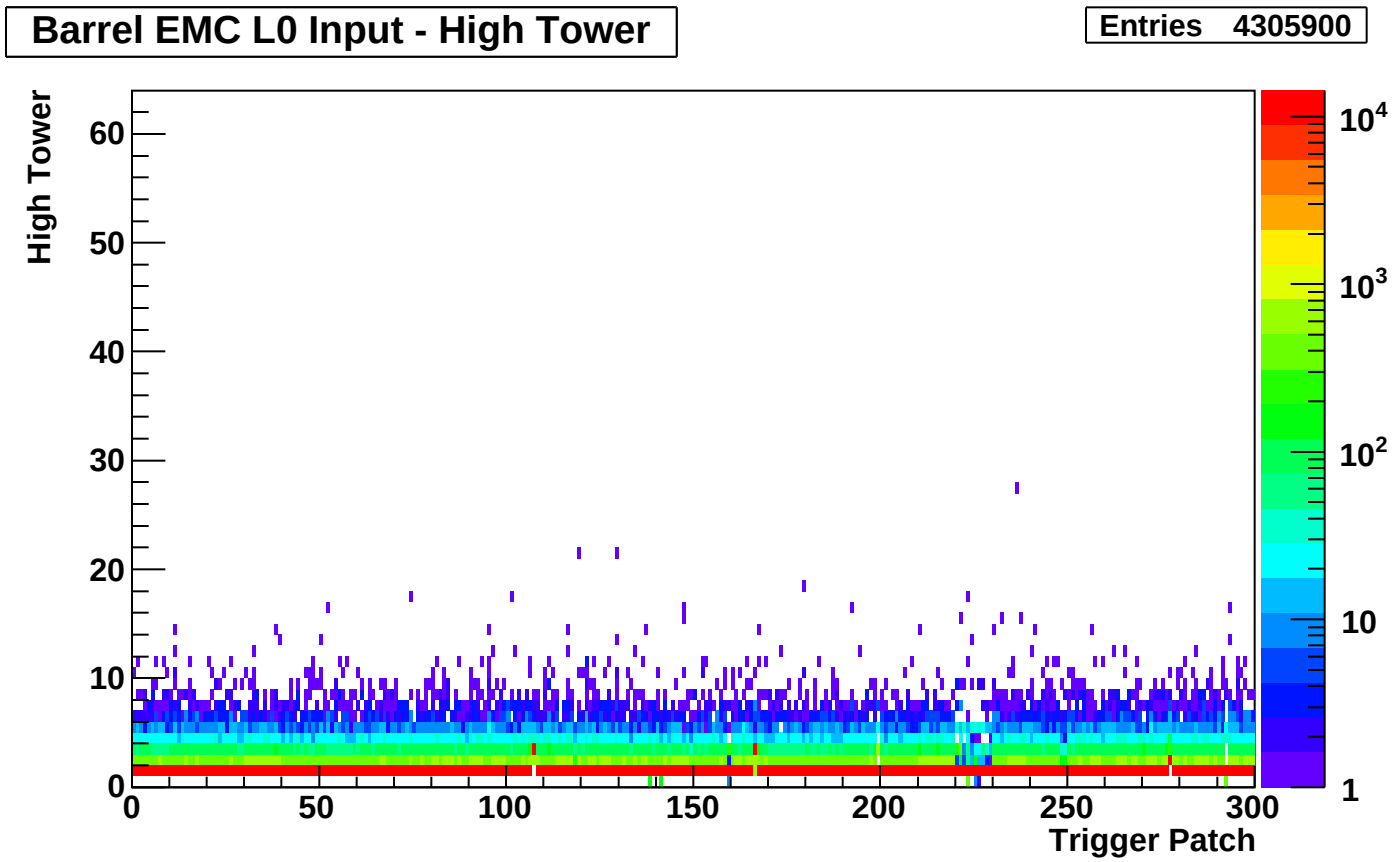
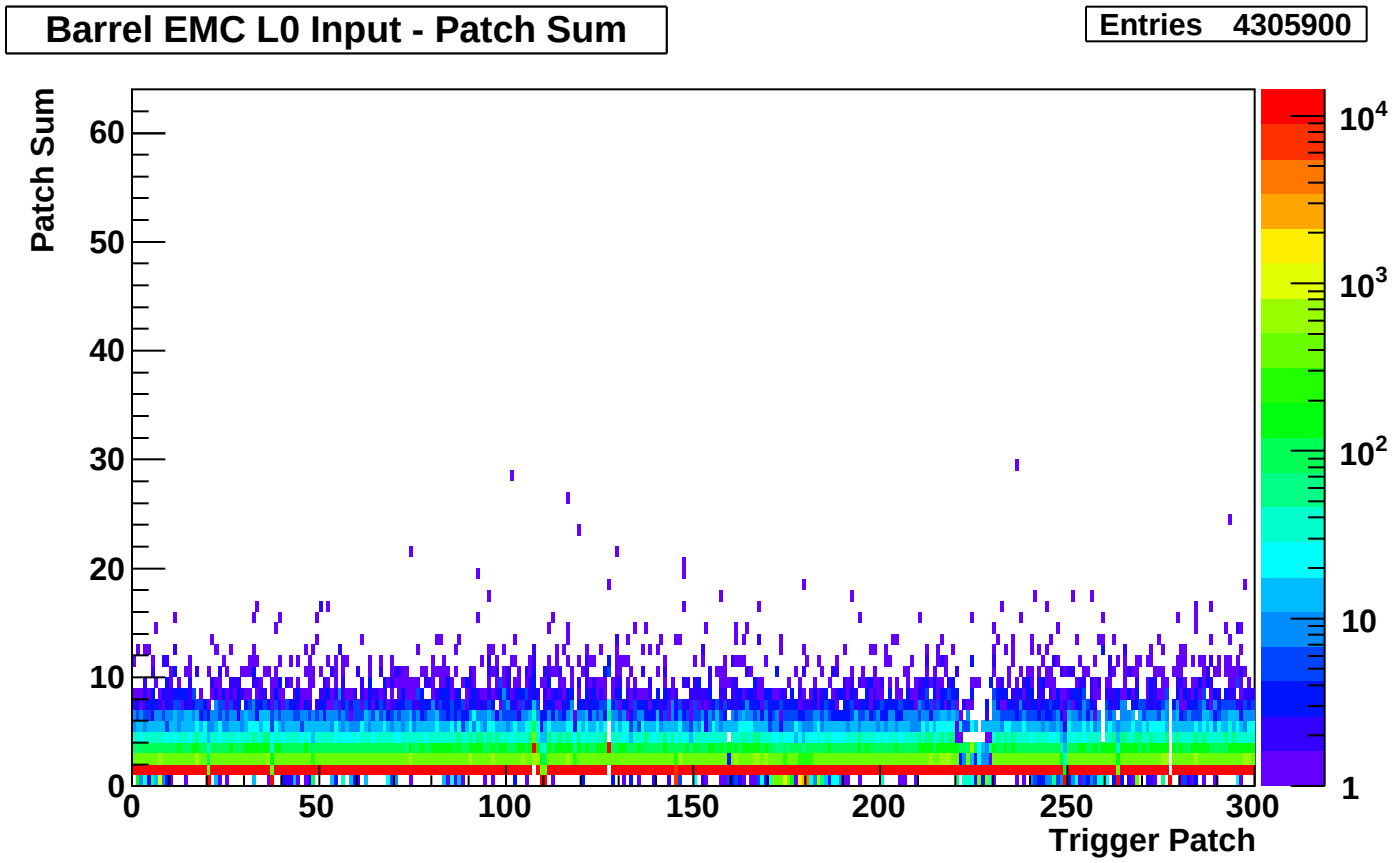
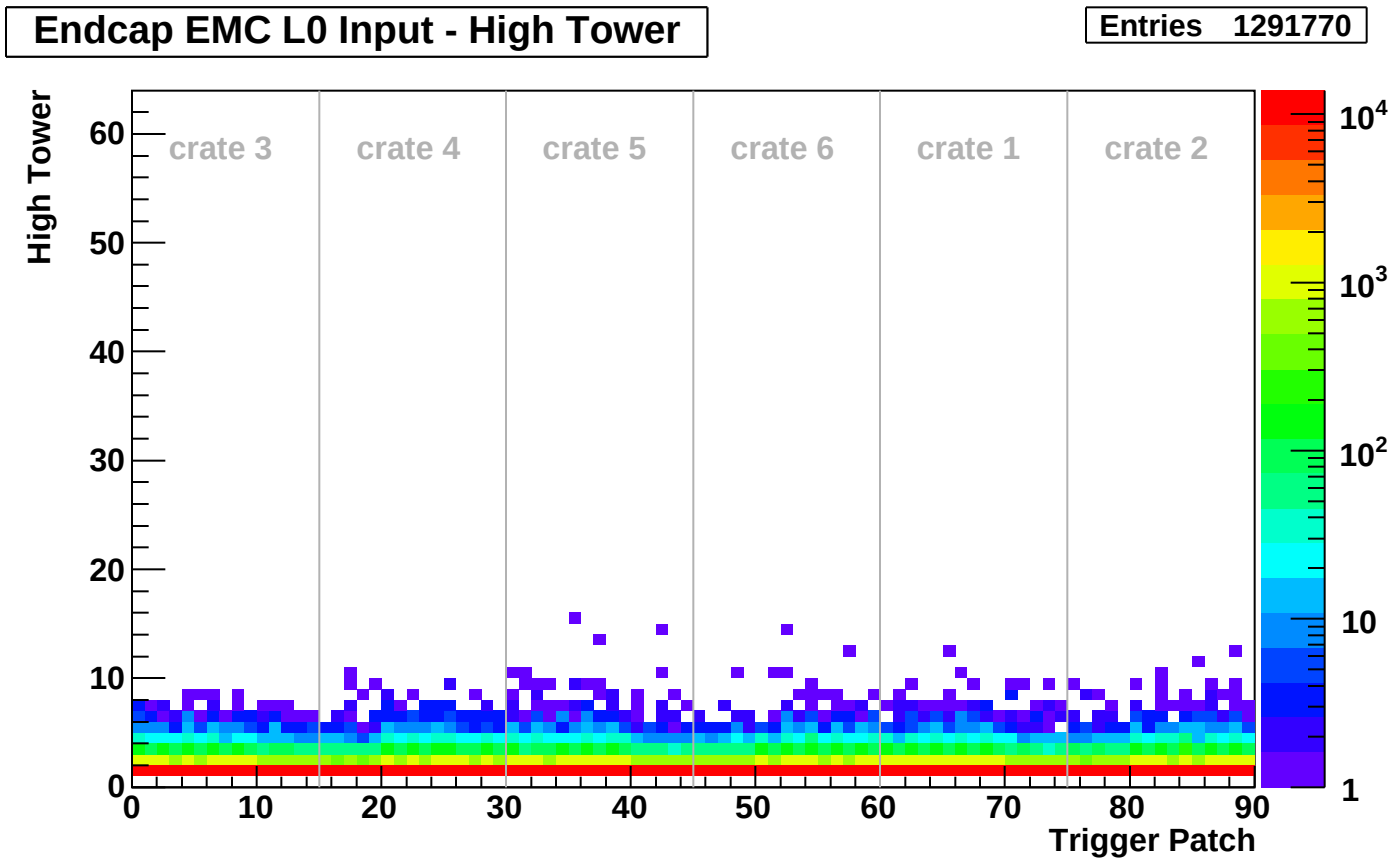
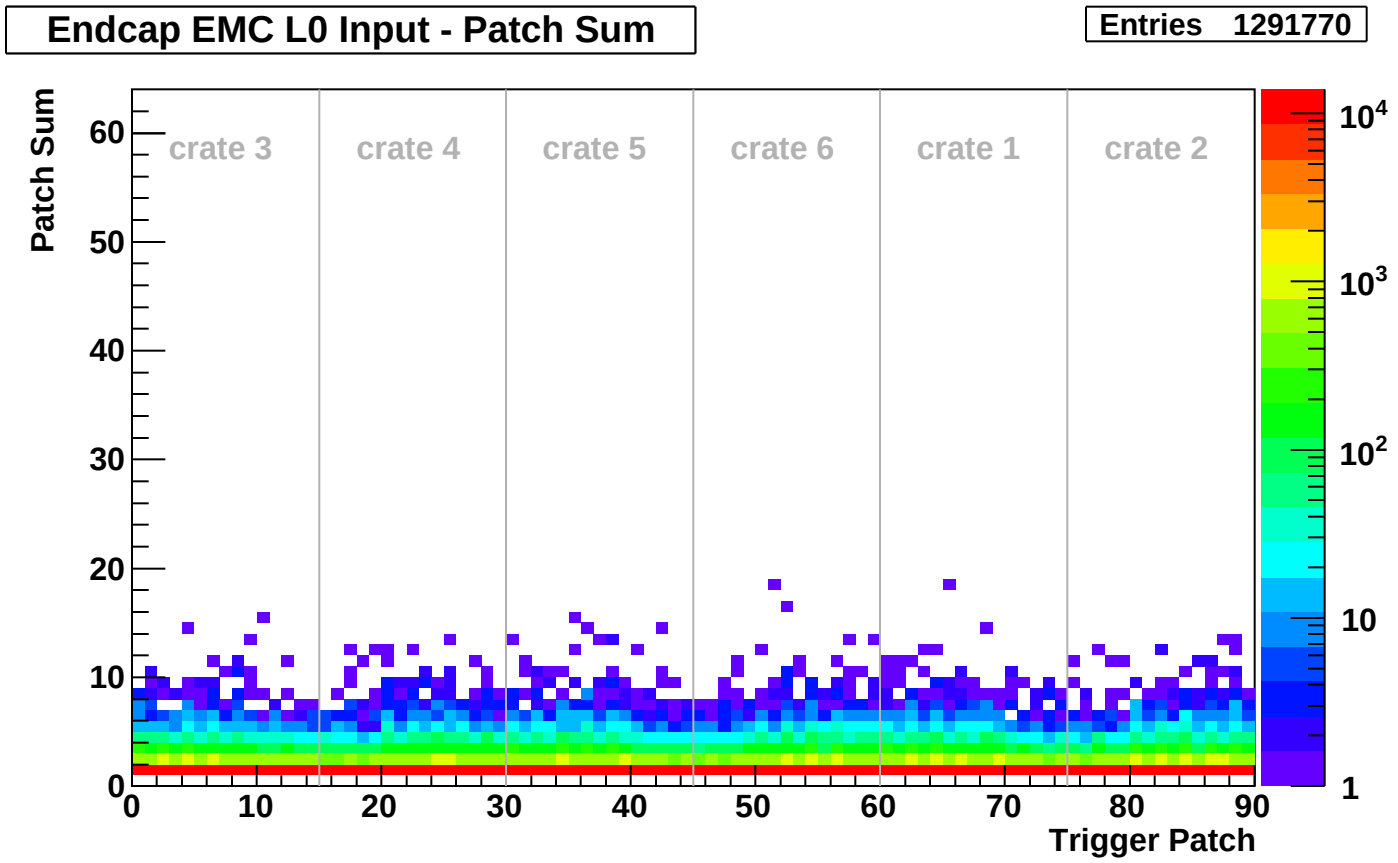
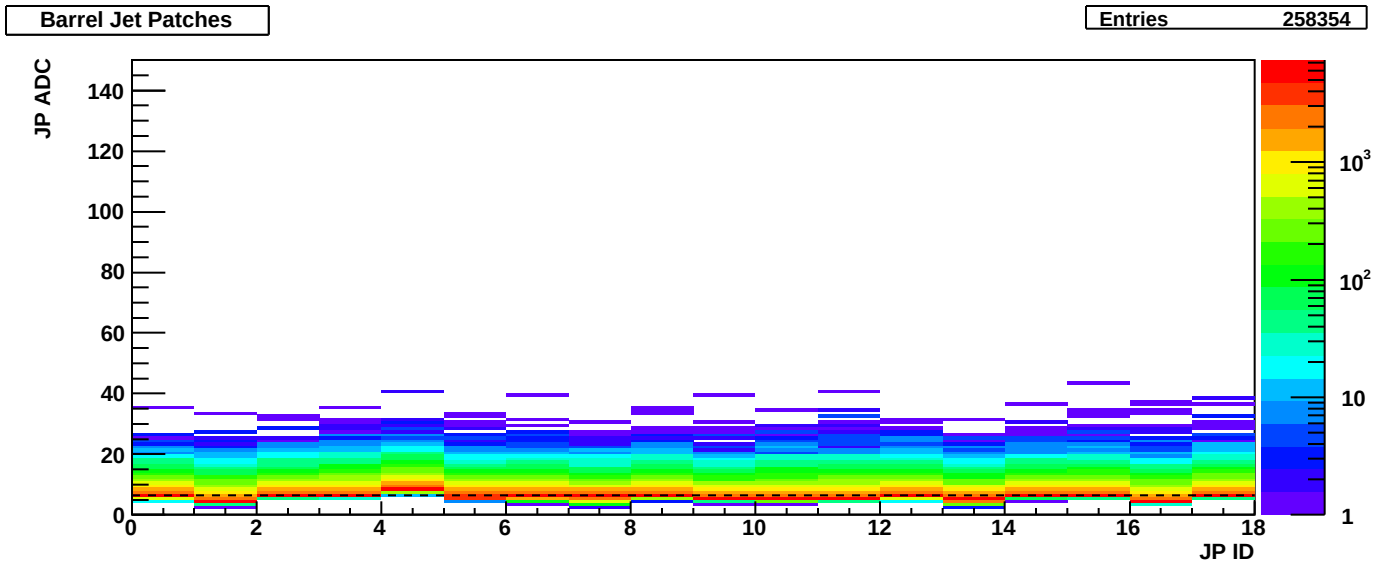
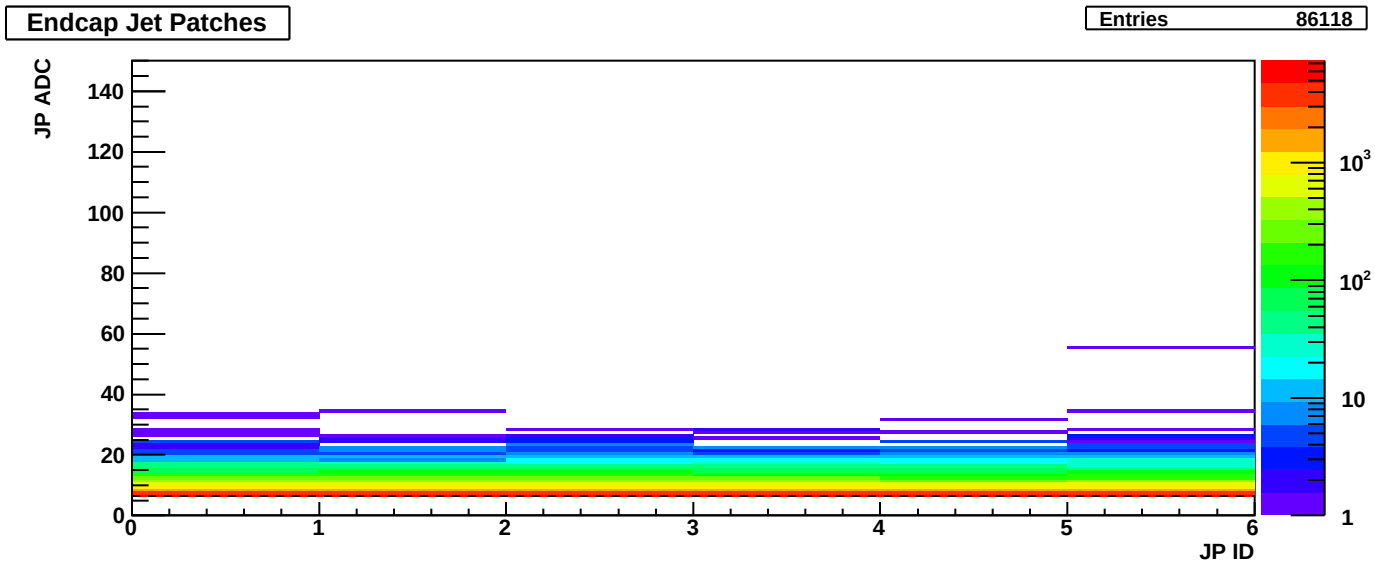

Barrel EMC L0 Input - High Tower
Entries 4305900
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

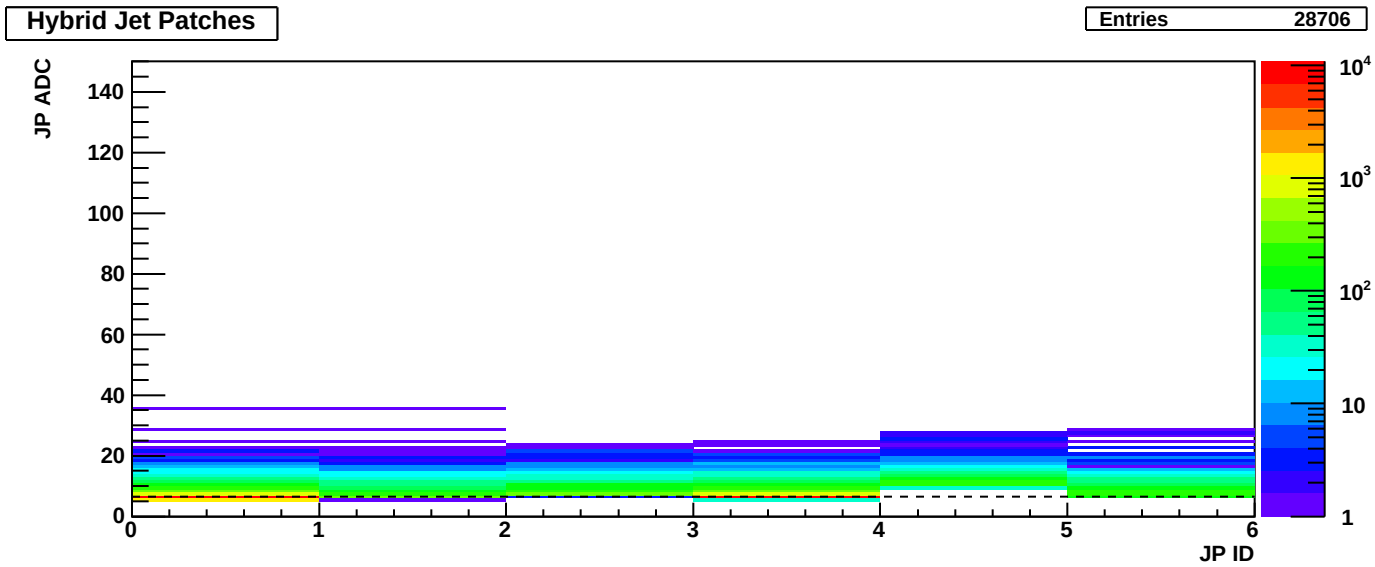

Barrel EMC L0 Input - Patch Sum
Entries 4305900
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

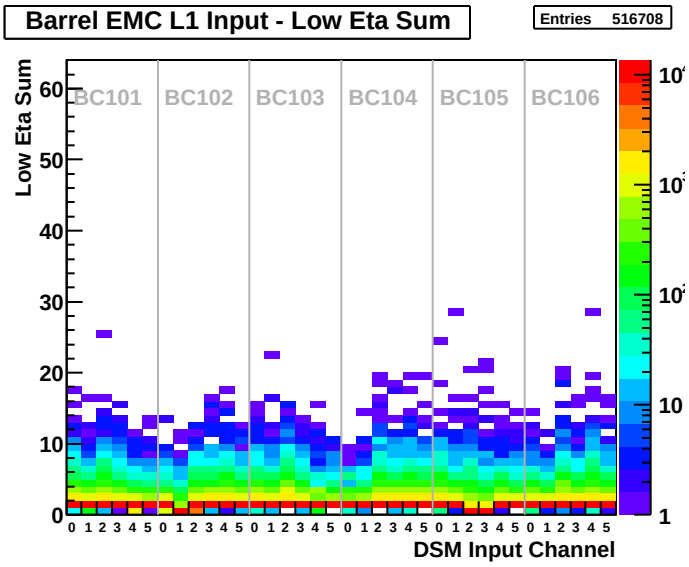

Endcap EMC L0 Input - High Tower
Entries 1291770
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2
10^3
10^4

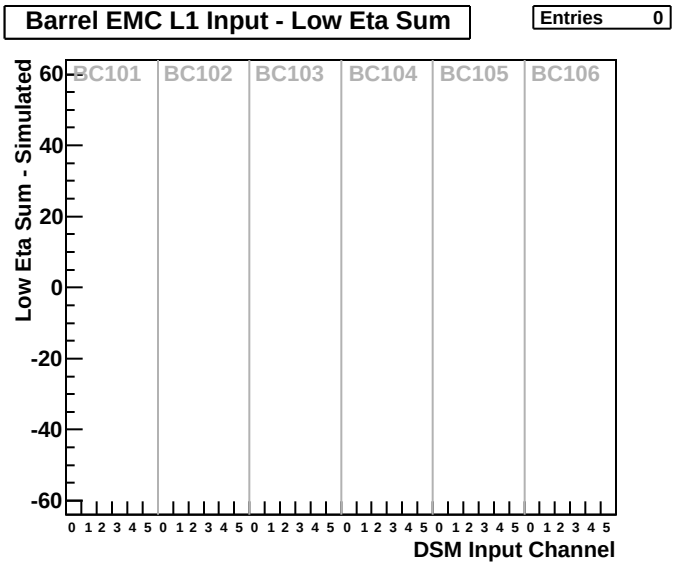

Endcap EMC L0 Input - Patch Sum
Entries 1291770
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2
10^3
10^4

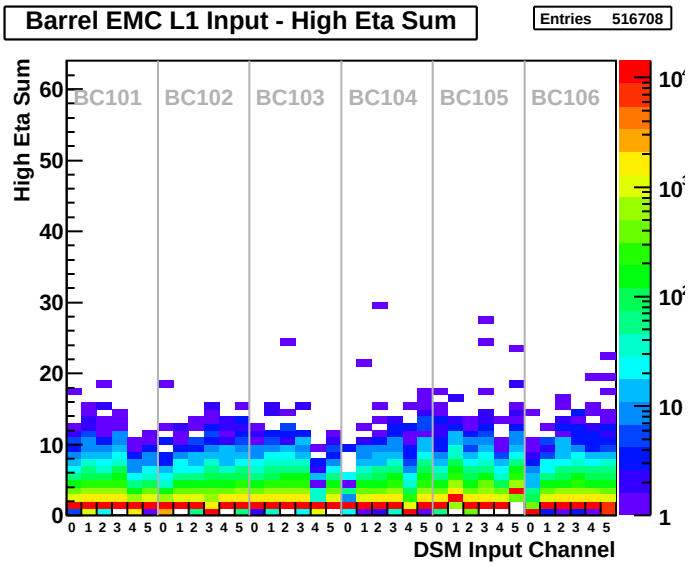

Barrel Jet Patches
Entries 258354
JP ADC
JP ID

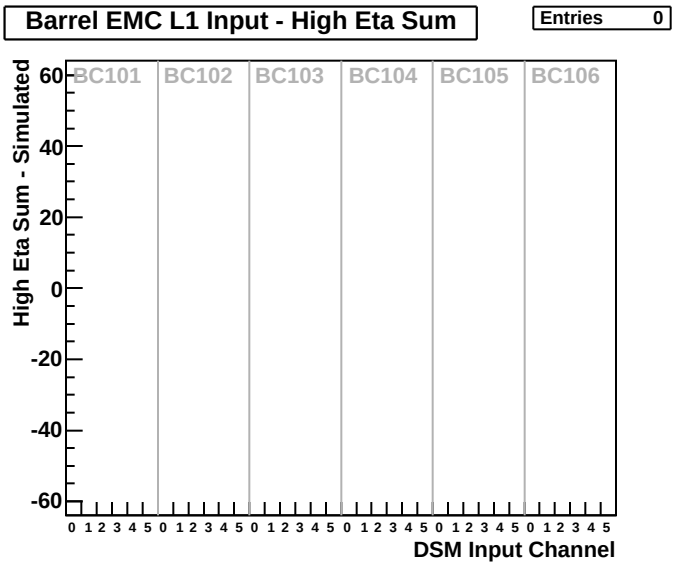

Endcap Jet Patches
Entries 86118
JP ADC
JP ID

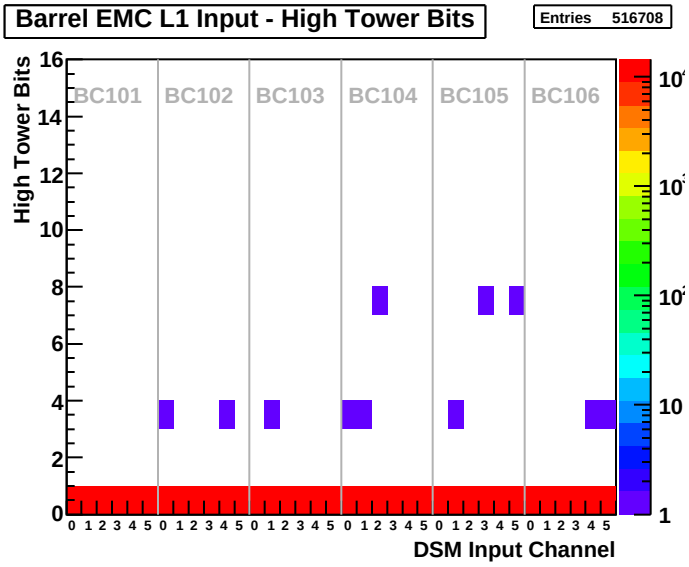

Hybrid Jet Patches
Entries 28706
JP ADC
JP ID

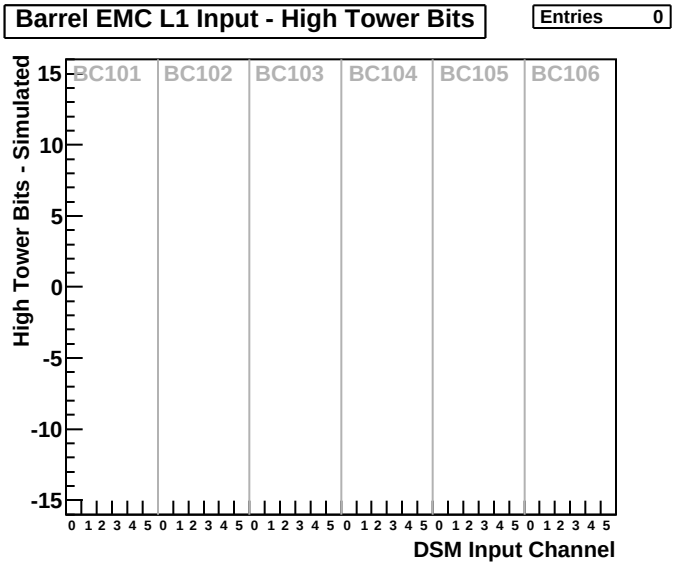

Barrel EMC L1 Input - Low Eta Sum
Entries 516708
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

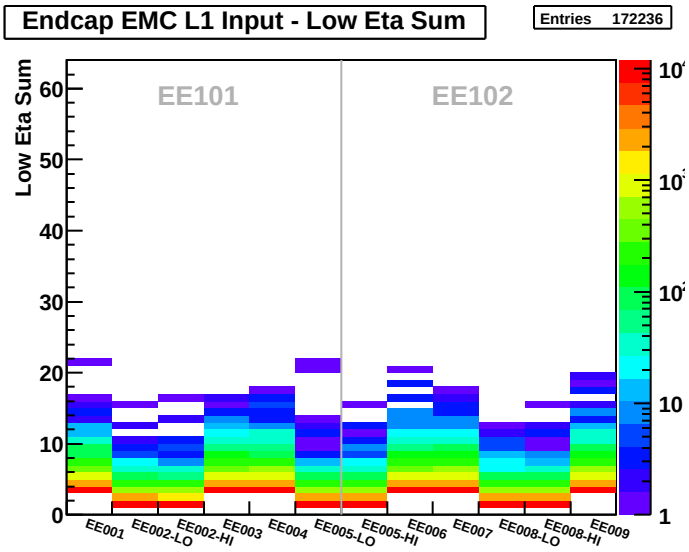

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

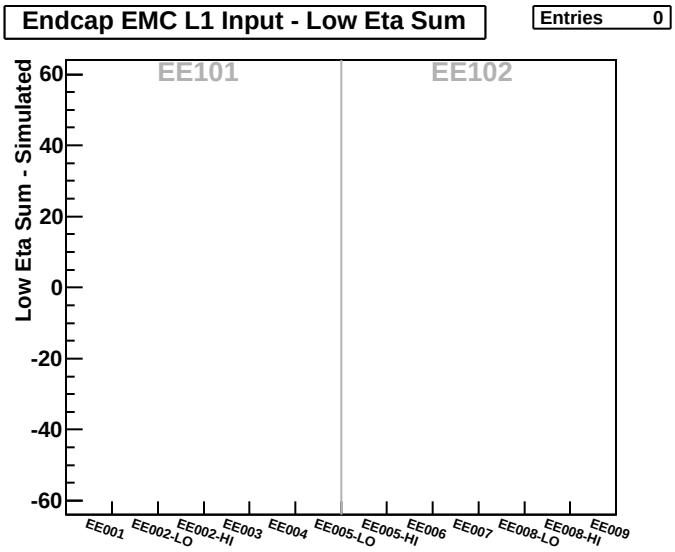

Barrel EMC L1 Input - High Eta Sum
Entries 516708
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

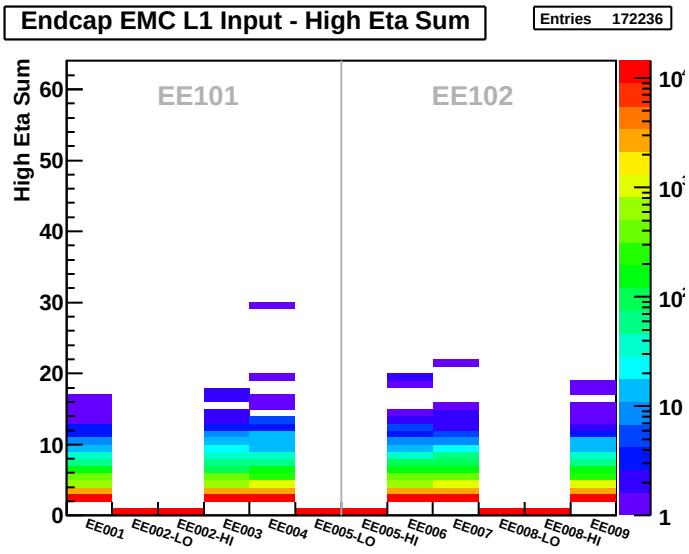

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

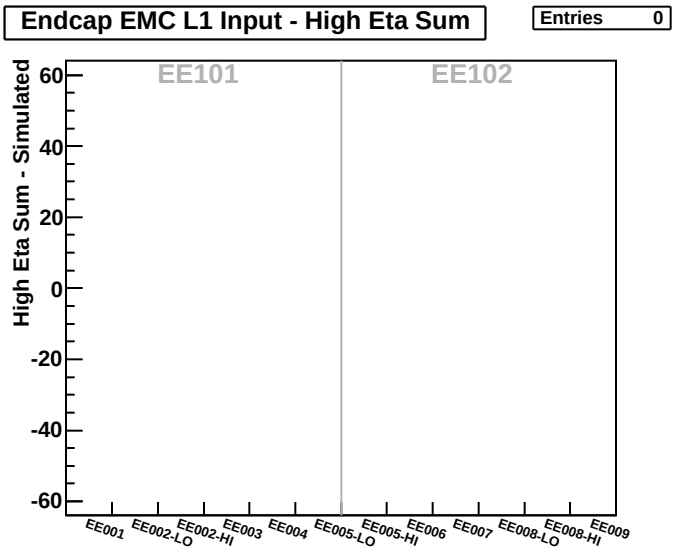

Barrel EMC L1 Input - High Tower Bits
Entries 516708
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

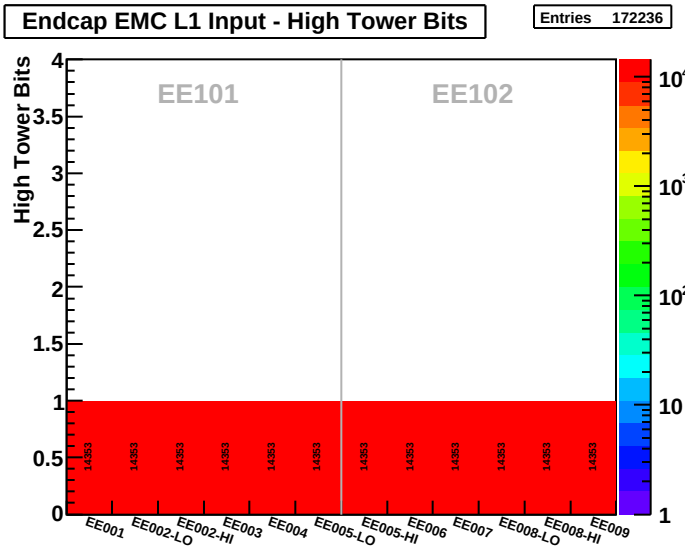

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

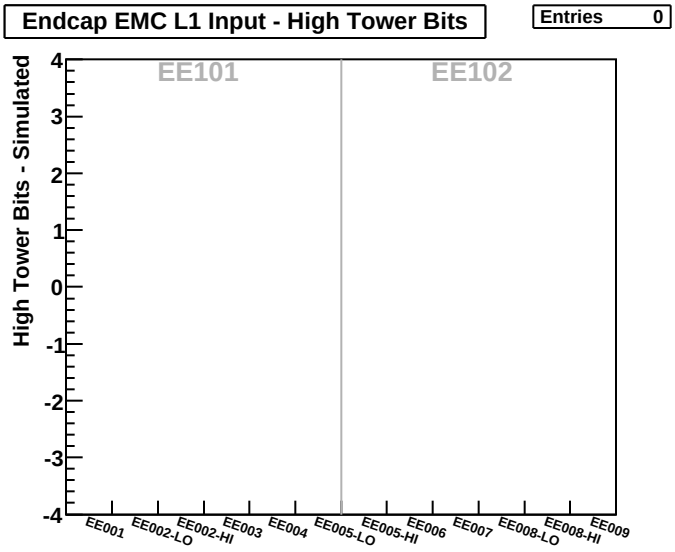

Endcap EMC L1 Input - Low Eta Sum
Entries 172236
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

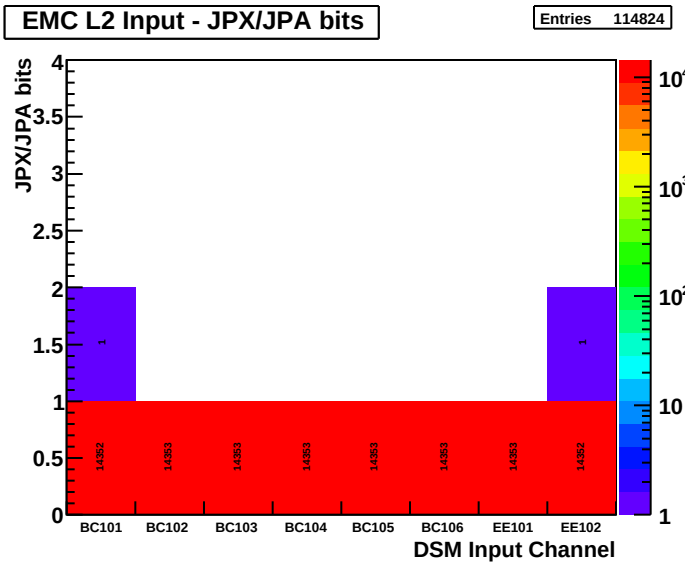

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

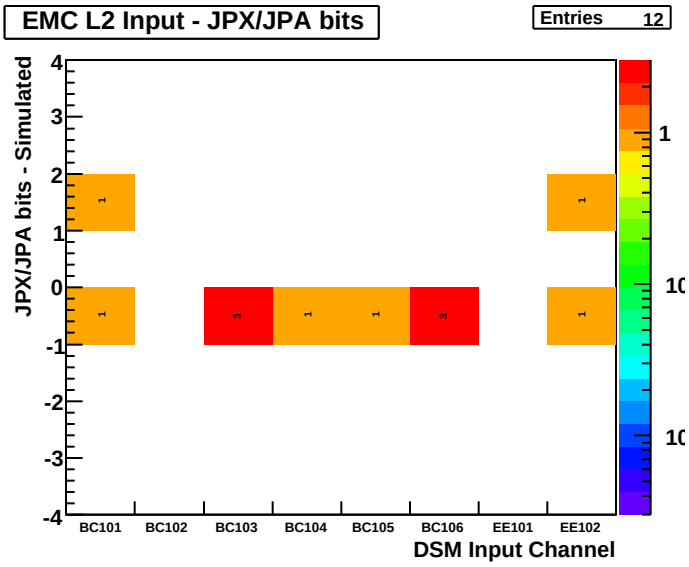

Endcap EMC L1 Input - High Eta Sum
Entries 172236
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

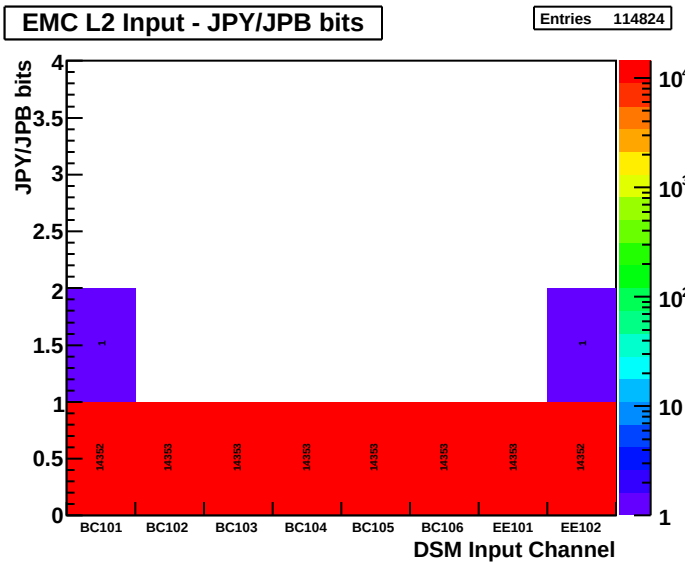

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

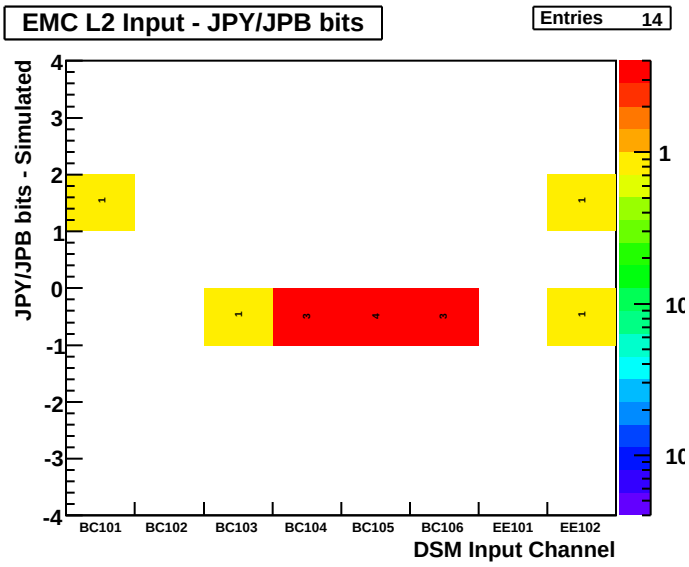

Endcap EMC L1 Input - High Tower Bits
Entries 172236
High Tower Bits
EE101
EE102
14353
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

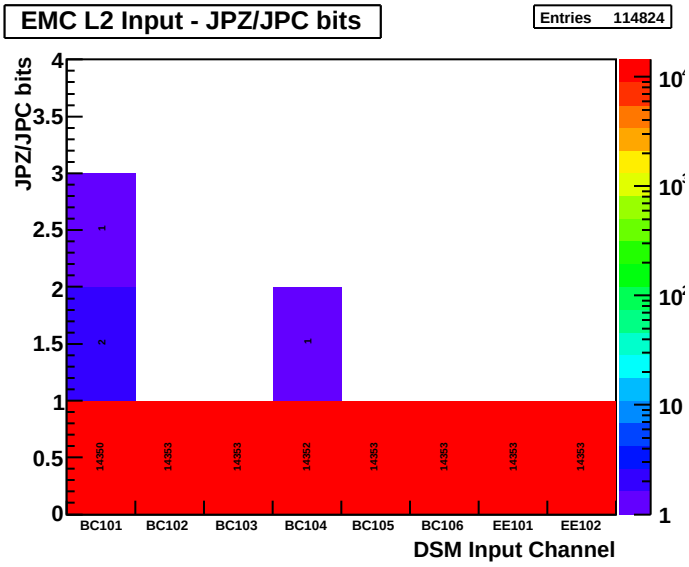

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

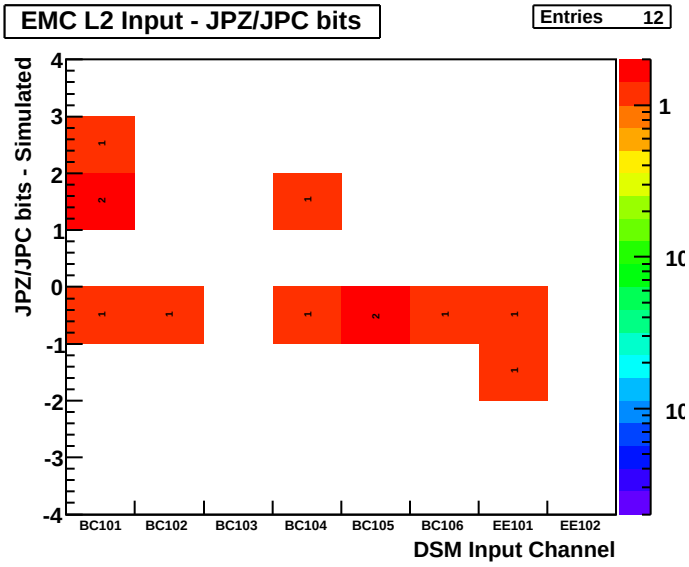

EMC L2 Input - JPX/JPA bits
Entries 114824
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

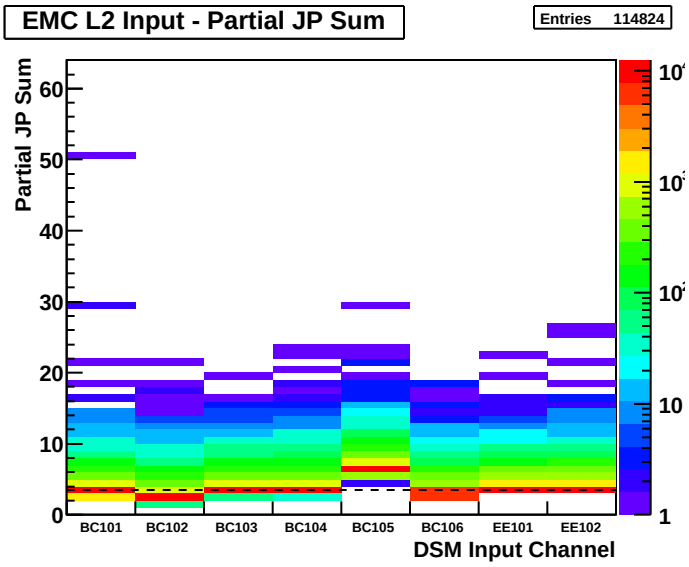

EMC L2 Input - JPX/JPA bits
Entries 12
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

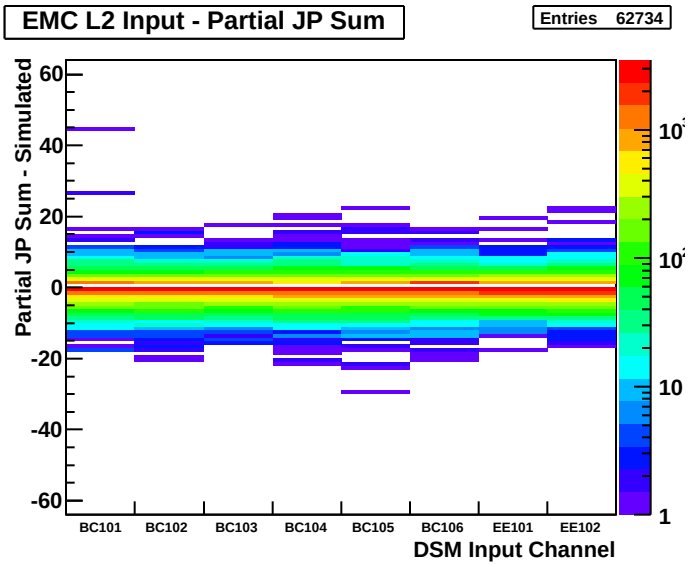

EMC L2 Input - JPY/JPB bits
Entries 114824
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

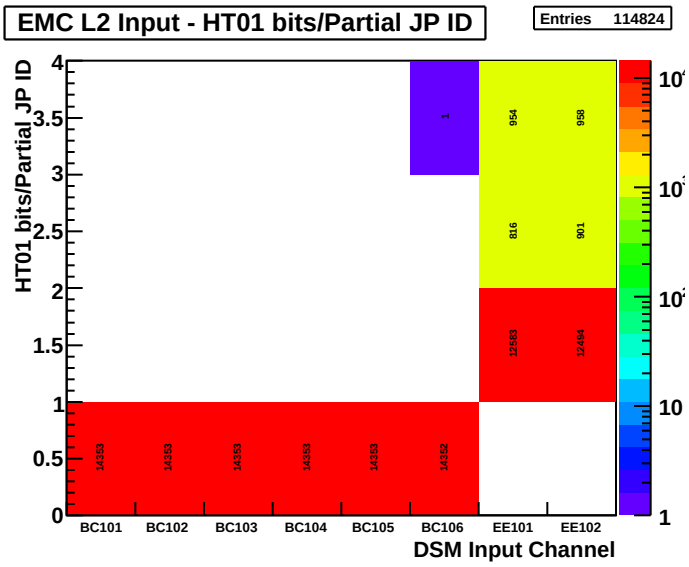

EMC L2 Input - JPY/JPB bits
Entries 14
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

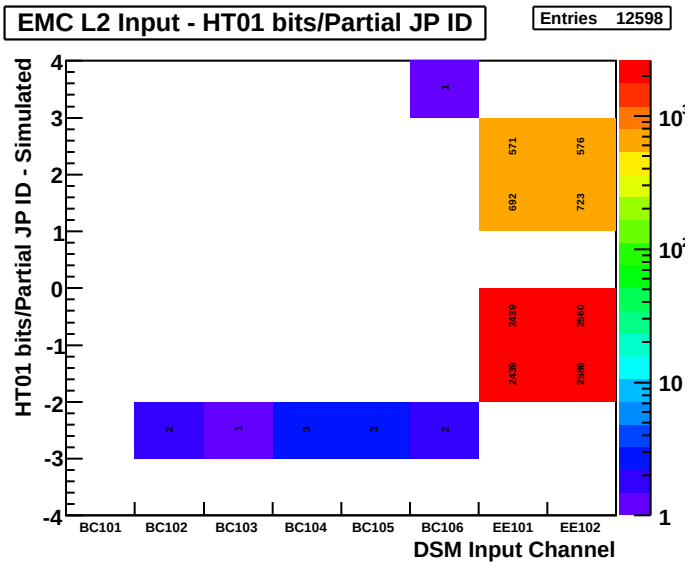

EMC L2 Input - JPZ/JPC bits
Entries 114824
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

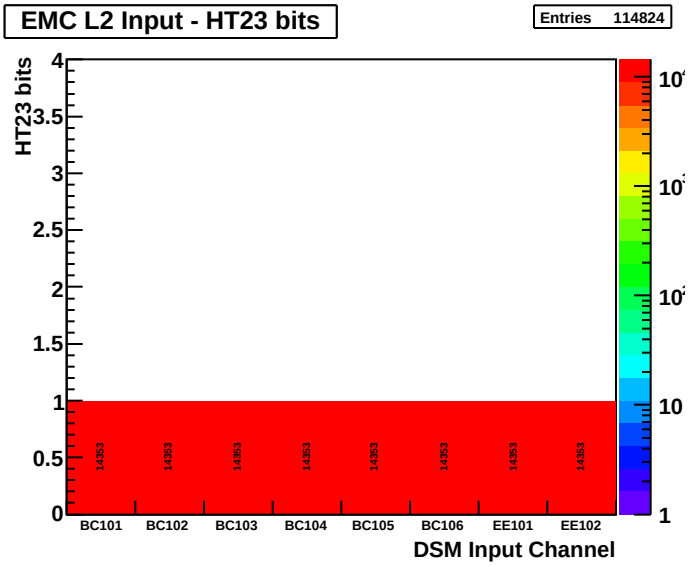

EMC L2 Input - JPZ/JPC bits
Entries 12
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

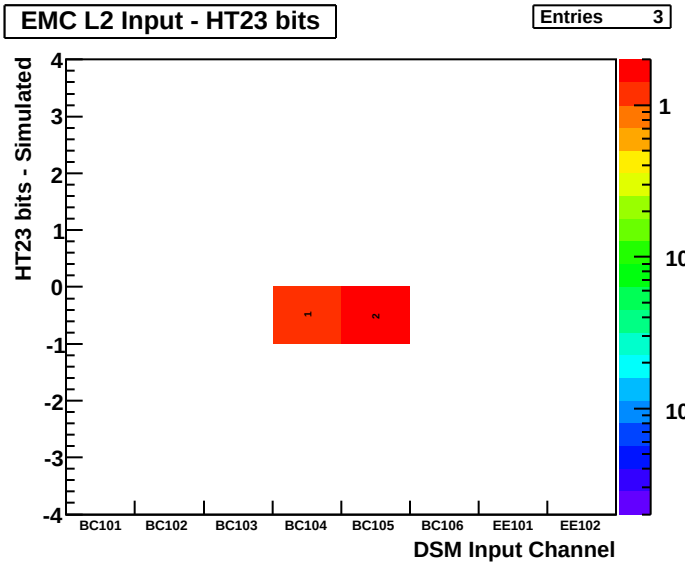

EMC L2 Input - Partial JP Sum
Entries 114824
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

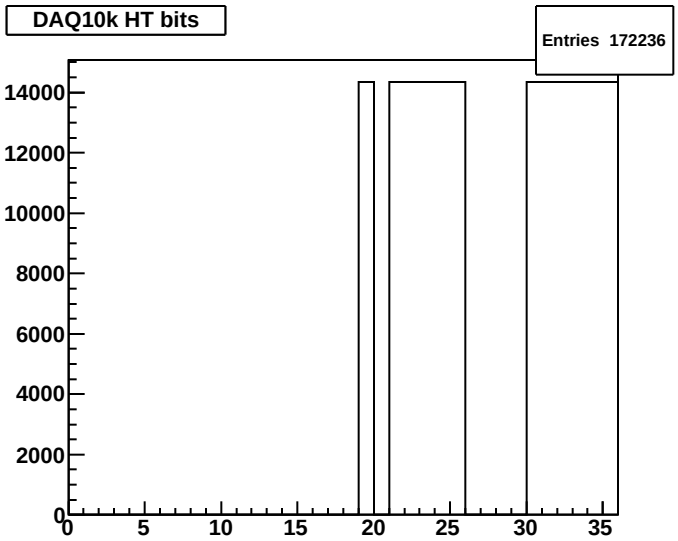

EMC L2 Input - Partial JP Sum
Entries 62734
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

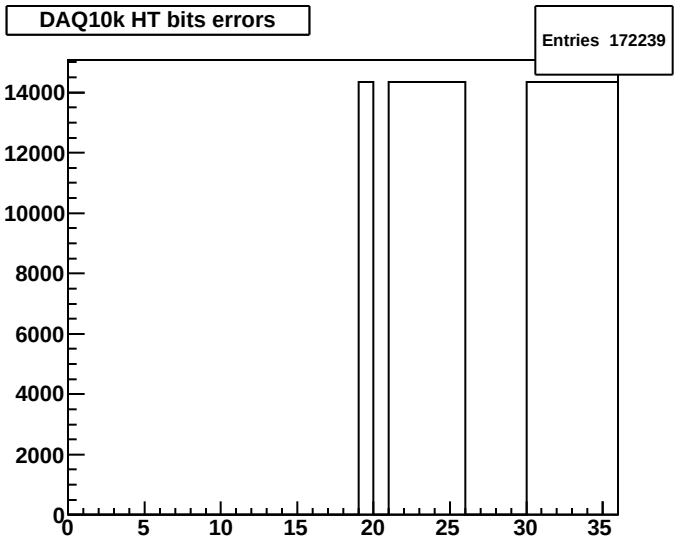

EMC L2 Input - HT01 bits/Partial JP ID
Entries 114824
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

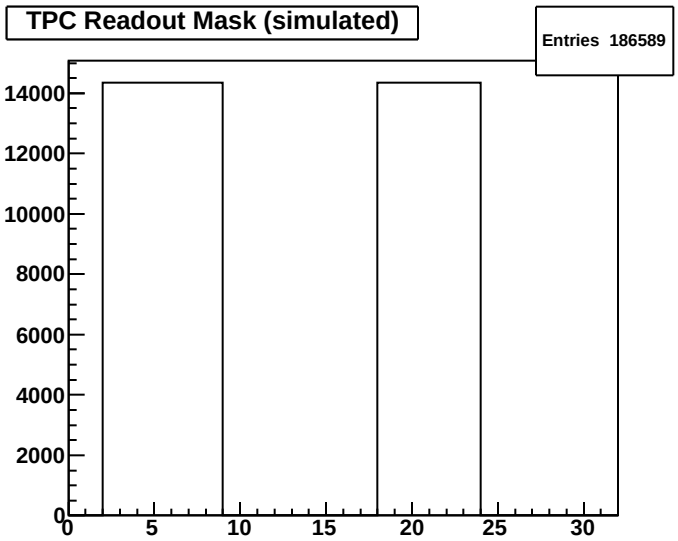

EMC L2 Input - HT01 bits/Partial JP ID
Entries 12598
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

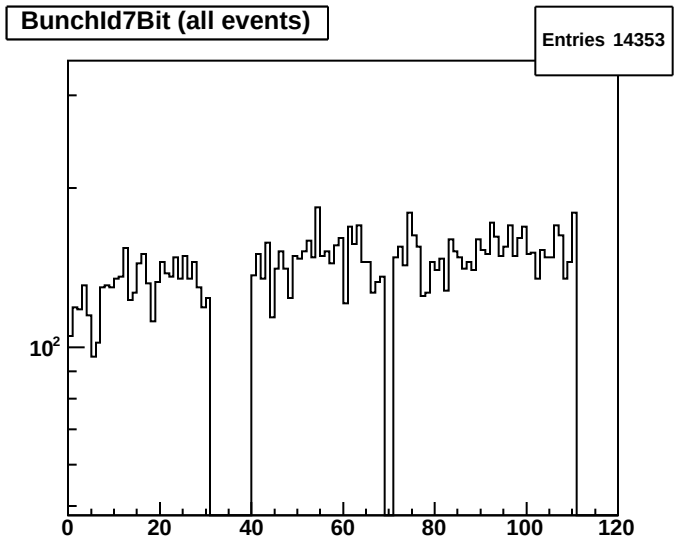

EMC L2 Input - HT23 bits
Entries 114824
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

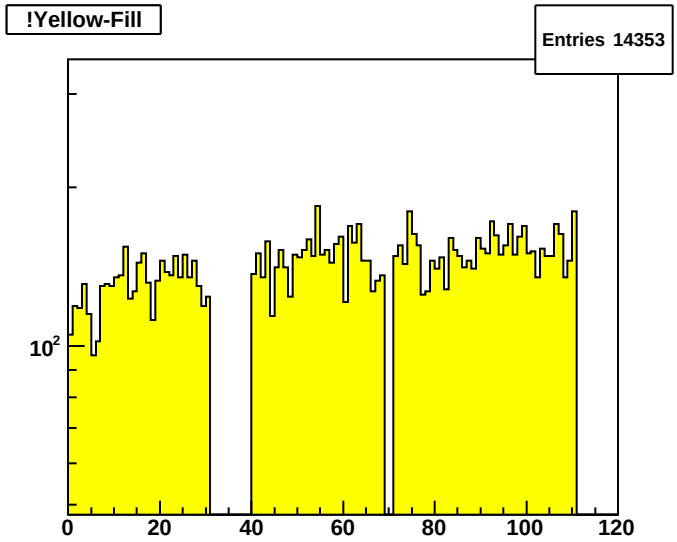

EMC L2 Input - HT23 bits
Entries 3
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

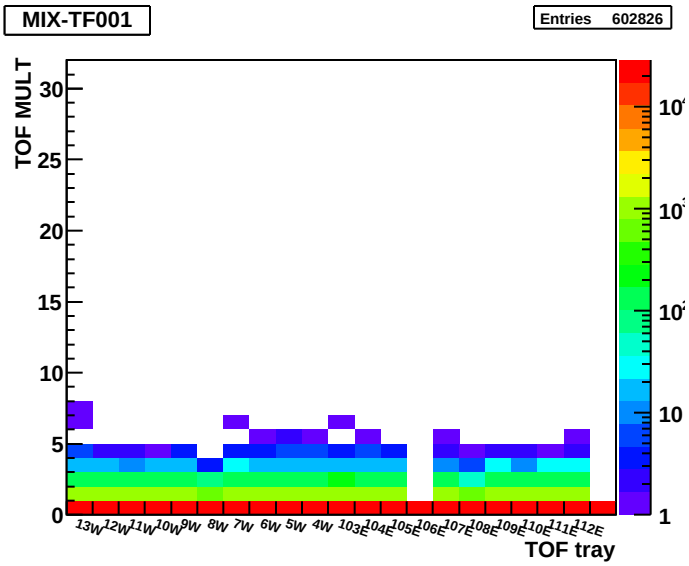

DAQ10k HT bits
Entries 172236
14000
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30 35

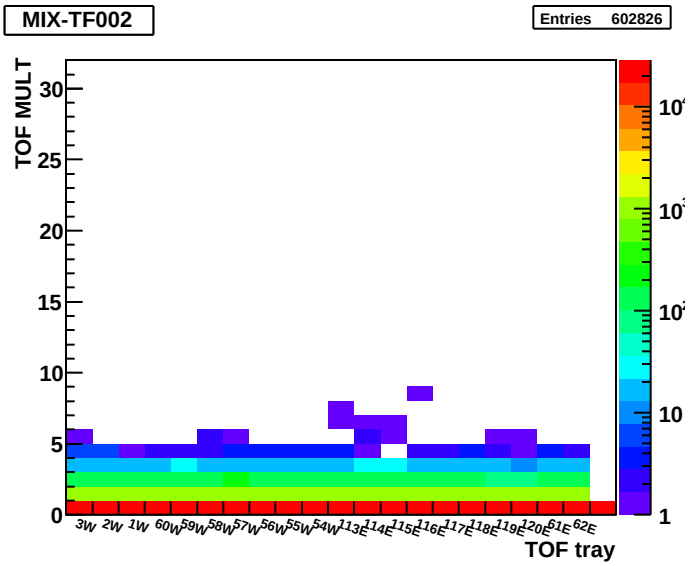

DAQ10k HT bits errors
Entries 172239
14000
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30 35

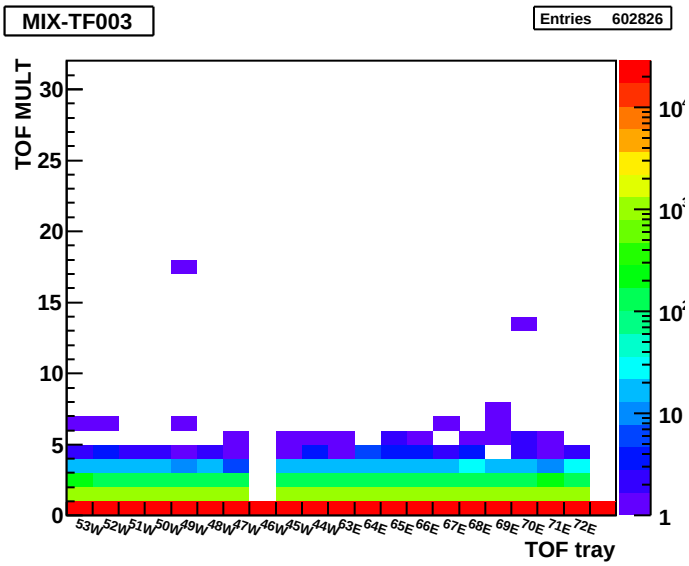

TPC Readout Mask (simulated)
Entries 186589
14000
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30

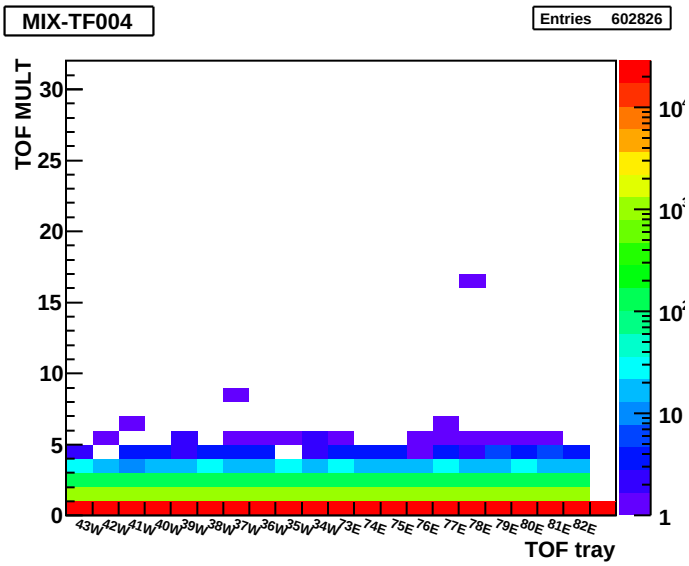

BunchId7Bit (all events)
Entries 14353
10^2
0 20 40 60 80 100 120

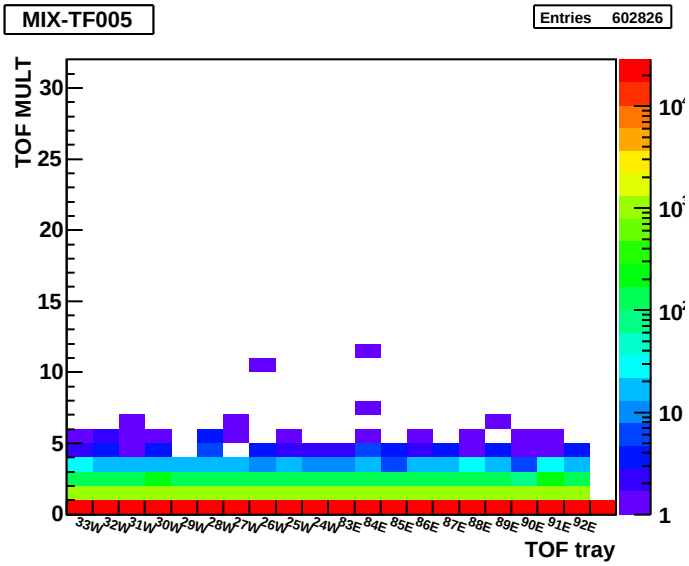

!Yellow-Fill
Entries 14353
10^2
0 20 40 60 80 100 120

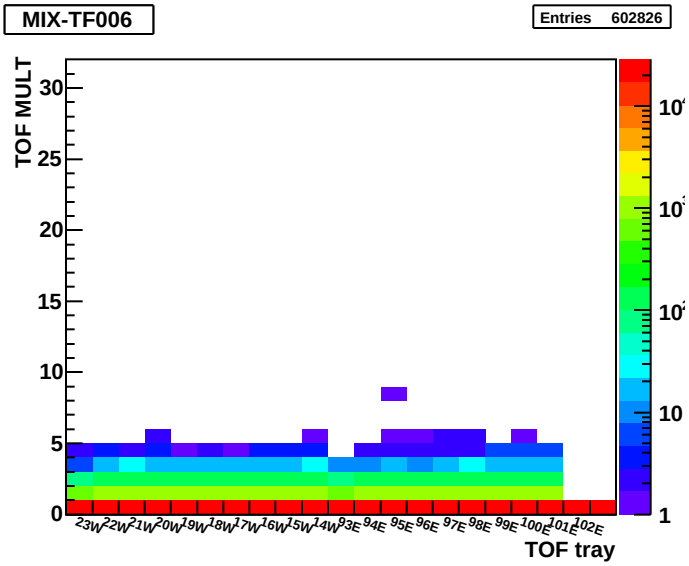

MIX-TF001
Entries 602826
TOF MULT
TOF tray

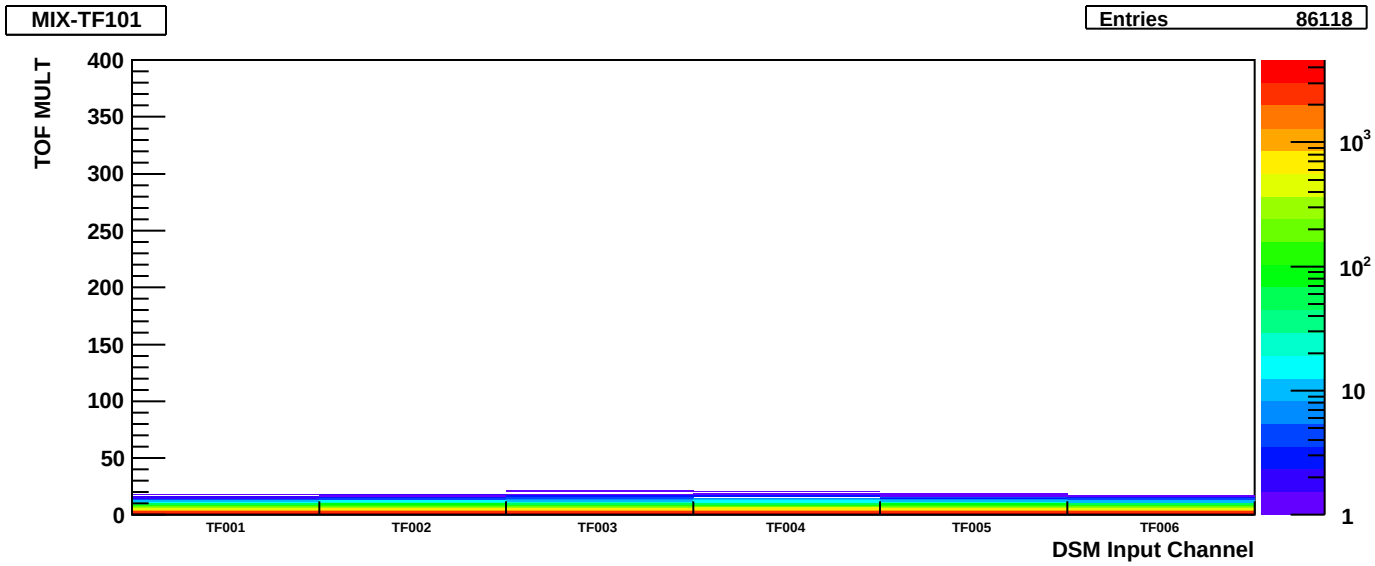

MIX-TF002
Entries 602826
TOF MULT
TOF tray

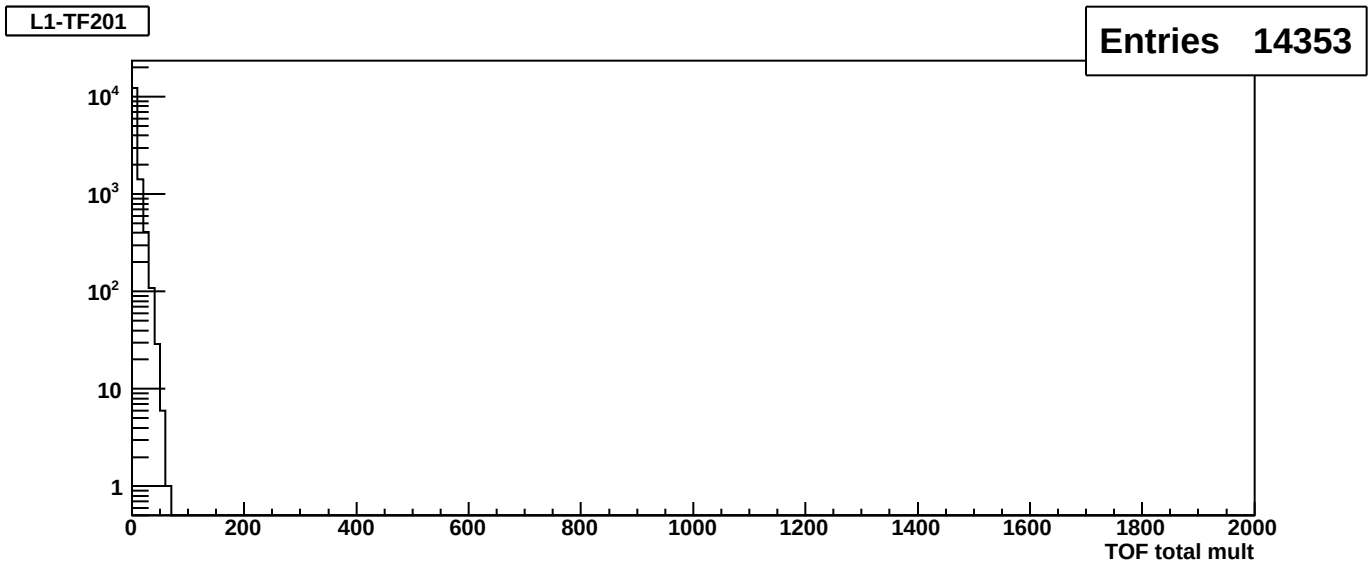

MIX-TF003
Entries 602826
TOF MULT
TOF tray

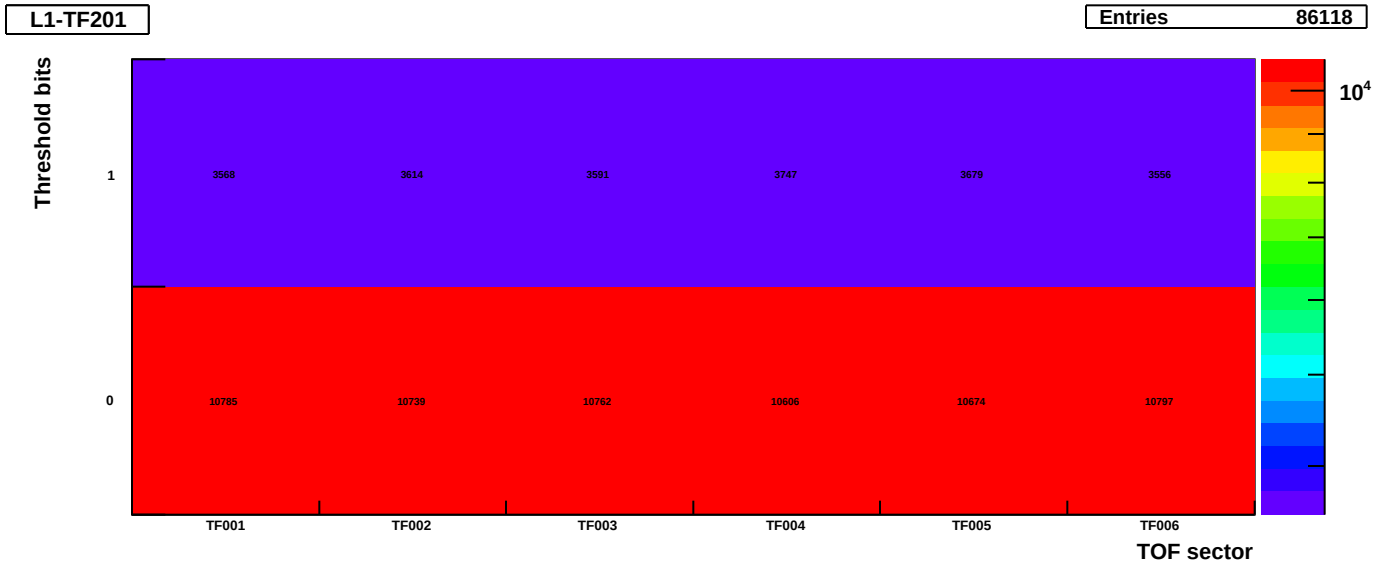

MIX-TF004
Entries 602826
TOF MULT
TOF tray

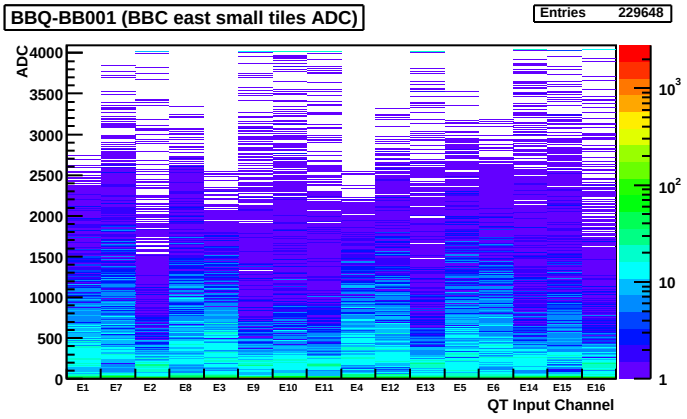

MIX-TF005
Entries 602826
TOF MULT
TOF tray

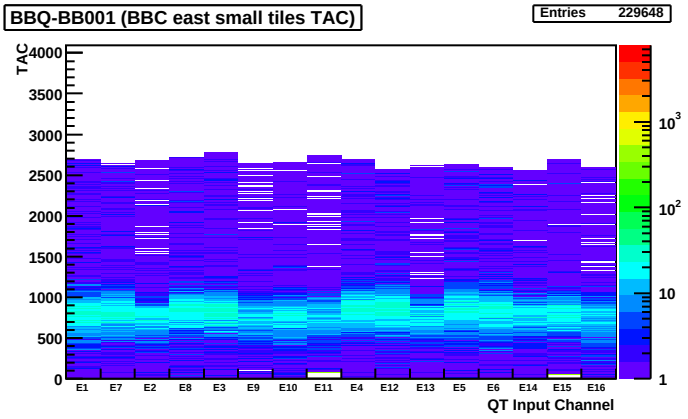

MIX-TF006
Entries 602826
TOF MULT
TOF tray

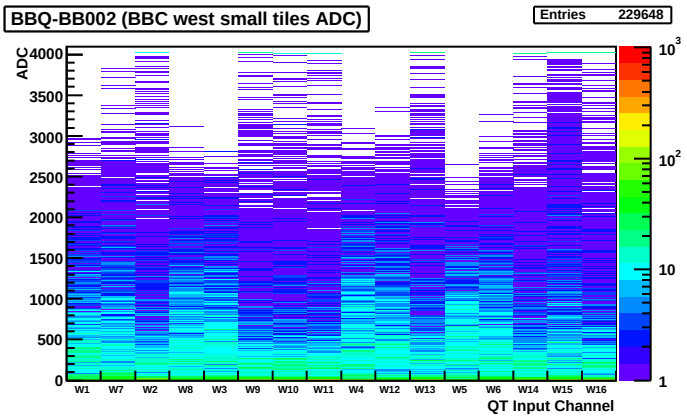

MIX-TF101
Entries 86118
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

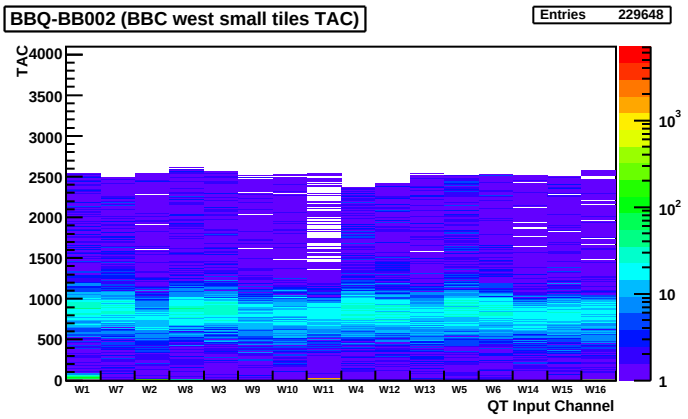

L1-TF201
Entries 14353
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

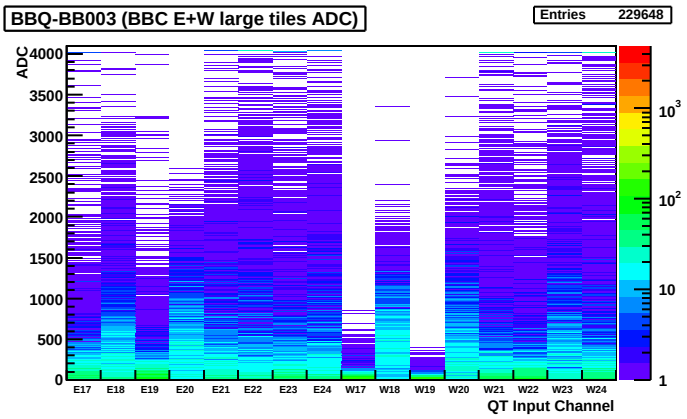

L1-TF201
Entries 86118
Threshold bits
1
0
3568
3614
3591
3747
3679
3556
10785
10739
10762
10606
10674
10797
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4

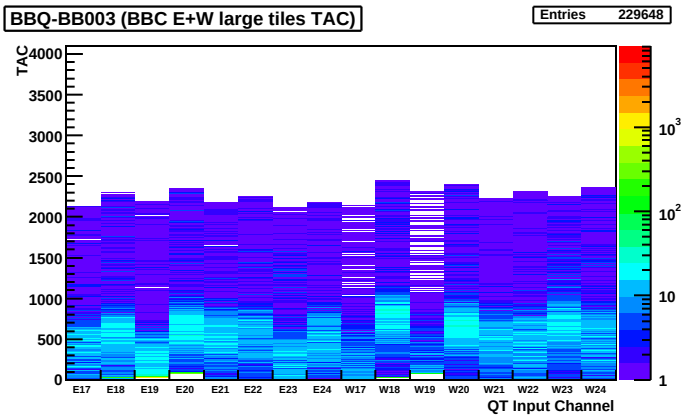

BBQ-BB001 (BBC east small tiles ADC)
Entries 229648
ADC
QT Input Channel

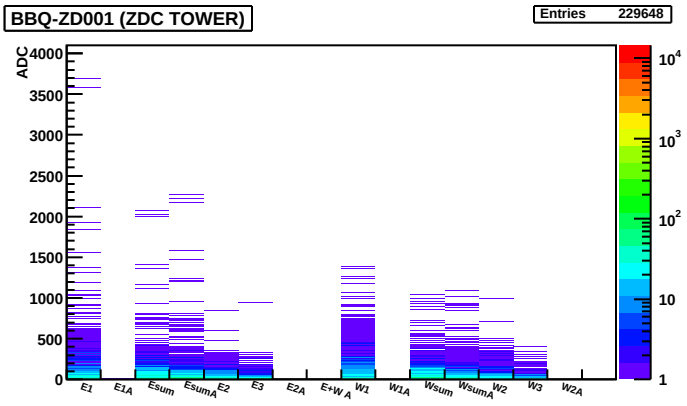

BBQ-BB001 (BBC east small tiles TAC)
Entries 229648
TAC
QT Input Channel

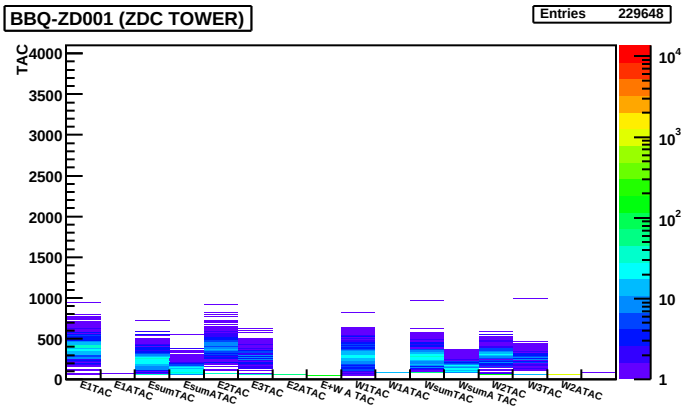

BBQ-BB002 (BBC west small tiles ADC)
Entries 229648
ADC
QT Input Channel

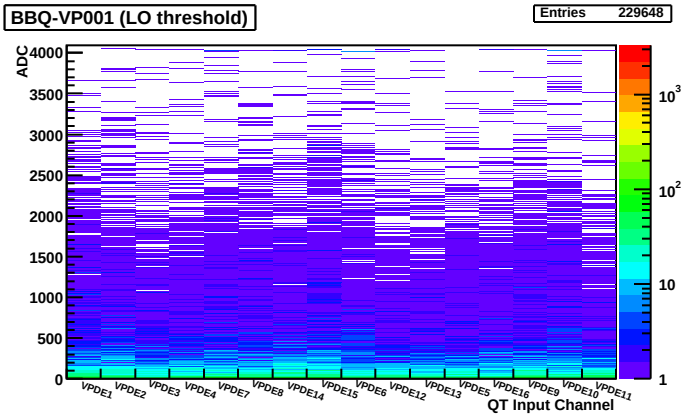

BBQ-BB002 (BBC west small tiles TAC)
Entries 229648
TAC
QT Input Channel

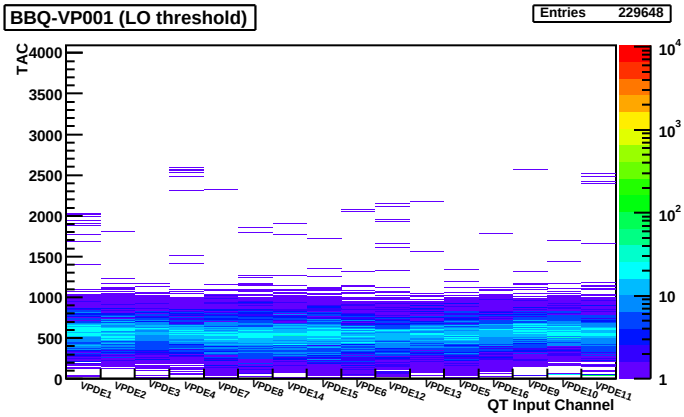

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 229648
ADC
QT Input Channel

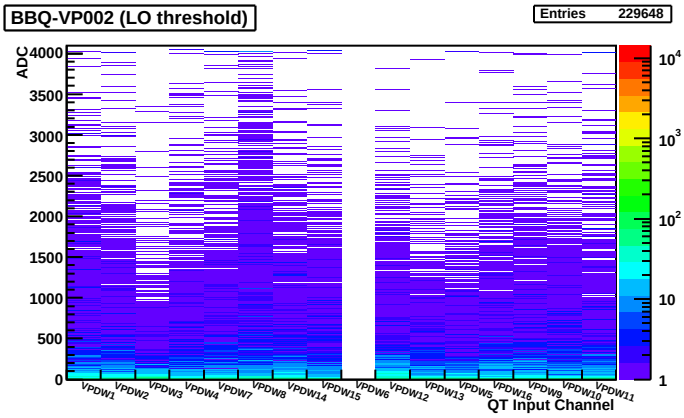

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 229648
TAC
QT Input Channel

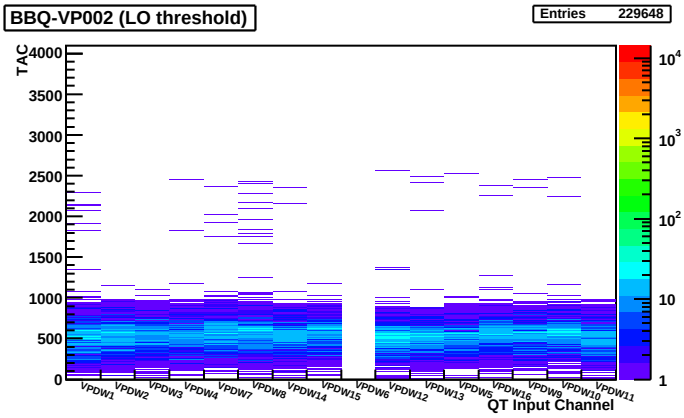

BBQ-ZD001 (ZDC TOWER)
Entries 229648
ADC

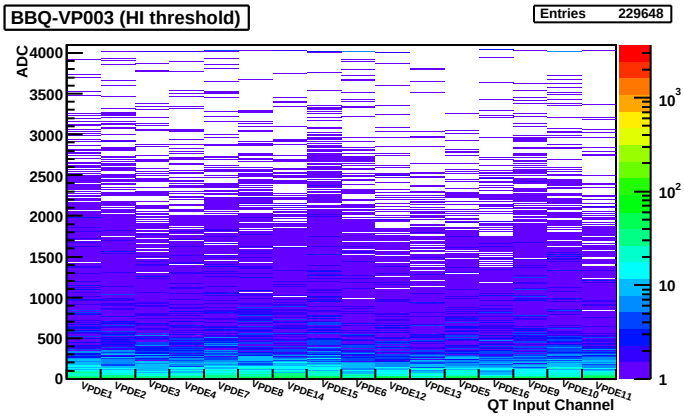

BBQ-ZD001 (ZDC TOWER)
Entries 229648
TAC

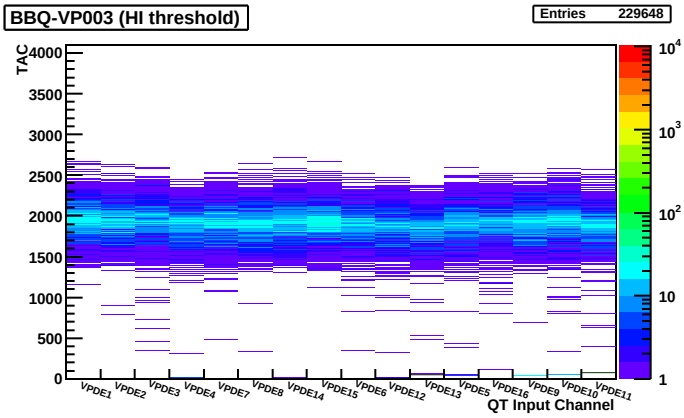

BBQ-VP001 (LO threshold)
Entries 229648
ADC
QT Input Channel

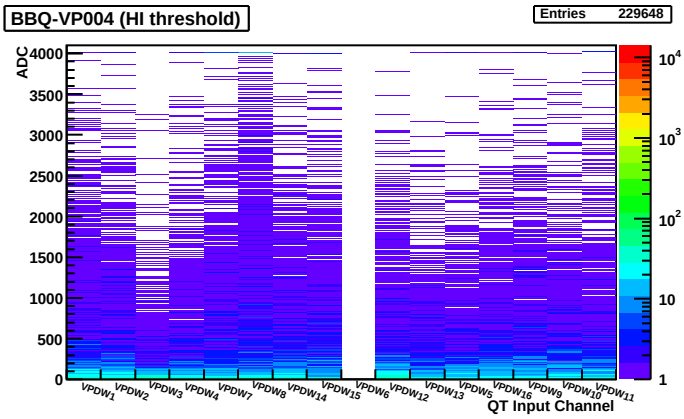

BBQ-VP001 (LO threshold)
Entries 229648
TAC
QT Input Channel

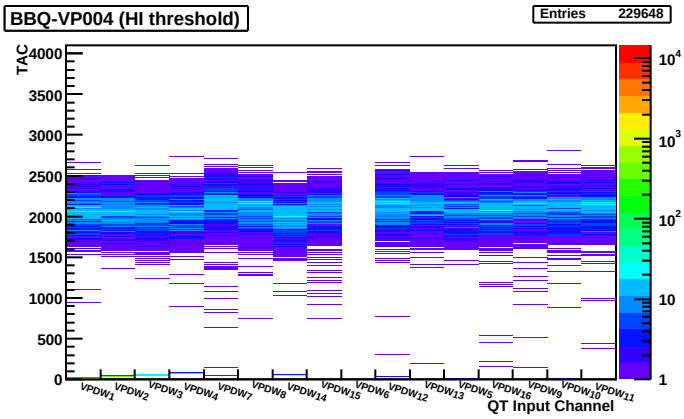

BBQ-VP002 (LO threshold)
Entries 229648
ADC
QT Input Channel

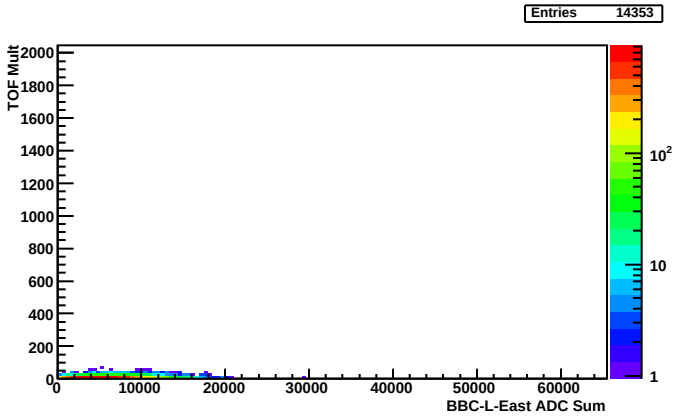

BBQ-VP002 (LO threshold)
Entries 229648
TAC
QT Input Channel

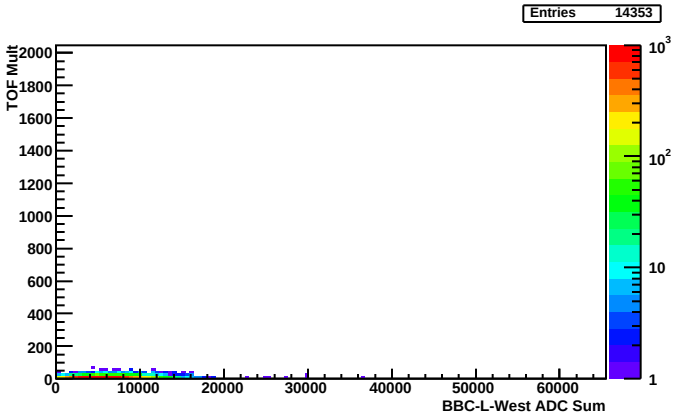

BBQ-VP003 (HI threshold)
Entries 229648
ADC
QT Input Channel

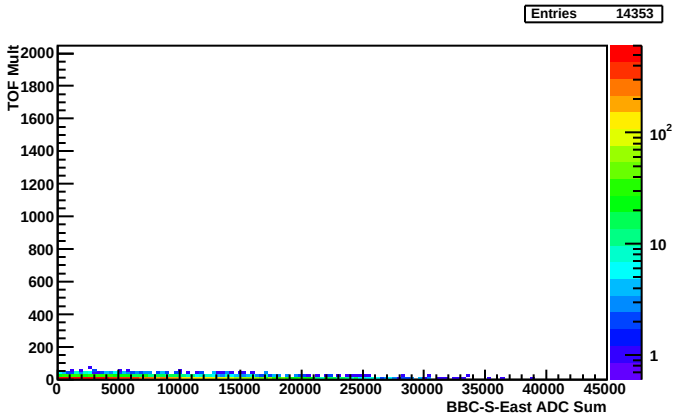

BBQ-VP003 (HI threshold)
Entries 229648
TAC
QT Input Channel

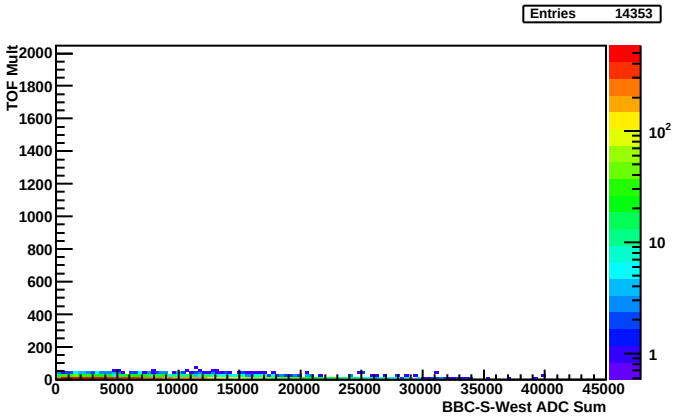

BBQ-VP004 (HI threshold)
Entries 229648
ADC
QT Input Channel

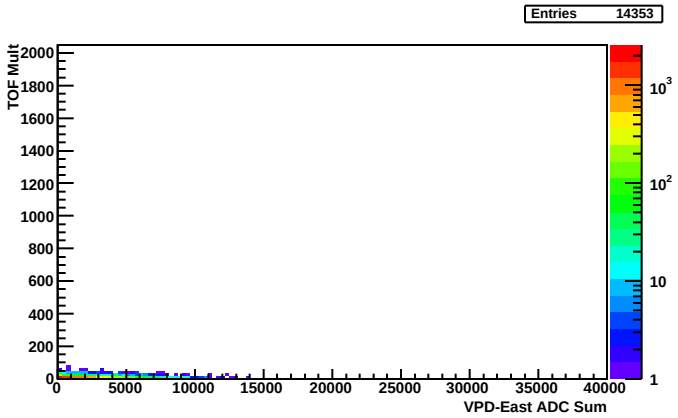

BBQ-VP004 (HI threshold)
Entries 229648
TAC
QT Input Channel

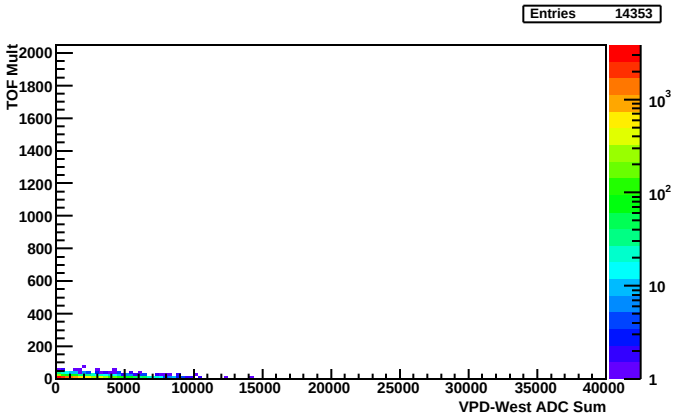

Entries 14353
TOF Mult
BBC-L-East ADC Sum

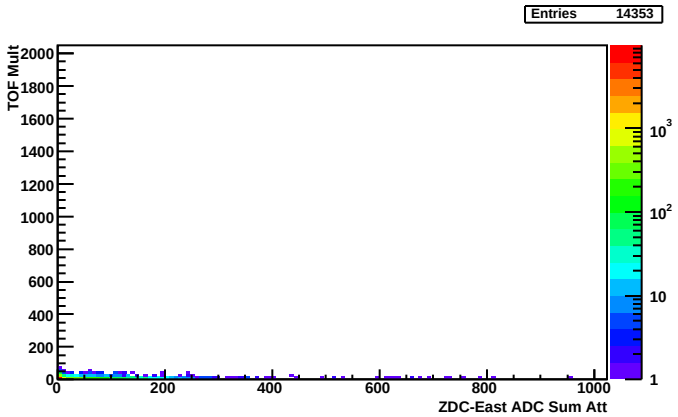

Entries 14353
TOF Mult
BBC-L-West ADC Sum

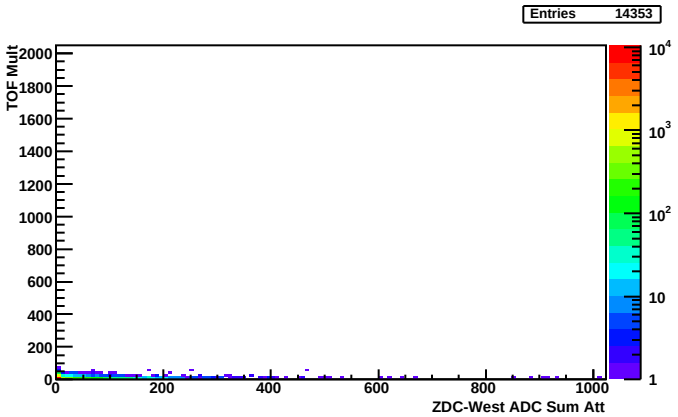

Entries 14353
TOF Mult
BBC-S-East ADC Sum

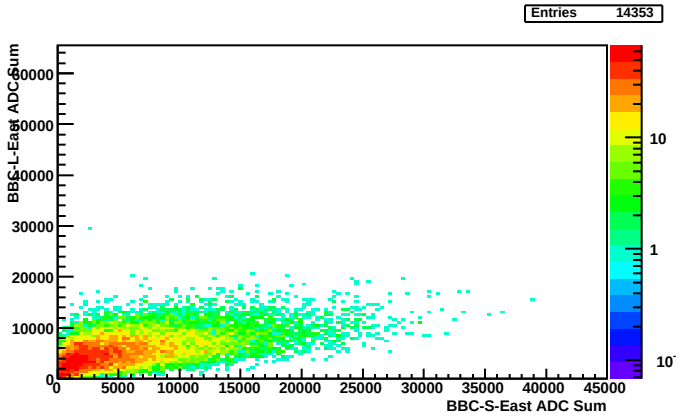

Entries 14353
TOF Mult
BBC-S-West ADC Sum

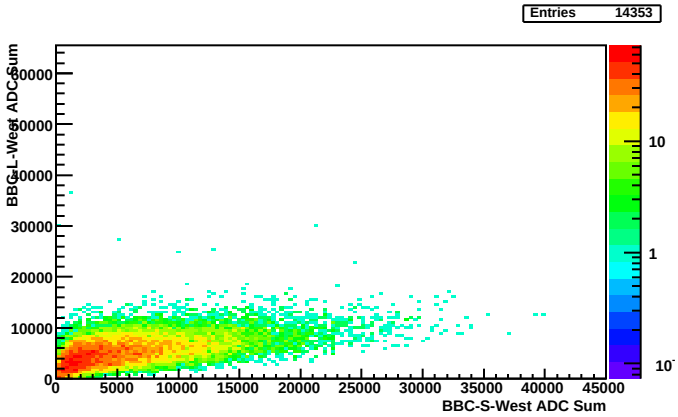

Entries 14353
TOF Mult
VPD-East ADC Sum

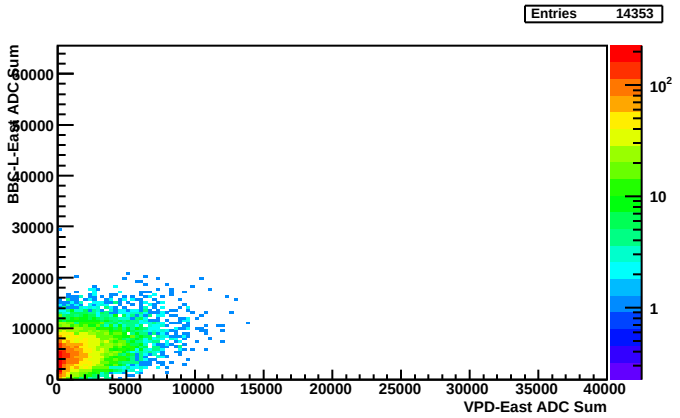

Entries 14353
TOF Mult
VPD-West ADC Sum

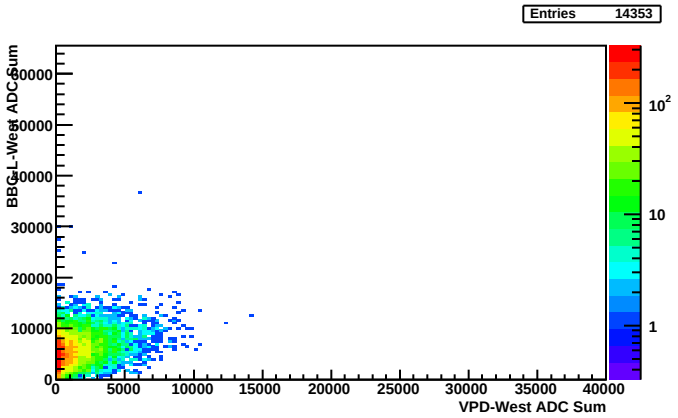

Entries 14353
TOF Mult
ZDC-East ADC Sum Att

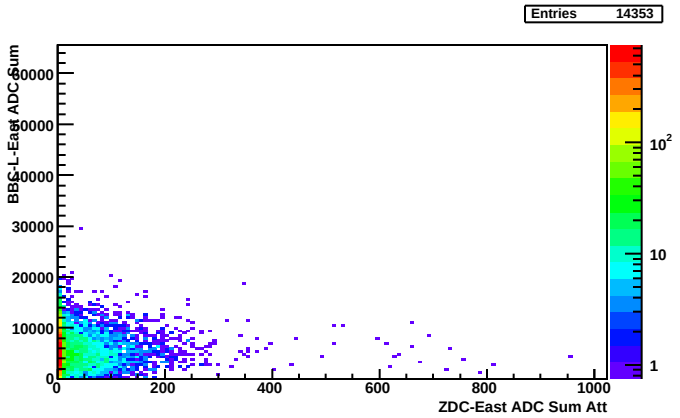

Entries 14353
TOF Mult
ZDC-West ADC Sum Att

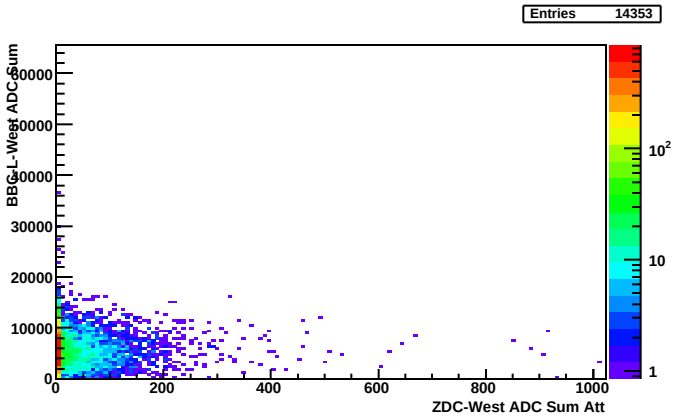

Entries 14353
BBC-L-East ADC Sum
BBC-S-East ADC Sum

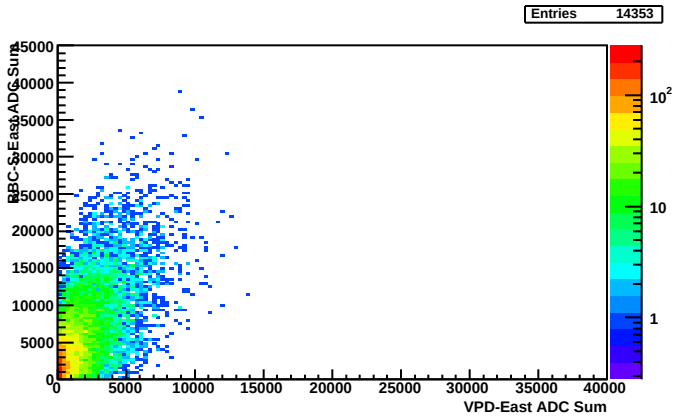

Entries 14353
BBC-L-West ADC Sum
BBC-S-West ADC Sum

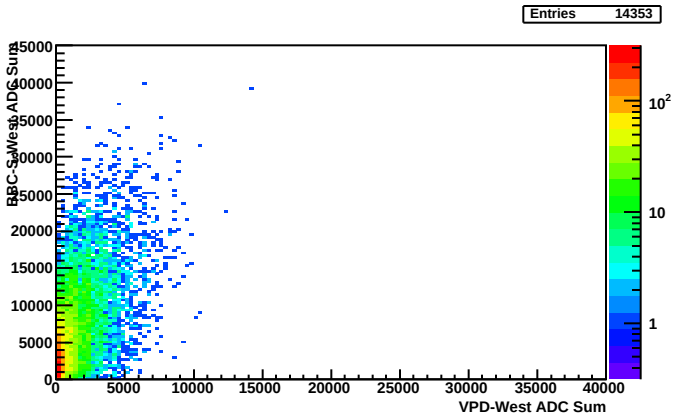

Entries 14353
BBC-L-East ADC Sum
VPD-East ADC Sum

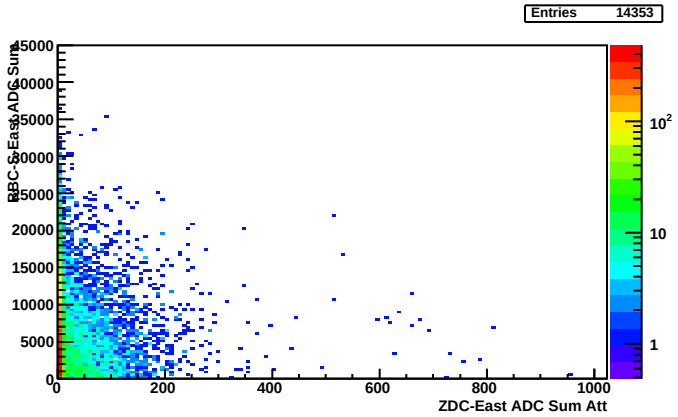

Entries 14353
BBC-L-West ADC Sum
VPD-West ADC Sum

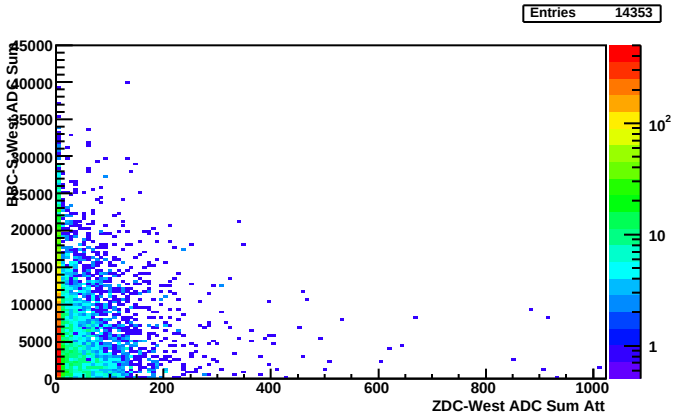

Entries 14353
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

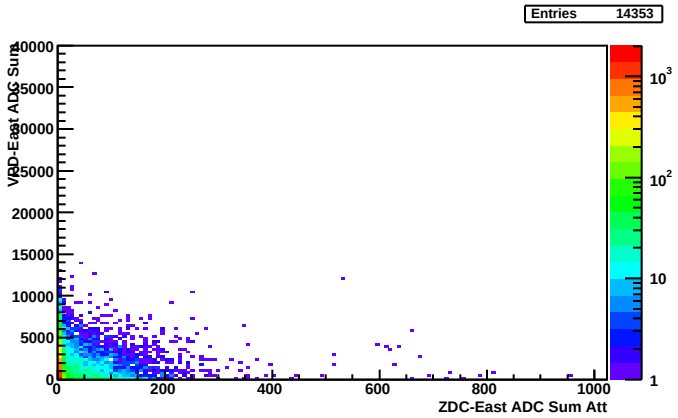

Entries 14353
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

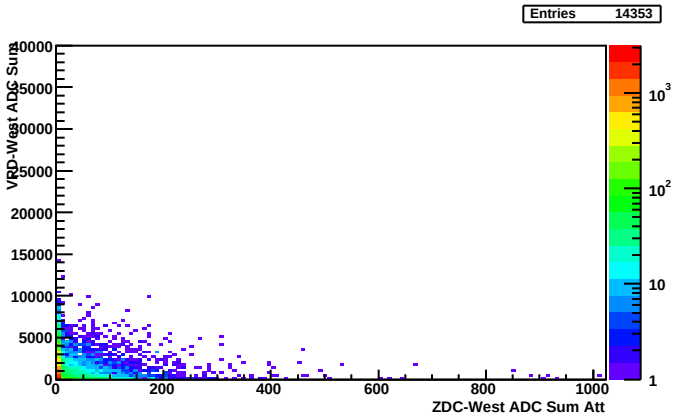

Entries 14353
BBC-S-East ADC Sum
VPD-East ADC Sum

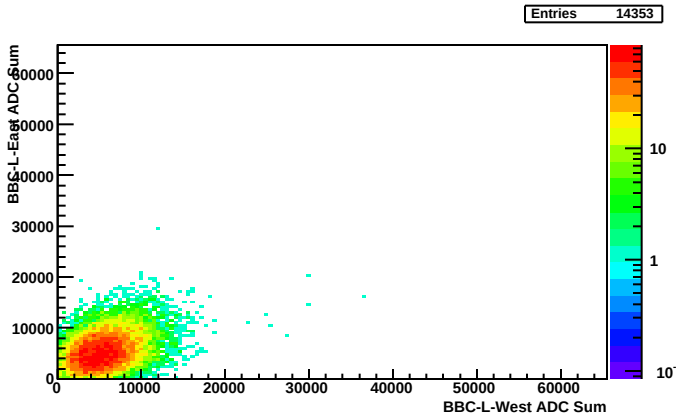

Entries 14353
BBC-S-West ADC Sum
VPD-West ADC Sum

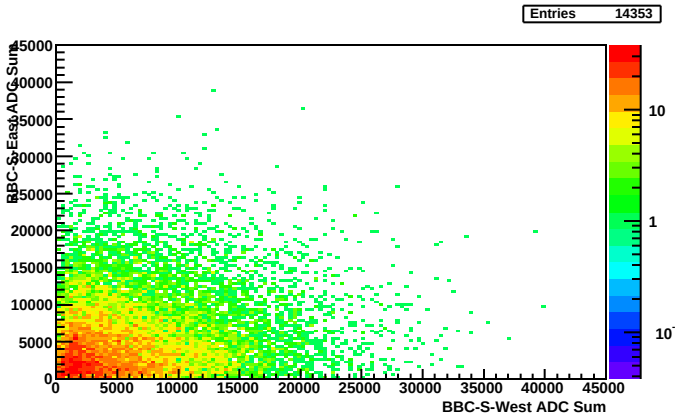

Entries 14353
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

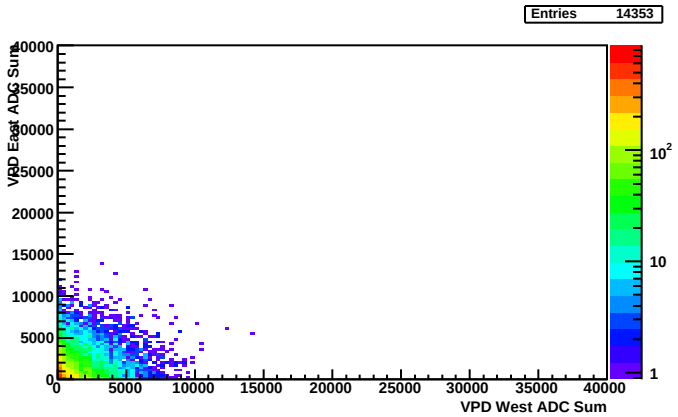

Entries 14353
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

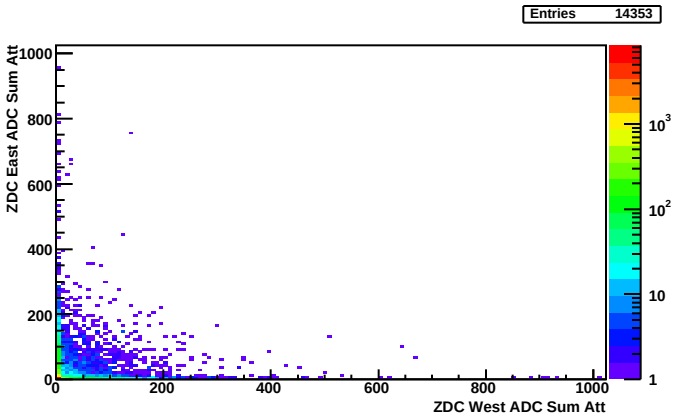

Entries 14353
VPD-East ADC Sum
ZDC-East ADC Sum Att

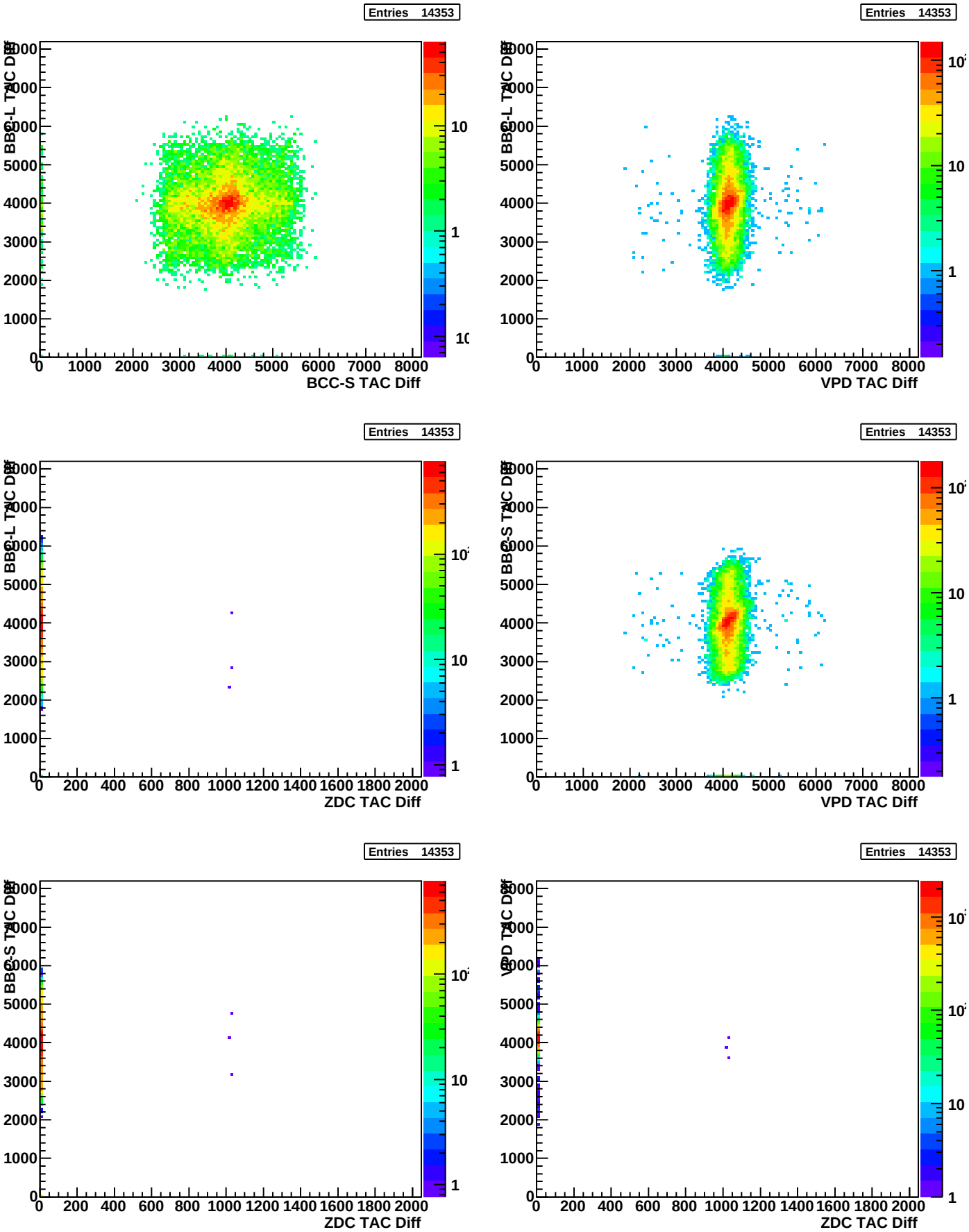

Entries 14353
VPD-West ADC Sum
ZDC-West ADC Sum Att

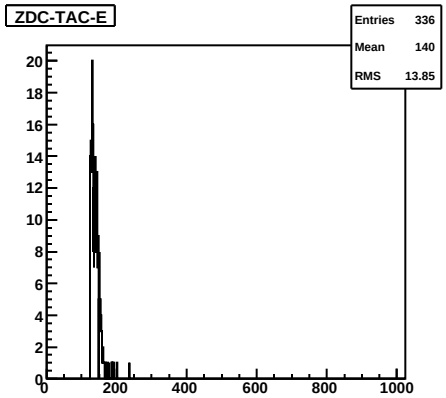

Entries 14353
BBC-L-East ADC Sum
BBC-L-West ADC Sum

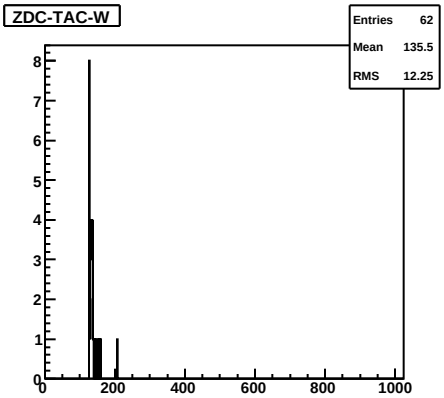

Entries 14353
BBC-S-East ADC Sum
BBC-S-West ADC Sum

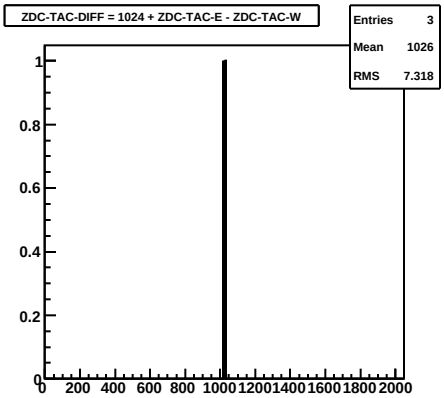

Entries 14353
VPD East ADC Sum
VPD West ADC Sum

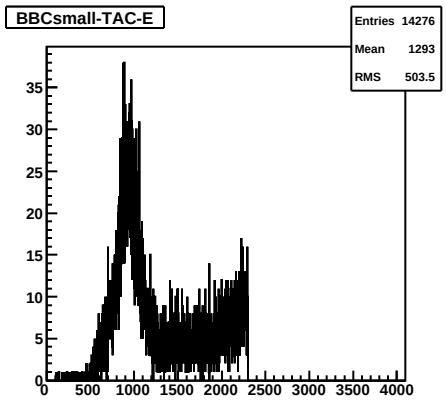

Entries 14353
ZDC East ADC Sum Att
ZDC West ADC Sum Att

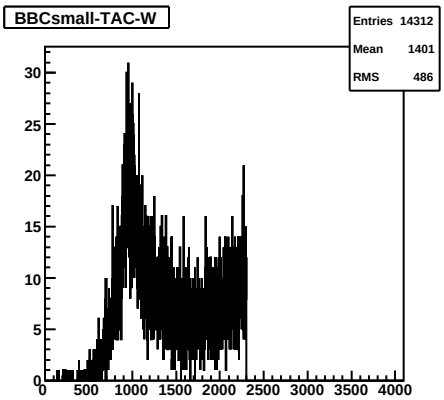

Entries 14353
BBC-L TAC Diff
BCC-S TAC Diff
Entries 14353
BBC-L TAC Diff
VPD TAC Diff
Entries 14353
BBC-L TAC Diff
ZDC TAC Diff
Entries 14353
BBC-S TAC Diff
VPD TAC Diff
Entries 14353
BBC-S TAC Diff
ZDC TAC Diff
Entries 14353
VPD TAC Diff
ZDC TAC Diff

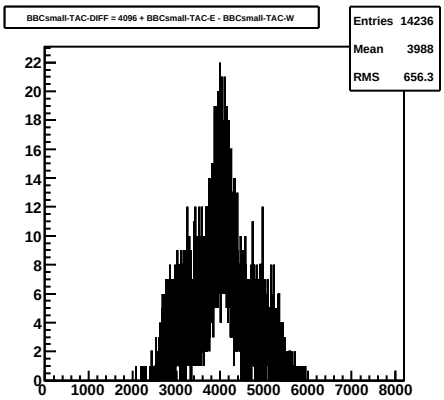

ZDC-TAC-E
Entries 336
Mean 140
RMS 13.85

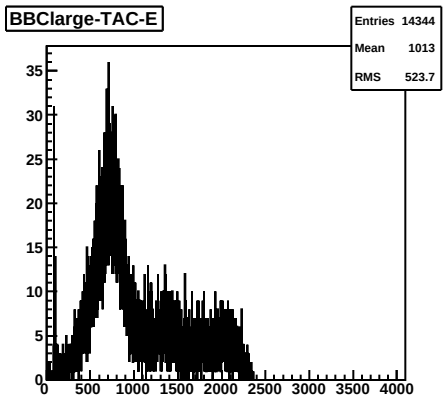

ZDC-TAC-W
Entries 62
Mean 135.5
RMS 12.25

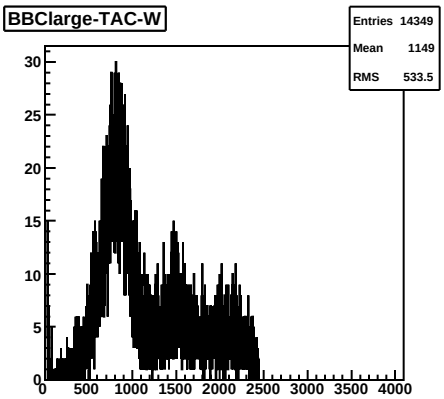

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 3
Mean 1026
RMS 7.318

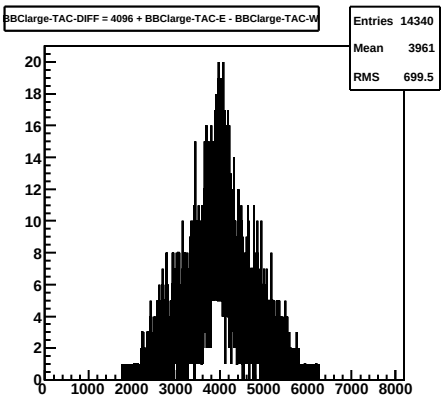

BBCsmall-TAC-E
Entries 14276
Mean 1293
RMS 503.5

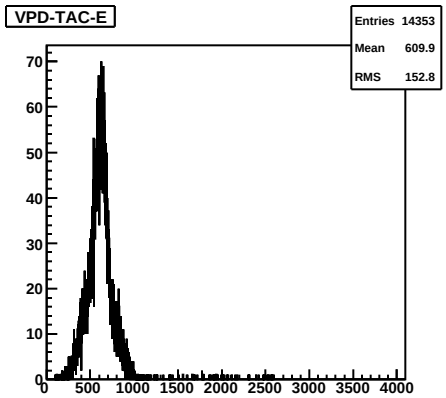

BBCsmall-TAC-W
Entries 14312
Mean 1401
RMS 486

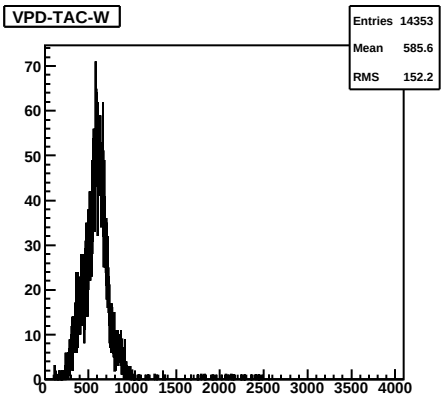

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 14236
Mean 3988
RMS 656.3

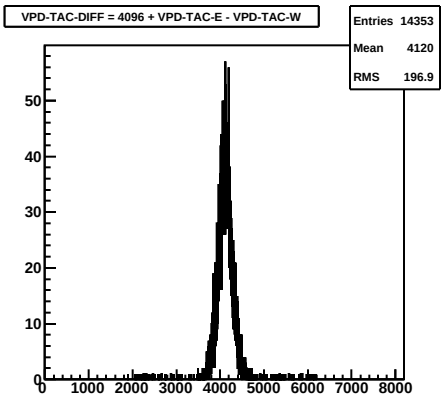

BBClarge-TAC-E
Entries 14344
Mean 1013
RMS 523.7

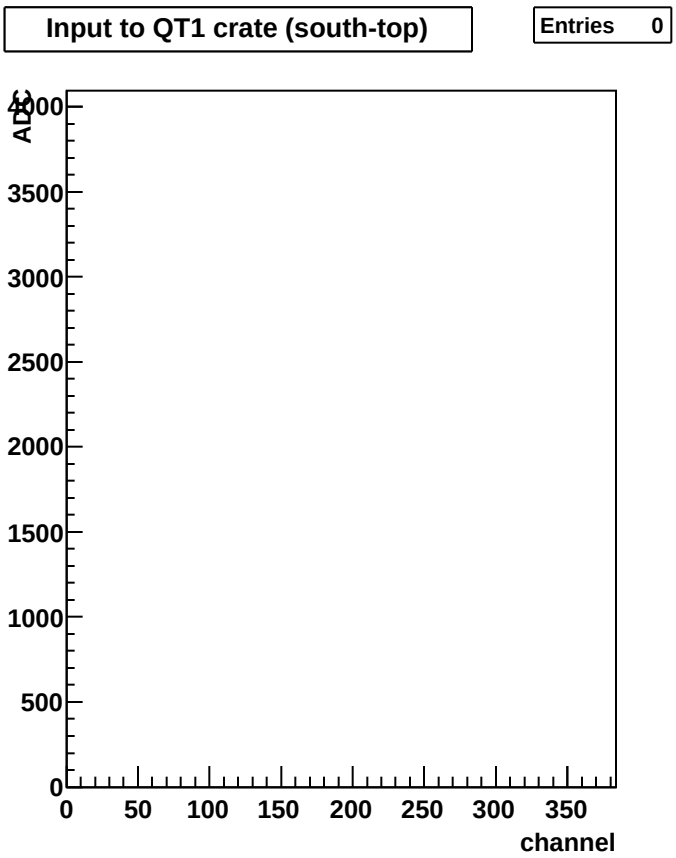

BBClarge-TAC-W
Entries 14349
Mean 1149
RMS 533.5

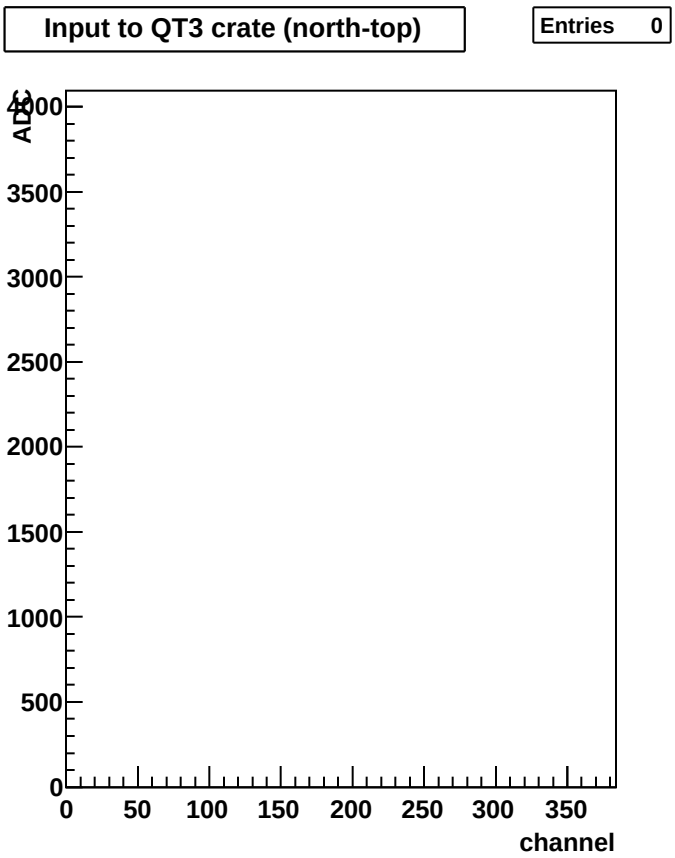

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 14340
Mean 3961
RMS 699.5

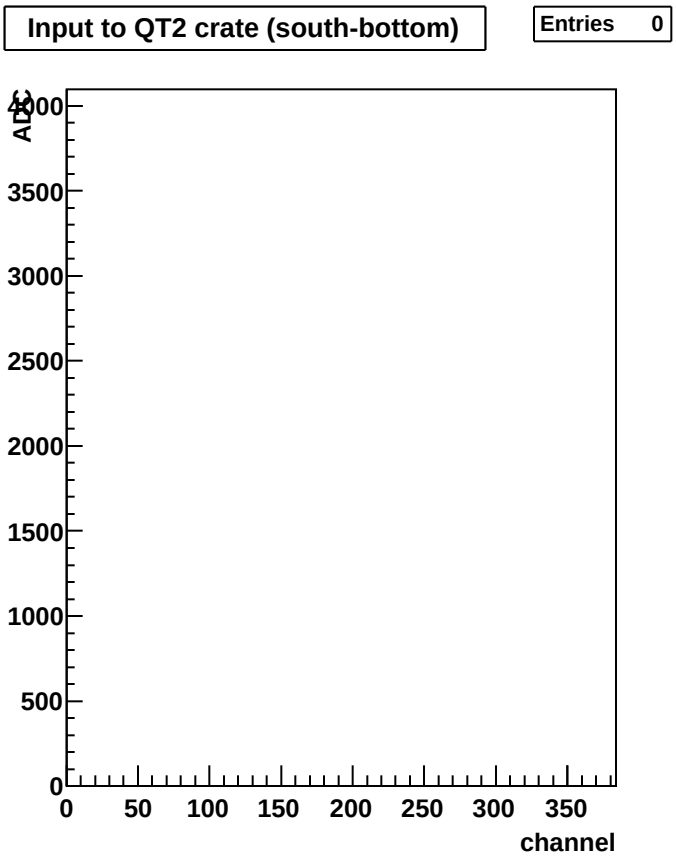

VPD-TAC-E
Entries 14353
Mean 609.9
RMS 152.8

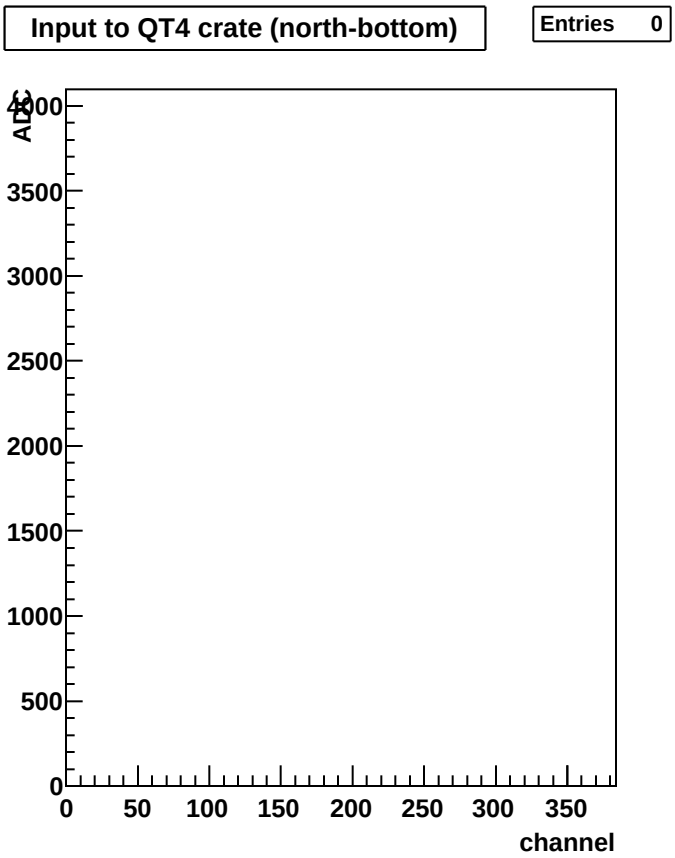

VPD-TAC-W
Entries 14353
Mean 585.6
RMS 152.2

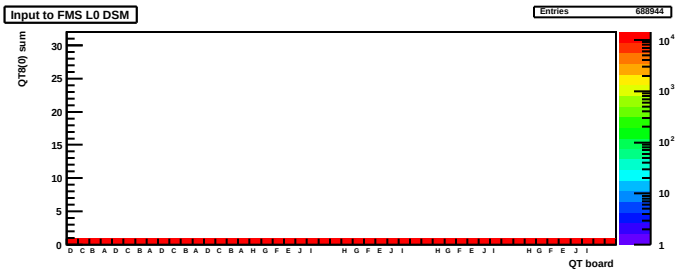

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 14353
Mean 4120
RMS 196.9

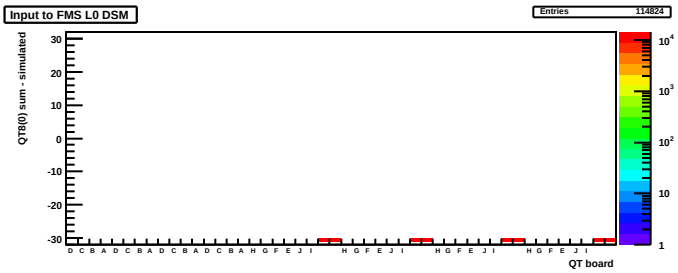

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

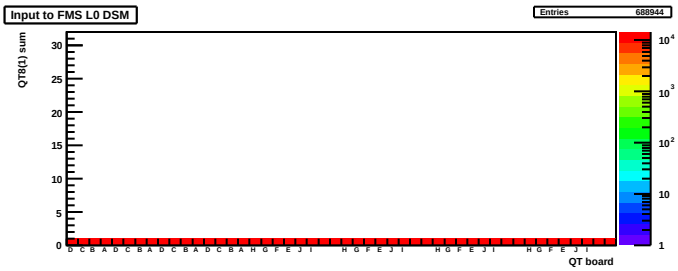

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

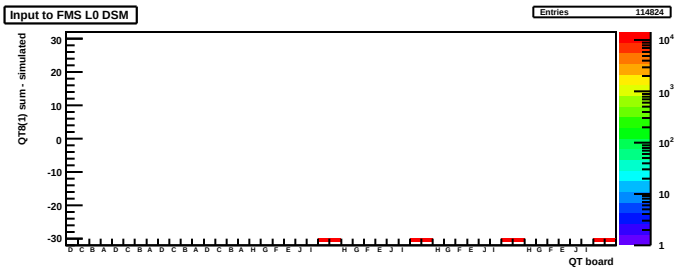

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

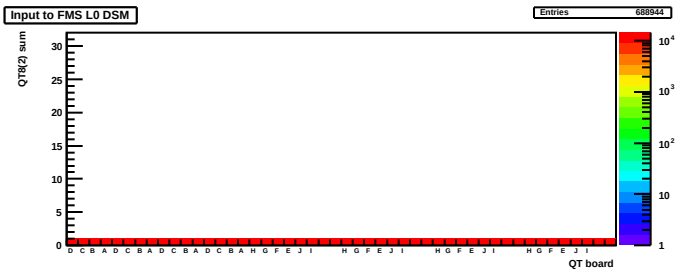

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

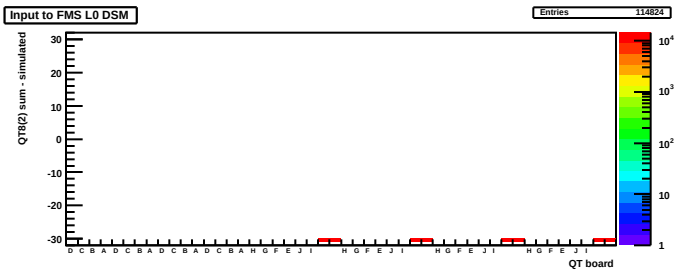

Input to FMS L0 DSM
Entries 688944
QT8(0) sum
QT board

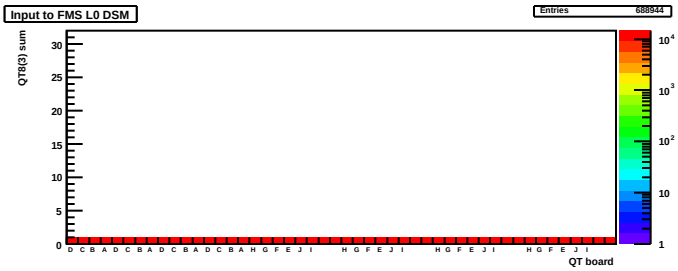

Input to FMS L0 DSM
Entries 114824
QT8(0) sum - simulated
QT board

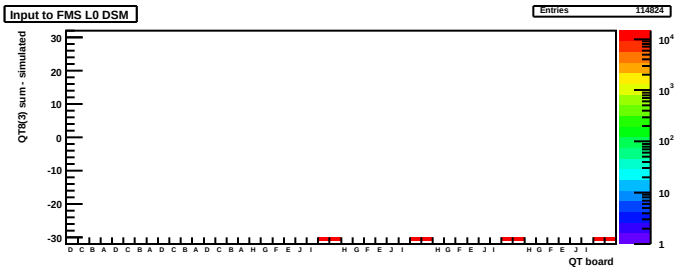

Input to FMS L0 DSM
Entries 688944
QT8(1) sum
QT board

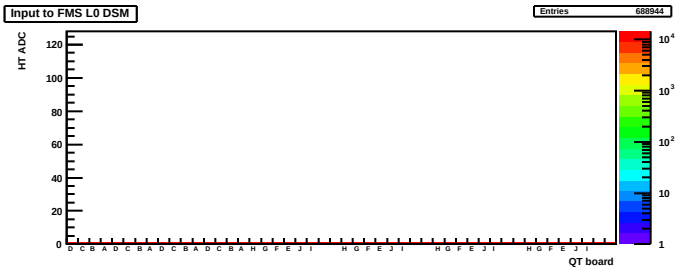

Input to FMS L0 DSM
Entries 114824
QT8(1) sum - simulated
QT board

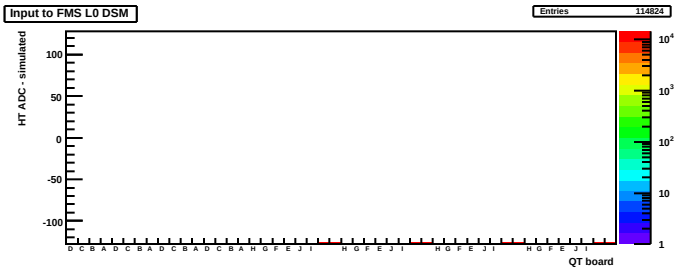

Input to FMS L0 DSM
Entries 688944
QT8(2) sum
QT board

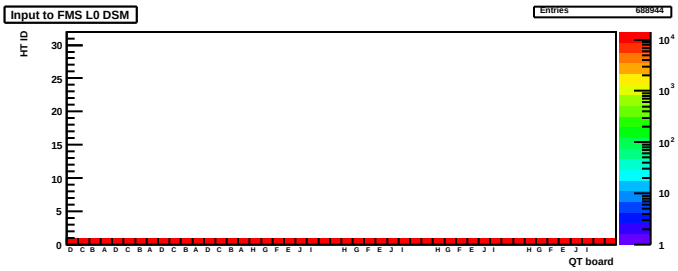

Input to FMS L0 DSM
Entries 114824
QT8(2) sum - simulated
QT board

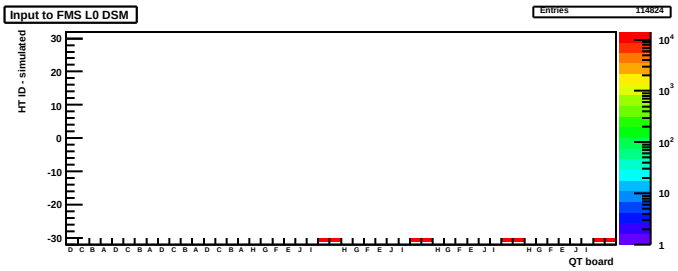

Input to FMS L0 DSM
Entries 688944
QT8(3) sum
QT board

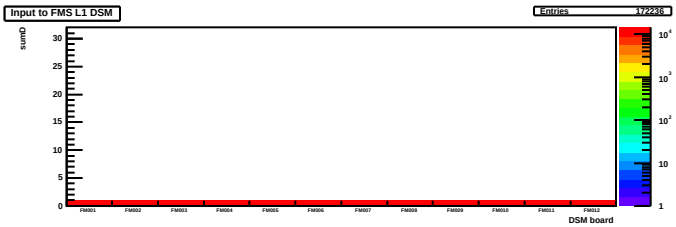

Input to FMS L0 DSM
Entries 114824
QT8(3) sum - simulated
QT board

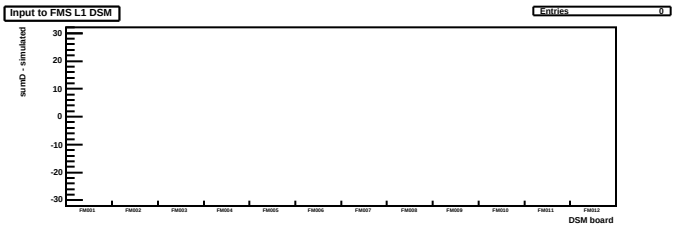

Input to FMS L0 DSM
Entries 688944
HT ADC
QT board

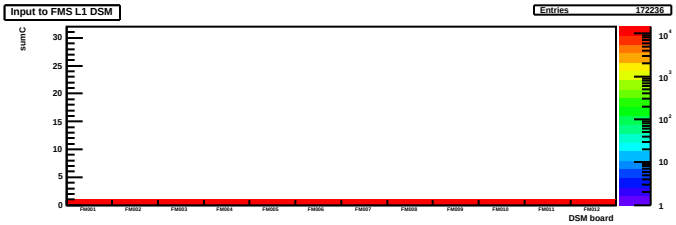

Input to FMS L0 DSM
Entries 114824
HT ADC - simulated
QT board

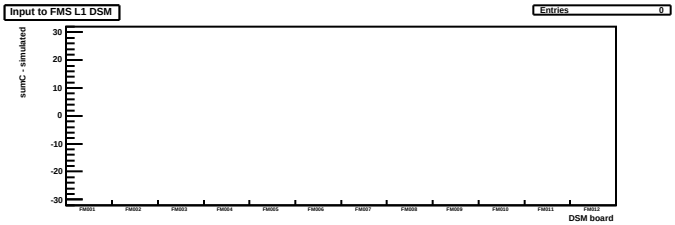

Input to FMS L0 DSM
Entries 688944
HT ID
QT board

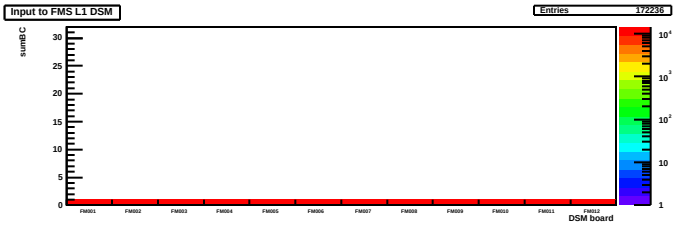

Input to FMS L0 DSM
Entries 114824
HT ID - simulated
QT board

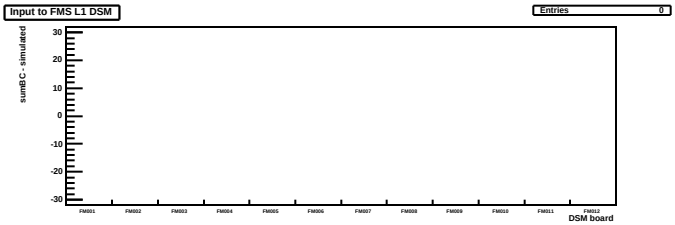

Input to FMS L1 DSM
Entries 172236
sumD
DSM board

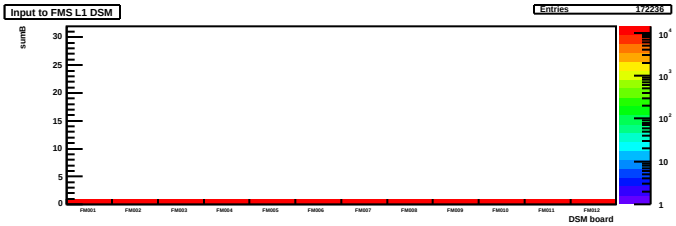

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

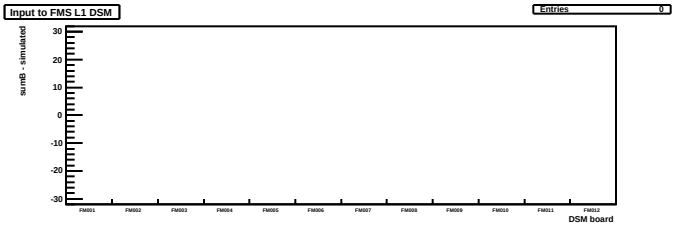

Input to FMS L1 DSM
Entries 172236
sumC
DSM board

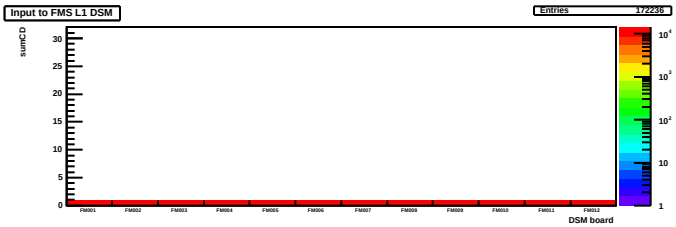

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

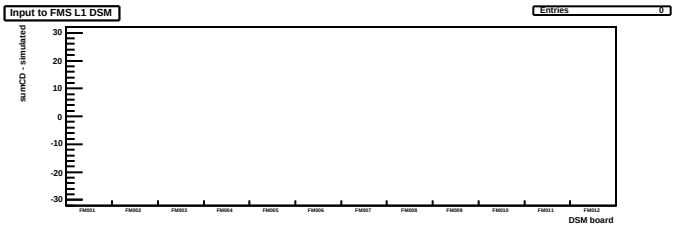

Input to FMS L1 DSM
Entries 172236
sumBC
DSM board

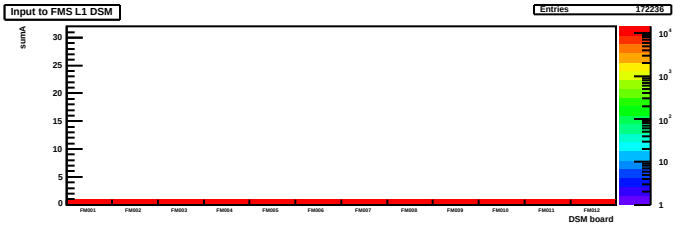

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

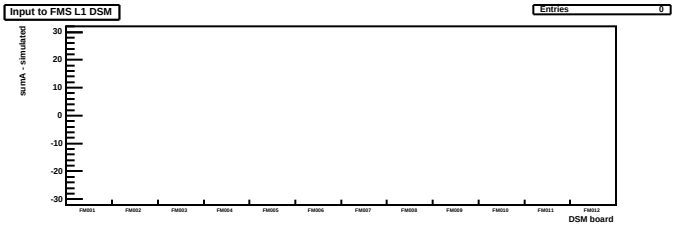

Input to FMS L1 DSM
Entries 172236
sumB
DSM board

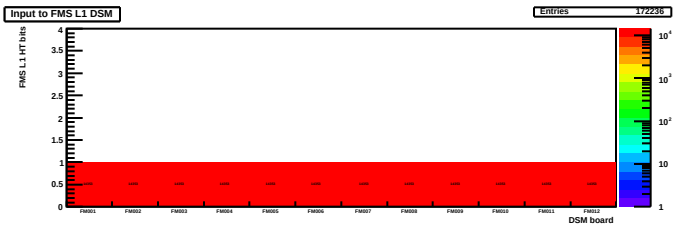

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

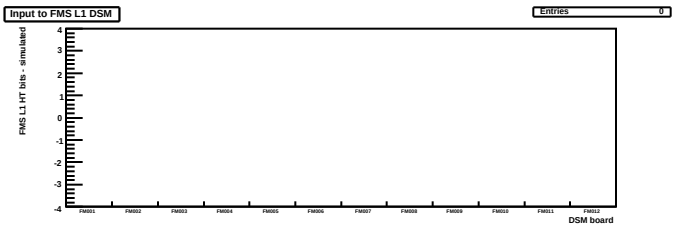

Input to FMS L1 DSM
Entries 172236
sumCD
DSM board

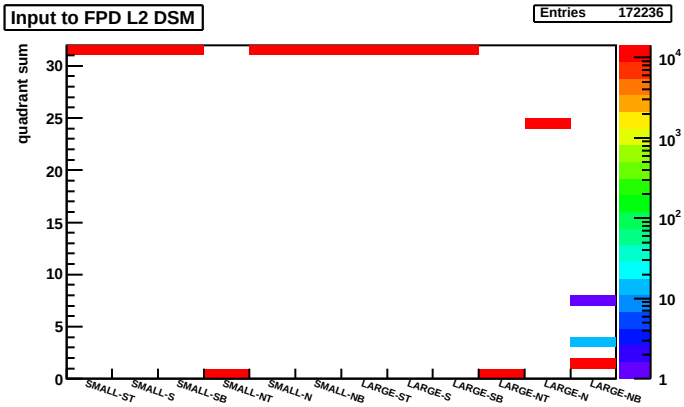

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

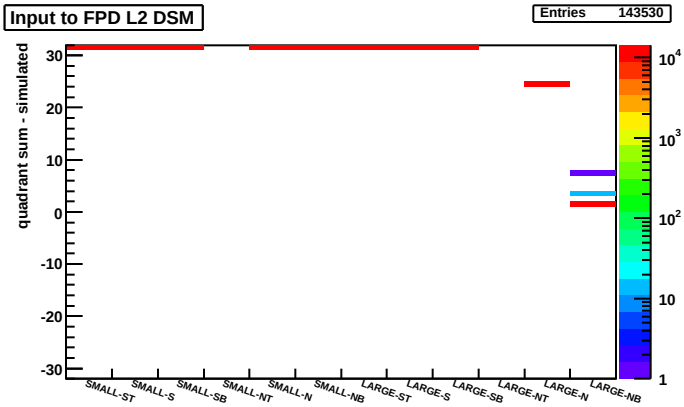

Input to FMS L1 DSM
Entries 172236
sumA
DSM board

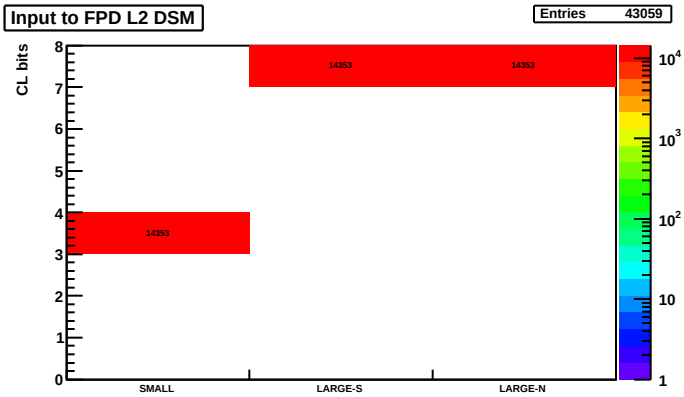

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

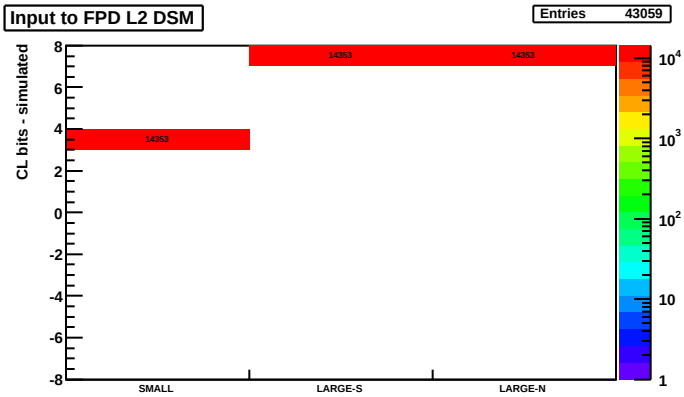

Input to FMS L1 DSM
Entries 172236
FMS L1 HT bits
DSM board

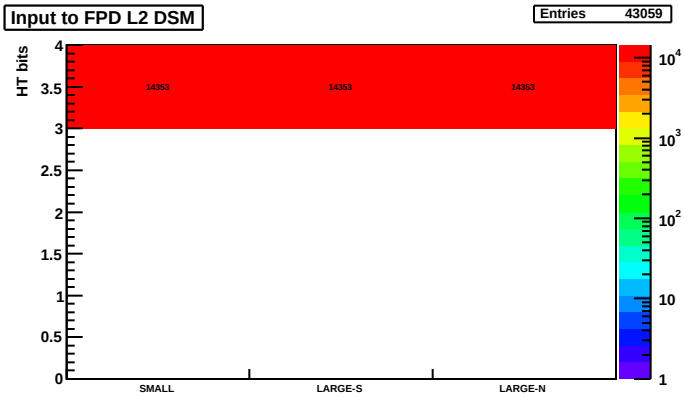

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

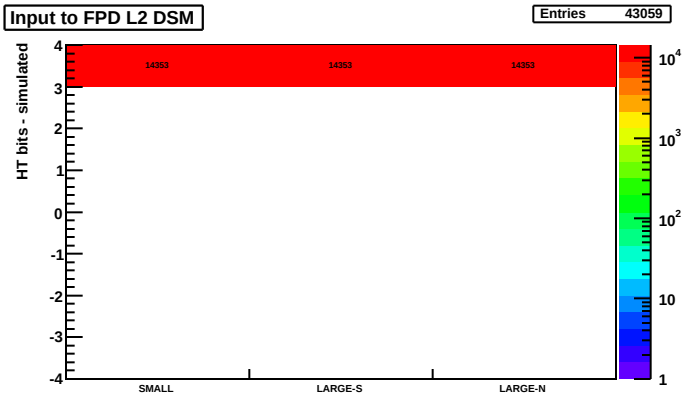

Input to FPD L2 DSM
Entries 172236
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

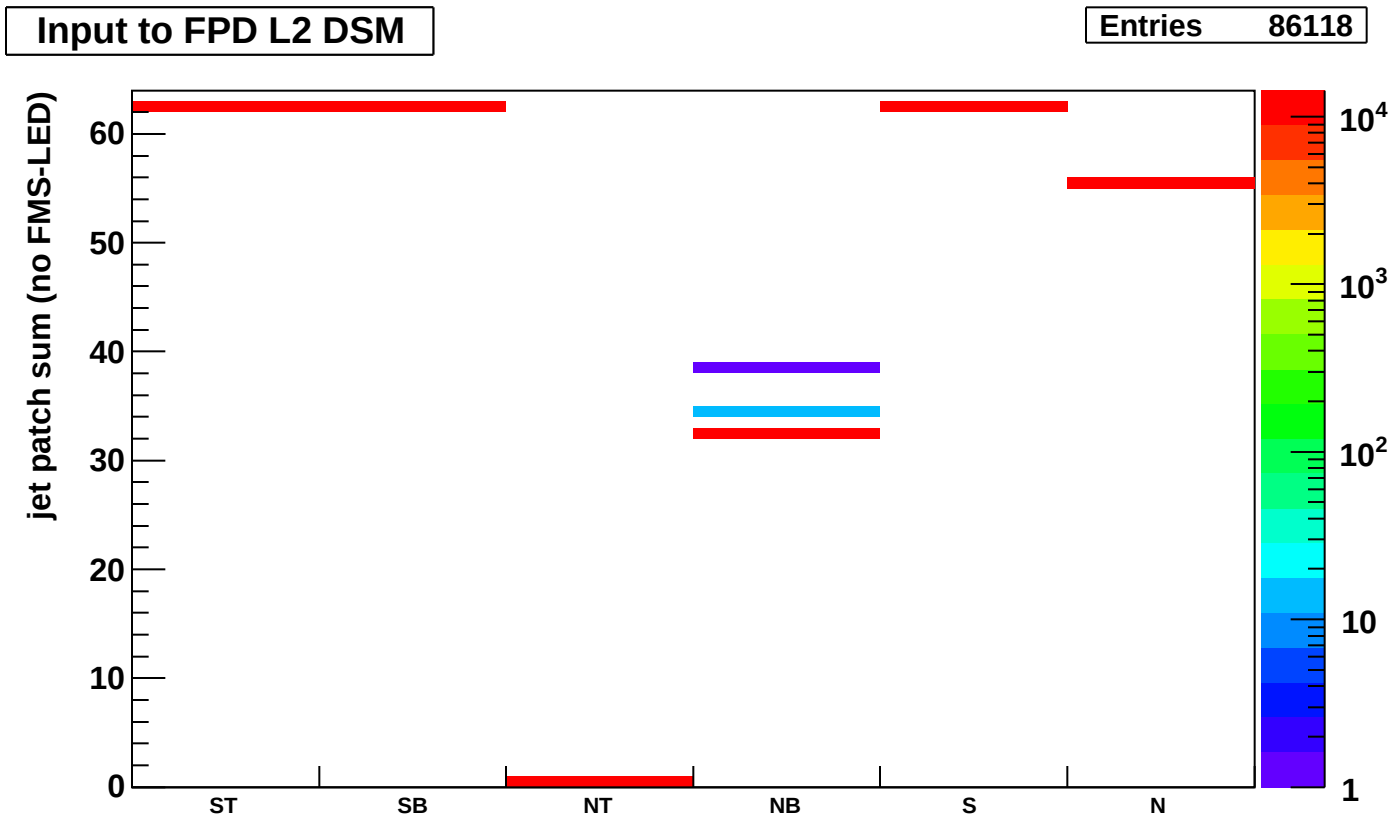

Input to FPD L2 DSM
Entries 143530
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

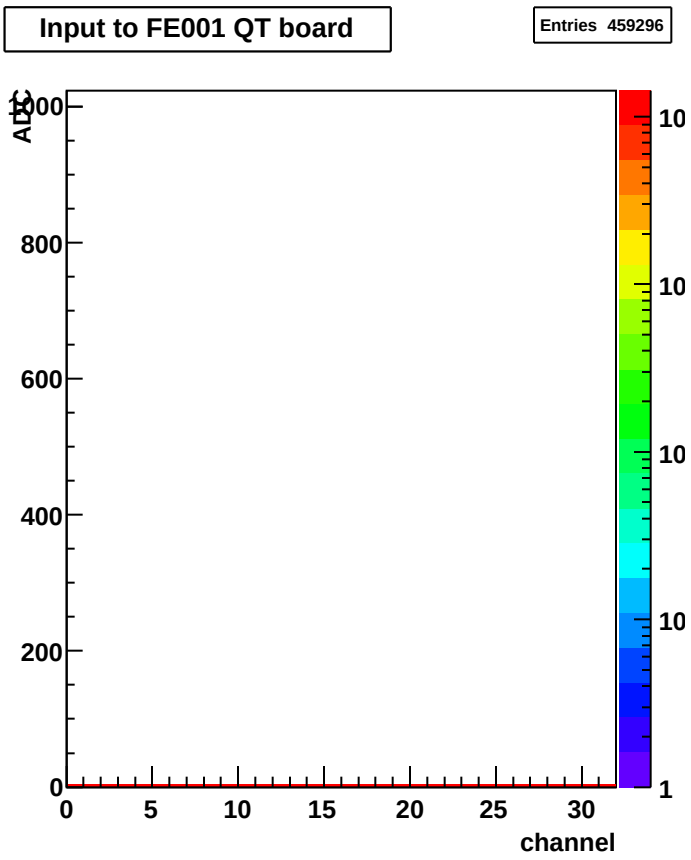

Input to FPD L2 DSM
Entries 43059
CL bits
14353
14353
14353
SMALL
LARGE-S
LARGE-N

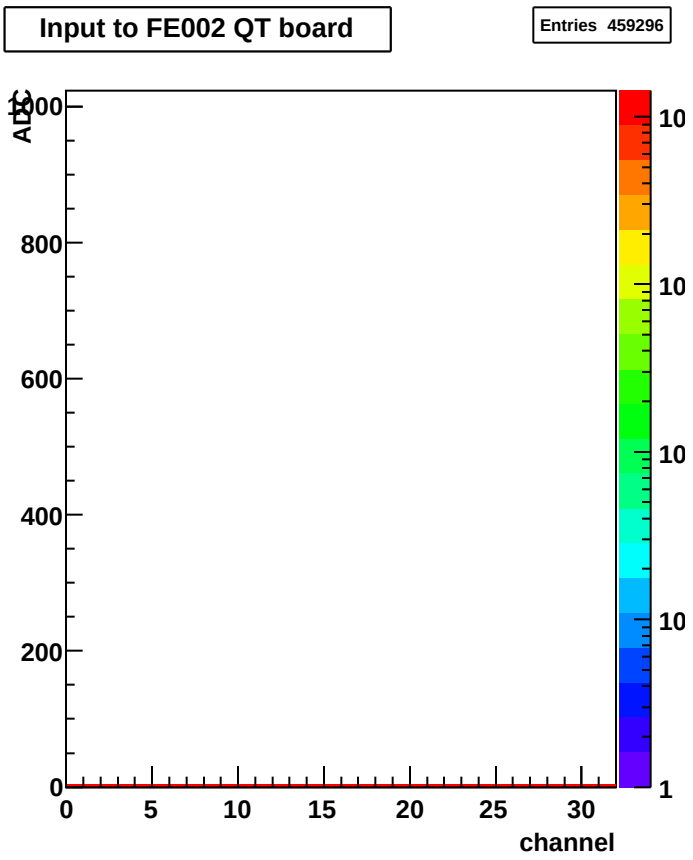

Input to FPD L2 DSM
Entries 43059
CL bits - simulated
14353
14353
14353
SMALL
LARGE-S
LARGE-N

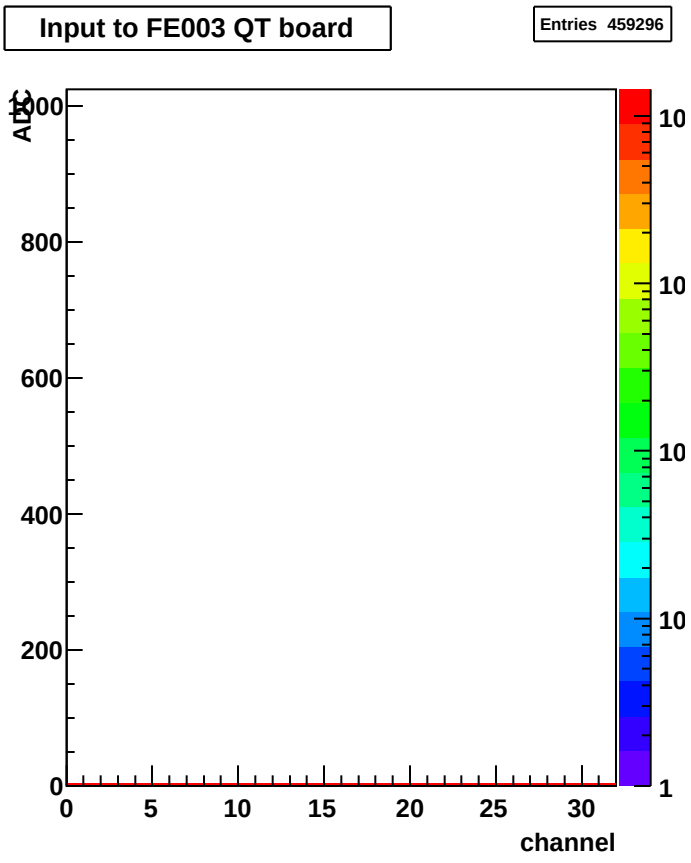

Input to FPD L2 DSM
Entries 43059
HT bits
14353
14353
14353
SMALL
LARGE-S
LARGE-N

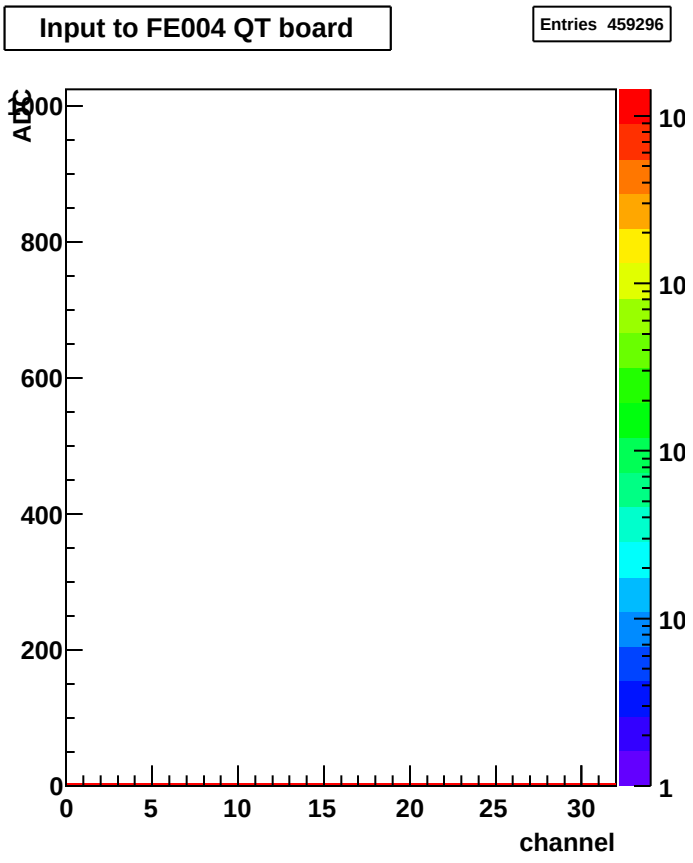

Input to FPD L2 DSM
Entries 43059
HT bits - simulated
14353
14353
14353
SMALL
LARGE-S
LARGE-N

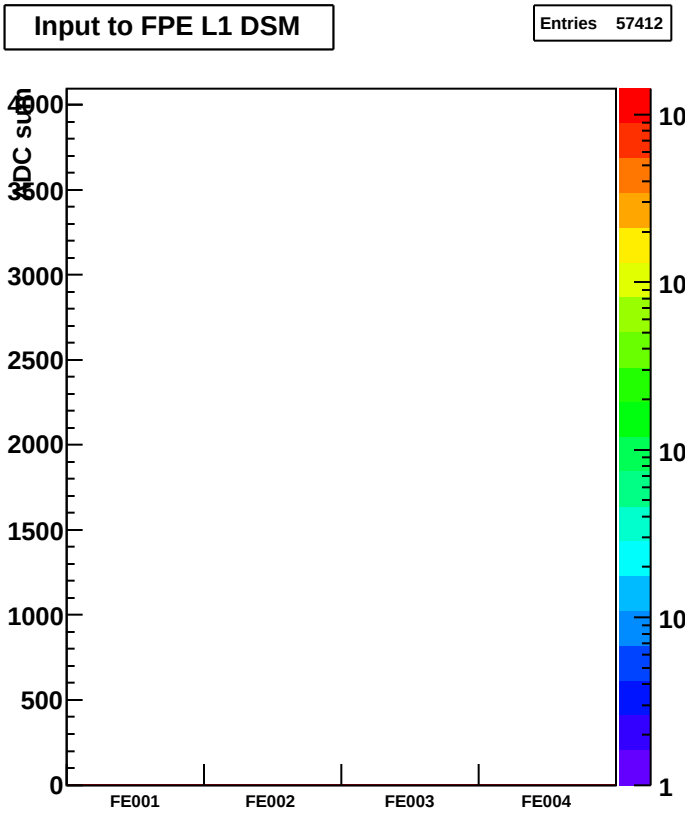

Input to FPD L2 DSM
Entries 86118
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

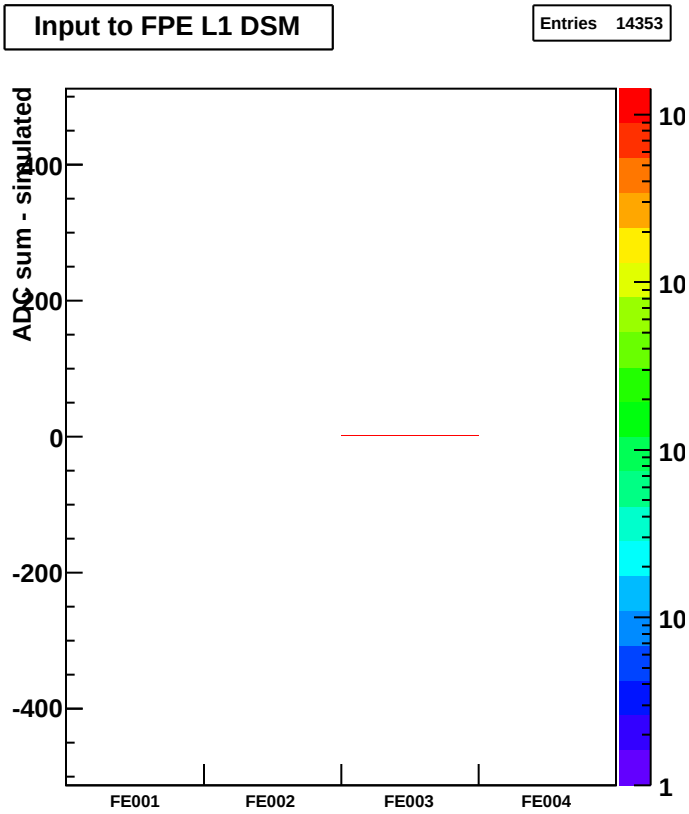

Input to FE001 QT board
Entries 459296
ADC
channel

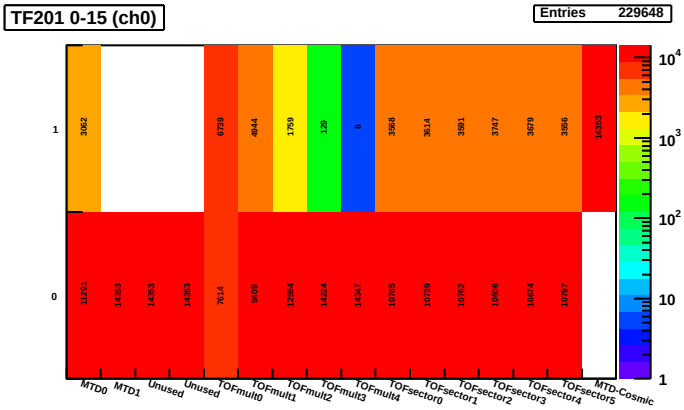

Input to FE002 QT board
Entries 459296
ADC
channel

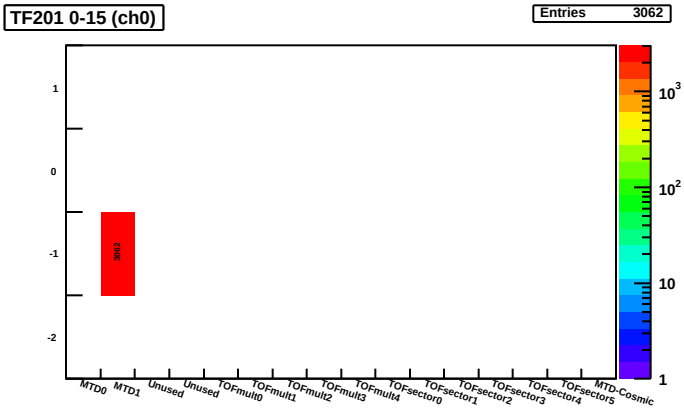

Input to FE003 QT board
Entries 459296
ADC
channel

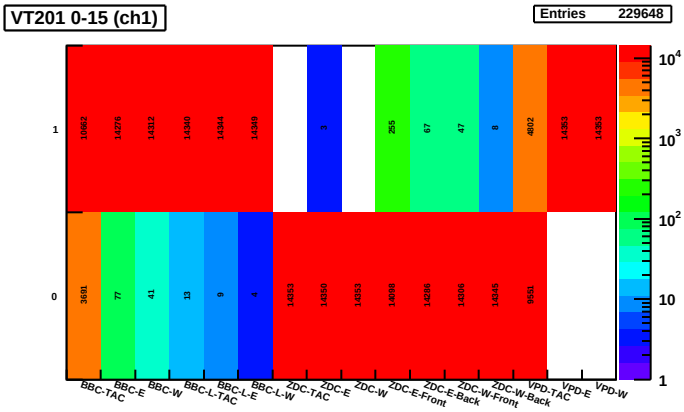

Input to FE004 QT board
Entries 459296
ADC
channel

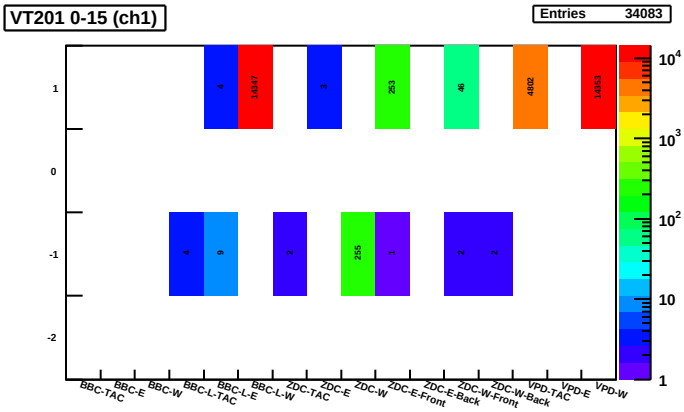

Input to FPE L1 DSM
Entries 57412
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1

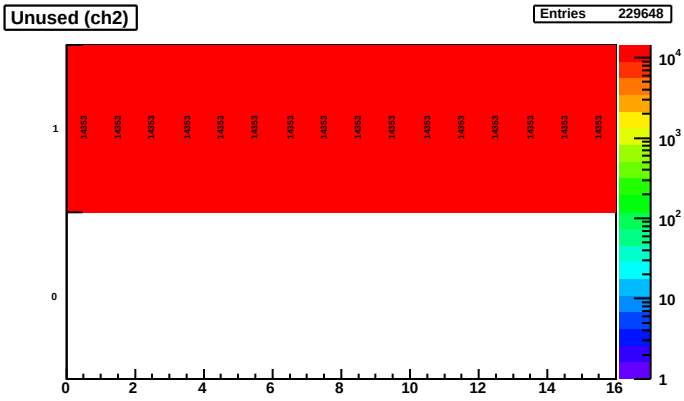

Input to FPE L1 DSM
Entries 14353
ADC sum - simulated
200
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1

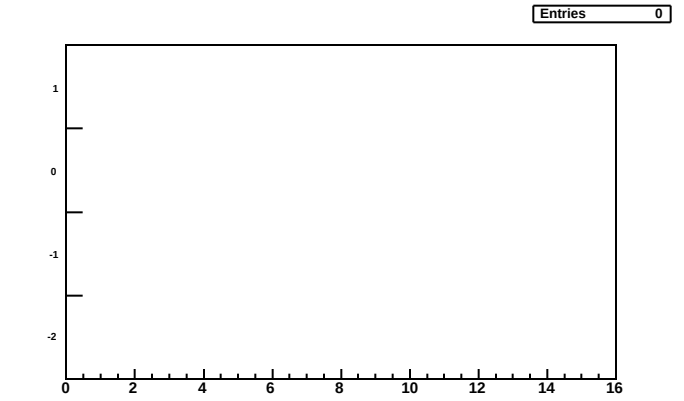

TF201 0-15 (ch0)
Entries 229648
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

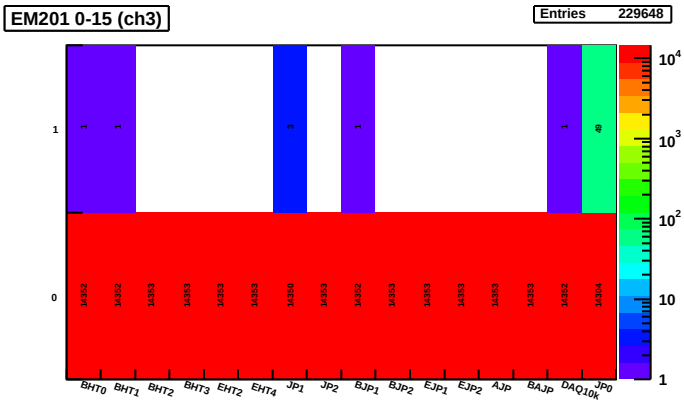

TF201 0-15 (ch0)
Entries 3062
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

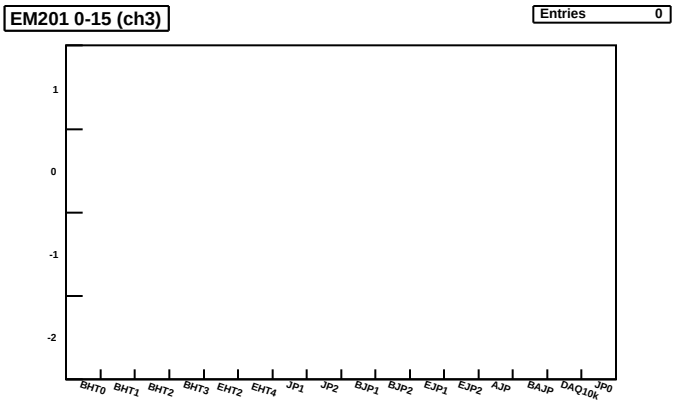

VT201 0-15 (ch1)
Entries 229648
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 34083
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

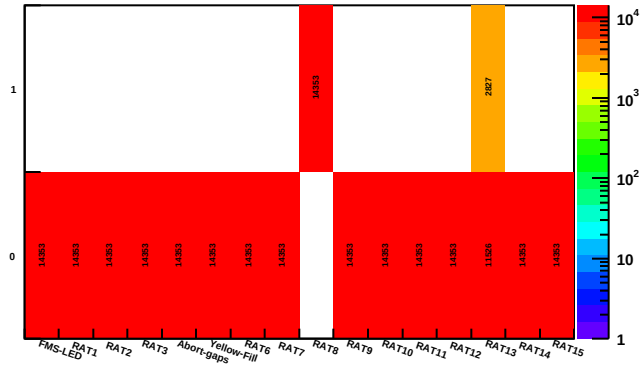

Unused (ch2)
Entries 229648

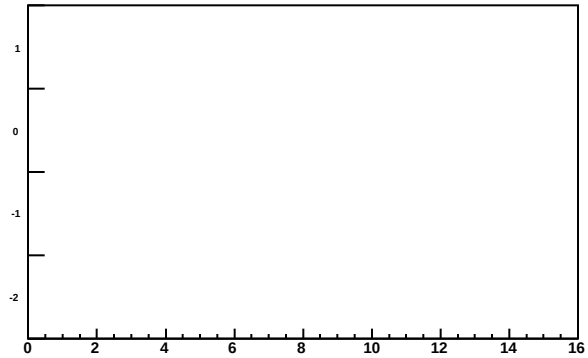

Entries 0


EM201 0-15 (ch3)
Entries 229648
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

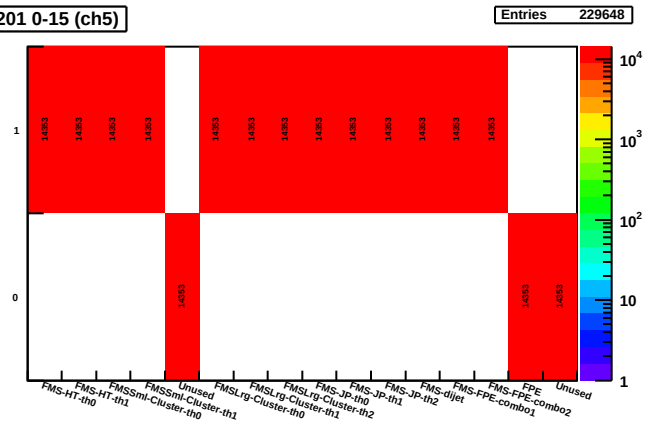

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

RAT board (ch4)

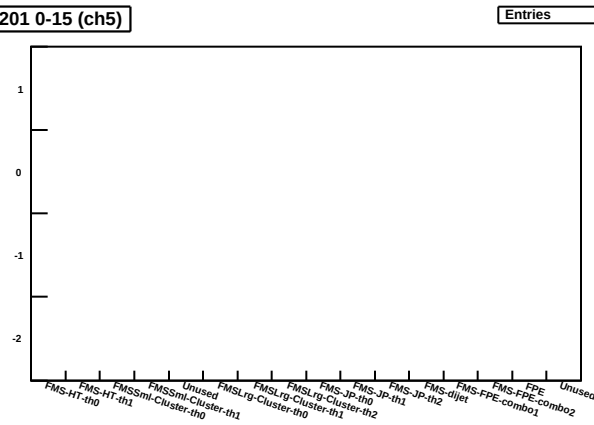




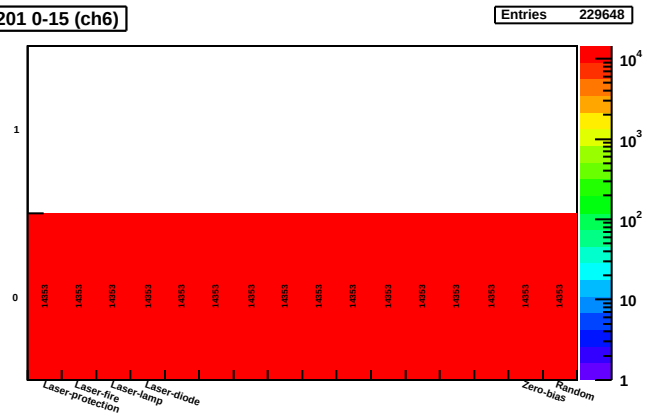
FP201 0-15 (ch5)

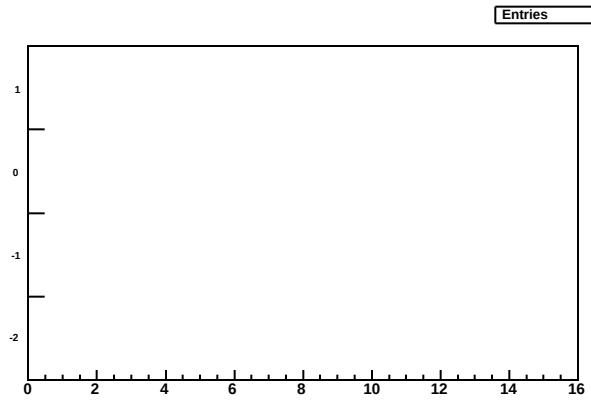
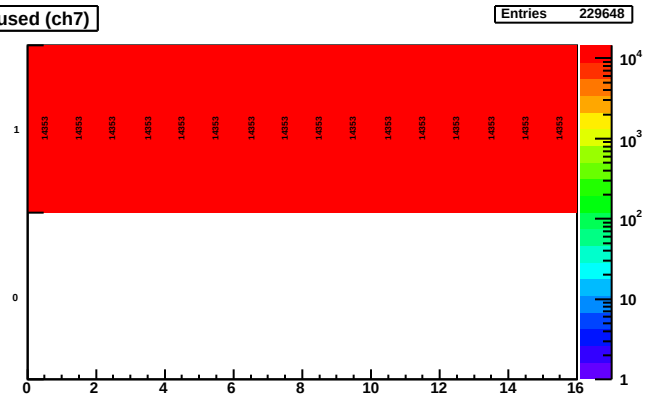
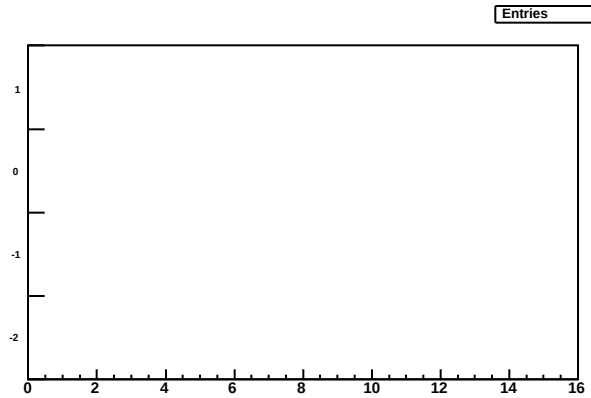


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)