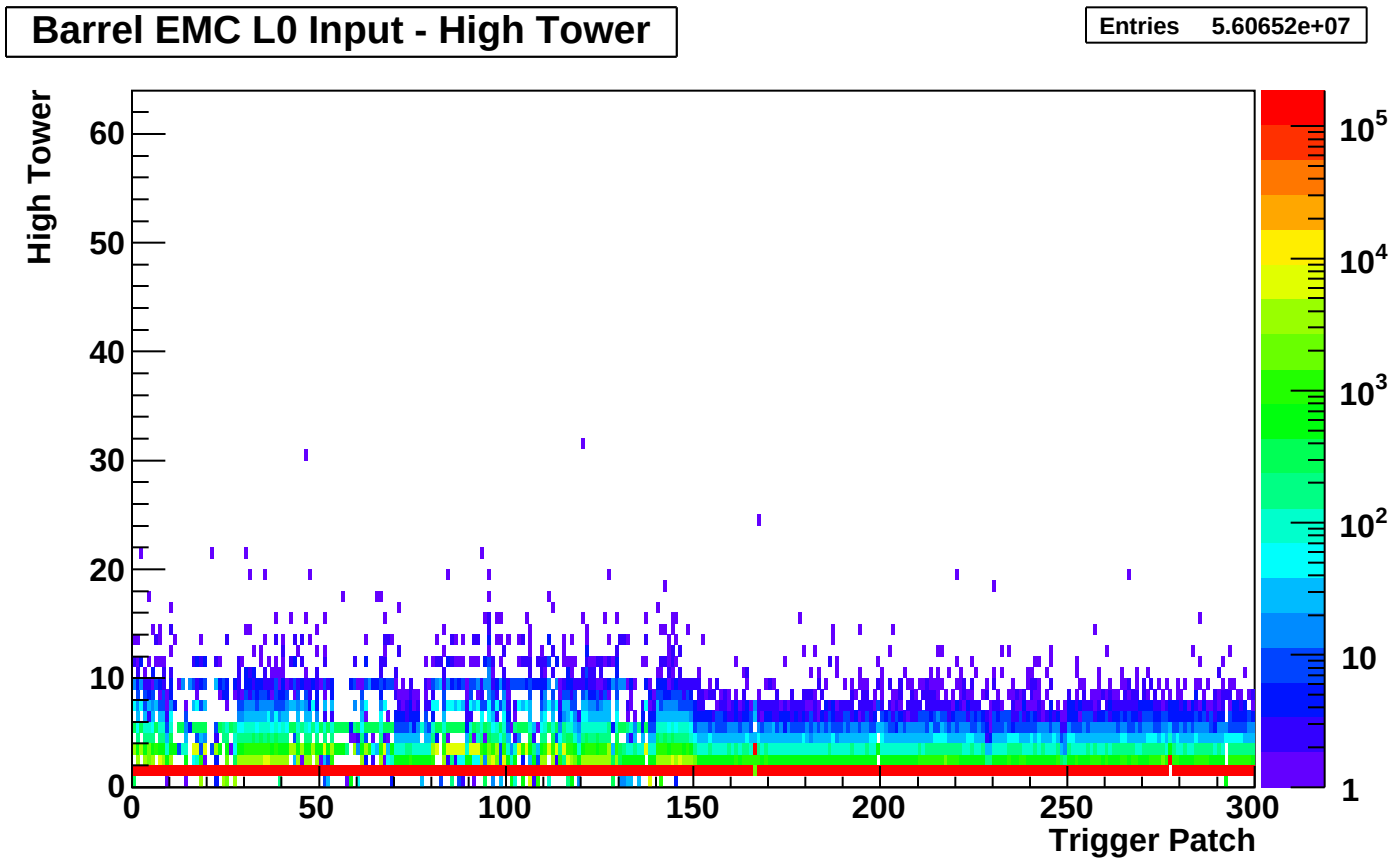
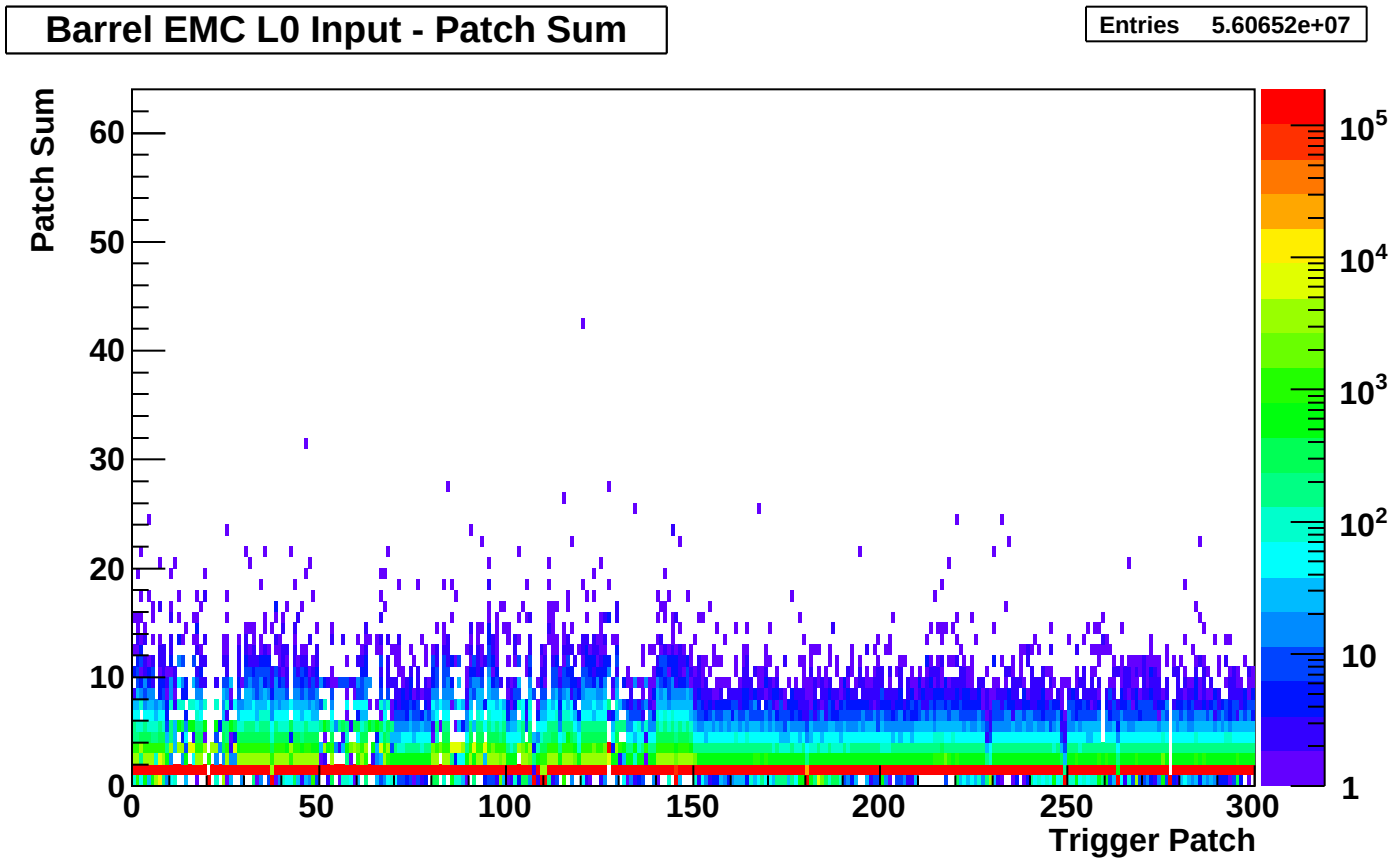
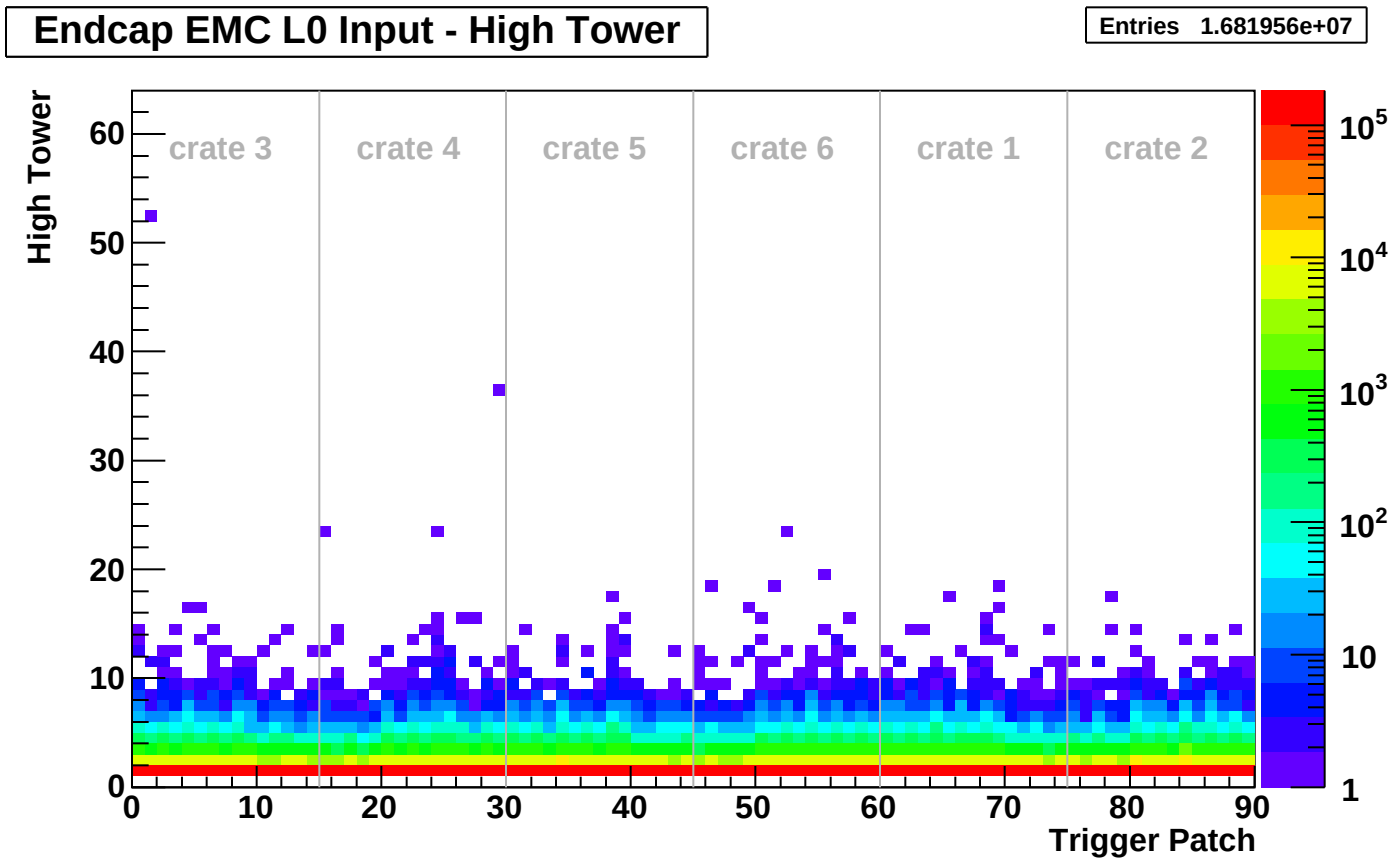
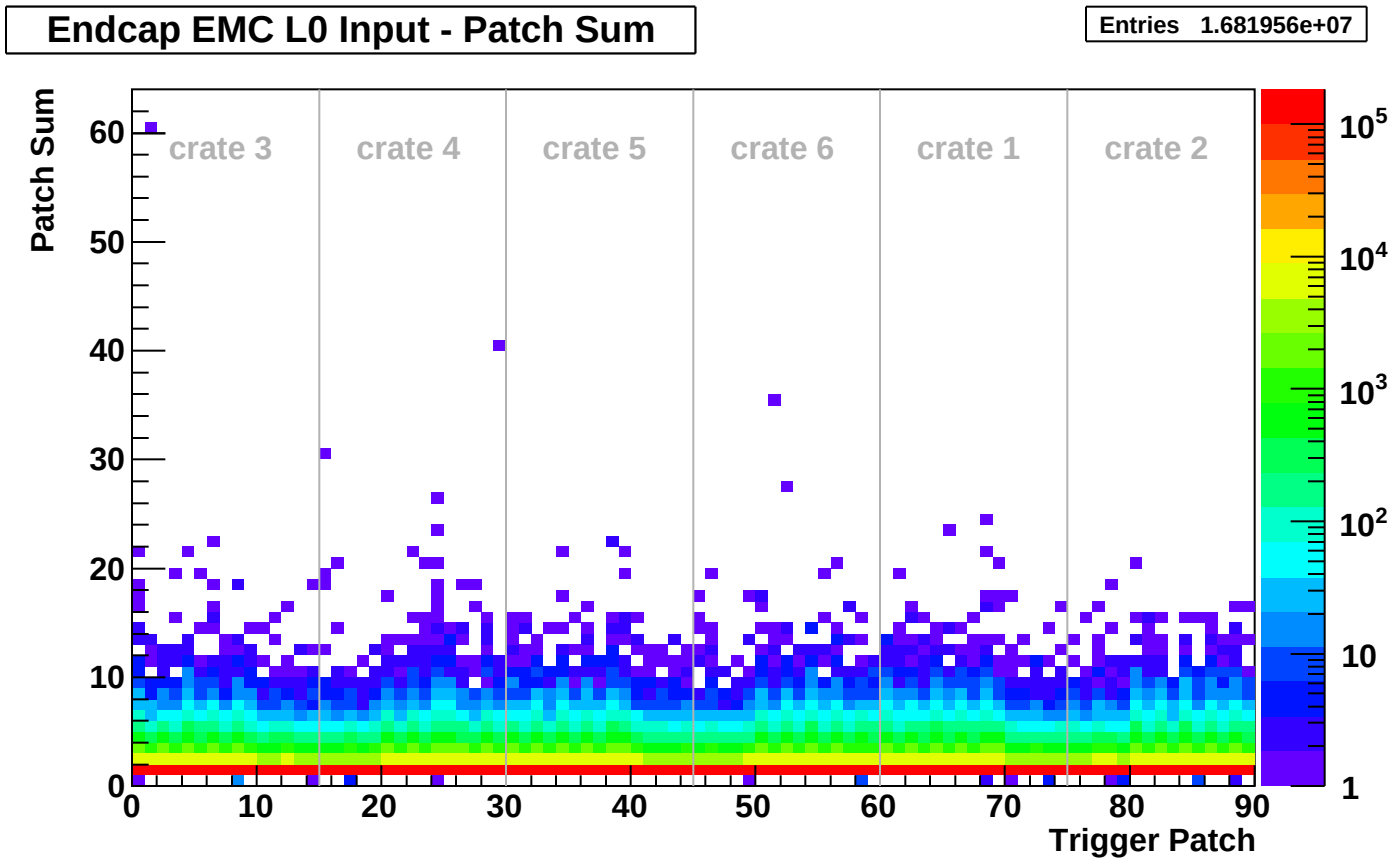
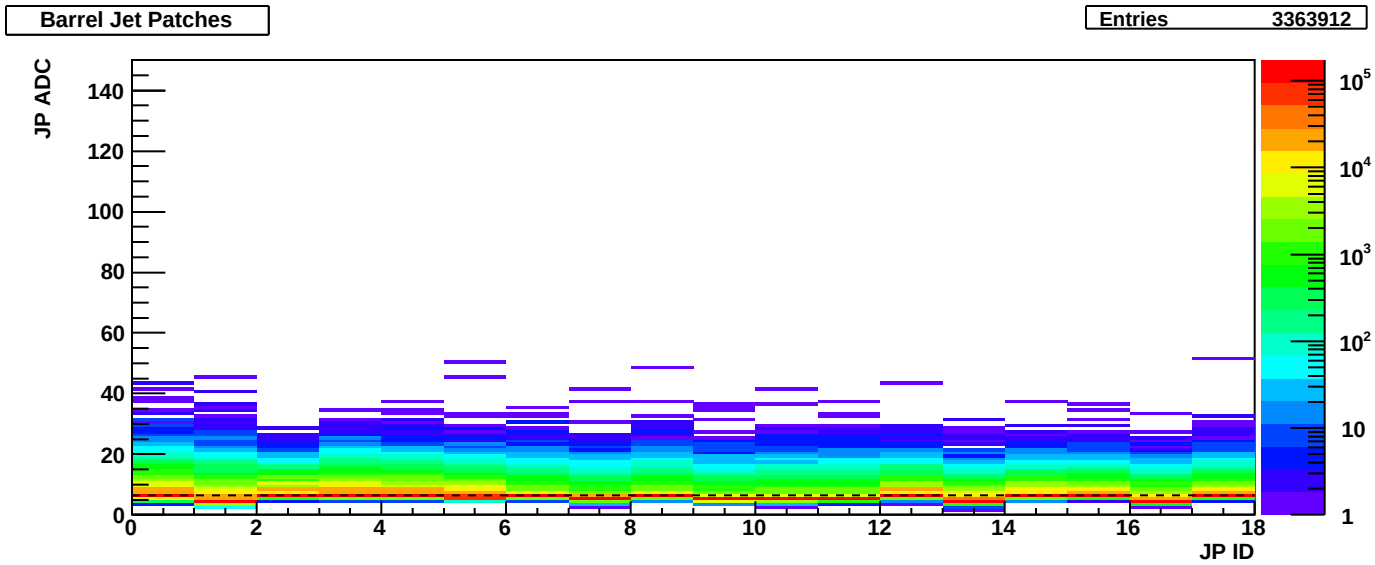
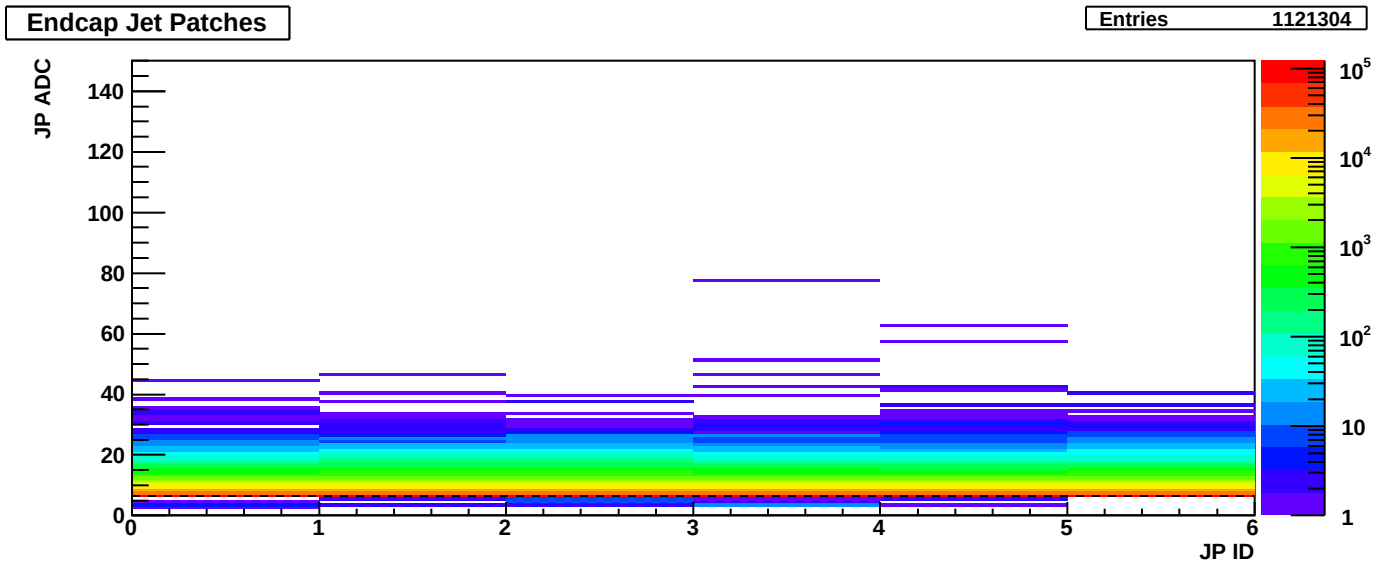

Barrel EMC L0 Input - High Tower
Entries 5.60652e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

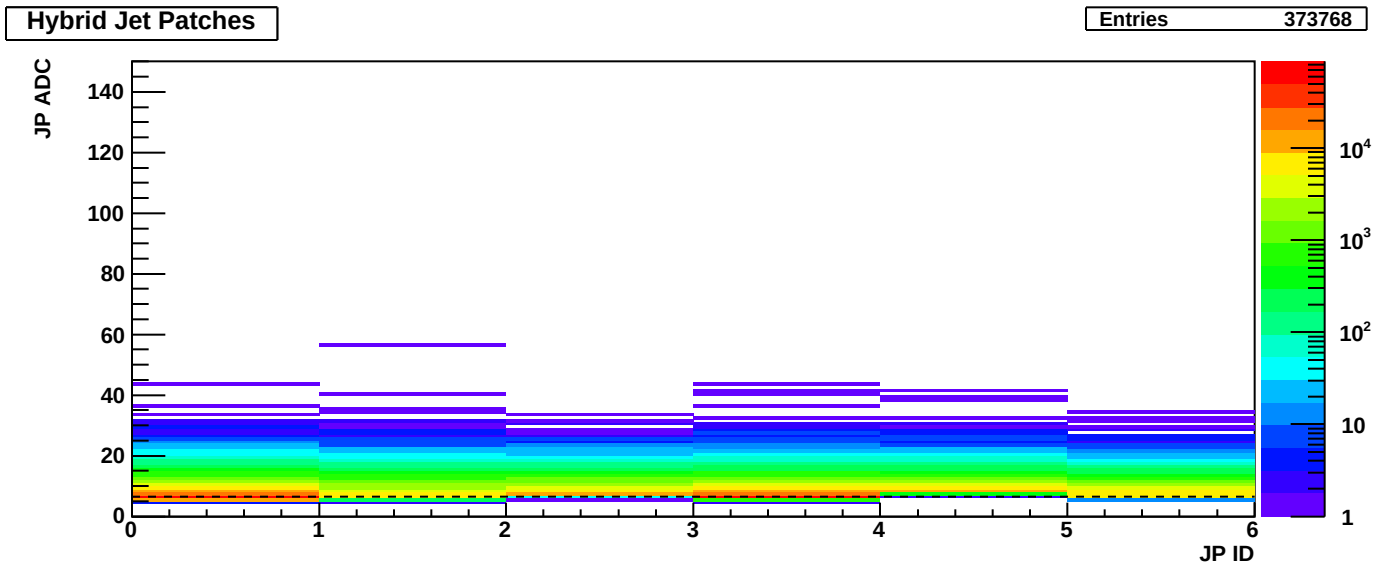

Barrel EMC L0 Input - Patch Sum
Entries 5.60652e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

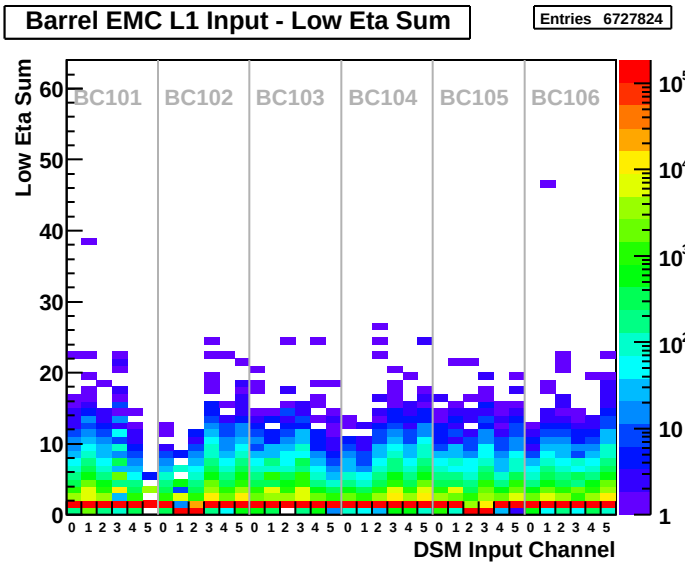

Endcap EMC L0 Input - High Tower
Entries 1.681956e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

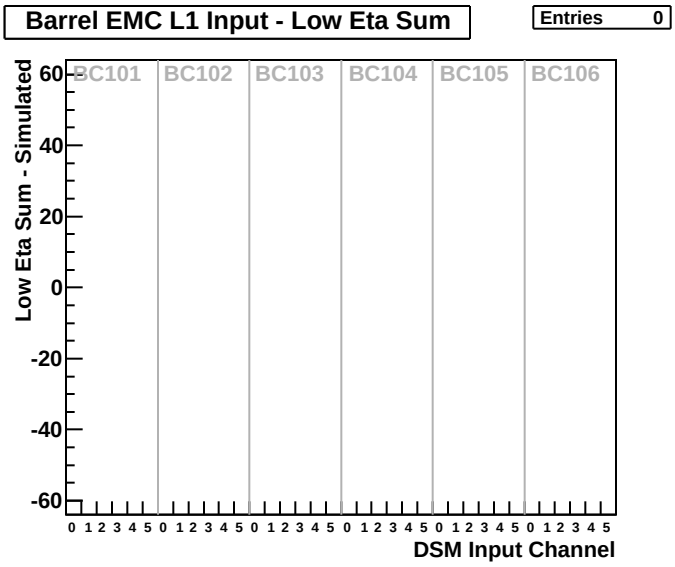

Endcap EMC L0 Input - Patch Sum
Entries 1.681956e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

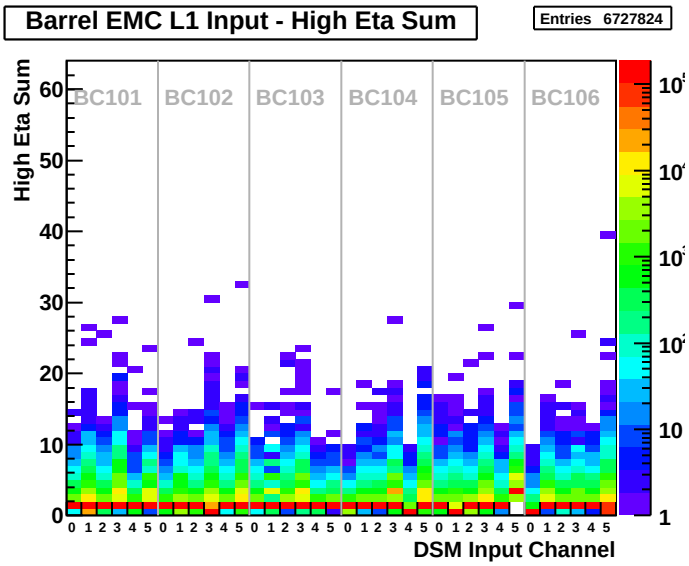

Barrel Jet Patches
Entries 3363912
JP ADC
JP ID

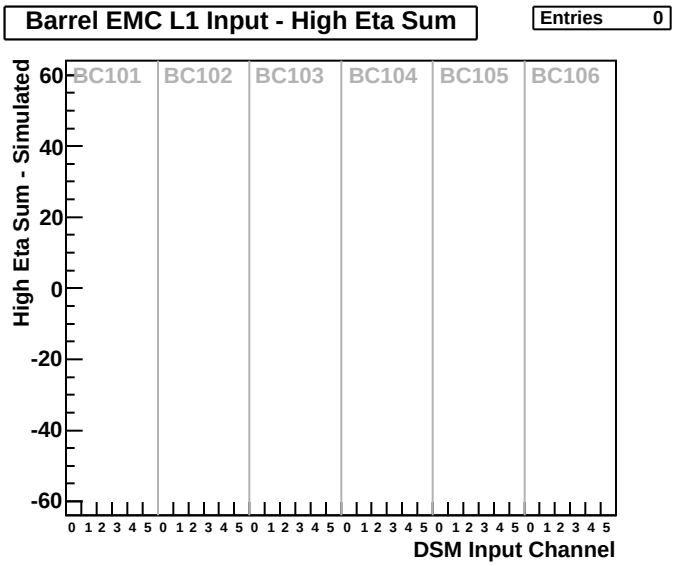

Endcap Jet Patches
Entries 1121304
JP ADC
JP ID

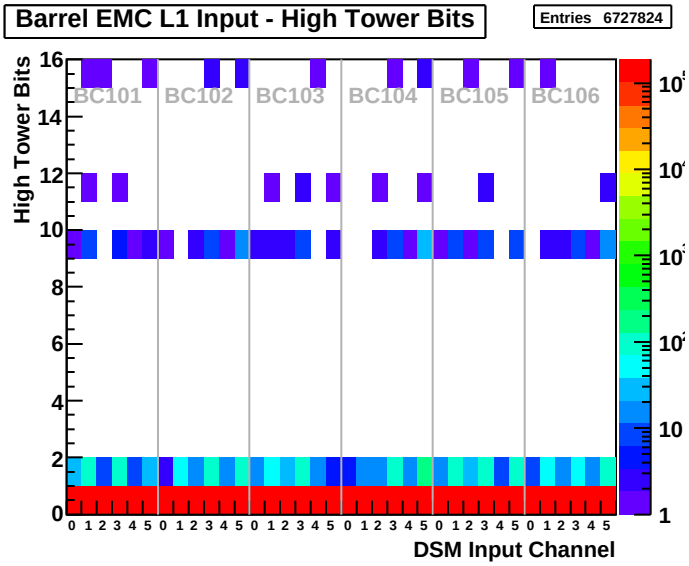

Hybrid Jet Patches
Entries 373768
JP ADC
JP ID

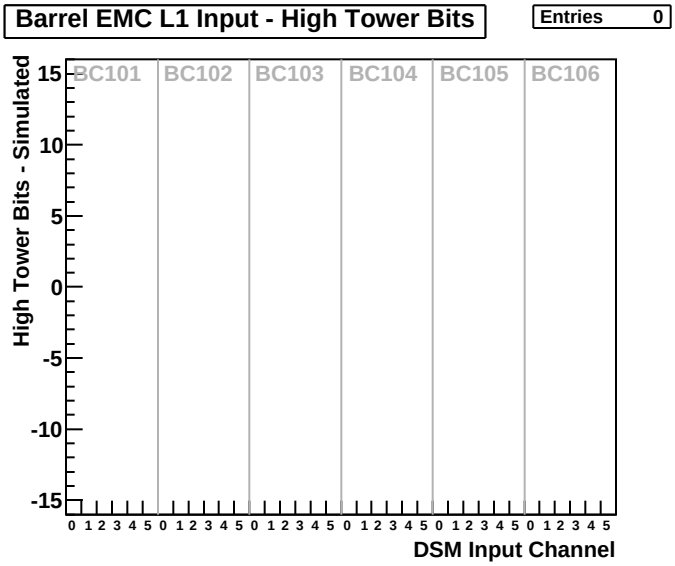

Barrel EMC L1 Input - Low Eta Sum
Entries 6727824
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

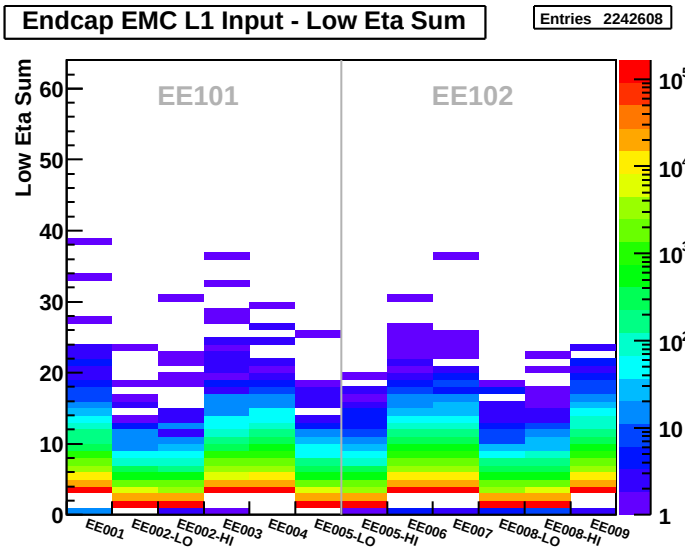

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

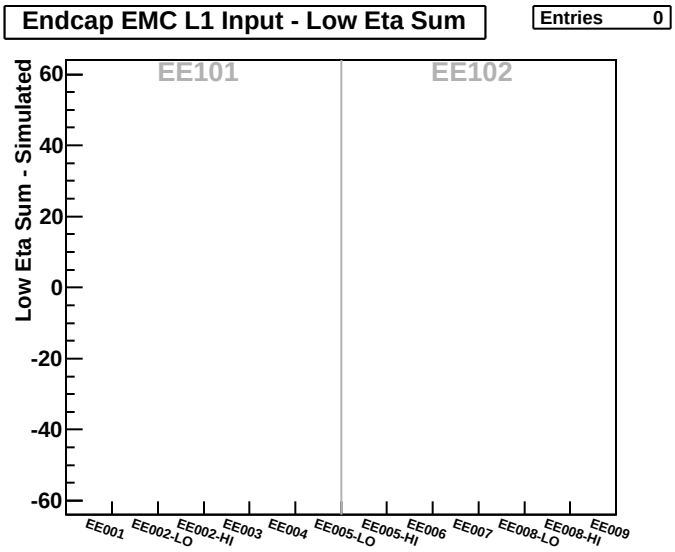

Barrel EMC L1 Input - High Eta Sum
Entries 6727824
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

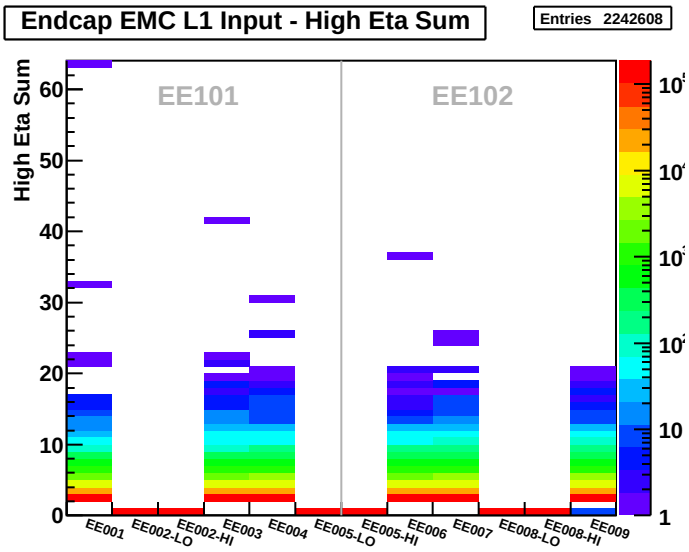

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

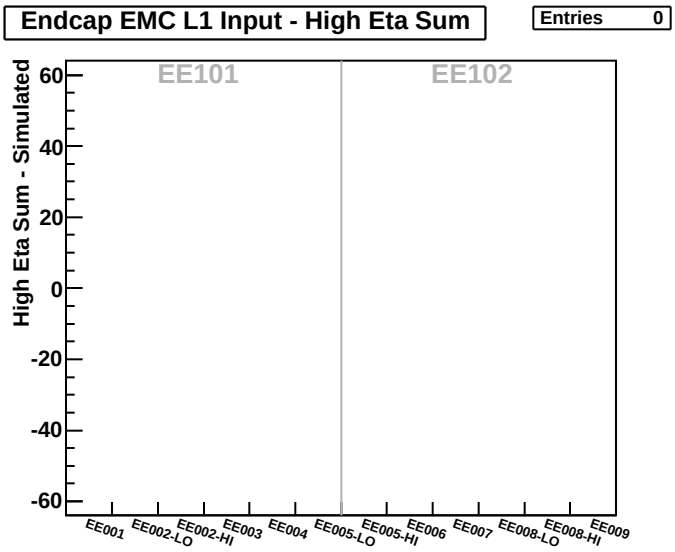

Barrel EMC L1 Input - High Tower Bits
Entries 6727824
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

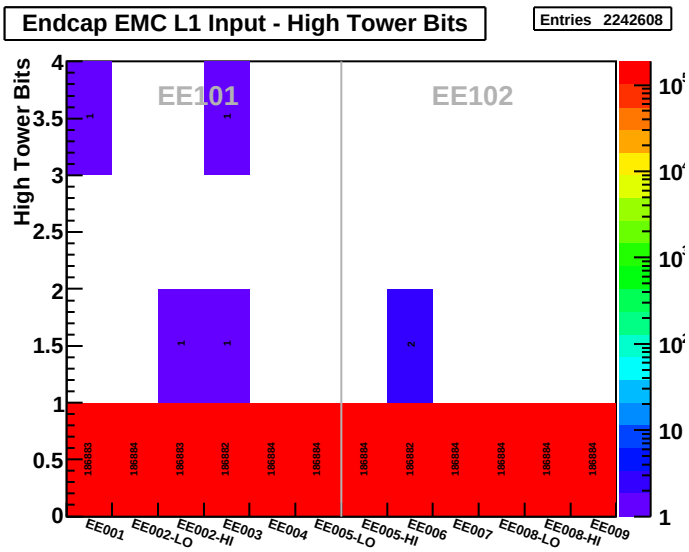

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

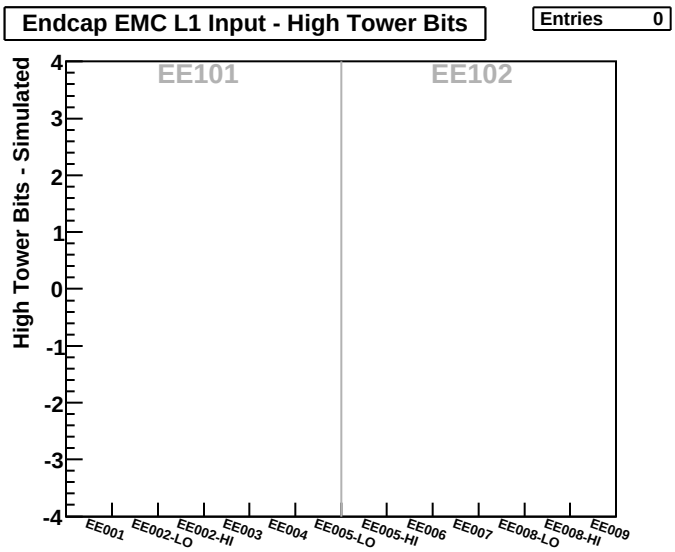

Endcap EMC L1 Input - Low Eta Sum
Entries 2242608
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

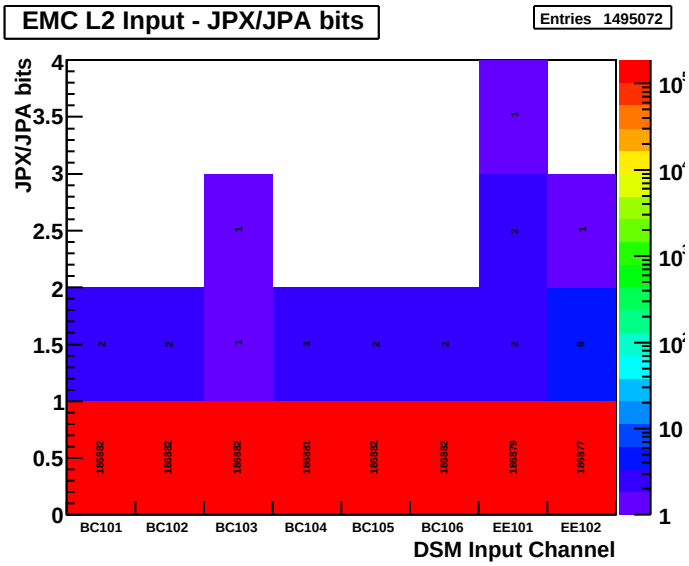

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

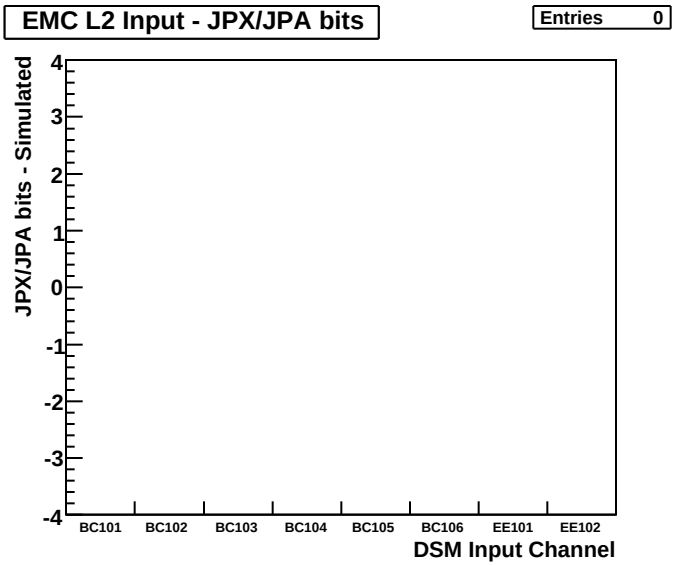

Endcap EMC L1 Input - High Eta Sum
Entries 2242608
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

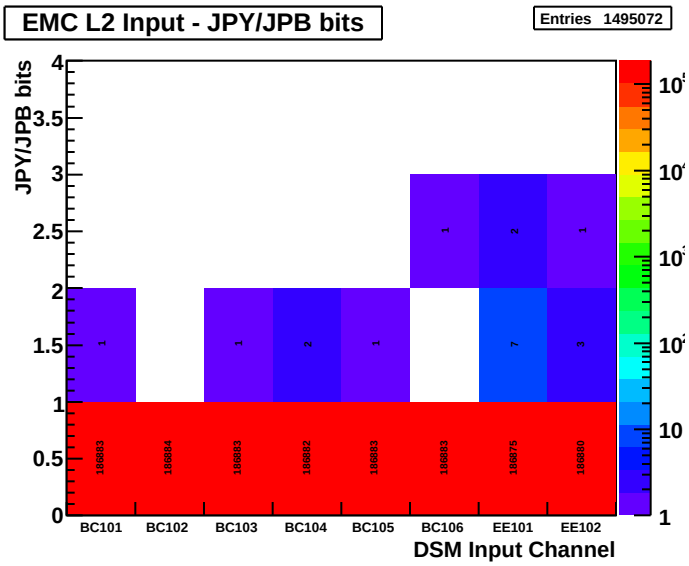

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

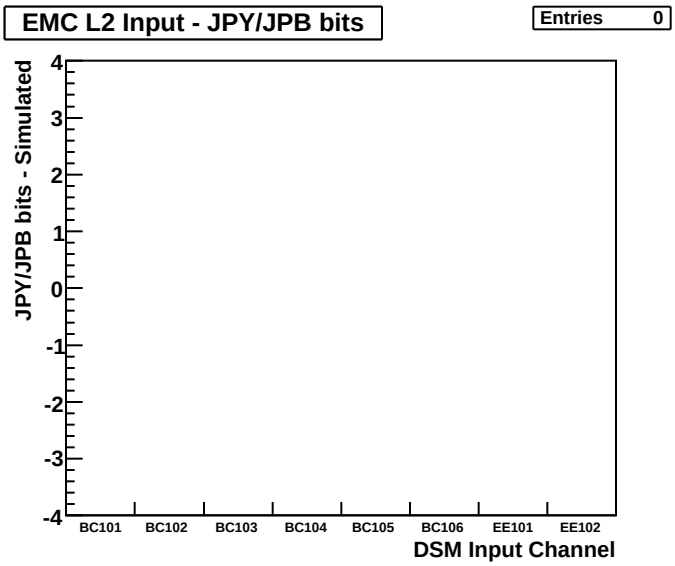

Endcap EMC L1 Input - High Tower Bits
Entries 2242608
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

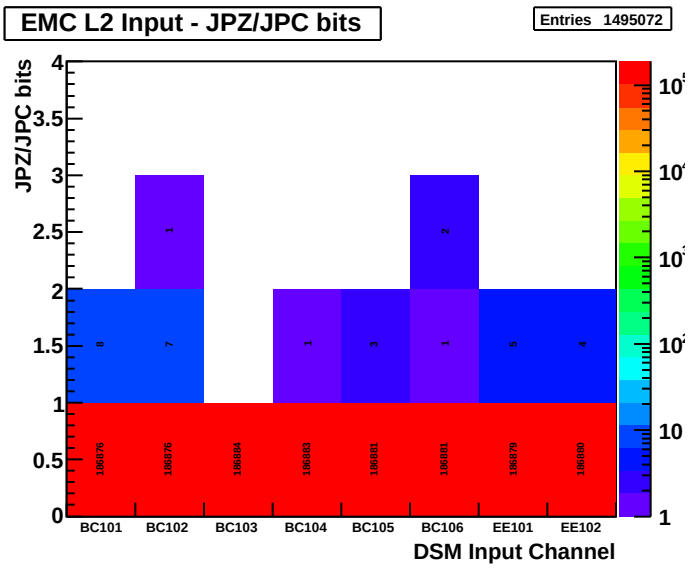

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

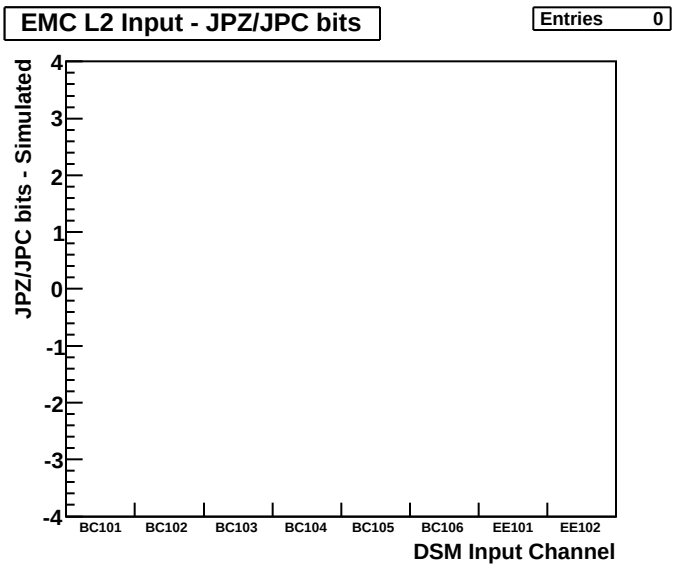

EMC L2 Input - JPX/JPA bits
Entries 1495072
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

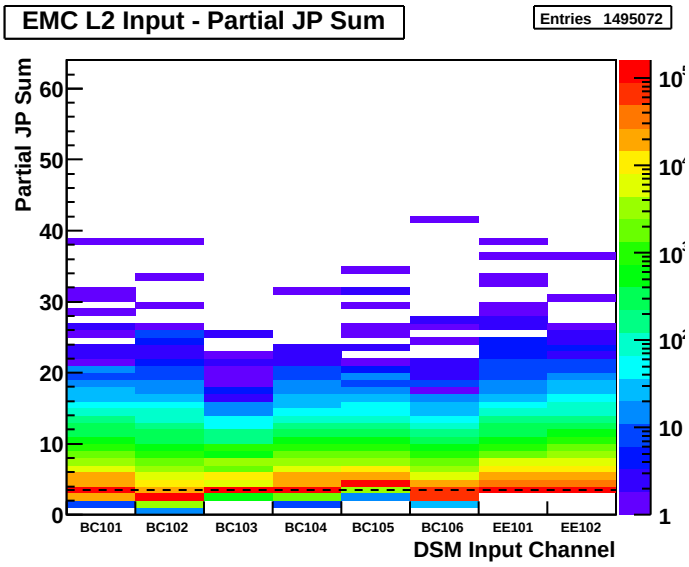

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

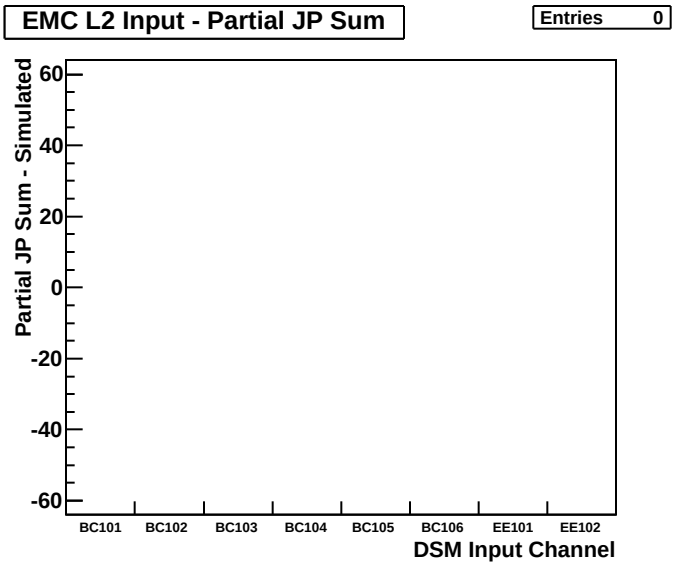

EMC L2 Input - JPY/JPB bits
Entries 1495072
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

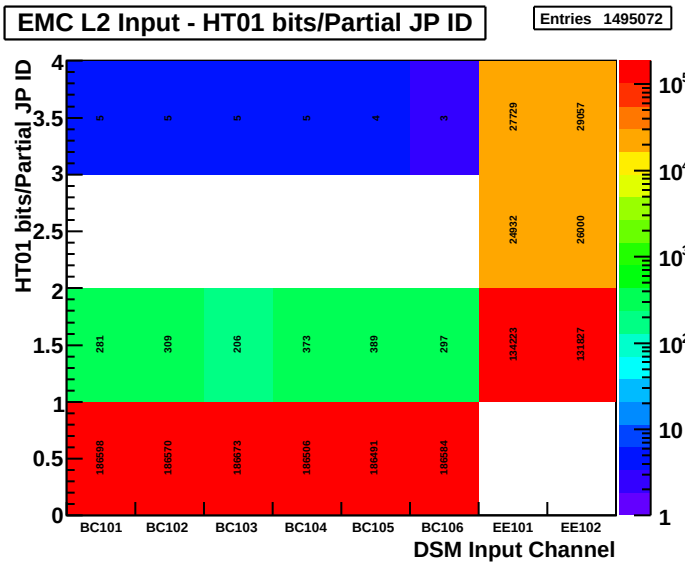

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

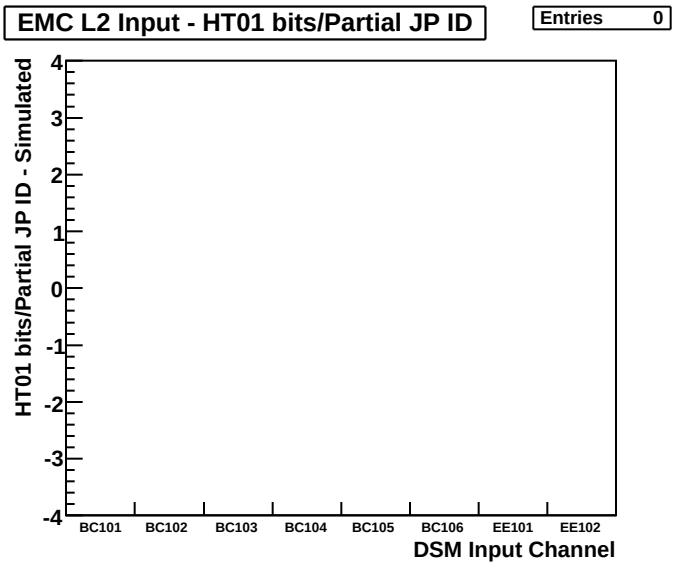

EMC L2 Input - JPZ/JPC bits
Entries 1495072
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

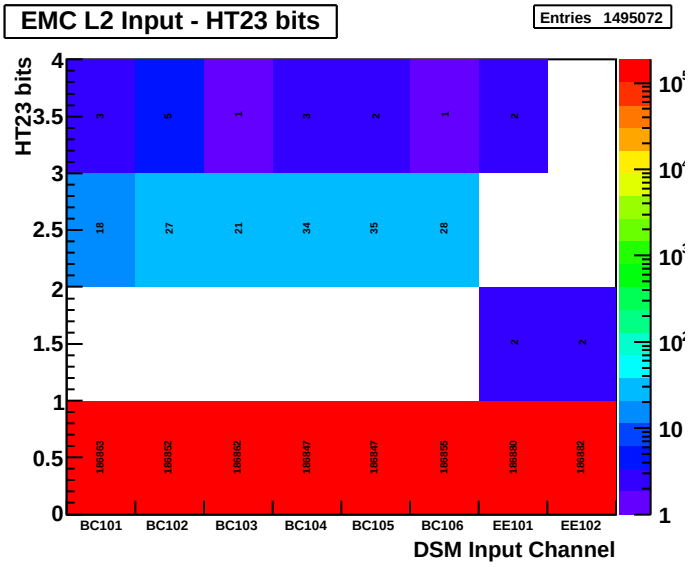

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

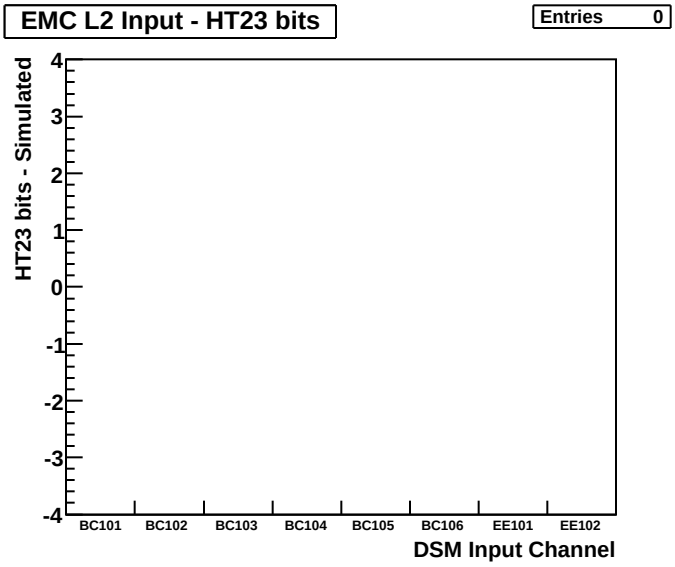

EMC L2 Input - Partial JP Sum
Entries 1495072
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

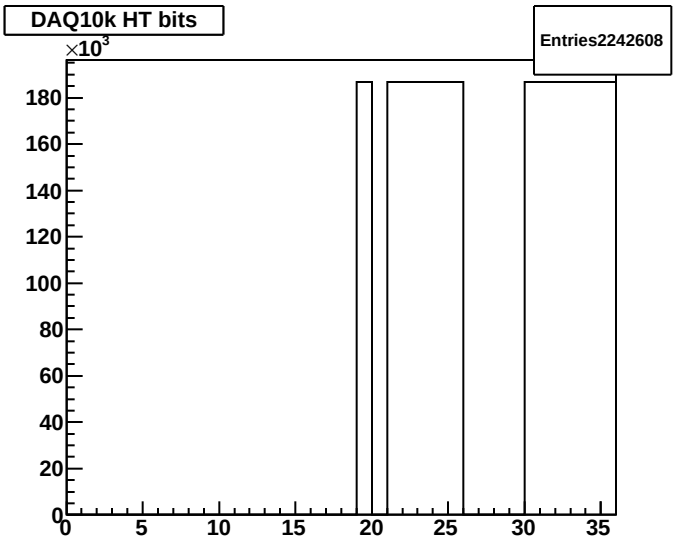

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

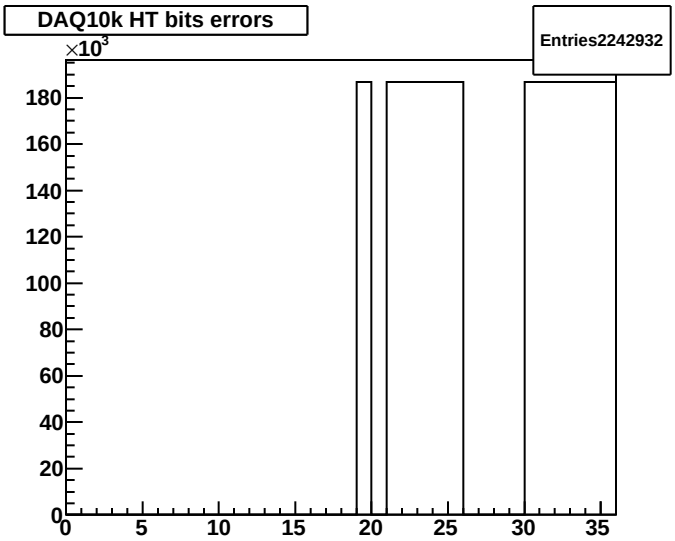

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1495072
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

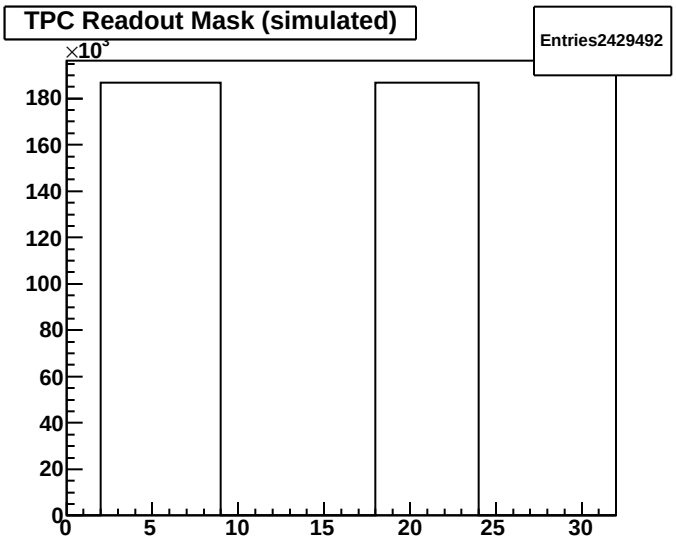

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

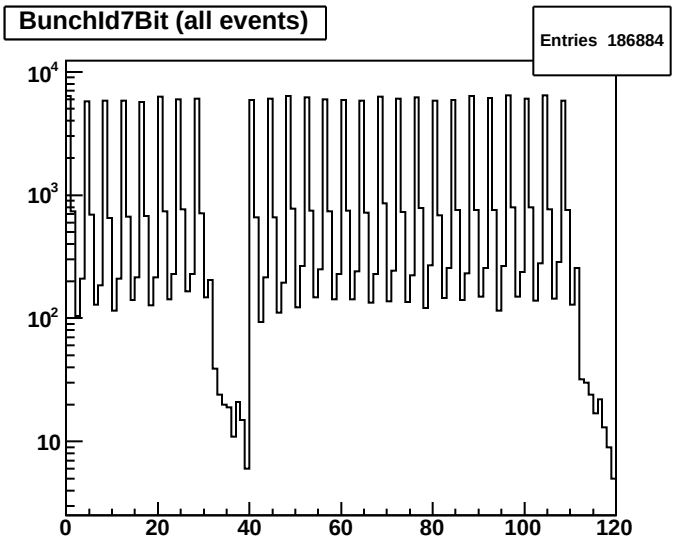

EMC L2 Input - HT23 bits
Entries 1495072
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

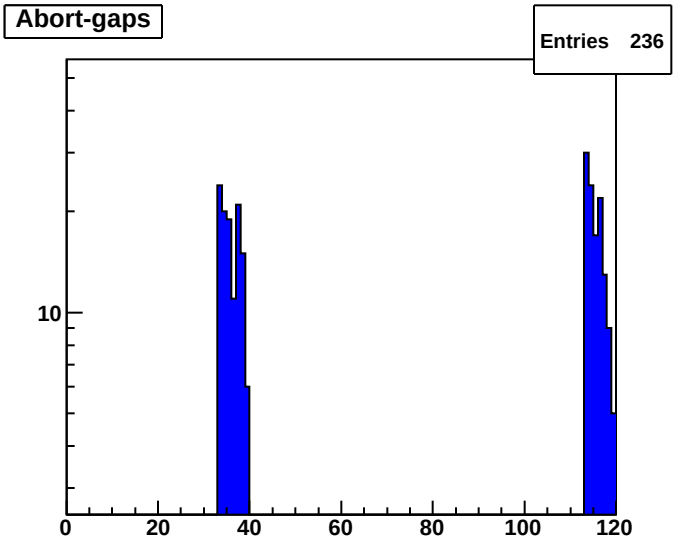

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

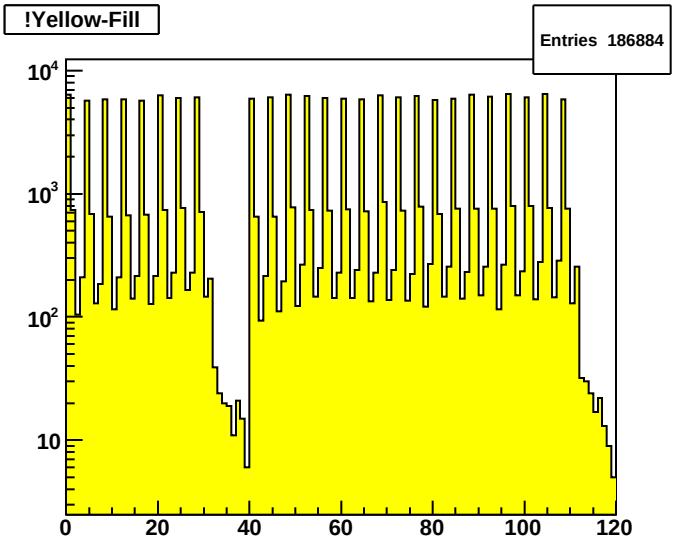

DAQ10k HT bits
Entries2242608
×10^3
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

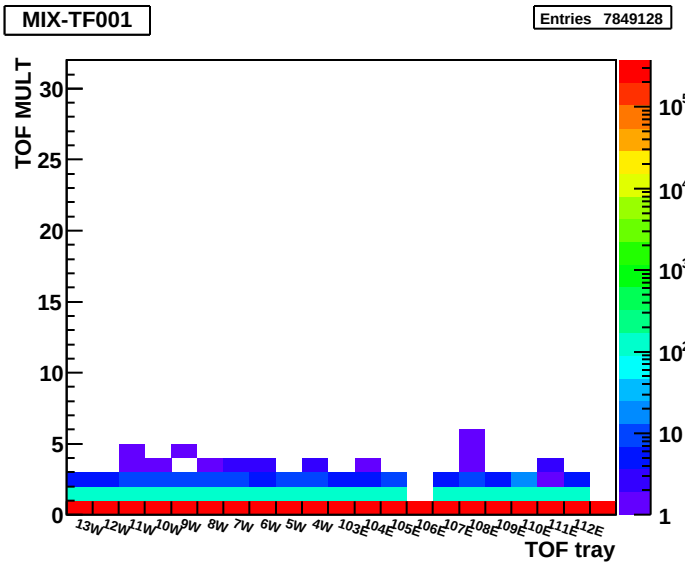

DAQ10k HT bits errors
Entries2242932
×10^3
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

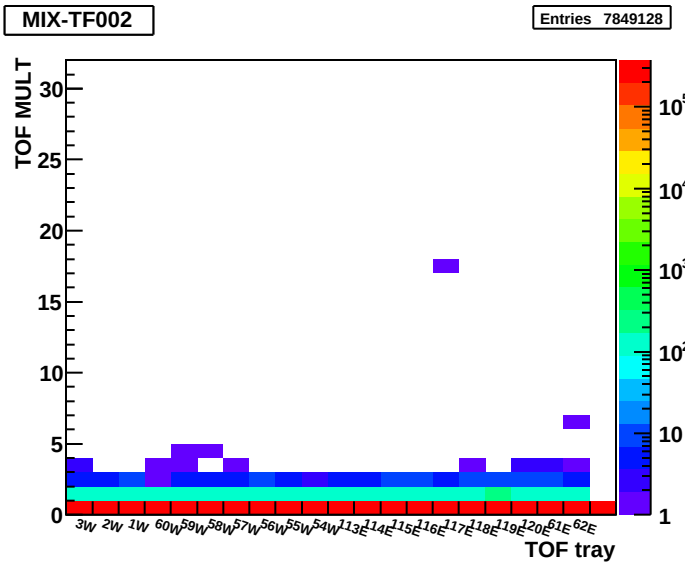

TPC Readout Mask (simulated)
Entries2429492
×10^3
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30

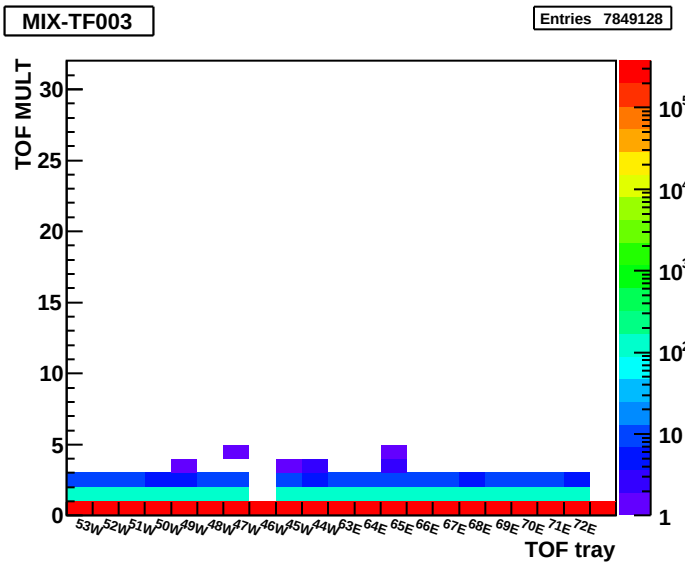

BunchId7Bit (all events)
Entries 186884
10^4
10^3
10^2
10
0 20 40 60 80 100 120

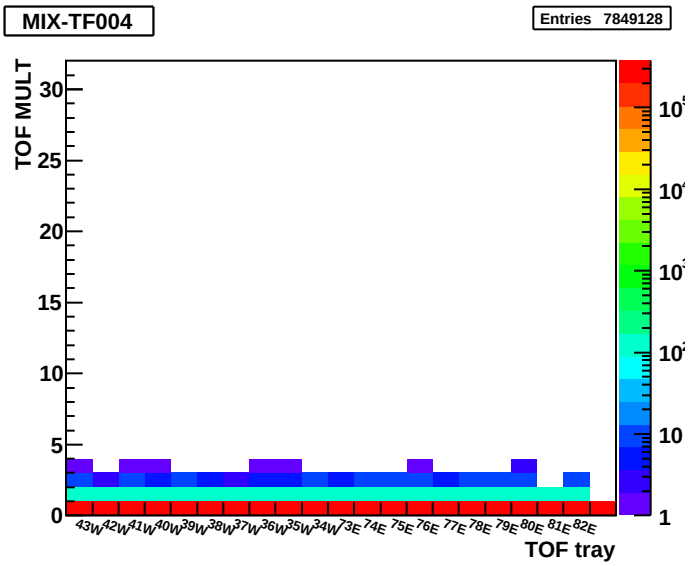

Abort-gaps
Entries 236
10
0 20 40 60 80 100 120

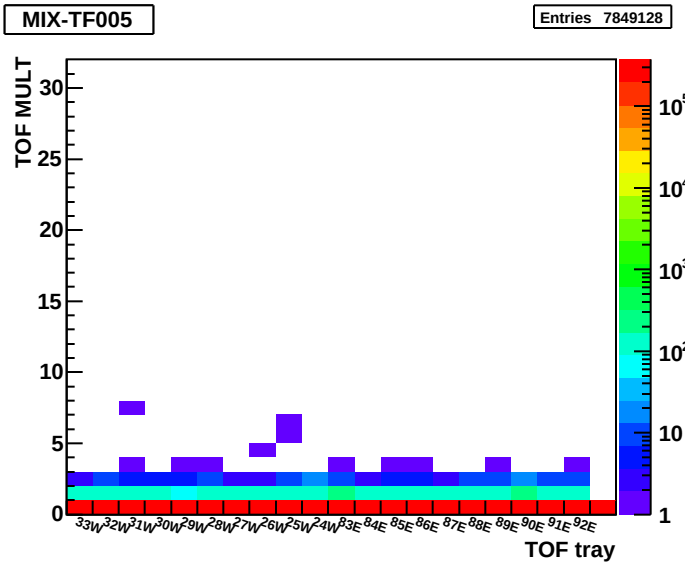

!Yellow-Fill
Entries 186884
10^4
10^3
10^2
10
0 20 40 60 80 100 120

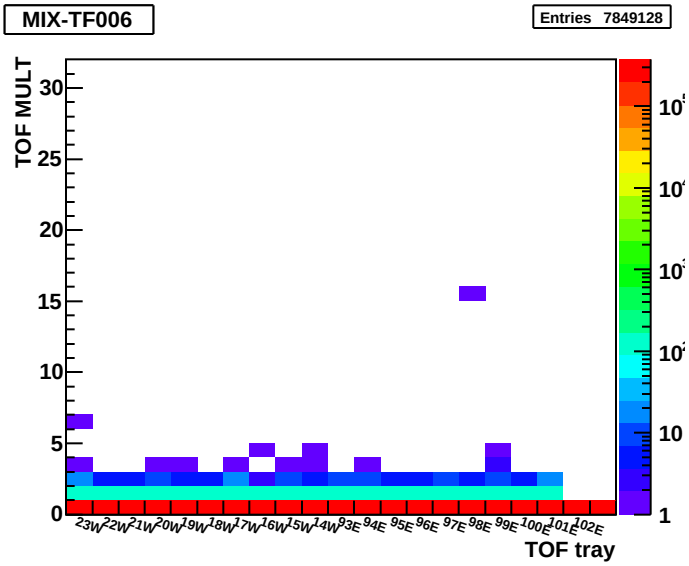

MIX-TF001
Entries 7849128
TOF MULT
TOF tray

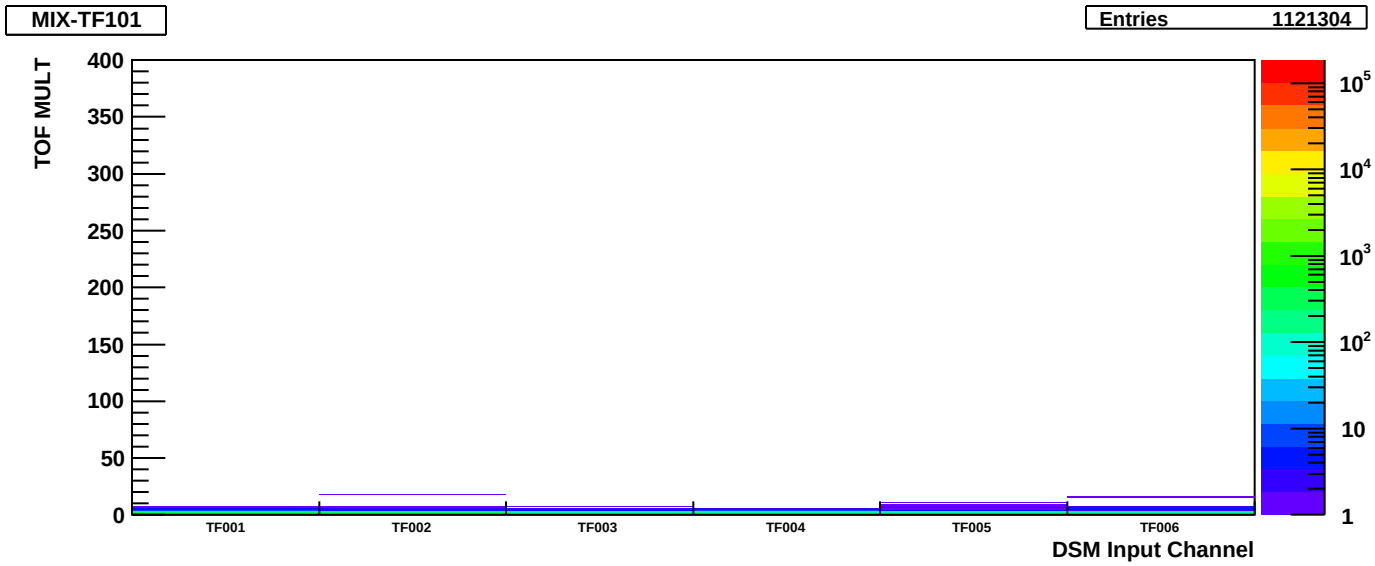

MIX-TF002
Entries 7849128
TOF MULT
TOF tray

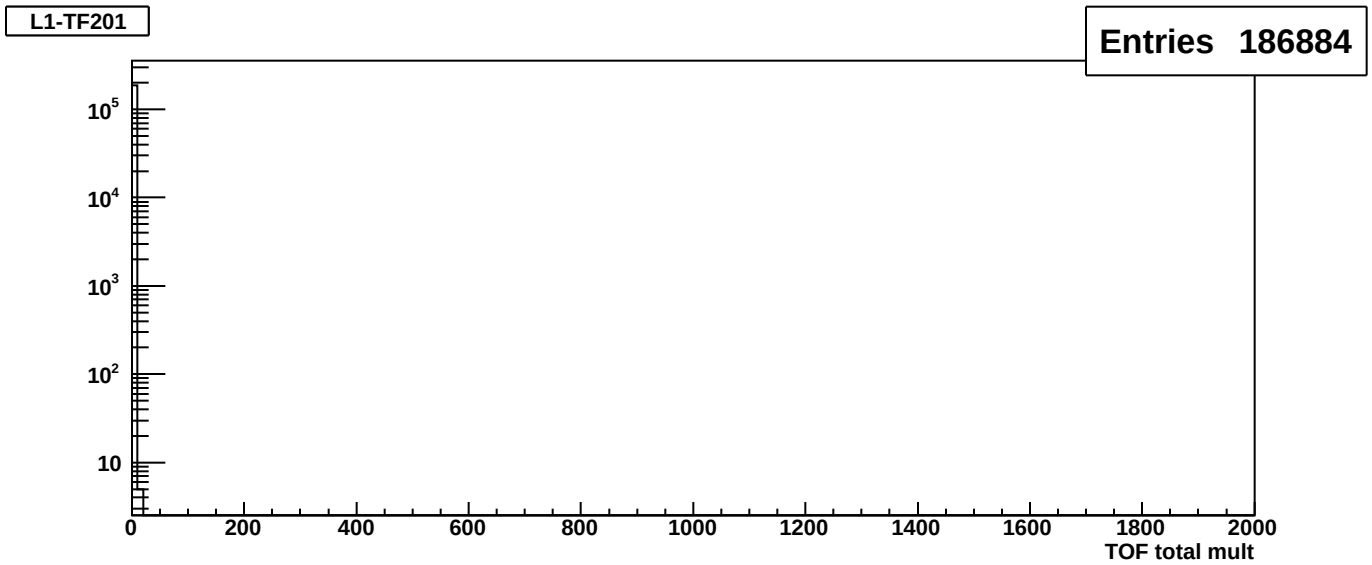

MIX-TF003
Entries 7849128
TOF MULT
TOF tray

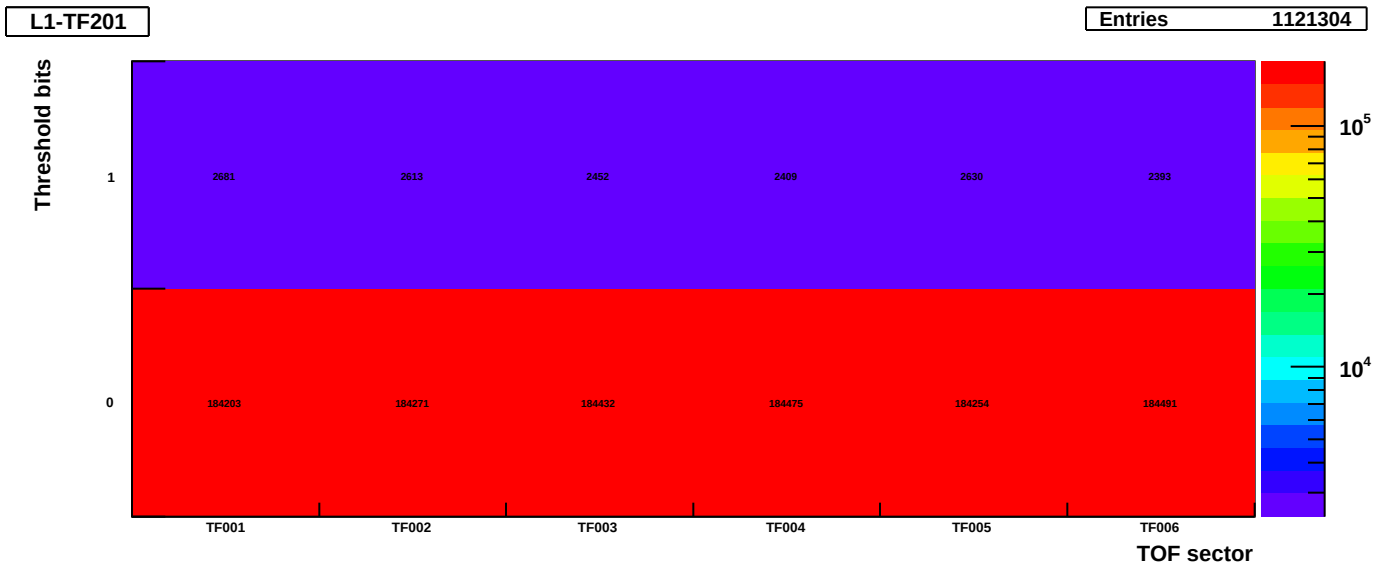

MIX-TF004
Entries 7849128
TOF MULT
TOF tray

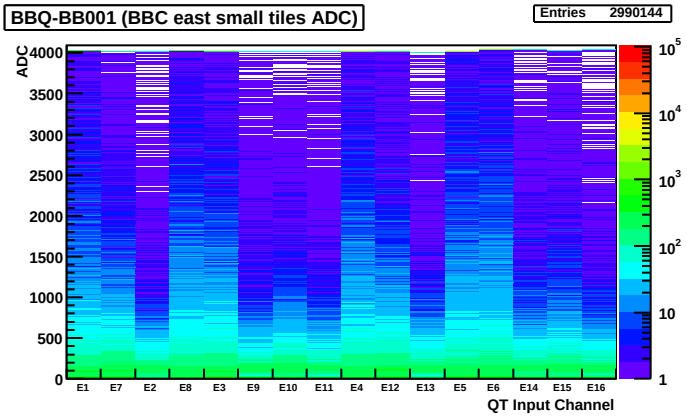

MIX-TF005
Entries 7849128
TOF MULT
TOF tray

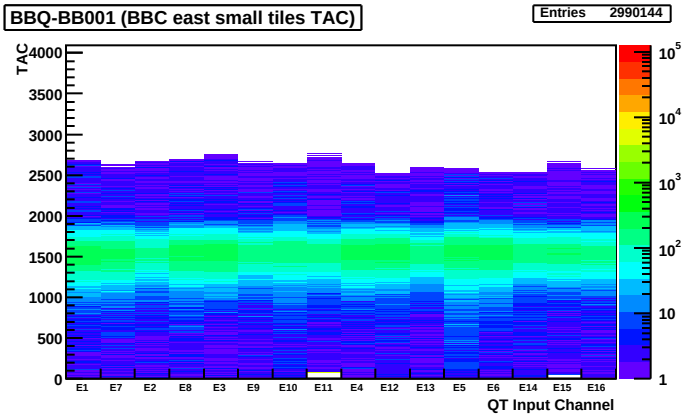

MIX-TF006
Entries 7849128
TOF MULT
TOF tray

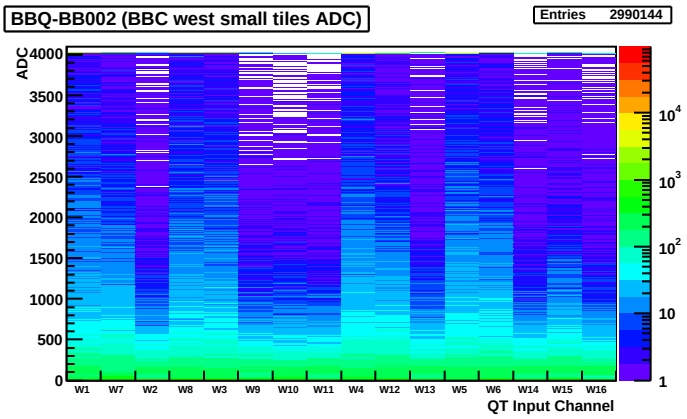

MIX-TF101
Entries 1121304
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

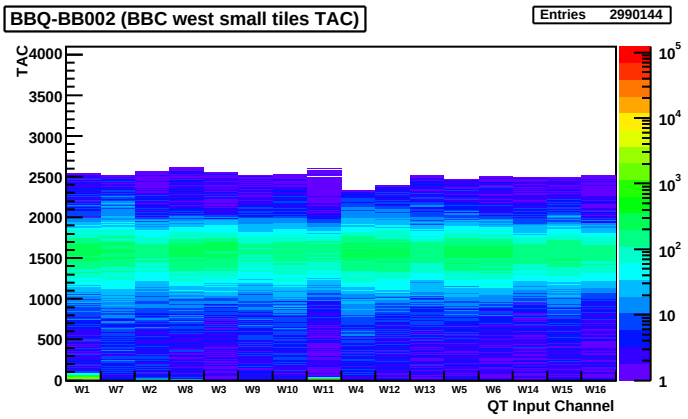

L1-TF201
Entries 186884
10^5
10^4
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

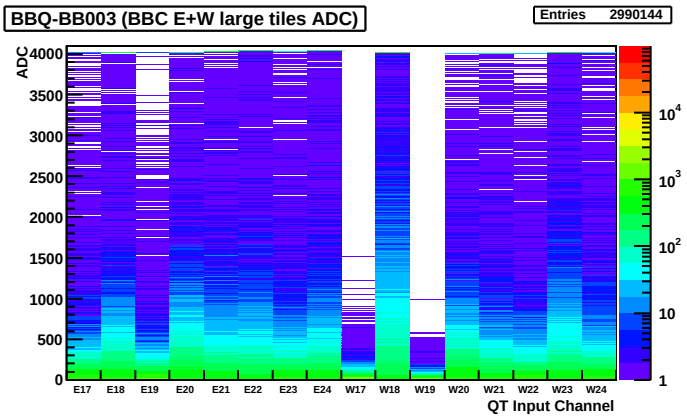

L1-TF201
Entries 1121304
Threshold bits
1
0
2681
2613
2452
2409
2630
2393
184203
184271
184432
184475
184254
184491
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5
10^4

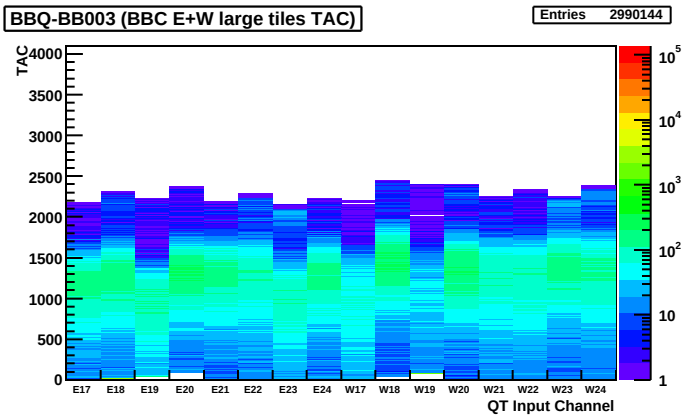

BBQ-BB001 (BBC east small tiles ADC)
Entries 2990144
ADC
QT Input Channel

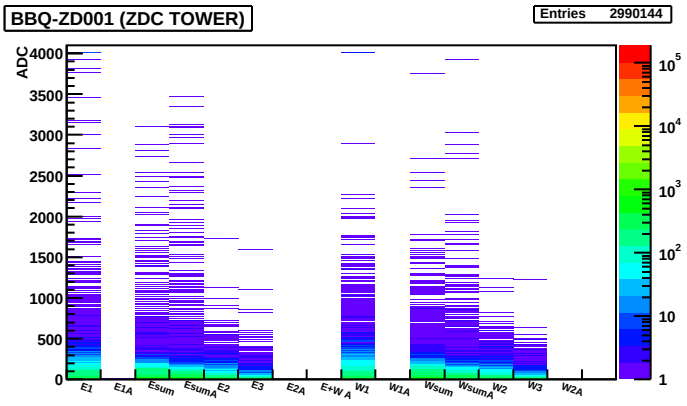

BBQ-BB001 (BBC east small tiles TAC)
Entries 2990144
TAC
QT Input Channel

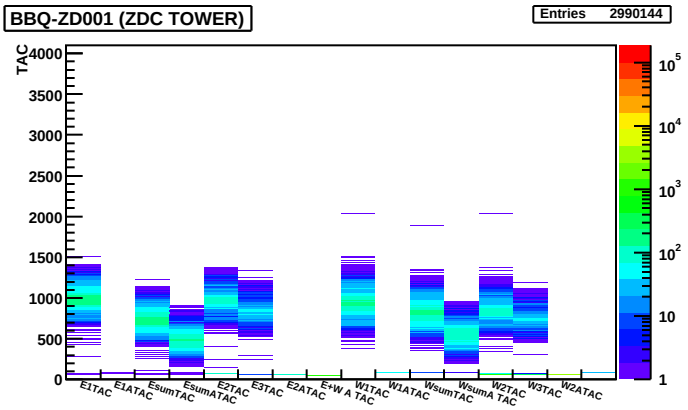

BBQ-BB002 (BBC west small tiles ADC)
Entries 2990144
ADC
QT Input Channel

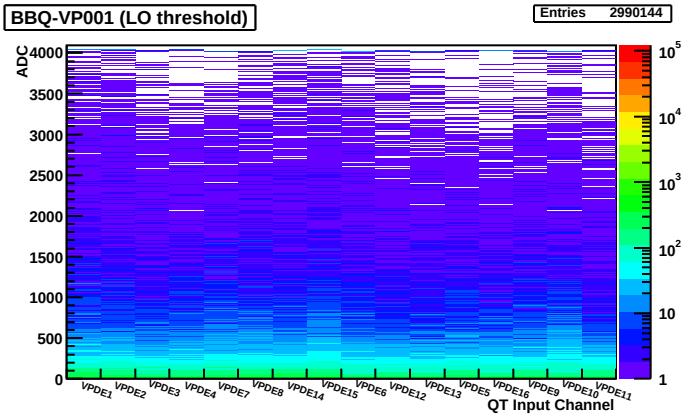

BBQ-BB002 (BBC west small tiles TAC)
Entries 2990144
TAC
QT Input Channel

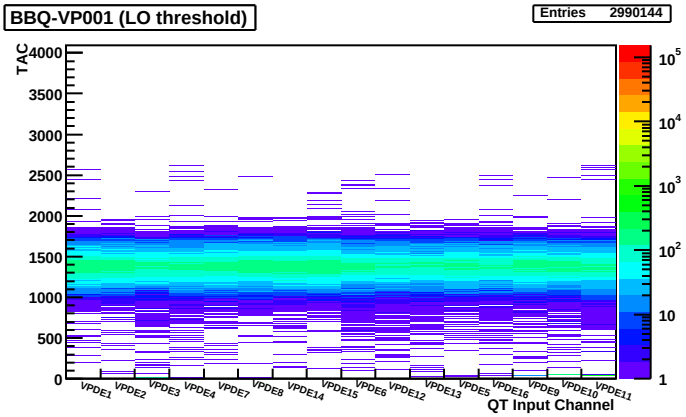

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 2990144
ADC
QT Input Channel

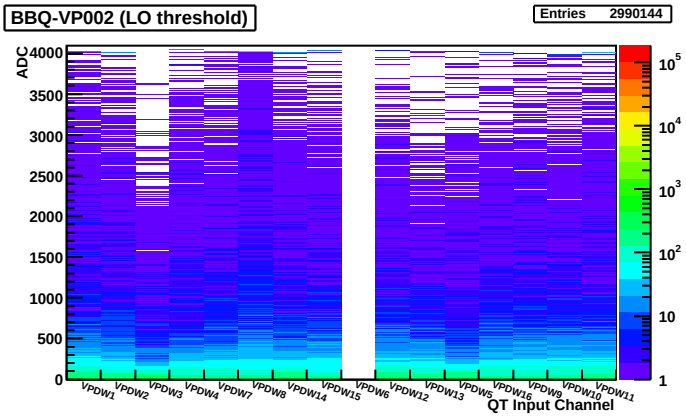

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 2990144
TAC
QT Input Channel

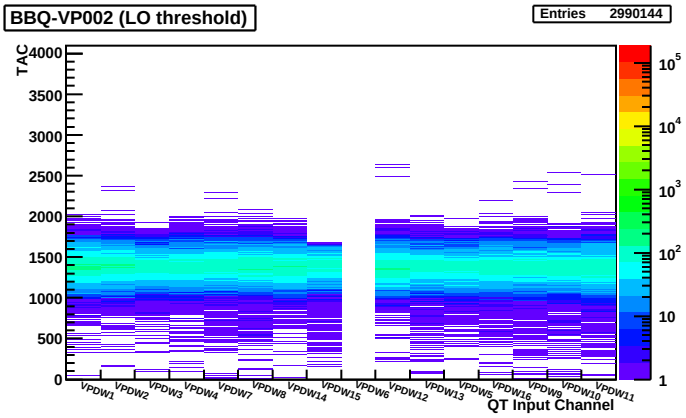

BBQ-ZD001 (ZDC TOWER)
Entries 2990144
ADC

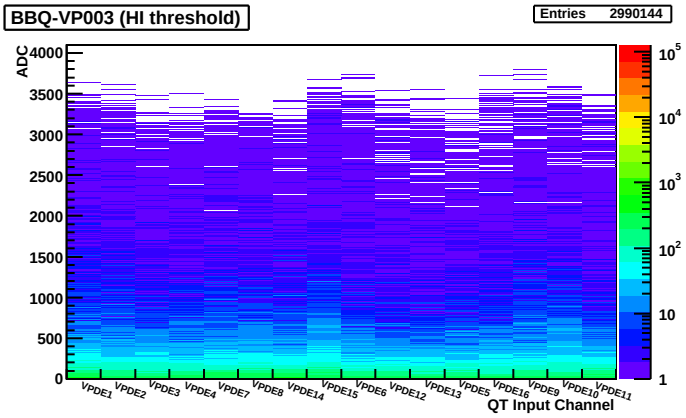

BBQ-ZD001 (ZDC TOWER)
Entries 2990144
TAC

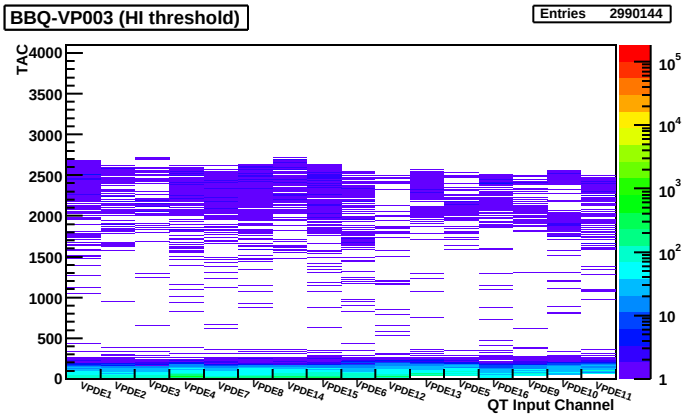

BBQ-VP001 (LO threshold)
Entries 2990144
ADC
QT Input Channel

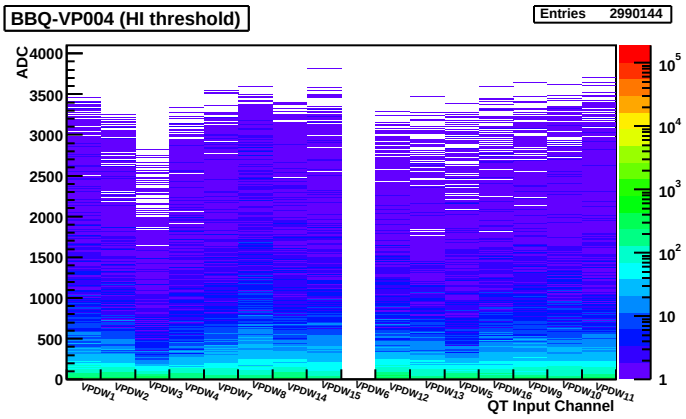

BBQ-VP001 (LO threshold)
Entries 2990144
TAC
QT Input Channel

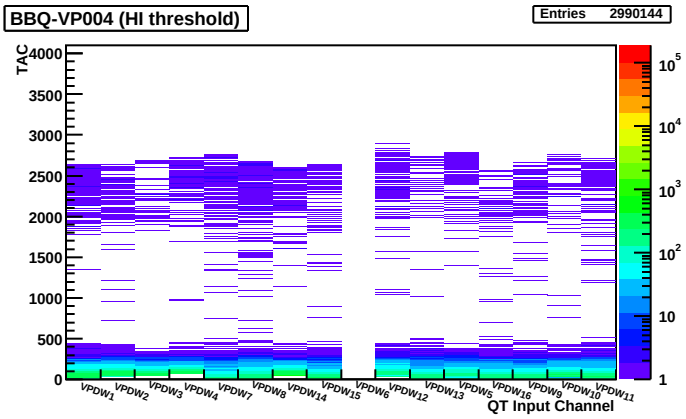

BBQ-VP002 (LO threshold)
Entries 2990144
ADC
QT Input Channel

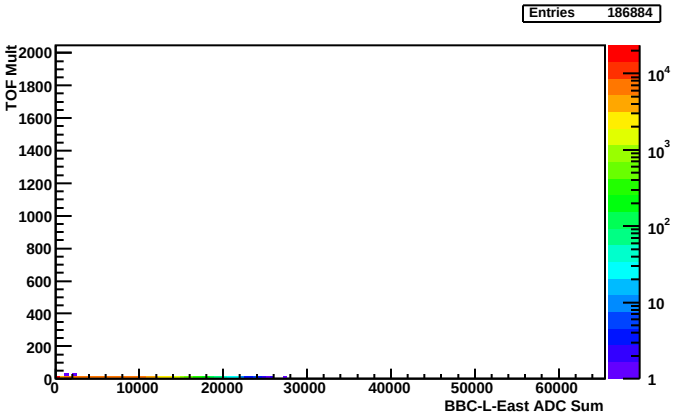

BBQ-VP002 (LO threshold)
Entries 2990144
TAC
QT Input Channel

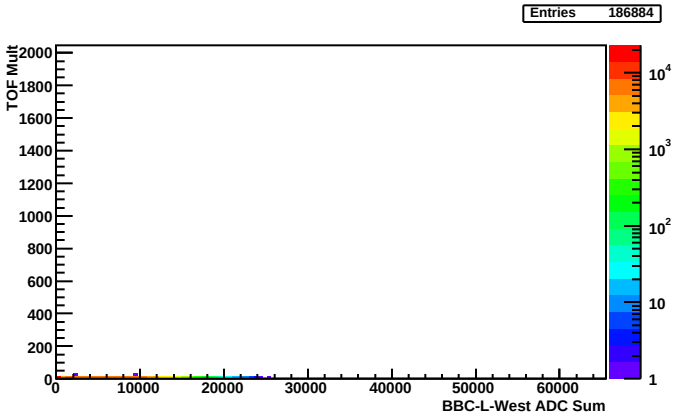

BBQ-VP003 (HI threshold)
Entries 2990144
ADC
QT Input Channel

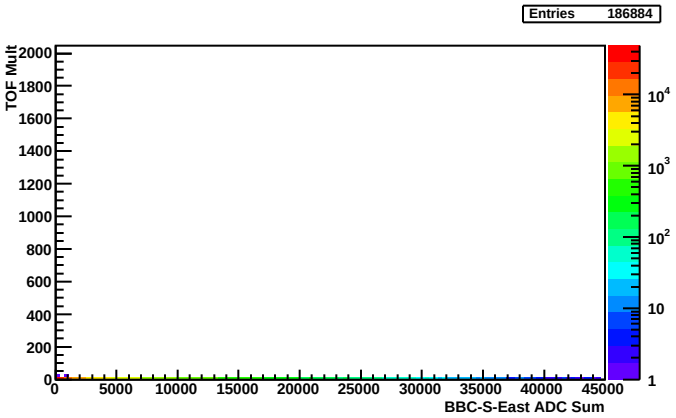

BBQ-VP003 (HI threshold)
Entries 2990144
TAC
QT Input Channel

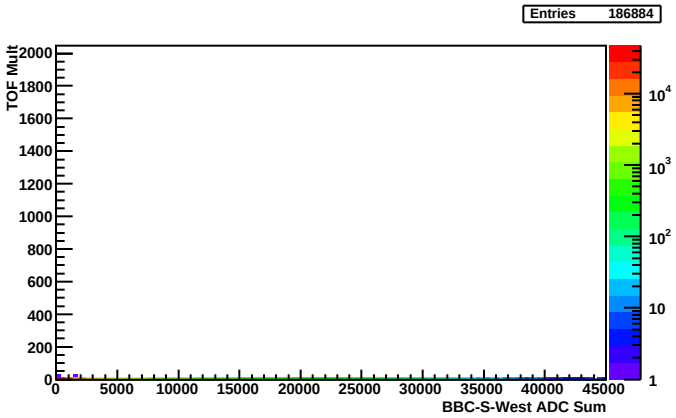

BBQ-VP004 (HI threshold)
Entries 2990144
ADC
QT Input Channel

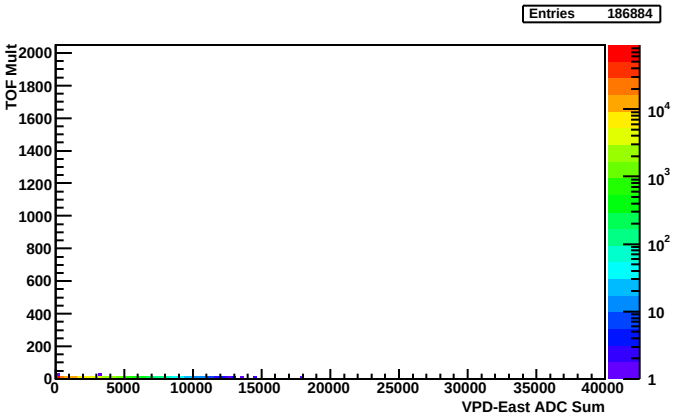

BBQ-VP004 (HI threshold)
Entries 2990144
TAC
QT Input Channel

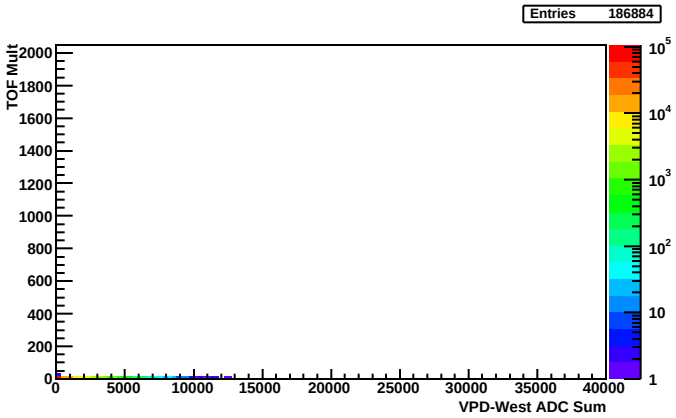

Entries 186884
TOF Mult
BBC-L-East ADC Sum

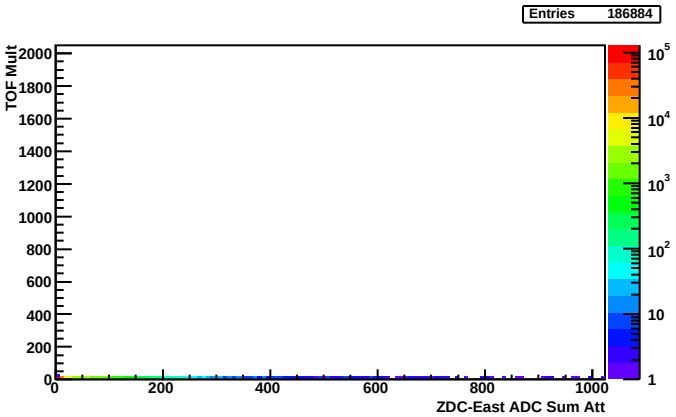

Entries 186884
TOF Mult
BBC-L-West ADC Sum

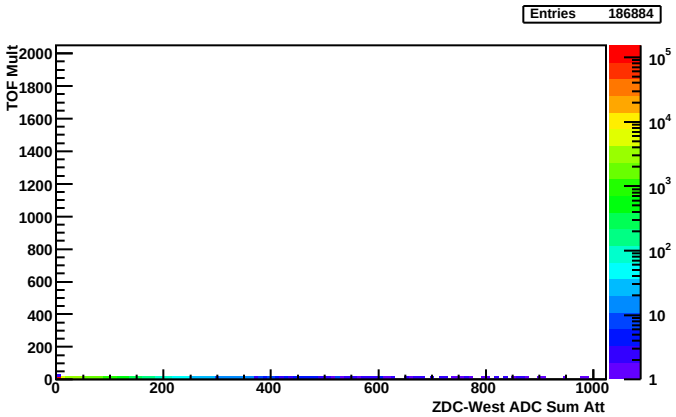

Entries 186884
TOF Mult
BBC-S-East ADC Sum

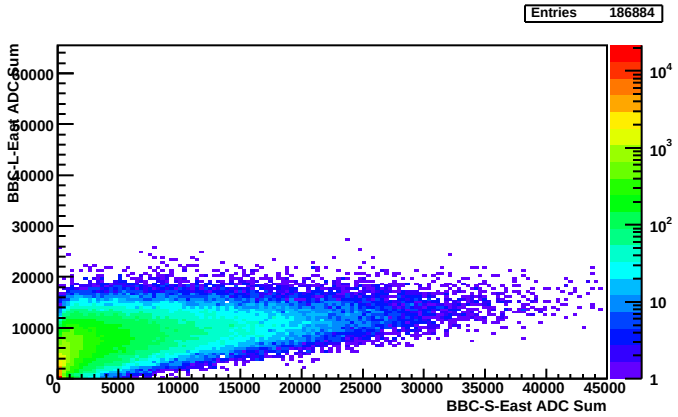

Entries 186884
TOF Mult
BBC-S-West ADC Sum

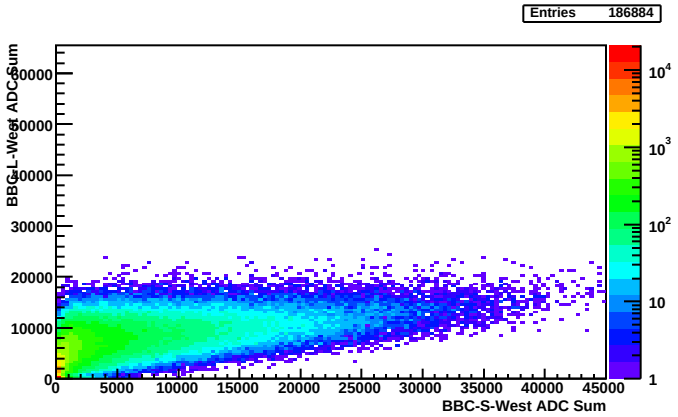

Entries 186884
TOF Mult
VPD-East ADC Sum

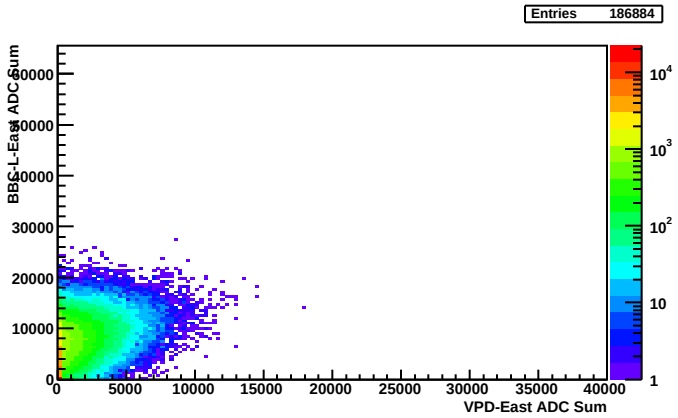

Entries 186884
TOF Mult
VPD-West ADC Sum

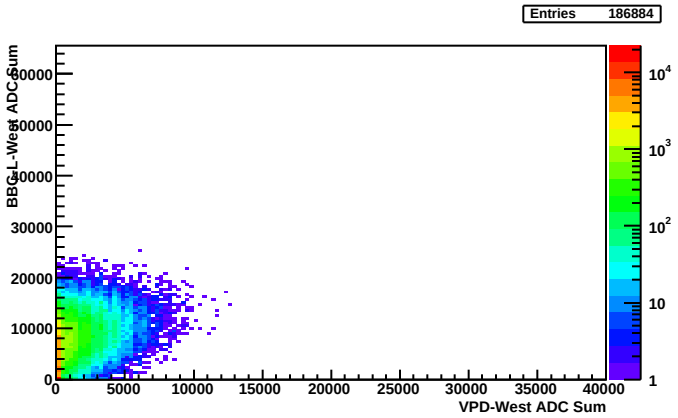

Entries 186884
TOF Mult
ZDC-East ADC Sum Att

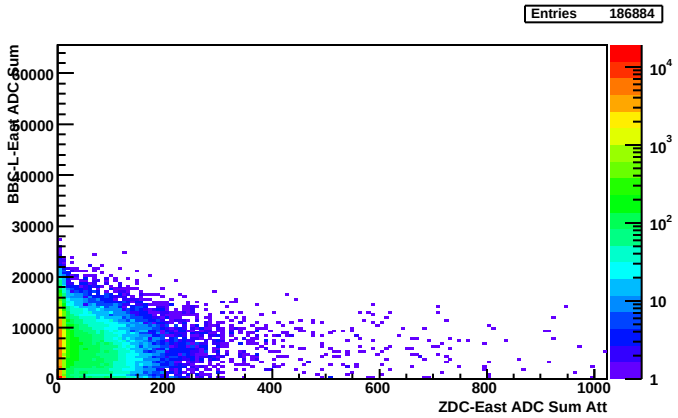

Entries 186884
TOF Mult
ZDC-West ADC Sum Att

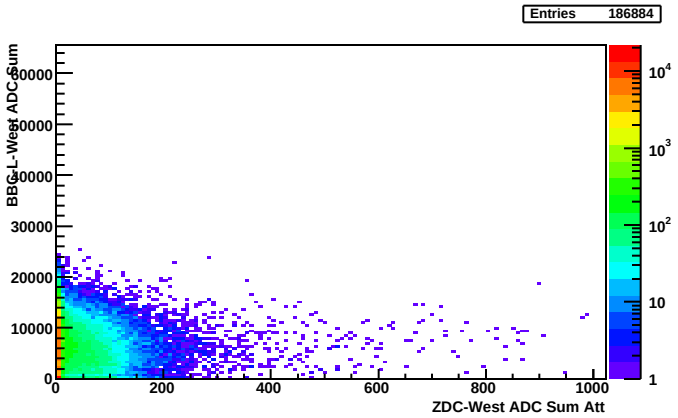

Entries 186884
BBC-L-East ADC Sum
BBC-S-East ADC Sum

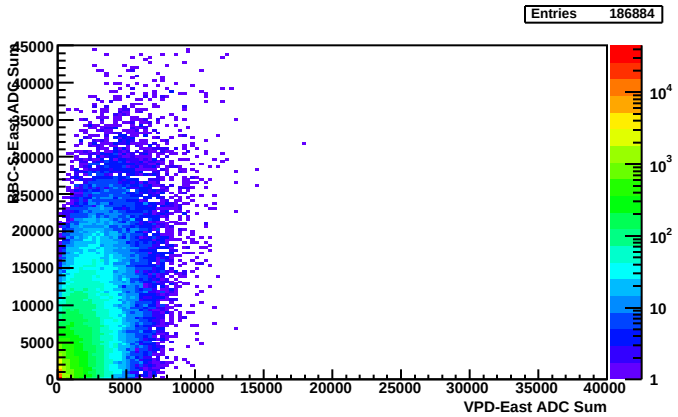

Entries 186884
BBC-L-West ADC Sum
BBC-S-West ADC Sum

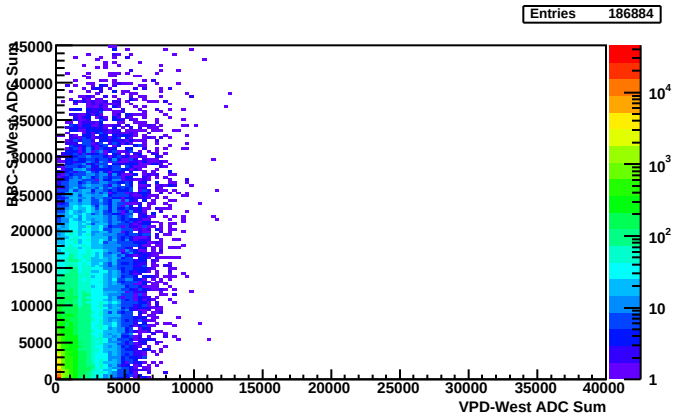

Entries 186884
BBC-L-East ADC Sum
VPD-East ADC Sum

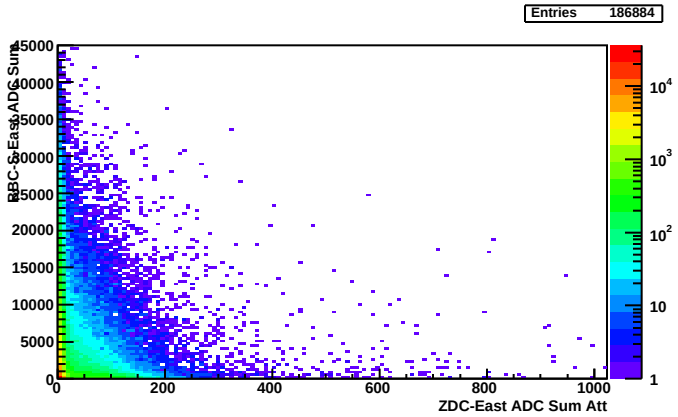

Entries 186884
BBC-L-West ADC Sum
VPD-West ADC Sum

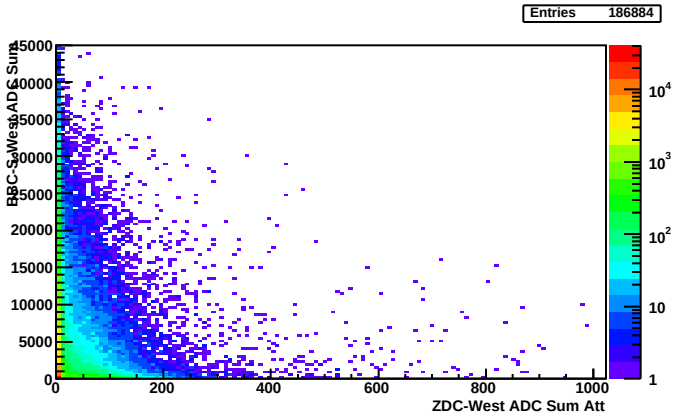

Entries 186884
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

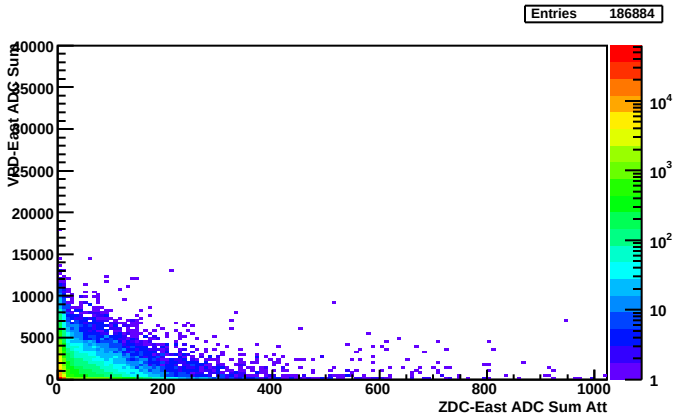

Entries 186884
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

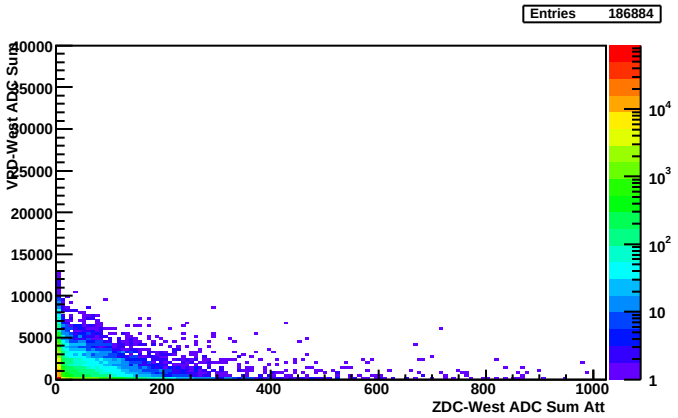

Entries 186884
BBC-S-East ADC Sum
VPD-East ADC Sum

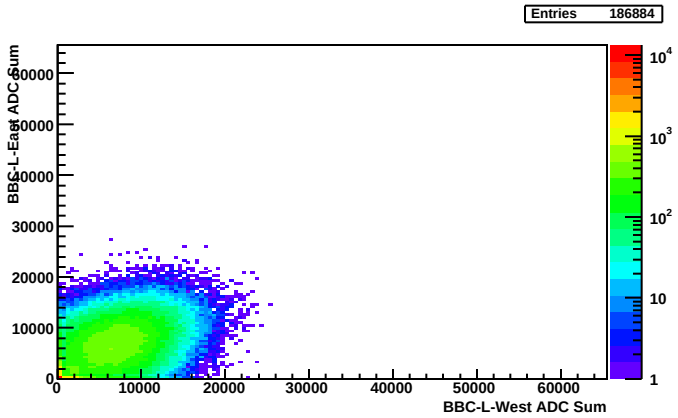

Entries 186884
BBC-S-West ADC Sum
VPD-West ADC Sum

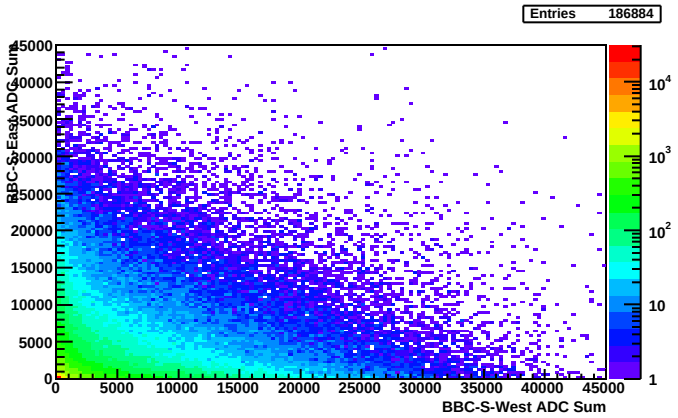

Entries 186884
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

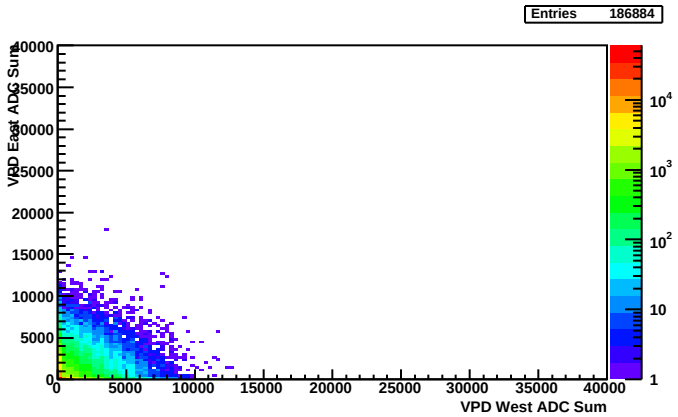

Entries 186884
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

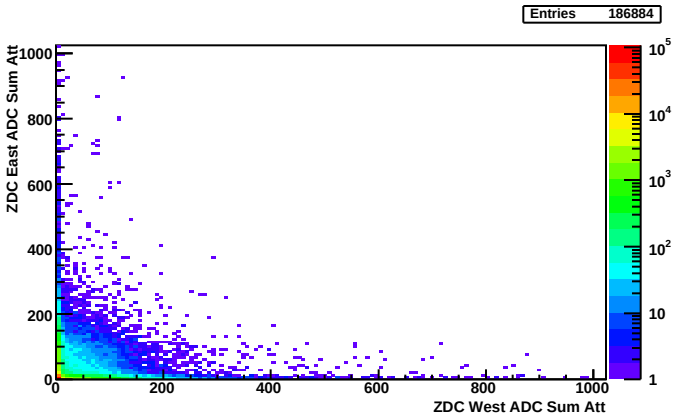

Entries 186884
VPD-East ADC Sum
ZDC-East ADC Sum Att

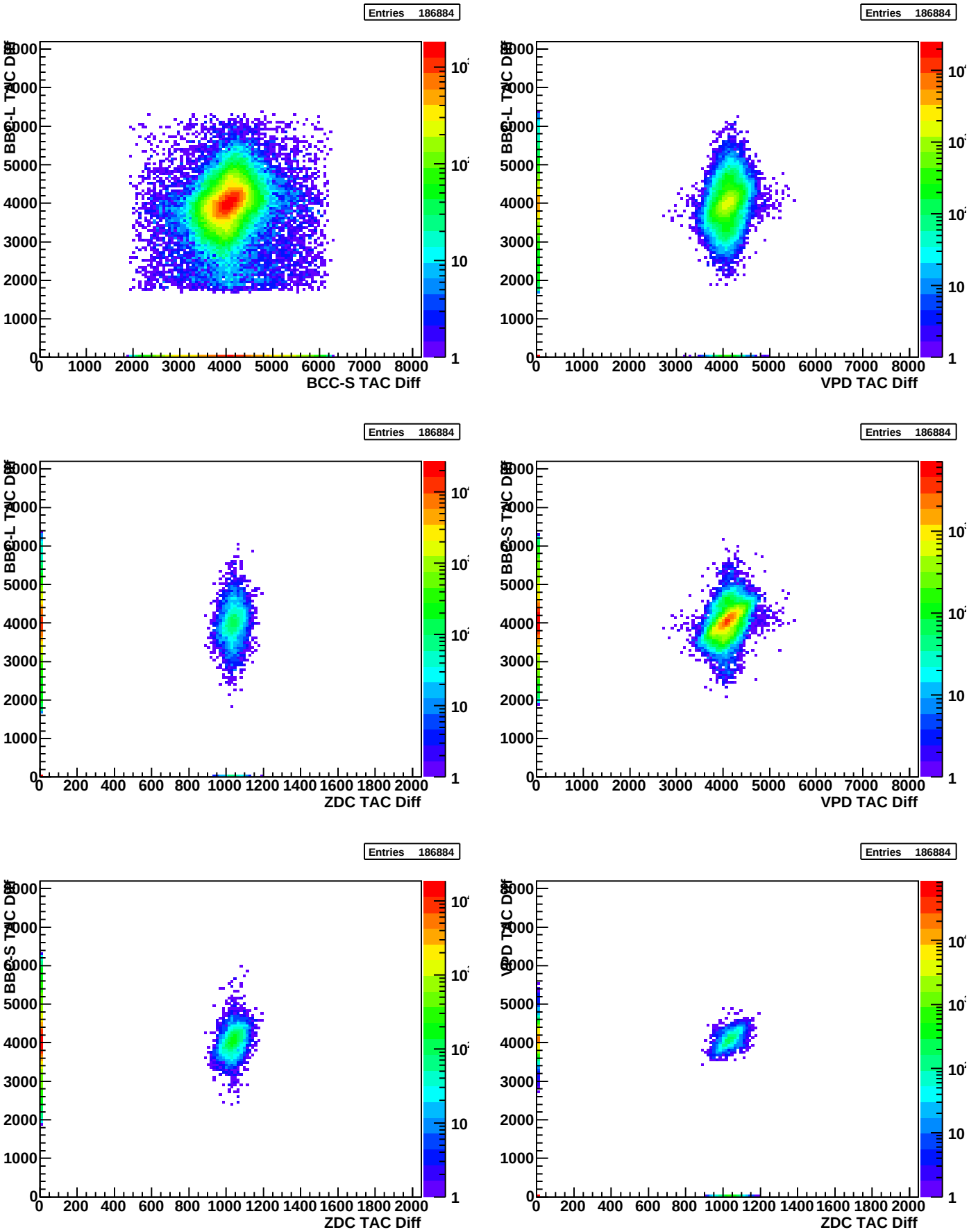

Entries 186884
VPD-West ADC Sum
ZDC-West ADC Sum Att

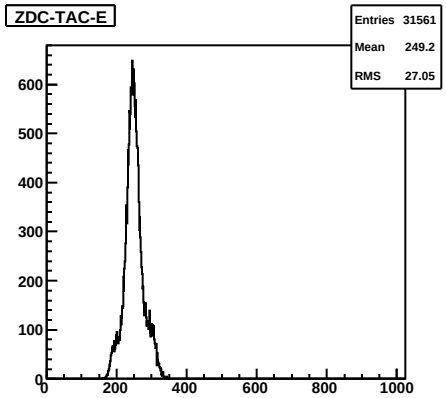

Entries 186884
BBC-L-East ADC Sum
BBC-L-West ADC Sum

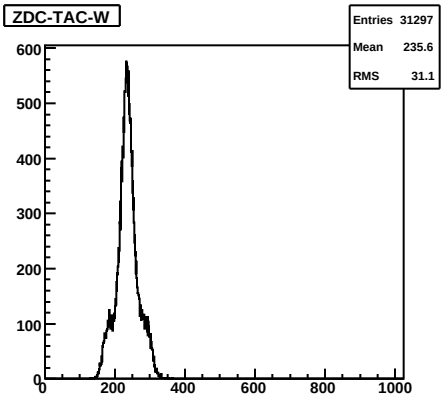

Entries 186884
BBC-S-East ADC Sum
BBC-S-West ADC Sum

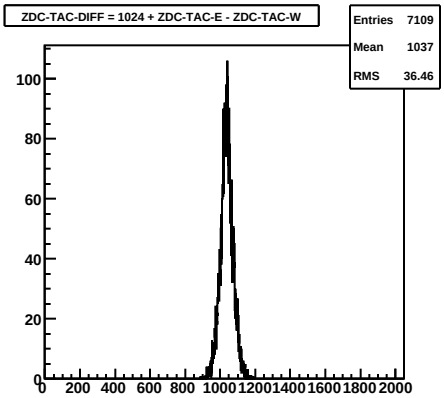

Entries 186884
VPD East ADC Sum
VPD West ADC Sum

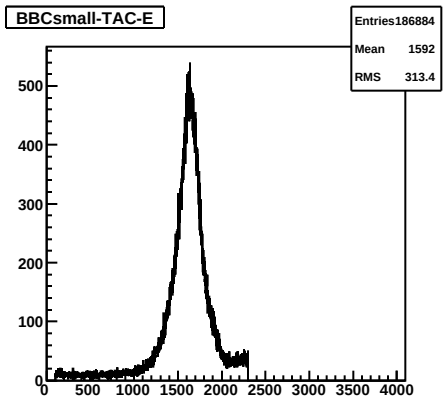

Entries 186884
ZDC East ADC Sum Att
ZDC West ADC Sum Att

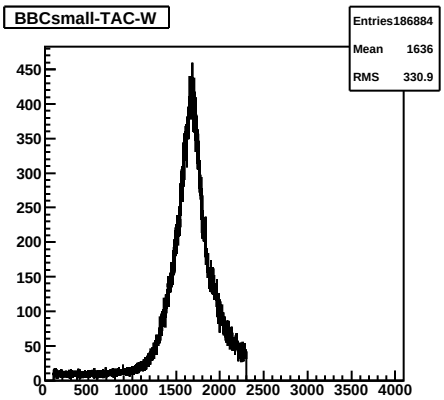

Entries 186884
BBC-L TAC Diff
BCC-S TAC Diff
Entries 186884
BBC-L TAC Diff
VPD TAC Diff
Entries 186884
BBC-L TAC Diff
ZDC TAC Diff
Entries 186884
BBC-S TAC Diff
VPD TAC Diff
Entries 186884
BBC-S TAC Diff
ZDC TAC Diff
Entries 186884
VPD TAC Diff
ZDC TAC Diff

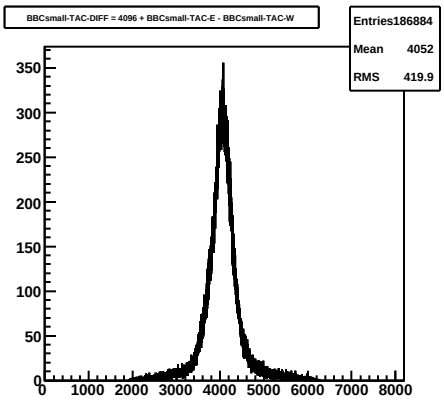

ZDC-TAC-E
Entries 31561
Mean 249.2
RMS 27.05

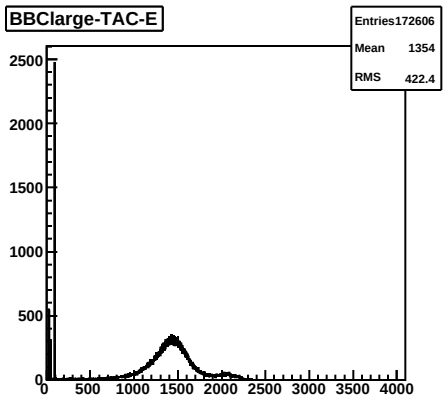

ZDC-TAC-W
Entries 31297
Mean 235.6
RMS 31.1

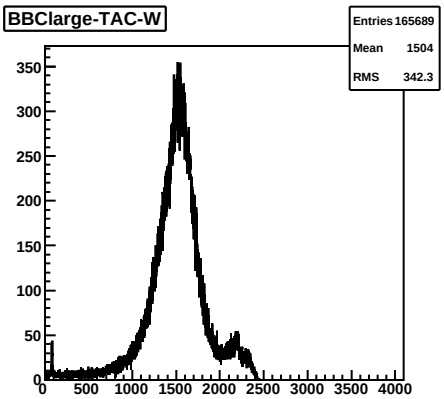

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 7109
Mean 1037
RMS 36.46

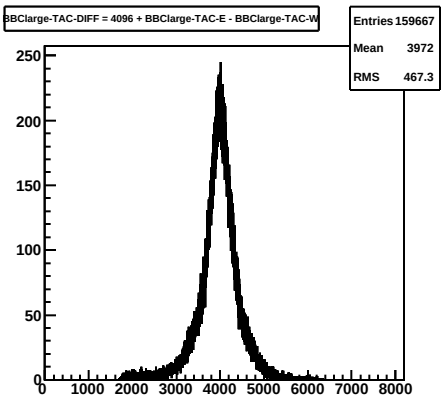

BBCsmall-TAC-E
Entries186884
Mean 1592
RMS 313.4

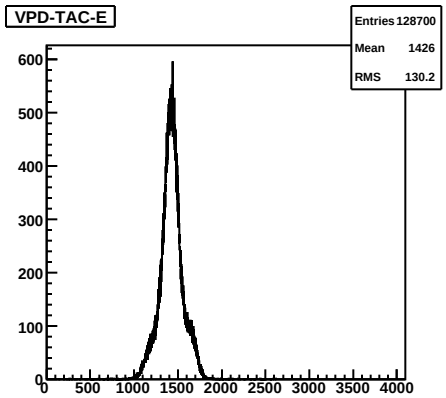

BBCsmall-TAC-W
Entries186884
Mean 1636
RMS 330.9

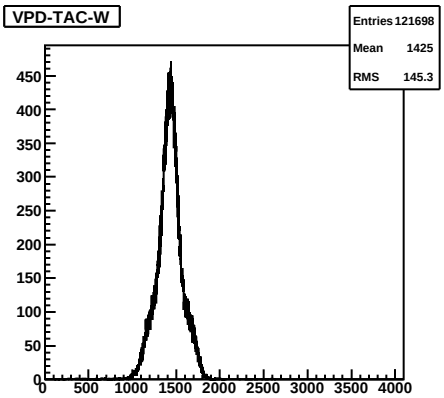

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries186884
Mean 4052
RMS 419.9

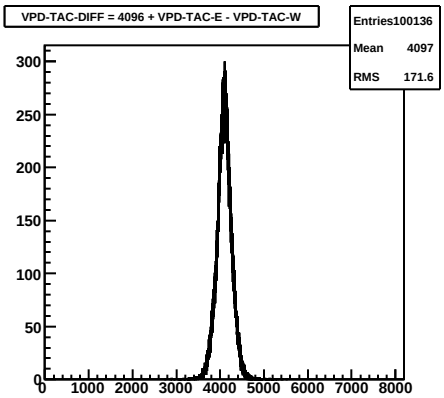

BBClarge-TAC-E
Entries172606
Mean 1354
RMS 422.4

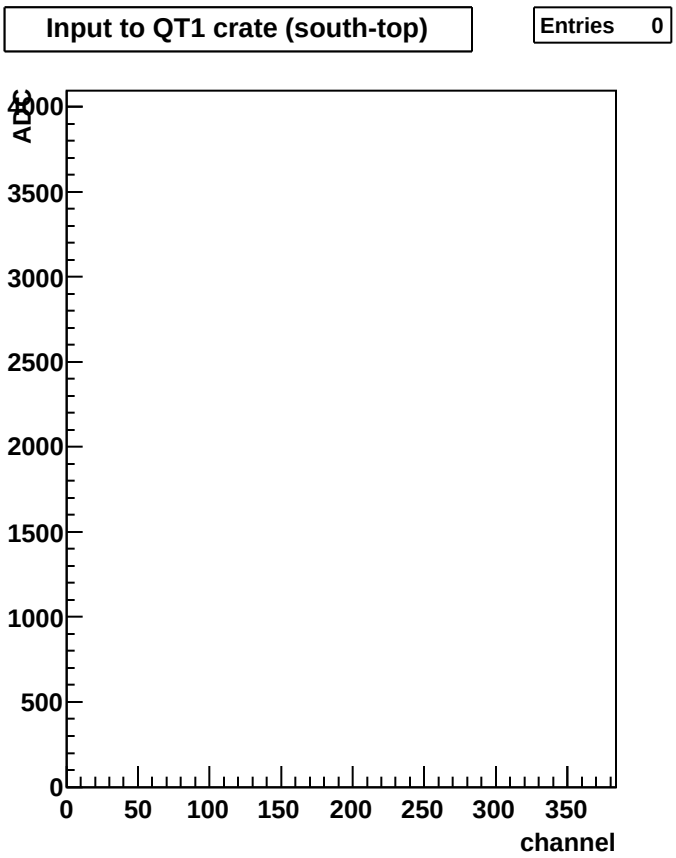

BBClarge-TAC-W
Entries165689
Mean 1504
RMS 342.3

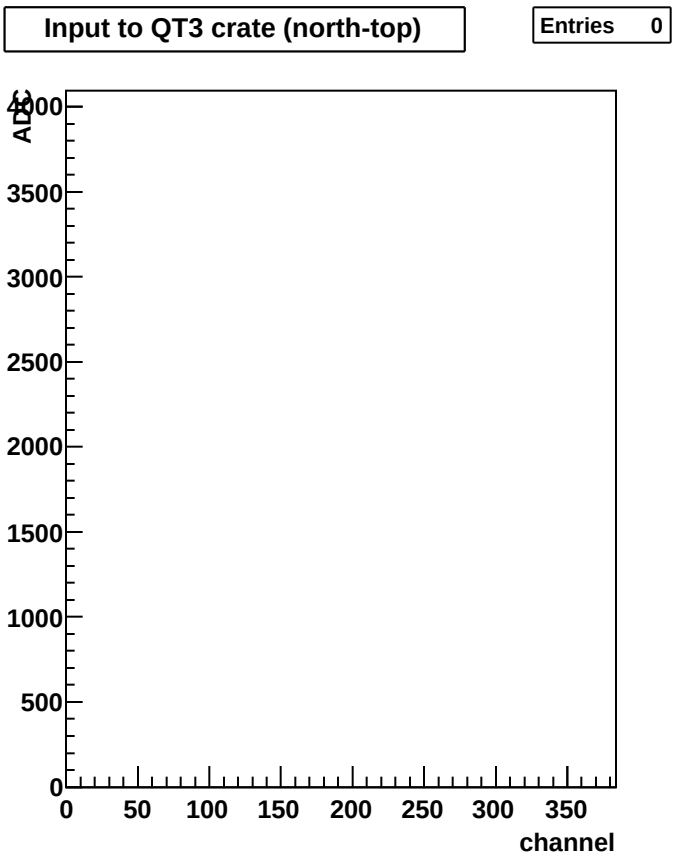

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries159667
Mean 3972
RMS 467.3

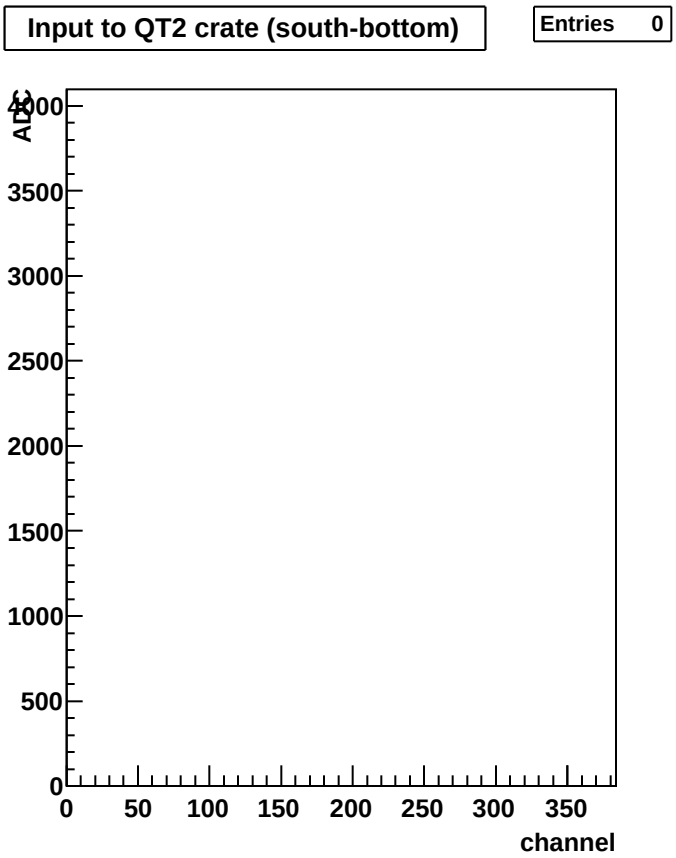

VPD-TAC-E
Entries128700
Mean 1426
RMS 130.2

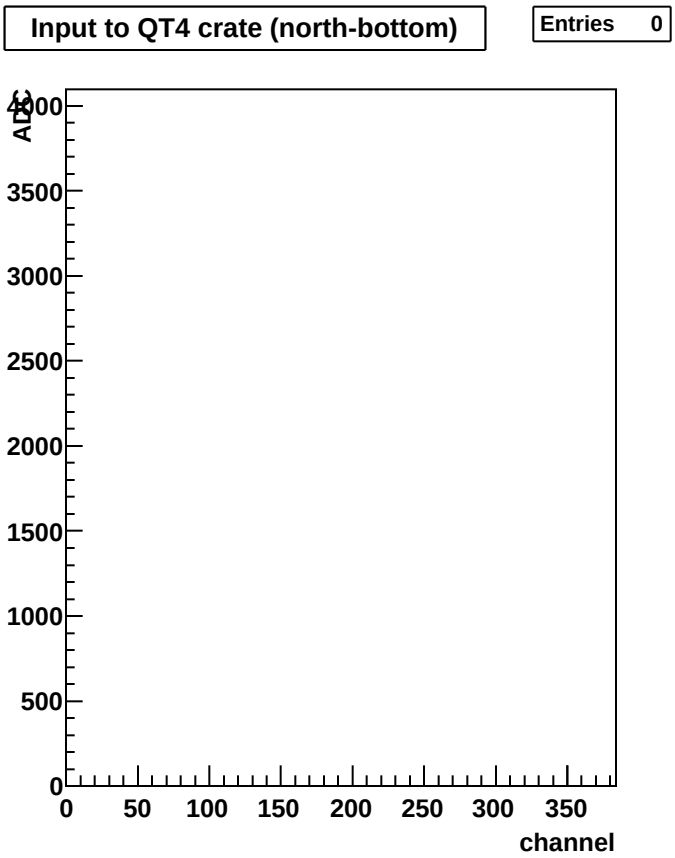

VPD-TAC-W
Entries121698
Mean 1425
RMS 145.3

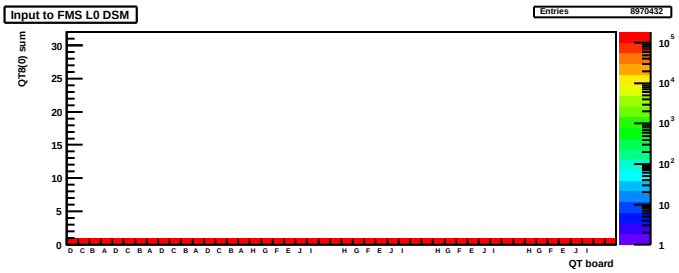

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries100136
Mean 4097
RMS 171.6

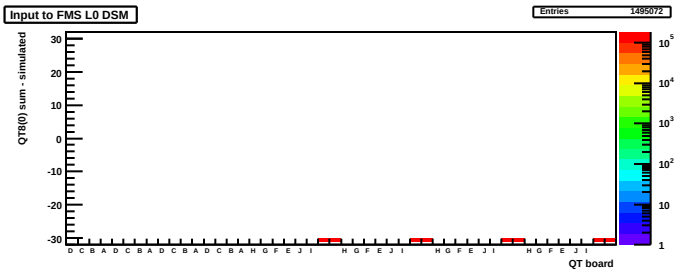

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

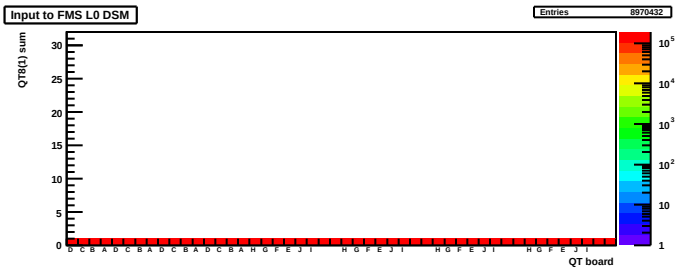

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

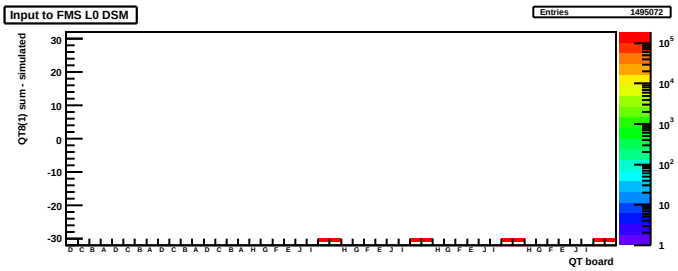

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

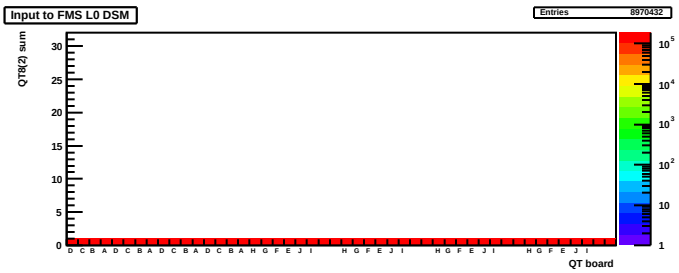

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

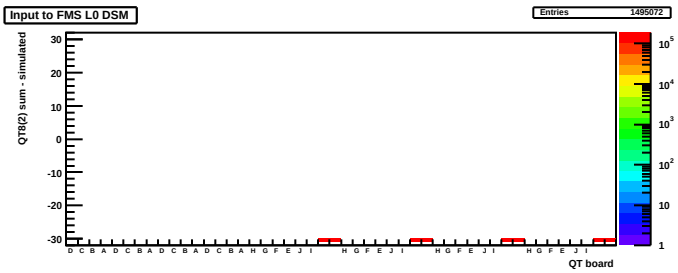

Input to FMS L0 DSM
Entries 8970432
QT8(0) sum
QT board

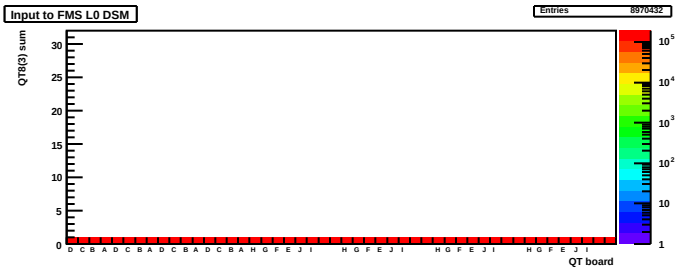

Input to FMS L0 DSM
Entries 1495072
QT8(0) sum - simulated
QT board

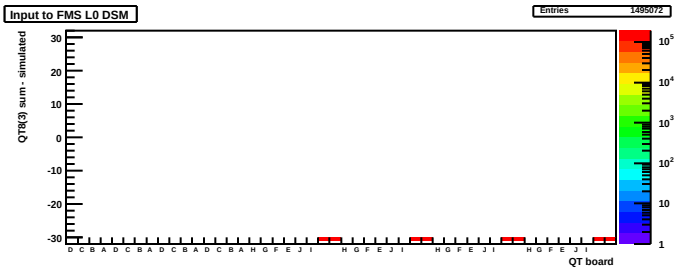

Input to FMS L0 DSM
Entries 8970432
QT8(1) sum
QT board

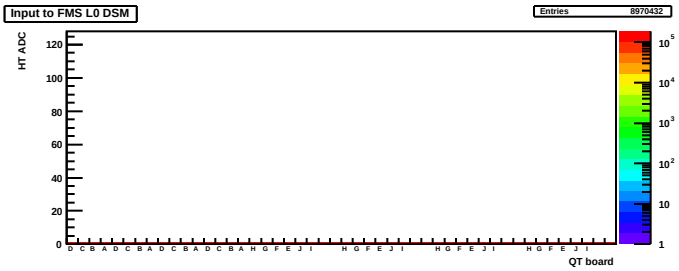

Input to FMS L0 DSM
Entries 1495072
QT8(1) sum - simulated
QT board

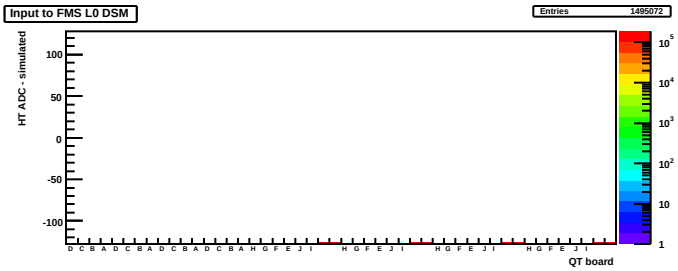

Input to FMS L0 DSM
Entries 8970432
QT8(2) sum
QT board

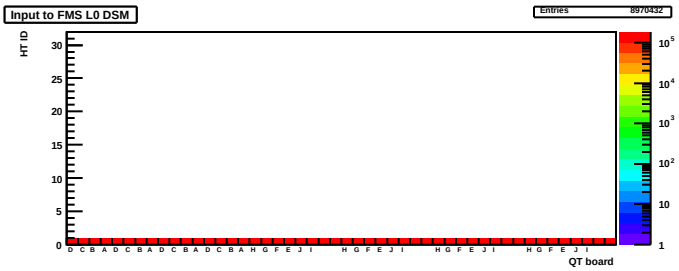

Input to FMS L0 DSM
Entries 1495072
QT8(2) sum - simulated
QT board

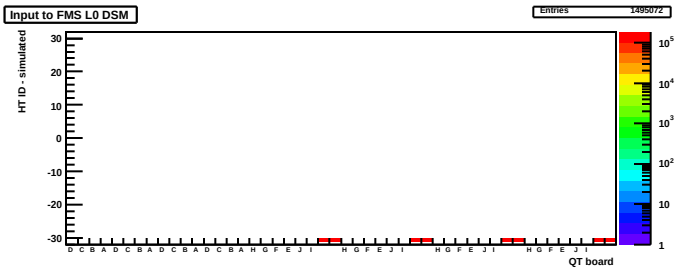

Input to FMS L0 DSM
Entries 8970432
QT8(3) sum
QT board

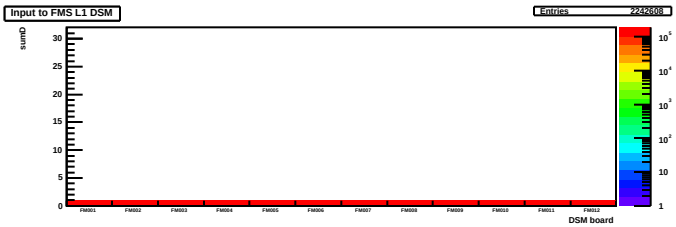

Input to FMS L0 DSM
Entries 1495072
QT8(3) sum - simulated
QT board

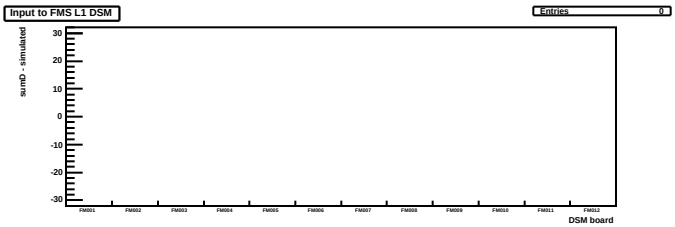

Input to FMS L0 DSM
Entries 8970432
HT ADC
QT board

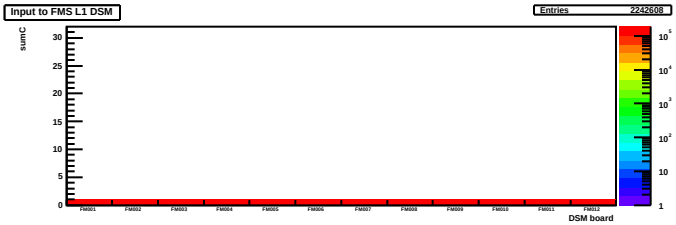

Input to FMS L0 DSM
Entries 1495072
HT ADC - simulated
QT board

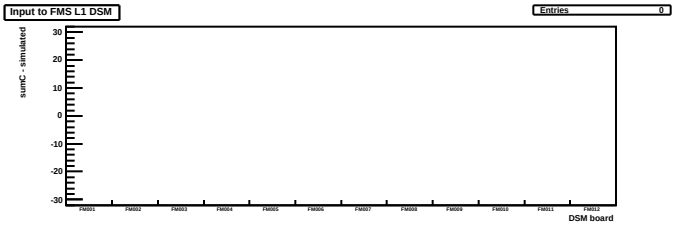

Input to FMS L0 DSM
Entries 8970432
HT ID
QT board

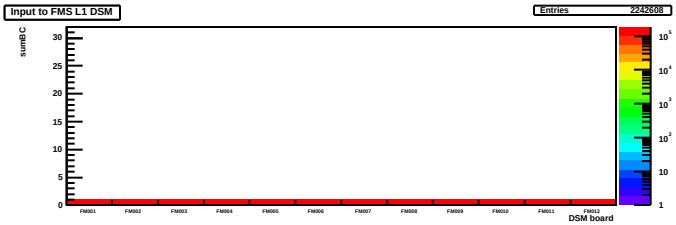

Input to FMS L0 DSM
Entries 1495072
HT ID - simulated
QT board

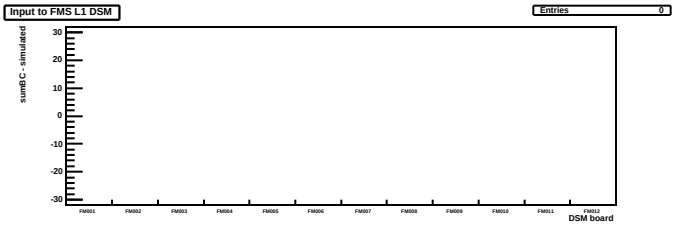

Input to FMS L1 DSM
Entries 2242608
sumD
DSM board

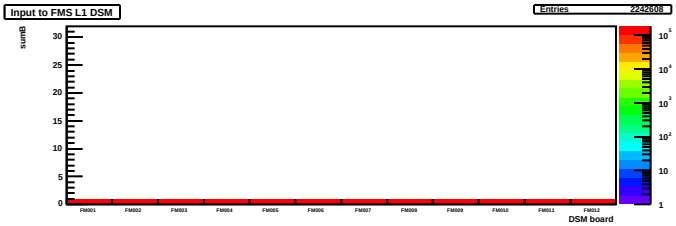

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

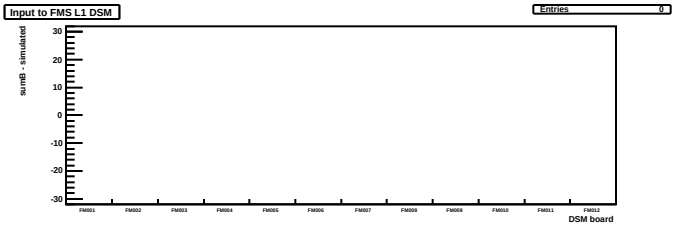

Input to FMS L1 DSM
Entries 2242608
sumC
DSM board

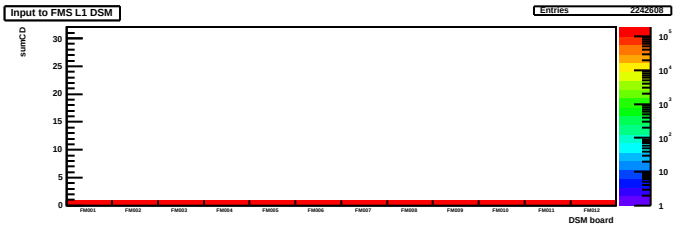

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

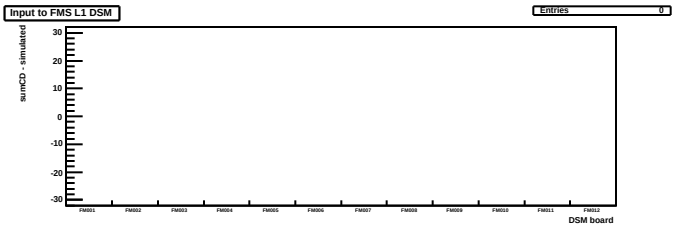

Input to FMS L1 DSM
Entries 2242608
sumBC
DSM board

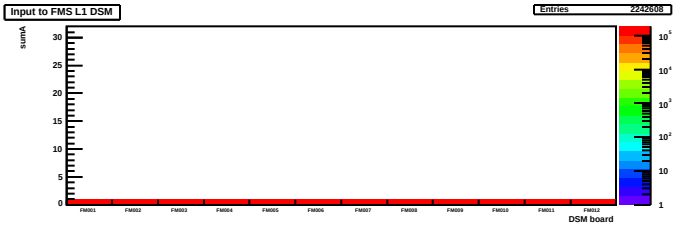

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

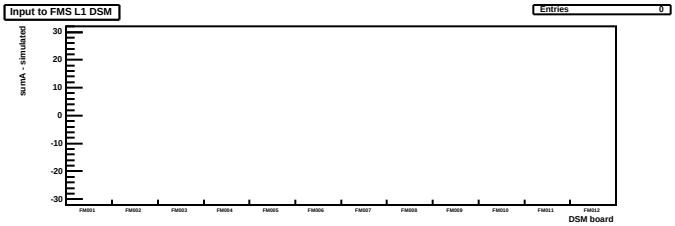

Input to FMS L1 DSM
Entries 2242608
sumB
DSM board

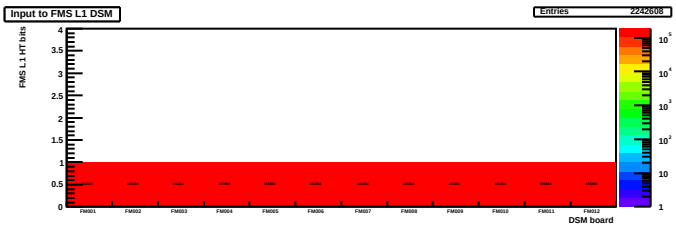

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

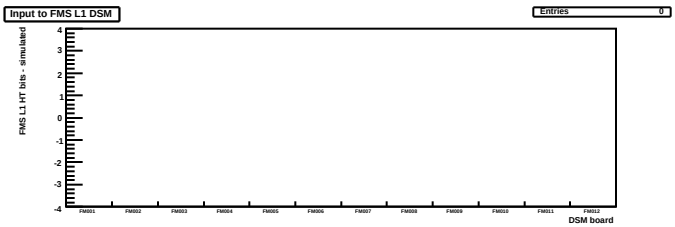

Input to FMS L1 DSM
Entries 2242608
sumCD
DSM board

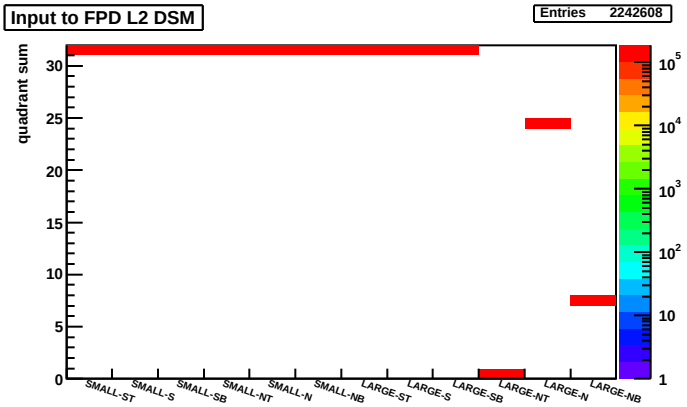

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

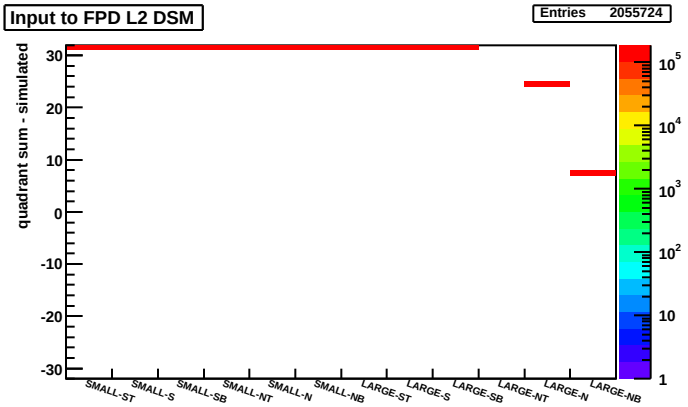

Input to FMS L1 DSM
Entries 2242608
sumA
DSM board

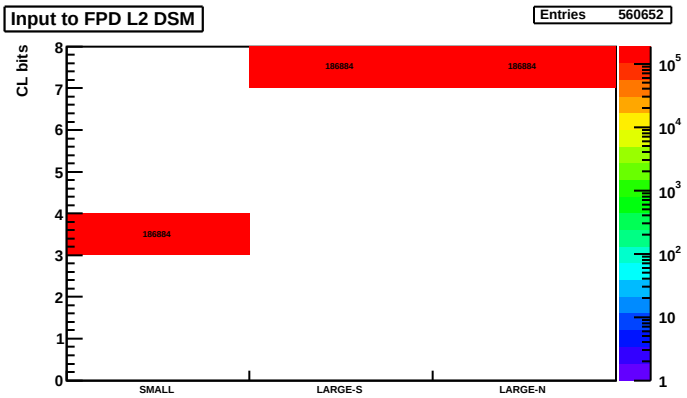

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

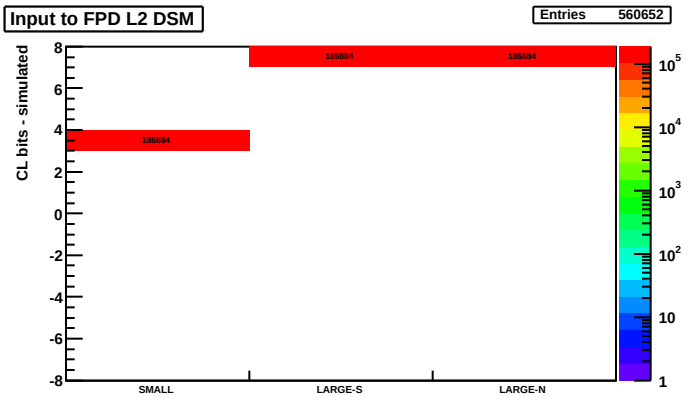

Input to FMS L1 DSM
Entries 2242608
FMS L1 HT bits
DSM board

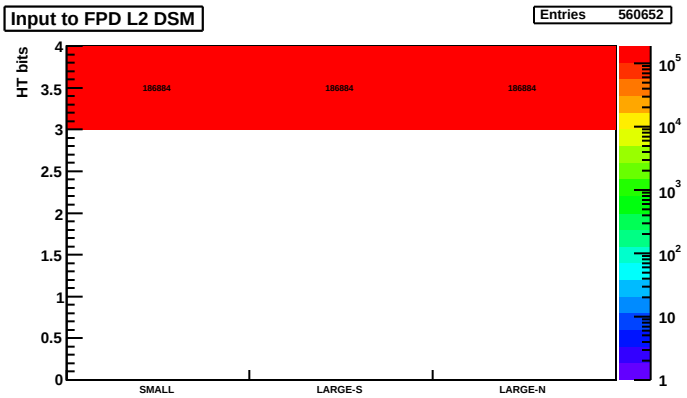

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

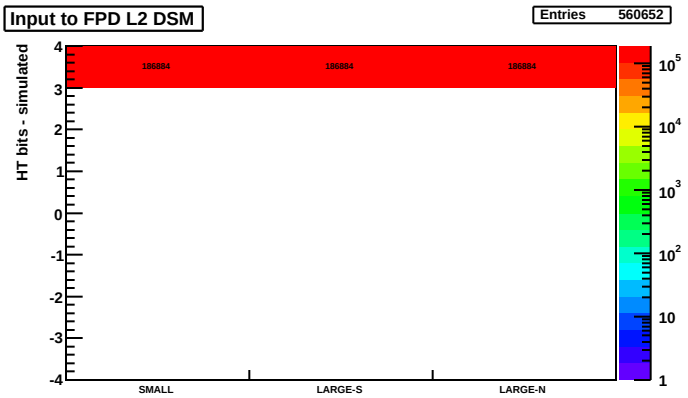

Input to FPD L2 DSM
Entries 2242608
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

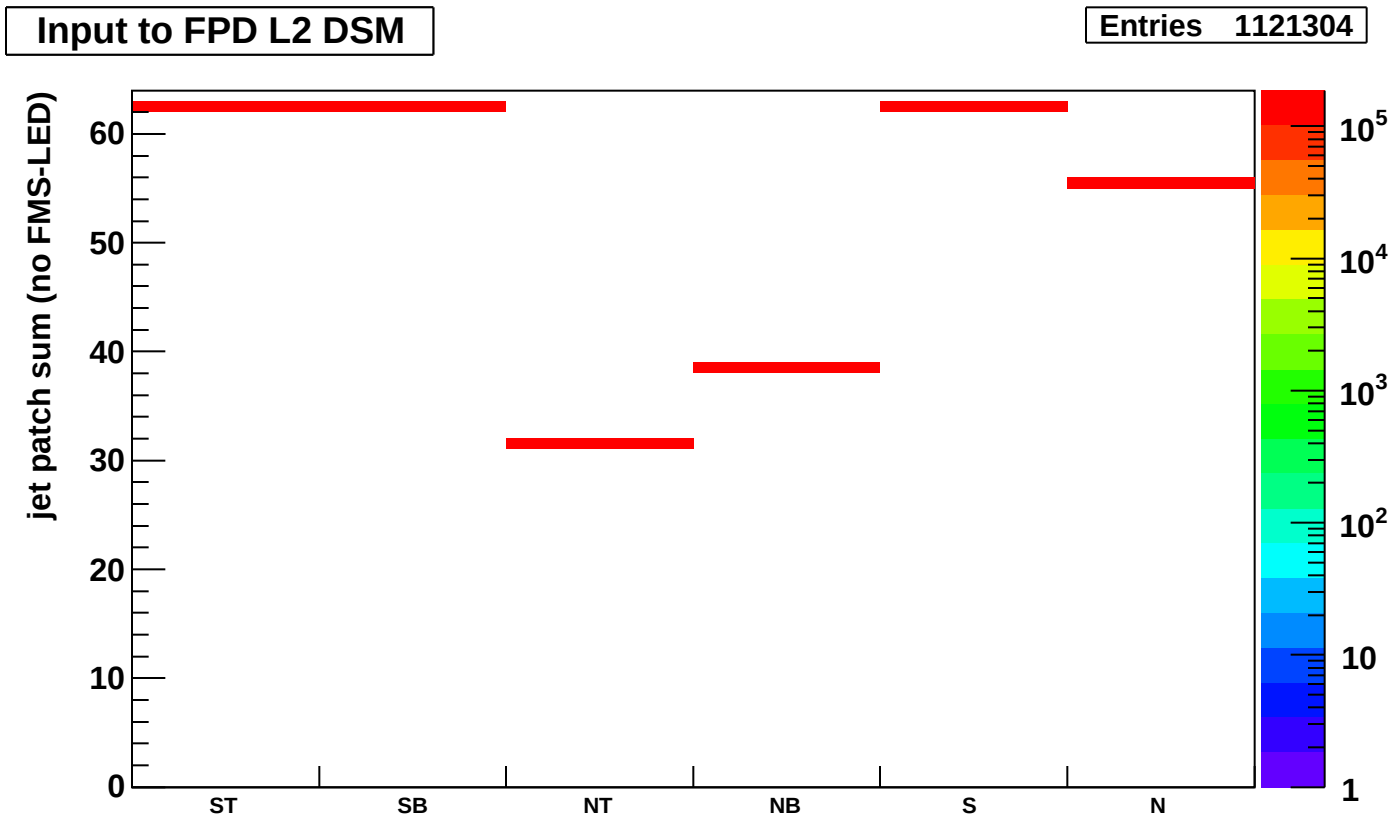

Input to FPD L2 DSM
Entries 2055724
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

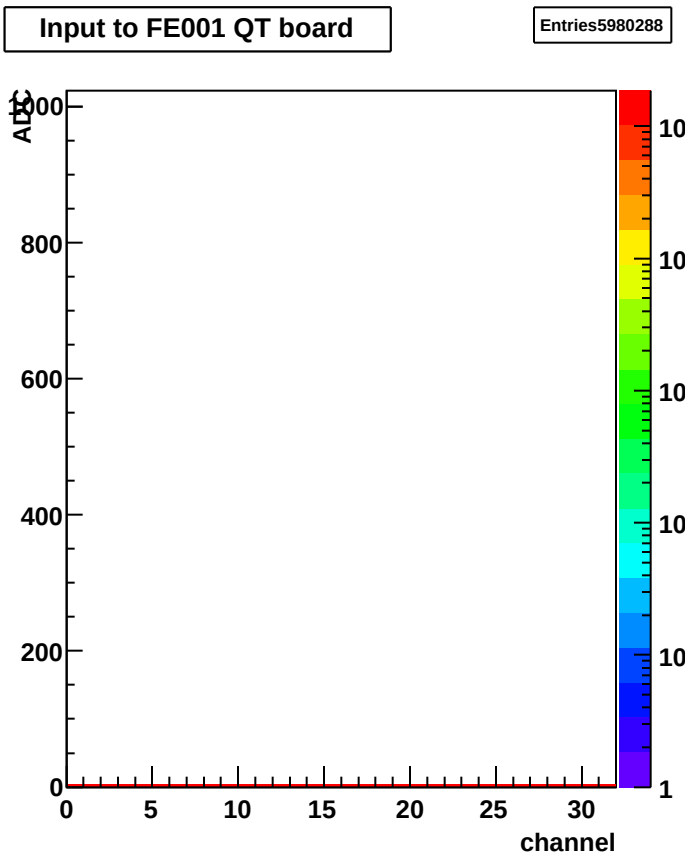

Input to FPD L2 DSM
Entries 560652
CL bits
186884
186884
186884
SMALL
LARGE-S
LARGE-N

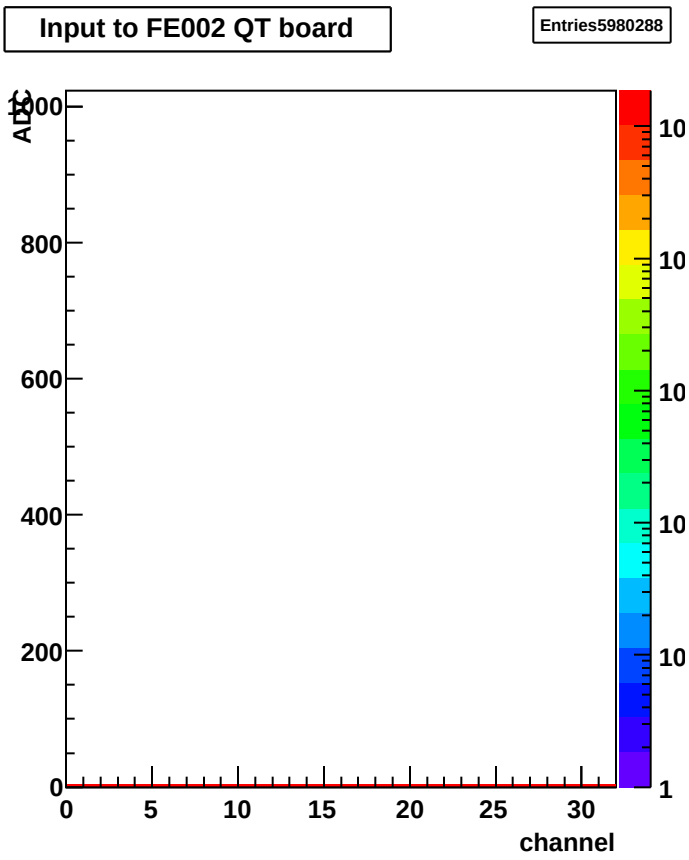

Input to FPD L2 DSM
Entries 560652
CL bits - simulated
186884
186884
186884
SMALL
LARGE-S
LARGE-N

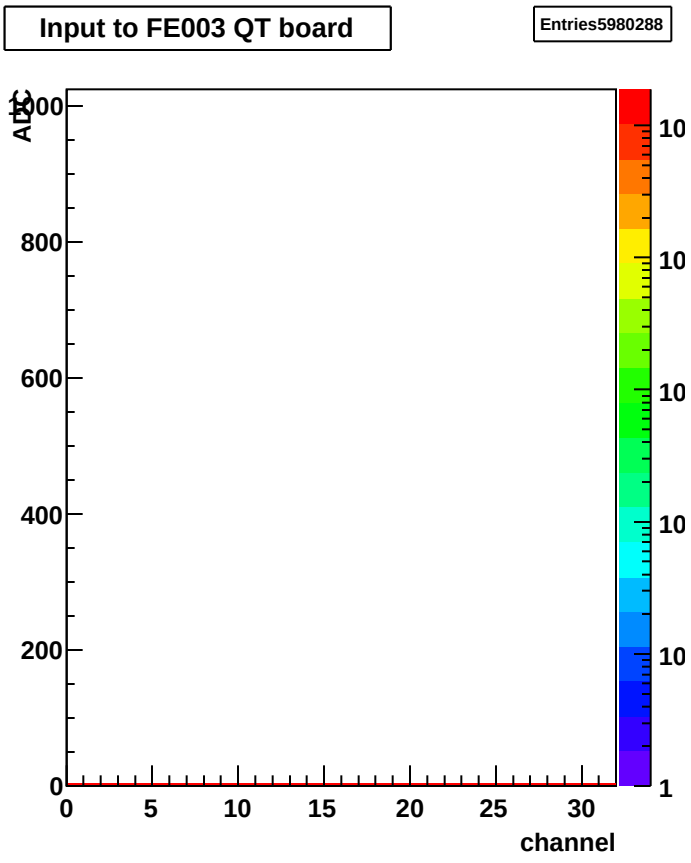

Input to FPD L2 DSM
Entries 560652
HT bits
186884
186884
186884
SMALL
LARGE-S
LARGE-N

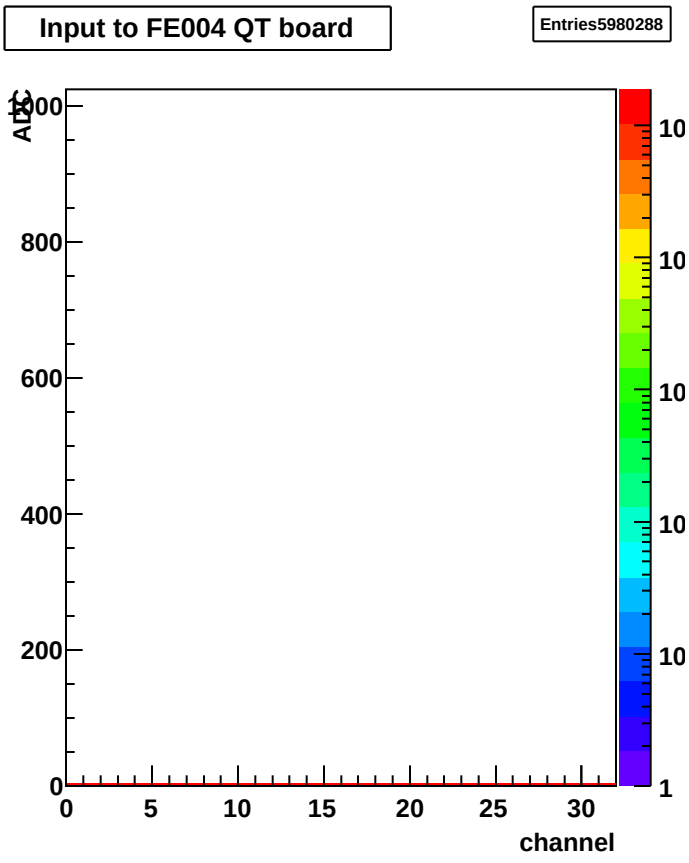

Input to FPD L2 DSM
Entries 560652
HT bits - simulated
186884
186884
186884
SMALL
LARGE-S
LARGE-N

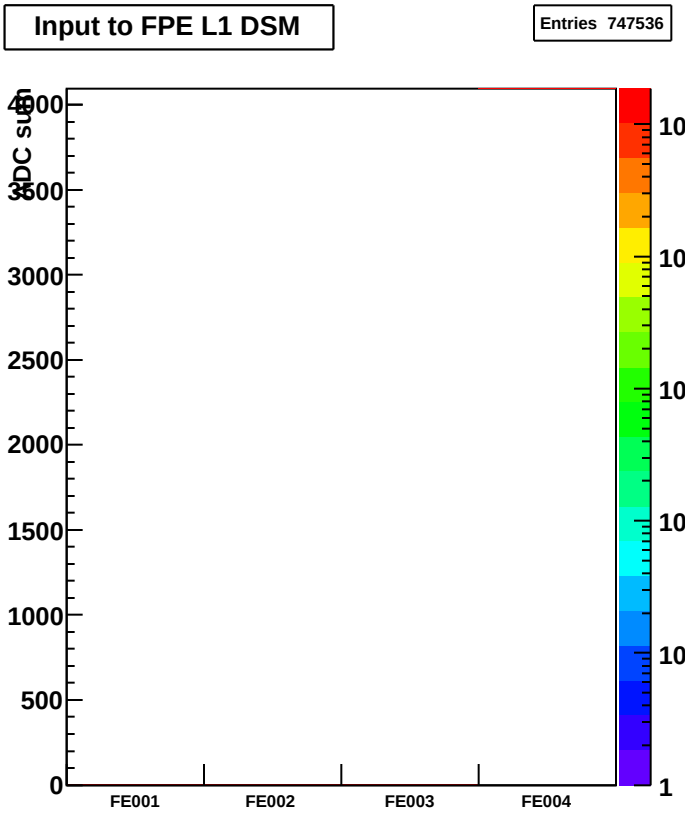

Input to FPD L2 DSM
Entries 1121304
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

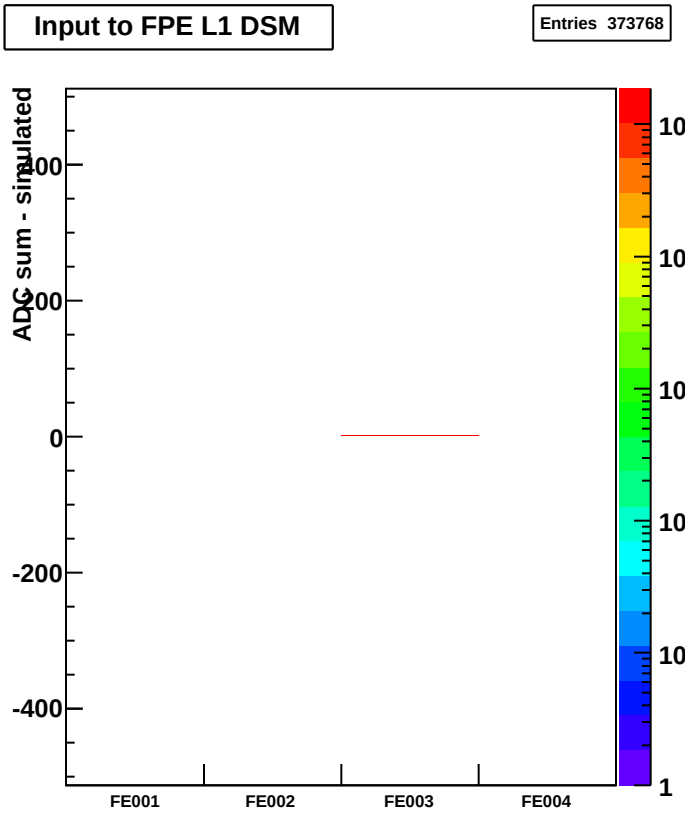

Input to FE001 QT board
Entries5980288
ADC
channel

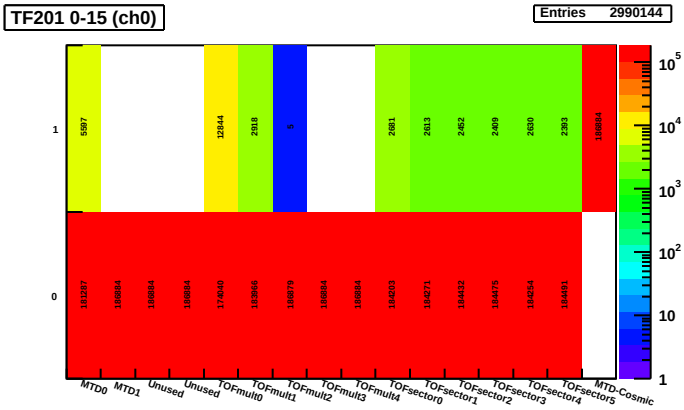

Input to FE002 QT board
Entries5980288
ADC
channel

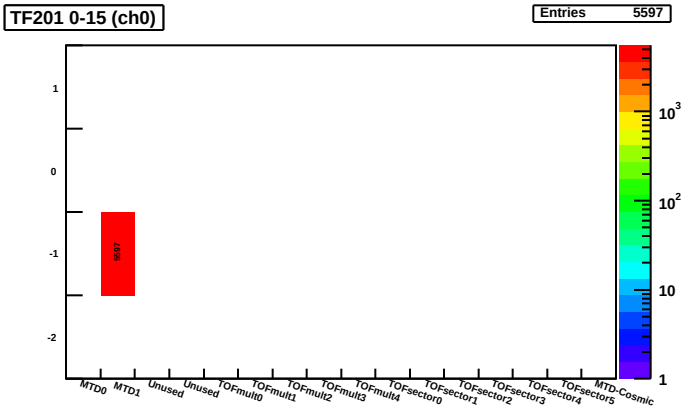

Input to FE003 QT board
Entries5980288
ADC
channel

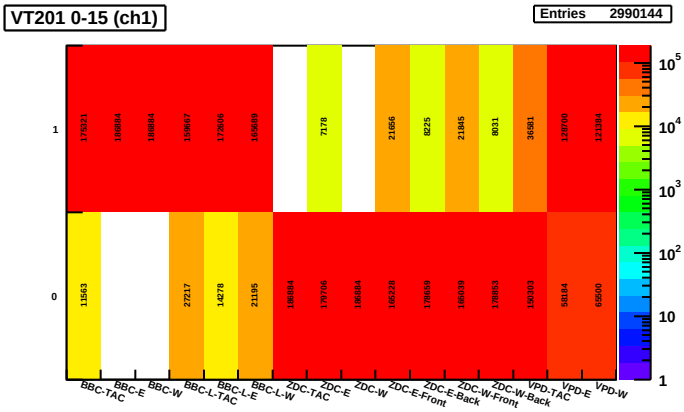

Input to FE004 QT board
Entries5980288
ADC
channel

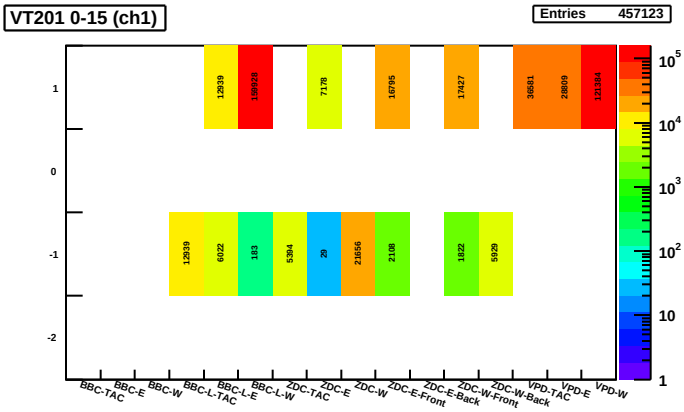

Input to FPE L1 DSM
Entries 747536
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

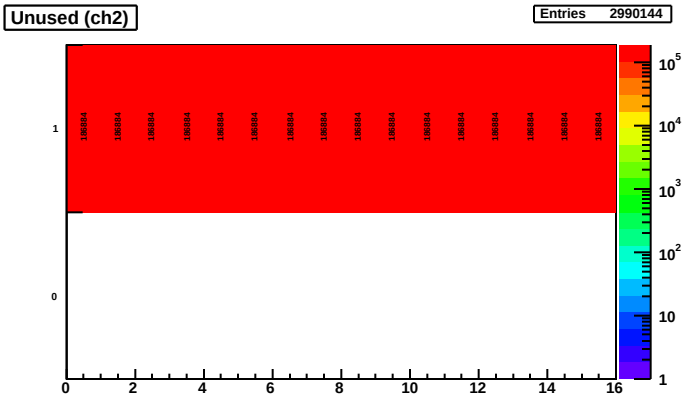

Input to FPE L1 DSM
Entries 373768
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

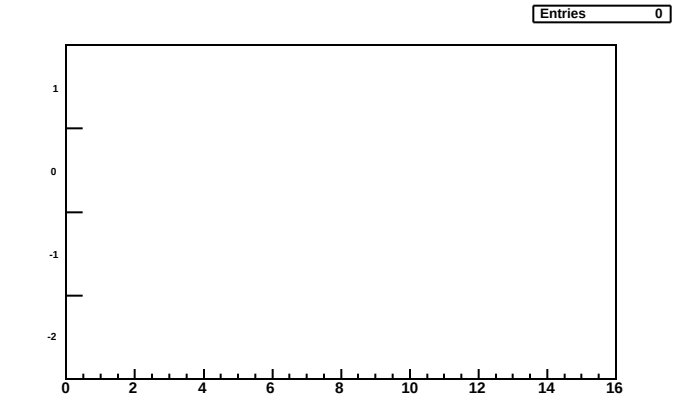

TF201 0-15 (ch0)
Entries 2990144
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

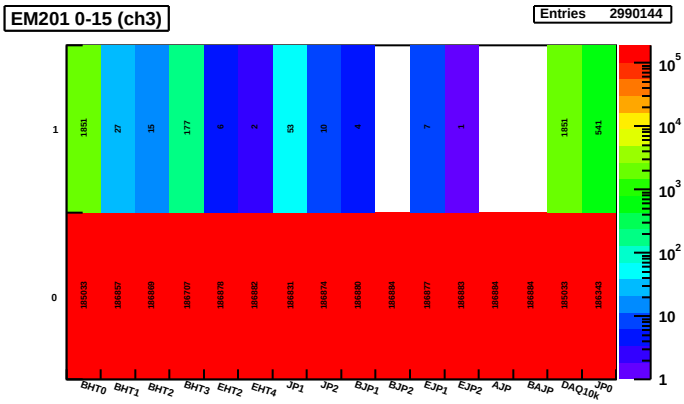

TF201 0-15 (ch0)
Entries 5597
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

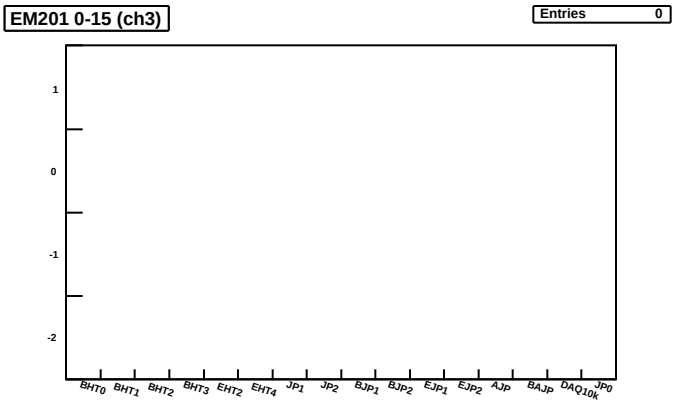

VT201 0-15 (ch1)
Entries 2990144
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 457123
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

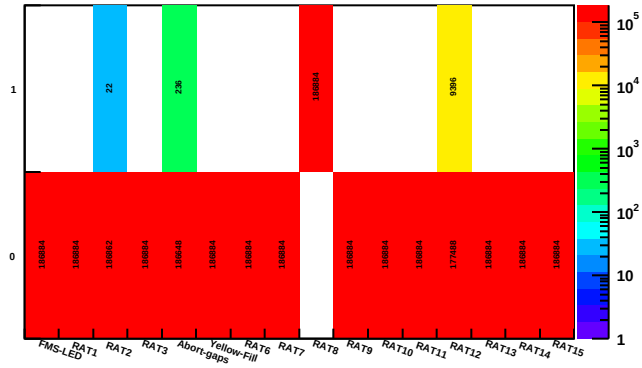

Unused (ch2)
Entries 2990144

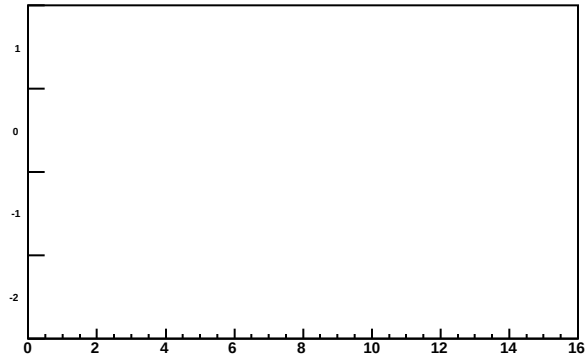

Entries 0


EM201 0-15 (ch3)
Entries 2990144
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

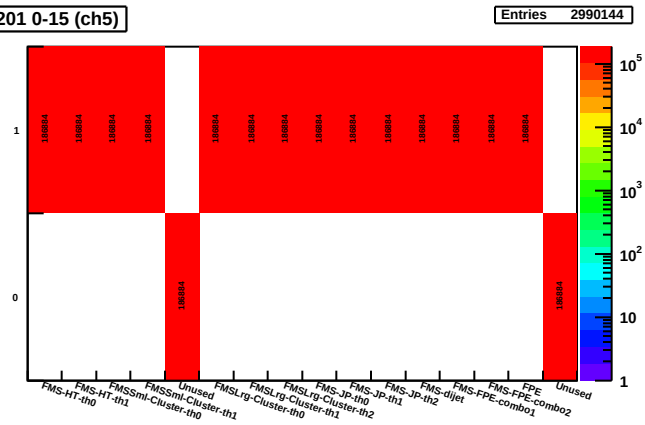

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

RAT board (ch4)

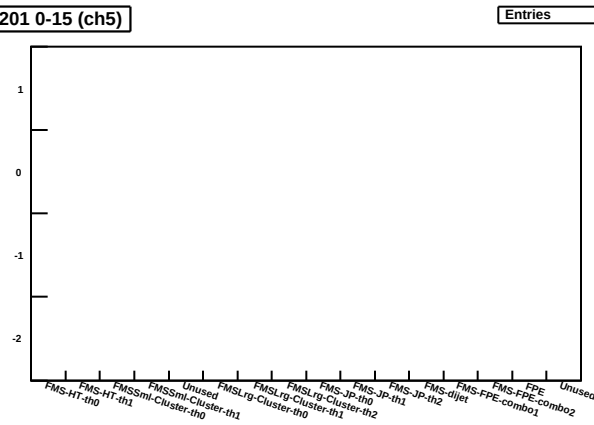




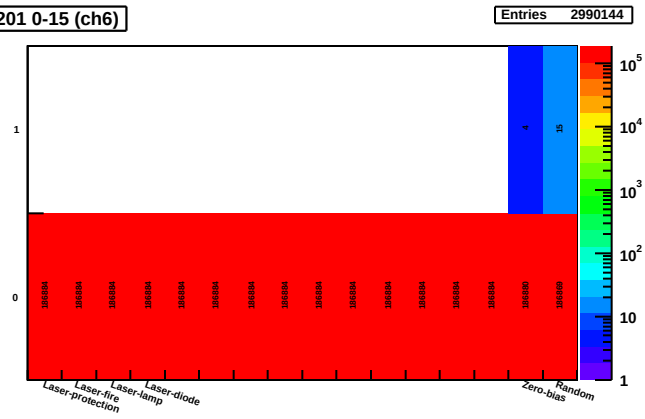
FP201 0-15 (ch5)

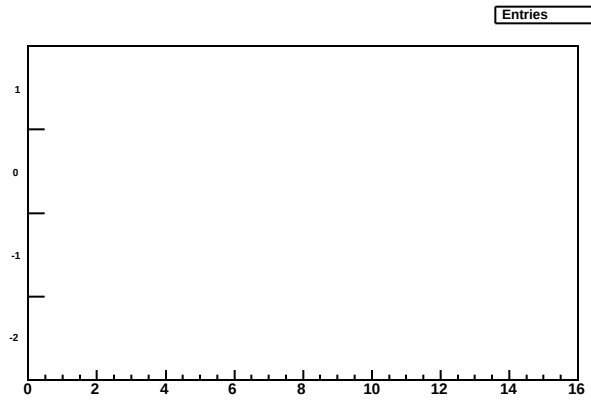
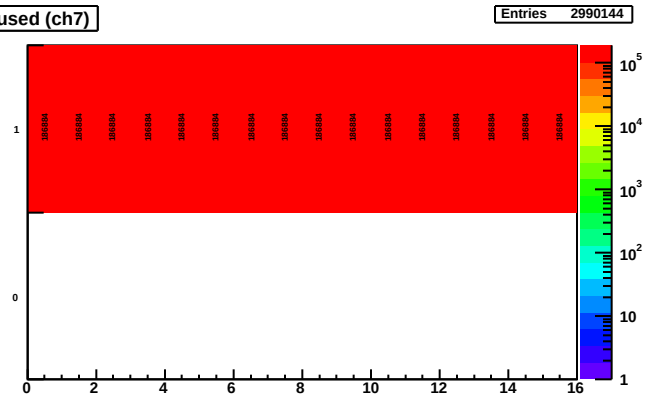
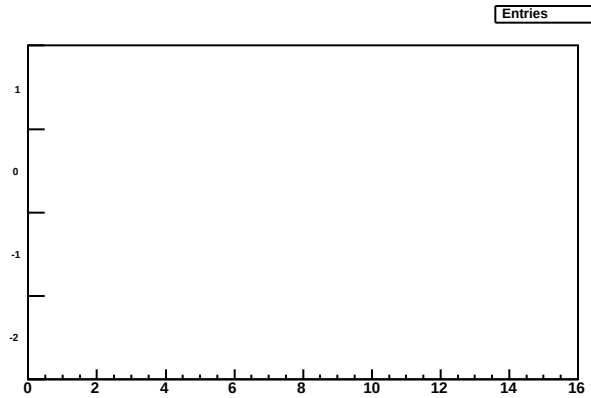


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)