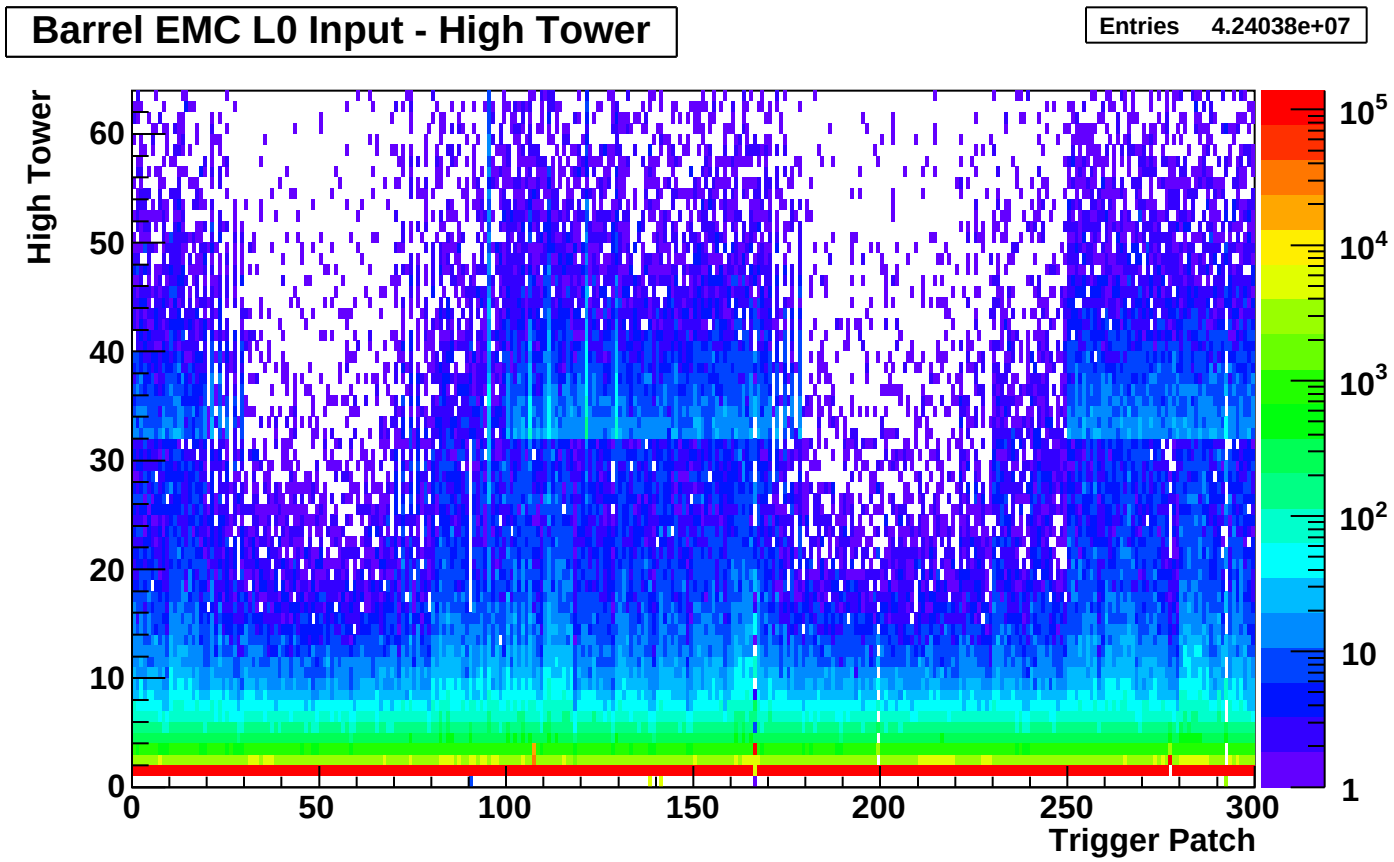
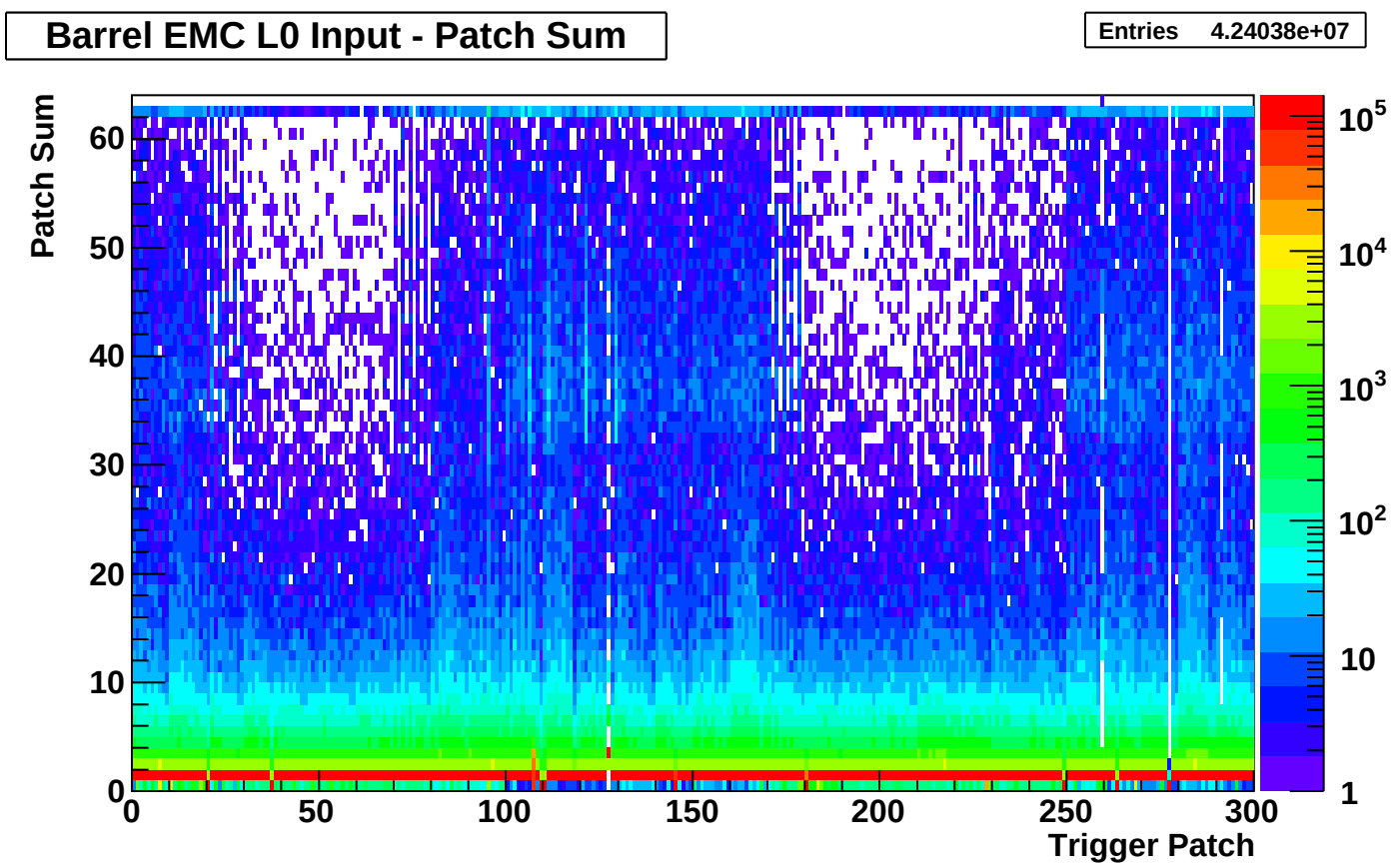
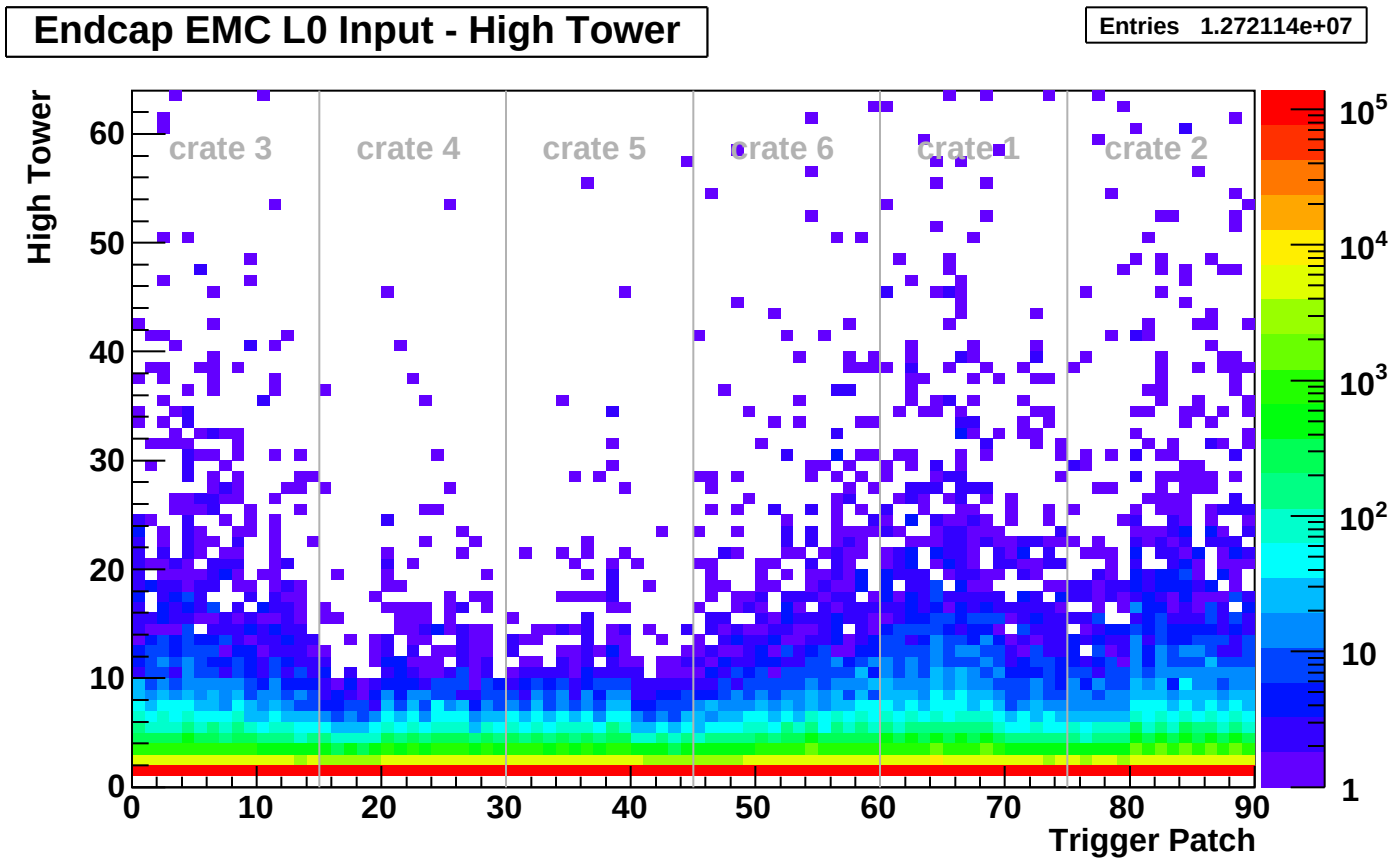
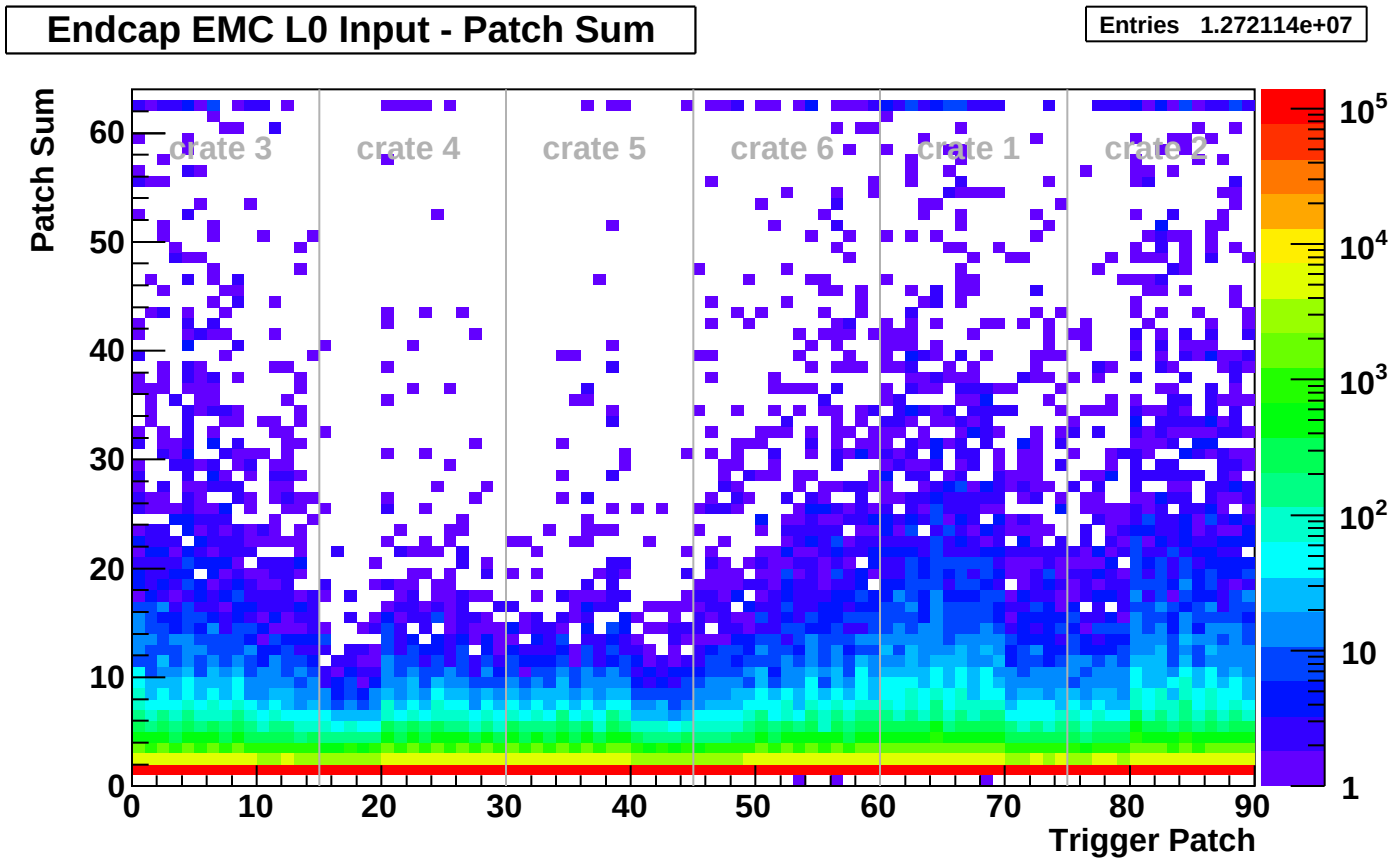
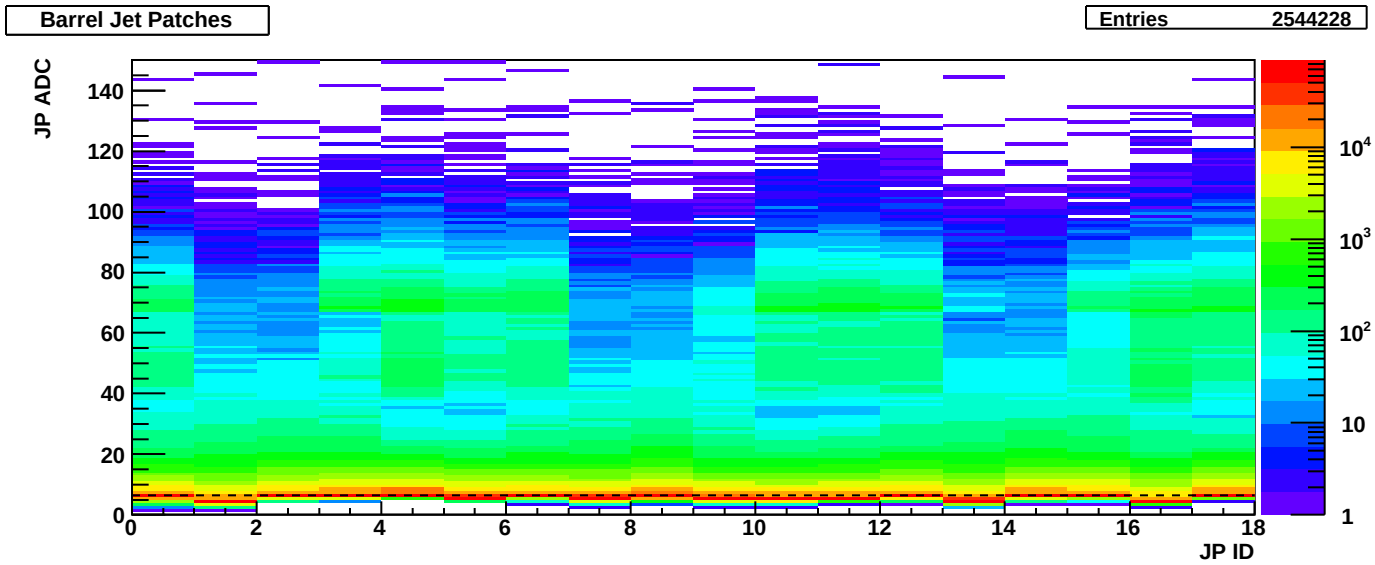
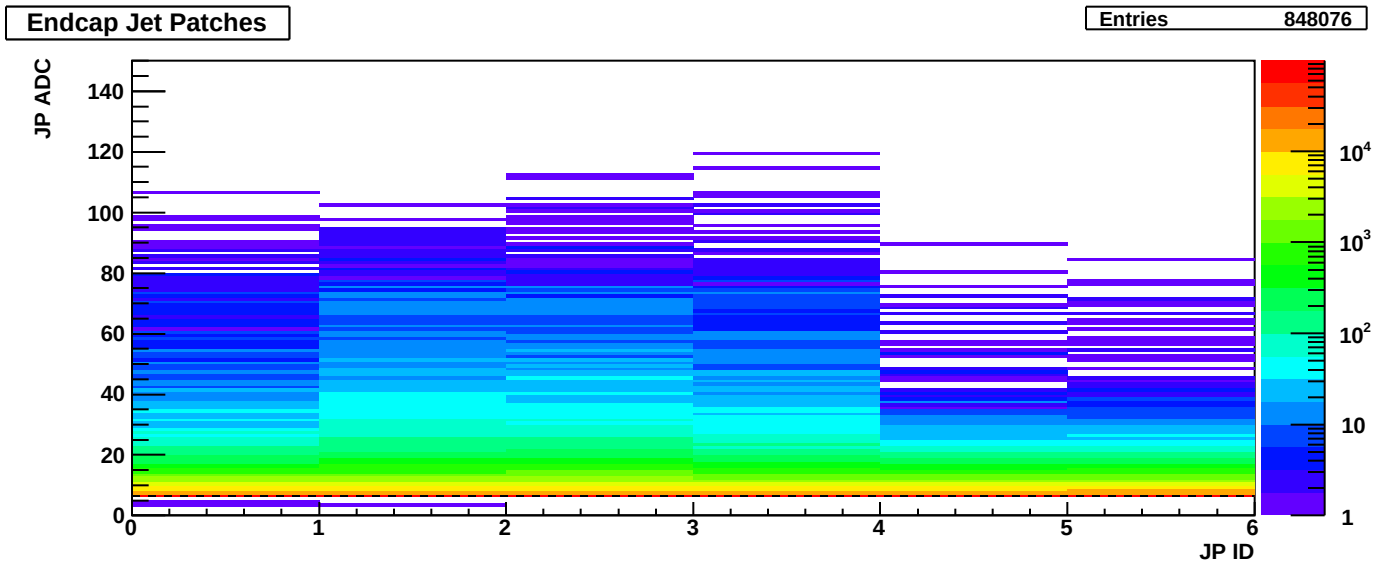

Barrel EMC L0 Input - High Tower
Entries 4.24038e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

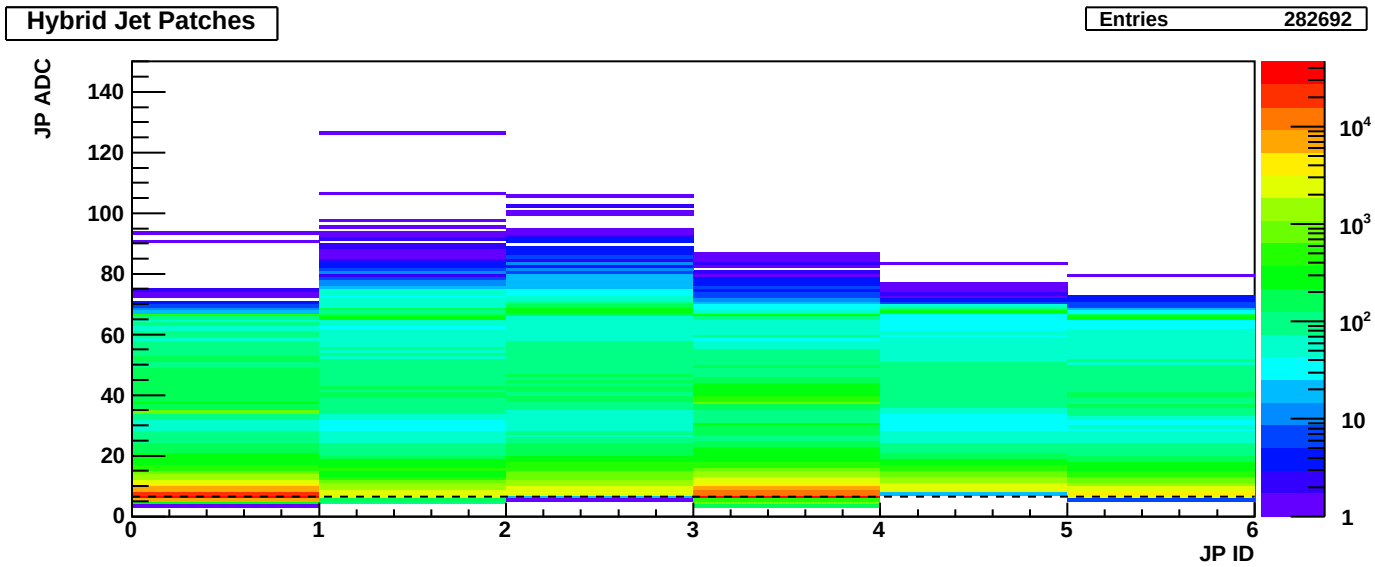

Barrel EMC L0 Input - Patch Sum
Entries 4.24038e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

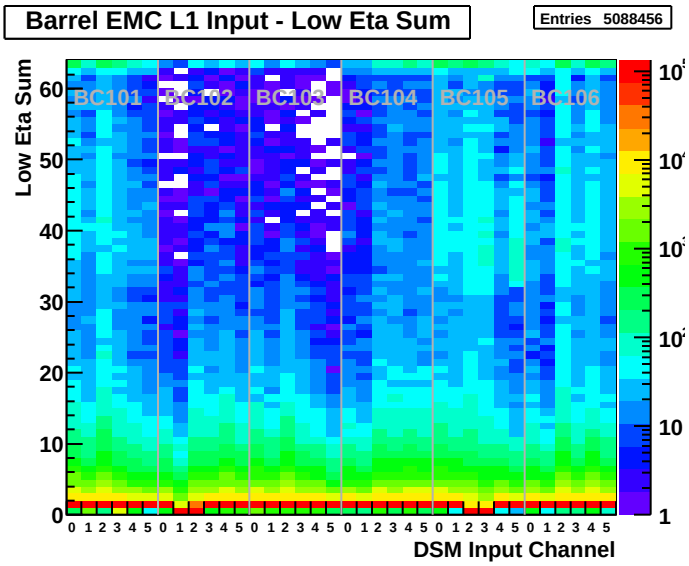

Endcap EMC L0 Input - High Tower
Entries 1.272114e+07
High Tower
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

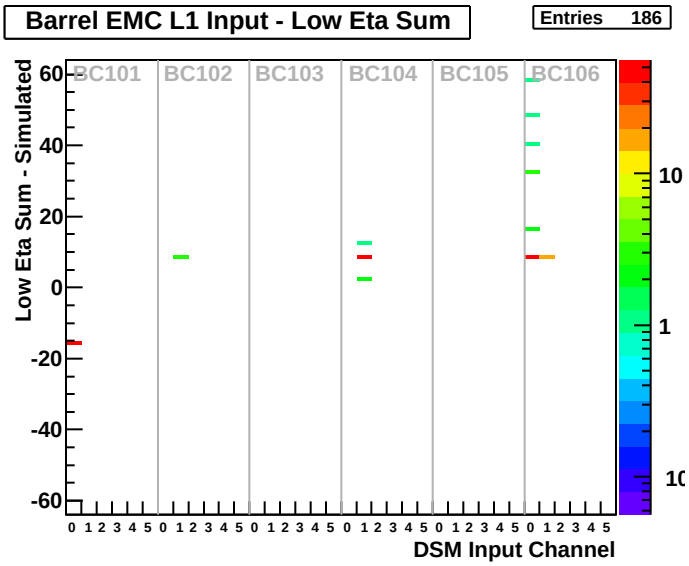

Endcap EMC L0 Input - Patch Sum
Entries 1.272114e+07
Patch Sum
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

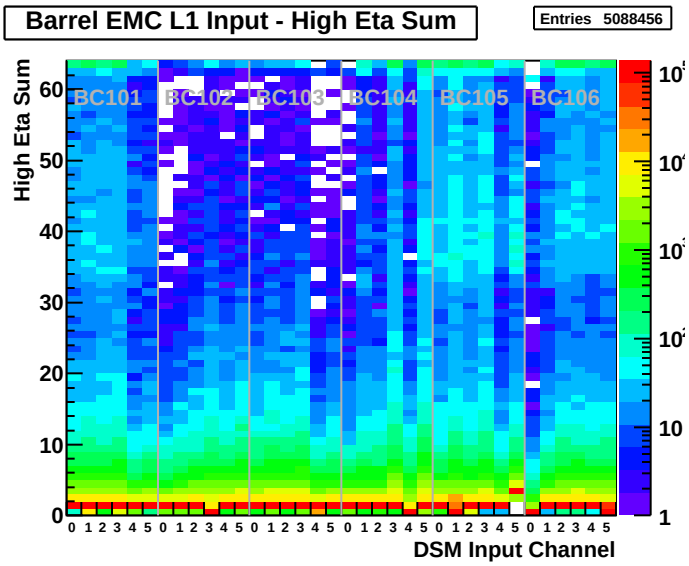

Barrel Jet Patches
Entries 2544228
JP ADC
JP ID

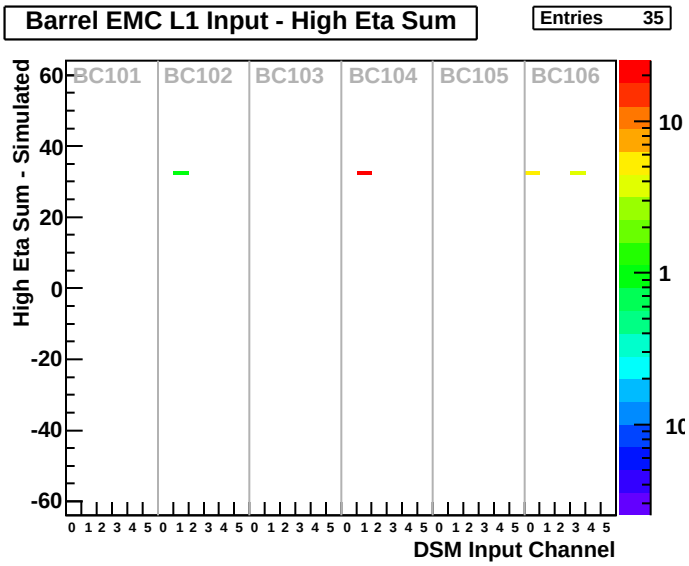

Endcap Jet Patches
Entries 848076
JP ADC
JP ID

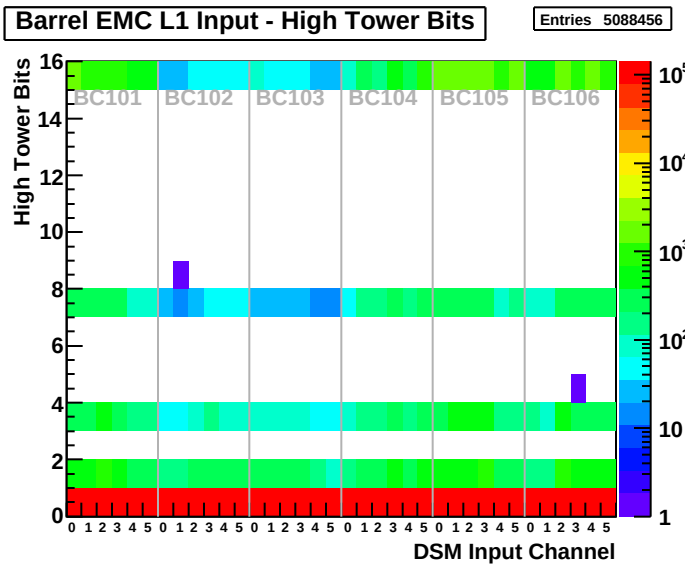

Hybrid Jet Patches
Entries 282692
JP ADC
JP ID

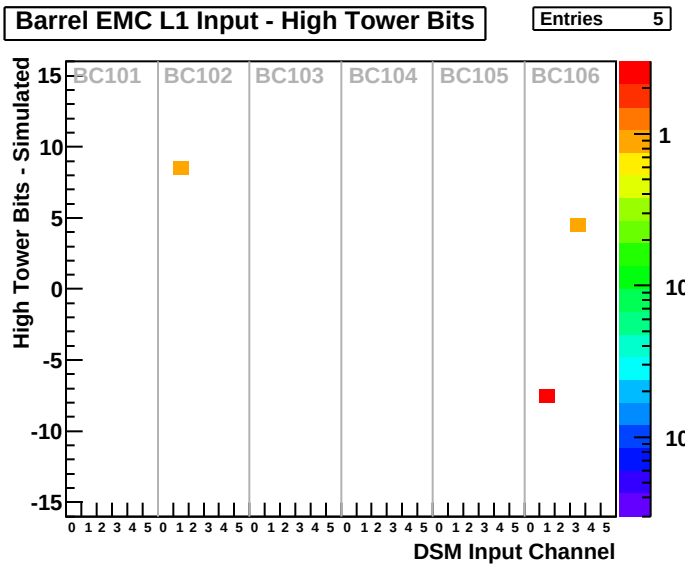

Barrel EMC L1 Input - Low Eta Sum
Entries 5088456
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

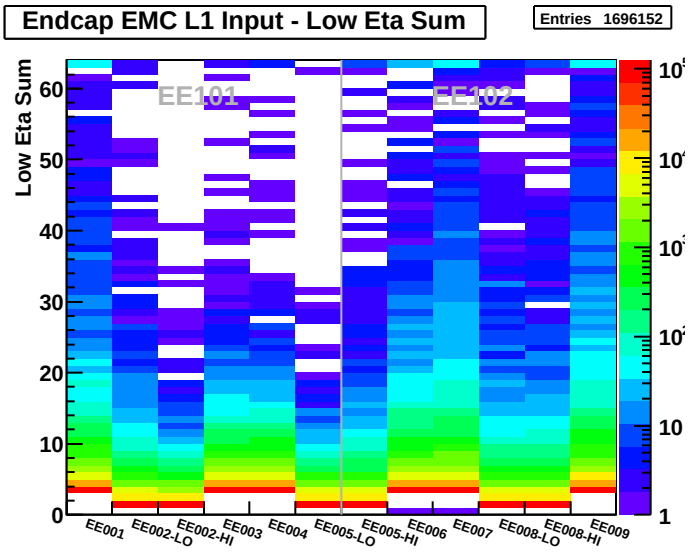

Barrel EMC L1 Input - Low Eta Sum
Entries 186
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

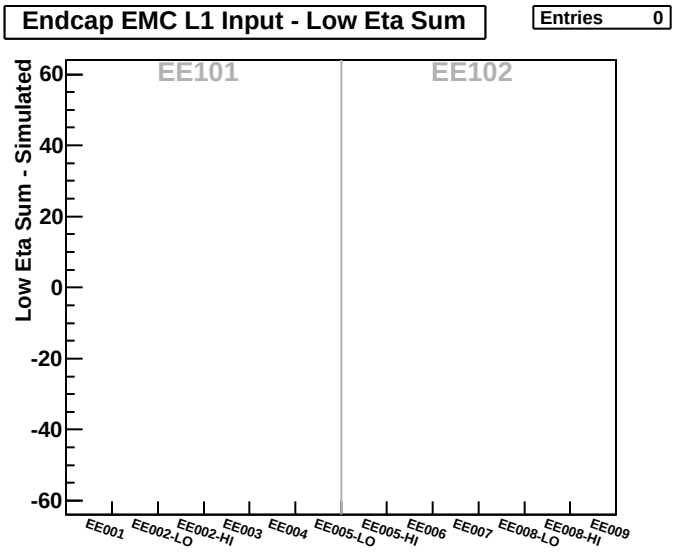

Barrel EMC L1 Input - High Eta Sum
Entries 5088456
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

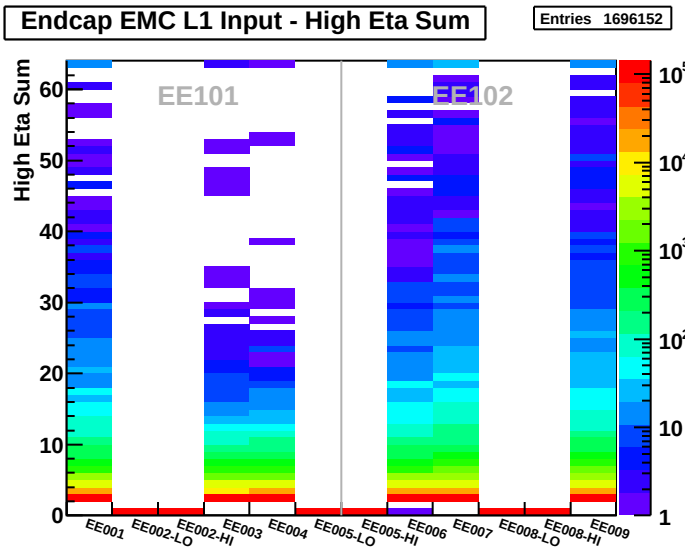

Barrel EMC L1 Input - High Eta Sum
Entries 35
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

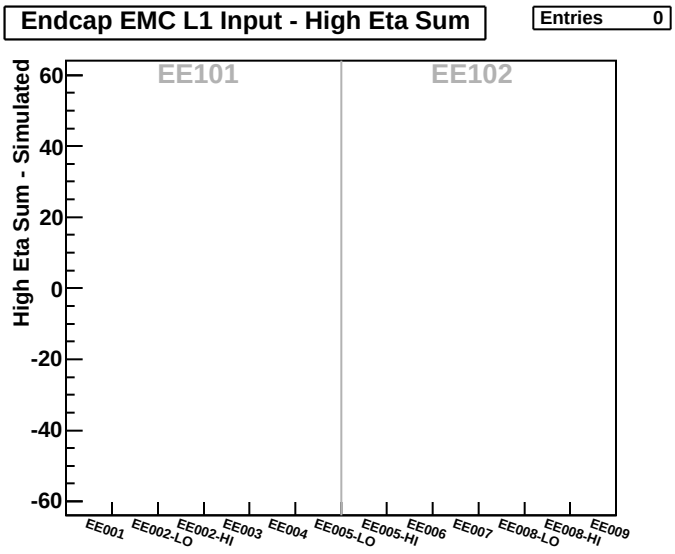

Barrel EMC L1 Input - High Tower Bits
Entries 5088456
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

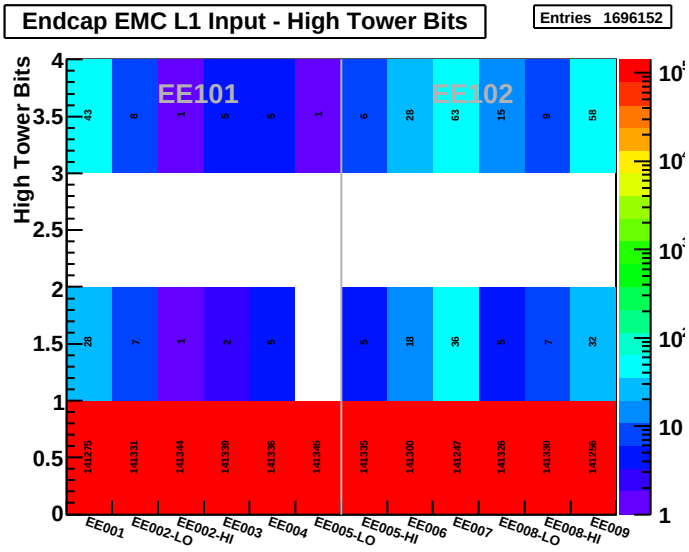

Barrel EMC L1 Input - High Tower Bits
Entries 5
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

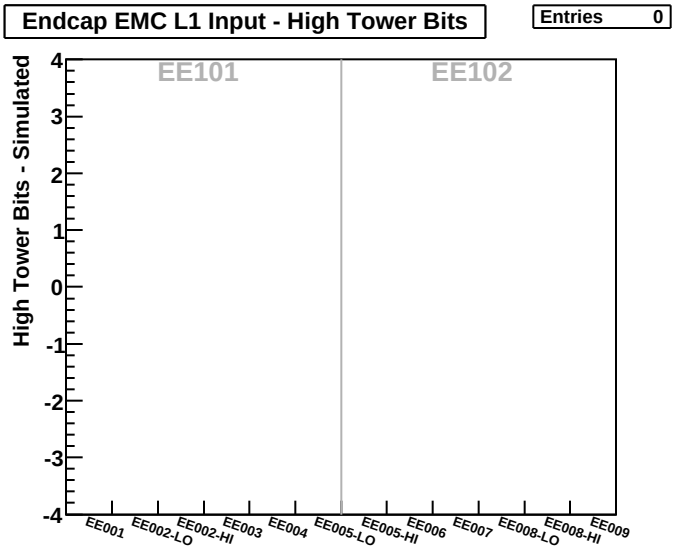

Endcap EMC L1 Input - Low Eta Sum
Entries 1696152
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

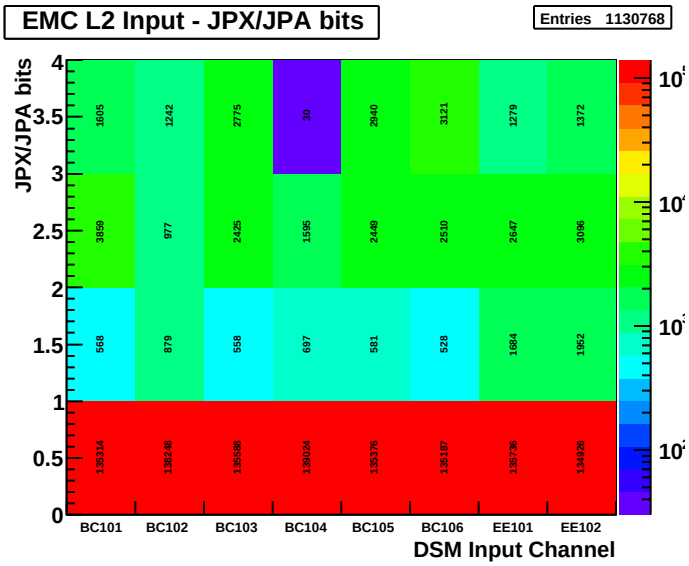

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

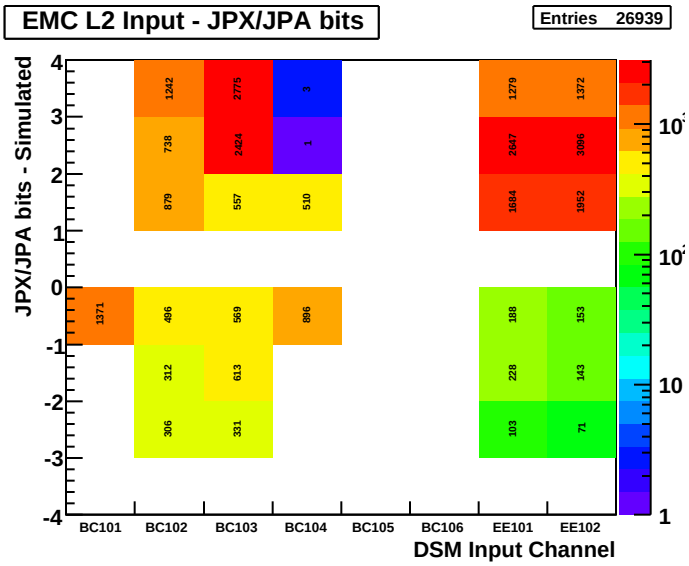

Endcap EMC L1 Input - High Eta Sum
Entries 1696152
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

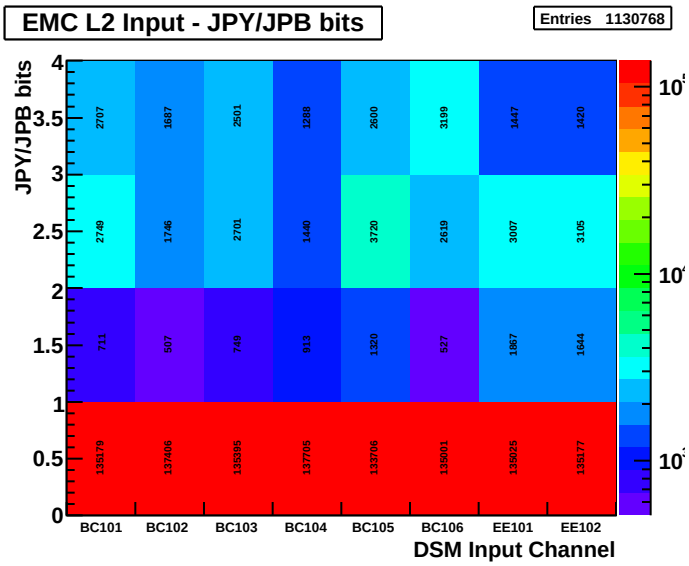

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

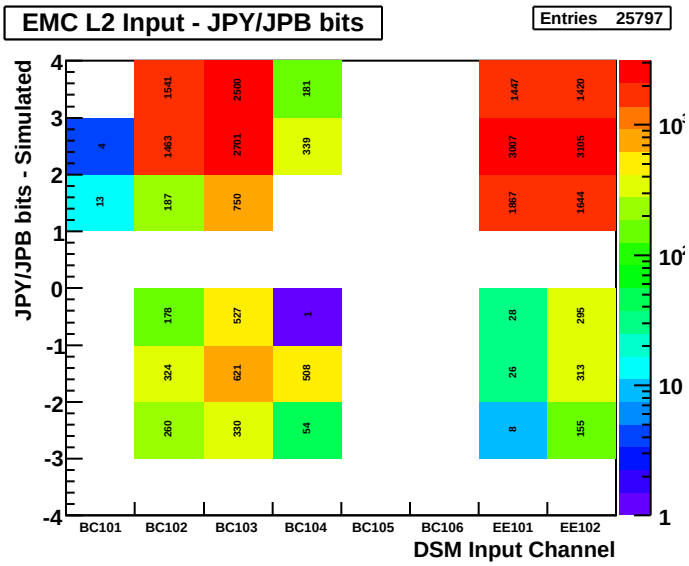

Endcap EMC L1 Input - High Tower Bits
Entries 1696152
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

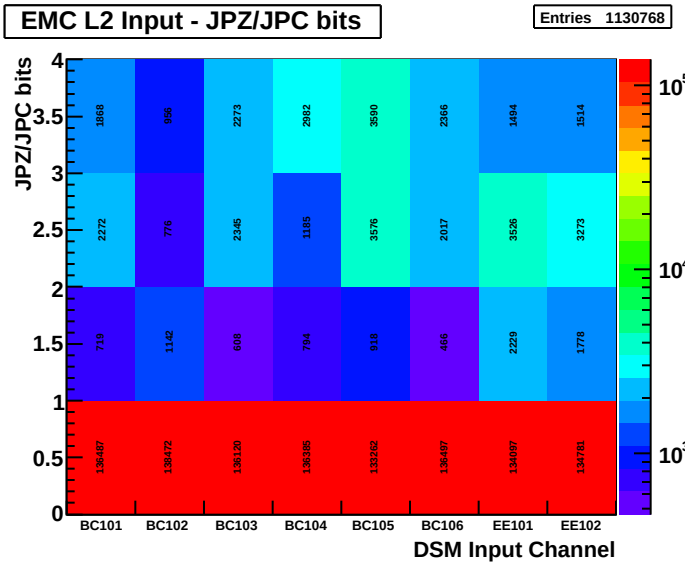

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

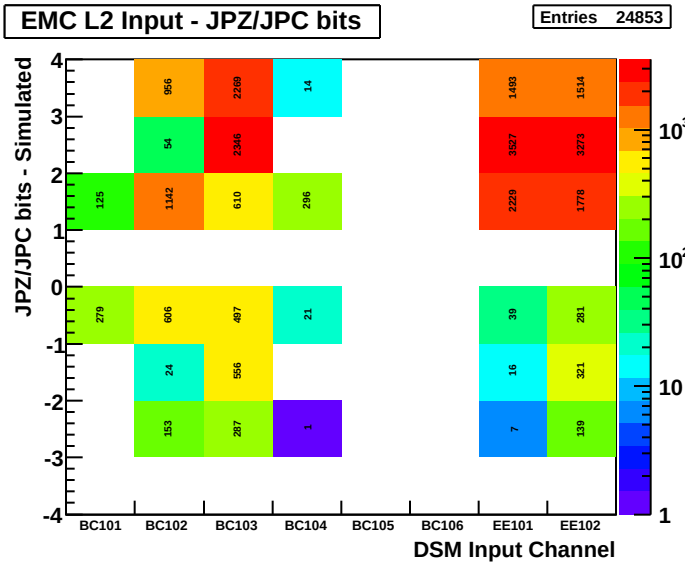

EMC L2 Input - JPX/JPA bits
Entries 1130768
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

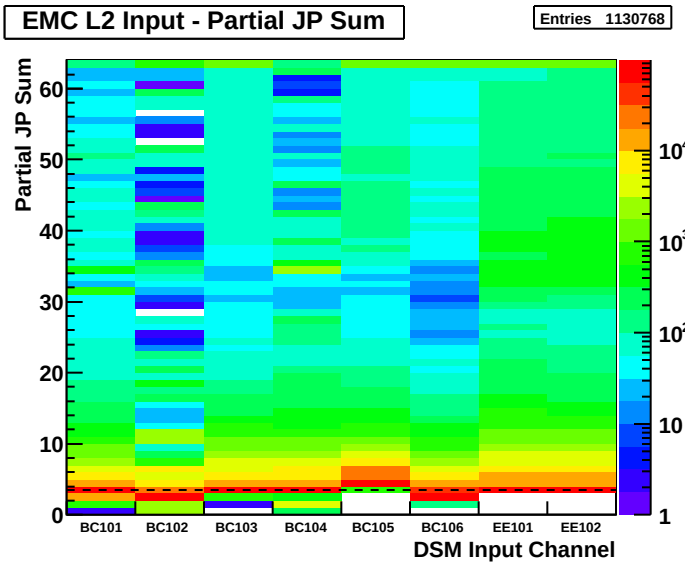

EMC L2 Input - JPX/JPA bits
Entries 26939
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

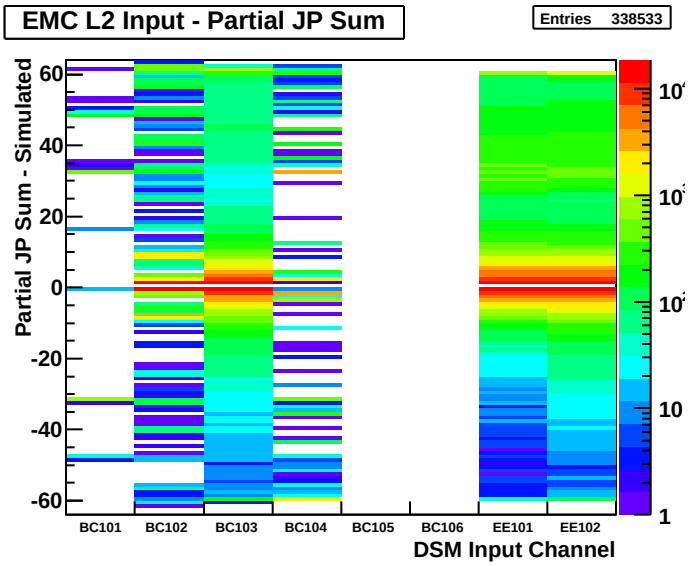

EMC L2 Input - JPY/JPB bits
Entries 1130768
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

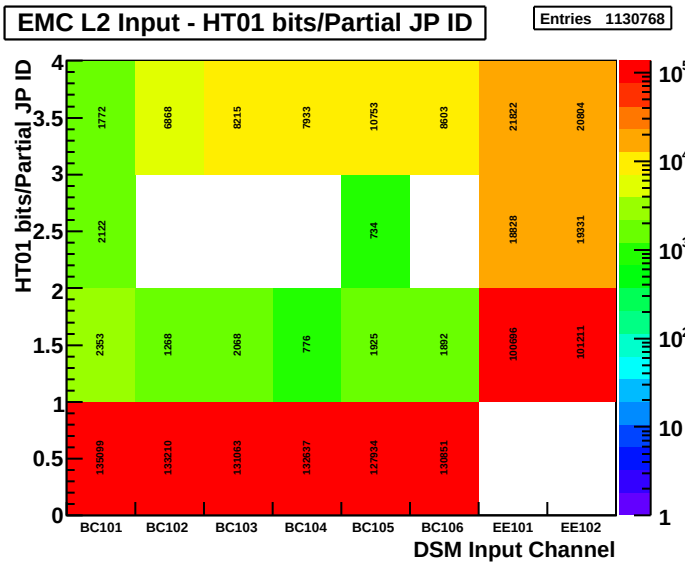

EMC L2 Input - JPY/JPB bits
Entries 25797
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

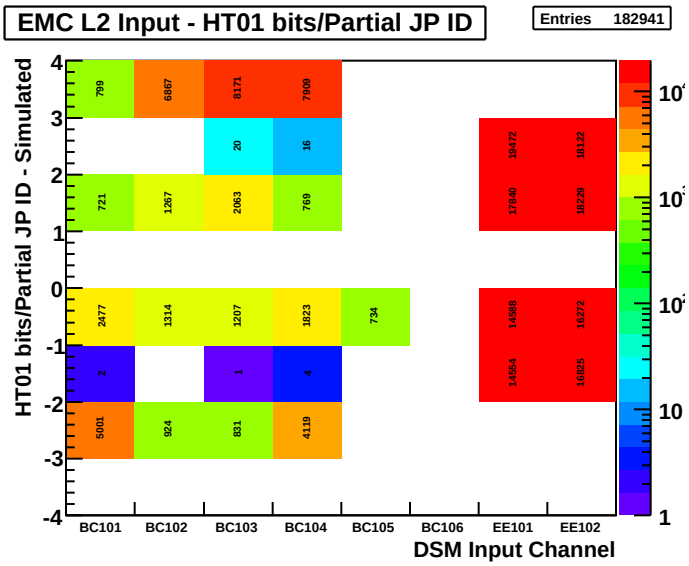

EMC L2 Input - JPZ/JPC bits
Entries 1130768
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

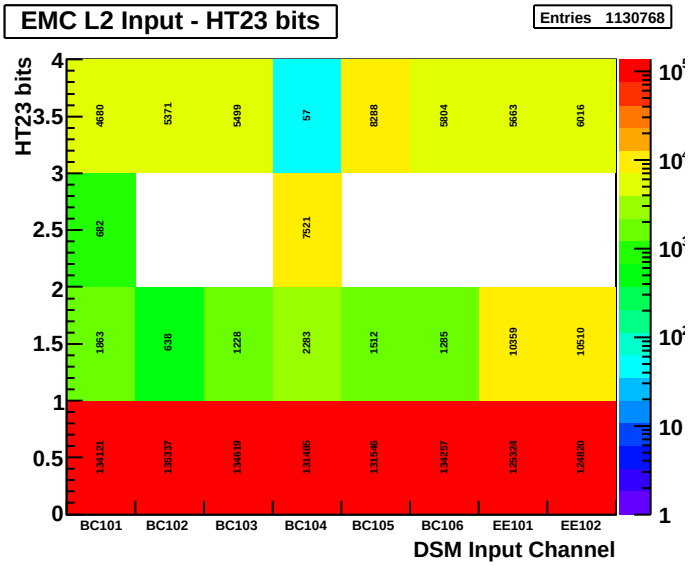

EMC L2 Input - JPZ/JPC bits
Entries 24853
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

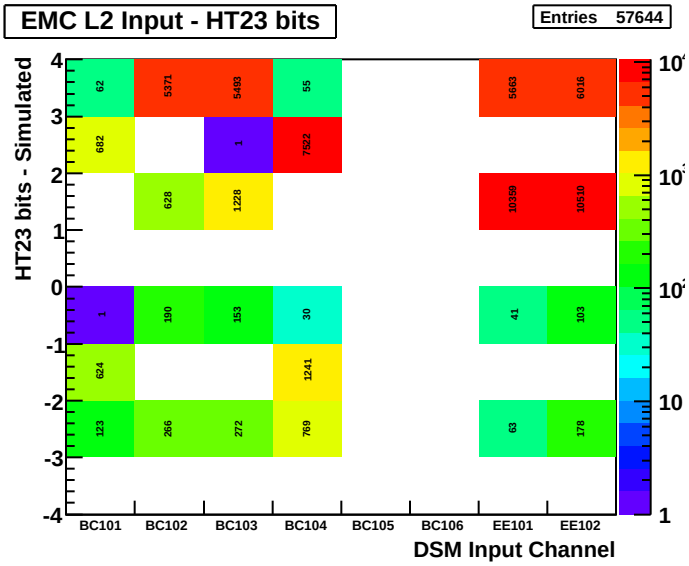

EMC L2 Input - Partial JP Sum
Entries 1130768
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

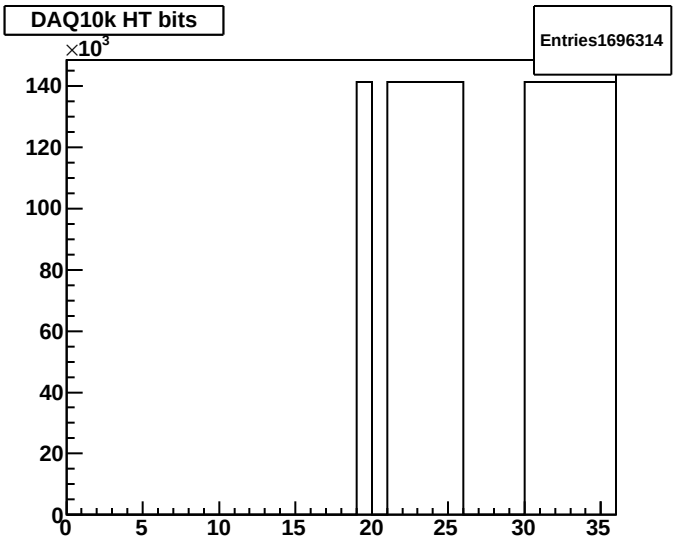

EMC L2 Input - Partial JP Sum
Entries 338533
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

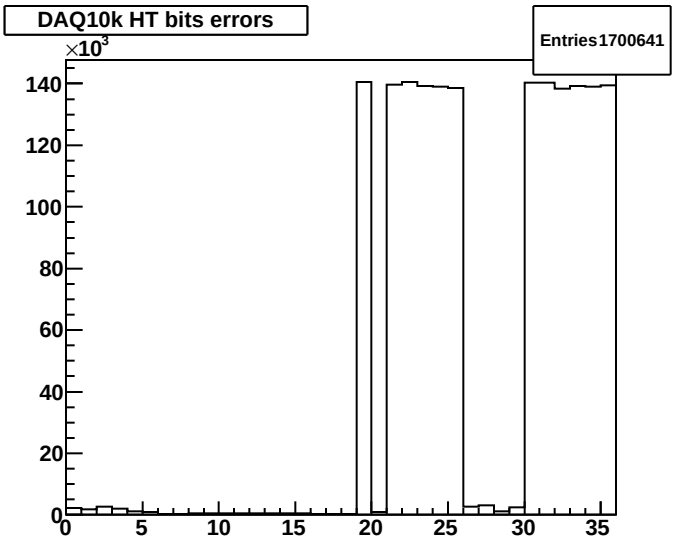

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1130768
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

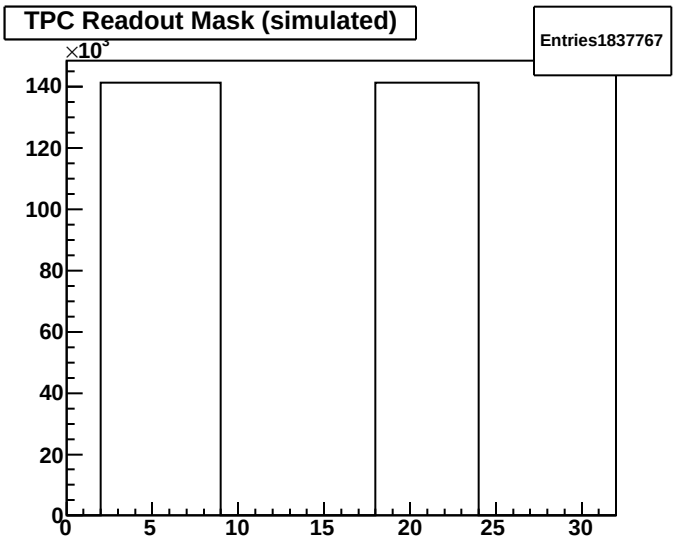

EMC L2 Input - HT01 bits/Partial JP ID
Entries 182941
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

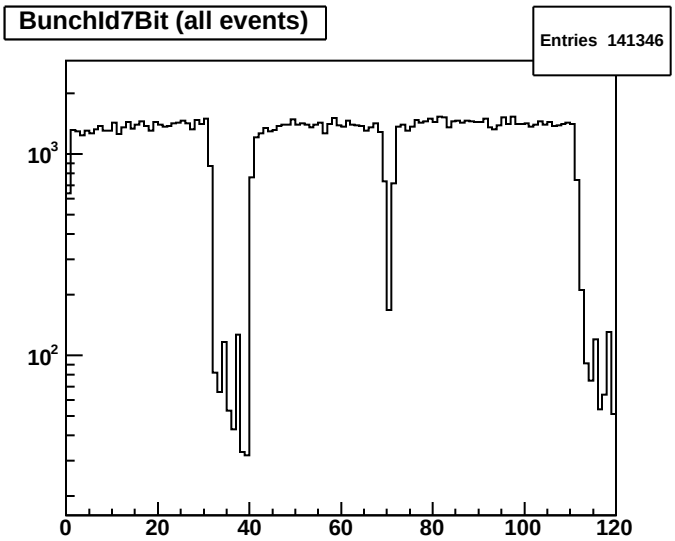

EMC L2 Input - HT23 bits
Entries 1130768
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

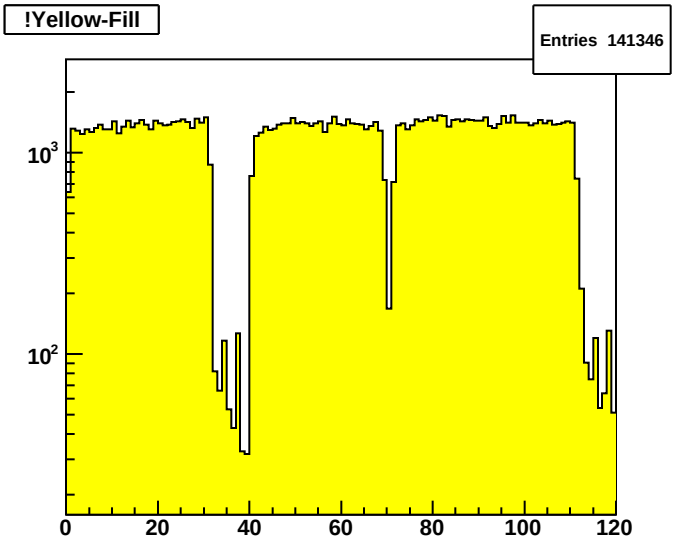

EMC L2 Input - HT23 bits
Entries 57644
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

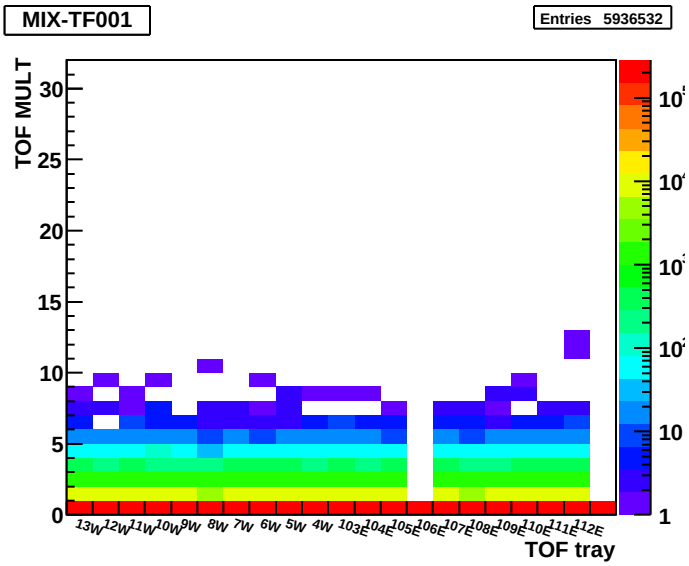

DAQ10k HT bits
Entries1696314
×10^3
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

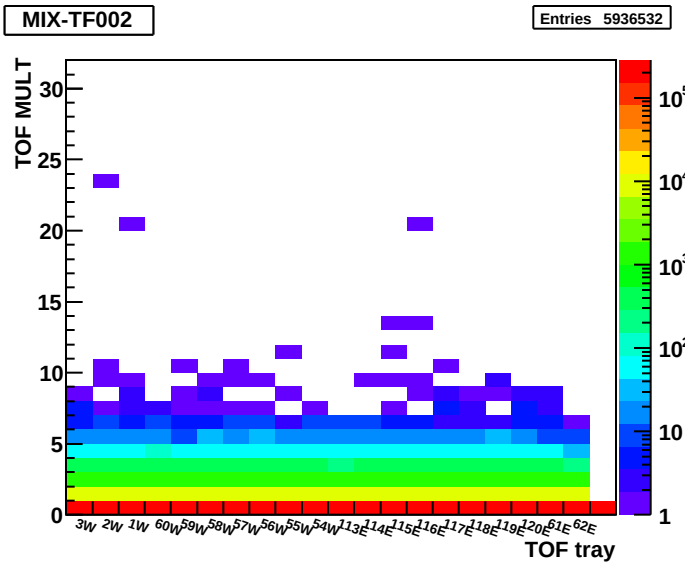

DAQ10k HT bits errors
Entries1700641
×10^3
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

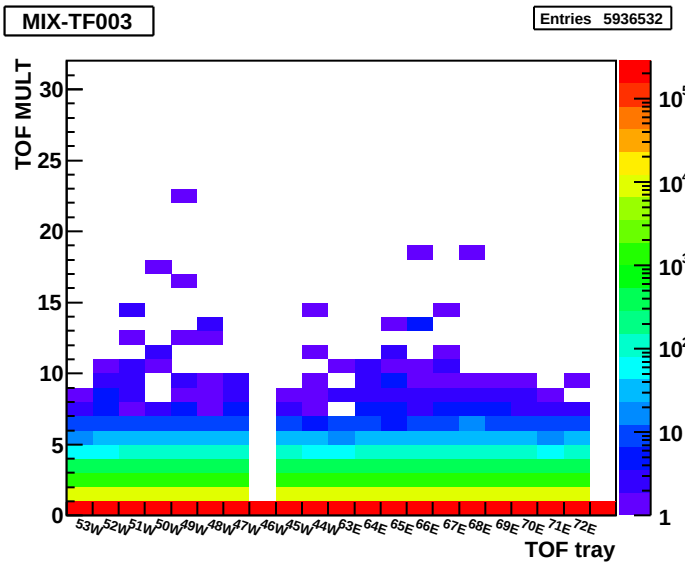

TPC Readout Mask (simulated)
Entries1837767
×10^3
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30

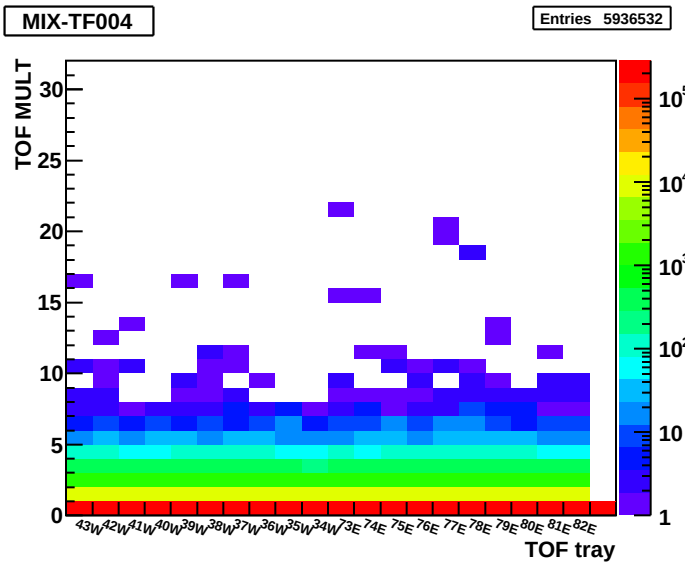

BunchId7Bit (all events)
Entries 141346
10^3
10^2
0 20 40 60 80 100 120

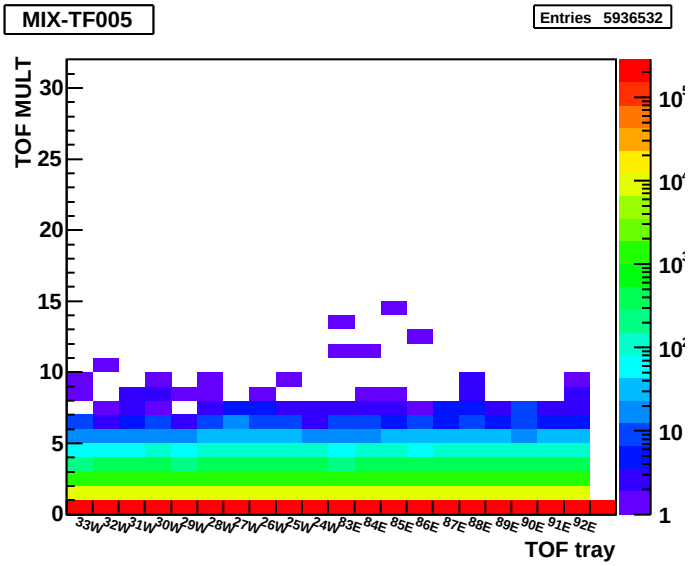

!Yellow-Fill
Entries 141346
10^3
10^2
0 20 40 60 80 100 120

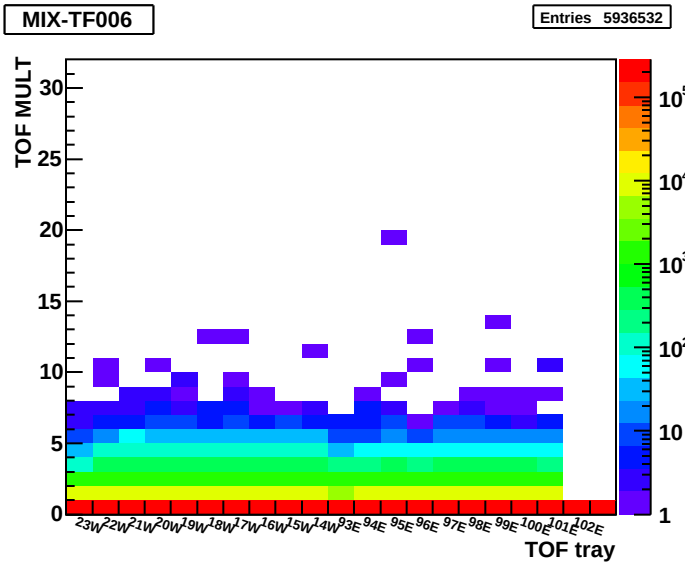

MIX-TF001
Entries 5936532
TOF MULT
TOF tray

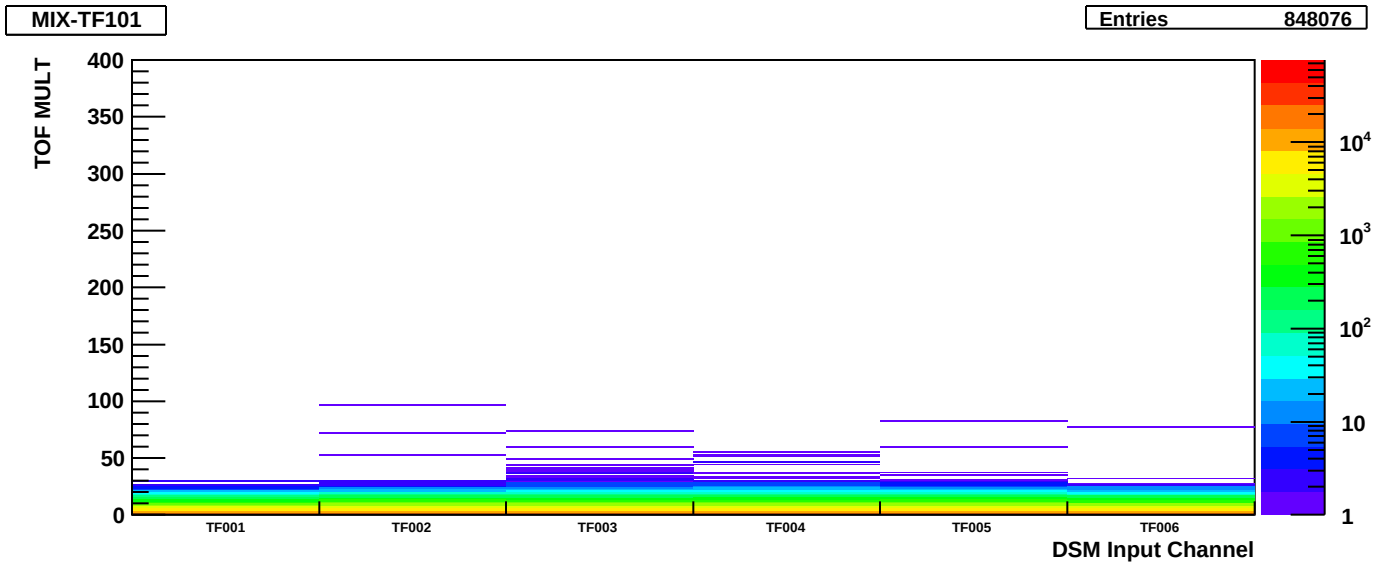

MIX-TF002
Entries 5936532
TOF MULT
TOF tray

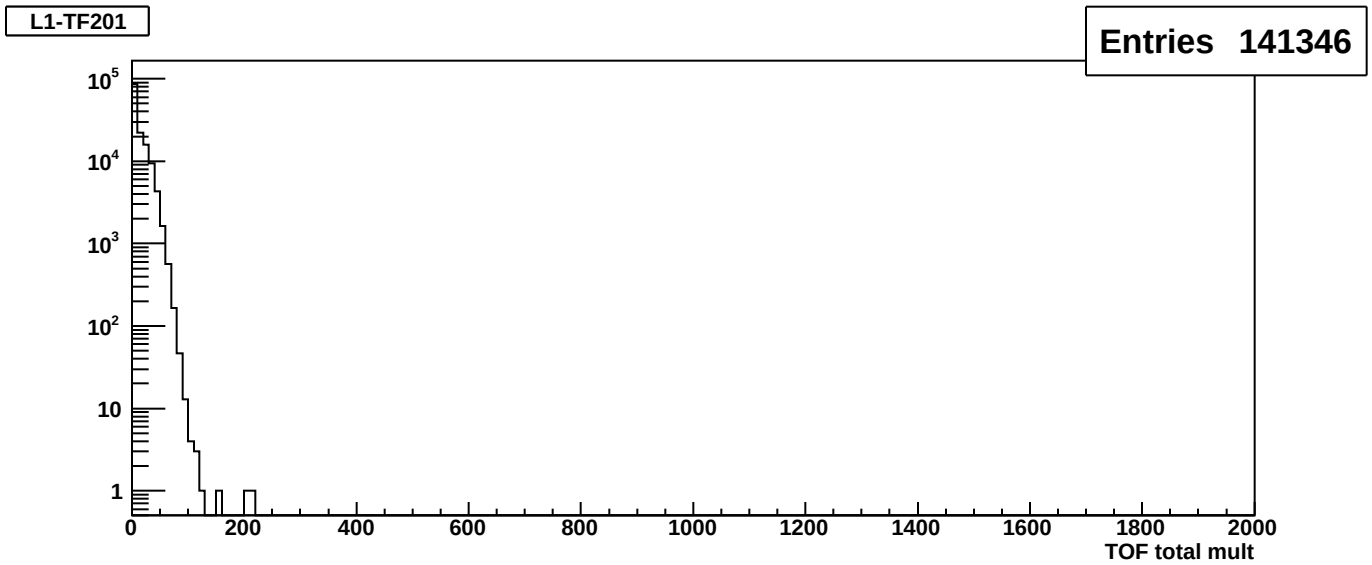

MIX-TF003
Entries 5936532
TOF MULT
TOF tray

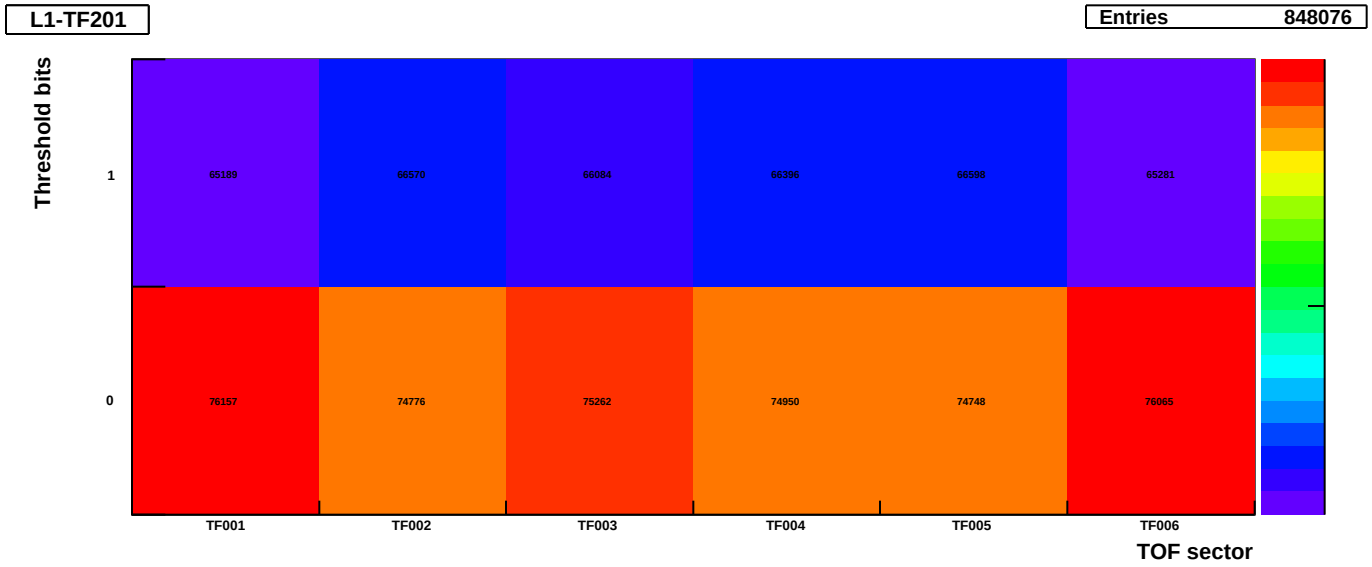

MIX-TF004
Entries 5936532
TOF MULT
TOF tray

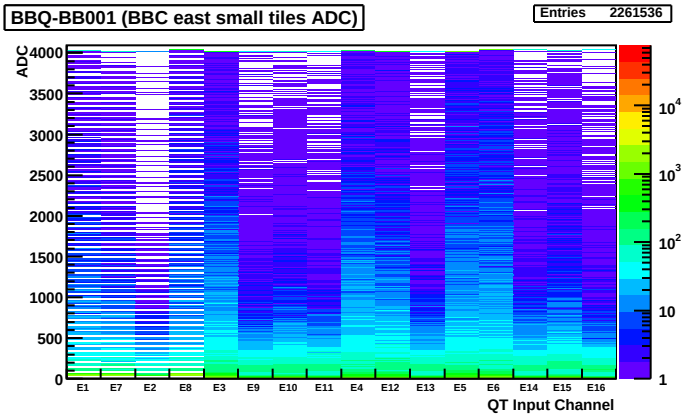

MIX-TF005
Entries 5936532
TOF MULT
TOF tray

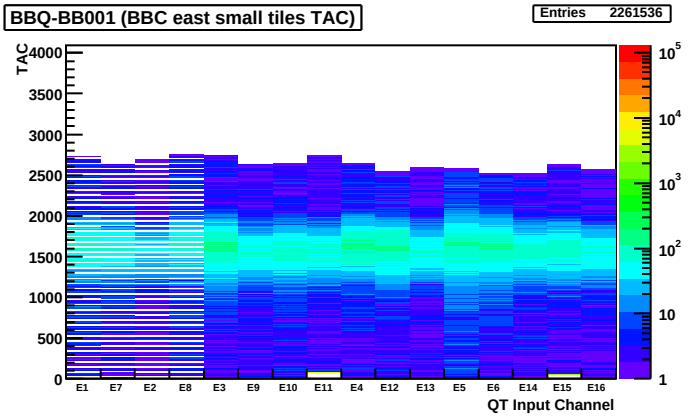

MIX-TF006
Entries 5936532
TOF MULT
TOF tray

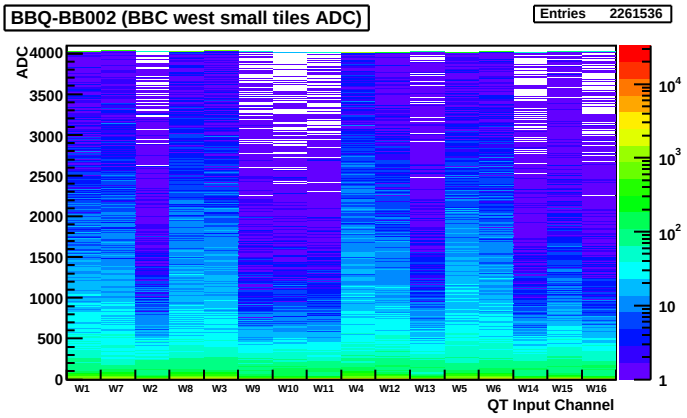

MIX-TF101
Entries 848076
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

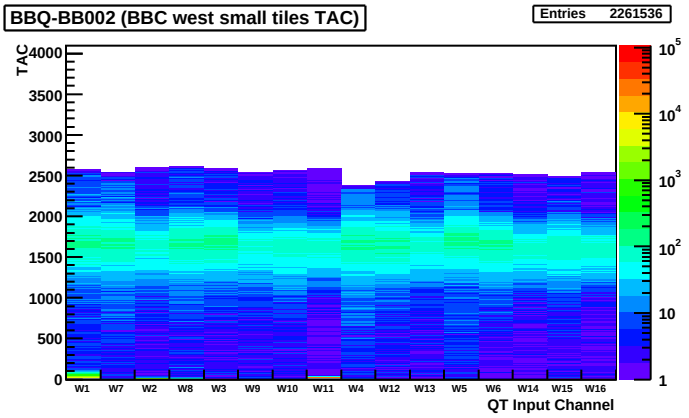

L1-TF201
Entries 141346
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

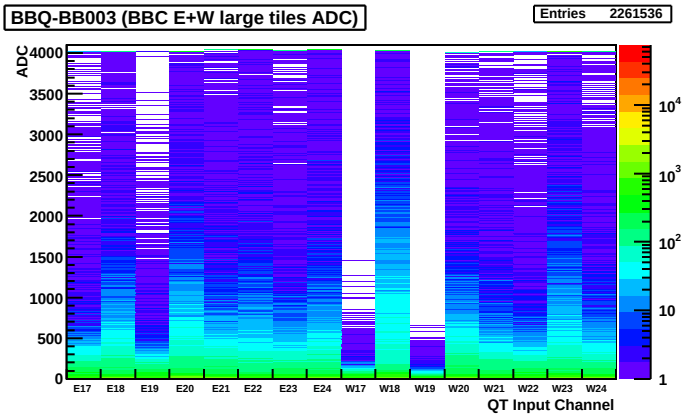

L1-TF201
Entries 848076
Threshold bits
1
0
65189
66570
66084
66396
66598
65281
76157
74776
75262
74950
74748
76065
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

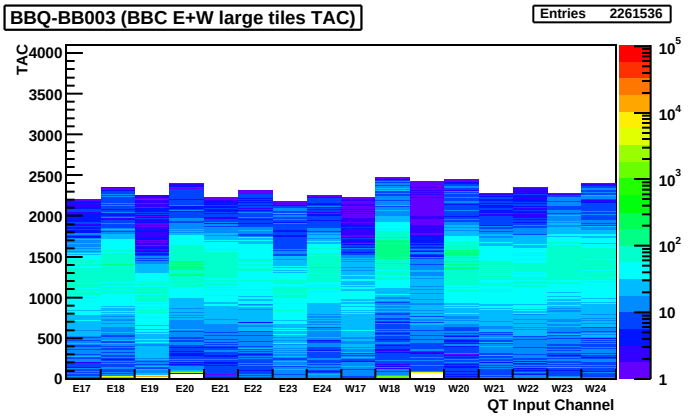

BBQ-BB001 (BBC east small tiles ADC)
Entries 2261536
ADC
QT Input Channel

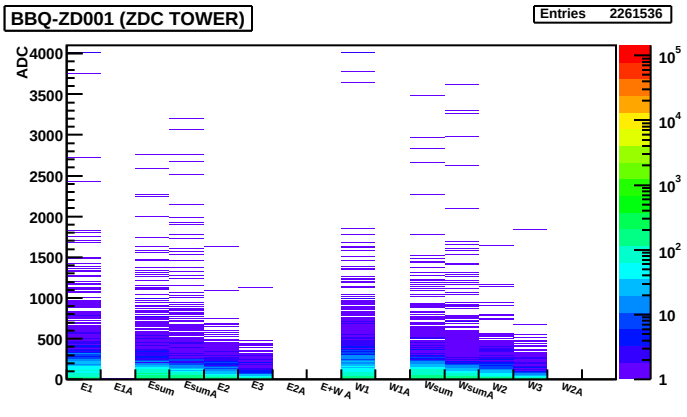

BBQ-BB001 (BBC east small tiles TAC)
Entries 2261536
TAC
QT Input Channel

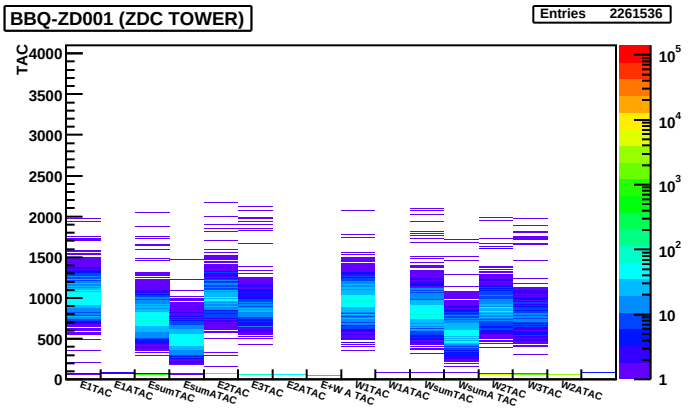

BBQ-BB002 (BBC west small tiles ADC)
Entries 2261536
ADC
QT Input Channel

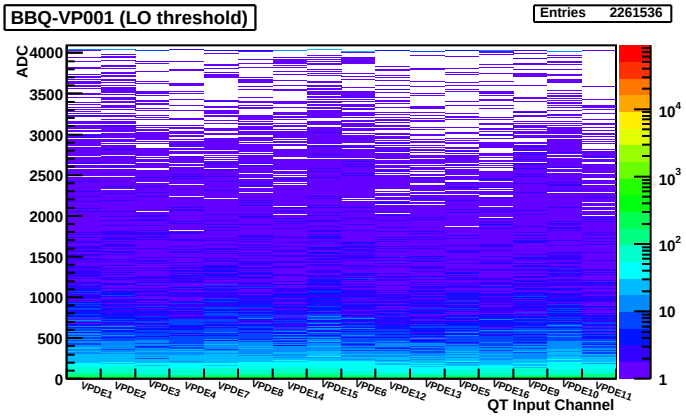

BBQ-BB002 (BBC west small tiles TAC)
Entries 2261536
TAC
QT Input Channel

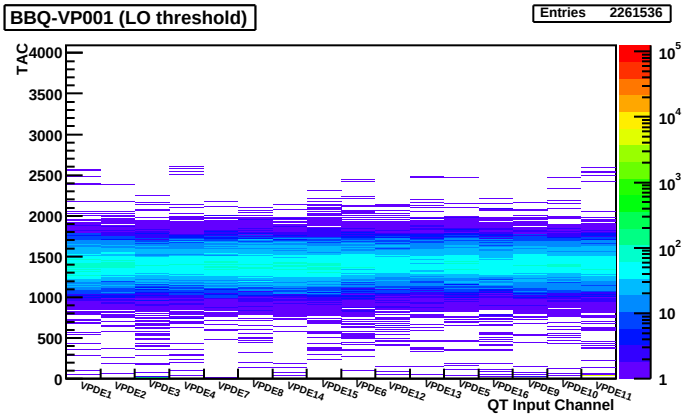

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 2261536
ADC
QT Input Channel

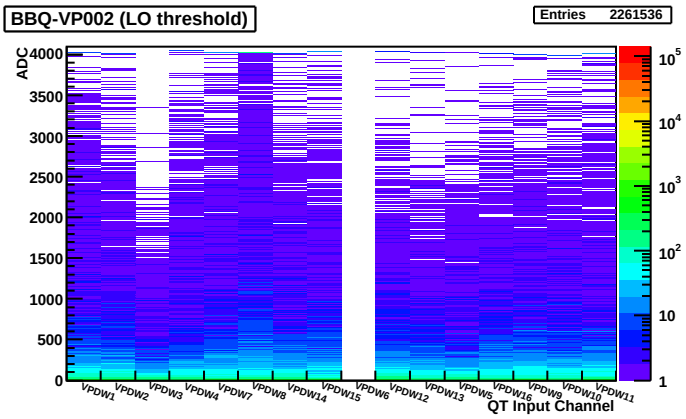

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 2261536
TAC
QT Input Channel

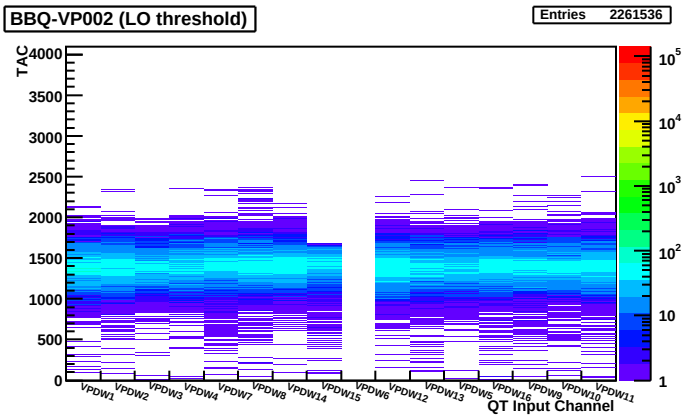

BBQ-ZD001 (ZDC TOWER)
Entries 2261536
ADC

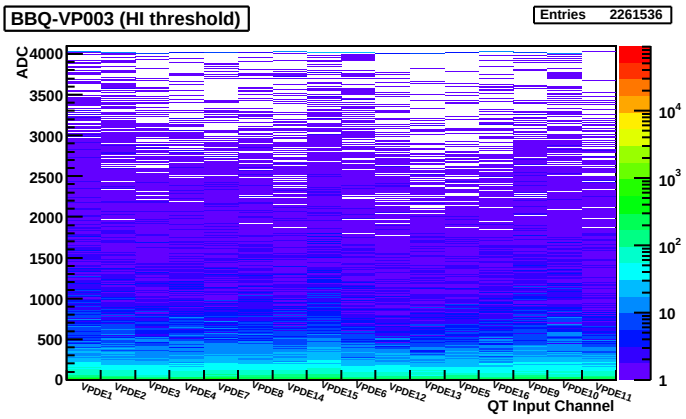

BBQ-ZD001 (ZDC TOWER)
Entries 2261536
TAC

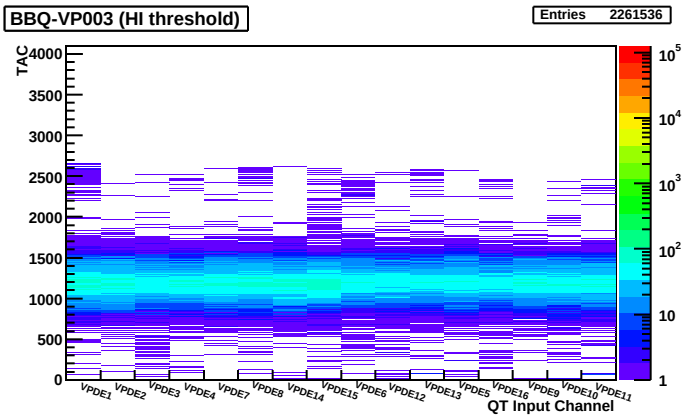

BBQ-VP001 (LO threshold)
Entries 2261536
ADC
QT Input Channel

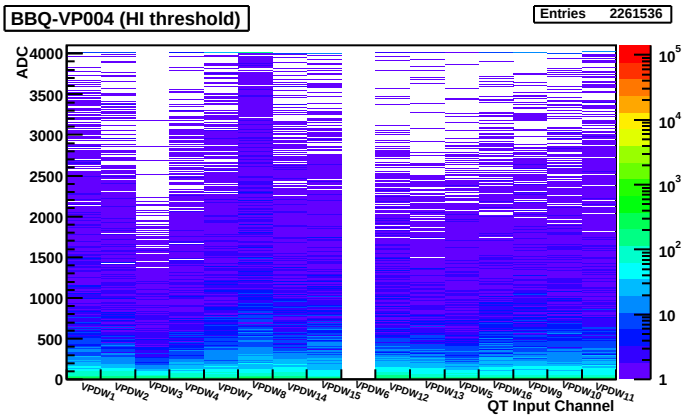

BBQ-VP001 (LO threshold)
Entries 2261536
TAC
QT Input Channel

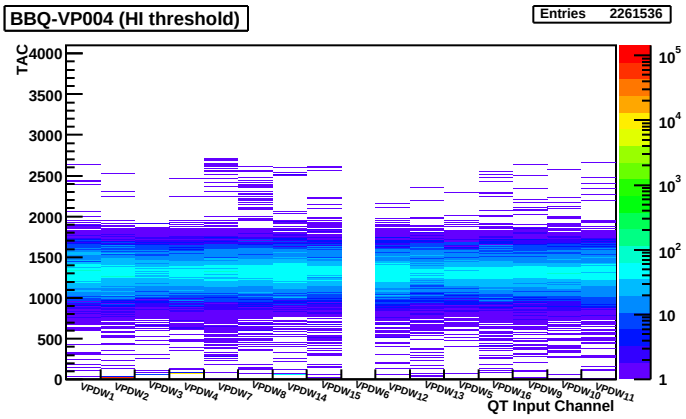

BBQ-VP002 (LO threshold)
Entries 2261536
ADC
QT Input Channel

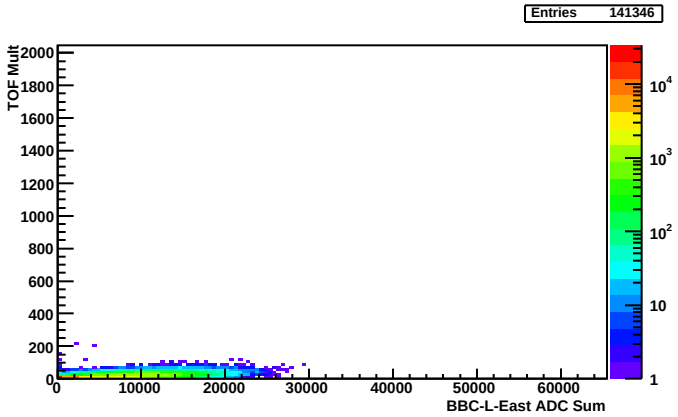

BBQ-VP002 (LO threshold)
Entries 2261536
TAC
QT Input Channel

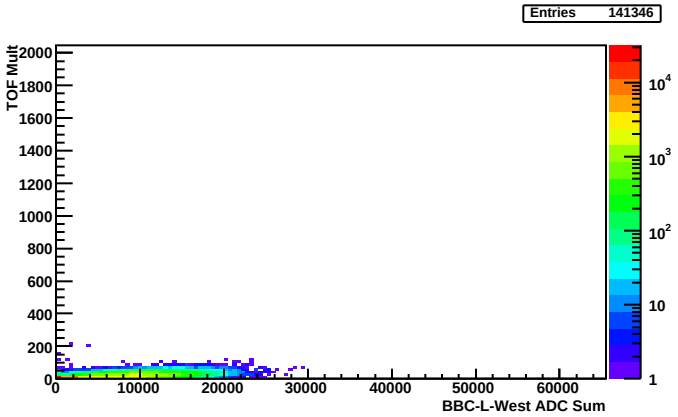

BBQ-VP003 (HI threshold)
Entries 2261536
ADC
QT Input Channel

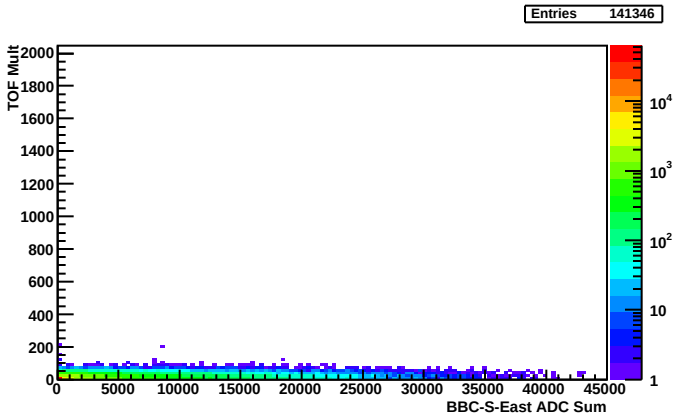

BBQ-VP003 (HI threshold)
Entries 2261536
TAC
QT Input Channel

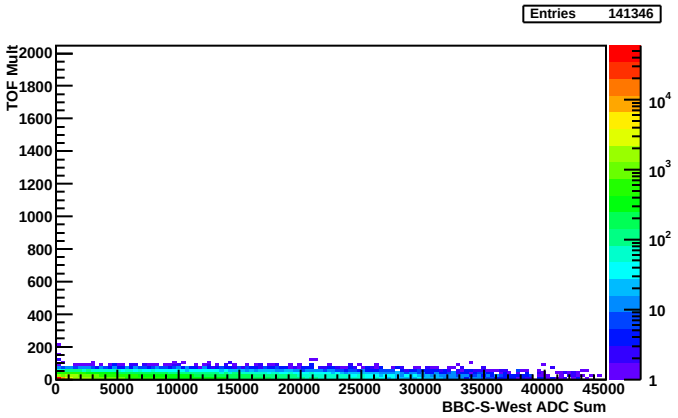

BBQ-VP004 (HI threshold)
Entries 2261536
ADC
QT Input Channel

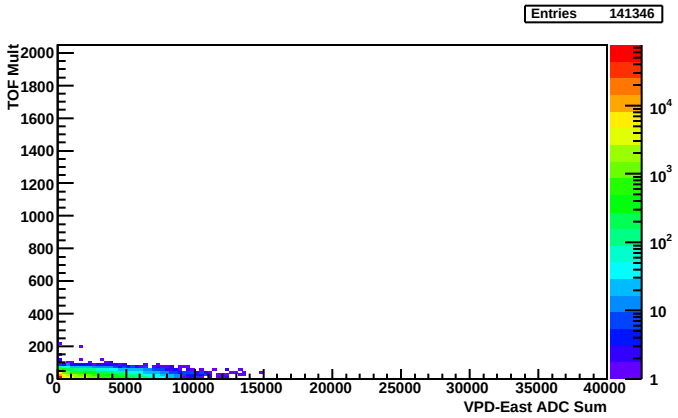

BBQ-VP004 (HI threshold)
Entries 2261536
TAC
QT Input Channel

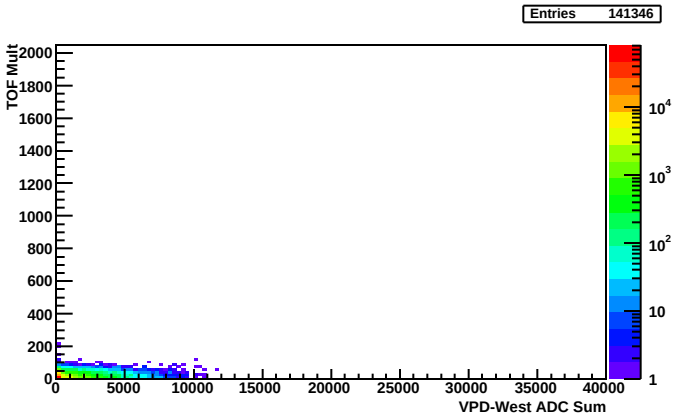

Entries 141346
TOF Mult
BBC-L-East ADC Sum

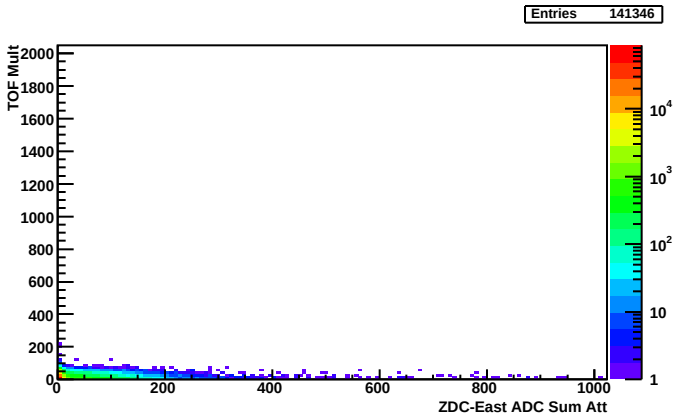

Entries 141346
TOF Mult
BBC-L-West ADC Sum

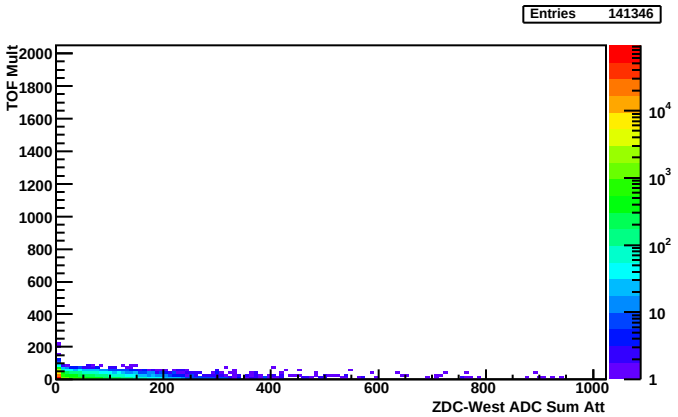

Entries 141346
TOF Mult
BBC-S-East ADC Sum

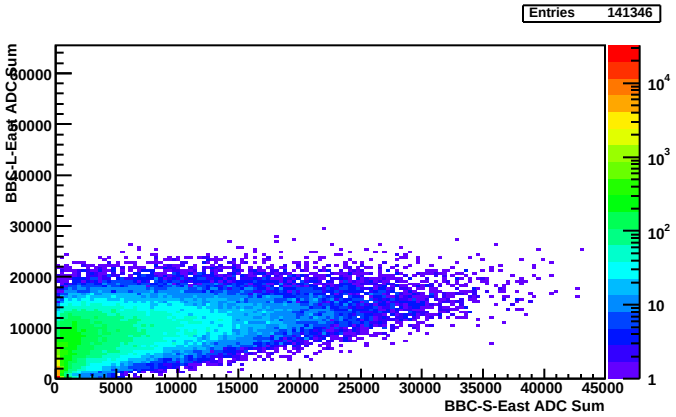

Entries 141346
TOF Mult
BBC-S-West ADC Sum

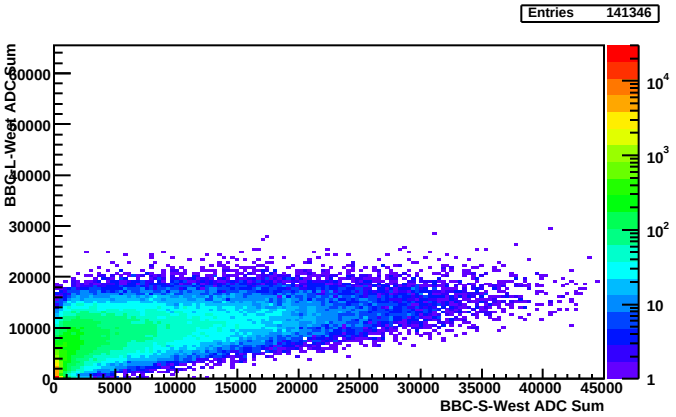

Entries 141346
TOF Mult
VPD-East ADC Sum

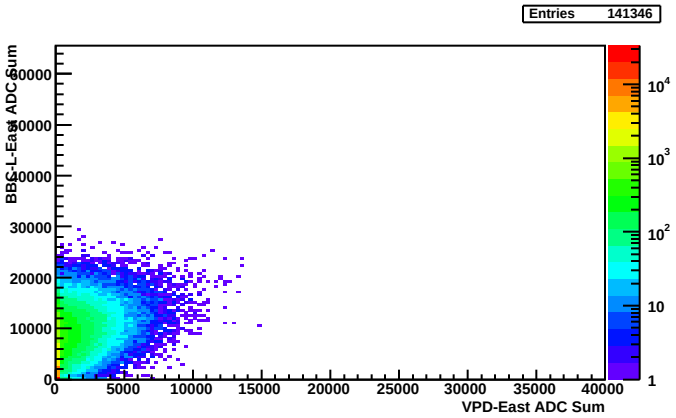

Entries 141346
TOF Mult
VPD-West ADC Sum

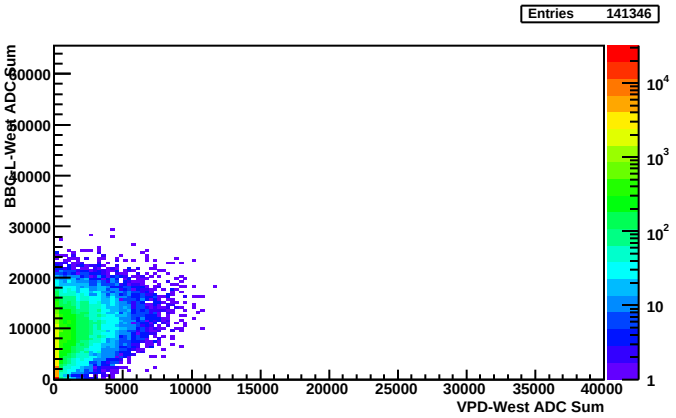

Entries 141346
TOF Mult
ZDC-East ADC Sum Att

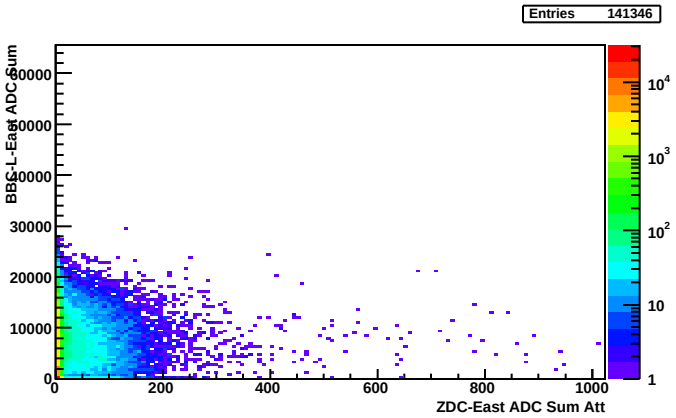

Entries 141346
TOF Mult
ZDC-West ADC Sum Att


Entries 141346
BBC-L-East ADC Sum
BBC-S-East ADC Sum


Entries 141346
BBC-L-West ADC Sum
BBC-S-West ADC Sum


Entries 141346
BBC-L-East ADC Sum
VPD-East ADC Sum


Entries 141346
BBC-L-West ADC Sum
VPD-West ADC Sum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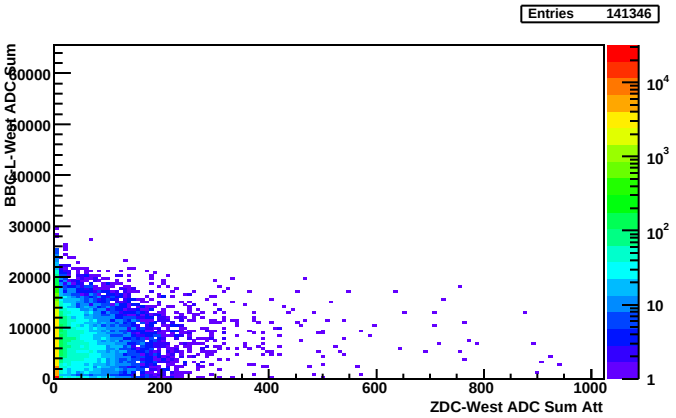
BBC-L-East ADC Sum
ZDC-East ADC Sum Att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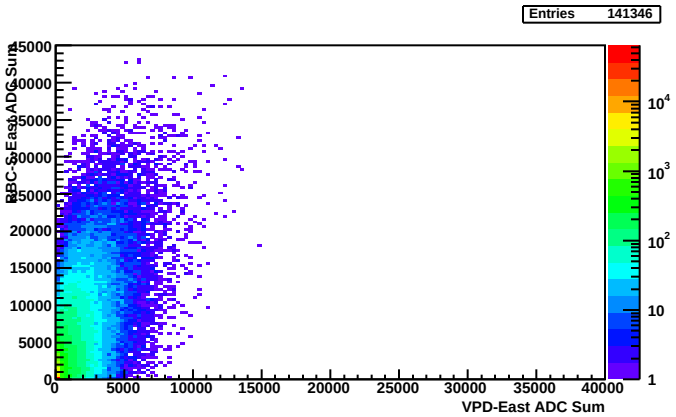
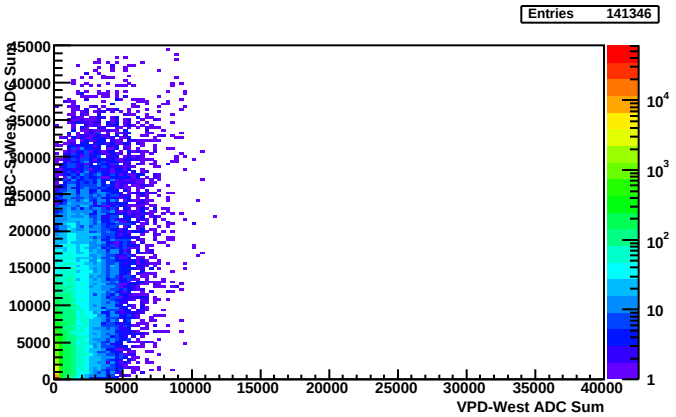
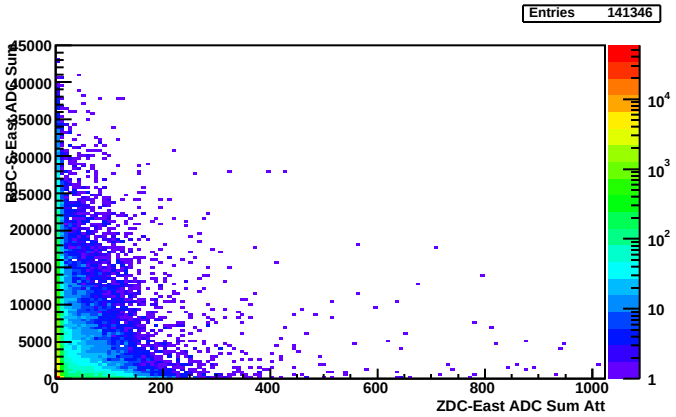
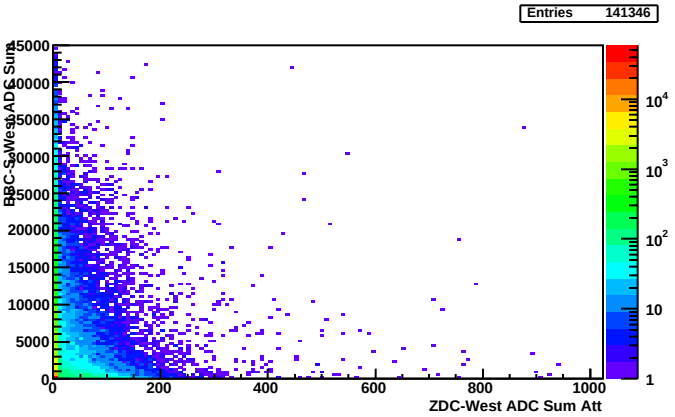
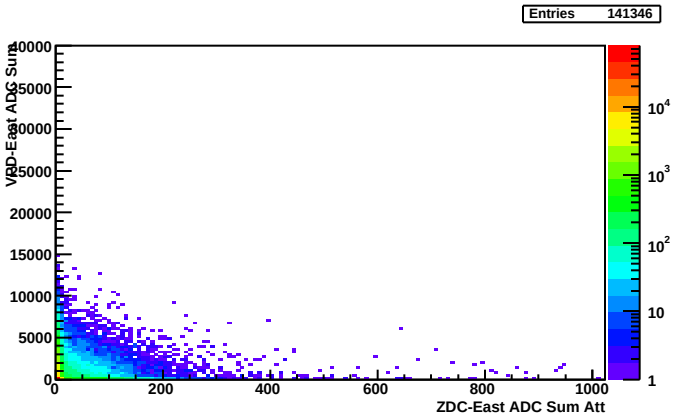
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

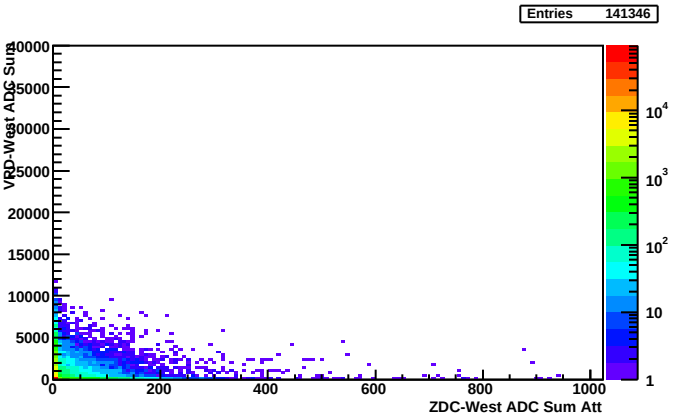

Entries 141346
BBC-S-East ADC Sum
VPD-East ADC Sum

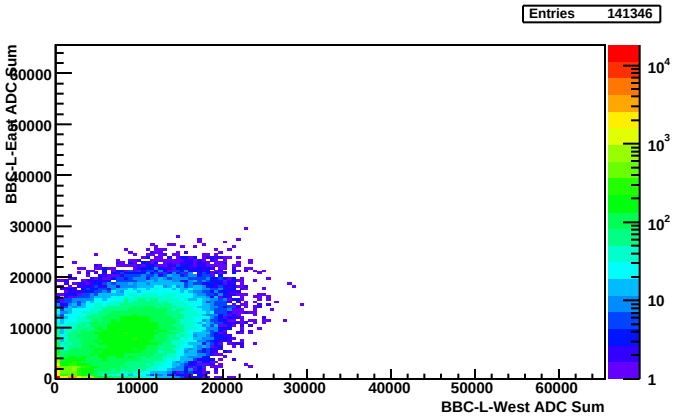

Entries 141346
BBC-S-West ADC Sum
VPD-West ADC Sum

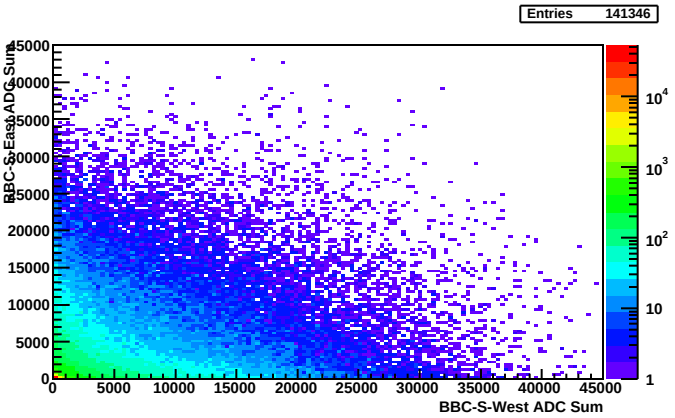

Entries 141346
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

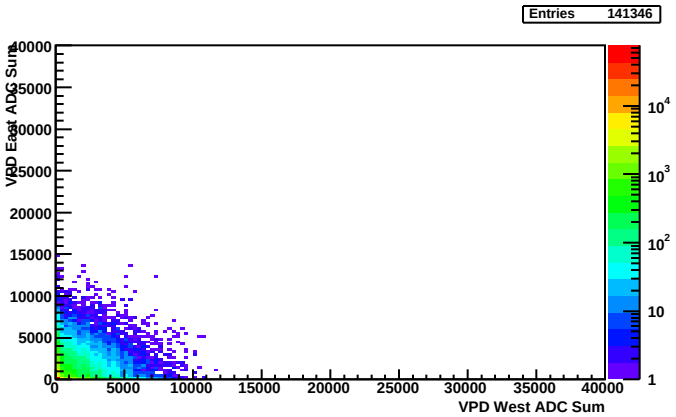

Entries 141346
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

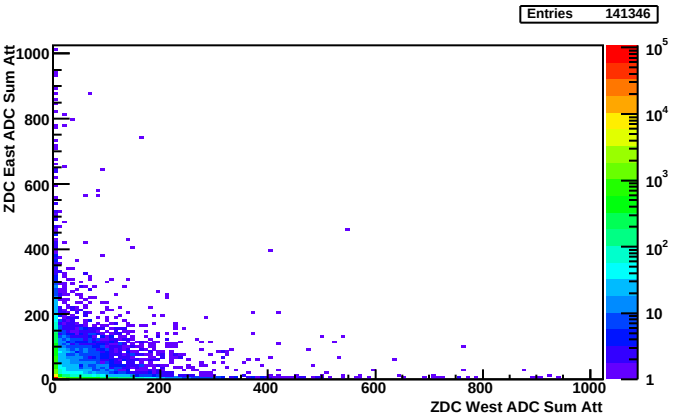

Entries 141346
VPD-East ADC Sum
ZDC-East ADC Sum Att

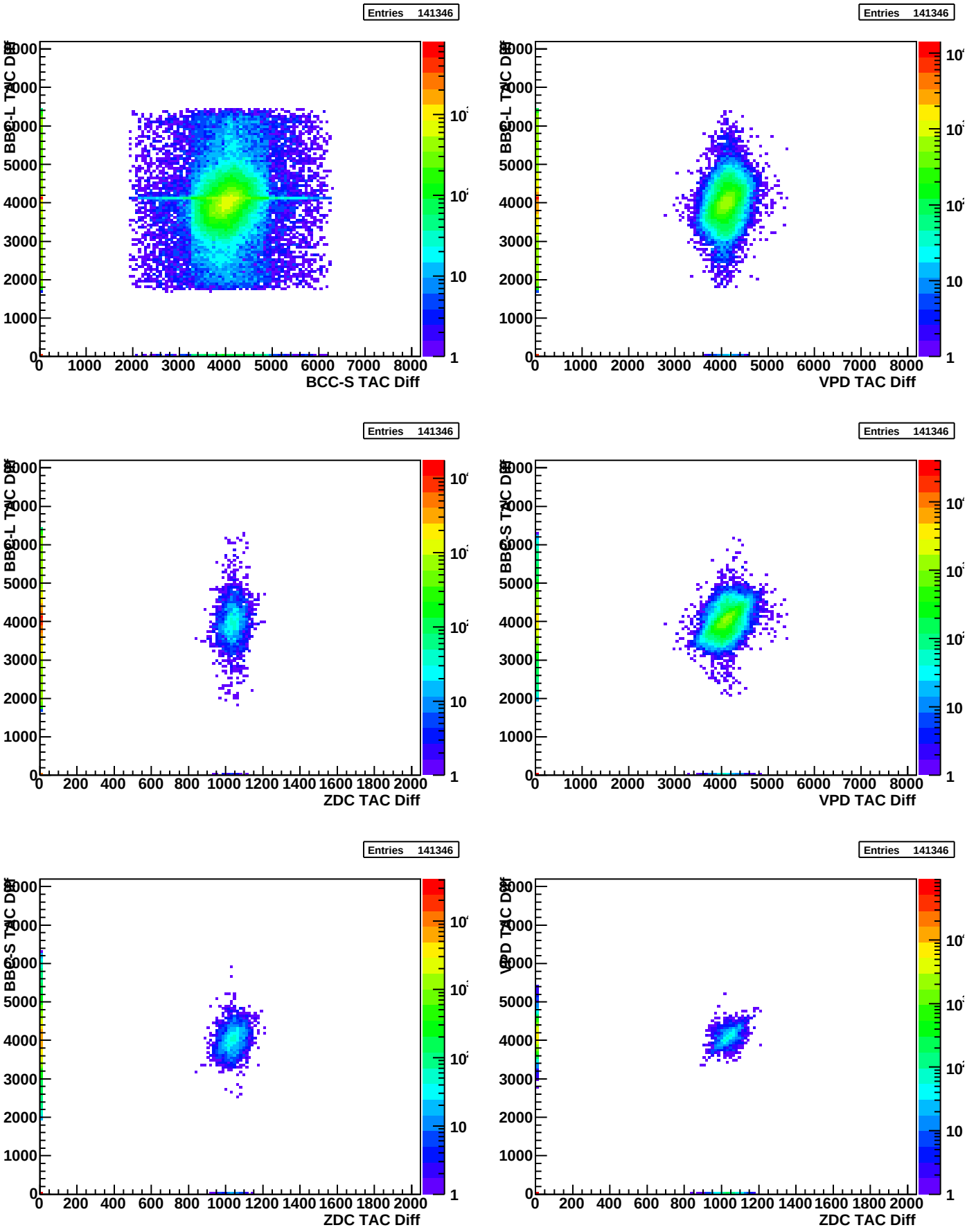

Entries 141346
VPD-West ADC Sum
ZDC-West ADC Sum Att

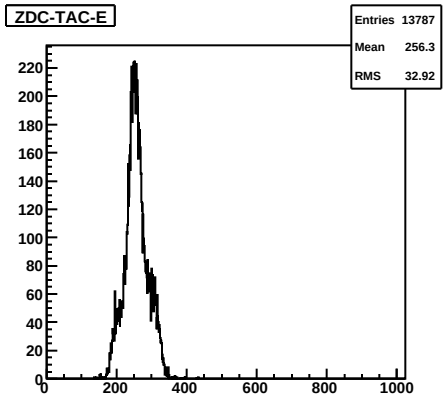

Entries 141346
BBC-L-East ADC Sum
BBC-L-West ADC Sum

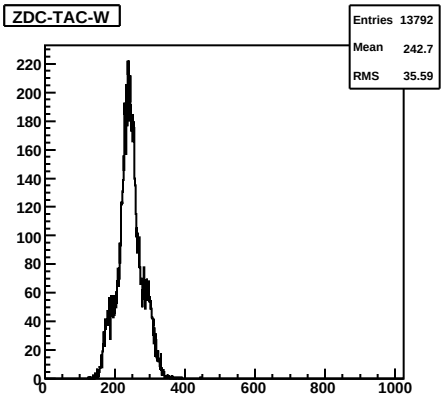

Entries 141346
BBC-S-East ADC Sum
BBC-S-West ADC Sum

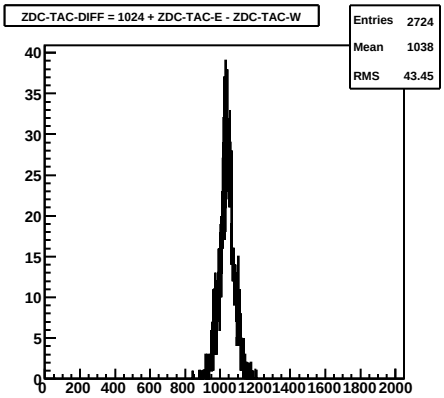

Entries 141346
VPD East ADC Sum
VPD West ADC Sum

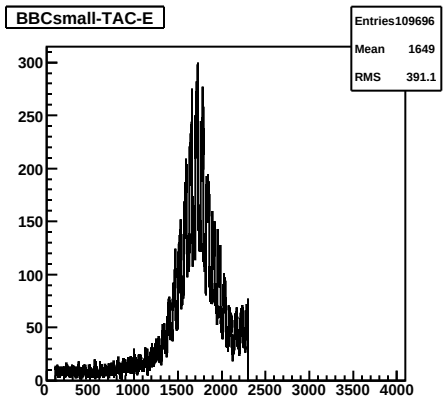

Entries 141346
ZDC East ADC Sum Att
ZDC West ADC Sum Att

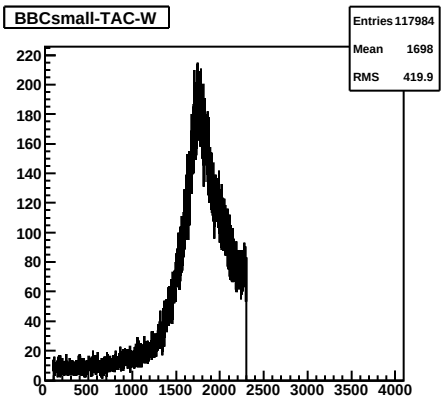

Entries 141346
BBC-L TAC Diff
BCC-S TAC Diff
Entries 141346
BBC-L TAC Diff
VPD TAC Diff
Entries 141346
BBC-L TAC Diff
ZDC TAC Diff
Entries 141346
BBC-S TAC Diff
VPD TAC Diff
Entries 141346
BBC-S TAC Diff
ZDC TAC Diff
Entries 141346
VPD TAC Diff
ZDC TAC Diff

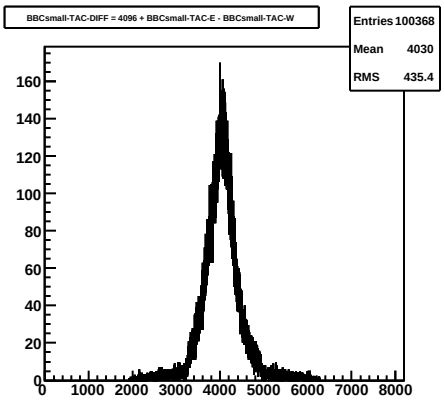

ZDC-TAC-E
Entries 13787
Mean 256.3
RMS 32.92

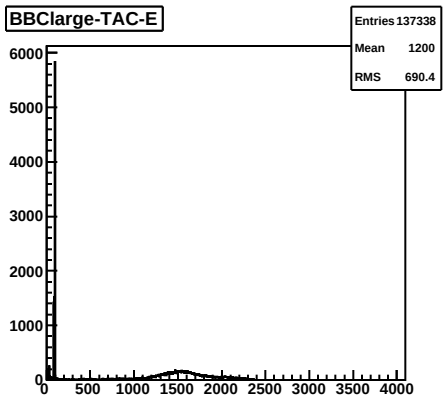

ZDC-TAC-W
Entries 13792
Mean 242.7
RMS 35.59

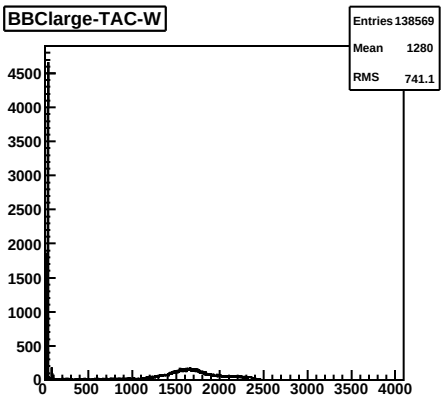

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 2724
Mean 1038
RMS 43.45

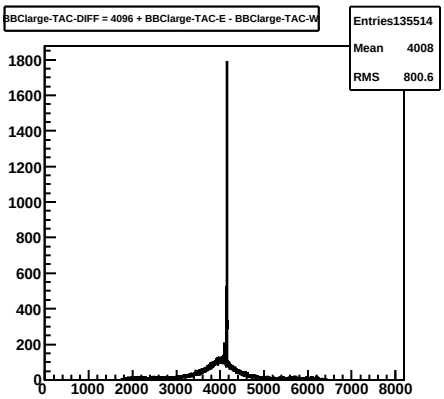

BBCsmall-TAC-E
Entries 109696
Mean 1649
RMS 391.1

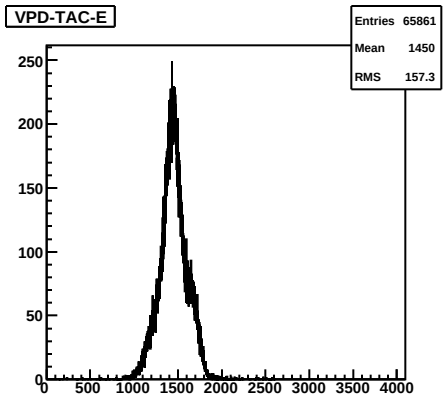

BBCsmall-TAC-W
Entries 117984
Mean 1698
RMS 419.9

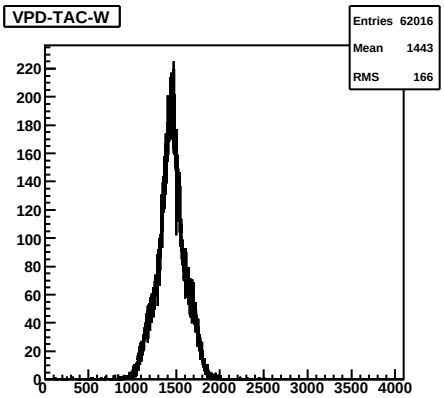

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 100368
Mean 4030
RMS 435.4

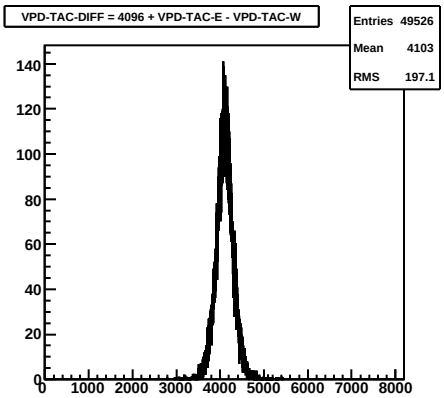

BBClarge-TAC-E
Entries 137338
Mean 1200
RMS 690.4

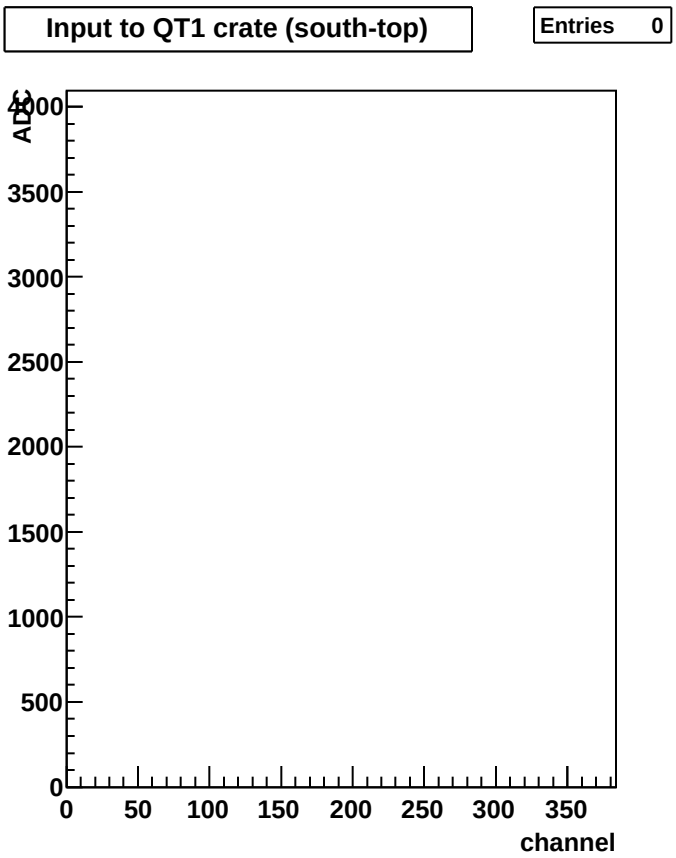

BBClarge-TAC-W
Entries 138569
Mean 1280
RMS 741.1

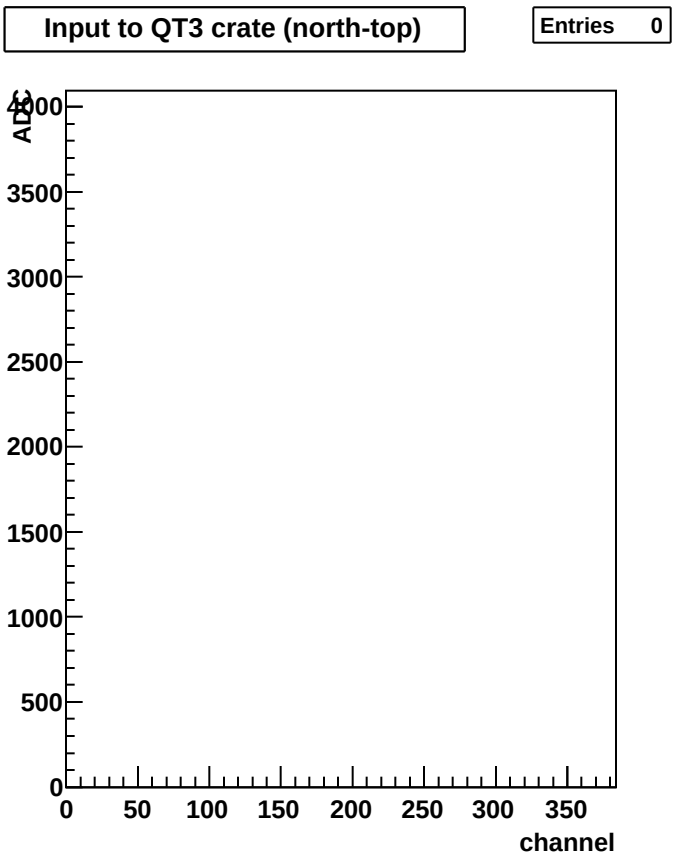

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 135514
Mean 4008
RMS 800.6

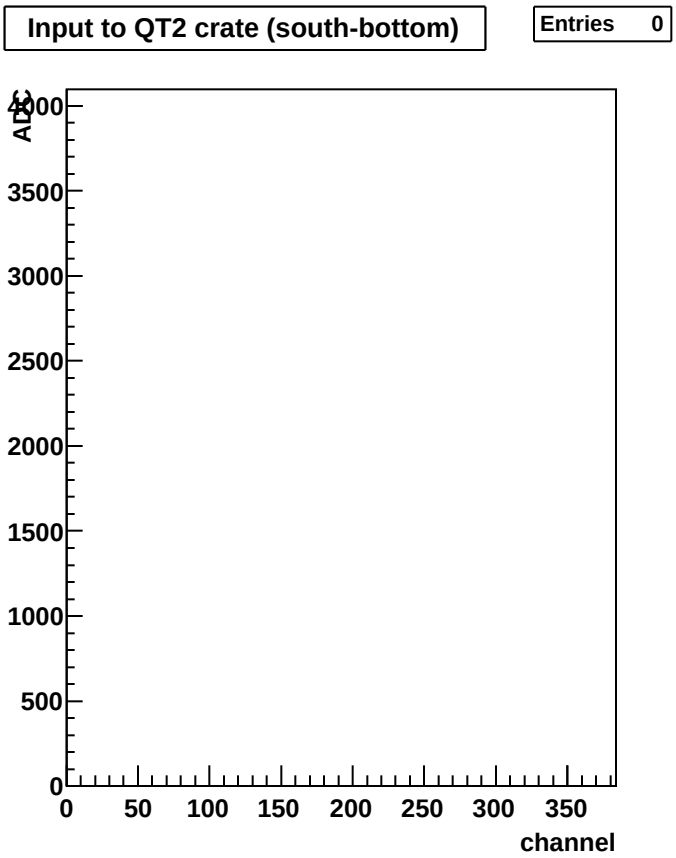

VPD-TAC-E
Entries 65861
Mean 1450
RMS 157.3

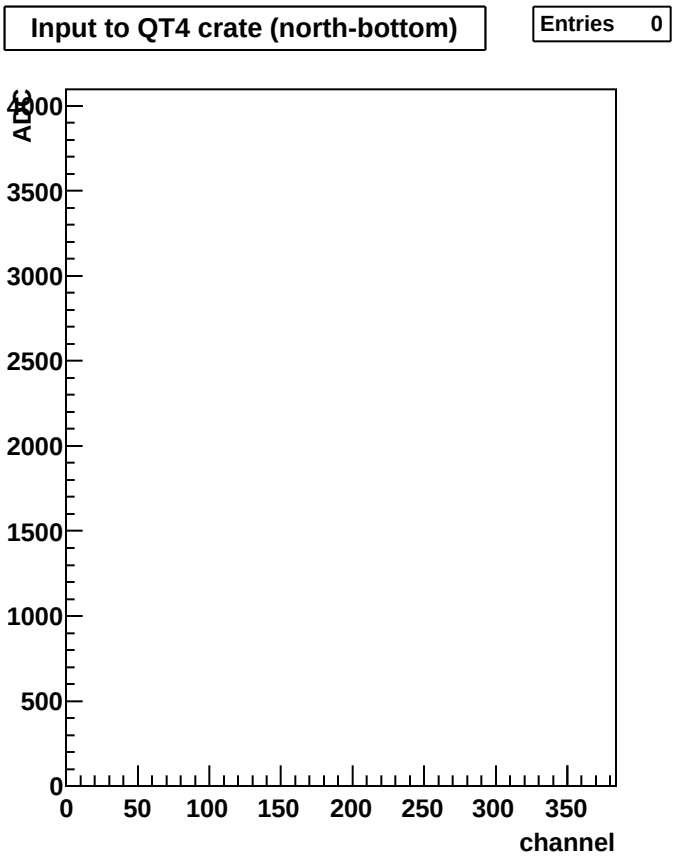

VPD-TAC-W
Entries 62016
Mean 1443
RMS 166

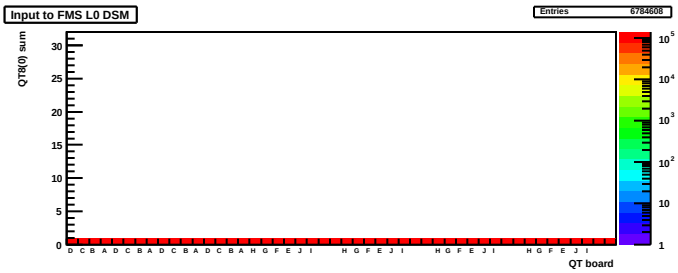

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 49526
Mean 4103
RMS 197.1

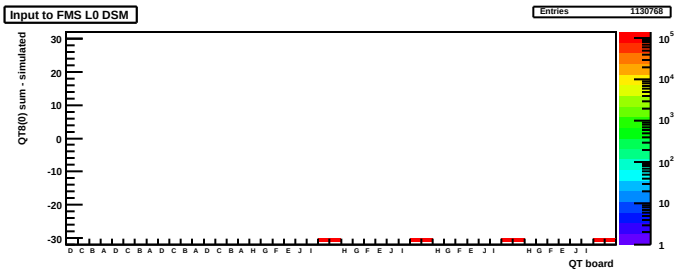

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

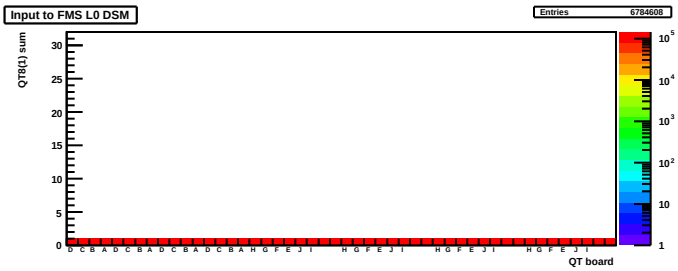

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

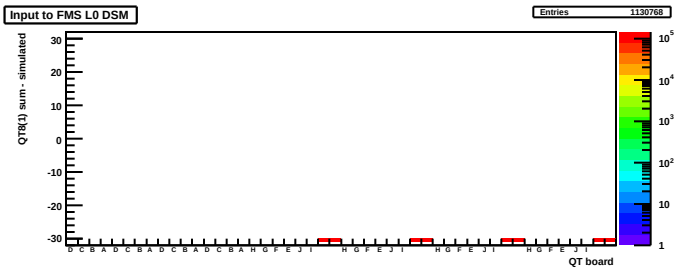

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

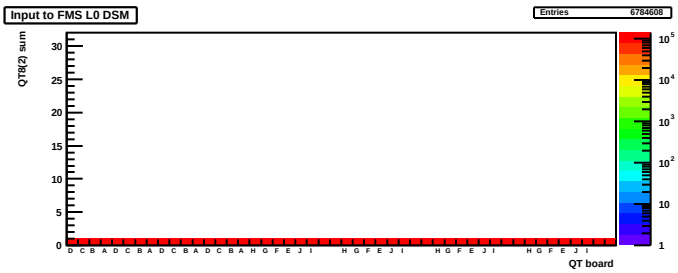

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

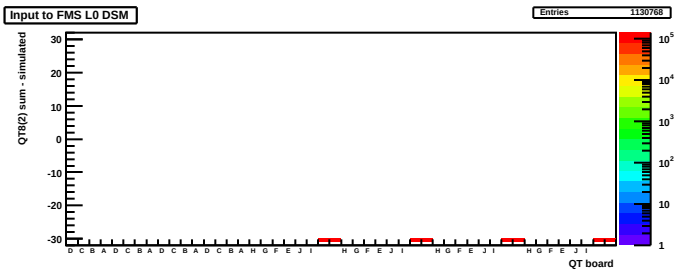

Input to FMS L0 DSM
Entries 6784608
QT8(0) sum
QT board

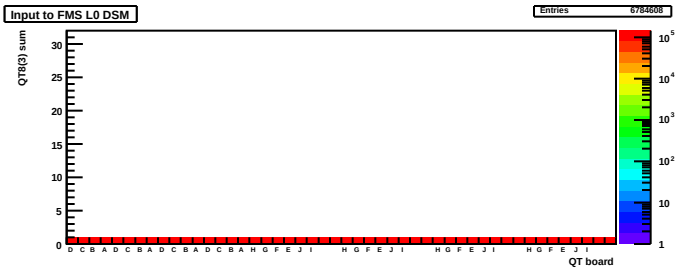

Input to FMS L0 DSM
Entries 1130768
QT8(0) sum - simulated
QT board

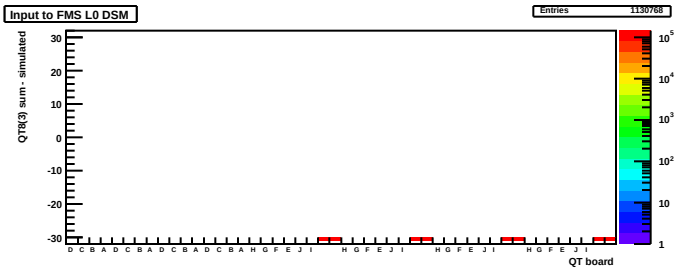

Input to FMS L0 DSM
Entries 6784608
QT8(1) sum
QT board

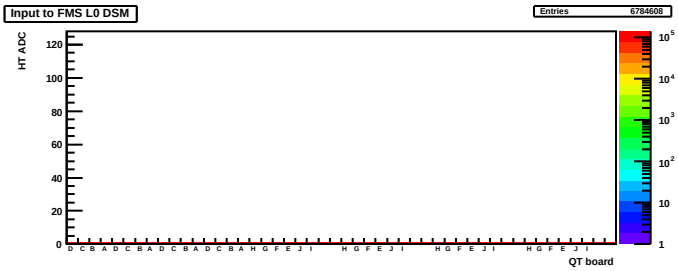

Input to FMS L0 DSM
Entries 1130768
QT8(1) sum - simulated
QT board

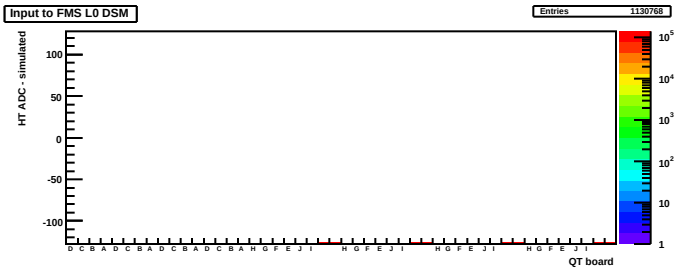

Input to FMS L0 DSM
Entries 6784608
QT8(2) sum
QT board

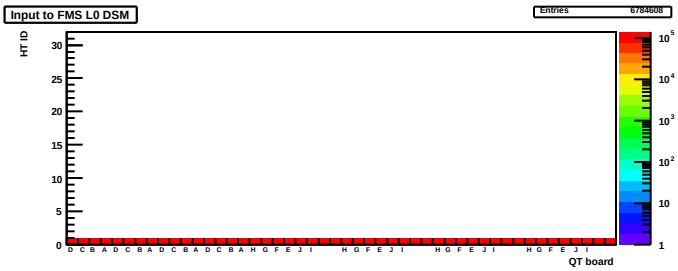

Input to FMS L0 DSM
Entries 1130768
QT8(2) sum - simulated
QT board

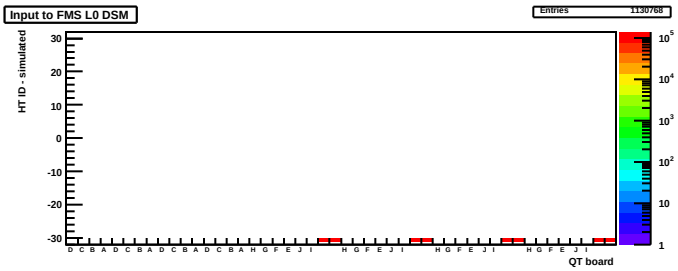

Input to FMS L0 DSM
Entries 6784608
QT8(3) sum
QT board

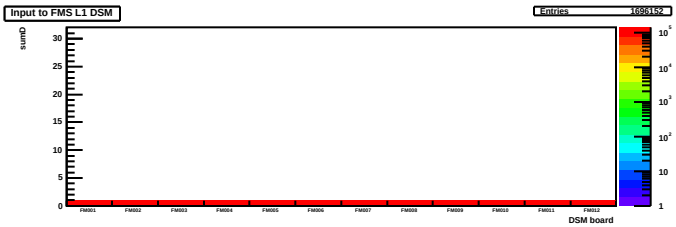

Input to FMS L0 DSM
Entries 1130768
QT8(3) sum - simulated
QT board

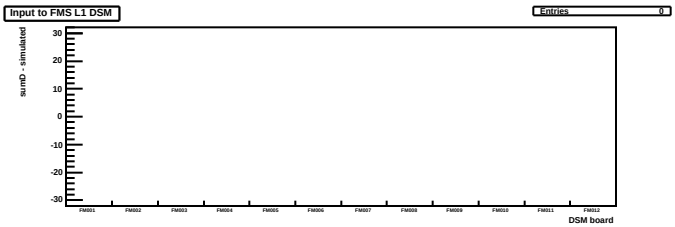

Input to FMS L0 DSM
Entries 6784608
HT ADC
QT board

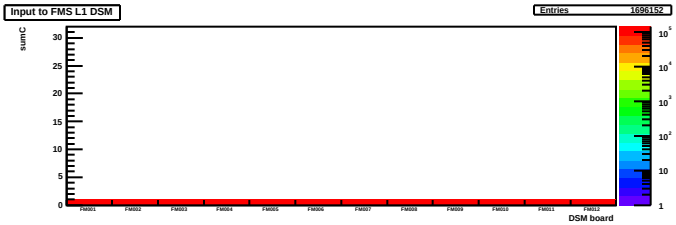

Input to FMS L0 DSM
Entries 1130768
HT ADC - simulated
QT board

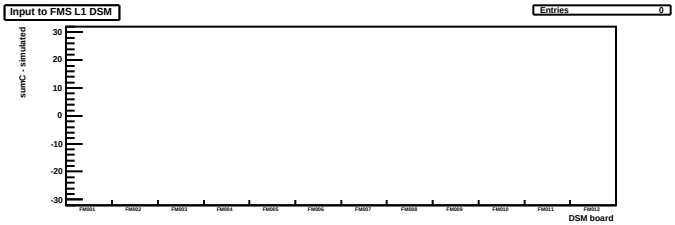

Input to FMS L0 DSM
Entries 6784608
HT ID
QT board

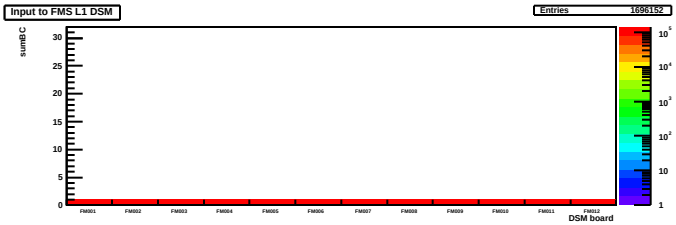

Input to FMS L0 DSM
Entries 1130768
HT ID - simulated
QT board

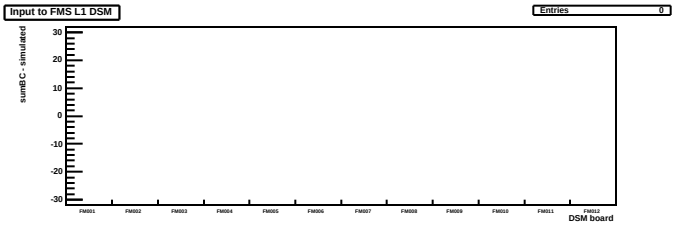

Input to FMS L1 DSM
Entries 1696152
sumD
DSM board

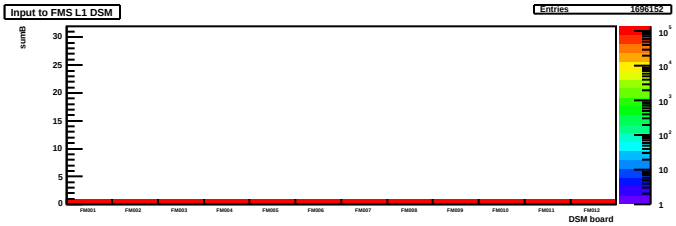

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

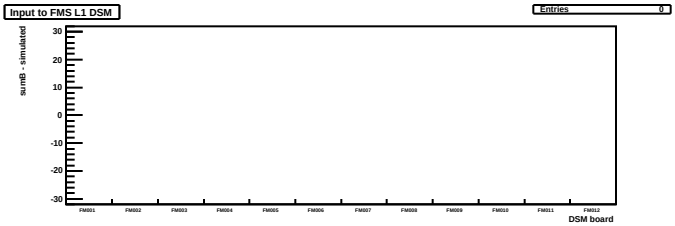

Input to FMS L1 DSM
Entries 1696152
sumC
DSM board

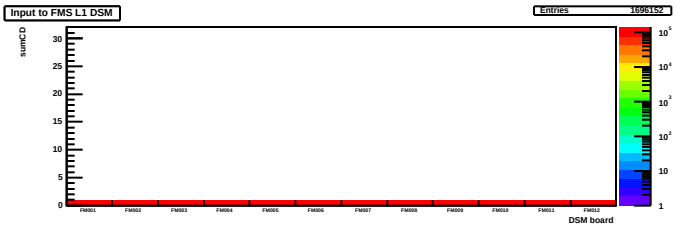

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

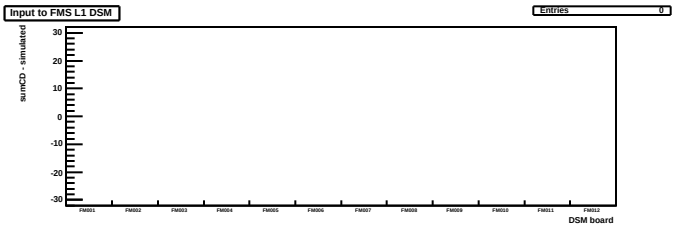

Input to FMS L1 DSM
Entries 1696152
sumBC
DSM board

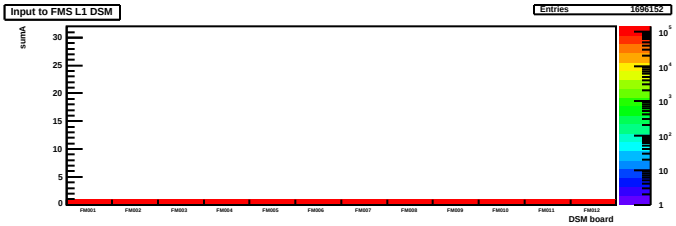

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

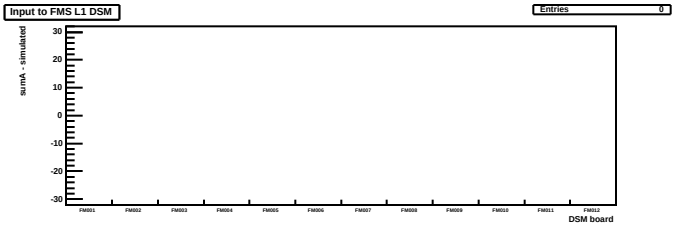

Input to FMS L1 DSM
Entries 1696152
sumB
DSM board

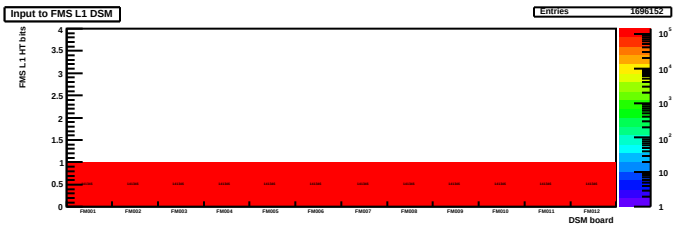

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

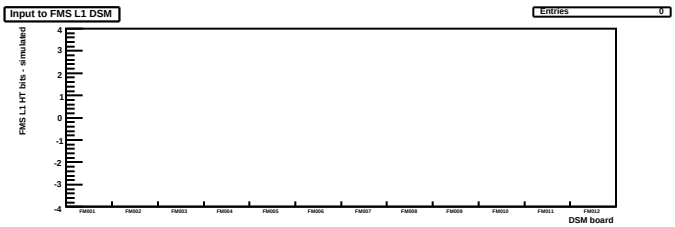

Input to FMS L1 DSM
Entries 1696152
sumCD
DSM board

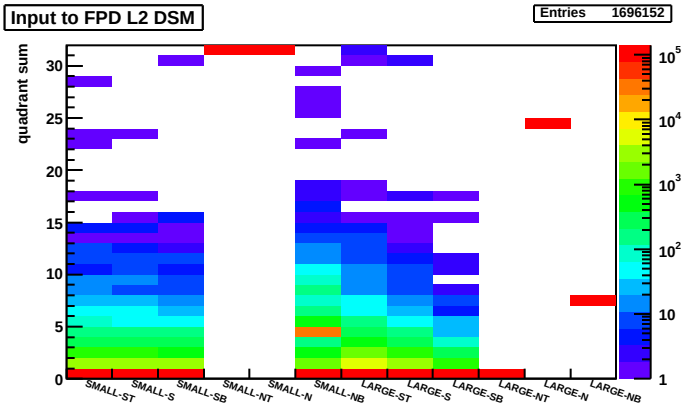

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

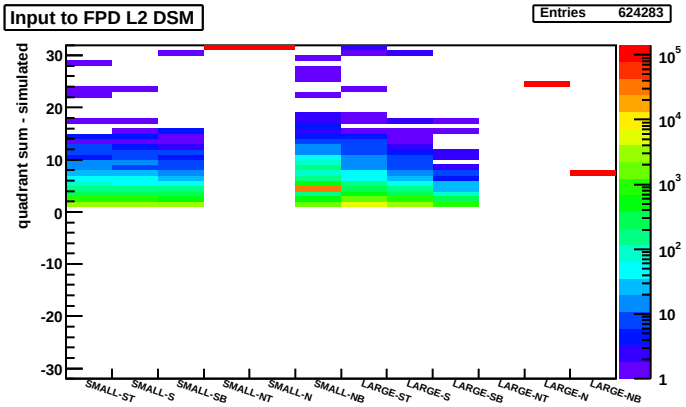

Input to FMS L1 DSM
Entries 1696152
sumA
DSM board

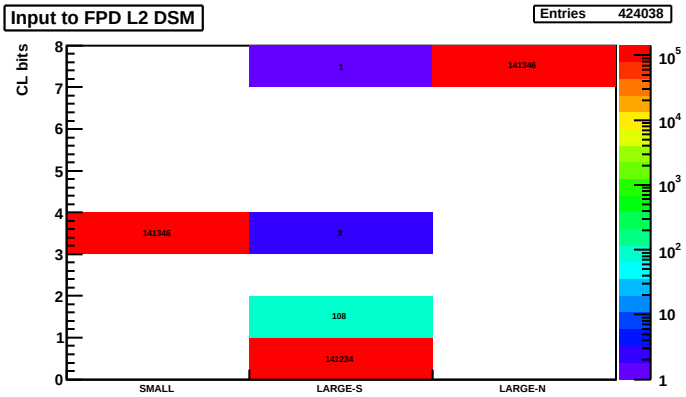

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

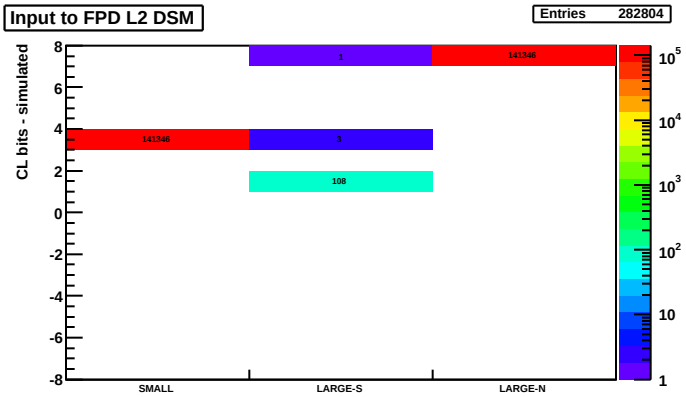

Input to FMS L1 DSM
Entries 1696152
FMS L1 HT bits
DSM board

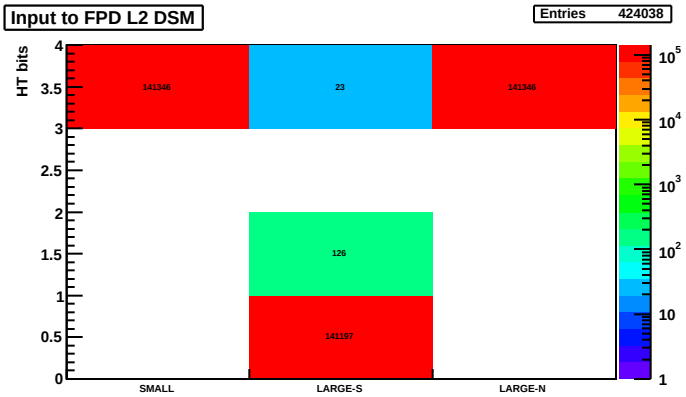

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

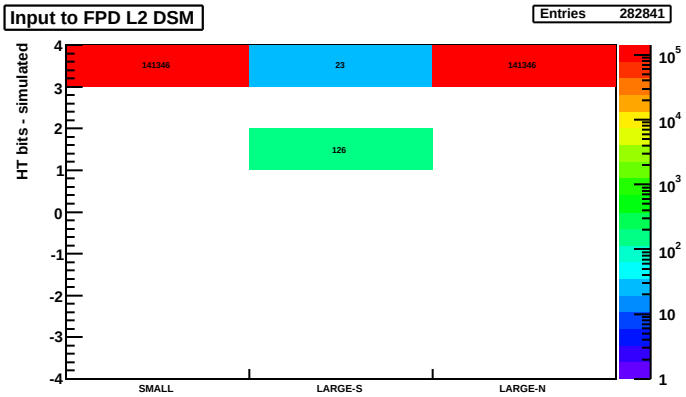

Input to FPD L2 DSM
Entries 1696152
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

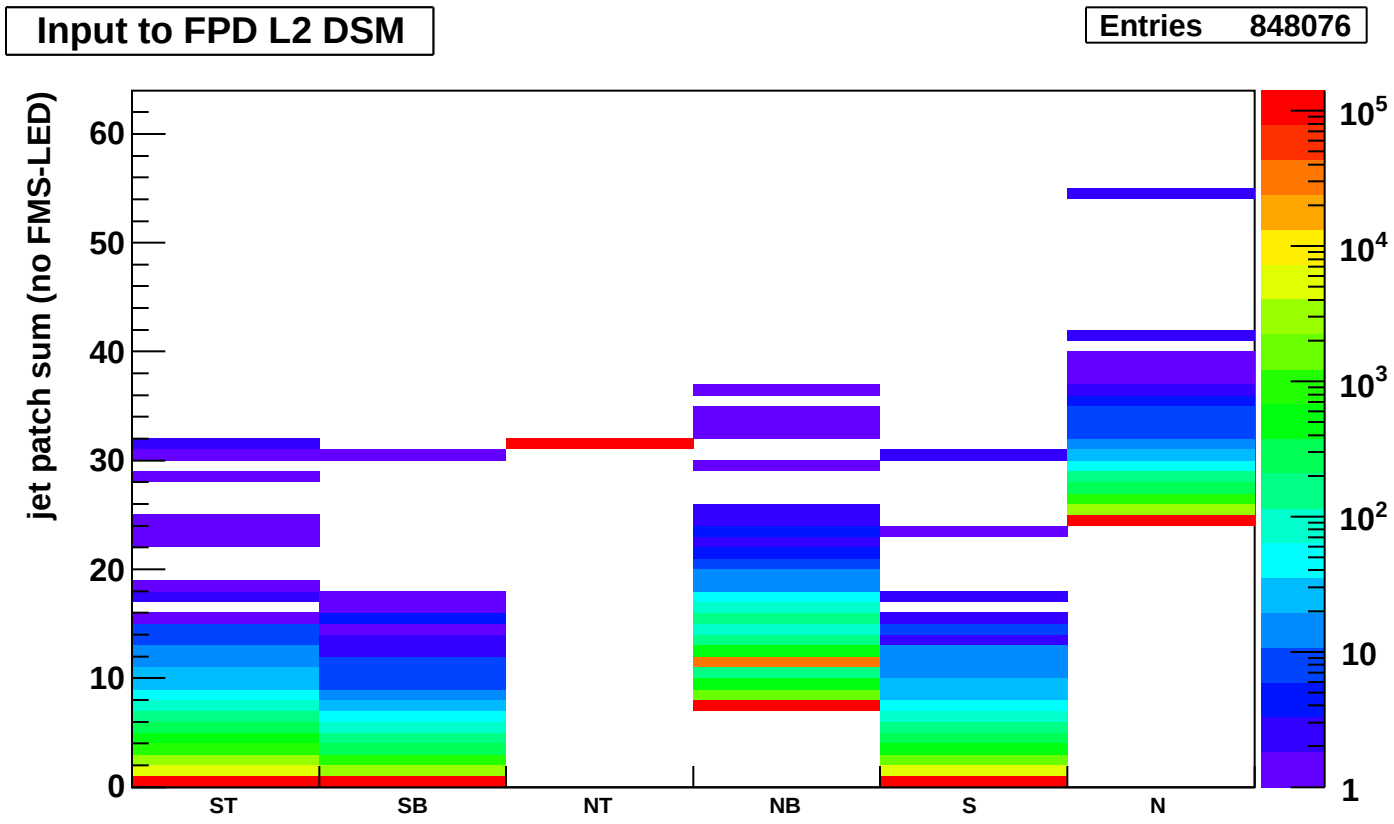

Input to FPD L2 DSM
Entries 624283
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

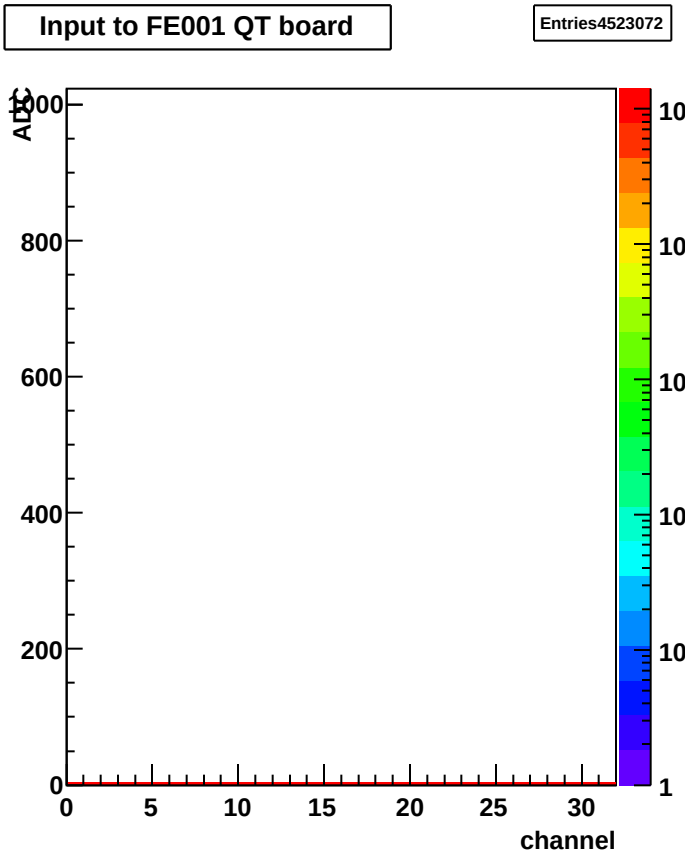

Input to FPD L2 DSM
Entries 424038
CL bits
1
141346
141346
3
108
141234
SMALL
LARGE-S
LARGE-N

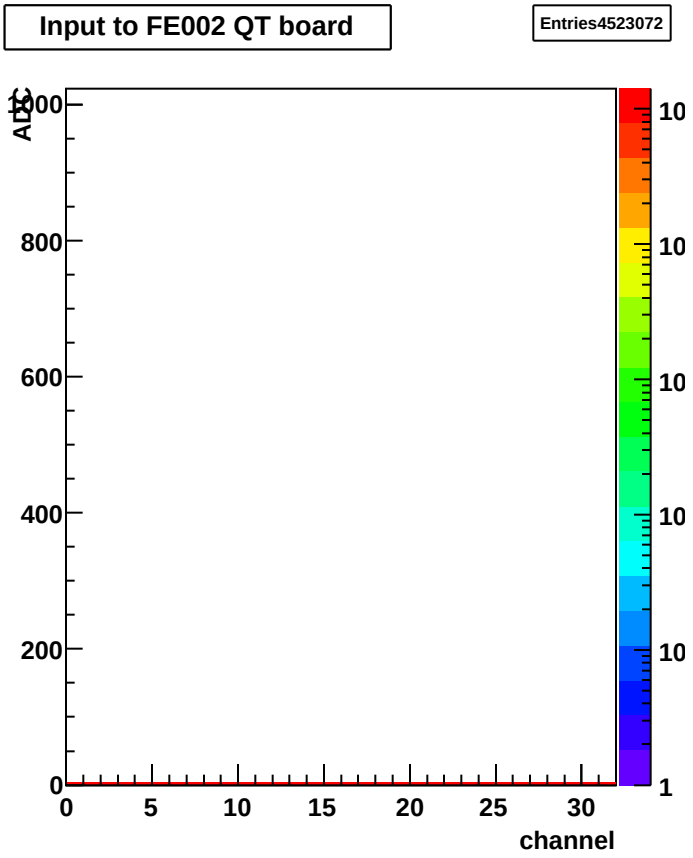

Input to FPD L2 DSM
Entries 282804
CL bits - simulated
1
141346
141346
3
108
SMALL
LARGE-S
LARGE-N

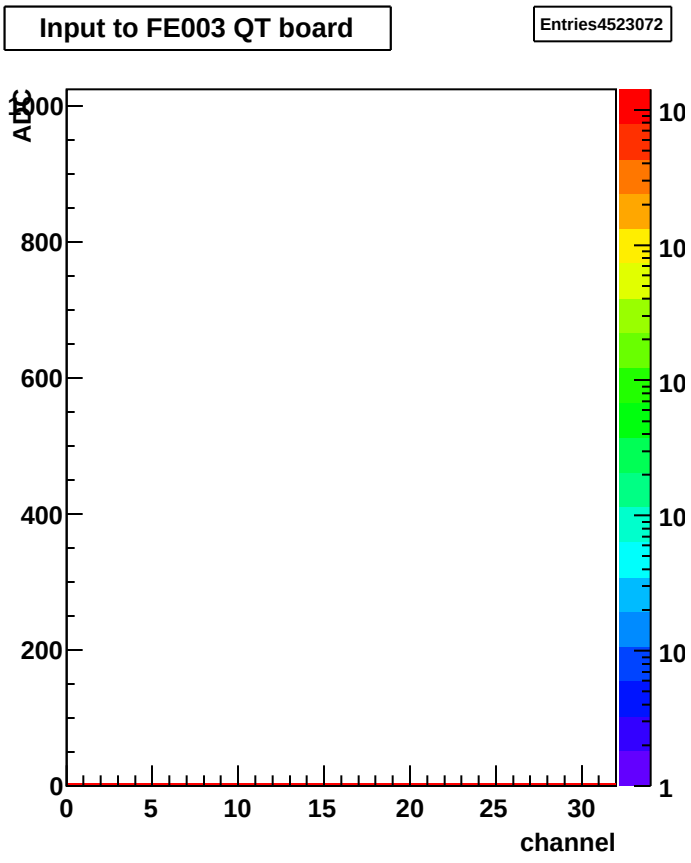

Input to FPD L2 DSM
Entries 424038
HT bits
141346
23
141346
126
141197
SMALL
LARGE-S
LARGE-N

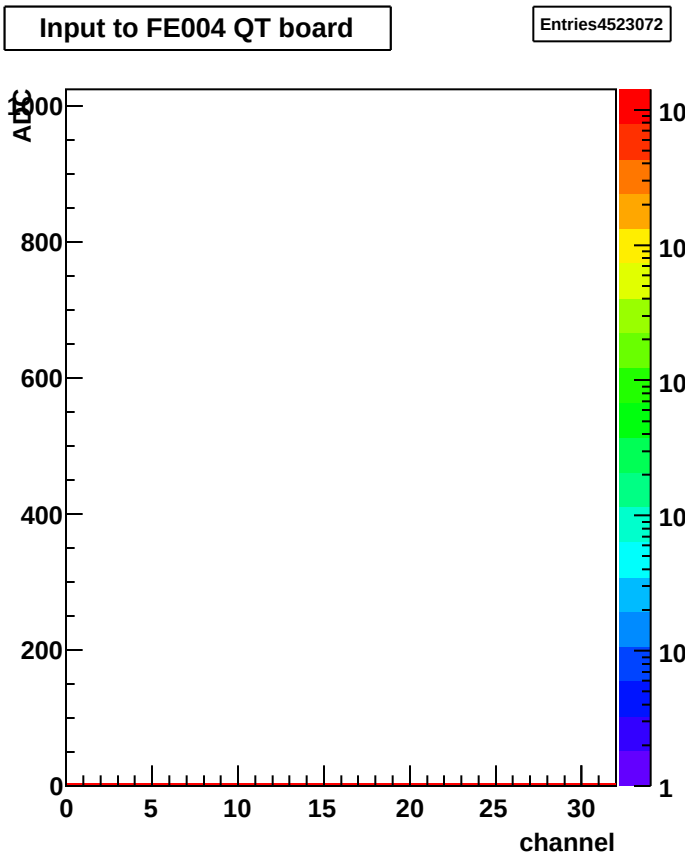

Input to FPD L2 DSM
Entries 282841
HT bits - simulated
141346
23
141346
126
SMALL
LARGE-S
LARGE-N

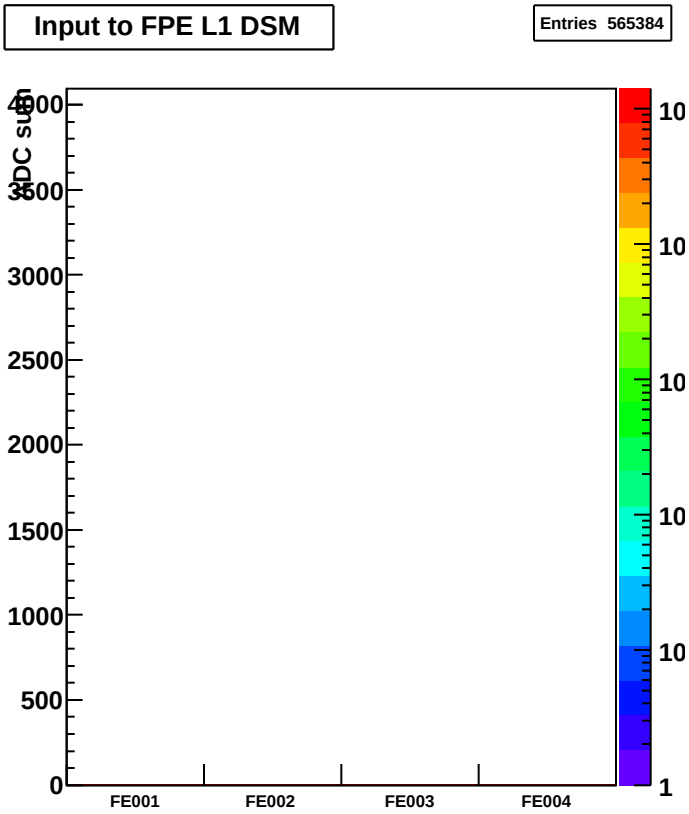

Input to FPD L2 DSM
Entries 848076
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

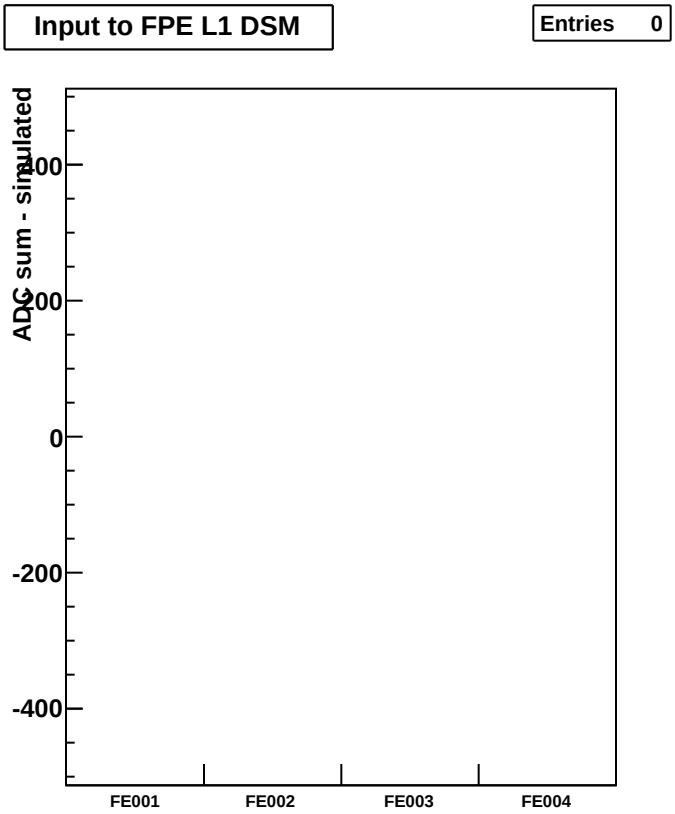

Input to FE001 QT board
Entries4523072
ADC
channel

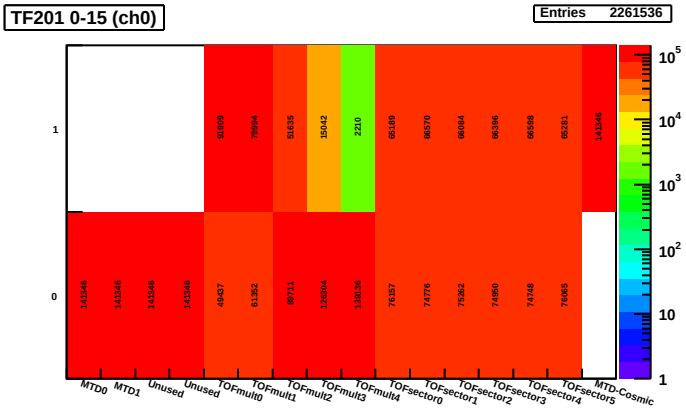

Input to FE002 QT board
Entries4523072
ADC
channel

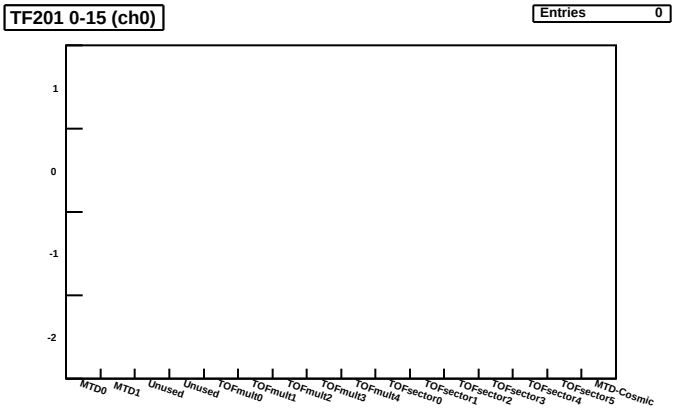

Input to FE003 QT board
Entries4523072
ADC
channel

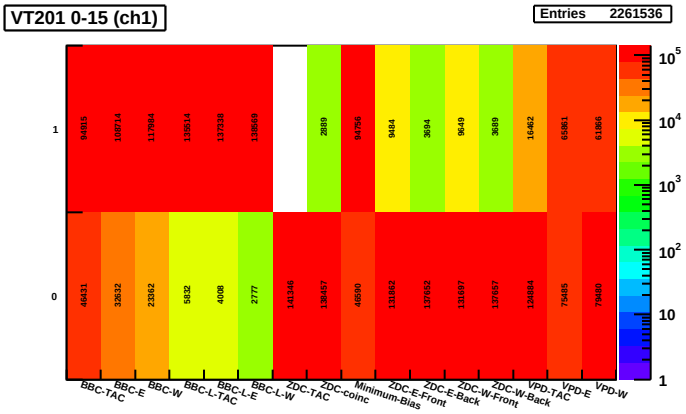

Input to FE004 QT board
Entries4523072
ADC
channel

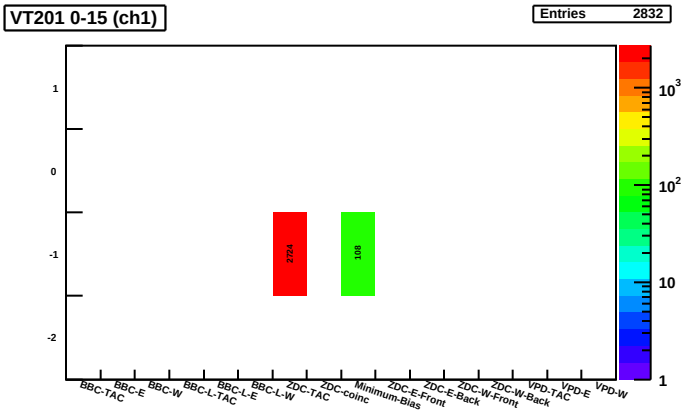

Input to FPE L1 DSM
Entries 565384
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

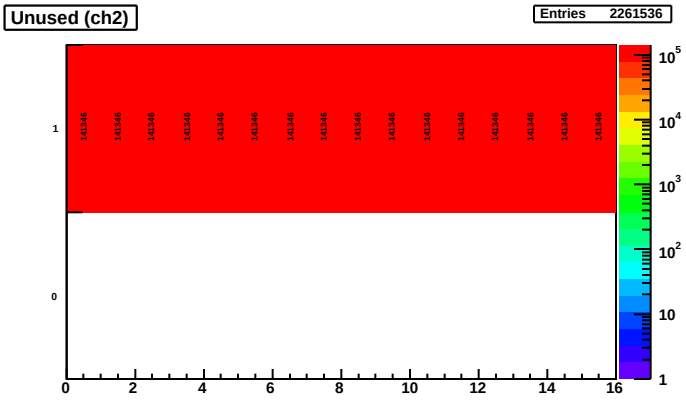

Input to FPE L1 DSM
Entries 0
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004

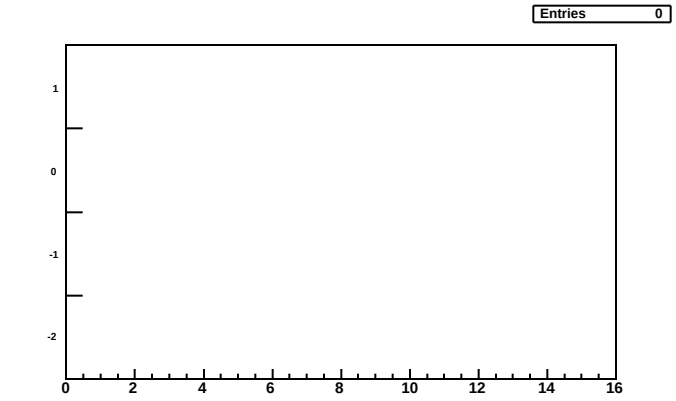

TF201 0-15 (ch0)
Entries 2261536
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

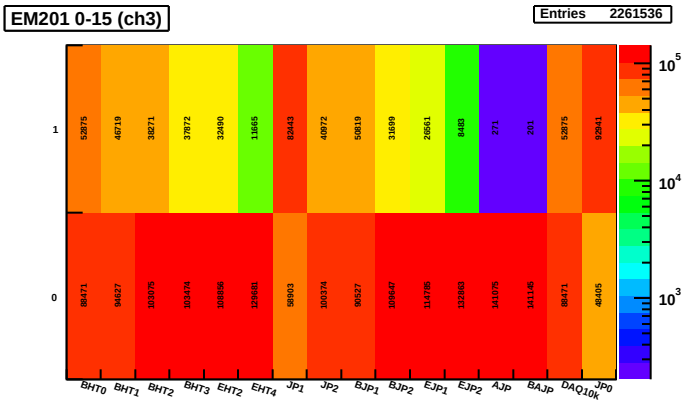

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

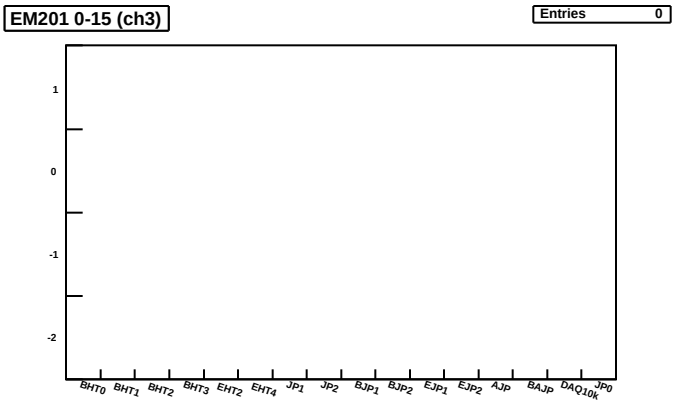

VT201 0-15 (ch1)
Entries 2261536
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

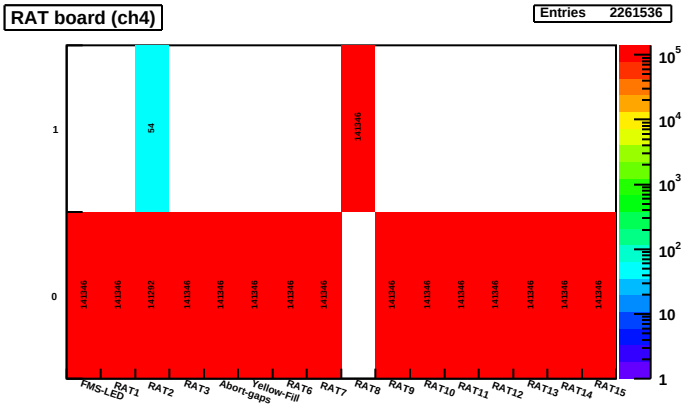

VT201 0-15 (ch1)
Entries 2832
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

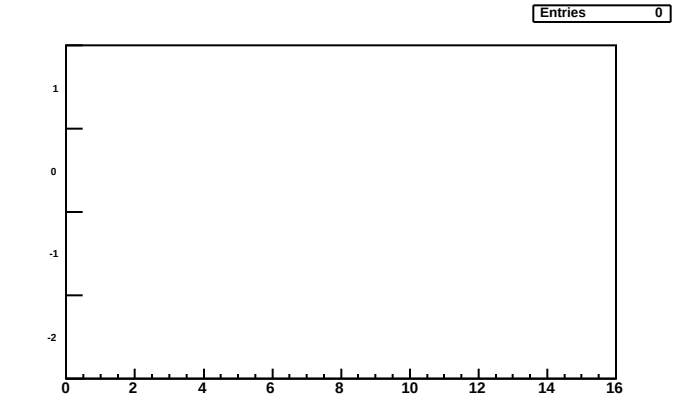

Unused (ch2)
Entries 2261536

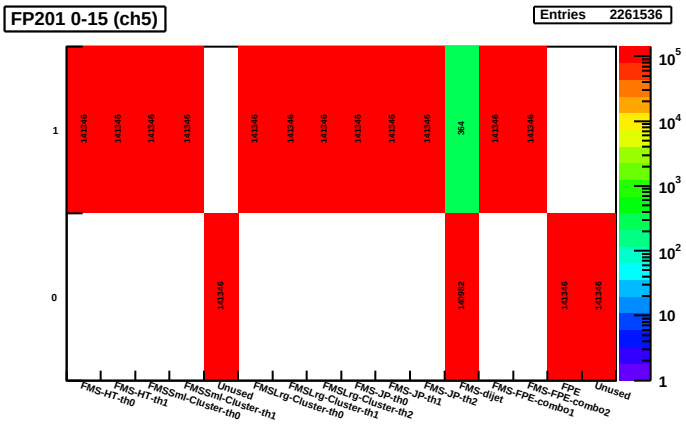

Entries 0

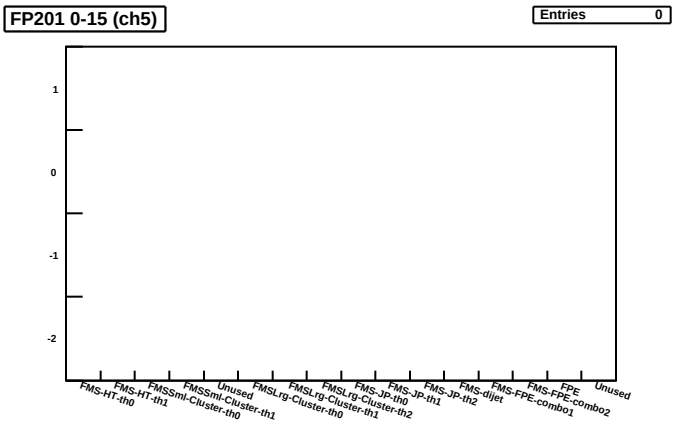

EM201 0-15 (ch3)
Entries 2261536
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

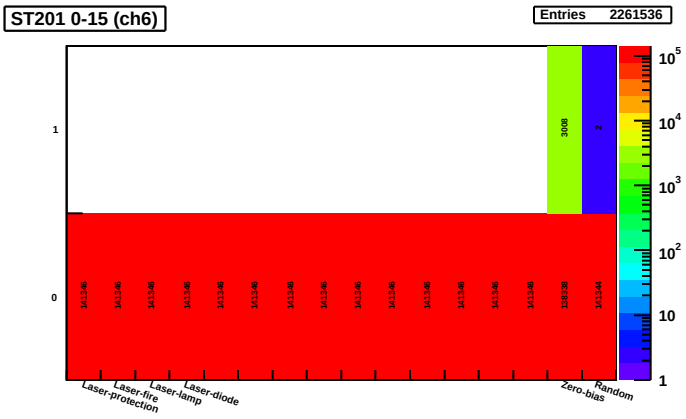

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

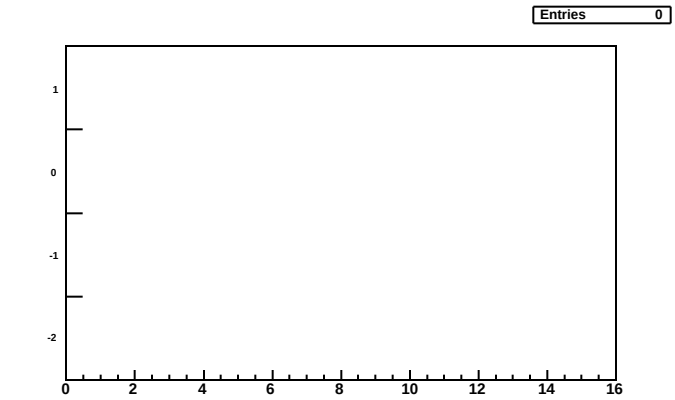

RAT board (ch4)
Entries 2261536
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15

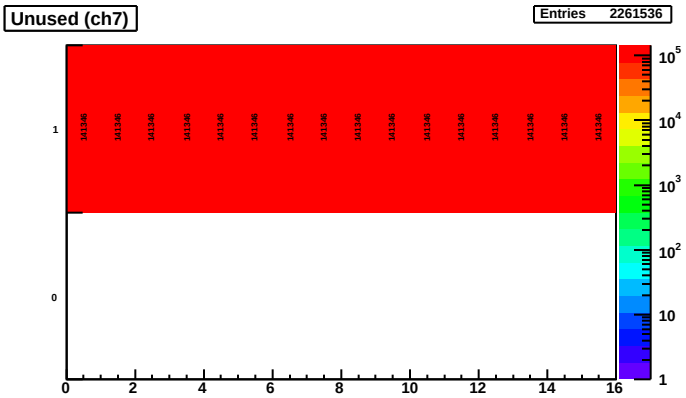

Entries 0

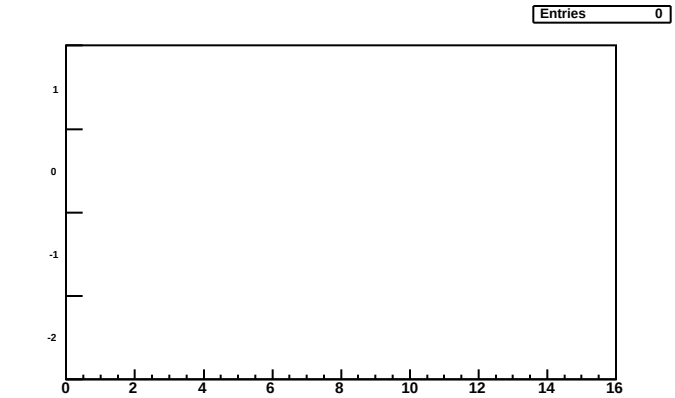

FP201 0-15 (ch5)
Entries 2261536
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-diJet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


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


ST201 0-15 (ch6)
Entries 2261536
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random


Entries 0


Unused (ch7)
Entries 2261536


Entries 0