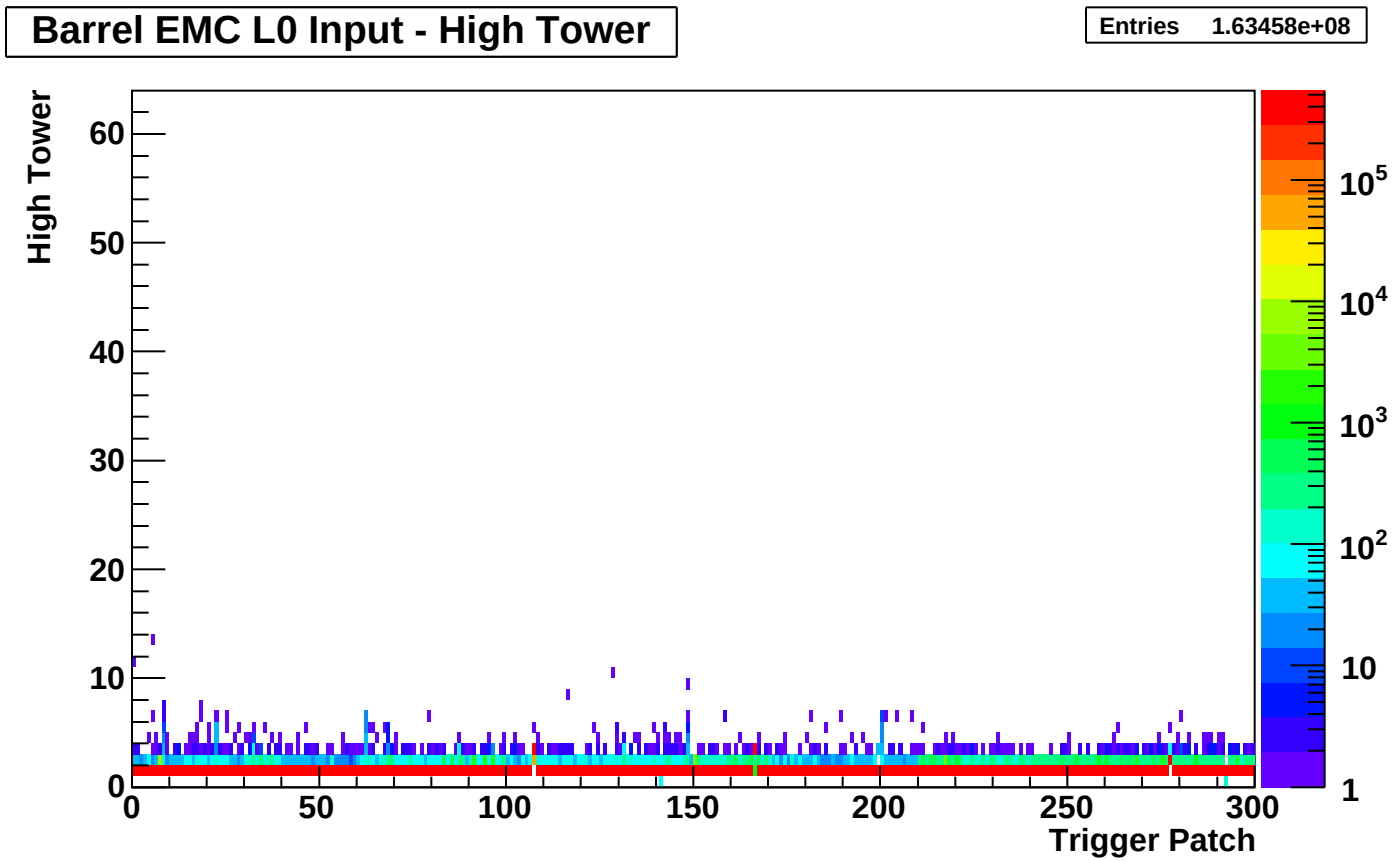
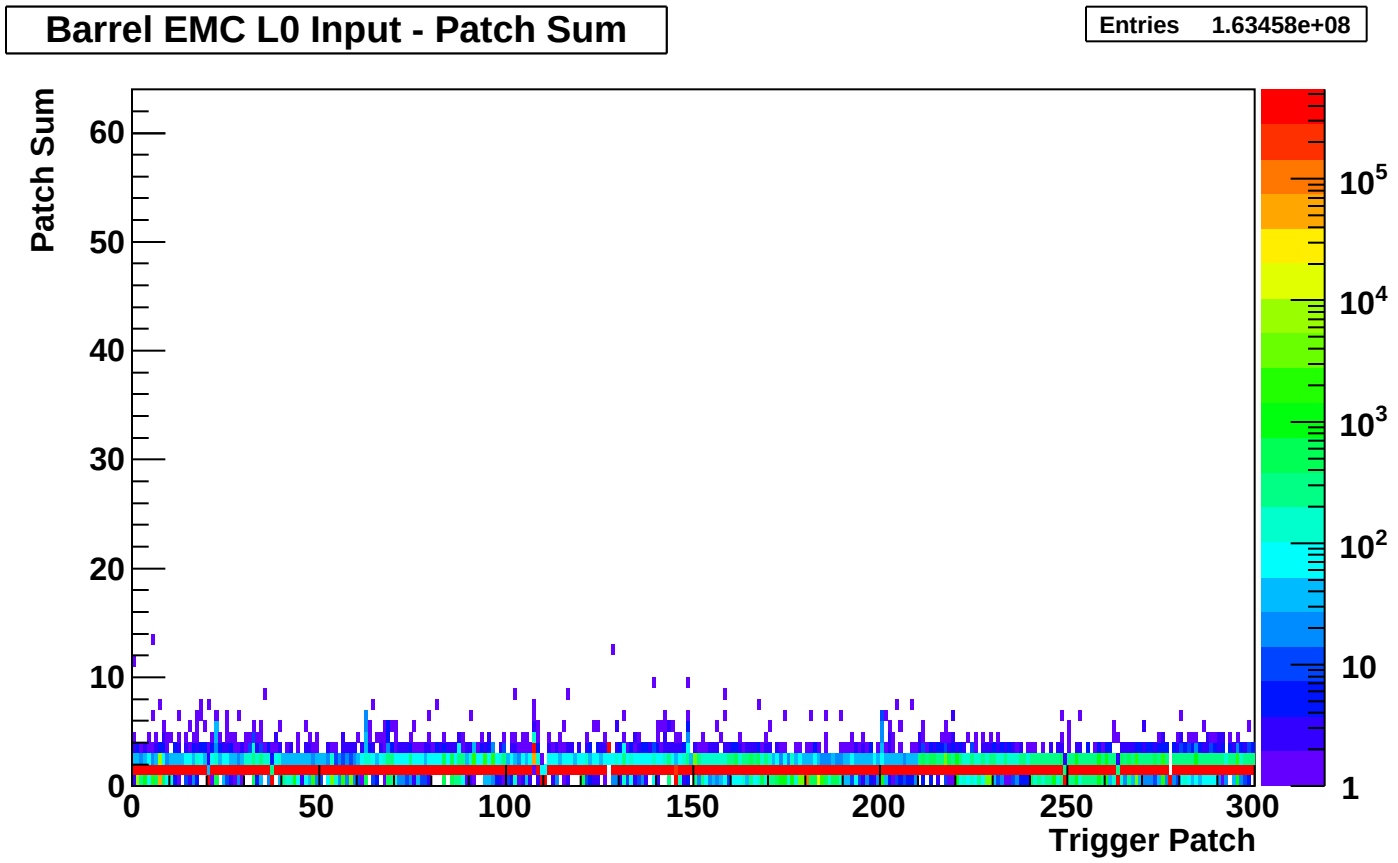
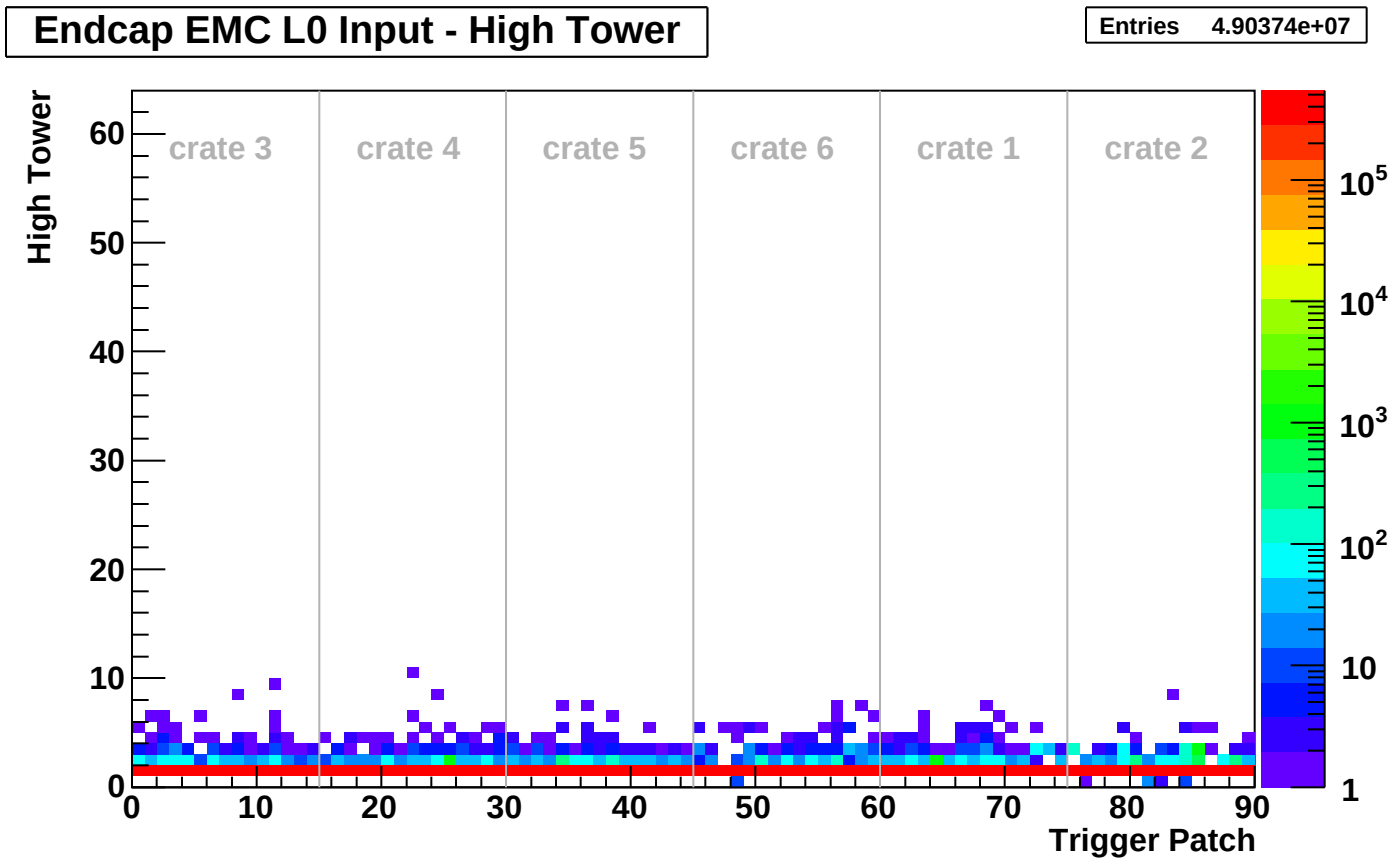
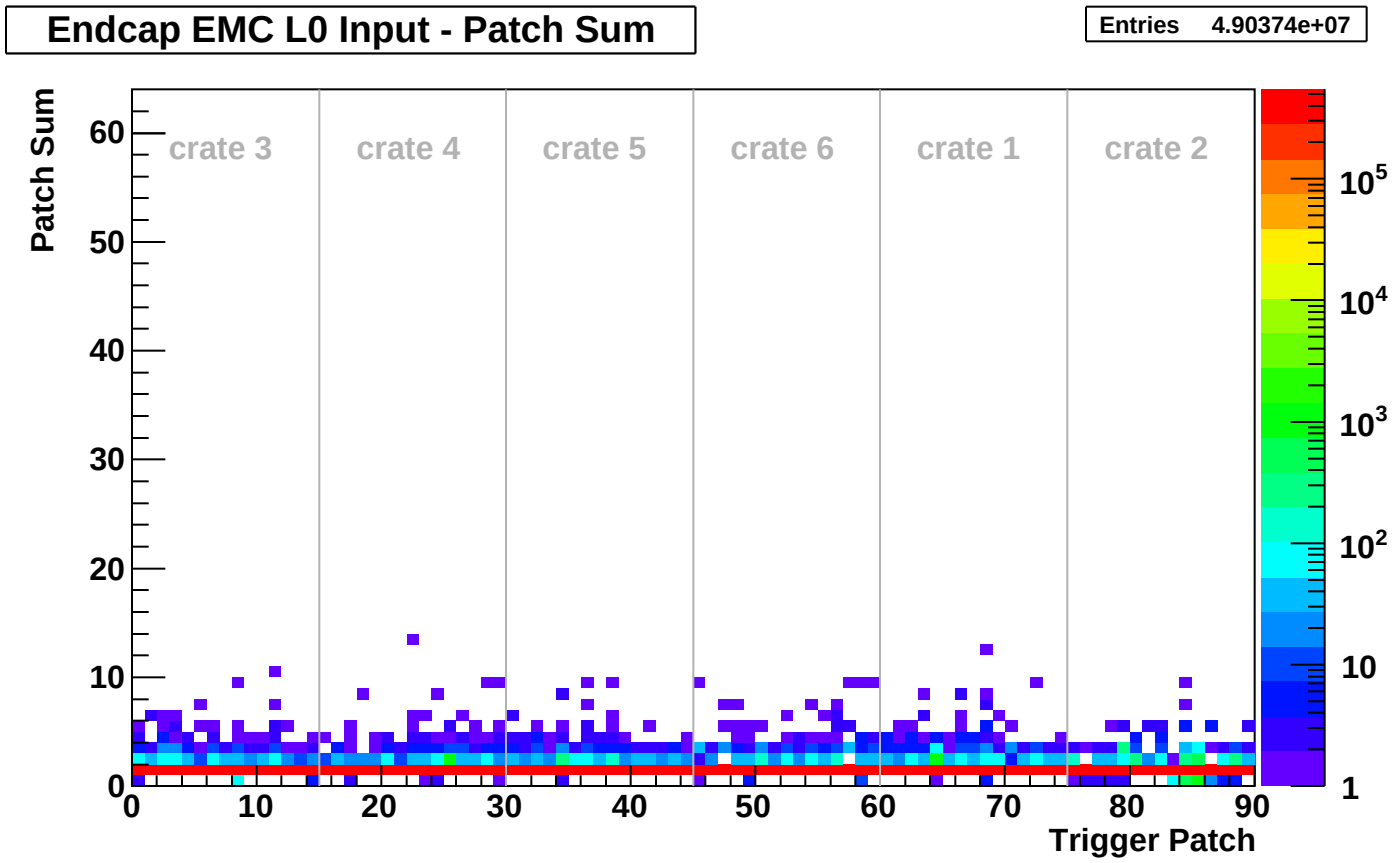
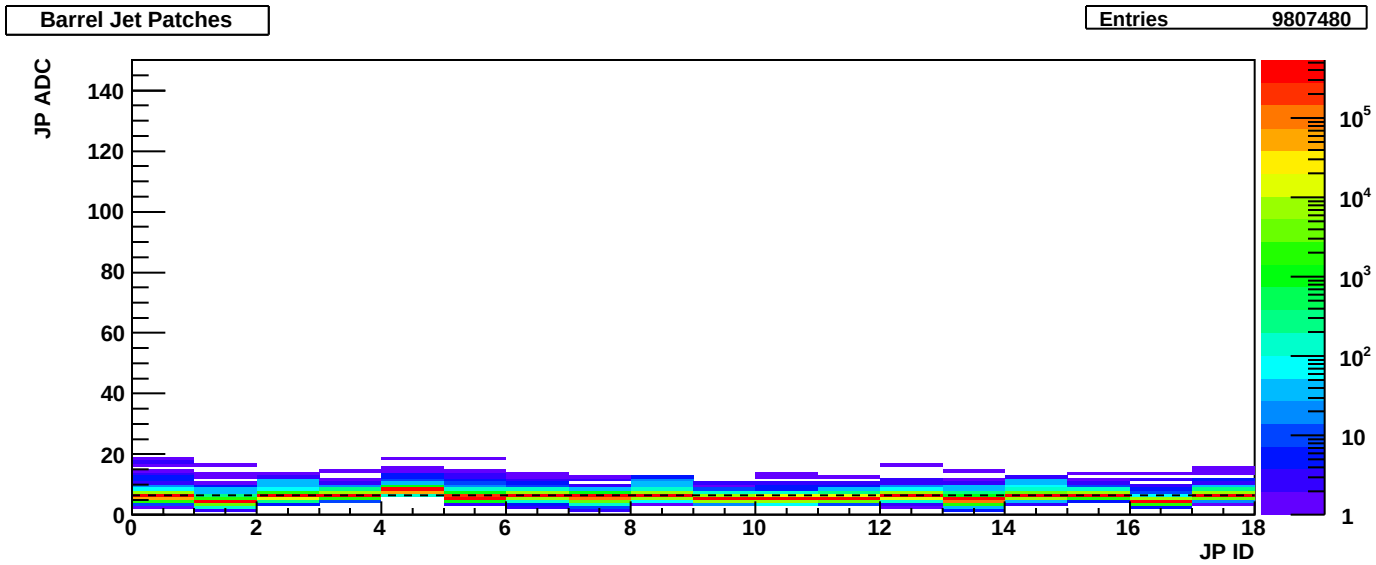
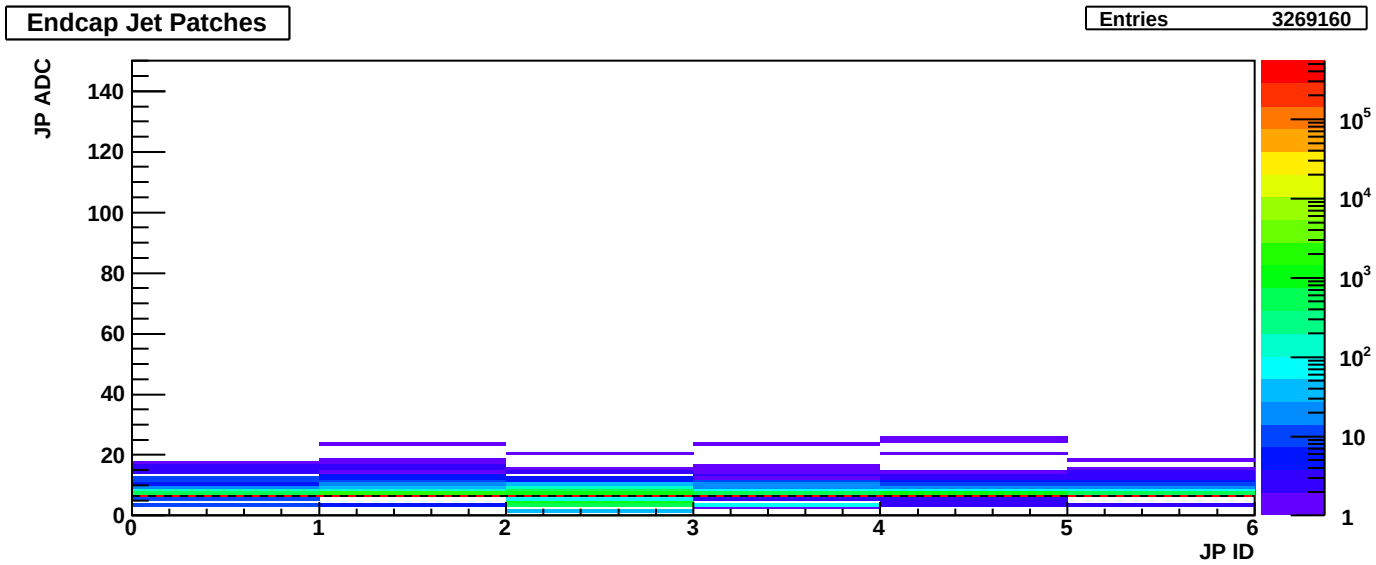

Barrel EMC L0 Input - High Tower
Entries 1.63458e+08
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

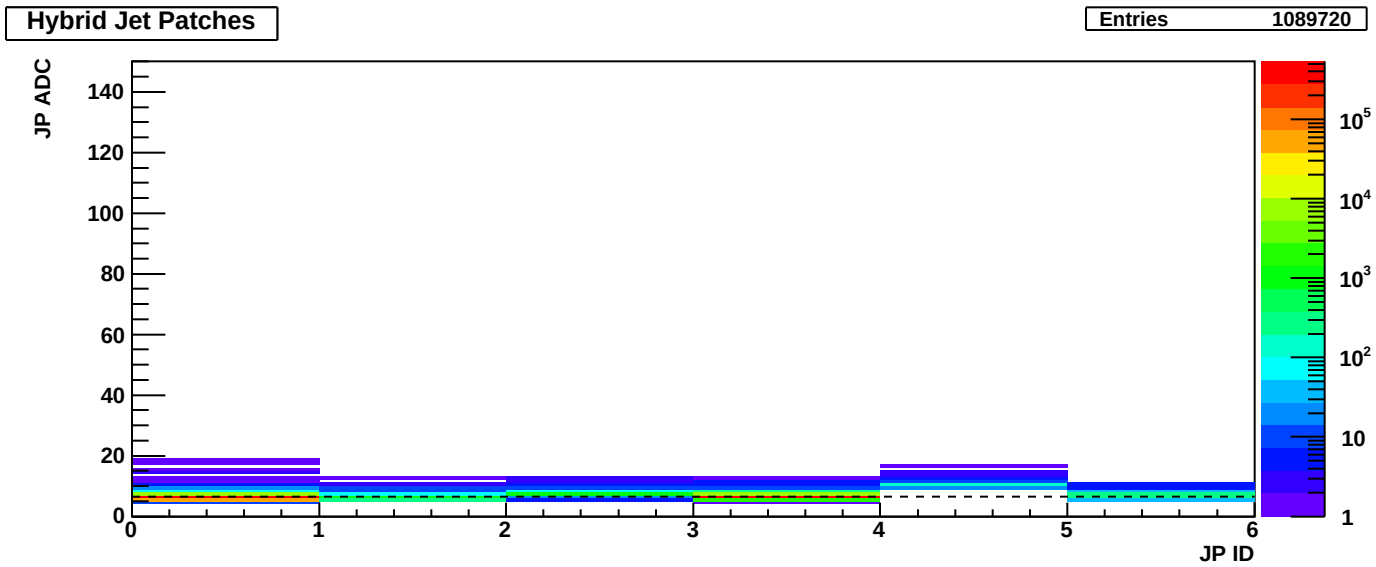

Barrel EMC L0 Input - Patch Sum
Entries 1.63458e+08
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

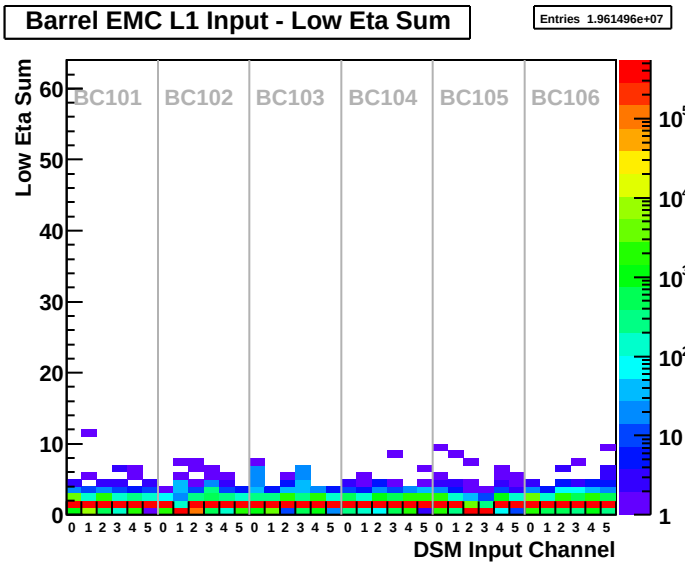

Endcap EMC L0 Input - High Tower
Entries 4.90374e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

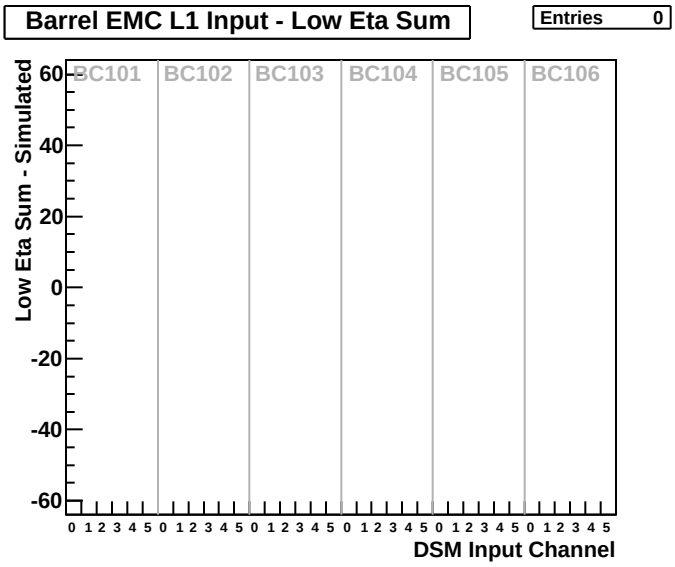

Endcap EMC L0 Input - Patch Sum
Entries 4.90374e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

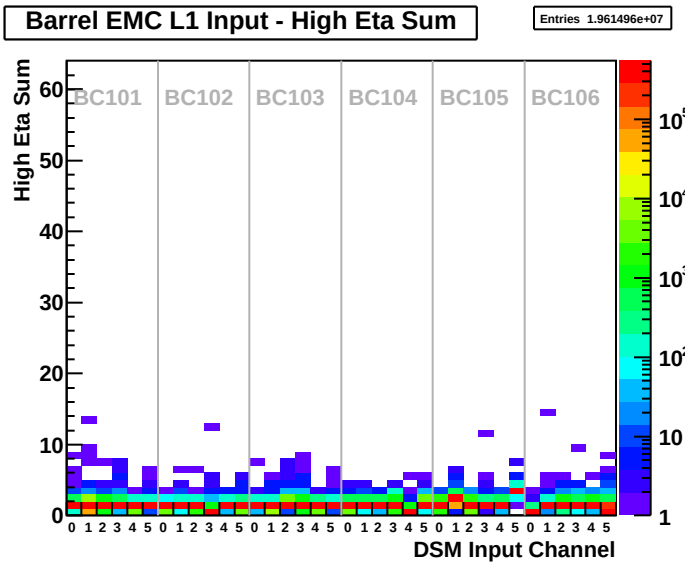

Barrel Jet Patches
Entries 9807480
JP ADC
JP ID

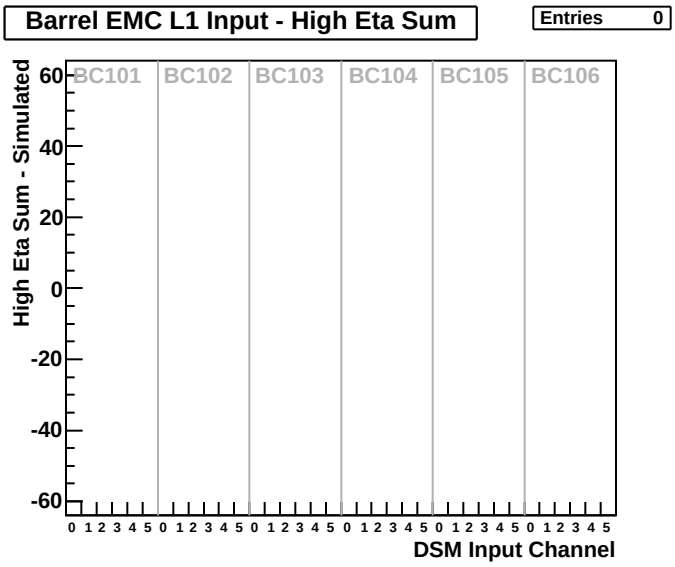

Endcap Jet Patches
Entries 3269160
JP ADC
JP ID

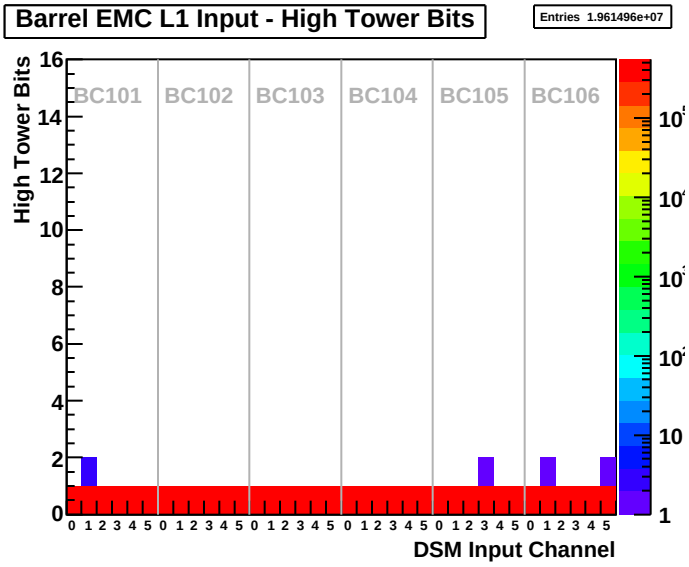

Hybrid Jet Patches
Entries 1089720
JP ADC
JP ID

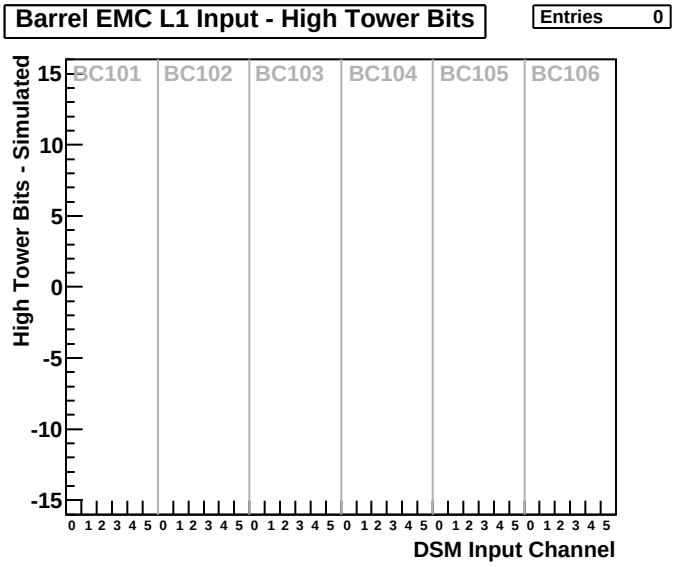

Barrel EMC L1 Input - Low Eta Sum
Entries 1.961496e+07
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

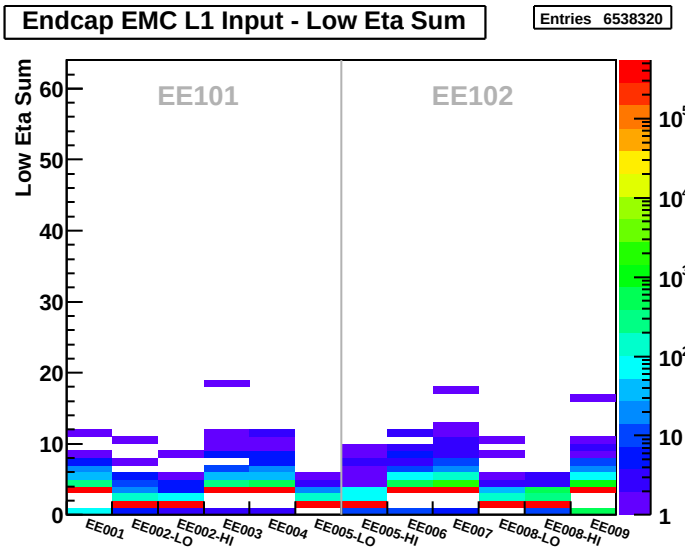

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

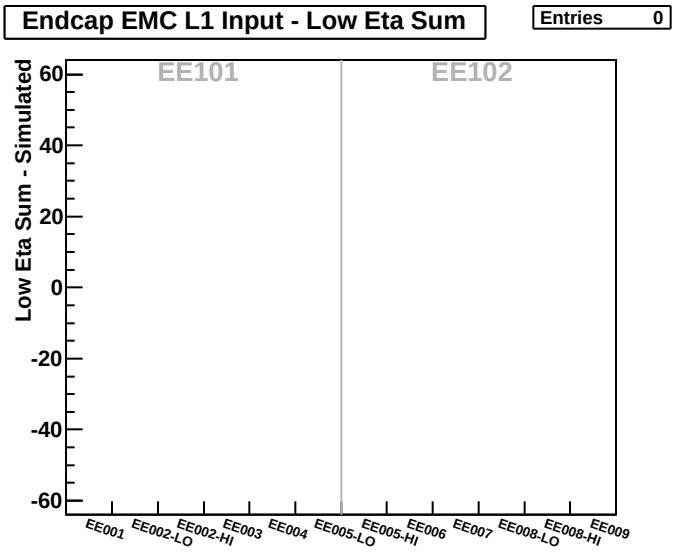

Barrel EMC L1 Input - High Eta Sum
Entries 1.961496e+07
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

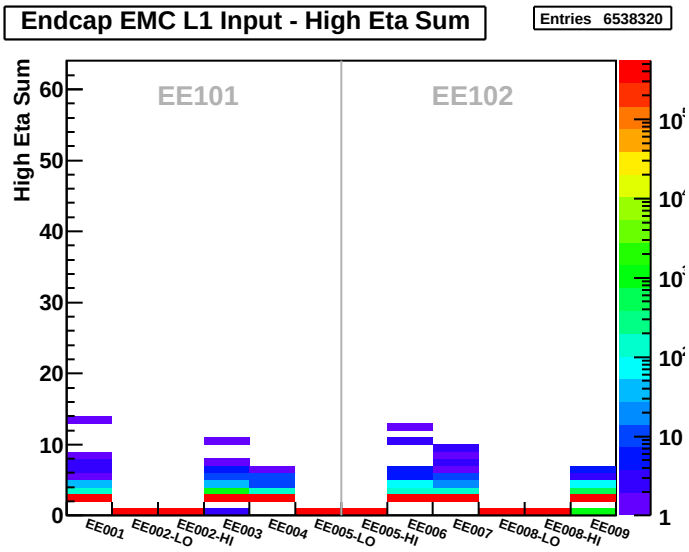

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

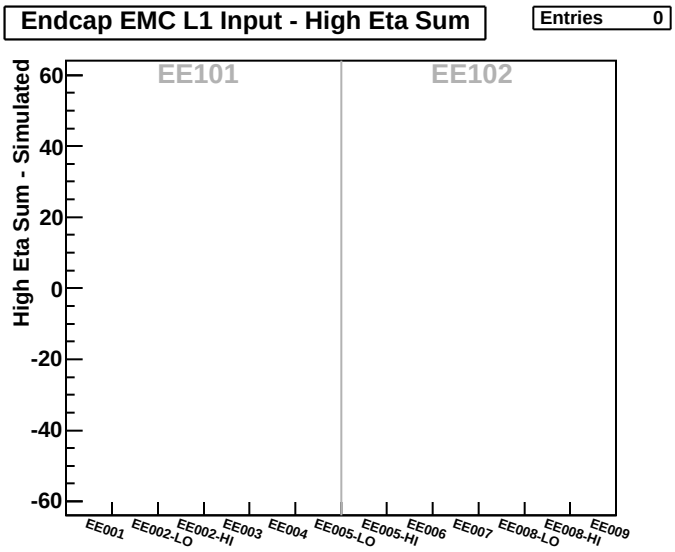

Barrel EMC L1 Input - High Tower Bits
Entries 1.961496e+07
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

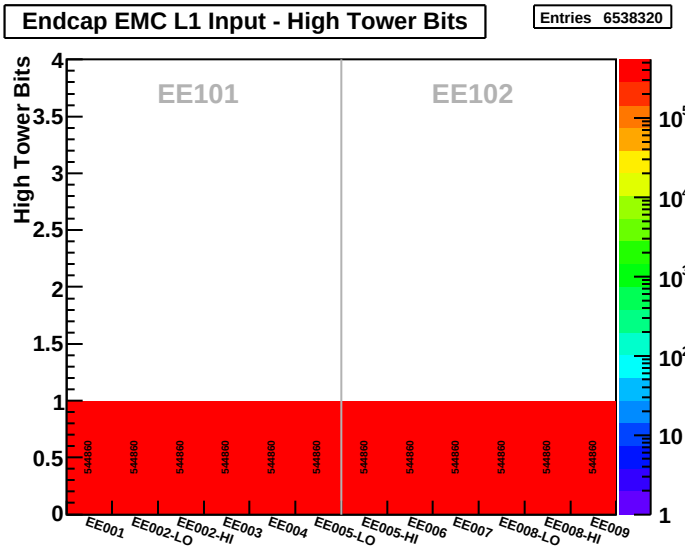

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

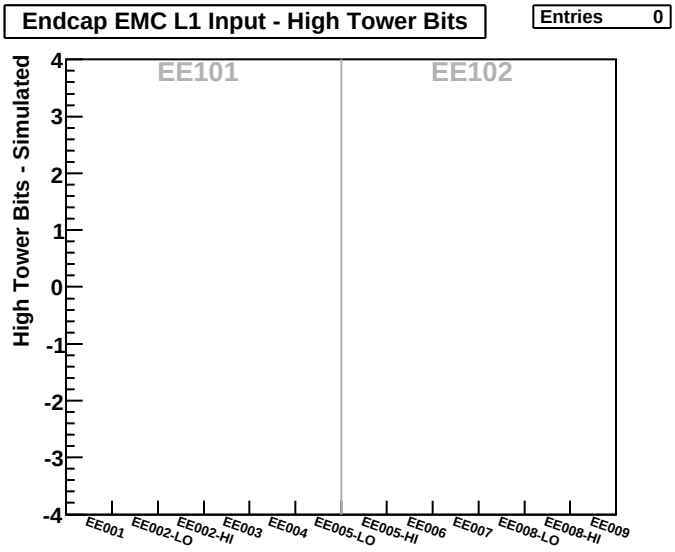

Endcap EMC L1 Input - Low Eta Sum
Entries 6538320
Low Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

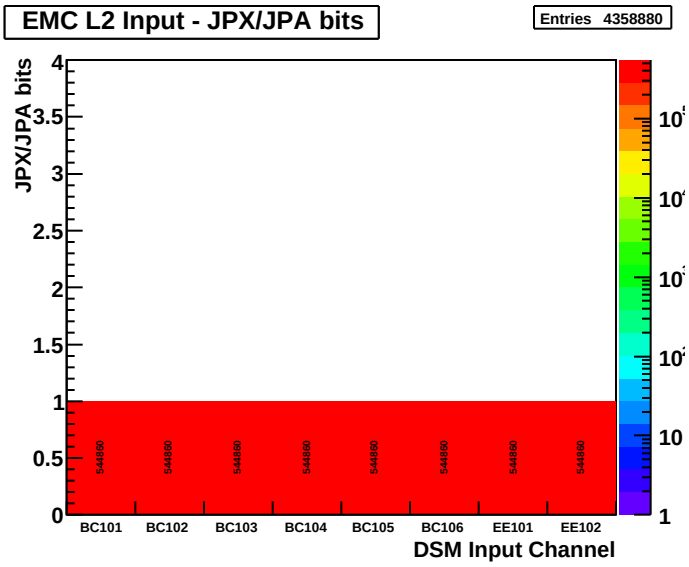

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

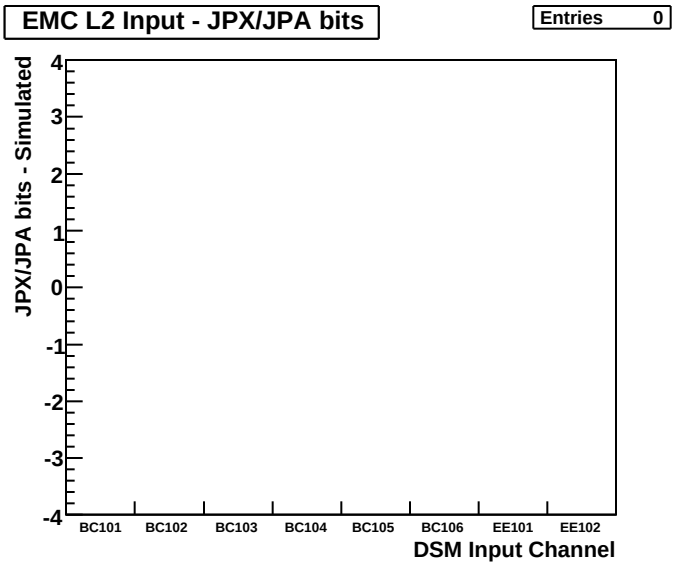

Endcap EMC L1 Input - High Eta Sum
Entries 6538320
High Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

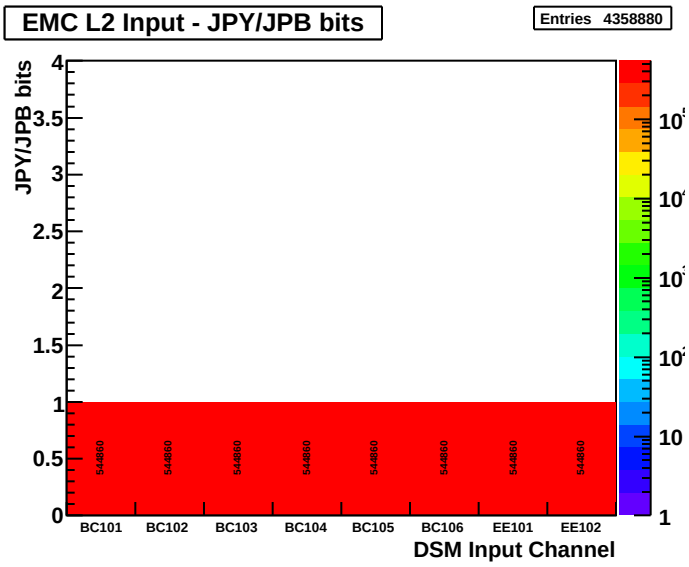

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

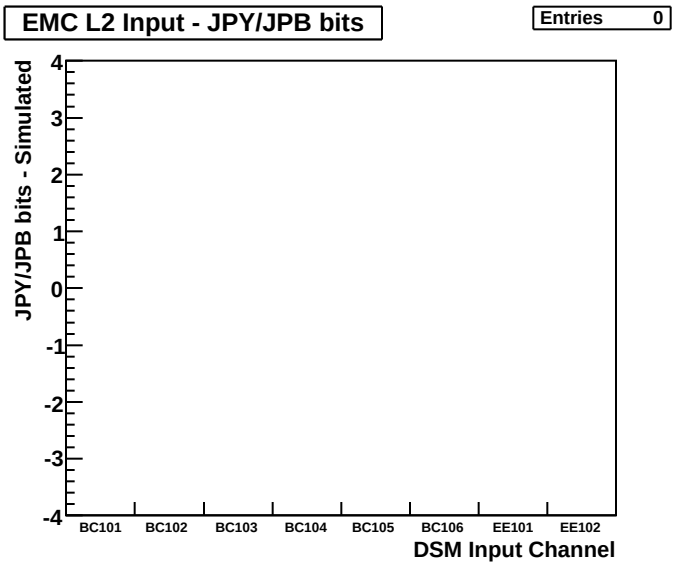

Endcap EMC L1 Input - High Tower Bits
Entries 6538320
High Tower Bits
EE101
EE102
544860
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

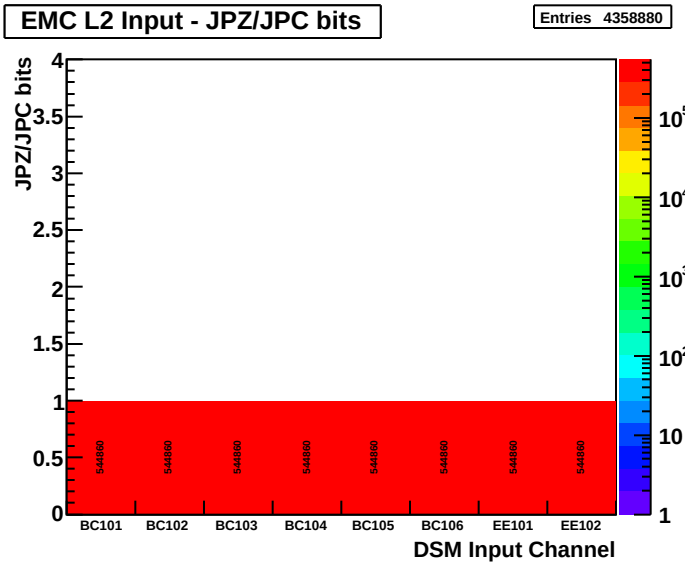

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

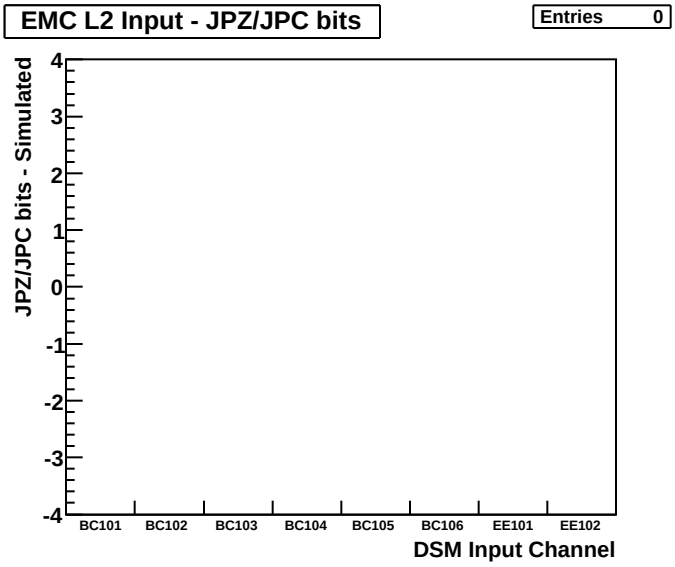

EMC L2 Input - JPX/JPA bits
Entries 4358880
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
544860

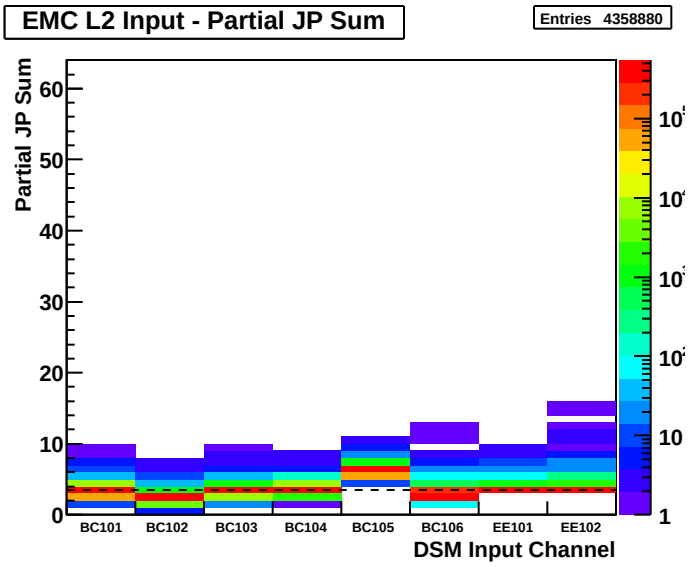

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

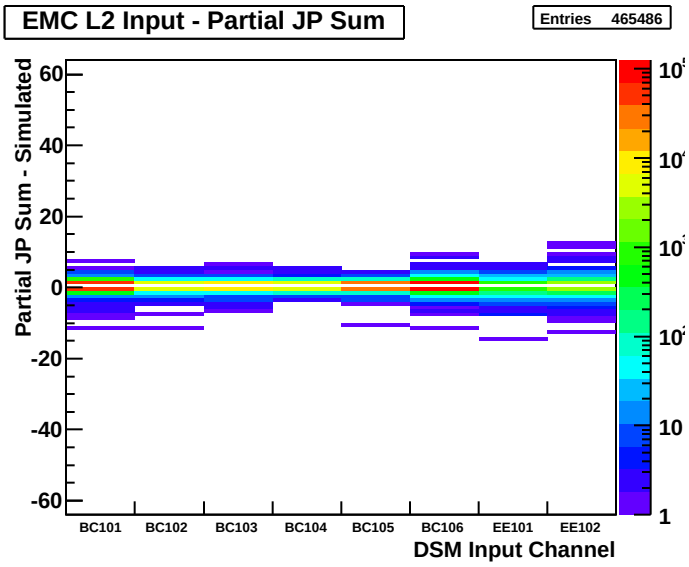

EMC L2 Input - JPY/JPB bits
Entries 4358880
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
544860

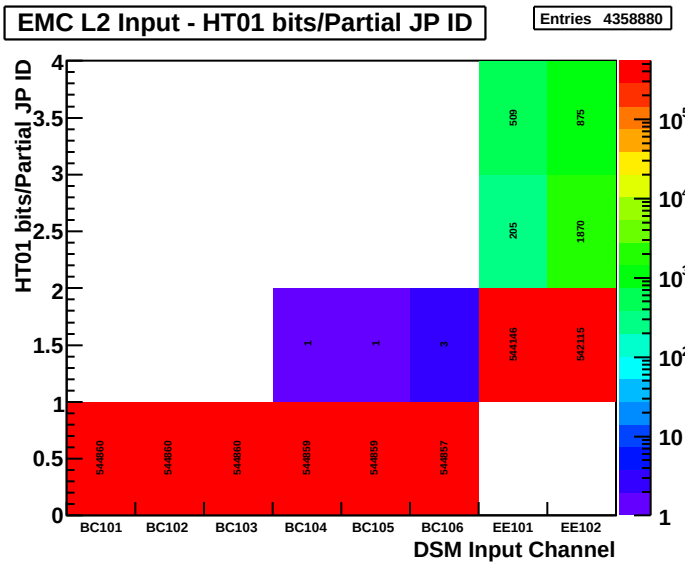

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

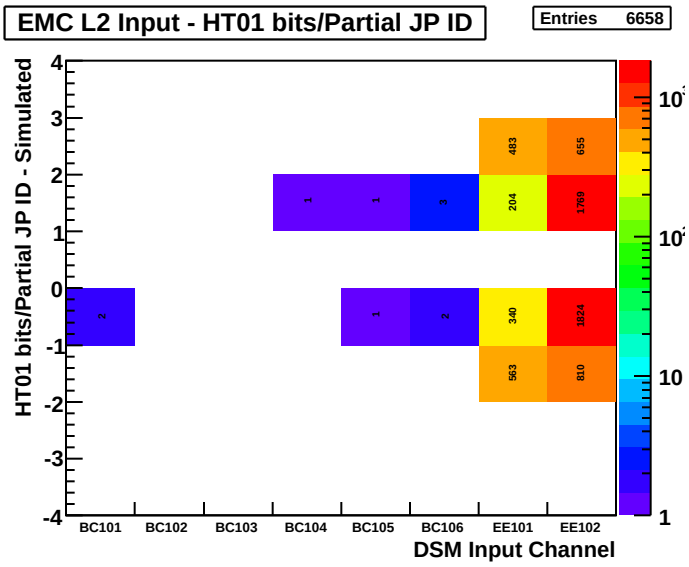

EMC L2 Input - JPZ/JPC bits
Entries 4358880
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
544860

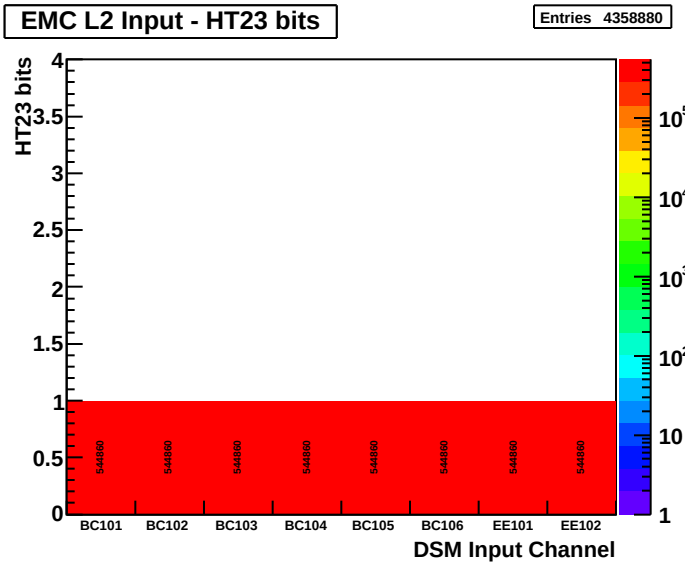

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

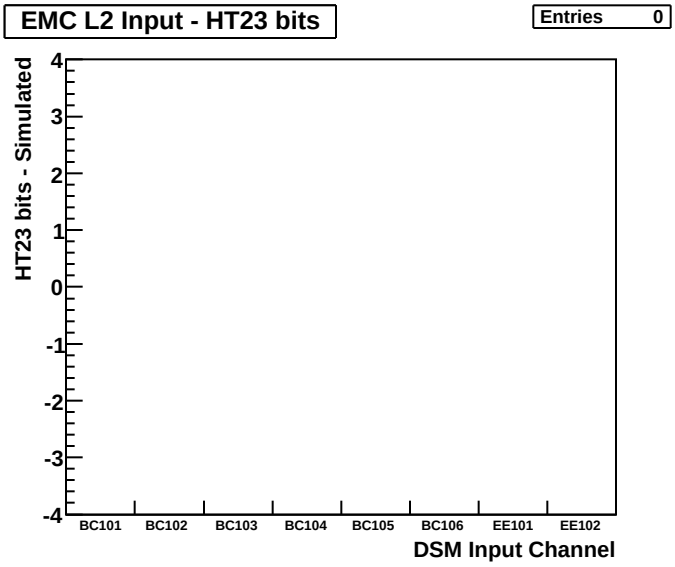

EMC L2 Input - Partial JP Sum
Entries 4358880
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

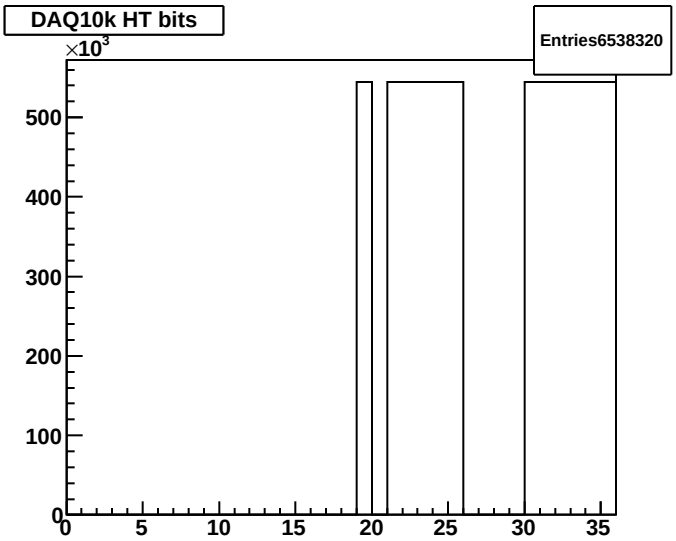

EMC L2 Input - Partial JP Sum
Entries 465486
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

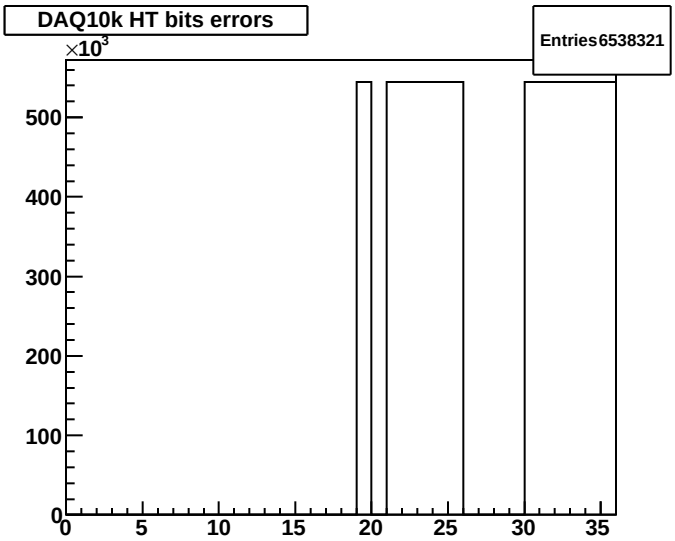

EMC L2 Input - HT01 bits/Partial JP ID
Entries 4358880
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

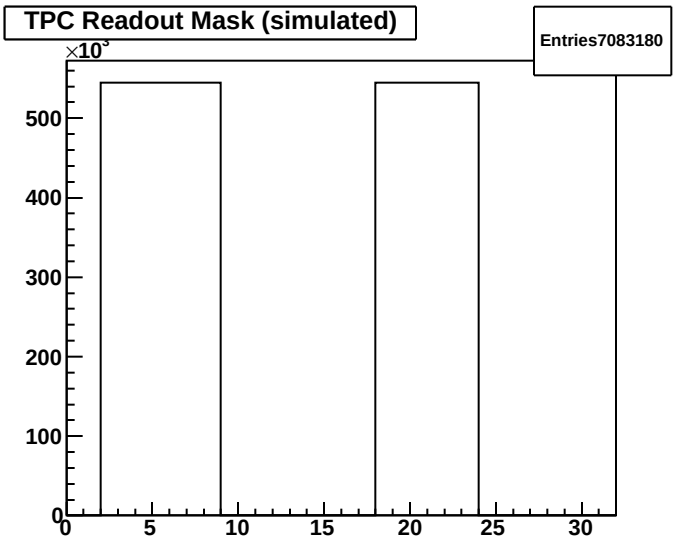

EMC L2 Input - HT01 bits/Partial JP ID
Entries 6658
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

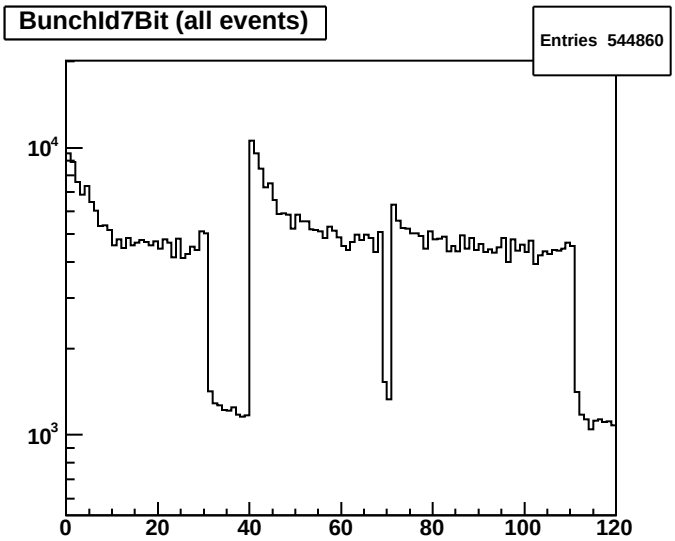

EMC L2 Input - HT23 bits
Entries 4358880
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

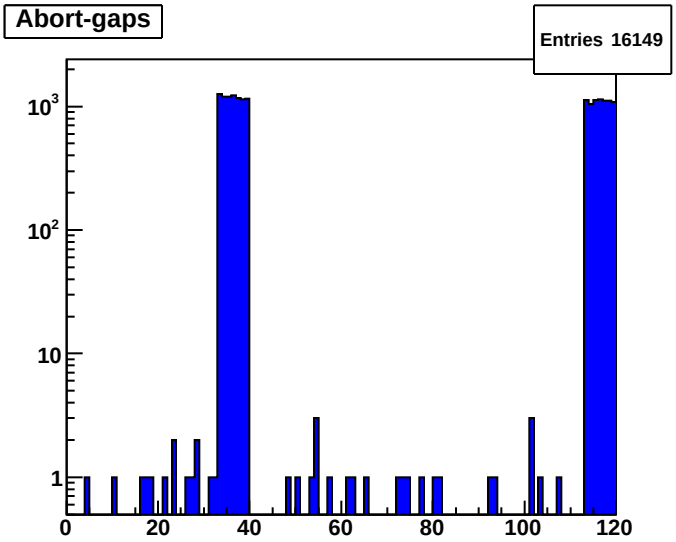

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

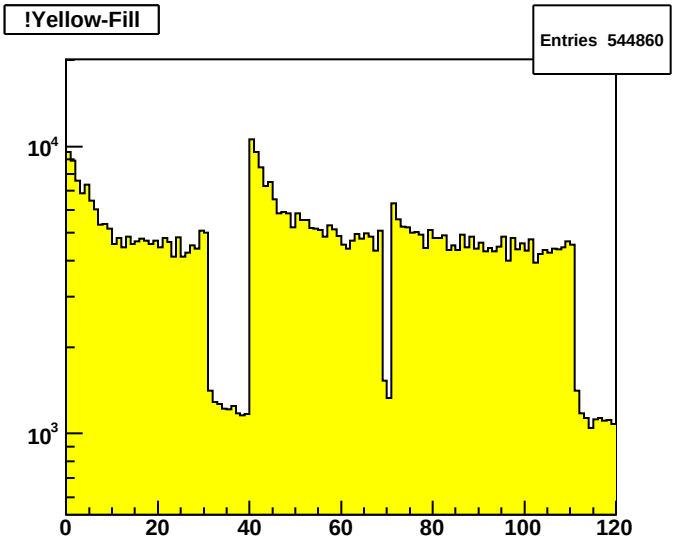

DAQ10k HT bits
Entries6538320
×10^3
500
400
300
200
100
0
0 5 10 15 20 25 30 35

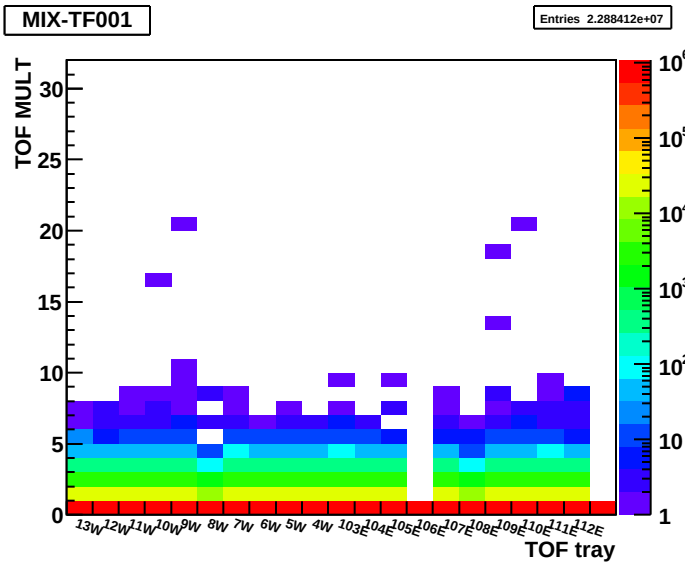

DAQ10k HT bits errors
Entries6538321
×10^3
500
400
300
200
100
0
0 5 10 15 20 25 30 35

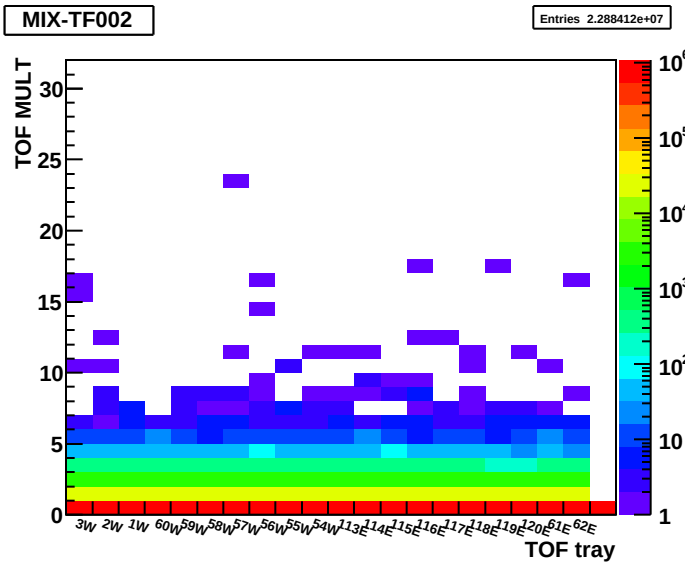

TPC Readout Mask (simulated)
Entries7083180
×10^3
500
400
300
200
100
0
0 5 10 15 20 25 30

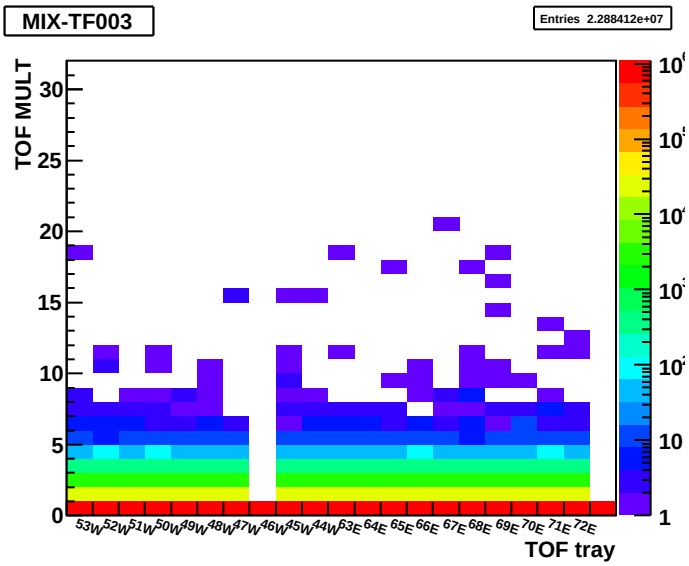

BunchId7Bit (all events)
Entries 544860
10^4
10^3
0 20 40 60 80 100 120

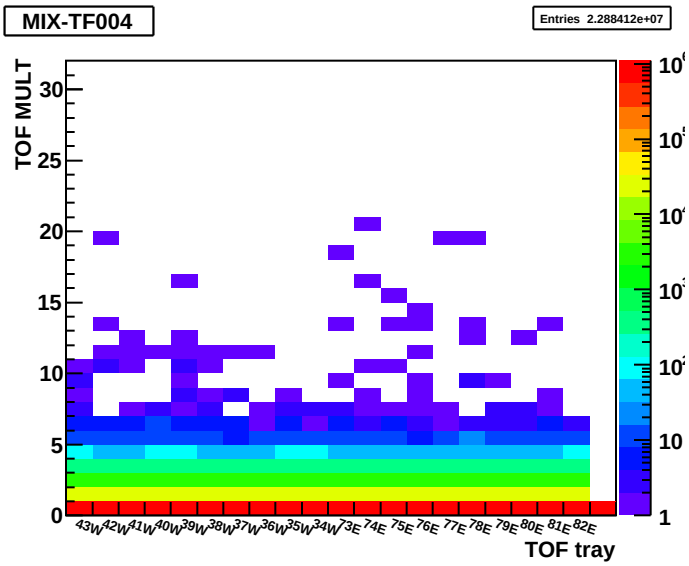

Abort-gaps
Entries 16149
10^3
10^2
10
1
0 20 40 60 80 100 120

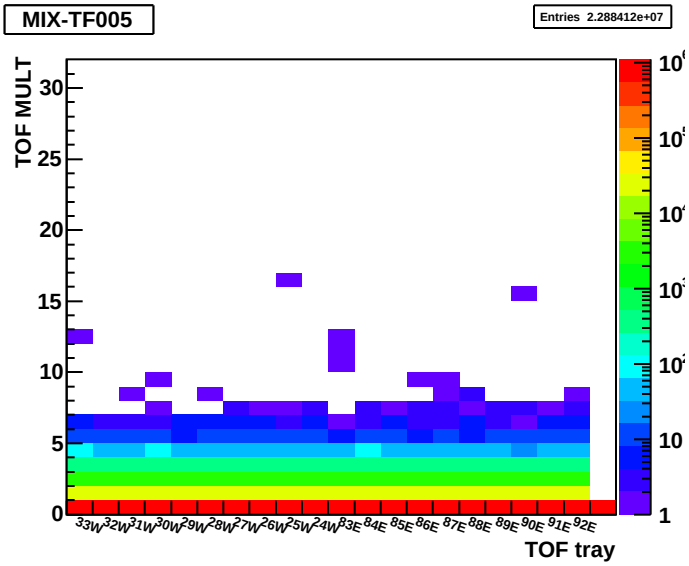

!Yellow-Fill
Entries 544860
10^4
10^3
0 20 40 60 80 100 120

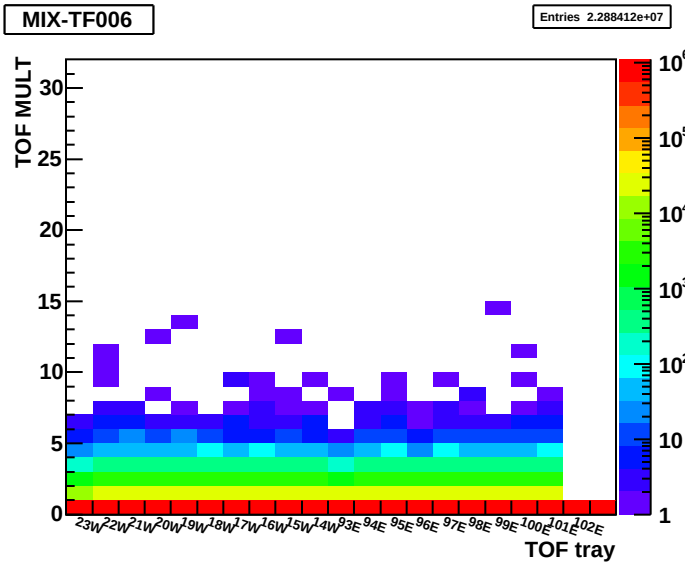

MIX-TF001
Entries 2.288412e+07
TOF MULT
TOF tray

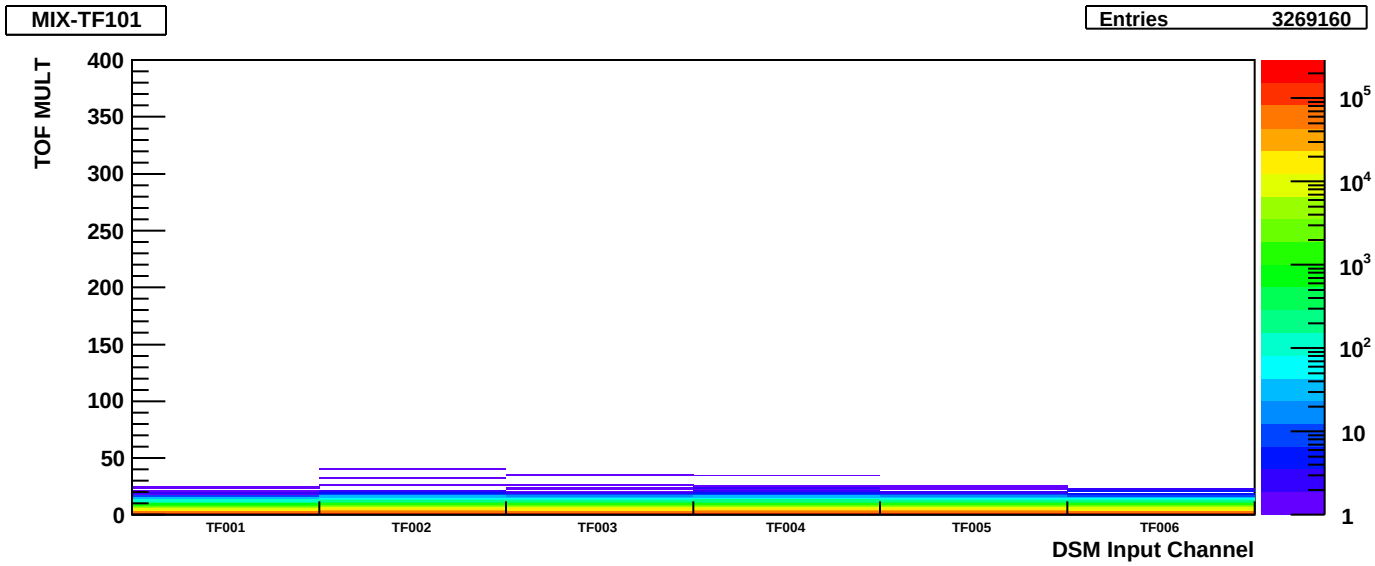

MIX-TF002
Entries 2.288412e+07
TOF MULT
TOF tray

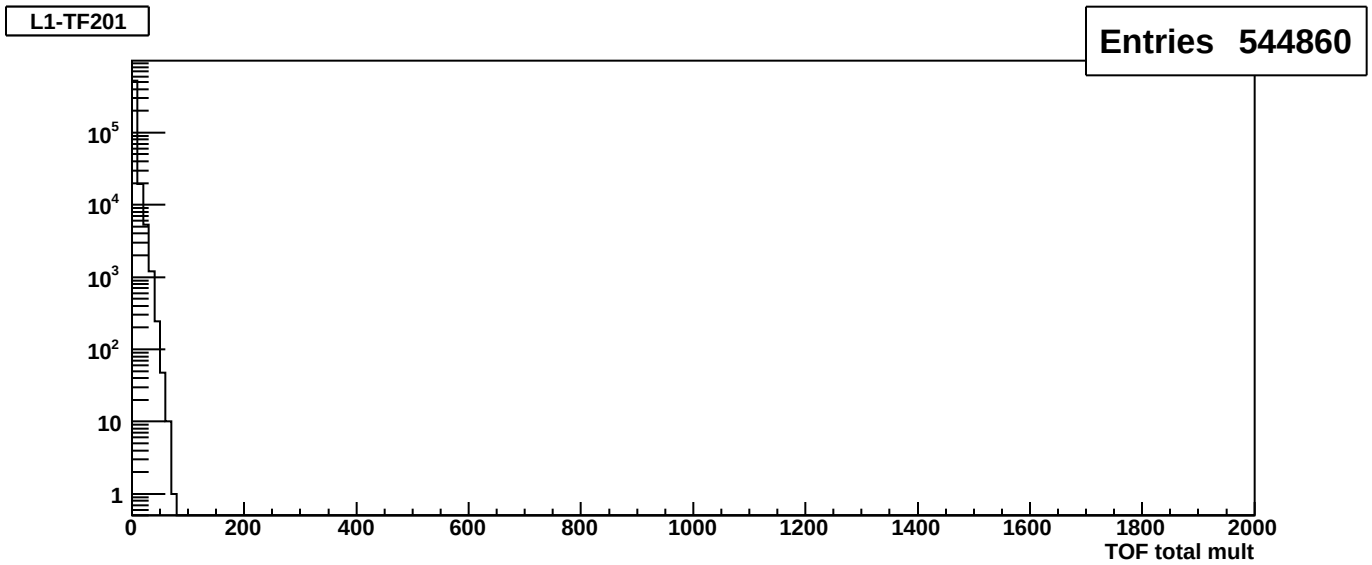

MIX-TF003
Entries 2.288412e+07
TOF MULT
TOF tray

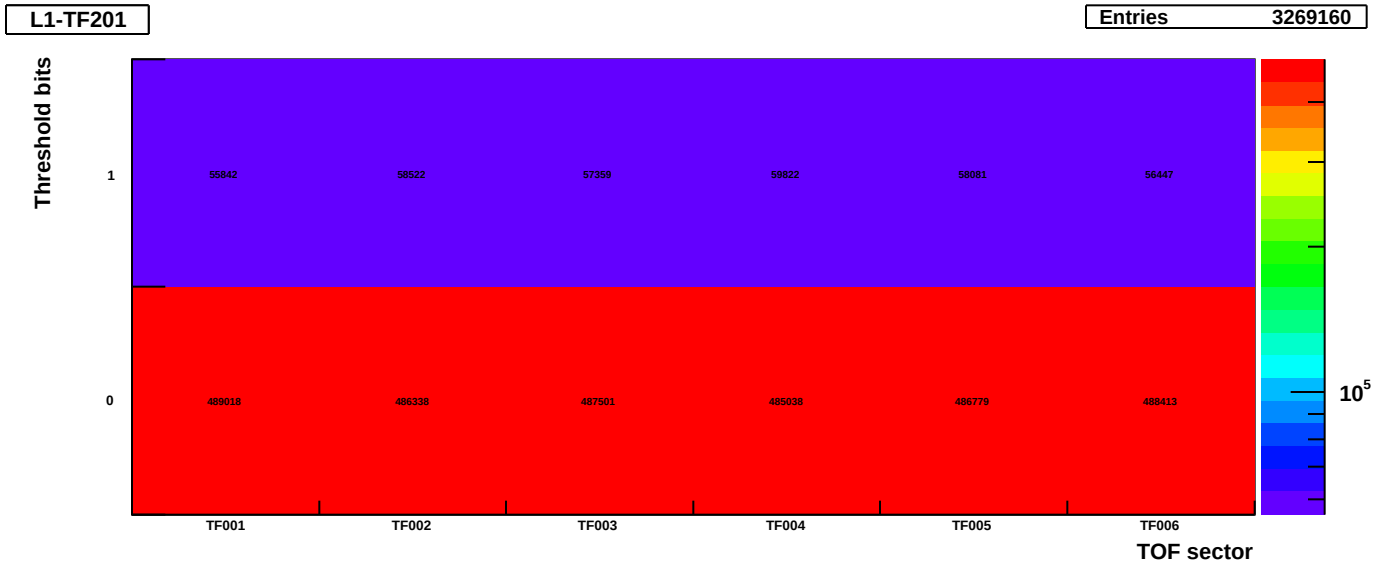

MIX-TF004
Entries 2.288412e+07
TOF MULT
TOF tray

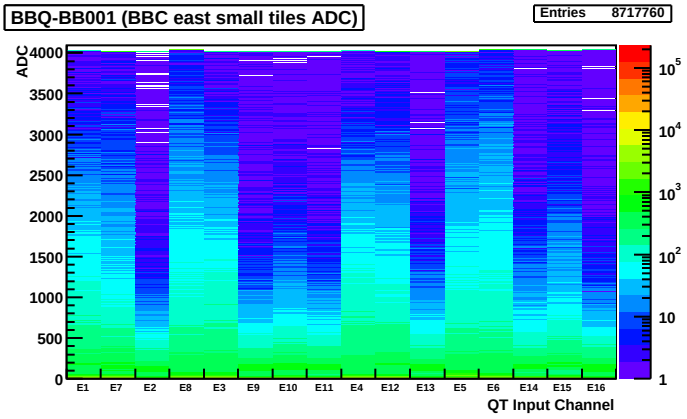

MIX-TF005
Entries 2.288412e+07
TOF MULT
TOF tray

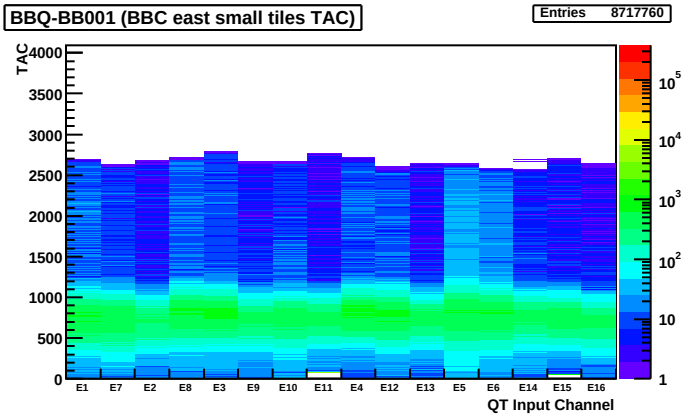

MIX-TF006
Entries 2.288412e+07
TOF MULT
TOF tray

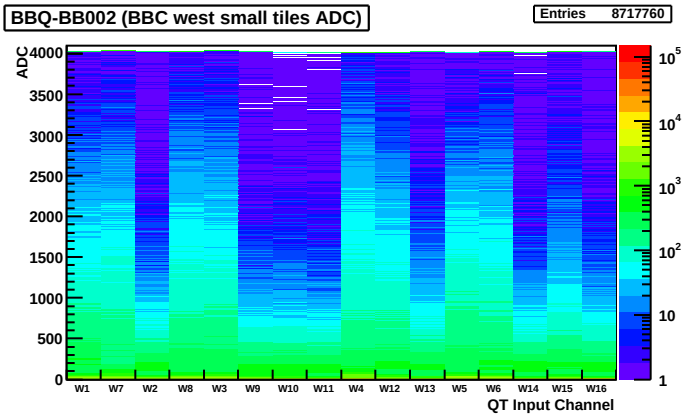

MIX-TF101
Entries 3269160
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

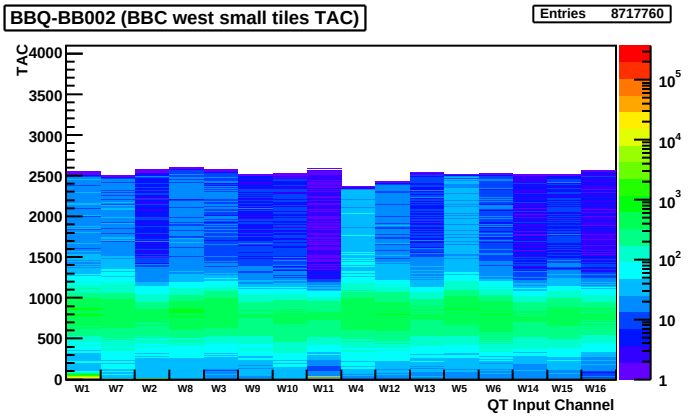

L1-TF201
Entries 544860
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

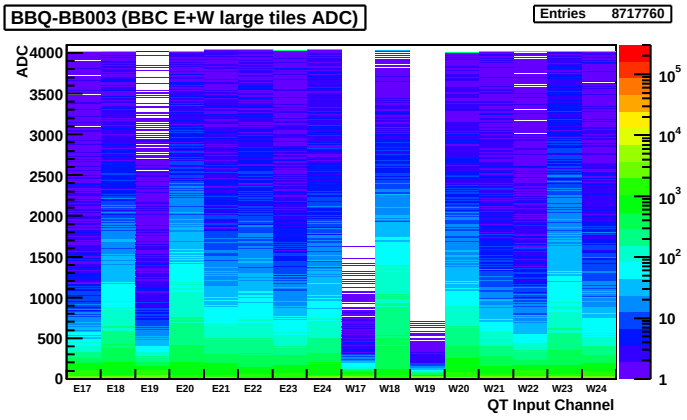

L1-TF201
Entries 3269160
Threshold bits
1
0
55842
58522
57359
59822
58081
56447
489018
486338
487501
485038
486779
488413
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5

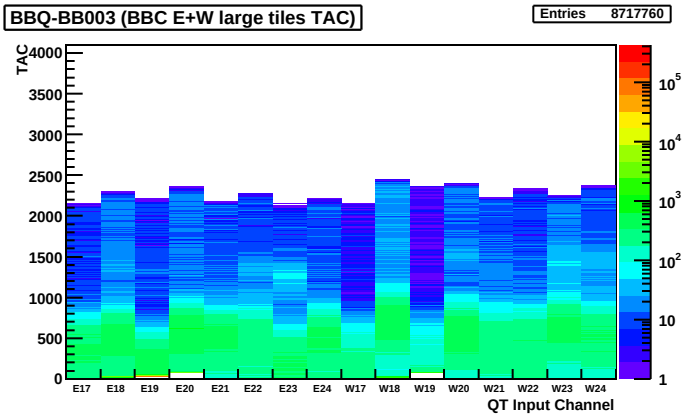

BBQ-BB001 (BBC east small tiles ADC)
Entries 8717760
ADC
QT Input Channel

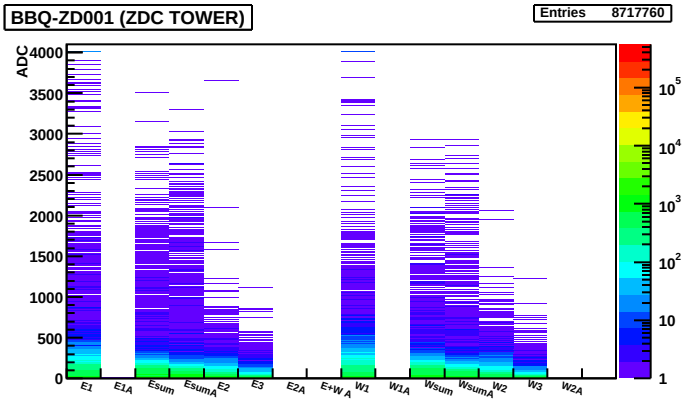

BBQ-BB001 (BBC east small tiles TAC)
Entries 8717760
TAC
QT Input Channel

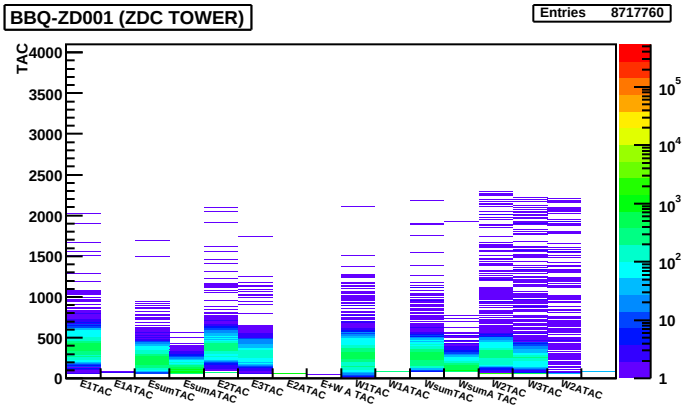

BBQ-BB002 (BBC west small tiles ADC)
Entries 8717760
ADC
QT Input Channel

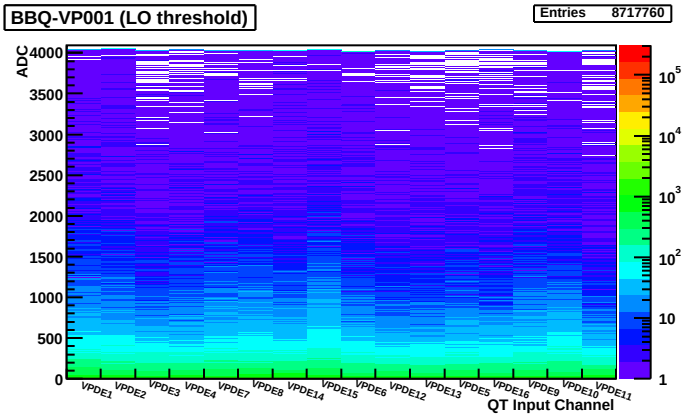

BBQ-BB002 (BBC west small tiles TAC)
Entries 8717760
TAC
QT Input Channel

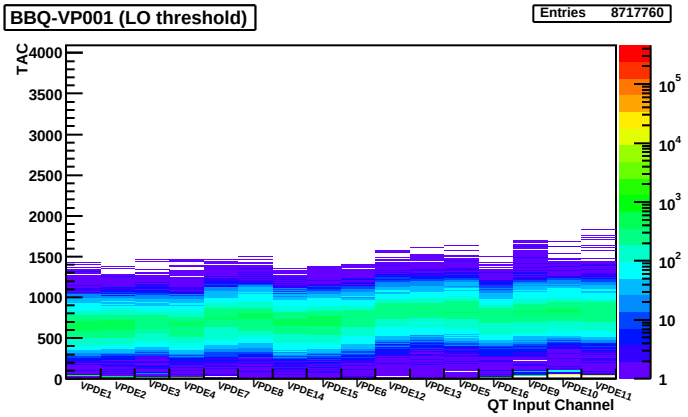

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 8717760
ADC
QT Input Channel

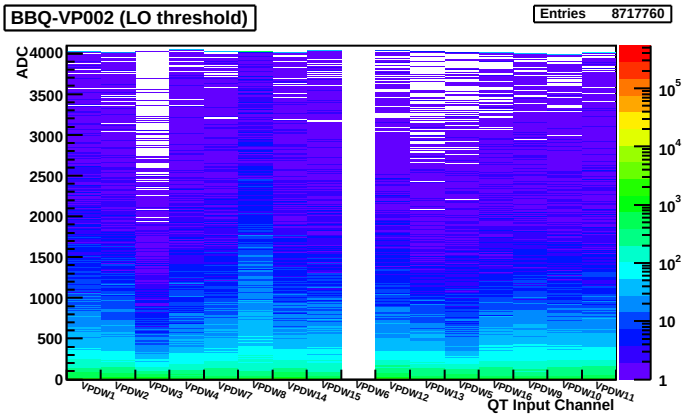

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 8717760
TAC
QT Input Channel

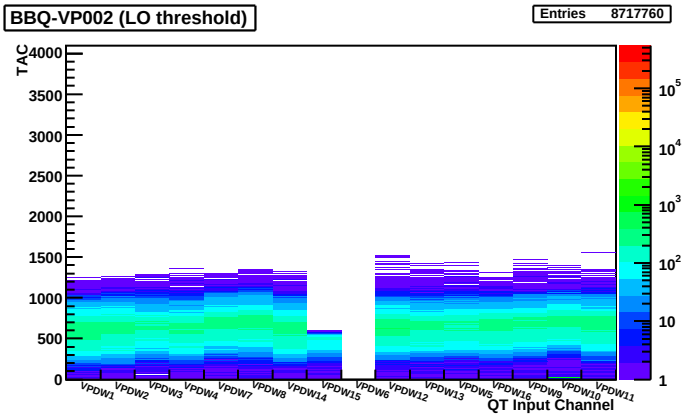

BBQ-ZD001 (ZDC TOWER)
Entries 8717760
ADC

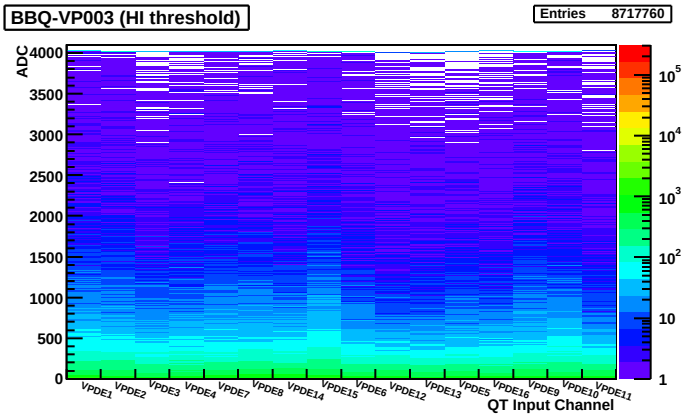

BBQ-ZD001 (ZDC TOWER)
Entries 8717760
TAC

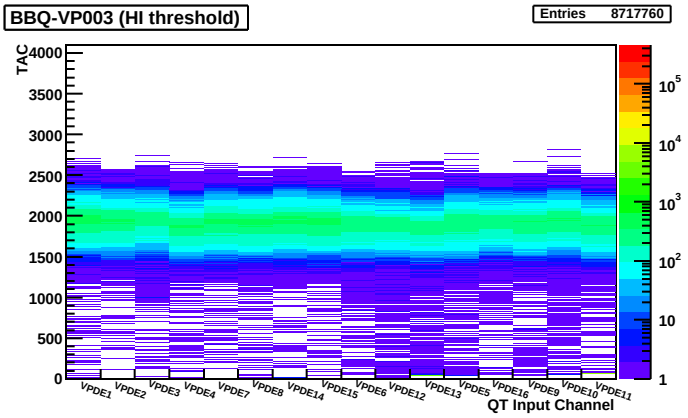

BBQ-VP001 (LO threshold)
Entries 8717760
ADC
QT Input Channel

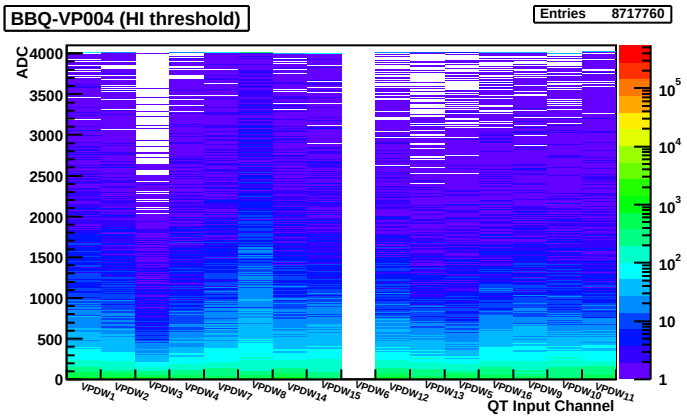

BBQ-VP001 (LO threshold)
Entries 8717760
TAC
QT Input Channel

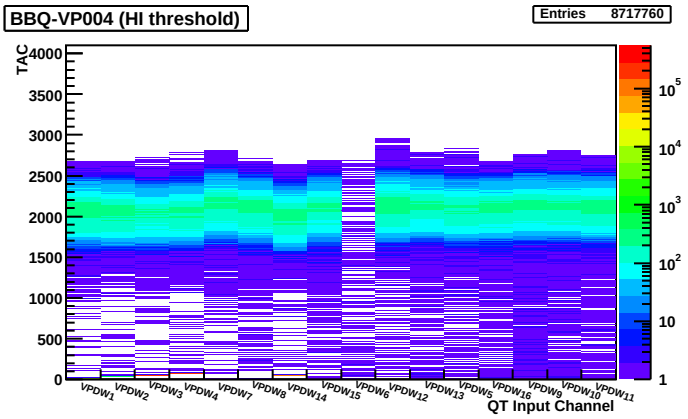

BBQ-VP002 (LO threshold)
Entries 8717760
ADC
QT Input Channel

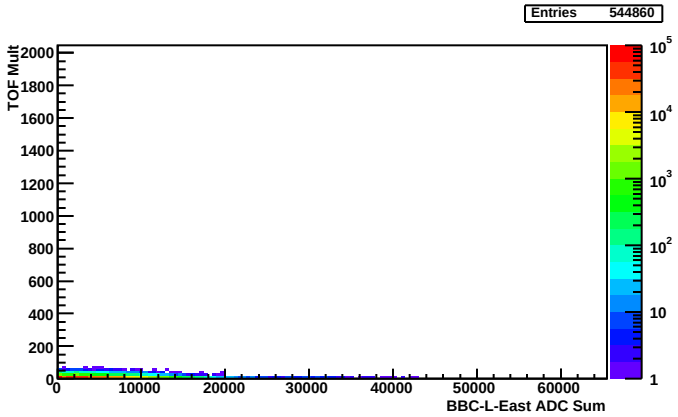

BBQ-VP002 (LO threshold)
Entries 8717760
TAC
QT Input Channel

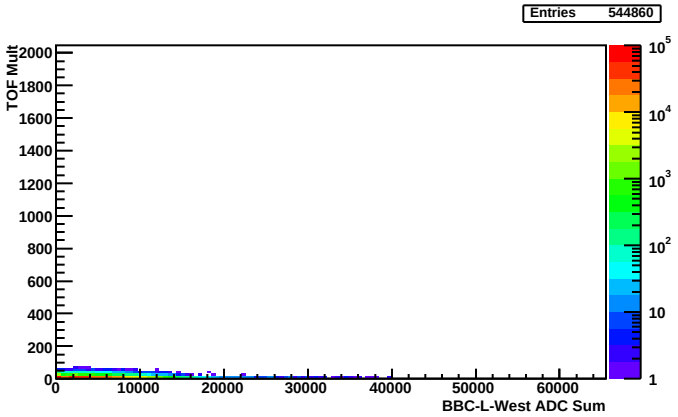

BBQ-VP003 (HI threshold)
Entries 8717760
ADC
QT Input Channel

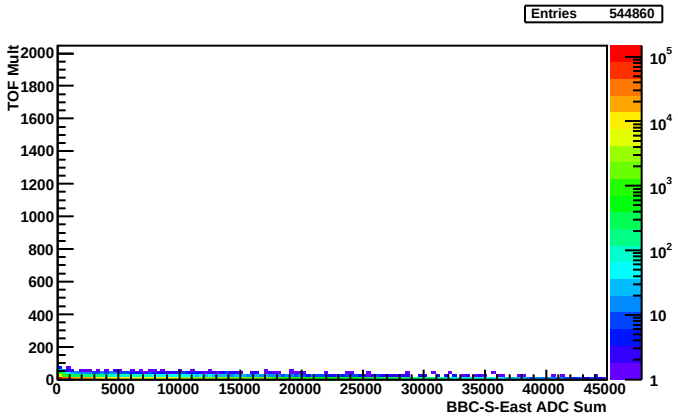

BBQ-VP003 (HI threshold)
Entries 8717760
TAC
QT Input Channel

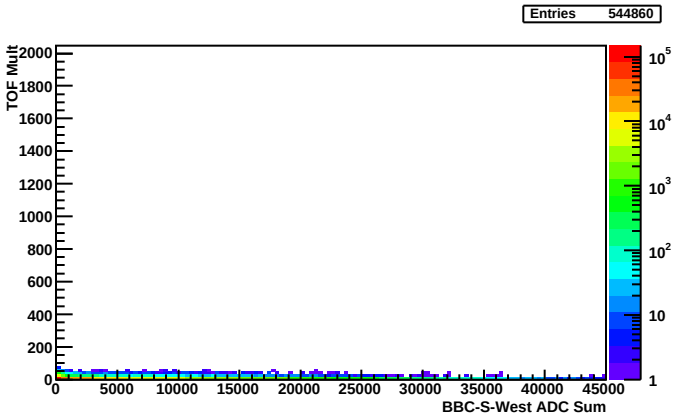

BBQ-VP004 (HI threshold)
Entries 8717760
ADC
QT Input Channel

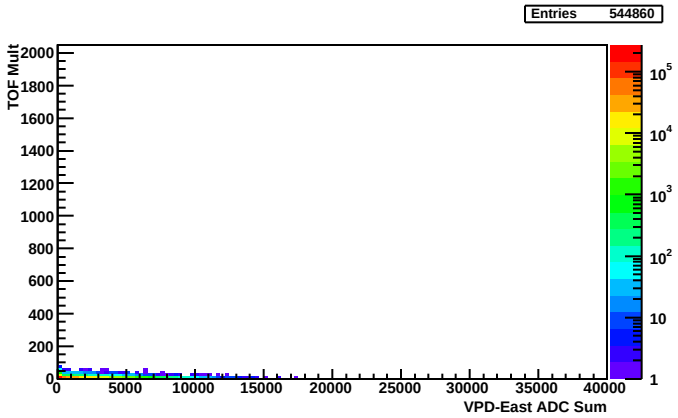

BBQ-VP004 (HI threshold)
Entries 8717760
TAC
QT Input Channel

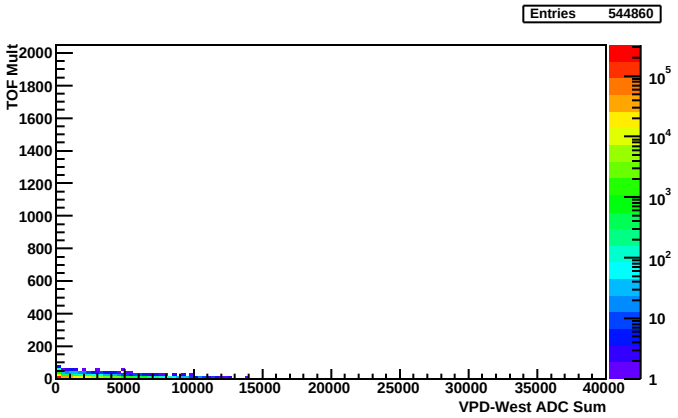

Entries 544860
TOF Mult
BBC-L-East ADC Sum

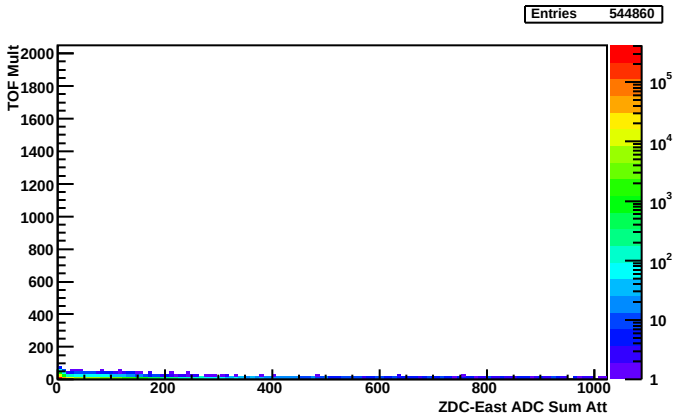

Entries 544860
TOF Mult
BBC-L-West ADC Sum

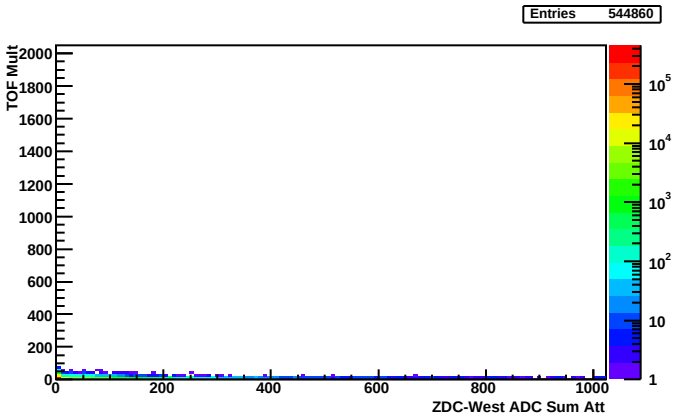

Entries 544860
TOF Mult
BBC-S-East ADC Sum

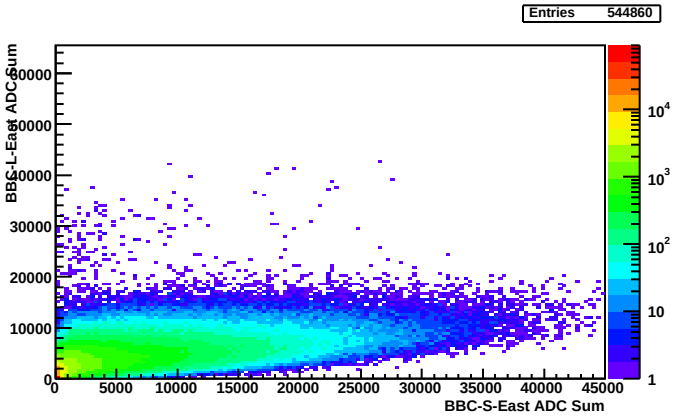

Entries 544860
TOF Mult
BBC-S-West ADC Sum

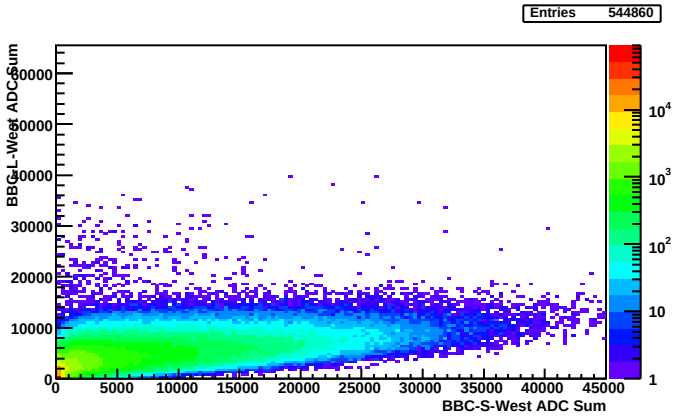

Entries 544860
TOF Mult
VPD-East ADC Sum

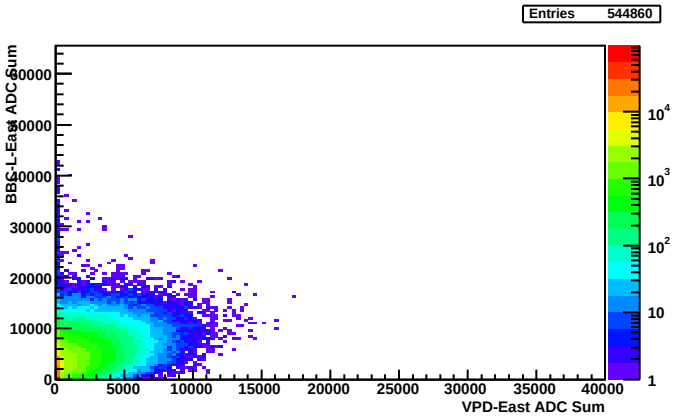

Entries 544860
TOF Mult
VPD-West ADC Sum

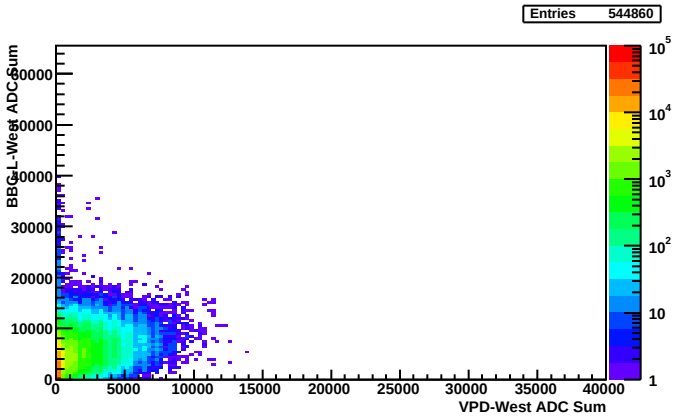

Entries 544860
TOF Mult
ZDC-East ADC Sum Att

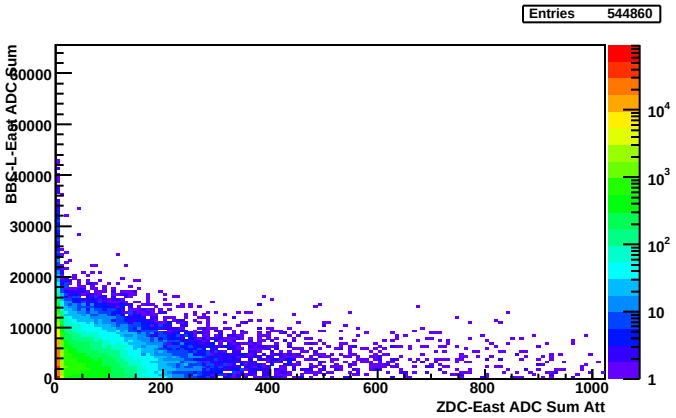

Entries 544860
TOF Mult
ZDC-West ADC Sum Att

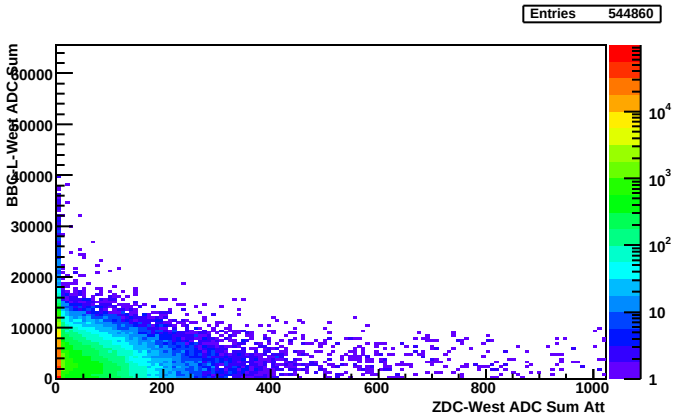

Entries 544860
BBC-L-East ADC Sum
BBC-S-East ADC Sum

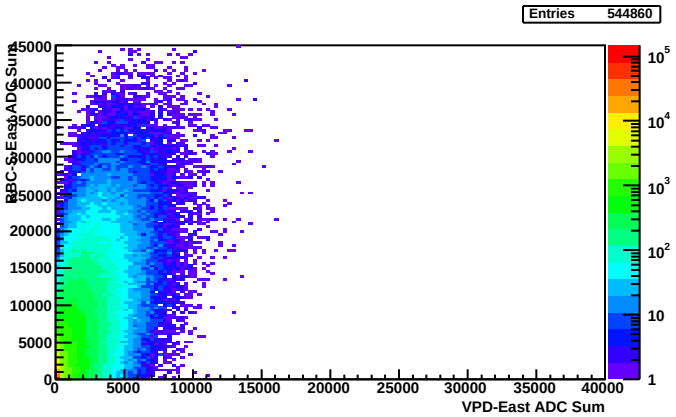

Entries 544860
BBC-L-West ADC Sum
BBC-S-West ADC Sum

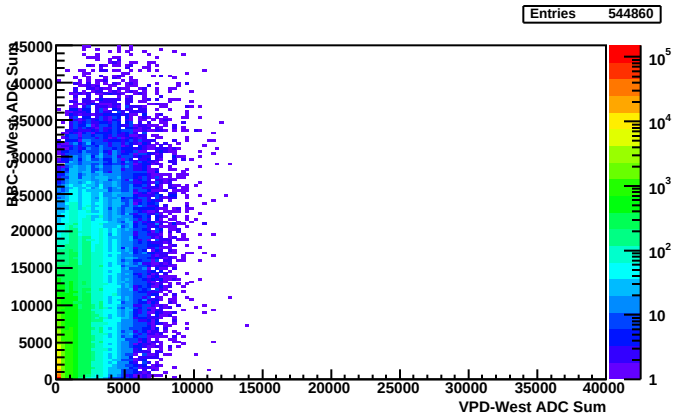

Entries 544860
BBC-L-East ADC Sum
VPD-East ADC Sum

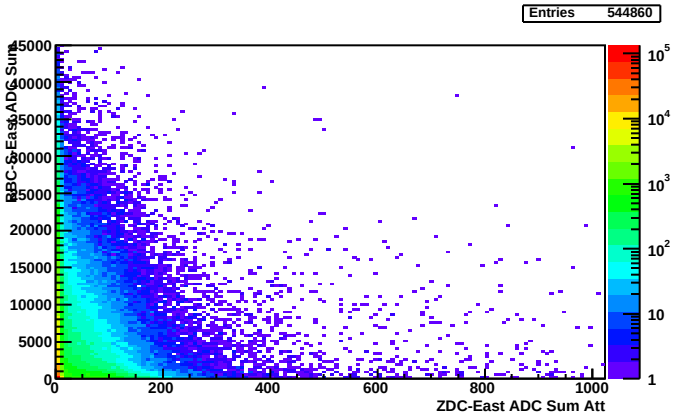

Entries 544860
BBC-L-West ADC Sum
VPD-West ADC Sum

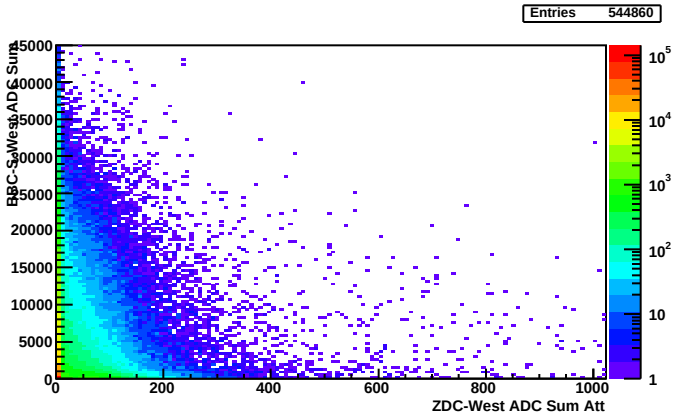

Entries 544860
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

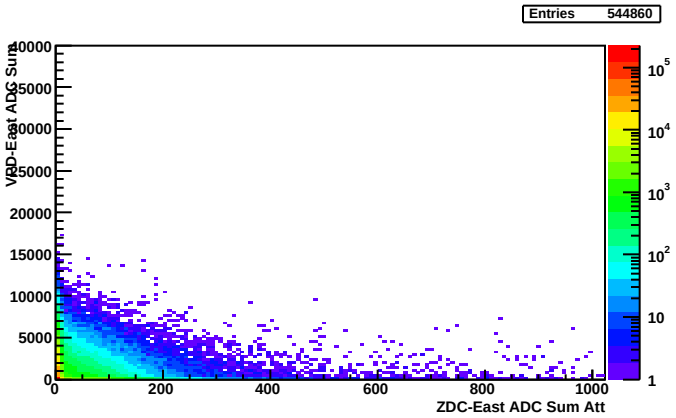

Entries 544860
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

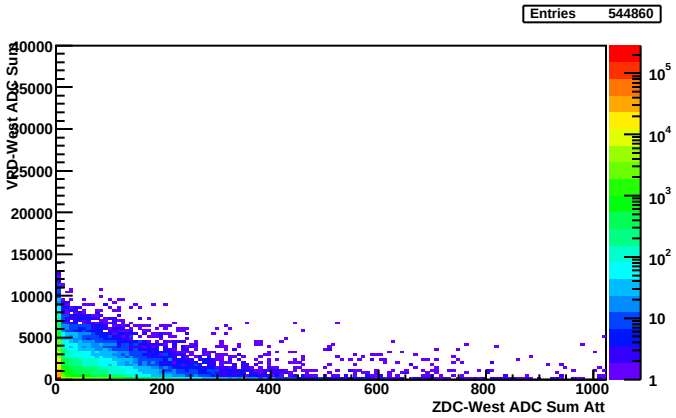

Entries 544860
BBC-S-East ADC Sum
VPD-East ADC Sum

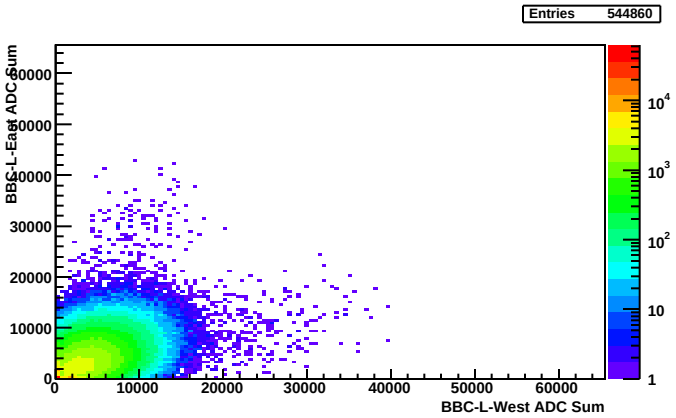

Entries 544860
BBC-S-West ADC Sum
VPD-West ADC Sum

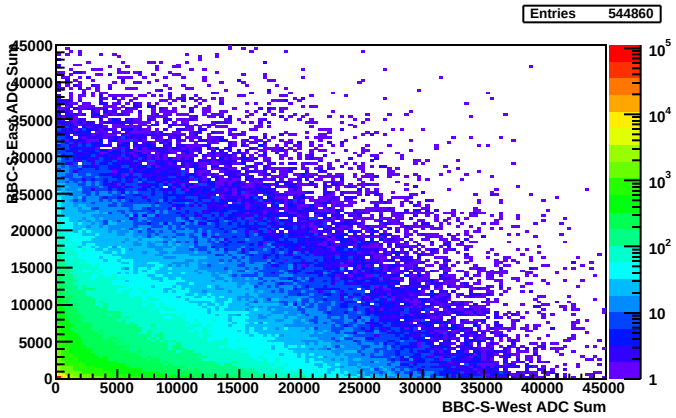

Entries 544860
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

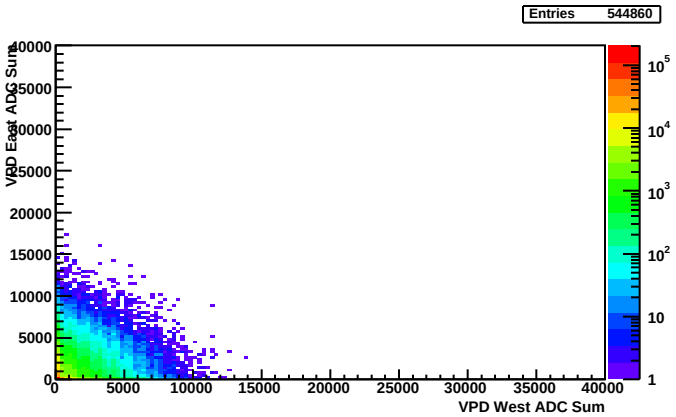

Entries 544860
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

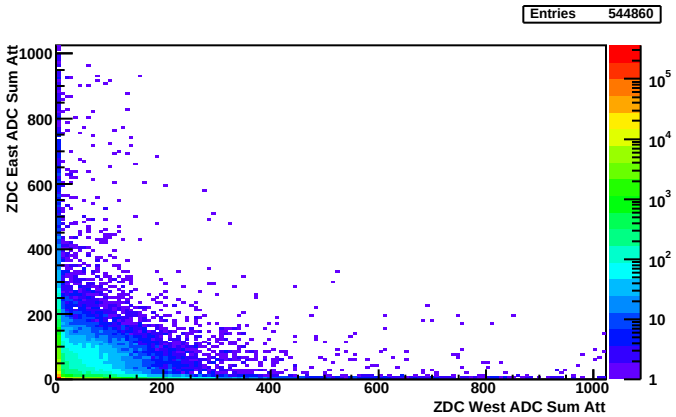

Entries 544860
VPD-East ADC Sum
ZDC-East ADC Sum Att

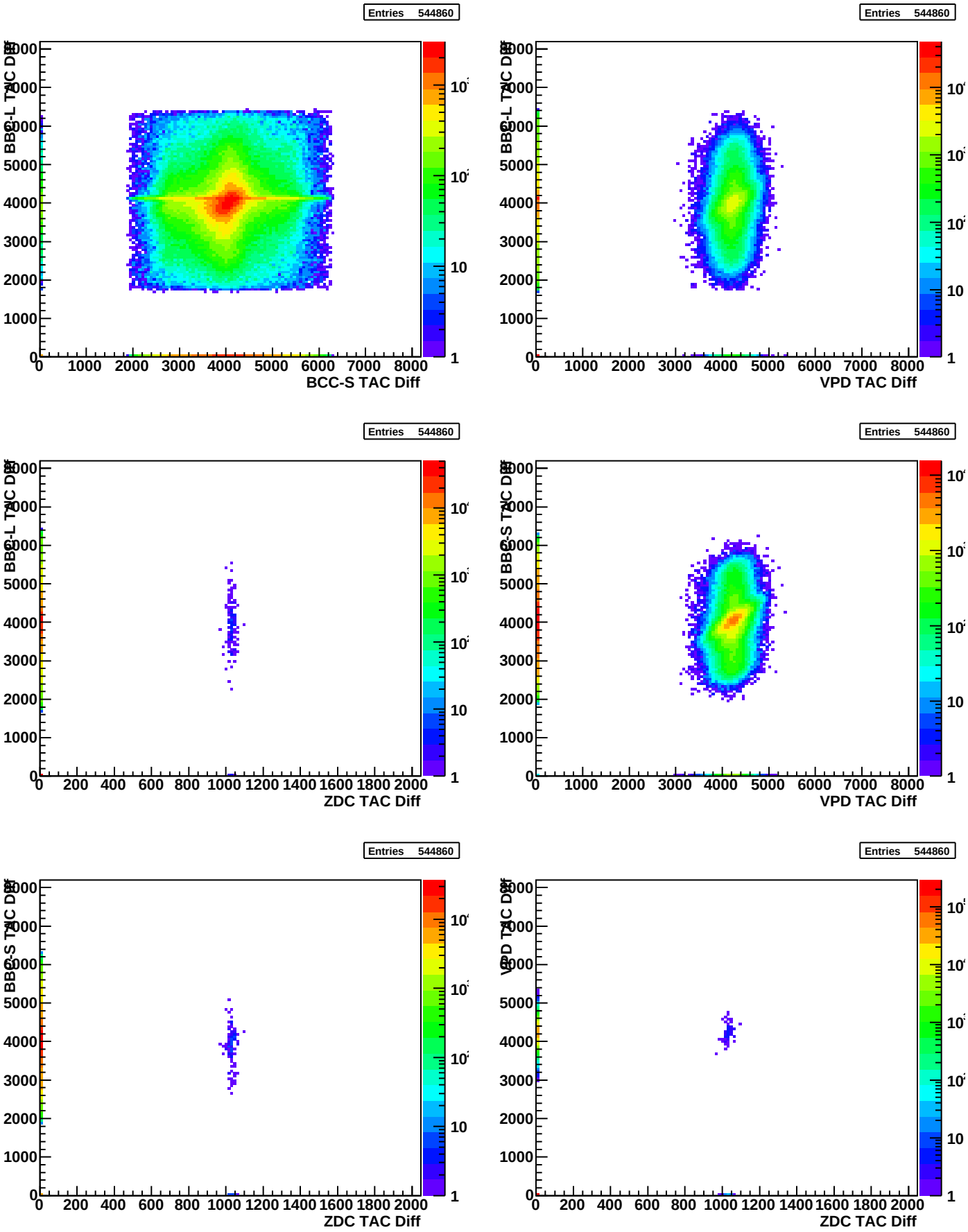

Entries 544860
VPD-West ADC Sum
ZDC-West ADC Sum Att

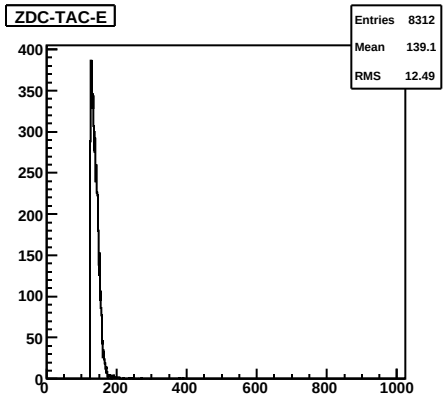

Entries 544860
BBC-L-East ADC Sum
BBC-L-West ADC Sum

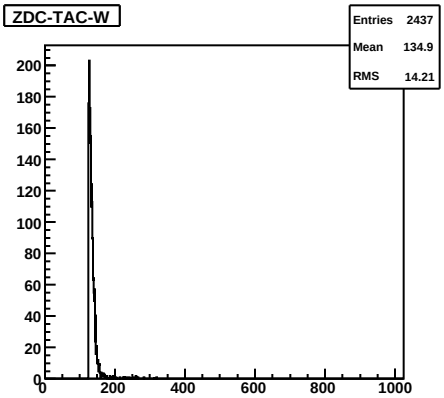

Entries 544860
BBC-S-East ADC Sum
BBC-S-West ADC Sum

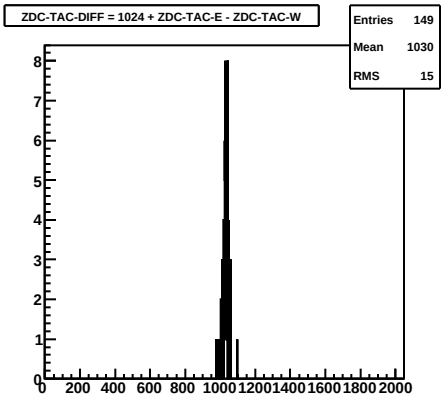

Entries 544860
VPD East ADC Sum
VPD West ADC Sum

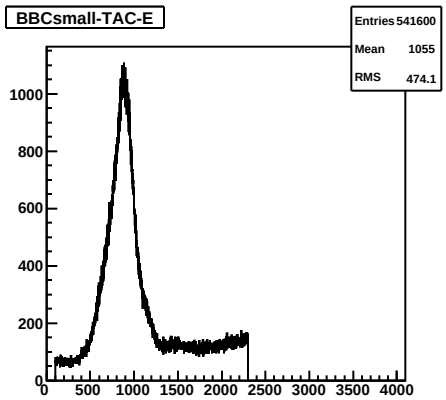

Entries 544860
ZDC East ADC Sum Att
ZDC West ADC Sum Att

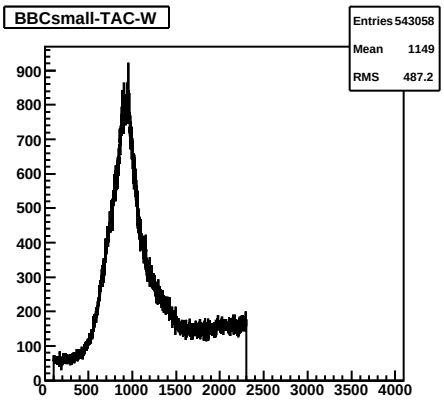

Entries 544860
BBC-L TAC Diff
BCC-S TAC Diff
Entries 544860
BBC-L TAC Diff
VPD TAC Diff
Entries 544860
BBC-L TAC Diff
ZDC TAC Diff
Entries 544860
BBC-S TAC Diff
VPD TAC Diff
Entries 544860
BBC-S TAC Diff
ZDC TAC Diff
Entries 544860
VPD TAC Diff
ZDC TAC Diff

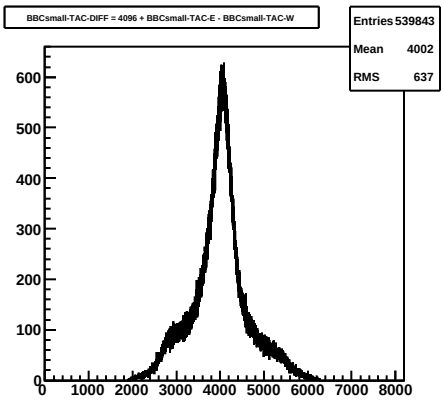

ZDC-TAC-E
Entries 8312
Mean 139.1
RMS 12.49

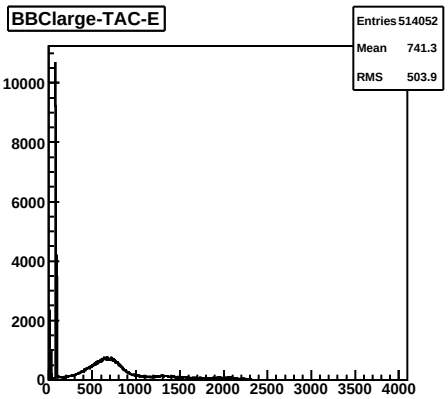

ZDC-TAC-W
Entries 2437
Mean 134.9
RMS 14.21

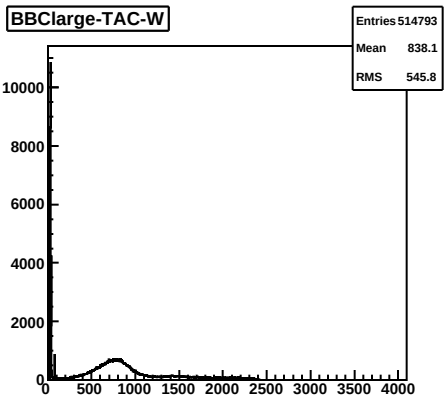

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 149
Mean 1030
RMS 15

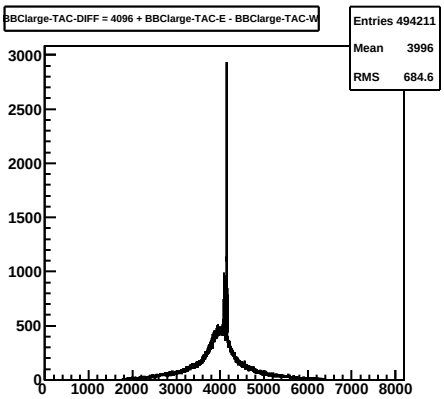

BBCsmall-TAC-E
Entries 541600
Mean 1055
RMS 474.1

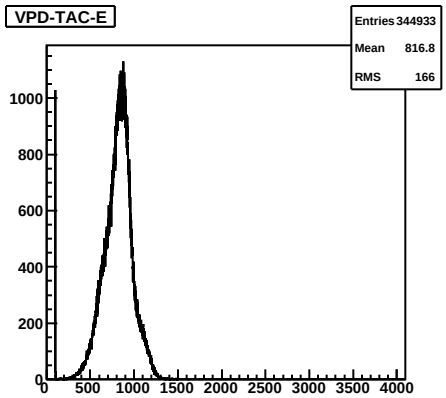

BBCsmall-TAC-W
Entries 543058
Mean 1149
RMS 487.2

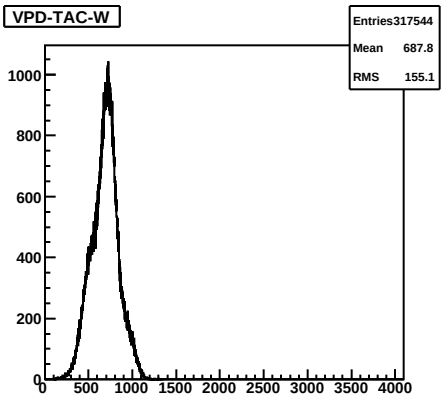

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 539843
Mean 4002
RMS 637

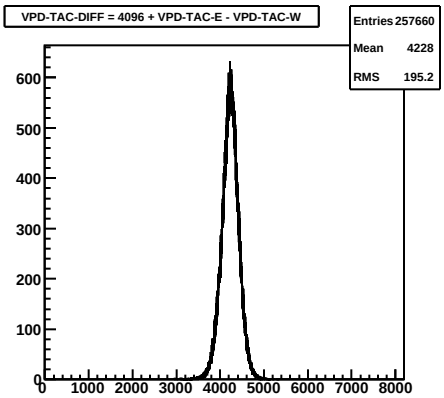

BBClarge-TAC-E
Entries 514052
Mean 741.3
RMS 503.9

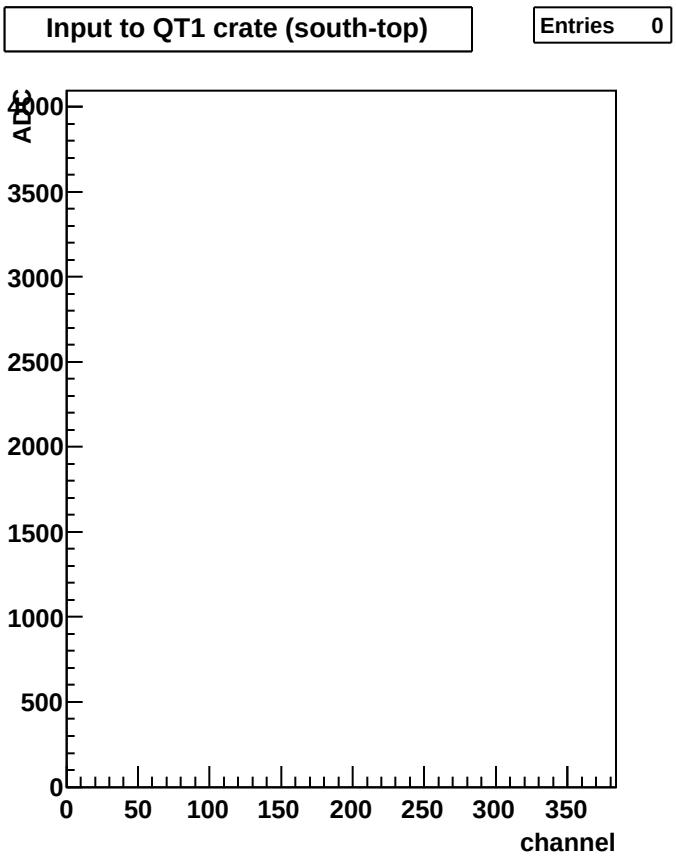

BBClarge-TAC-W
Entries 514793
Mean 838.1
RMS 545.8

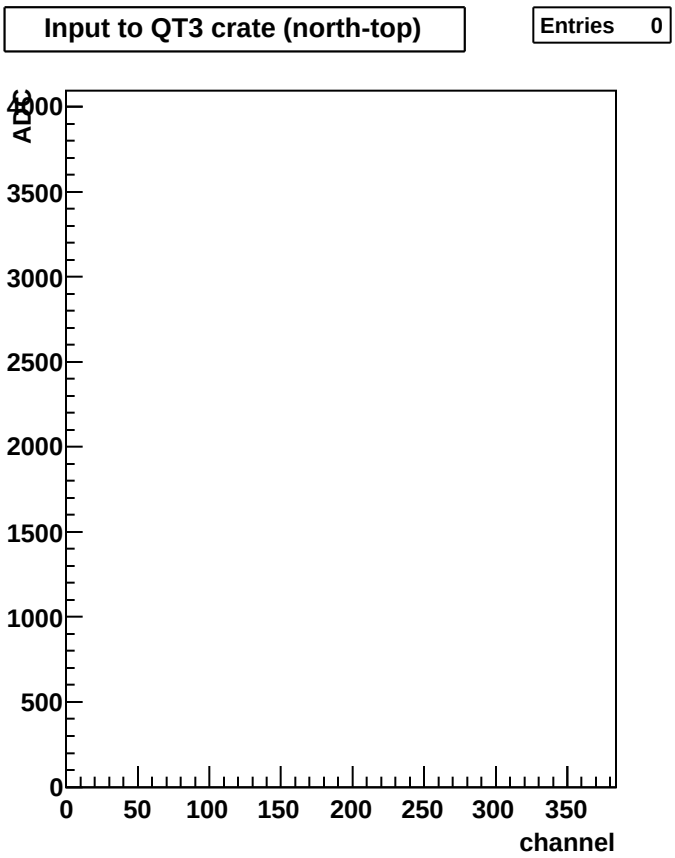

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 494211
Mean 3996
RMS 684.6

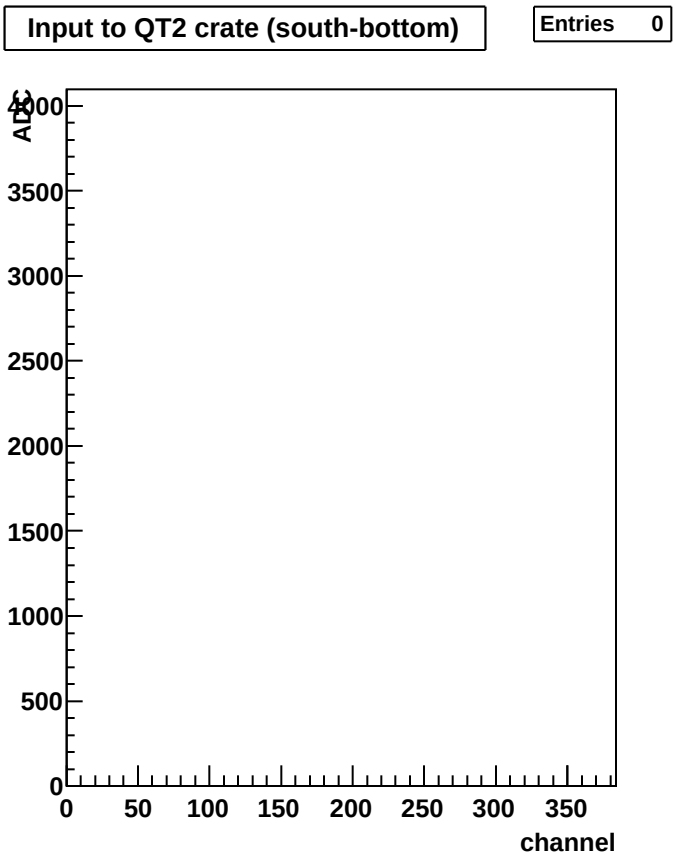

VPD-TAC-E
Entries 344933
Mean 816.8
RMS 166

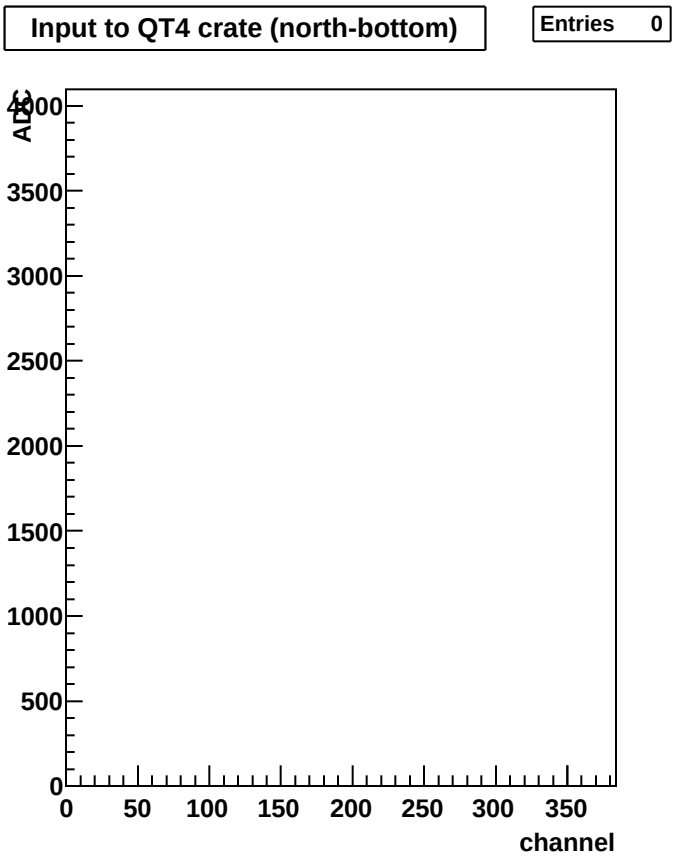

VPD-TAC-W
Entries 317544
Mean 687.8
RMS 155.1

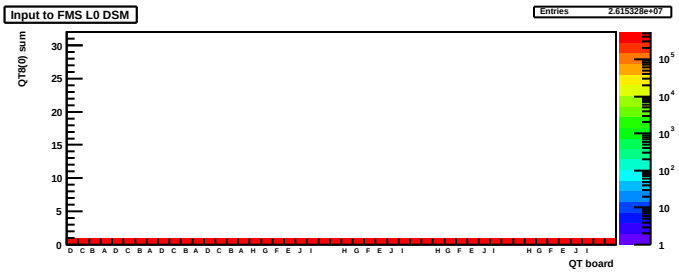

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 257660
Mean 4228
RMS 195.2

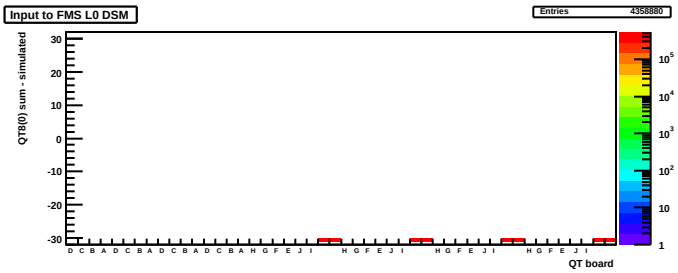

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

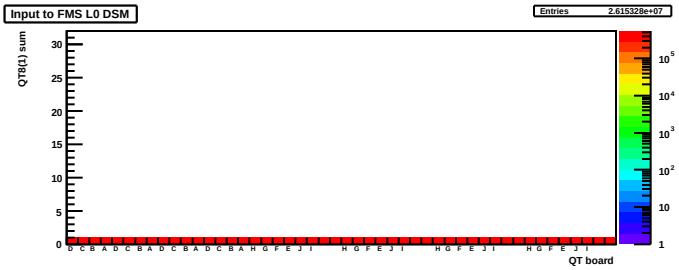

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

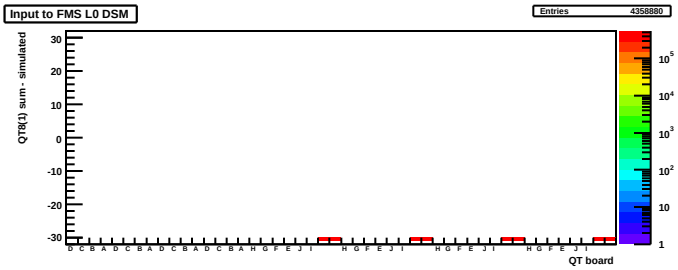

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

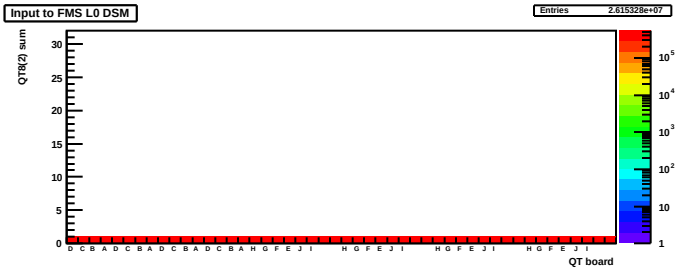

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

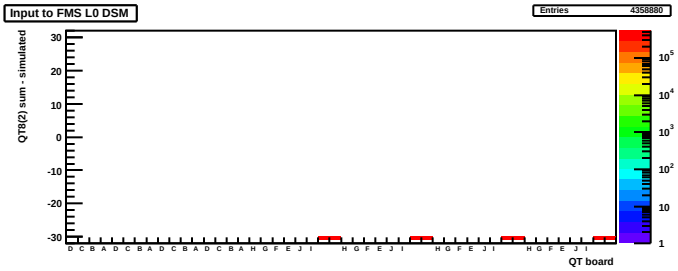

Input to FMS L0 DSM
Entries 2.615328e+07
QT8(0) sum
QT board

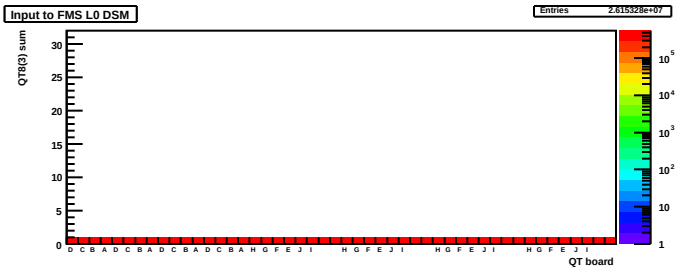

Input to FMS L0 DSM
Entries 4358880
QT8(0) sum - simulated
QT board

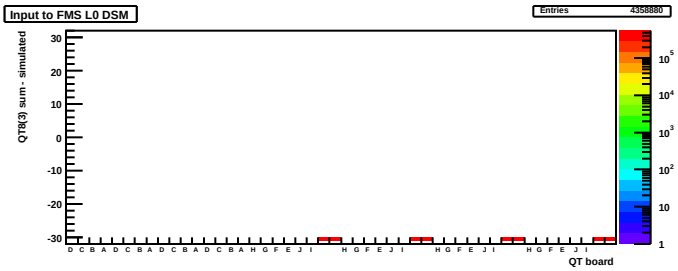

Input to FMS L0 DSM
Entries 2.615328e+07
QT8(1) sum
QT board

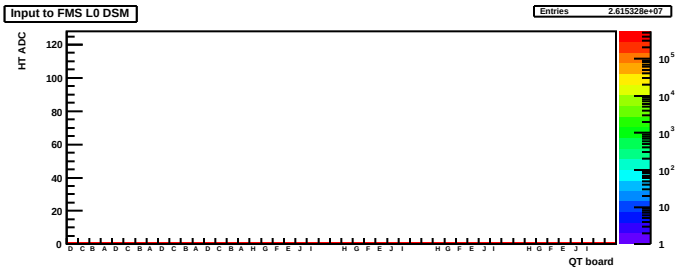

Input to FMS L0 DSM
Entries 4358880
QT8(1) sum - simulated
QT board

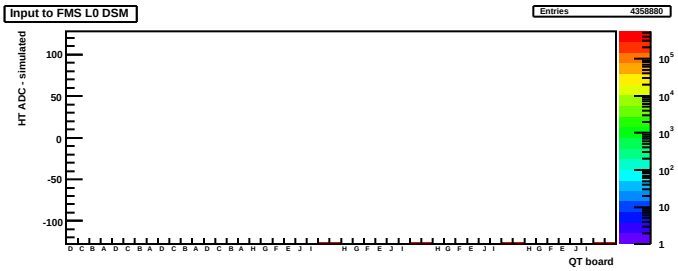

Input to FMS L0 DSM
Entries 2.615328e+07
QT8(2) sum
QT board

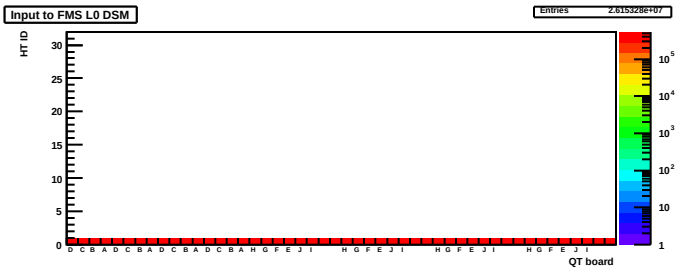

Input to FMS L0 DSM
Entries 4358880
QT8(2) sum - simulated
QT board

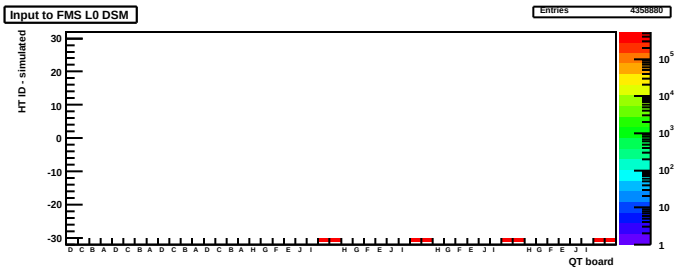

Input to FMS L0 DSM
Entries 2.615328e+07
QT8(3) sum
QT board

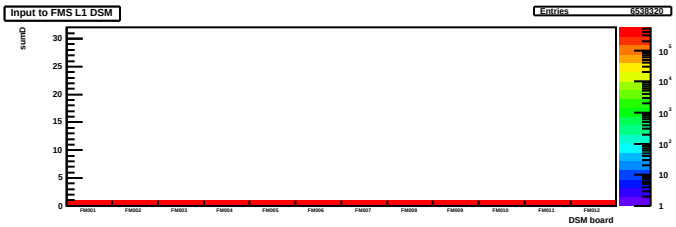

Input to FMS L0 DSM
Entries 4358880
QT8(3) sum - simulated
QT board

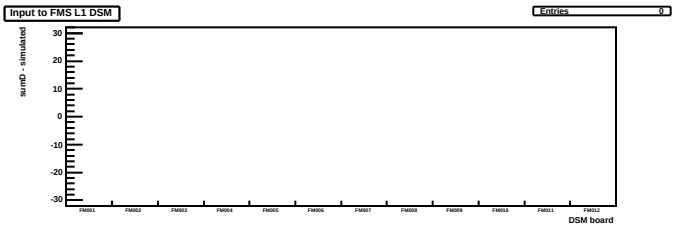

Input to FMS L0 DSM
Entries 2.615328e+07
HT ADC
QT board

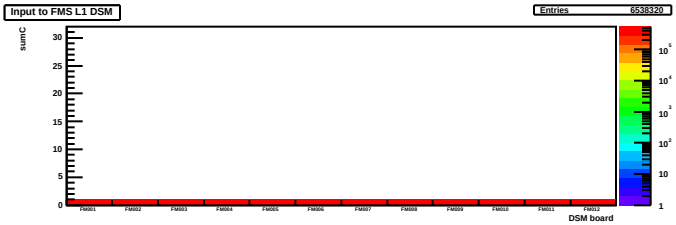

Input to FMS L0 DSM
Entries 4358880
HT ADC - simulated
QT board

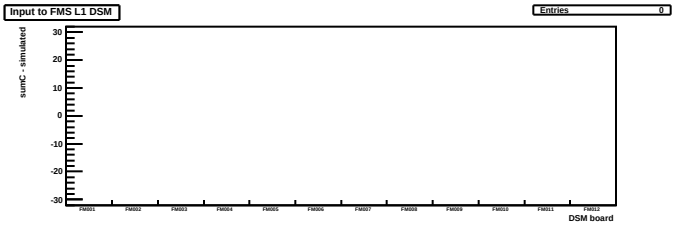

Input to FMS L0 DSM
Entries 2.615328e+07
HT ID
QT board

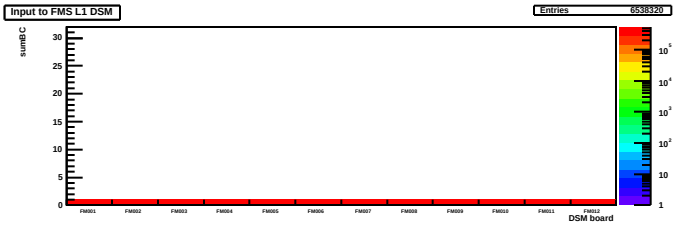

Input to FMS L0 DSM
Entries 4358880
HT ID - simulated
QT board

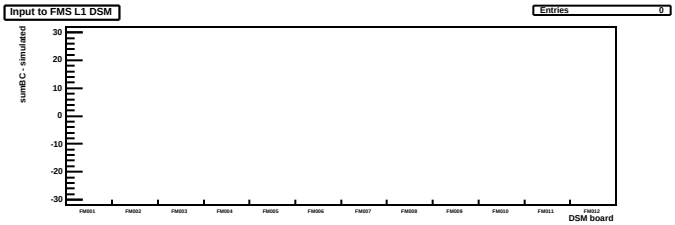

Input to FMS L1 DSM
Entries 6538320
sumD
DSM board

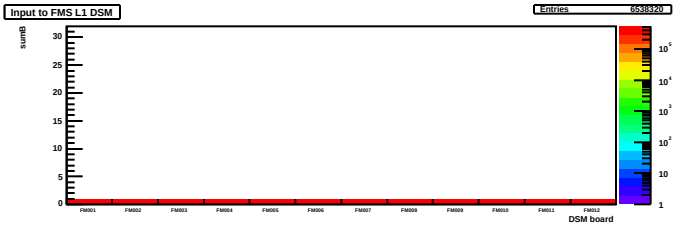

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

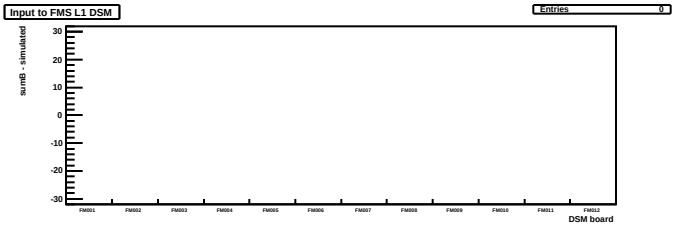

Input to FMS L1 DSM
Entries 6538320
sumC
DSM board

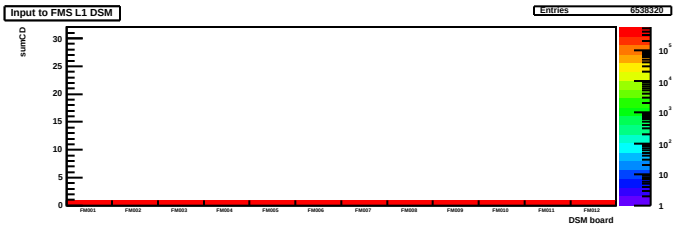

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

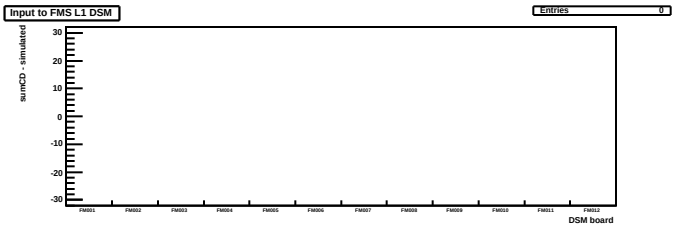

Input to FMS L1 DSM
Entries 6538320
sumBC
DSM board

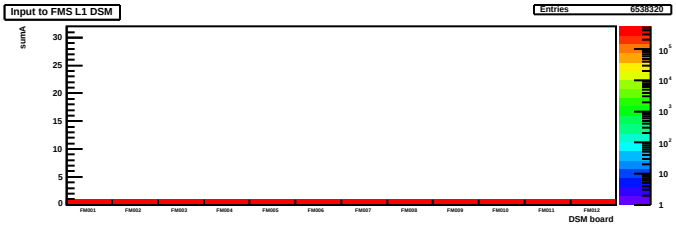

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

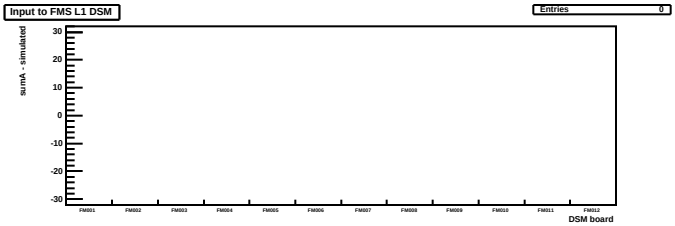

Input to FMS L1 DSM
Entries 6538320
sumB
DSM board

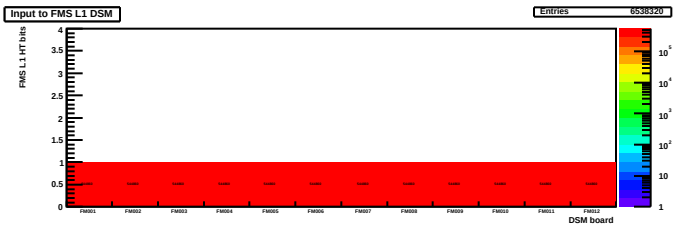

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

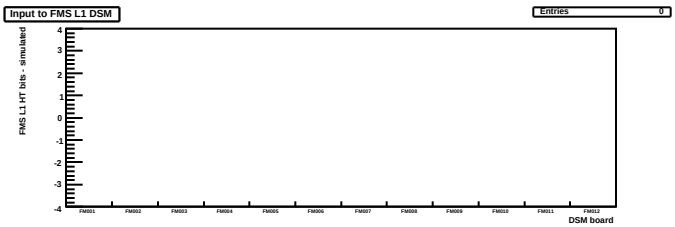

Input to FMS L1 DSM
Entries 6538320
sumCD
DSM board

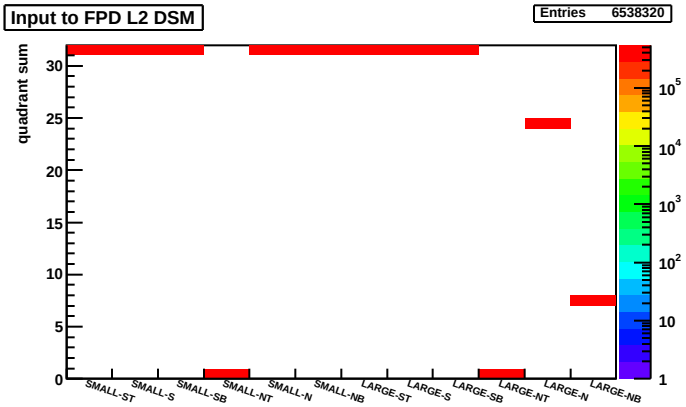

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

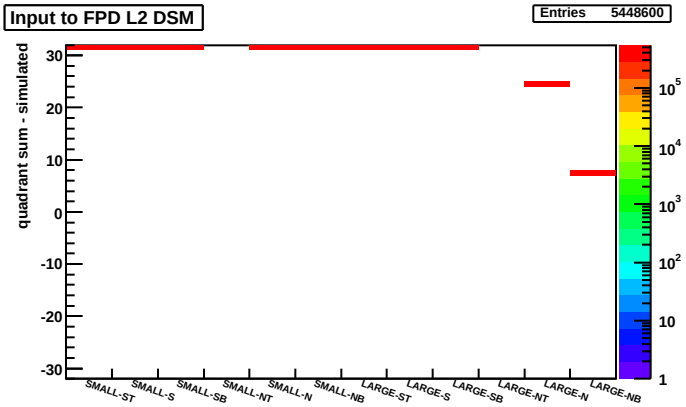

Input to FMS L1 DSM
Entries 6538320
sumA
DSM board

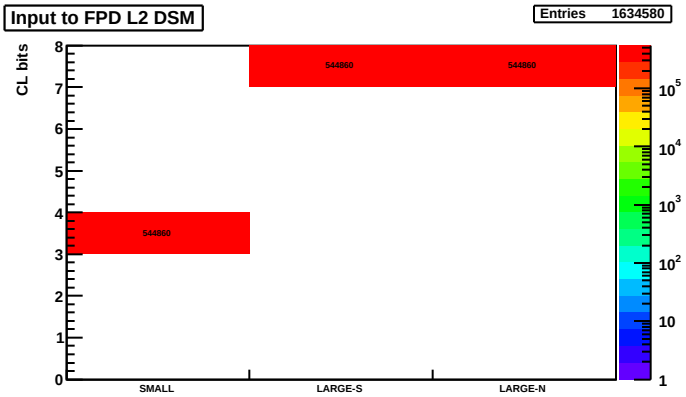

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

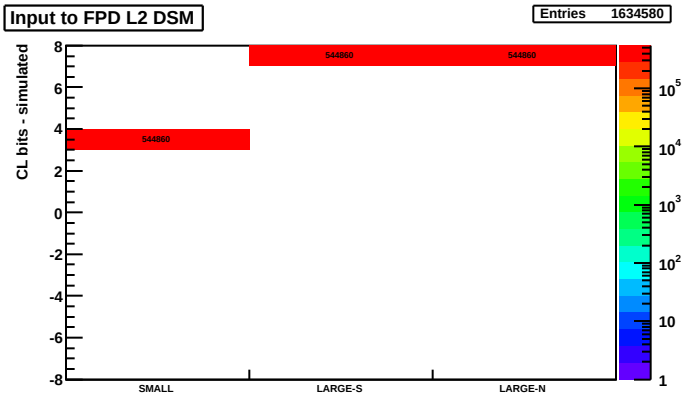

Input to FMS L1 DSM
Entries 6538320
FMS L1 HT bits
DSM board

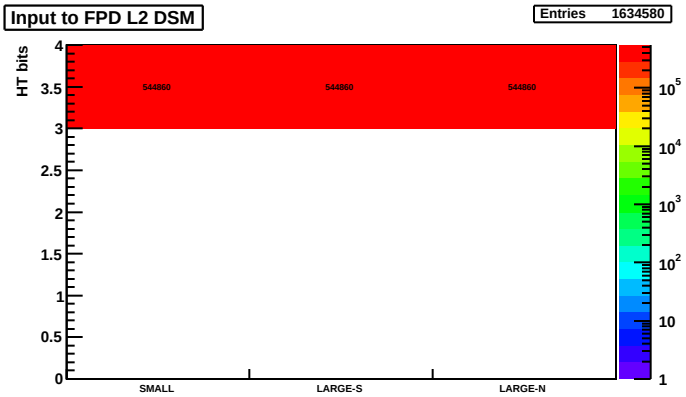

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

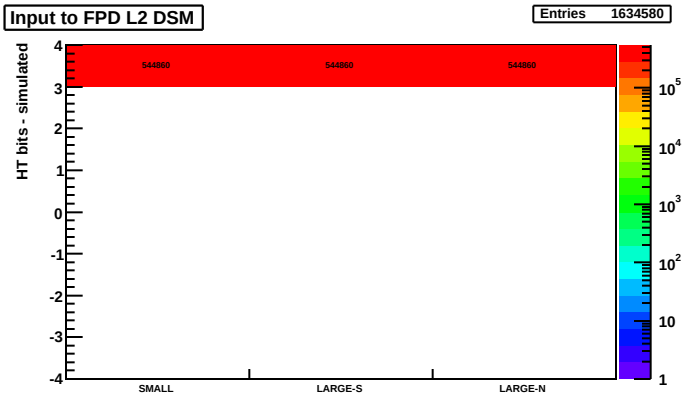

Input to FPD L2 DSM
Entries 6538320
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

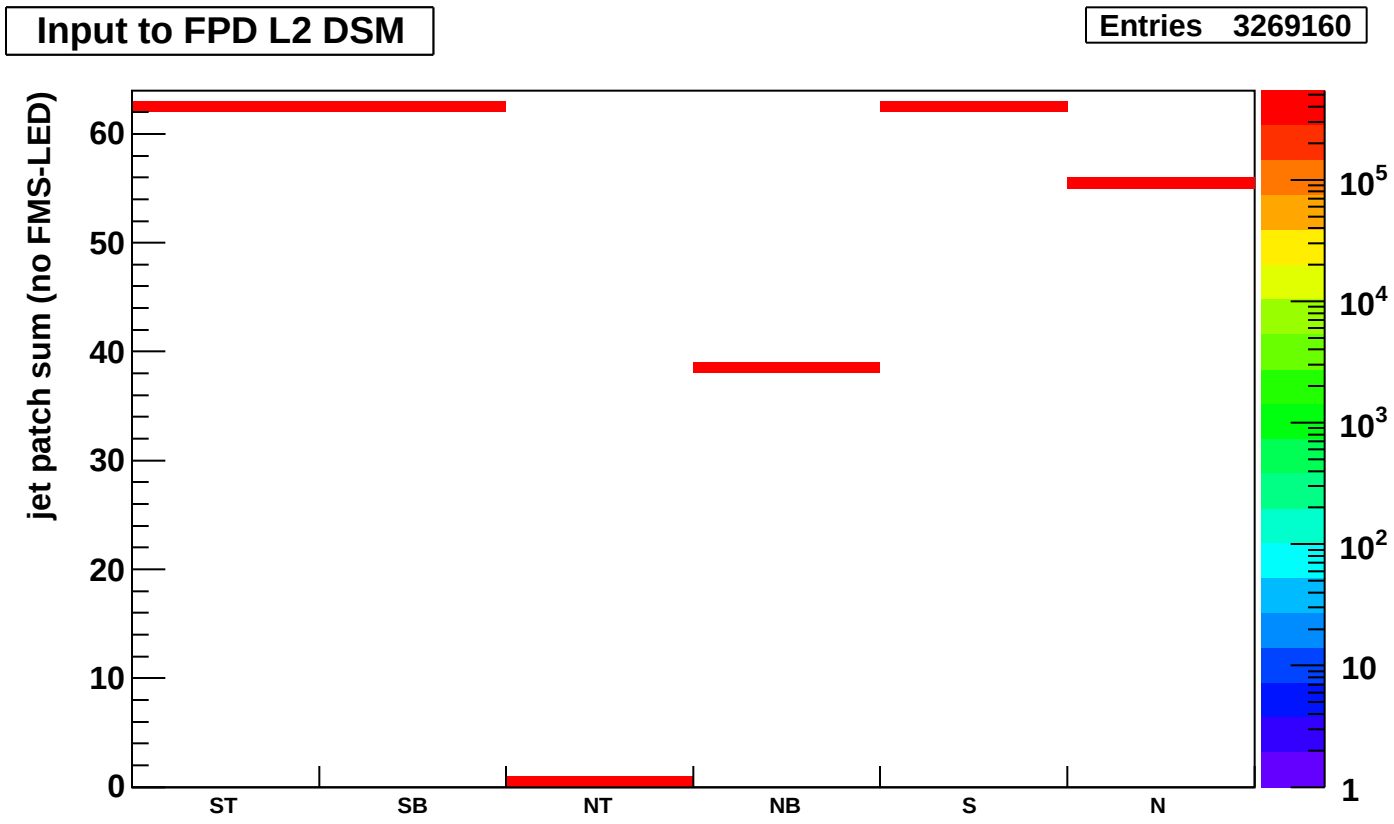

Input to FPD L2 DSM
Entries 5448600
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

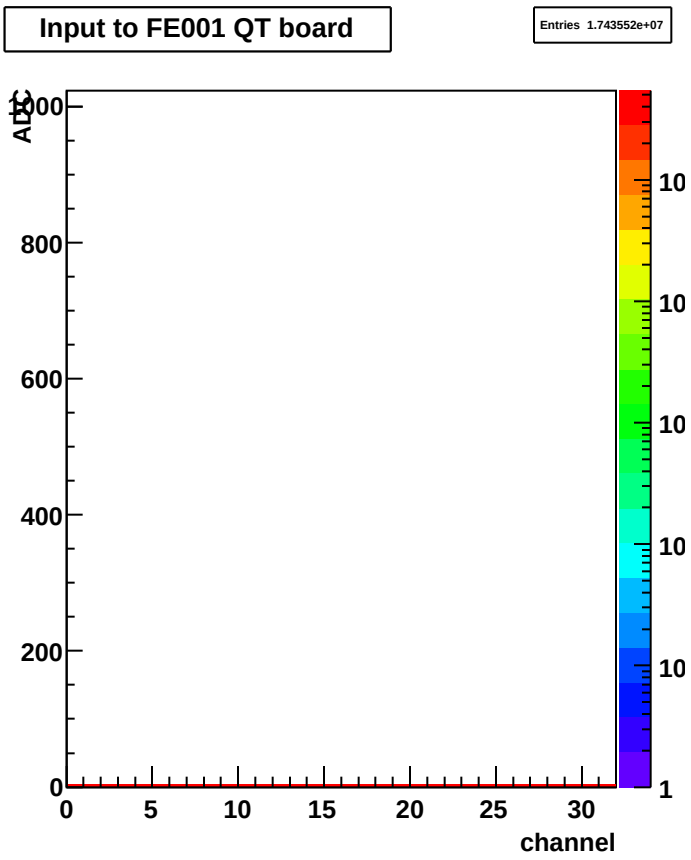

Input to FPD L2 DSM
Entries 1634580
CL bits
544860
544860
544860
SMALL
LARGE-S
LARGE-N

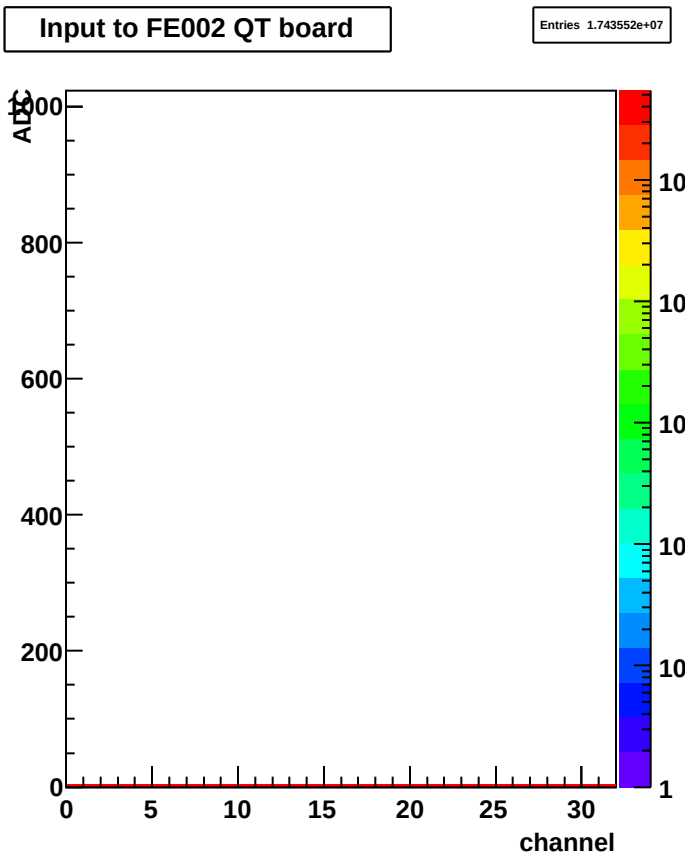

Input to FPD L2 DSM
Entries 1634580
CL bits - simulated
544860
544860
544860
SMALL
LARGE-S
LARGE-N

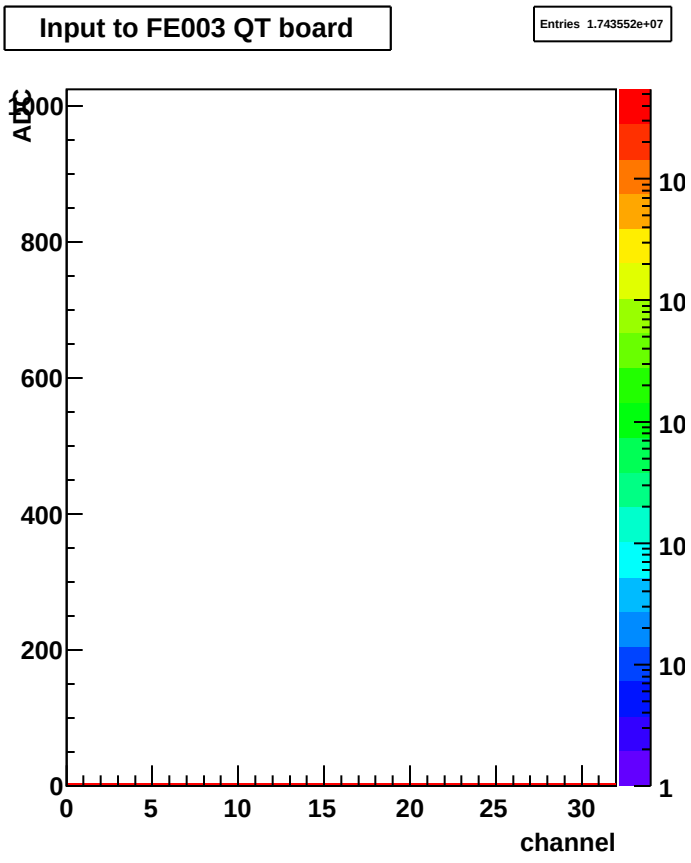

Input to FPD L2 DSM
Entries 1634580
HT bits
544860
544860
544860
SMALL
LARGE-S
LARGE-N

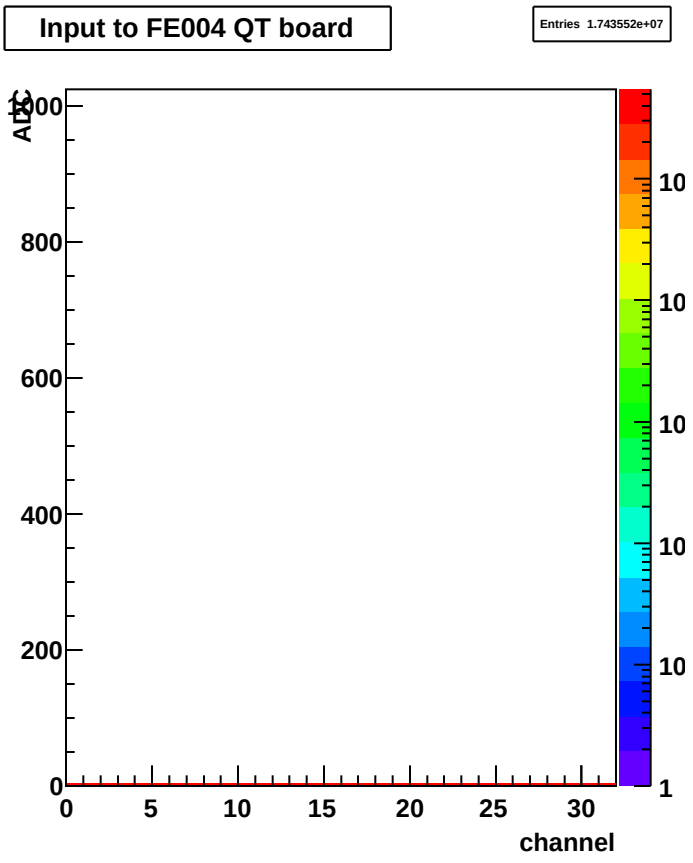

Input to FPD L2 DSM
Entries 1634580
HT bits - simulated
544860
544860
544860
SMALL
LARGE-S
LARGE-N

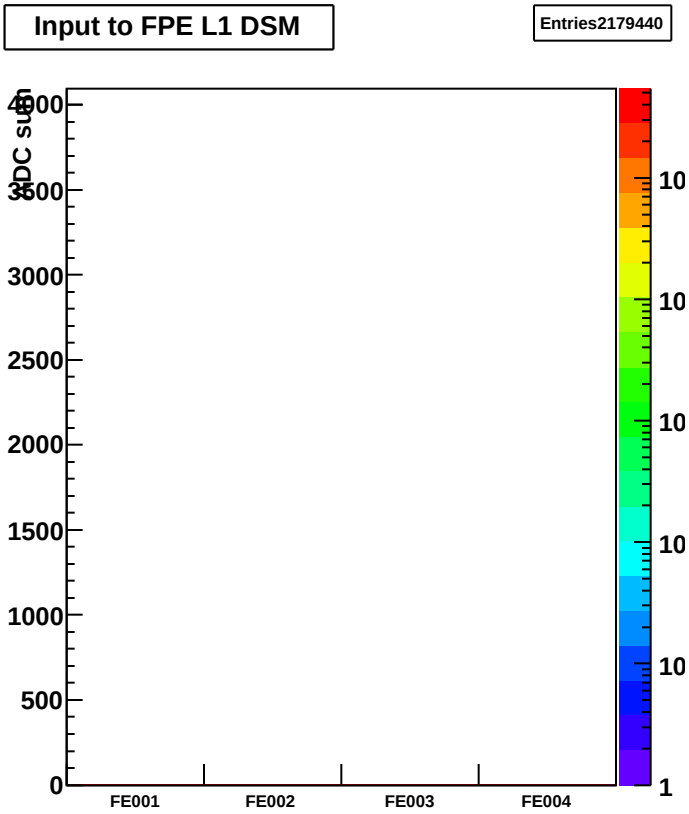

Input to FPD L2 DSM
Entries 3269160
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

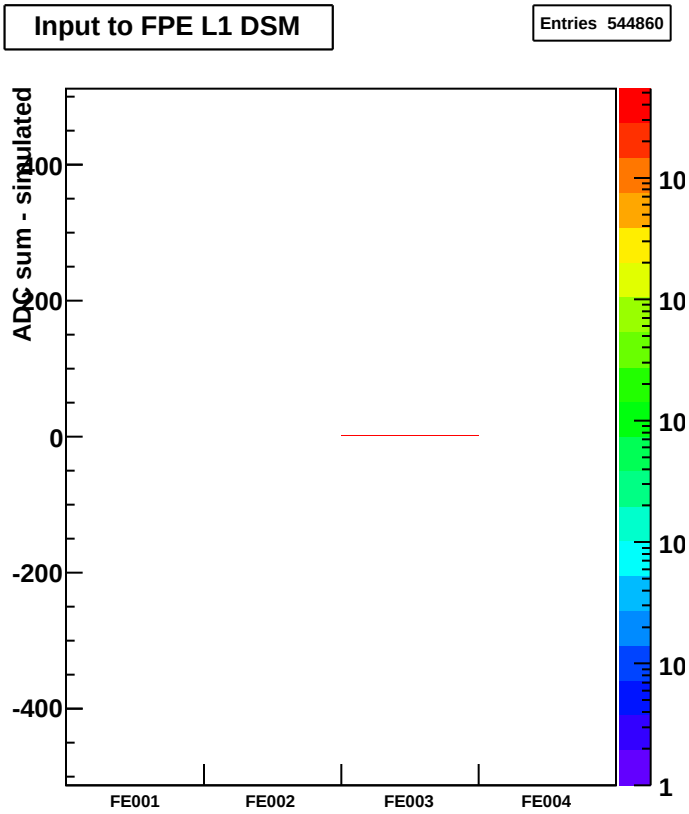

Input to FE001 QT board
Entries 1.743552e+07
ADC
channel

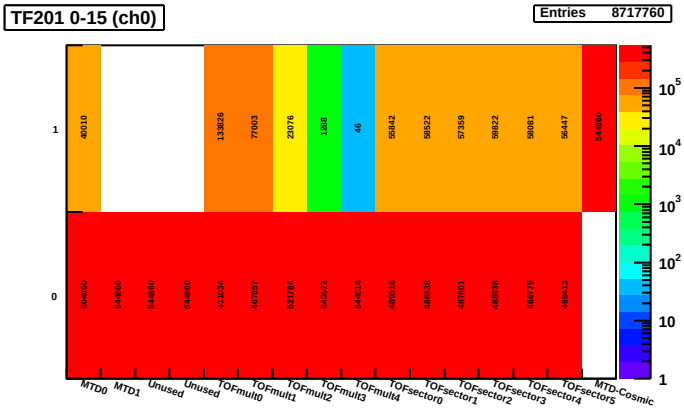

Input to FE002 QT board
Entries 1.743552e+07
ADC
channel

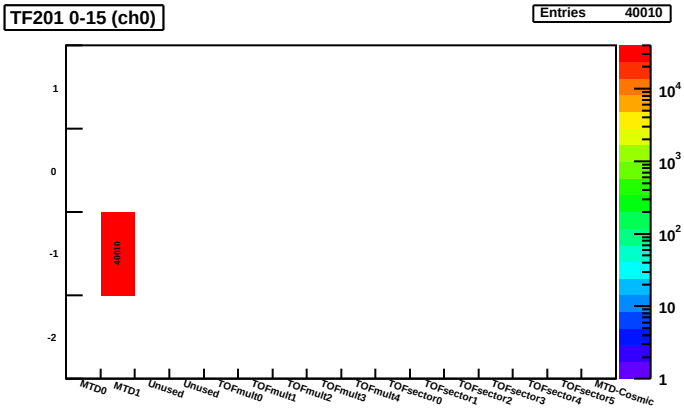

Input to FE003 QT board
Entries 1.743552e+07
ADC
channel


Input to FE004 QT board
Entries 1.743552e+07
ADC
channel


Input to FPE L1 DSM
Entries2179440
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 544860
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1


TF201 0-15 (ch0)
Entries 8717760
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 40010
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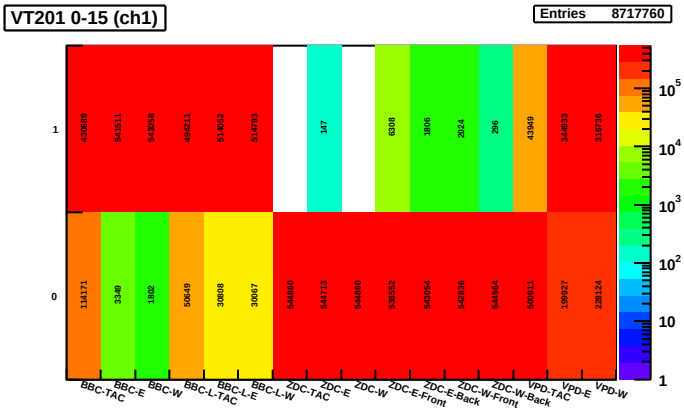
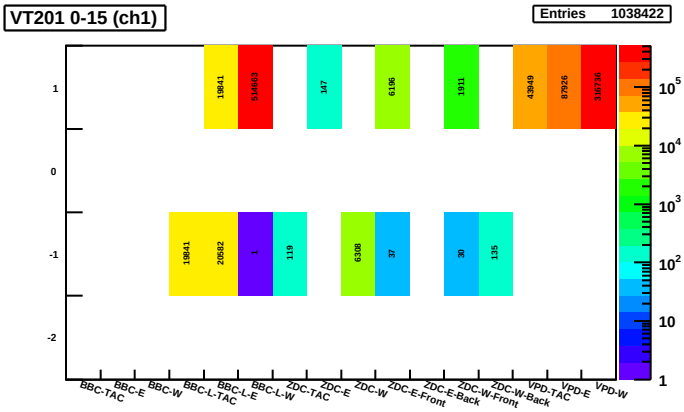
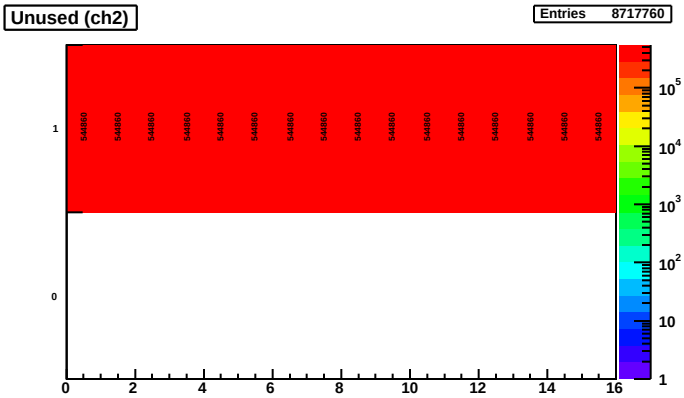
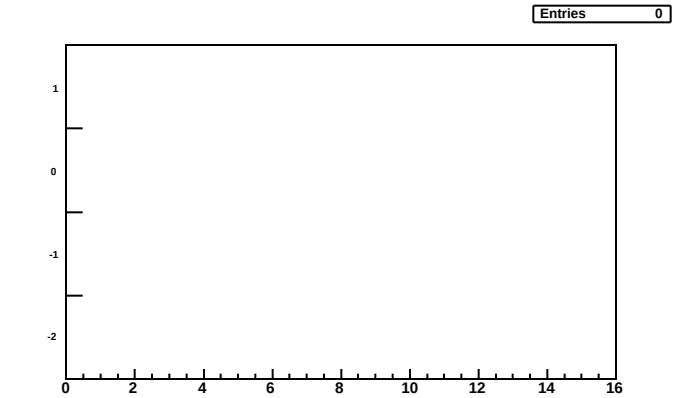
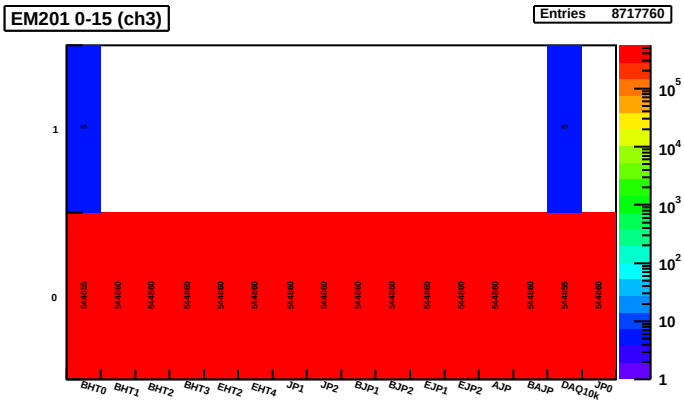
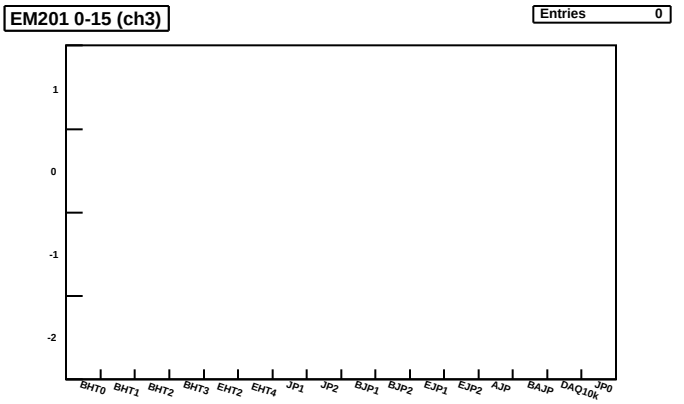

VT201 0-15 (ch1)
Entries 8717760
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 1038422
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

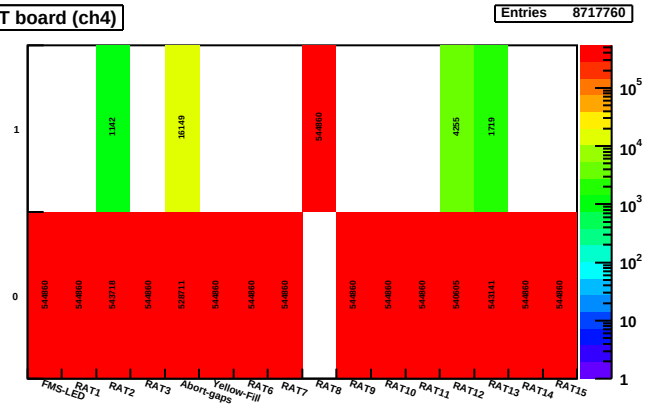

Unused (ch2)
Entries 8717760

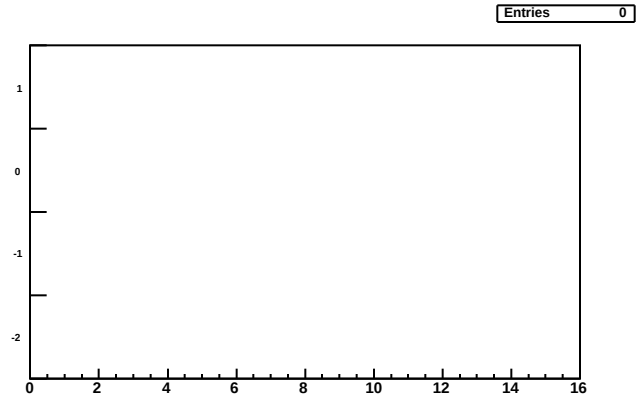

Entries 0


EM201 0-15 (ch3)
Entries 8717760
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

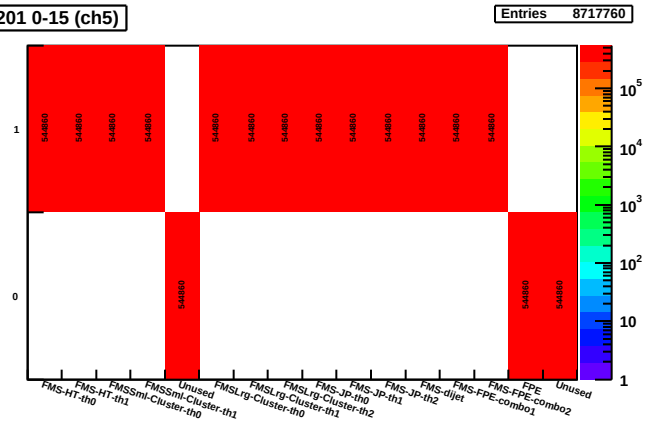

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

RAT board (ch4)





FP201 0-15 (ch5)



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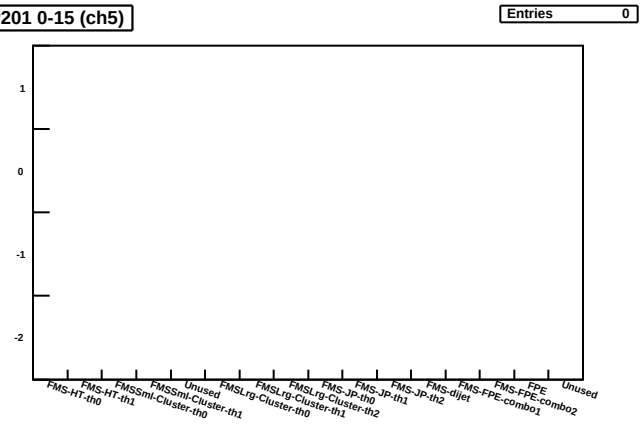
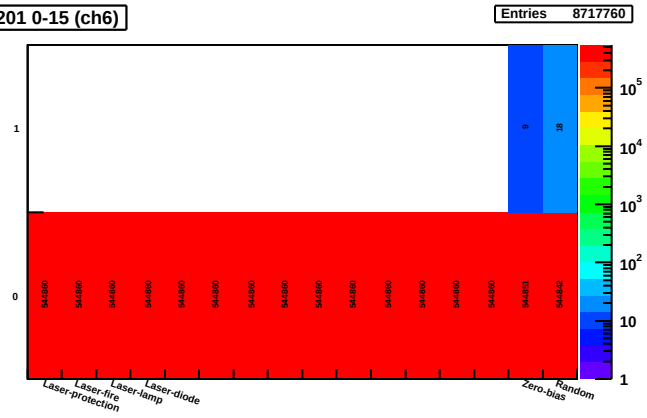
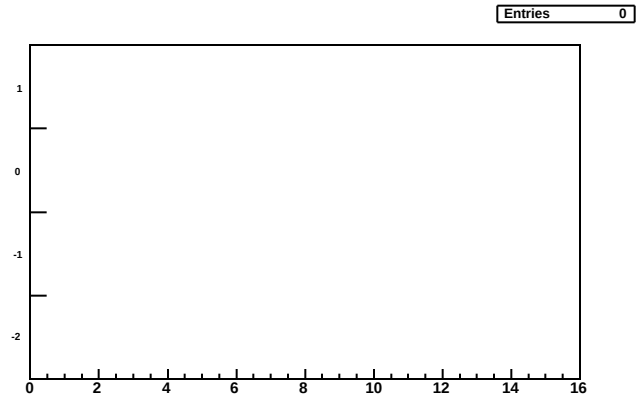
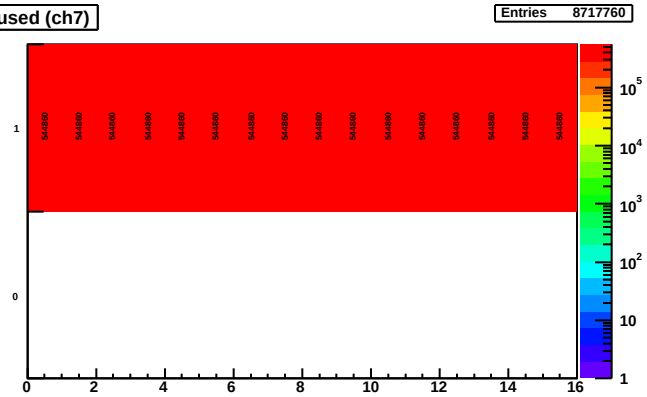
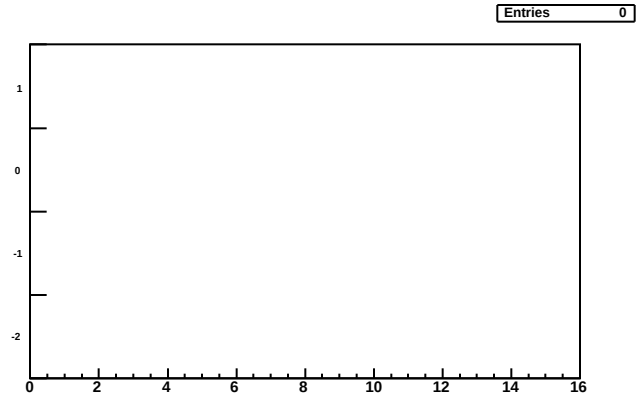


ST201 0-15 (ch6)





Unused (ch7)