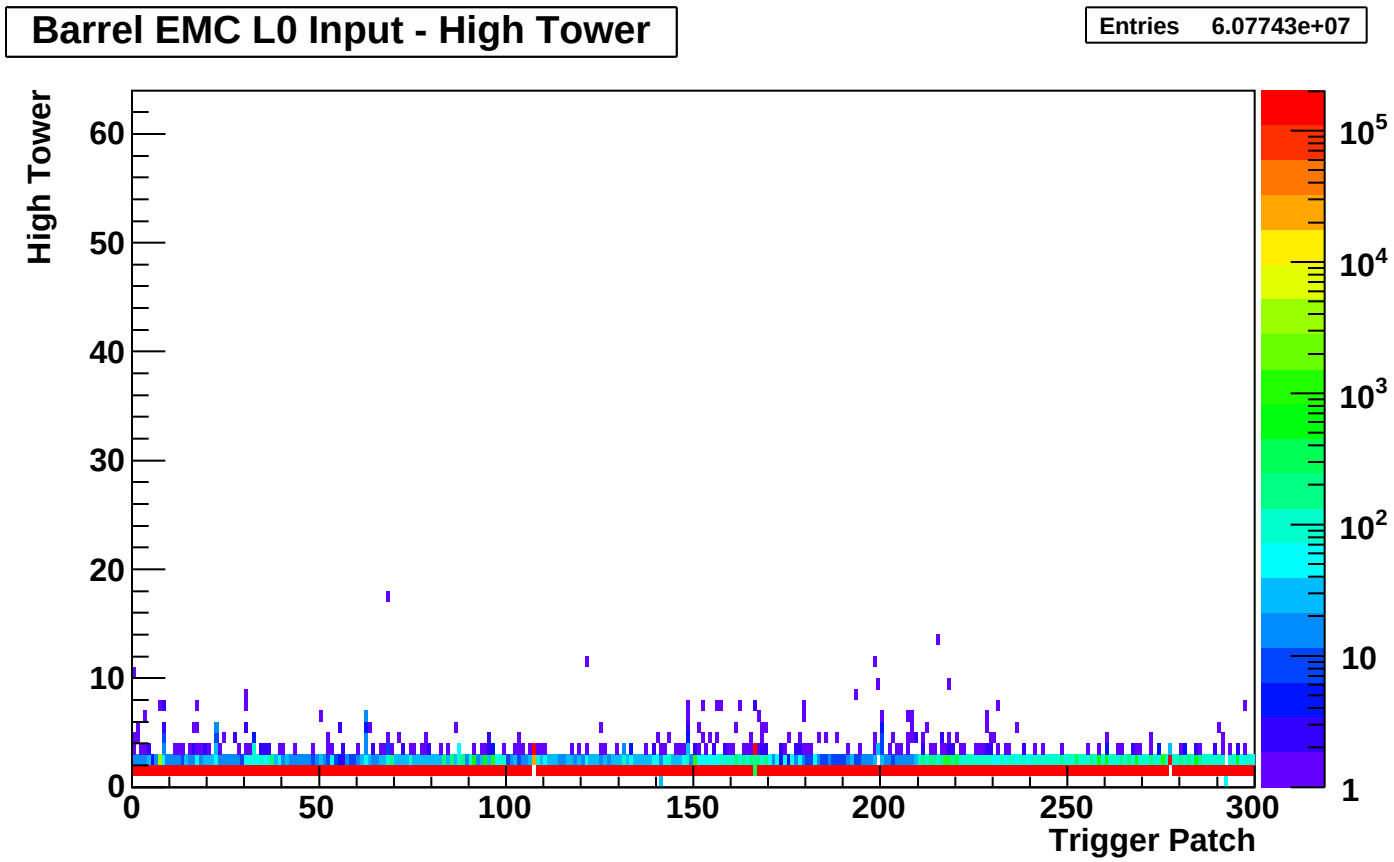
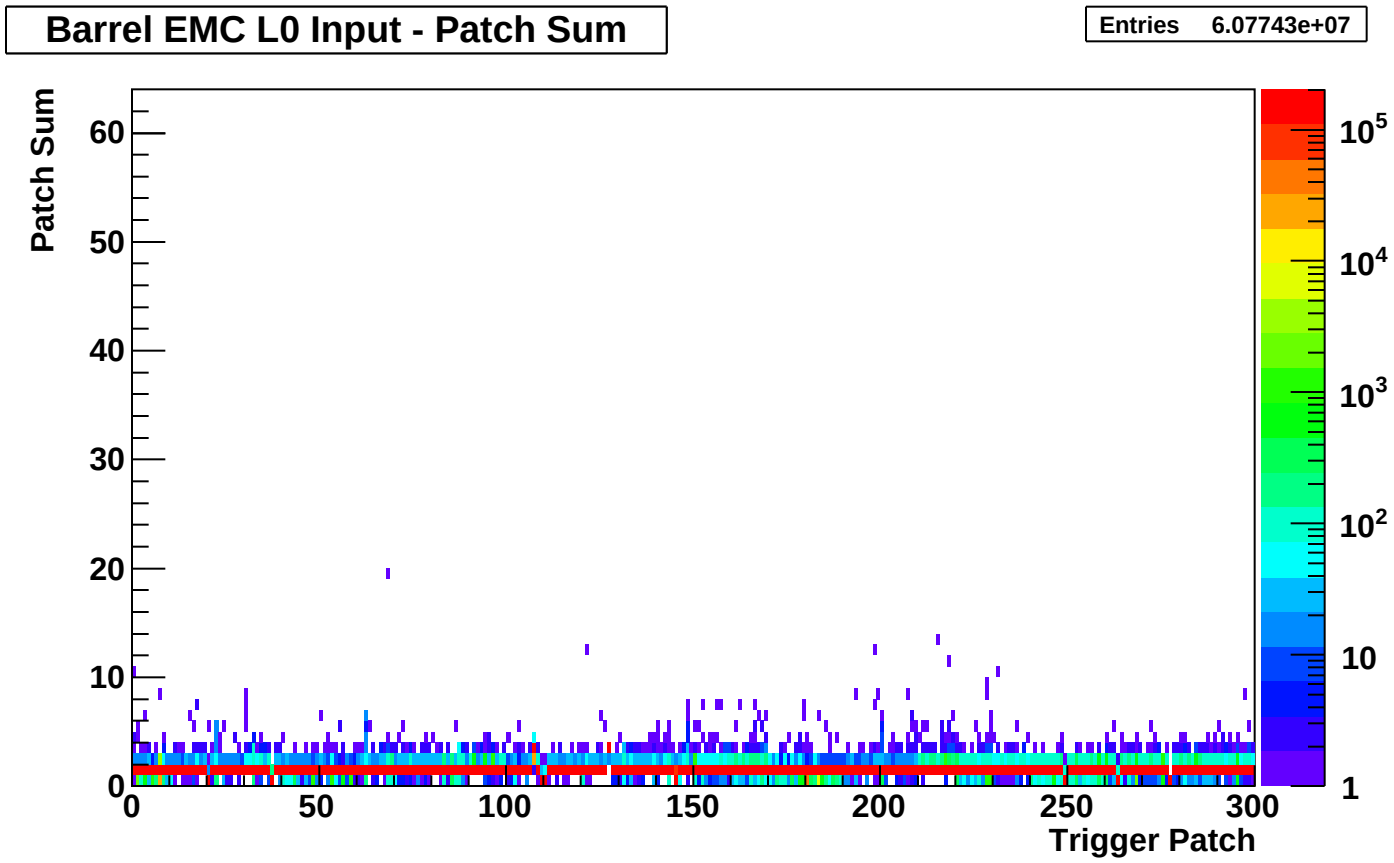
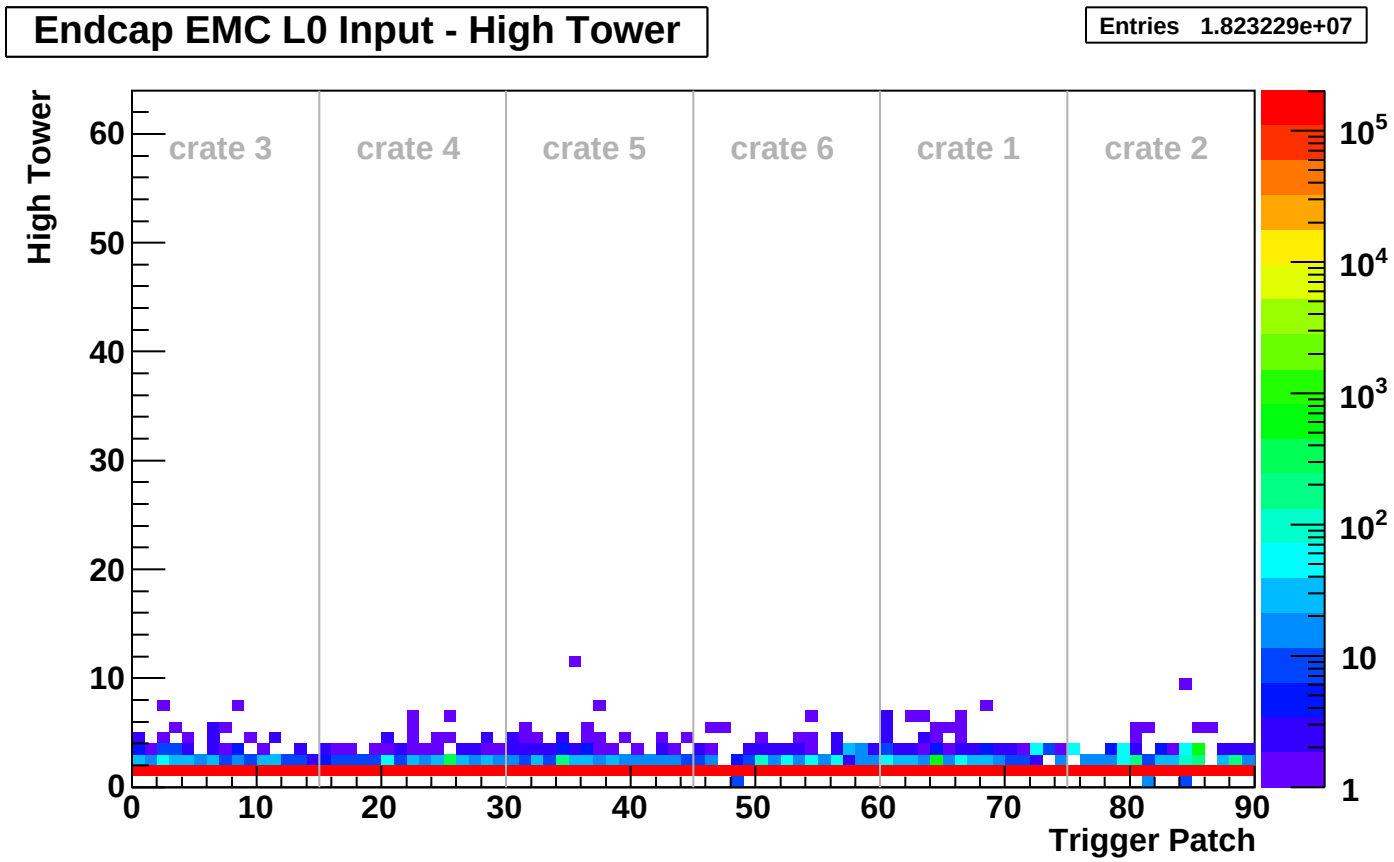
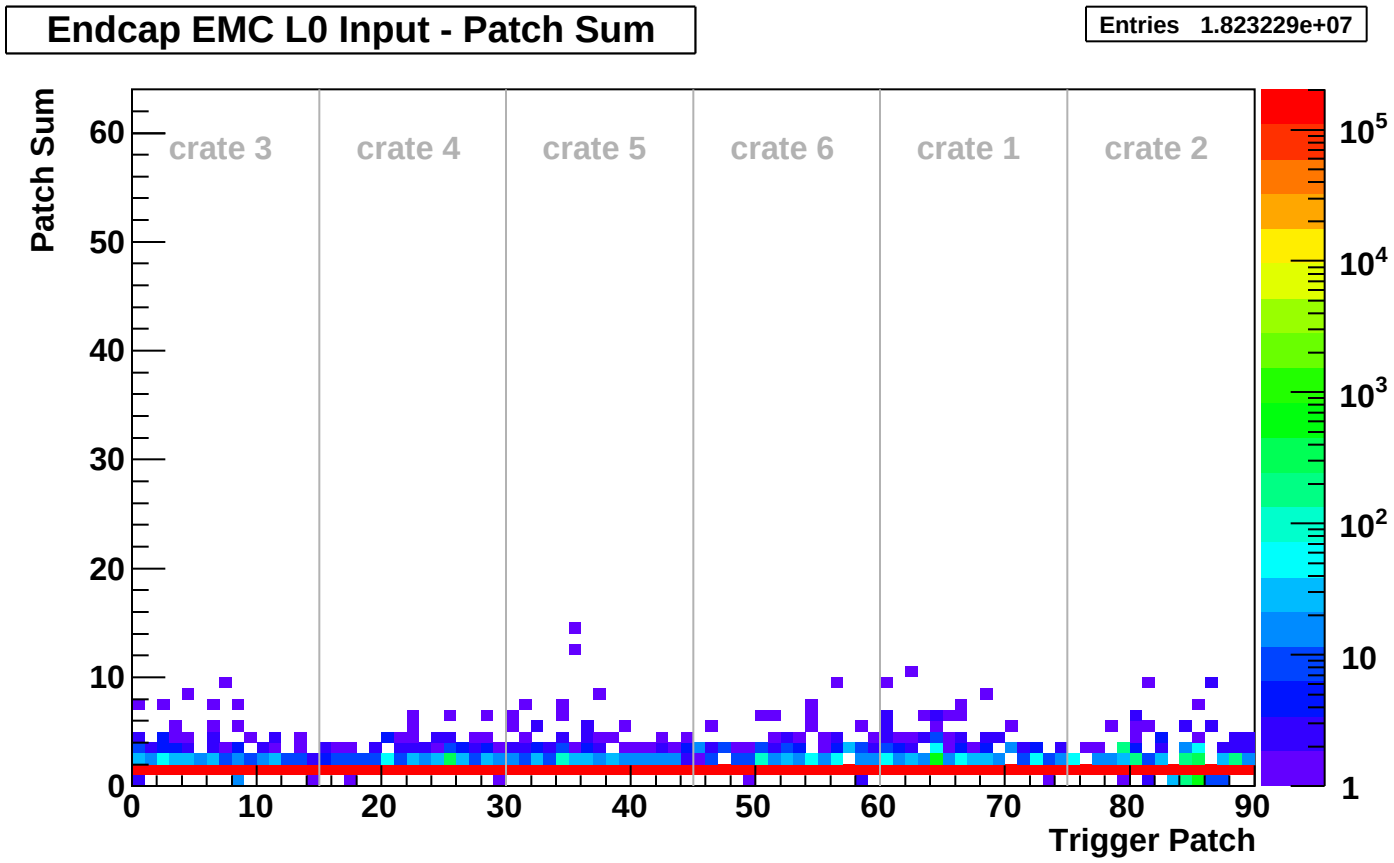
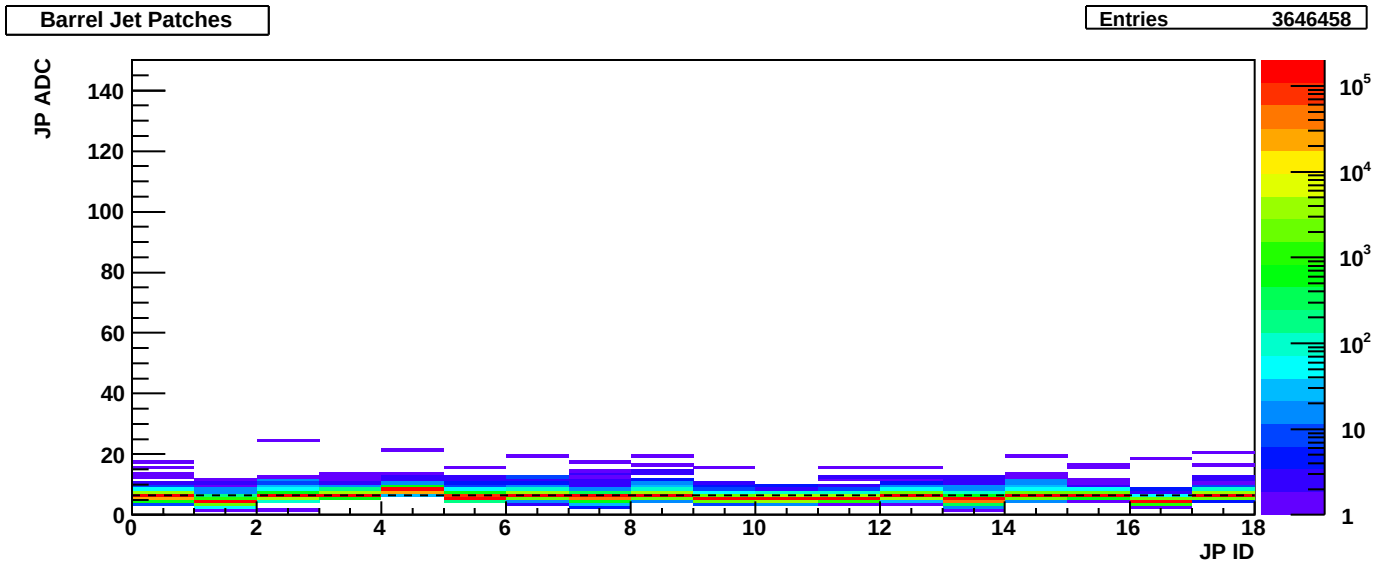
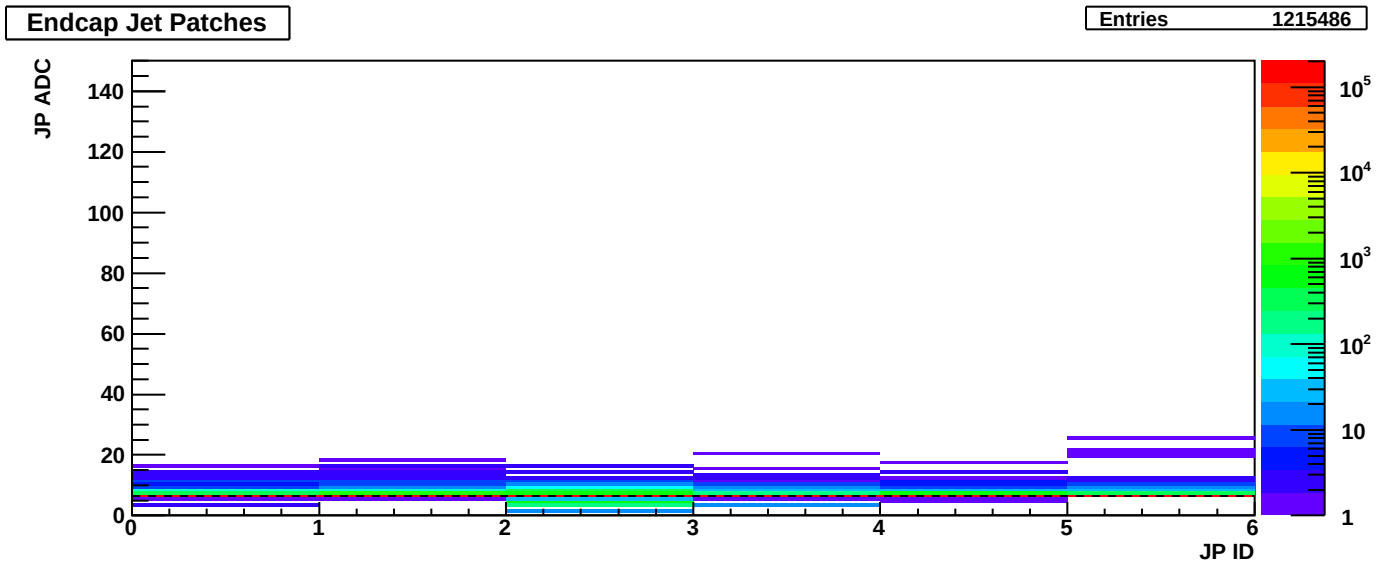

Barrel EMC L0 Input - High Tower
Entries 6.07743e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

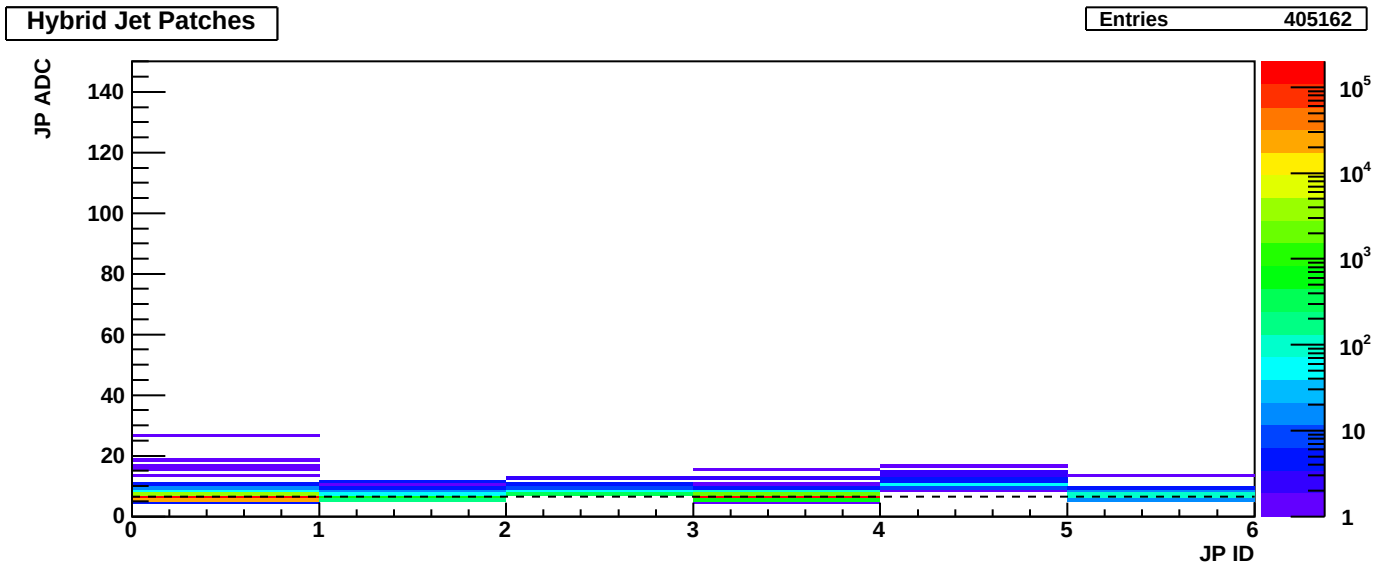

Barrel EMC L0 Input - Patch Sum
Entries 6.07743e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

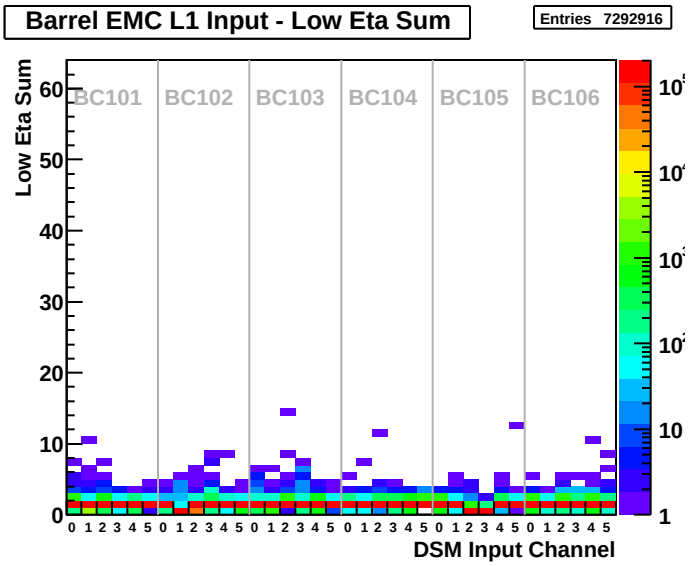

Endcap EMC L0 Input - High Tower
Entries 1.823229e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

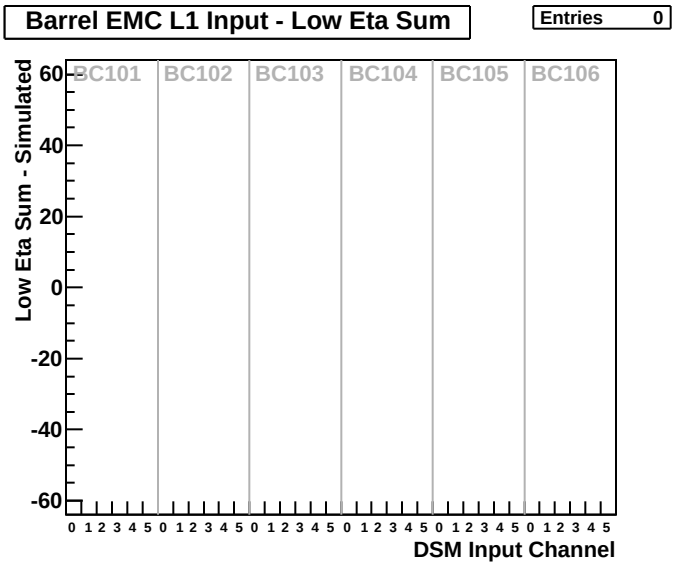

Endcap EMC L0 Input - Patch Sum
Entries 1.823229e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

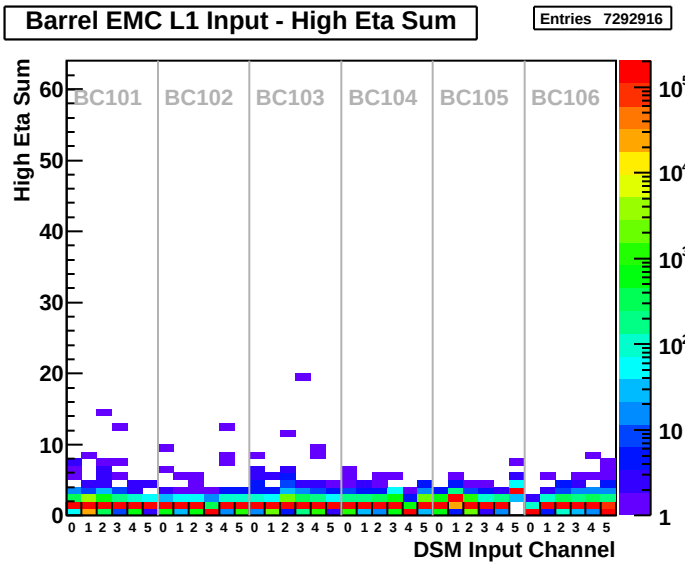

Barrel Jet Patches
Entries 3646458
JP ADC
JP ID

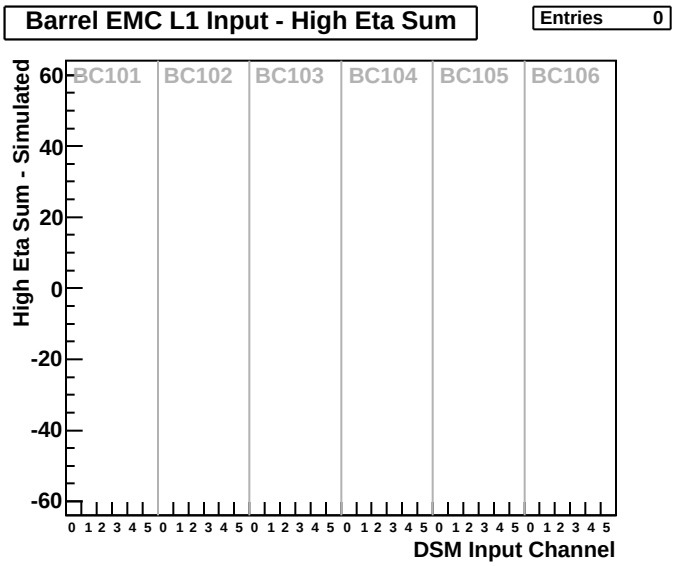

Endcap Jet Patches
Entries 1215486
JP ADC
JP ID

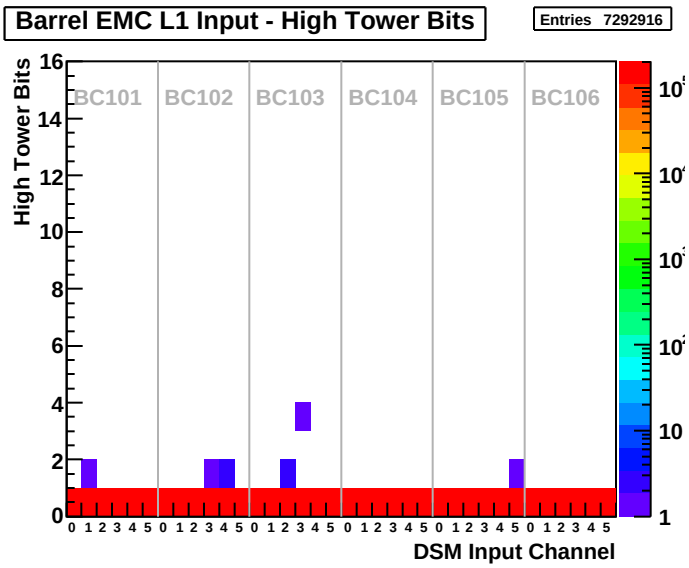

Hybrid Jet Patches
Entries 405162
JP ADC
JP ID

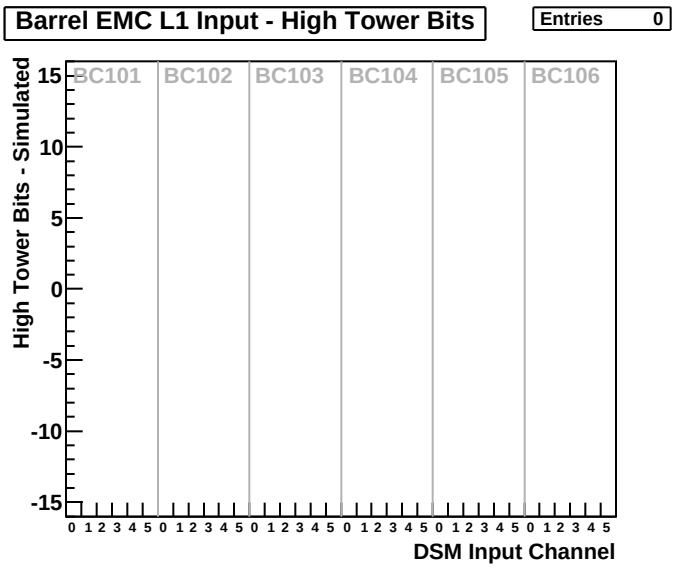

Barrel EMC L1 Input - Low Eta Sum
Entries 7292916
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

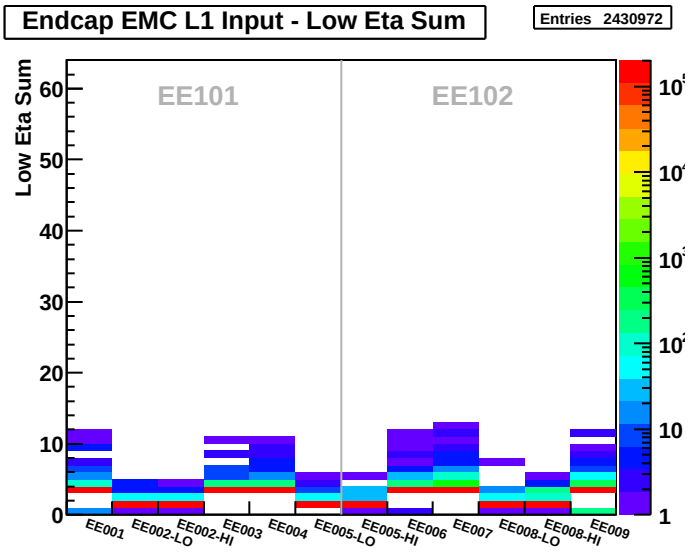

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

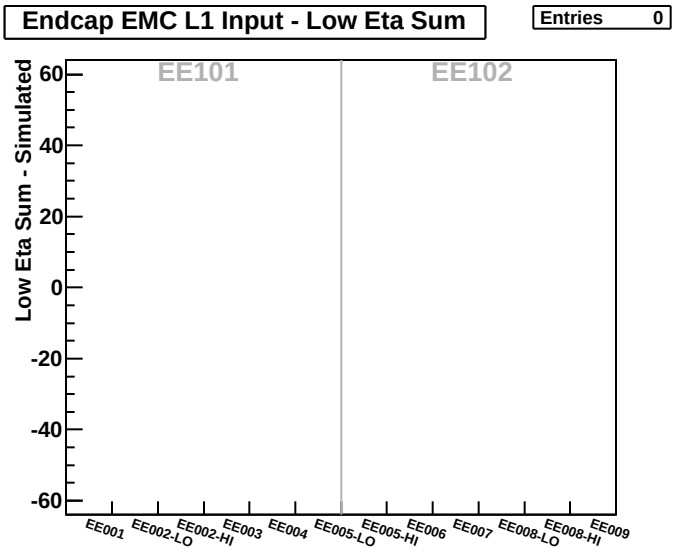

Barrel EMC L1 Input - High Eta Sum
Entries 7292916
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

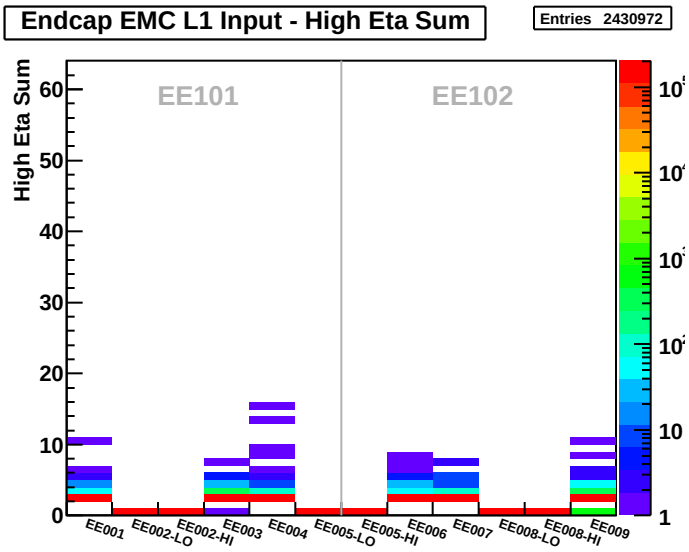

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

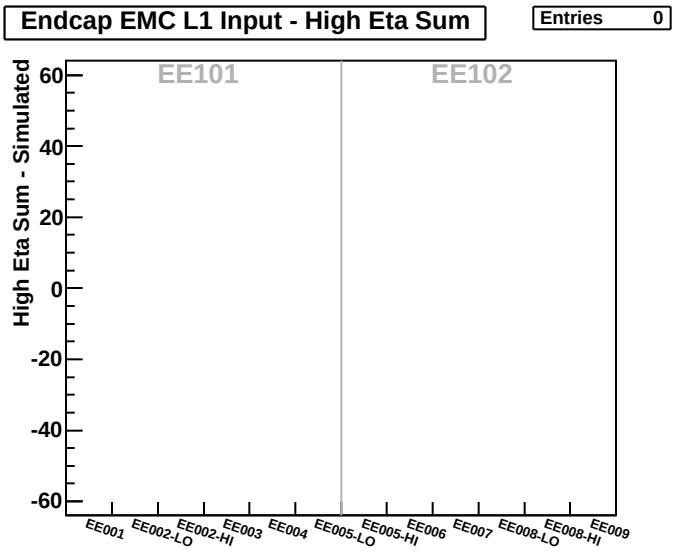

Barrel EMC L1 Input - High Tower Bits
Entries 7292916
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

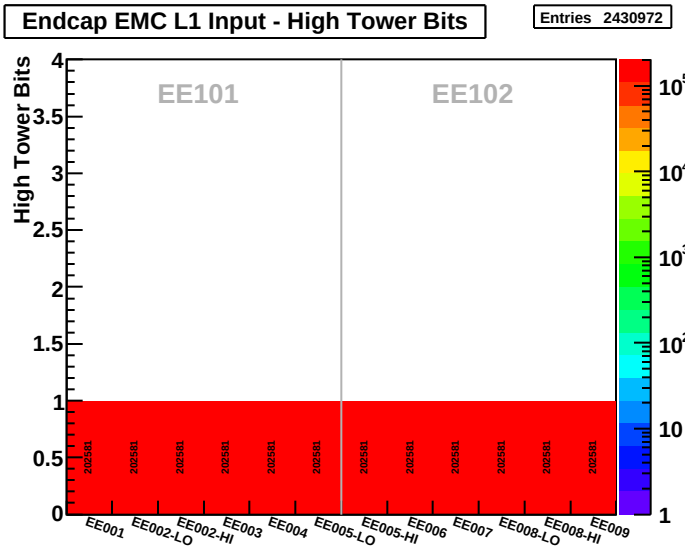

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

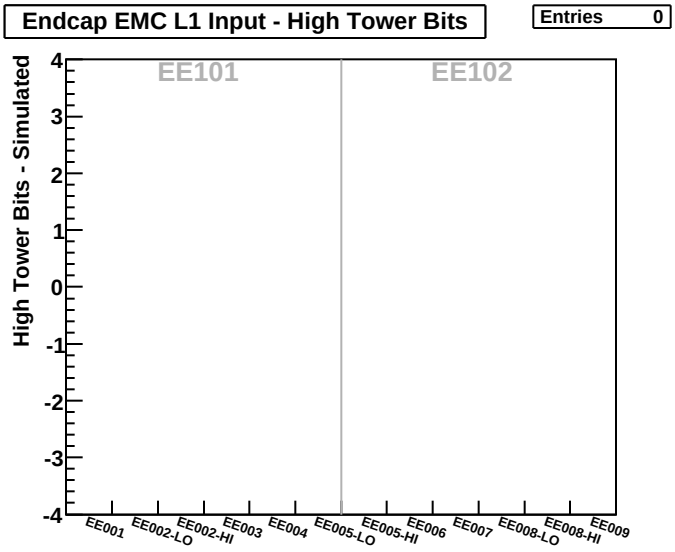

Endcap EMC L1 Input - Low Eta Sum
Entries 2430972
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

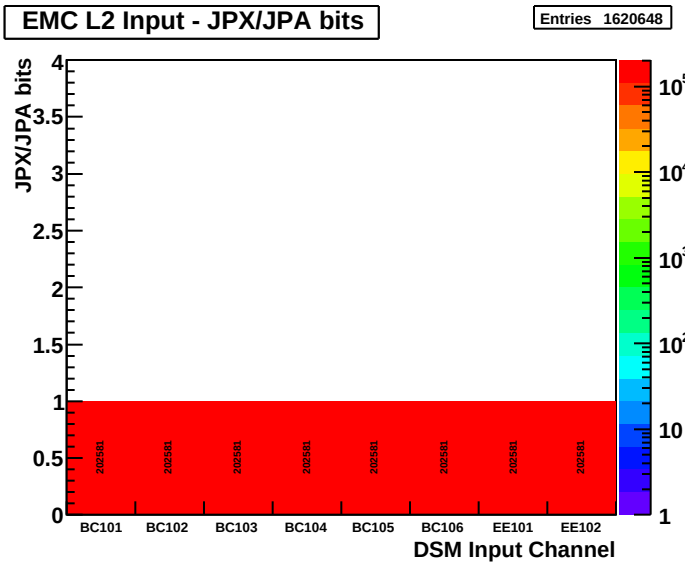

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

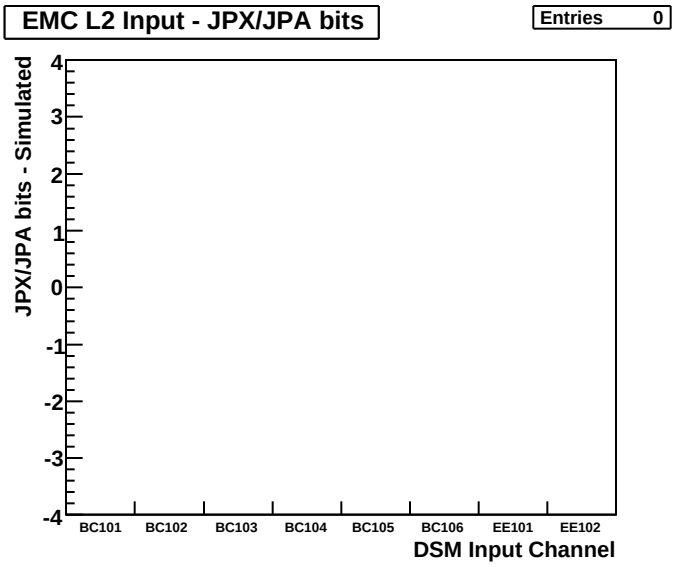

Endcap EMC L1 Input - High Eta Sum
Entries 2430972
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

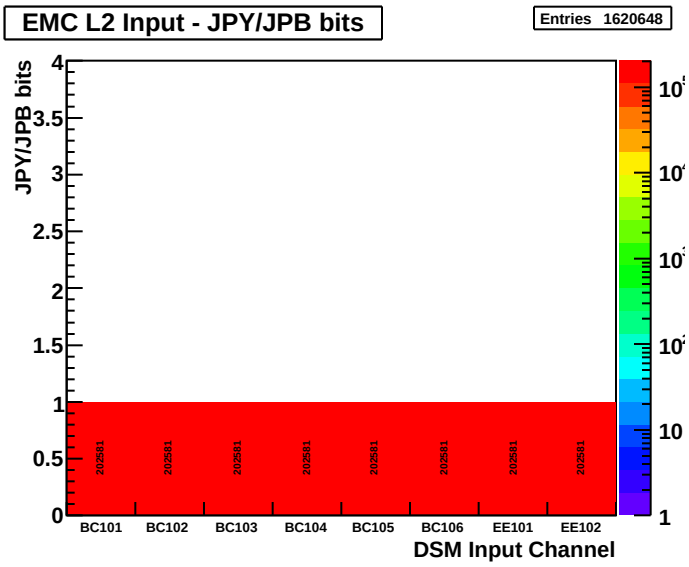

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

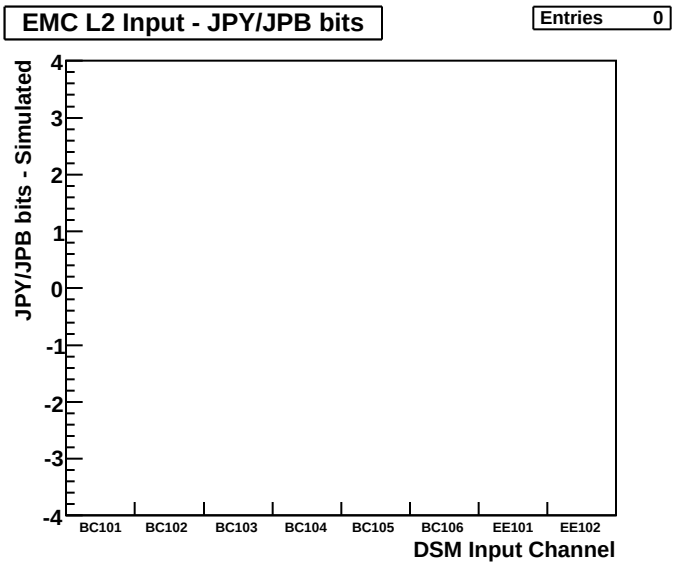

Endcap EMC L1 Input - High Tower Bits
Entries 2430972
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

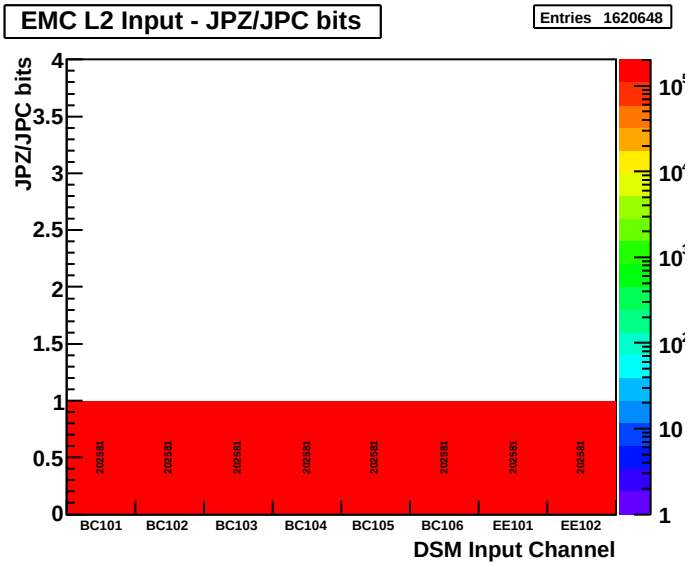

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

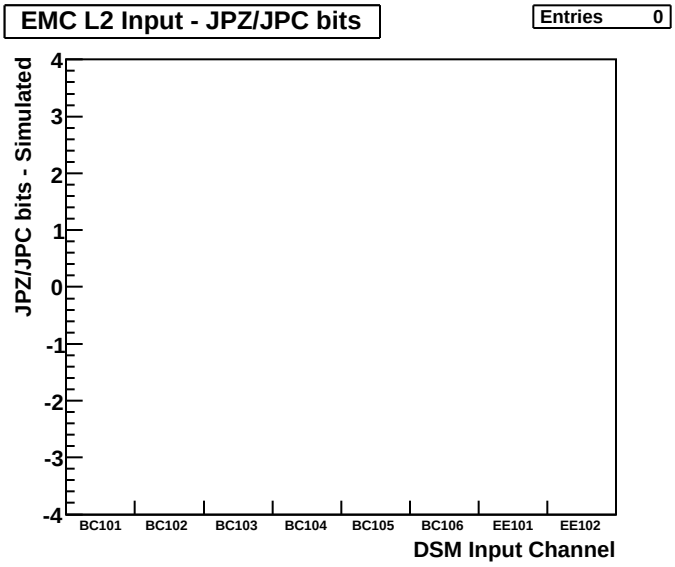

EMC L2 Input - JPX/JPA bits
Entries 1620648
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
202581

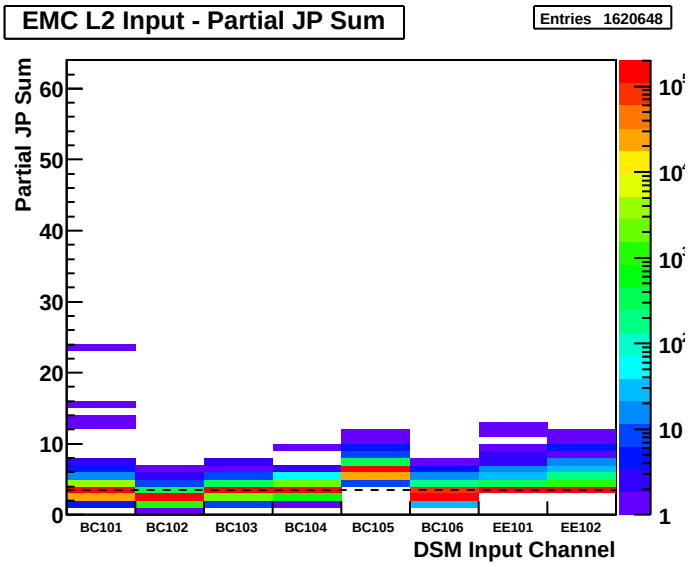

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

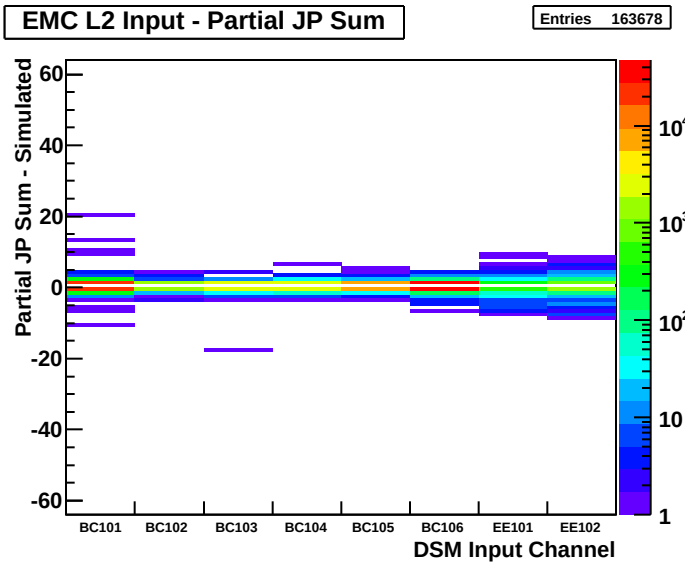

EMC L2 Input - JPY/JPB bits
Entries 1620648
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
202581

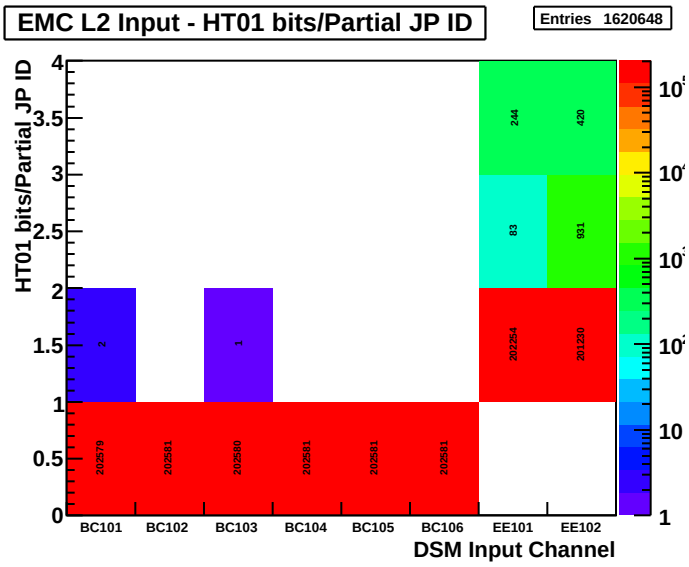

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

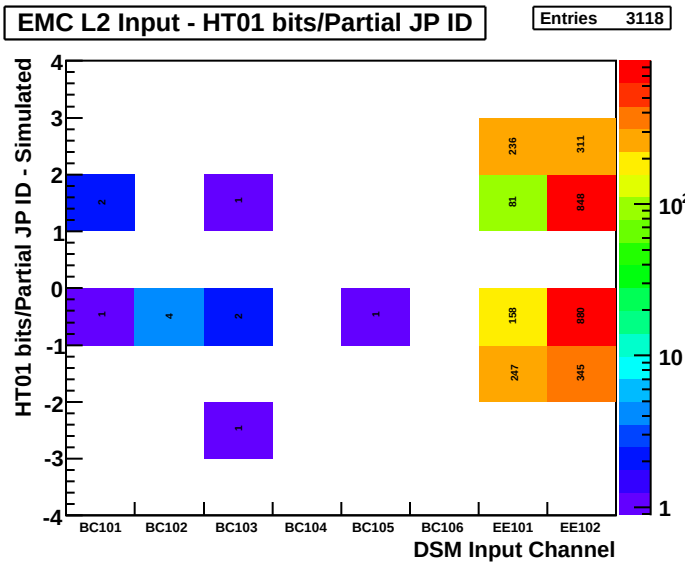

EMC L2 Input - JPZ/JPC bits
Entries 1620648
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
202581

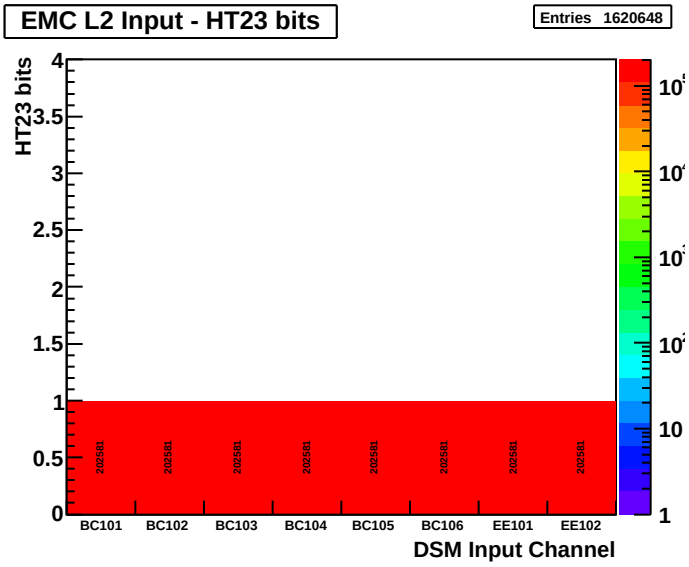

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

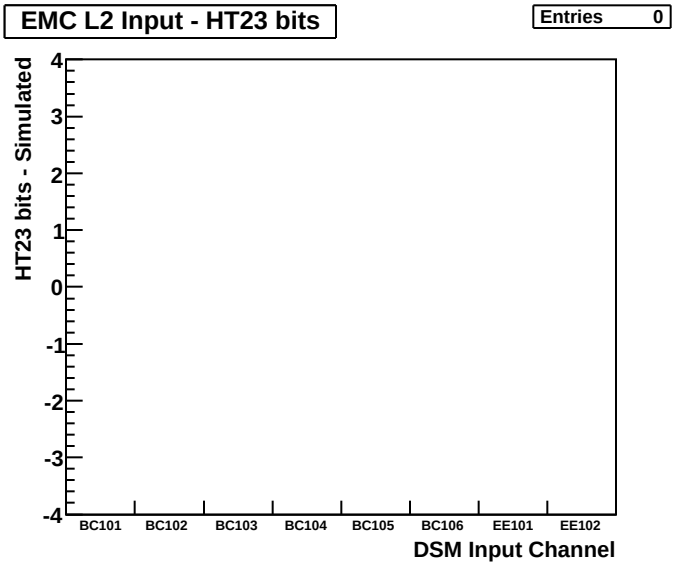

EMC L2 Input - Partial JP Sum
Entries 1620648
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

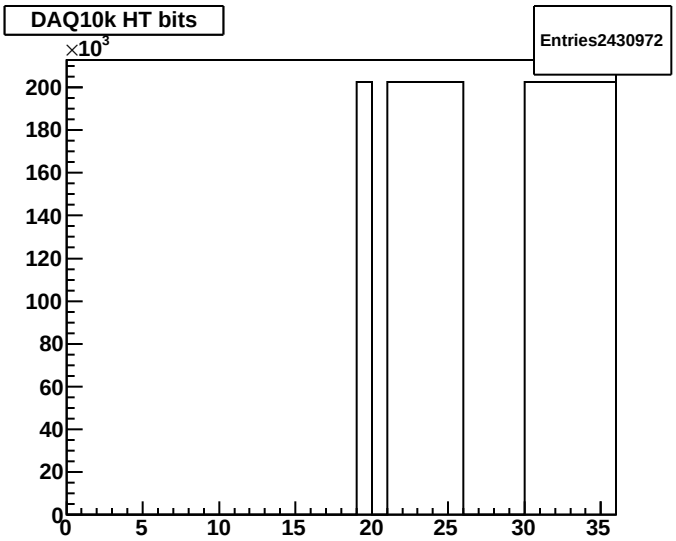

EMC L2 Input - Partial JP Sum
Entries 163678
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

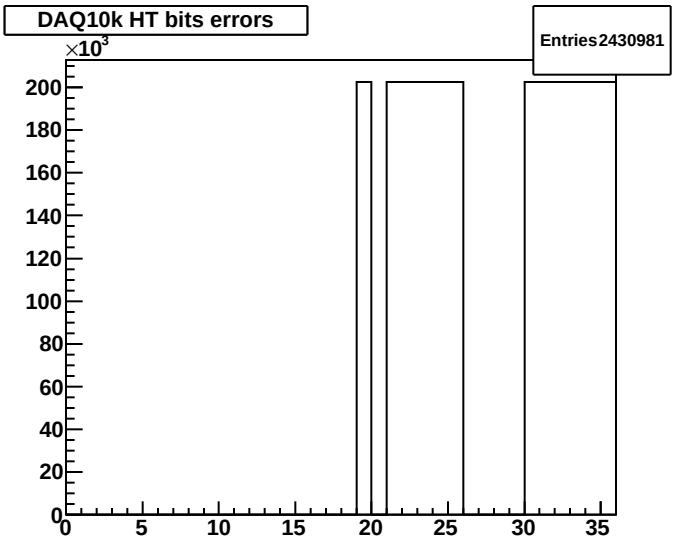

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1620648
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

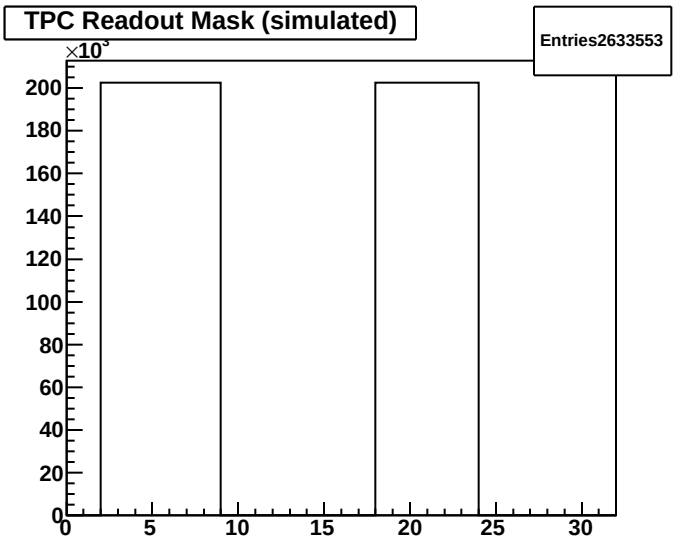

EMC L2 Input - HT01 bits/Partial JP ID
Entries 3118
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

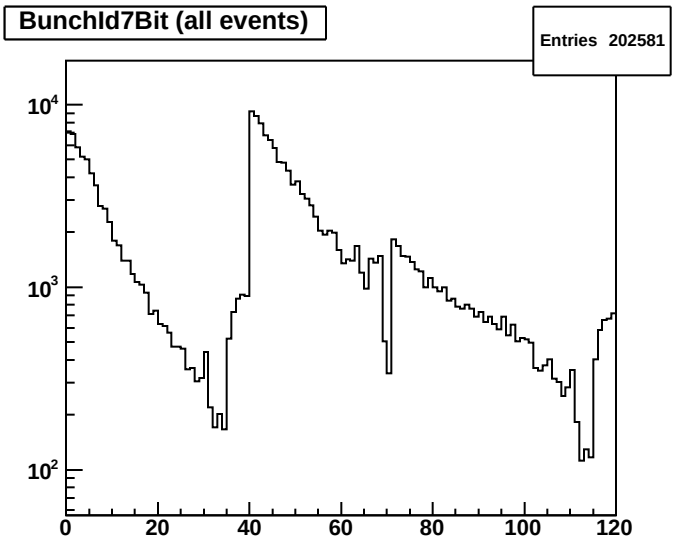

EMC L2 Input - HT23 bits
Entries 1620648
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

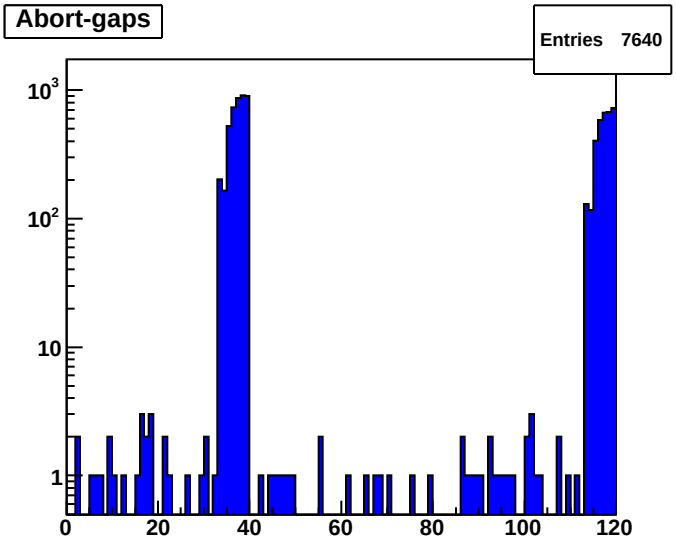

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102


DAQ10k HT bits
Entries2430972
×10^3
200
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

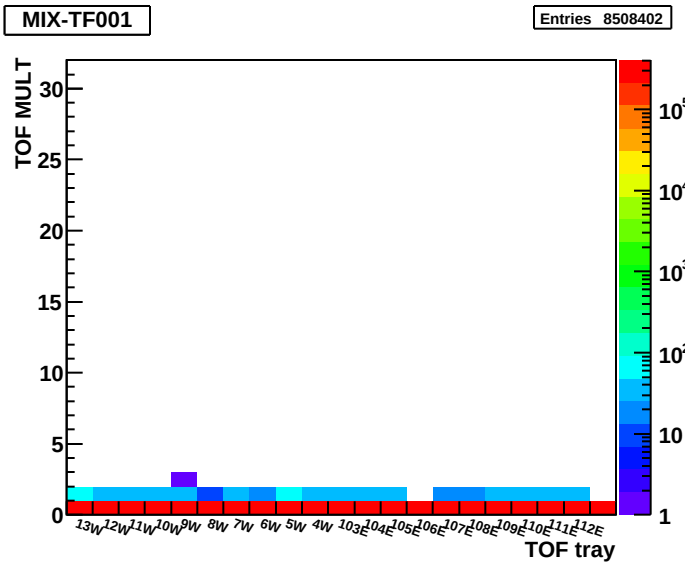

DAQ10k HT bits errors
Entries2430981
×10^3
200
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

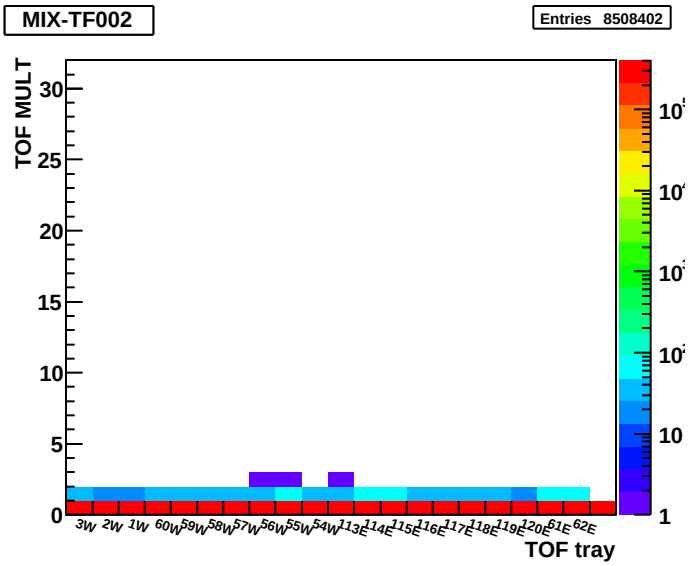

TPC Readout Mask (simulated)
Entries2633553
×10^3
200
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30

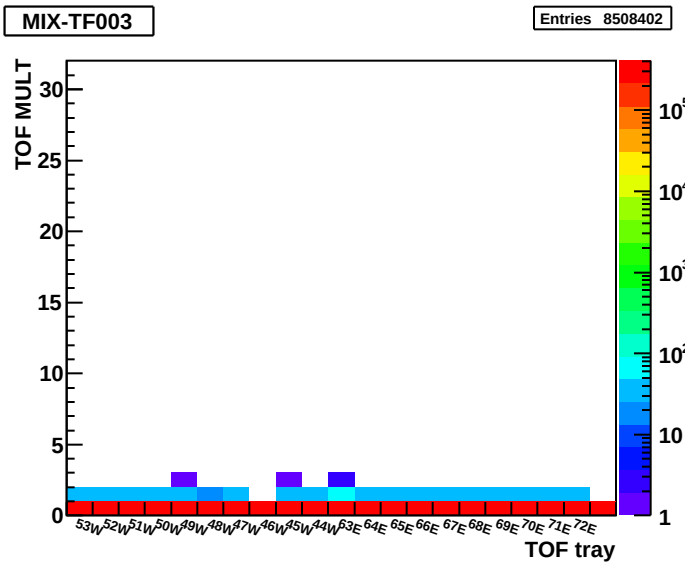

BunchId7Bit (all events)
Entries 202581
10^4
10^3
10^2
0 20 40 60 80 100 120

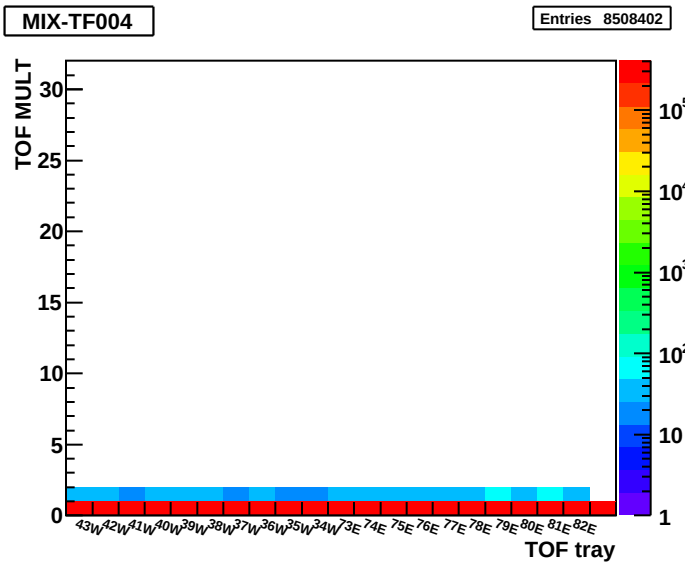

Abort-gaps
Entries 7640
10^3
10^2
10
1
0 20 40 60 80 100 120

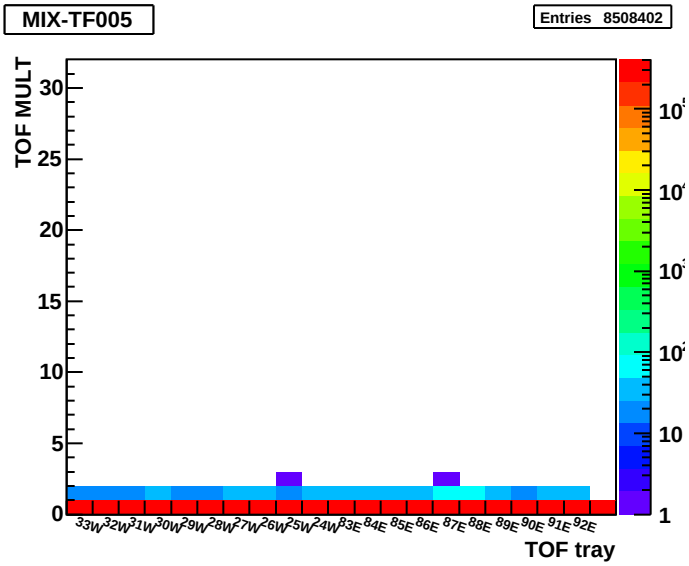
!Yellow-Fill
Entries 202581
10^4
10^3
10^2
0 20 40 60 80 100 120

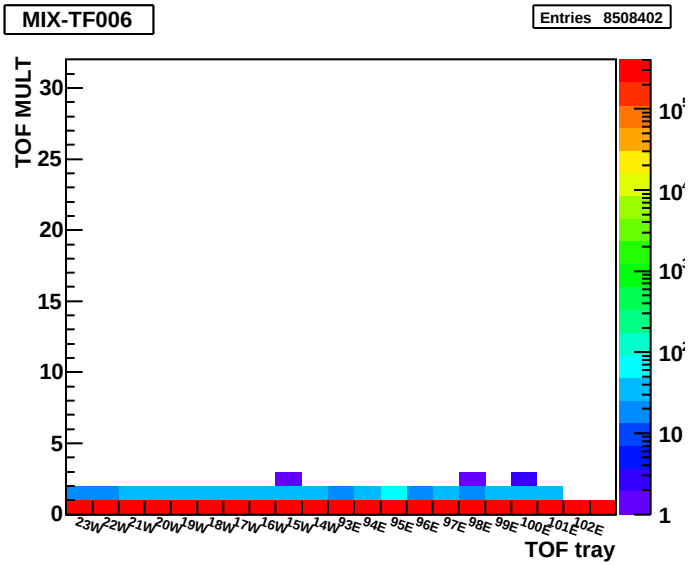

MIX-TF001
Entries 8508402
TOF MULT
TOF tray

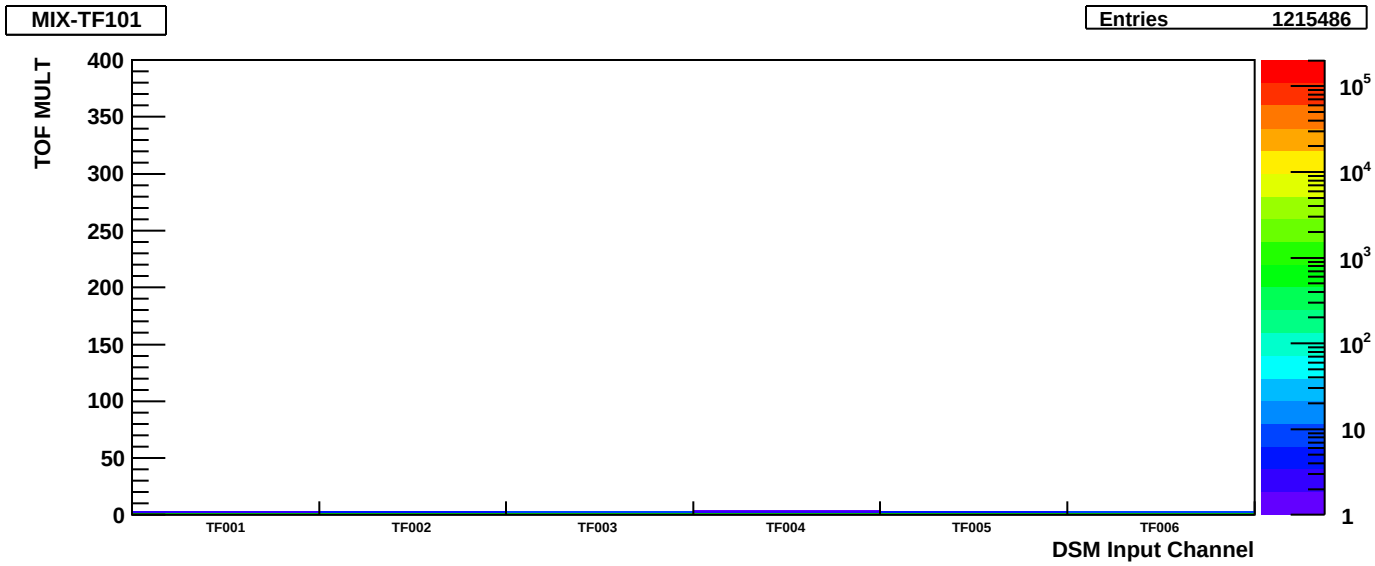

MIX-TF002
Entries 8508402
TOF MULT
TOF tray

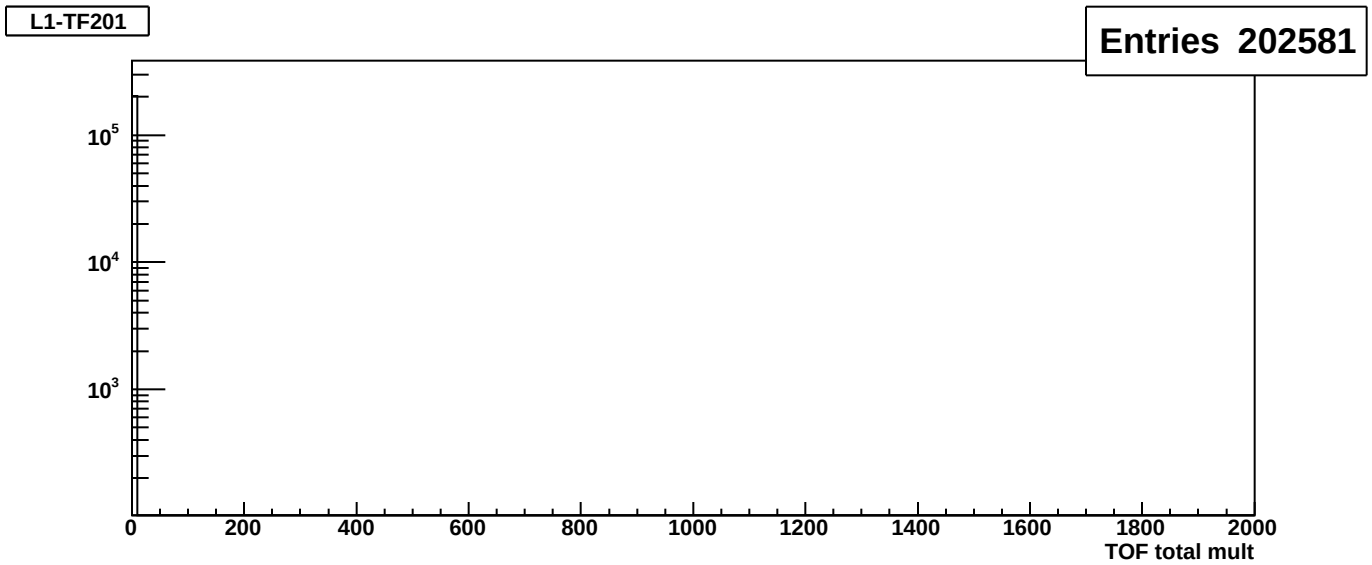

MIX-TF003
Entries 8508402
TOF MULT
TOF tray

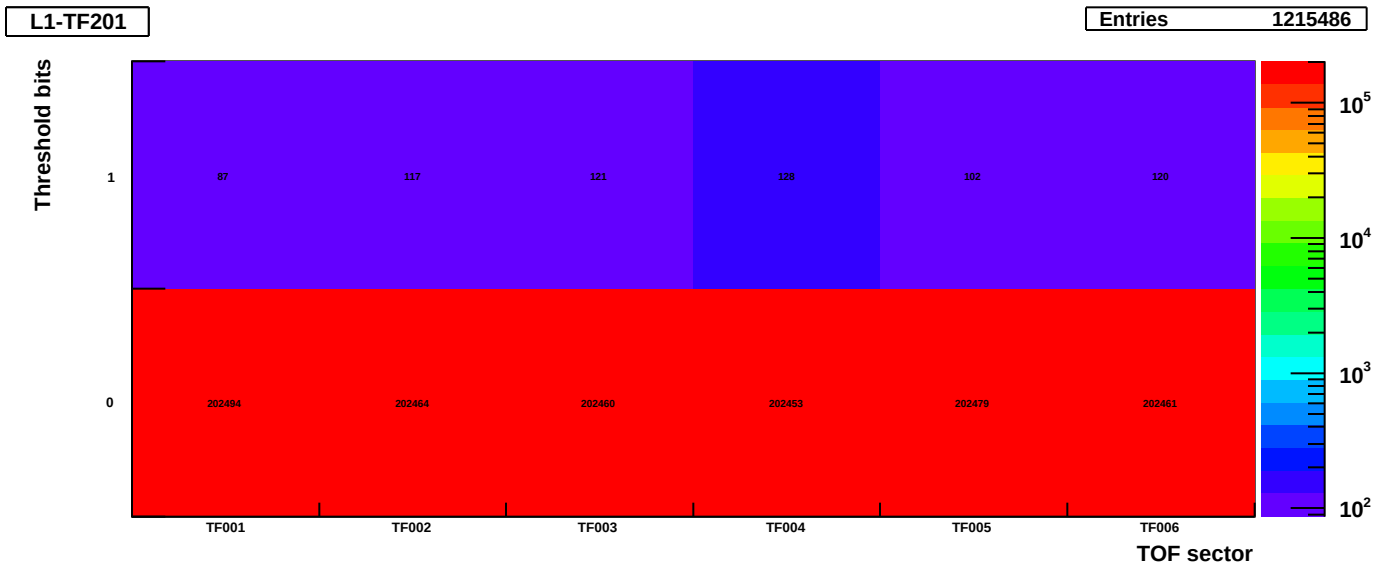

MIX-TF004
Entries 8508402
TOF MULT
TOF tray

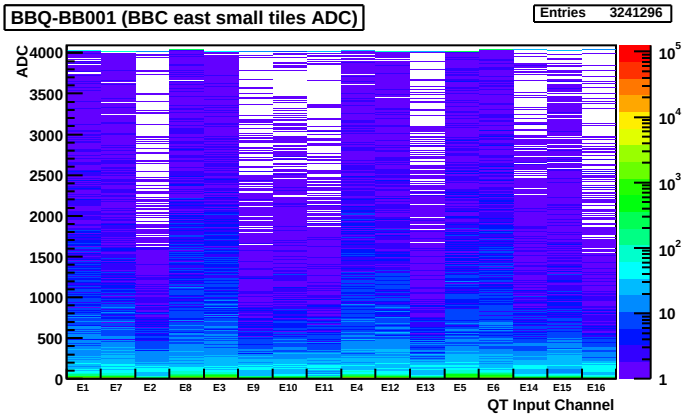

MIX-TF005
Entries 8508402
TOF MULT
TOF tray

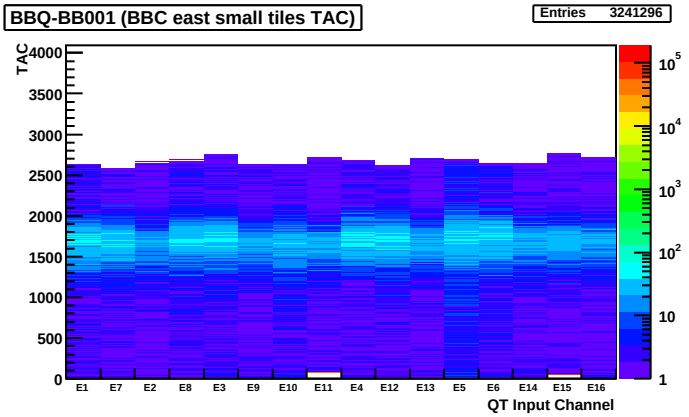

MIX-TF006
Entries 8508402
TOF MULT
TOF tray

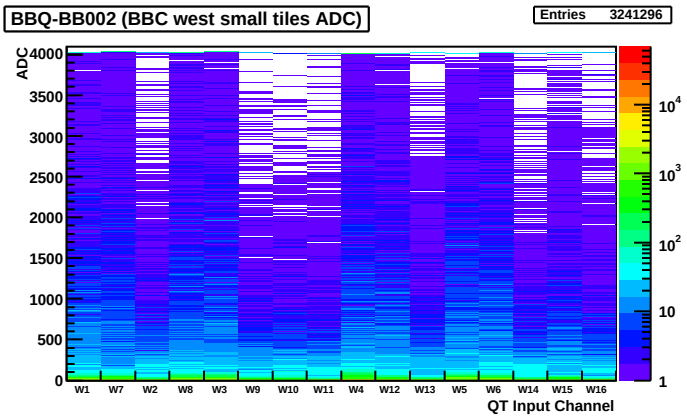

MIX-TF101
Entries 1215486
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

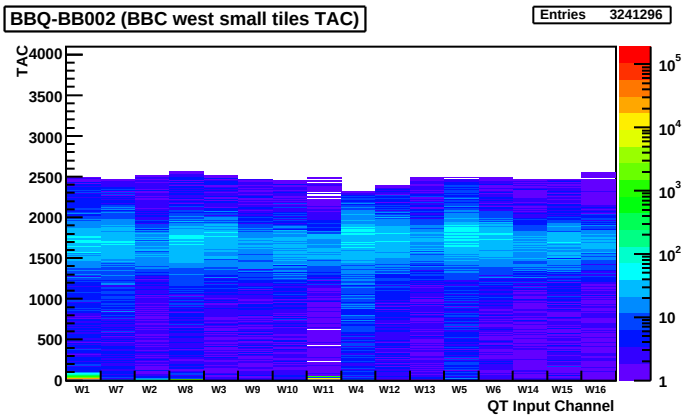

L1-TF201
Entries 202581
10^5
10^4
10^3
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

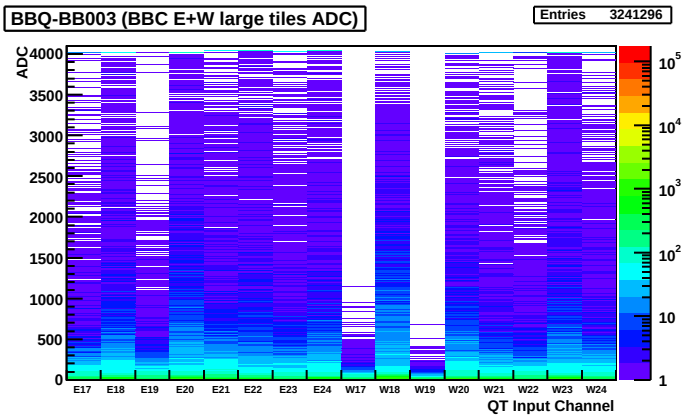

L1-TF201
Entries 1215486
Threshold bits
1
0
87
117
121
128
102
120
202494
202464
202460
202453
202479
202461
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5
10^4
10^3
10^2

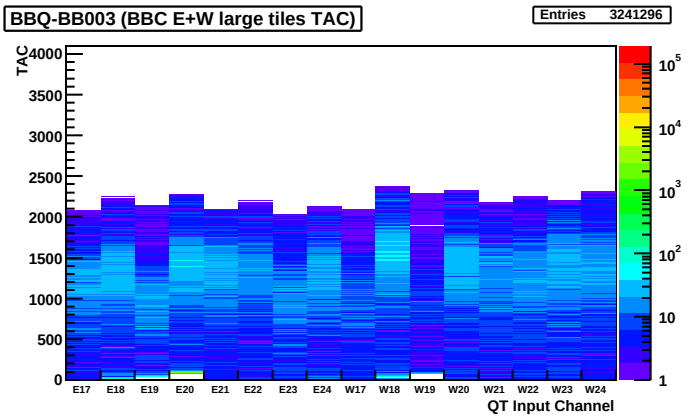

BBQ-BB001 (BBC east small tiles ADC)
Entries 3241296
ADC
QT Input Channel

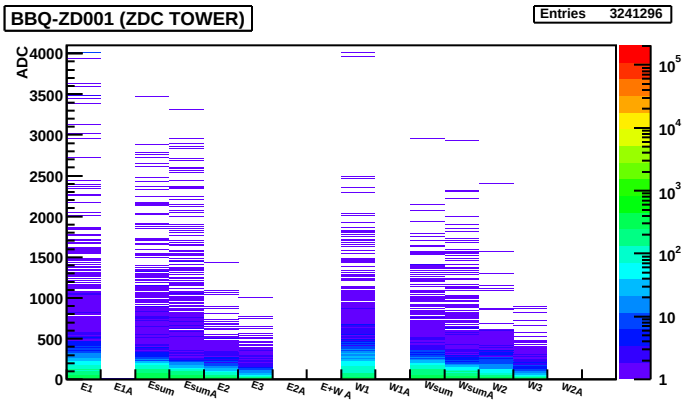

BBQ-BB001 (BBC east small tiles TAC)
Entries 3241296
TAC
QT Input Channel

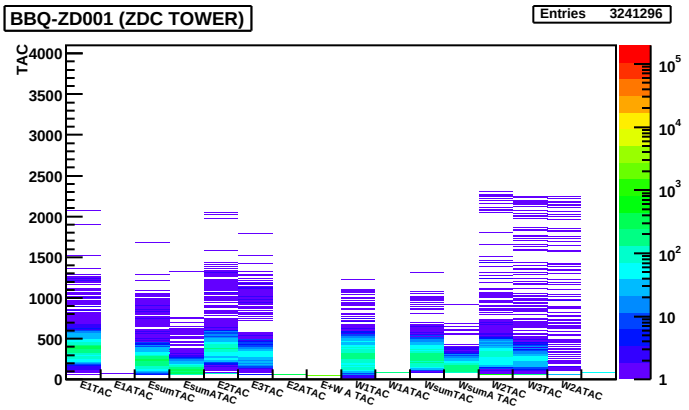

BBQ-BB002 (BBC west small tiles ADC)
Entries 3241296
ADC
QT Input Channel

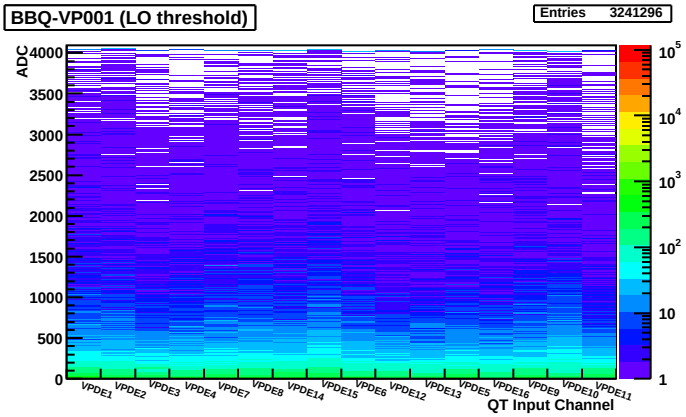

BBQ-BB002 (BBC west small tiles TAC)
Entries 3241296
TAC
QT Input Channel

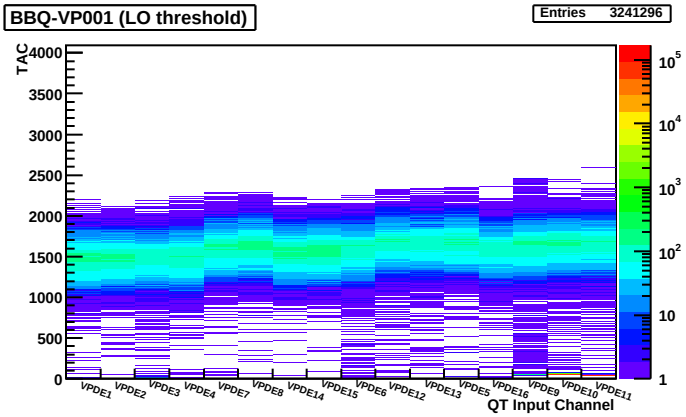

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 3241296
ADC
QT Input Channel

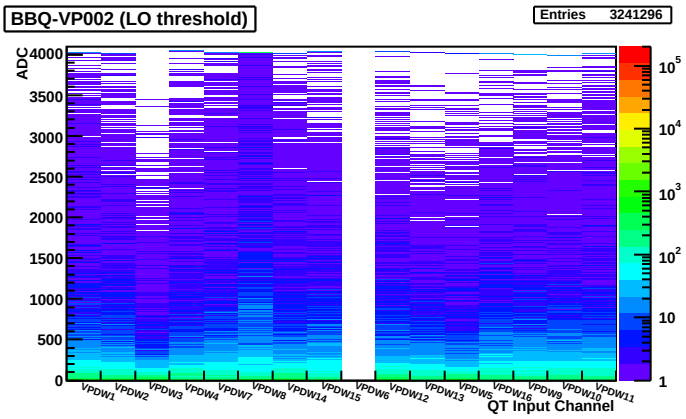

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 3241296
TAC
QT Input Channel

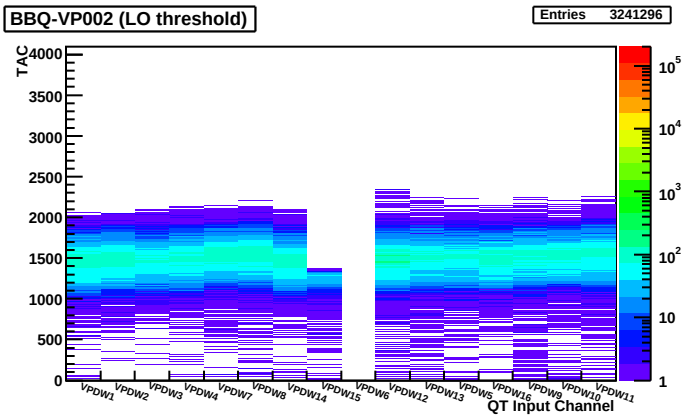

BBQ-ZD001 (ZDC TOWER)
Entries 3241296
ADC

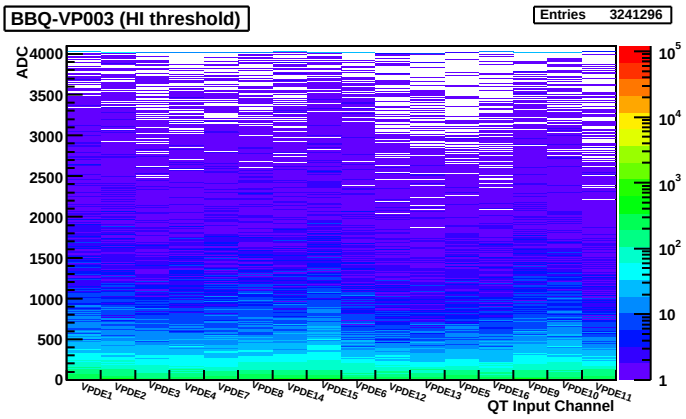

BBQ-ZD001 (ZDC TOWER)
Entries 3241296
TAC

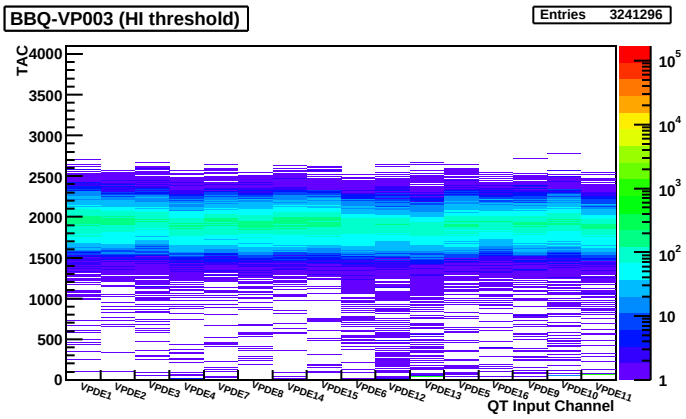

BBQ-VP001 (LO threshold)
Entries 3241296
ADC
QT Input Channel

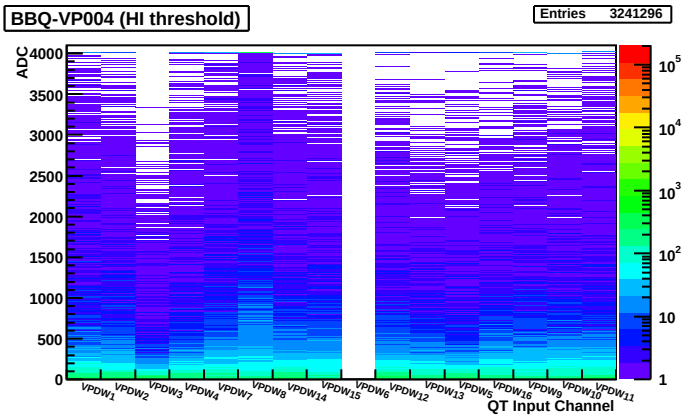

BBQ-VP001 (LO threshold)
Entries 3241296
TAC
QT Input Channel

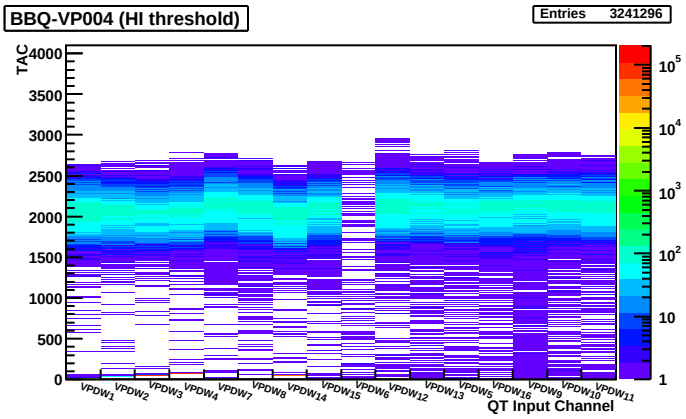

BBQ-VP002 (LO threshold)
Entries 3241296
ADC
QT Input Channel

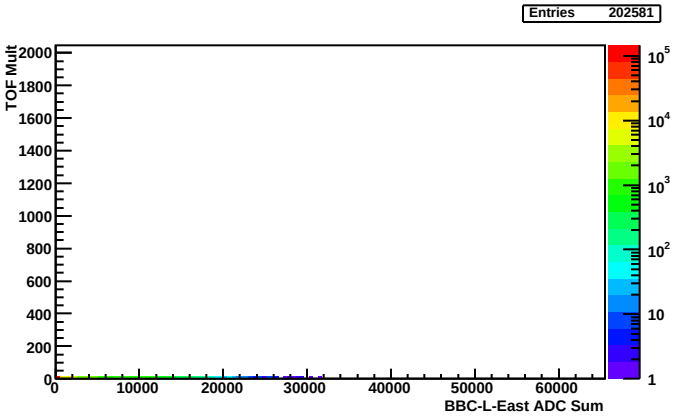

BBQ-VP002 (LO threshold)
Entries 3241296
TAC
QT Input Channel

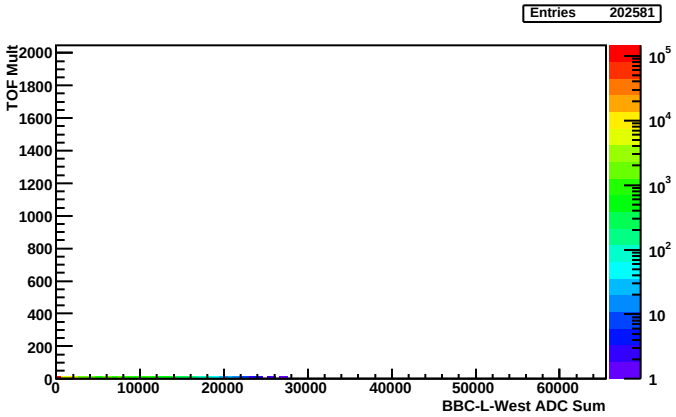

BBQ-VP003 (HI threshold)
Entries 3241296
ADC
QT Input Channel

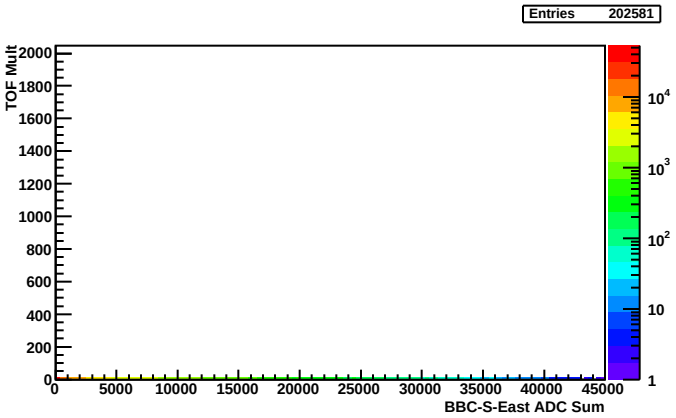

BBQ-VP003 (HI threshold)
Entries 3241296
TAC
QT Input Channel

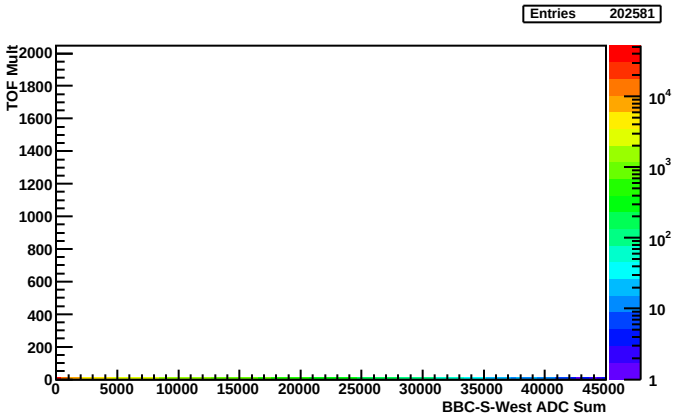

BBQ-VP004 (HI threshold)
Entries 3241296
ADC
QT Input Channel

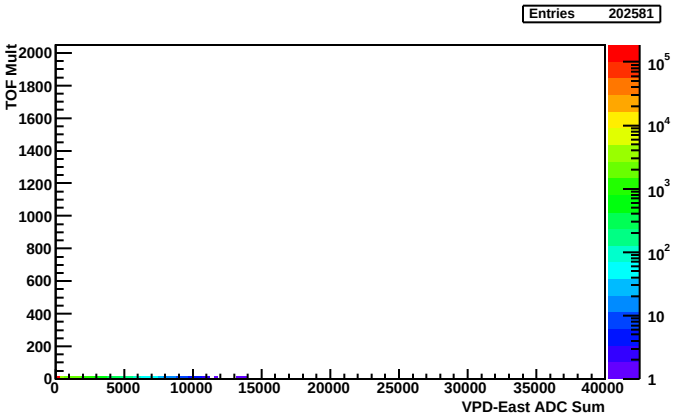

BBQ-VP004 (HI threshold)
Entries 3241296
TAC
QT Input Channel

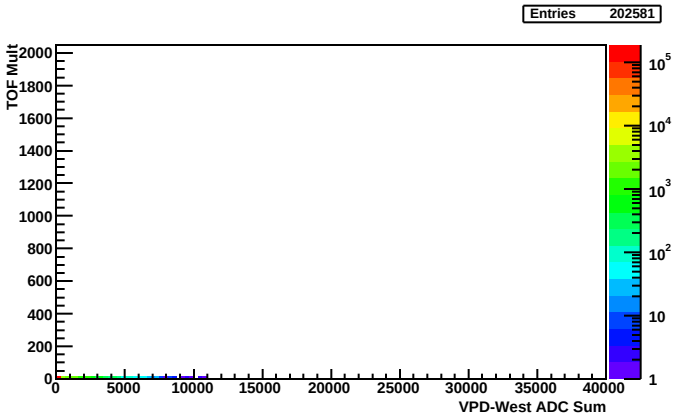

Entries 202581
TOF Mult
BBC-L-East ADC Sum

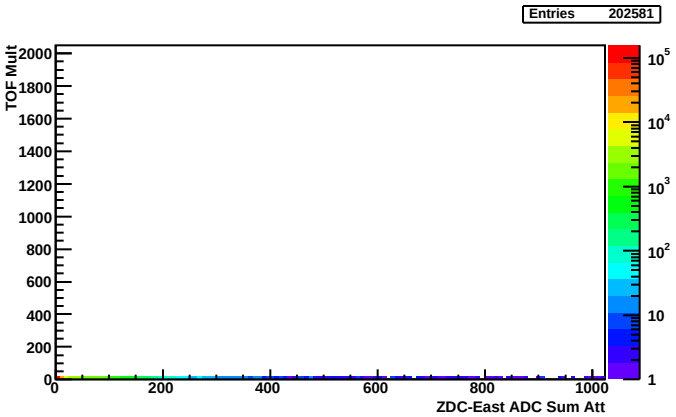

Entries 202581
TOF Mult
BBC-L-West ADC Sum

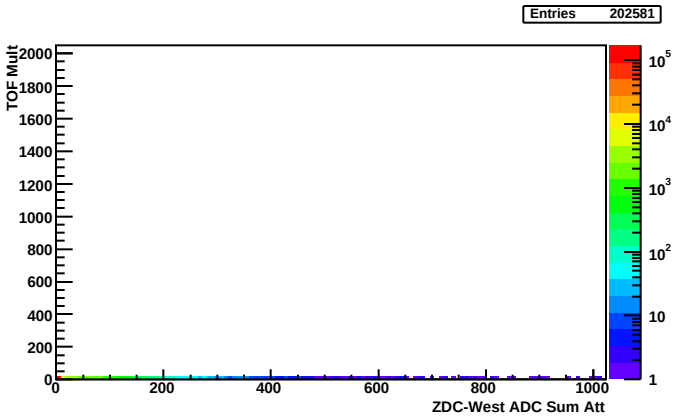

Entries 202581
TOF Mult
BBC-S-East ADC Sum

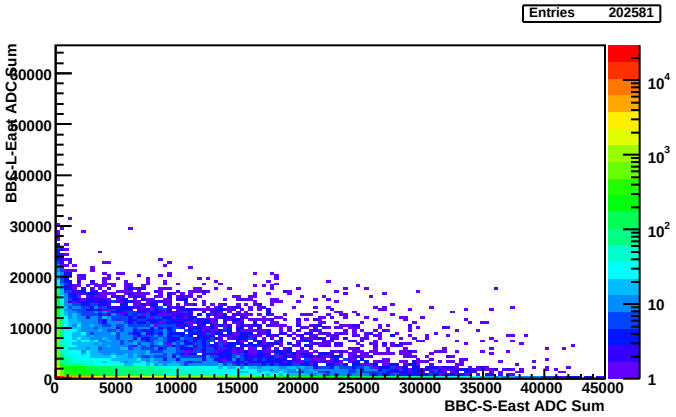

Entries 202581
TOF Mult
BBC-S-West ADC Sum

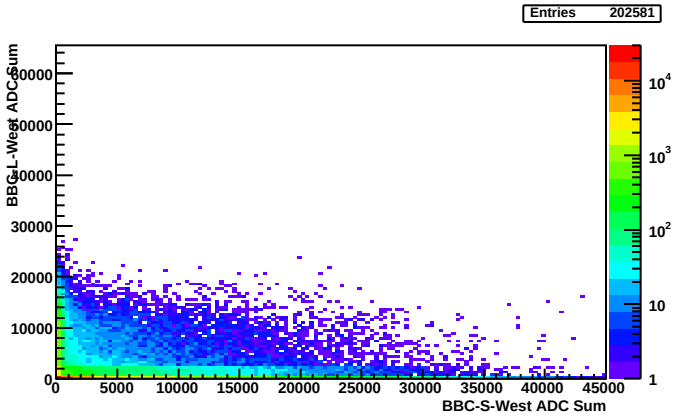

Entries 202581
TOF Mult
VPD-East ADC Sum

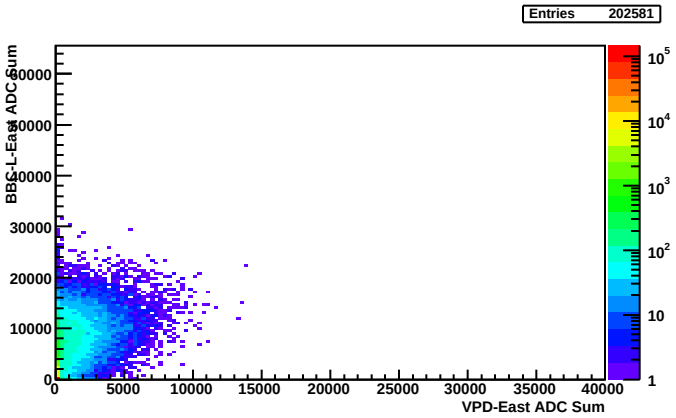

Entries 202581
TOF Mult
VPD-West ADC Sum

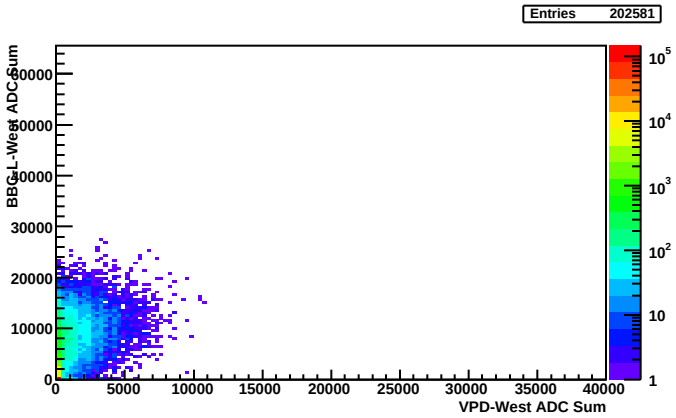

Entries 202581
TOF Mult
ZDC-East ADC Sum Att

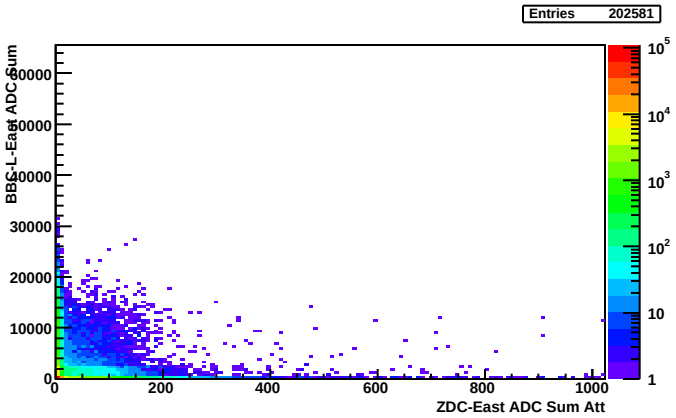

Entries 202581
TOF Mult
ZDC-West ADC Sum Att

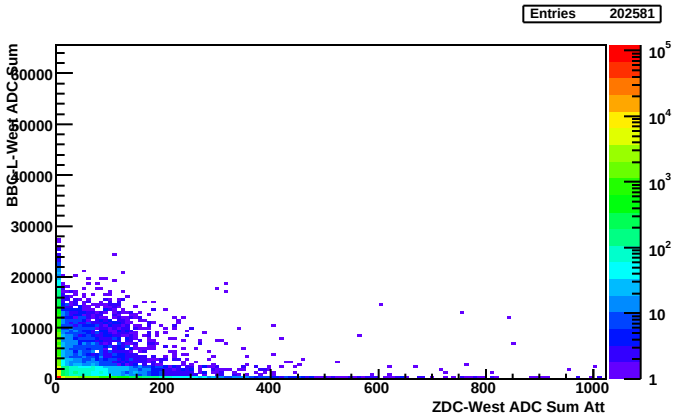

Entries 202581
BBC-L-East ADC Sum
BBC-S-East ADC Sum

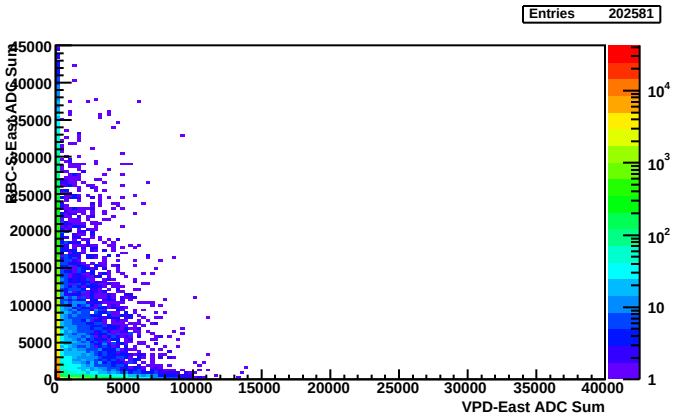

Entries 202581
BBC-L-West ADC Sum
BBC-S-West ADC Sum

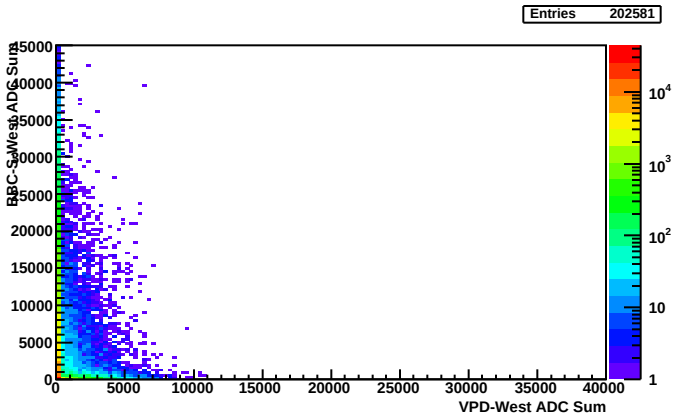

Entries 202581
BBC-L-East ADC Sum
VPD-East ADC Sum

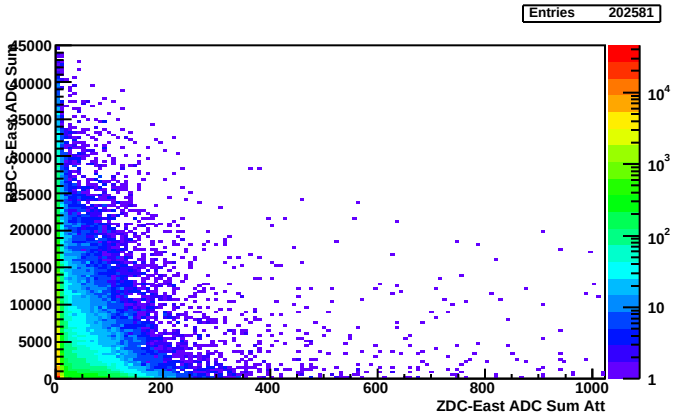

Entries 202581
BBC-L-West ADC Sum
VPD-West ADC Sum

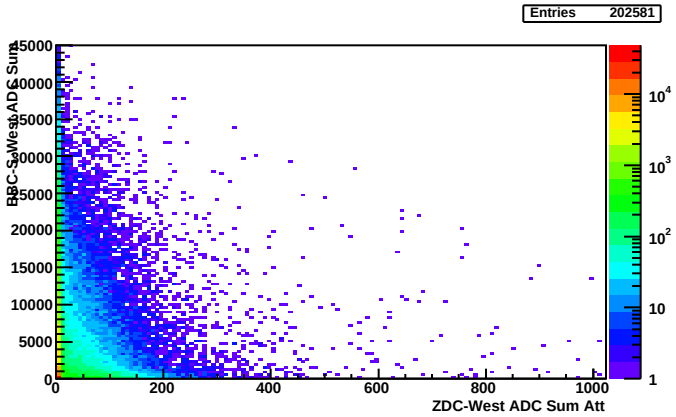

Entries 202581
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

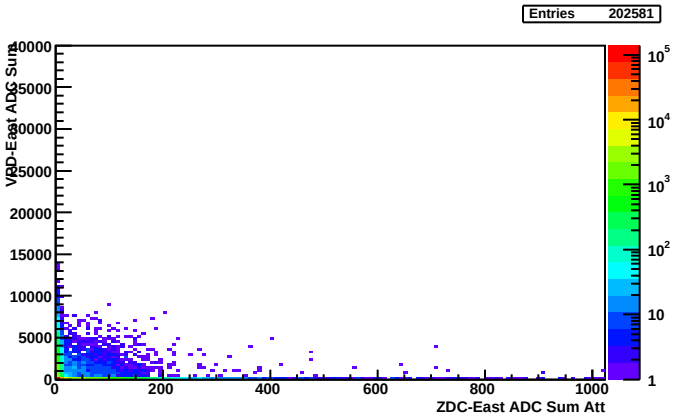

Entries 202581
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

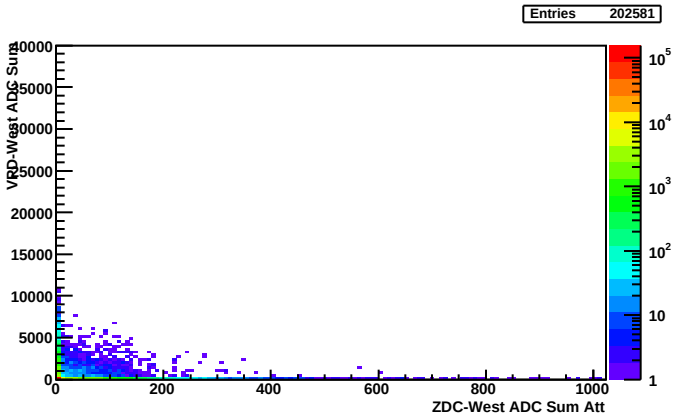

Entries 202581
BBC-S-East ADC Sum
VPD-East ADC Sum

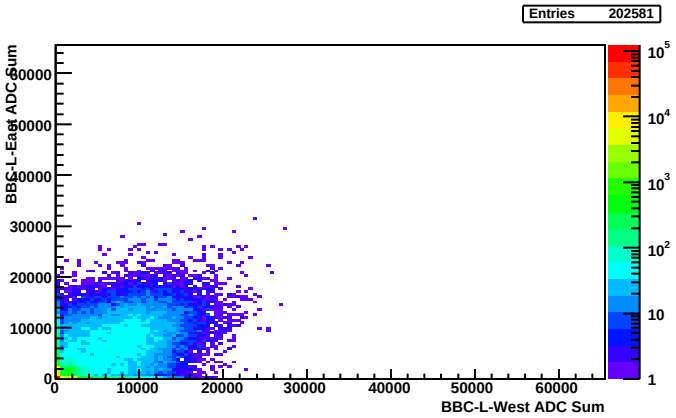

Entries 202581
BBC-S-West ADC Sum
VPD-West ADC Sum

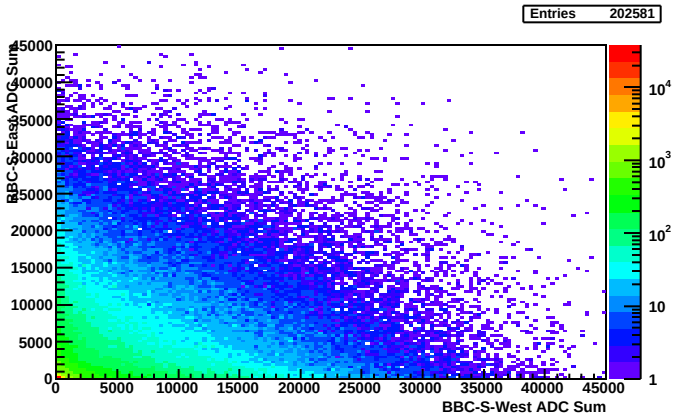

Entries 202581
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

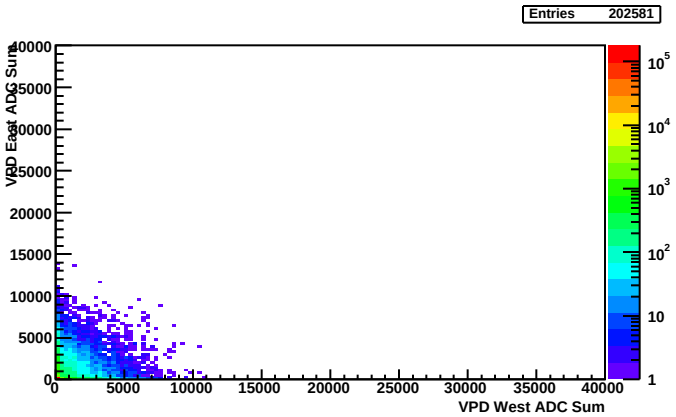

Entries 202581
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

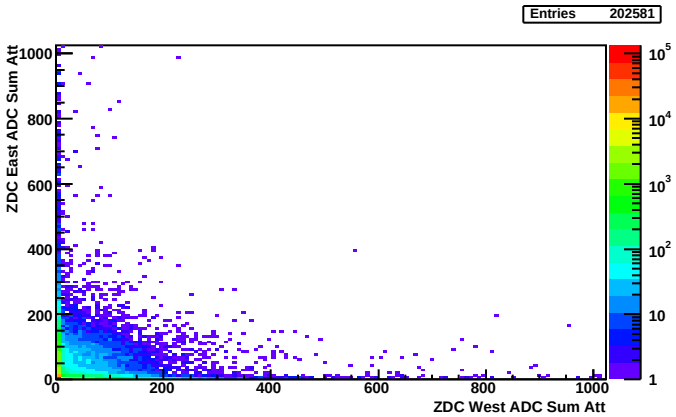

Entries 202581
VPD-East ADC Sum
ZDC-East ADC Sum Att

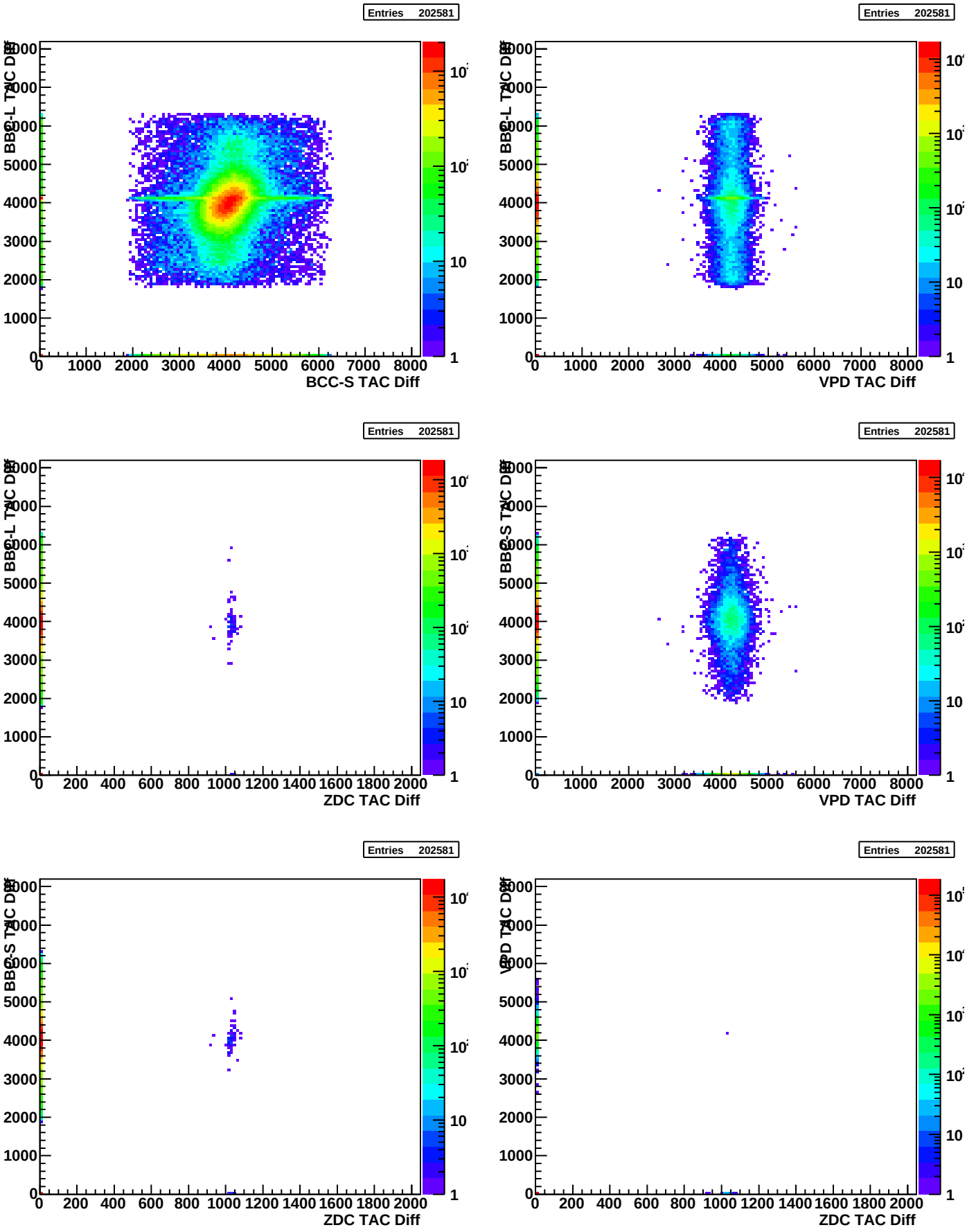

Entries 202581
VPD-West ADC Sum
ZDC-West ADC Sum Att

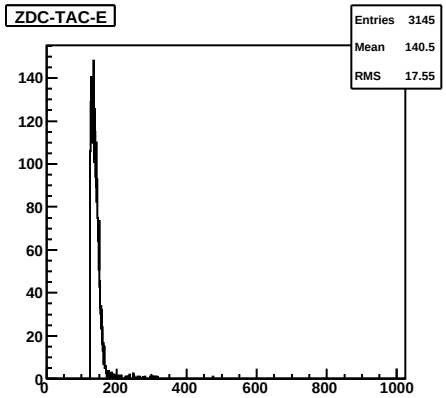

Entries 202581
BBC-L-East ADC Sum
BBC-L-West ADC Sum

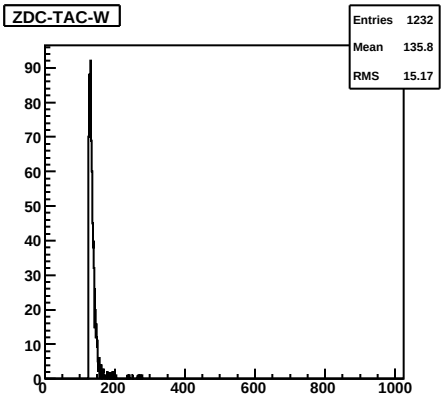

Entries 202581
BBC-S-East ADC Sum
BBC-S-West ADC Sum

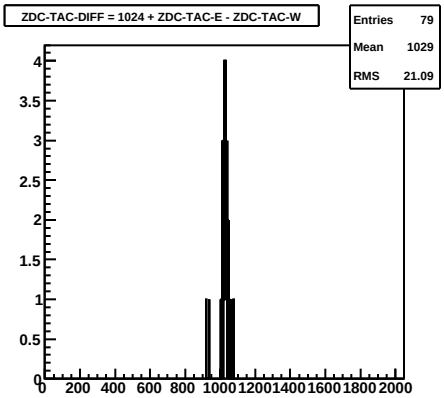

Entries 202581
VPD East ADC Sum
VPD West ADC Sum

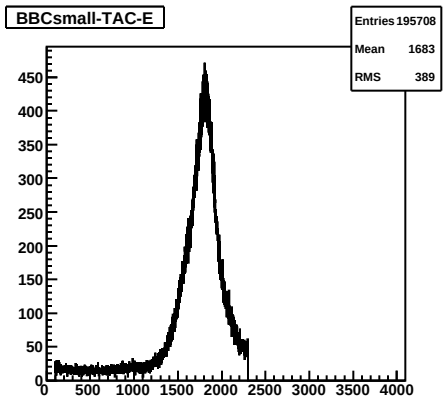

Entries 202581
ZDC East ADC Sum Att
ZDC West ADC Sum Att

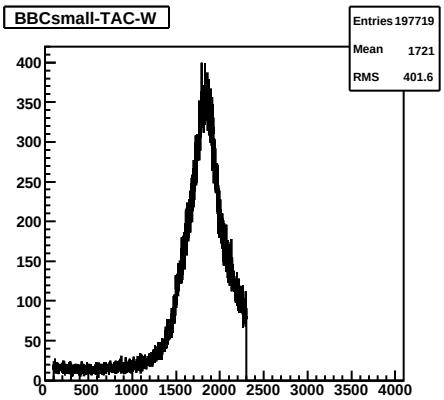

Entries 202581
BBC-L TAC Diff
BCC-S TAC Diff
Entries 202581
BBC-L TAC Diff
VPD TAC Diff
Entries 202581
BBC-L TAC Diff
ZDC TAC Diff
Entries 202581
BBC-S TAC Diff
VPD TAC Diff
Entries 202581
BBC-S TAC Diff
ZDC TAC Diff
Entries 202581
VPD TAC Diff
ZDC TAC Diff

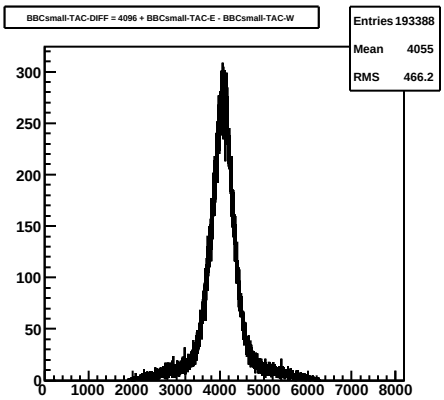

ZDC-TAC-E
Entries 3145
Mean 140.5
RMS 17.55

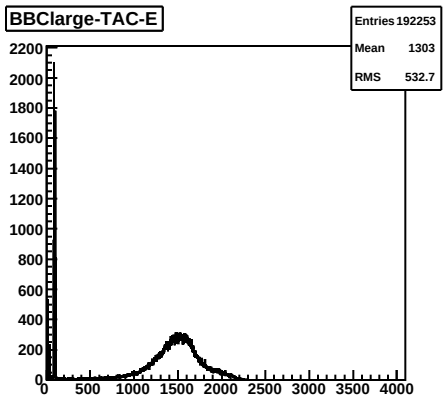

ZDC-TAC-W
Entries 1232
Mean 135.8
RMS 15.17

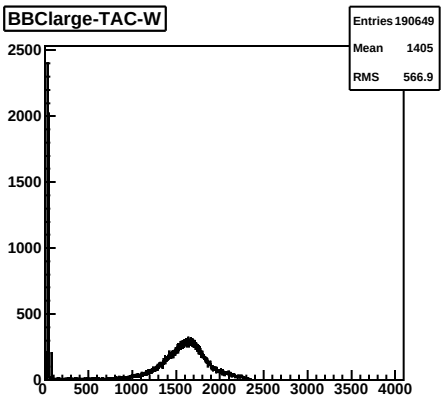

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 79
Mean 1029
RMS 21.09

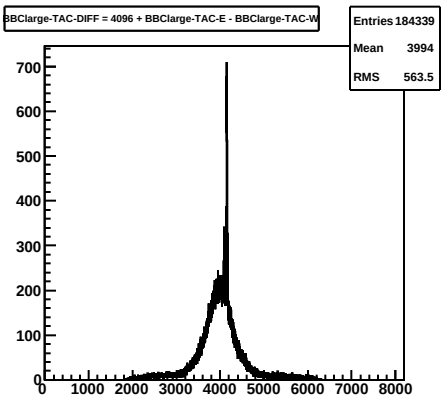

BBCsmall-TAC-E
Entries 195708
Mean 1683
RMS 389

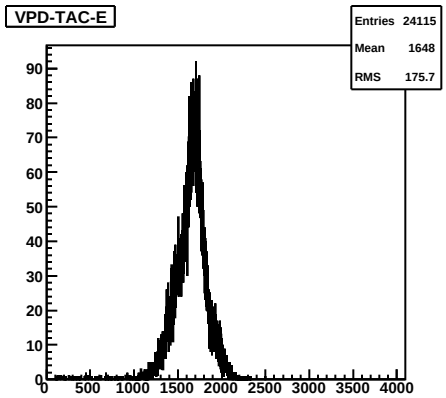

BBCsmall-TAC-W
Entries 197719
Mean 1721
RMS 401.6

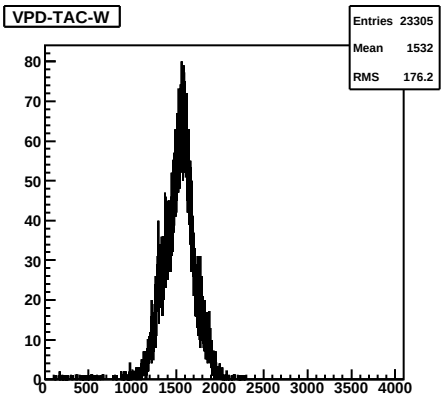

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 193388
Mean 4055
RMS 466.2

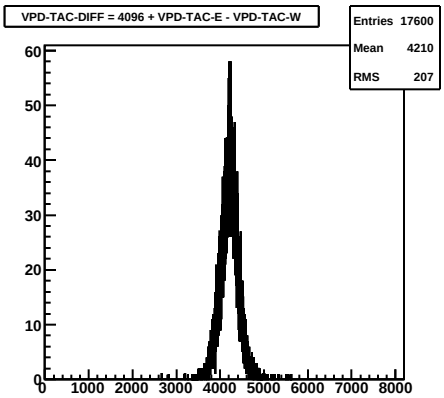

BBClarge-TAC-E
Entries 192253
Mean 1303
RMS 532.7

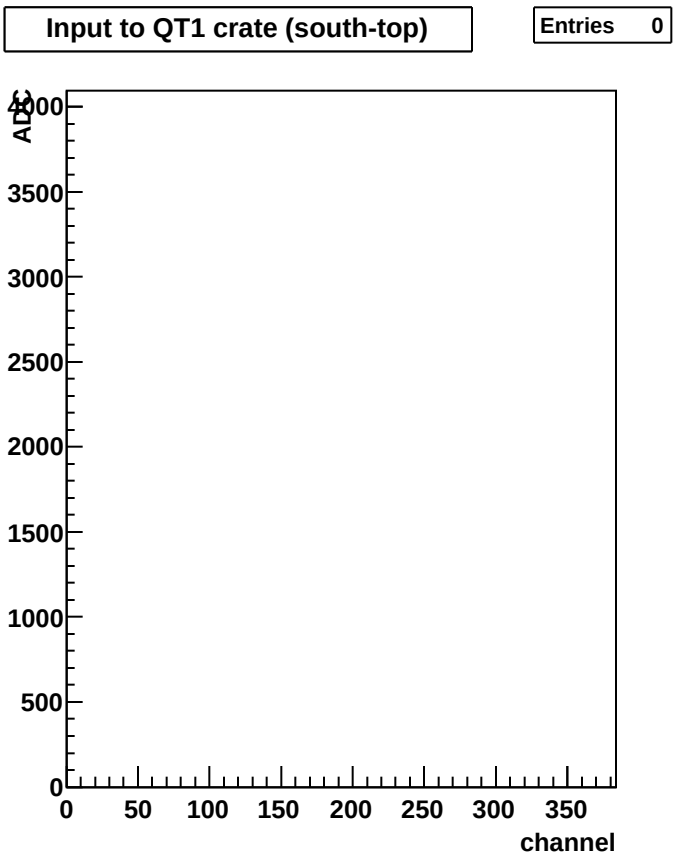

BBClarge-TAC-W
Entries 190649
Mean 1405
RMS 566.9

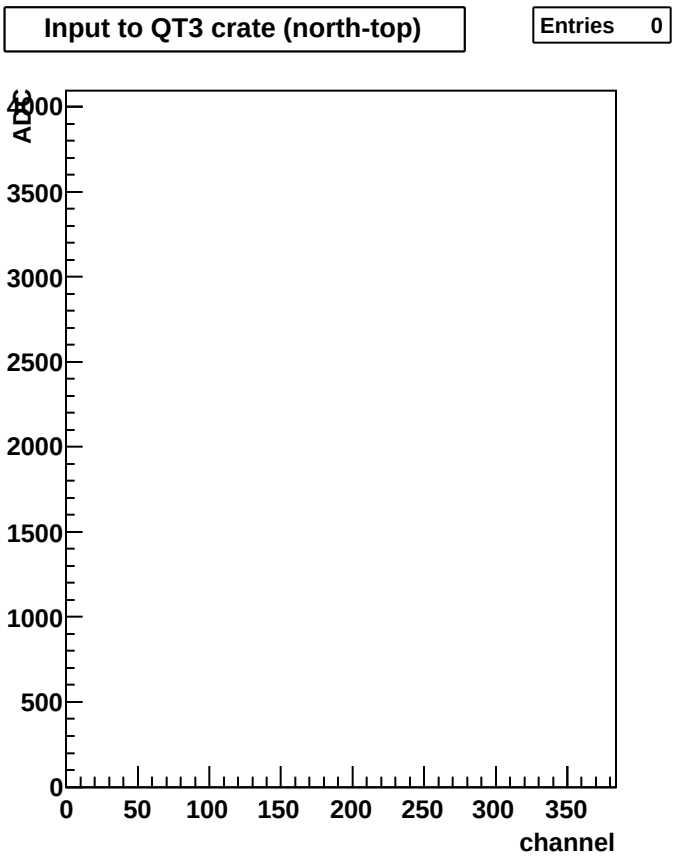

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 184339
Mean 3994
RMS 563.5

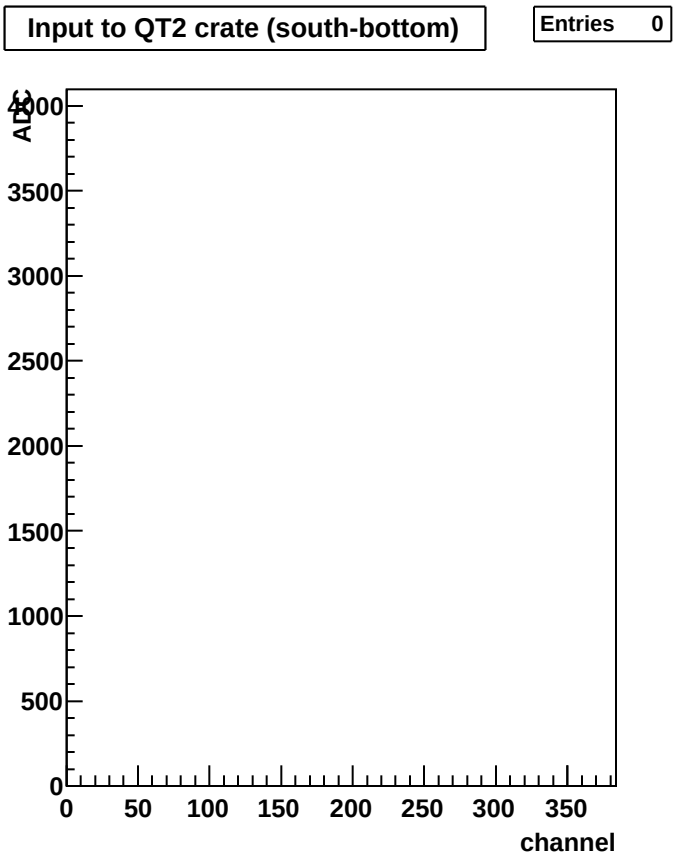

VPD-TAC-E
Entries 24115
Mean 1648
RMS 175.7

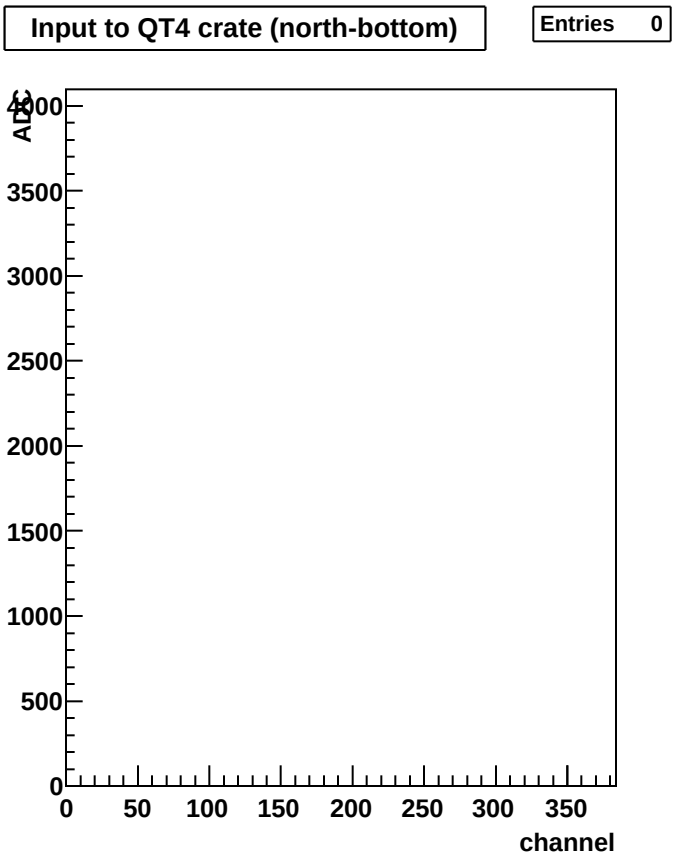

VPD-TAC-W
Entries 23305
Mean 1532
RMS 176.2

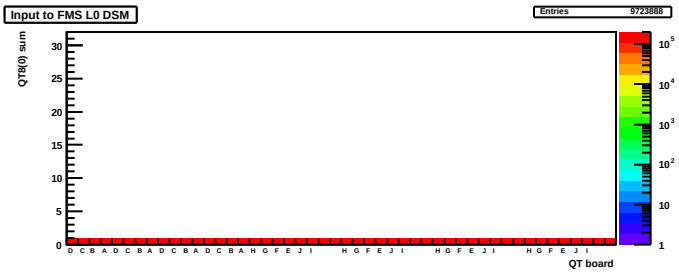

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 17600
Mean 4210
RMS 207

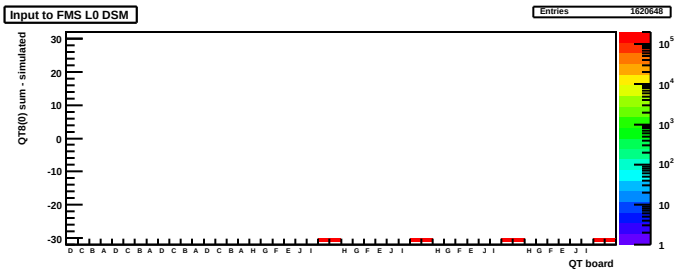

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

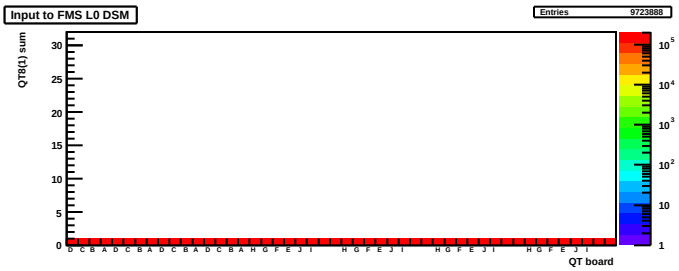

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

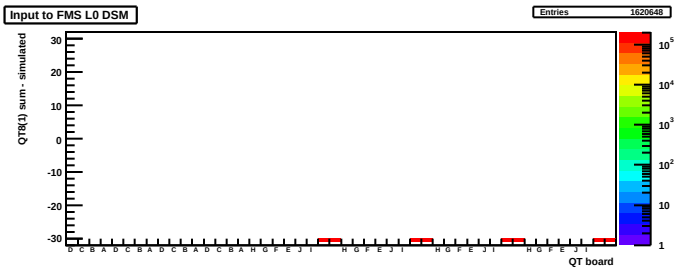

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

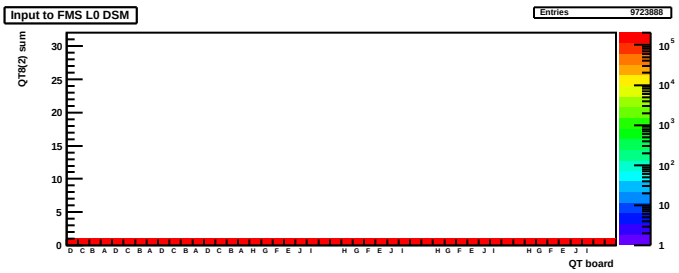

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

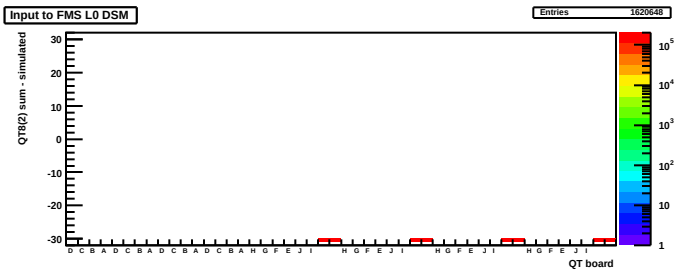

Input to FMS L0 DSM
Entries 9723888
QT8(0) sum
QT board

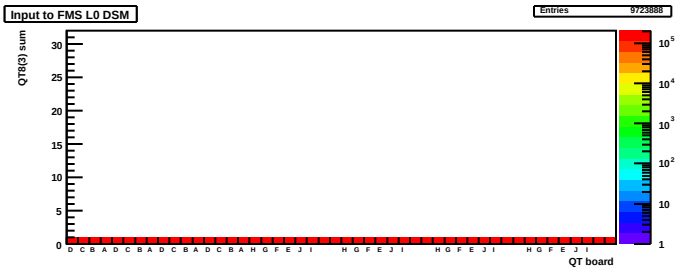

Input to FMS L0 DSM
Entries 1620648
QT8(0) sum - simulated
QT board

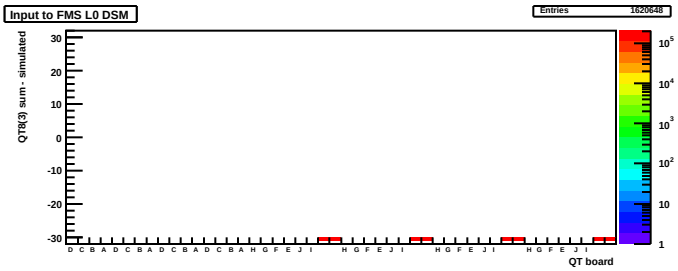

Input to FMS L0 DSM
Entries 9723888
QT8(1) sum
QT board

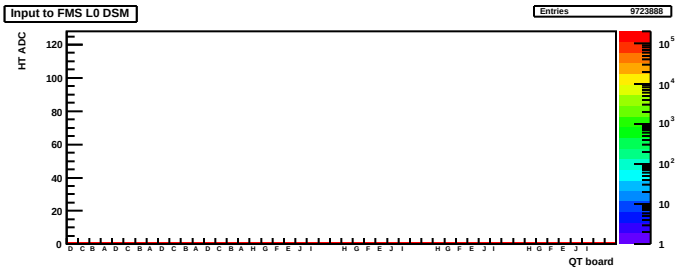

Input to FMS L0 DSM
Entries 1620648
QT8(1) sum - simulated
QT board

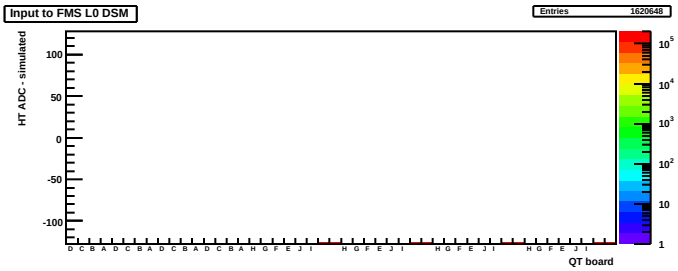

Input to FMS L0 DSM
Entries 9723888
QT8(2) sum
QT board

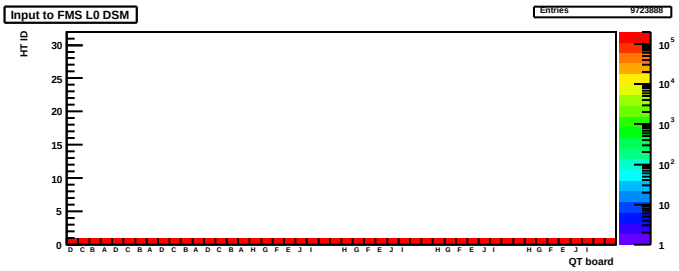

Input to FMS L0 DSM
Entries 1620648
QT8(2) sum - simulated
QT board

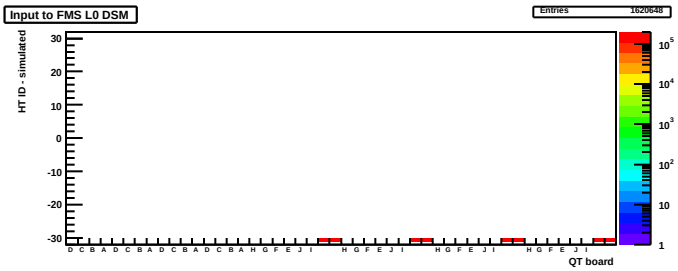

Input to FMS L0 DSM
Entries 9723888
QT8(3) sum
QT board

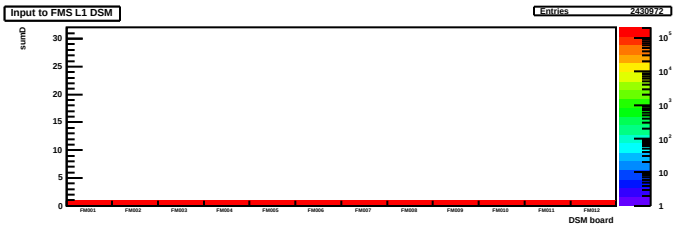

Input to FMS L0 DSM
Entries 1620648
QT8(3) sum - simulated
QT board

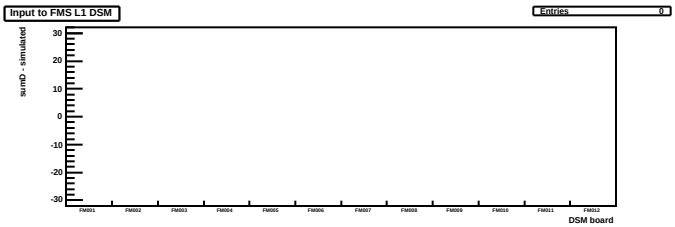

Input to FMS L0 DSM
Entries 9723888
HT ADC
QT board

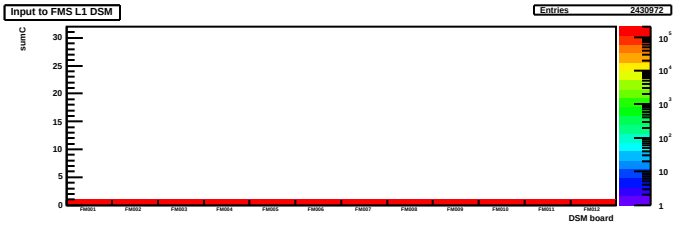

Input to FMS L0 DSM
Entries 1620648
HT ADC - simulated
QT board

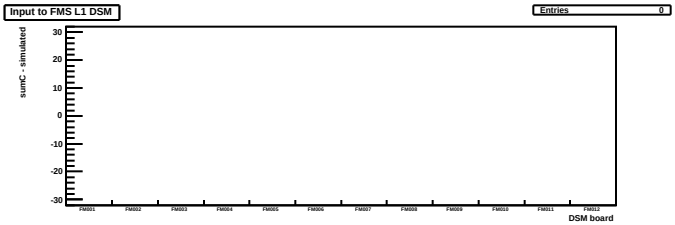

Input to FMS L0 DSM
Entries 9723888
HT ID
QT board

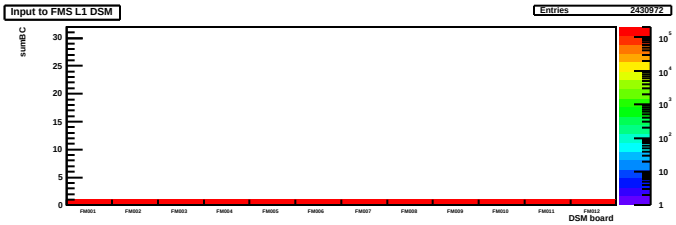

Input to FMS L0 DSM
Entries 1620648
HT ID - simulated
QT board

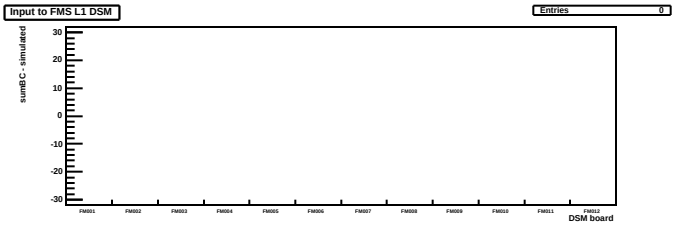

Input to FMS L1 DSM
Entries 2430972
sumD
DSM board

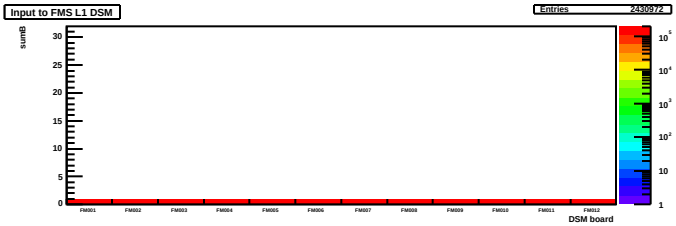

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

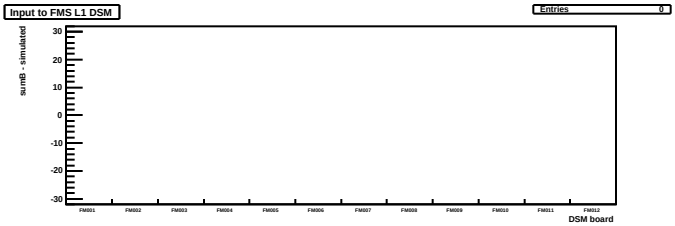

Input to FMS L1 DSM
Entries 2430972
sumC
DSM board

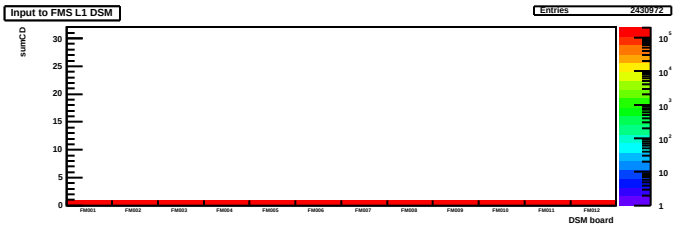

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

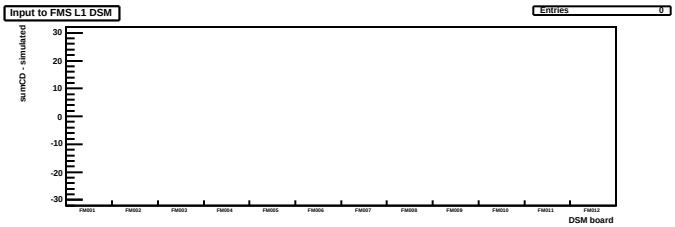

Input to FMS L1 DSM
Entries 2430972
sumBC
DSM board

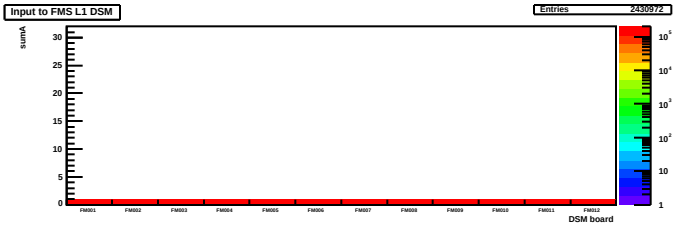

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

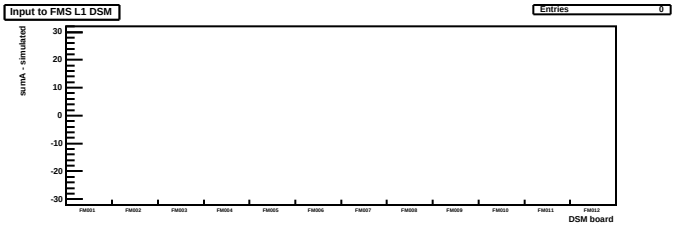

Input to FMS L1 DSM
Entries 2430972
sumB
DSM board

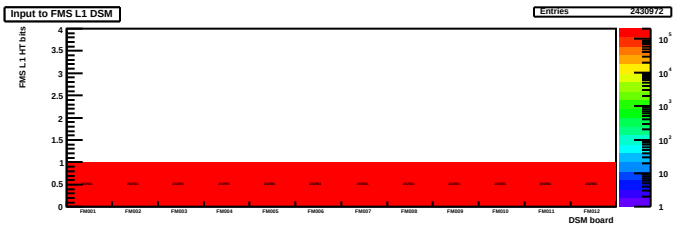

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

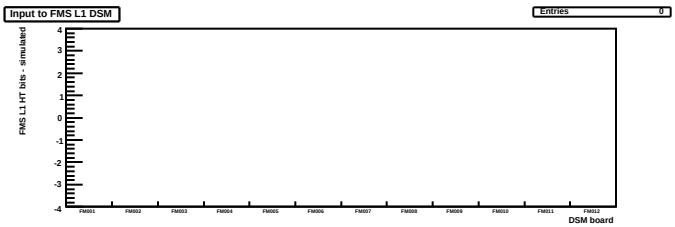

Input to FMS L1 DSM
Entries 2430972
sumCD
DSM board

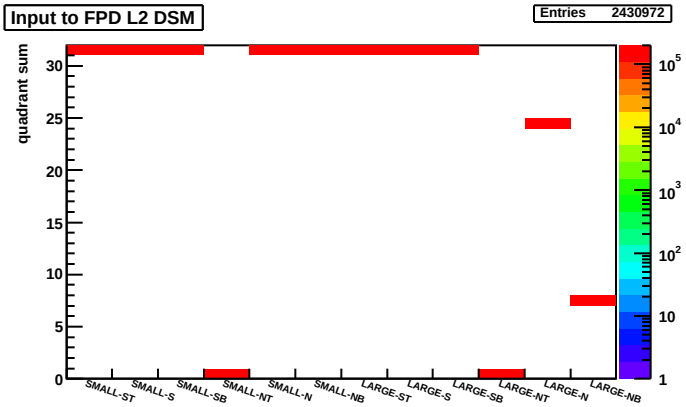

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

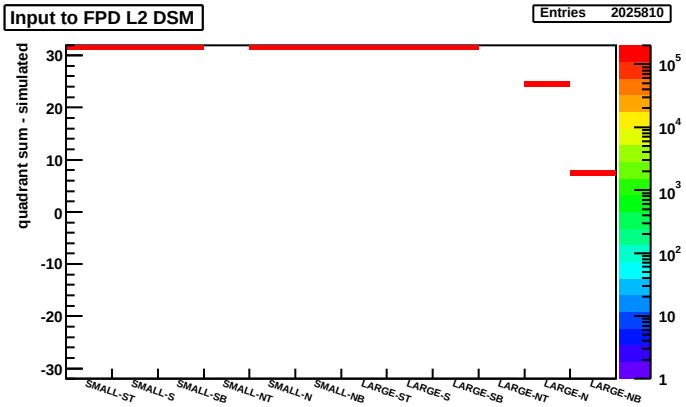

Input to FMS L1 DSM
Entries 2430972
sumA
DSM board

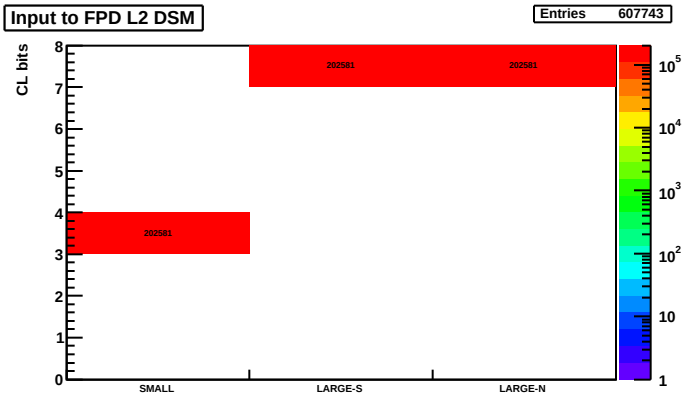

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

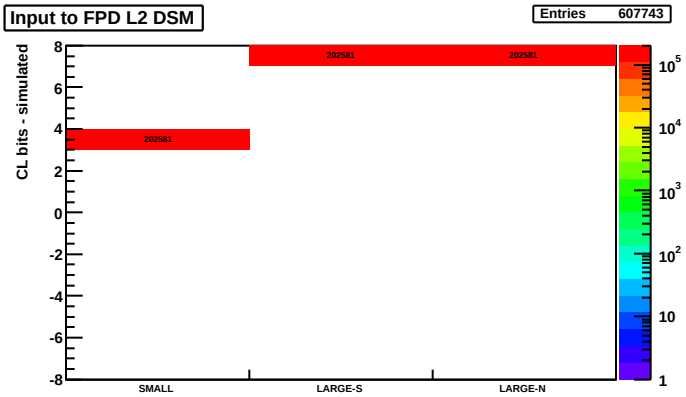

Input to FMS L1 DSM
Entries 2430972
FMS L1 HT bits
DSM board

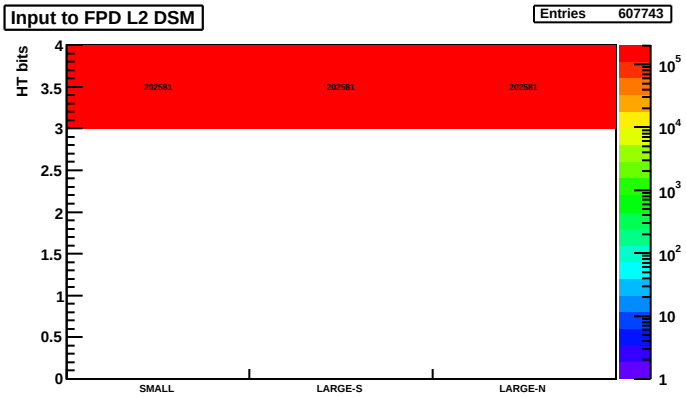

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

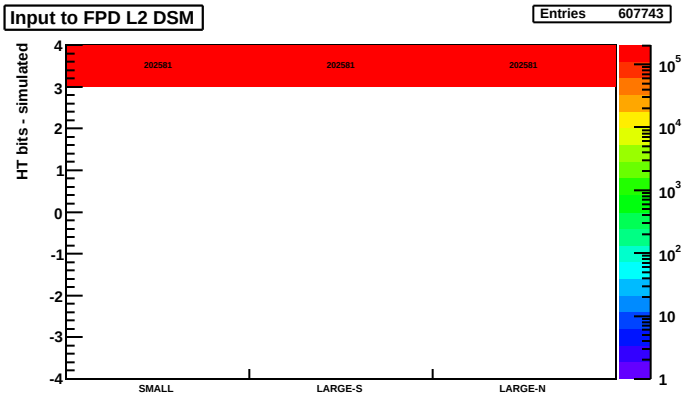

Input to FPD L2 DSM
Entries 2430972
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

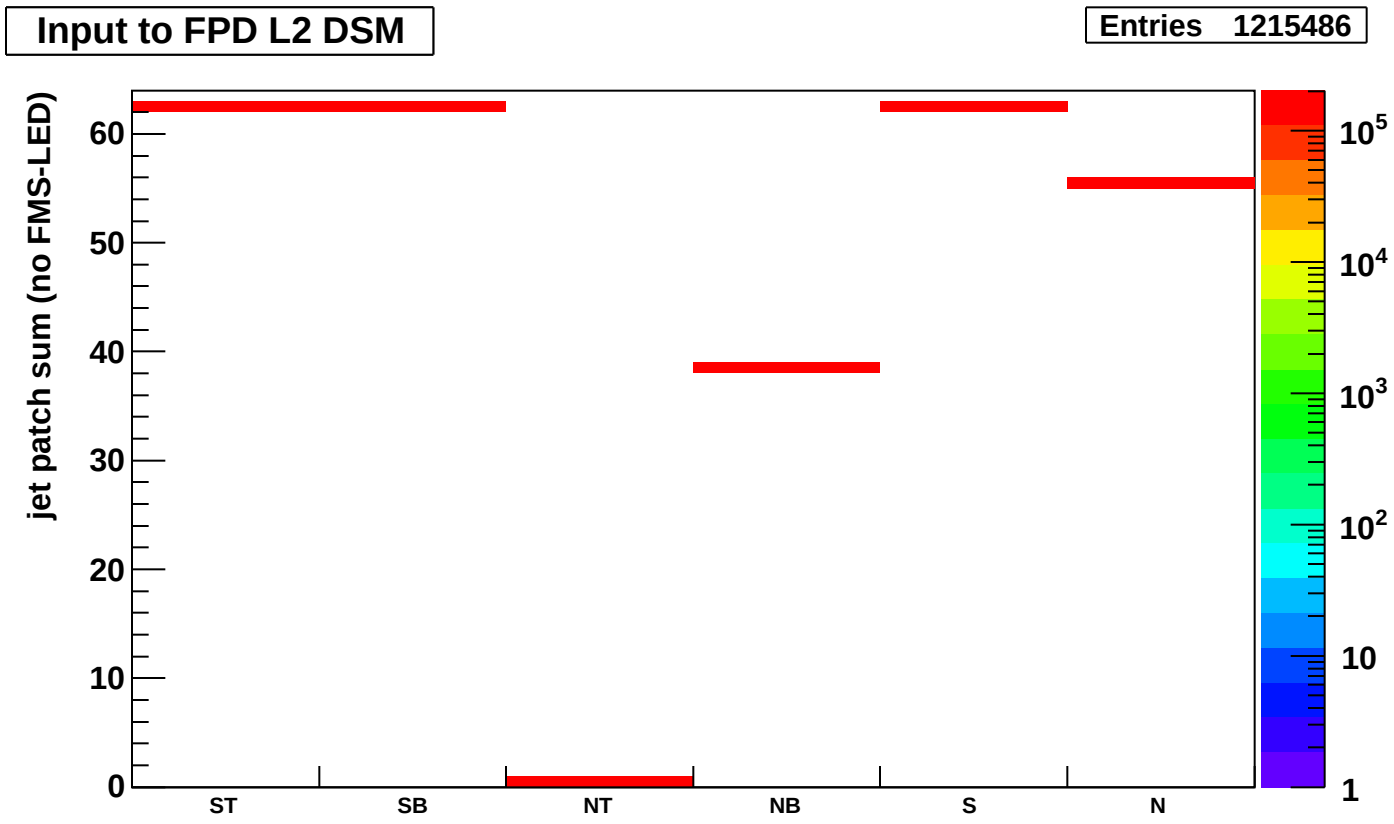

Input to FPD L2 DSM
Entries 2025810
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

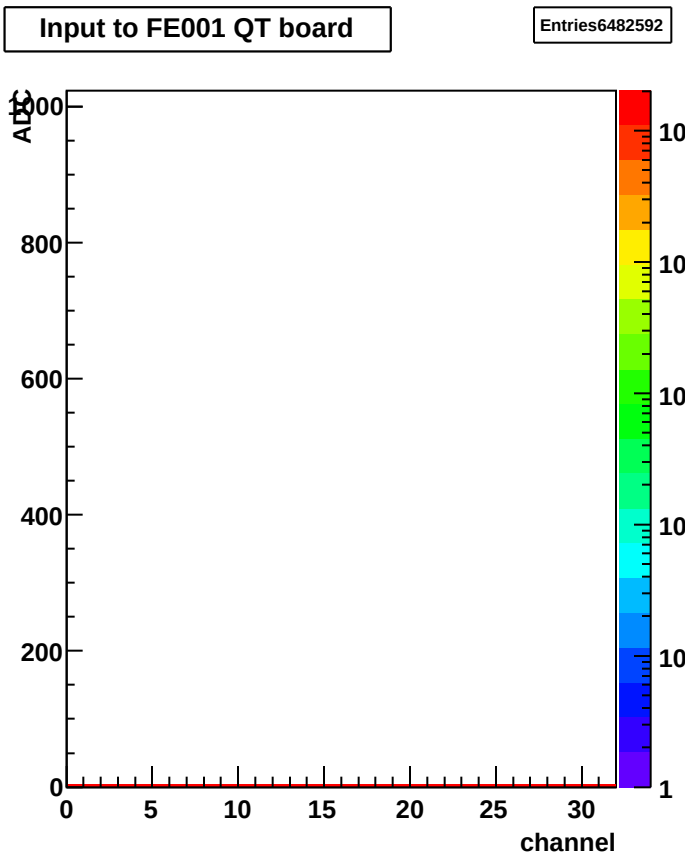

Input to FPD L2 DSM
Entries 607743
CL bits
202581
202581
202581
SMALL
LARGE-S
LARGE-N

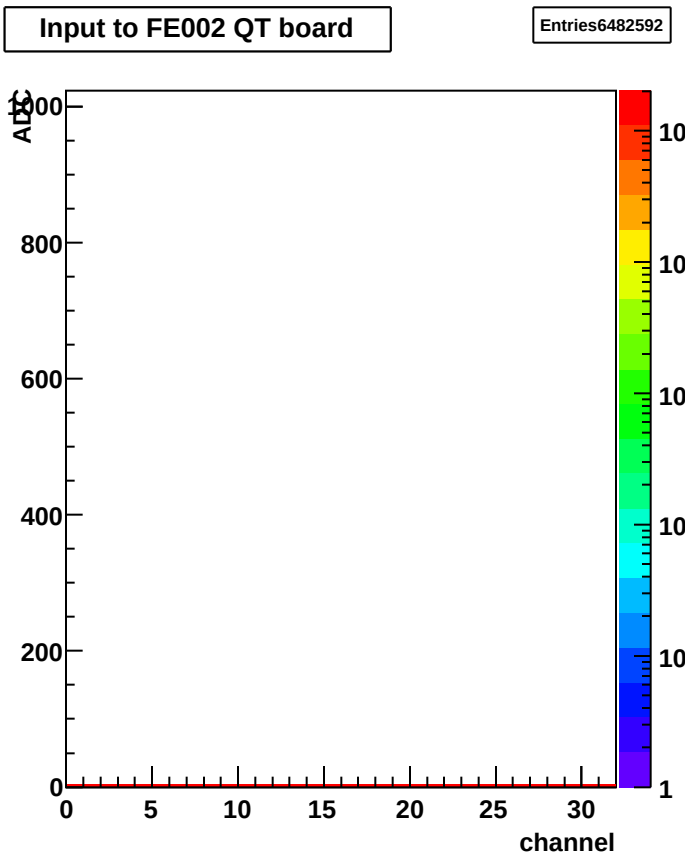

Input to FPD L2 DSM
Entries 607743
CL bits - simulated
202581
202581
202581
SMALL
LARGE-S
LARGE-N

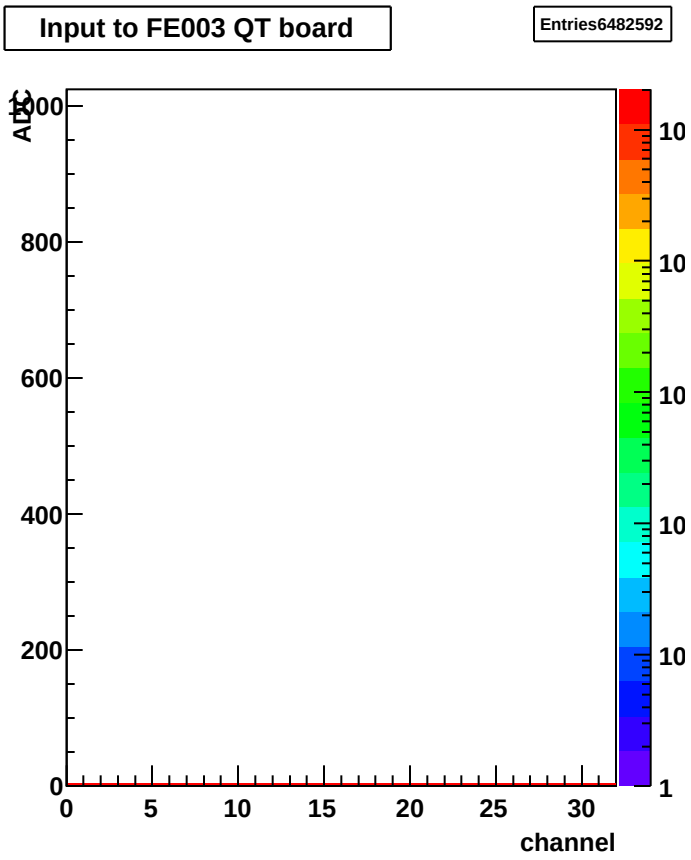

Input to FPD L2 DSM
Entries 607743
HT bits
202581
202581
202581
SMALL
LARGE-S
LARGE-N

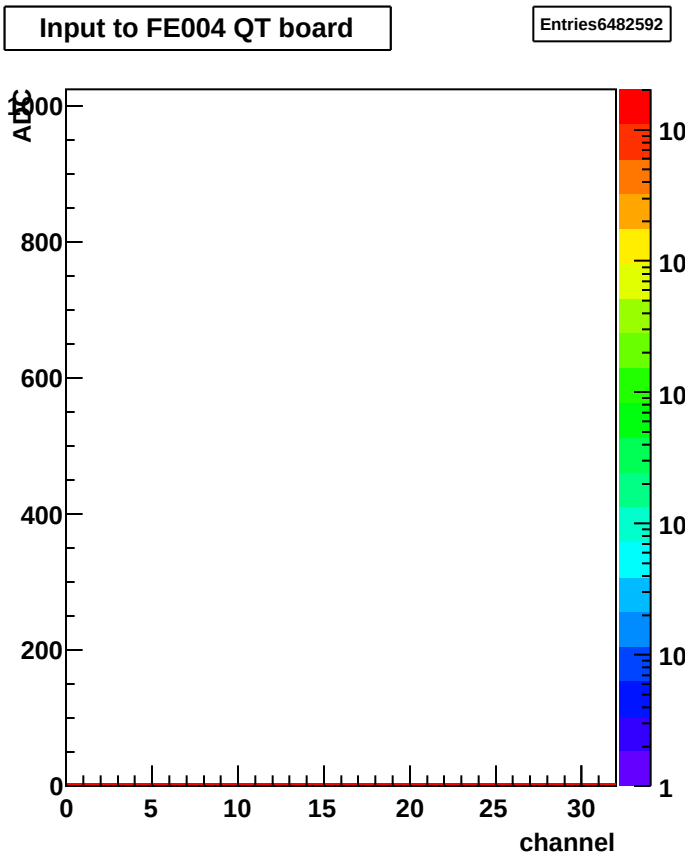

Input to FPD L2 DSM
Entries 607743
HT bits - simulated
202581
202581
202581
SMALL
LARGE-S
LARGE-N

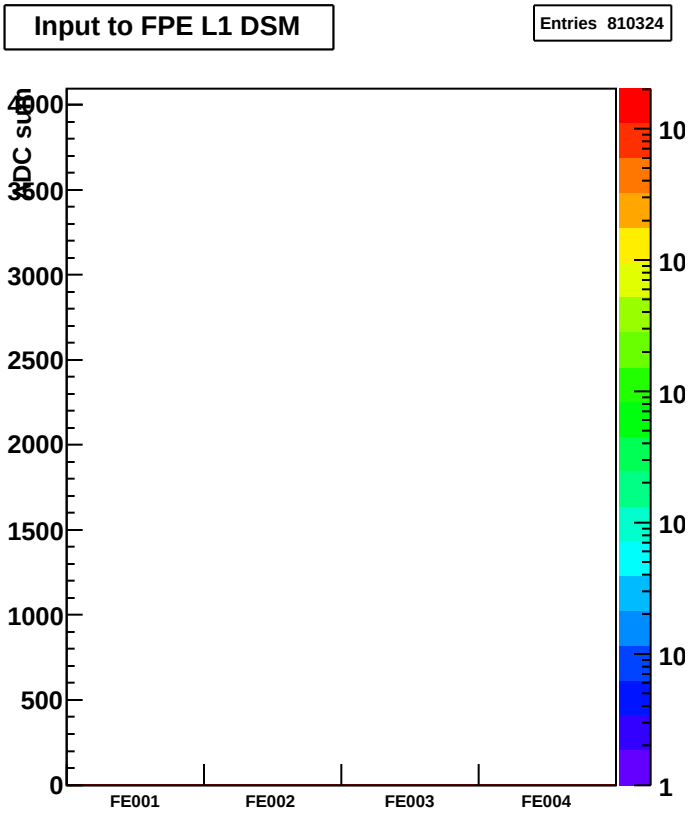

Input to FPD L2 DSM
Entries 1215486
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

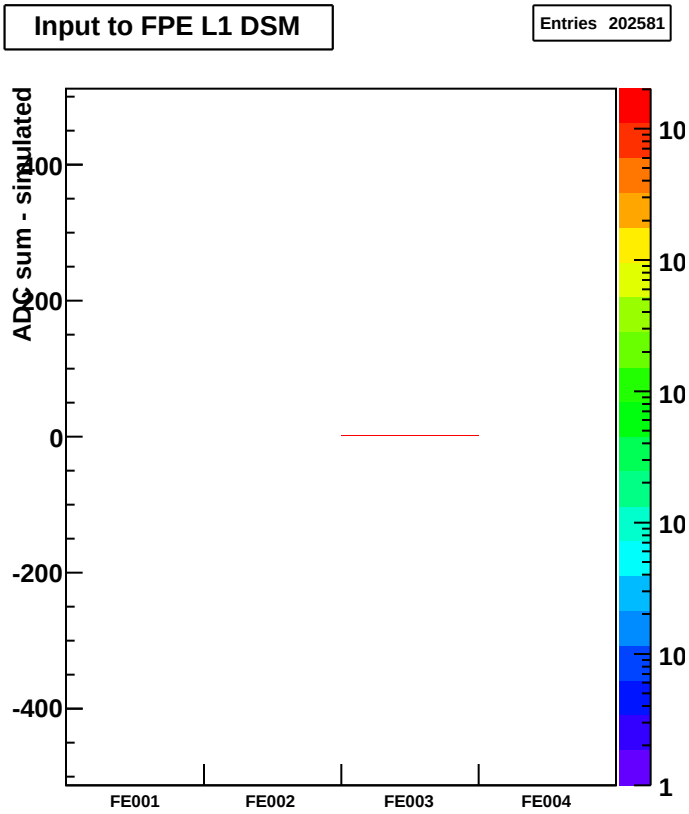

Input to FE001 QT board
Entries6482592
ADC
channel

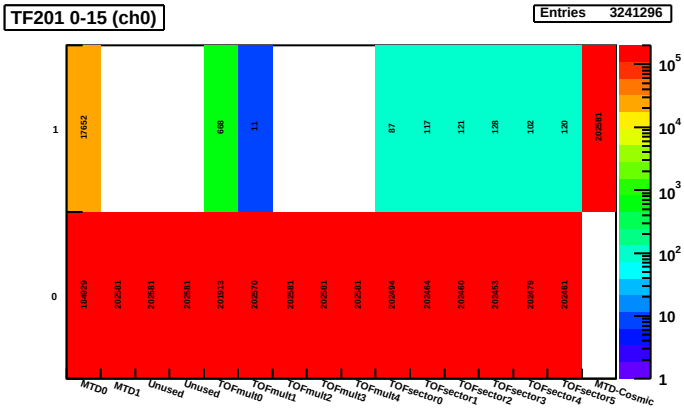

Input to FE002 QT board
Entries6482592
ADC
channel

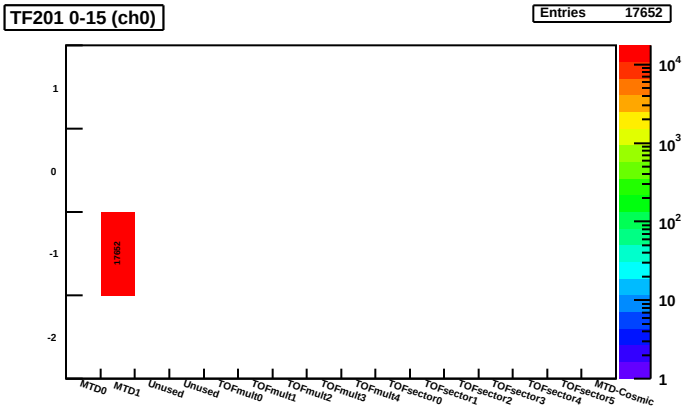

Input to FE003 QT board
Entries6482592
ADC
channel

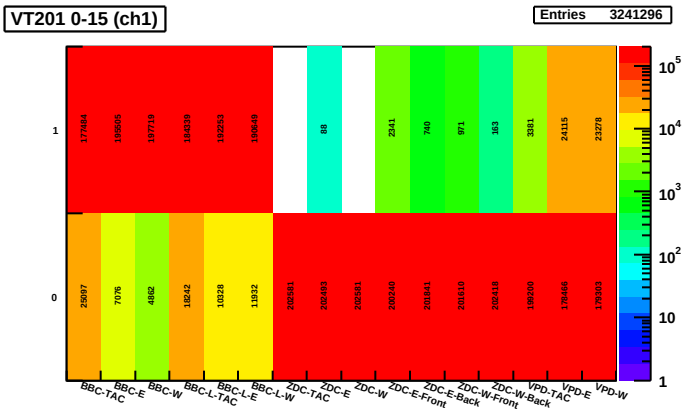

Input to FE004 QT board
Entries6482592
ADC
channel

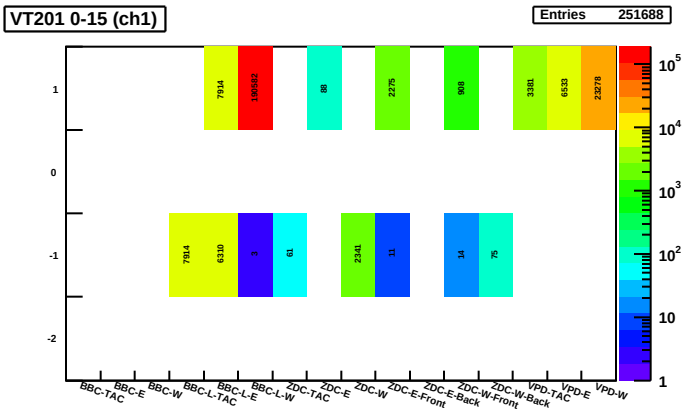

Input to FPE L1 DSM
Entries 810324
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

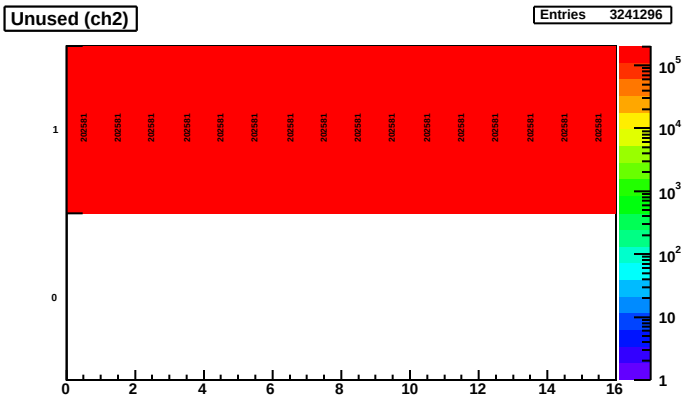

Input to FPE L1 DSM
Entries 202581
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

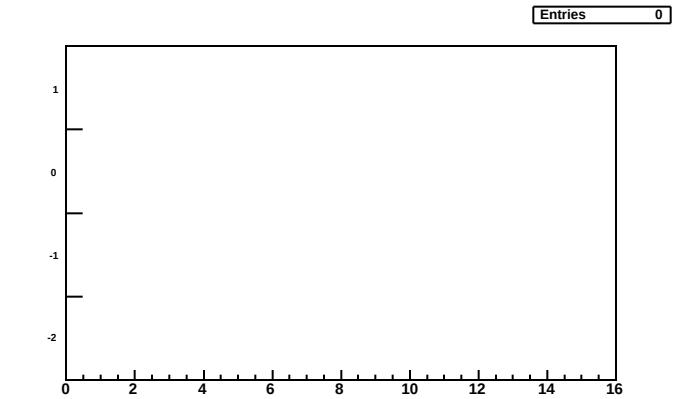

TF201 0-15 (ch0)
Entries 3241296
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

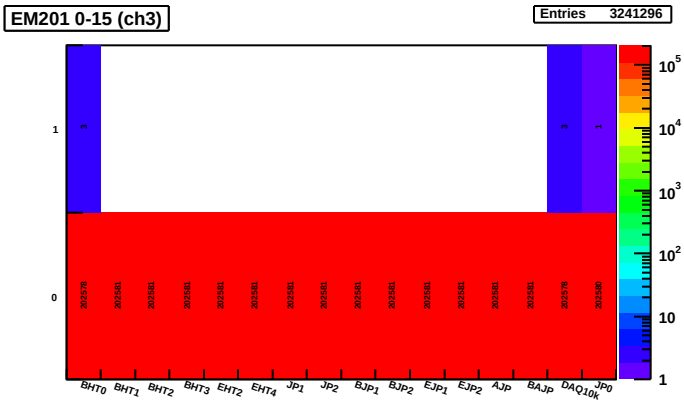

TF201 0-15 (ch0)
Entries 17652
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

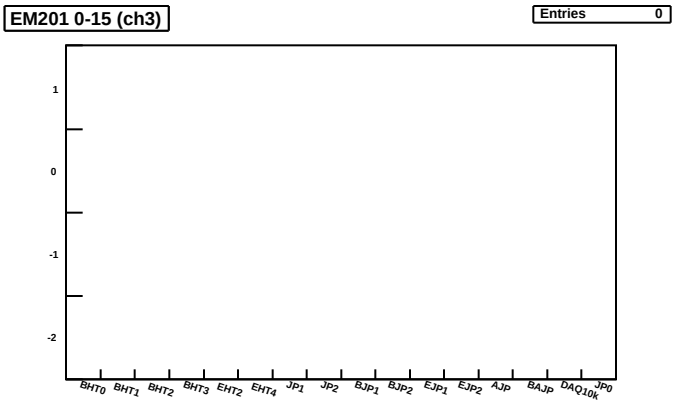

VT201 0-15 (ch1)
Entries 3241296
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 251688
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

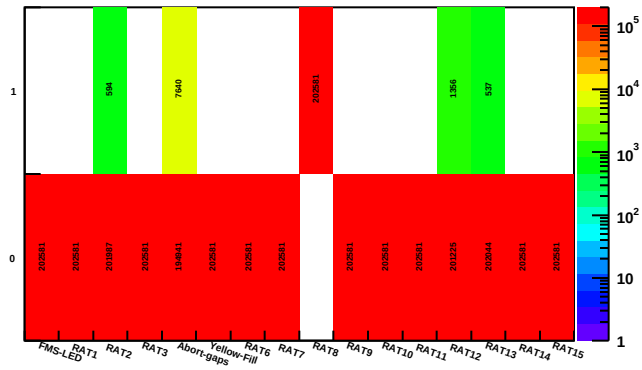

Unused (ch2)
Entries 3241296

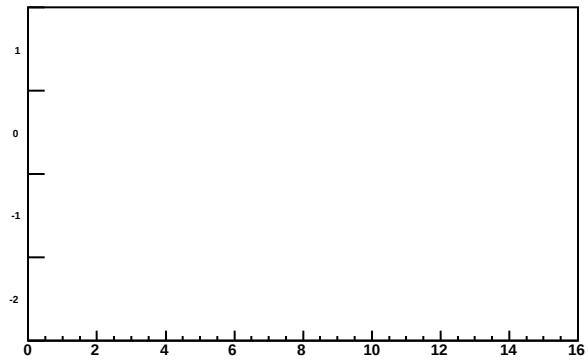

Entries 0


EM201 0-15 (ch3)
Entries 3241296
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

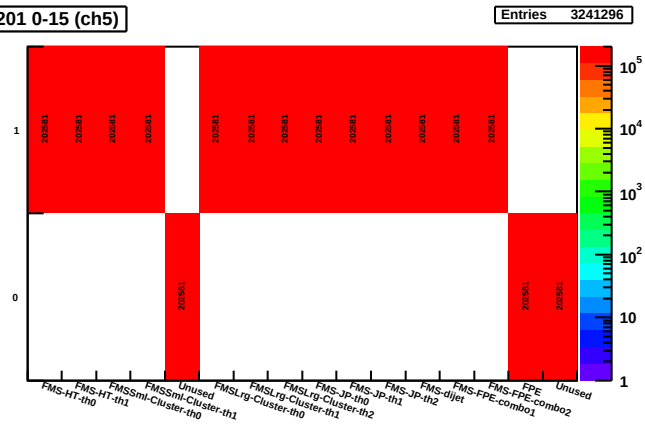

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

RAT board (ch4)

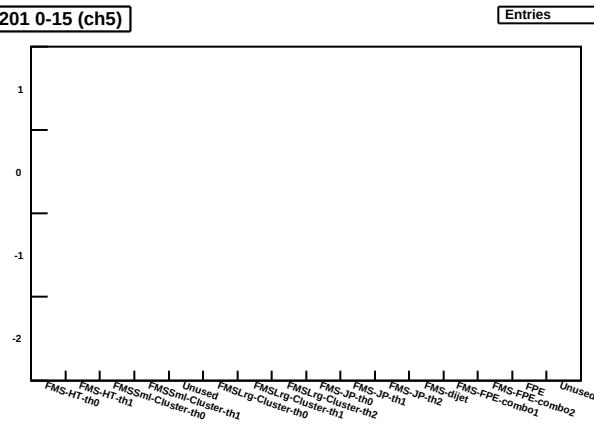




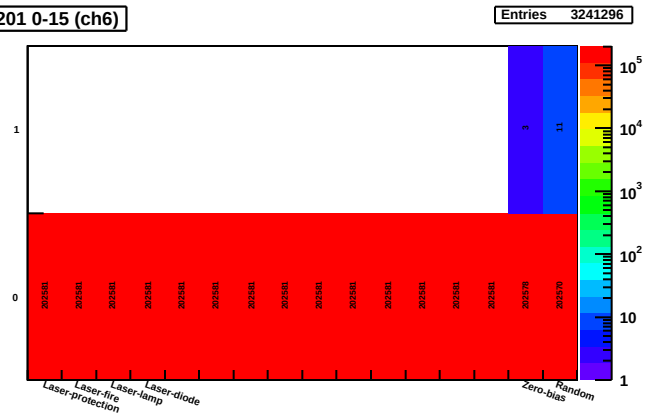
FP201 0-15 (ch5)

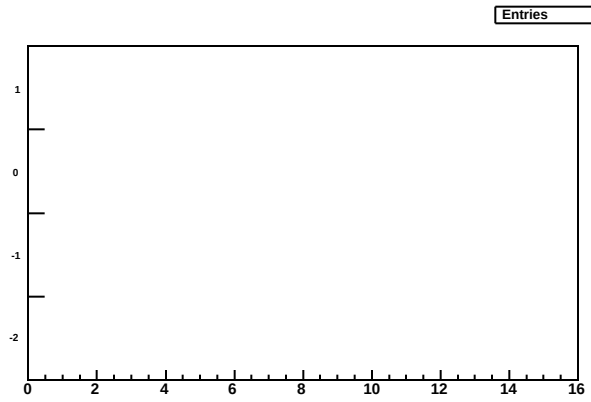
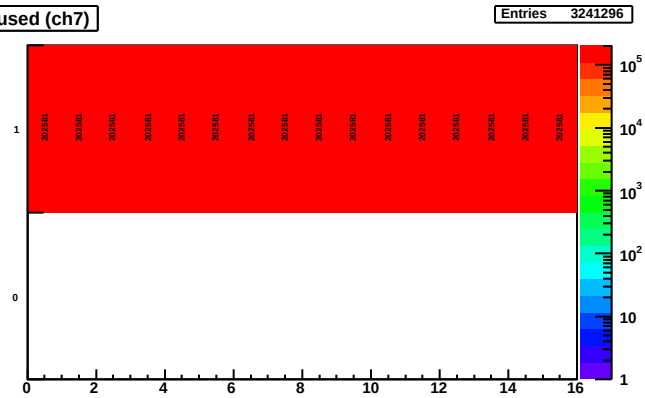
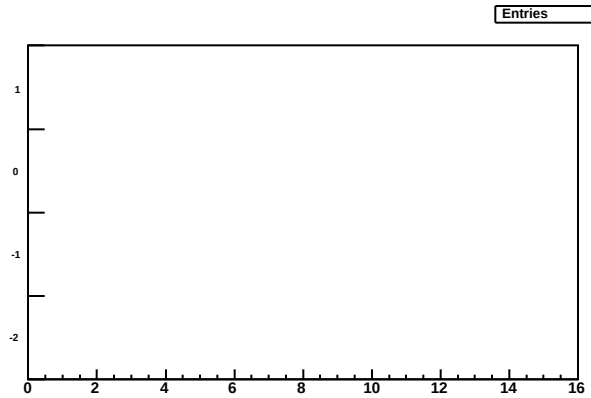


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)