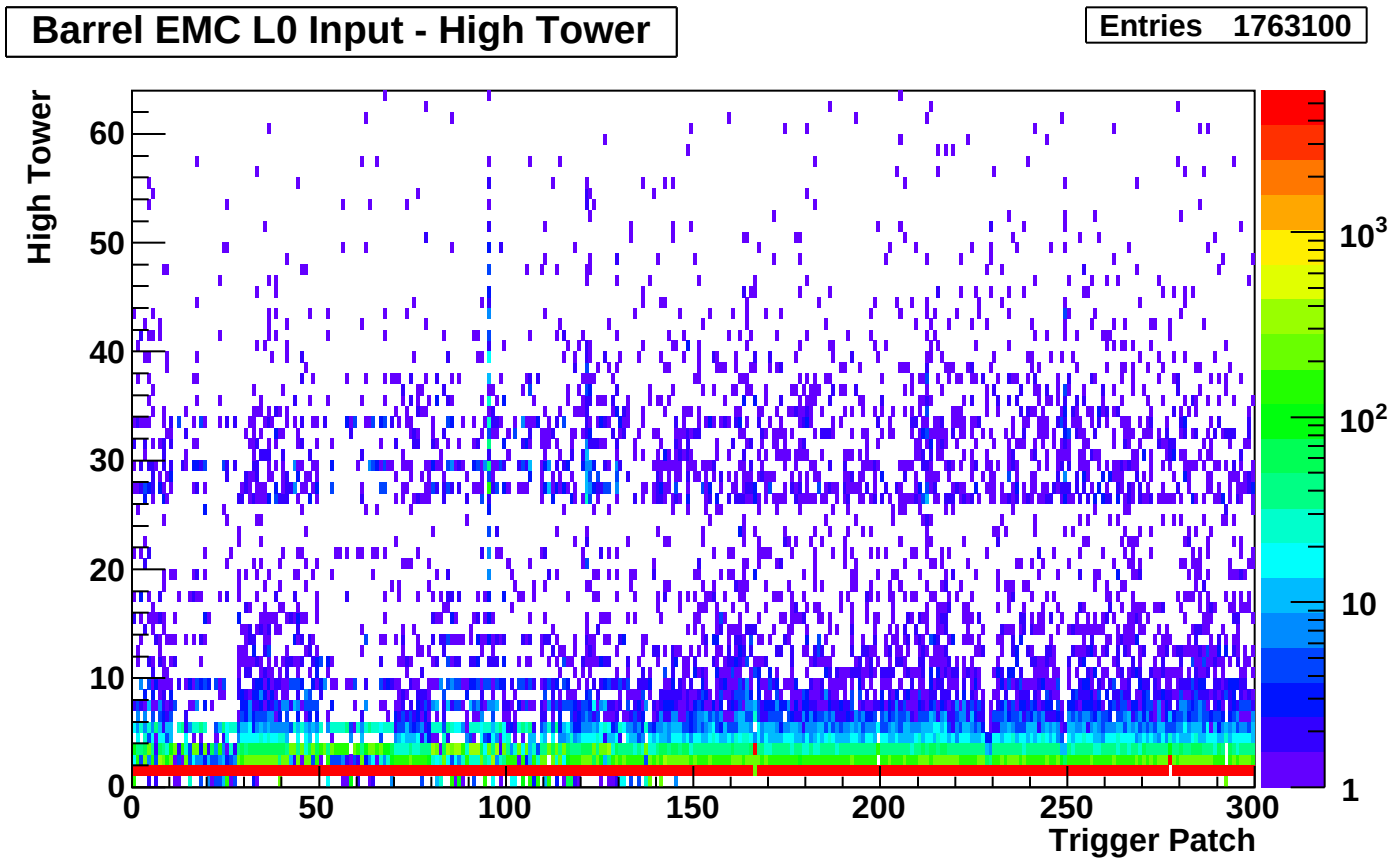
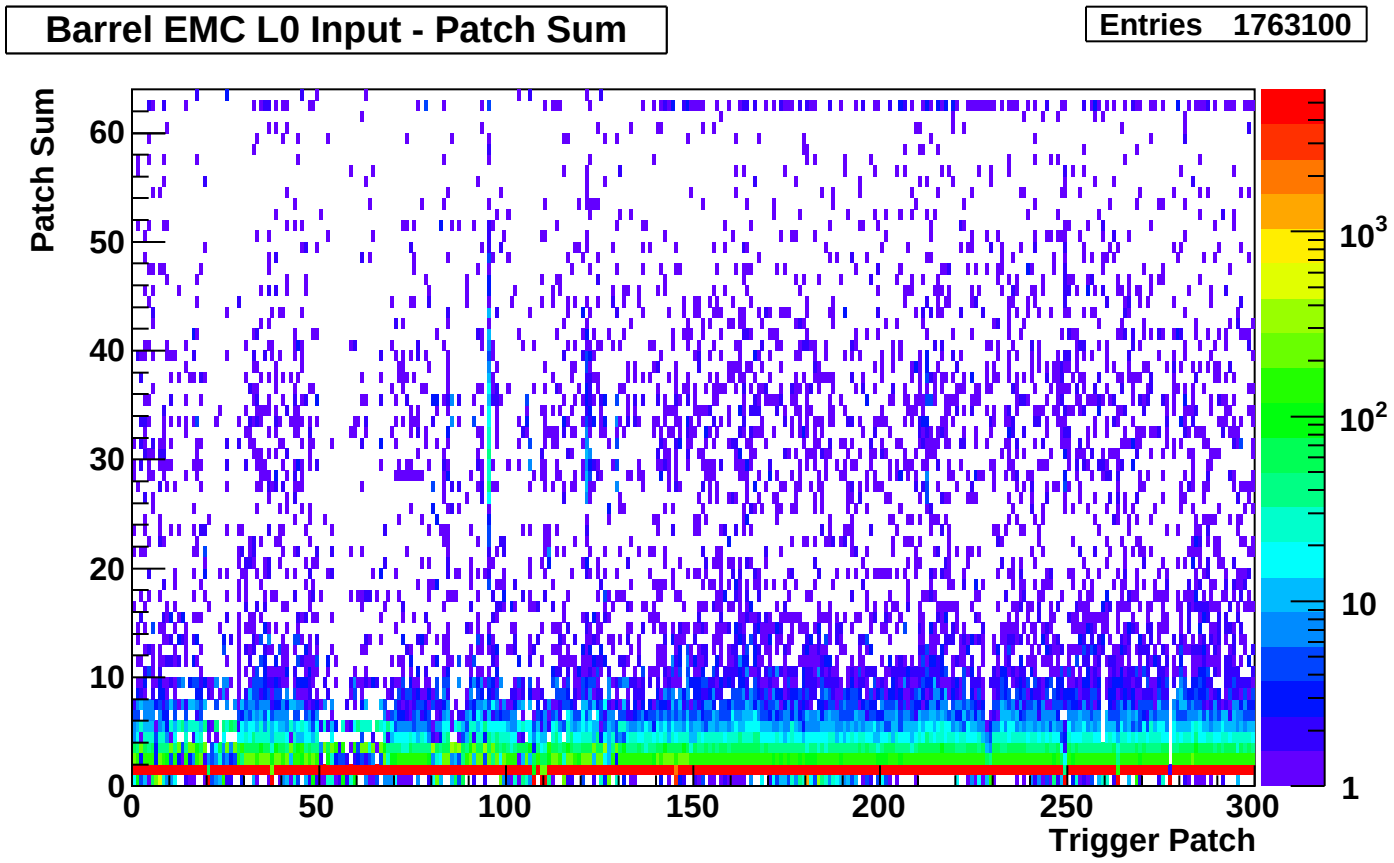
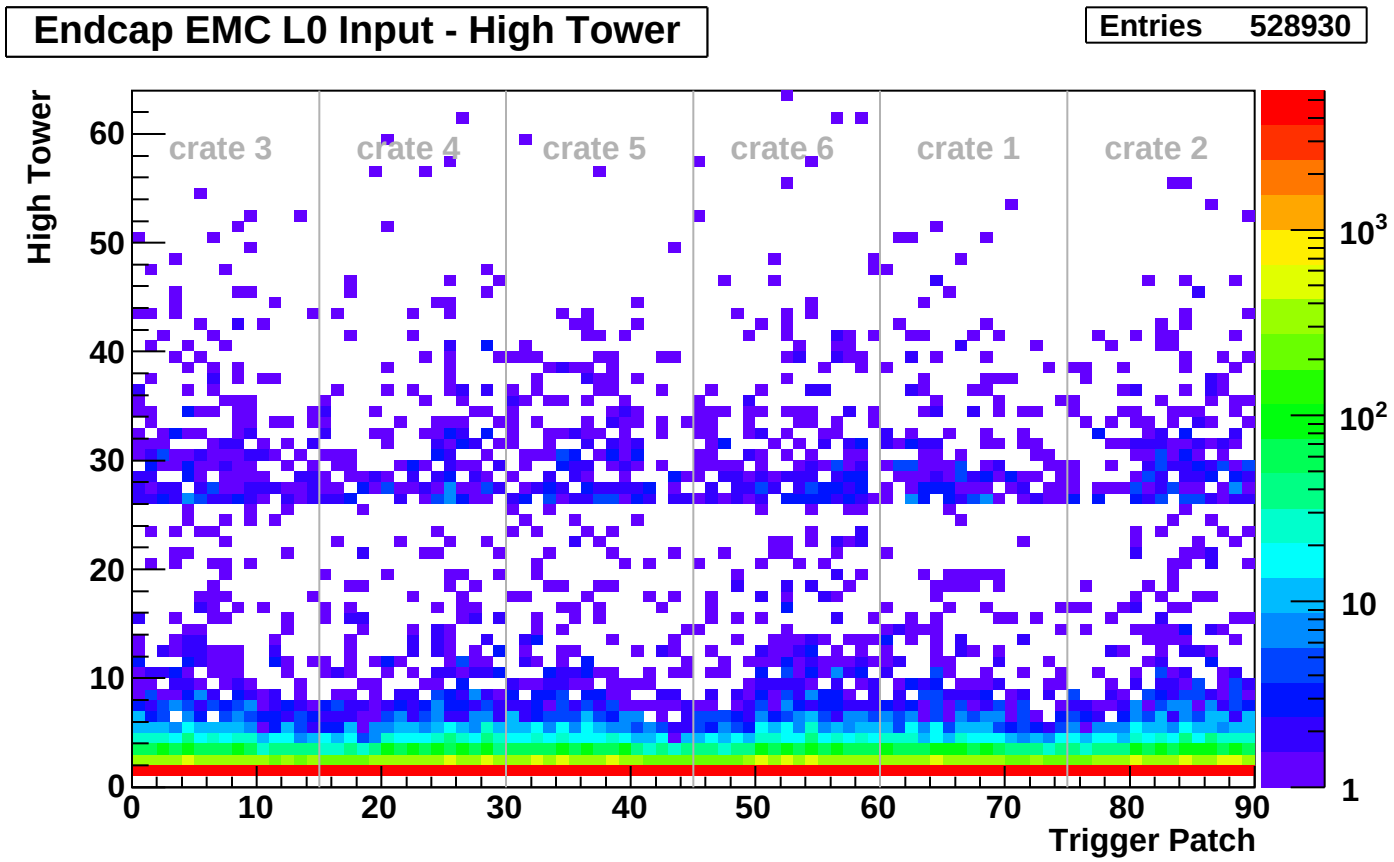
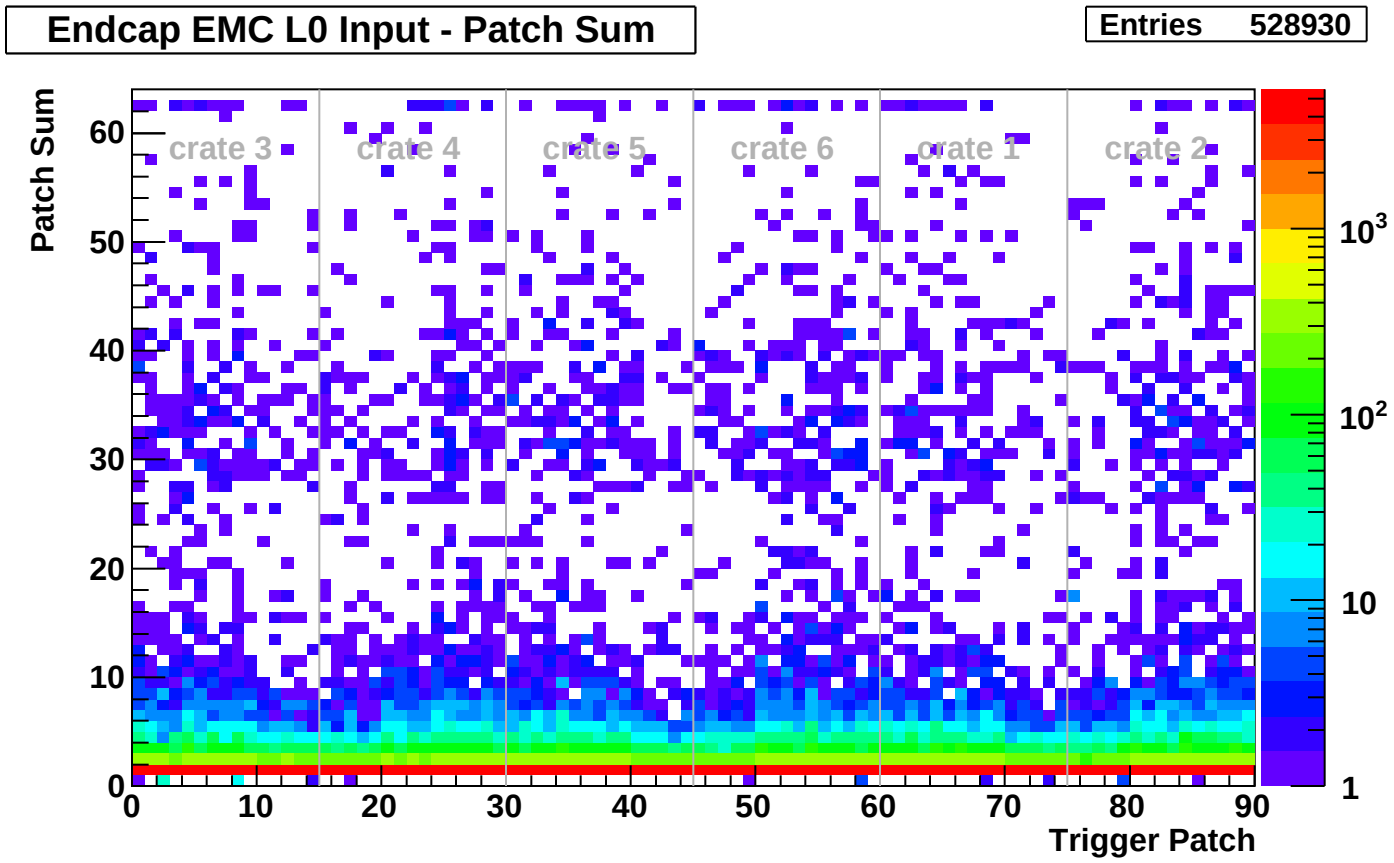
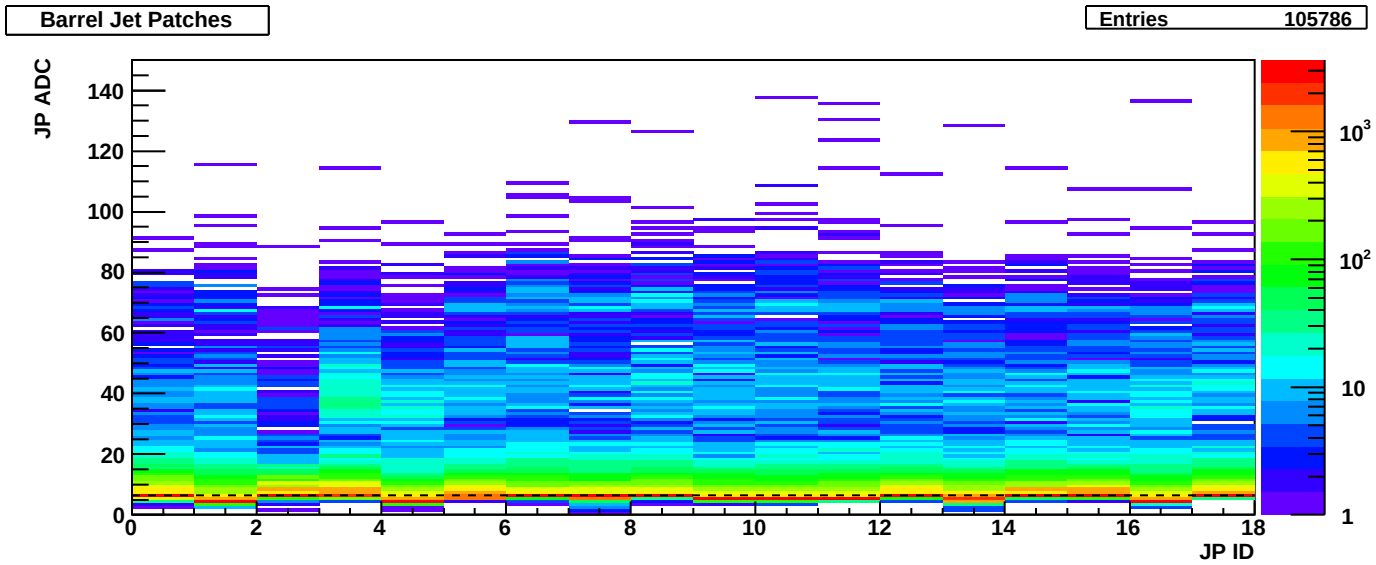
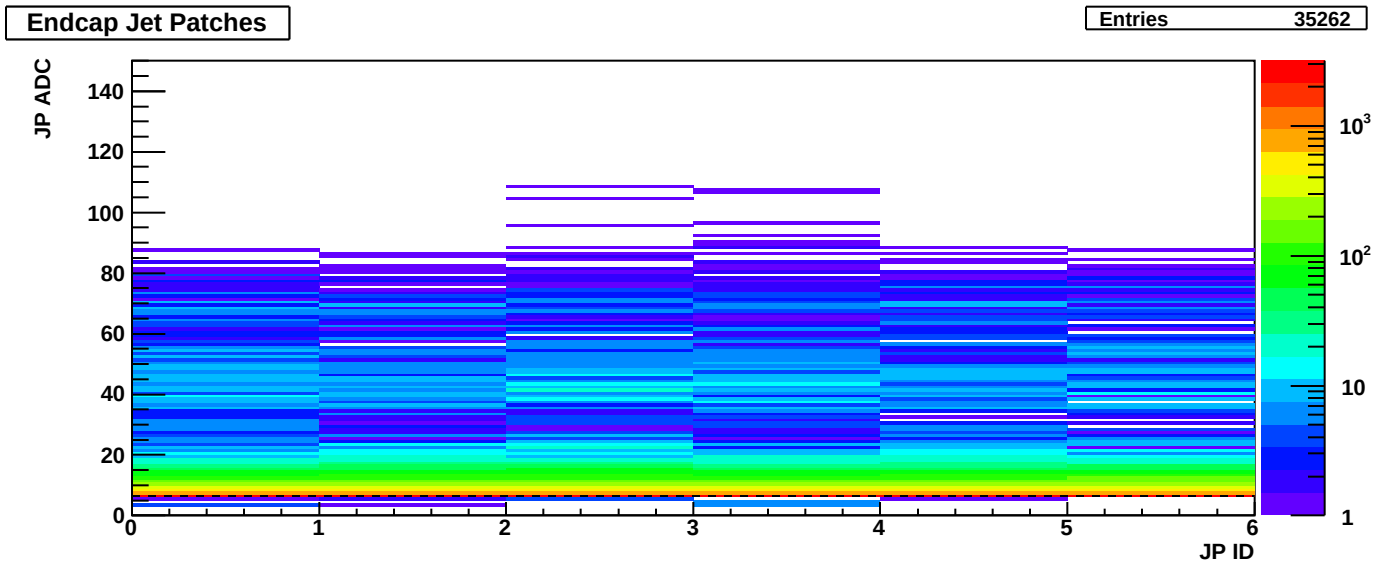

Barrel EMC L0 Input - High Tower
Entries 1763100
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

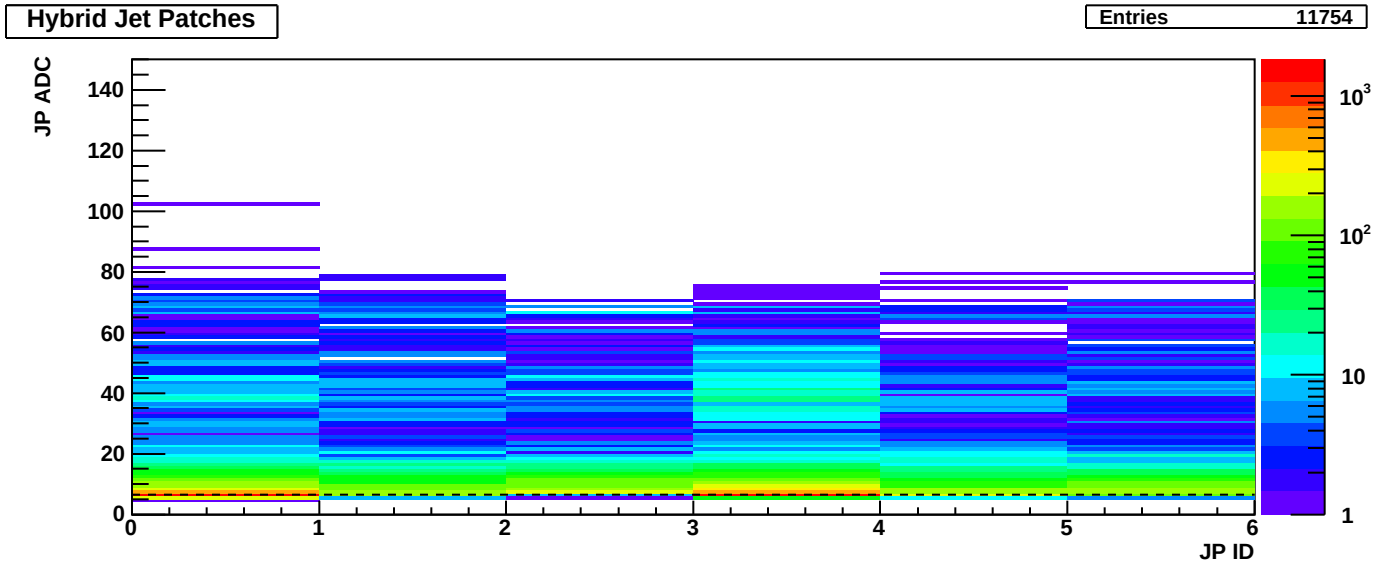

Barrel EMC L0 Input - Patch Sum
Entries 1763100
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

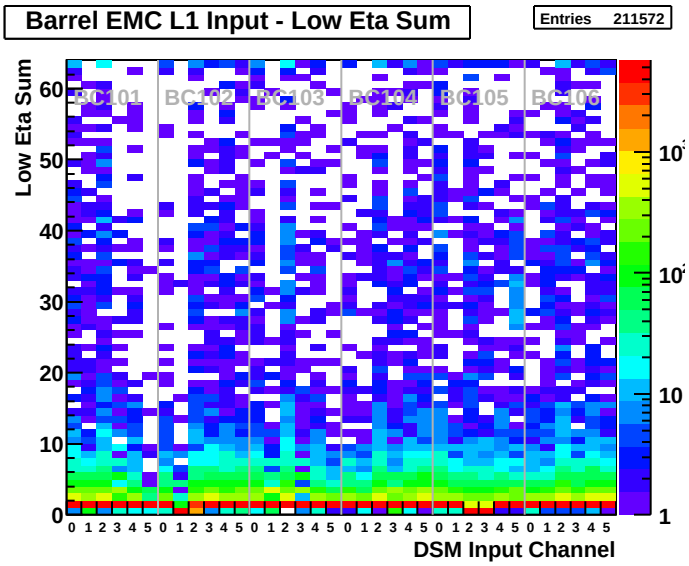

Endcap EMC L0 Input - High Tower
Entries 528930
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2
10^3

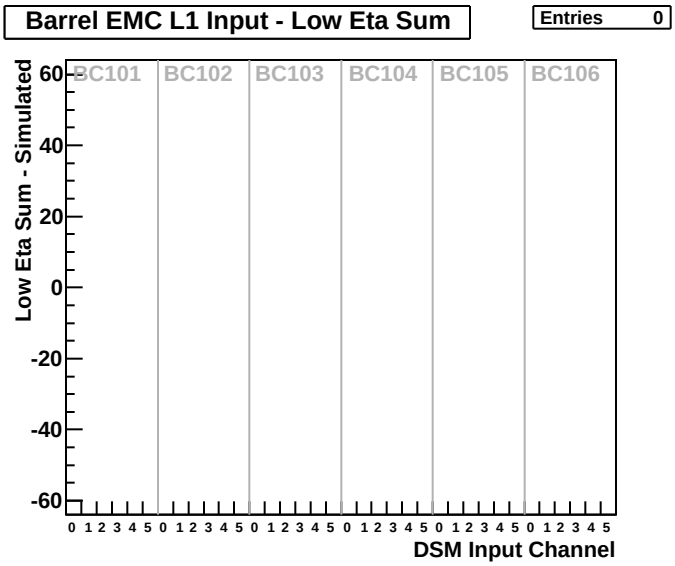

Endcap EMC L0 Input - Patch Sum
Entries 528930
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2
10^3

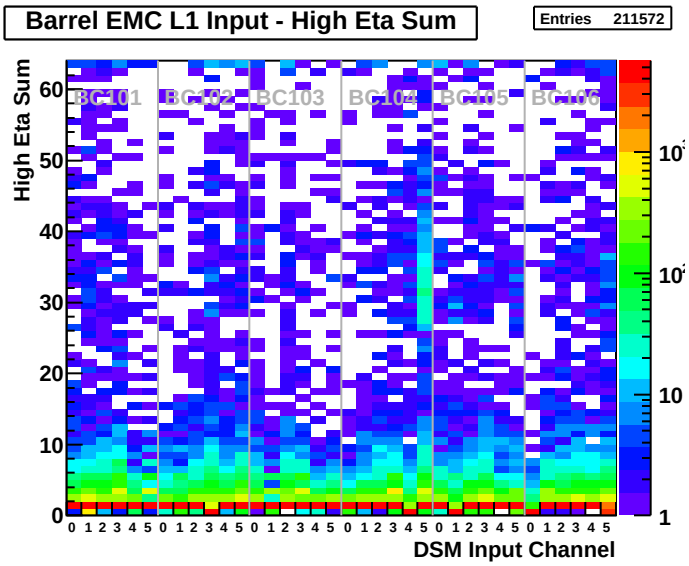

Barrel Jet Patches
Entries 105786
JP ADC
JP ID

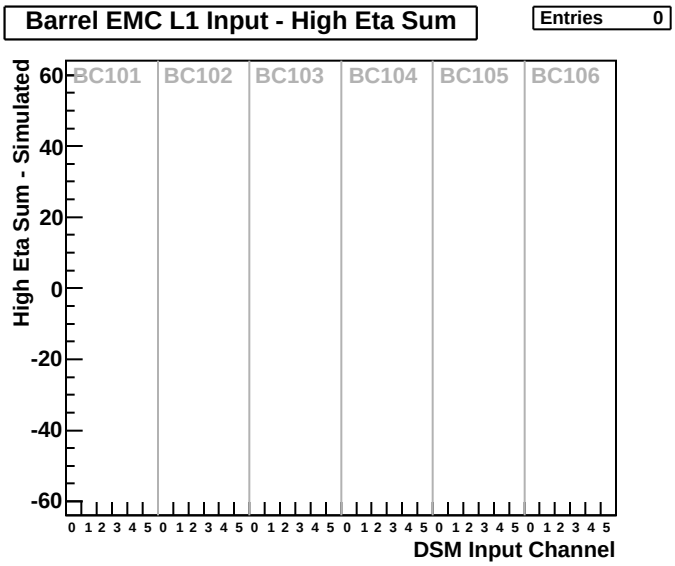

Endcap Jet Patches
Entries 35262
JP ADC
JP ID

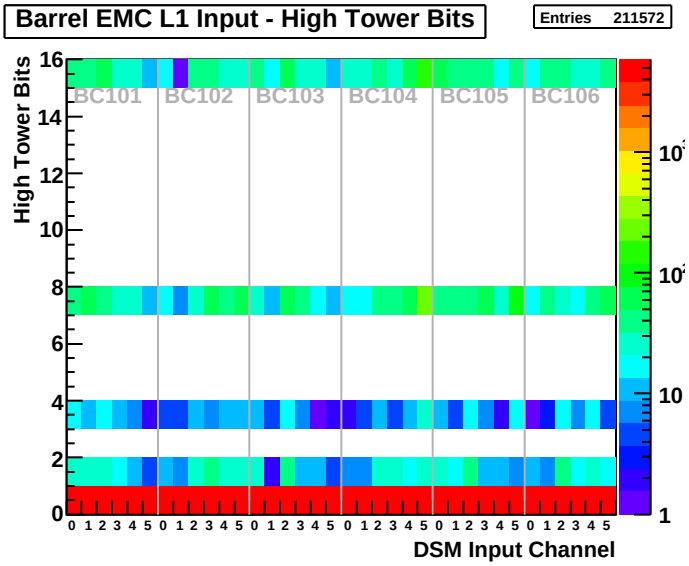

Hybrid Jet Patches
Entries 11754
JP ADC
JP ID

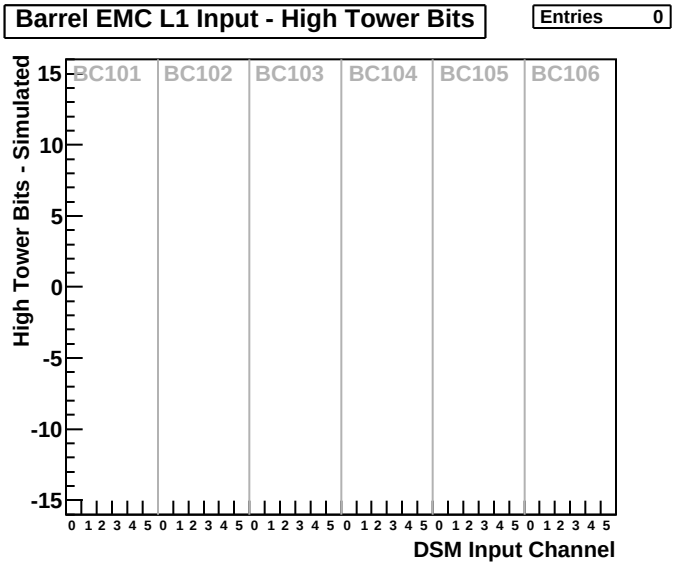

Barrel EMC L1 Input - Low Eta Sum
Entries 211572
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

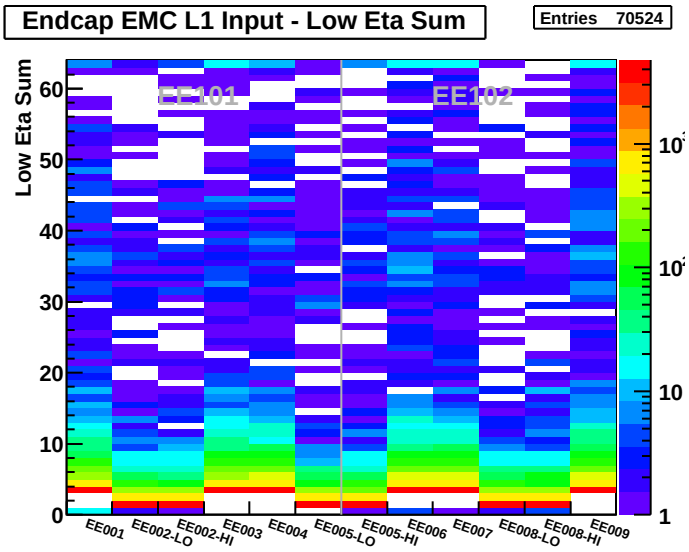

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

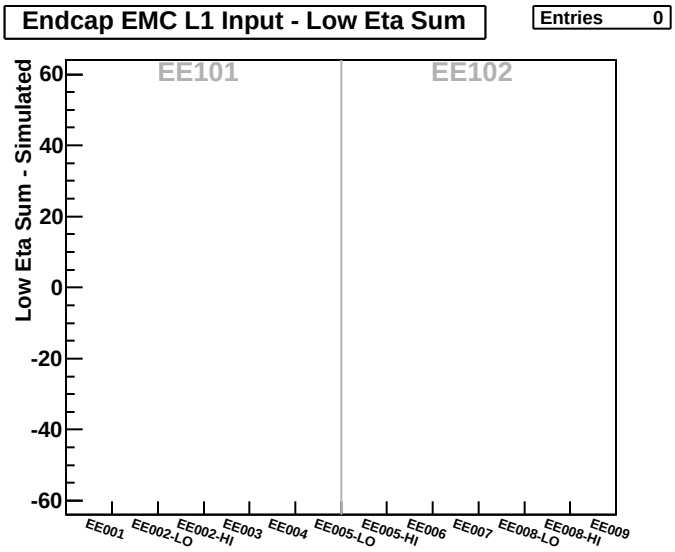

Barrel EMC L1 Input - High Eta Sum
Entries 211572
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

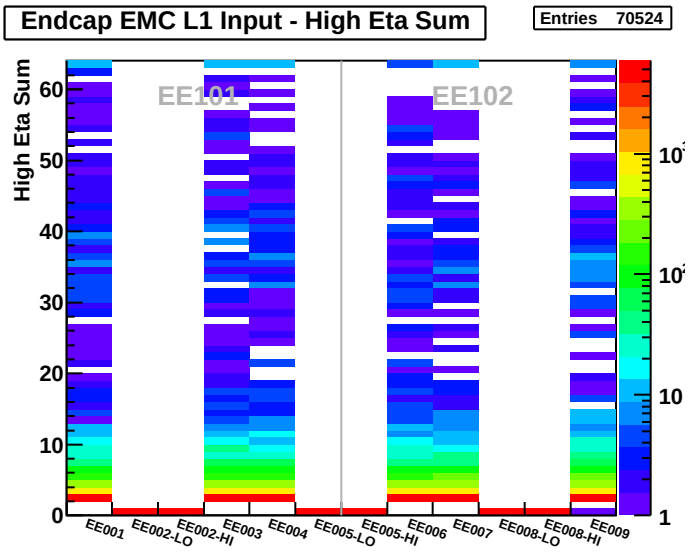

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

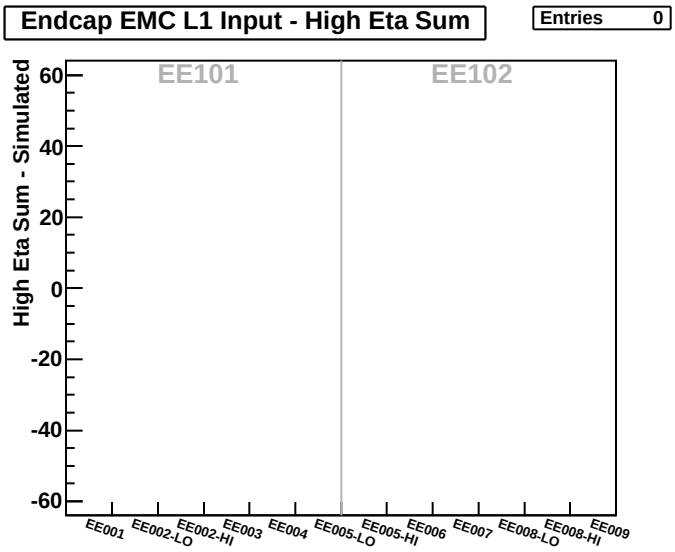

Barrel EMC L1 Input - High Tower Bits
Entries 211572
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

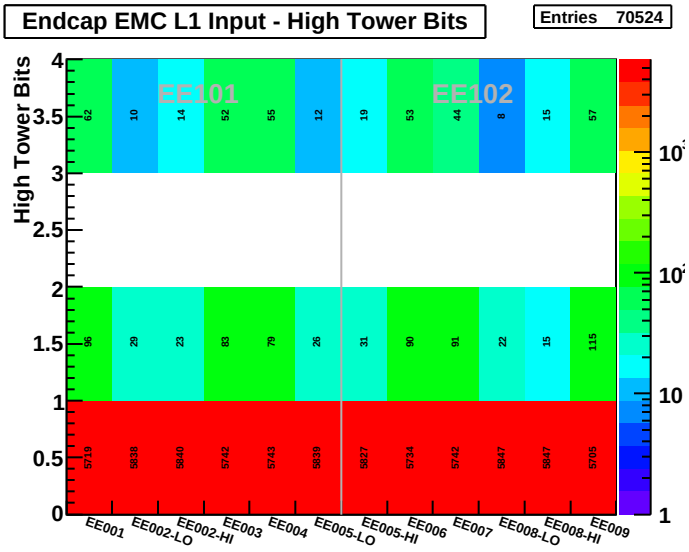

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

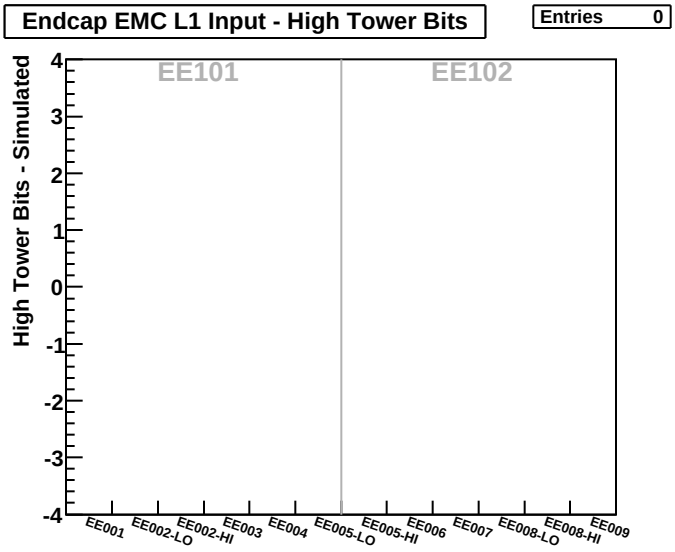

Endcap EMC L1 Input - Low Eta Sum
Entries 70524
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

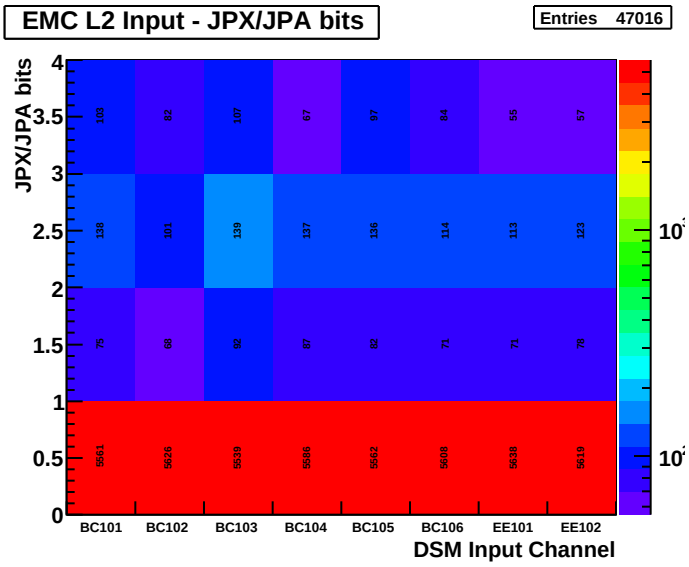

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

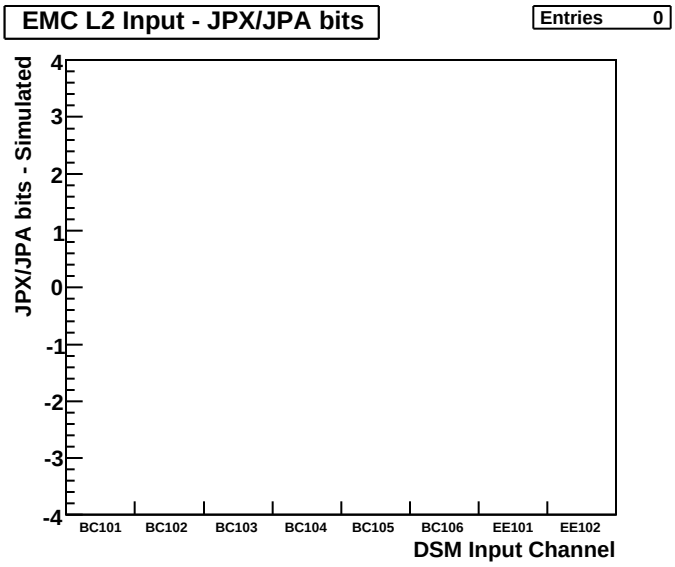

Endcap EMC L1 Input - High Eta Sum
Entries 70524
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

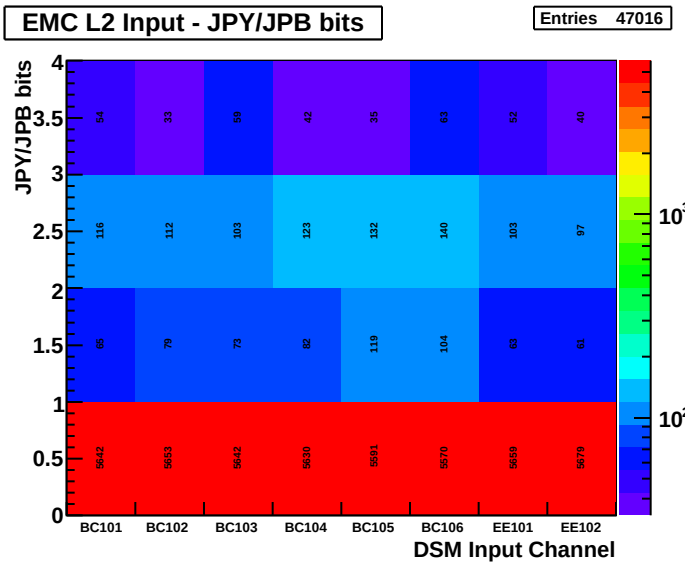

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

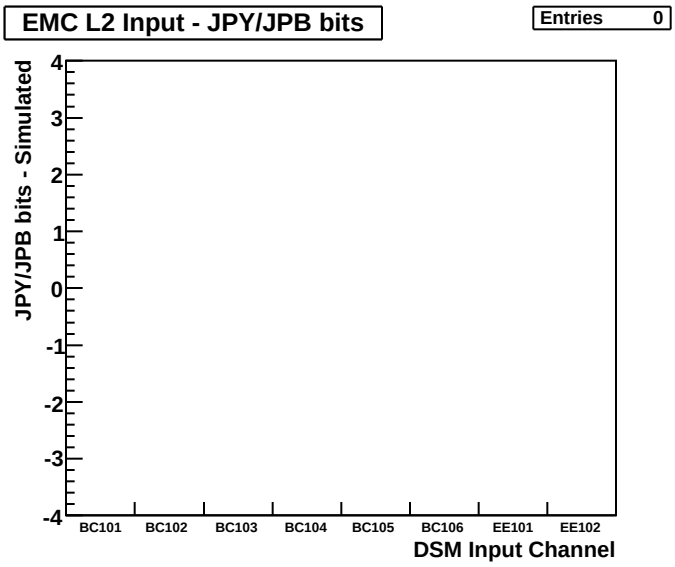

Endcap EMC L1 Input - High Tower Bits
Entries 70524
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

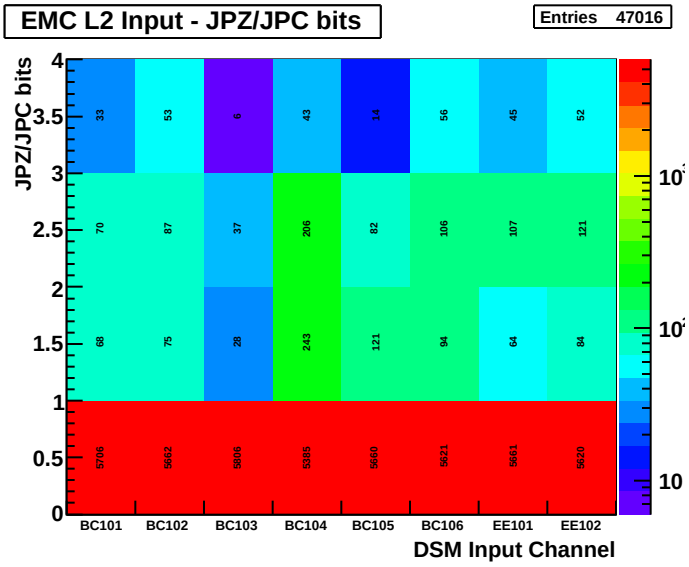

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

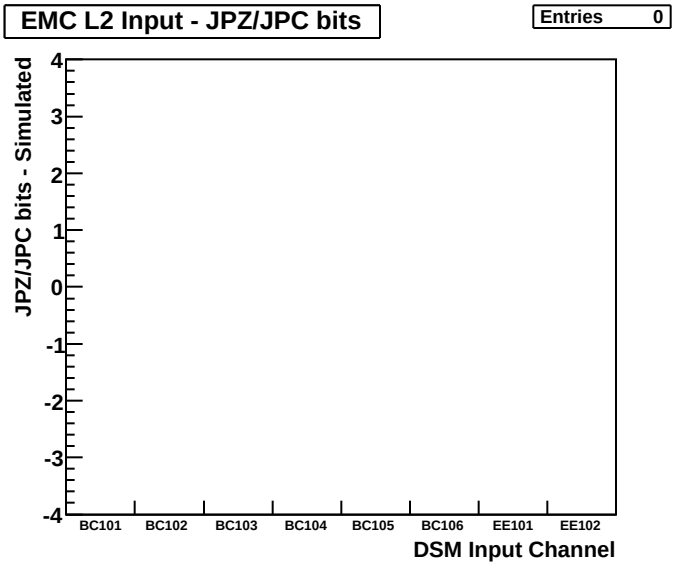

EMC L2 Input - JPX/JPA bits
Entries 47016
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
103 82 107 67 97 84 55 57
138 101 139 137 136 114 113 123
75 68 82 67 82 71 71 78
5561 5626 5539 5586 5562 5608 5638 5619

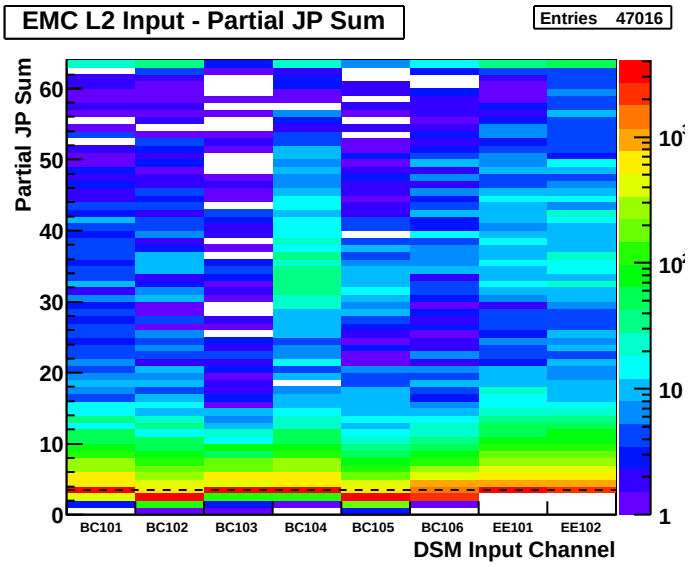

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

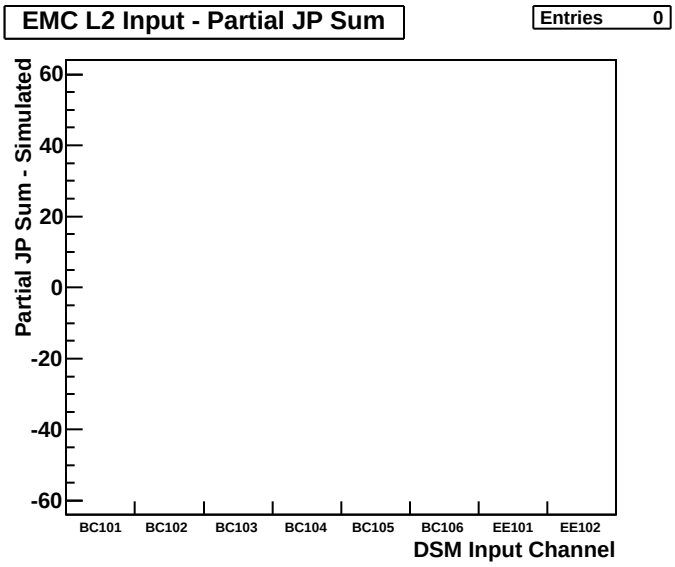

EMC L2 Input - JPY/JPB bits
Entries 47016
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
54 33 59 42 35 63 52 40
116 112 103 123 132 140 103 97
65 79 73 82 119 104 63 61
5642 5653 5642 5630 5591 5570 5659 5679

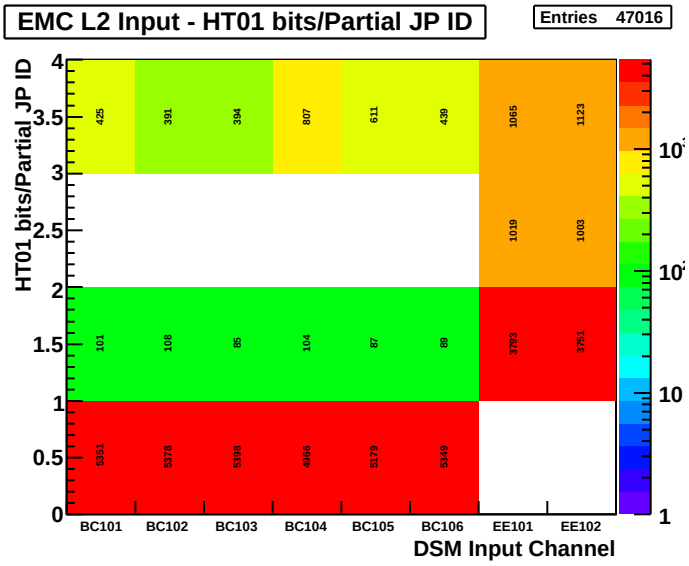

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

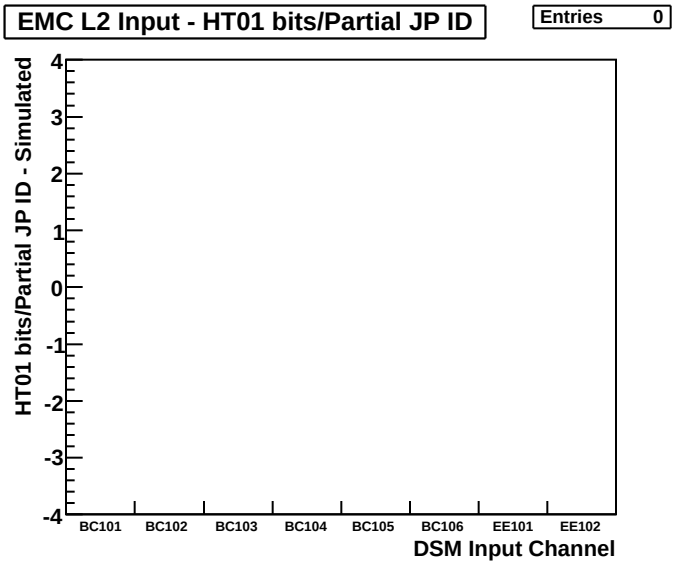

EMC L2 Input - JPZ/JPC bits
Entries 47016
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
33 53 6 43 14 56 45 52
70 87 37 206 82 106 107 121
68 75 28 243 121 94 64 84
5706 5662 5806 5385 5660 5621 5661 5620

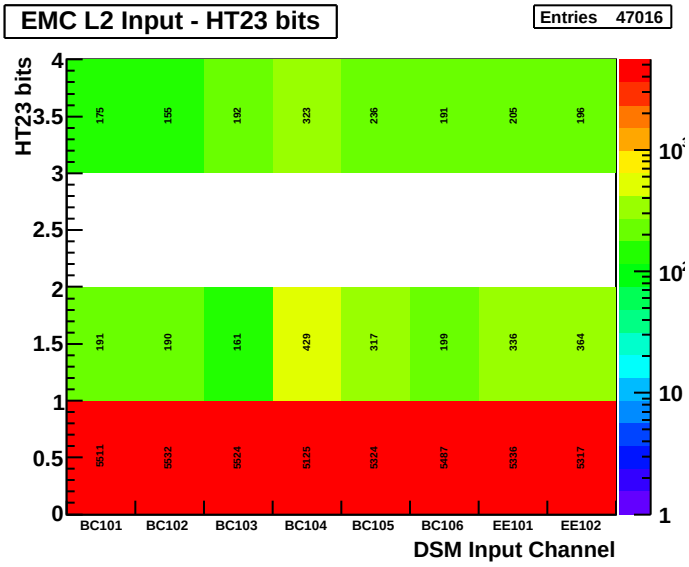

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

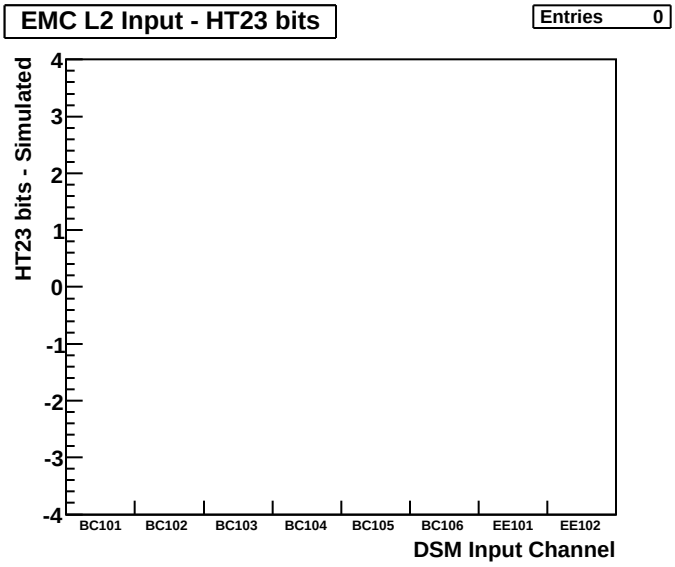

EMC L2 Input - Partial JP Sum
Entries 47016
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

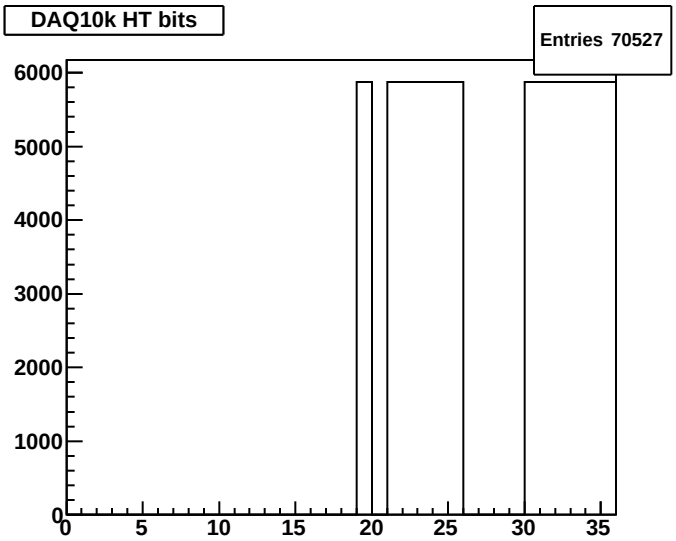

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

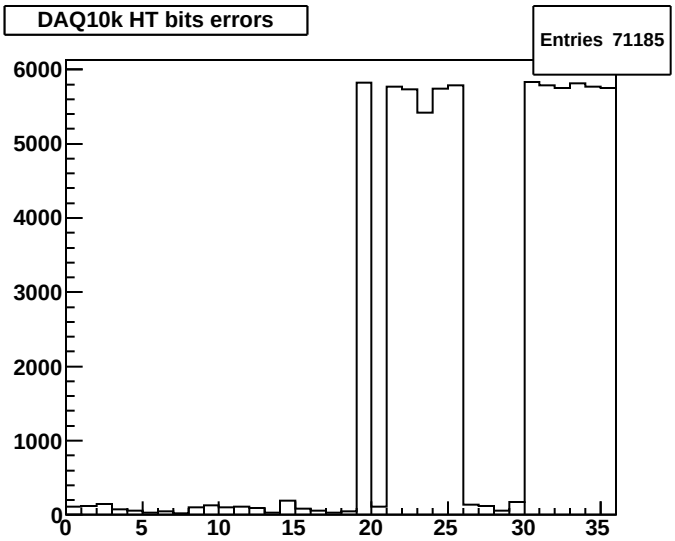

EMC L2 Input - HT01 bits/Partial JP ID
Entries 47016
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

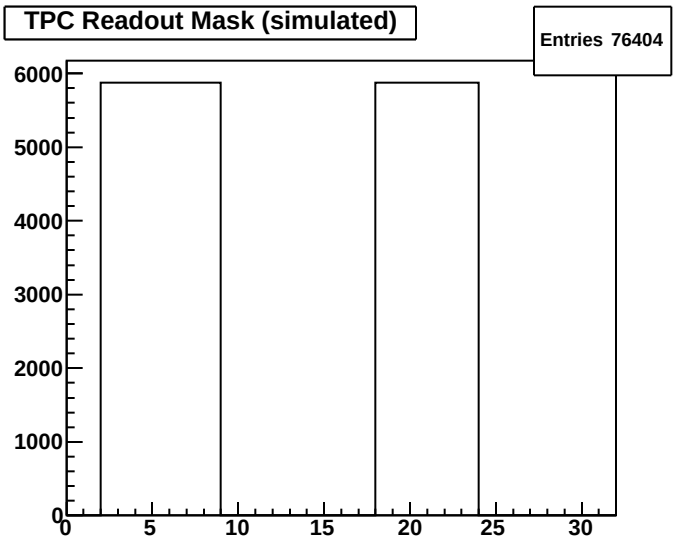

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

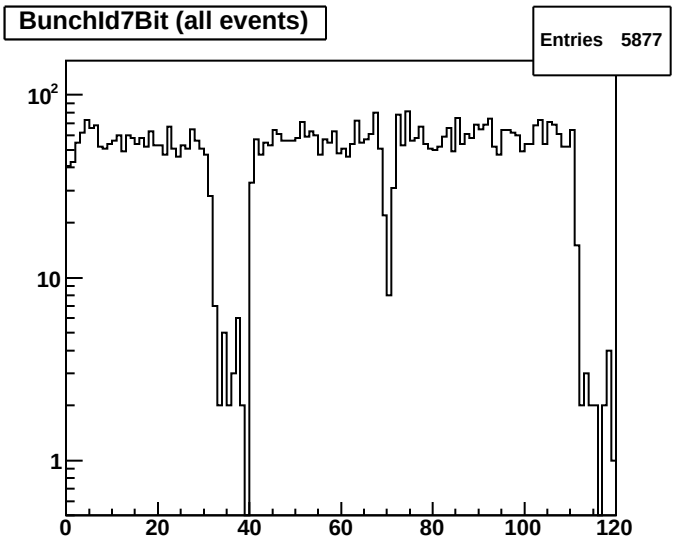

EMC L2 Input - HT23 bits
Entries 47016
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

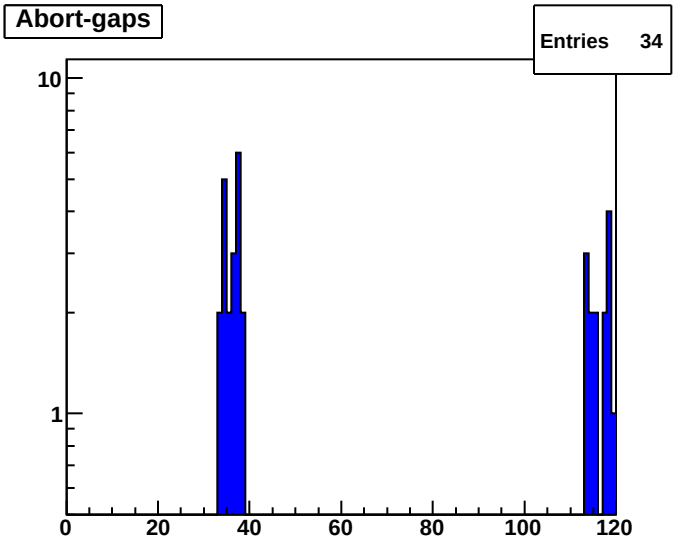

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

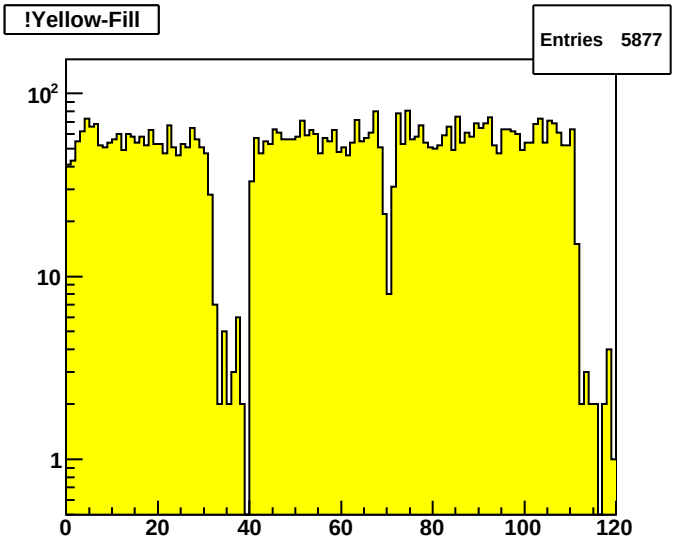

DAQ10k HT bits
Entries 70527
6000
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30 35

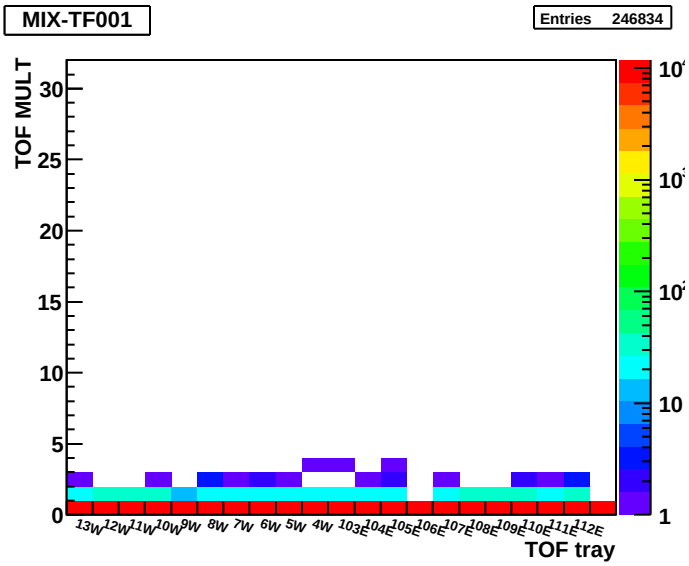

DAQ10k HT bits errors
Entries 71185
6000
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30 35

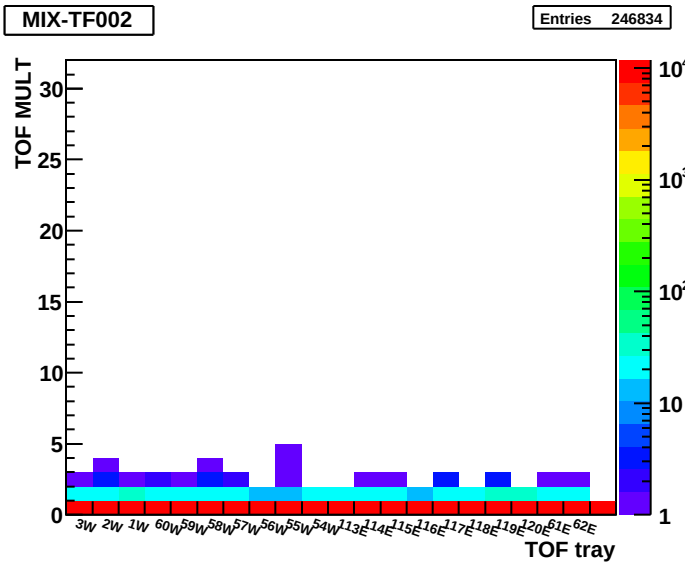

TPC Readout Mask (simulated)
Entries 76404
6000
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30

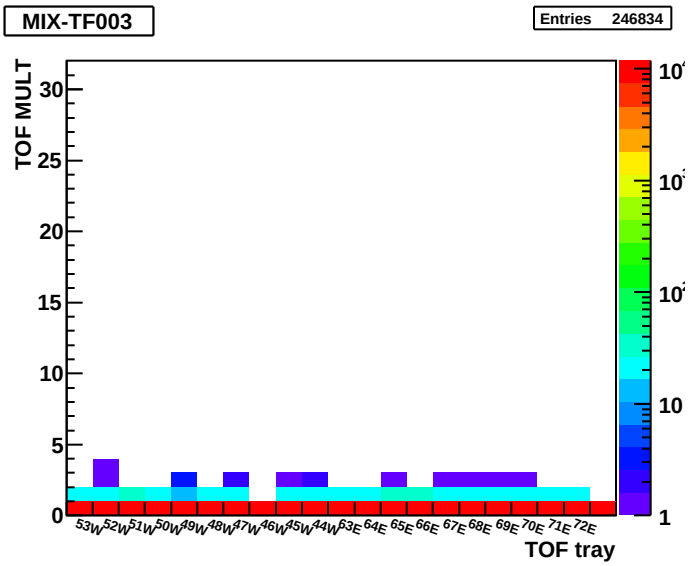

BunchId7Bit (all events)
Entries 5877
10^2
10
1
0 20 40 60 80 100 120

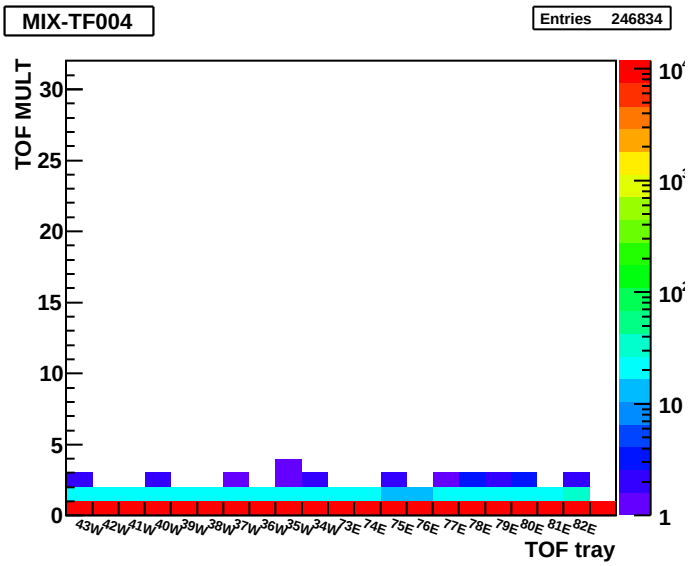

Abort-gaps
Entries 34
10
1
0 20 40 60 80 100 120

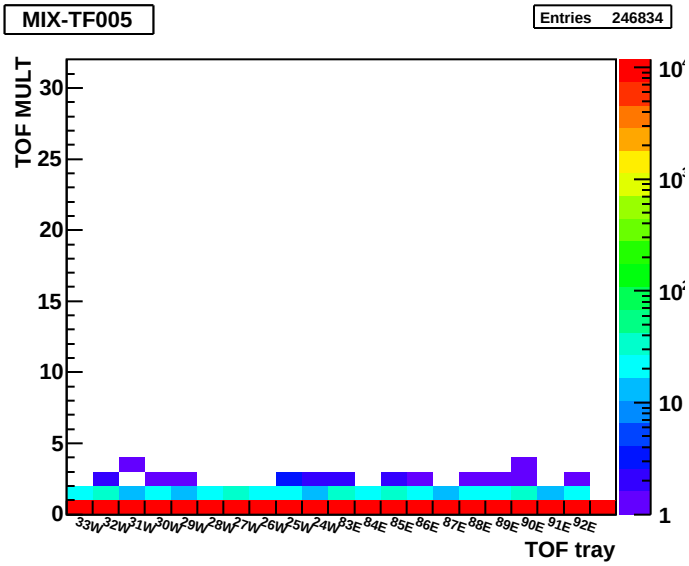

!Yellow-Fill
Entries 5877
10^2
10
1
0 20 40 60 80 100 120

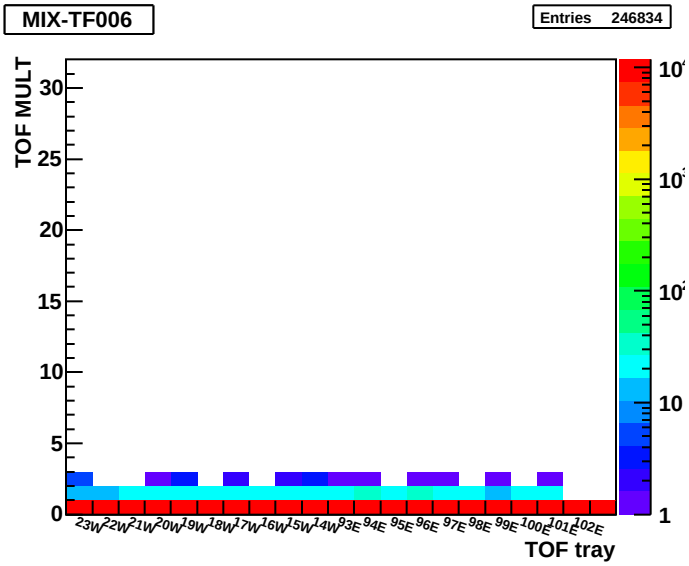

MIX-TF001
Entries 246834
TOF MULT
TOF tray

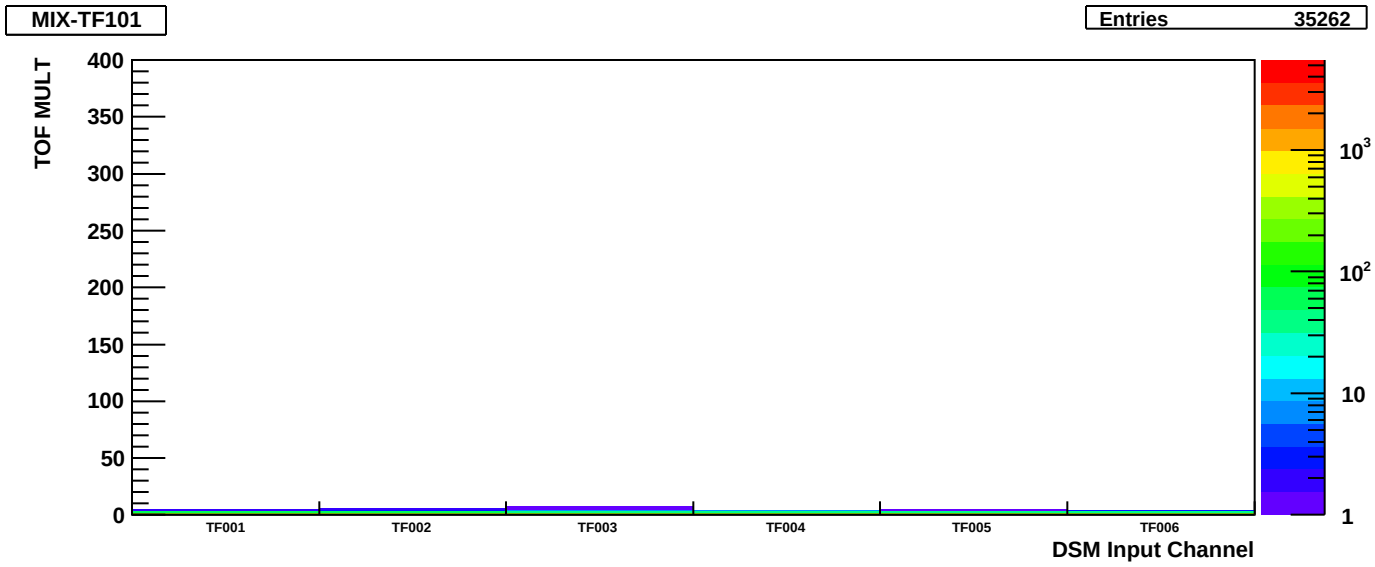

MIX-TF002
Entries 246834
TOF MULT
TOF tray

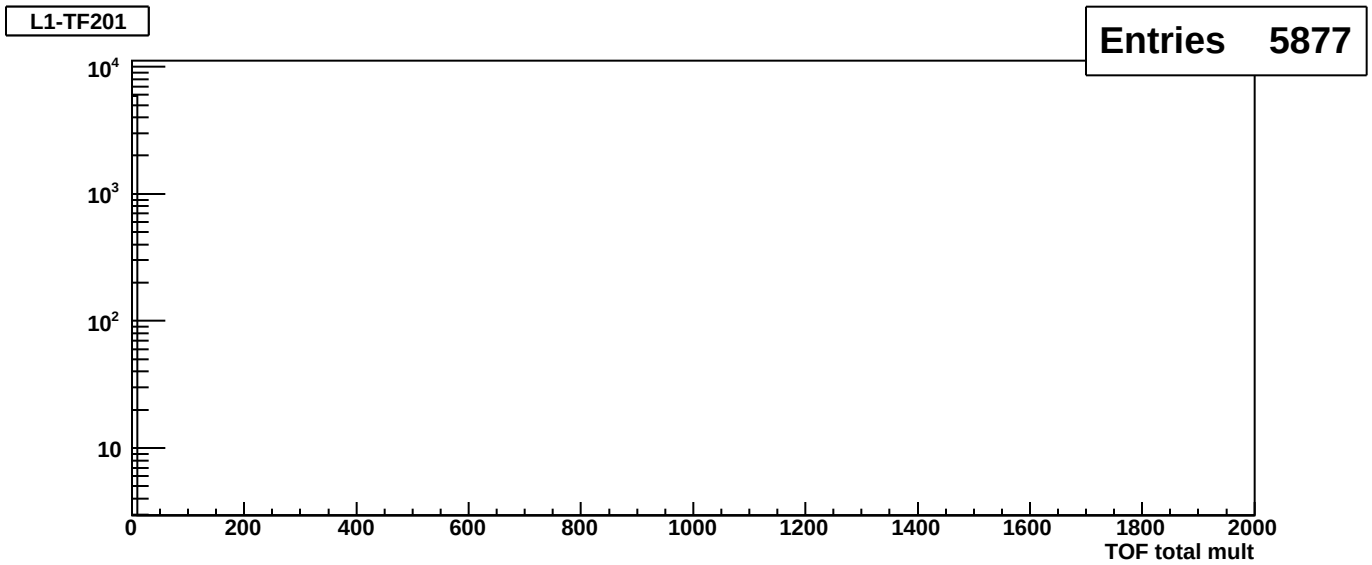

MIX-TF003
Entries 246834
TOF MULT
TOF tray

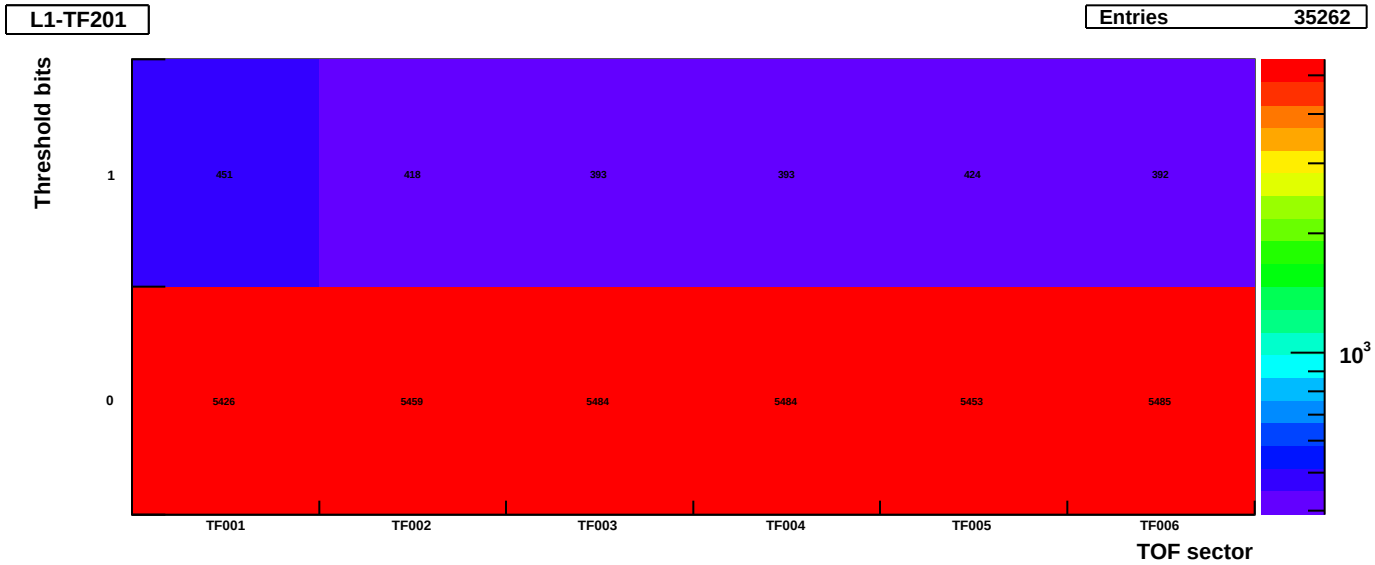

MIX-TF004
Entries 246834
TOF MULT
TOF tray

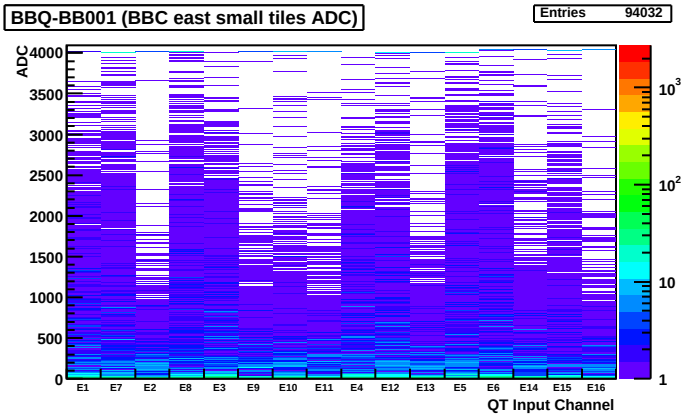

MIX-TF005
Entries 246834
TOF MULT
TOF tray

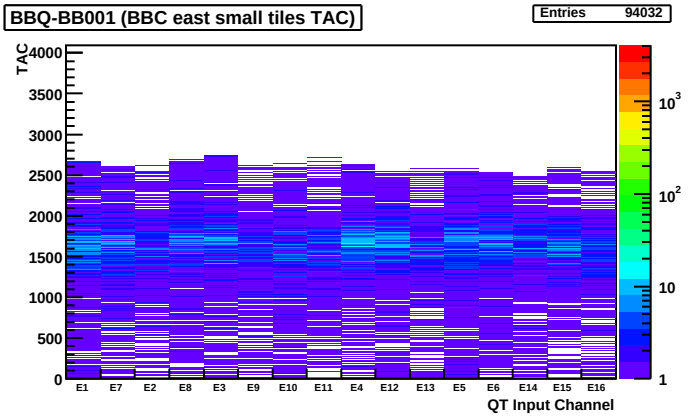

MIX-TF006
Entries 246834
TOF MULT
TOF tray

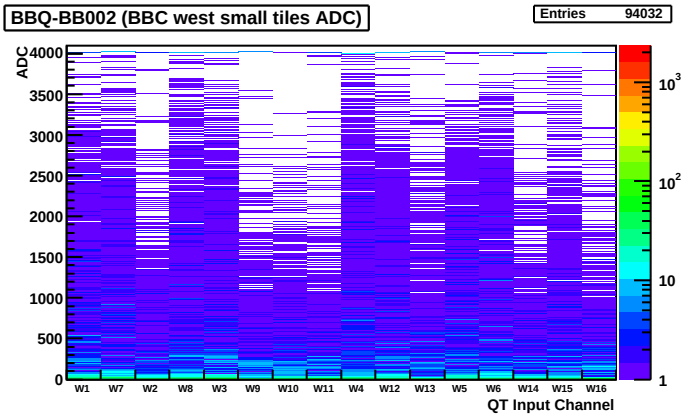

MIX-TF101
Entries 35262
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

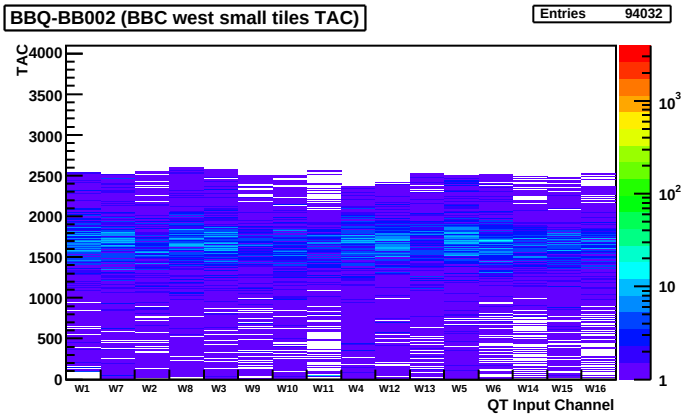

L1-TF201
Entries 5877
10^4
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

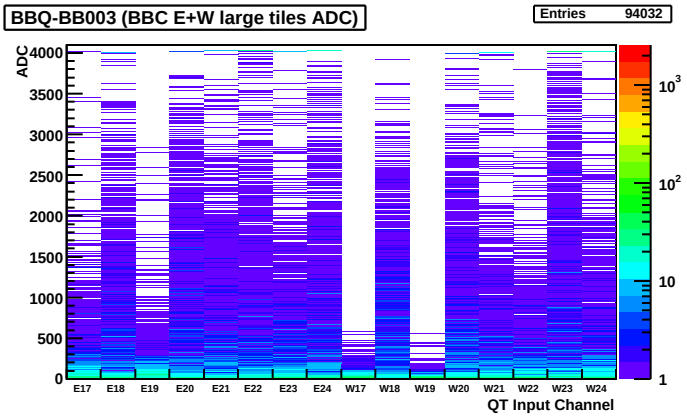

L1-TF201
Entries 35262
Threshold bits
1
0
451
418
393
393
424
392
5426
5459
5484
5484
5453
5485
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^3

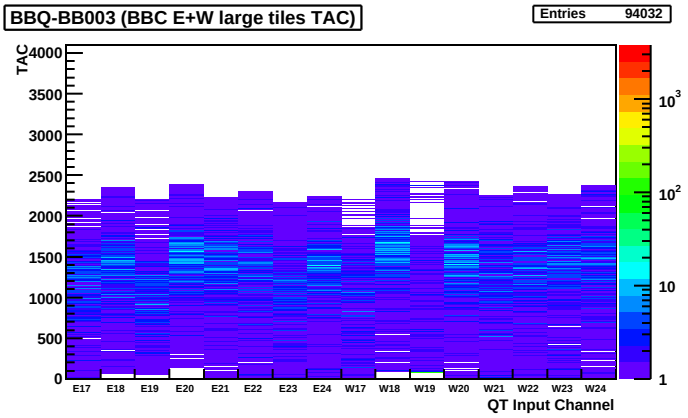

BBQ-BB001 (BBC east small tiles ADC)
Entries 94032
ADC
QT Input Channel

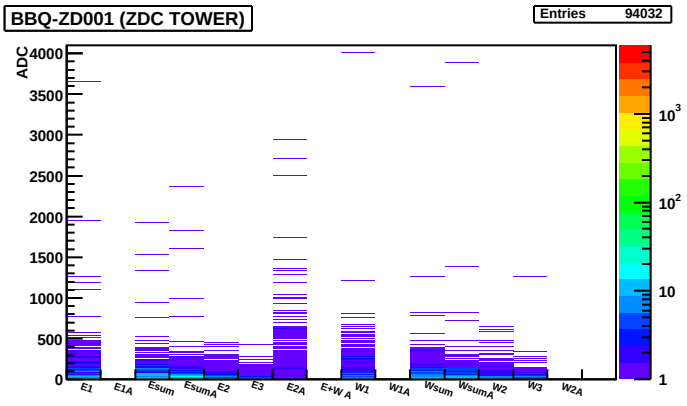

BBQ-BB001 (BBC east small tiles TAC)
Entries 94032
TAC
QT Input Channel

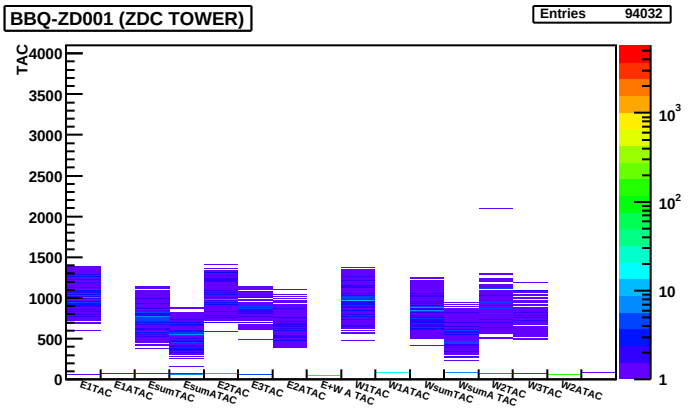

BBQ-BB002 (BBC west small tiles ADC)
Entries 94032
ADC
QT Input Channel

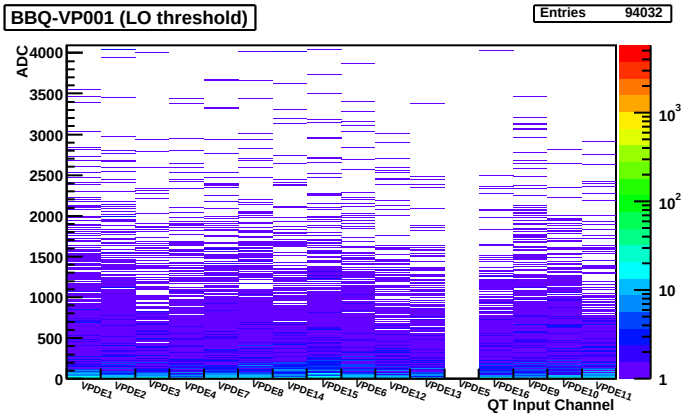

BBQ-BB002 (BBC west small tiles TAC)
Entries 94032
TAC
QT Input Channel

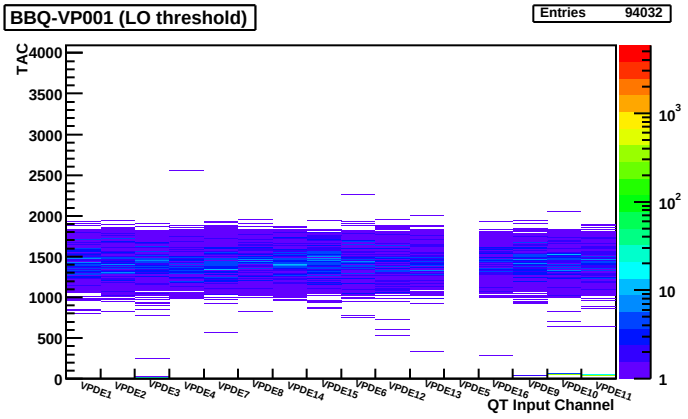

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 94032
ADC
QT Input Channel

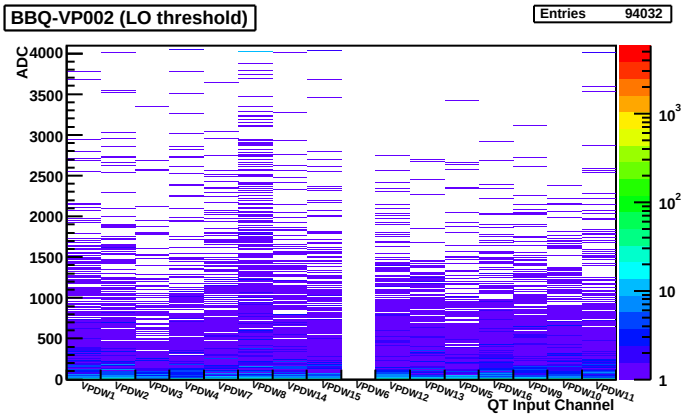

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 94032
TAC
QT Input Channel

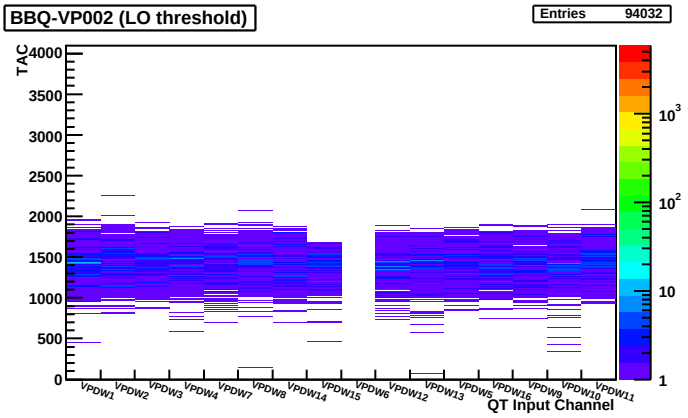

BBQ-ZD001 (ZDC TOWER)
Entries 94032
ADC

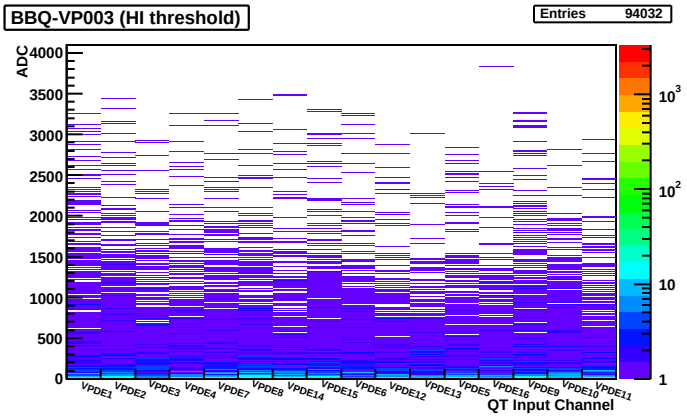

BBQ-ZD001 (ZDC TOWER)
Entries 94032
TAC

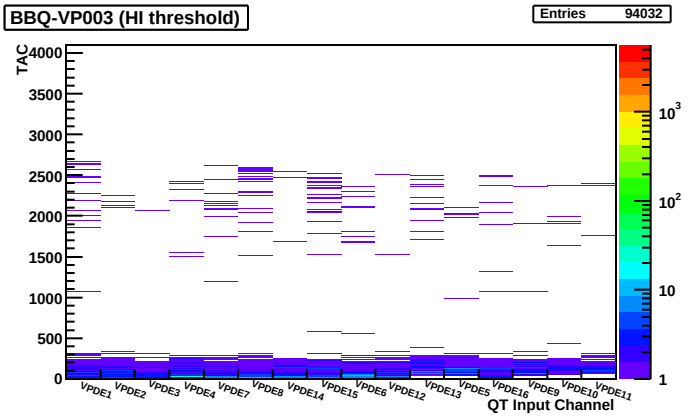

BBQ-VP001 (LO threshold)
Entries 94032
ADC
QT Input Channel

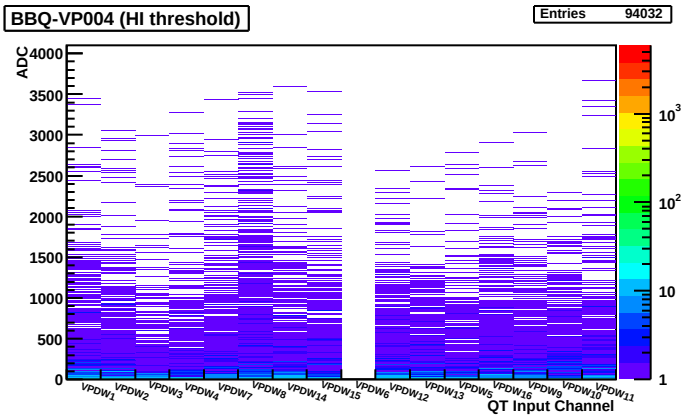

BBQ-VP001 (LO threshold)
Entries 94032
TAC
QT Input Channel

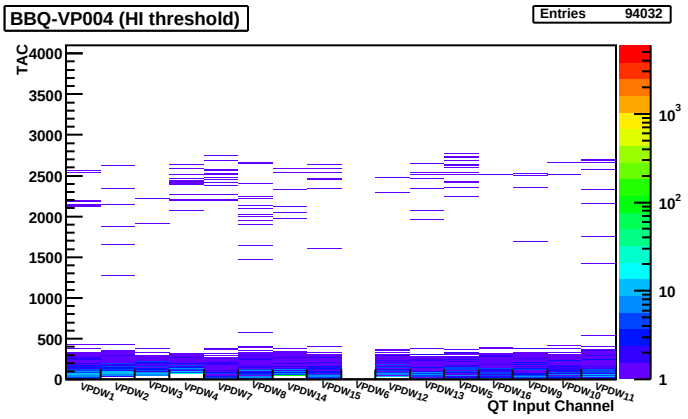

BBQ-VP002 (LO threshold)
Entries 94032
ADC
QT Input Channel

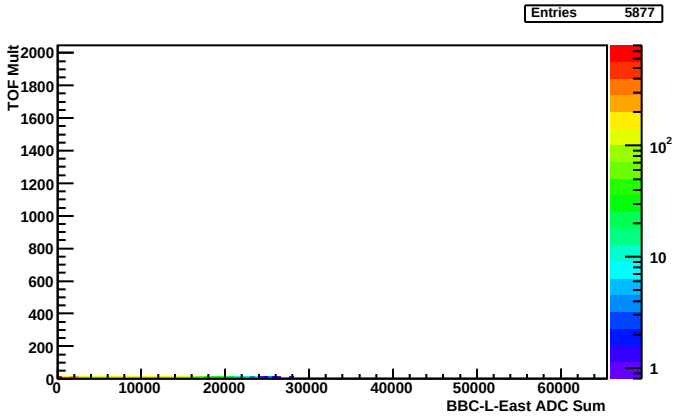

BBQ-VP002 (LO threshold)
Entries 94032
TAC
QT Input Channel

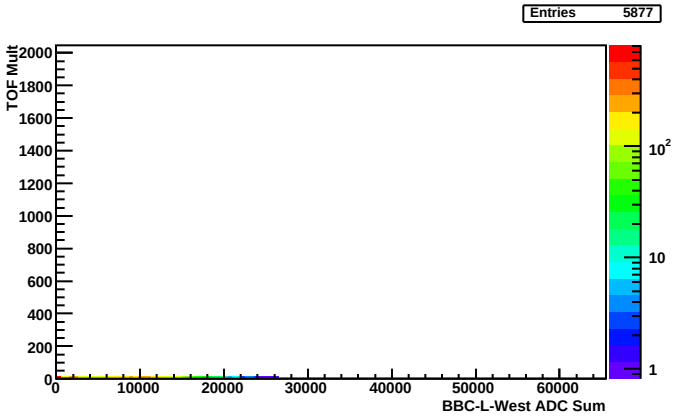

BBQ-VP003 (HI threshold)
Entries 94032
ADC
QT Input Channel

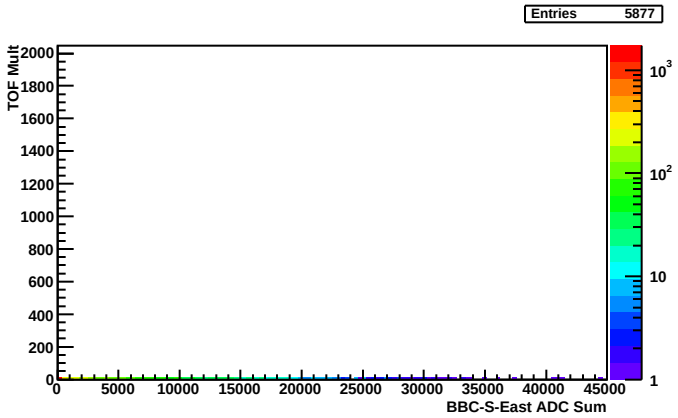

BBQ-VP003 (HI threshold)
Entries 94032
TAC
QT Input Channel

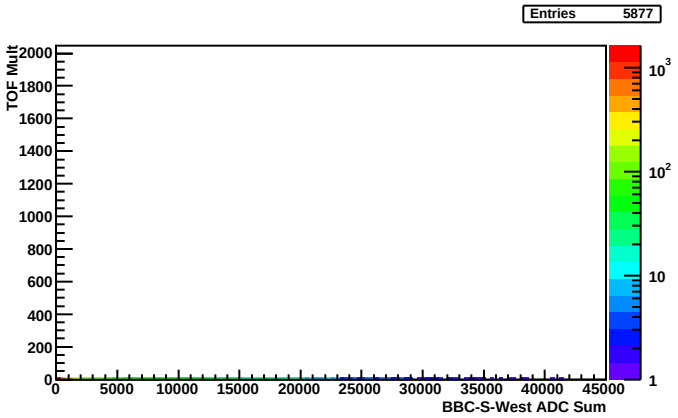

BBQ-VP004 (HI threshold)
Entries 94032
ADC
QT Input Channel

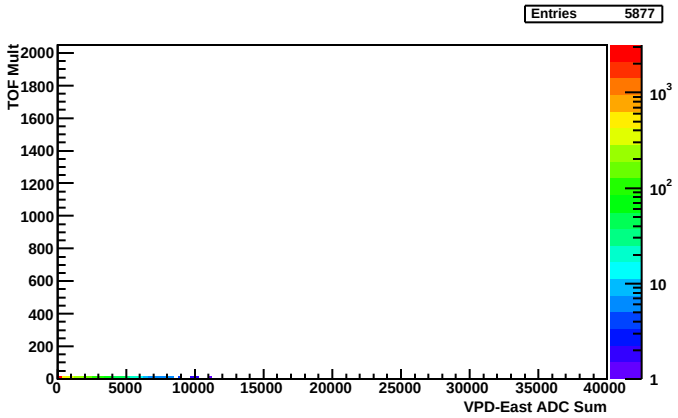

BBQ-VP004 (HI threshold)
Entries 94032
TAC
QT Input Channel

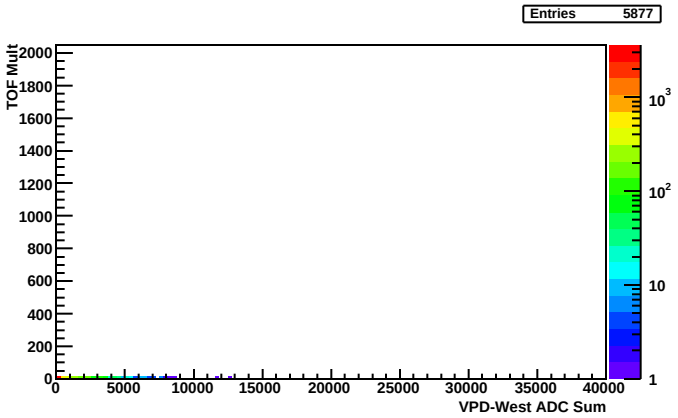

Entries 5877
TOF Mult
BBC-L-East ADC Sum

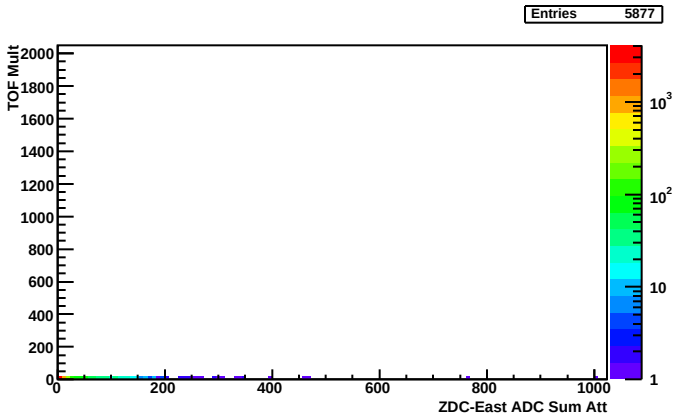

Entries 5877
TOF Mult
BBC-L-West ADC Sum

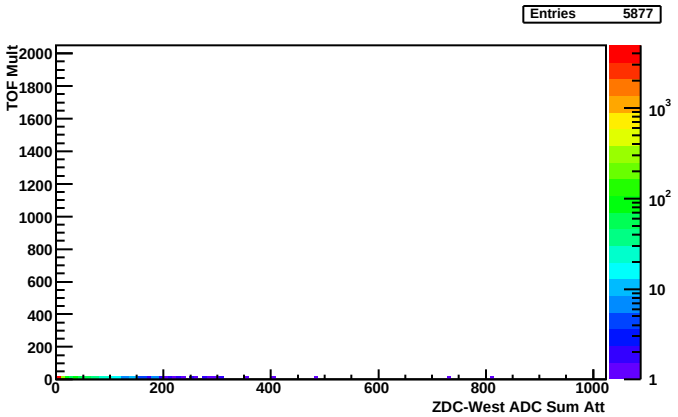

Entries 5877
TOF Mult
BBC-S-East ADC Sum

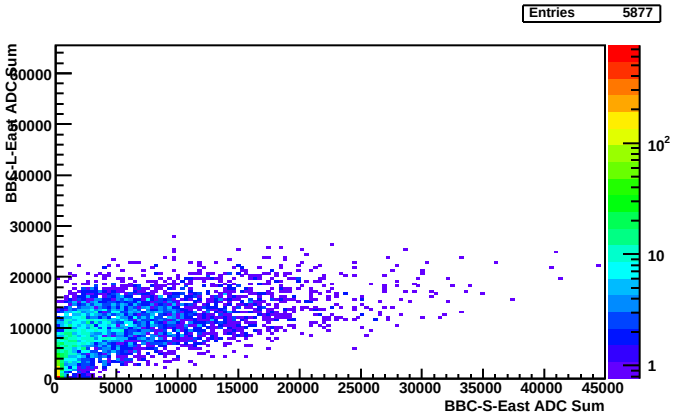

Entries 5877
TOF Mult
BBC-S-West ADC Sum

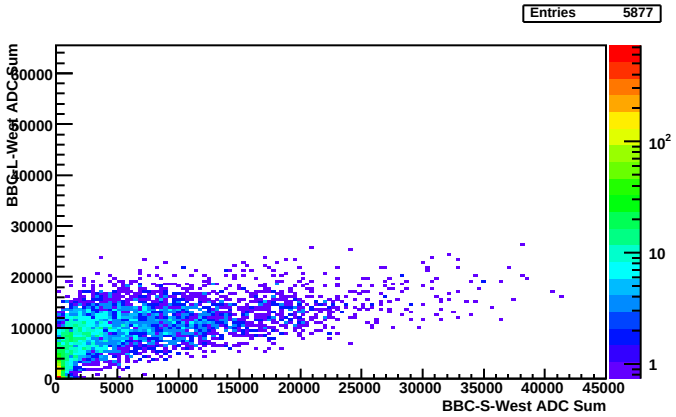

Entries 5877
TOF Mult
VPD-East ADC Sum

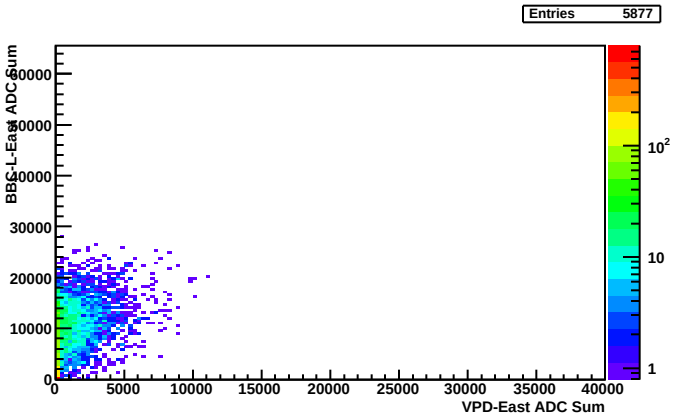

Entries 5877
TOF Mult
VPD-West ADC Sum

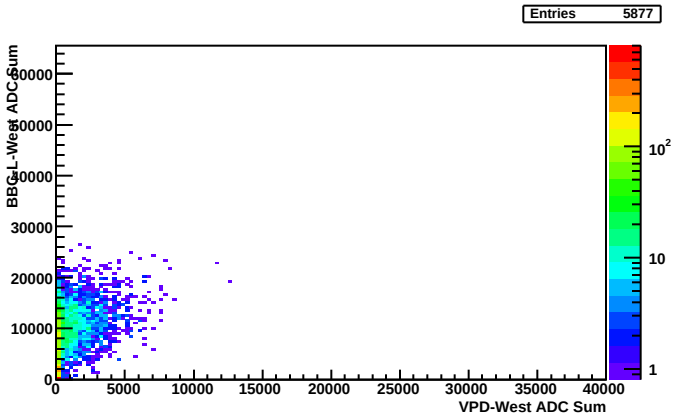

Entries 5877
TOF Mult
ZDC-East ADC Sum Att

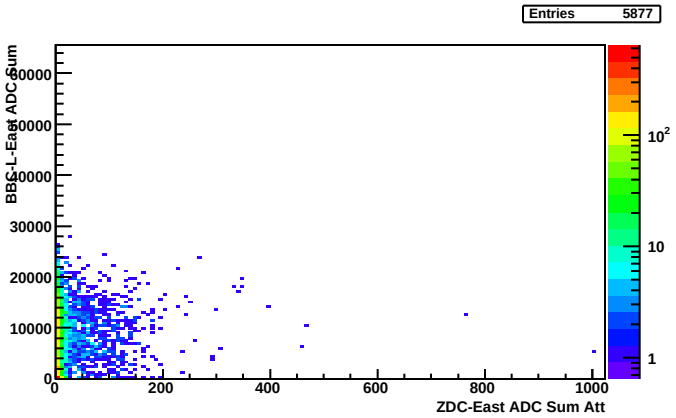

Entries 5877
TOF Mult
ZDC-West ADC Sum Att

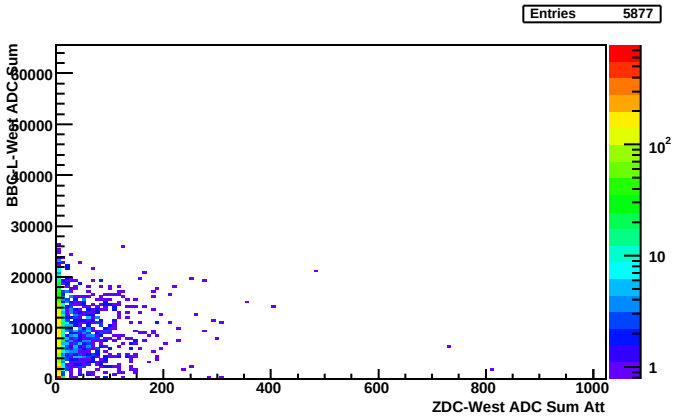

Entries 5877
BBC-L-East ADC Sum
BBC-S-East ADC Sum

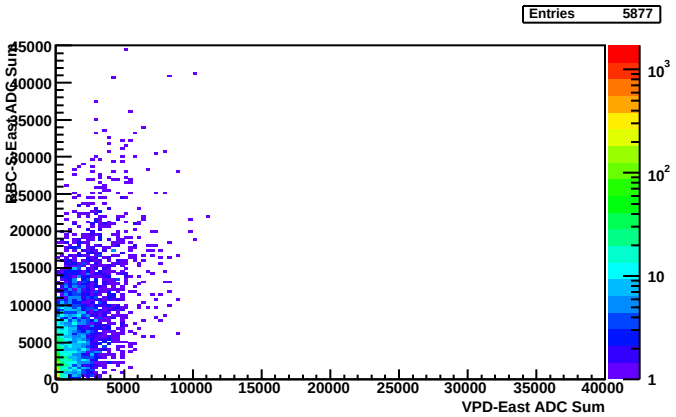

Entries 5877
BBC-L-West ADC Sum
BBC-S-West ADC Sum

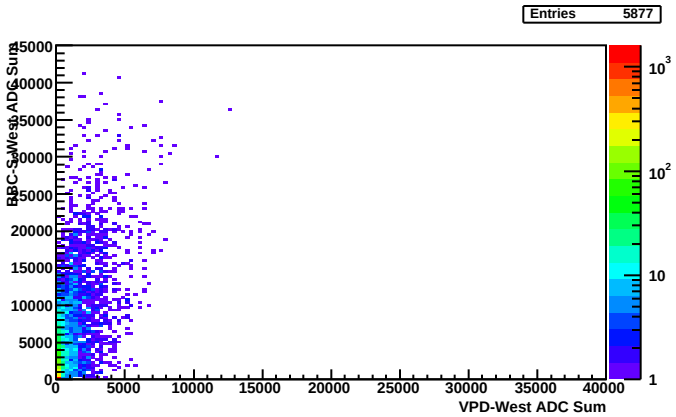

Entries 5877
BBC-L-East ADC Sum
VPD-East ADC Sum

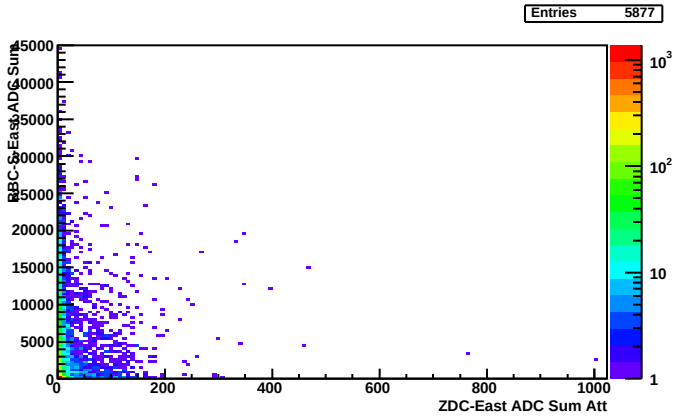

Entries 5877
BBC-L-West ADC Sum
VPD-West ADC Sum

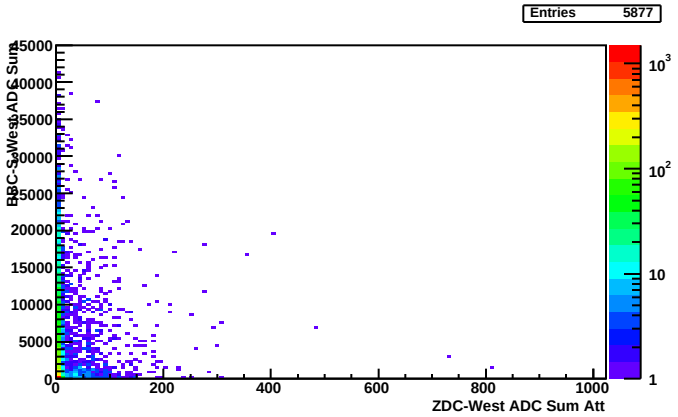

Entries 5877
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

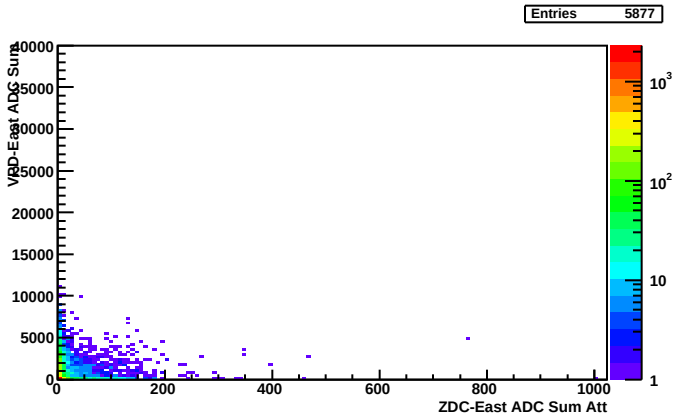

Entries 5877
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

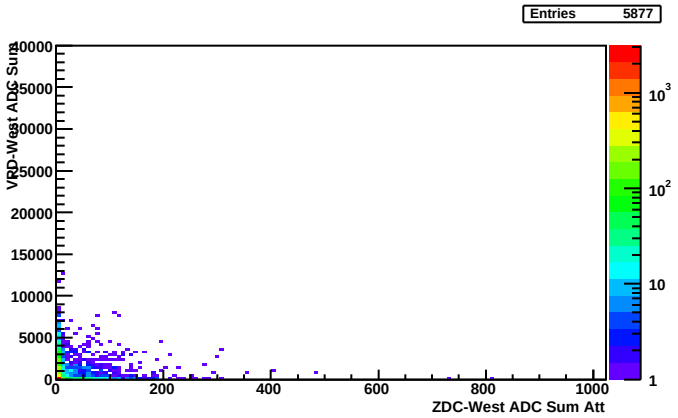

Entries 5877
BBC-S-East ADC Sum
VPD-East ADC Sum

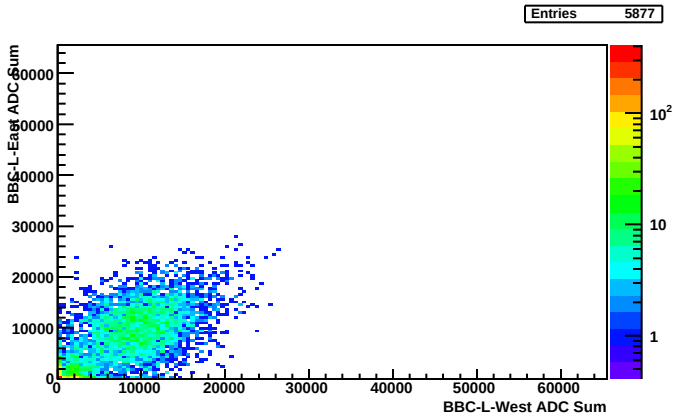

Entries 5877
BBC-S-West ADC Sum
VPD-West ADC Sum

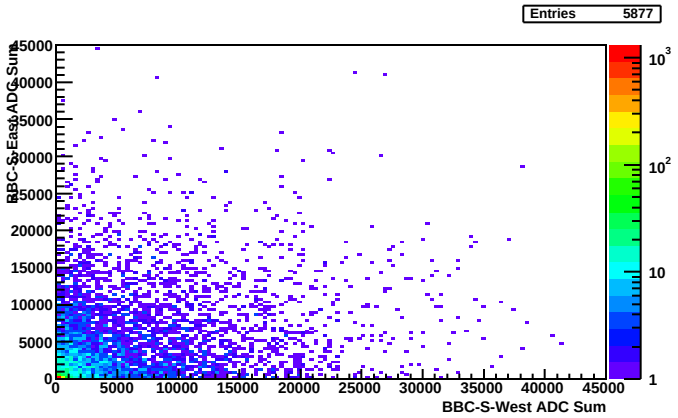

Entries 5877
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

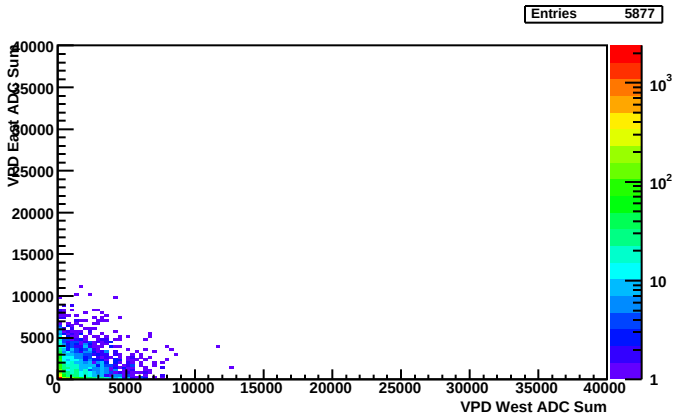

Entries 5877
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

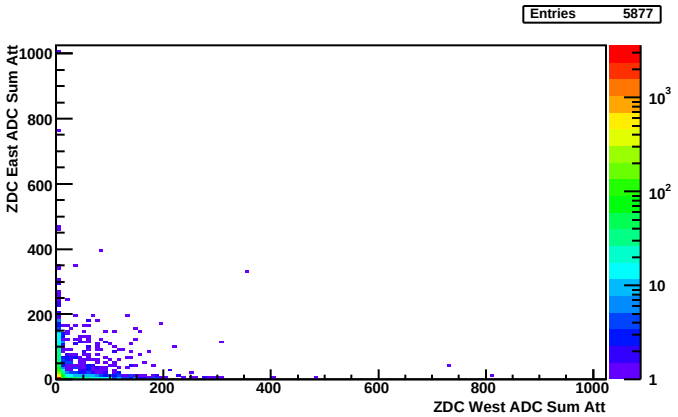

Entries 5877
VPD-East ADC Sum
ZDC-East ADC Sum Att

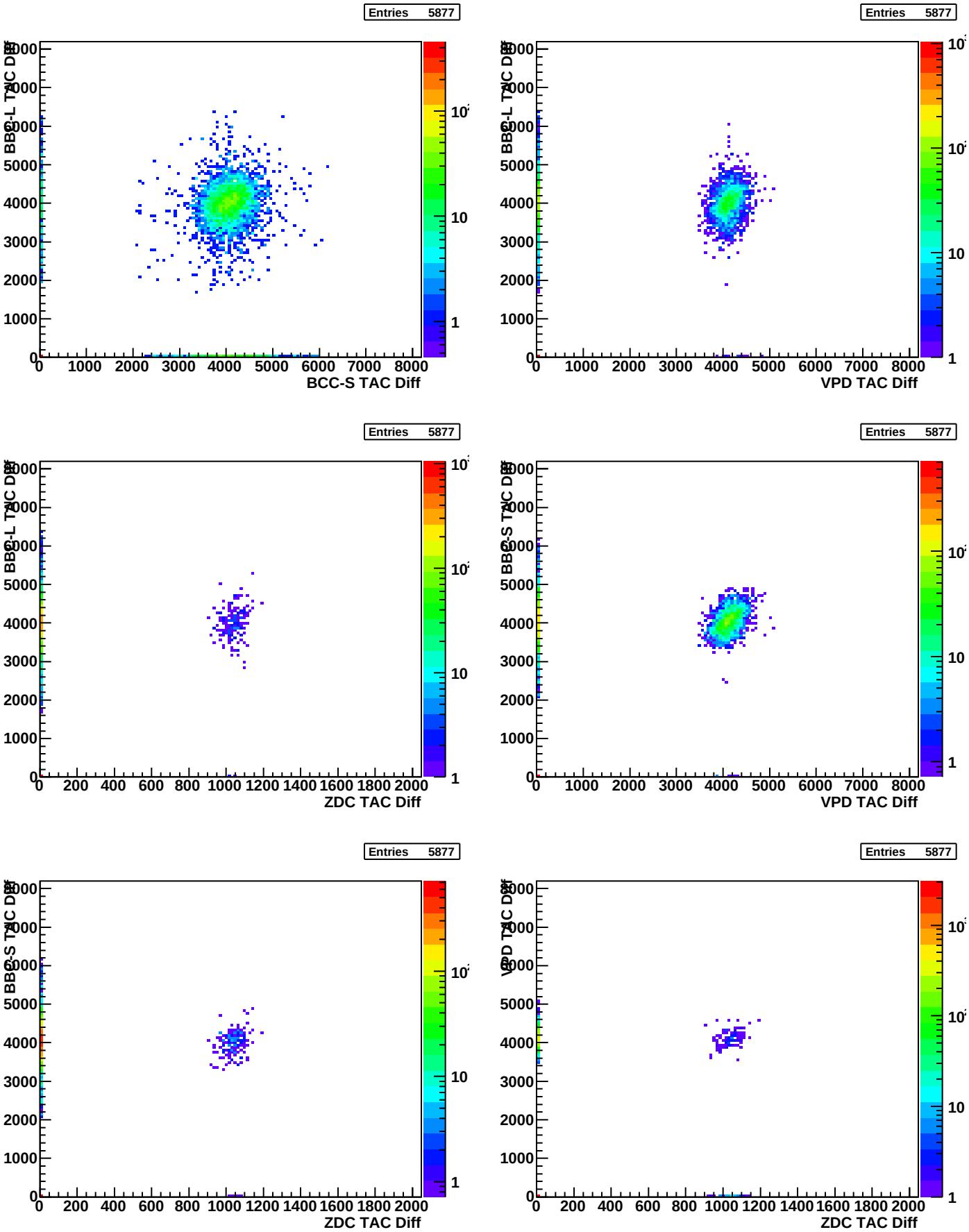

Entries 5877
VPD-West ADC Sum
ZDC-West ADC Sum Att

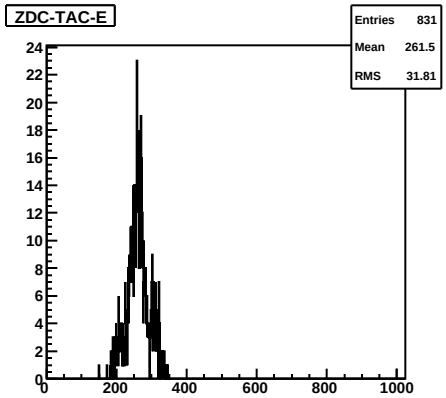

Entries 5877
BBC-L-East ADC Sum
BBC-L-West ADC Sum

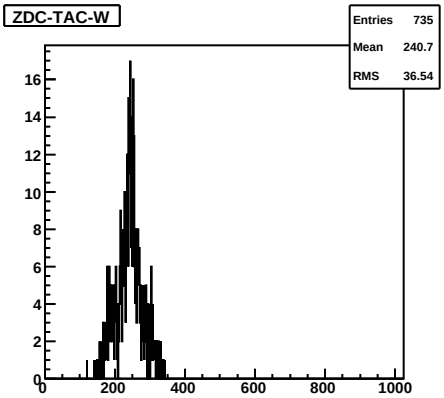

Entries 5877
BBC-S-East ADC Sum
BBC-S-West ADC Sum

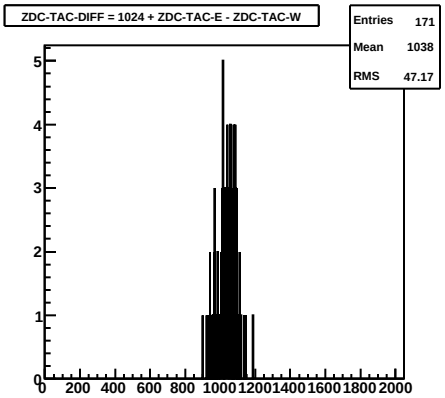

Entries 5877
VPD East ADC Sum
VPD West ADC Sum

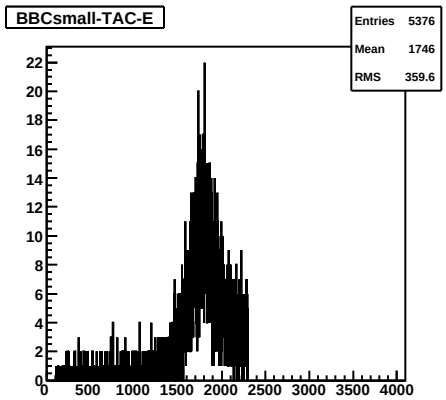

Entries 5877
ZDC East ADC Sum Att
ZDC West ADC Sum Att

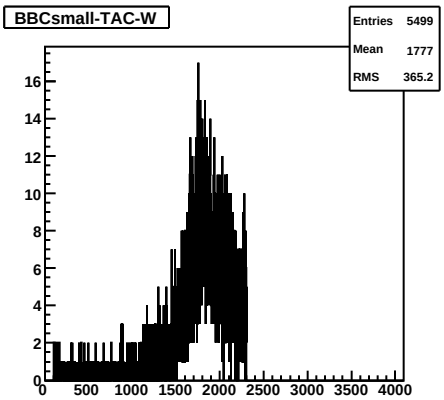

Entries 5877
BBC-L TAC Diff
BCC-S TAC Diff
Entries 5877
BBC-L TAC Diff
VPD TAC Diff
Entries 5877
BBC-L TAC Diff
ZDC TAC Diff
Entries 5877
BBC-S TAC Diff
VPD TAC Diff
Entries 5877
BBC-S TAC Diff
ZDC TAC Diff
Entries 5877
VPD TAC Diff
ZDC TAC Diff

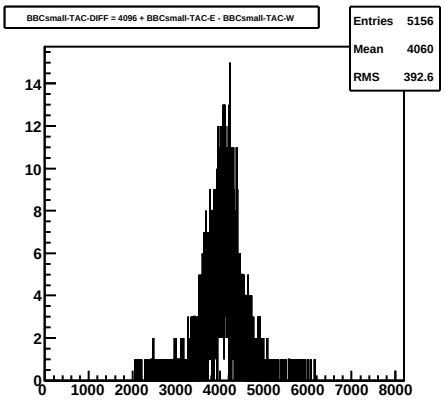

ZDC-TAC-E
Entries 831
Mean 261.5
RMS 31.81

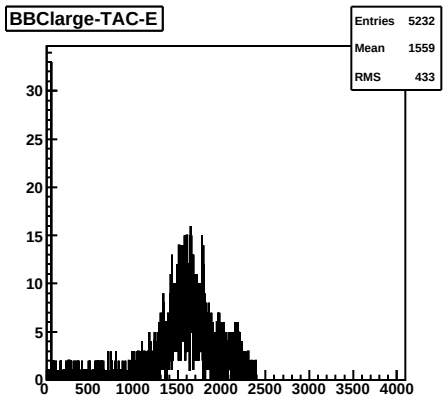

ZDC-TAC-W
Entries 735
Mean 240.7
RMS 36.54

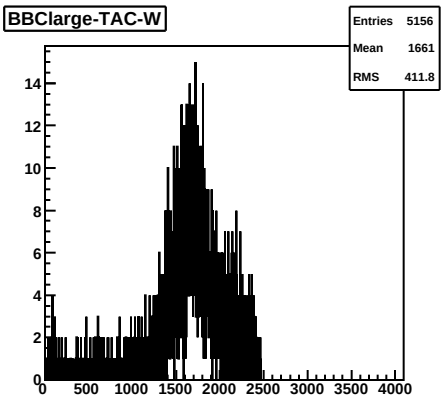

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 171
Mean 1038
RMS 47.17

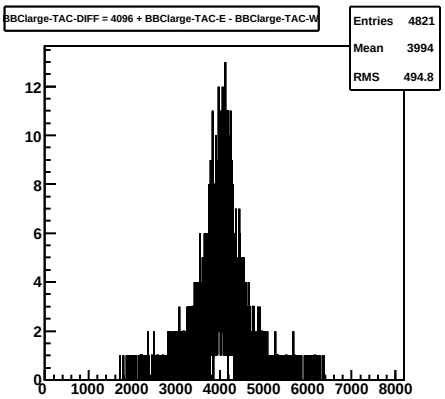

BBCsmall-TAC-E
Entries 5376
Mean 1746
RMS 359.6

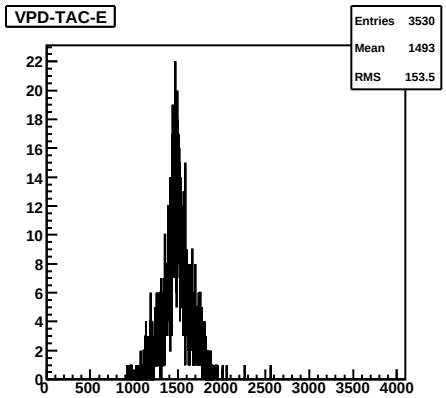

BBCsmall-TAC-W
Entries 5499
Mean 1777
RMS 365.2

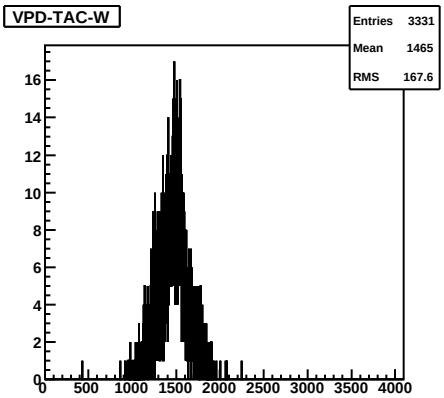

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 5156
Mean 4060
RMS 392.6

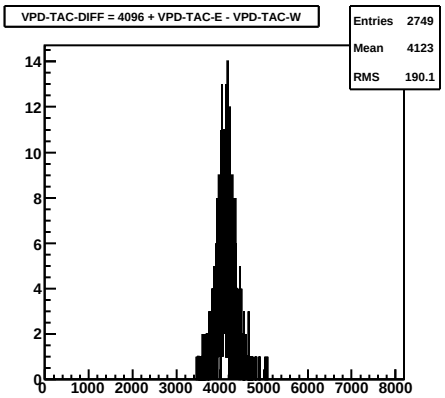

BBClarge-TAC-E
Entries 5232
Mean 1559
RMS 433

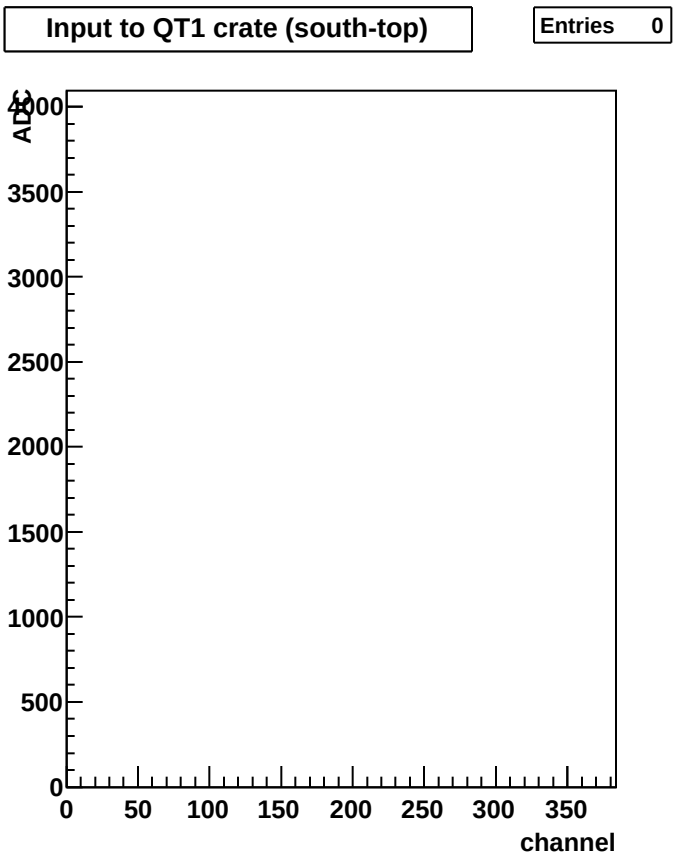

BBClarge-TAC-W
Entries 5156
Mean 1661
RMS 411.8

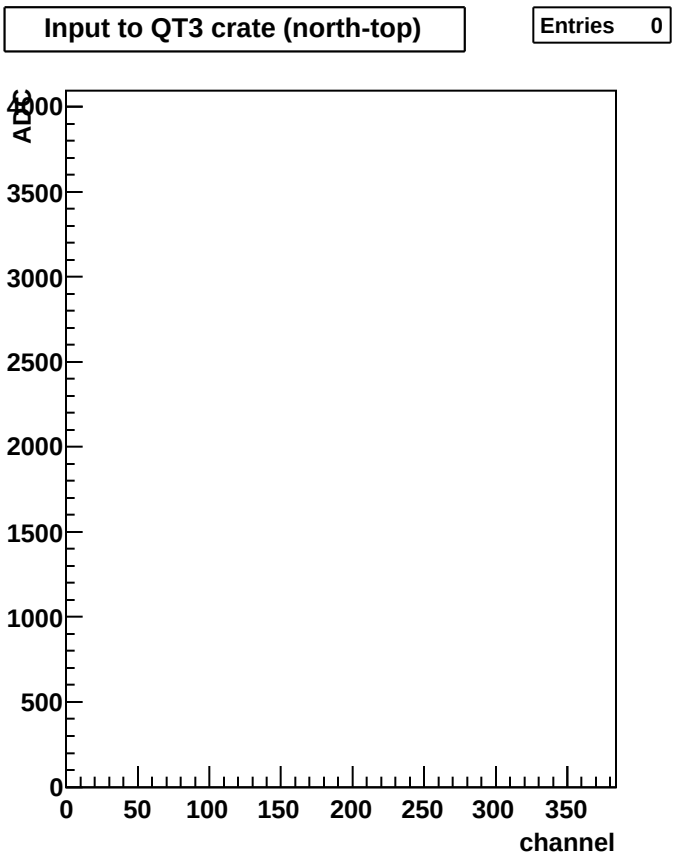

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 4821
Mean 3994
RMS 494.8

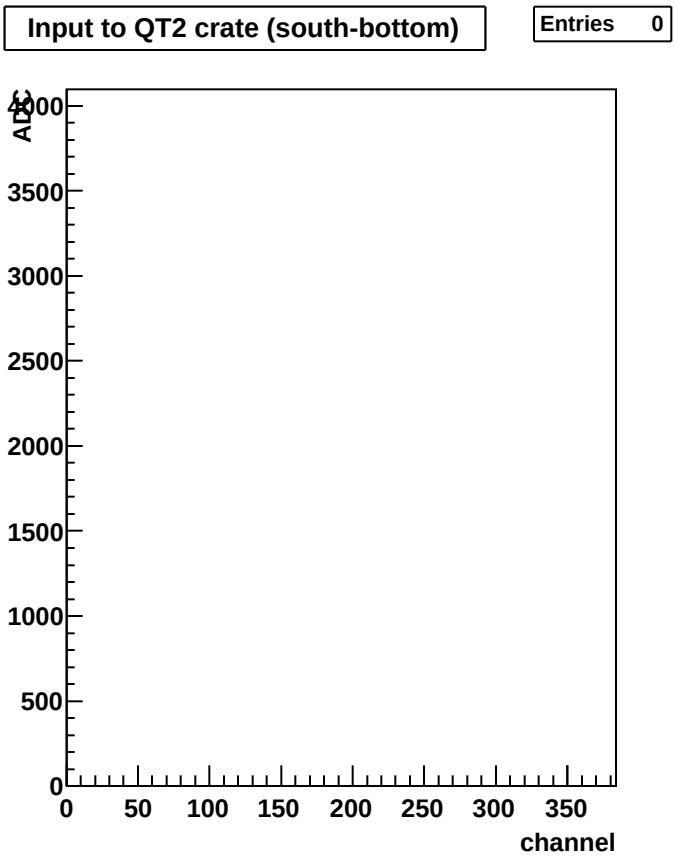

VPD-TAC-E
Entries 3530
Mean 1493
RMS 153.5

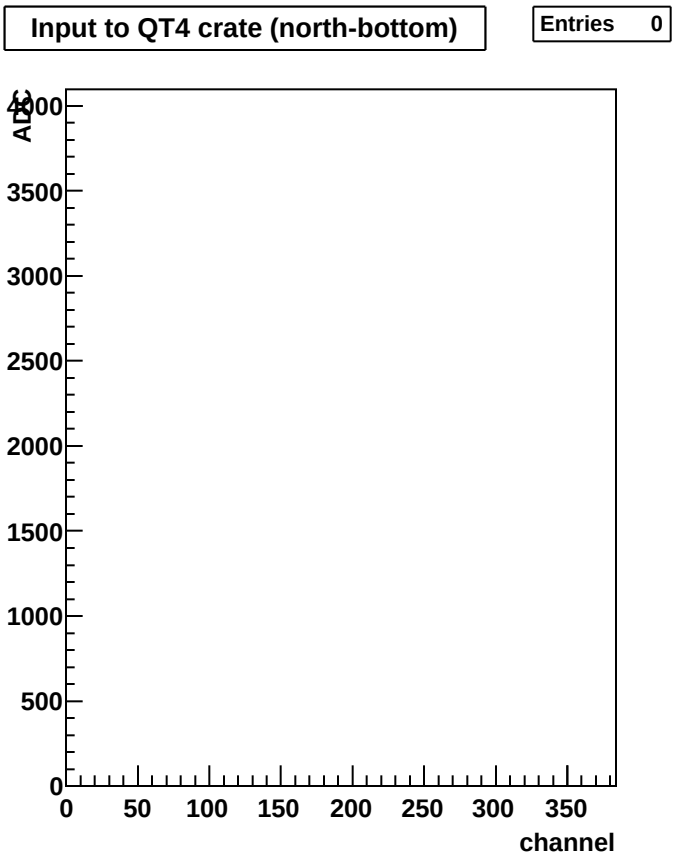

VPD-TAC-W
Entries 3331
Mean 1465
RMS 167.6

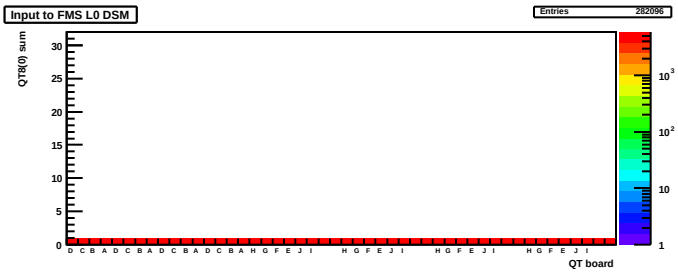

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 2749
Mean 4123
RMS 190.1

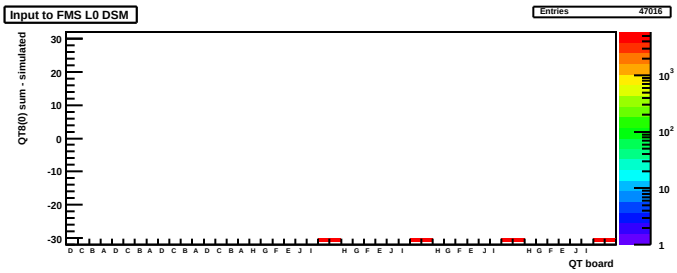

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

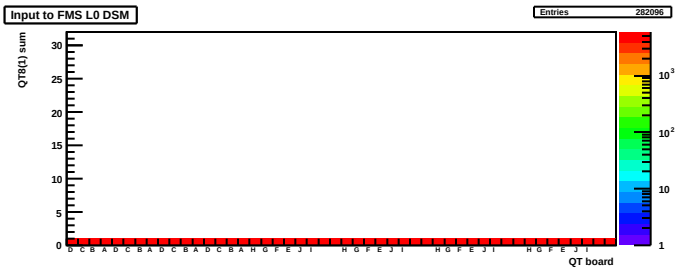

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

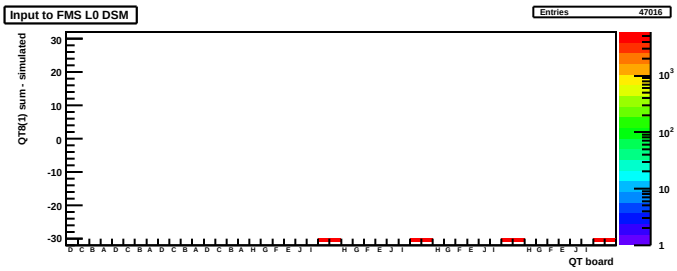

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

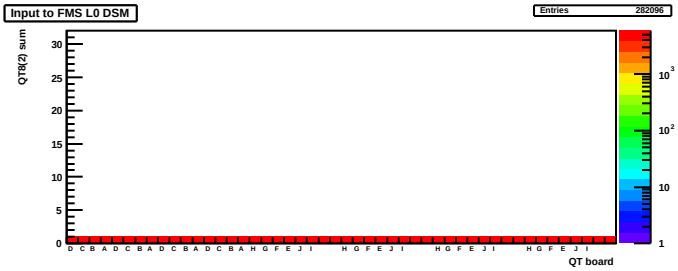

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

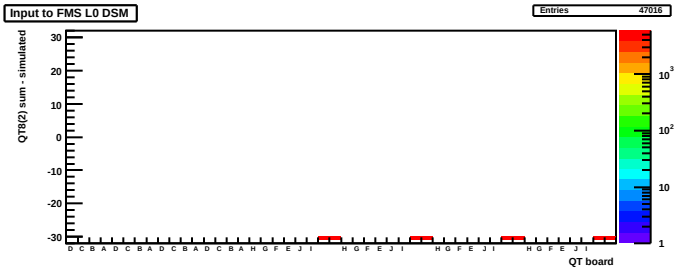

Input to FMS L0 DSM
Entries 282096
QT8(0) sum
QT board

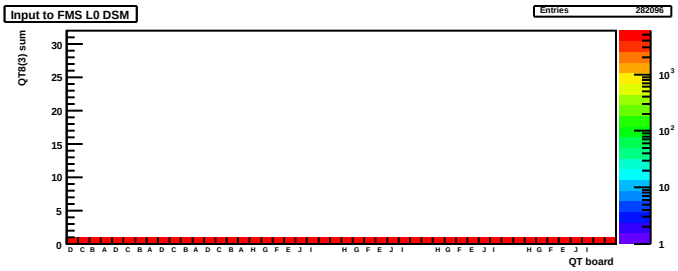

Input to FMS L0 DSM
Entries 47016
QT8(0) sum - simulated
QT board

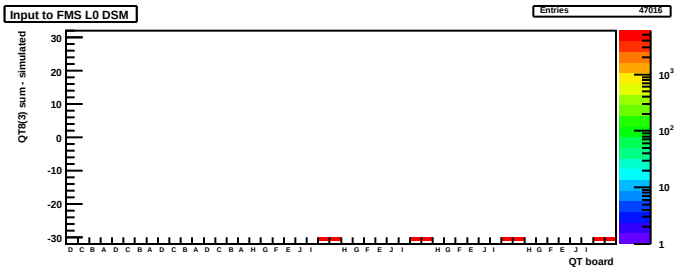

Input to FMS L0 DSM
Entries 282096
QT8(1) sum
QT board

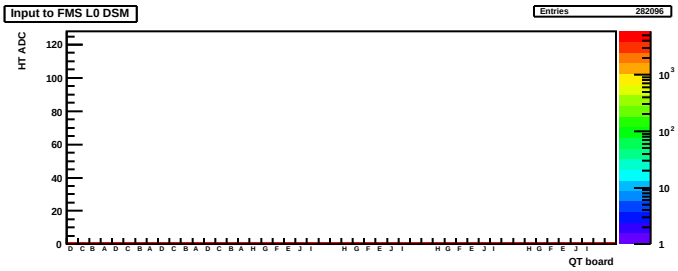

Input to FMS L0 DSM
Entries 47016
QT8(1) sum - simulated
QT board

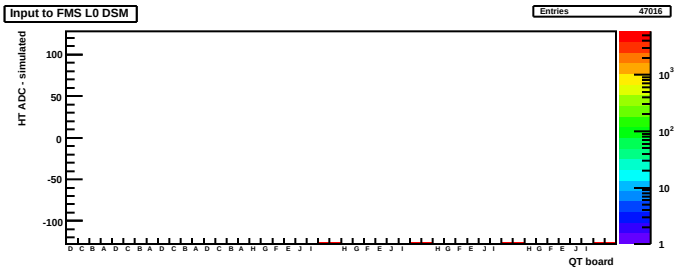

Input to FMS L0 DSM
Entries 282096
QT8(2) sum
QT board

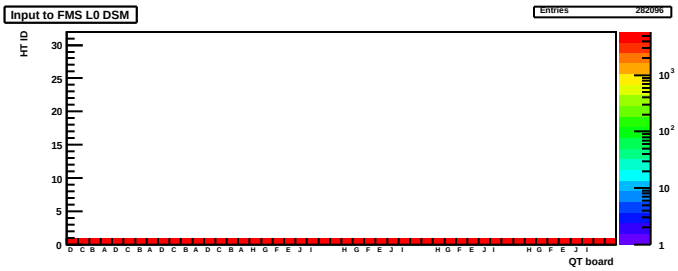

Input to FMS L0 DSM
Entries 47016
QT8(2) sum - simulated
QT board

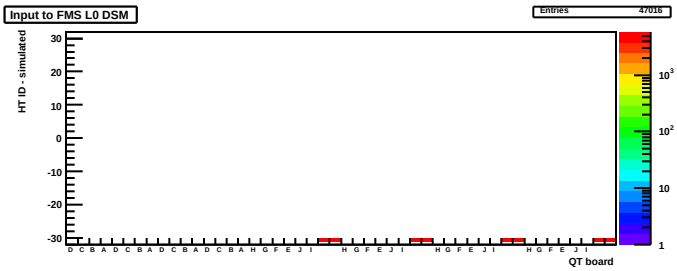

Input to FMS L0 DSM
Entries 282096
QT8(3) sum
QT board

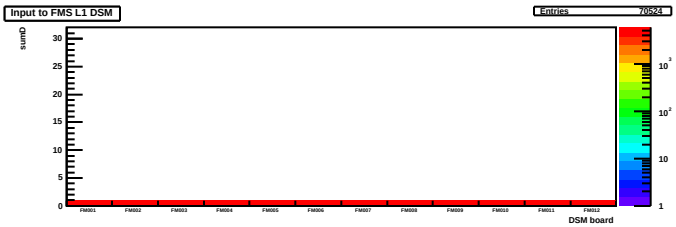

Input to FMS L0 DSM
Entries 47016
QT8(3) sum - simulated
QT board

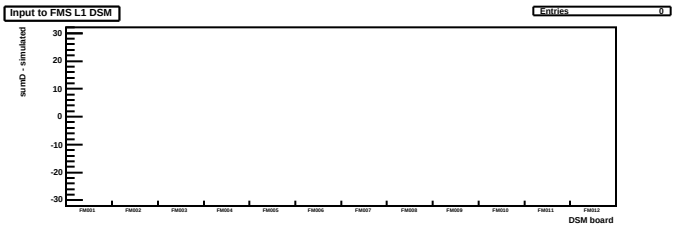

Input to FMS L0 DSM
Entries 282096
HT ADC
QT board

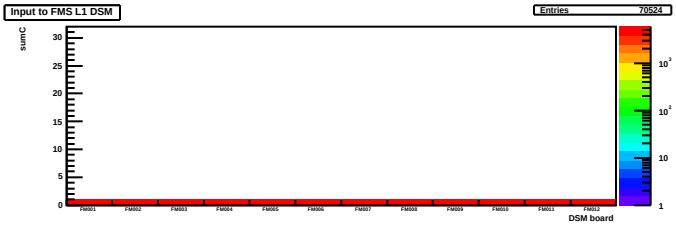

Input to FMS L0 DSM
Entries 47016
HT ADC - simulated
QT board

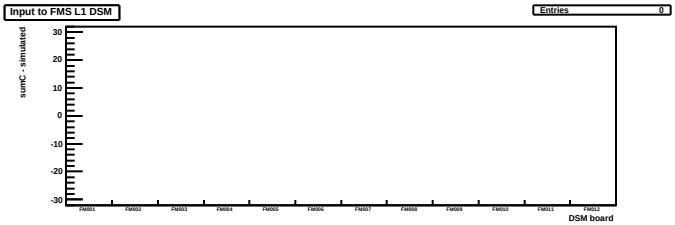

Input to FMS L0 DSM
Entries 282096
HT ID
QT board

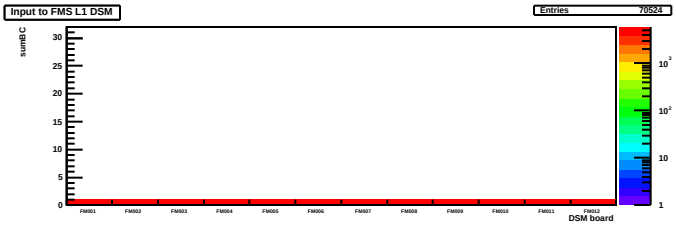

Input to FMS L0 DSM
Entries 47016
HT ID - simulated
QT board

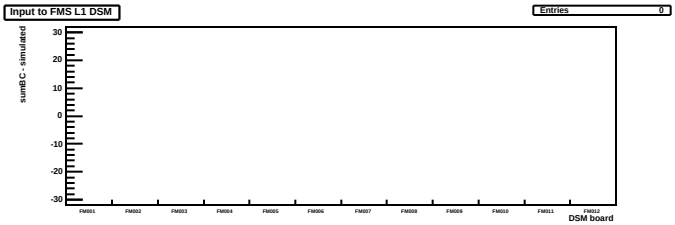

Input to FMS L1 DSM
Entries 70524
sumD
DSM board

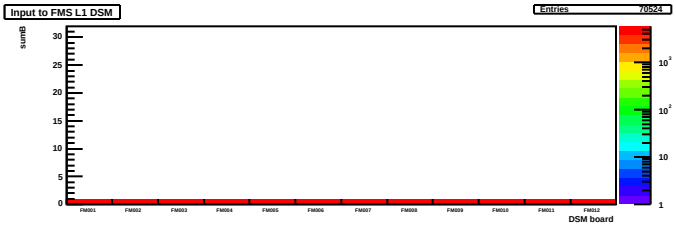

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

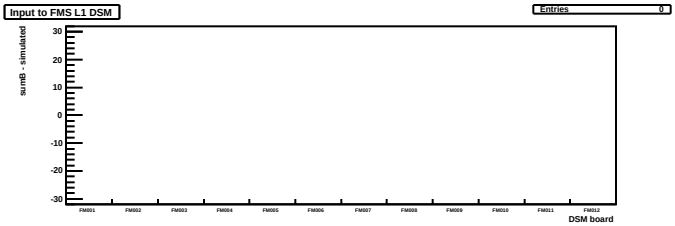

Input to FMS L1 DSM
Entries 70524
sumC
DSM board

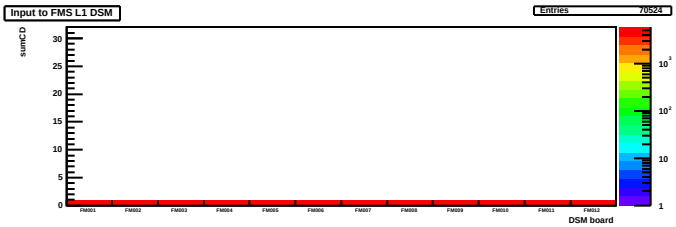

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

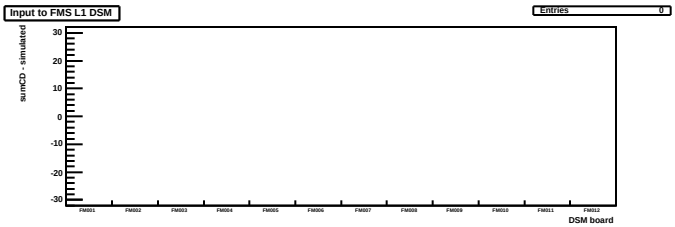

Input to FMS L1 DSM
Entries 70524
sumBC
DSM board

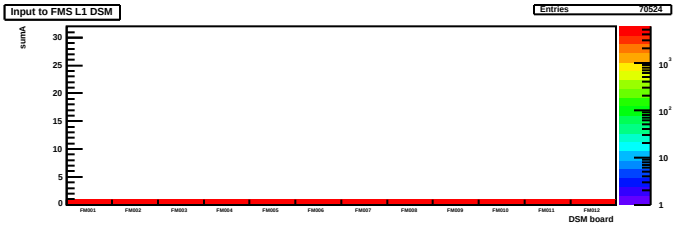

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

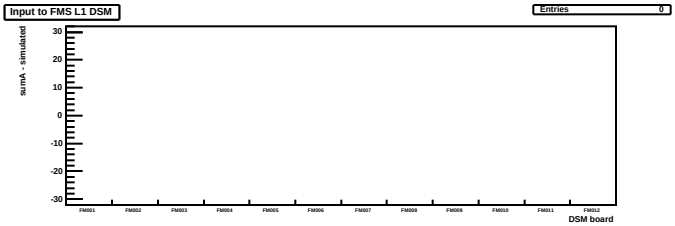

Input to FMS L1 DSM
Entries 70524
sumB
DSM board

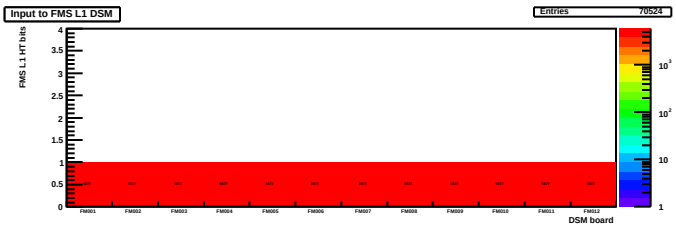

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

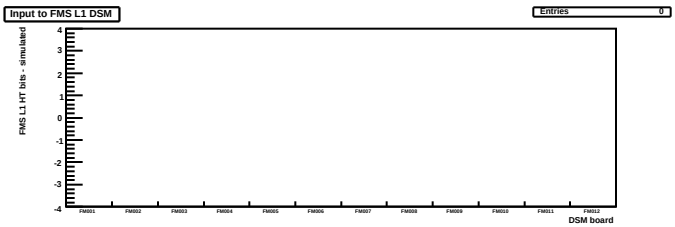

Input to FMS L1 DSM
Entries 70524
sumCD
DSM board

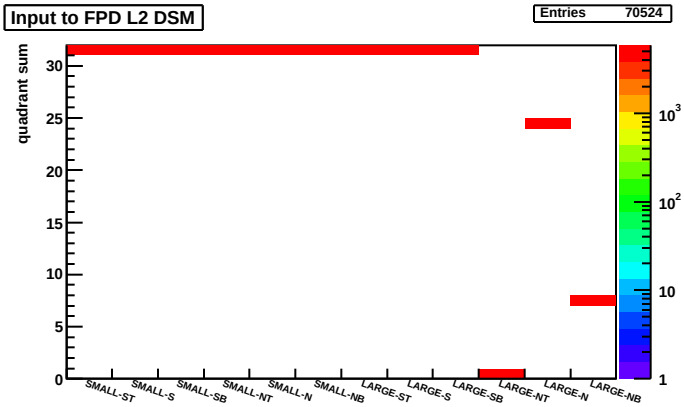

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

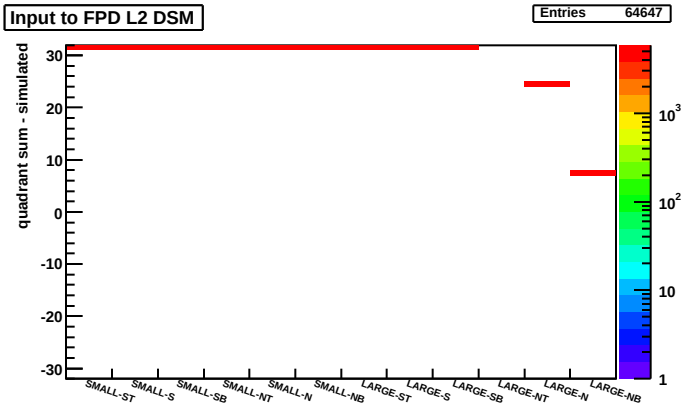

Input to FMS L1 DSM
Entries 70524
sumA
DSM board

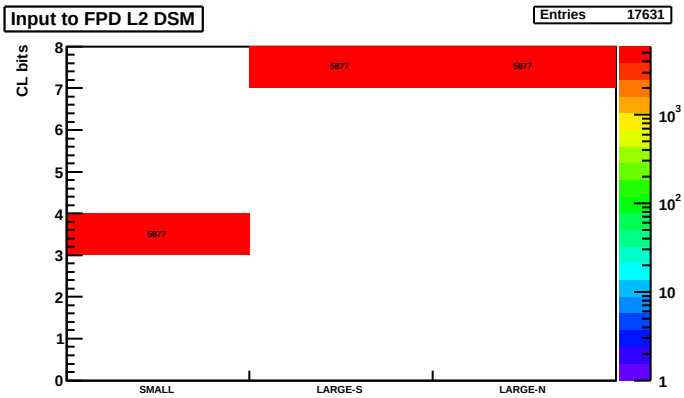

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

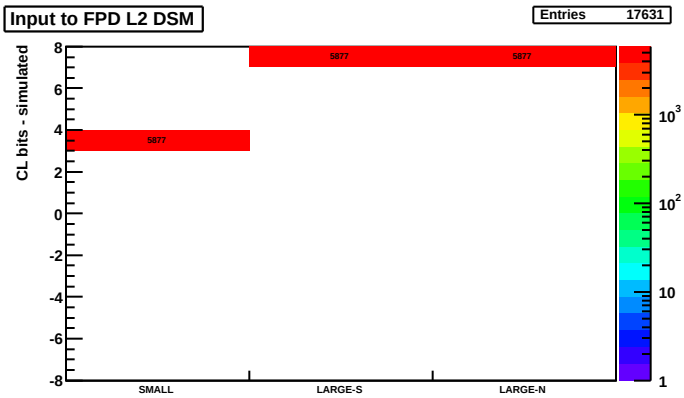

Input to FMS L1 DSM
Entries 70524
FMS L1 HT bits
DSM board

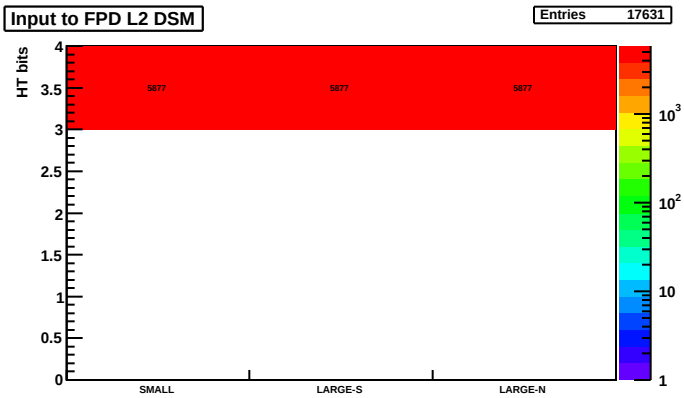

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

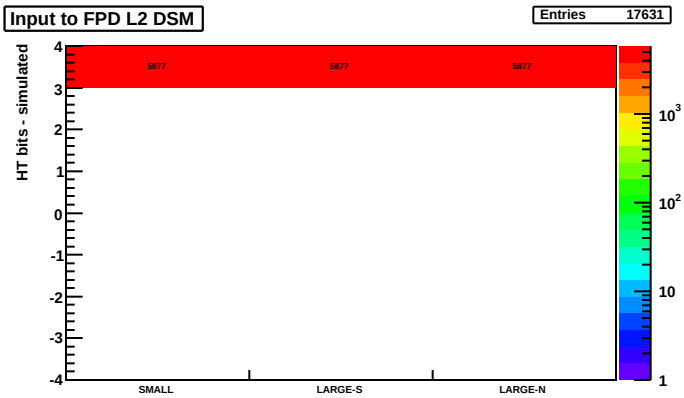

Input to FPD L2 DSM
Entries 70524
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

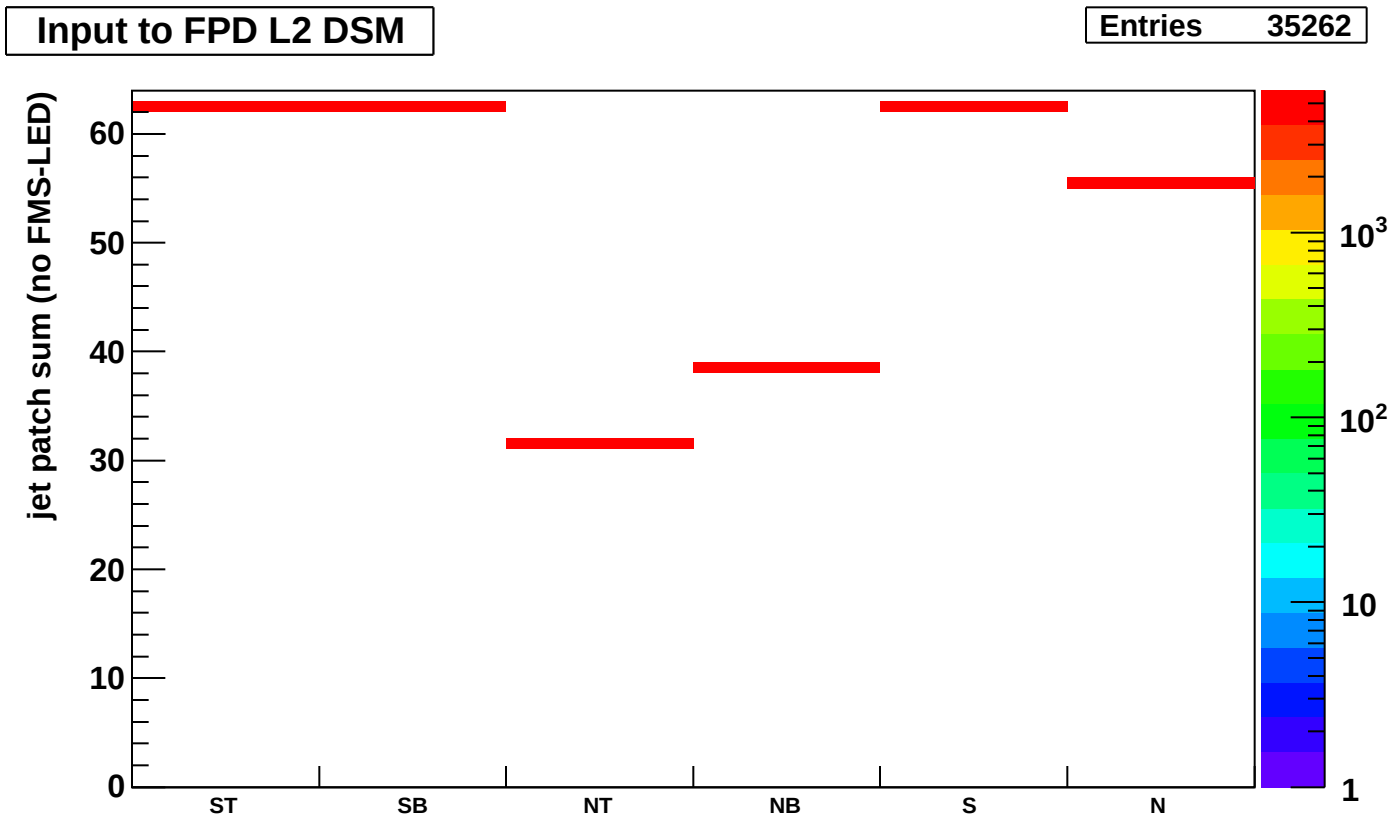

Input to FPD L2 DSM
Entries 64647
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

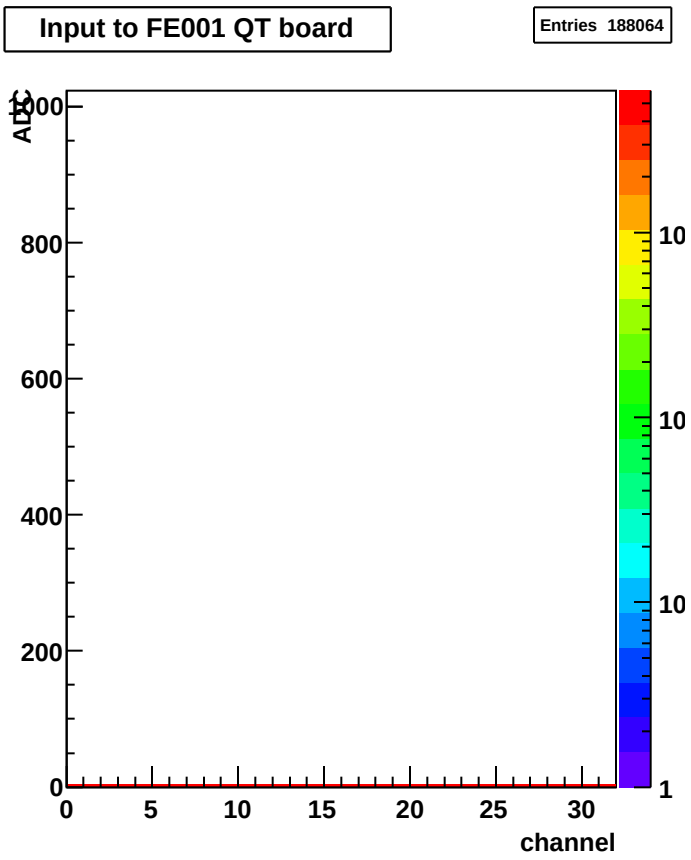

Input to FPD L2 DSM
Entries 17631
CL bits
5877
5877
5877
SMALL
LARGE-S
LARGE-N

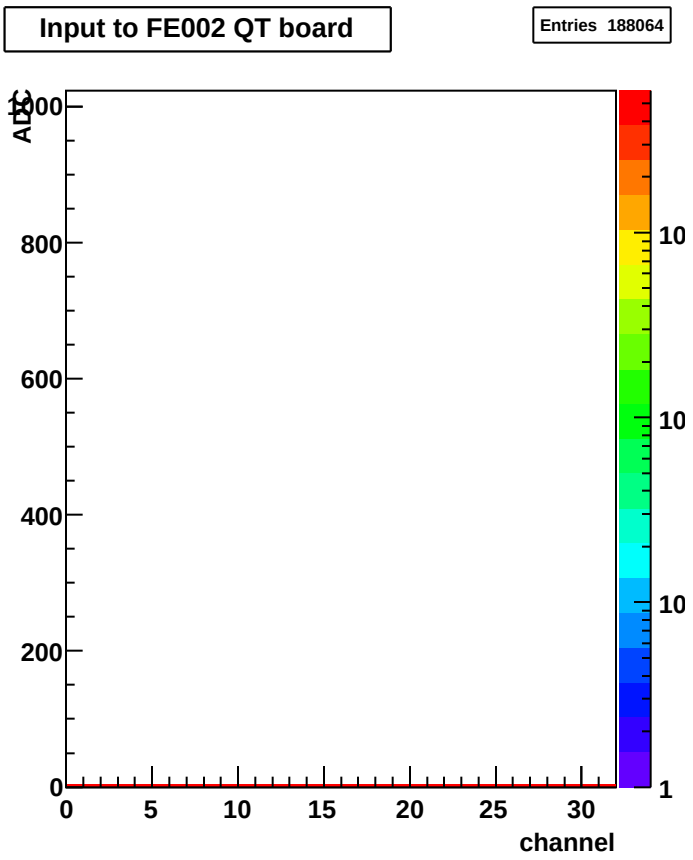

Input to FPD L2 DSM
Entries 17631
CL bits - simulated
5877
5877
5877
SMALL
LARGE-S
LARGE-N

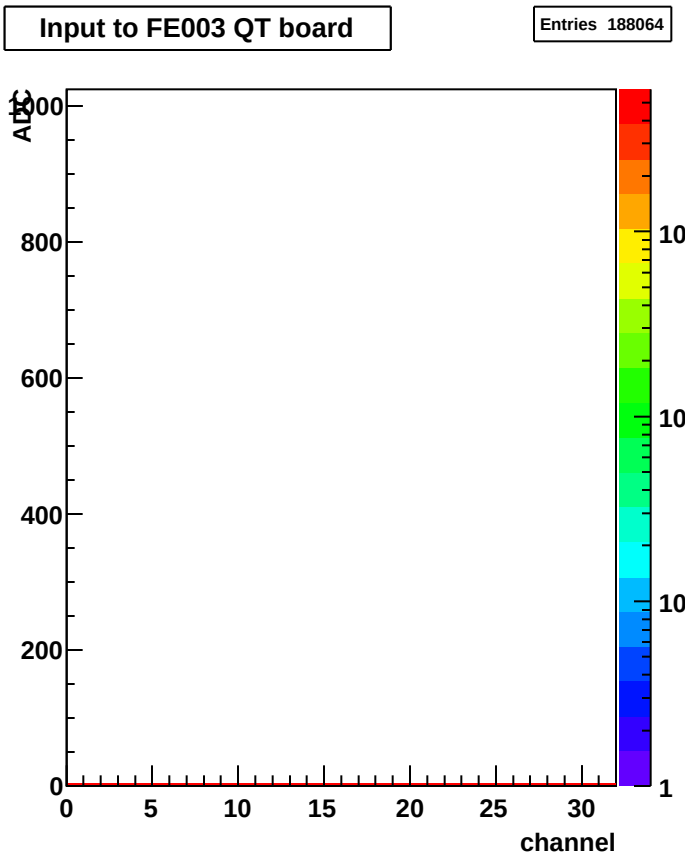

Input to FPD L2 DSM
Entries 17631
HT bits
5877
5877
5877
SMALL
LARGE-S
LARGE-N

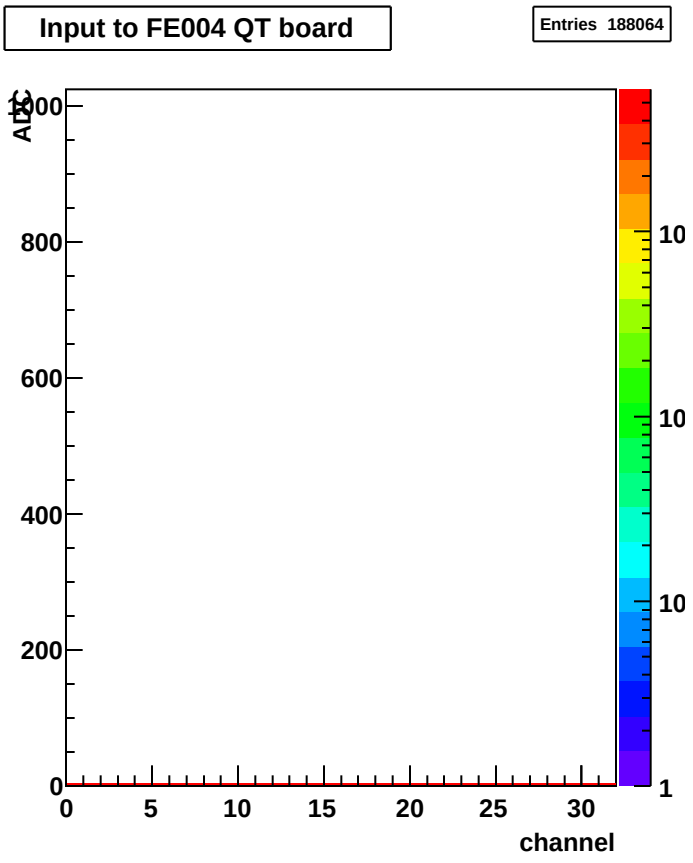

Input to FPD L2 DSM
Entries 17631
HT bits - simulated
5877
5877
5877
SMALL
LARGE-S
LARGE-N

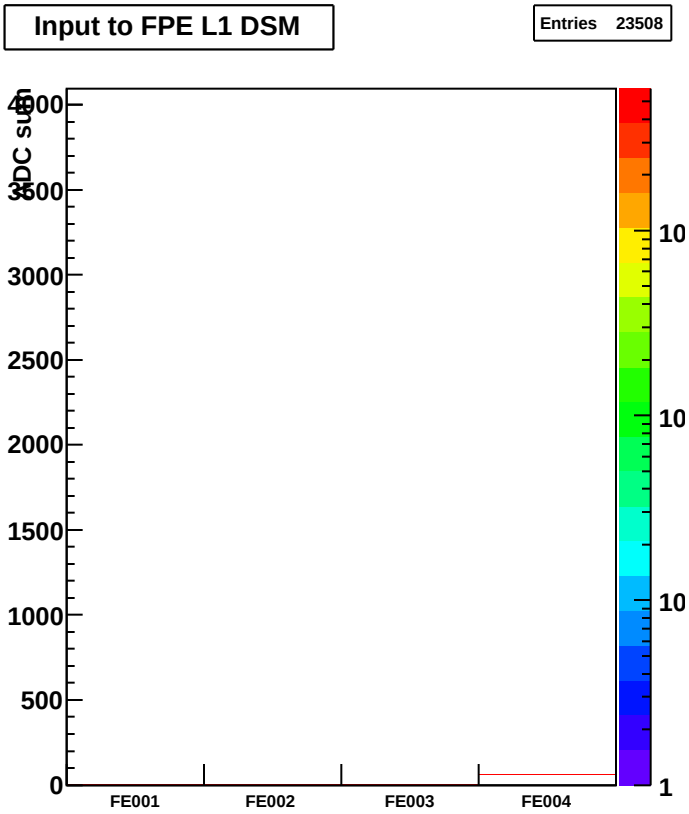

Input to FPD L2 DSM
Entries 35262
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3

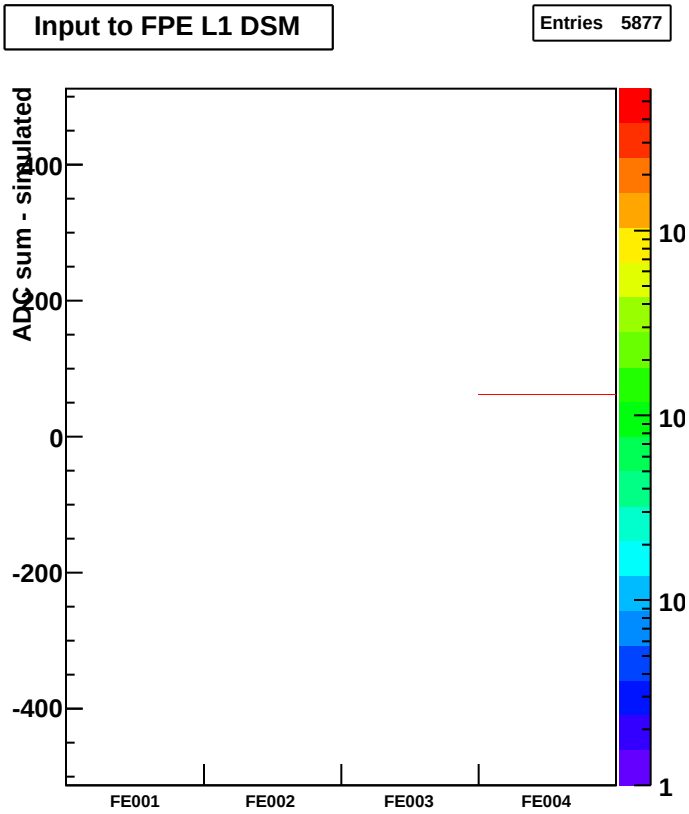

Input to FE001 QT board
Entries 188064
ADC
channel

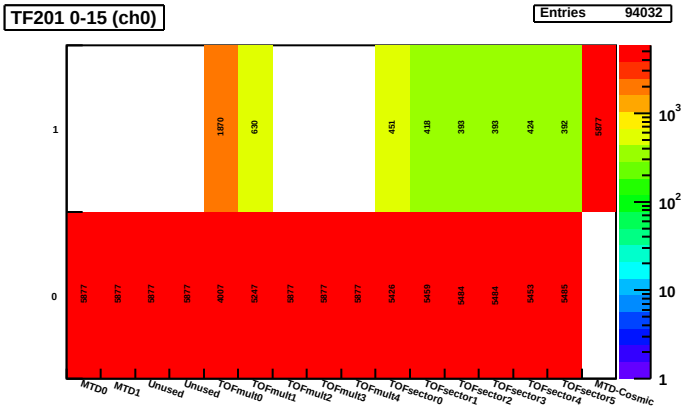

Input to FE002 QT board
Entries 188064
ADC
channel

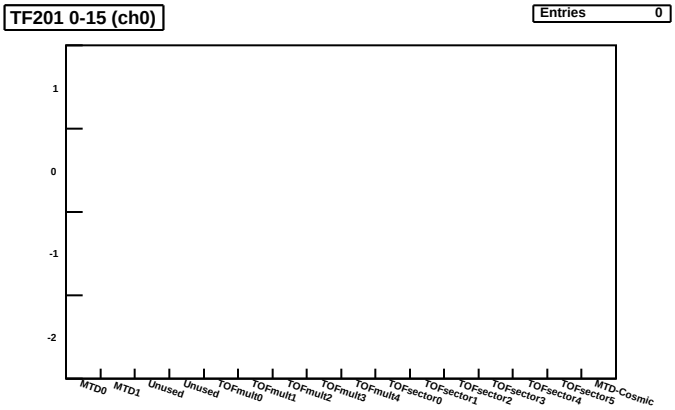

Input to FE003 QT board
Entries 188064
ADC
channel

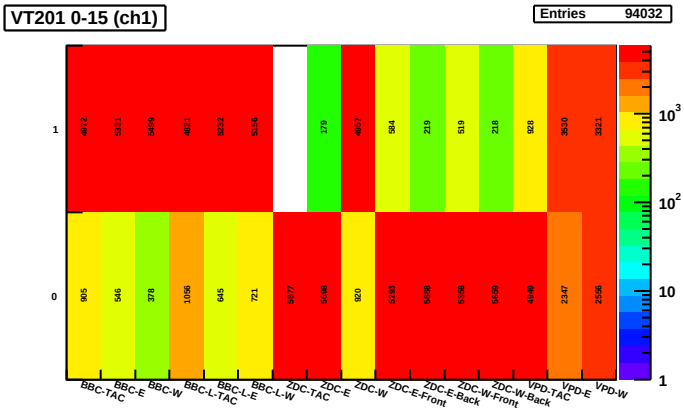

Input to FE004 QT board
Entries 188064
ADC
channel

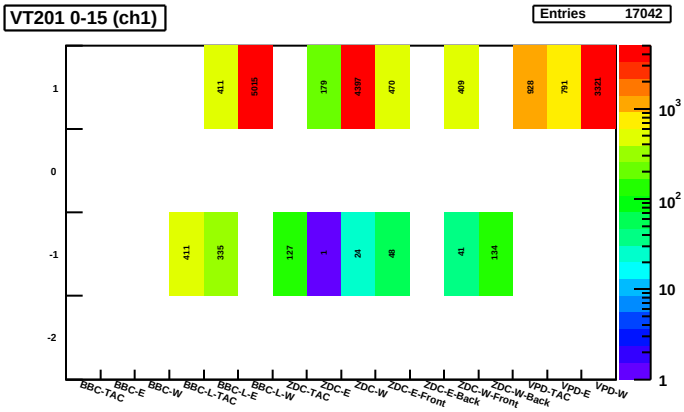

Input to FPE L1 DSM
Entries 23508
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
1


Input to FPE L1 DSM
Entries 5877
ADC sum - simulated
200
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
1


TF201 0-15 (ch0)
Entries 94032
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


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


VT201 0-15 (ch1)
Entries 94032
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


VT201 0-15 (ch1)
Entries 17042
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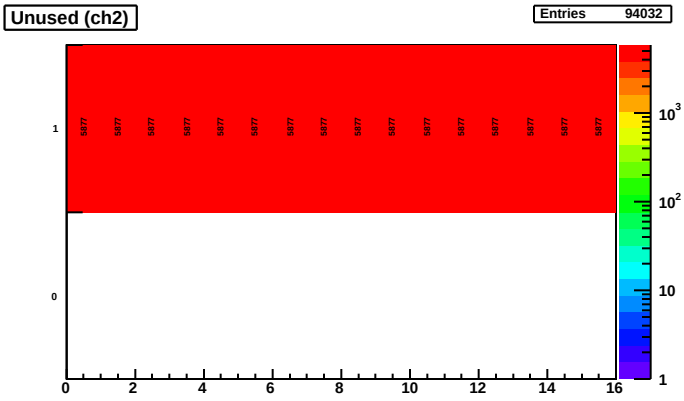
Unused (ch2)
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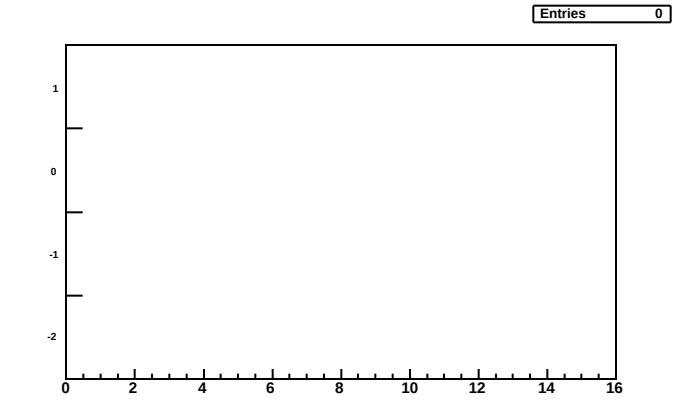
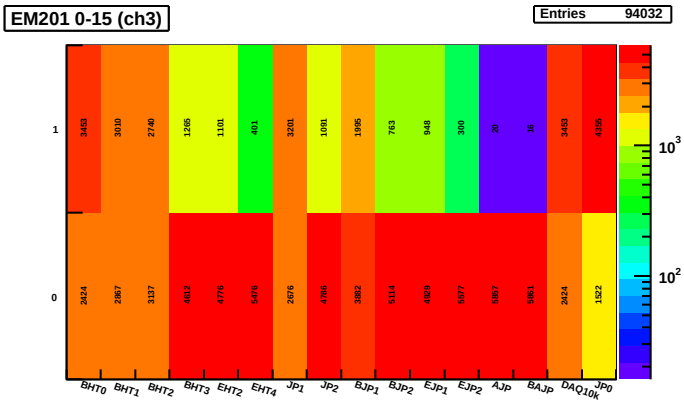

Entries 0


EM201 0-15 (ch3)
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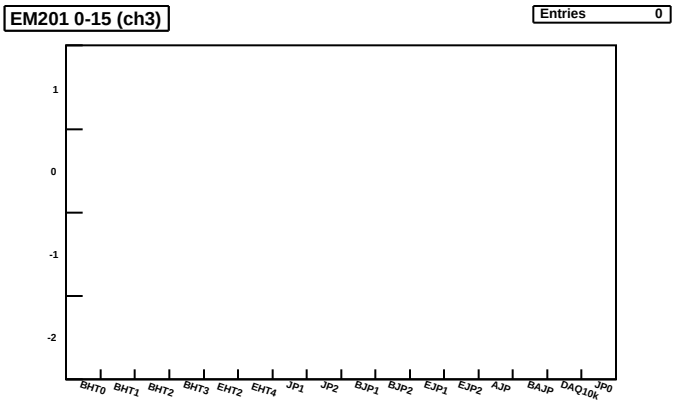
EM201 0-15 (ch3)
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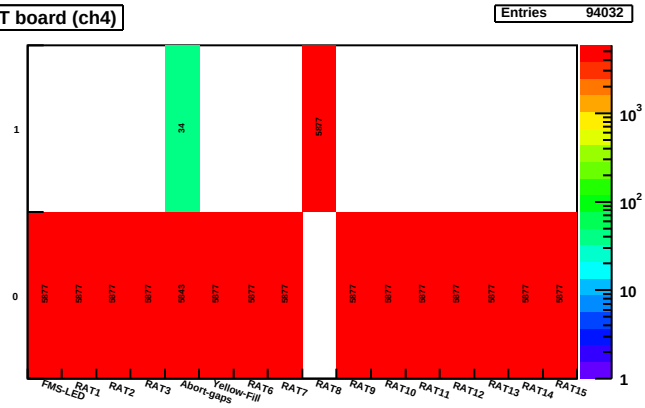
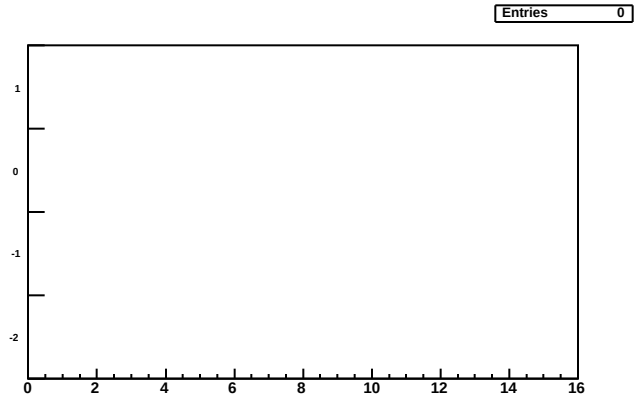
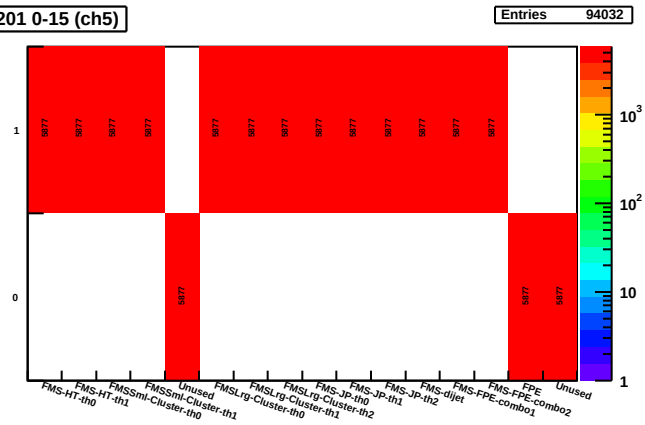
RAT board (ch4)

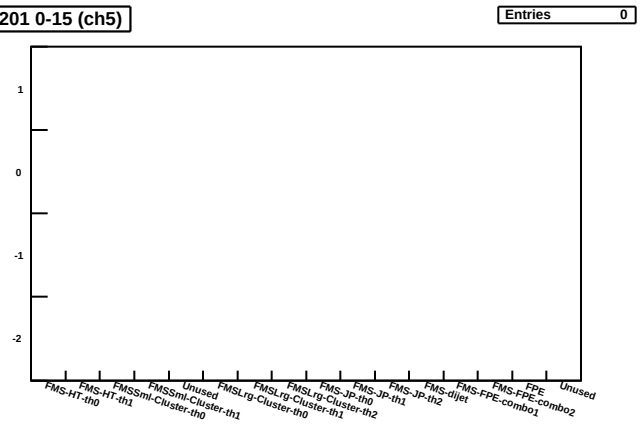




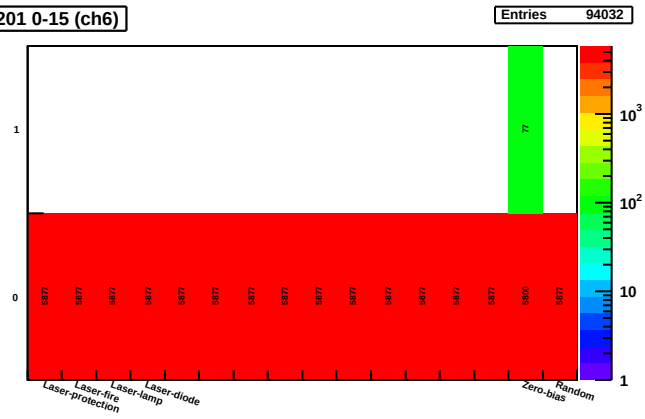
FP201 0-15 (ch5)

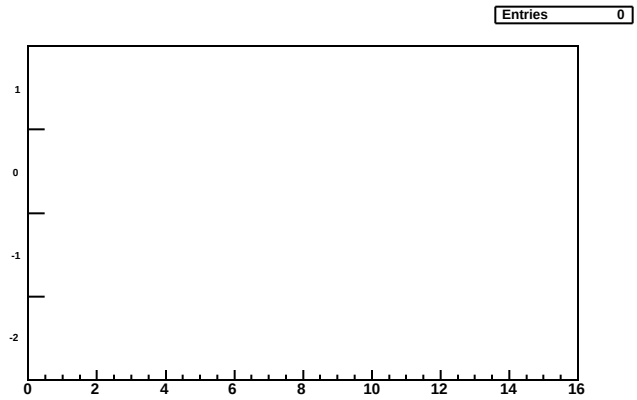
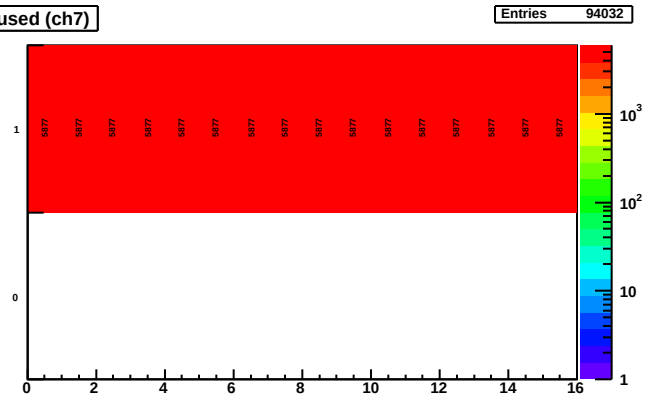
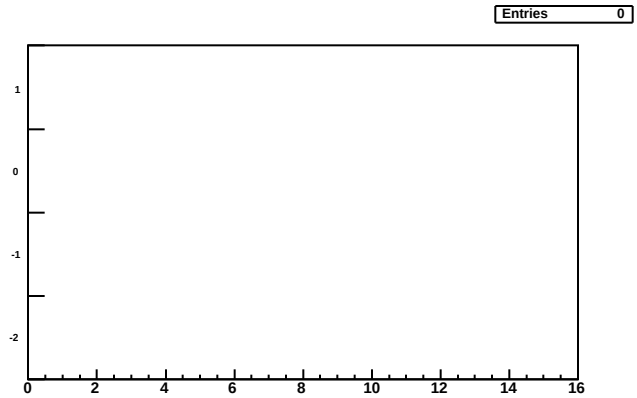


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)