 20577
Mean 215.9
RMS 39.26

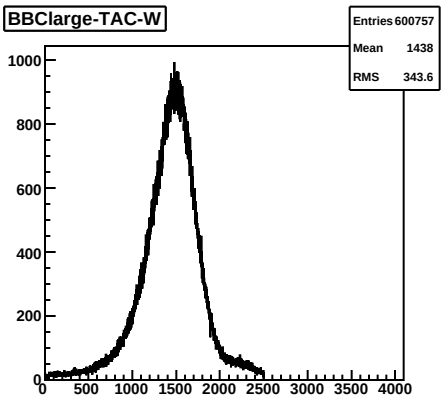

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 1625
Mean 523.7
RMS 22.12

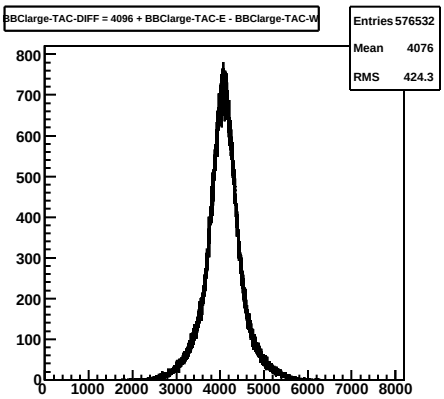

BBCsmall-TAC-E
Entries 607631
Mean 1479
RMS 214.9

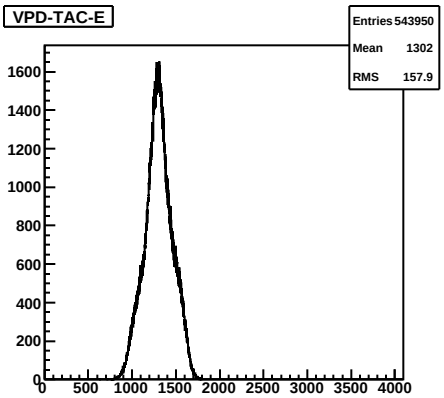

BBCsmall-TAC-W
Entries 609514
Mean 1530
RMS 229.1

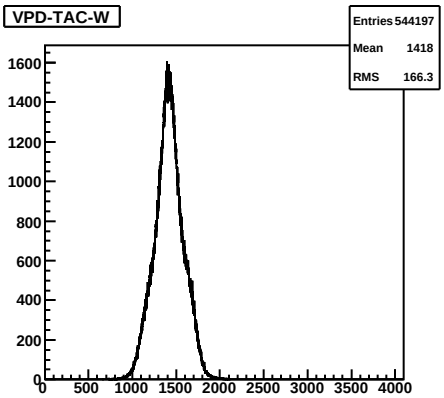

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 589859
Mean 4045
RMS 257.5

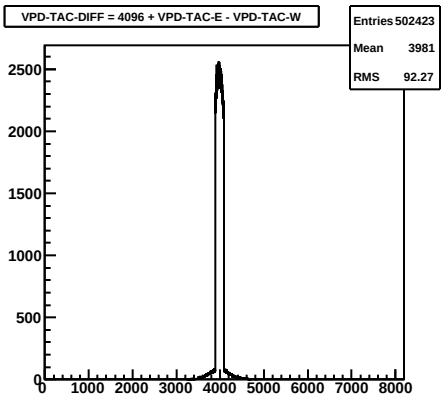

BBClarge-TAC-E
Entries 601874
Mean 1418
RMS 321.1

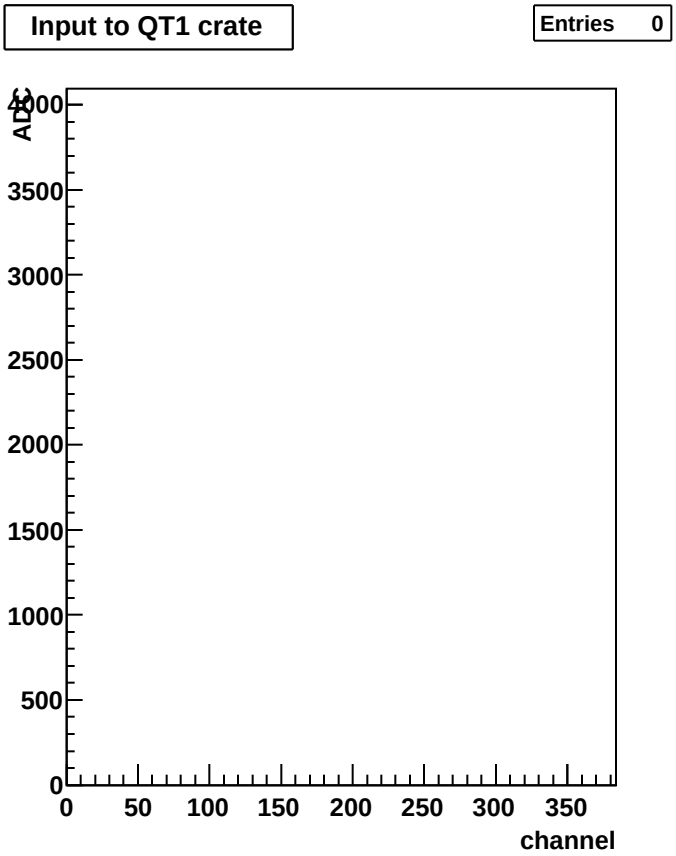

BBClarge-TAC-W
Entries 600757
Mean 1438
RMS 343.6

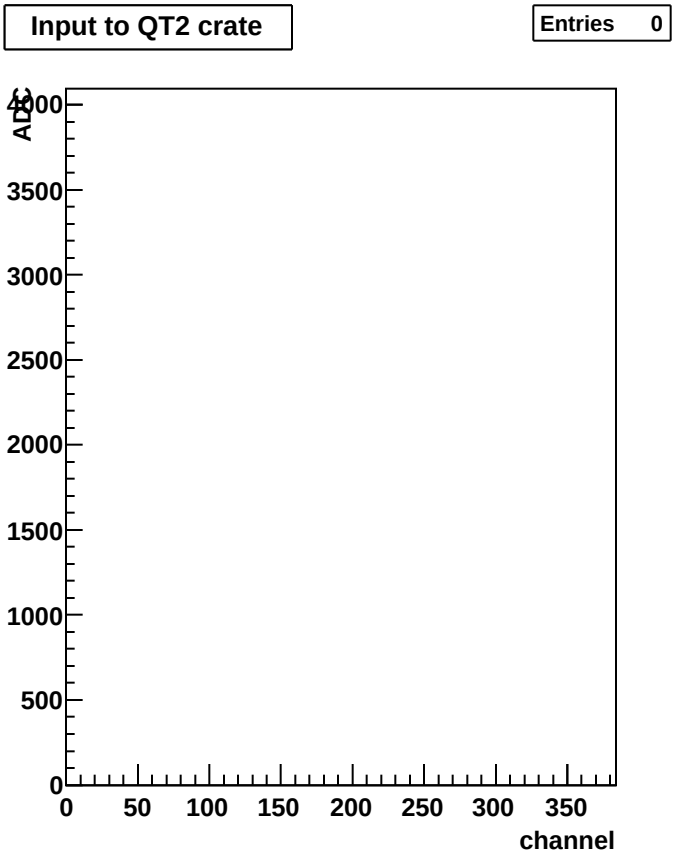

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 576532
Mean 4076
RMS 424.3

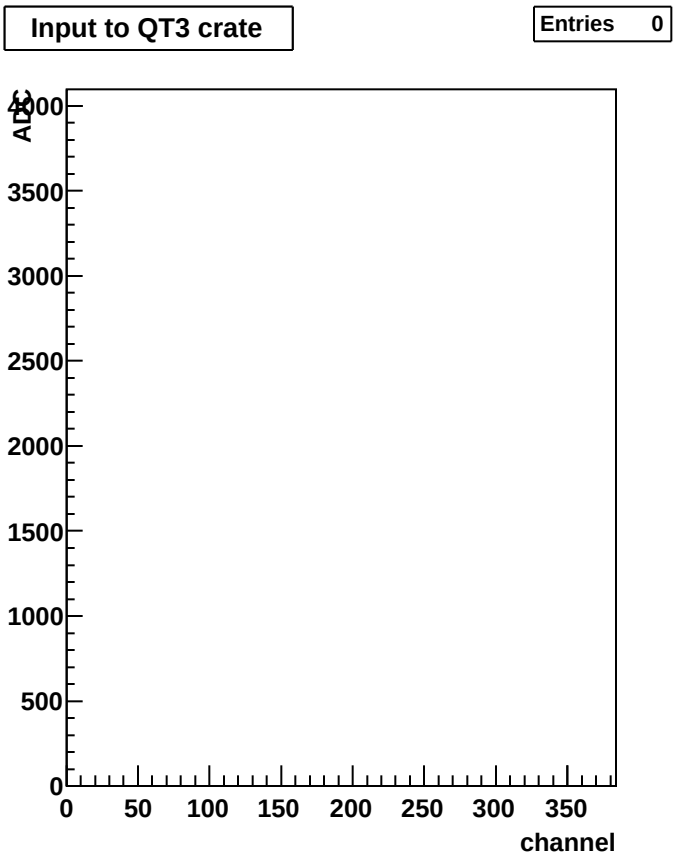

VPD-TAC-E
Entries 543950
Mean 1302
RMS 157.9

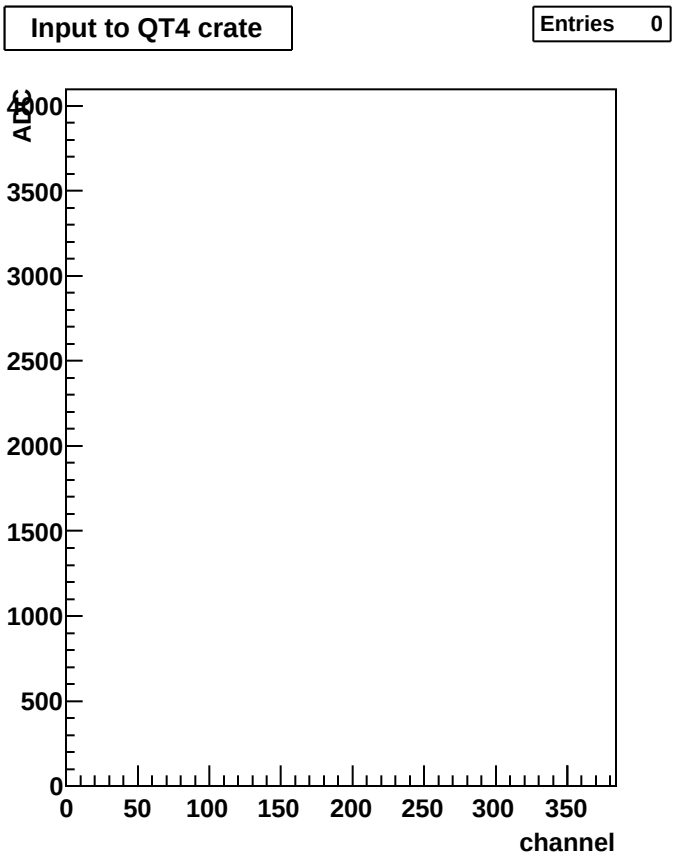

VPD-TAC-W
Entries 544197
Mean 1418
RMS 166.3

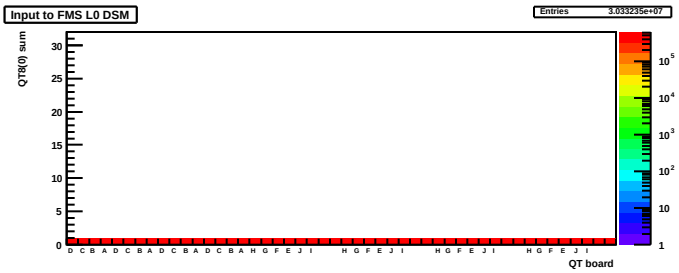

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 502423
Mean 3981
RMS 92.27

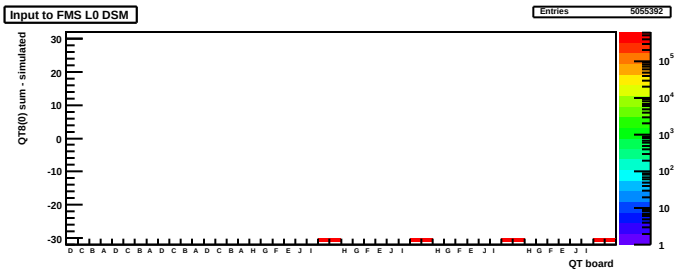

Input to QT1 crate
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

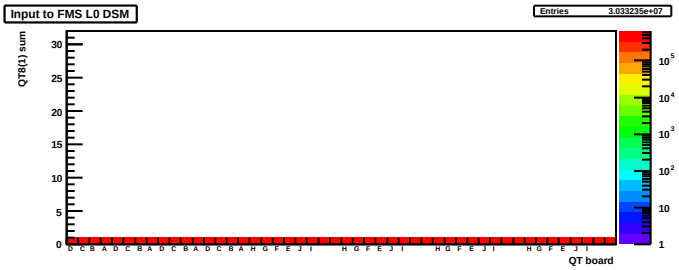

Input to QT2 crate
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

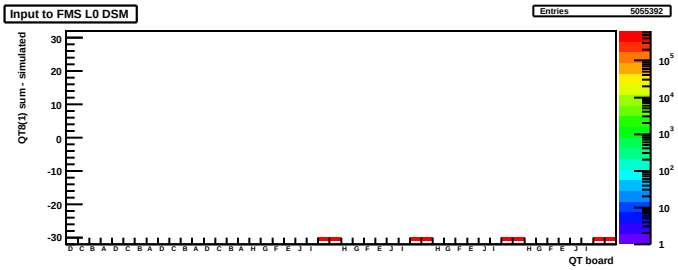

Input to QT3 crate
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

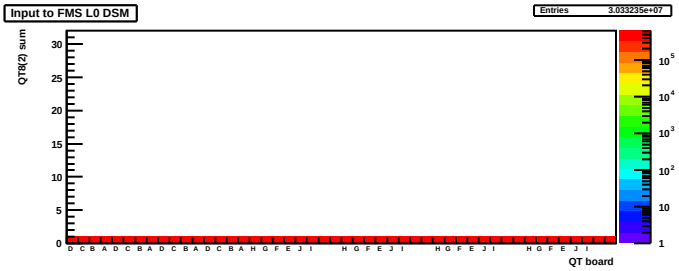

Input to QT4 crate
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

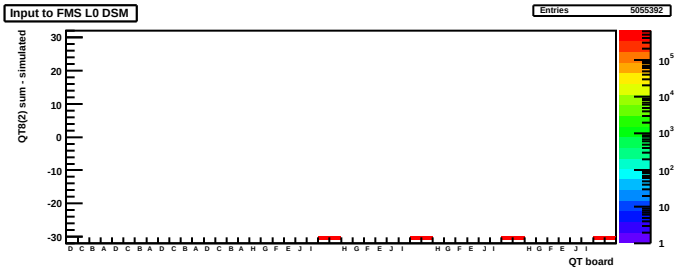

Input to FMS L0 DSM
Entries 3.033235e+07
QT8(0) sum
QT board

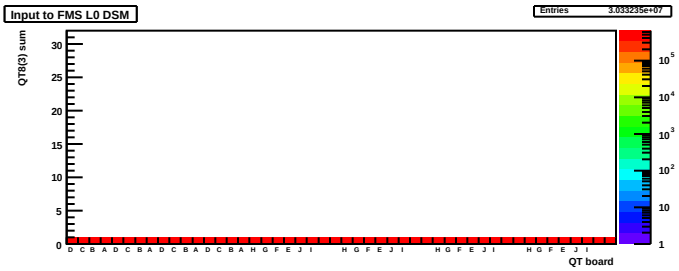

Input to FMS L0 DSM
Entries 5055392
QT8(0) sum - simulated
QT board

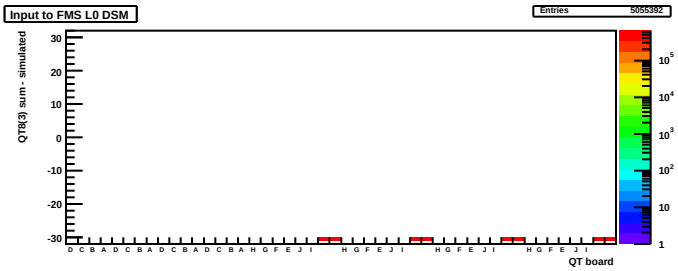

Input to FMS L0 DSM
Entries 3.033235e+07
QT8(1) sum
QT board

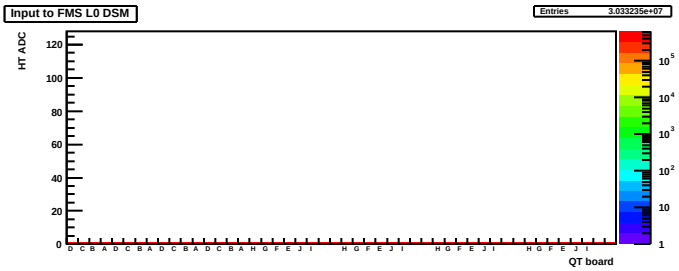

Input to FMS L0 DSM
Entries 5055392
QT8(1) sum - simulated
QT board

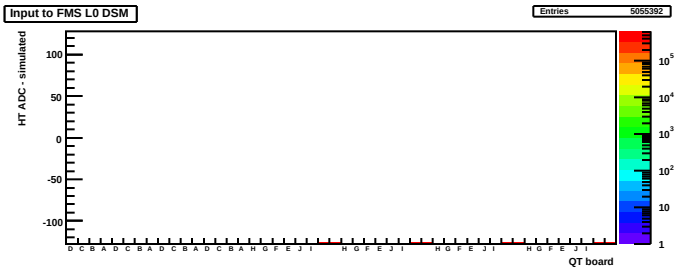

Input to FMS L0 DSM
Entries 3.033235e+07
QT8(2) sum
QT board

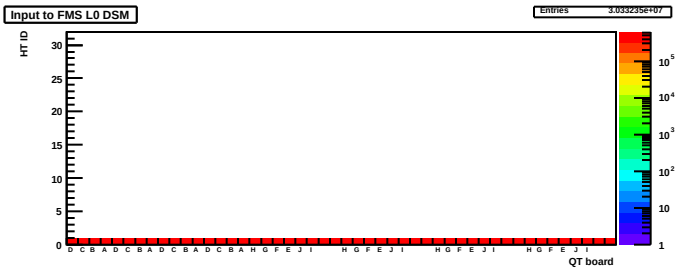

Input to FMS L0 DSM
Entries 5055392
QT8(2) sum - simulated
QT board

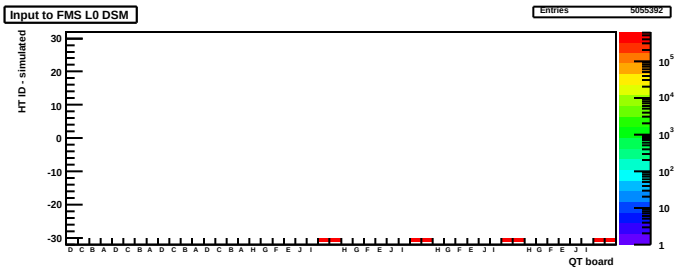

Input to FMS L0 DSM
Entries 3.033235e+07
QT8(3) sum
QT board

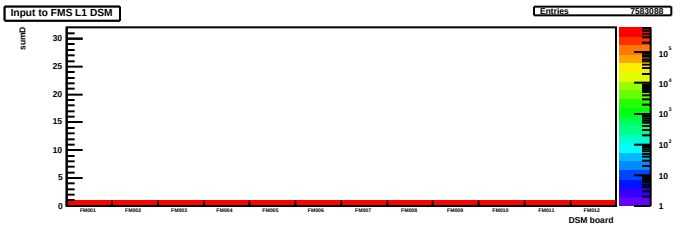

Input to FMS L0 DSM
Entries 5055392
QT8(3) sum - simulated
QT board

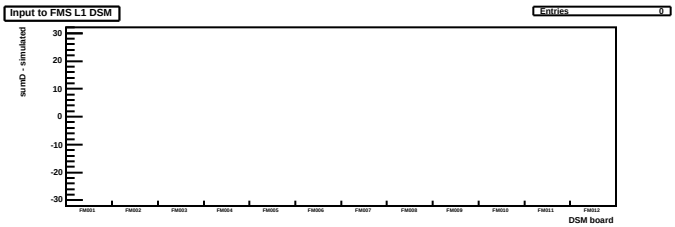

Input to FMS L0 DSM
Entries 3.033235e+07
HT ADC
QT board

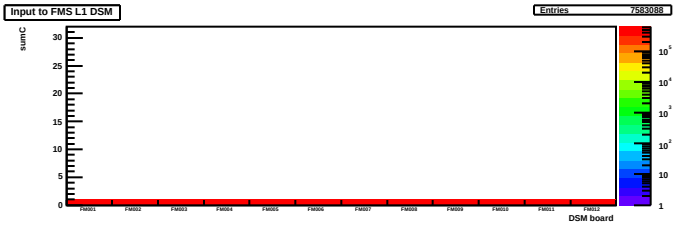

Input to FMS L0 DSM
Entries 5055392
HT ADC - simulated
QT board

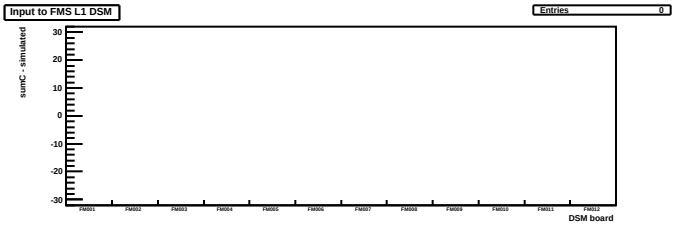

Input to FMS L0 DSM
Entries 3.033235e+07
HT ID
QT board

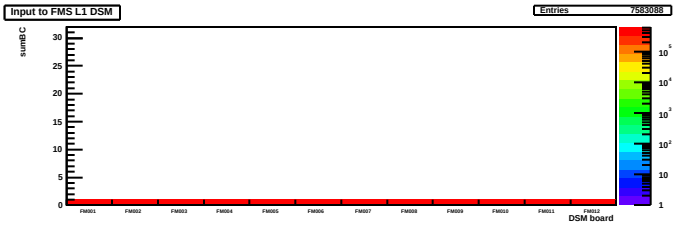

Input to FMS L0 DSM
Entries 5055392
HT ID - simulated
QT board

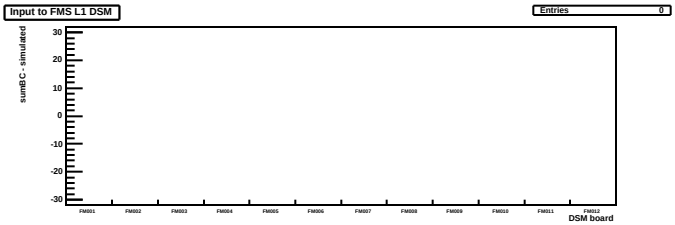

Input to FMS L1 DSM
Entries 7583088
sumD
DSM board

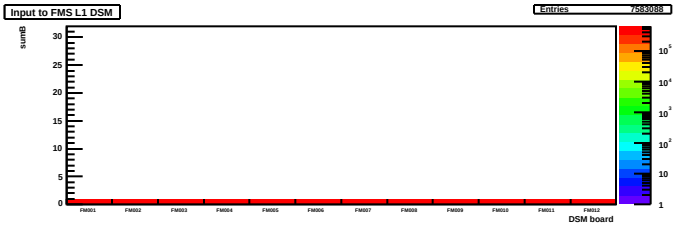

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

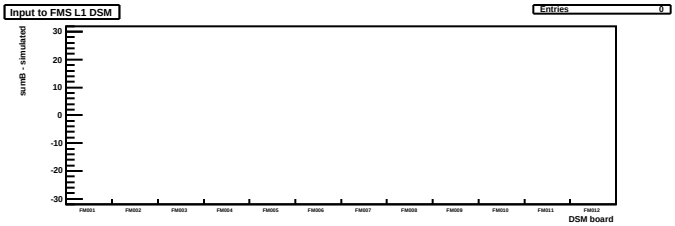

Input to FMS L1 DSM
Entries 7583088
sumC
DSM board

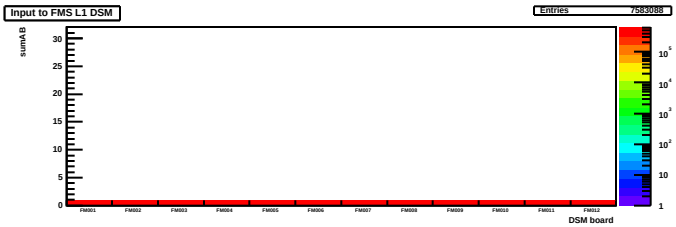

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

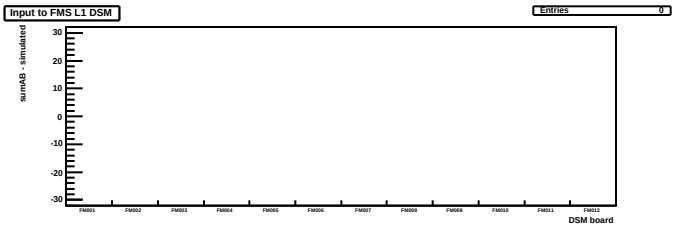

Input to FMS L1 DSM
Entries 7583088
sumBC
DSM board

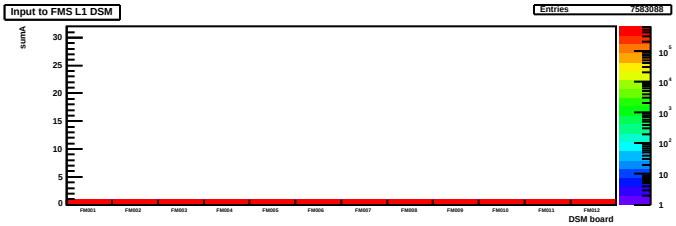

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

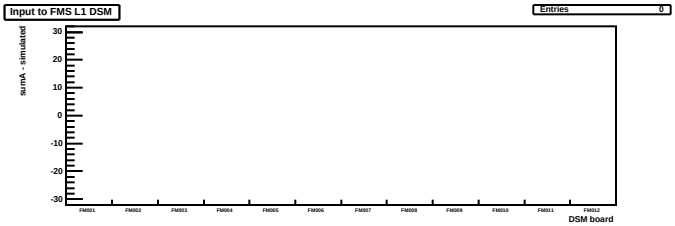

Input to FMS L1 DSM
Entries 7583088
sumB
DSM board

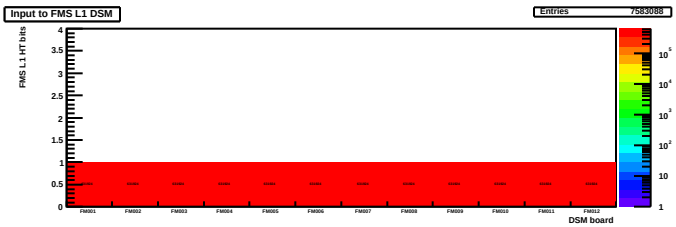

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

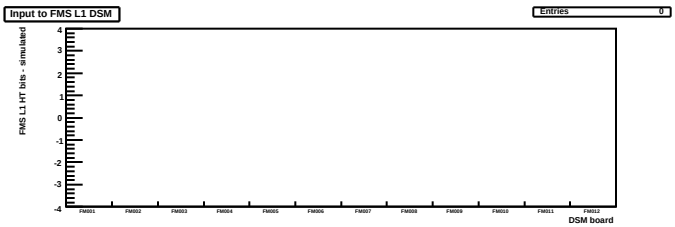

Input to FMS L1 DSM
Entries 7583088
sumAB
DSM board

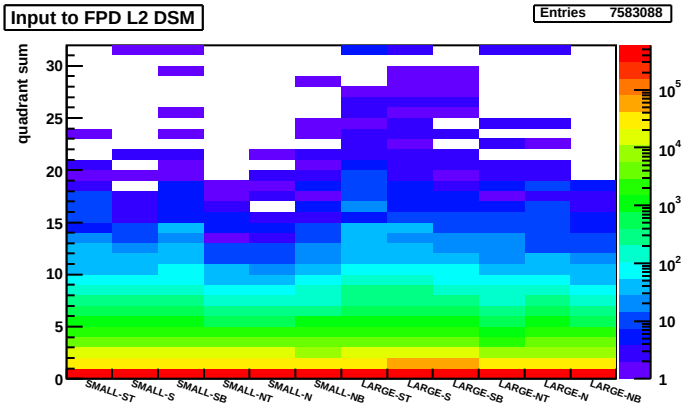

Input to FMS L1 DSM
Entries 0
sumAB - simulated
DSM board

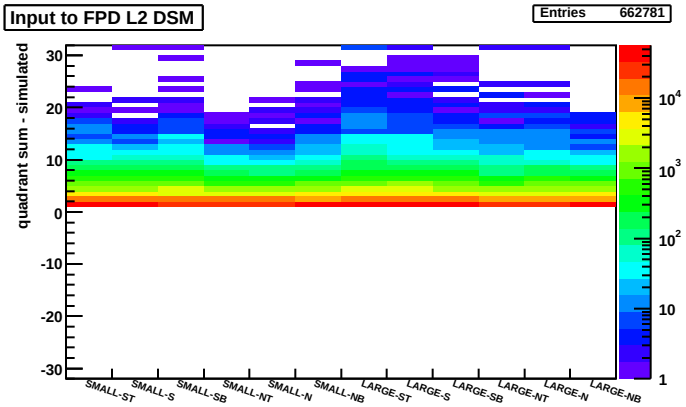

Input to FMS L1 DSM
Entries 7583088
sumA
DSM board

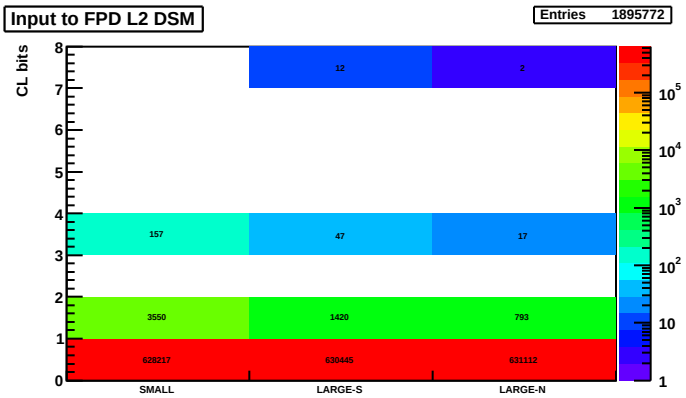

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

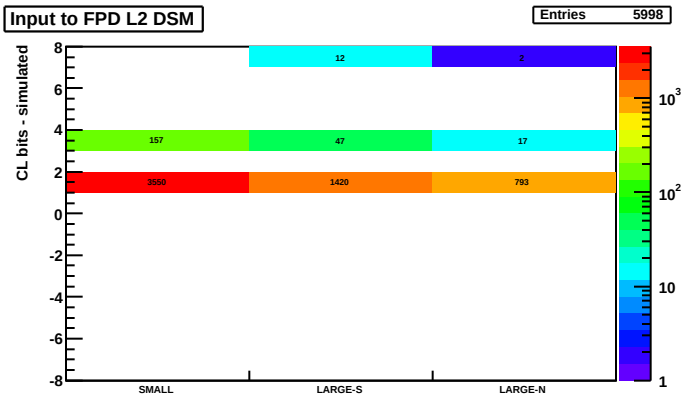

Input to FMS L1 DSM
Entries 7583088
FMS L1 HT bits
DSM board

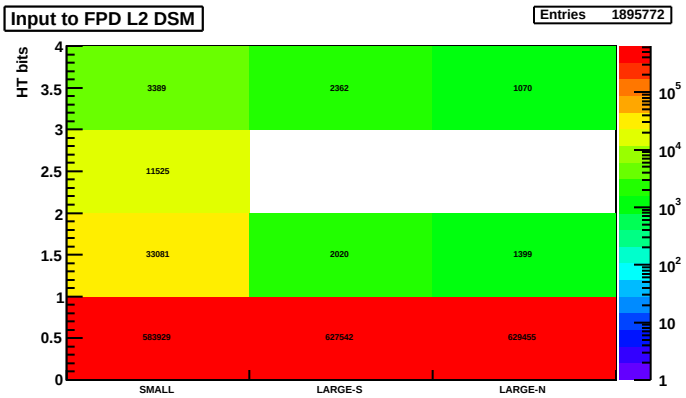

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

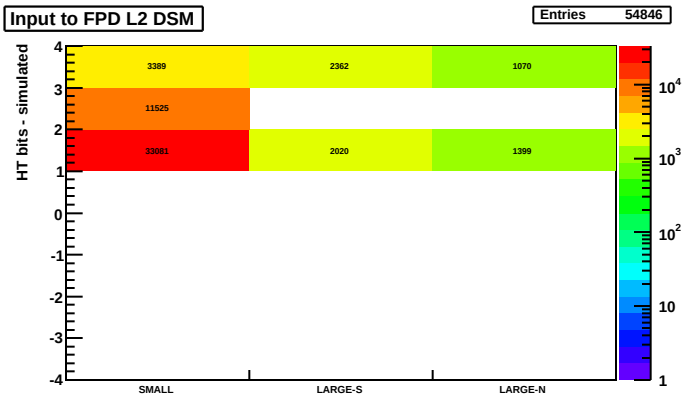

Input to FPD L2 DSM
Entries 7583088
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

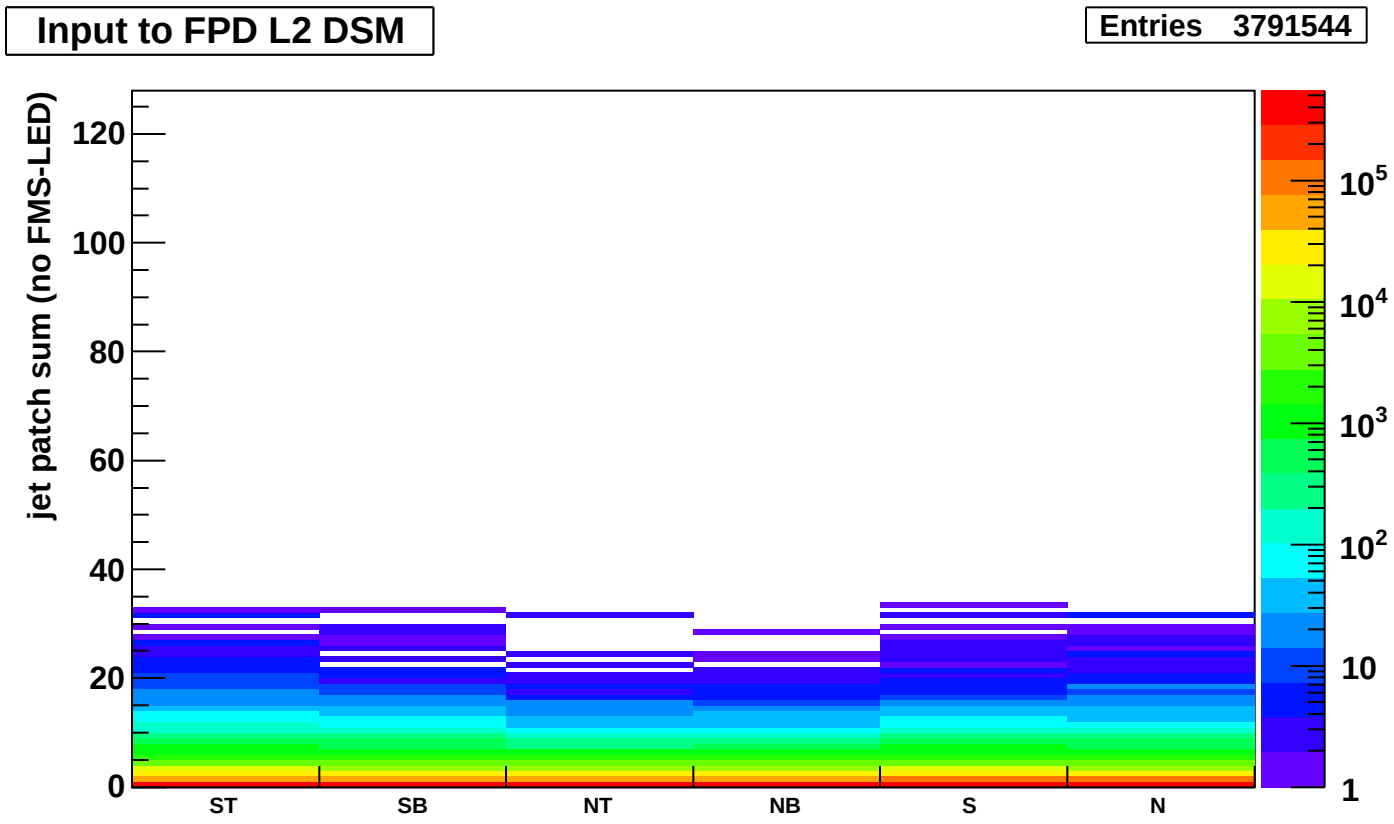

Input to FPD L2 DSM
Entries 662781
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

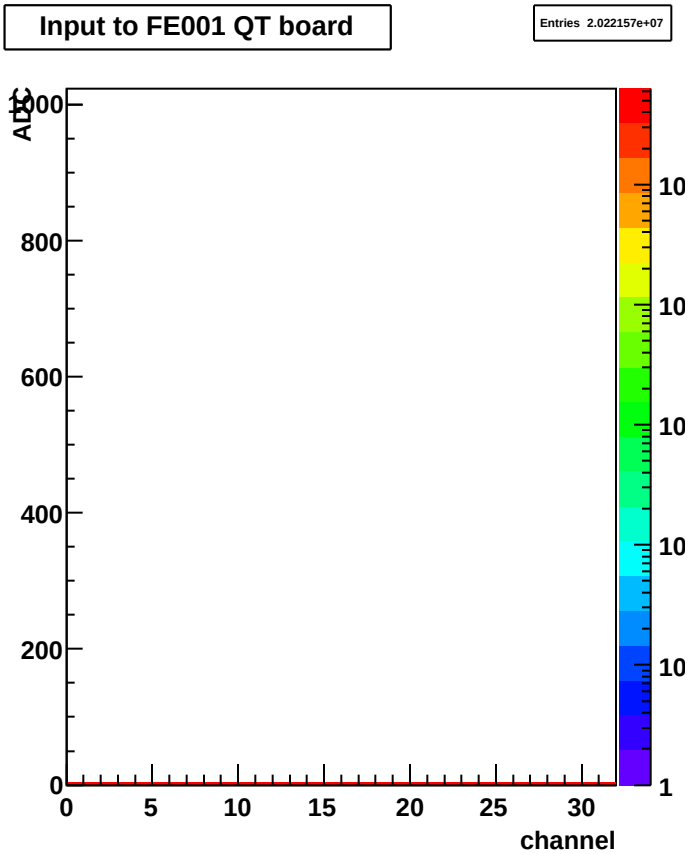

Input to FPD L2 DSM
Entries 1895772
CL bits
12
2
157
47
17
3550
1420
793
628217
630445
631112
SMALL
LARGE-S
LARGE-N

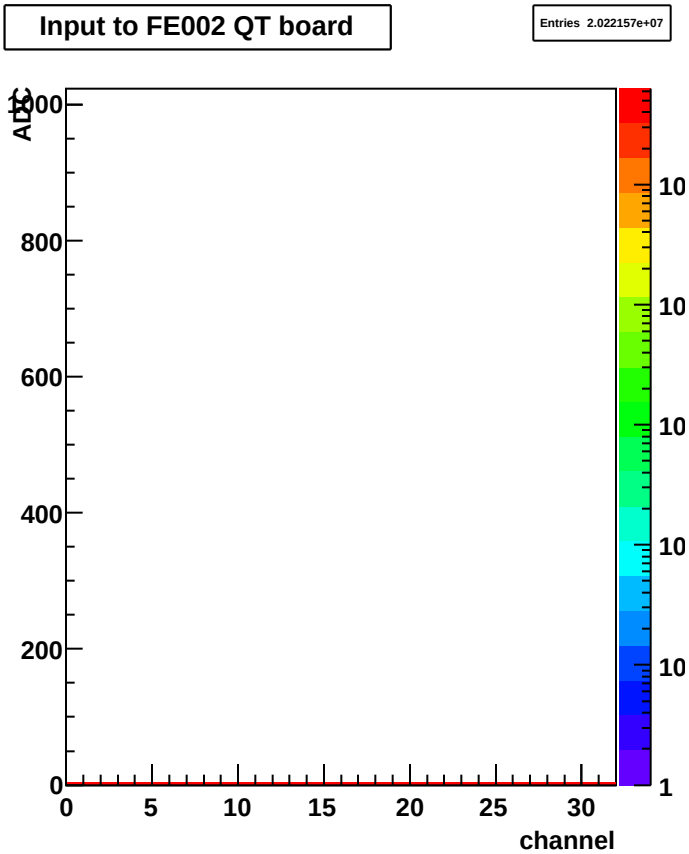

Input to FPD L2 DSM
Entries 5998
CL bits - simulated
12
2
157
47
17
3550
1420
793
SMALL
LARGE-S
LARGE-N

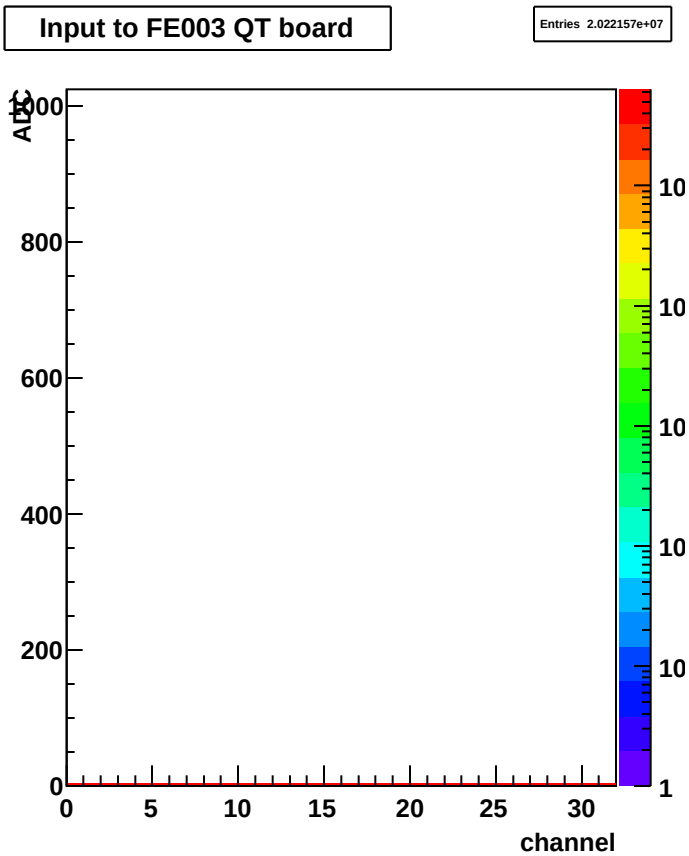

Input to FPD L2 DSM
Entries 1895772
HT bits
3389
2362
1070
11525
33081
2020
1399
583929
627542
629455
SMALL
LARGE-S
LARGE-N

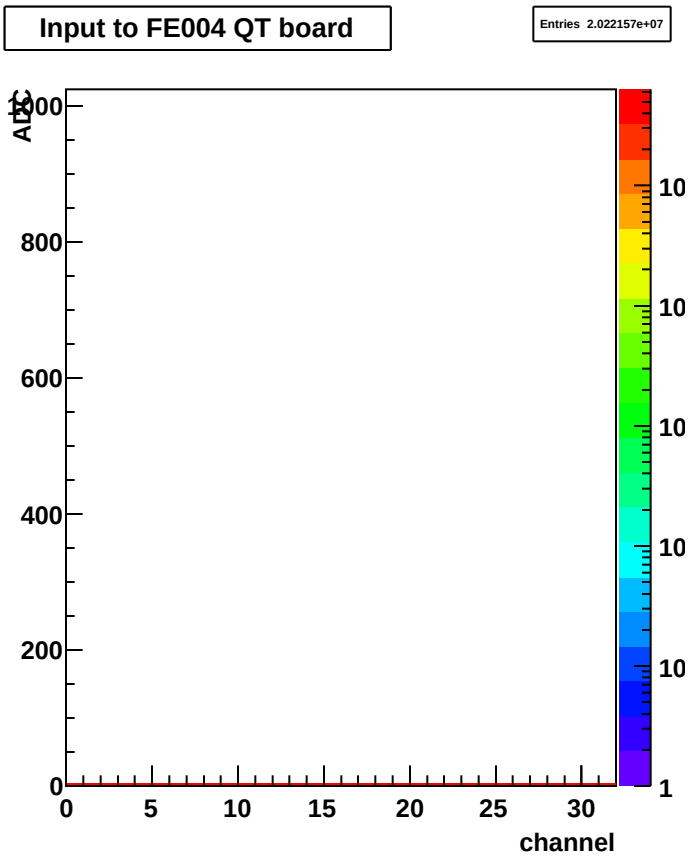

Input to FPD L2 DSM
Entries 54846
HT bits - simulated
3389
2362
1070
11525
33081
2020
1399
SMALL
LARGE-S
LARGE-N

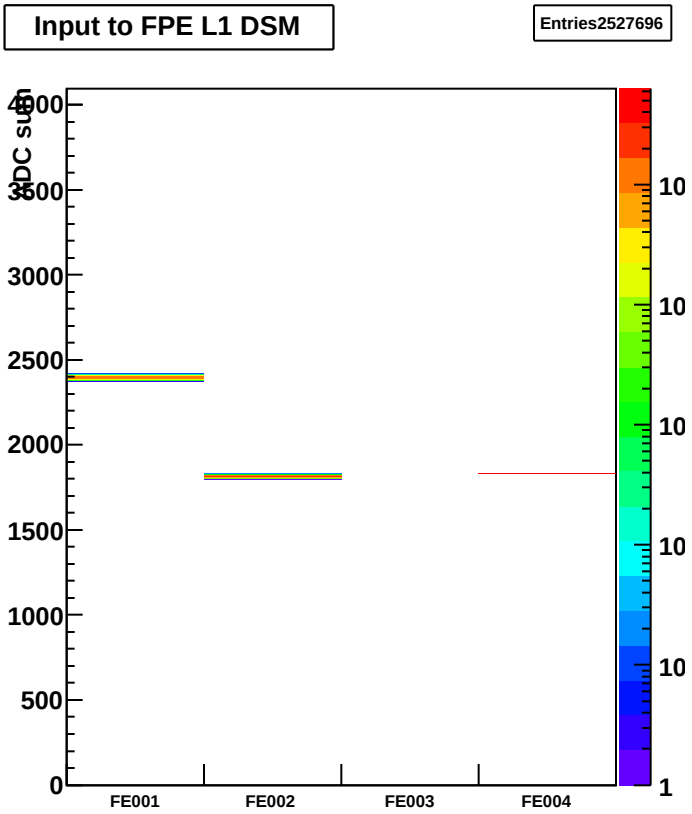

Input to FPD L2 DSM
Entries 3791544
jet patch sum (no FMS-LED)
0
20
40
60
80
100
120
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

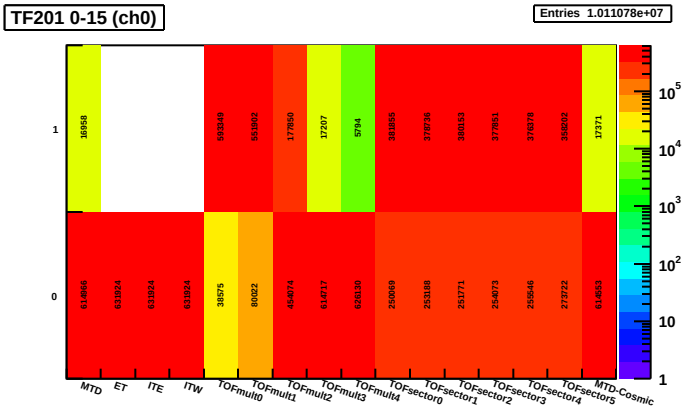

Input to FE001 QT board
Entries 2.022157e+07
ADC
channel

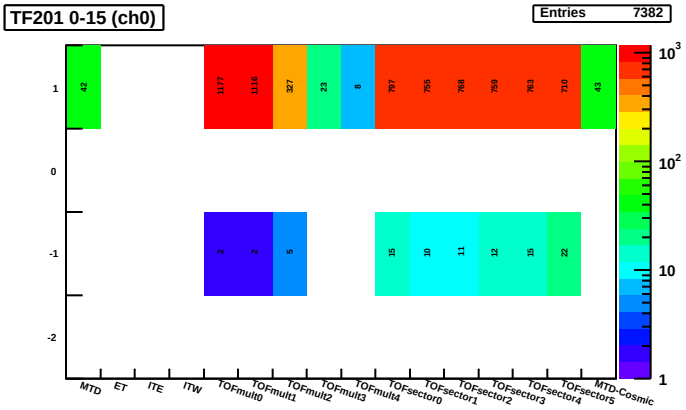

Input to FE002 QT board
Entries 2.022157e+07
ADC
channel

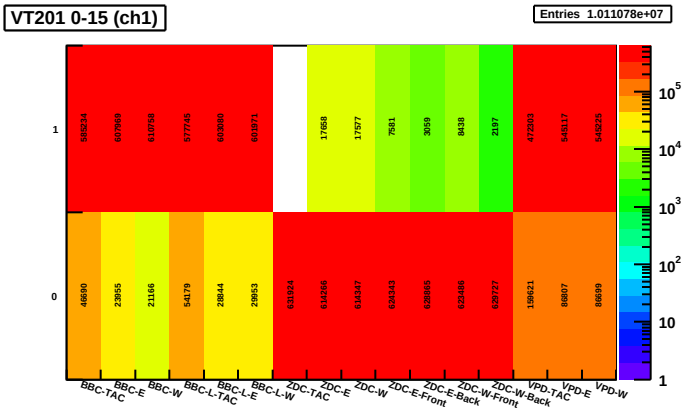

Input to FE003 QT board
Entries 2.022157e+07
ADC
channel

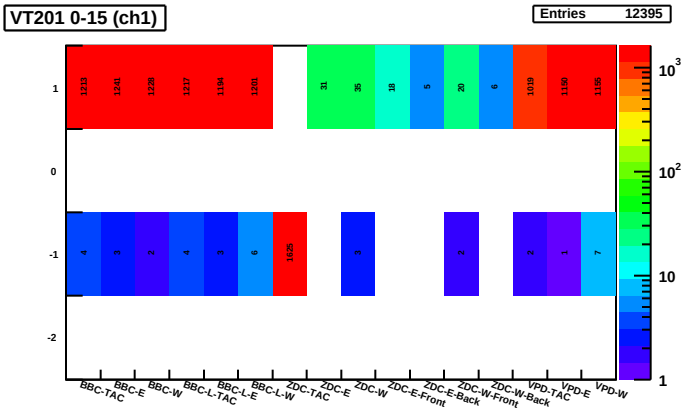

Input to FE004 QT board
Entries 2.022157e+07
ADC
channel


Input to FPE L1 DSM
Entries2527696
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1


TF201 0-15 (ch0)
Entries 1.011078e+07
MTD ET ITE ITW TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 7382
MTD ET ITE ITW TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 1.011078e+07
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W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Entries 12395
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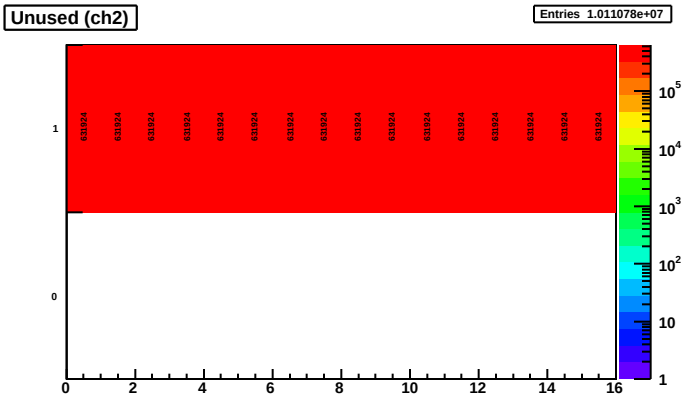
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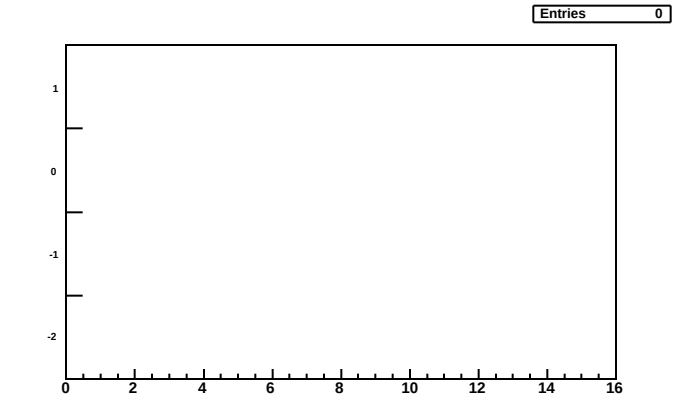
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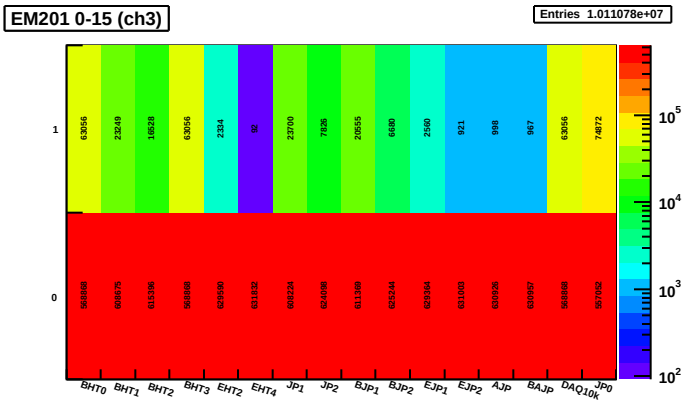
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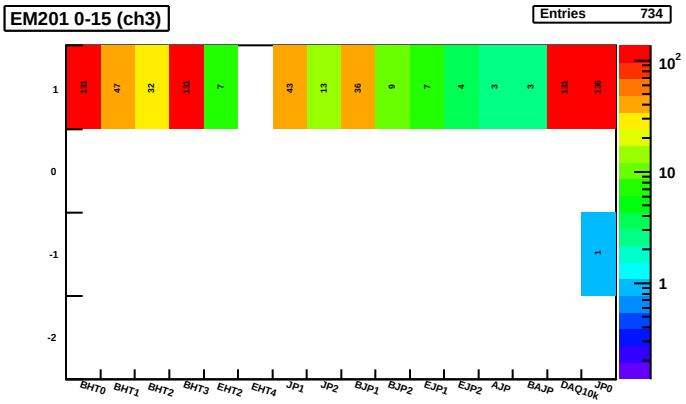
EM201 0-15 (ch3)
Entries 734
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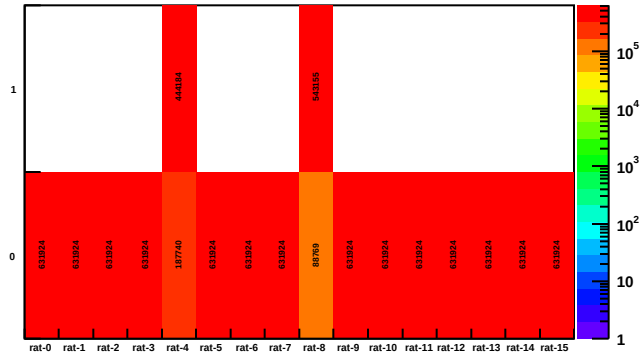
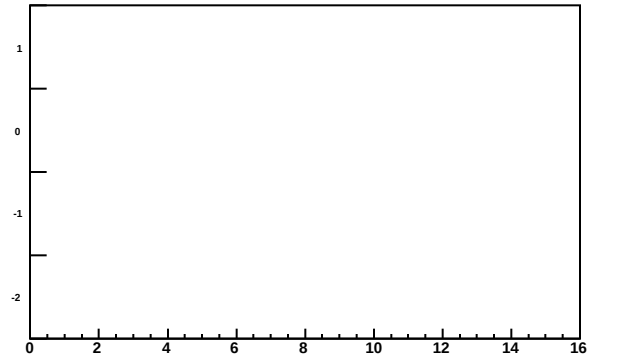
RAT board (ch4)





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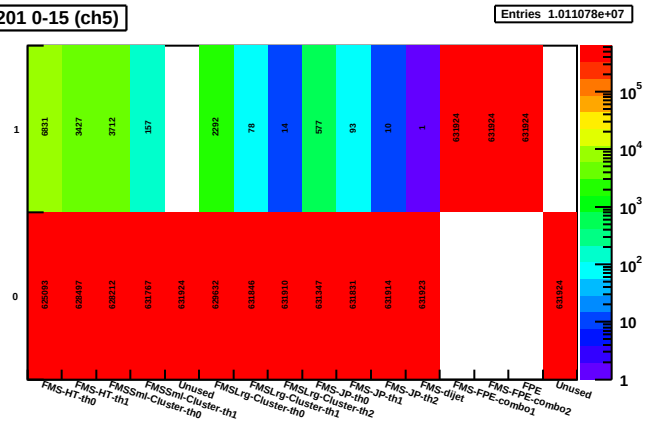

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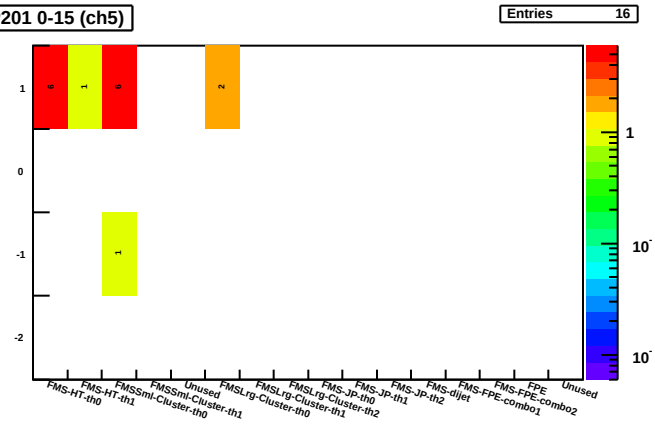
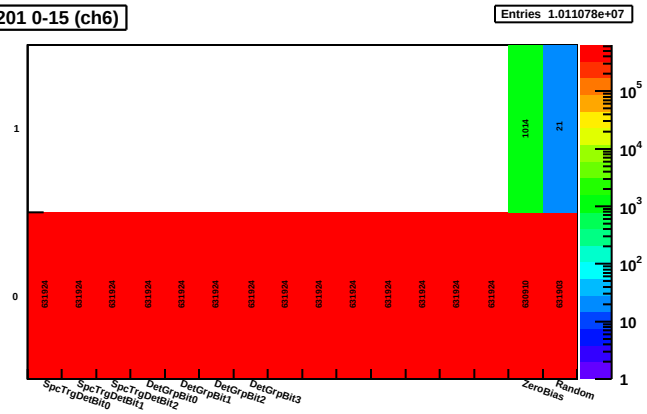
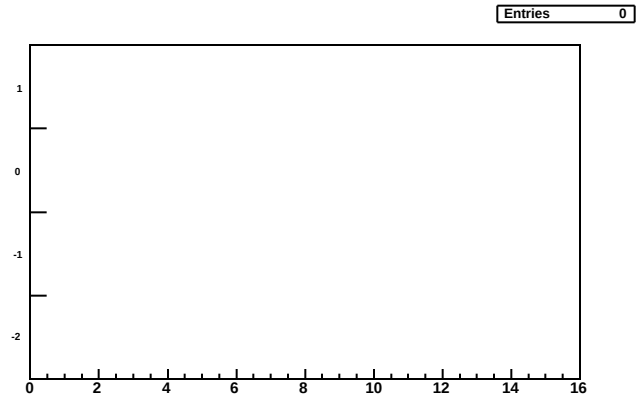
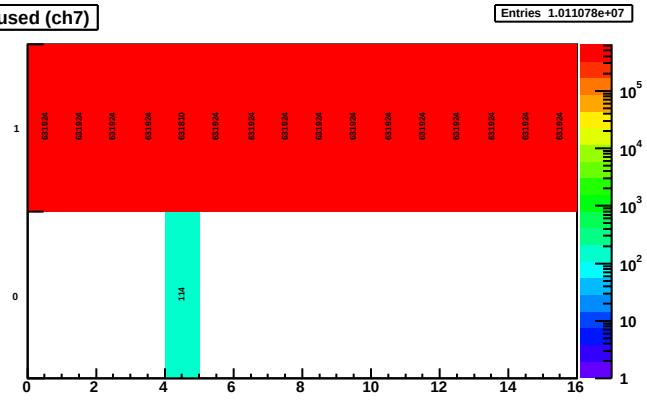
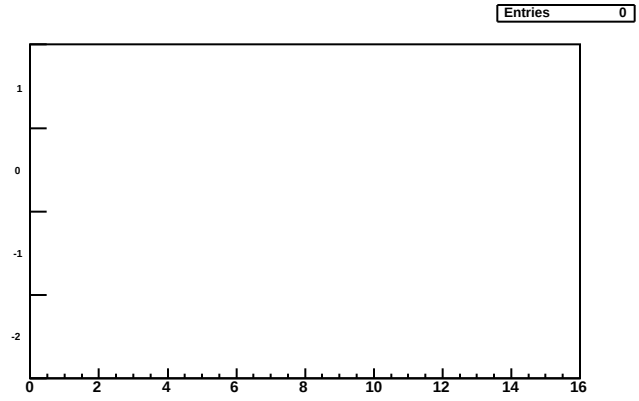


ST201 0-15 (ch6)





Unused (ch7)