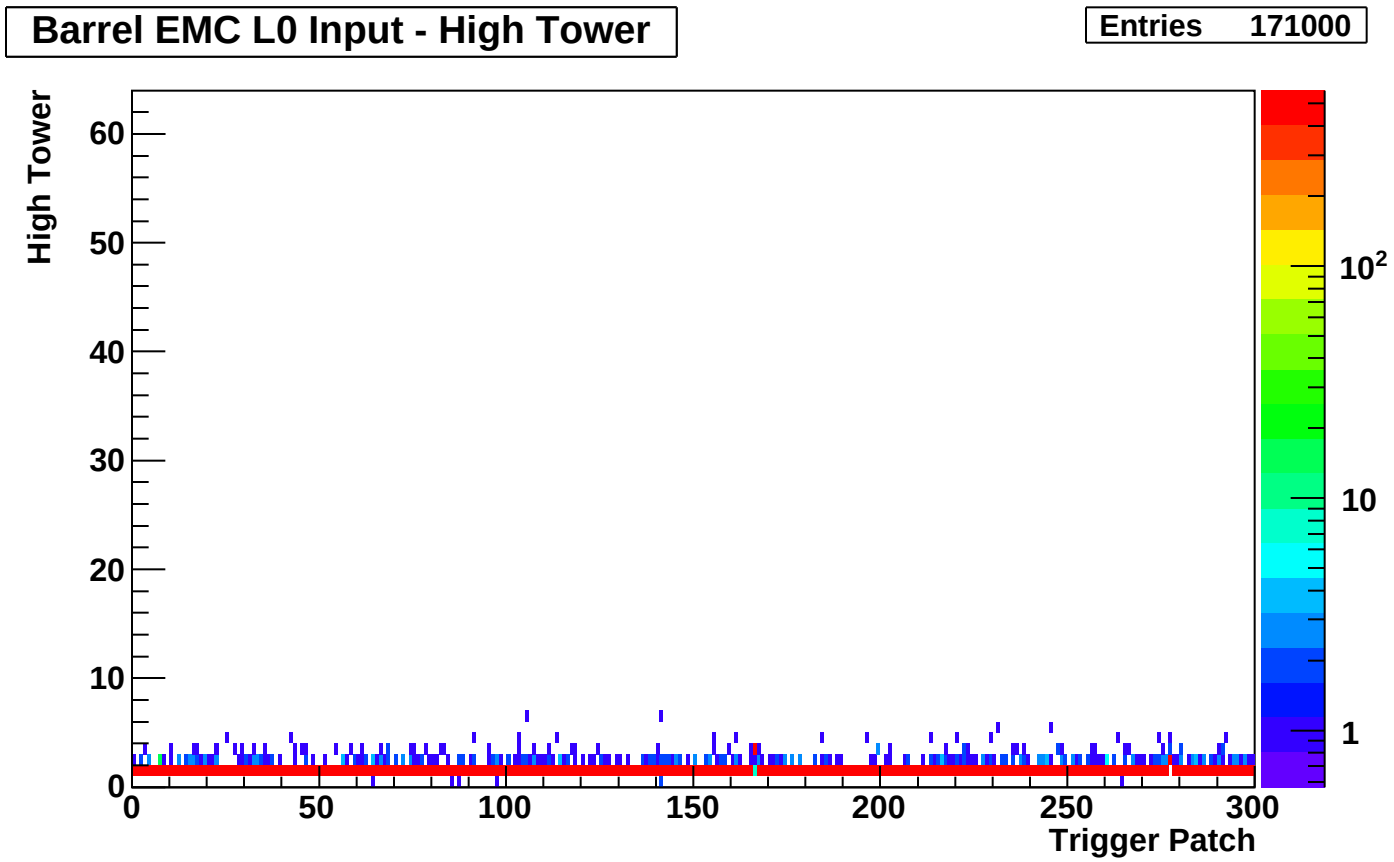
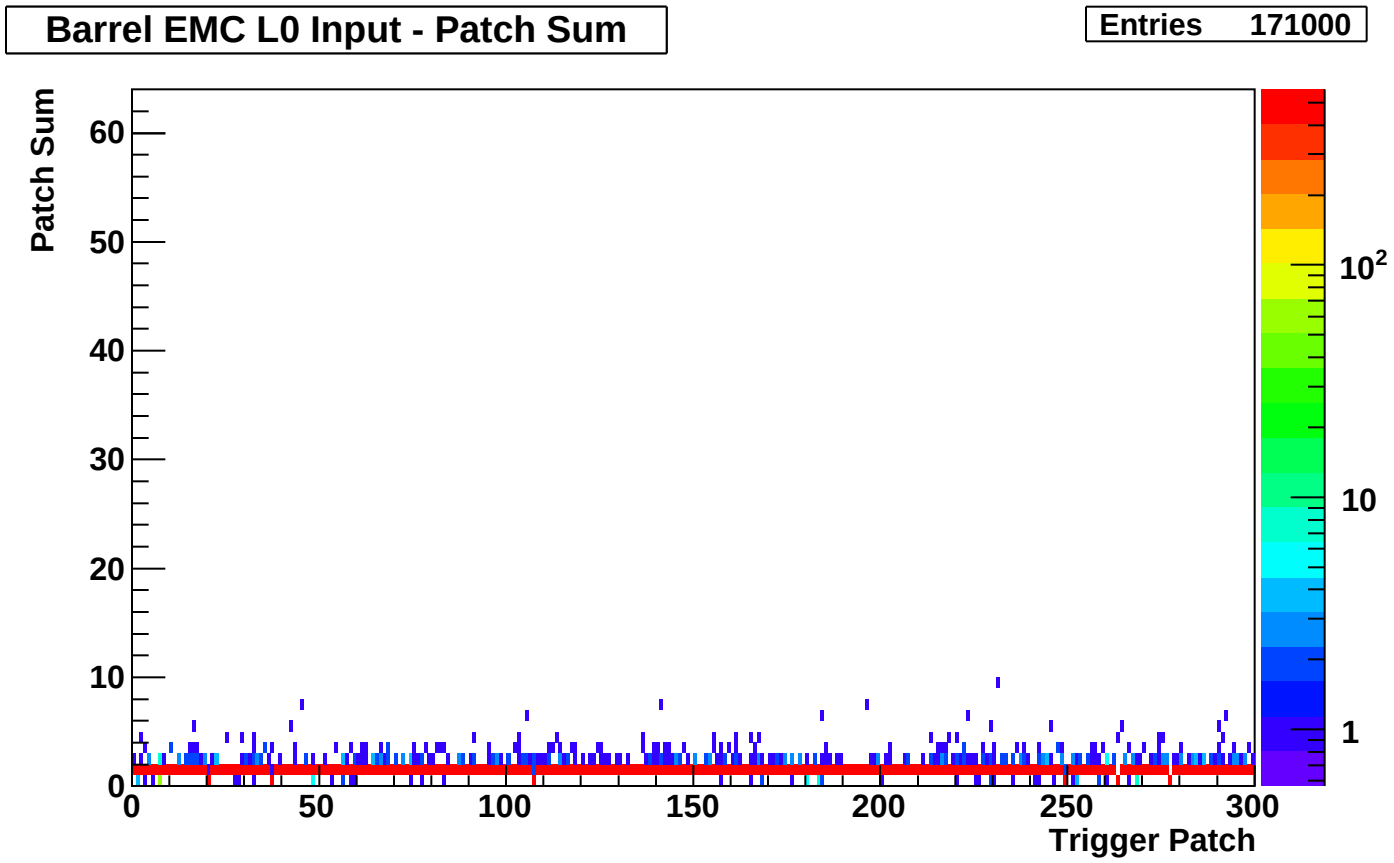
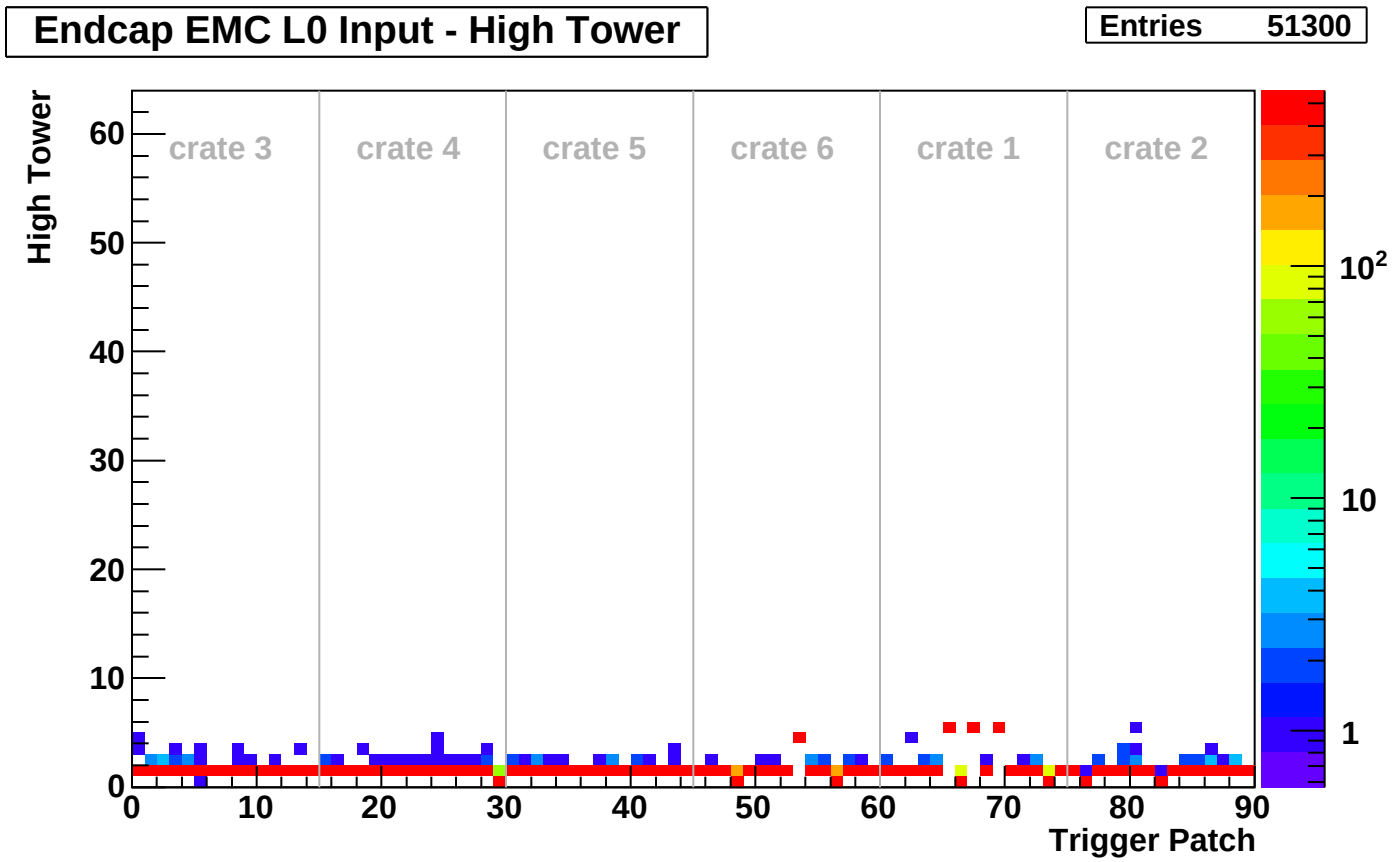
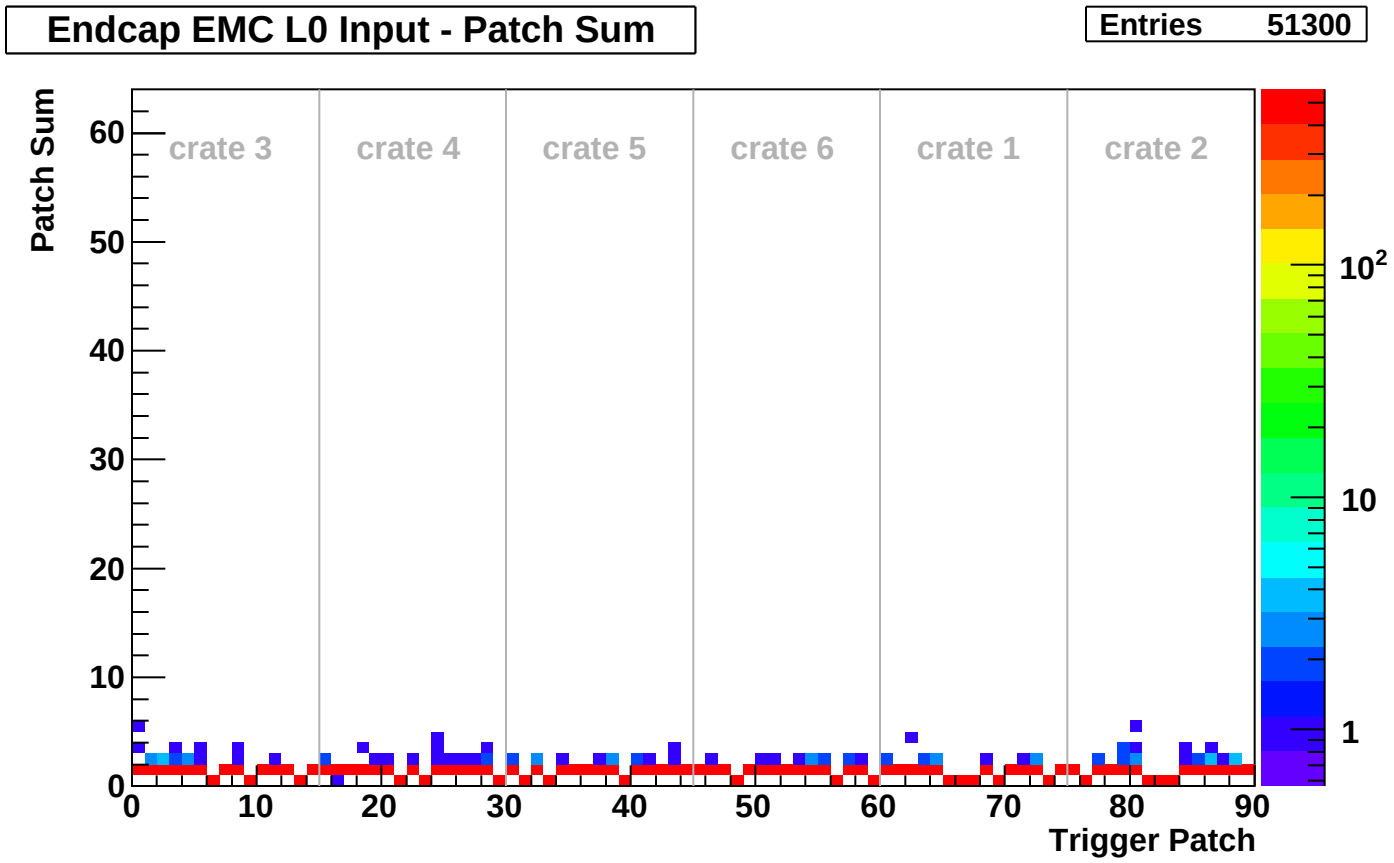
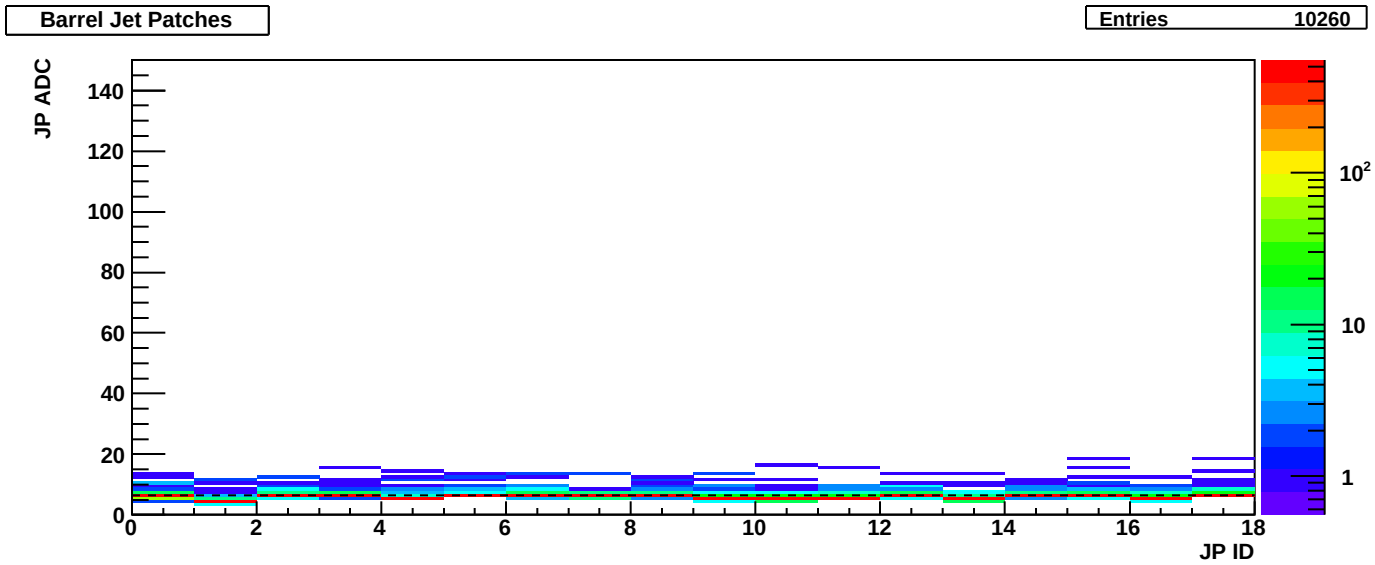
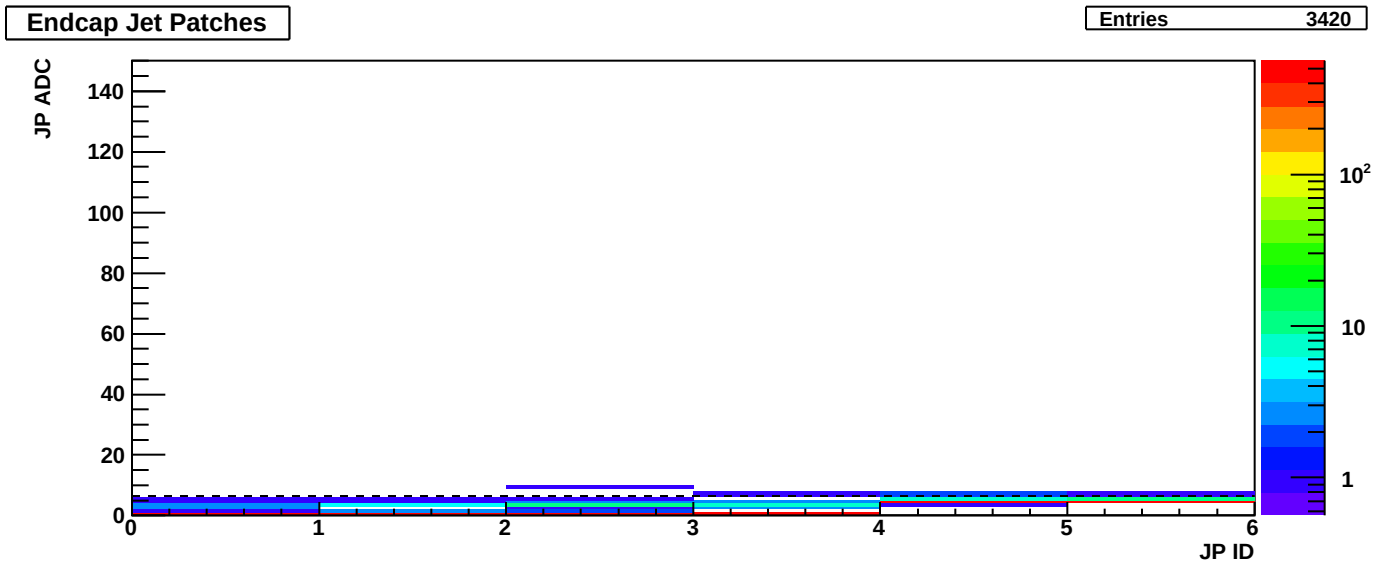

Barrel EMC L0 Input - High Tower
Entries 171000
High Tower
0
10
20
30
40
50
60
0
50
100
150
200
250
300
Trigger Patch
1
10
10^2

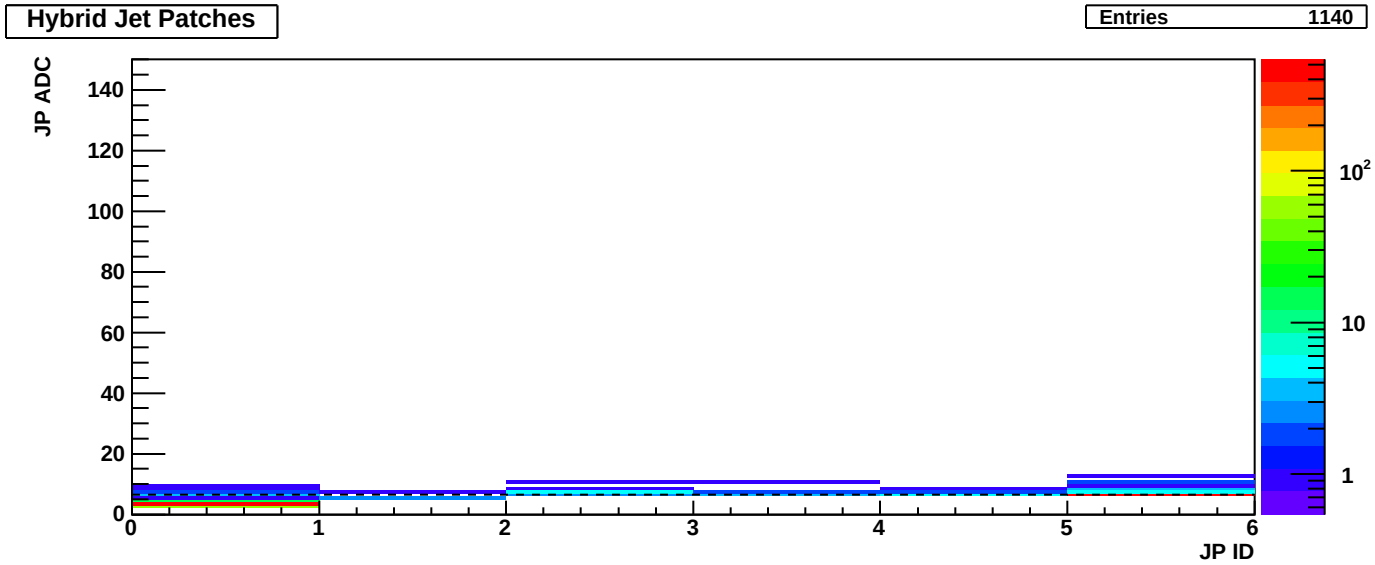

Barrel EMC L0 Input - Patch Sum
Entries 171000
Patch Sum
0
10
20
30
40
50
60
0
50
100
150
200
250
300
Trigger Patch
1
10
10^2

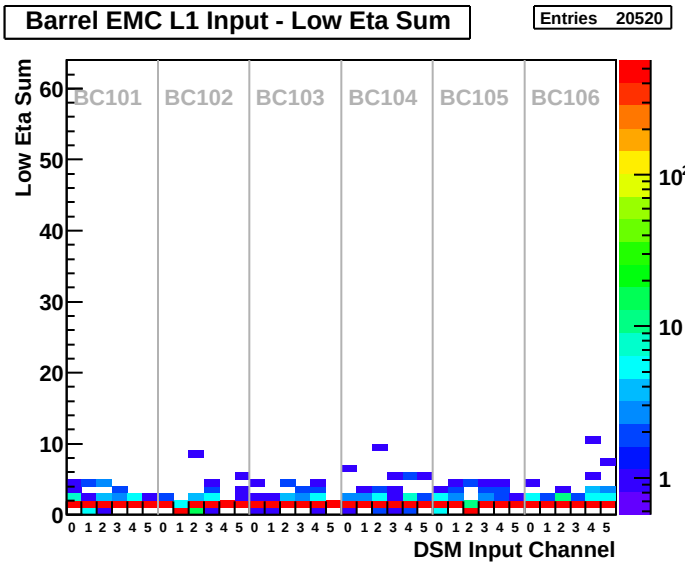

Endcap EMC L0 Input - High Tower
Entries 51300
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2

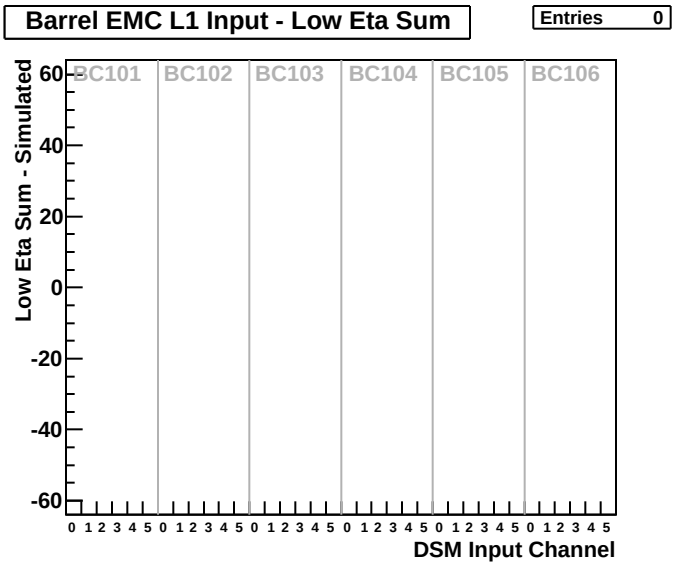

Endcap EMC L0 Input - Patch Sum
Entries 51300
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2

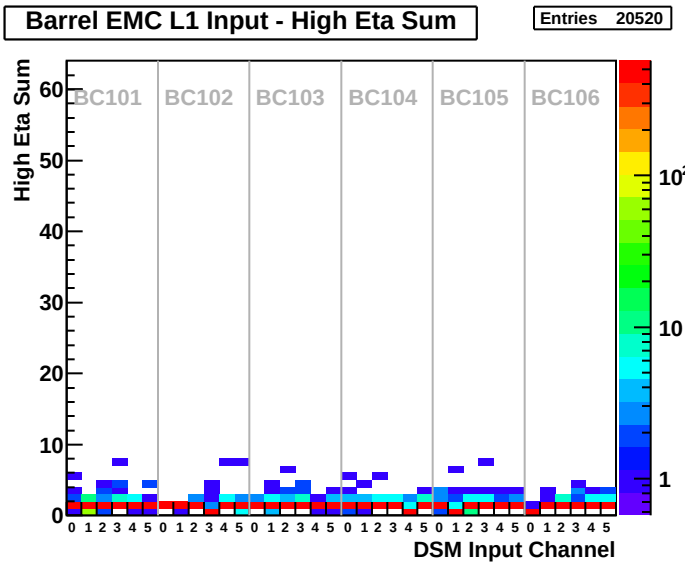

Barrel Jet Patches
Entries 10260
JP ADC
JP ID

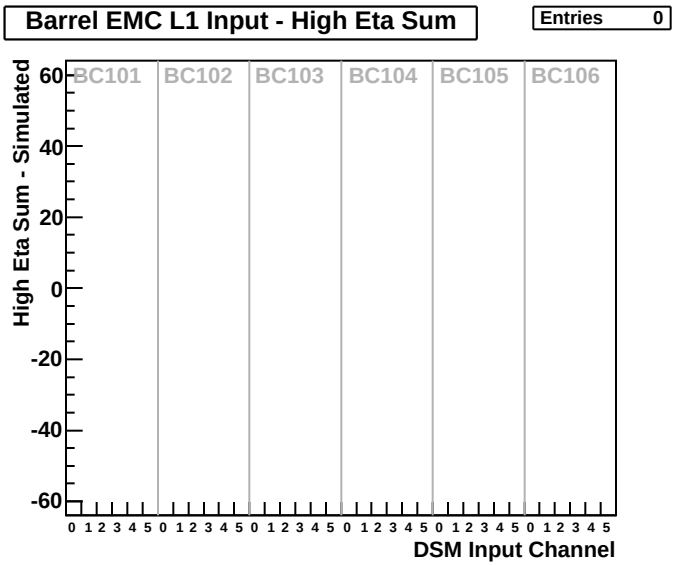

Endcap Jet Patches
Entries 3420
JP ADC
JP ID

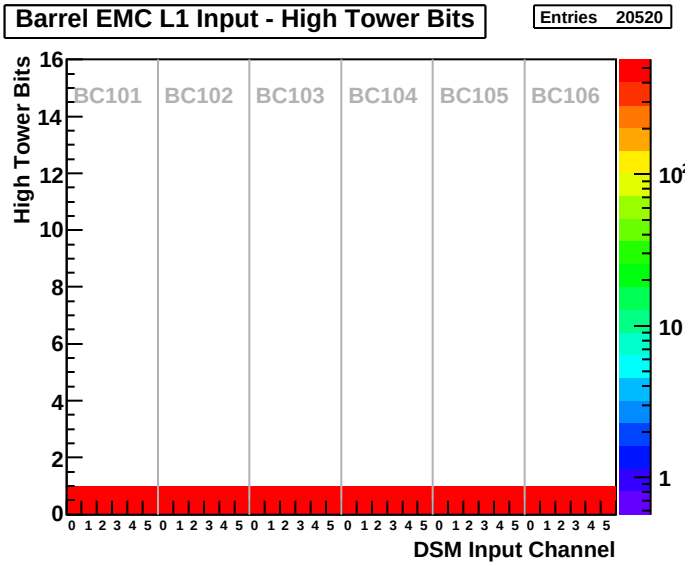

Hybrid Jet Patches
Entries 1140
JP ADC
JP ID

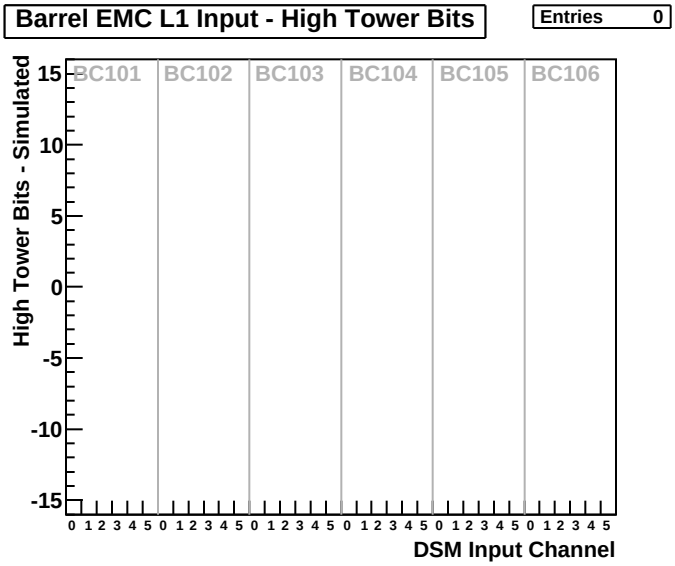

Barrel EMC L1 Input - Low Eta Sum
Entries 20520
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

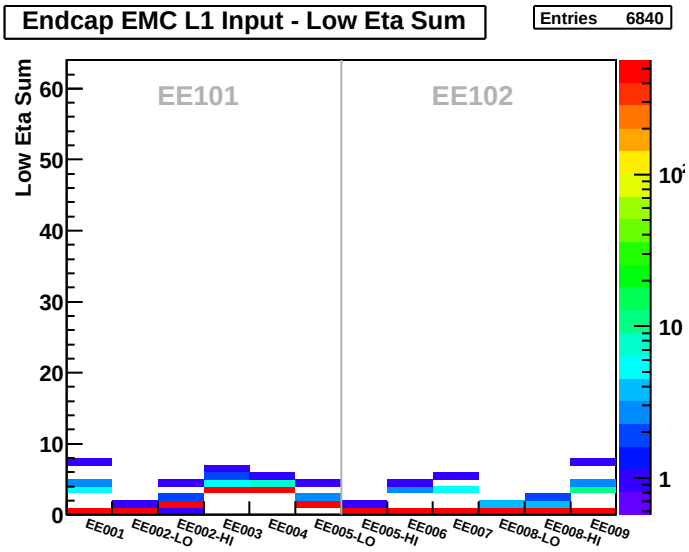

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

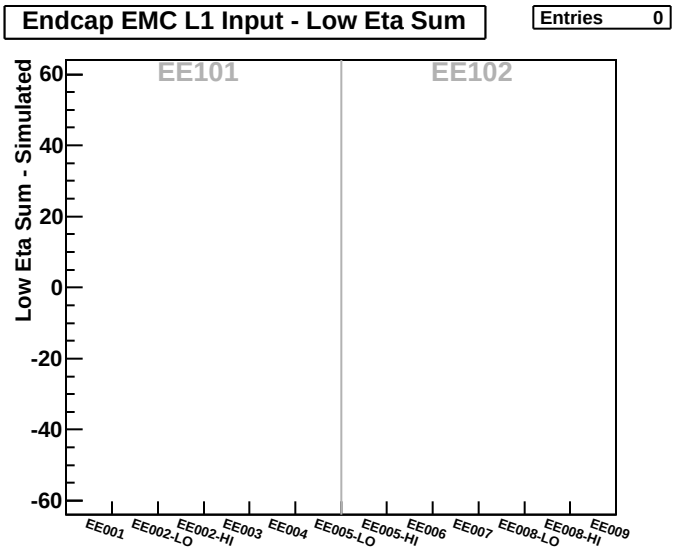

Barrel EMC L1 Input - High Eta Sum
Entries 20520
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

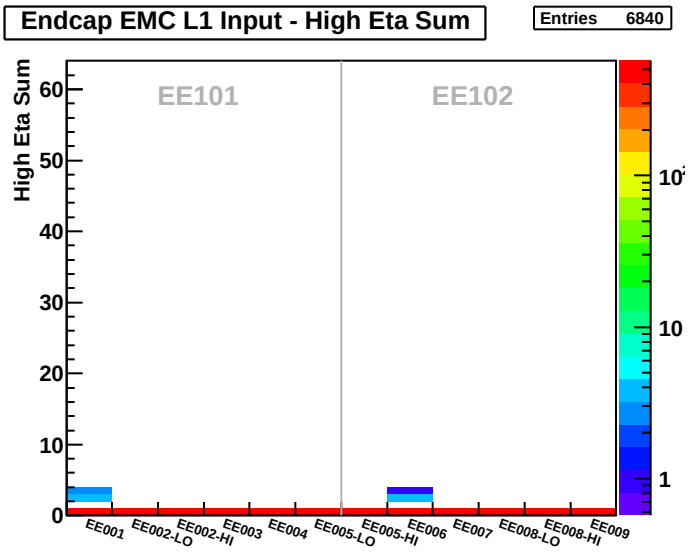

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

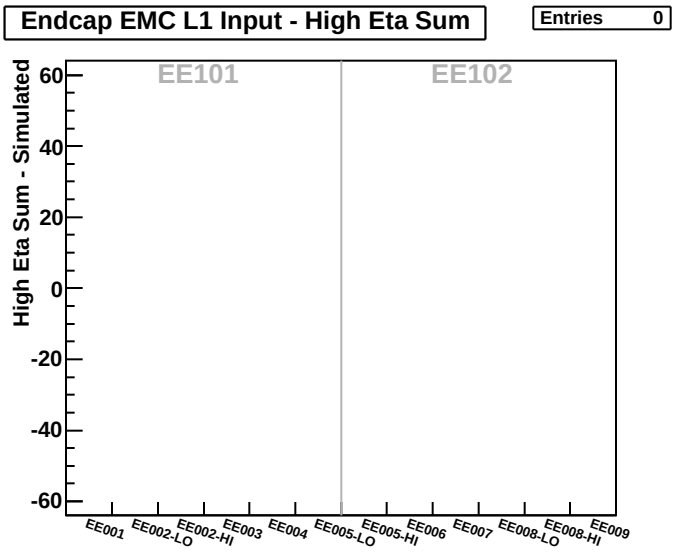

Barrel EMC L1 Input - High Tower Bits
Entries 20520
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

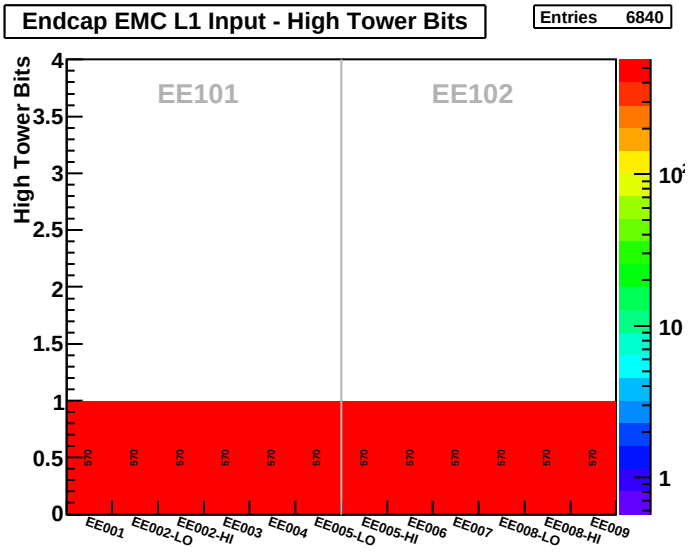

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

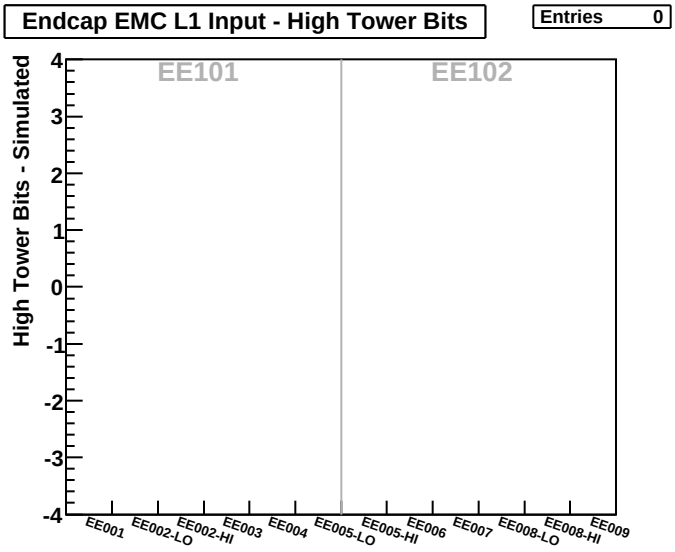

Endcap EMC L1 Input - Low Eta Sum
Entries 6840
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

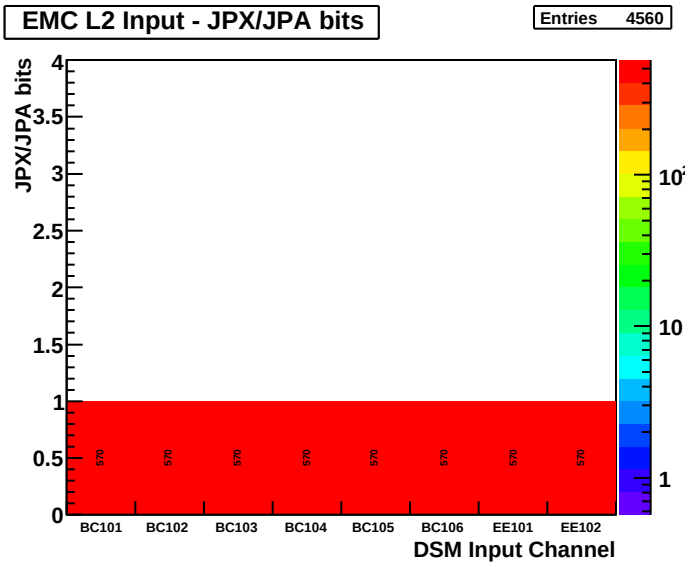

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

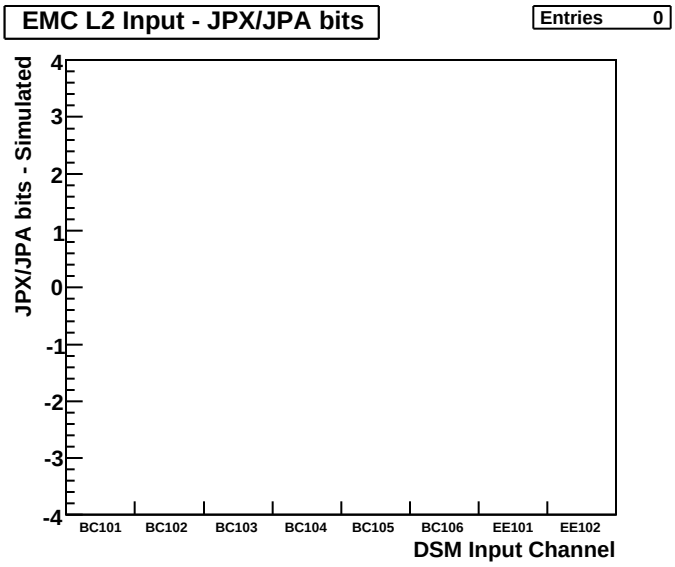

Endcap EMC L1 Input - High Eta Sum
Entries 6840
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

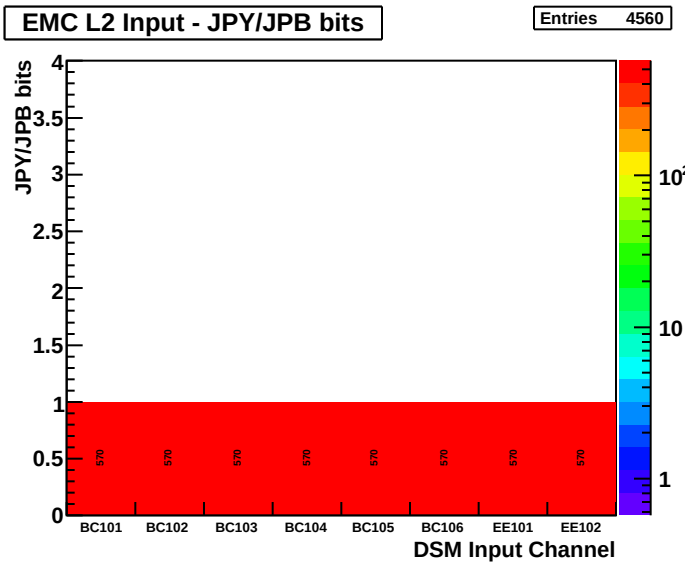

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

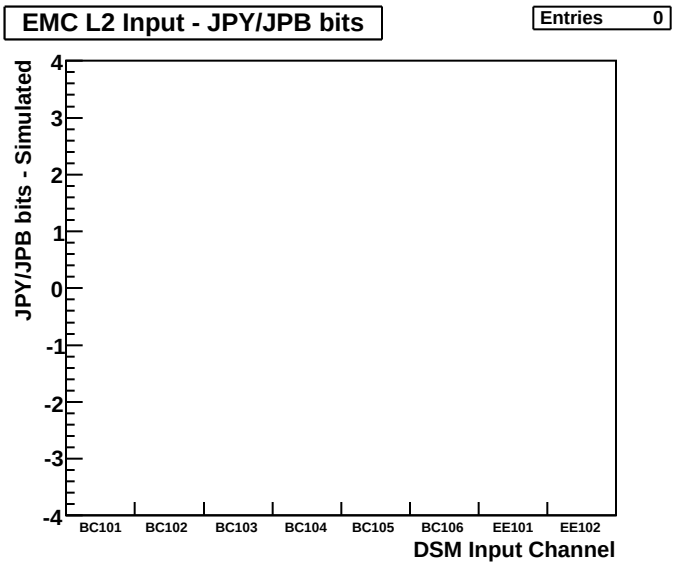

Endcap EMC L1 Input - High Tower Bits
Entries 6840
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

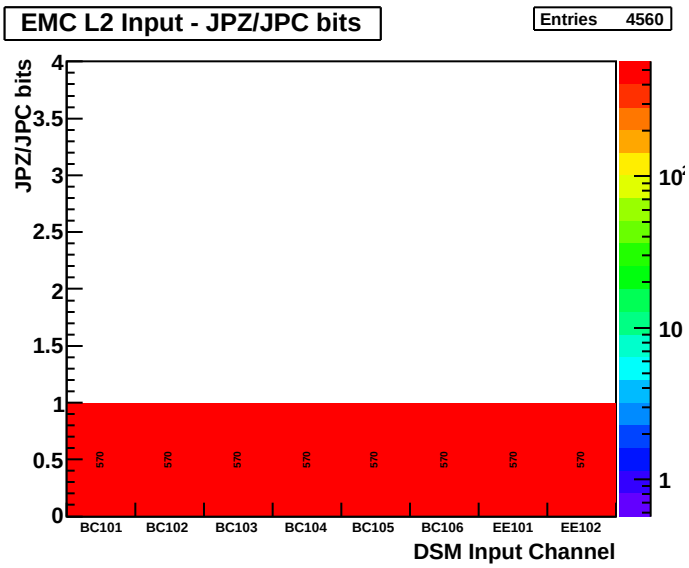

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

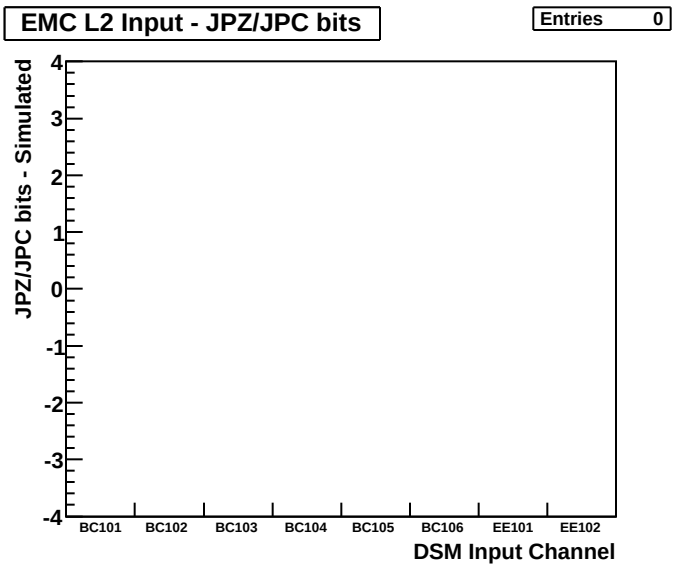

EMC L2 Input - JPX/JPA bits
Entries 4560
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

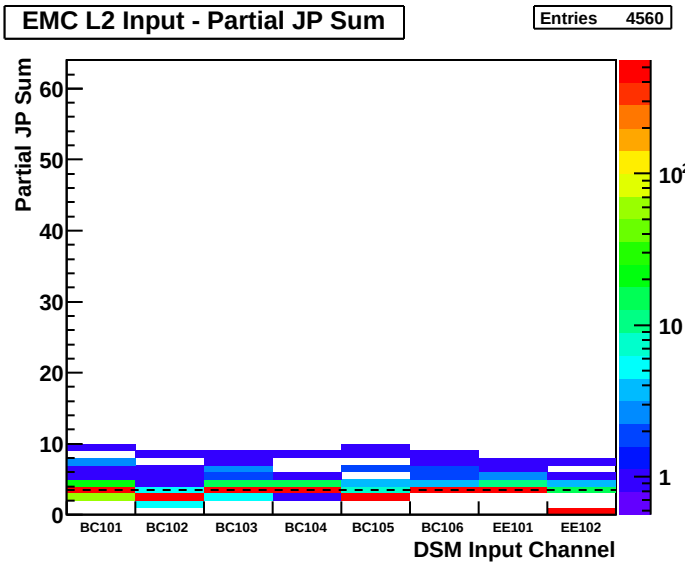

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

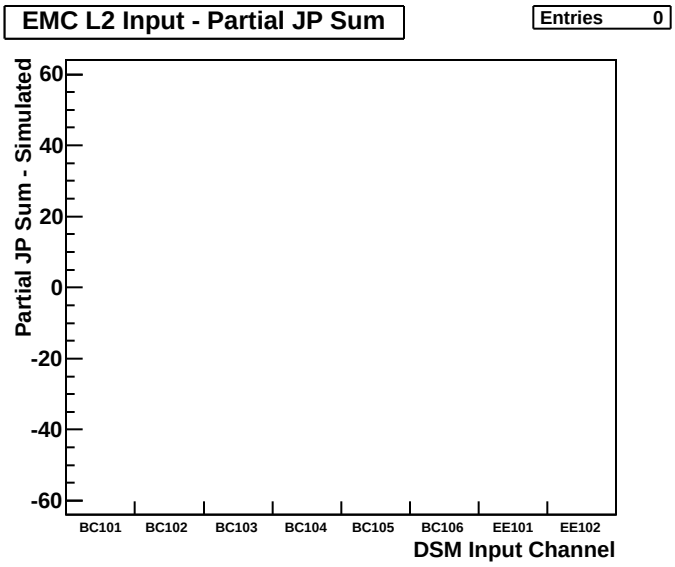

EMC L2 Input - JPY/JPB bits
Entries 4560
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

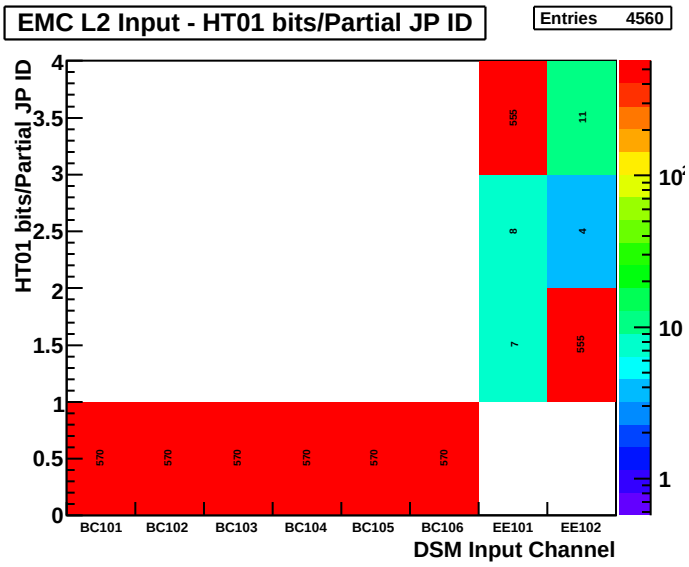

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

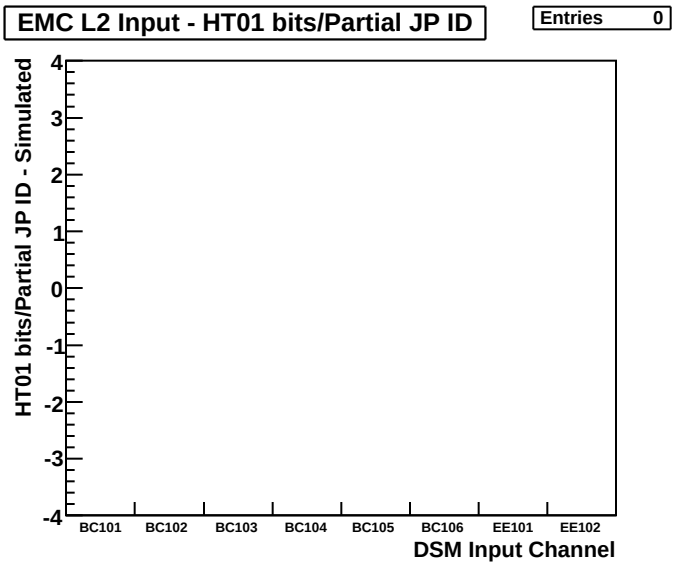

EMC L2 Input - JPZ/JPC bits
Entries 4560
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

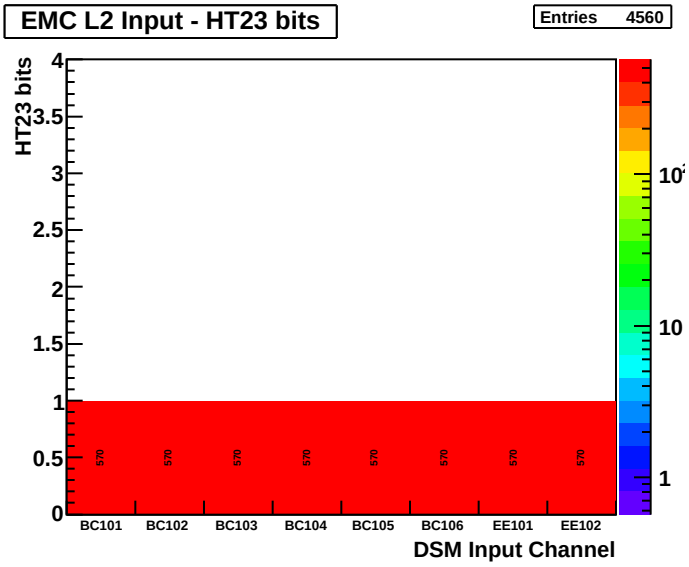

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

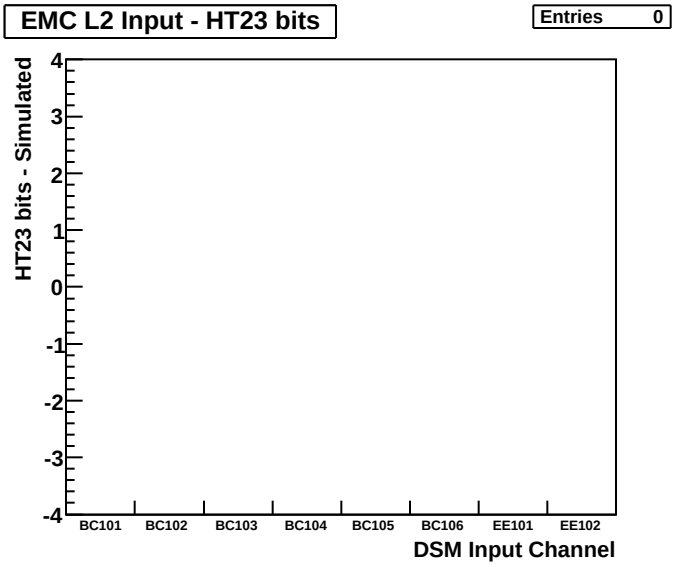

EMC L2 Input - Partial JP Sum
Entries 4560
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

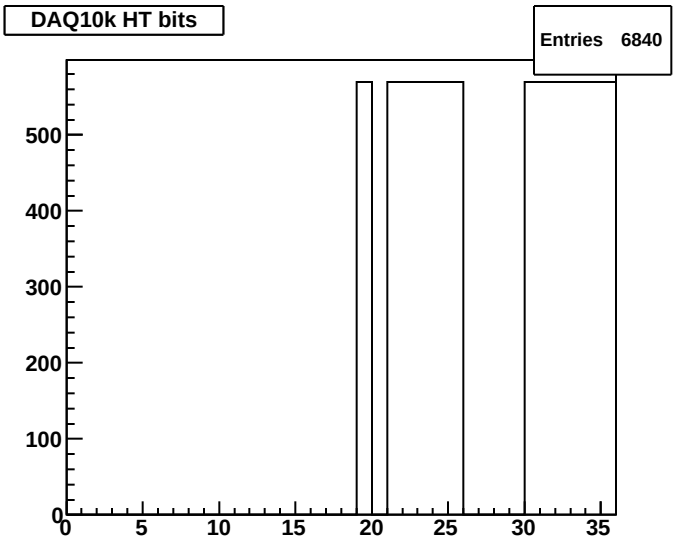

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

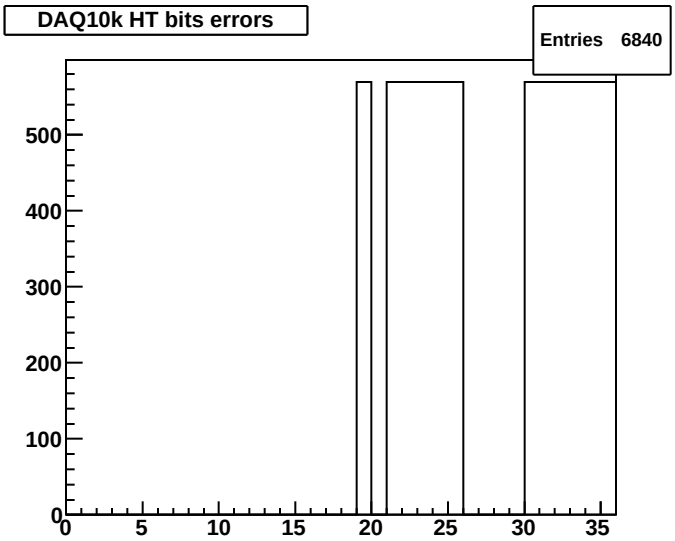

EMC L2 Input - HT01 bits/Partial JP ID
Entries 4560
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

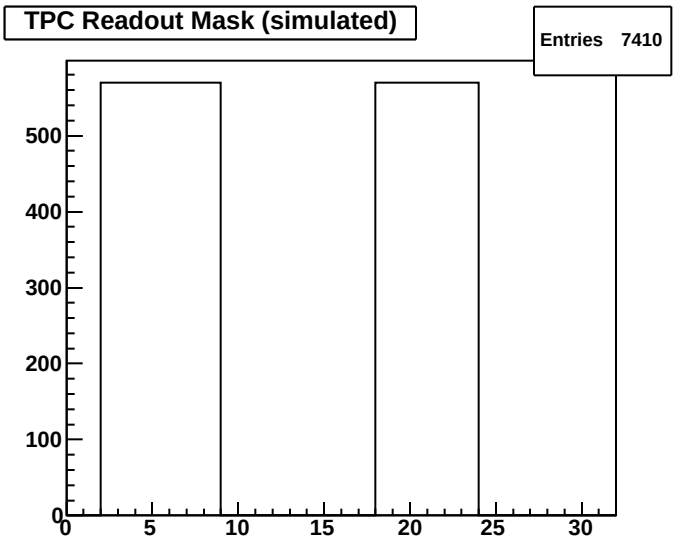

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

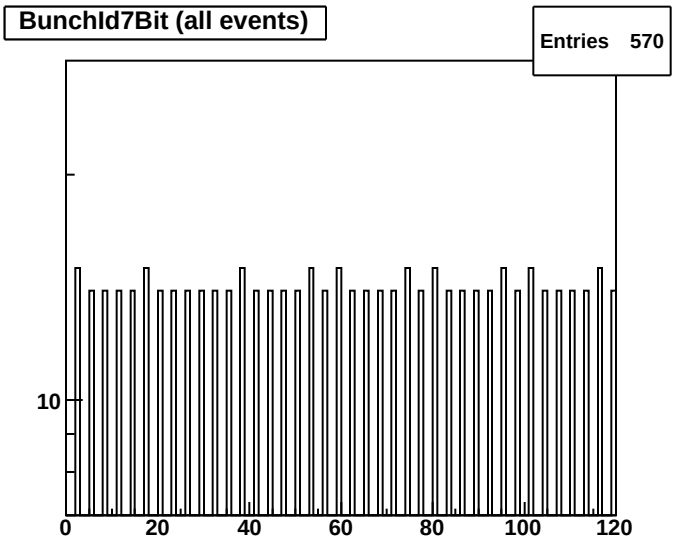

EMC L2 Input - HT23 bits
Entries 4560
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

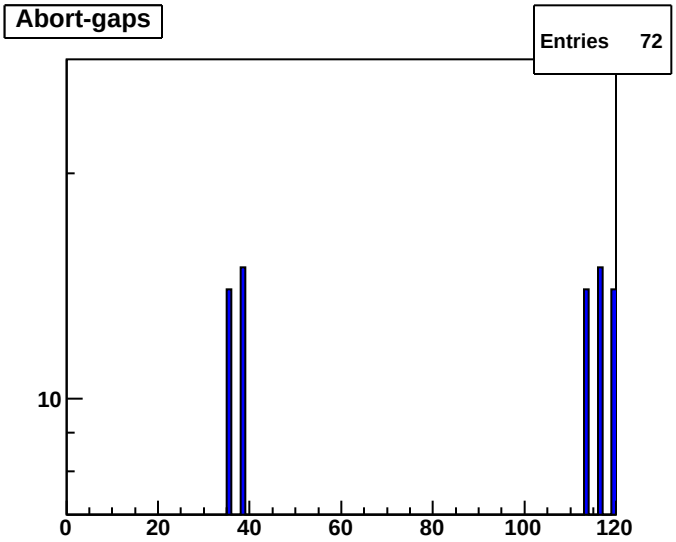

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

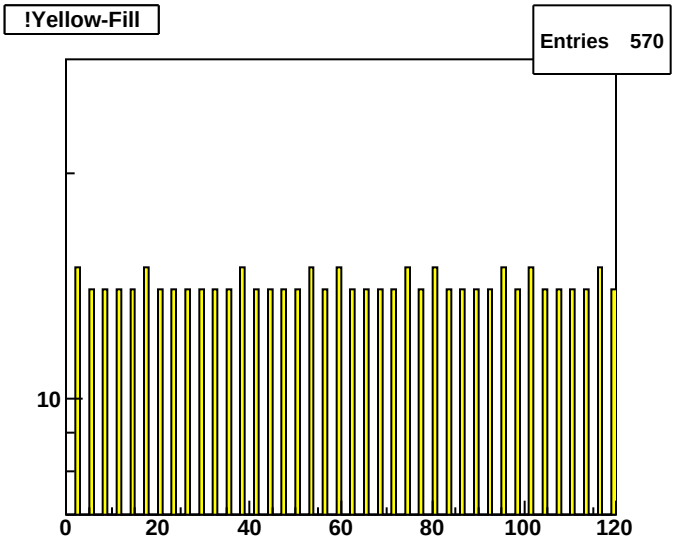

DAQ10k HT bits
Entries 6840
0
100
200
300
400
500
0 5 10 15 20 25 30 35

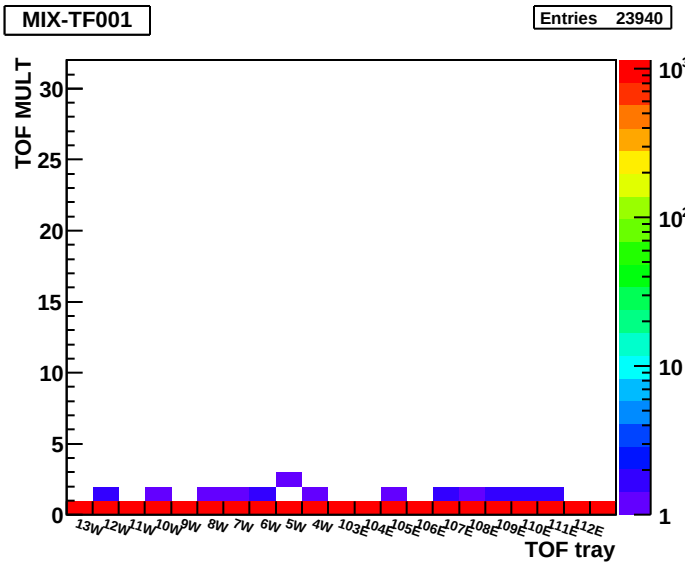

DAQ10k HT bits errors
Entries 6840
0
100
200
300
400
500
0 5 10 15 20 25 30 35

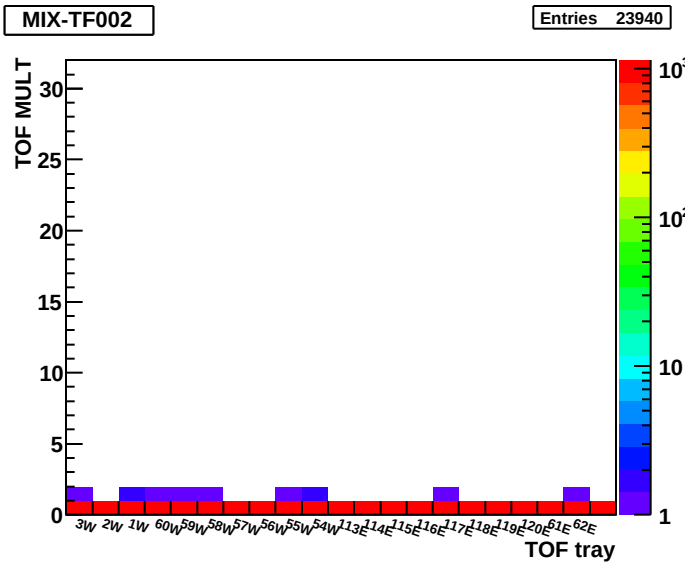

TPC Readout Mask (simulated)
Entries 7410
0
100
200
300
400
500
0 5 10 15 20 25 30

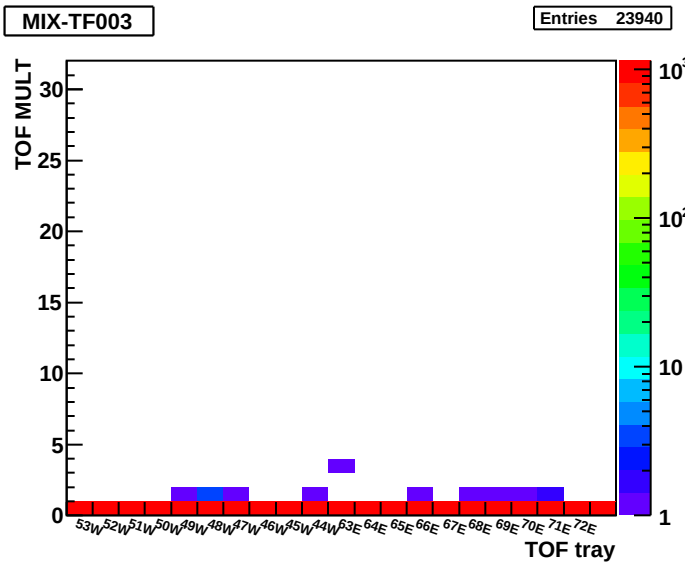

BunchId7Bit (all events)
Entries 570
10
0 20 40 60 80 100 120

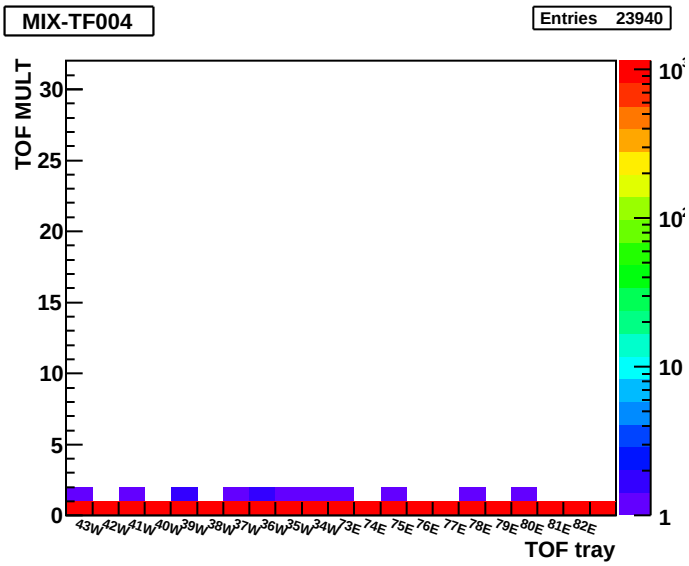

Abort-gaps
Entries 72
10
0 20 40 60 80 100 120

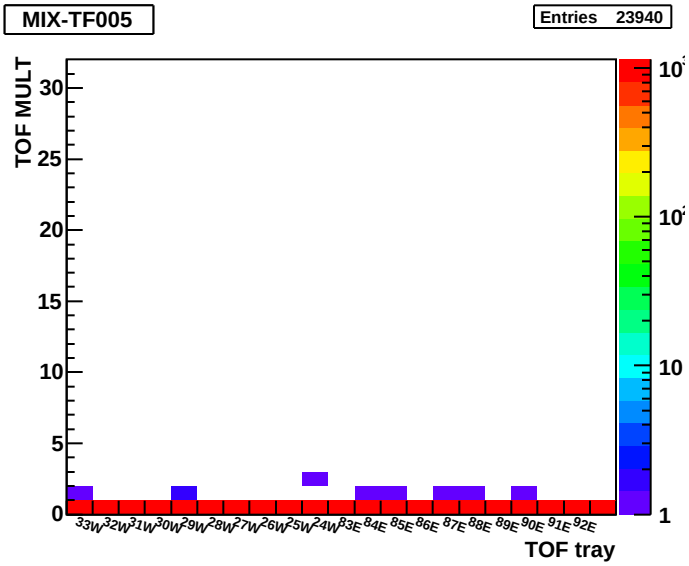

!Yellow-Fill
Entries 570
10
0 20 40 60 80 100 120

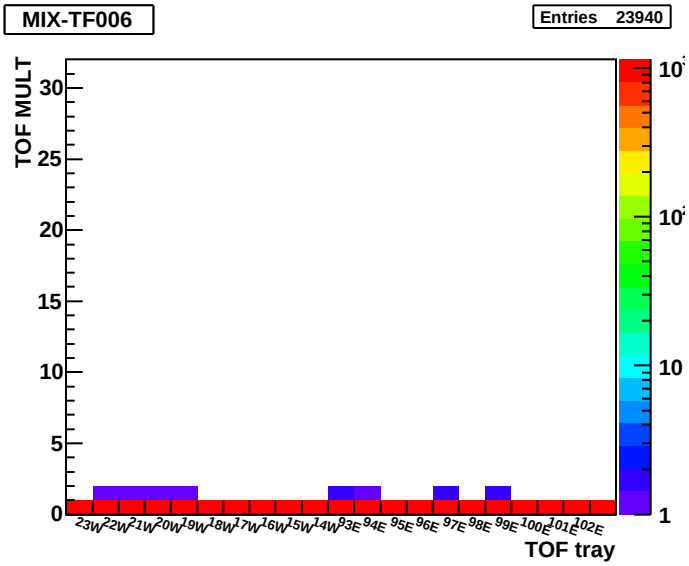

MIX-TF001
Entries 23940
TOF MULT
TOF tray

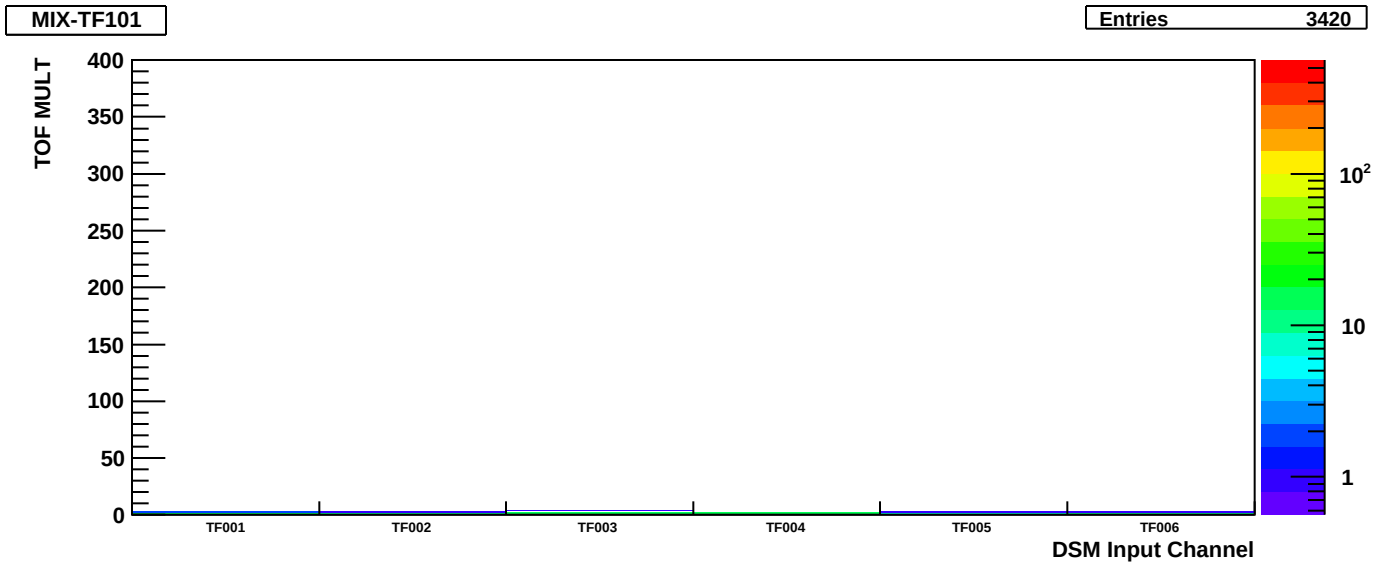

MIX-TF002
Entries 23940
TOF MULT
TOF tray

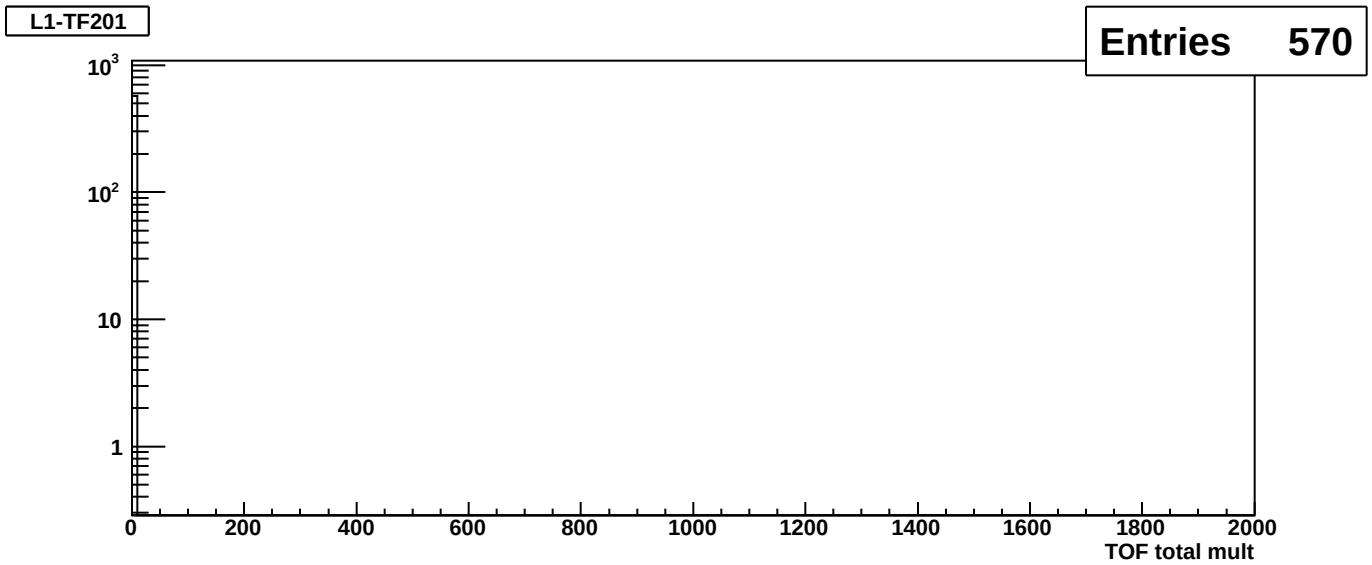

MIX-TF003
Entries 23940
TOF MULT
TOF tray

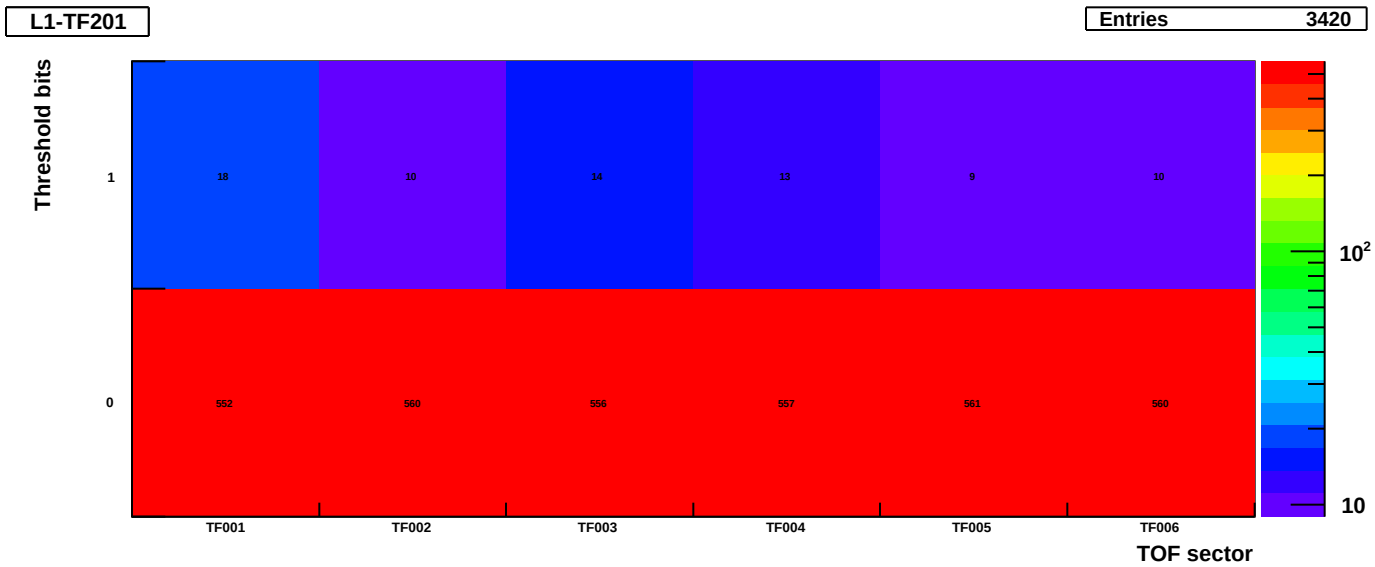

MIX-TF004
Entries 23940
TOF MULT
TOF tray

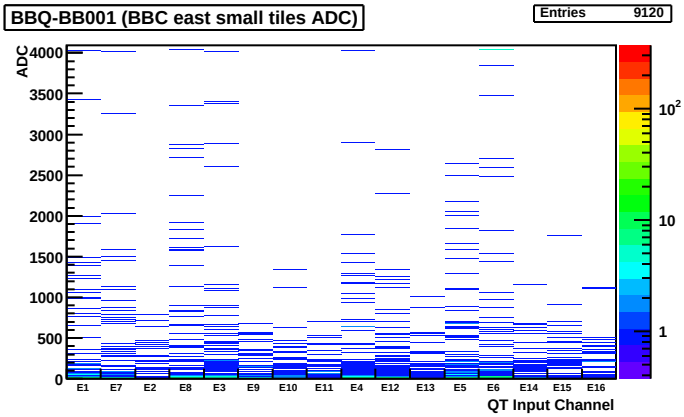

MIX-TF005
Entries 23940
TOF MULT
TOF tray

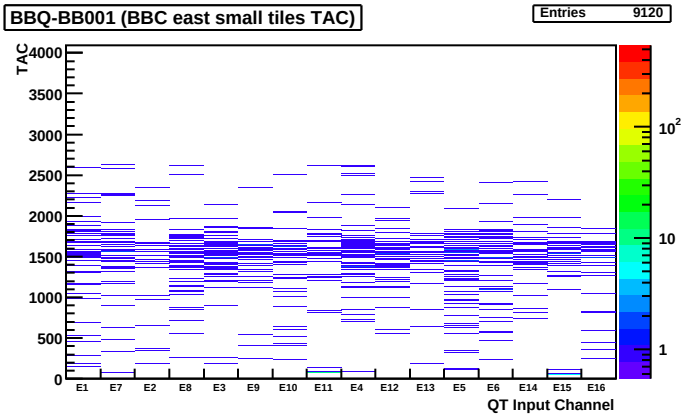

MIX-TF006
Entries 23940
TOF MULT
TOF tray

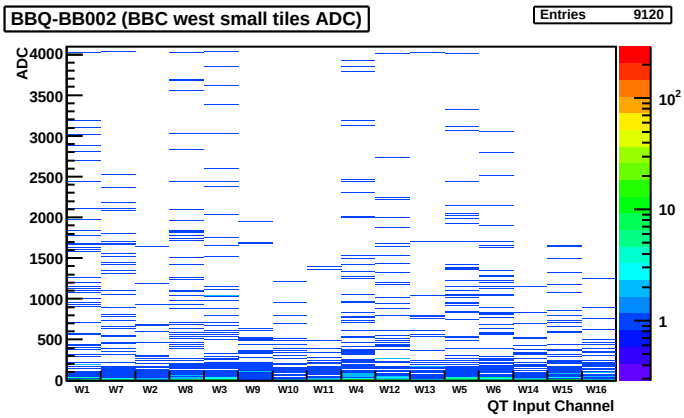

MIX-TF101
Entries 3420
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^2
10
1

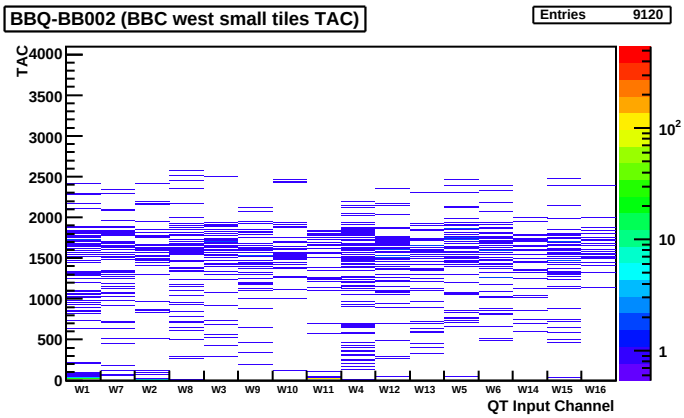

L1-TF201
Entries 570
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

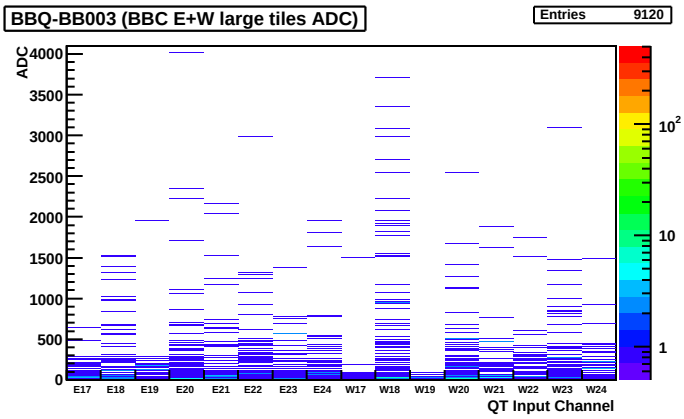

L1-TF201
Entries 3420
Threshold bits
1
0
18
10
14
13
9
10
552
560
556
557
561
560
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^2
10

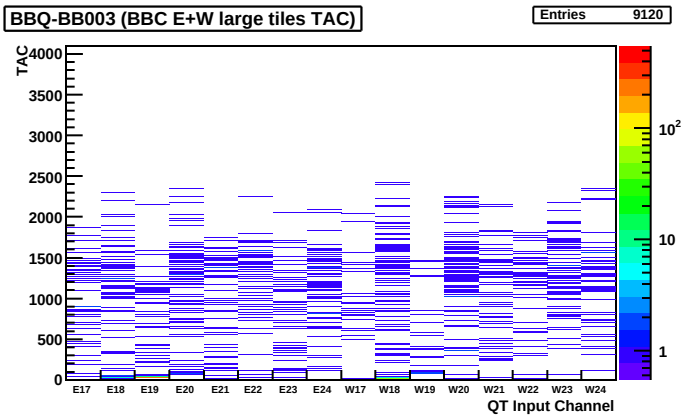

BBQ-BB001 (BBC east small tiles ADC)
Entries 9120
ADC
QT Input Channel

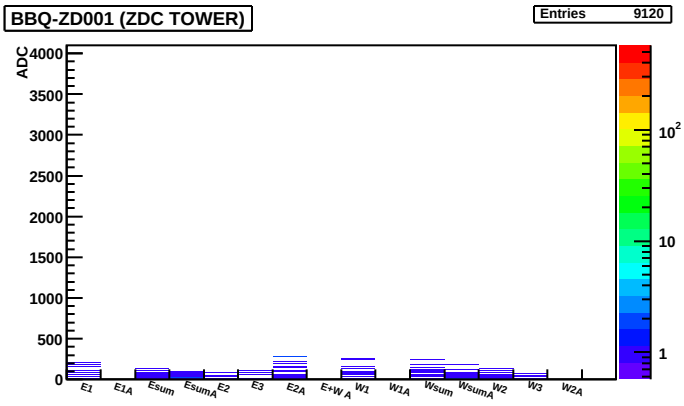

BBQ-BB001 (BBC east small tiles TAC)
Entries 9120
TAC
QT Input Channel

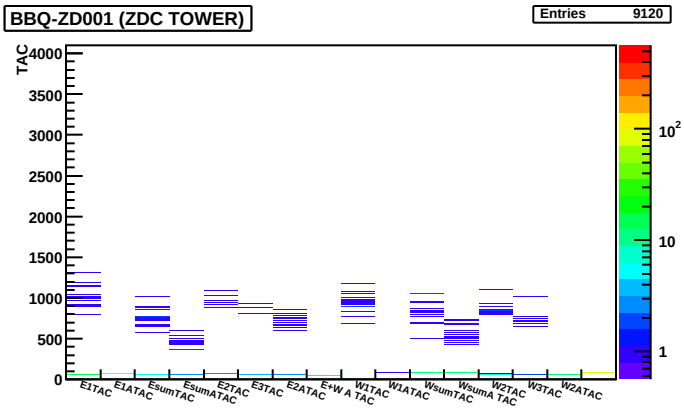

BBQ-BB002 (BBC west small tiles ADC)
Entries 9120
ADC
QT Input Channel

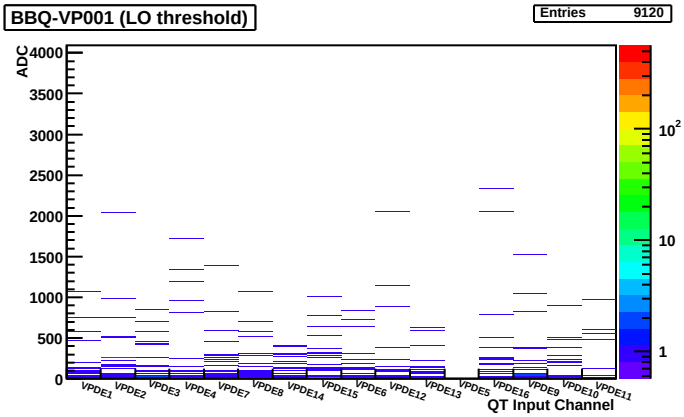

BBQ-BB002 (BBC west small tiles TAC)
Entries 9120
TAC
QT Input Channel

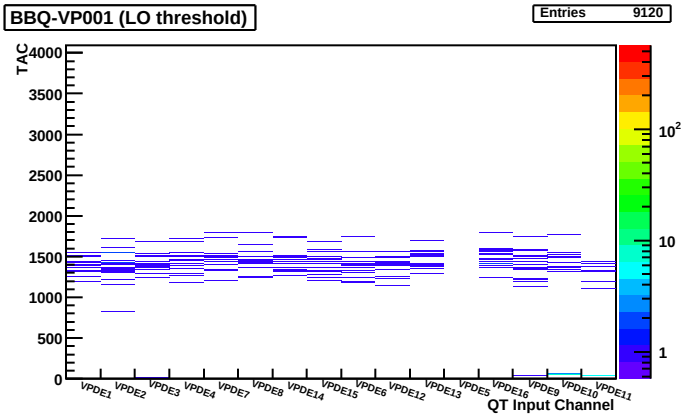

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 9120
ADC
QT Input Channel

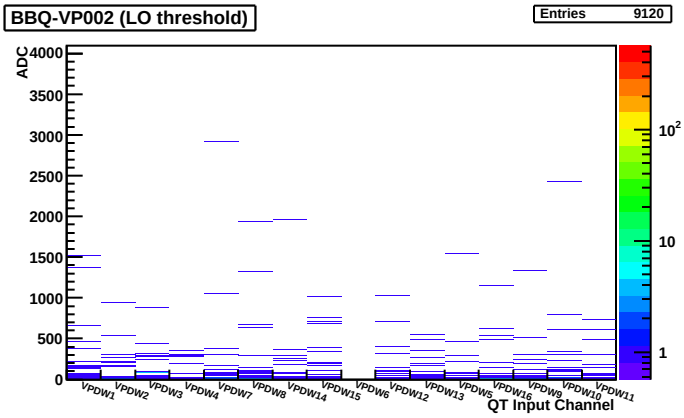

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 9120
TAC
QT Input Channel

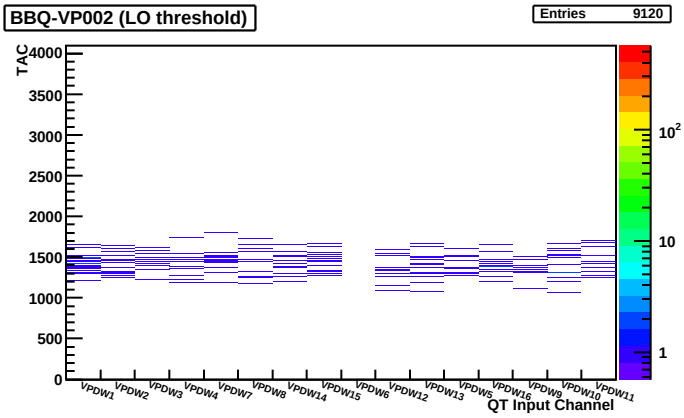

BBQ-ZD001 (ZDC TOWER)
Entries 9120
ADC

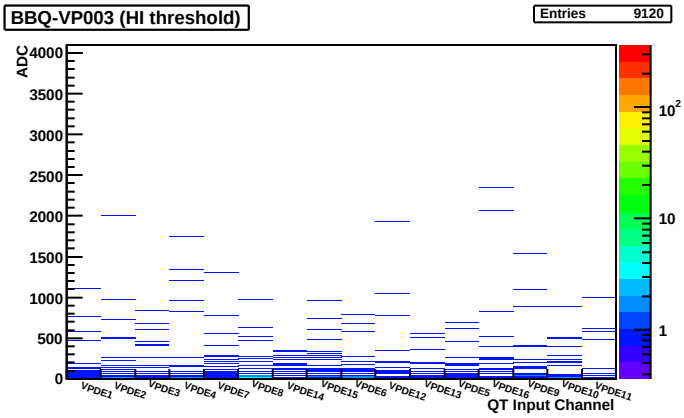

BBQ-ZD001 (ZDC TOWER)
Entries 9120
TAC

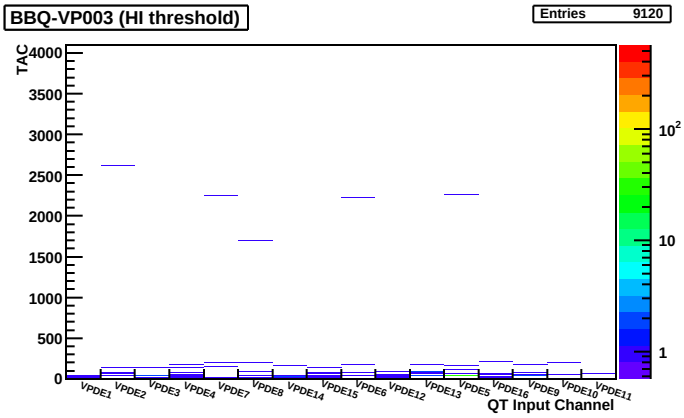

BBQ-VP001 (LO threshold)
Entries 9120
ADC
QT Input Channel

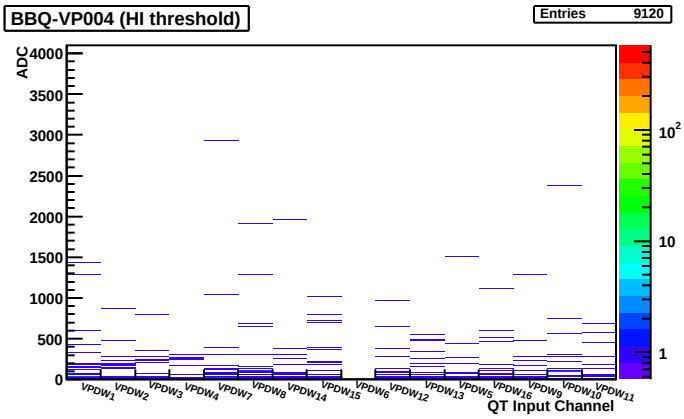

BBQ-VP001 (LO threshold)
Entries 9120
TAC
QT Input Channel

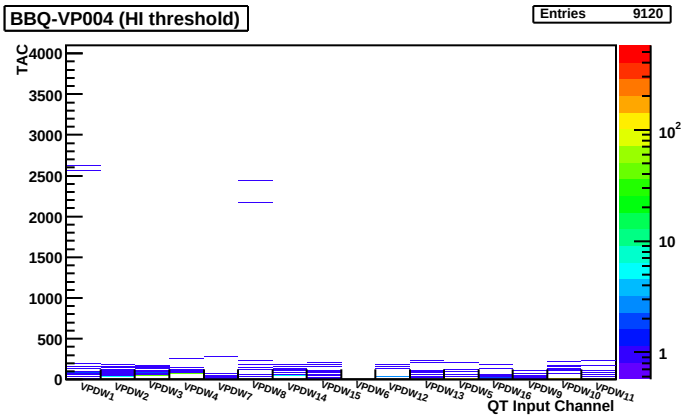

BBQ-VP002 (LO threshold)
Entries 9120
ADC
QT Input Channel

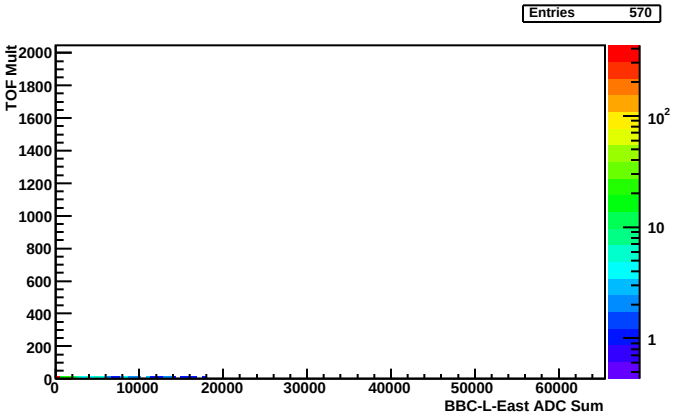

BBQ-VP002 (LO threshold)
Entries 9120
TAC
QT Input Channel

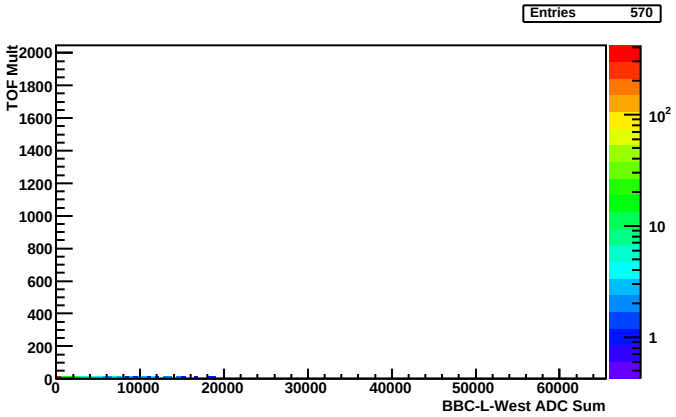

BBQ-VP003 (HI threshold)
Entries 9120
ADC
QT Input Channel

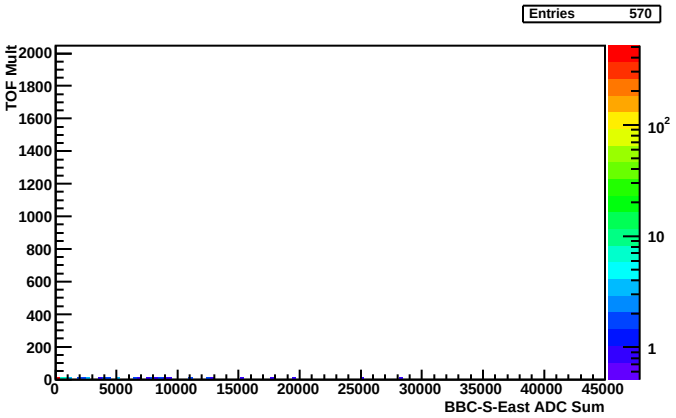

BBQ-VP003 (HI threshold)
Entries 9120
TAC
QT Input Channel

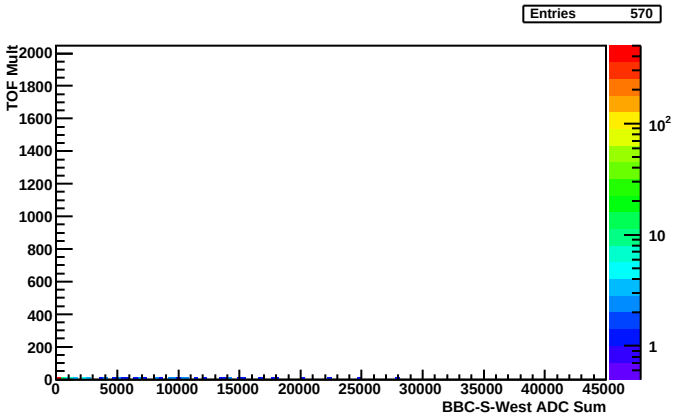

BBQ-VP004 (HI threshold)
Entries 9120
ADC
QT Input Channel

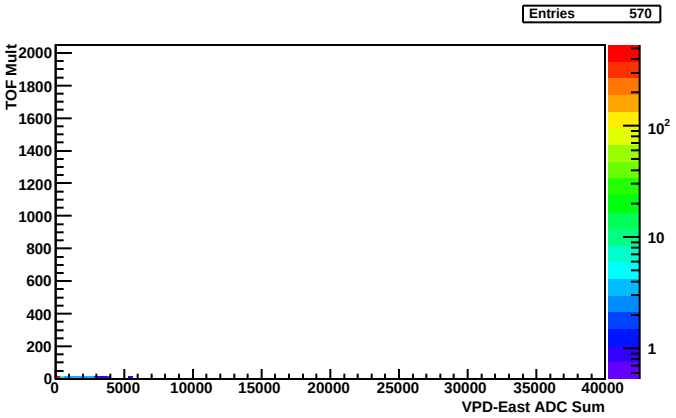

BBQ-VP004 (HI threshold)
Entries 9120
TAC
QT Input Channel

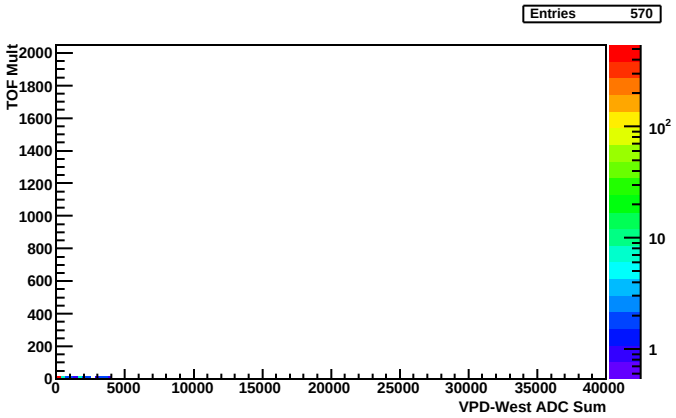

Entries 570
TOF Mult
BBC-L-East ADC Sum

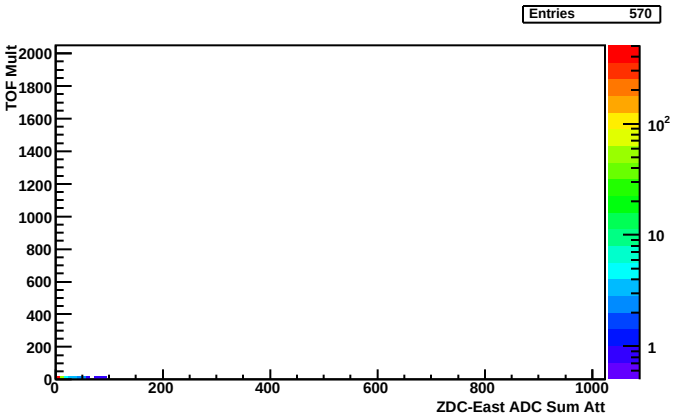

Entries 570
TOF Mult
BBC-L-West ADC Sum

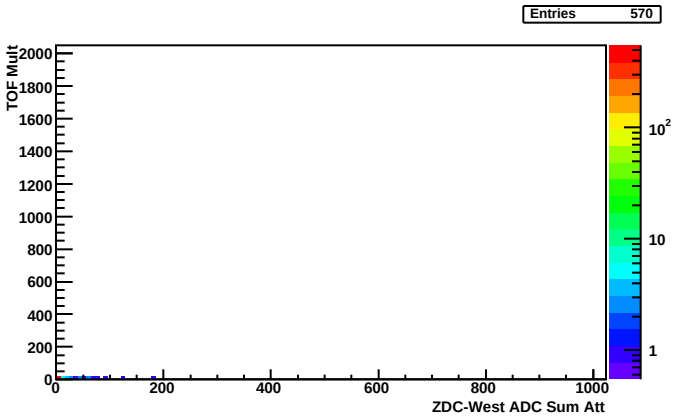

Entries 570
TOF Mult
BBC-S-East ADC Sum

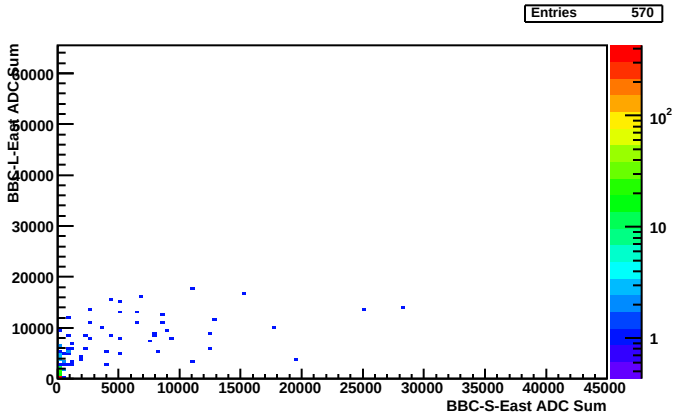

Entries 570
TOF Mult
BBC-S-West ADC Sum

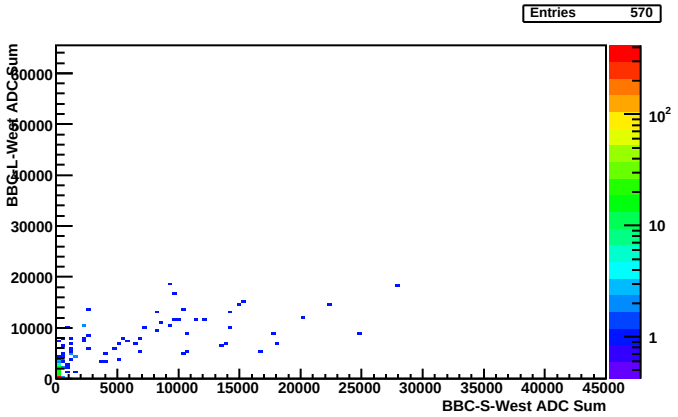

Entries 570
TOF Mult
VPD-East ADC Sum

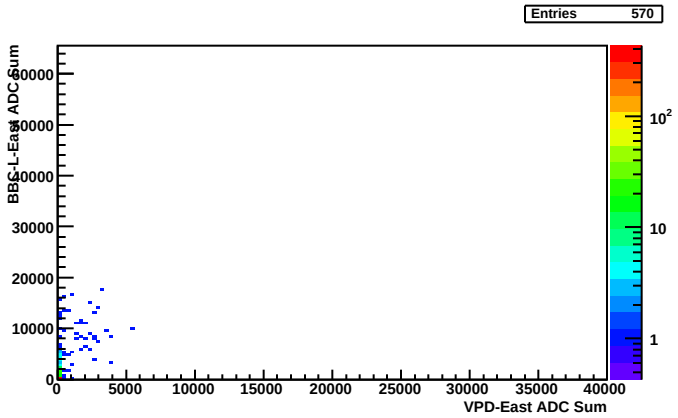

Entries 570
TOF Mult
VPD-West ADC Sum

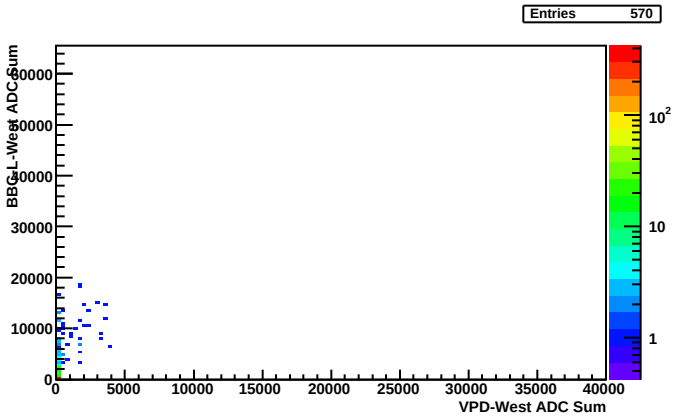

Entries 570
TOF Mult
ZDC-East ADC Sum Att

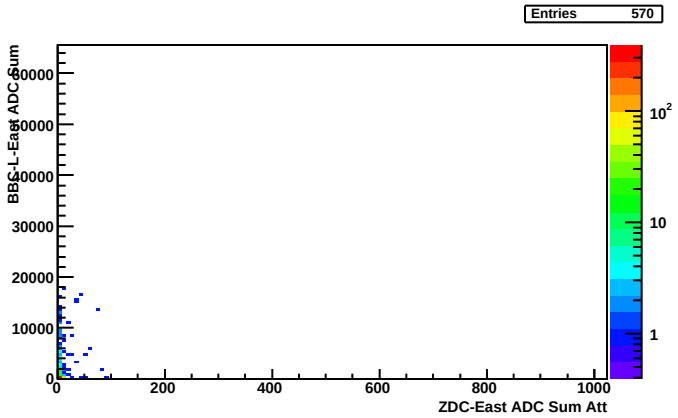

Entries 570
TOF Mult
ZDC-West ADC Sum Att

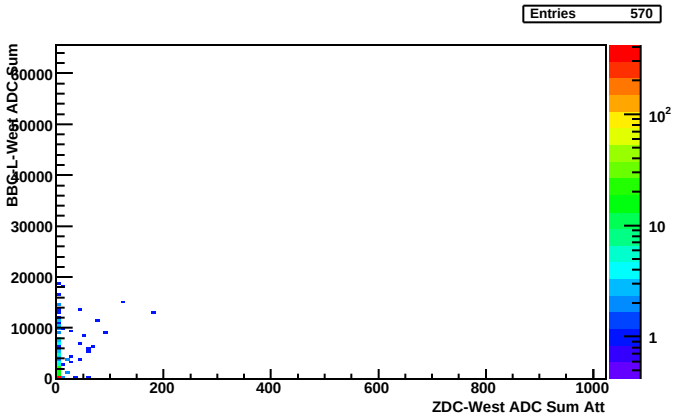

Entries 570
BBC-L-East ADC Sum
BBC-S-East ADC Sum

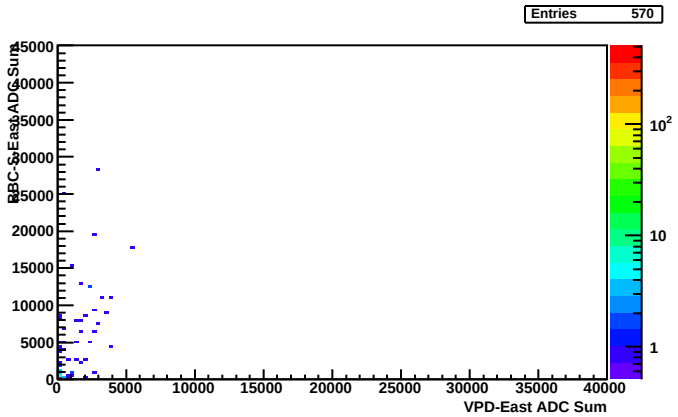

Entries 570
BBC-L-West ADC Sum
BBC-S-West ADC Sum

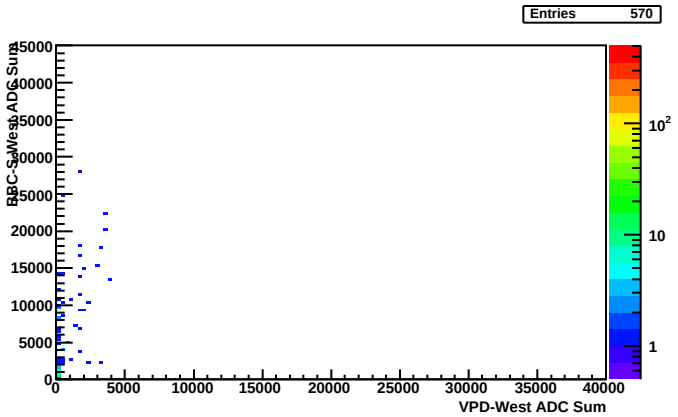

Entries 570
BBC-L-East ADC Sum
VPD-East ADC Sum

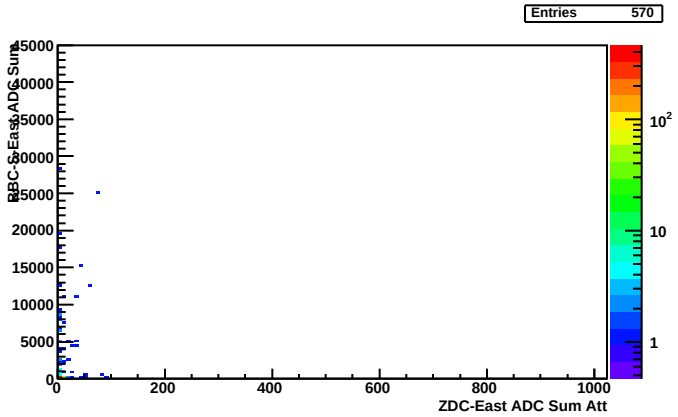

Entries 570
BBC-L-West ADC Sum
VPD-West ADC Sum

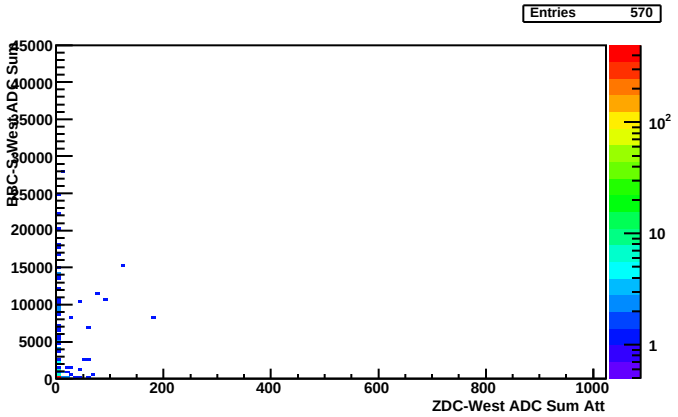

Entries 570
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

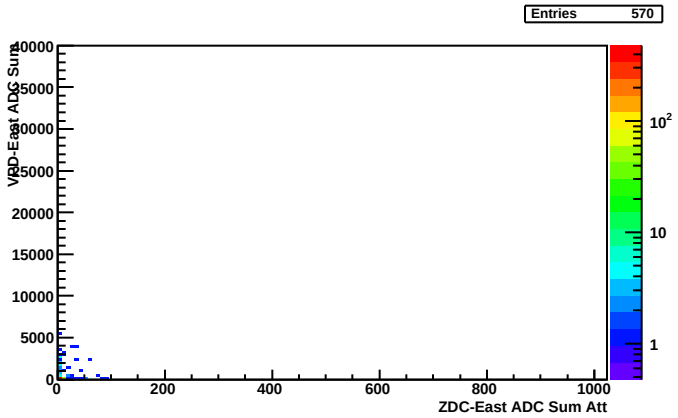

Entries 570
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

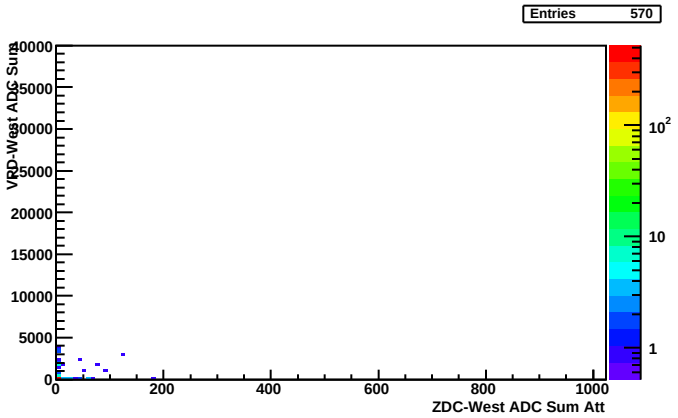

Entries 570
BBC-S-East ADC Sum
VPD-East ADC Sum

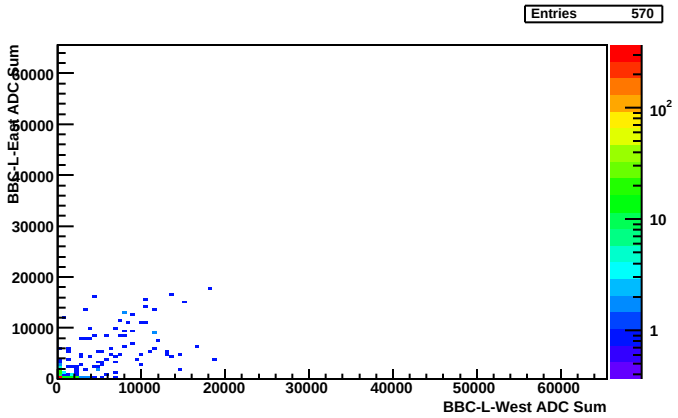

Entries 570
BBC-S-West ADC Sum
VPD-West ADC Sum

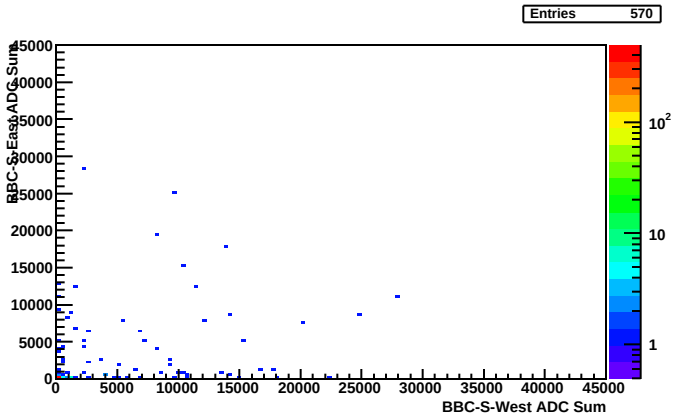

Entries 570
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

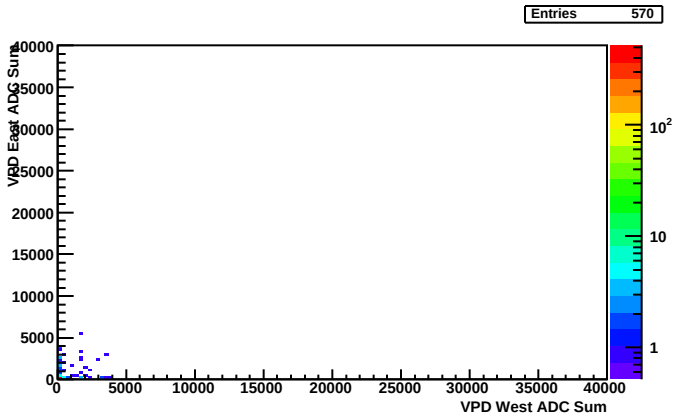

Entries 570
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

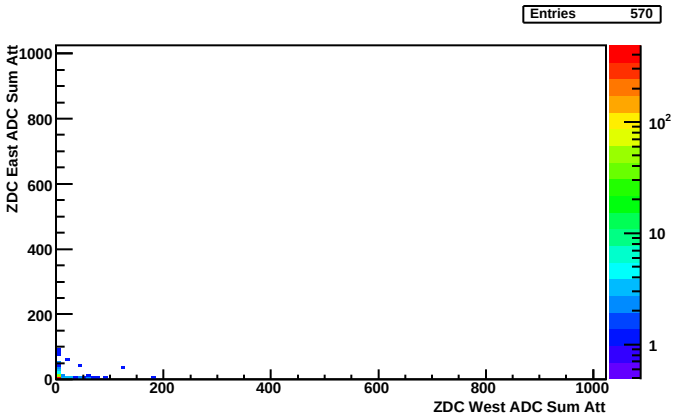

Entries 570
VPD-East ADC Sum
ZDC-East ADC Sum Att

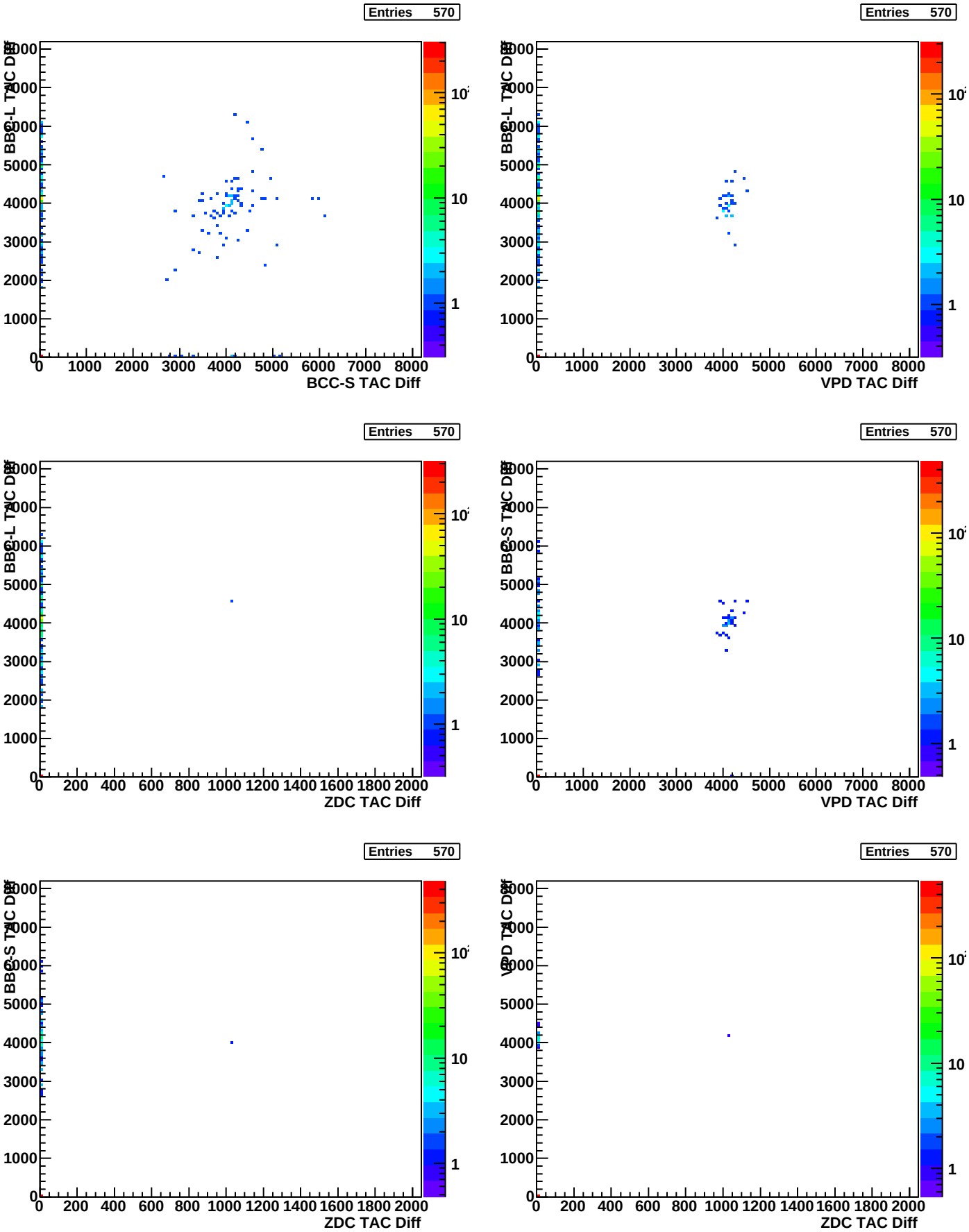

Entries 570
VPD-West ADC Sum
ZDC-West ADC Sum Att

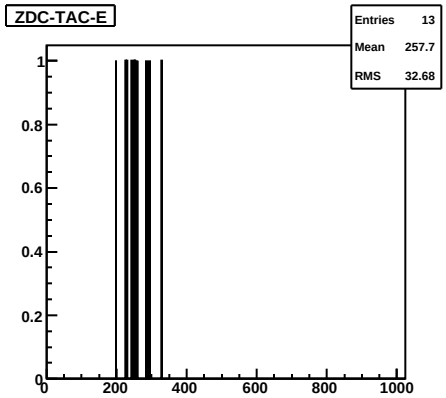

Entries 570
BBC-L-East ADC Sum
BBC-L-West ADC Sum

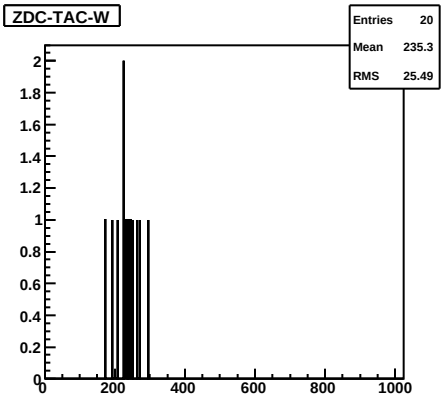

Entries 570
BBC-S-East ADC Sum
BBC-S-West ADC Sum

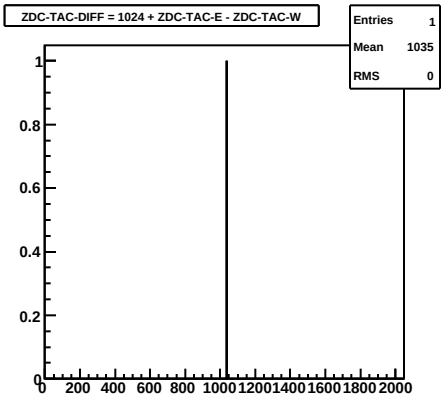

Entries 570
VPD East ADC Sum
VPD West ADC Sum

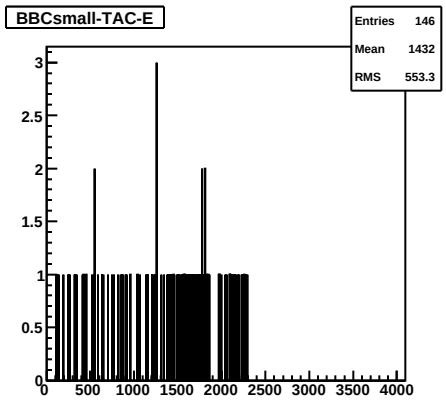

Entries 570
ZDC East ADC Sum Att
ZDC West ADC Sum Att

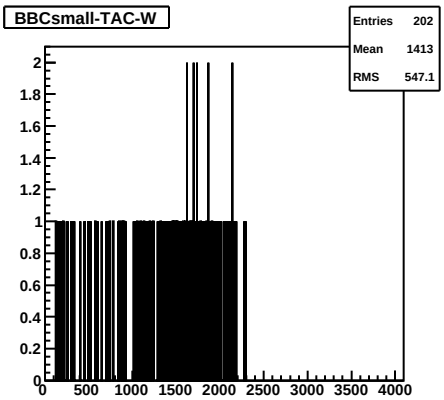

Entries 570
BBC-L TAC Diff
BCC-S TAC Diff
Entries 570
BBC-L TAC Diff
VPD TAC Diff
Entries 570
BBC-L TAC Diff
ZDC TAC Diff
Entries 570
BBC-S TAC Diff
VPD TAC Diff
Entries 570
BBC-S TAC Diff
ZDC TAC Diff
Entries 570
VPD TAC Diff
ZDC TAC Diff

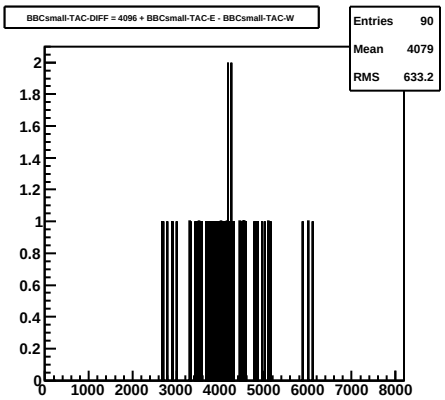

ZDC-TAC-E
Entries 13
Mean 257.7
RMS 32.68

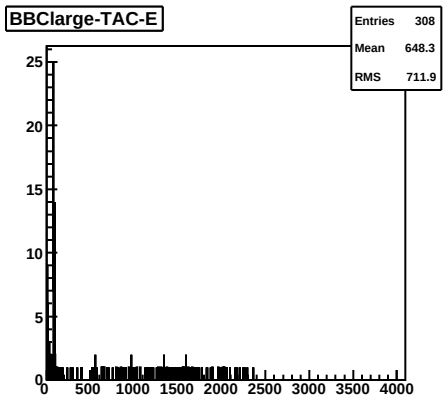

ZDC-TAC-W
Entries 20
Mean 235.3
RMS 25.49

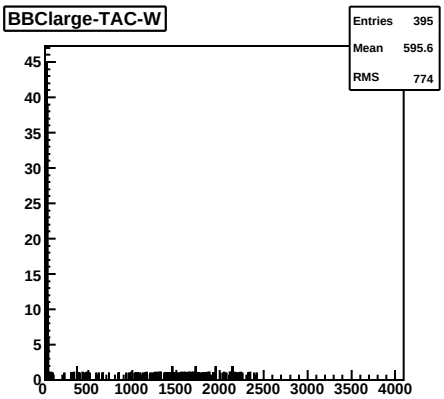

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 1
Mean 1035
RMS 0

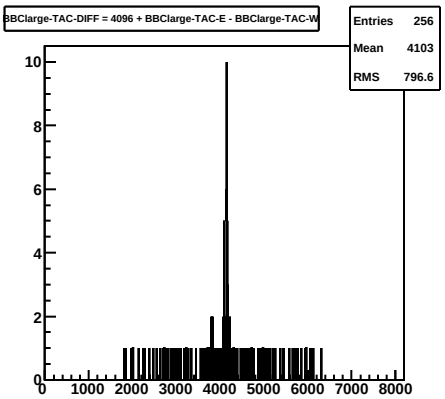

BBCsmall-TAC-E
Entries 146
Mean 1432
RMS 553.3

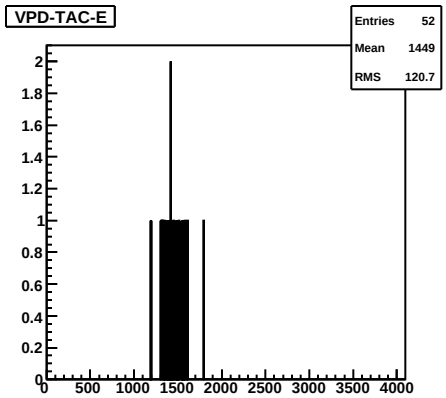

BBCsmall-TAC-W
Entries 202
Mean 1413
RMS 547.1

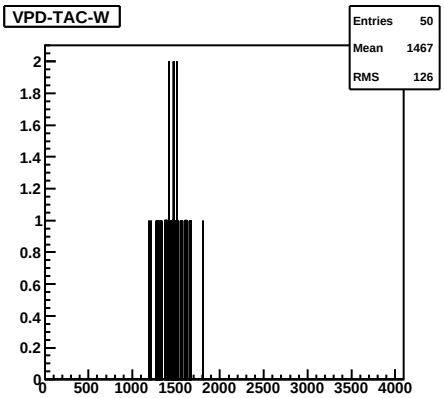

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 90
Mean 4079
RMS 633.2

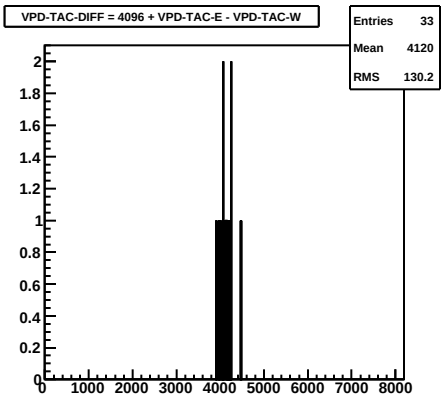

BBClarge-TAC-E
Entries 308
Mean 648.3
RMS 711.9

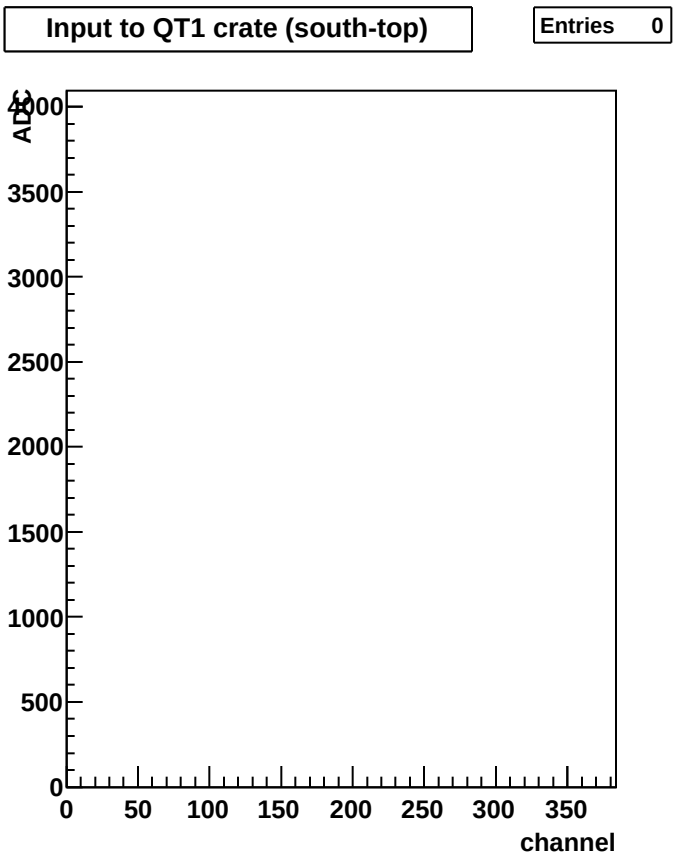

BBClarge-TAC-W
Entries 395
Mean 595.6
RMS 774

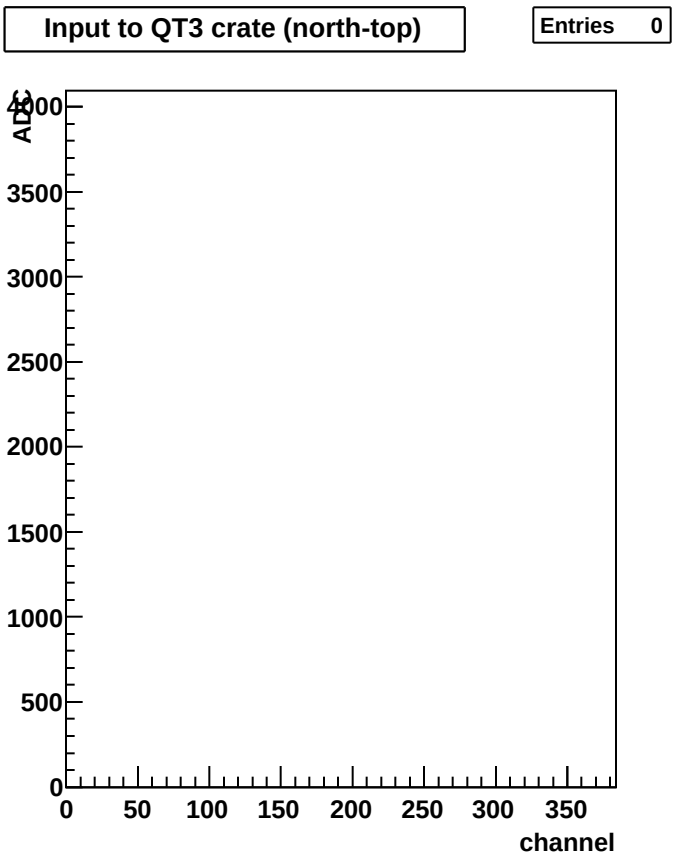

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 256
Mean 4103
RMS 796.6

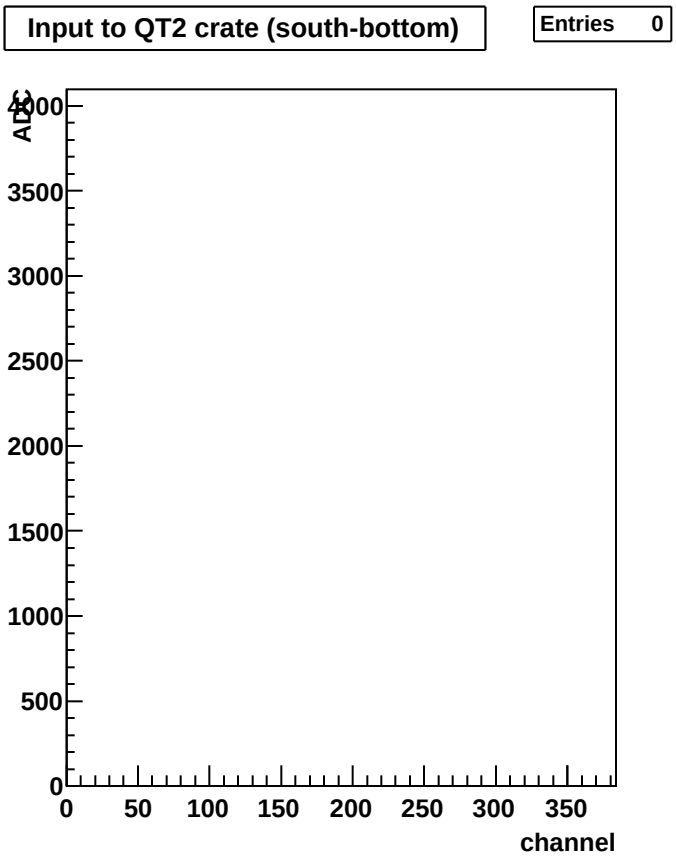

VPD-TAC-E
Entries 52
Mean 1449
RMS 120.7

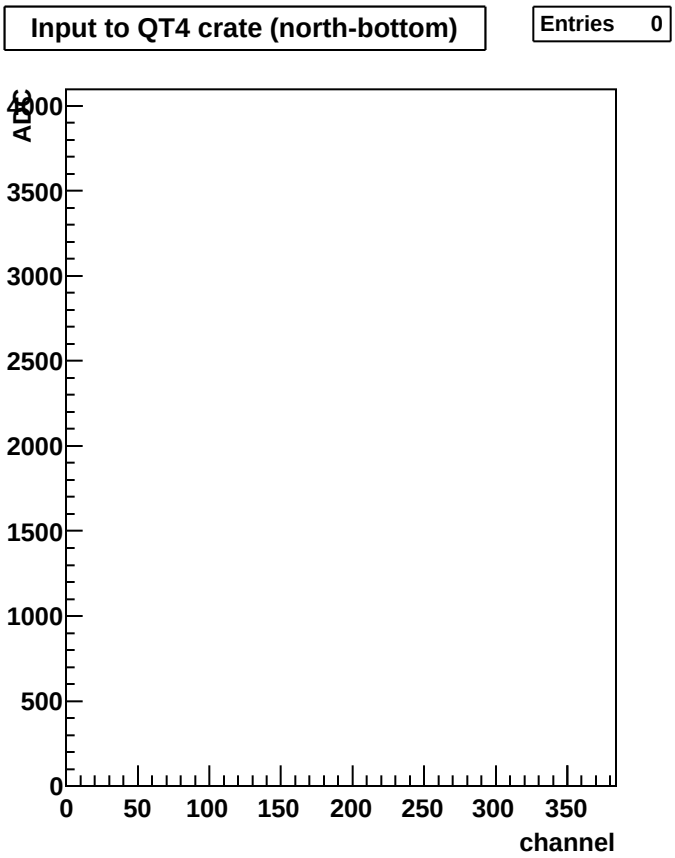

VPD-TAC-W
Entries 50
Mean 1467
RMS 126

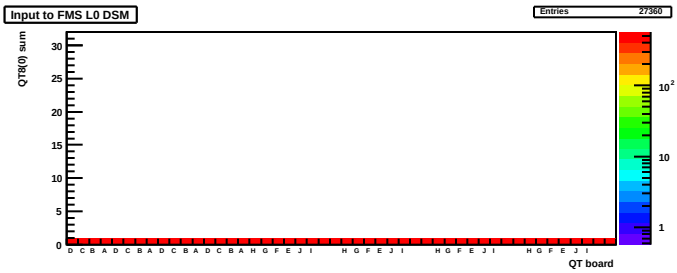

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 33
Mean 4120
RMS 130.2

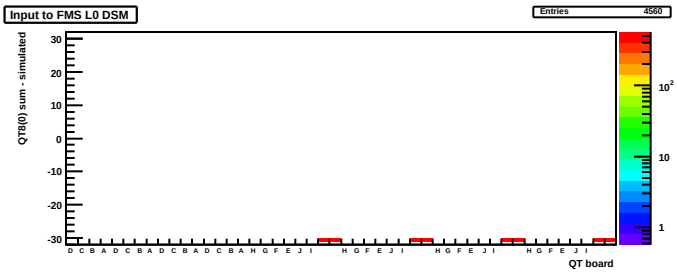

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

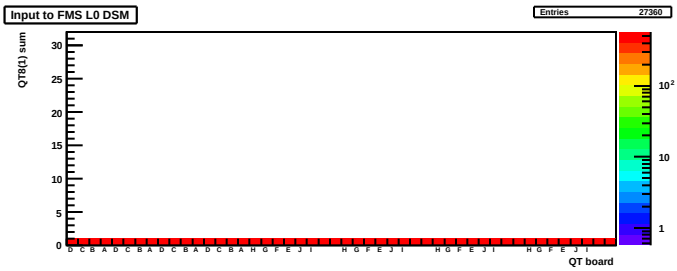

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

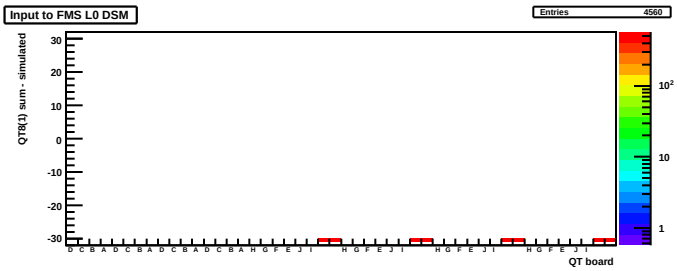

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

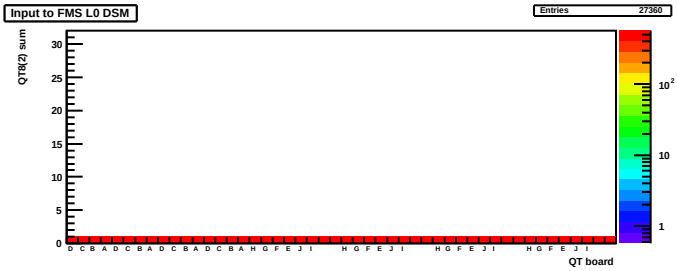

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

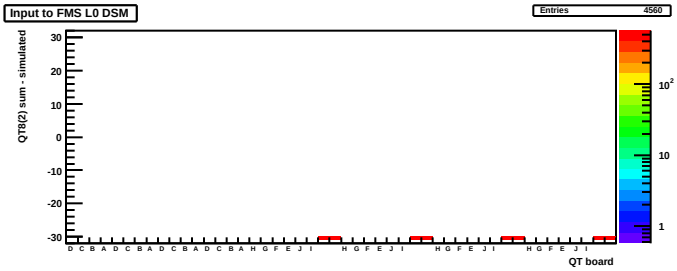

Input to FMS L0 DSM
Entries 27360
QT8(0) sum
QT board

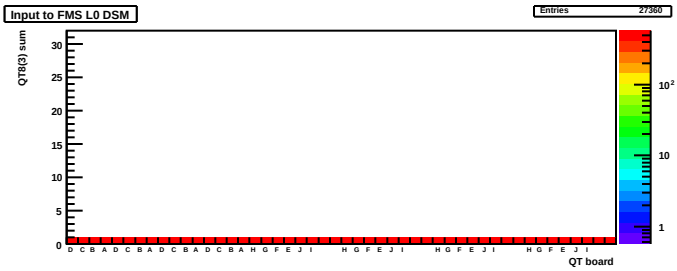

Input to FMS L0 DSM
Entries 4560
QT8(0) sum - simulated
QT board

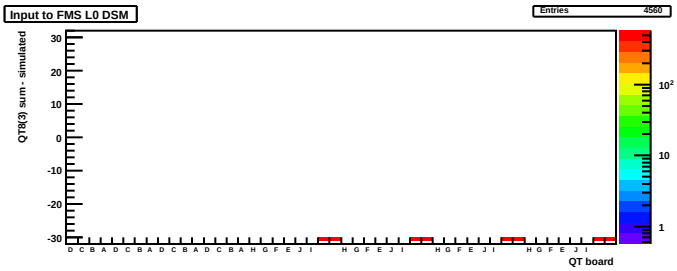

Input to FMS L0 DSM
Entries 27360
QT8(1) sum
QT board

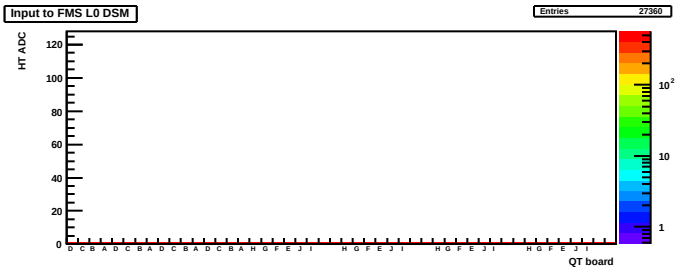

Input to FMS L0 DSM
Entries 4560
QT8(1) sum - simulated
QT board

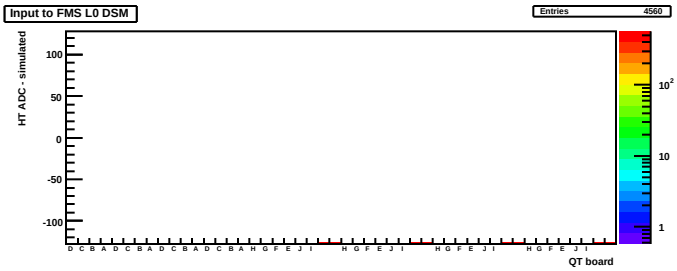

Input to FMS L0 DSM
Entries 27360
QT8(2) sum
QT board

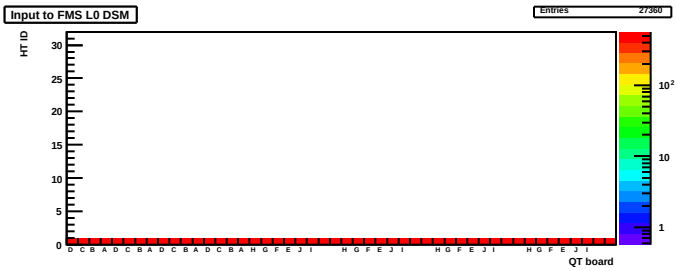

Input to FMS L0 DSM
Entries 4560
QT8(2) sum - simulated
QT board

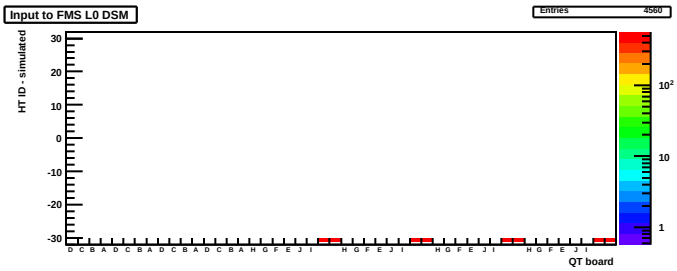

Input to FMS L0 DSM
Entries 27360
QT8(3) sum
QT board

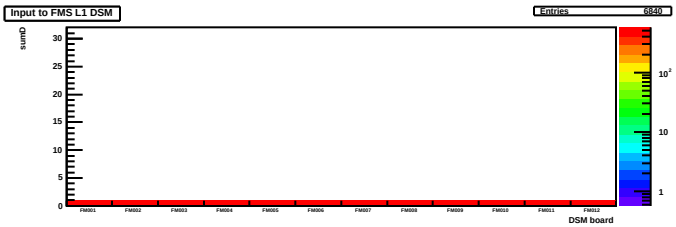

Input to FMS L0 DSM
Entries 4560
QT8(3) sum - simulated
QT board

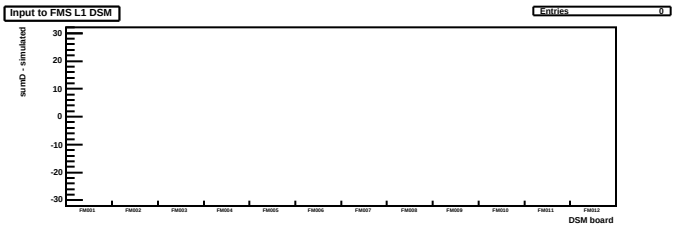

Input to FMS L0 DSM
Entries 27360
HT ADC
QT board

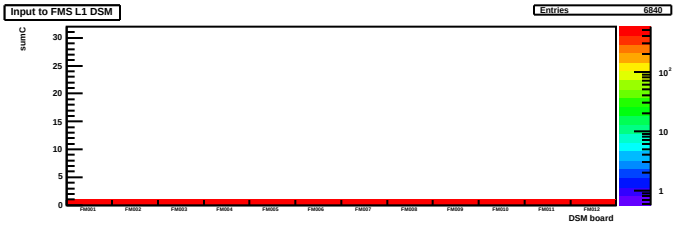

Input to FMS L0 DSM
Entries 4560
HT ADC - simulated
QT board

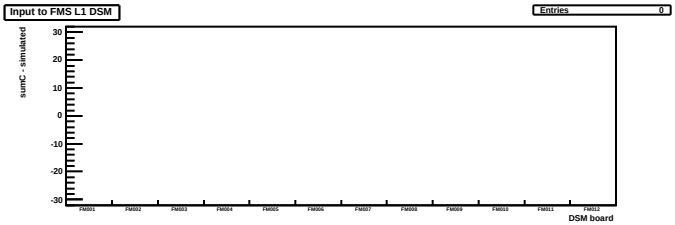

Input to FMS L0 DSM
Entries 27360
HT ID
QT board

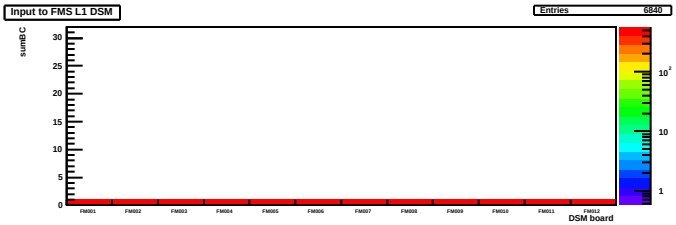

Input to FMS L0 DSM
Entries 4560
HT ID - simulated
QT board

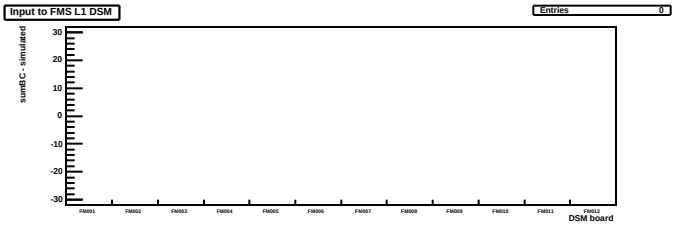

Input to FMS L1 DSM
Entries 6840
sumD
DSM board

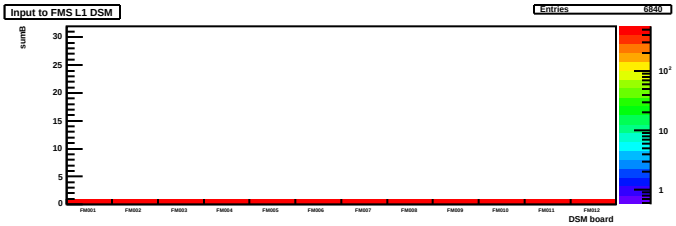

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

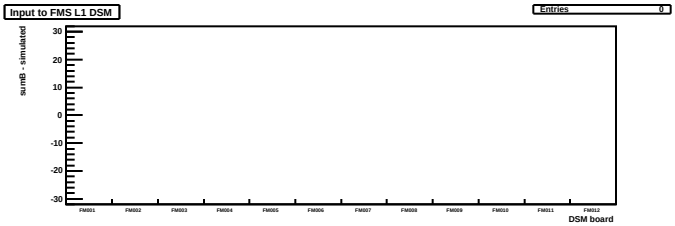

Input to FMS L1 DSM
Entries 6840
sumC
DSM board

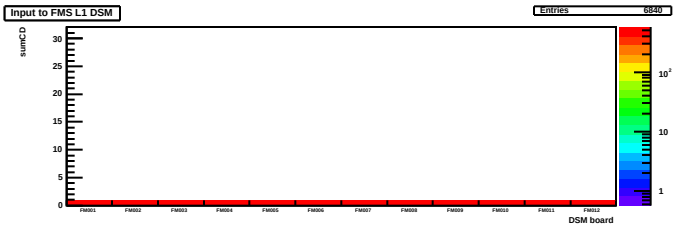

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

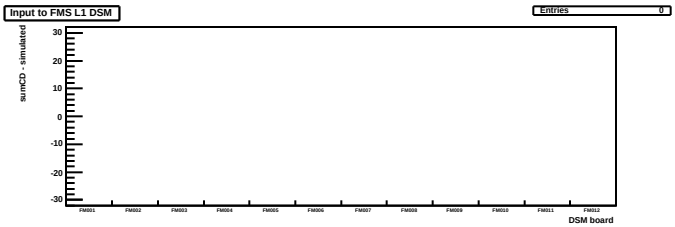

Input to FMS L1 DSM
Entries 6840
sumBC
DSM board

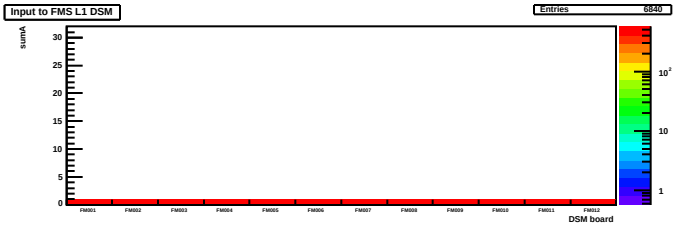

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

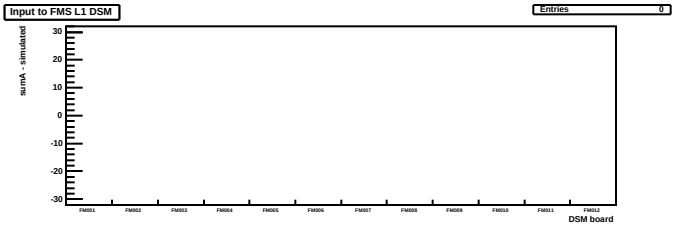

Input to FMS L1 DSM
Entries 6840
sumB
DSM board

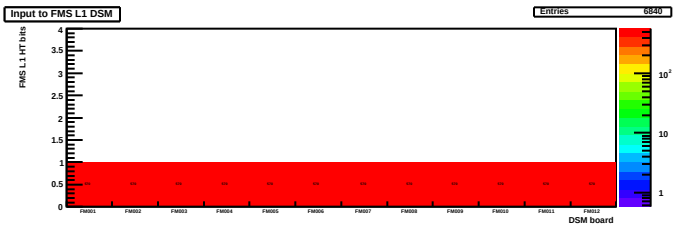

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

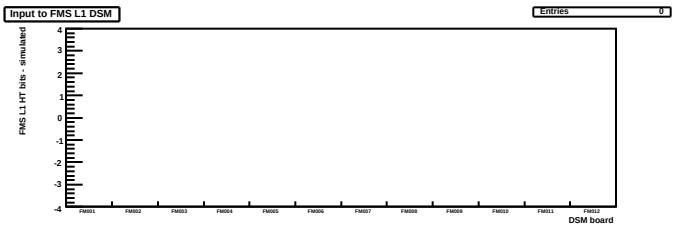

Input to FMS L1 DSM
Entries 6840
sumCD
DSM board

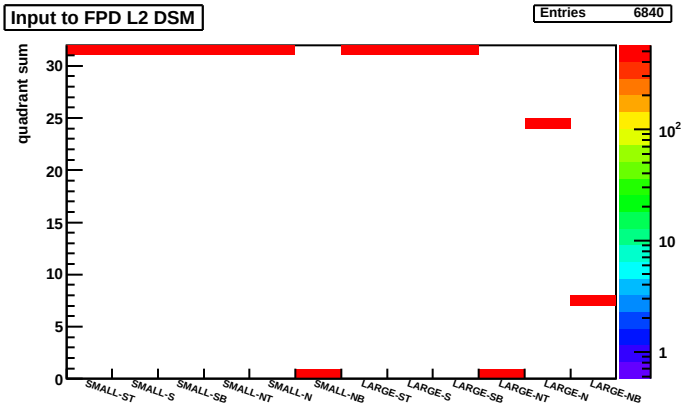

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

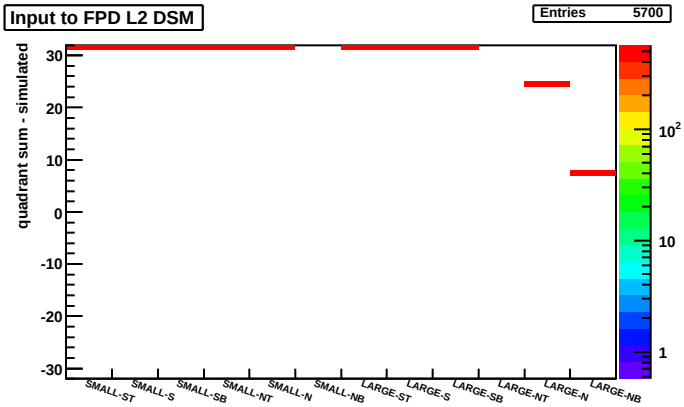

Input to FMS L1 DSM
Entries 6840
sumA
DSM board

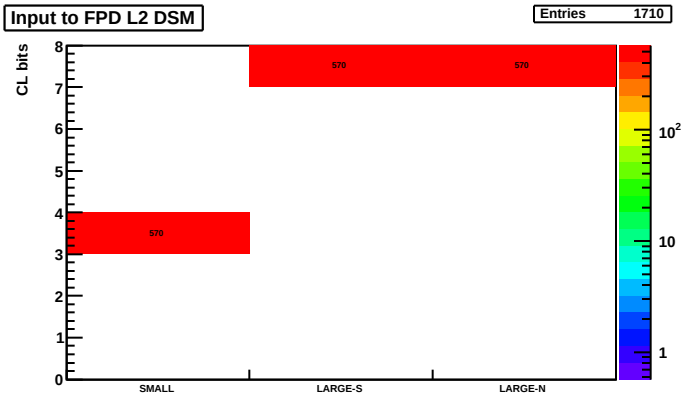

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

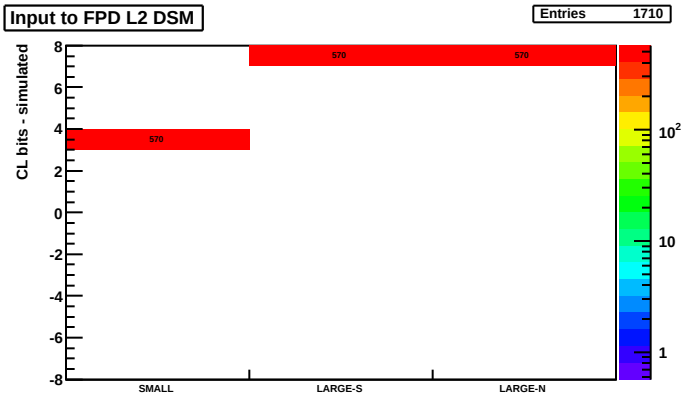

Input to FMS L1 DSM
Entries 6840
FMS L1 HT bits
DSM board

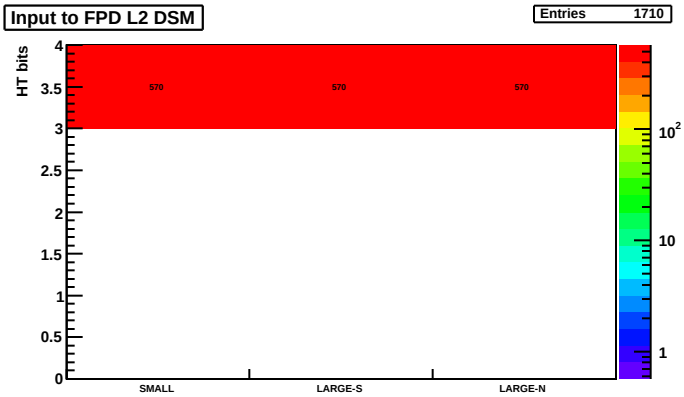

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

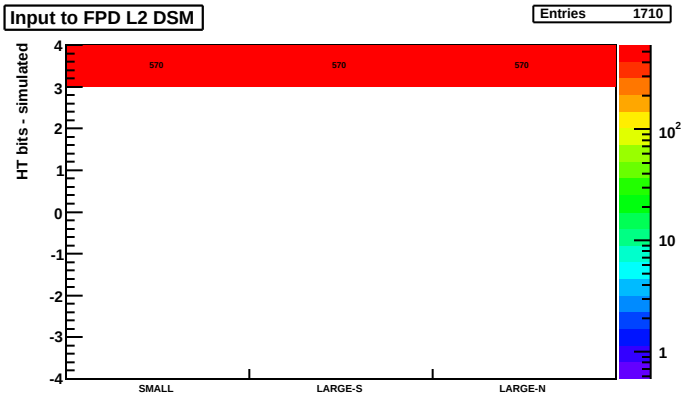

Input to FPD L2 DSM
Entries 6840
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

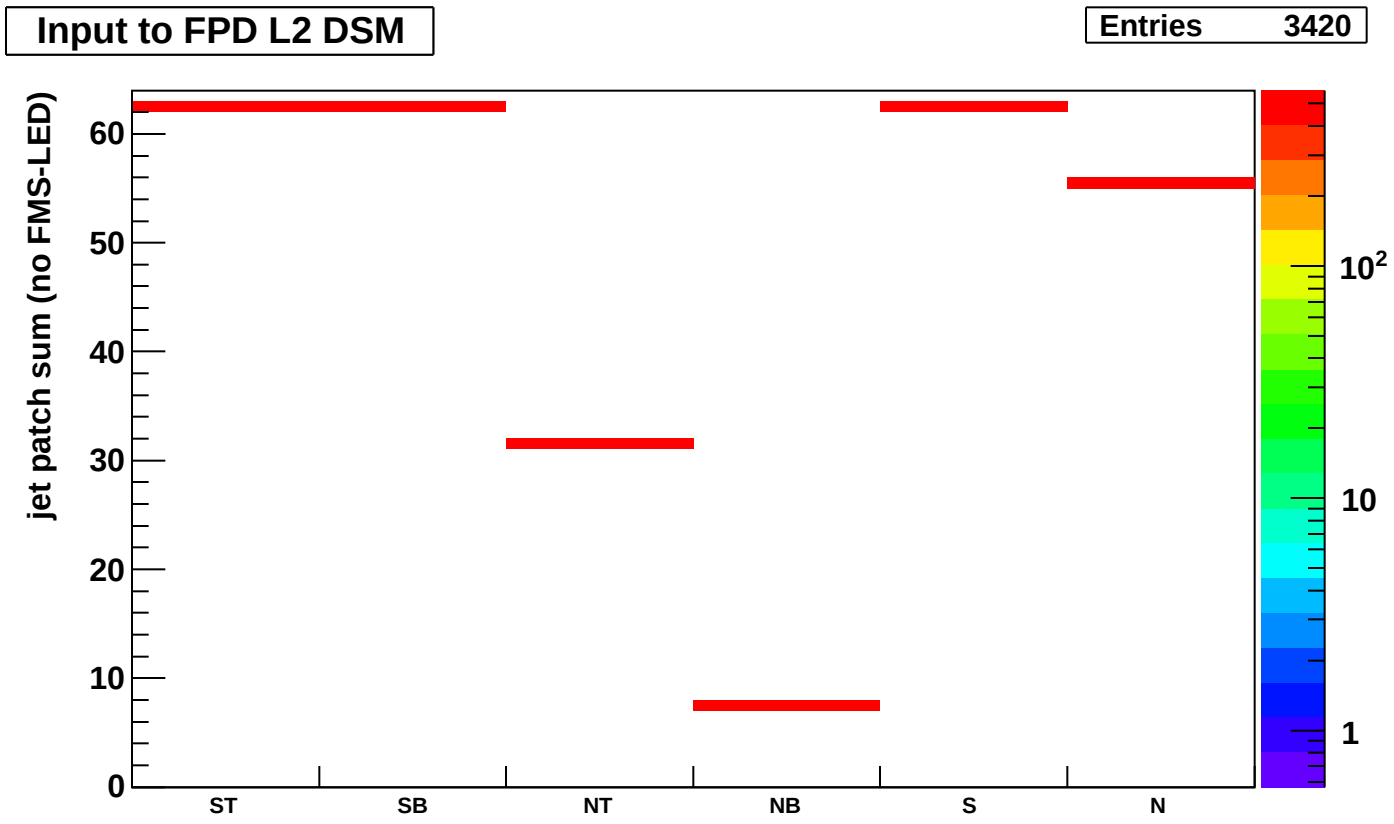

Input to FPD L2 DSM
Entries 5700
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

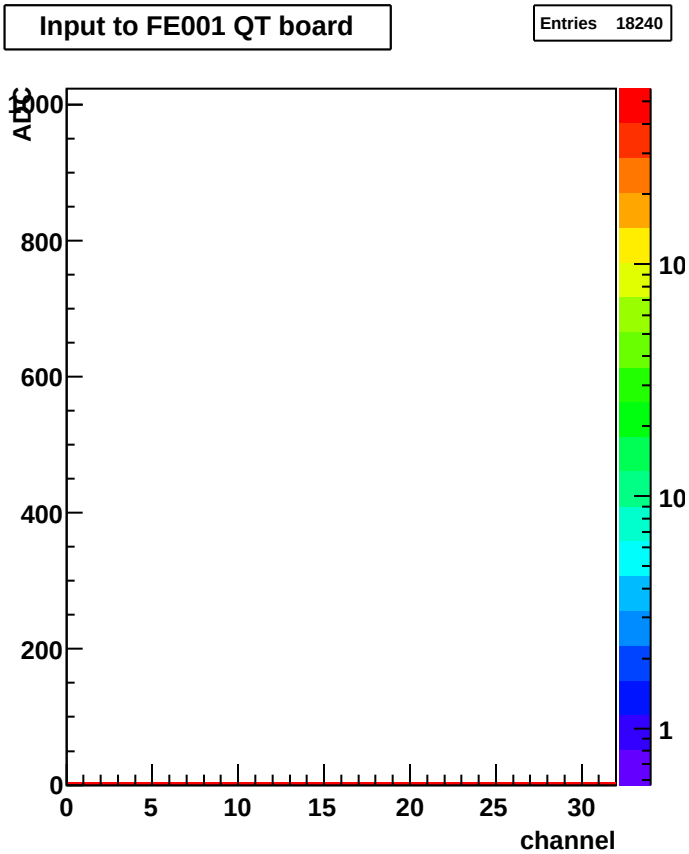

Input to FPD L2 DSM
Entries 1710
CL bits
570
570
570
SMALL
LARGE-S
LARGE-N

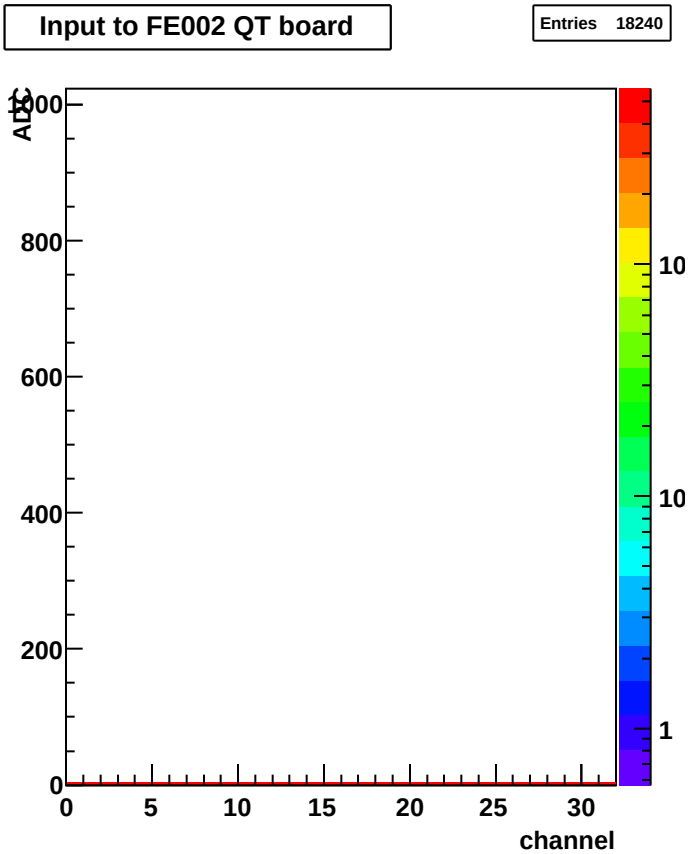

Input to FPD L2 DSM
Entries 1710
CL bits - simulated
570
570
570
SMALL
LARGE-S
LARGE-N

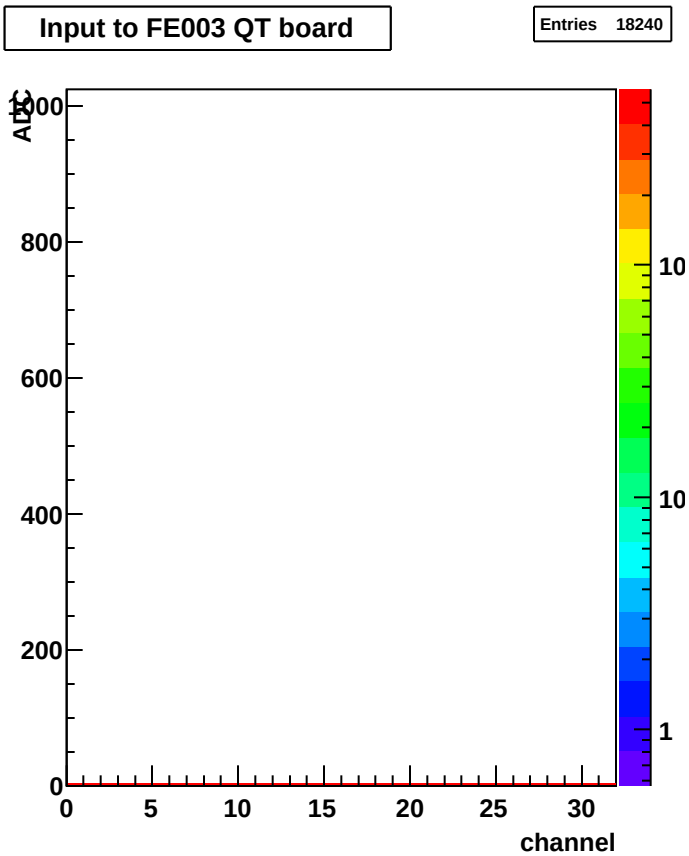

Input to FPD L2 DSM
Entries 1710
HT bits
570
570
570
SMALL
LARGE-S
LARGE-N

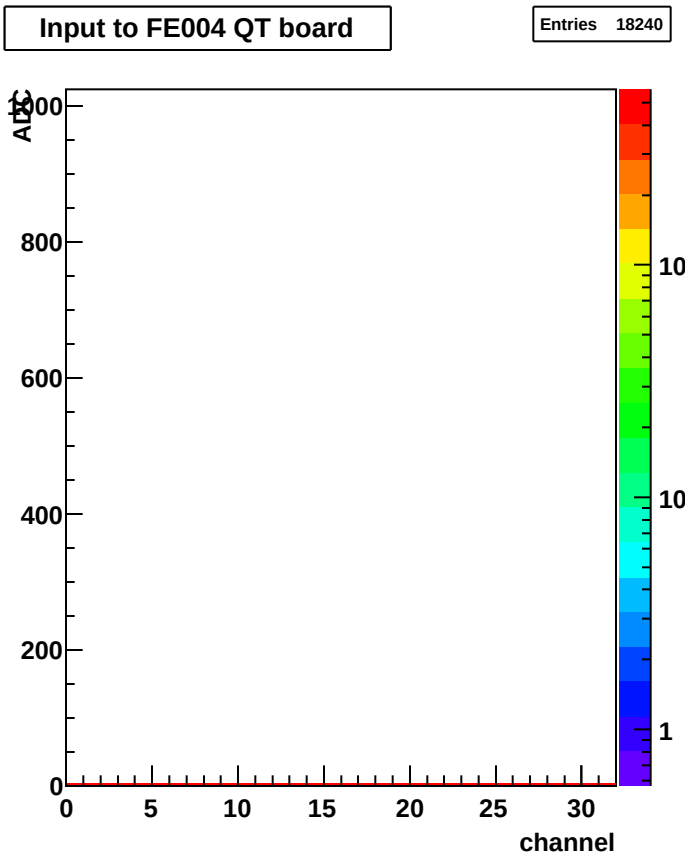

Input to FPD L2 DSM
Entries 1710
HT bits - simulated
570
570
570
SMALL
LARGE-S
LARGE-N

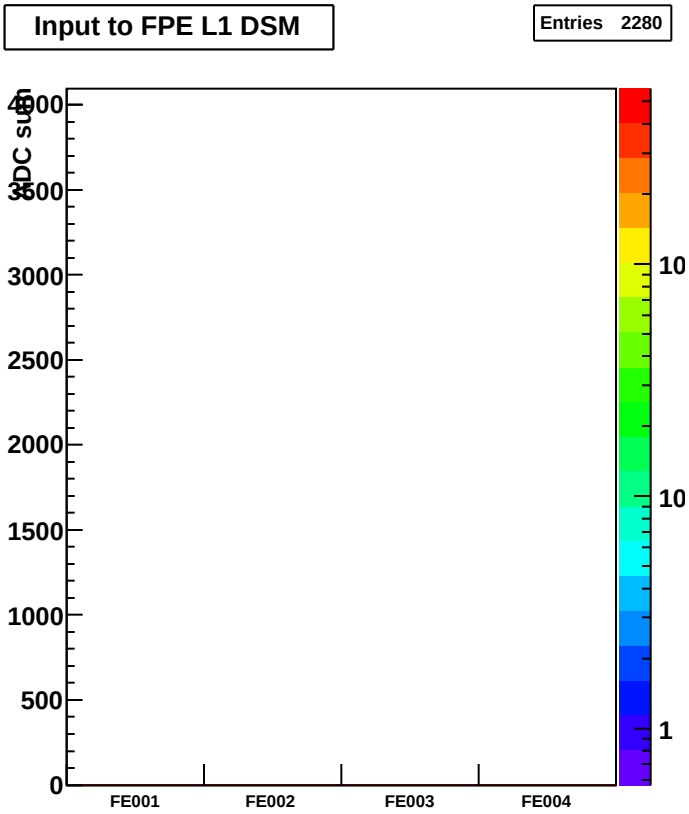

Input to FPD L2 DSM
Entries 3420
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2

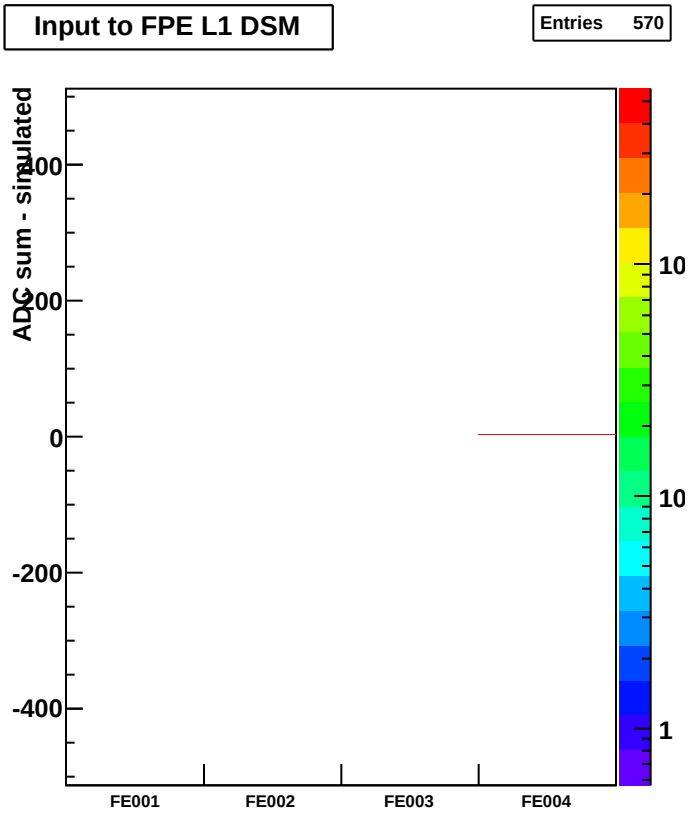

Input to FE001 QT board
Entries 18240
ADC
channel

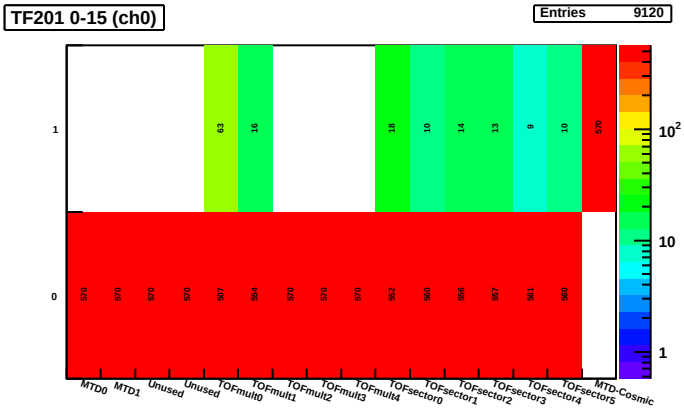

Input to FE002 QT board
Entries 18240
ADC
channel

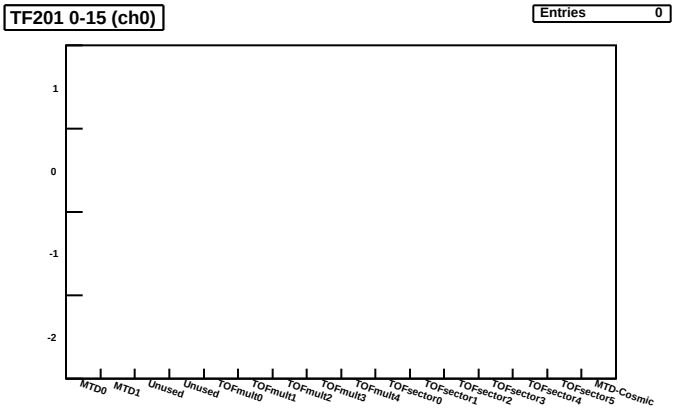

Input to FE003 QT board
Entries 18240
ADC
channel

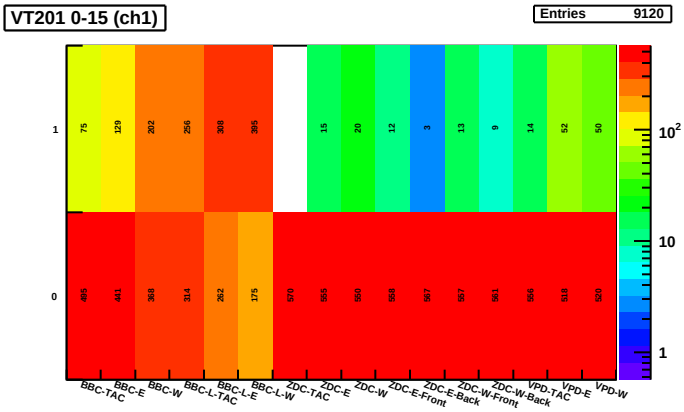

Input to FE004 QT board
Entries 18240
ADC
channel

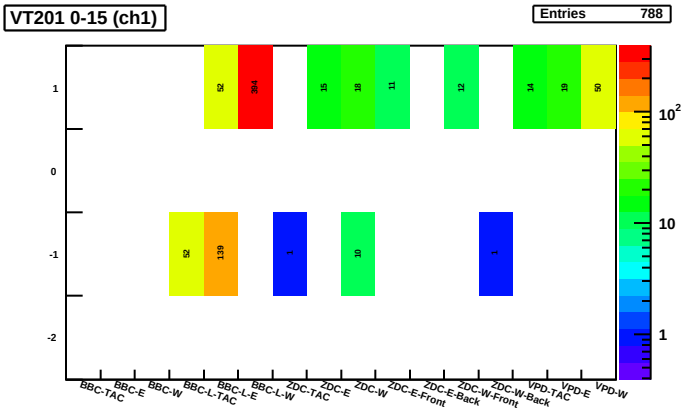

Input to FPE L1 DSM
Entries 2280
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
1

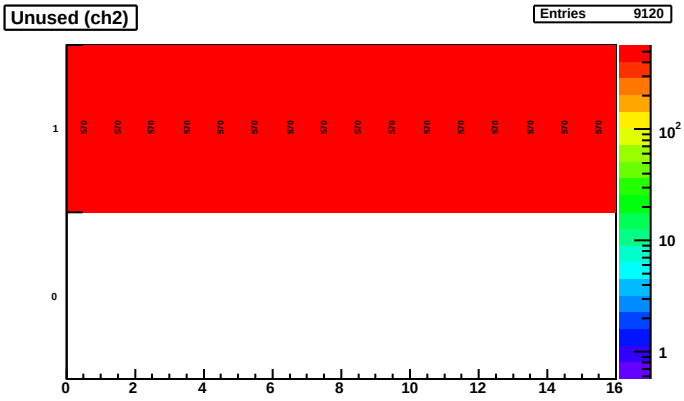

Input to FPE L1 DSM
Entries 570
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
1

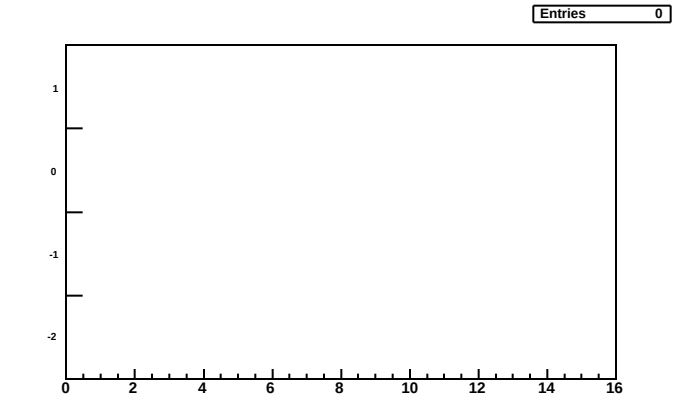

TF201 0-15 (ch0)
Entries 9120
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

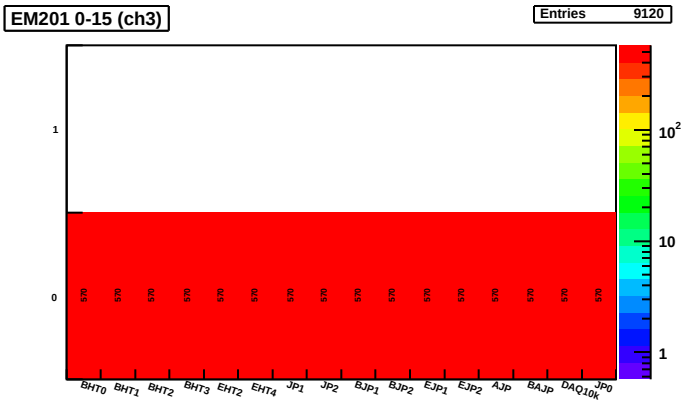

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

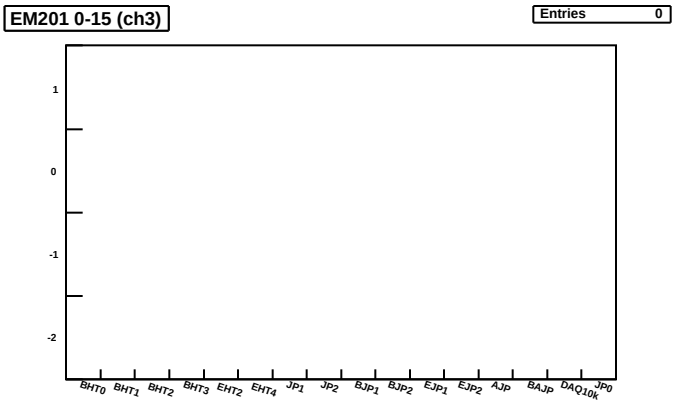

VT201 0-15 (ch1)
Entries 9120
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 788
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

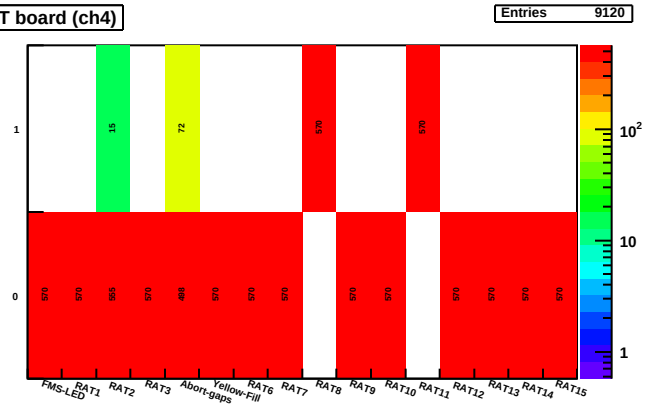

Unused (ch2)
Entries 9120

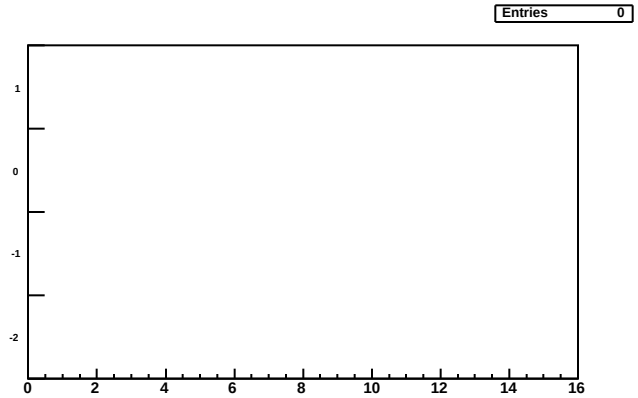

Entries 0


EM201 0-15 (ch3)
Entries 9120
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

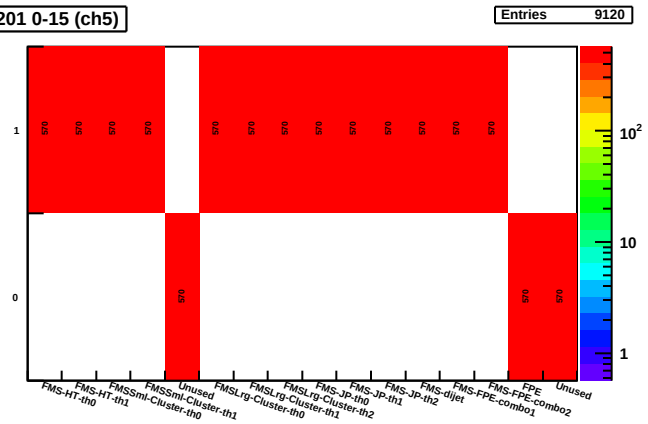

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

RAT board (ch4)

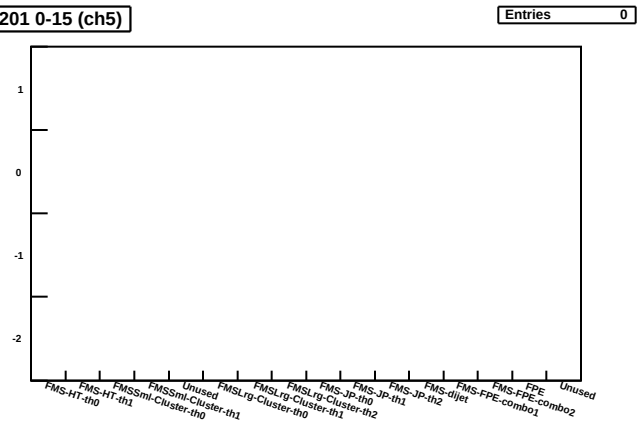




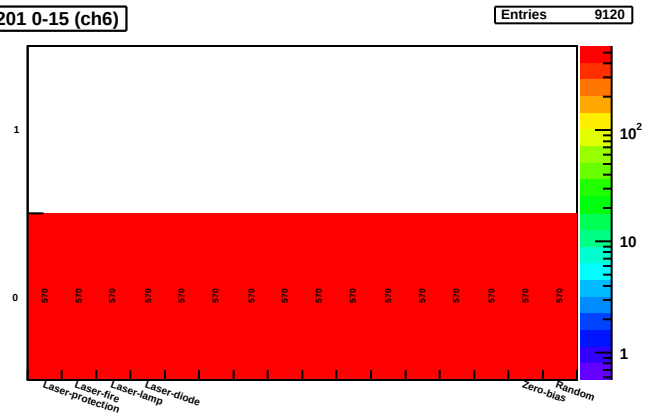
FP201 0-15 (ch5)

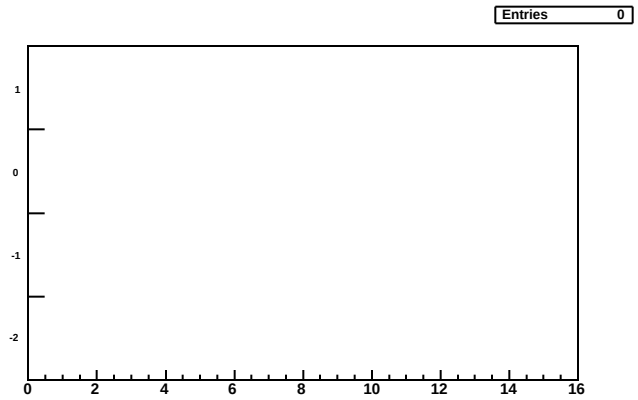
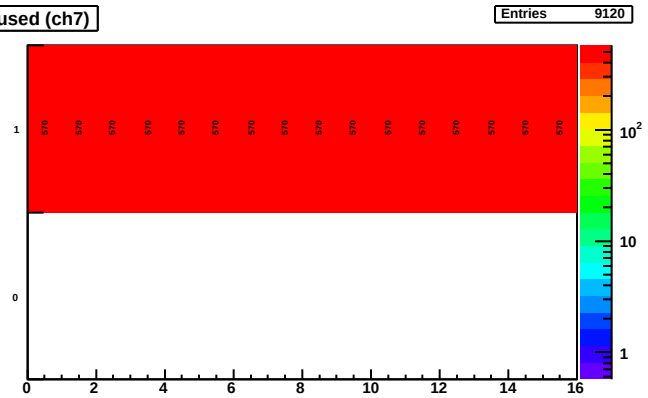
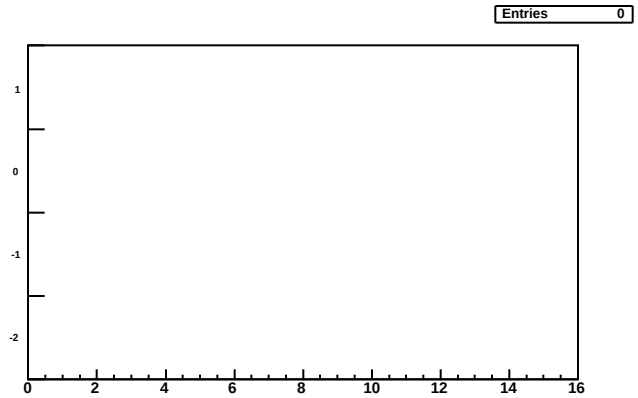


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)