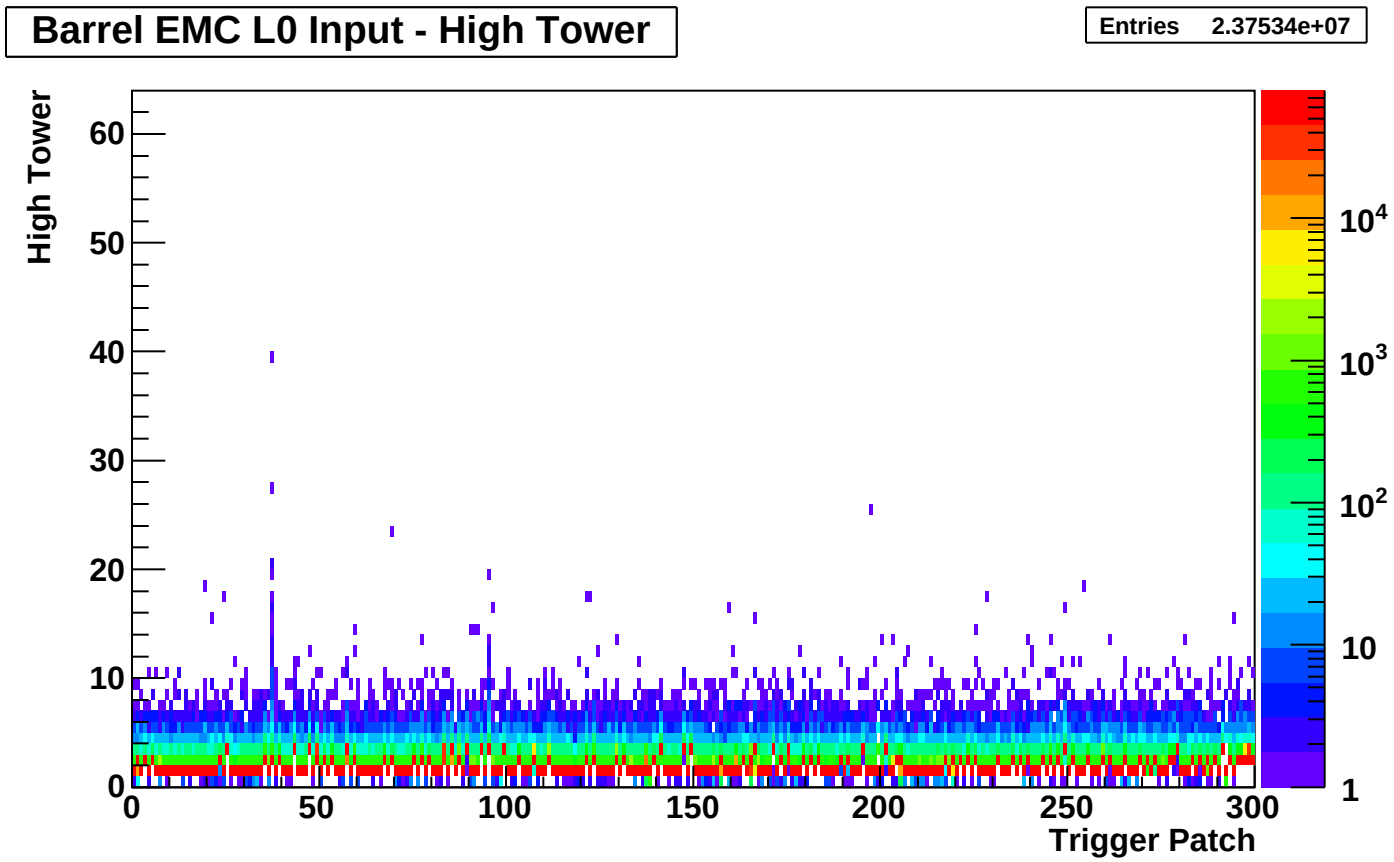
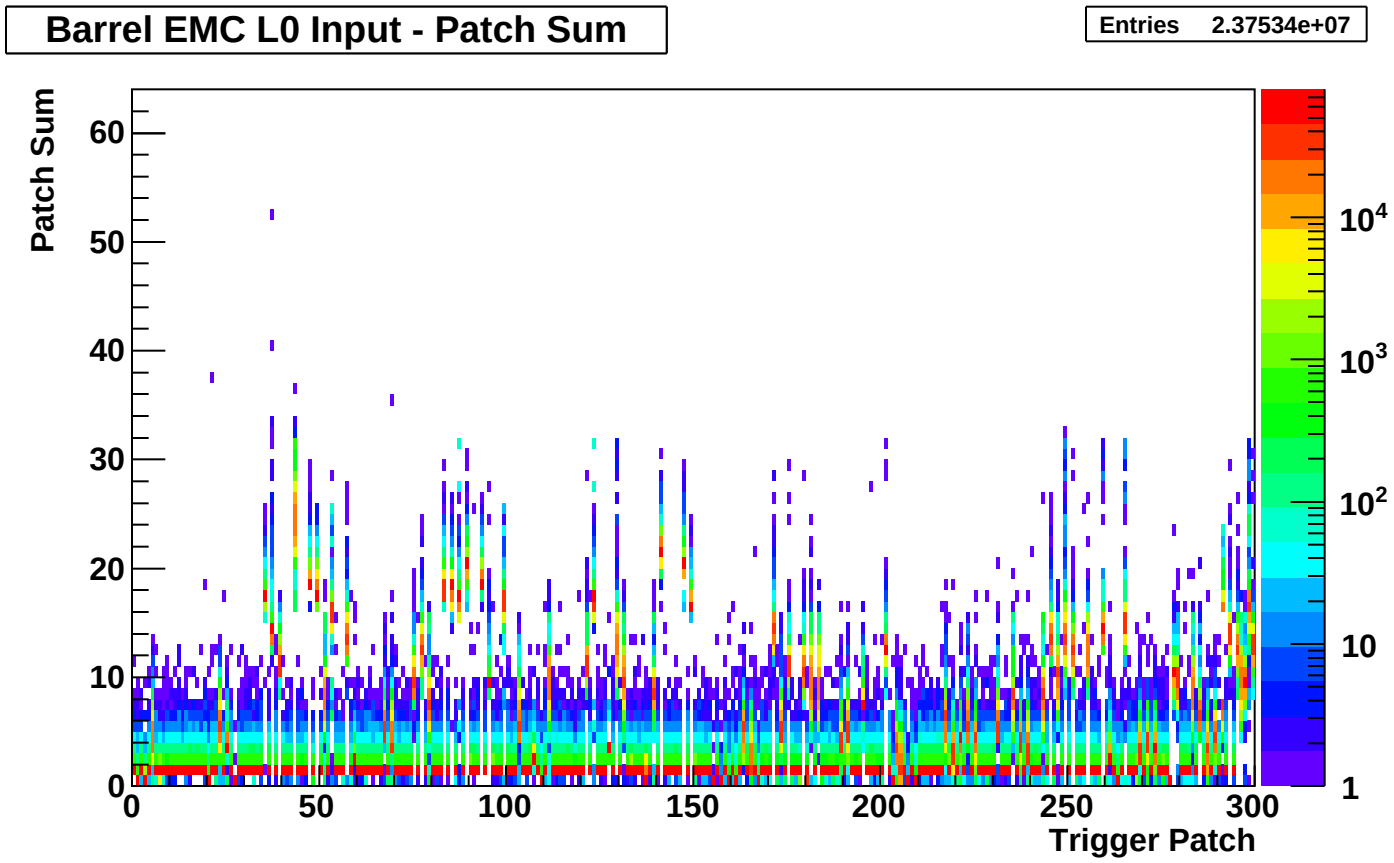
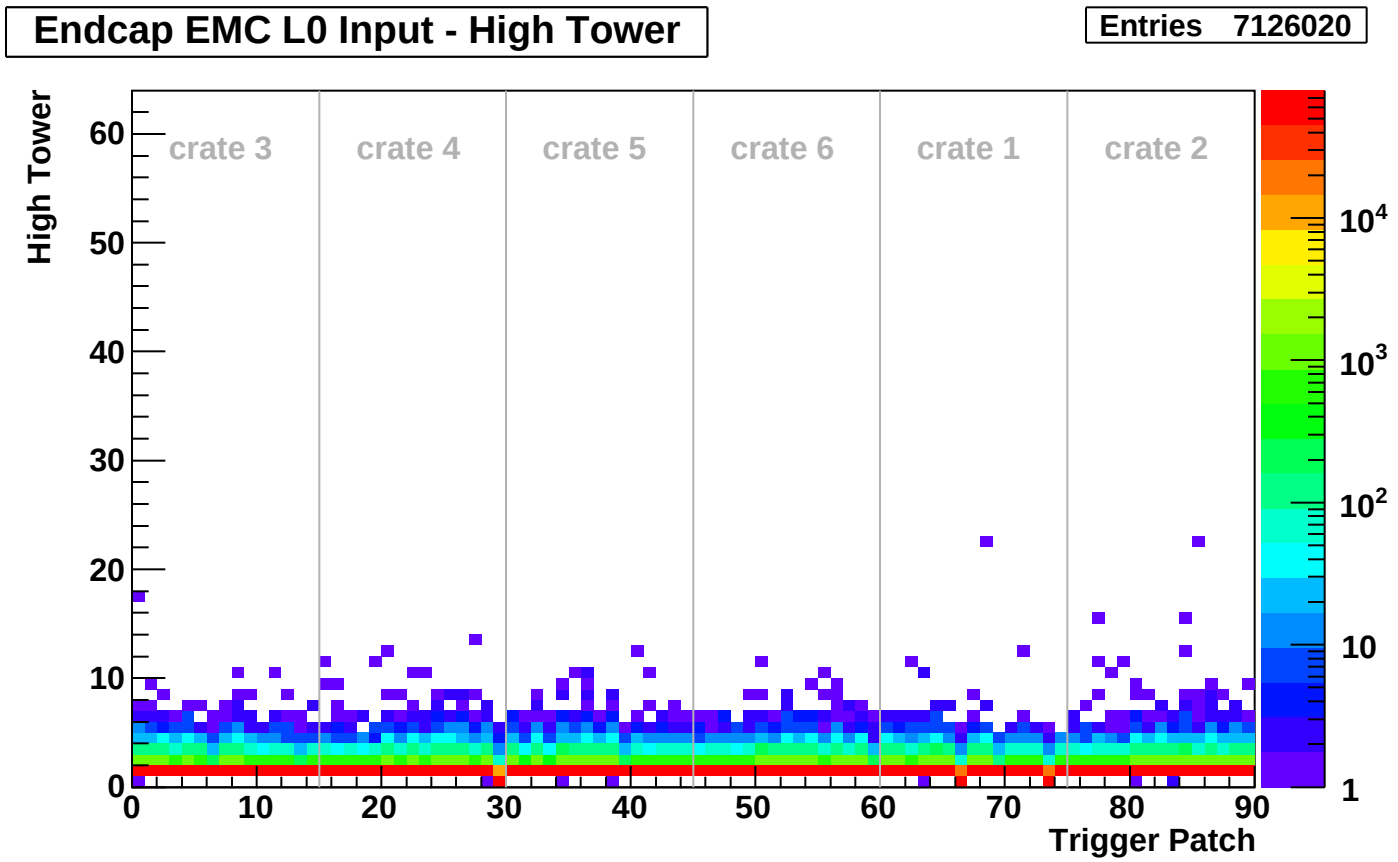
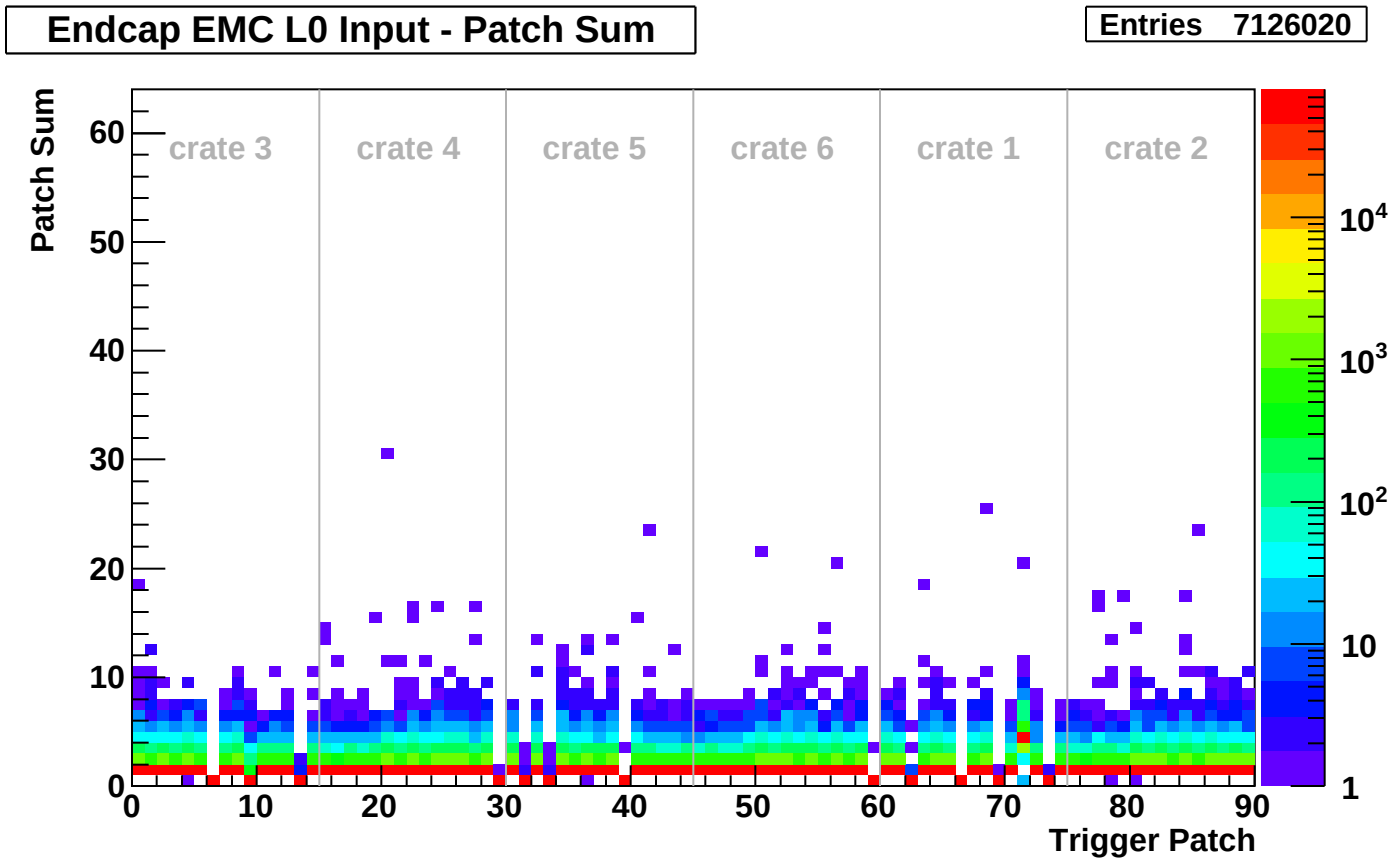
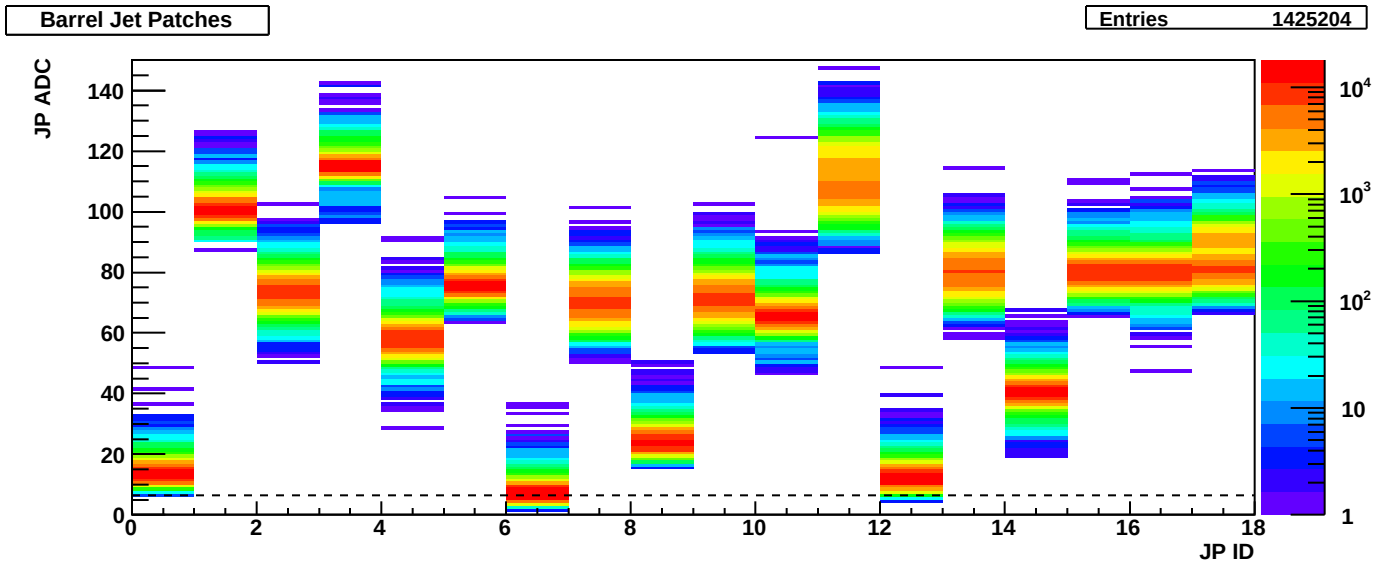
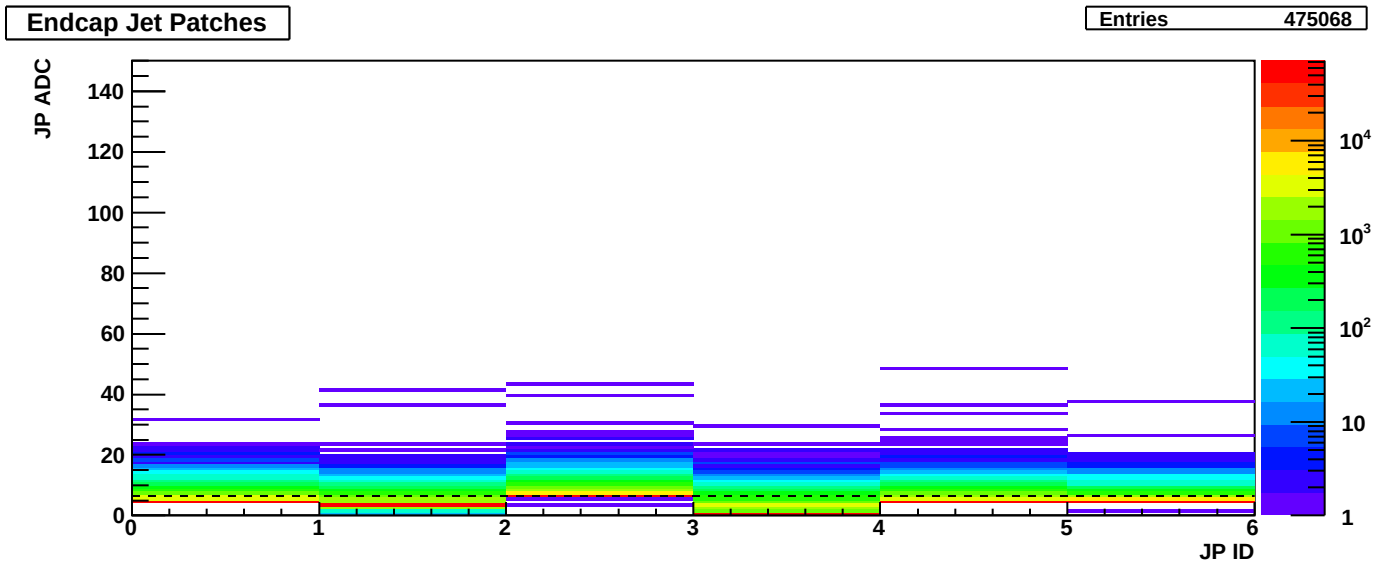

Barrel EMC L0 Input - High Tower
Entries 2.37534e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

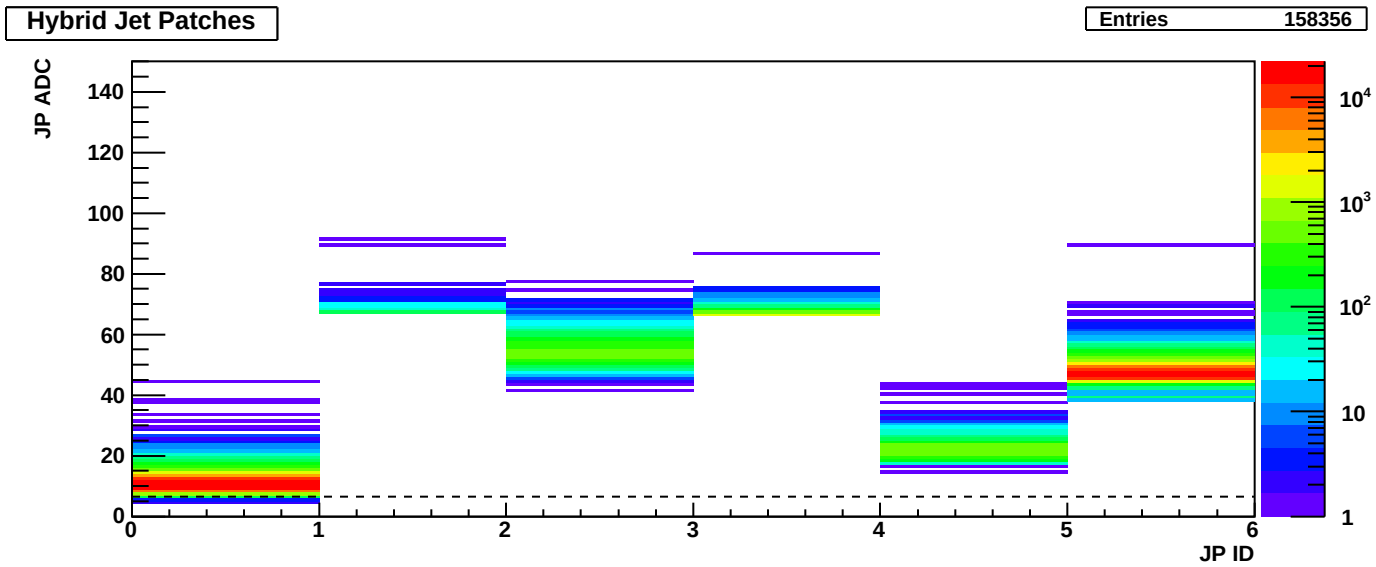

Barrel EMC L0 Input - Patch Sum
Entries 2.37534e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

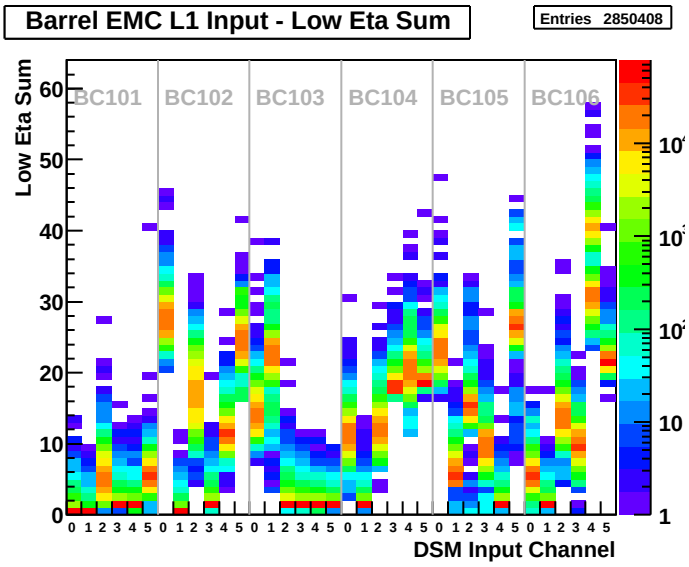

Endcap EMC L0 Input - High Tower
Entries 7126020
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

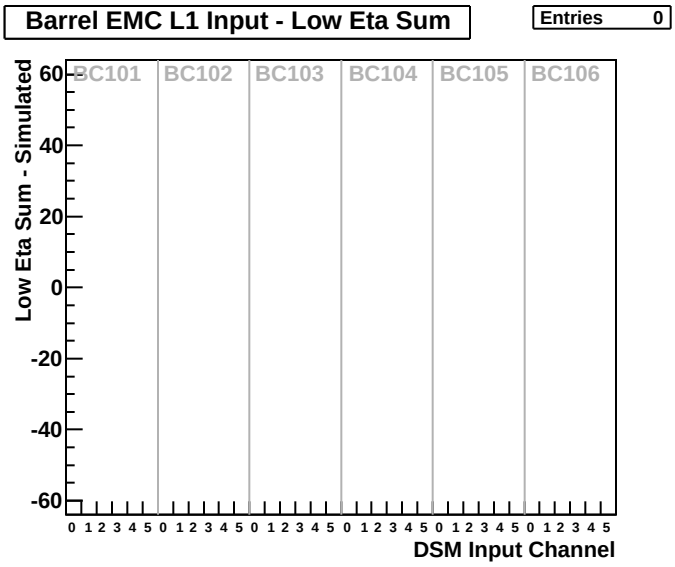

Endcap EMC L0 Input - Patch Sum
Entries 7126020
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

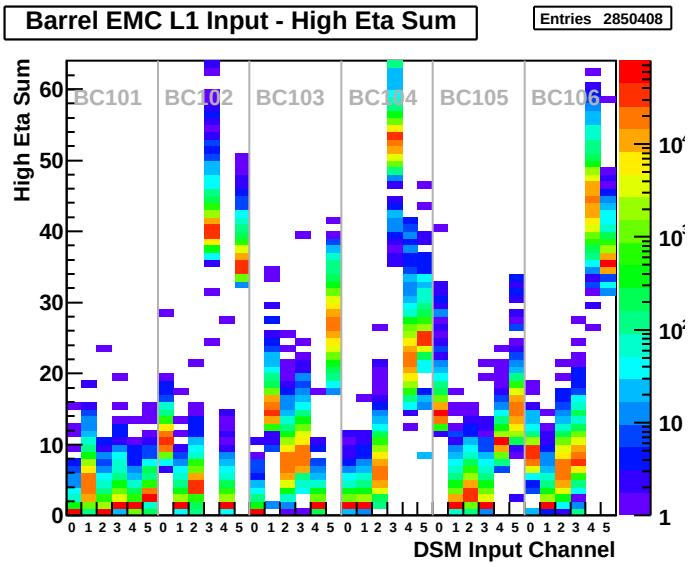

Barrel Jet Patches
Entries 1425204
JP ADC
JP ID

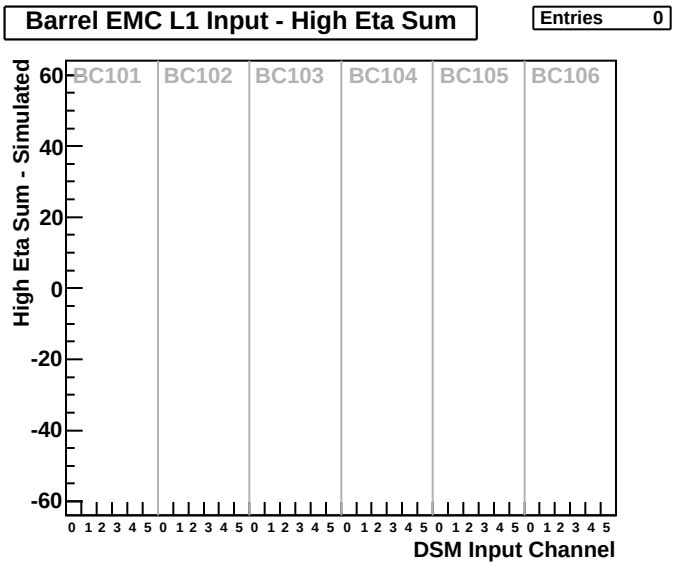

Endcap Jet Patches
Entries 475068
JP ADC
JP ID

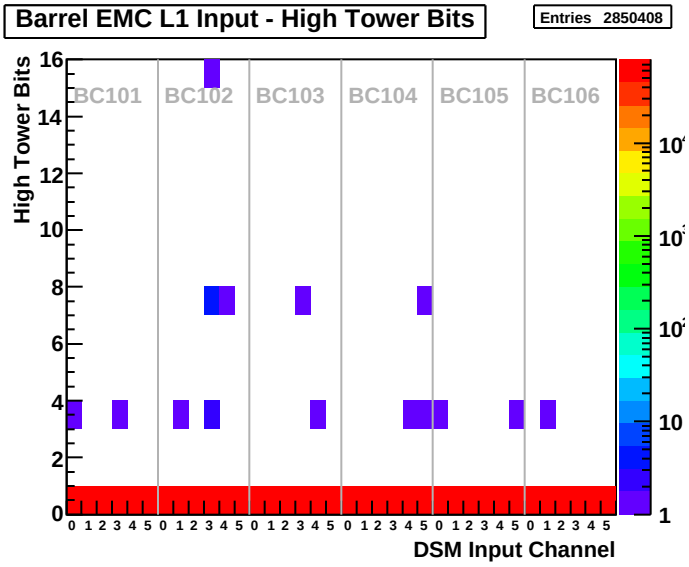

Hybrid Jet Patches
Entries 158356
JP ADC
JP ID

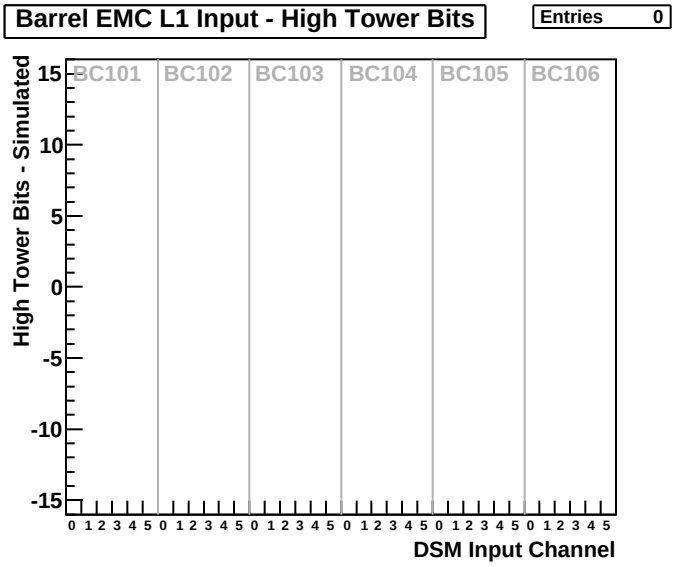

Barrel EMC L1 Input - Low Eta Sum
Entries 2850408
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

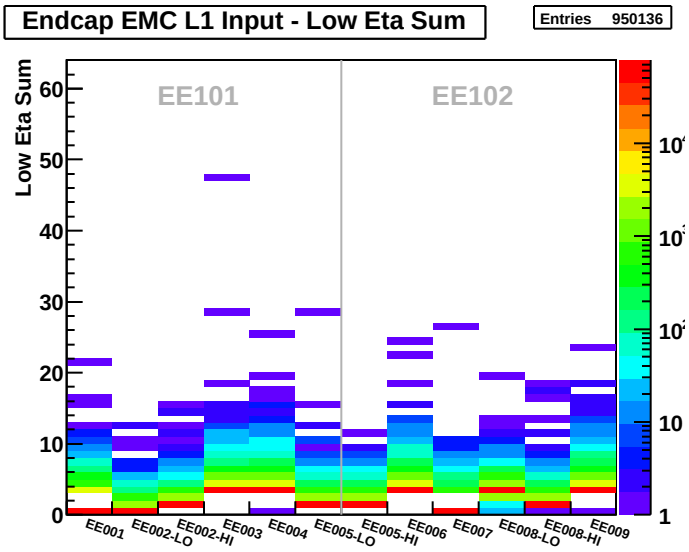

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

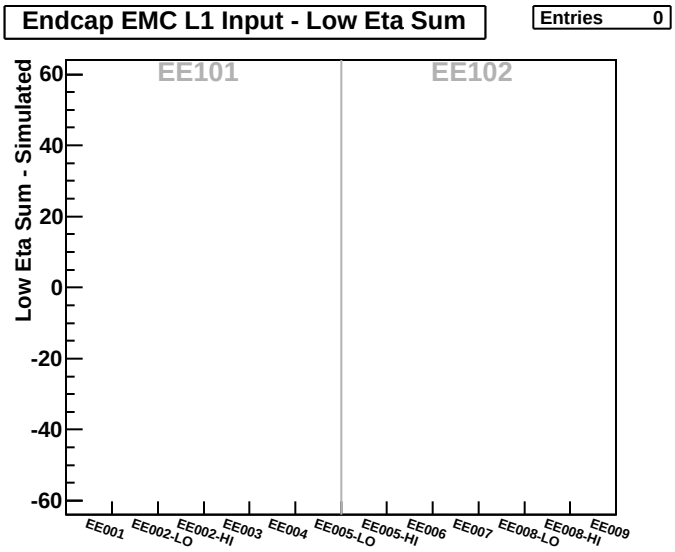

Barrel EMC L1 Input - High Eta Sum
Entries 2850408
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

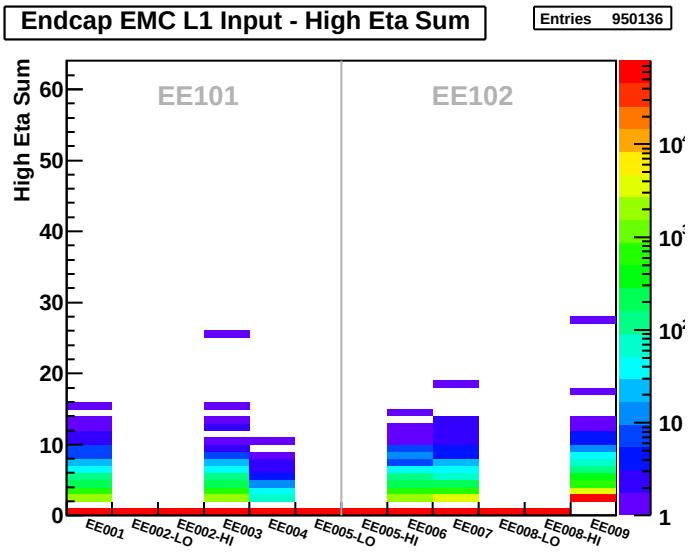

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

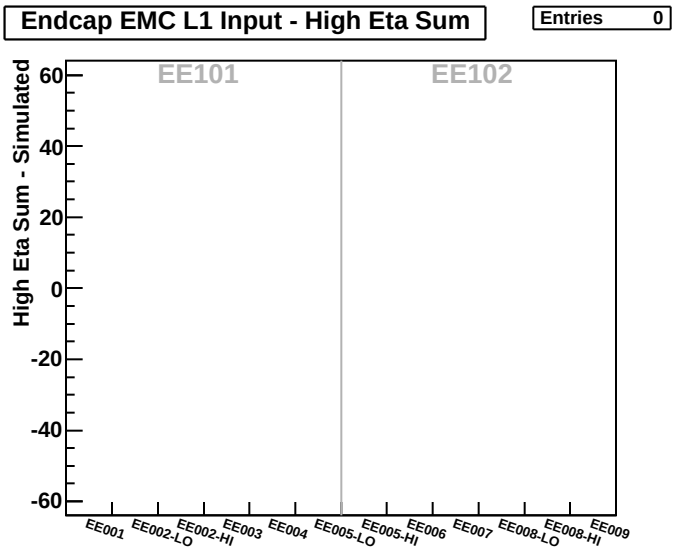

Barrel EMC L1 Input - High Tower Bits
Entries 2850408
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

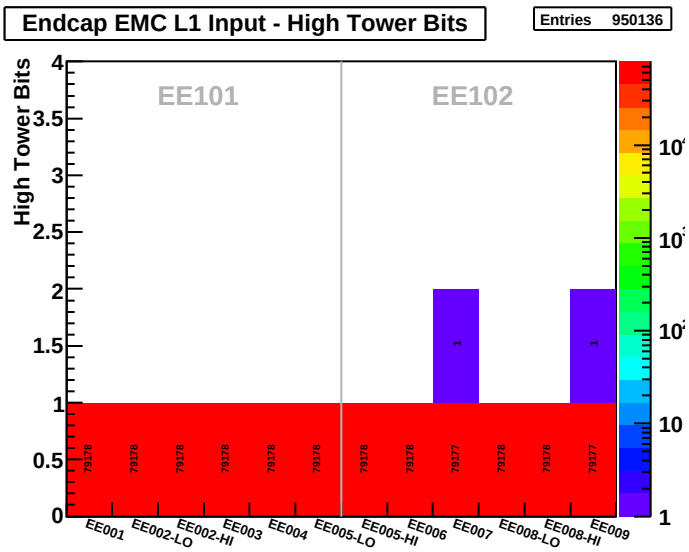

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

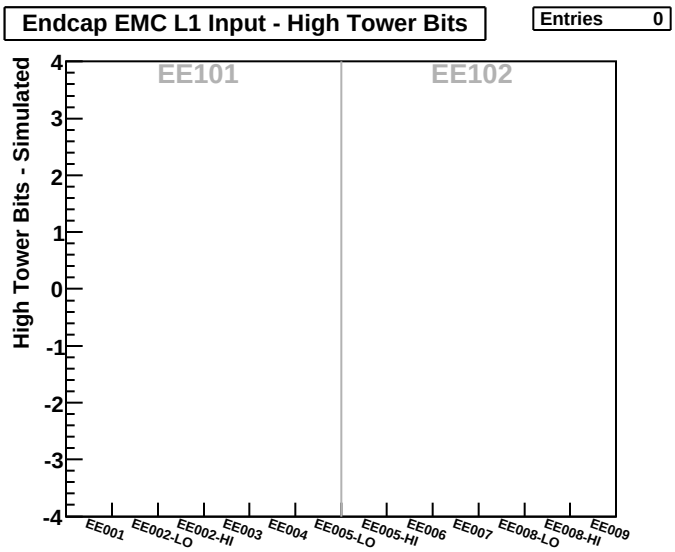

Endcap EMC L1 Input - Low Eta Sum
Entries 950136
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

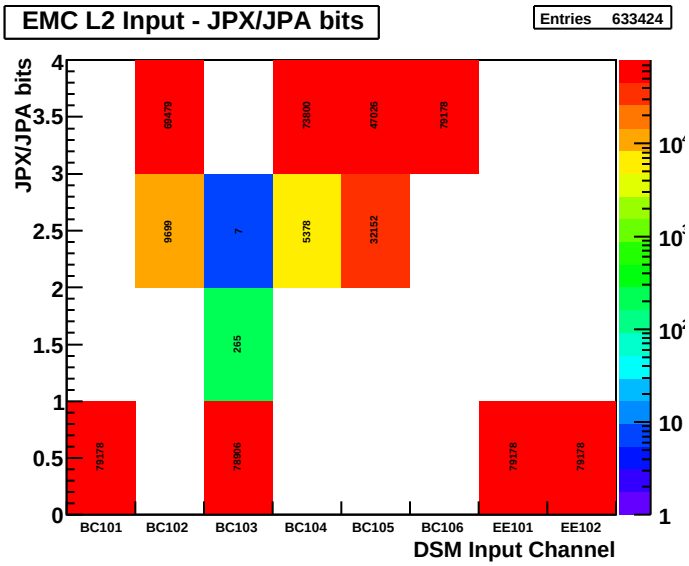

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

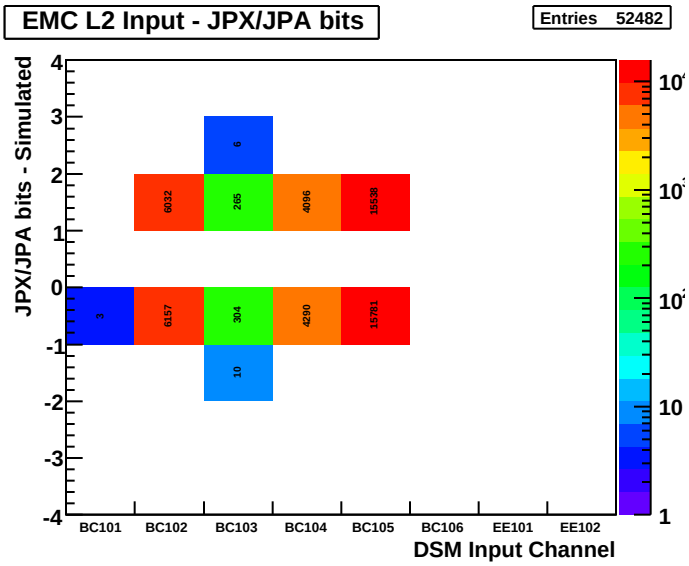

Endcap EMC L1 Input - High Eta Sum
Entries 950136
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

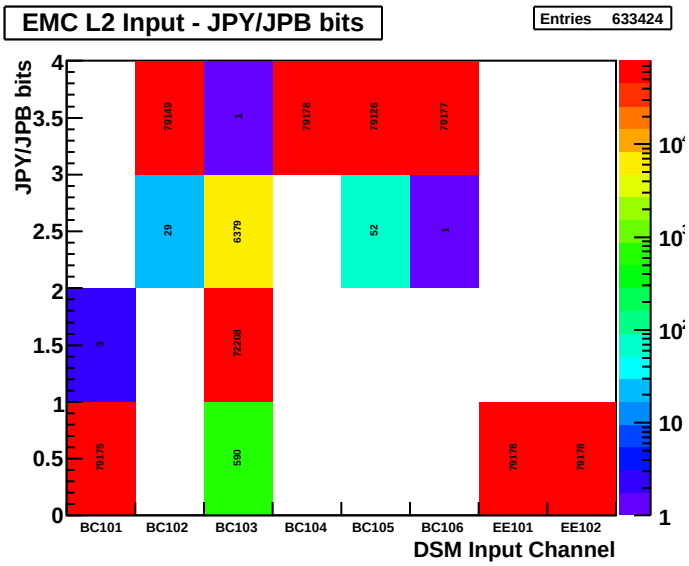

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

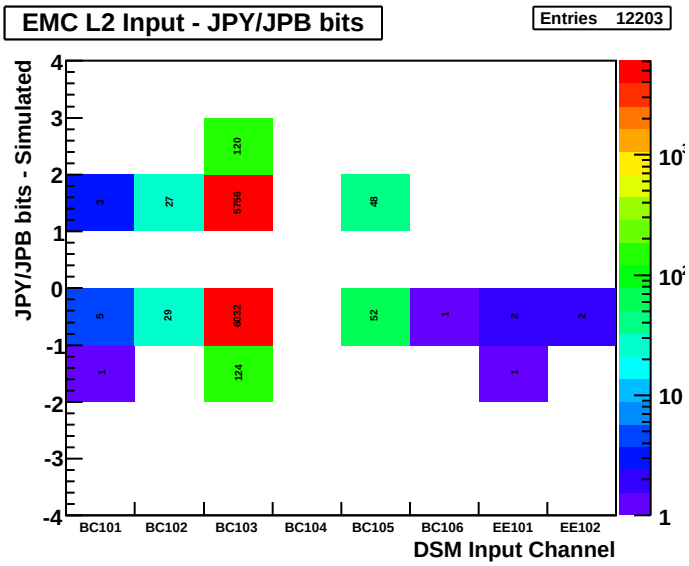

Endcap EMC L1 Input - High Tower Bits
Entries 950136
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

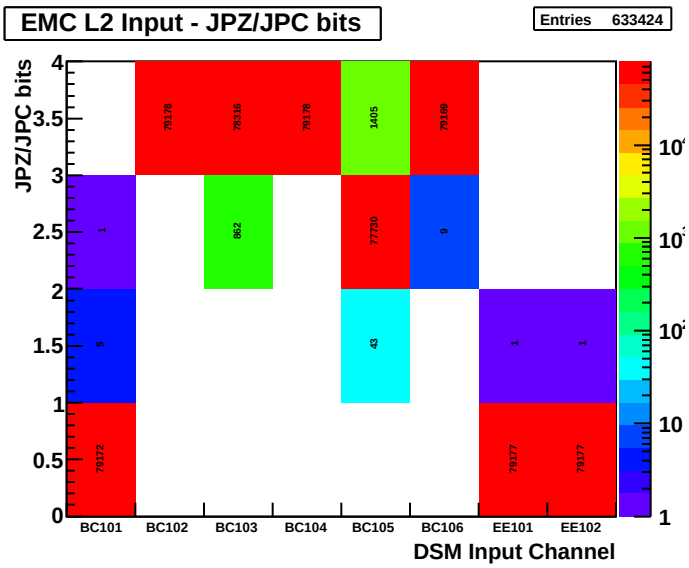

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

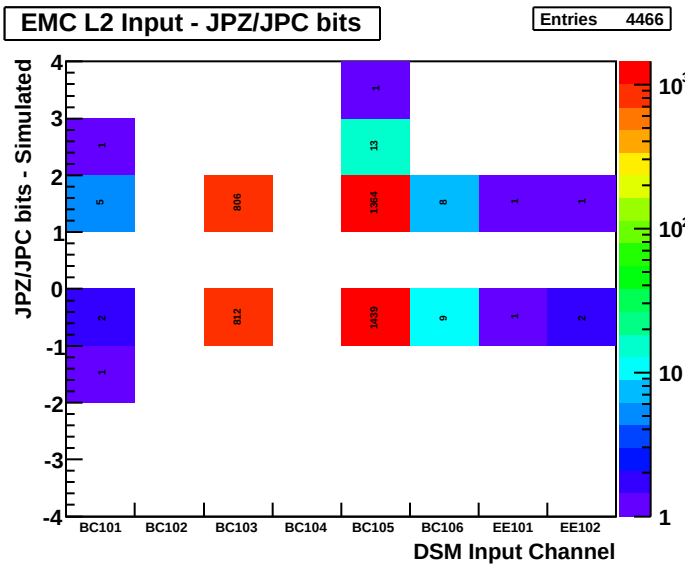

EMC L2 Input - JPX/JPA bits
Entries 633424
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

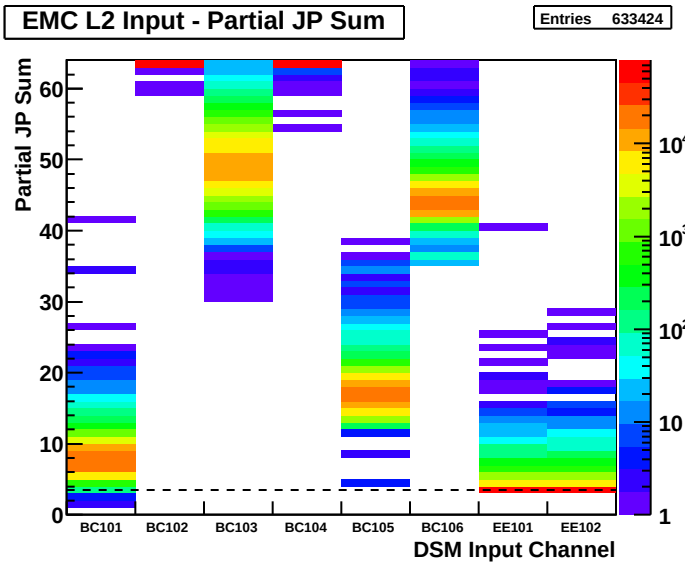

EMC L2 Input - JPX/JPA bits
Entries 52482
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

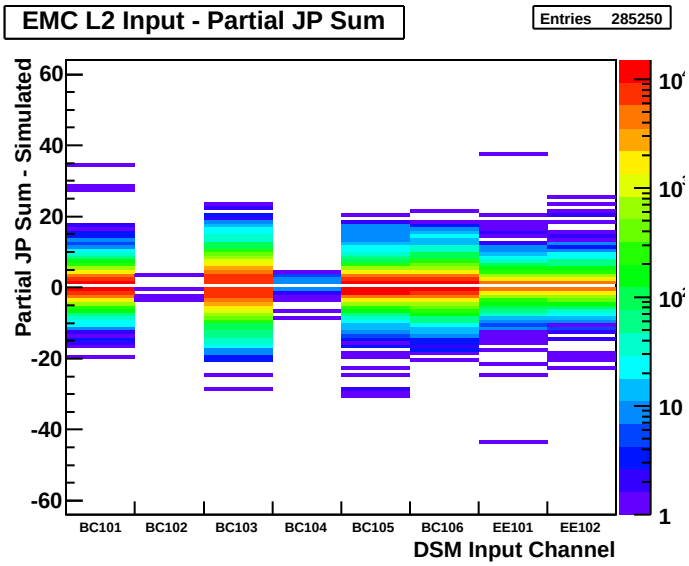

EMC L2 Input - JPY/JPB bits
Entries 633424
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

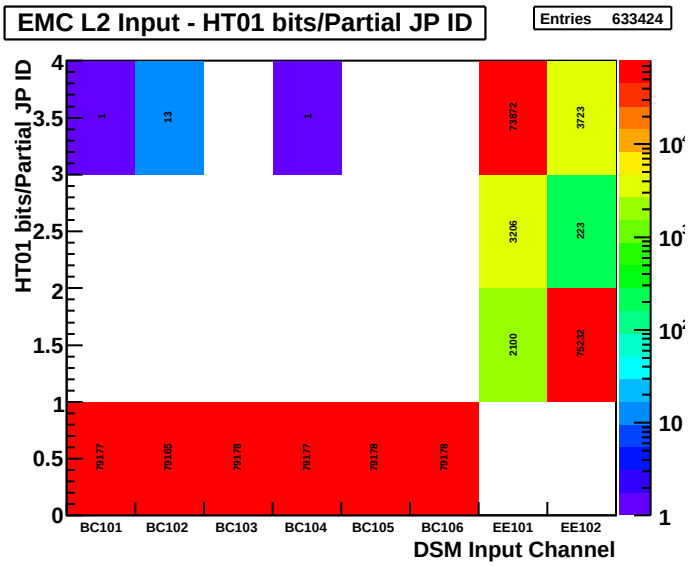

EMC L2 Input - JPY/JPB bits
Entries 12203
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

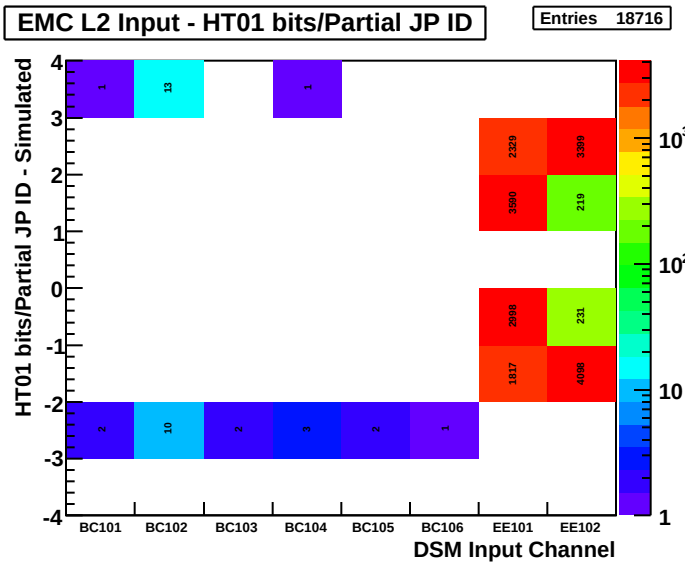

EMC L2 Input - JPZ/JPC bits
Entries 633424
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

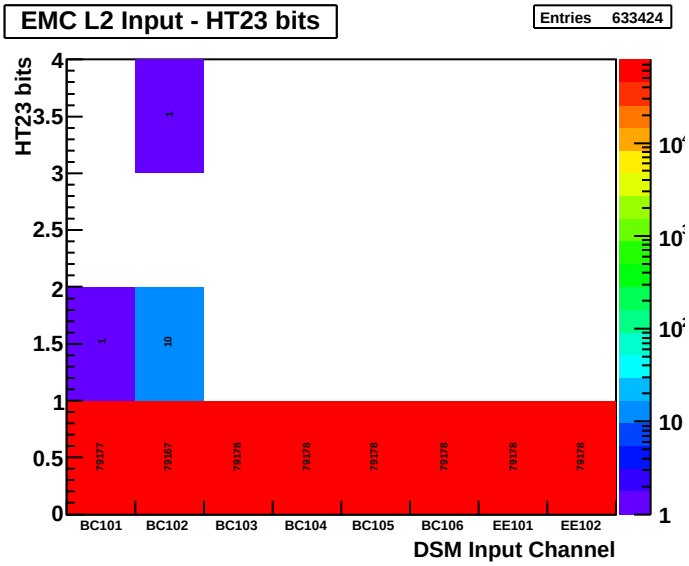

EMC L2 Input - JPZ/JPC bits
Entries 4466
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

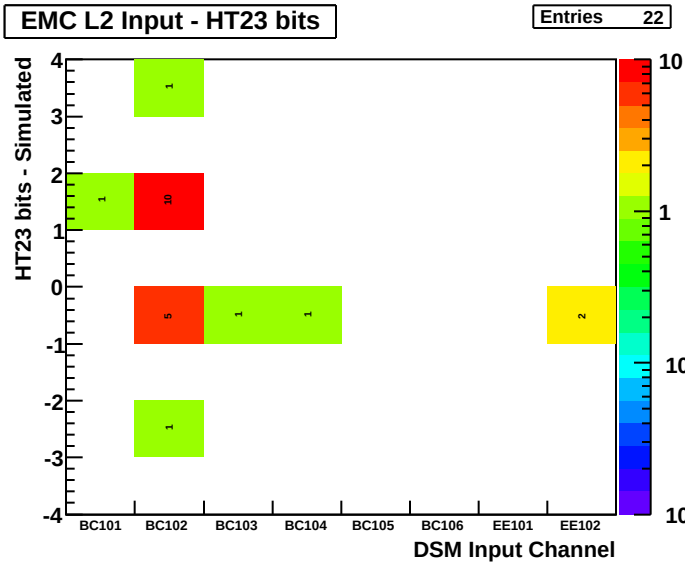

EMC L2 Input - Partial JP Sum
Entries 633424
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

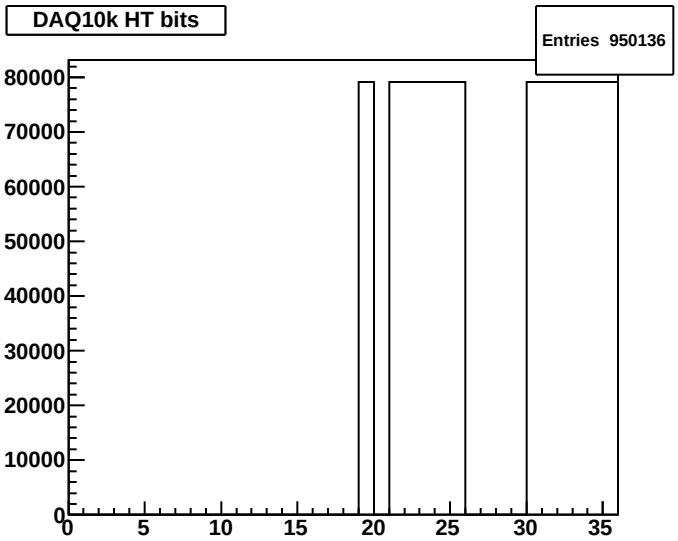

EMC L2 Input - Partial JP Sum
Entries 285250
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

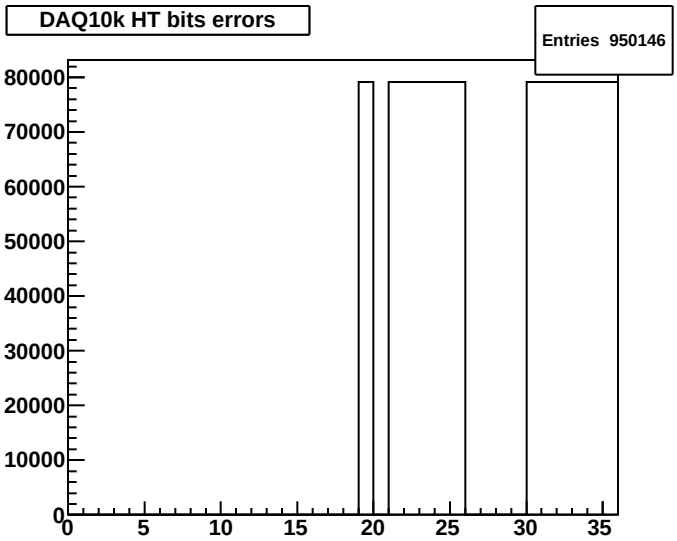

EMC L2 Input - HT01 bits/Partial JP ID
Entries 633424
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

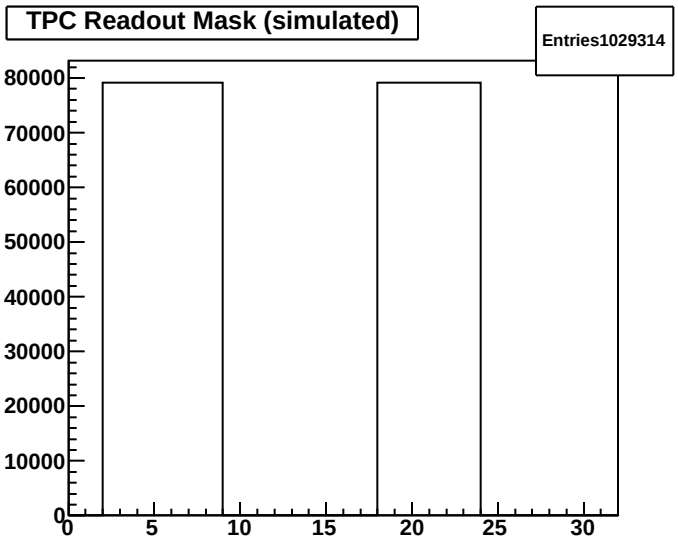

EMC L2 Input - HT01 bits/Partial JP ID
Entries 18716
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

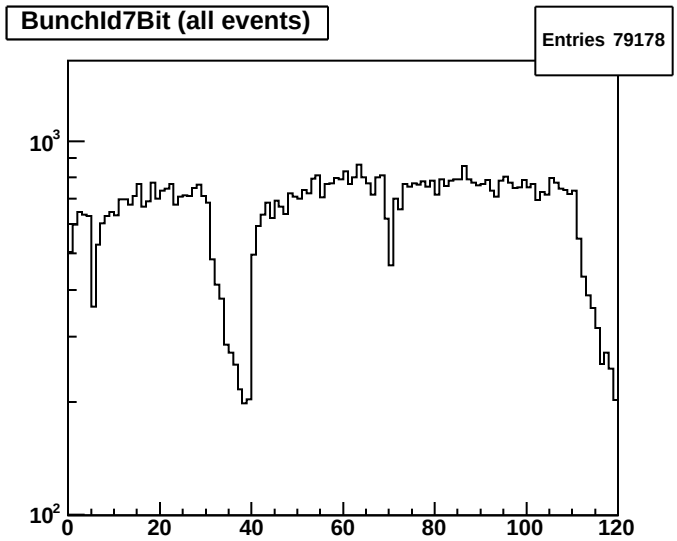

EMC L2 Input - HT23 bits
Entries 633424
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

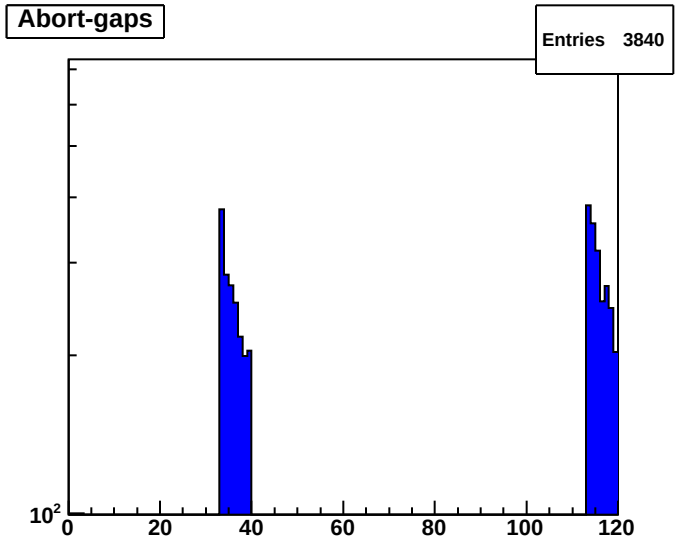

EMC L2 Input - HT23 bits
Entries 22
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

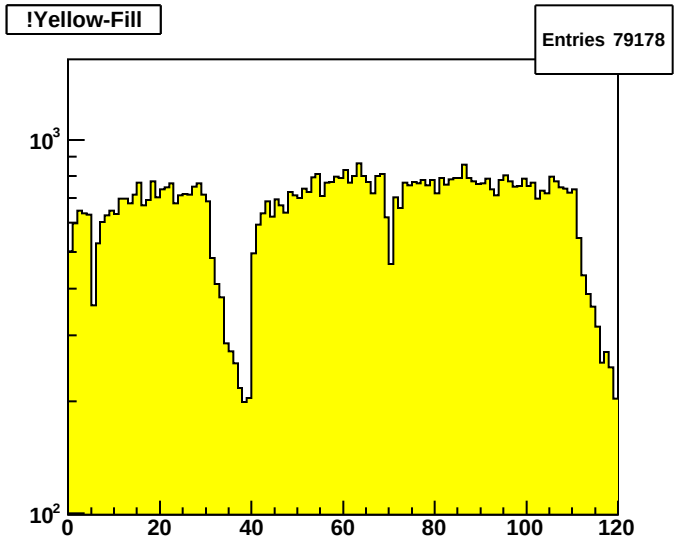

DAQ10k HT bits
Entries 950136
80000
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

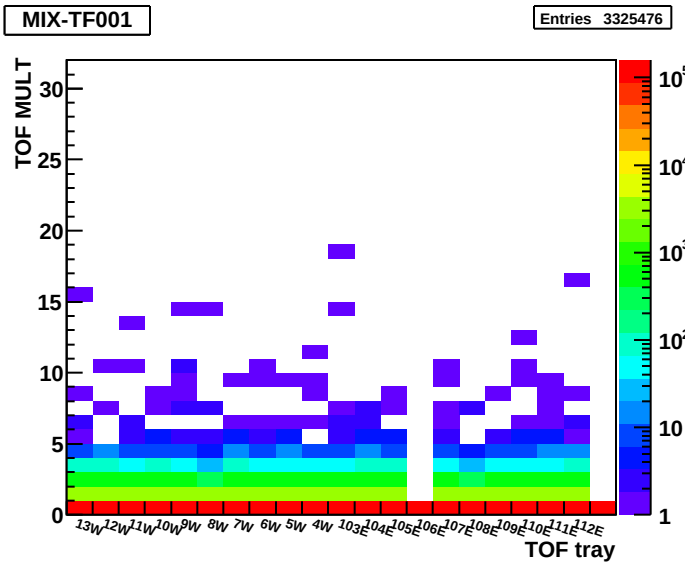

DAQ10k HT bits errors
Entries 950146
80000
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

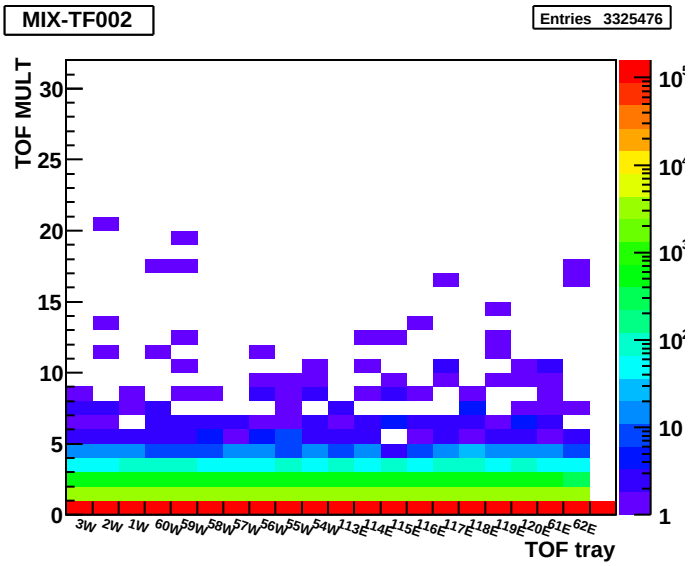

TPC Readout Mask (simulated)
Entries1029314
80000
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30

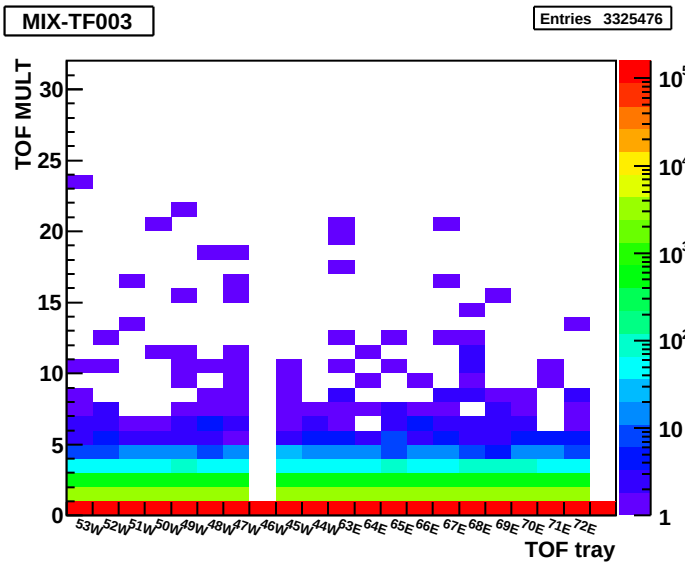

BunchId7Bit (all events)
Entries 79178
10^3
10^2
0 20 40 60 80 100 120

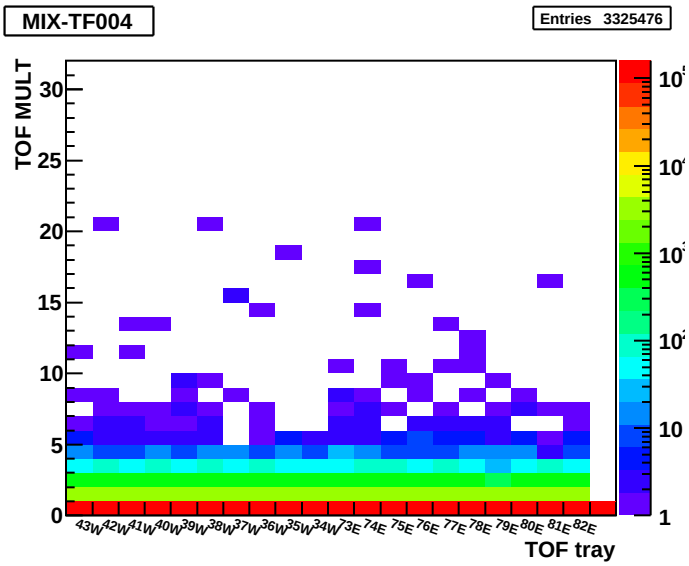

Abort-gaps
Entries 3840
10^2
0 20 40 60 80 100 120

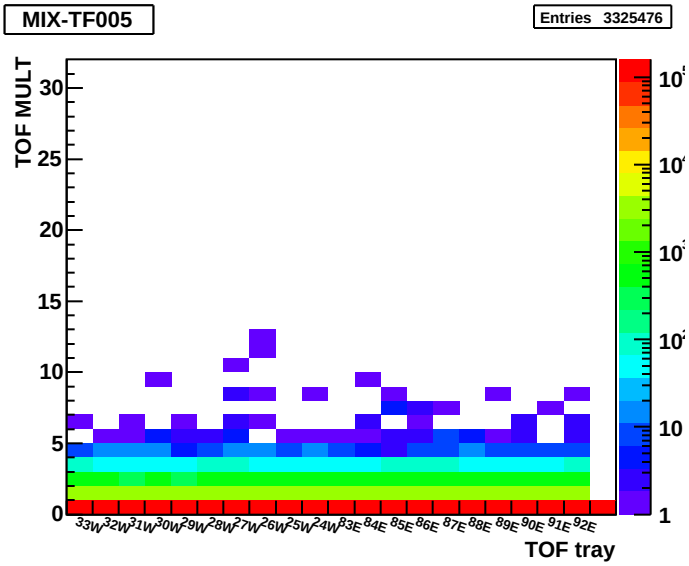

!Yellow-Fill
Entries 79178
10^3
10^2
0 20 40 60 80 100 120

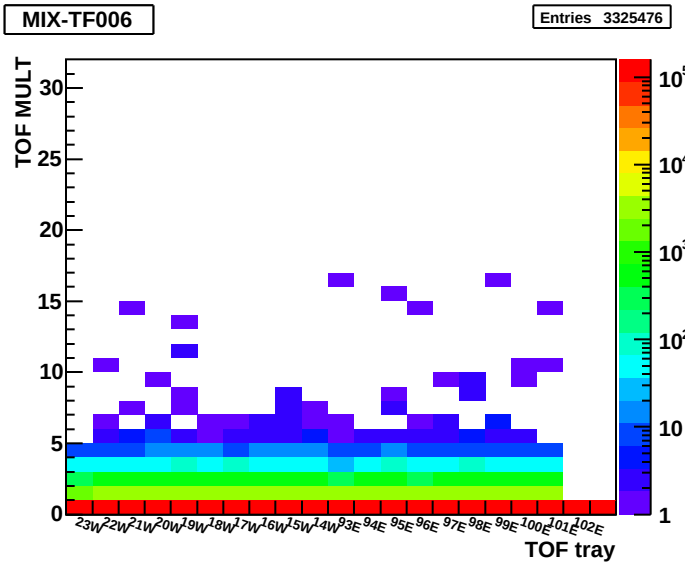

MIX-TF001
Entries 3325476
TOF MULT
TOF tray

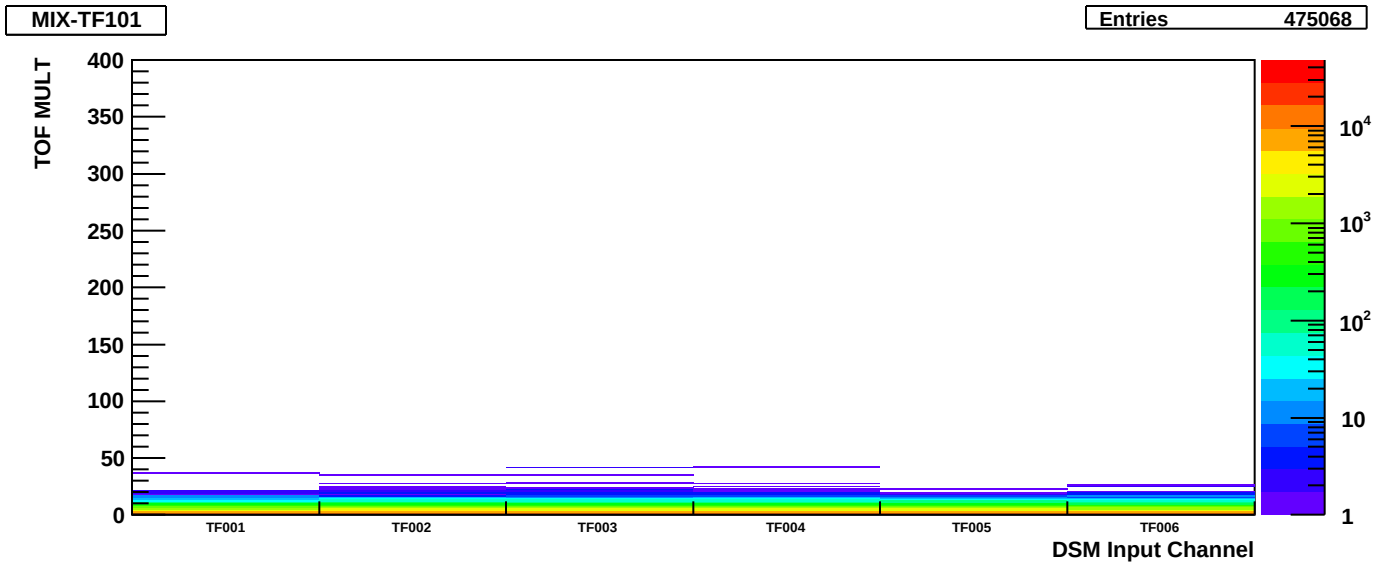

MIX-TF002
Entries 3325476
TOF MULT
TOF tray

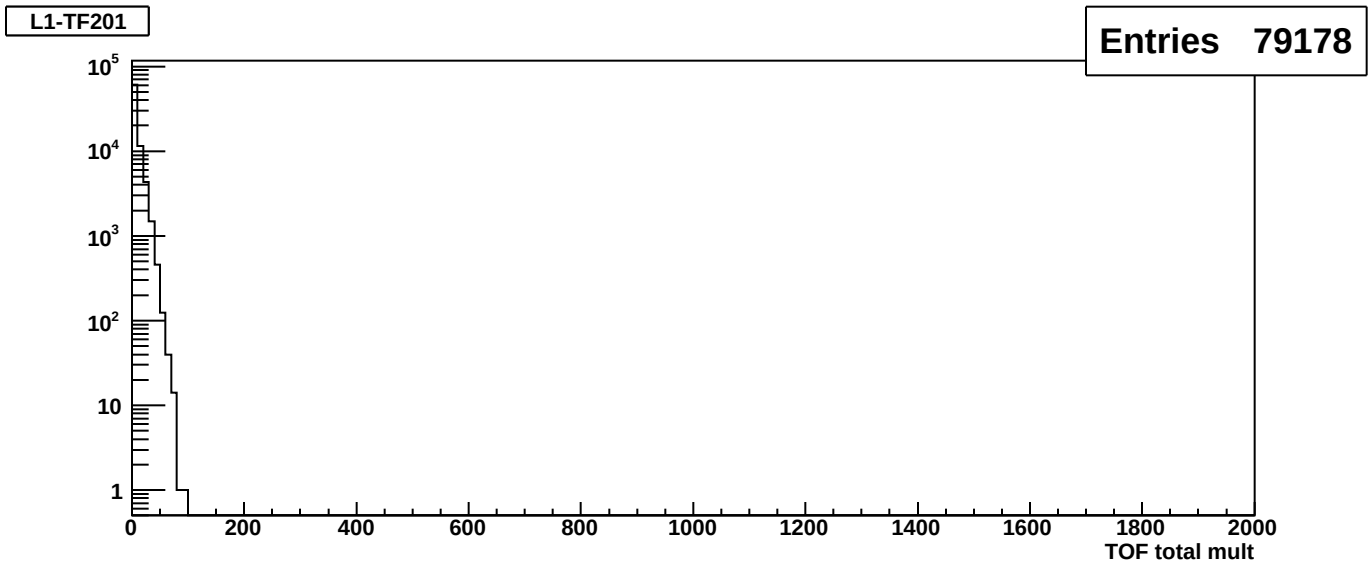

MIX-TF003
Entries 3325476
TOF MULT
TOF tray

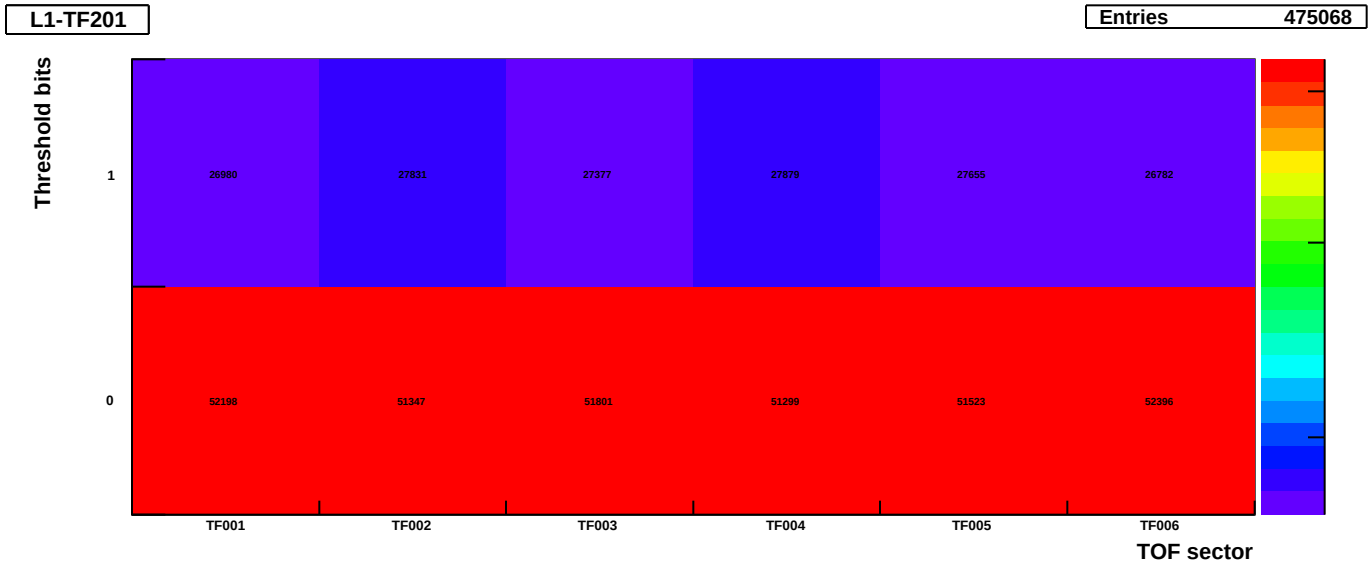

MIX-TF004
Entries 3325476
TOF MULT
TOF tray

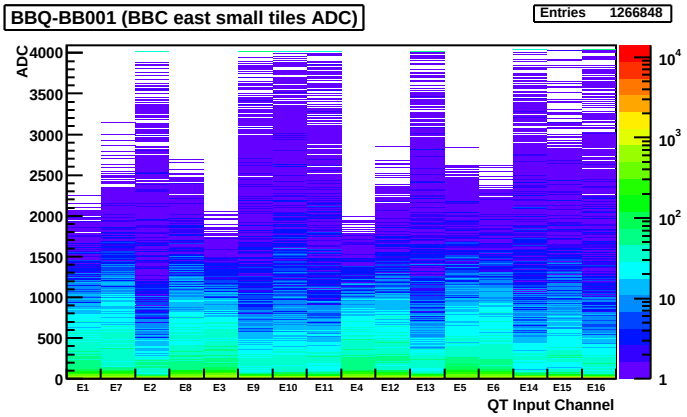

MIX-TF005
Entries 3325476
TOF MULT
TOF tray

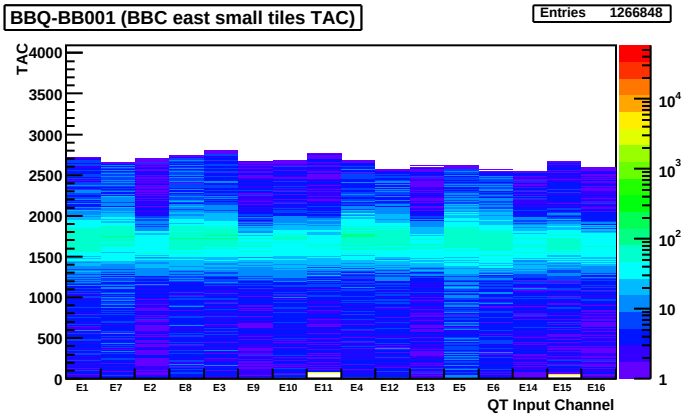

MIX-TF006
Entries 3325476
TOF MULT
TOF tray

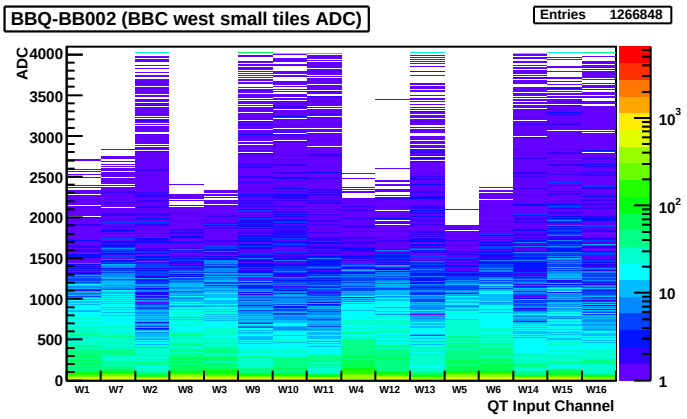

MIX-TF101
Entries 475068
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

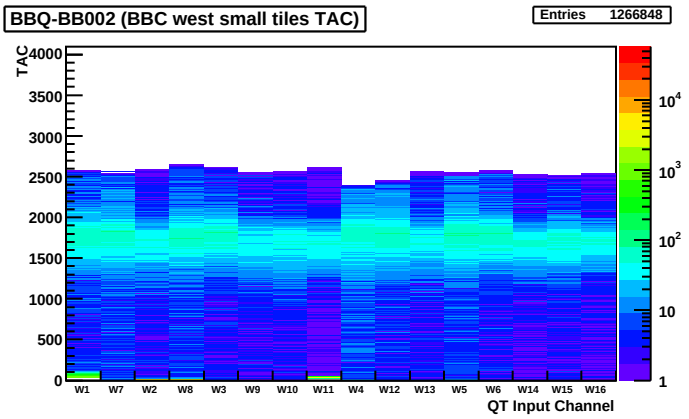

L1-TF201
Entries 79178
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

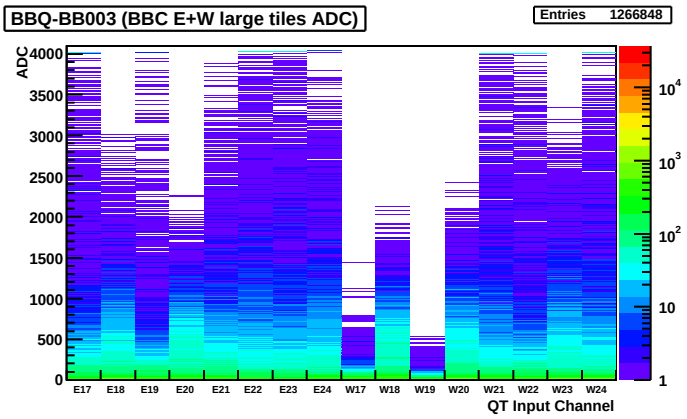

L1-TF201
Entries 475068
Threshold bits
1
0
26980
27831
27377
27879
27655
26782
52198
51347
51801
51299
51523
52396
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

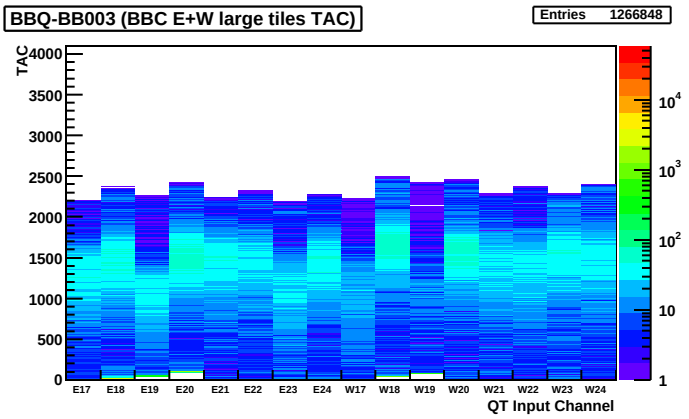

BBQ-BB001 (BBC east small tiles ADC)
Entries 1266848
ADC
QT Input Channel

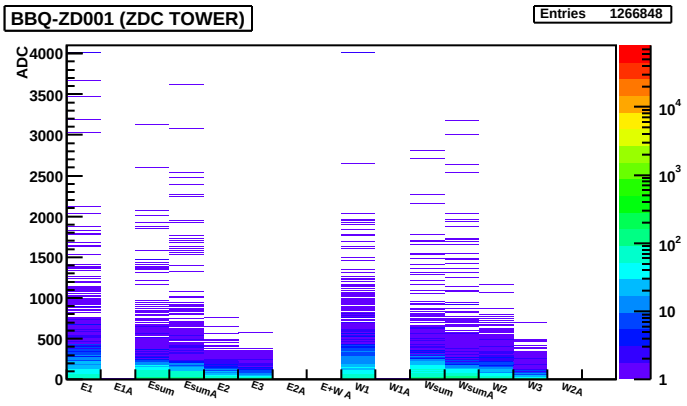

BBQ-BB001 (BBC east small tiles TAC)
Entries 1266848
TAC
QT Input Channel

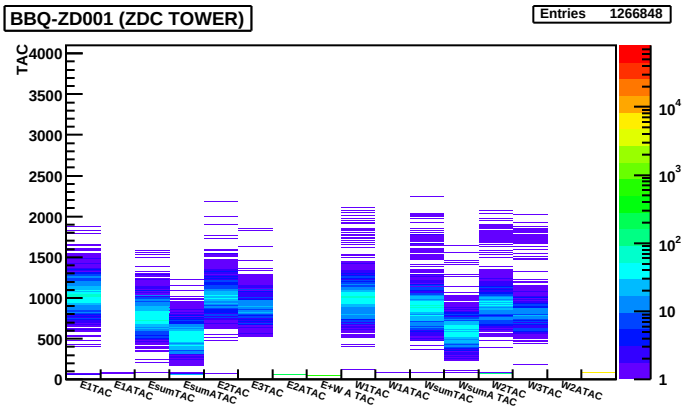

BBQ-BB002 (BBC west small tiles ADC)
Entries 1266848
ADC
QT Input Channel

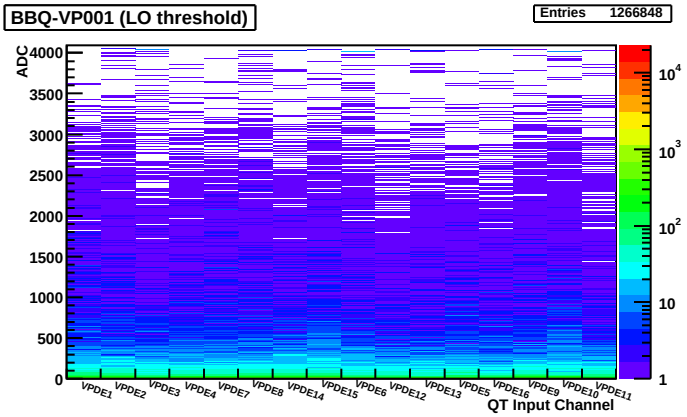

BBQ-BB002 (BBC west small tiles TAC)
Entries 1266848
TAC
QT Input Channel

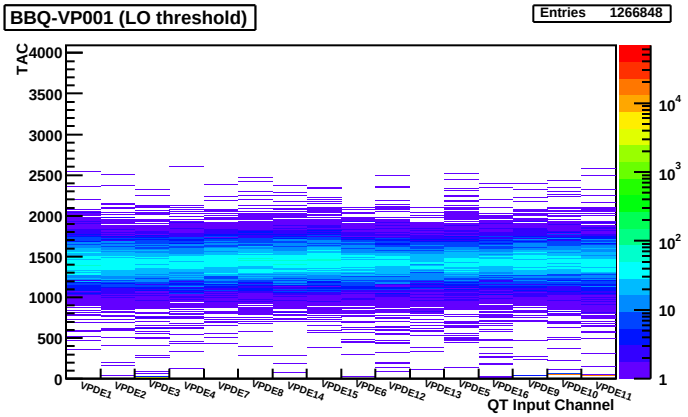

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1266848
ADC
QT Input Channel

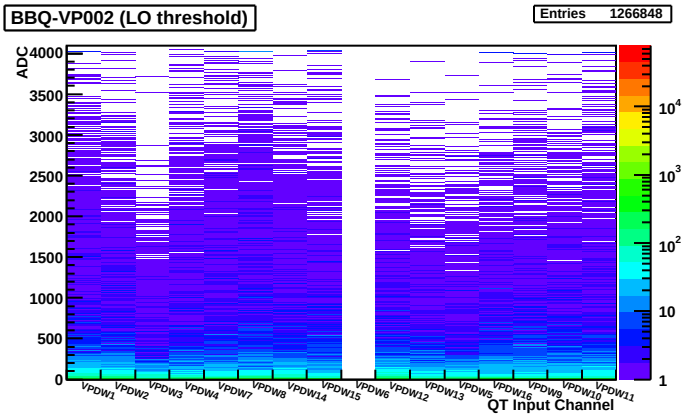

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1266848
TAC
QT Input Channel

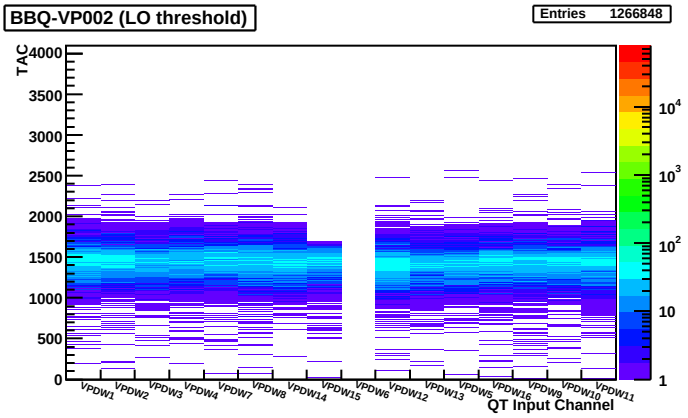

BBQ-ZD001 (ZDC TOWER)
Entries 1266848
ADC

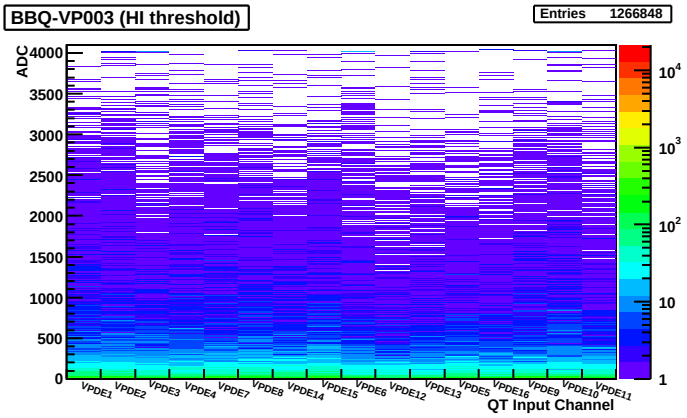

BBQ-ZD001 (ZDC TOWER)
Entries 1266848
TAC

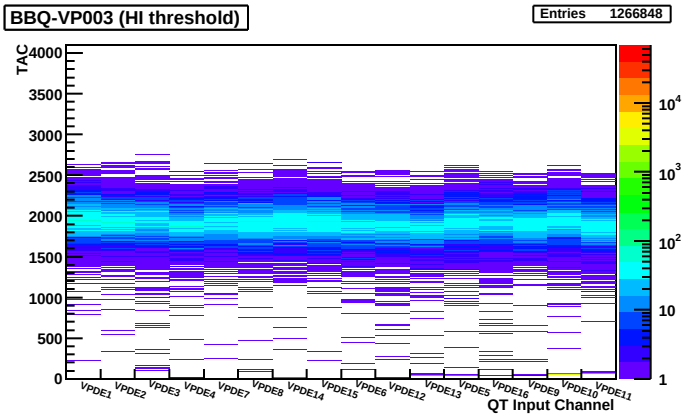

BBQ-VP001 (LO threshold)
Entries 1266848
ADC
QT Input Channel

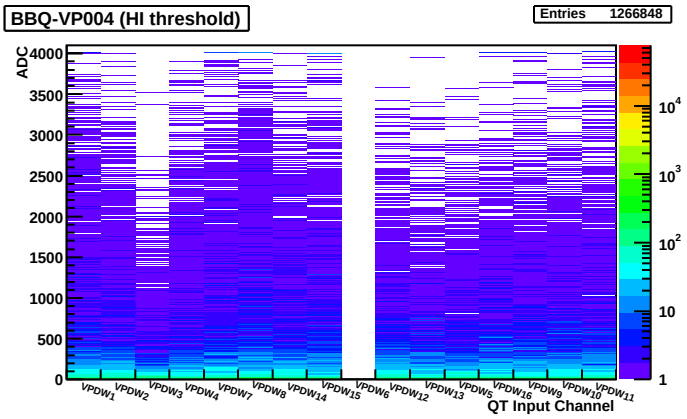

BBQ-VP001 (LO threshold)
Entries 1266848
TAC
QT Input Channel

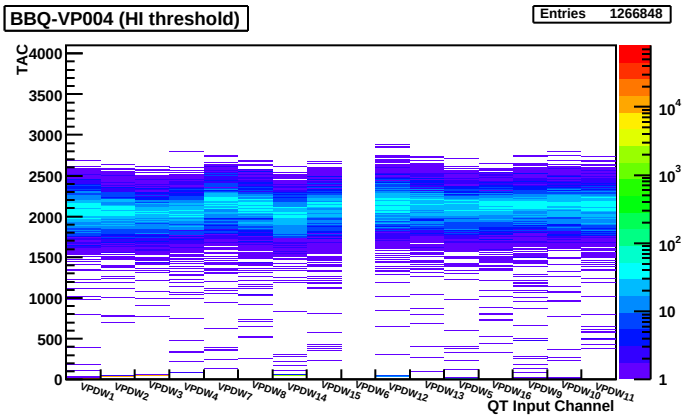

BBQ-VP002 (LO threshold)
Entries 1266848
ADC
QT Input Channel

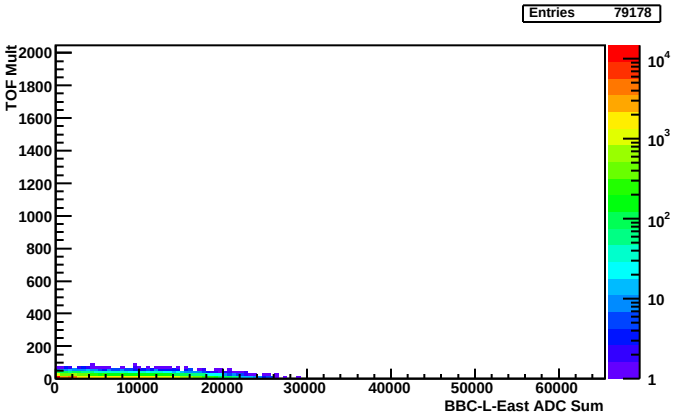

BBQ-VP002 (LO threshold)
Entries 1266848
TAC
QT Input Channel

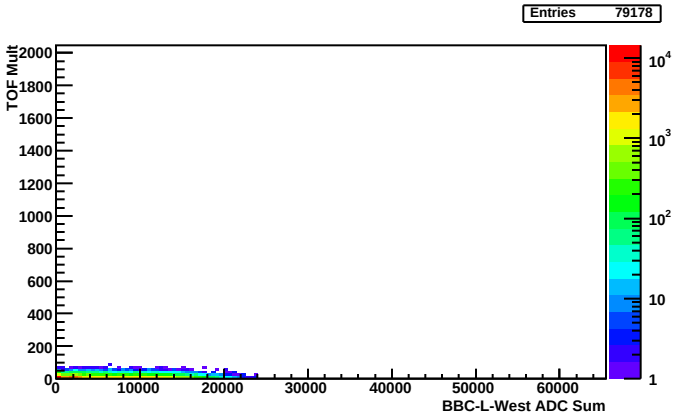

BBQ-VP003 (HI threshold)
Entries 1266848
ADC
QT Input Channel

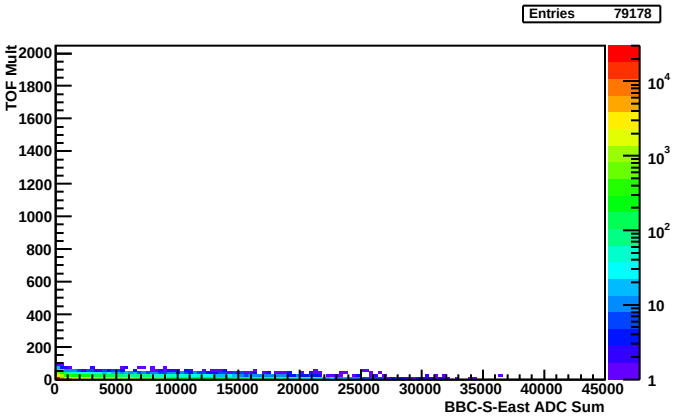

BBQ-VP003 (HI threshold)
Entries 1266848
TAC
QT Input Channel

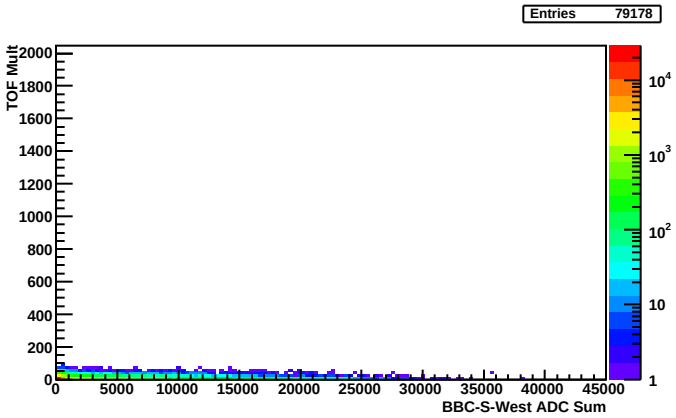

BBQ-VP004 (HI threshold)
Entries 1266848
ADC
QT Input Channel

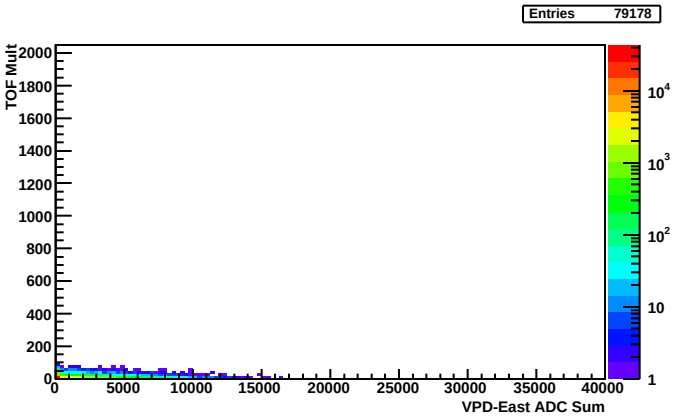

BBQ-VP004 (HI threshold)
Entries 1266848
TAC
QT Input Channel

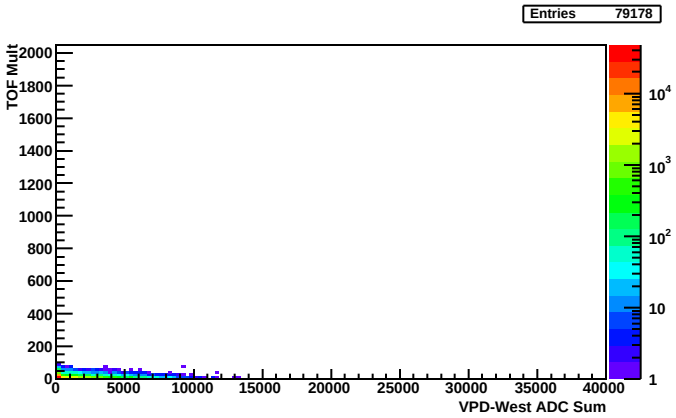

Entries 79178
TOF Mult
BBC-L-East ADC Sum

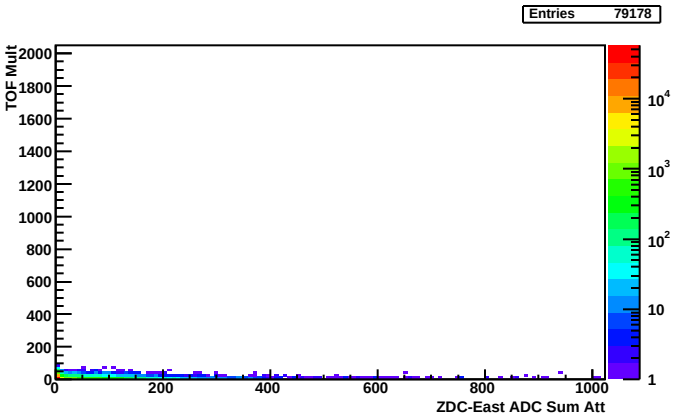

Entries 79178
TOF Mult
BBC-L-West ADC Sum

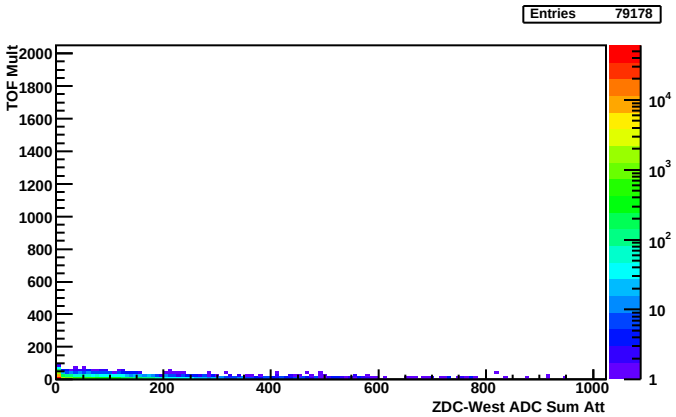

Entries 79178
TOF Mult
BBC-S-East ADC Sum

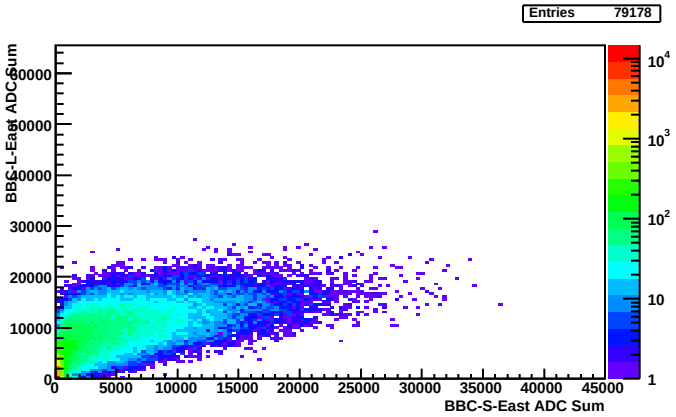

Entries 79178
TOF Mult
BBC-S-West ADC Sum

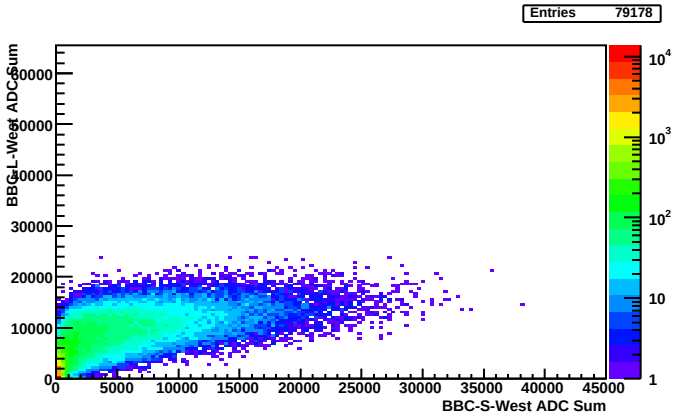

Entries 79178
TOF Mult
VPD-East ADC Sum

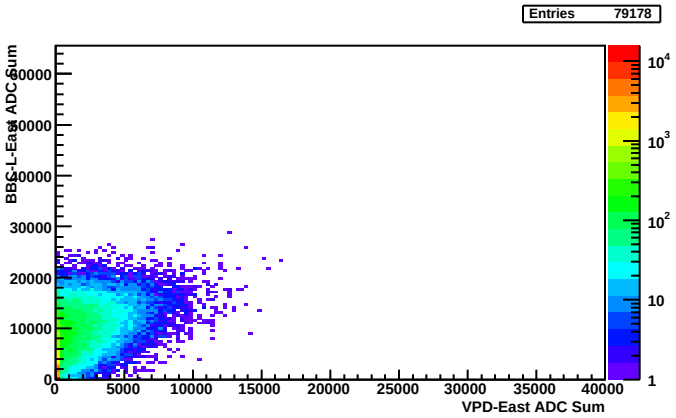

Entries 79178
TOF Mult
VPD-West ADC Sum

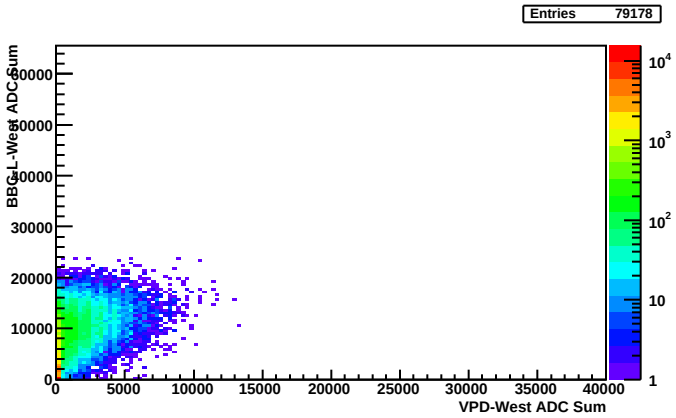

Entries 79178
TOF Mult
ZDC-East ADC Sum Att

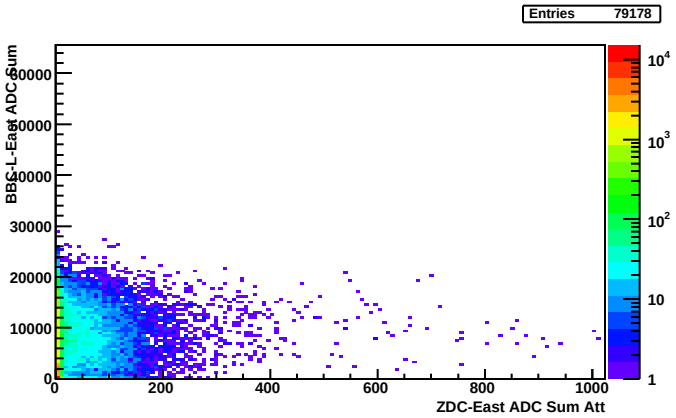

Entries 79178
TOF Mult
ZDC-West ADC Sum Att

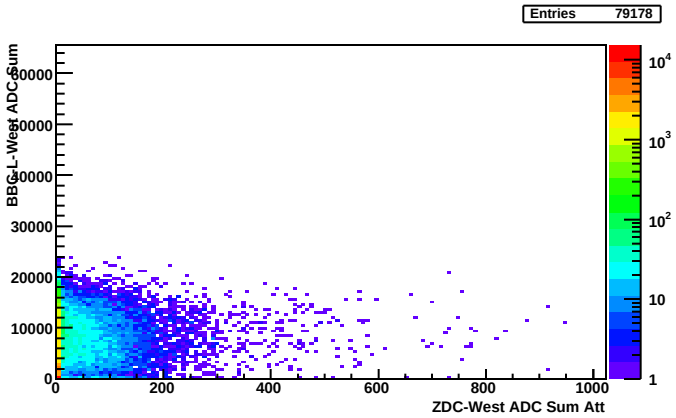

Entries 79178
BBC-L-East ADC Sum
BBC-S-East ADC Sum

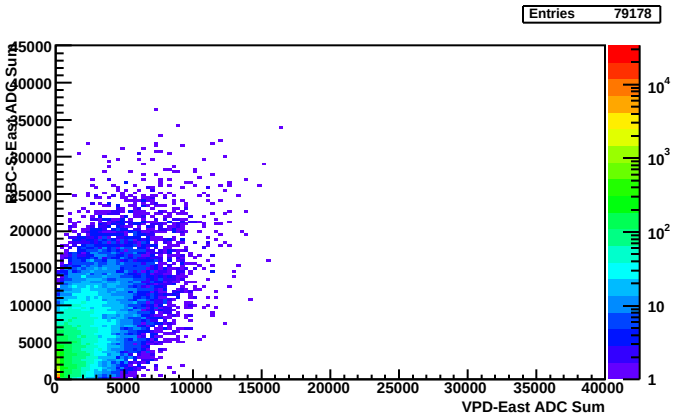

Entries 79178
BBC-L-West ADC Sum
BBC-S-West ADC Sum

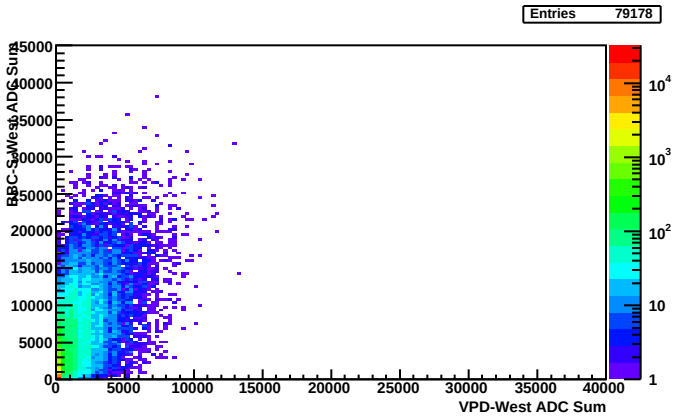

Entries 79178
BBC-L-East ADC Sum
VPD-East ADC Sum

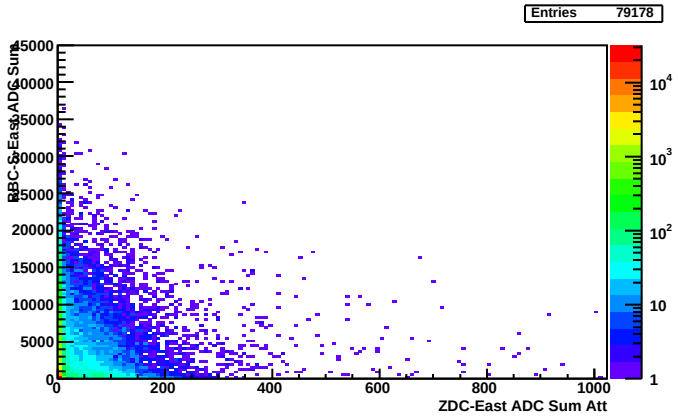

Entries 79178
BBC-L-West ADC Sum
VPD-West ADC Sum

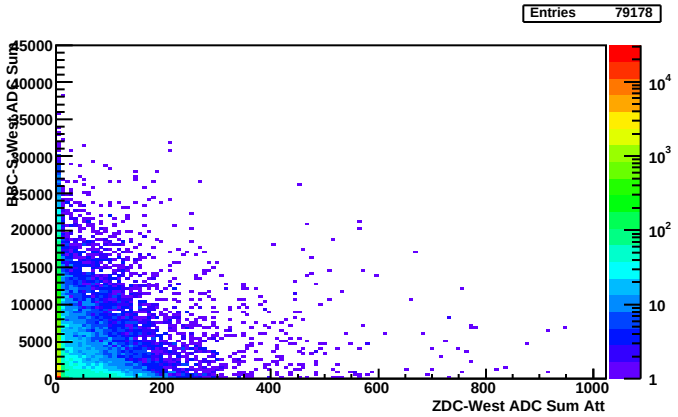

Entries 79178
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

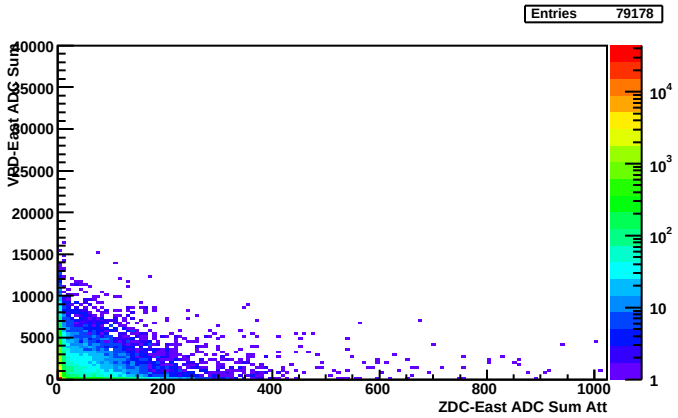

Entries 79178
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

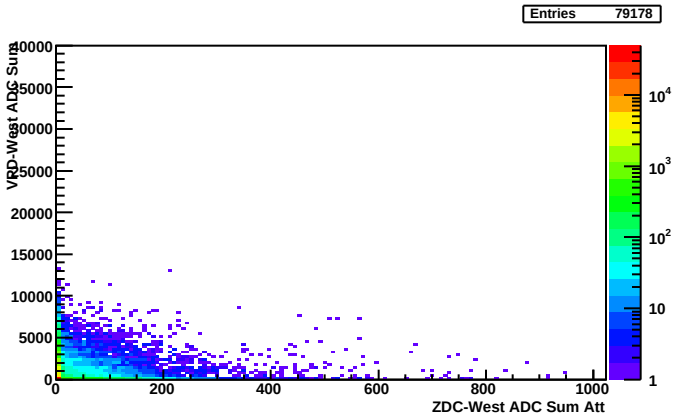

Entries 79178
BBC-S-East ADC Sum
VPD-East ADC Sum

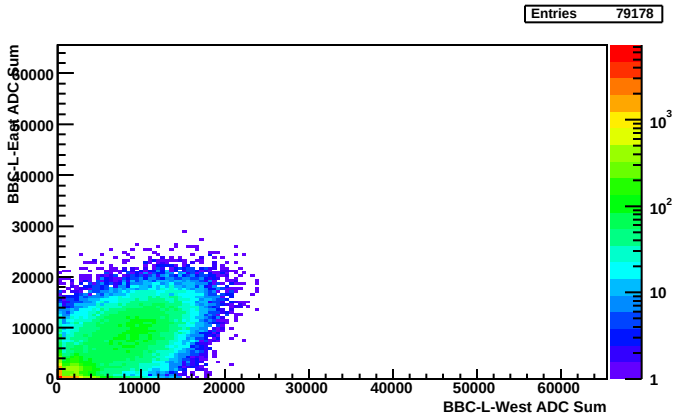

Entries 79178
BBC-S-West ADC Sum
VPD-West ADC Sum

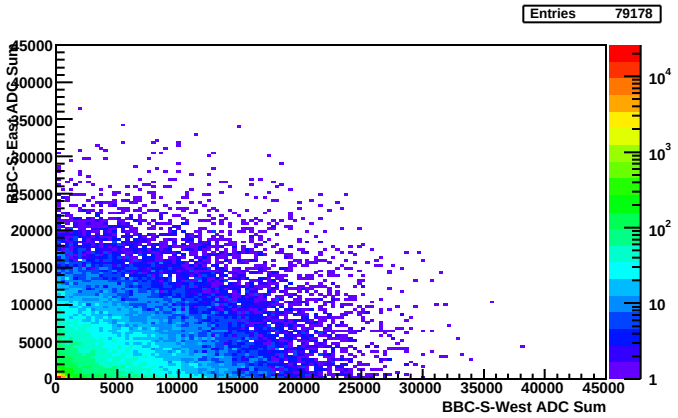

Entries 79178
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

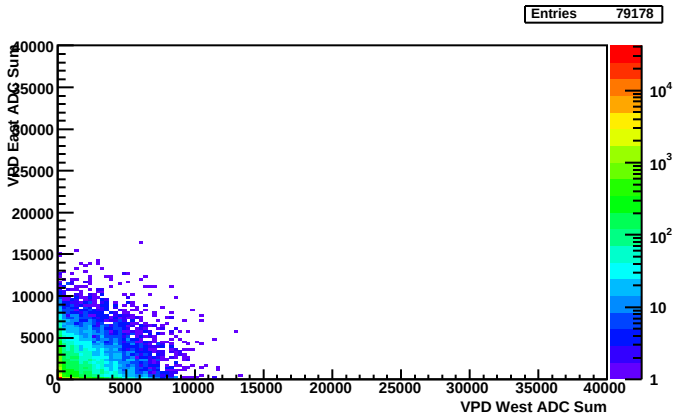

Entries 79178
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

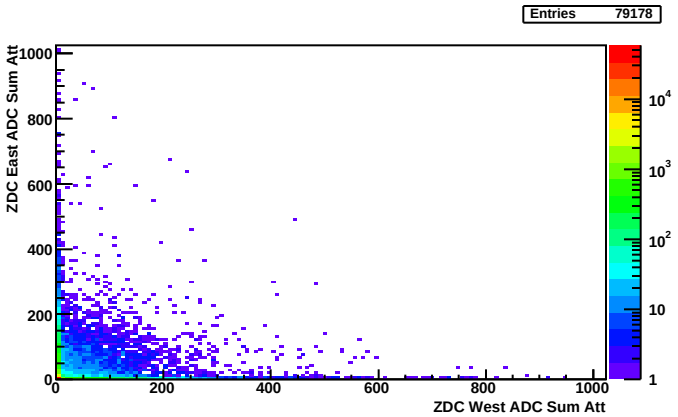

Entries 79178
VPD-East ADC Sum
ZDC-East ADC Sum Att

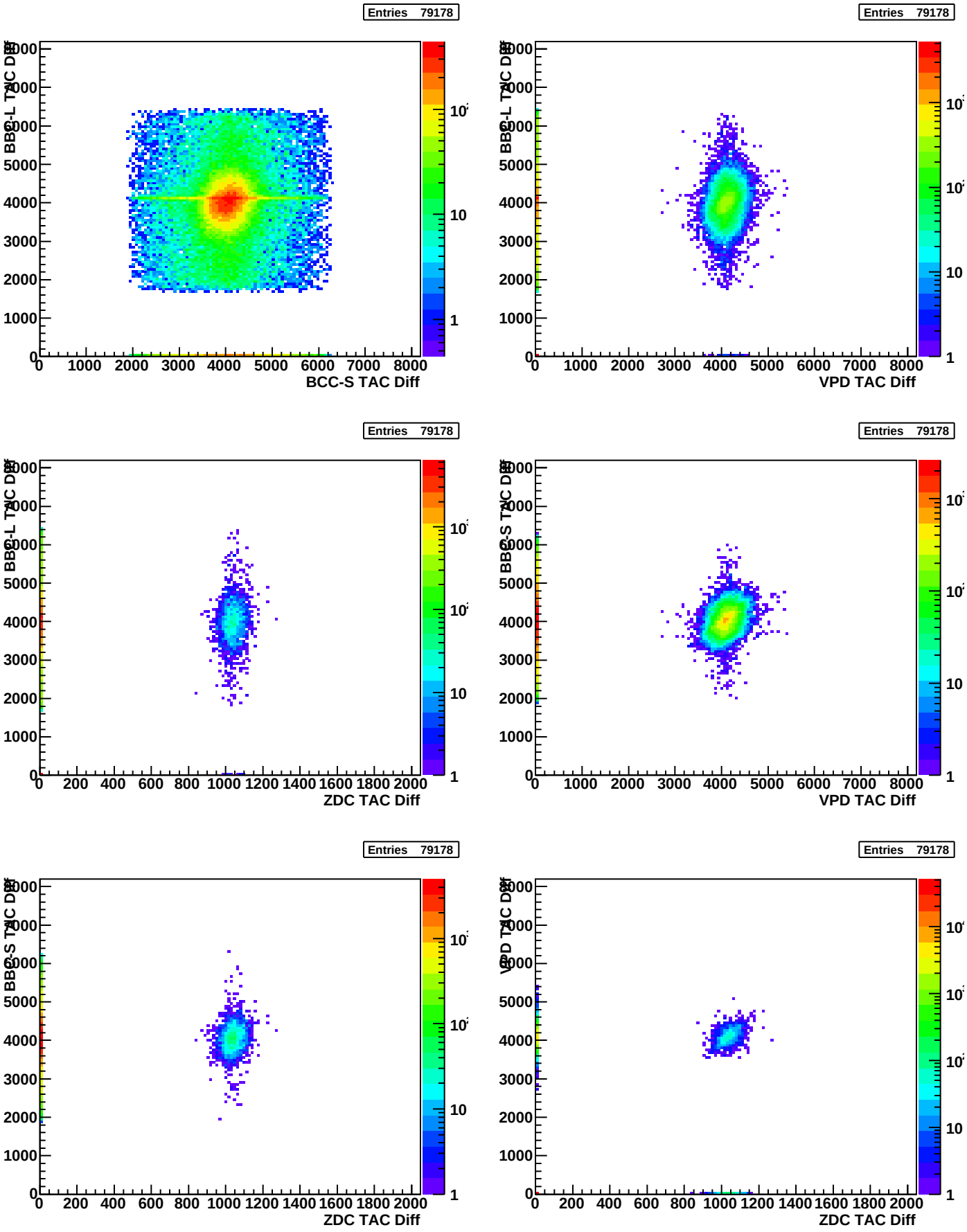

Entries 79178
VPD-West ADC Sum
ZDC-West ADC Sum Att

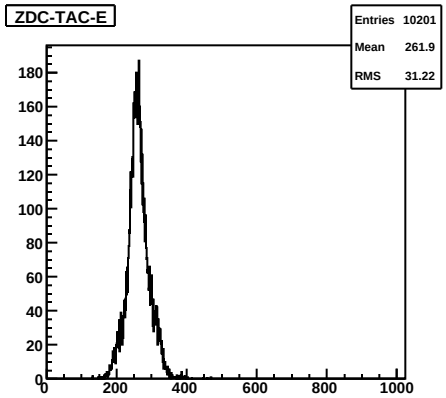

Entries 79178
BBC-L-East ADC Sum
BBC-L-West ADC Sum

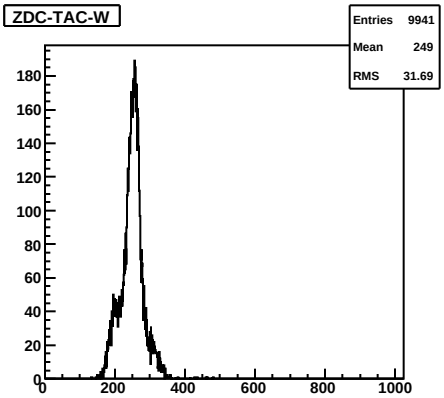

Entries 79178
BBC-S-East ADC Sum
BBC-S-West ADC Sum

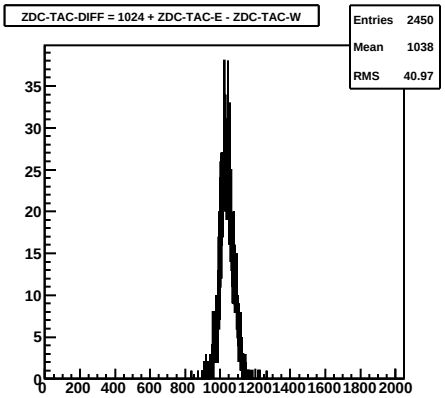

Entries 79178
VPD East ADC Sum
VPD West ADC Sum

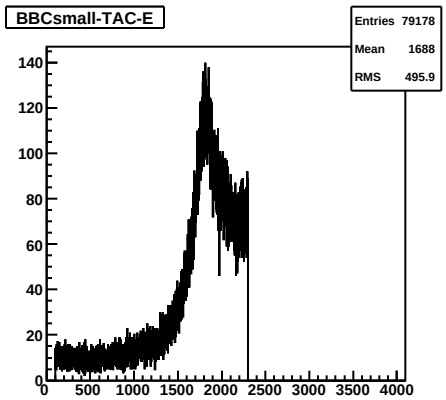

Entries 79178
ZDC East ADC Sum Att
ZDC West ADC Sum Att

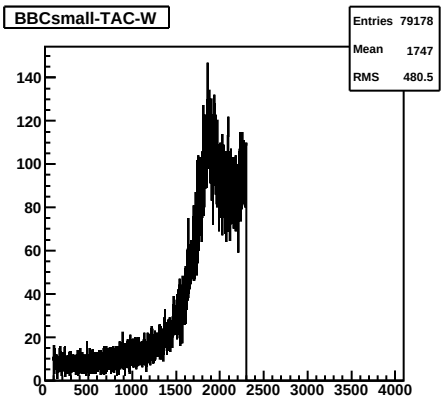

Entries 79178
BBC-L TAC Diff
BCC-S TAC Diff
Entries 79178
BBC-L TAC Diff
VPD TAC Diff
Entries 79178
BBC-L TAC Diff
ZDC TAC Diff
Entries 79178
BBC-S TAC Diff
VPD TAC Diff
Entries 79178
BBC-S TAC Diff
ZDC TAC Diff
Entries 79178
VPD TAC Diff
ZDC TAC Diff

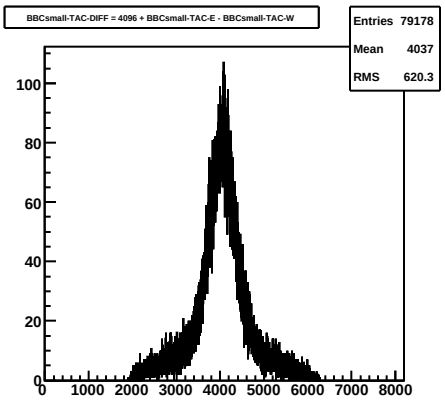

ZDC-TAC-E
Entries 10201
Mean 261.9
RMS 31.22

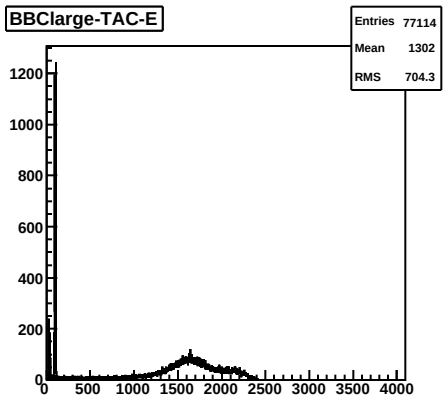

ZDC-TAC-W
Entries 9941
Mean 249
RMS 31.69

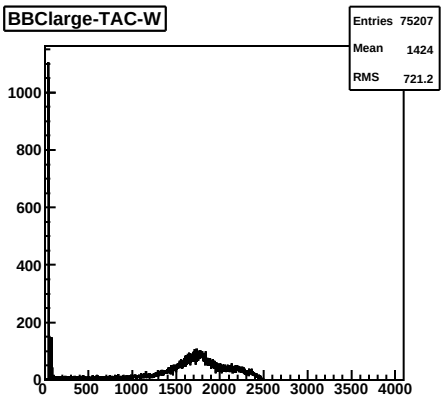

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 2450
Mean 1038
RMS 40.97

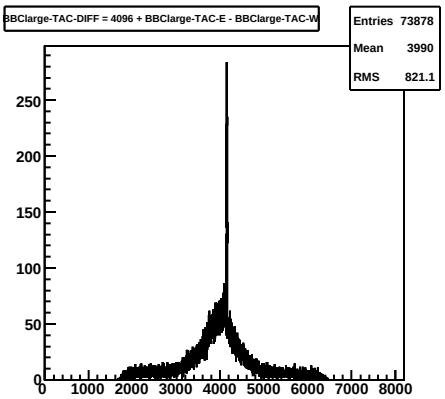

BBCsmall-TAC-E
Entries 79178
Mean 1688
RMS 495.9

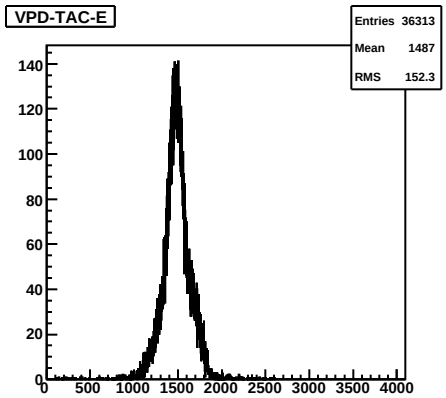

BBCsmall-TAC-W
Entries 79178
Mean 1747
RMS 480.5

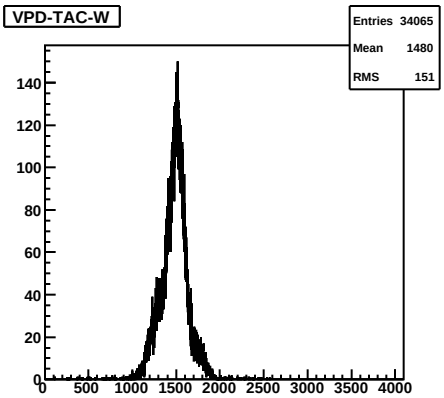

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 79178
Mean 4037
RMS 620.3

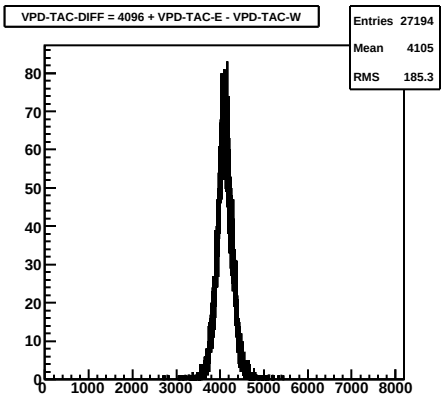

BBClarge-TAC-E
Entries 77114
Mean 1302
RMS 704.3

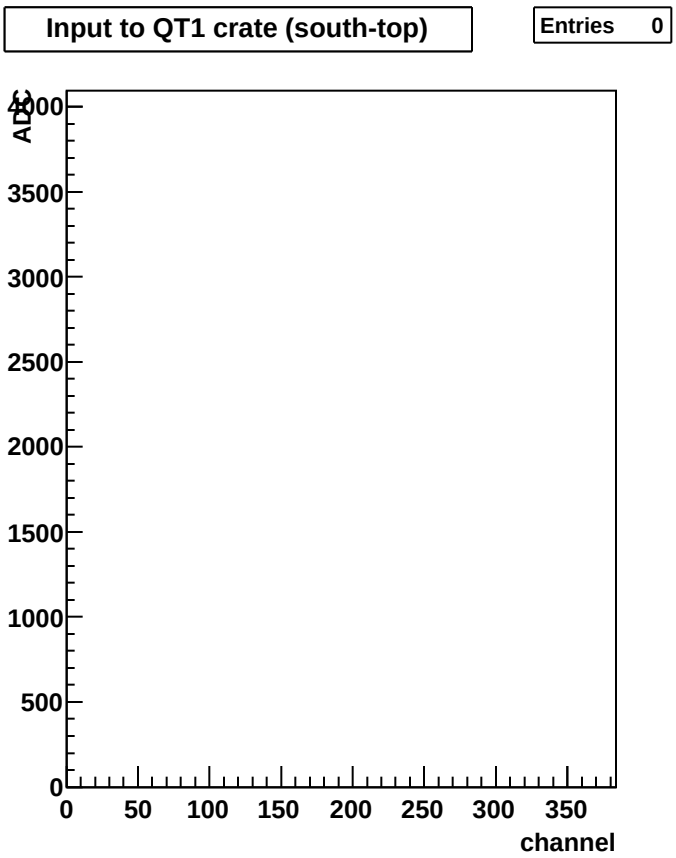

BBClarge-TAC-W
Entries 75207
Mean 1424
RMS 721.2

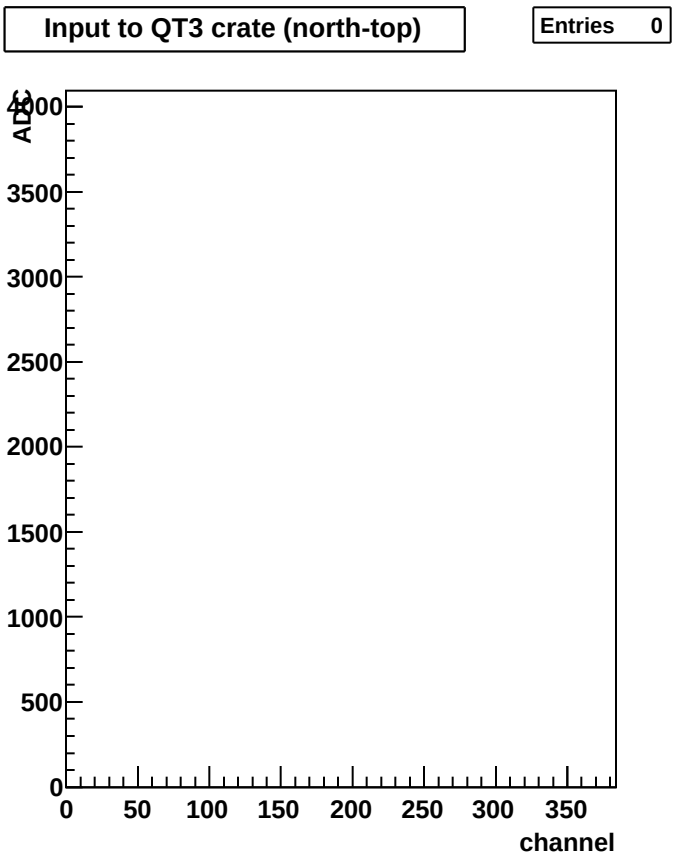

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 73878
Mean 3990
RMS 821.1

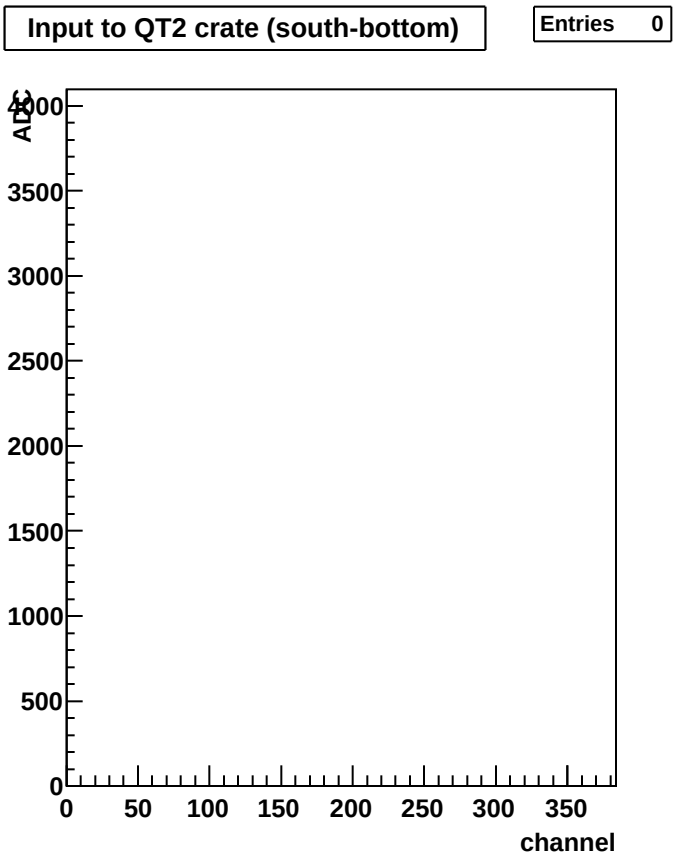

VPD-TAC-E
Entries 36313
Mean 1487
RMS 152.3

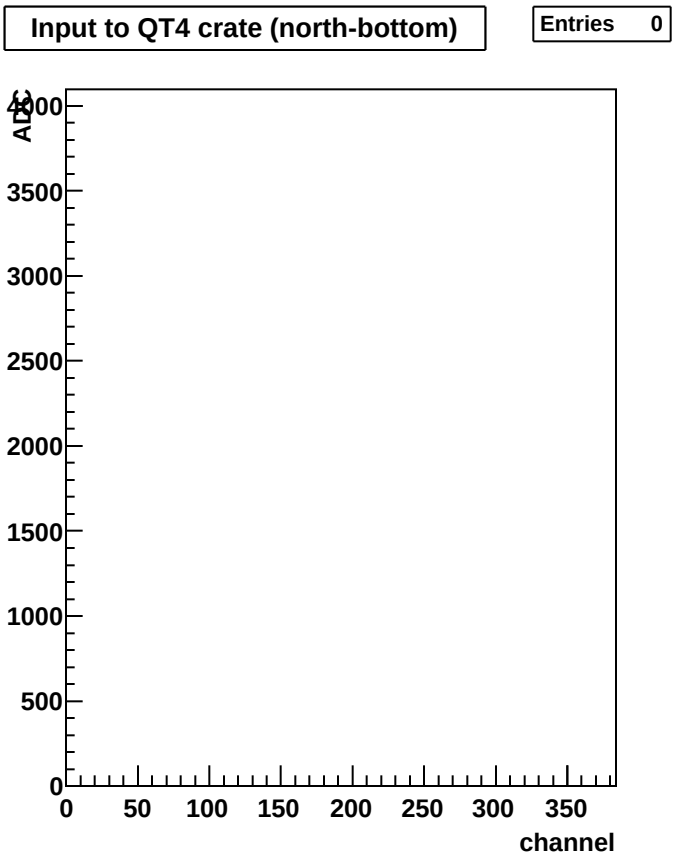

VPD-TAC-W
Entries 34065
Mean 1480
RMS 151

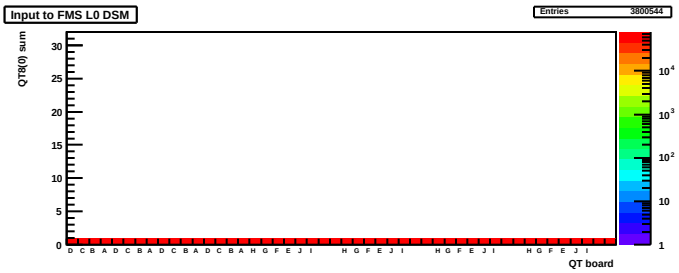

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 27194
Mean 4105
RMS 185.3

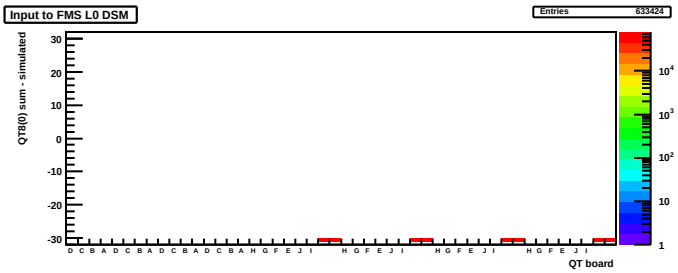

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

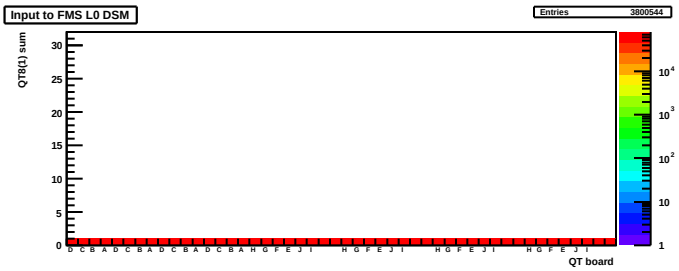

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

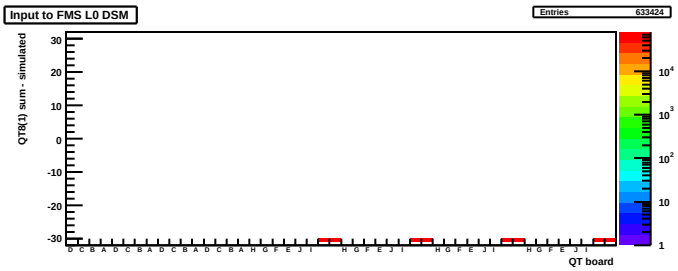

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

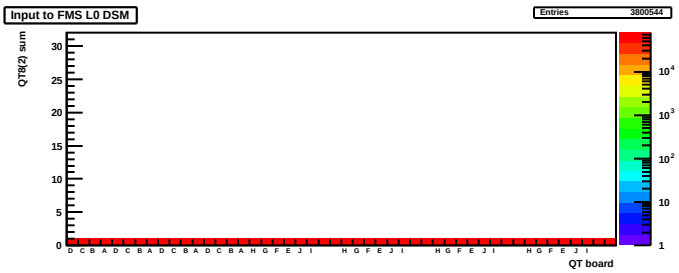

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

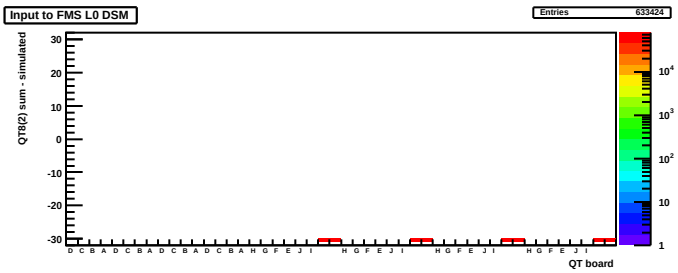

Input to FMS L0 DSM
Entries 3800544
QT8(0) sum
QT board

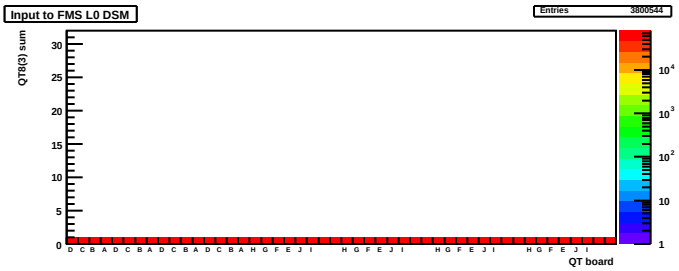

Input to FMS L0 DSM
Entries 633424
QT8(0) sum - simulated
QT board

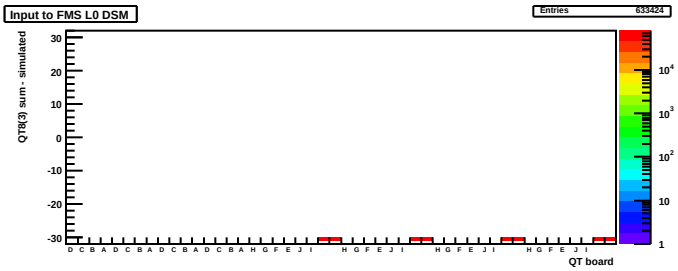

Input to FMS L0 DSM
Entries 3800544
QT8(1) sum
QT board

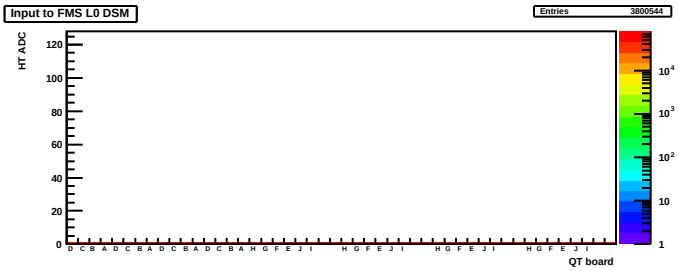

Input to FMS L0 DSM
Entries 633424
QT8(1) sum - simulated
QT board

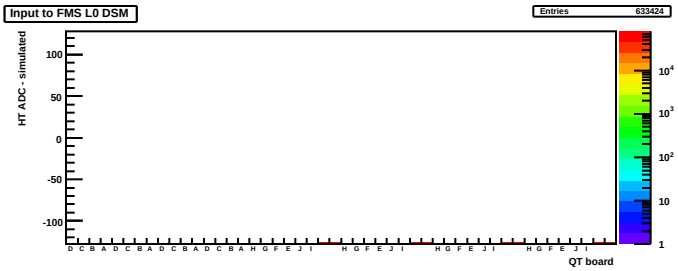

Input to FMS L0 DSM
Entries 3800544
QT8(2) sum
QT board

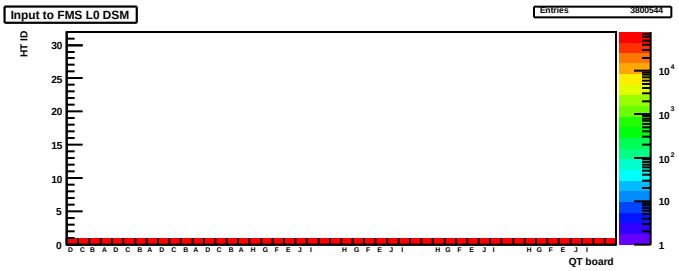

Input to FMS L0 DSM
Entries 633424
QT8(2) sum - simulated
QT board

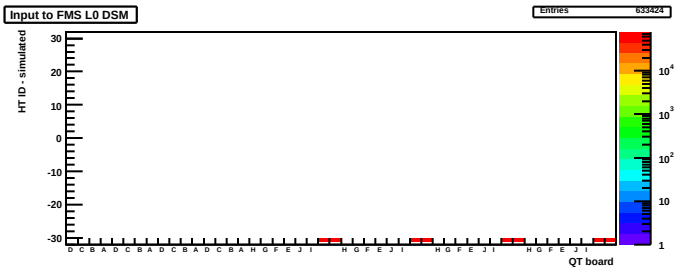

Input to FMS L0 DSM
Entries 3800544
QT8(3) sum
QT board

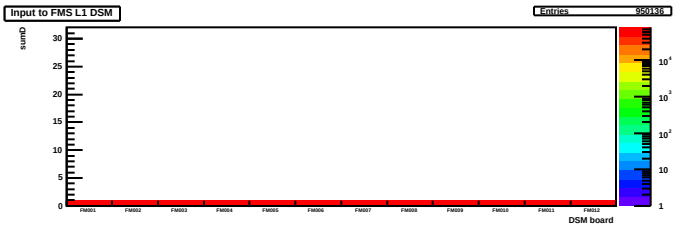

Input to FMS L0 DSM
Entries 633424
QT8(3) sum - simulated
QT board

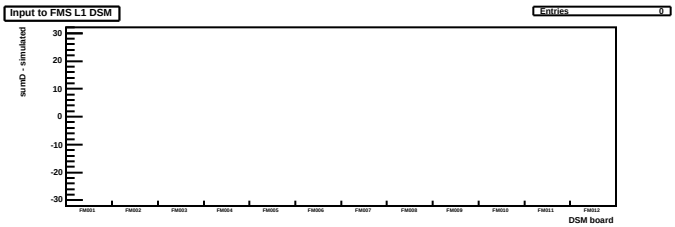

Input to FMS L0 DSM
Entries 3800544
HT ADC
QT board

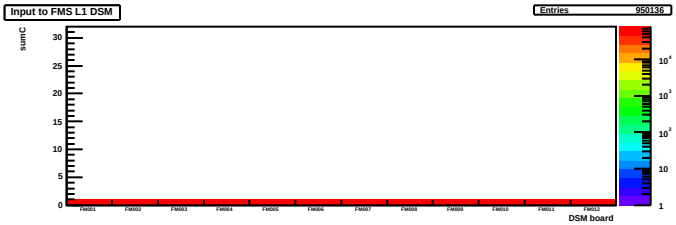

Input to FMS L0 DSM
Entries 633424
HT ADC - simulated
QT board

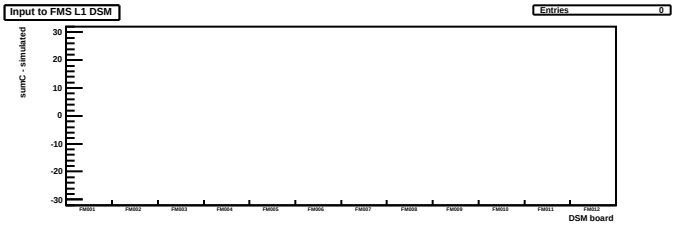

Input to FMS L0 DSM
Entries 3800544
HT ID
QT board

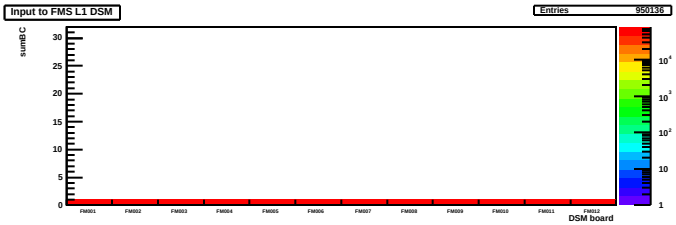

Input to FMS L0 DSM
Entries 633424
HT ID - simulated
QT board

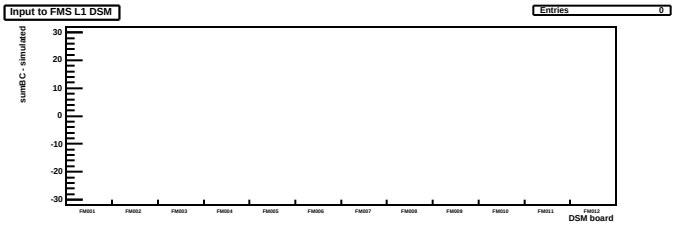

Input to FMS L1 DSM
Entries 950136
sumD
DSM board

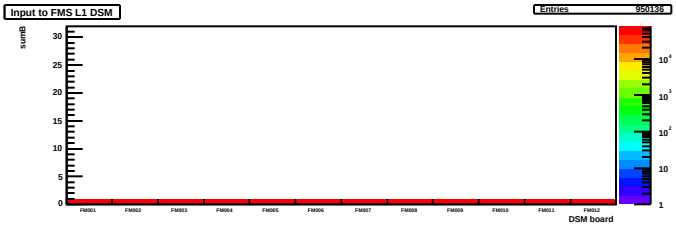

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

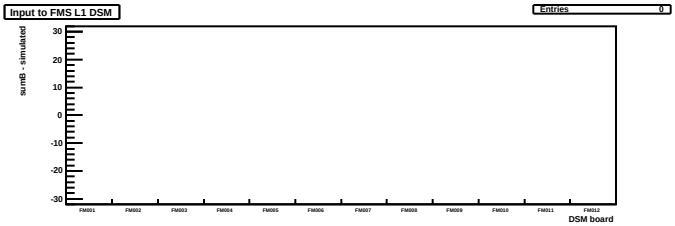

Input to FMS L1 DSM
Entries 950136
sumC
DSM board

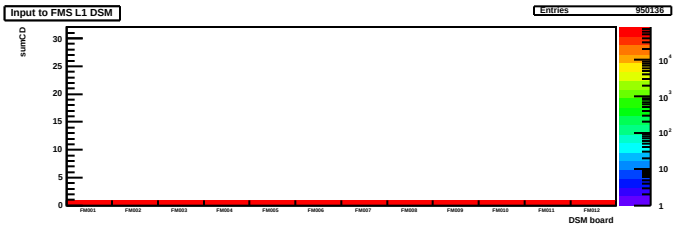

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

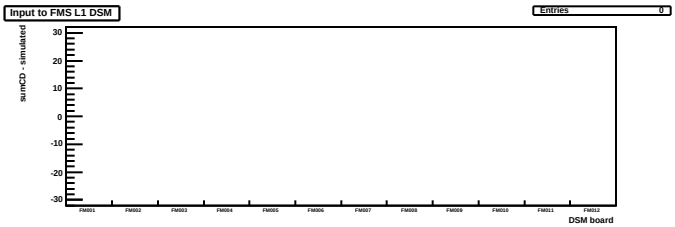

Input to FMS L1 DSM
Entries 950136
sumBC
DSM board

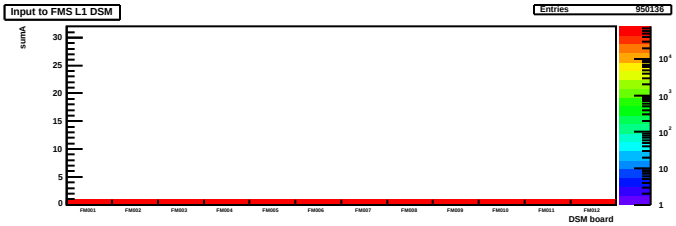

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

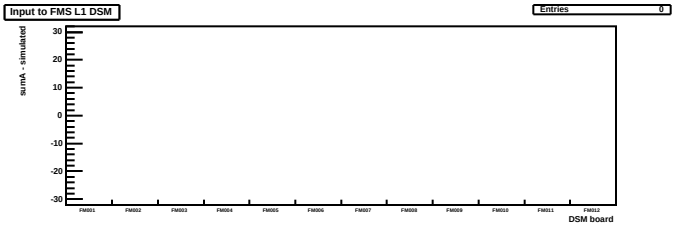

Input to FMS L1 DSM
Entries 950136
sumB
DSM board

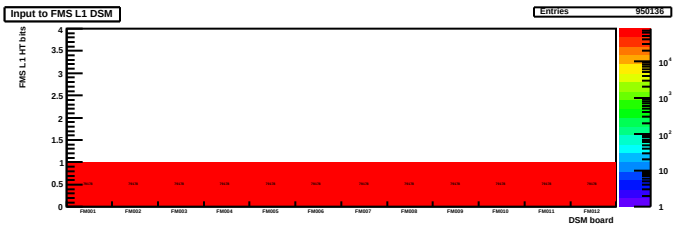

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

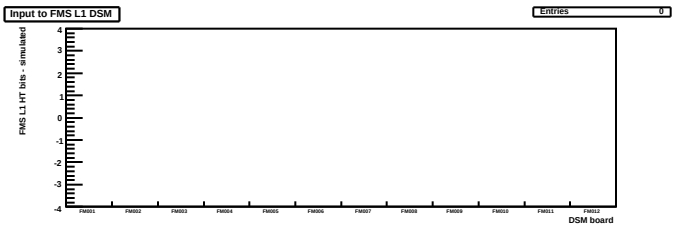

Input to FMS L1 DSM
Entries 950136
sumCD
DSM board

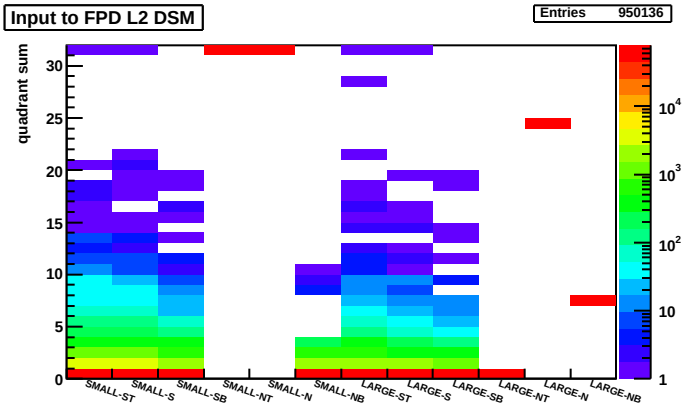

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

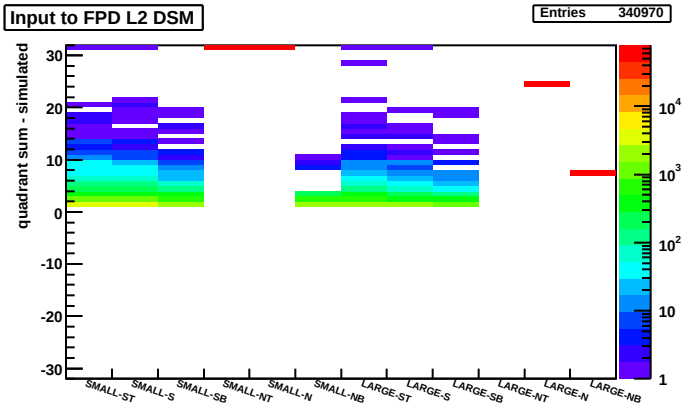

Input to FMS L1 DSM
Entries 950136
sumA
DSM board

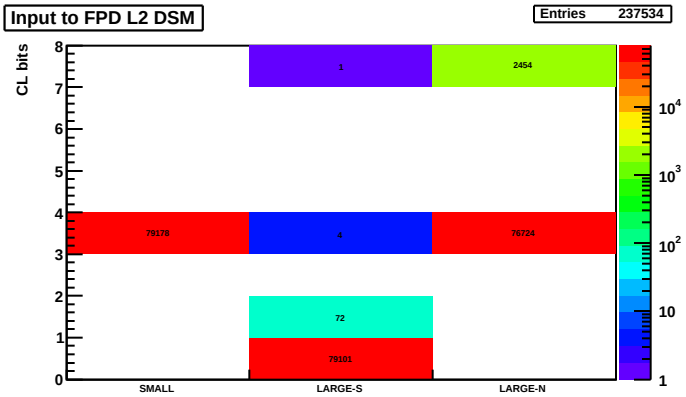

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

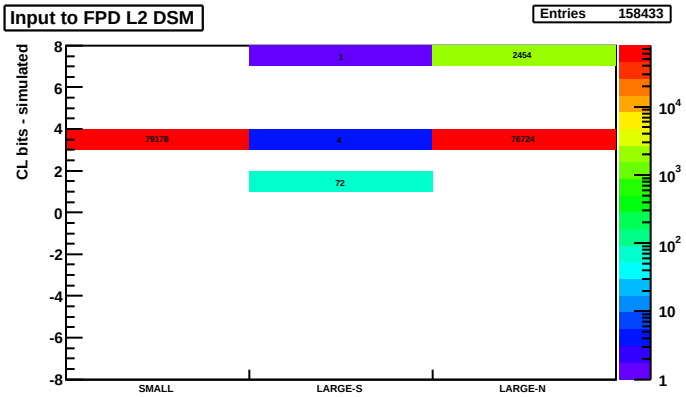

Input to FMS L1 DSM
Entries 950136
FMS L1 HT bits
DSM board

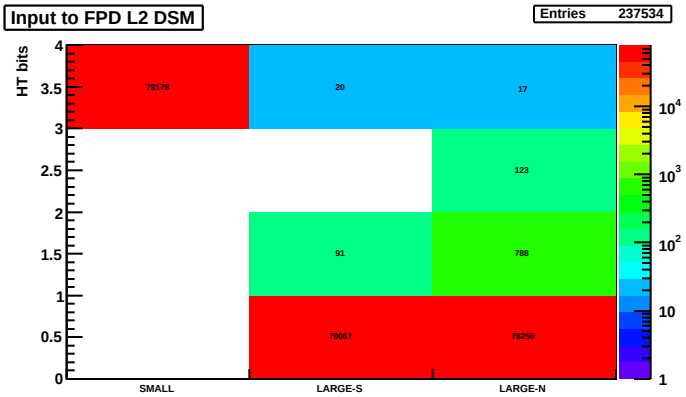

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

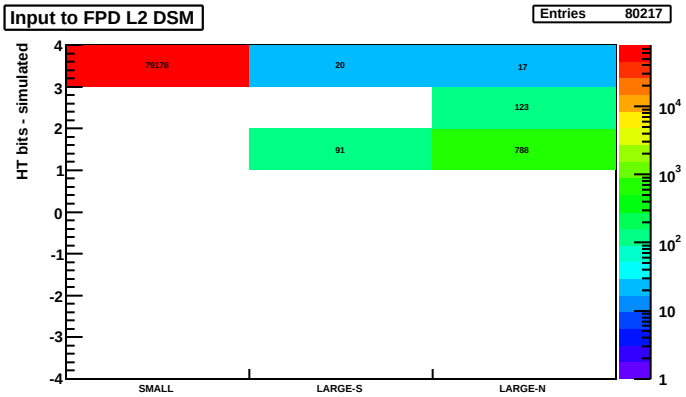

Input to FPD L2 DSM
Entries 950136
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

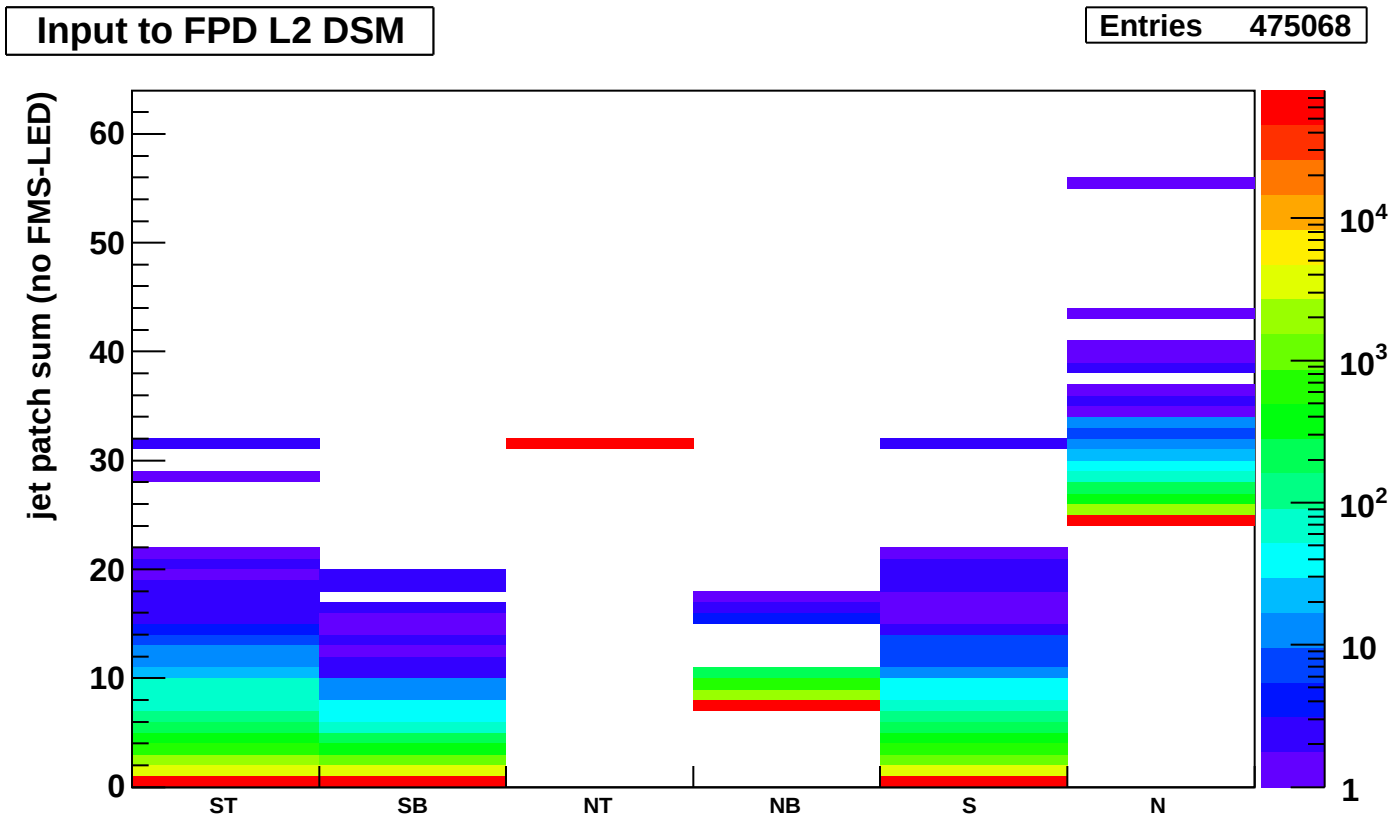

Input to FPD L2 DSM
Entries 340970
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

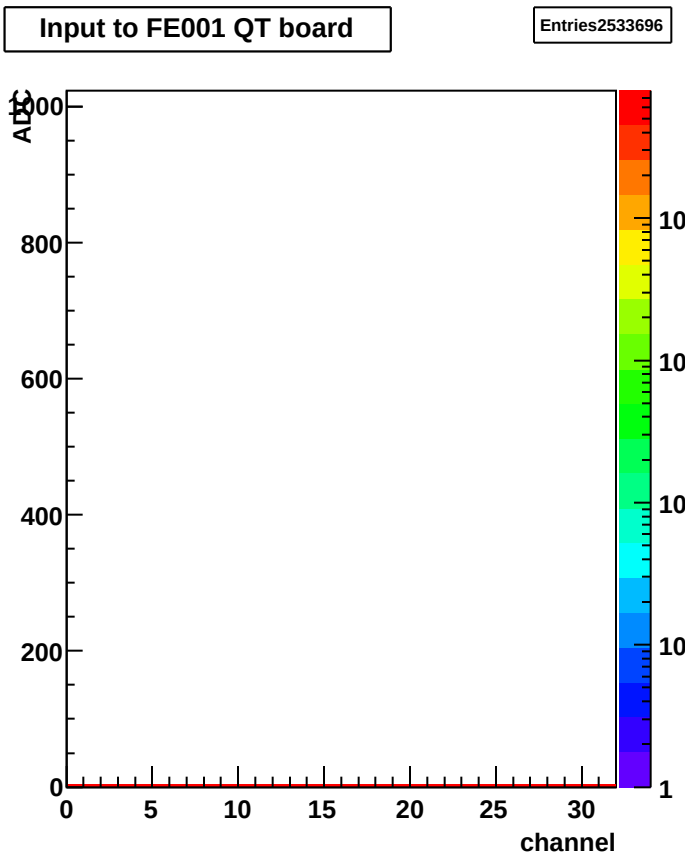

Input to FPD L2 DSM
Entries 237534
CL bits
1
2454
79178
4
76724
72
79101
SMALL
LARGE-S
LARGE-N

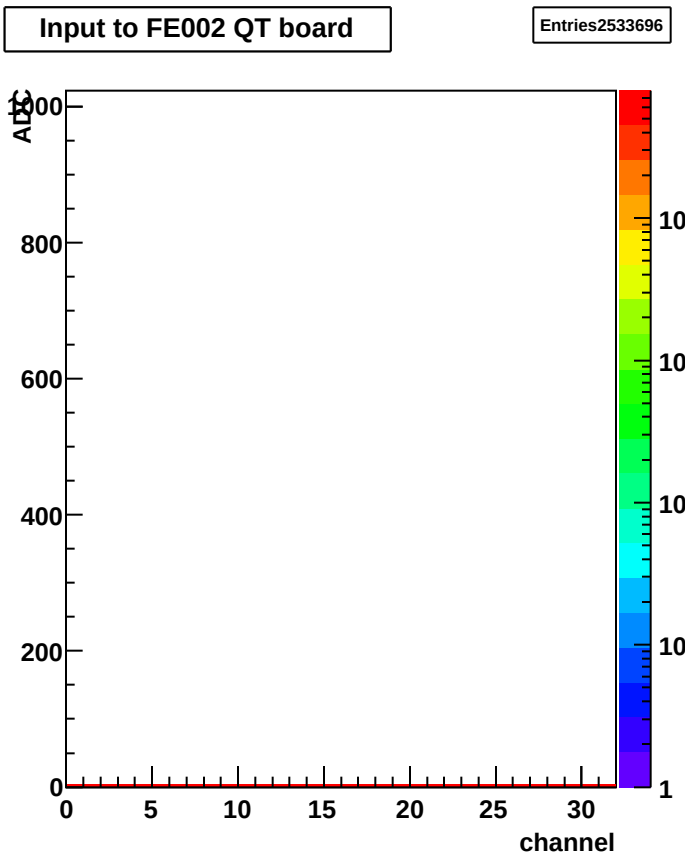

Input to FPD L2 DSM
Entries 158433
CL bits - simulated
1
2454
79178
4
76724
72
SMALL
LARGE-S
LARGE-N

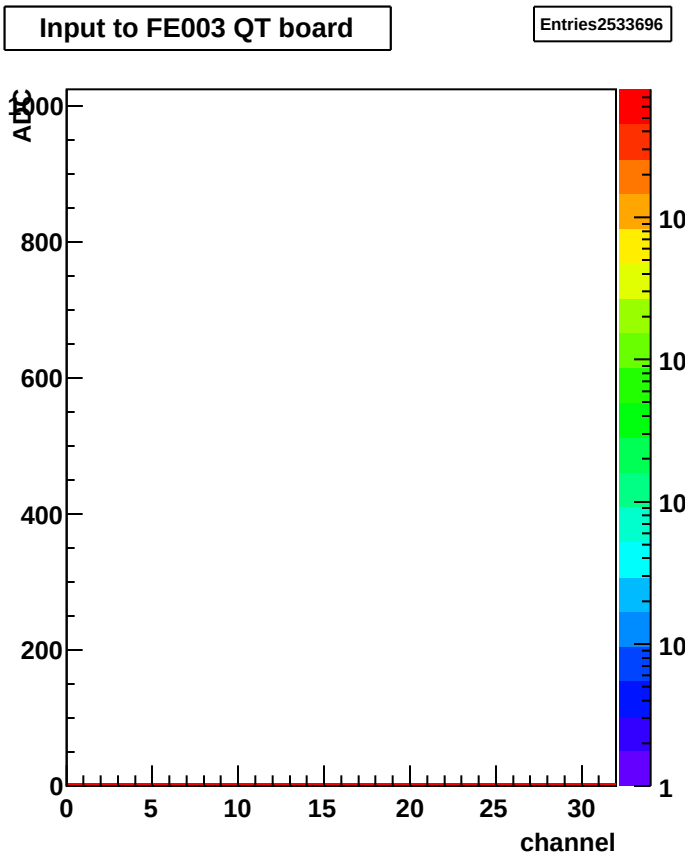

Input to FPD L2 DSM
Entries 237534
HT bits
79178
20
17
123
91
788
79067
78250
SMALL
LARGE-S
LARGE-N

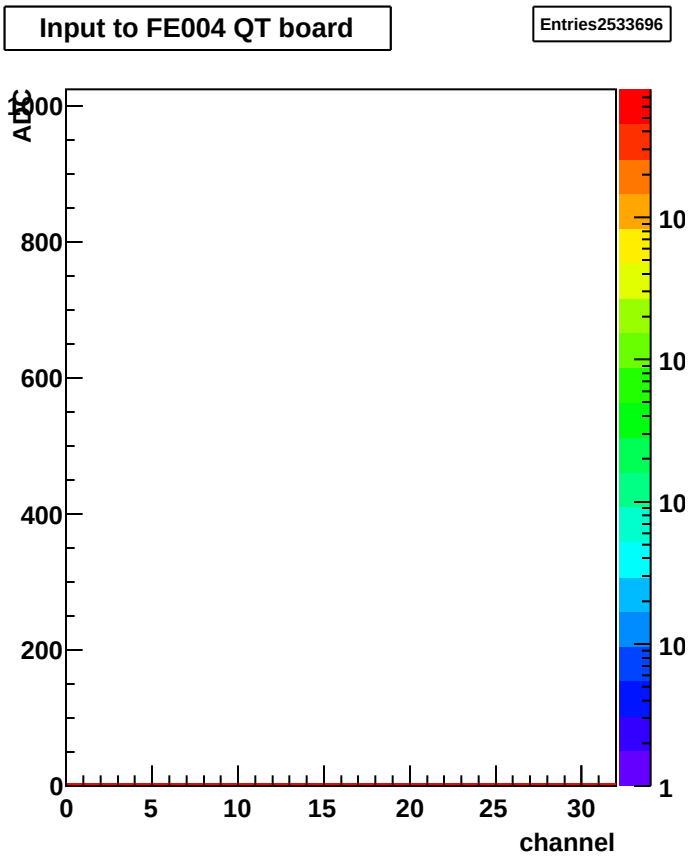

Input to FPD L2 DSM
Entries 80217
HT bits - simulated
79178
20
17
123
91
788
SMALL
LARGE-S
LARGE-N

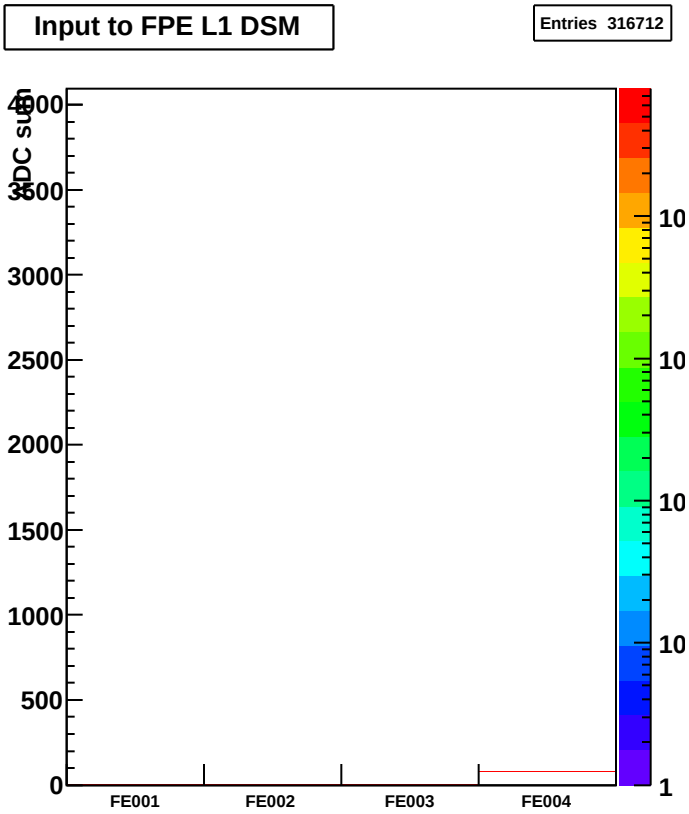

Input to FPD L2 DSM
Entries 475068
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

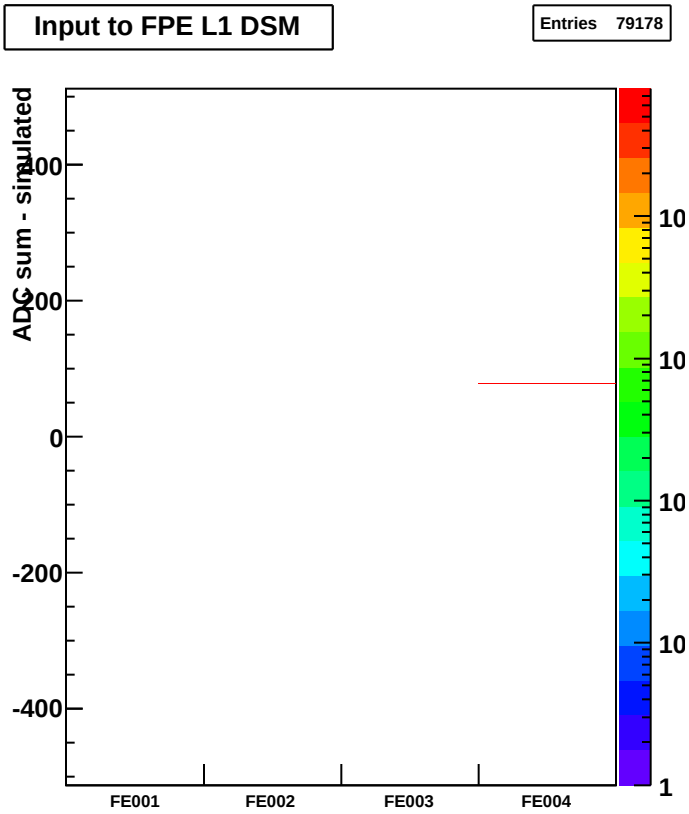

Input to FE001 QT board
Entries2533696
ADC
channel

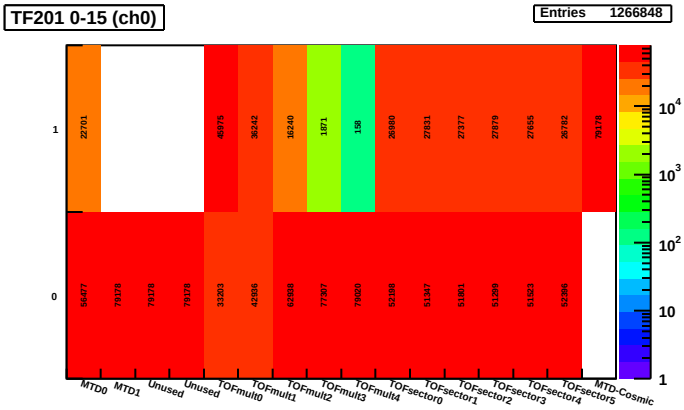

Input to FE002 QT board
Entries2533696
ADC
channel

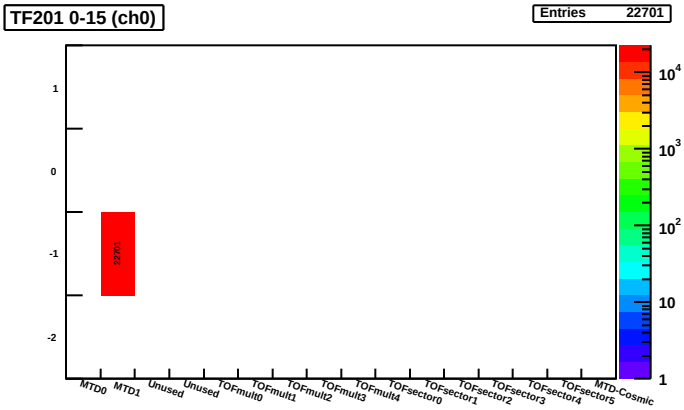

Input to FE003 QT board
Entries2533696
ADC
channel

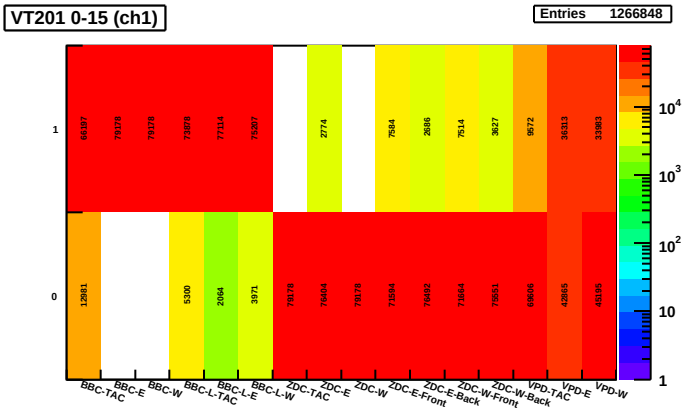

Input to FE004 QT board
Entries2533696
ADC
channel

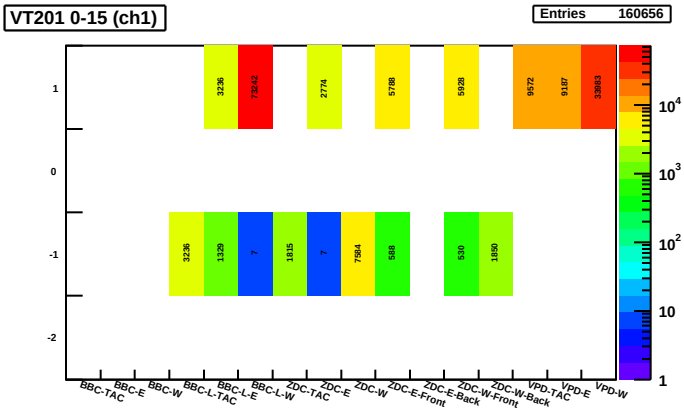

Input to FPE L1 DSM
Entries 316712
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1


Input to FPE L1 DSM
Entries 79178
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1


TF201 0-15 (ch0)
Entries 1266848
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 22701
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 1266848
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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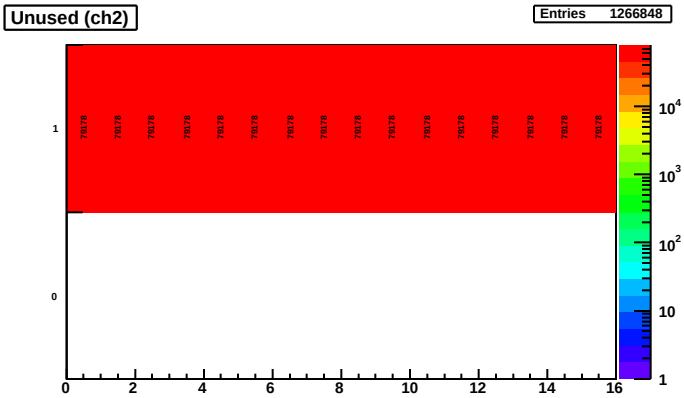
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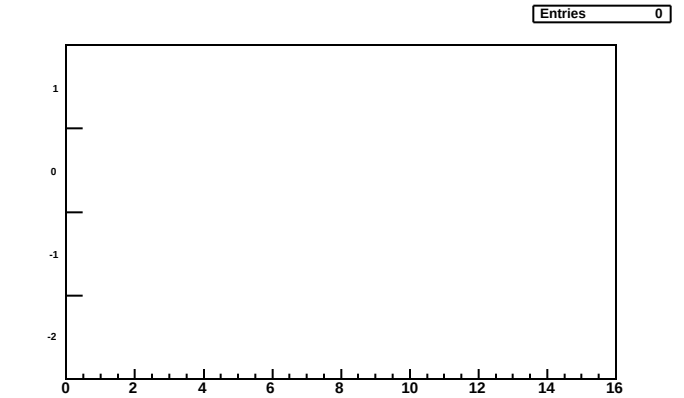
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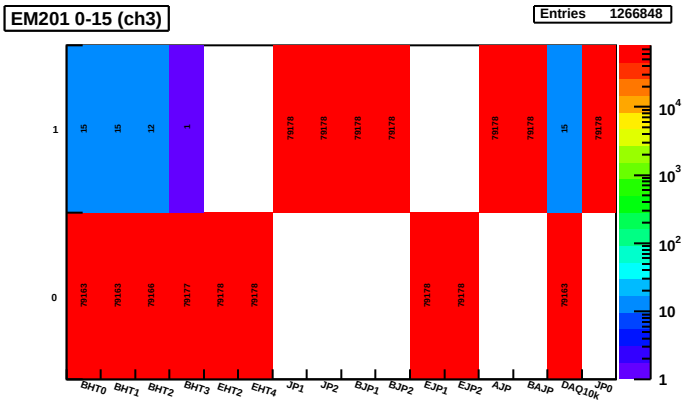
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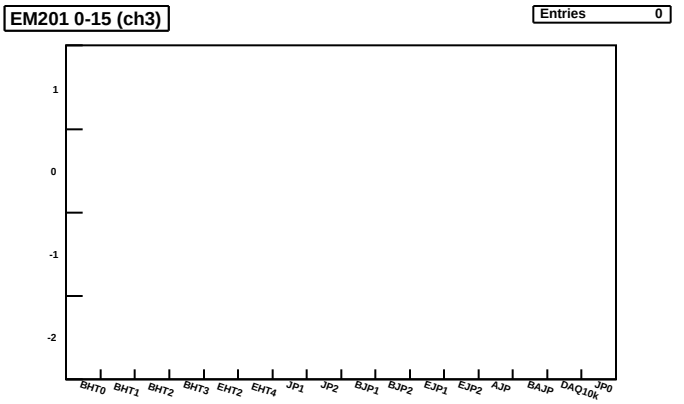
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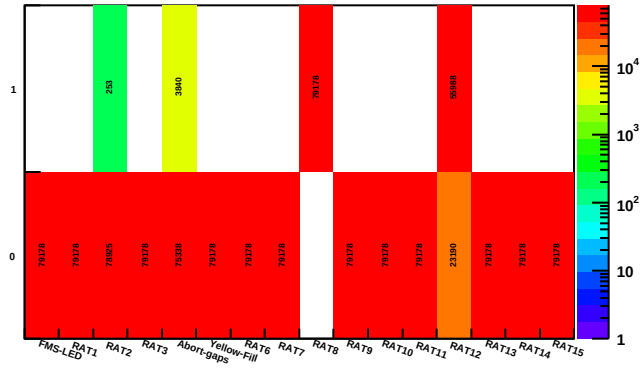
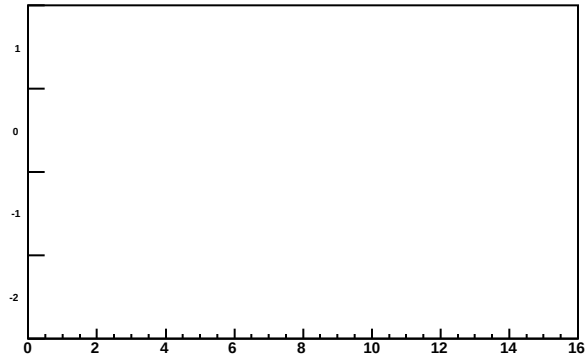
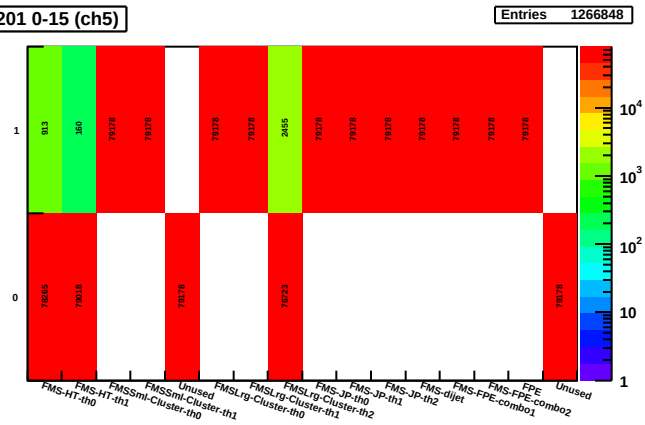
RAT board (ch4)

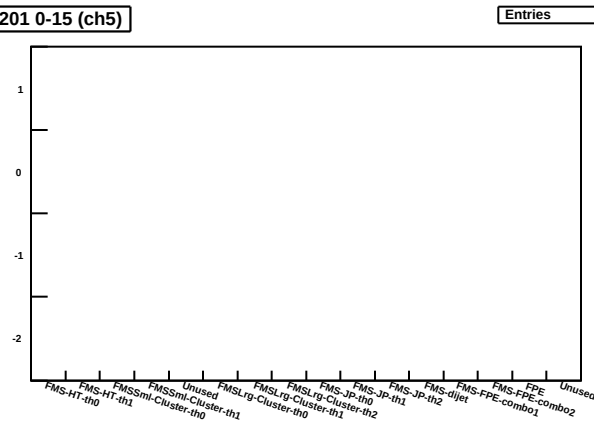




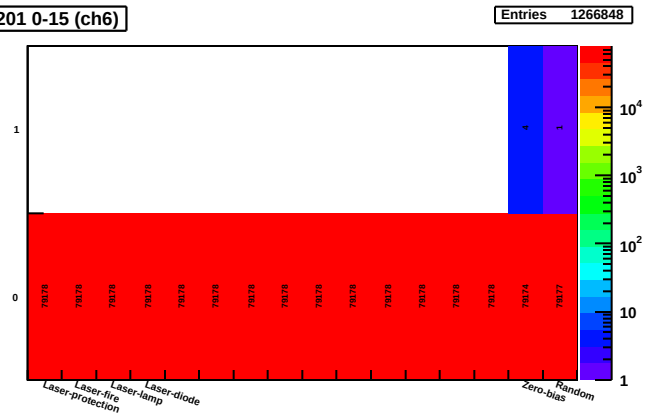
FP201 0-15 (ch5)

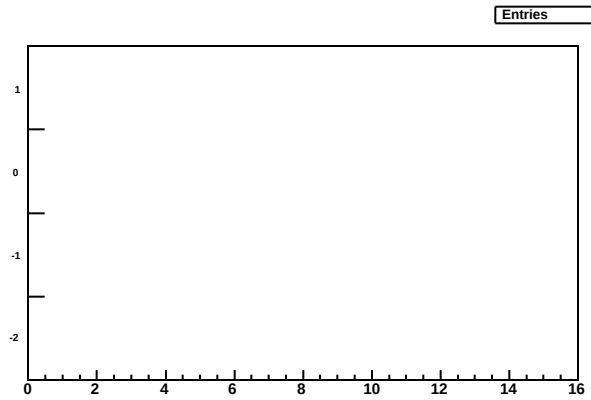
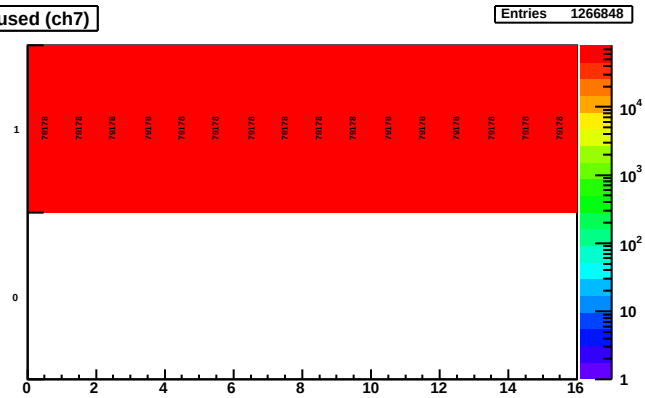
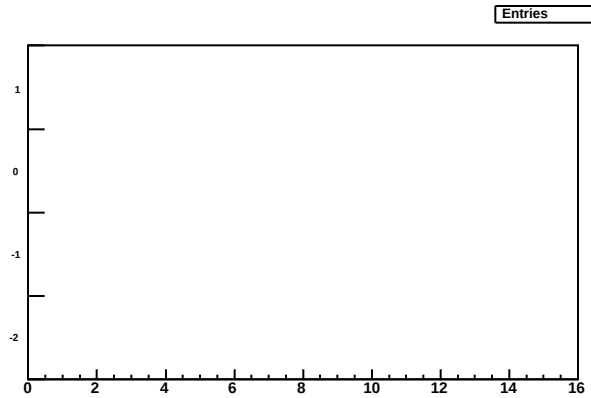


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)