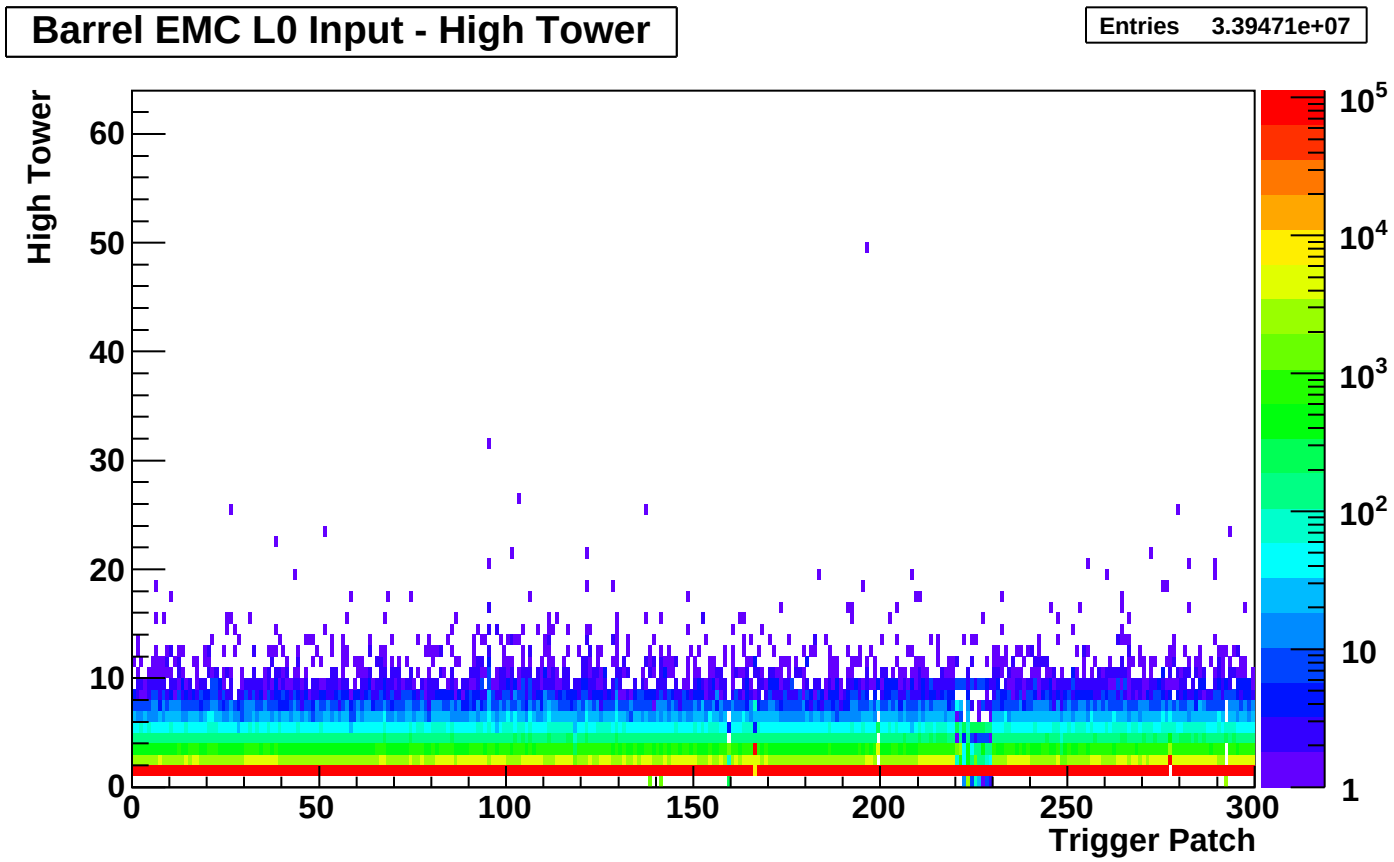
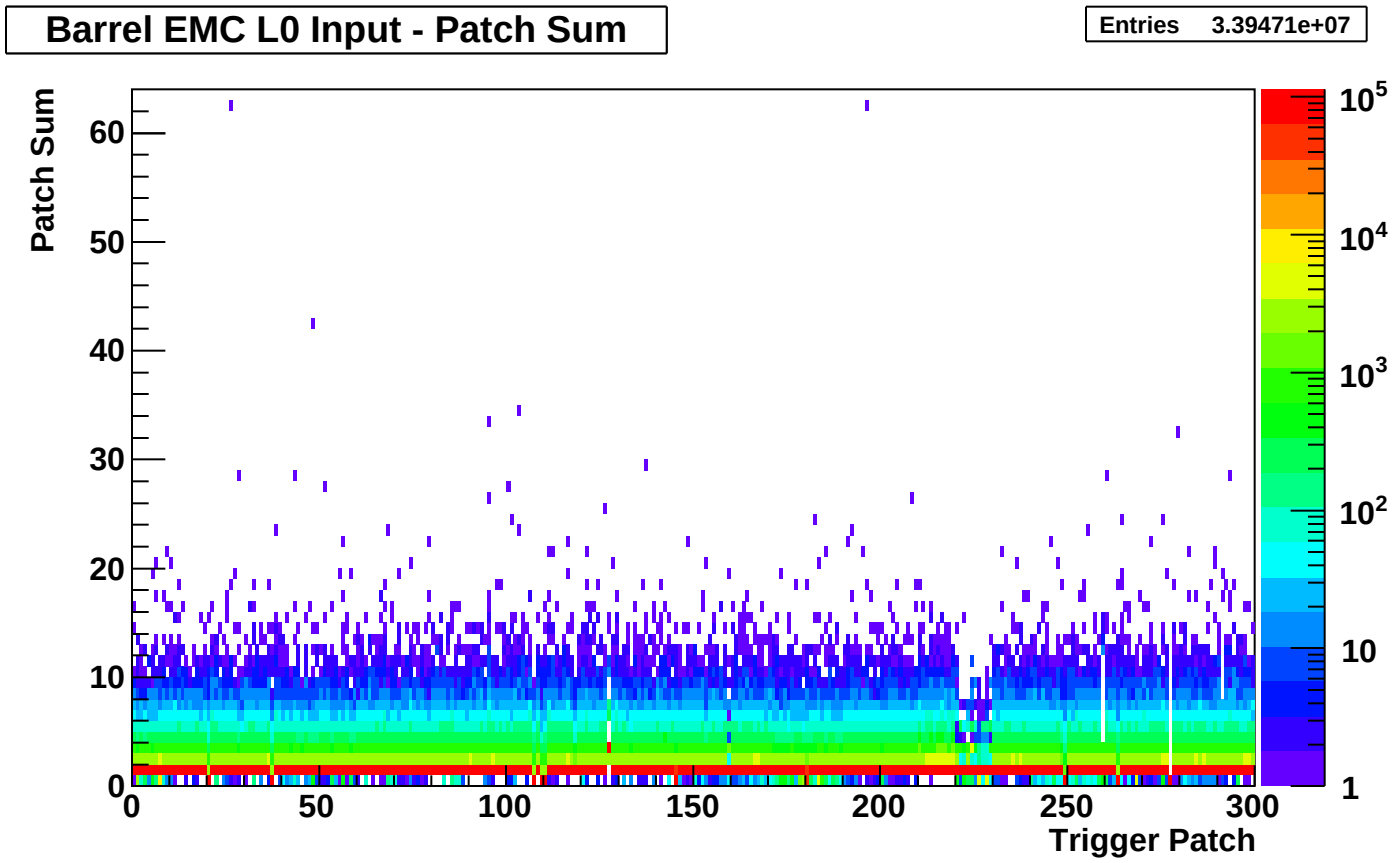
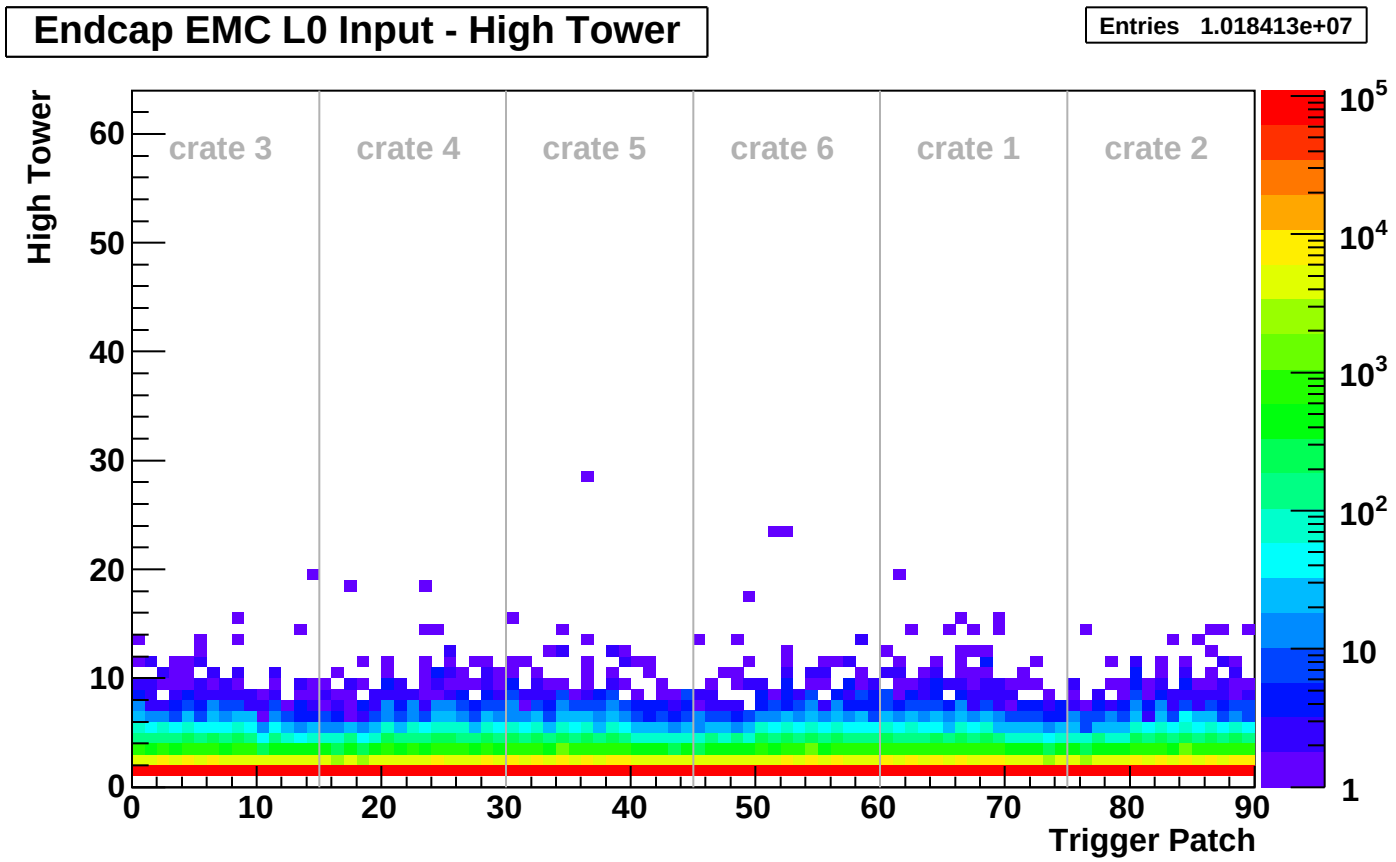
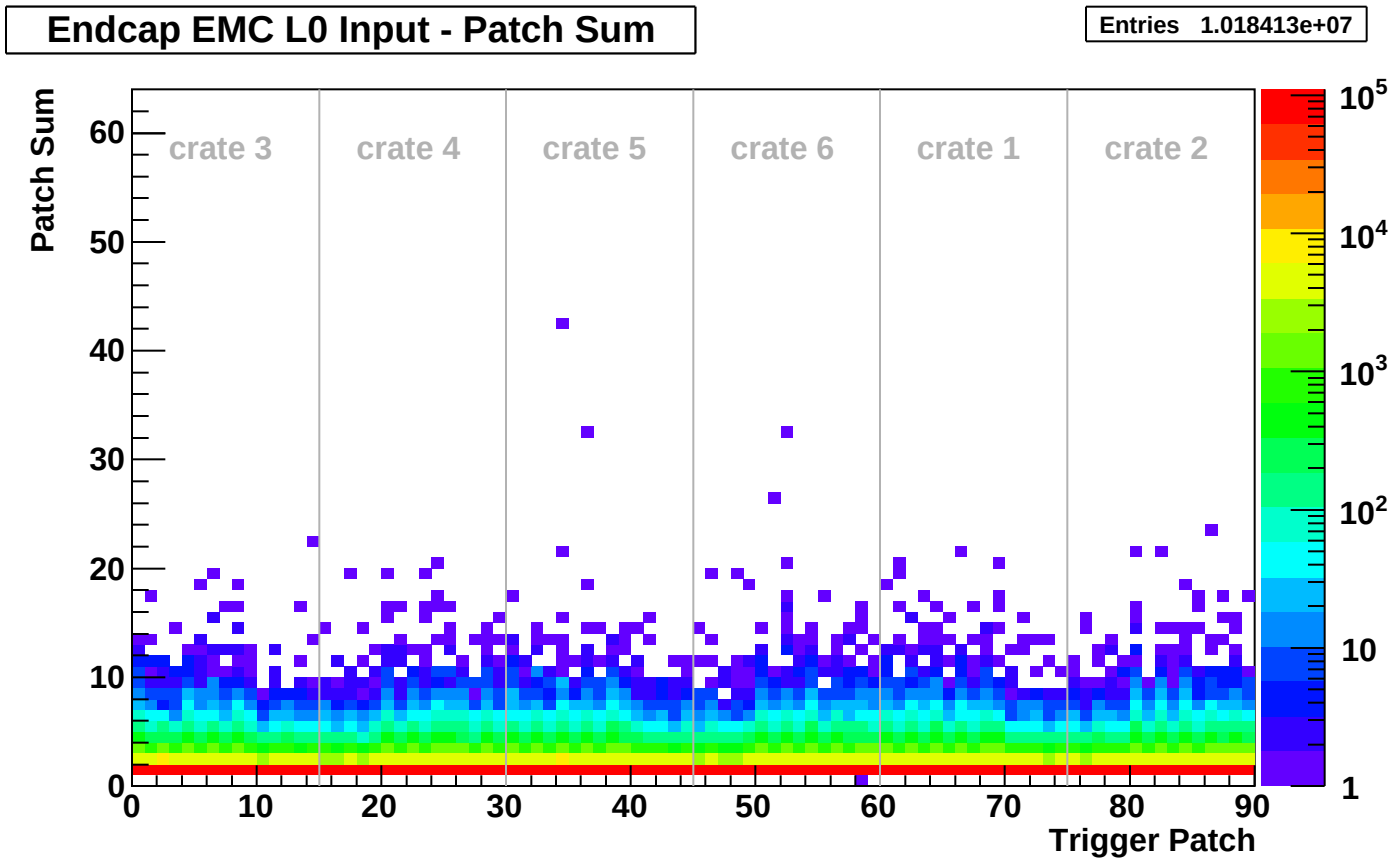
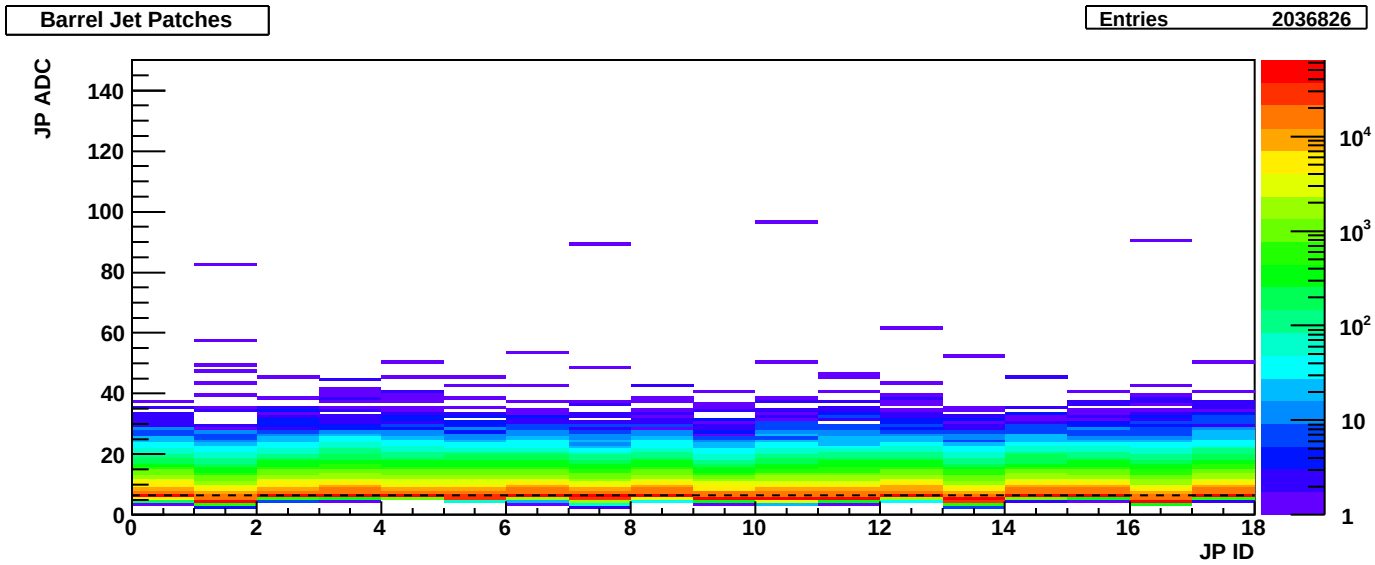
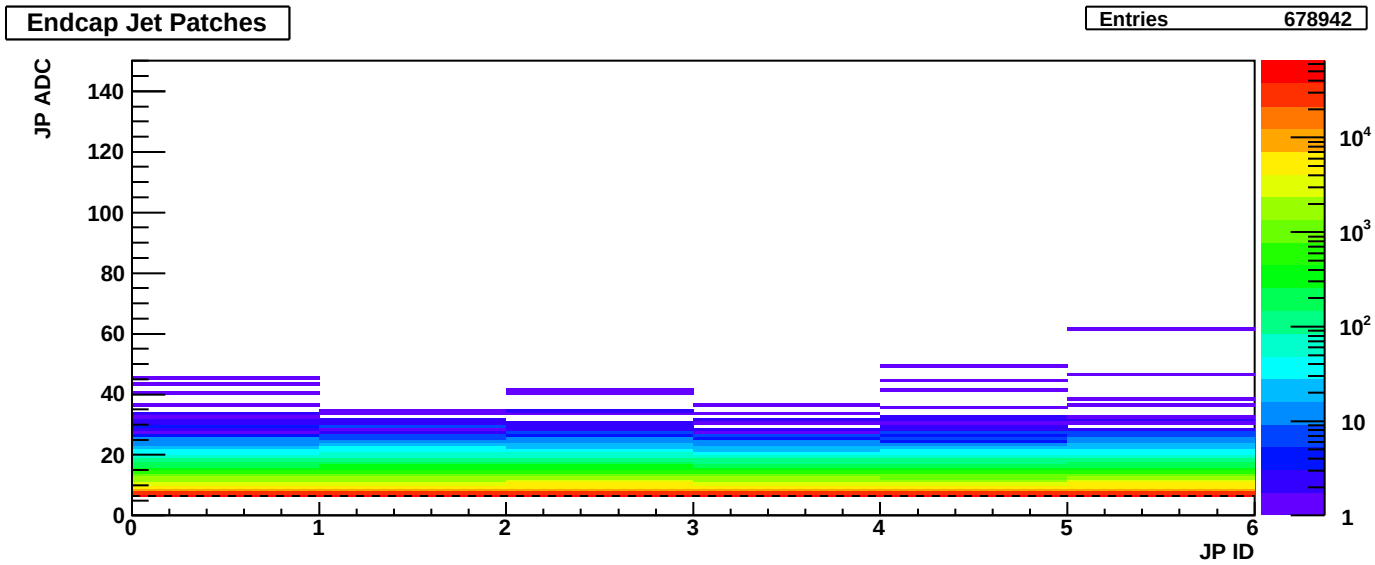

Barrel EMC L0 Input - High Tower
Entries 3.39471e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

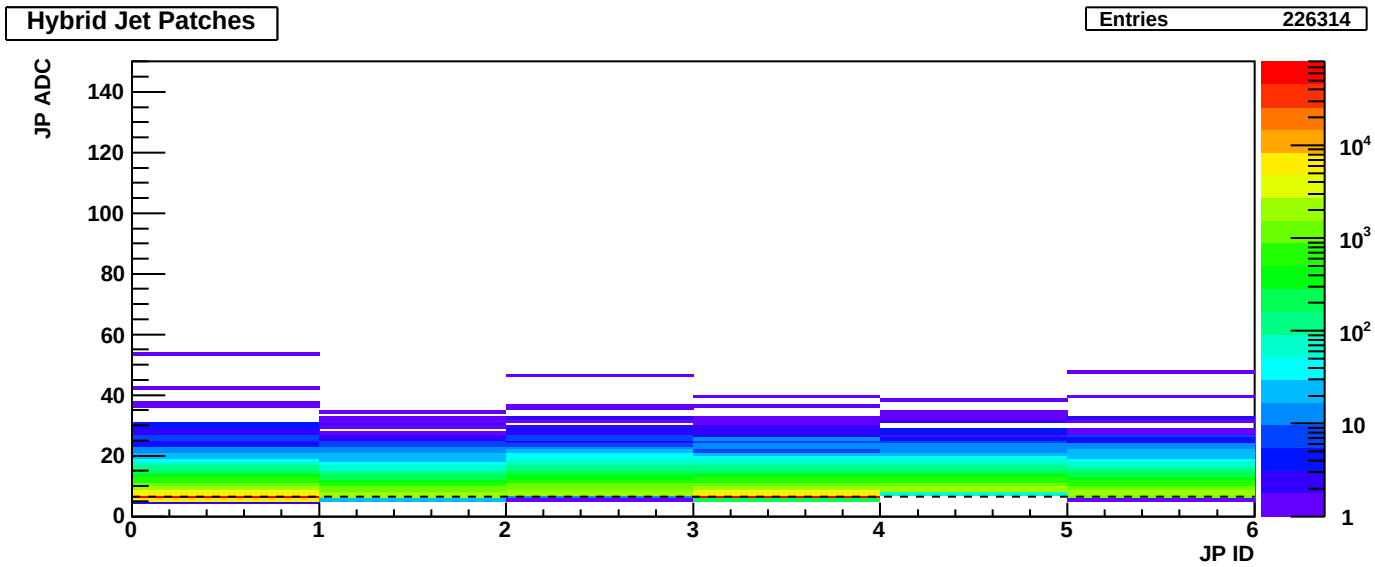

Barrel EMC L0 Input - Patch Sum
Entries 3.39471e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

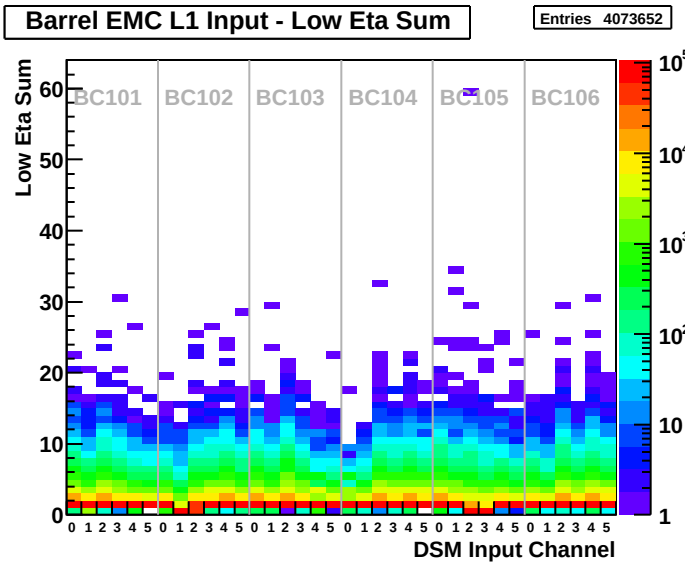

Endcap EMC L0 Input - High Tower
Entries 1.018413e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

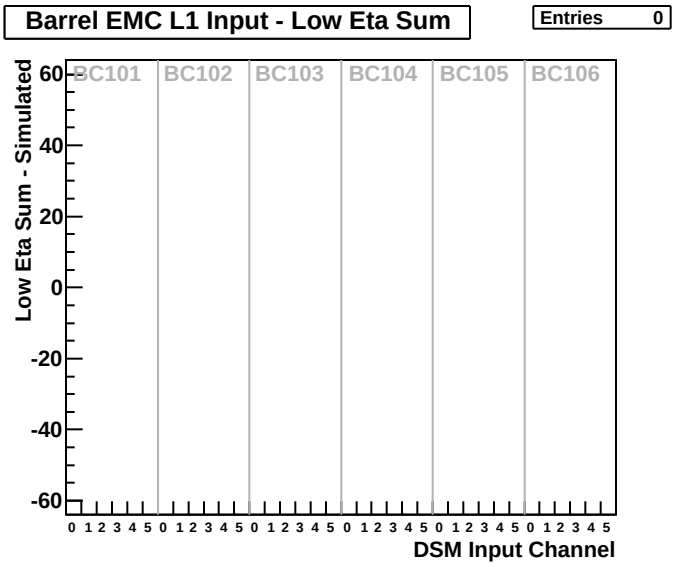

Endcap EMC L0 Input - Patch Sum
Entries 1.018413e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

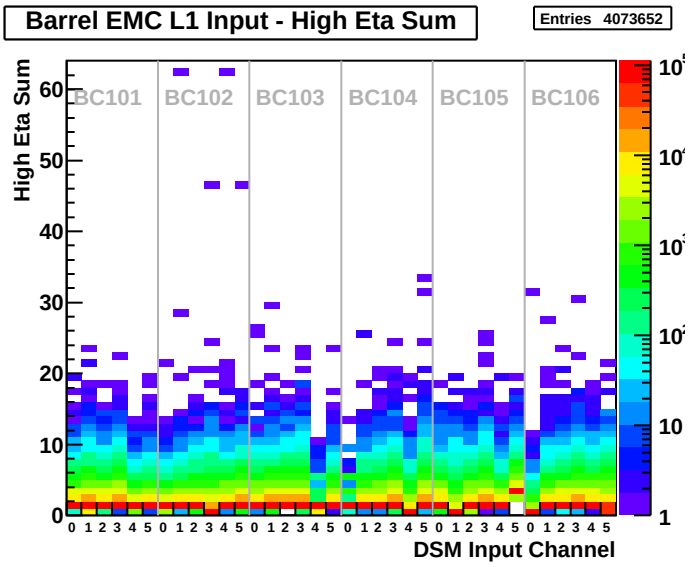

Barrel Jet Patches
Entries 2036826
JP ADC
JP ID

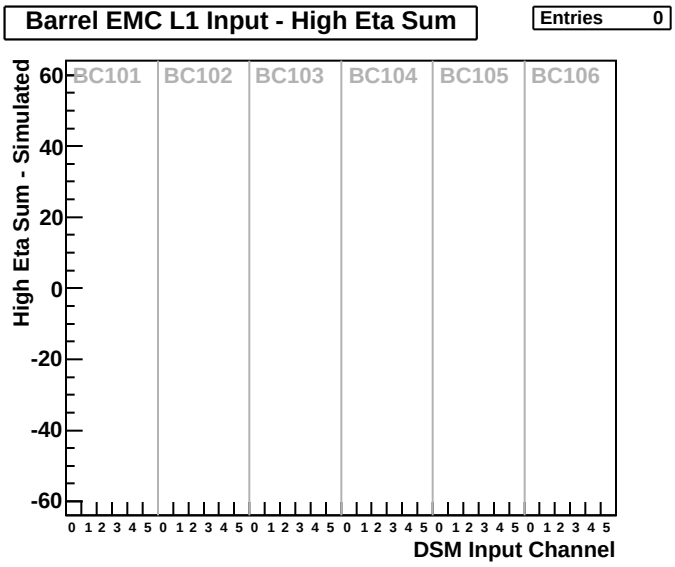

Endcap Jet Patches
Entries 678942
JP ADC
JP ID

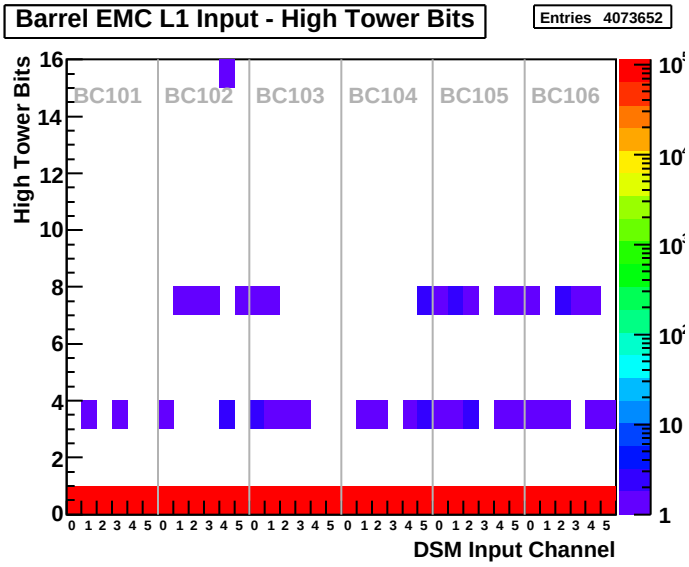

Hybrid Jet Patches
Entries 226314
JP ADC
JP ID

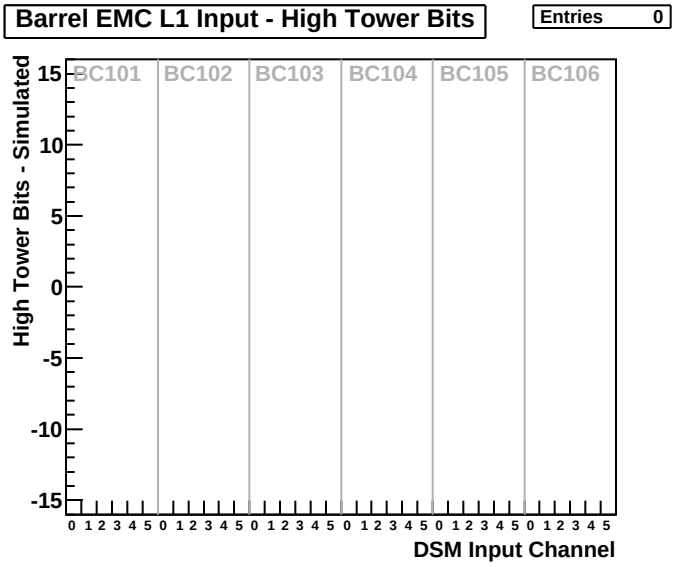

Barrel EMC L1 Input - Low Eta Sum
Entries 4073652
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

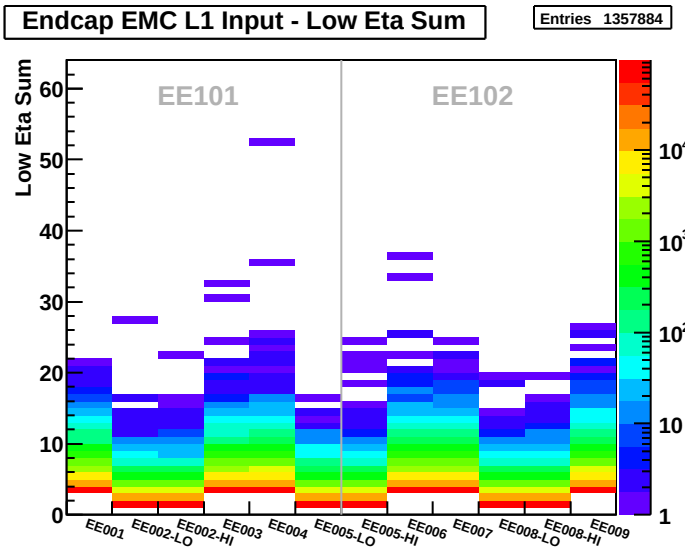

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

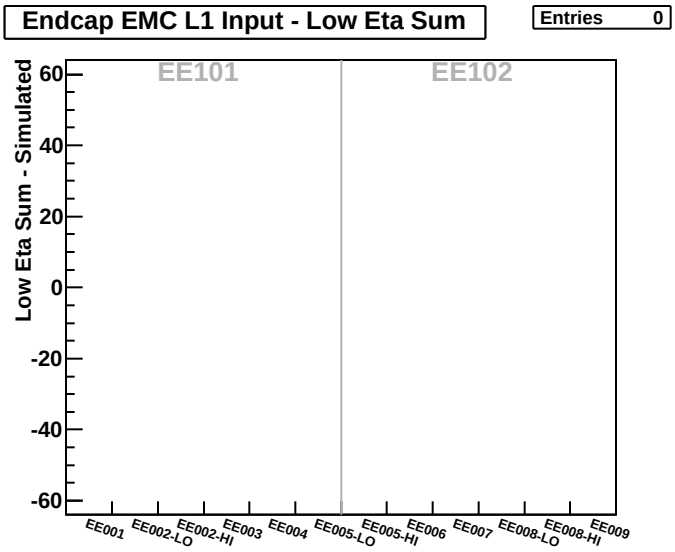

Barrel EMC L1 Input - High Eta Sum
Entries 4073652
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

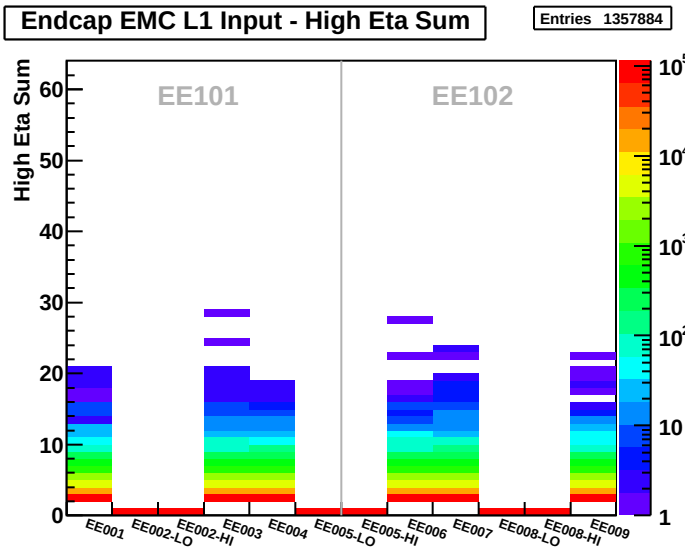

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

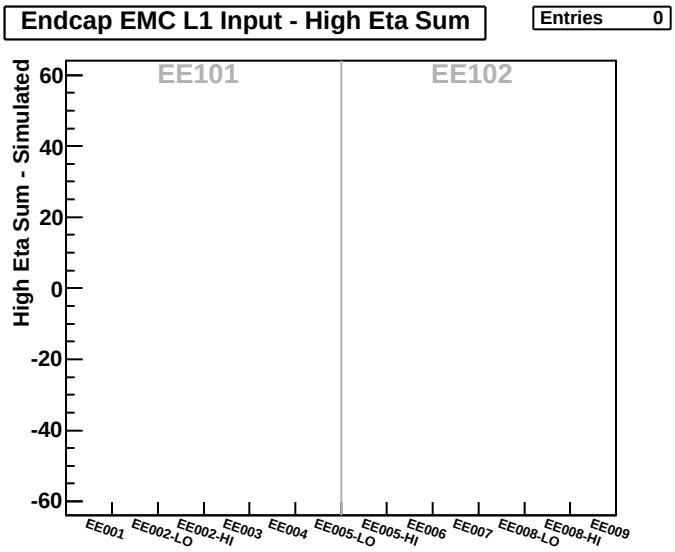

Barrel EMC L1 Input - High Tower Bits
Entries 4073652
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

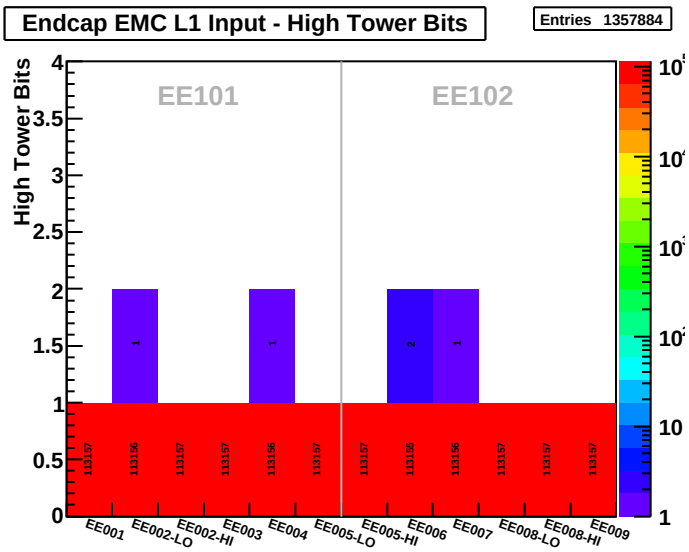

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

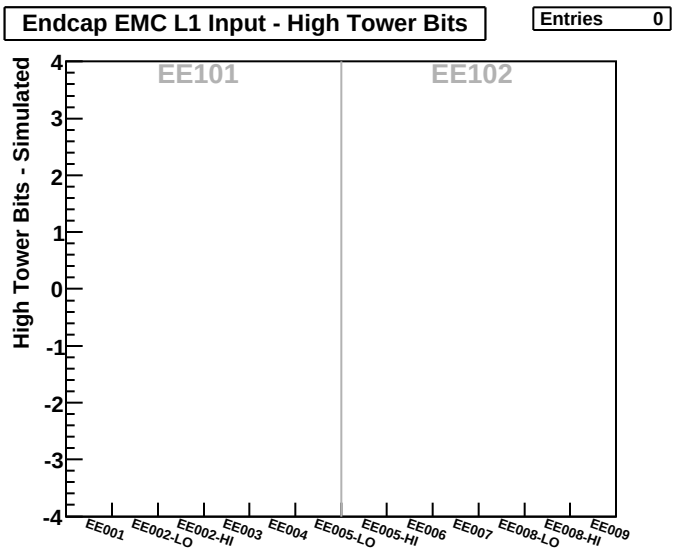

Endcap EMC L1 Input - Low Eta Sum
Entries 1357884
Low Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

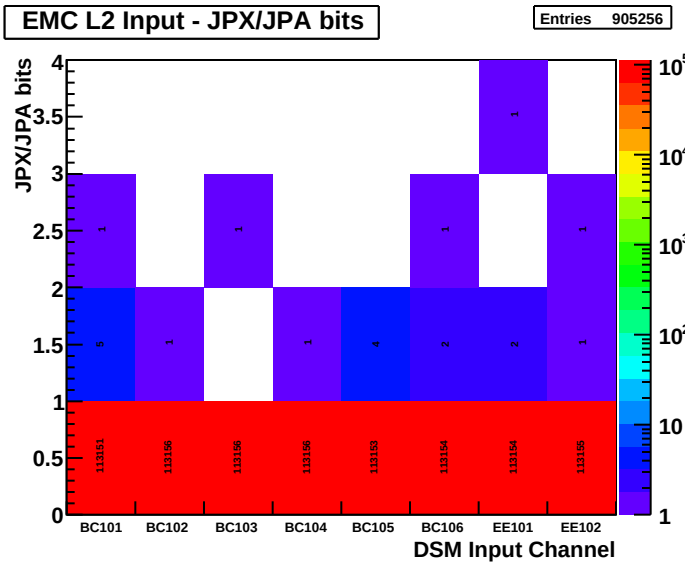

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

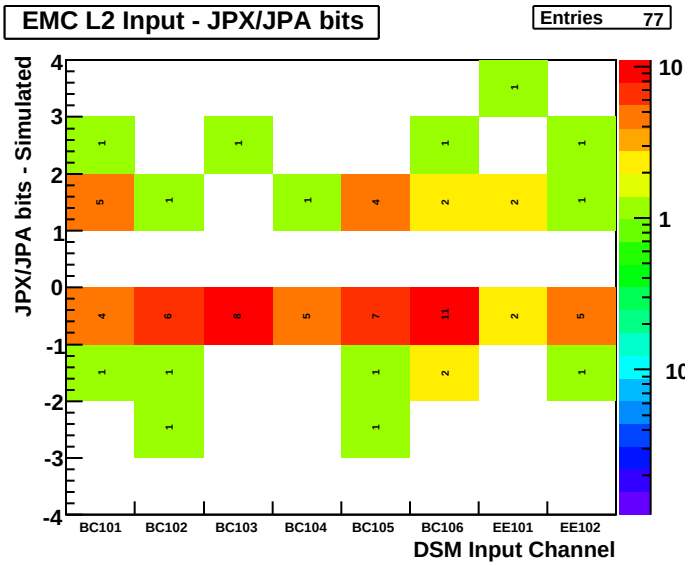

Endcap EMC L1 Input - High Eta Sum
Entries 1357884
High Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

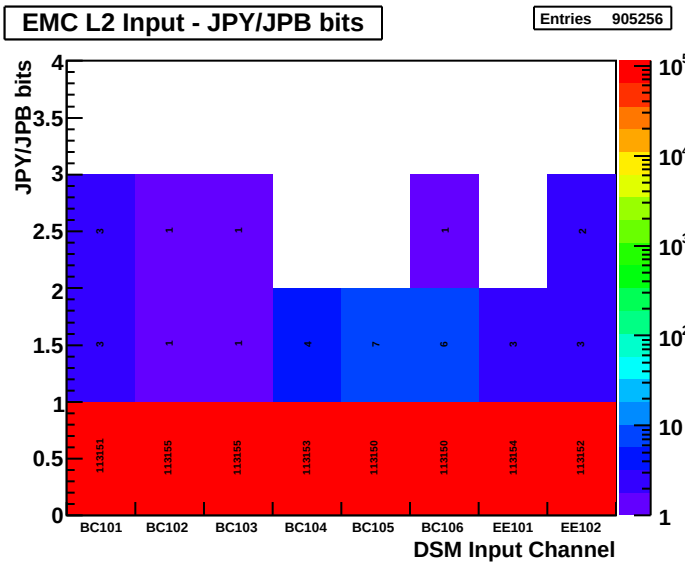

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

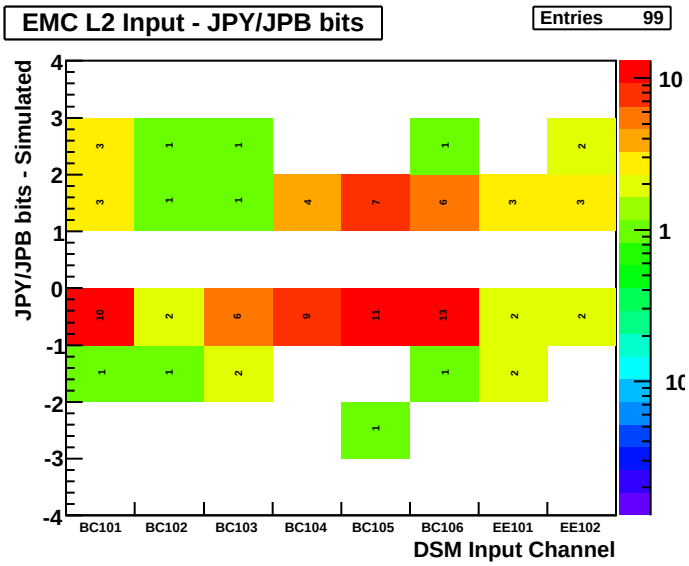

Endcap EMC L1 Input - High Tower Bits
Entries 1357884
High Tower Bits
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

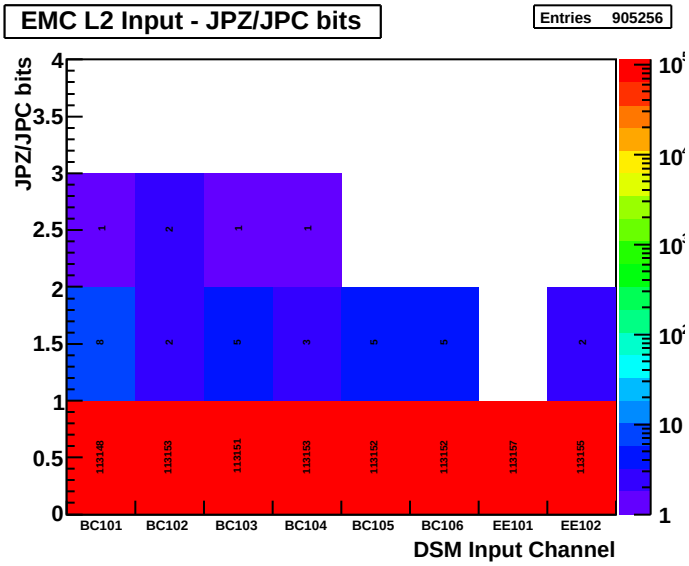

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

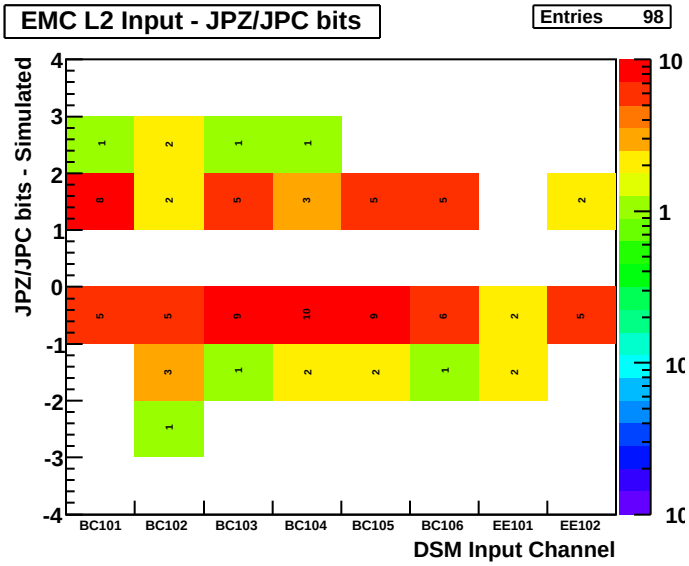

EMC L2 Input - JPX/JPA bits
Entries 905256
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

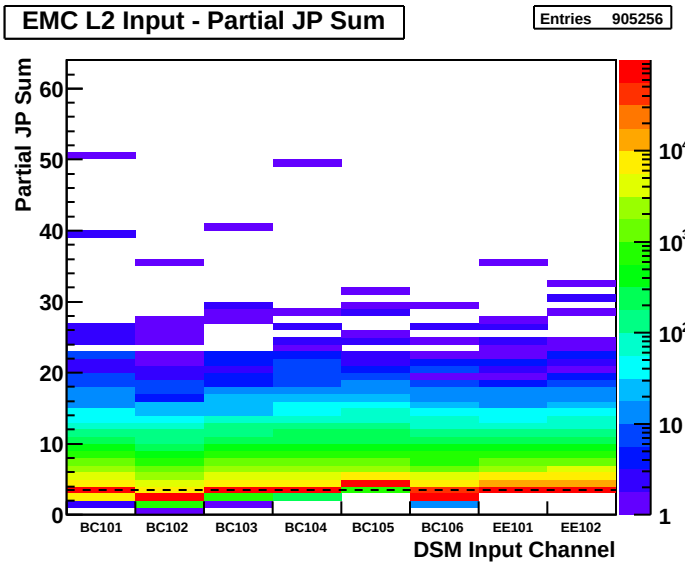

EMC L2 Input - JPX/JPA bits
Entries 77
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

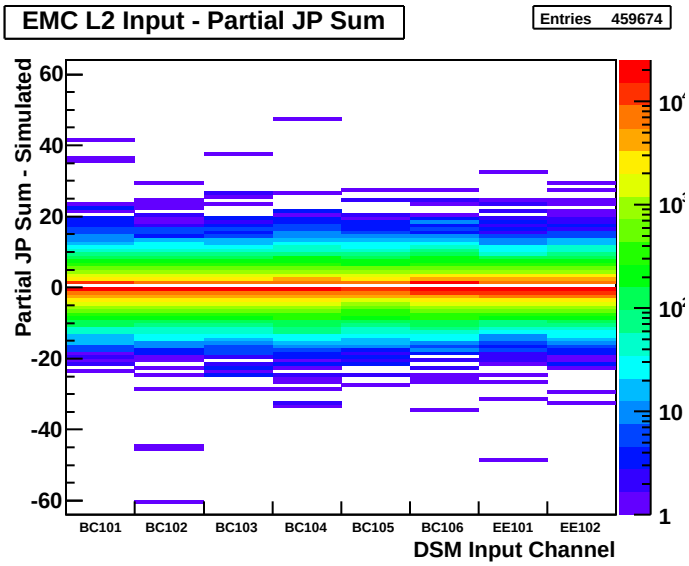

EMC L2 Input - JPY/JPB bits
Entries 905256
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

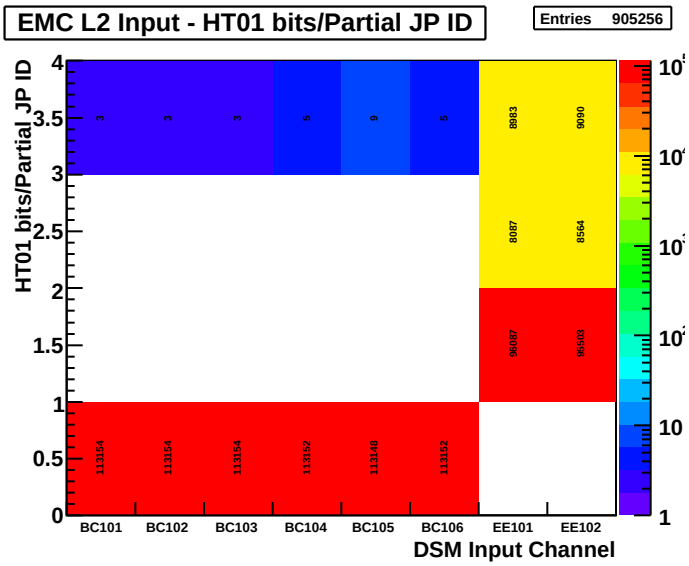

EMC L2 Input - JPY/JPB bits
Entries 99
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

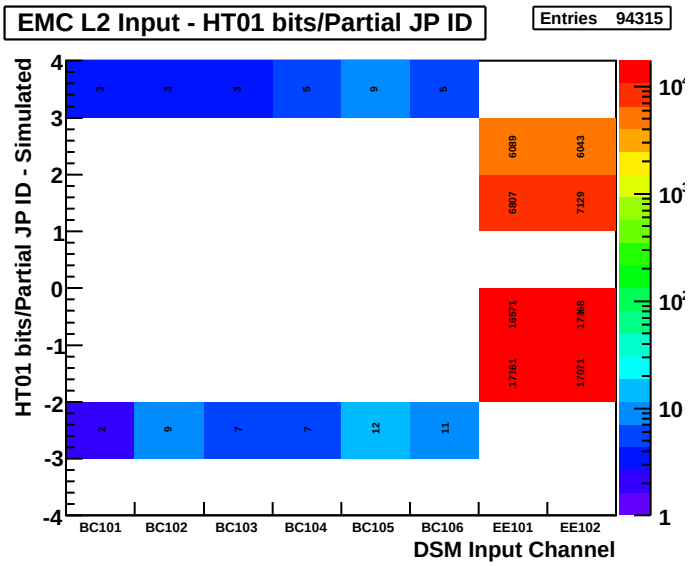

EMC L2 Input - JPZ/JPC bits
Entries 905256
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

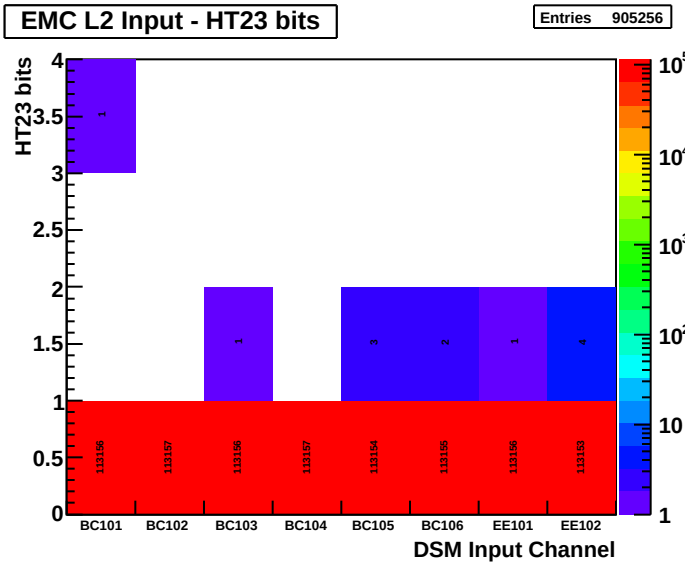

EMC L2 Input - JPZ/JPC bits
Entries 98
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

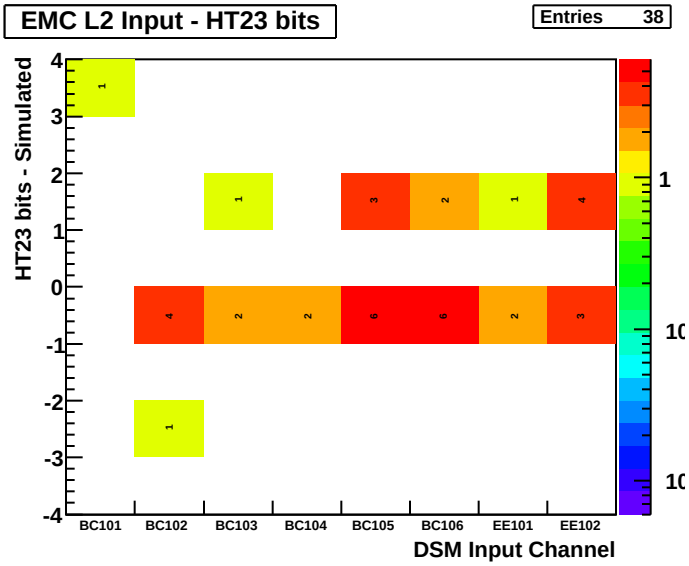

EMC L2 Input - Partial JP Sum
Entries 905256
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

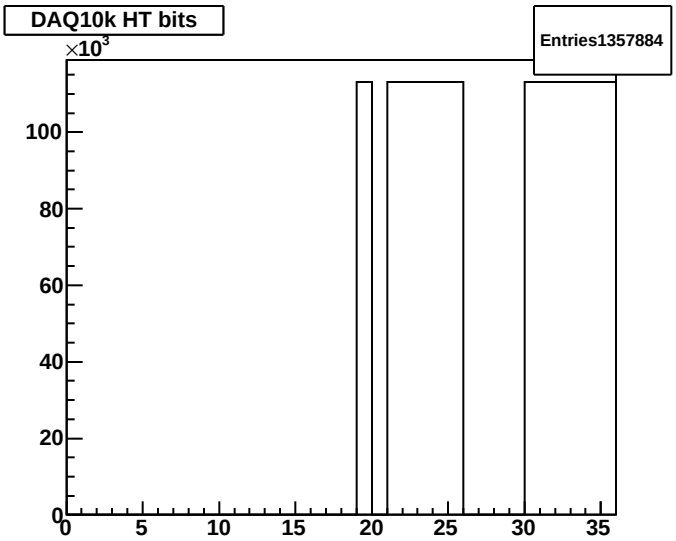

EMC L2 Input - Partial JP Sum
Entries 459674
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

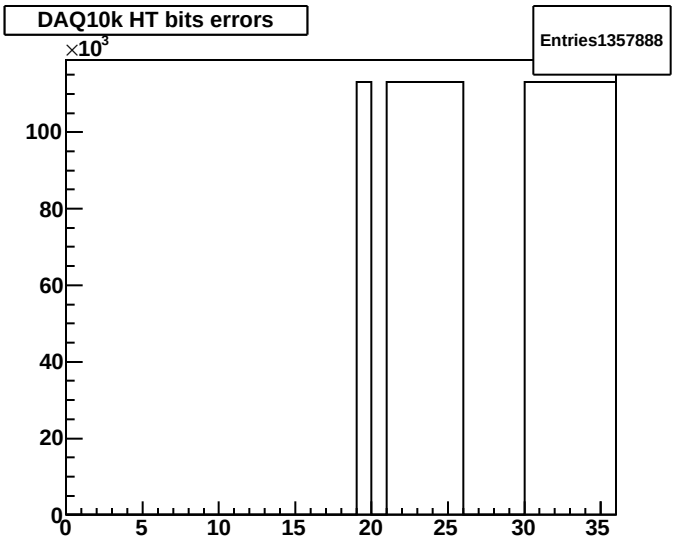

EMC L2 Input - HT01 bits/Partial JP ID
Entries 905256
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

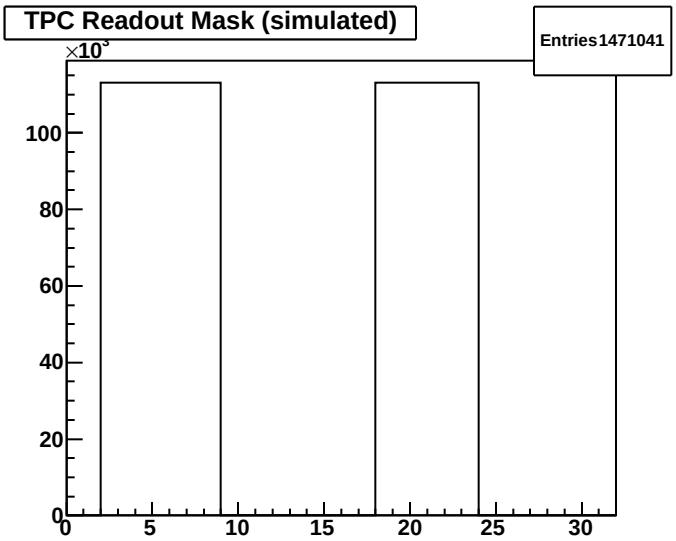

EMC L2 Input - HT01 bits/Partial JP ID
Entries 94315
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

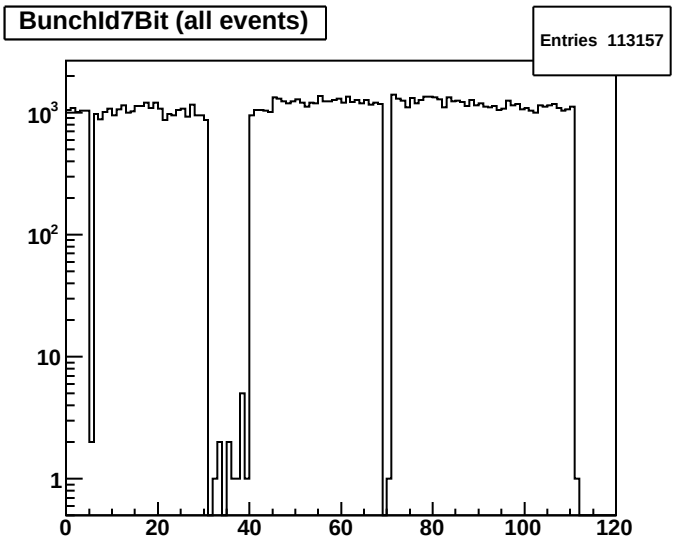

EMC L2 Input - HT23 bits
Entries 905256
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

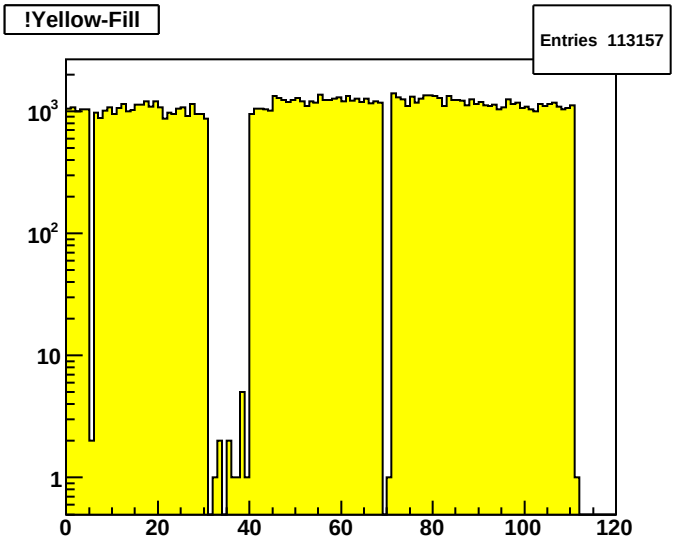

EMC L2 Input - HT23 bits
Entries 38
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

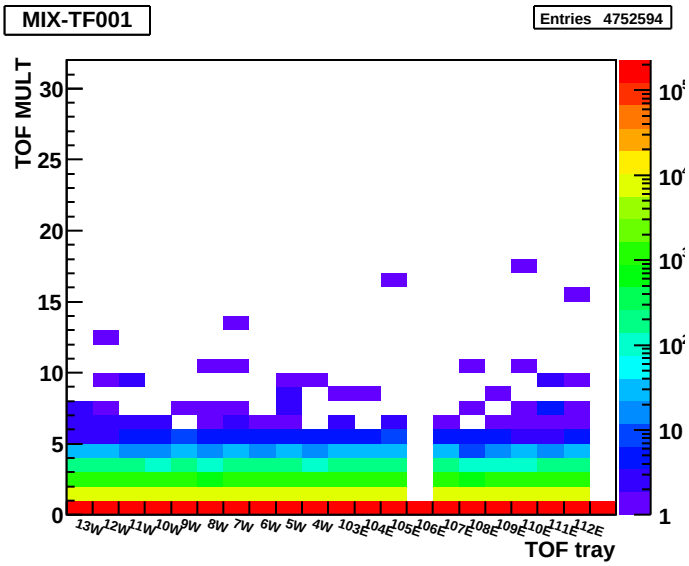

DAQ10k HT bits
Entries1357884
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

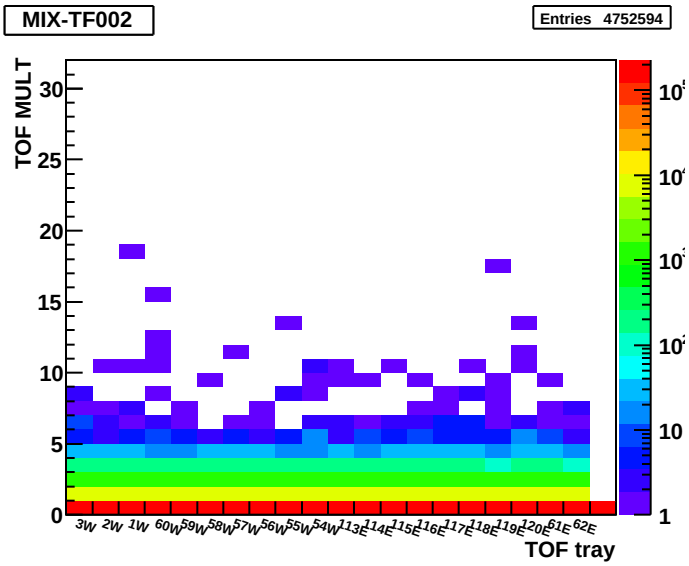

DAQ10k HT bits errors
Entries1357888
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

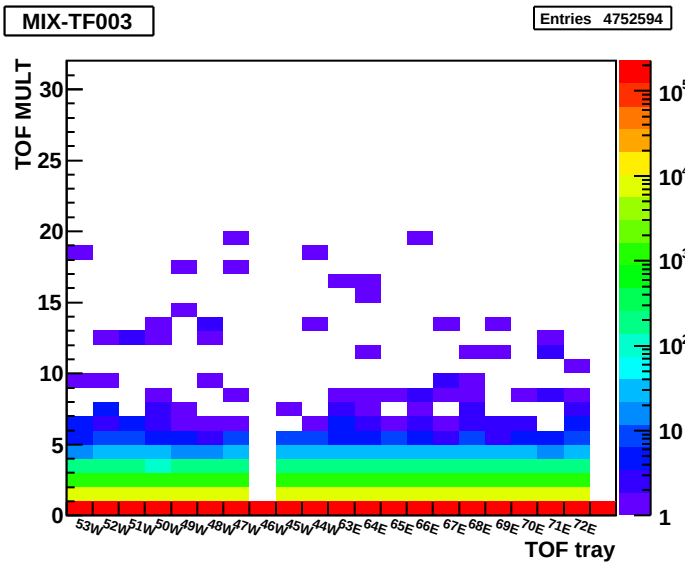

TPC Readout Mask (simulated)
Entries1471041
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30

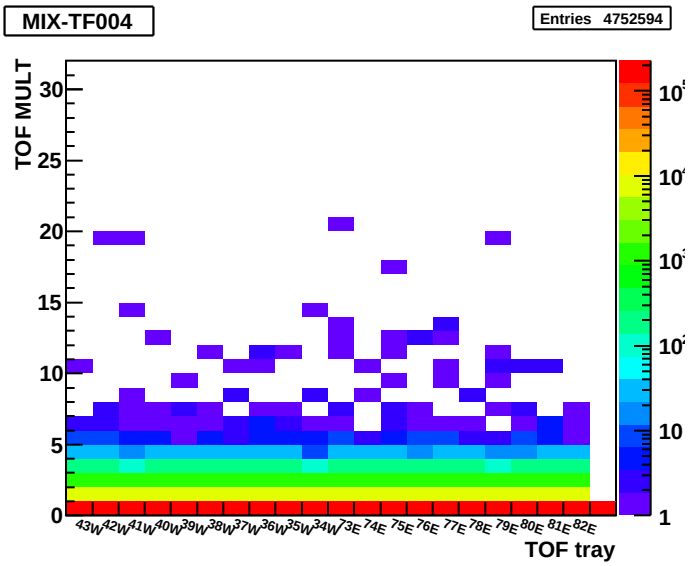

BunchId7Bit (all events)
Entries 113157
10^3
10^2
10
1
0 20 40 60 80 100 120

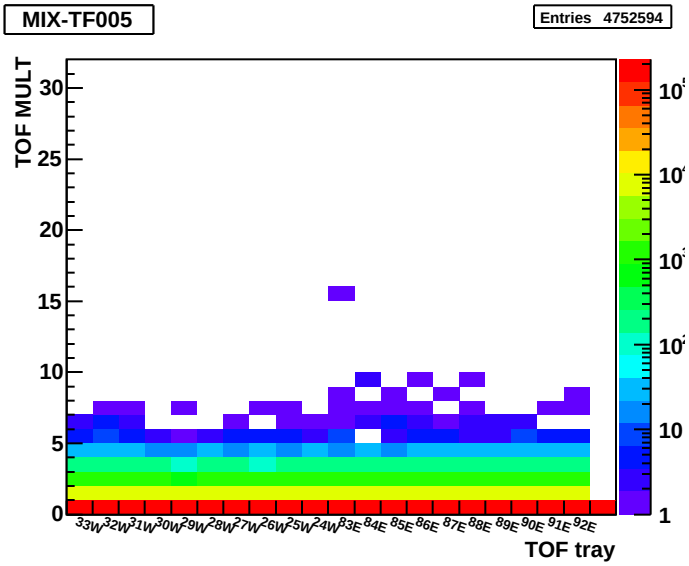

!Yellow-Fill
Entries 113157
10^3
10^2
10
1
0 20 40 60 80 100 120

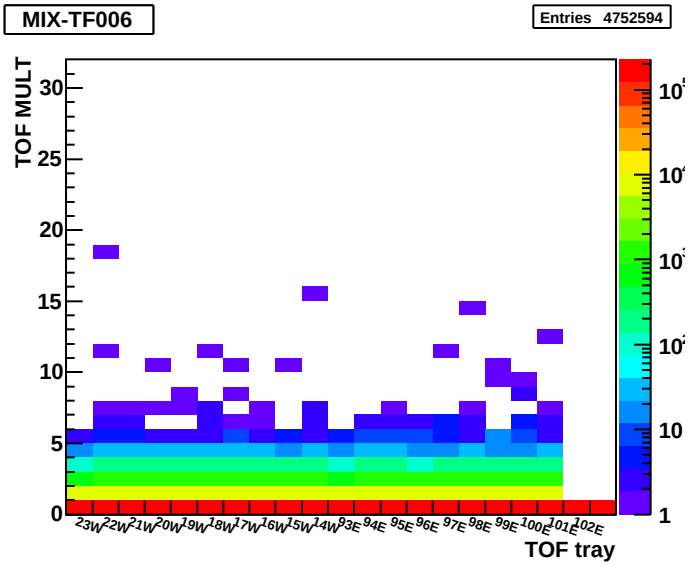

MIX-TF001
Entries 4752594
TOF MULT
TOF tray

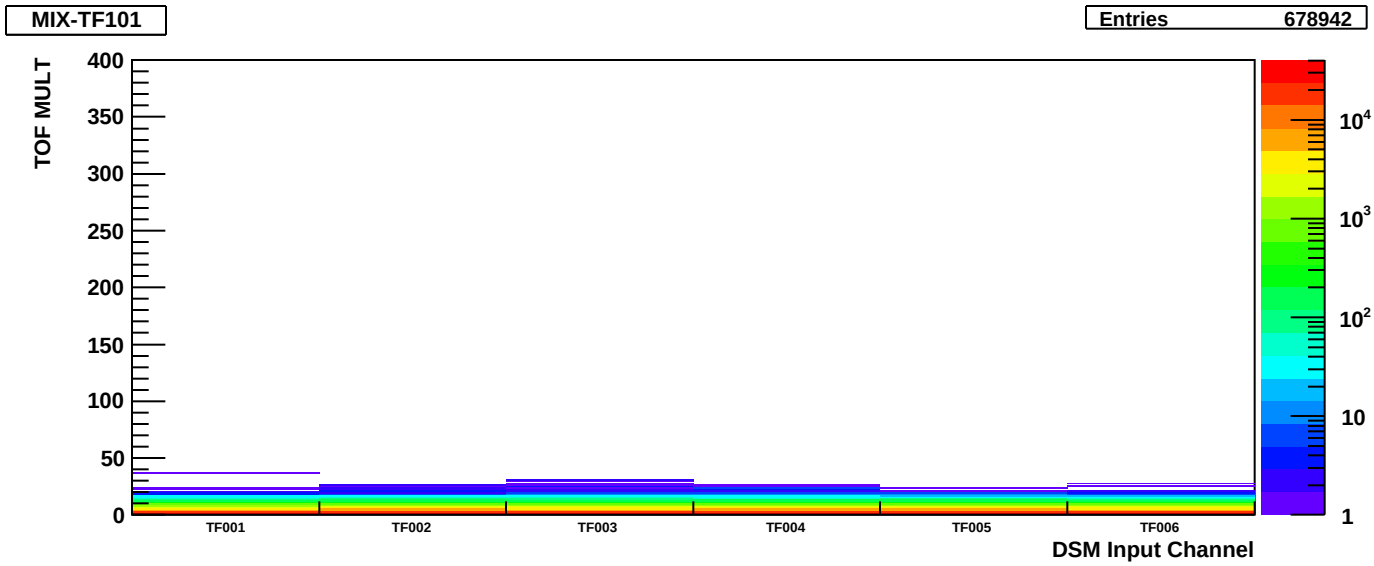

MIX-TF002
Entries 4752594
TOF MULT
TOF tray

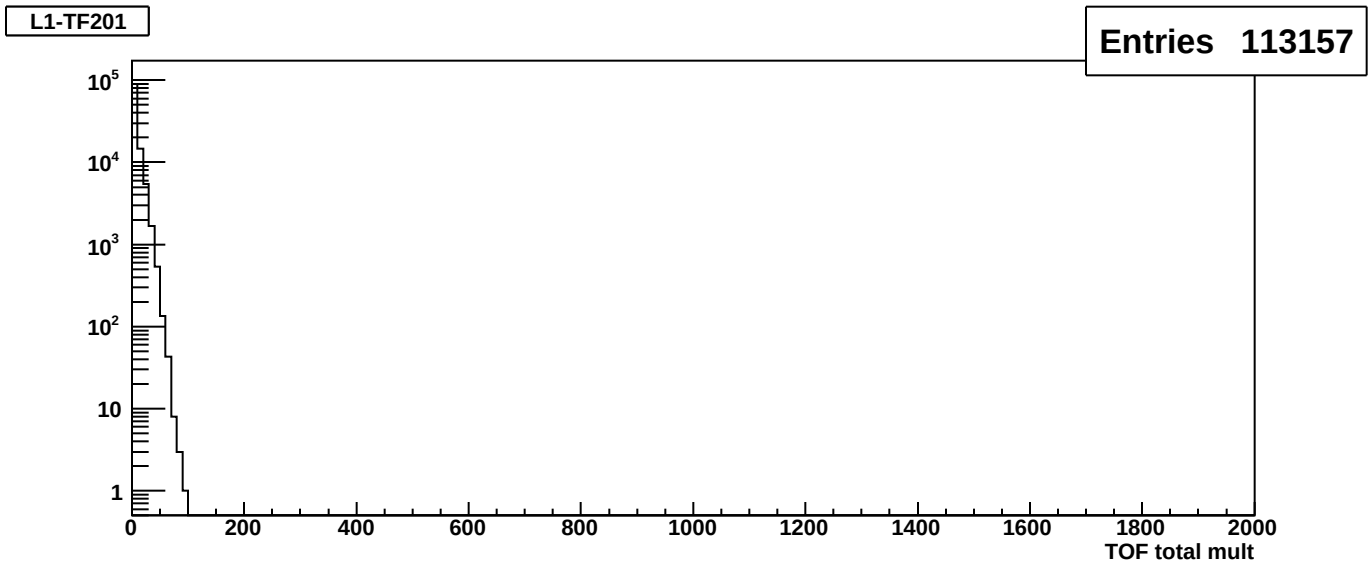

MIX-TF003
Entries 4752594
TOF MULT
TOF tray

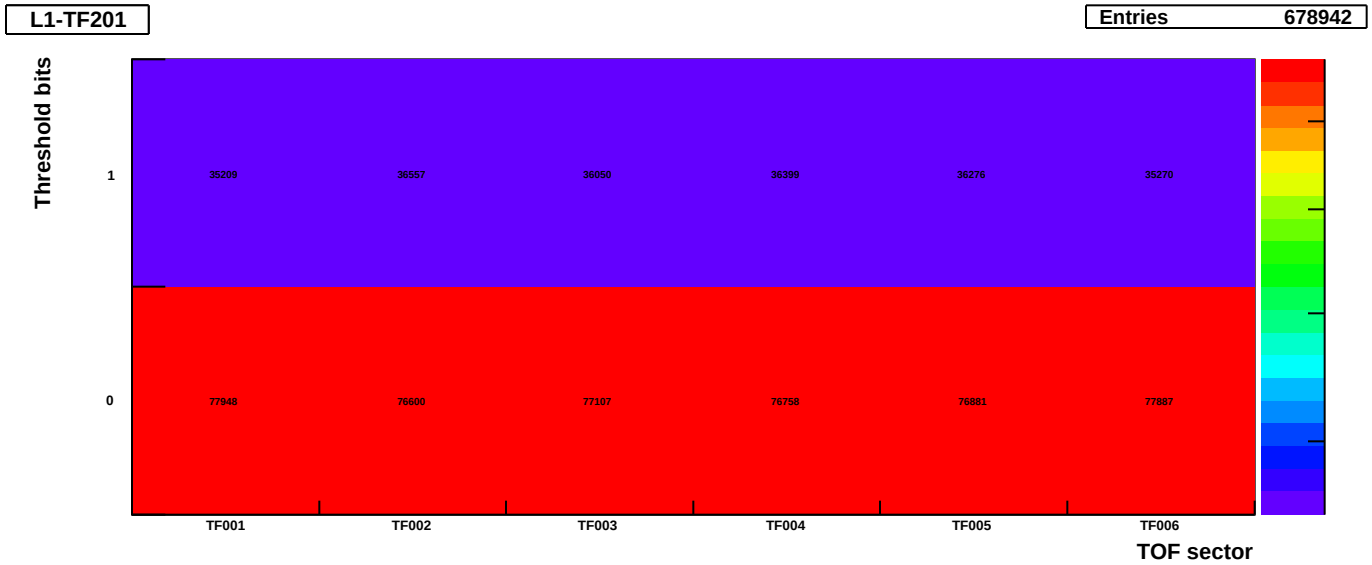

MIX-TF004
Entries 4752594
TOF MULT
TOF tray

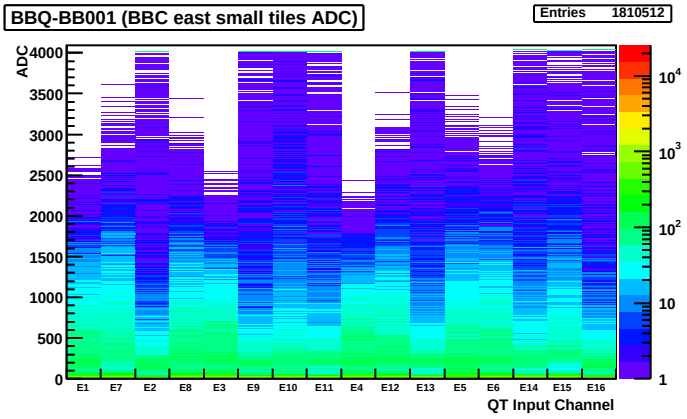

MIX-TF005
Entries 4752594
TOF MULT
TOF tray

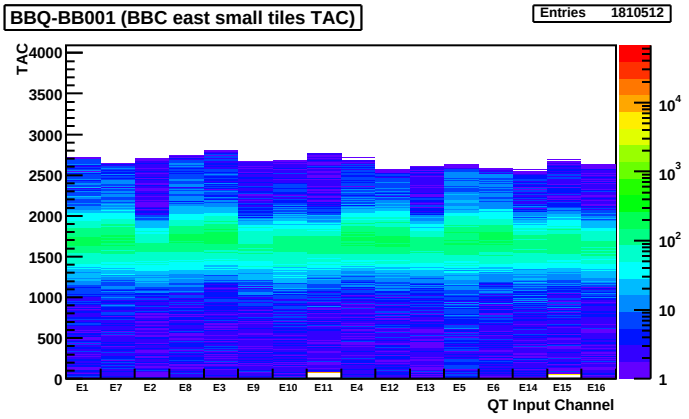

MIX-TF006
Entries 4752594
TOF MULT
TOF tray

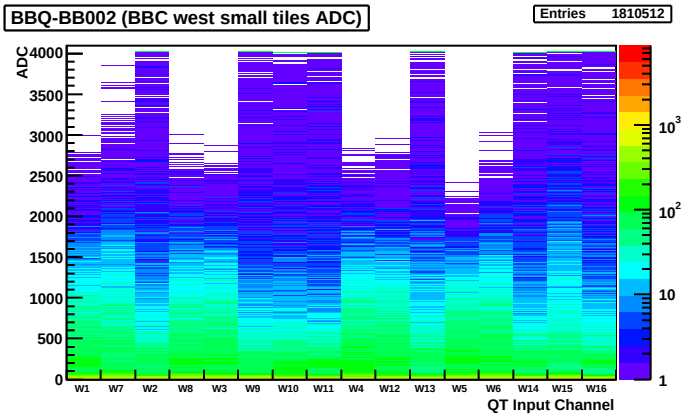

MIX-TF101
Entries 678942
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

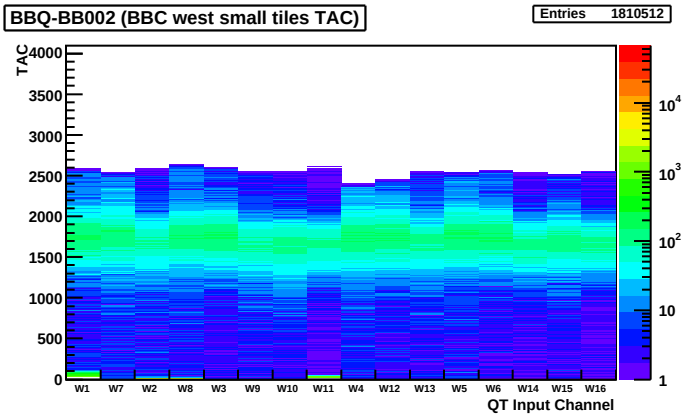

L1-TF201
Entries 113157
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

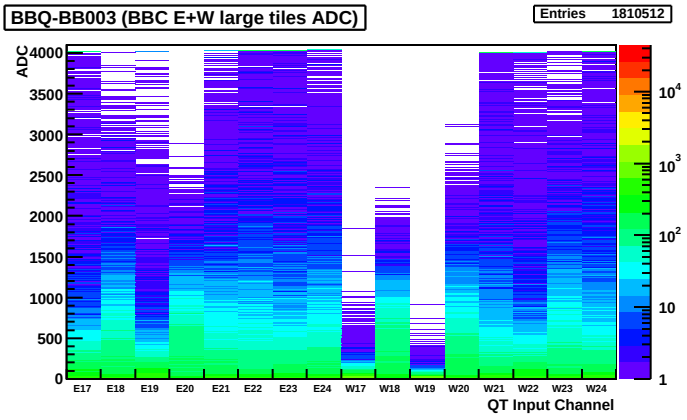

L1-TF201
Entries 678942
Threshold bits
1
0
35209
36557
36050
36399
36276
35270
77948
76600
77107
76758
76881
77887
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

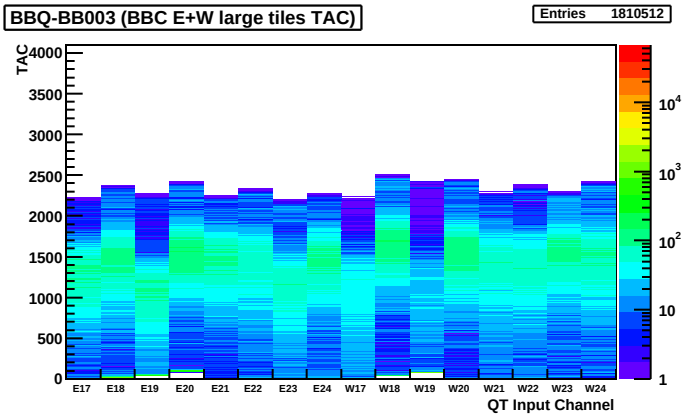

BBQ-BB001 (BBC east small tiles ADC)
Entries 1810512
ADC
QT Input Channel

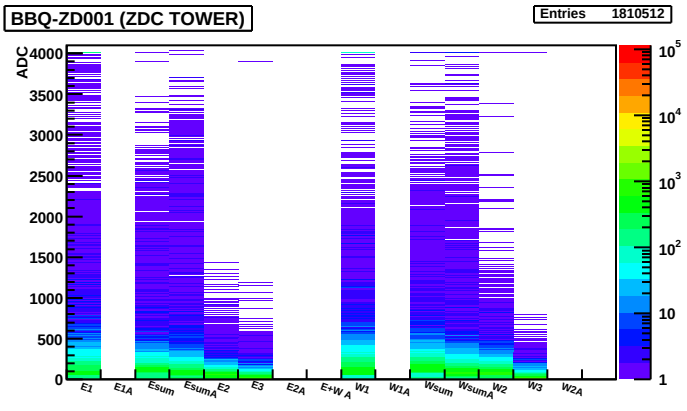

BBQ-BB001 (BBC east small tiles TAC)
Entries 1810512
TAC
QT Input Channel

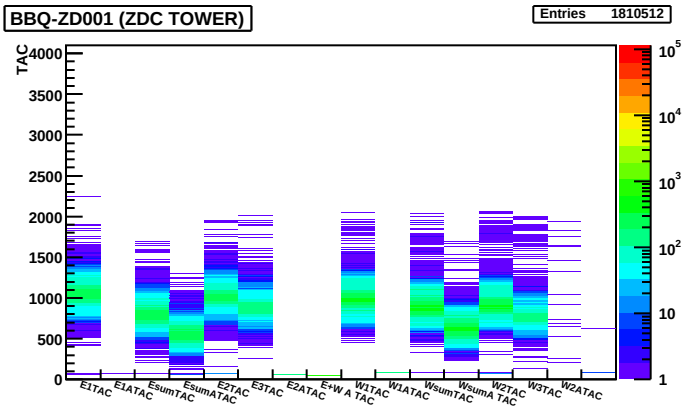

BBQ-BB002 (BBC west small tiles ADC)
Entries 1810512
ADC
QT Input Channel

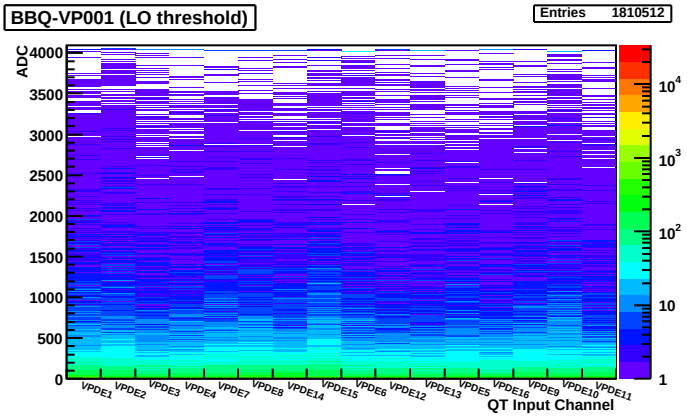

BBQ-BB002 (BBC west small tiles TAC)
Entries 1810512
TAC
QT Input Channel

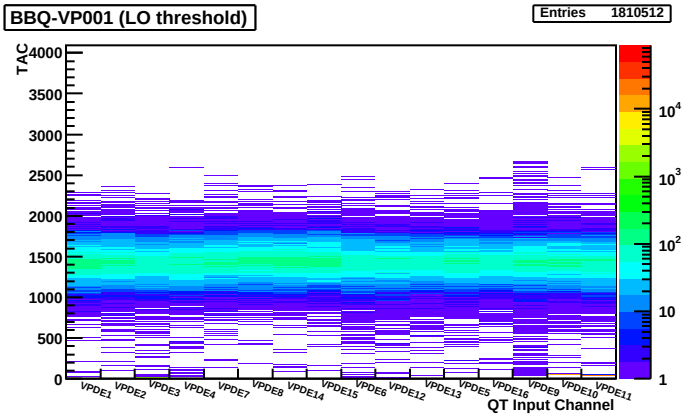

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1810512
ADC
QT Input Channel

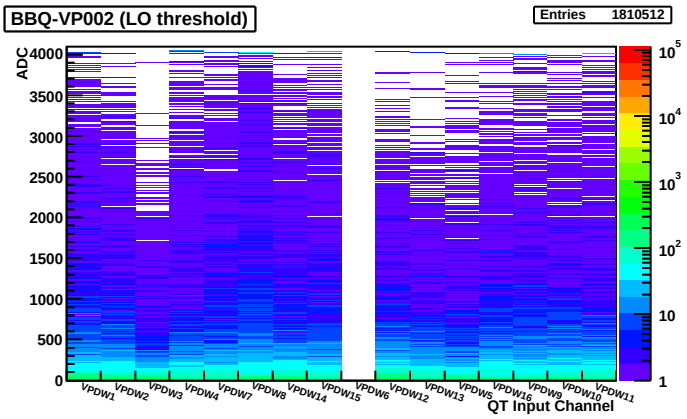

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1810512
TAC
QT Input Channel

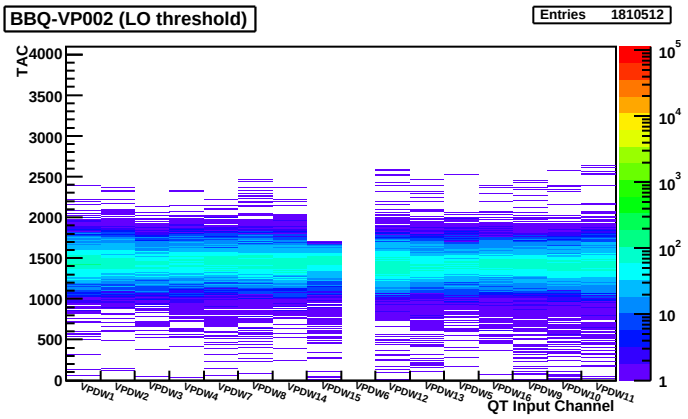

BBQ-ZD001 (ZDC TOWER)
Entries 1810512
ADC

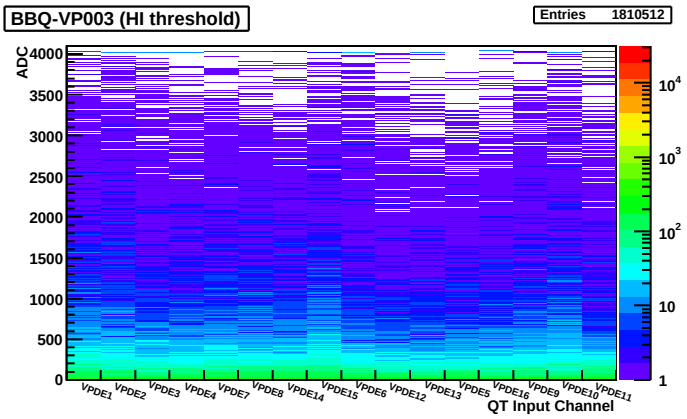

BBQ-ZD001 (ZDC TOWER)
Entries 1810512
TAC

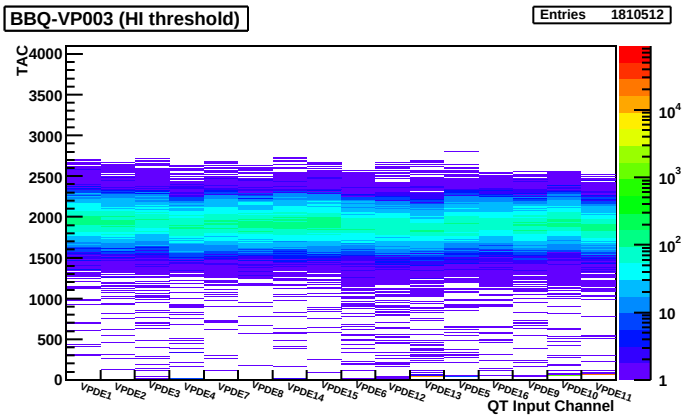

BBQ-VP001 (LO threshold)
Entries 1810512
ADC
QT Input Channel

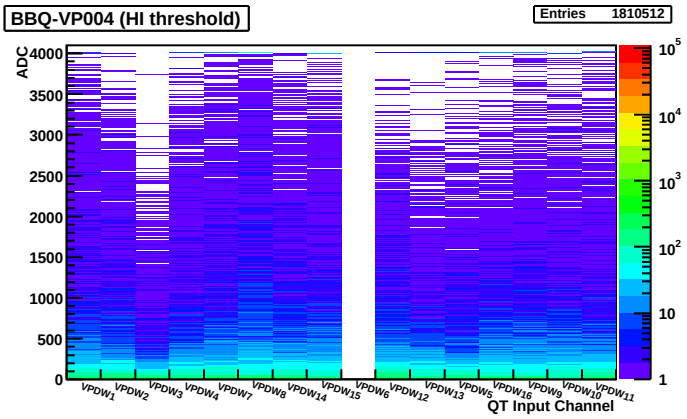

BBQ-VP001 (LO threshold)
Entries 1810512
TAC
QT Input Channel

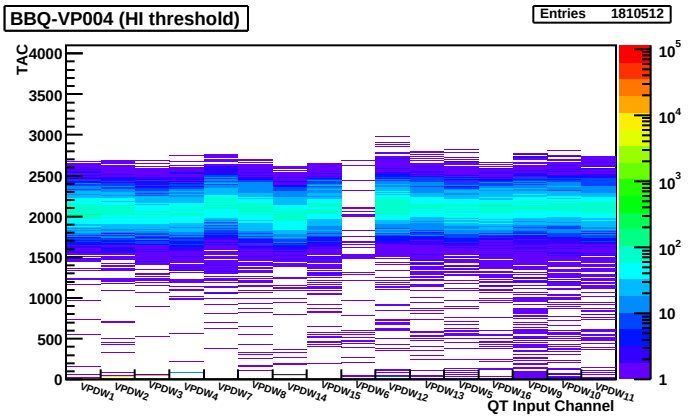

BBQ-VP002 (LO threshold)
Entries 1810512
ADC
QT Input Channel

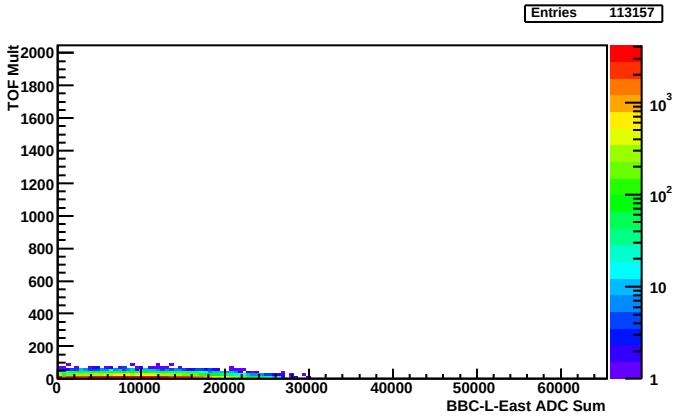

BBQ-VP002 (LO threshold)
Entries 1810512
TAC
QT Input Channel

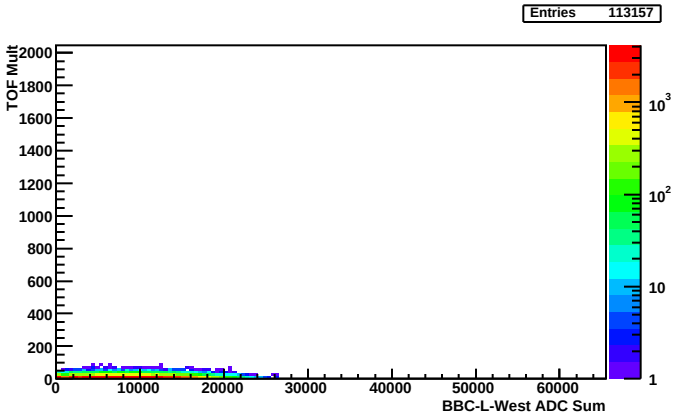

BBQ-VP003 (HI threshold)
Entries 1810512
ADC
QT Input Channel

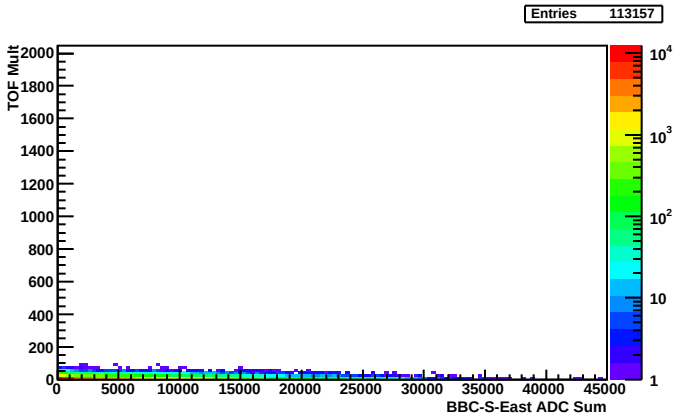

BBQ-VP003 (HI threshold)
Entries 1810512
TAC
QT Input Channel

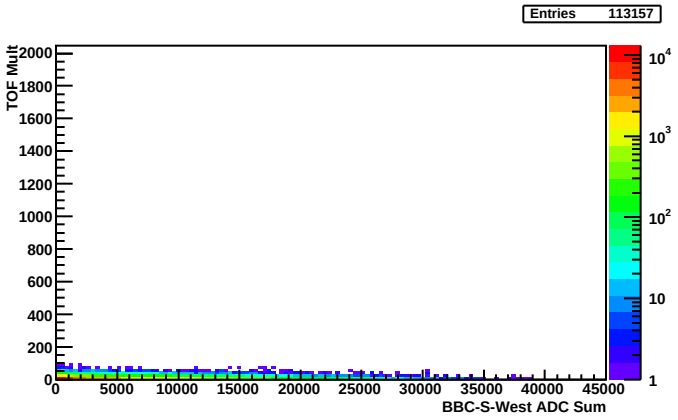

BBQ-VP004 (HI threshold)
Entries 1810512
ADC
QT Input Channel

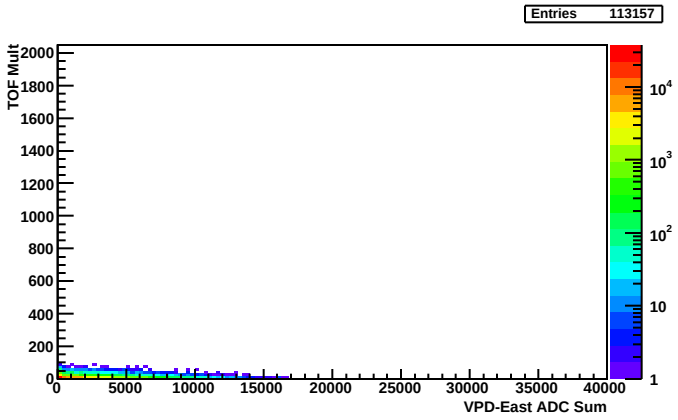

BBQ-VP004 (HI threshold)
Entries 1810512
TAC
QT Input Channel

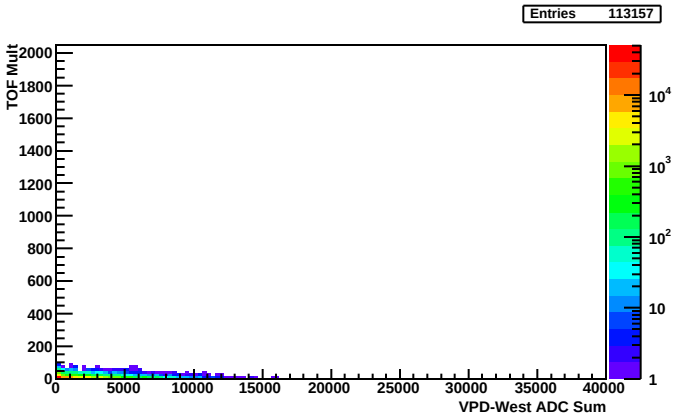

Entries 113157
TOF Mult
BBC-L-East ADC Sum

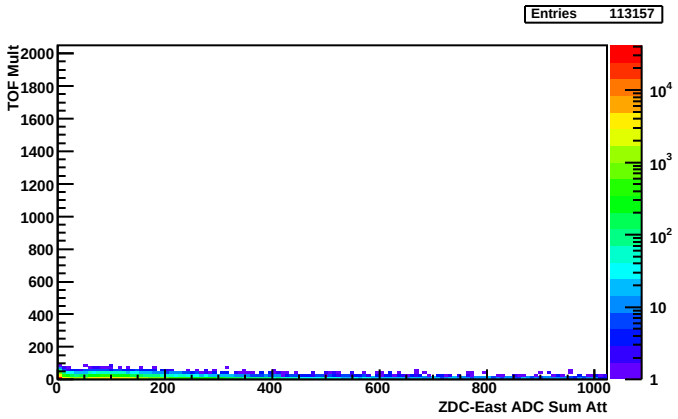

Entries 113157
TOF Mult
BBC-L-West ADC Sum

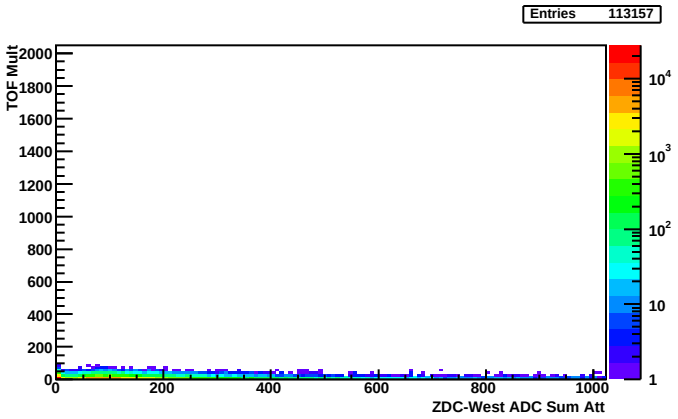

Entries 113157
TOF Mult
BBC-S-East ADC Sum

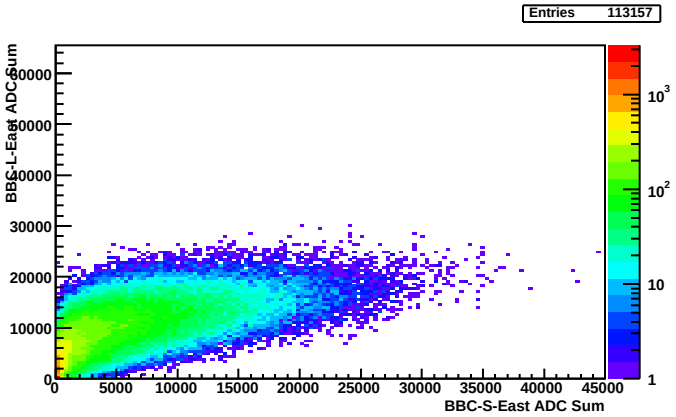

Entries 113157
TOF Mult
BBC-S-West ADC Sum

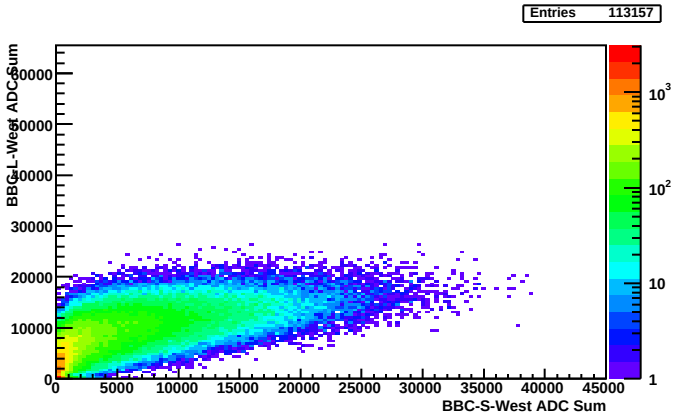

Entries 113157
TOF Mult
VPD-East ADC Sum

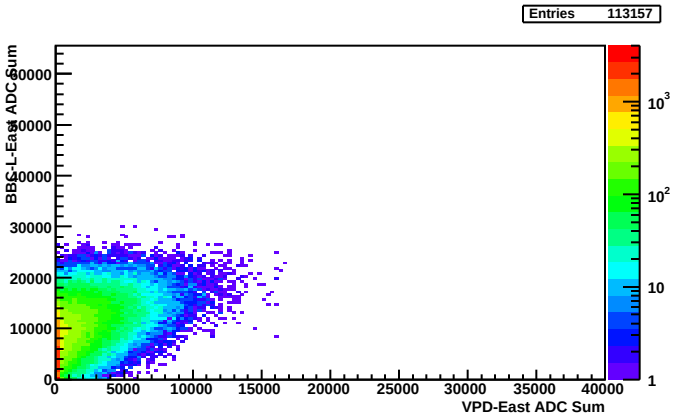

Entries 113157
TOF Mult
VPD-West ADC Sum

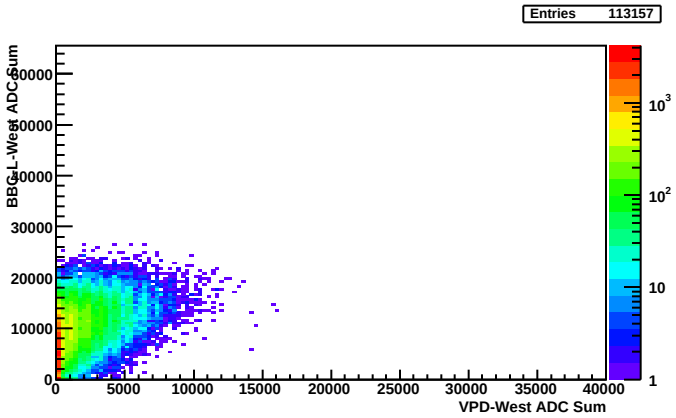

Entries 113157
TOF Mult
ZDC-East ADC Sum Att

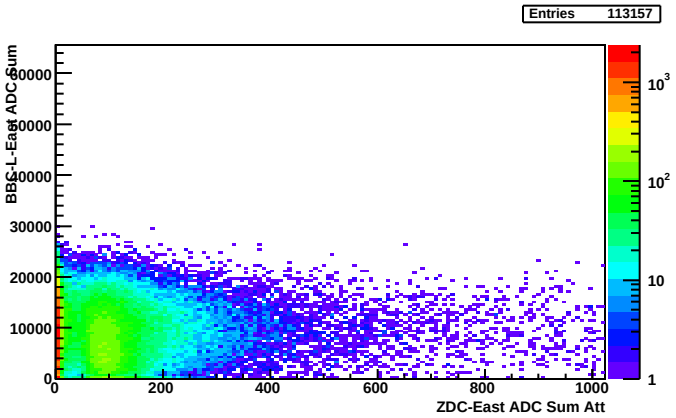

Entries 113157
TOF Mult
ZDC-West ADC Sum Att

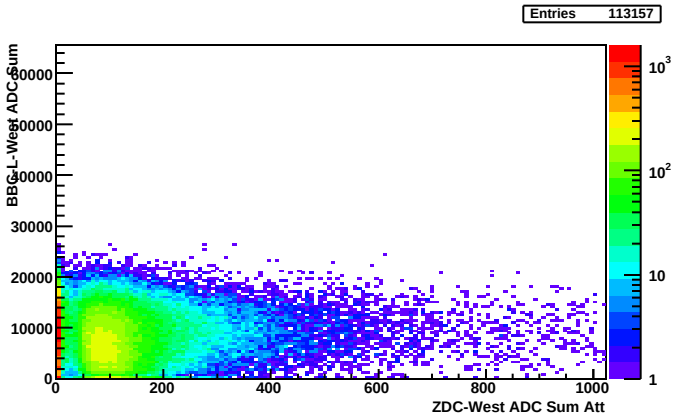

Entries 113157
BBC-L-East ADC Sum
BBC-S-East ADC Sum

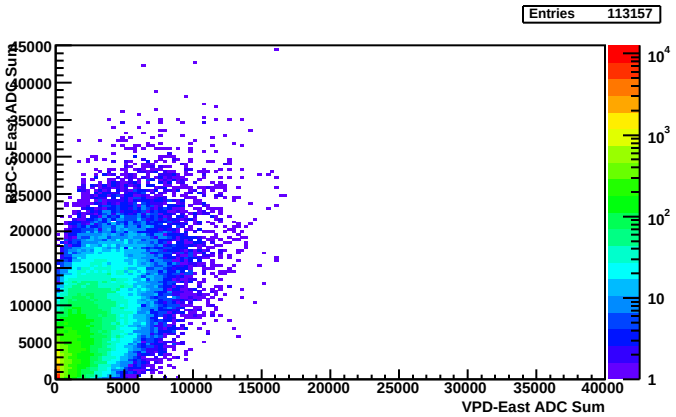

Entries 113157
BBC-L-West ADC Sum
BBC-S-West ADC Sum

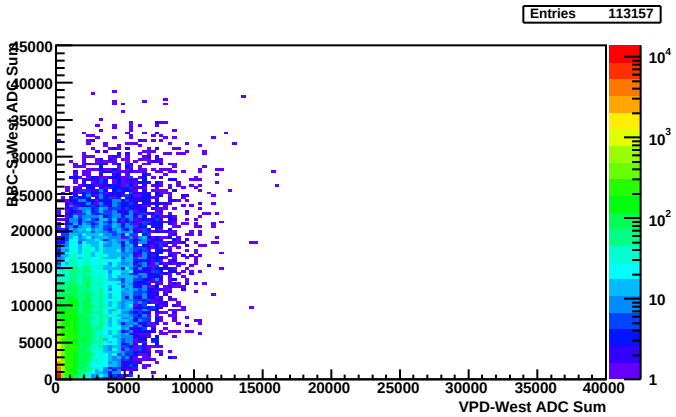

Entries 113157
BBC-L-East ADC Sum
VPD-East ADC Sum

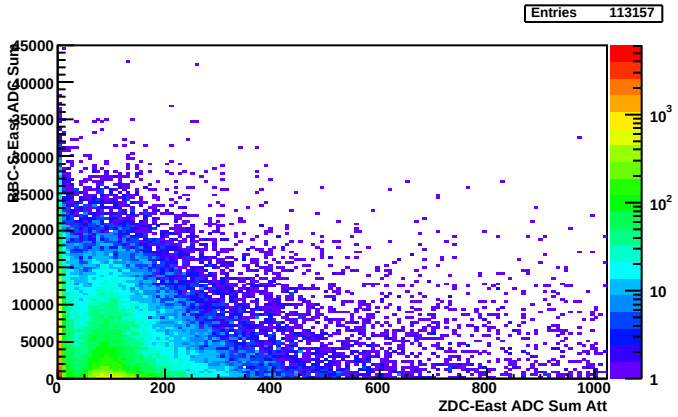

Entries 113157
BBC-L-West ADC Sum
VPD-West ADC Sum

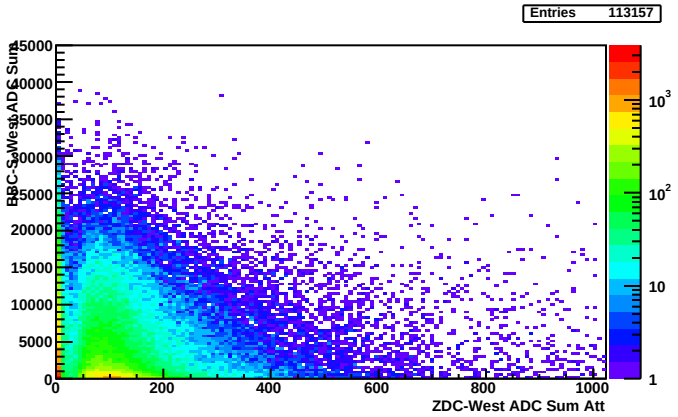

Entries 113157
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

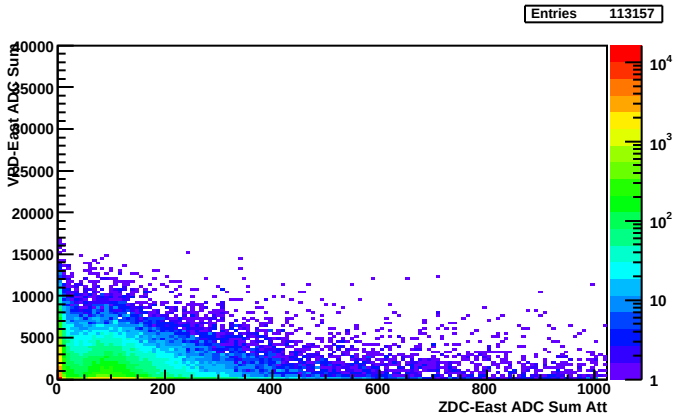

Entries 113157
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

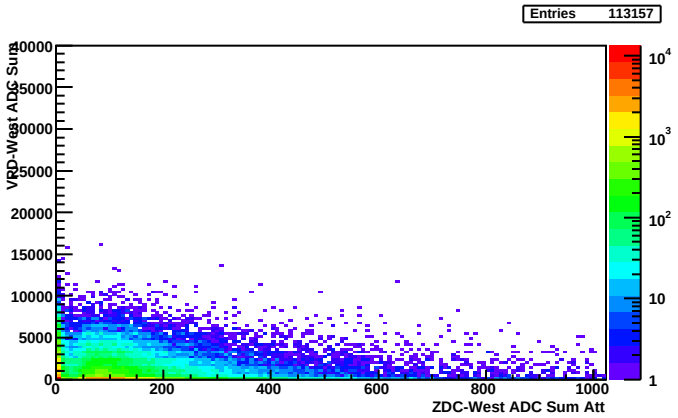

Entries 113157
BBC-S-East ADC Sum
VPD-East ADC Sum

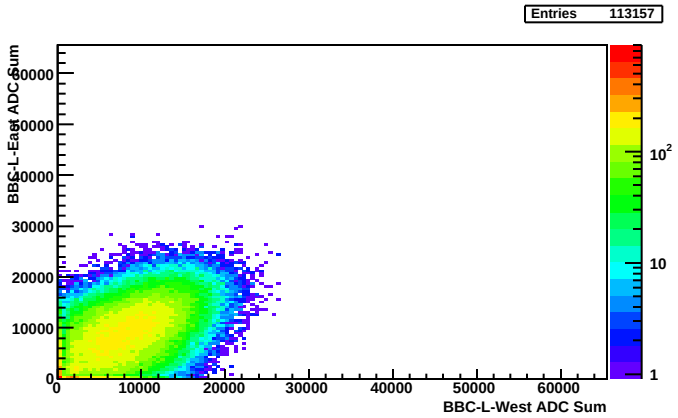

Entries 113157
BBC-S-West ADC Sum
VPD-West ADC Sum

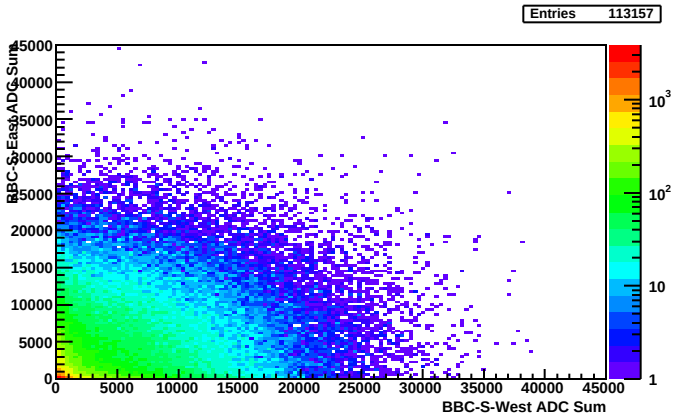

Entries 113157
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

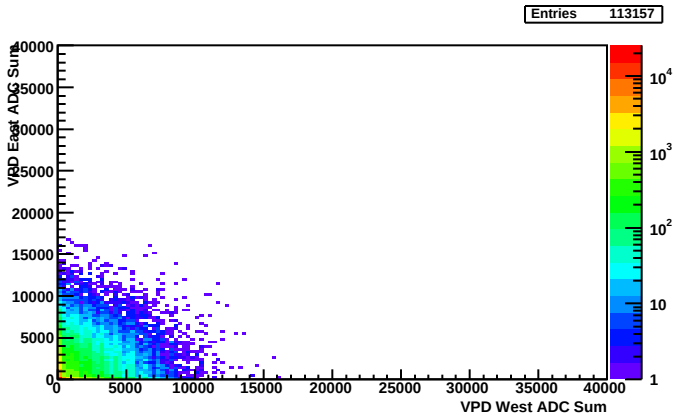

Entries 113157
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

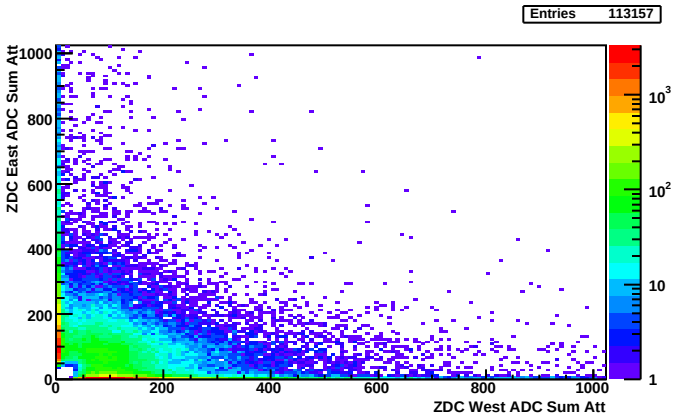

Entries 113157
VPD-East ADC Sum
ZDC-East ADC Sum Att

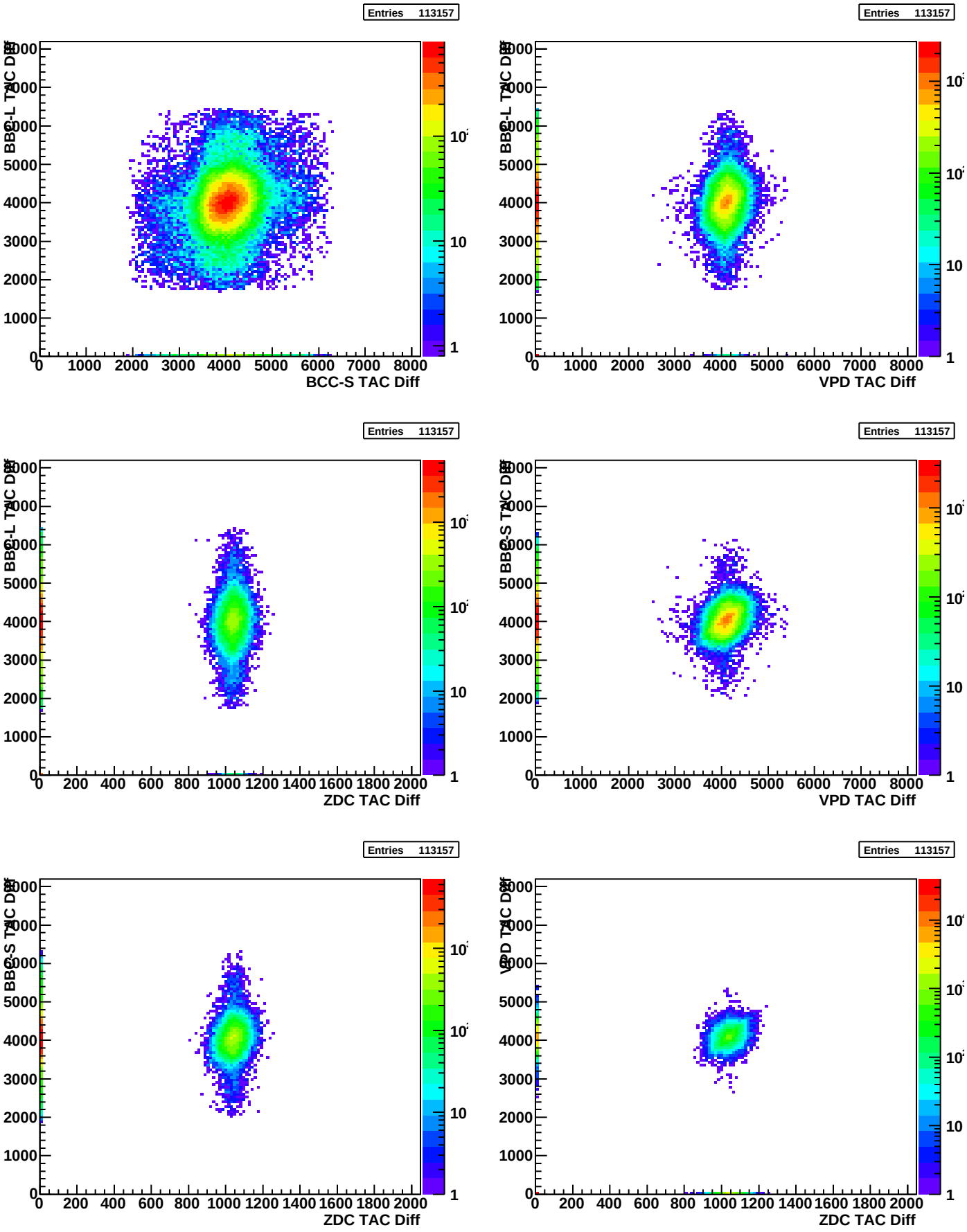

Entries 113157
VPD-West ADC Sum
ZDC-West ADC Sum Att

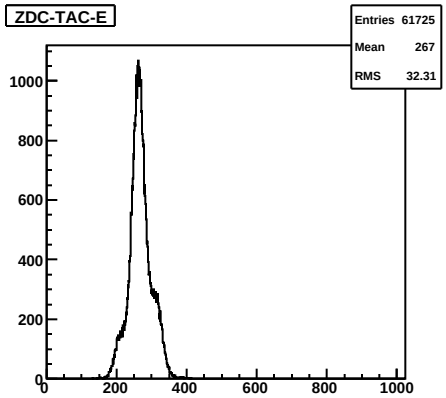

Entries 113157
BBC-L-East ADC Sum
BBC-L-West ADC Sum

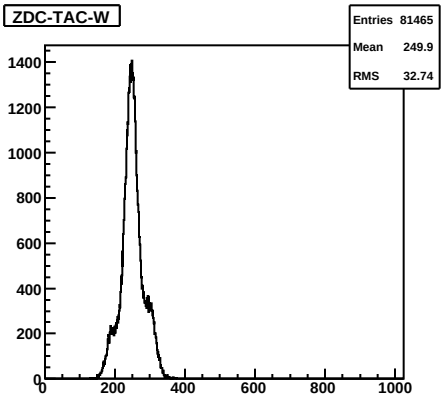

Entries 113157
BBC-S-East ADC Sum
BBC-S-West ADC Sum

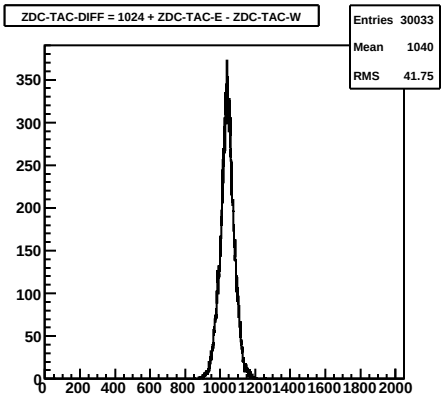

Entries 113157
VPD East ADC Sum
VPD West ADC Sum

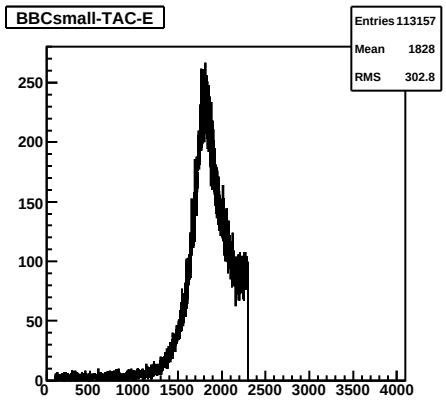

Entries 113157
ZDC East ADC Sum Att
ZDC West ADC Sum Att

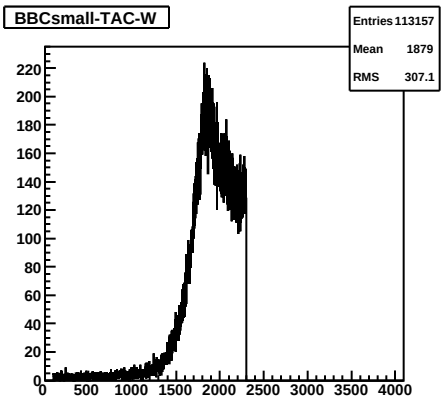

Entries 113157
BBC-L TAC Diff
BCC-S TAC Diff
Entries 113157
BBC-L TAC Diff
VPD TAC Diff
Entries 113157
BBC-L TAC Diff
ZDC TAC Diff
Entries 113157
BBC-S TAC Diff
VPD TAC Diff
Entries 113157
BBC-S TAC Diff
ZDC TAC Diff
Entries 113157
VPD TAC Diff
ZDC TAC Diff

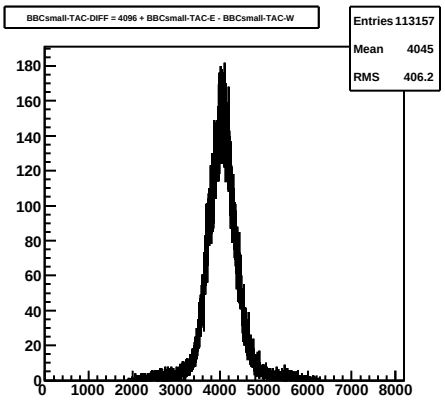

ZDC-TAC-E
Entries 61725
Mean 267
RMS 32.31

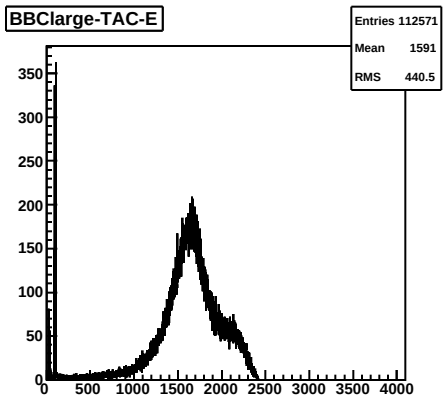

ZDC-TAC-W
Entries 81465
Mean 249.9
RMS 32.74

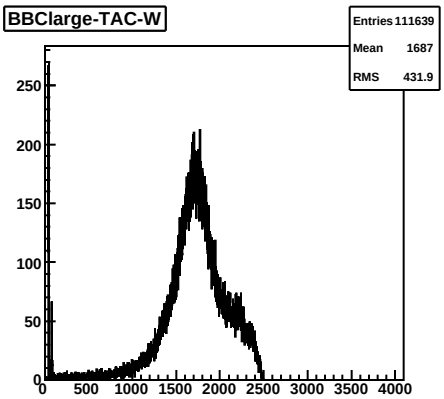

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 30033
Mean 1040
RMS 41.75

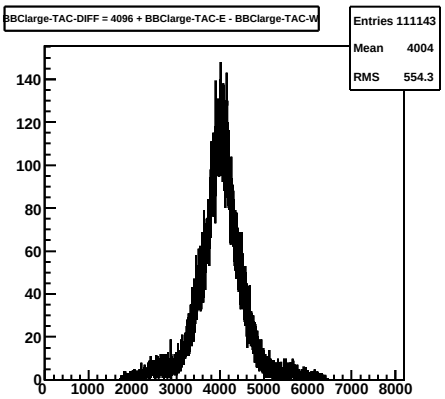

BBCsmall-TAC-E
Entries 113157
Mean 1828
RMS 302.8

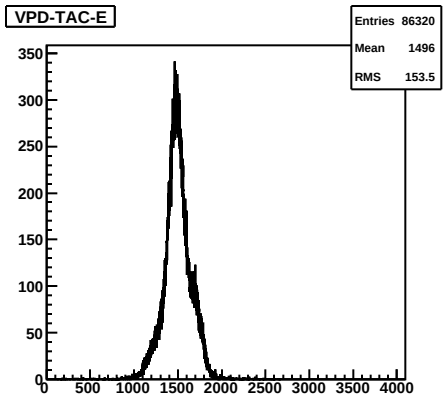

BBCsmall-TAC-W
Entries 113157
Mean 1879
RMS 307.1

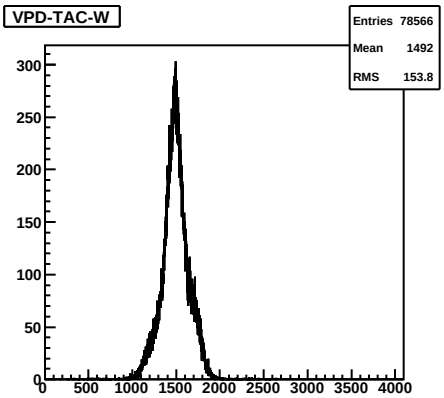

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 113157
Mean 4045
RMS 406.2

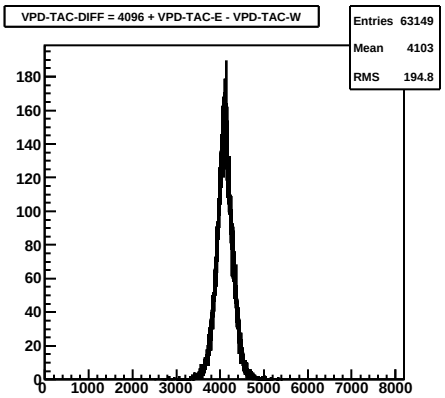

BBClarge-TAC-E
Entries 112571
Mean 1591
RMS 440.5

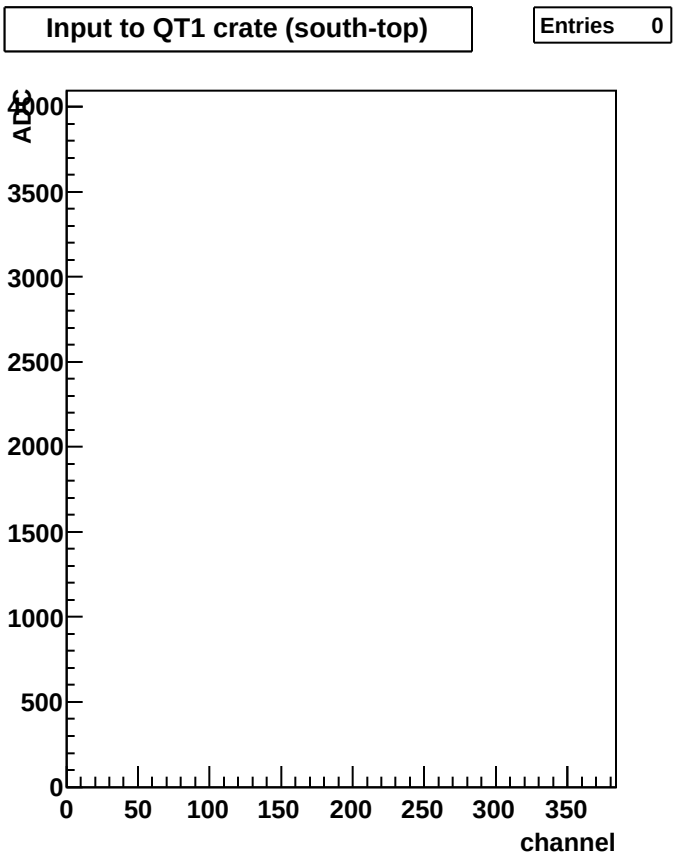

BBClarge-TAC-W
Entries 111639
Mean 1687
RMS 431.9

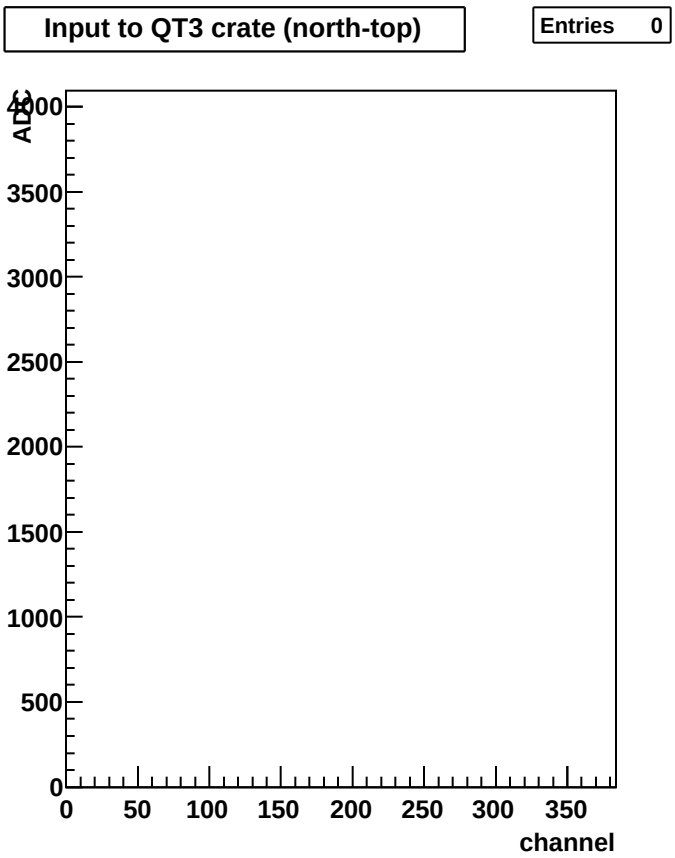

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 111143
Mean 4004
RMS 554.3

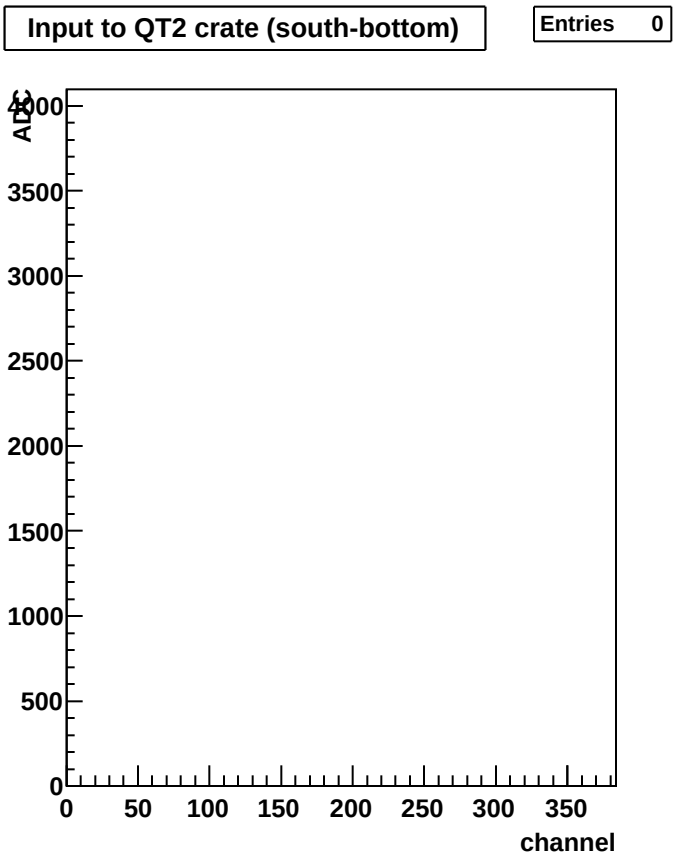

VPD-TAC-E
Entries 86320
Mean 1496
RMS 153.5

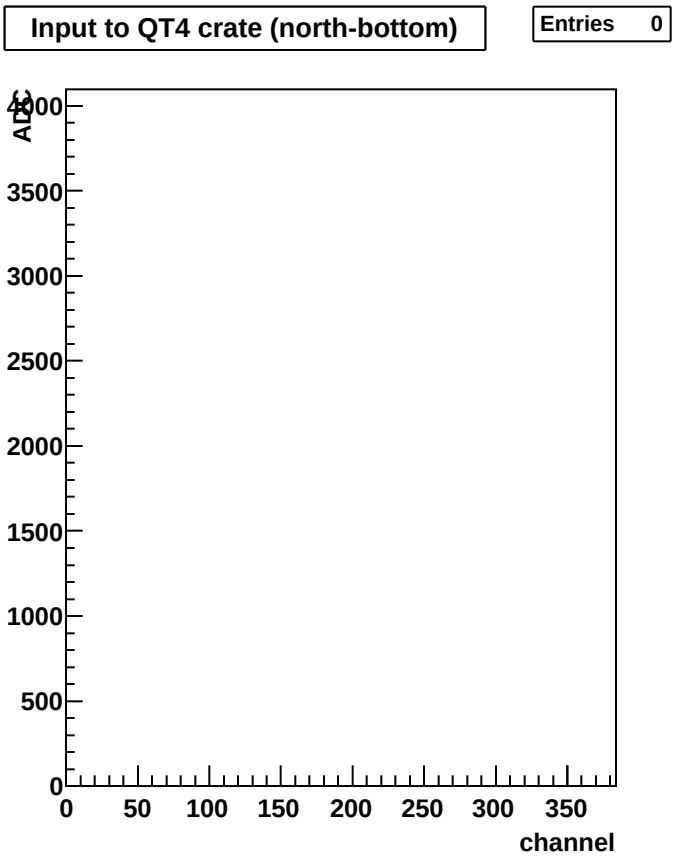

VPD-TAC-W
Entries 78566
Mean 1492
RMS 153.8

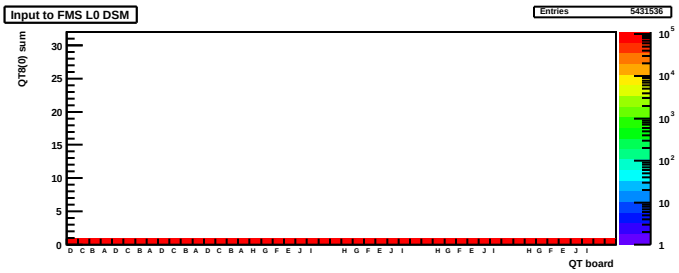

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 63149
Mean 4103
RMS 194.8

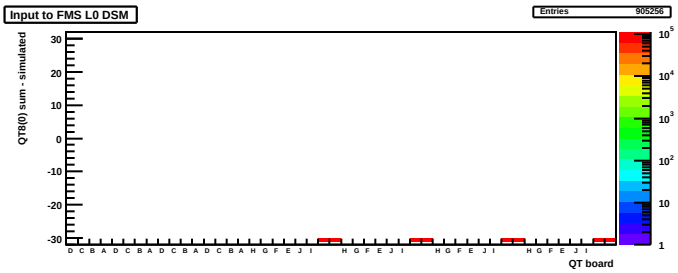

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

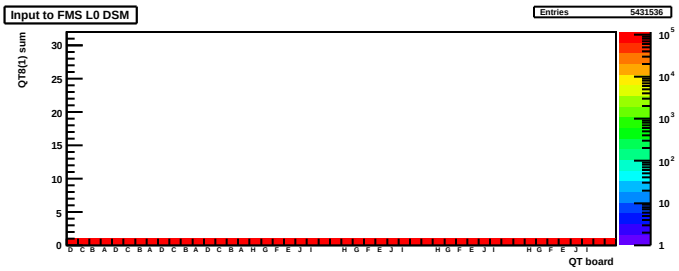

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

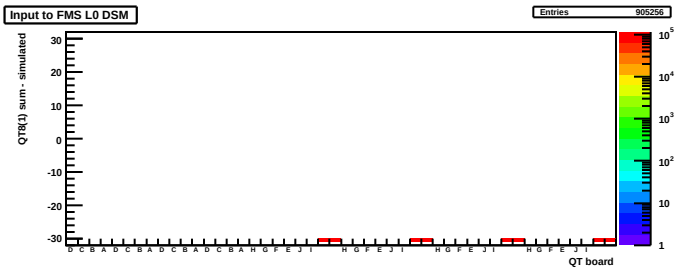

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

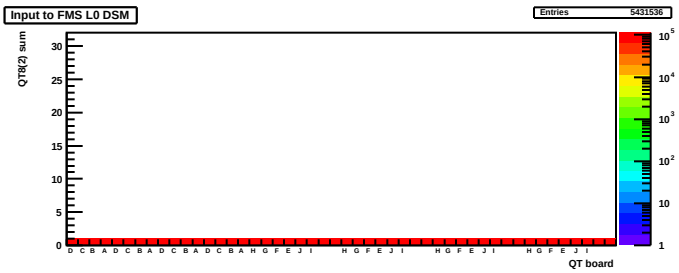

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

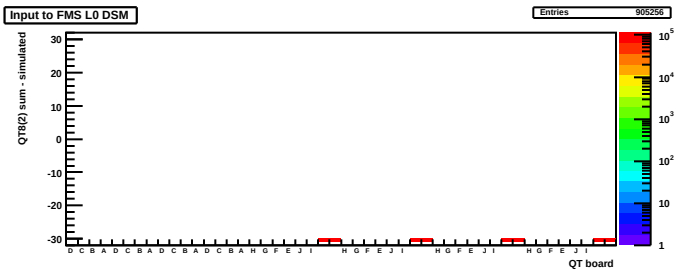

Input to FMS L0 DSM
Entries 5431536
QT8(0) sum
QT board

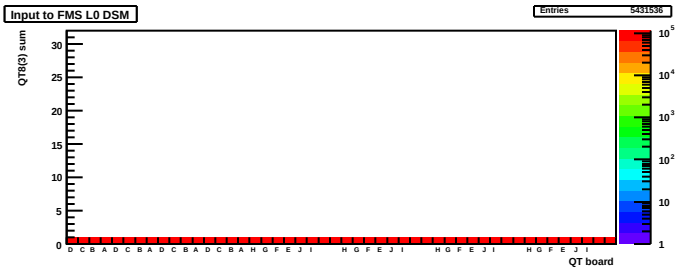

Input to FMS L0 DSM
Entries 905256
QT8(0) sum - simulated
QT board

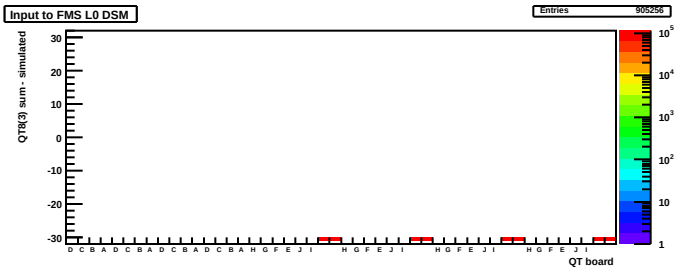

Input to FMS L0 DSM
Entries 5431536
QT8(1) sum
QT board

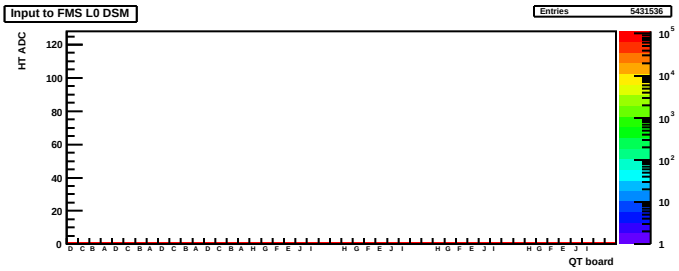

Input to FMS L0 DSM
Entries 905256
QT8(1) sum - simulated
QT board

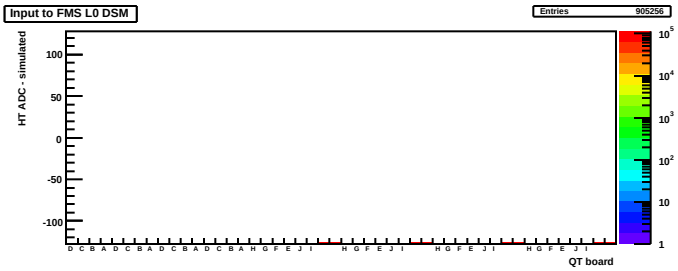

Input to FMS L0 DSM
Entries 5431536
QT8(2) sum
QT board

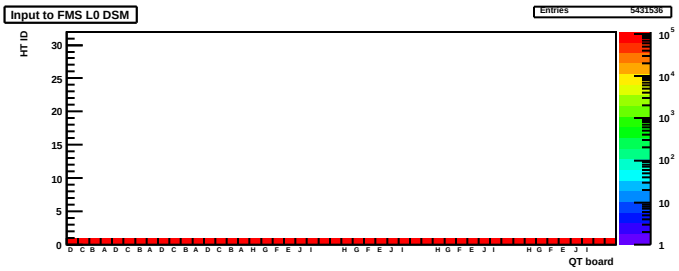

Input to FMS L0 DSM
Entries 905256
QT8(2) sum - simulated
QT board

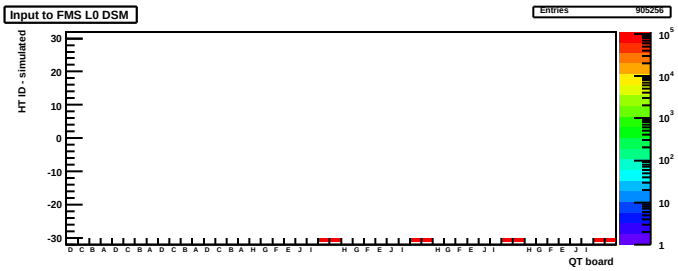

Input to FMS L0 DSM
Entries 5431536
QT8(3) sum
QT board

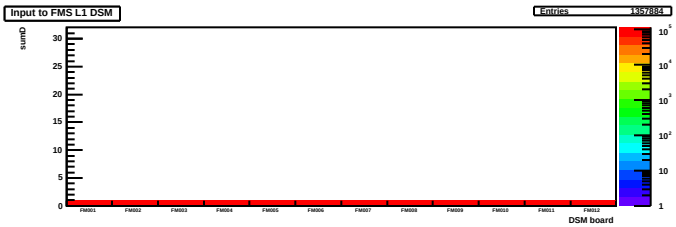

Input to FMS L0 DSM
Entries 905256
QT8(3) sum - simulated
QT board

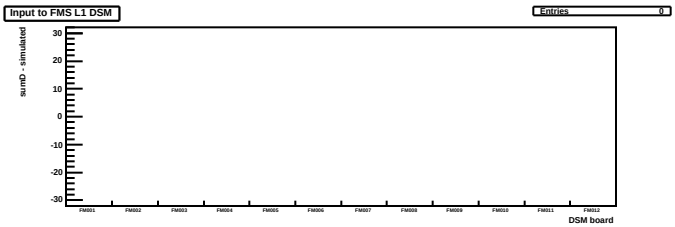

Input to FMS L0 DSM
Entries 5431536
HT ADC
QT board

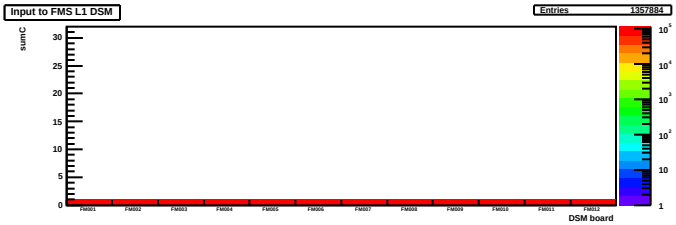

Input to FMS L0 DSM
Entries 905256
HT ADC - simulated
QT board

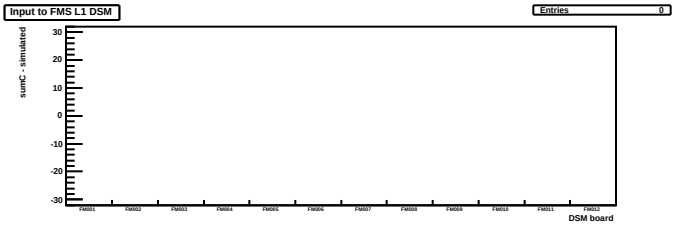

Input to FMS L0 DSM
Entries 5431536
HT ID
QT board

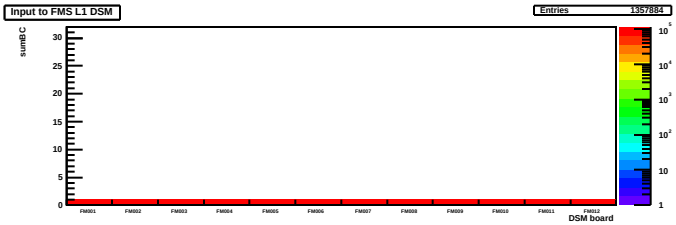

Input to FMS L0 DSM
Entries 905256
HT ID - simulated
QT board

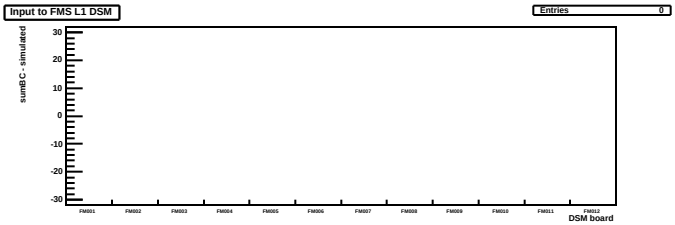

Input to FMS L1 DSM
Entries 1357884
sumD
DSM board

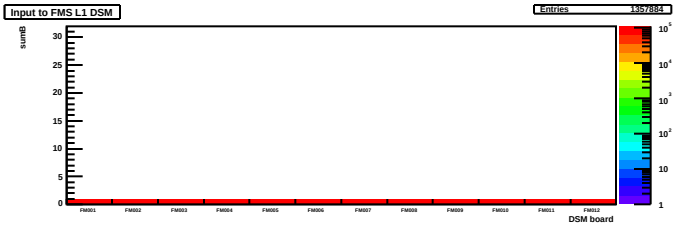

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

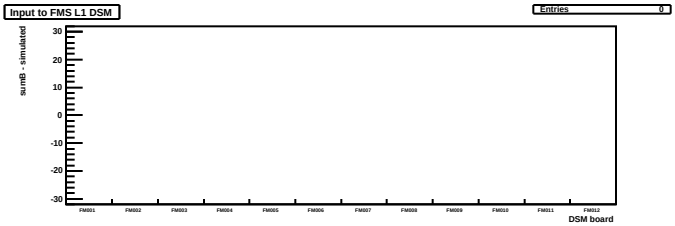

Input to FMS L1 DSM
Entries 1357884
sumC
DSM board

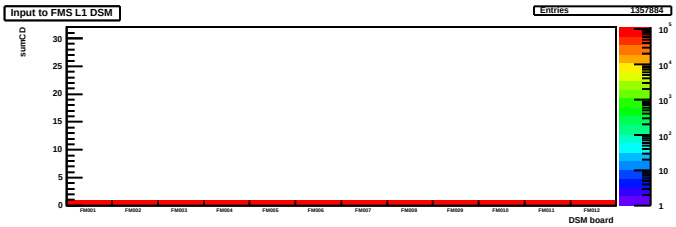

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

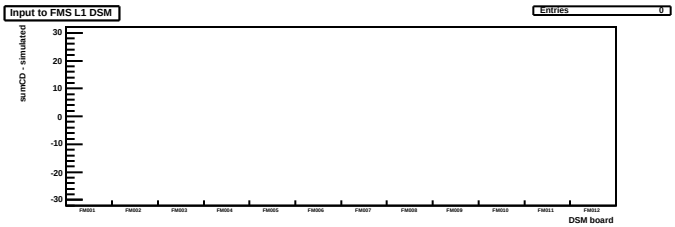

Input to FMS L1 DSM
Entries 1357884
sumBC
DSM board

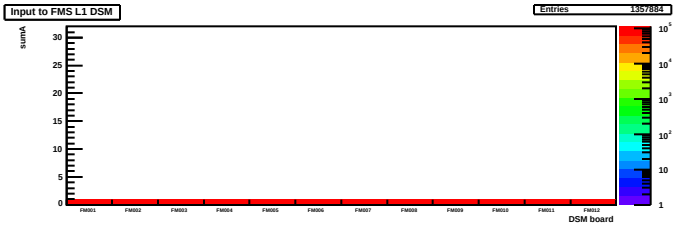

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

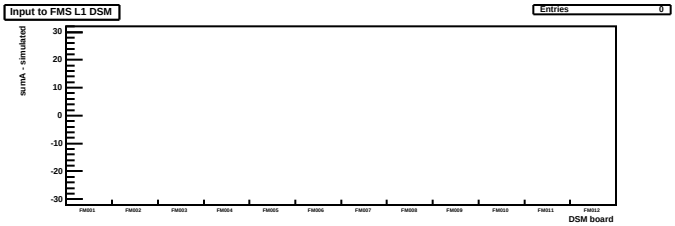

Input to FMS L1 DSM
Entries 1357884
sumB
DSM board

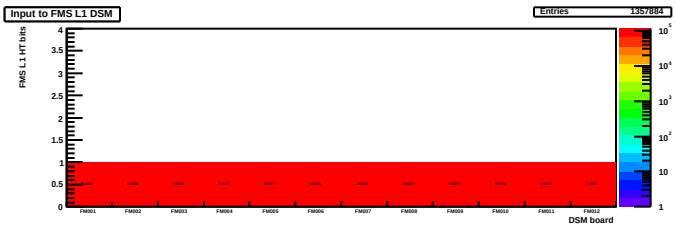

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

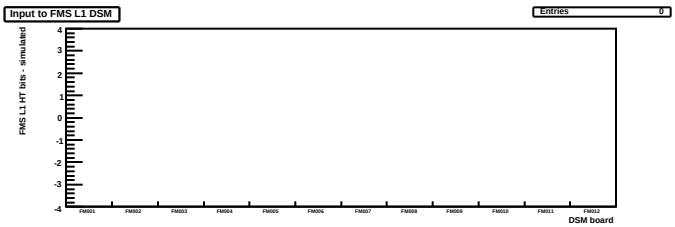

Input to FMS L1 DSM
Entries 1357884
sumCD
DSM board

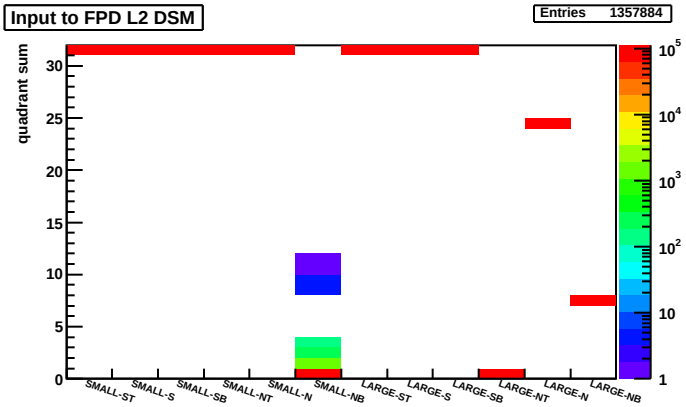

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

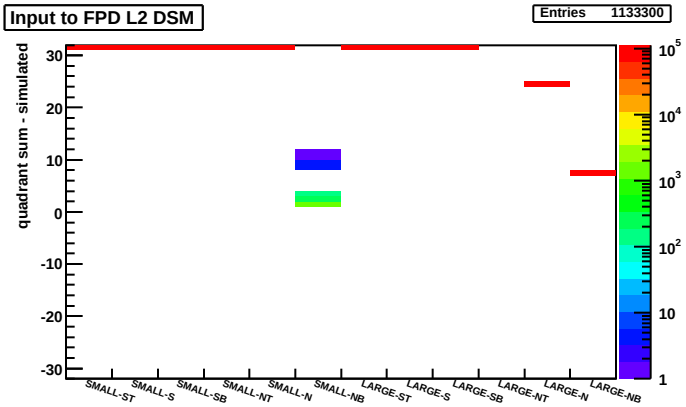

Input to FMS L1 DSM
Entries 1357884
sumA
DSM board

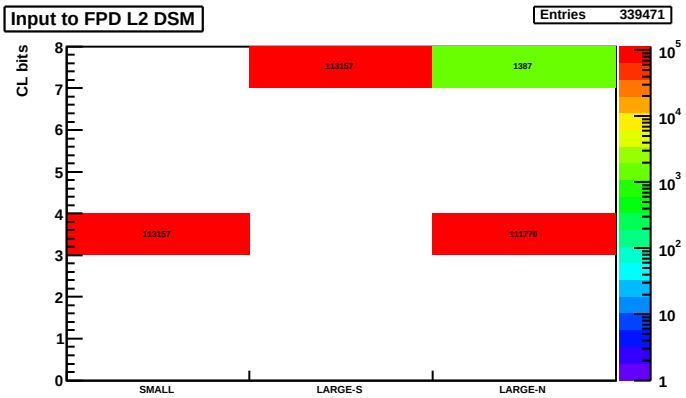

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

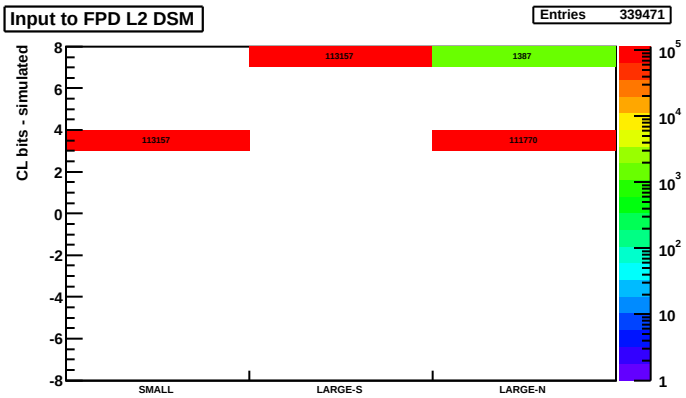

Input to FMS L1 DSM
Entries 1357884
FMS L1 HT bits
DSM board

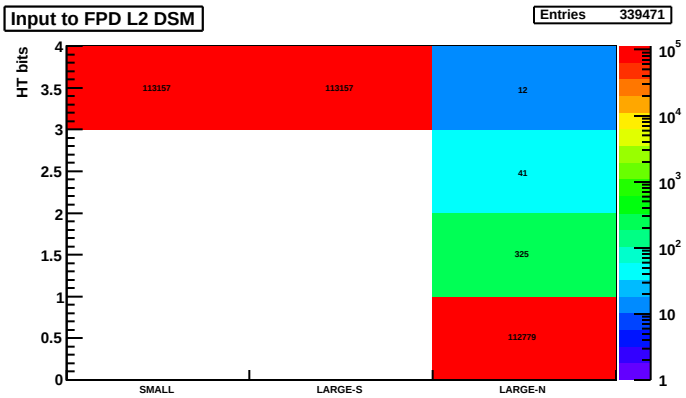

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

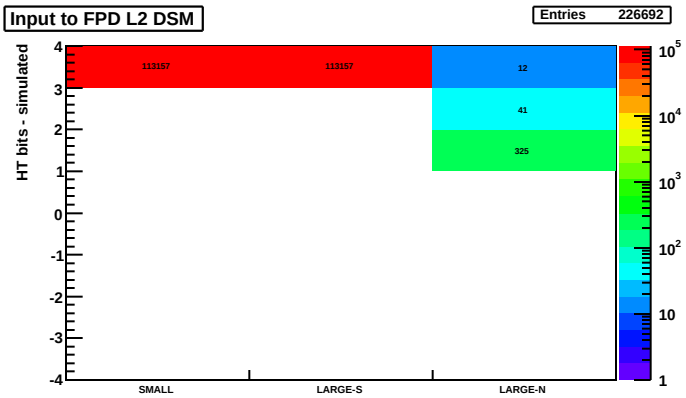

Input to FPD L2 DSM
Entries 1357884
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

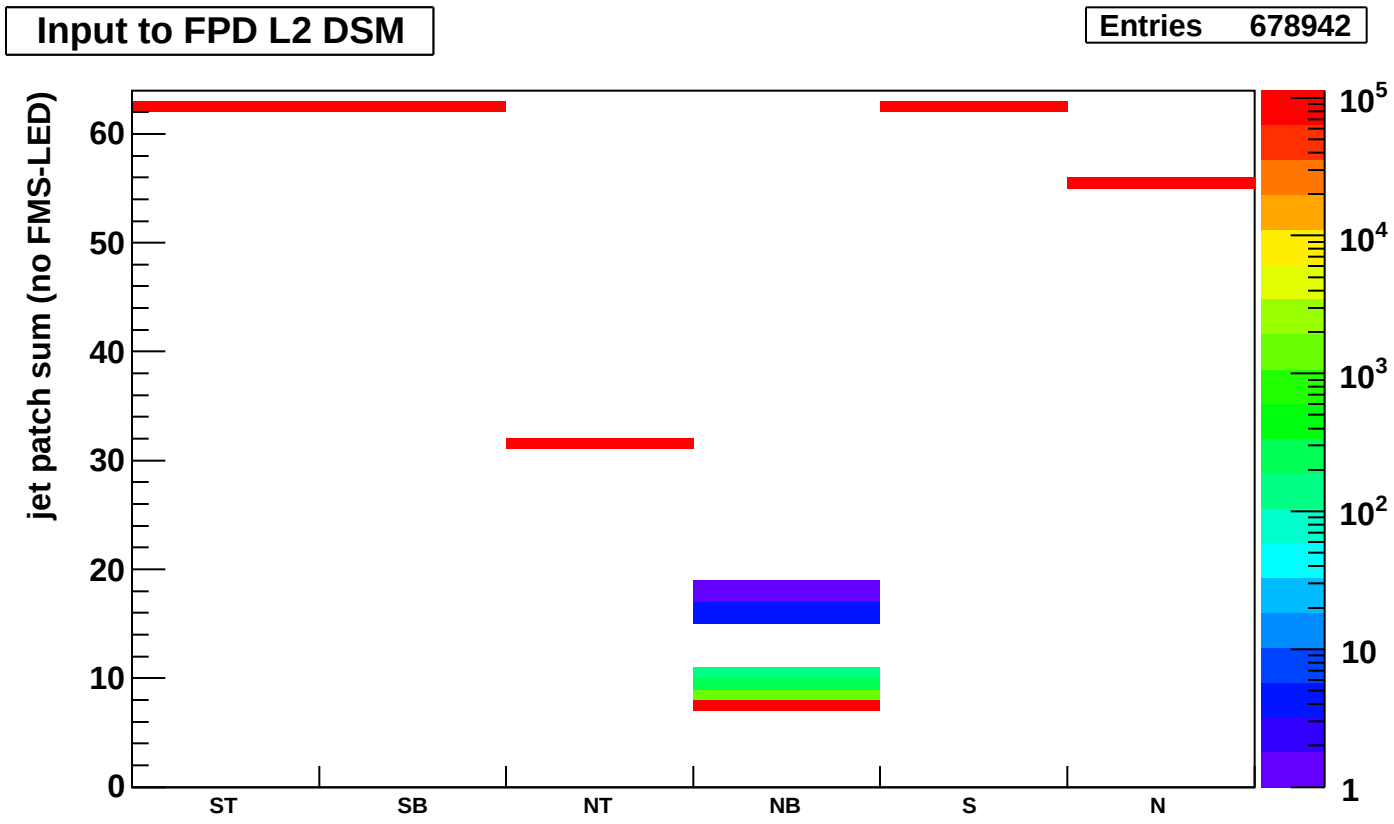

Input to FPD L2 DSM
Entries 1133300
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

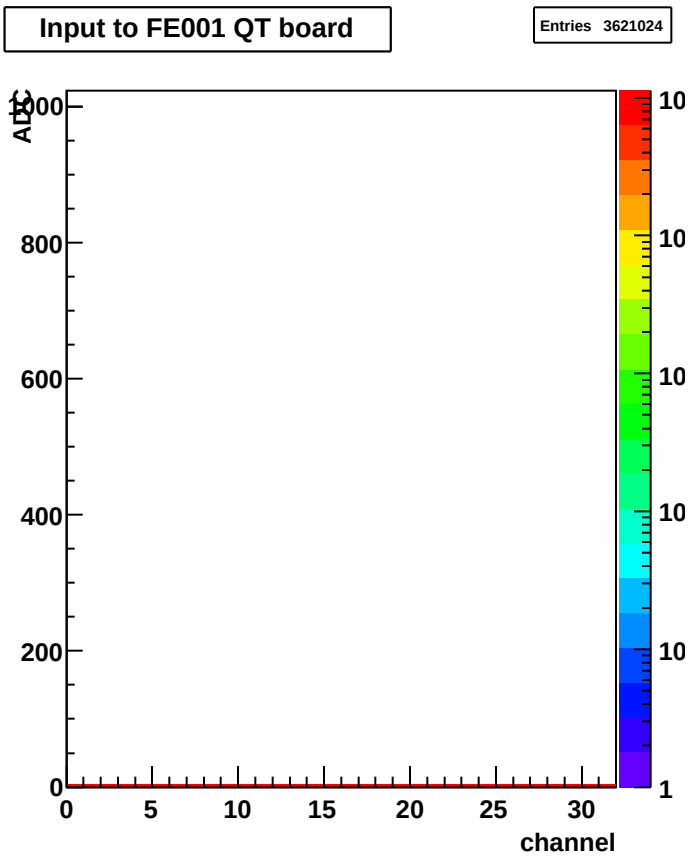

Input to FPD L2 DSM
Entries 339471
CL bits
113157
1387
113157
111770
SMALL
LARGE-S
LARGE-N

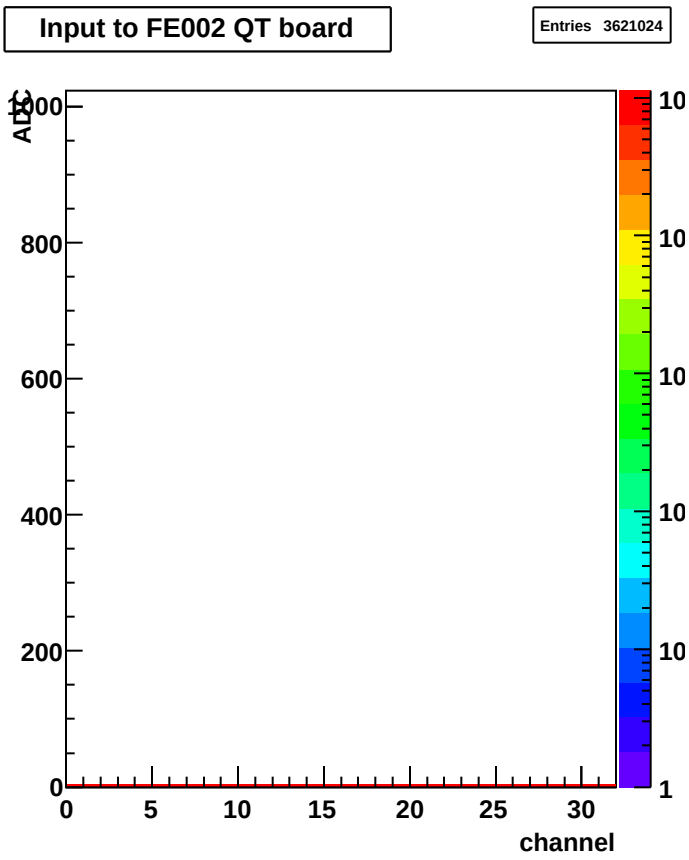

Input to FPD L2 DSM
Entries 339471
CL bits - simulated
113157
1387
113157
111770
SMALL
LARGE-S
LARGE-N

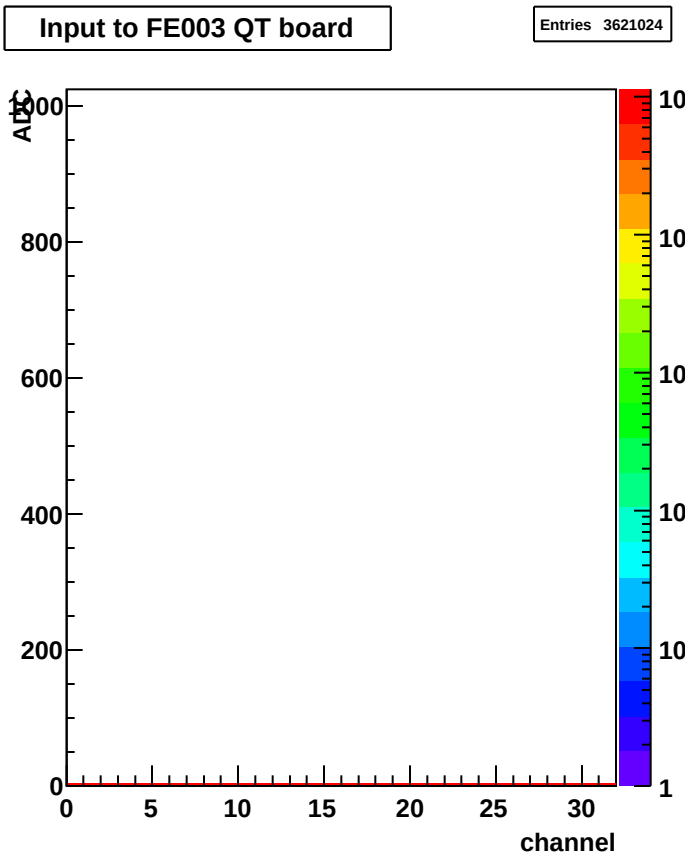

Input to FPD L2 DSM
Entries 339471
HT bits
113157
113157
12
41
325
112779
SMALL
LARGE-S
LARGE-N

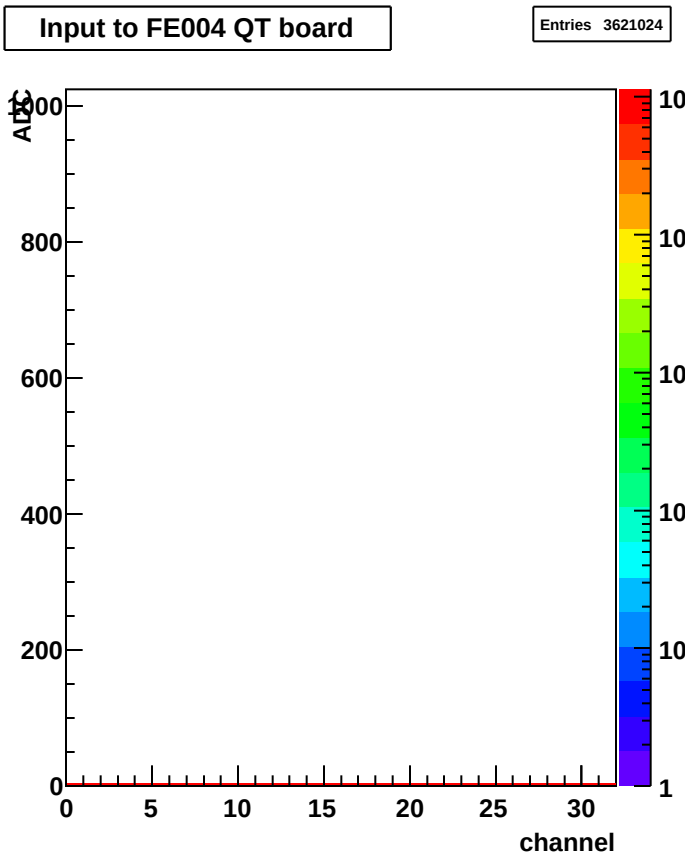

Input to FPD L2 DSM
Entries 226692
HT bits - simulated
113157
113157
12
41
325
SMALL
LARGE-S
LARGE-N

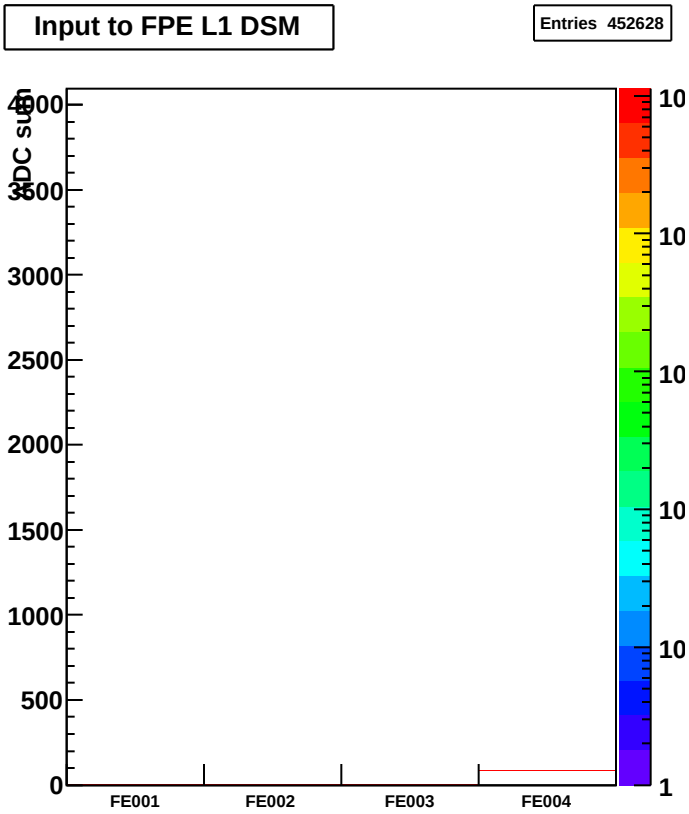

Input to FPD L2 DSM
Entries 678942
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

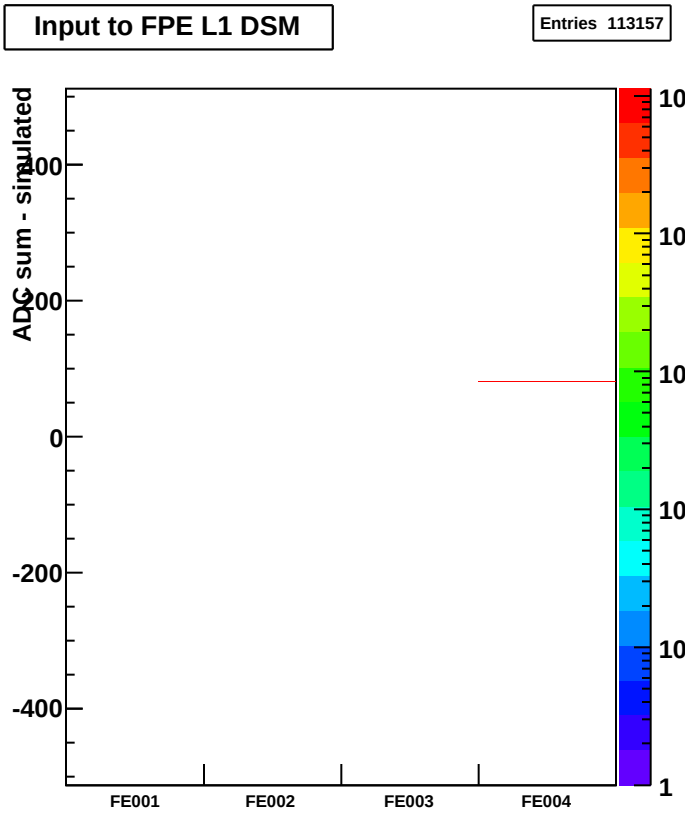

Input to FE001 QT board
Entries 3621024
ADC
channel

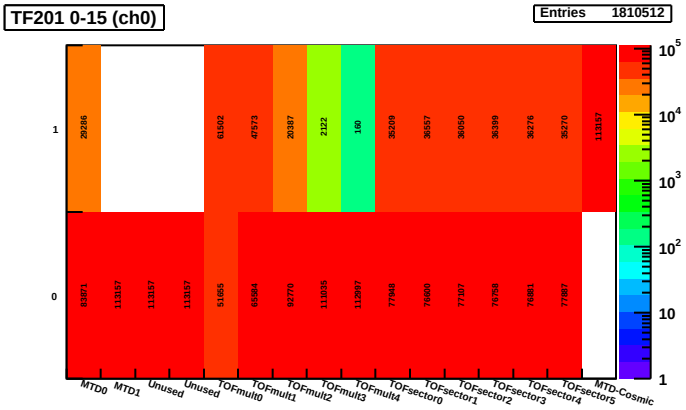

Input to FE002 QT board
Entries 3621024
ADC
channel

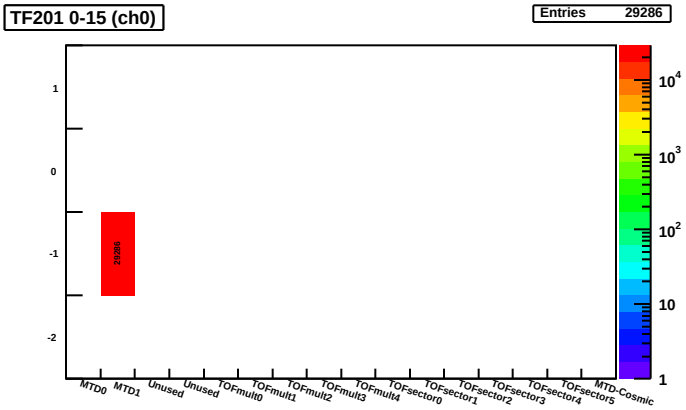

Input to FE003 QT board
Entries 3621024
ADC
channel

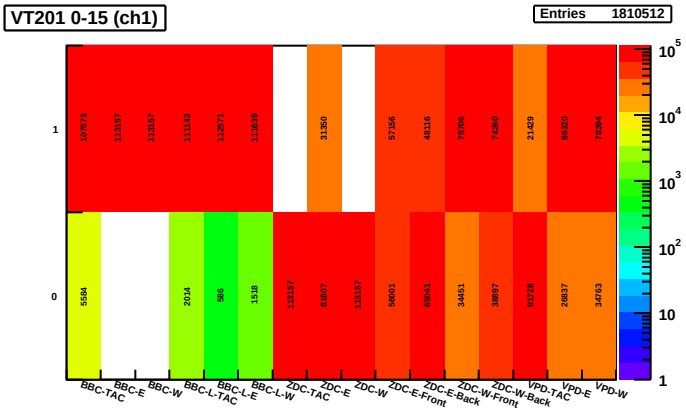

Input to FE004 QT board
Entries 3621024
ADC
channel

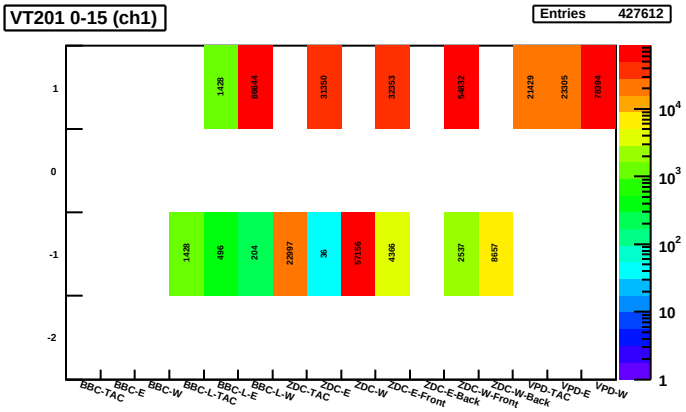

Input to FPE L1 DSM
Entries 452628
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

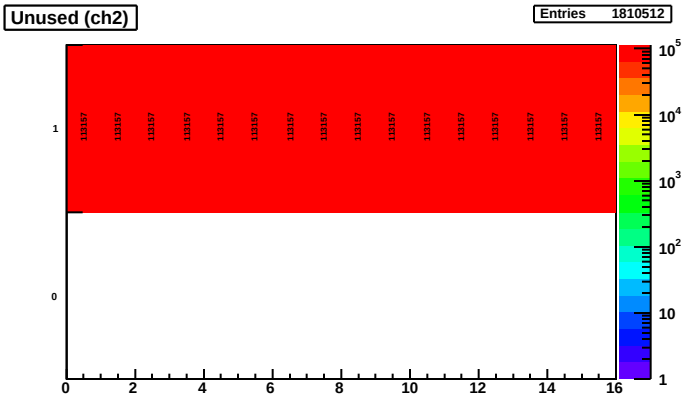

Input to FPE L1 DSM
Entries 113157
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

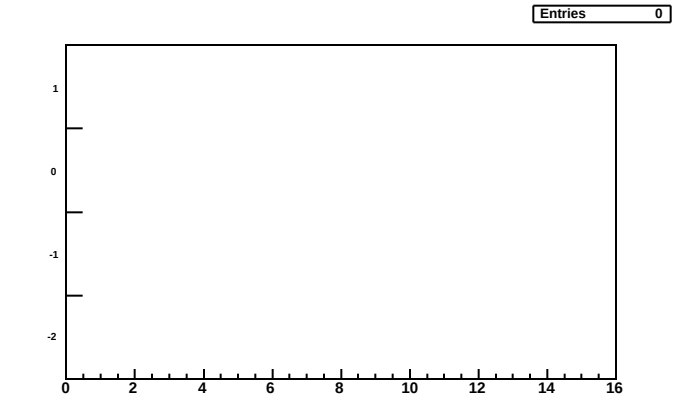

TF201 0-15 (ch0)
Entries 1810512
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

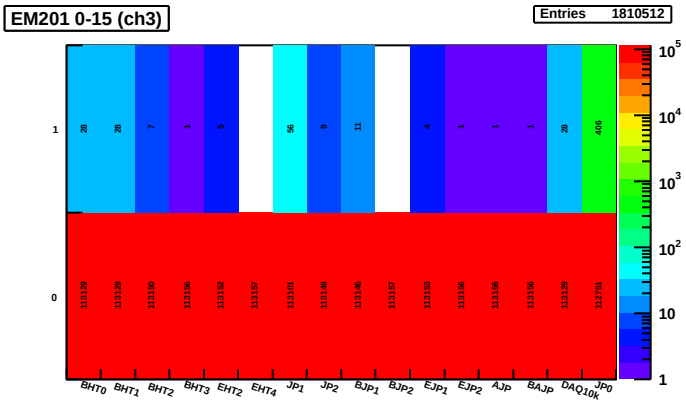

TF201 0-15 (ch0)
Entries 29286
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

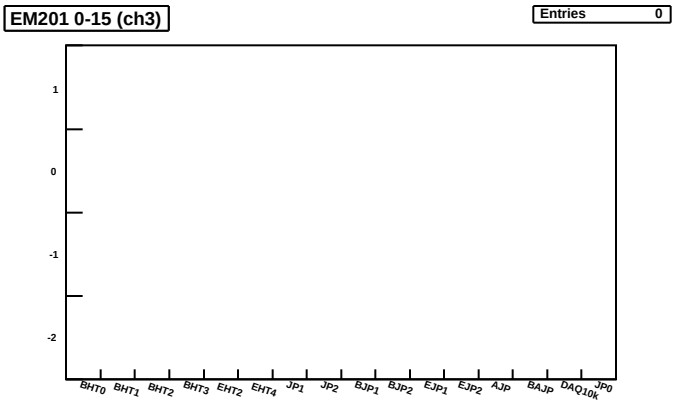

VT201 0-15 (ch1)
Entries 1810512
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

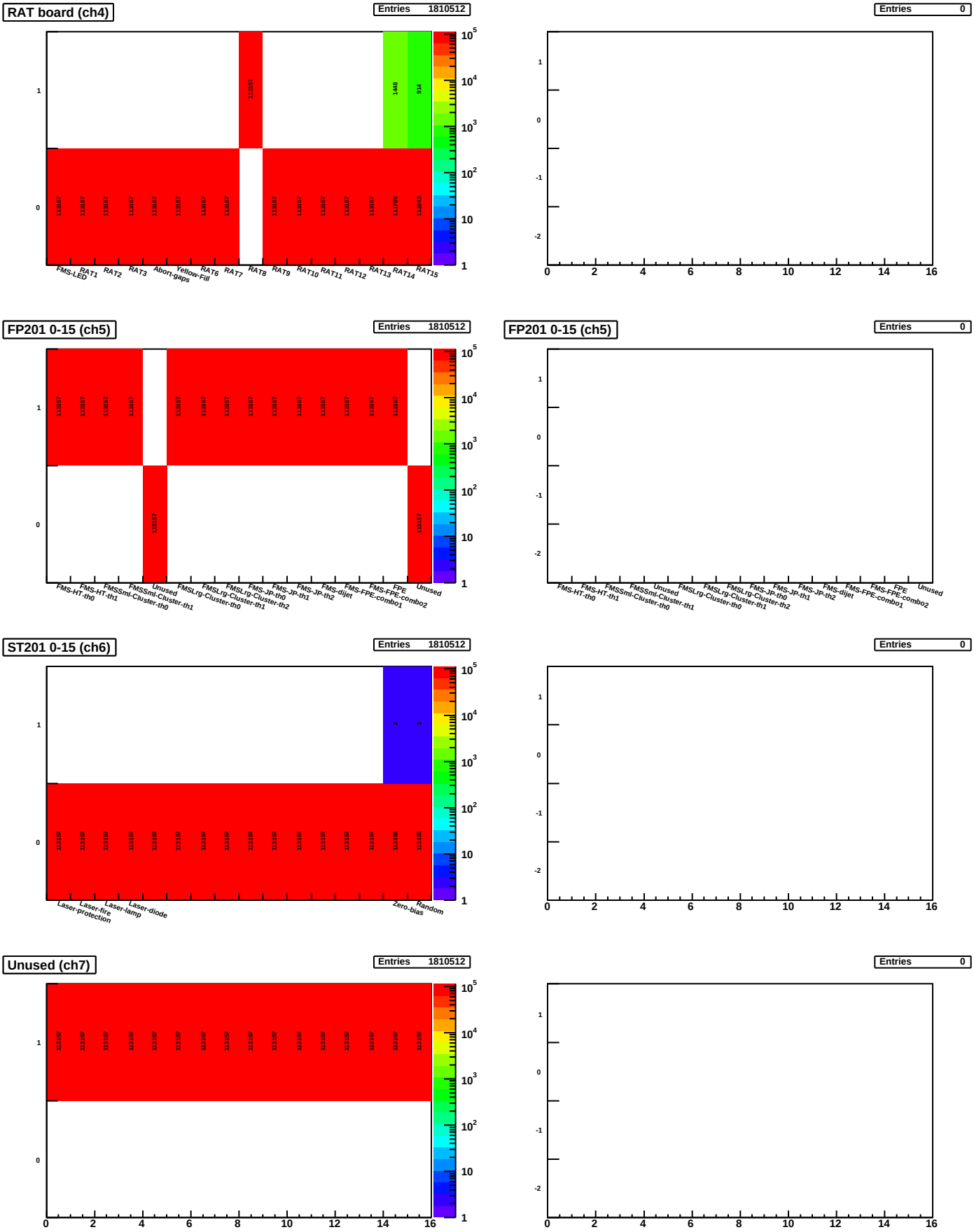

VT201 0-15 (ch1)
Entries 427612
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


Unused (ch2)
Entries 1810512


Entries 0


EM201 0-15 (ch3)
Entries 1810512
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0


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


RAT board (ch4)
Entries 1810512
Entries 0
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15
FP201 0-15 (ch5)
Entries 1810512
Entries 0
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused
ST201 0-15 (ch6)
Entries 1810512
Entries 0
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random
Unused (ch7)
Entries 1810512
Entries 0