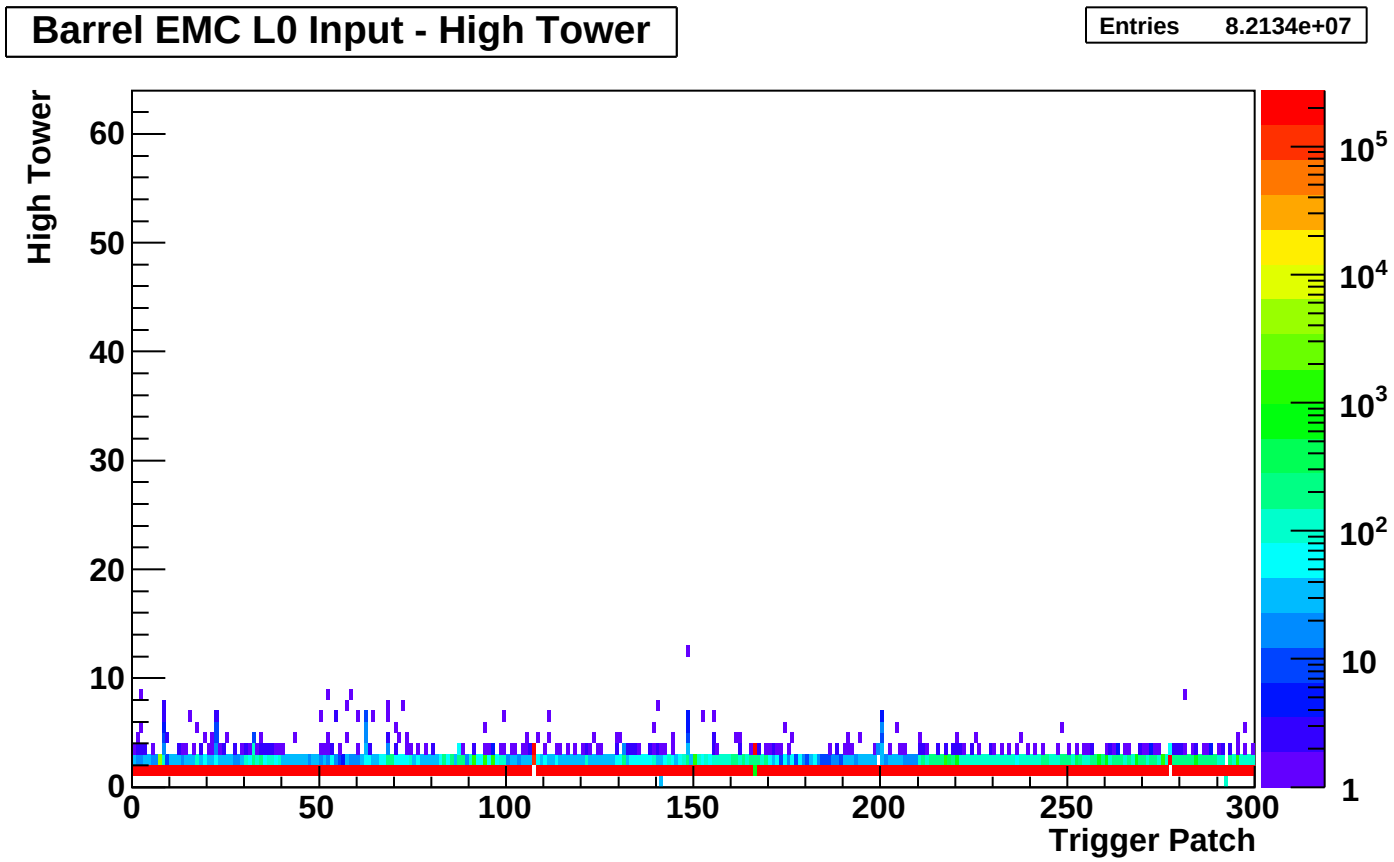
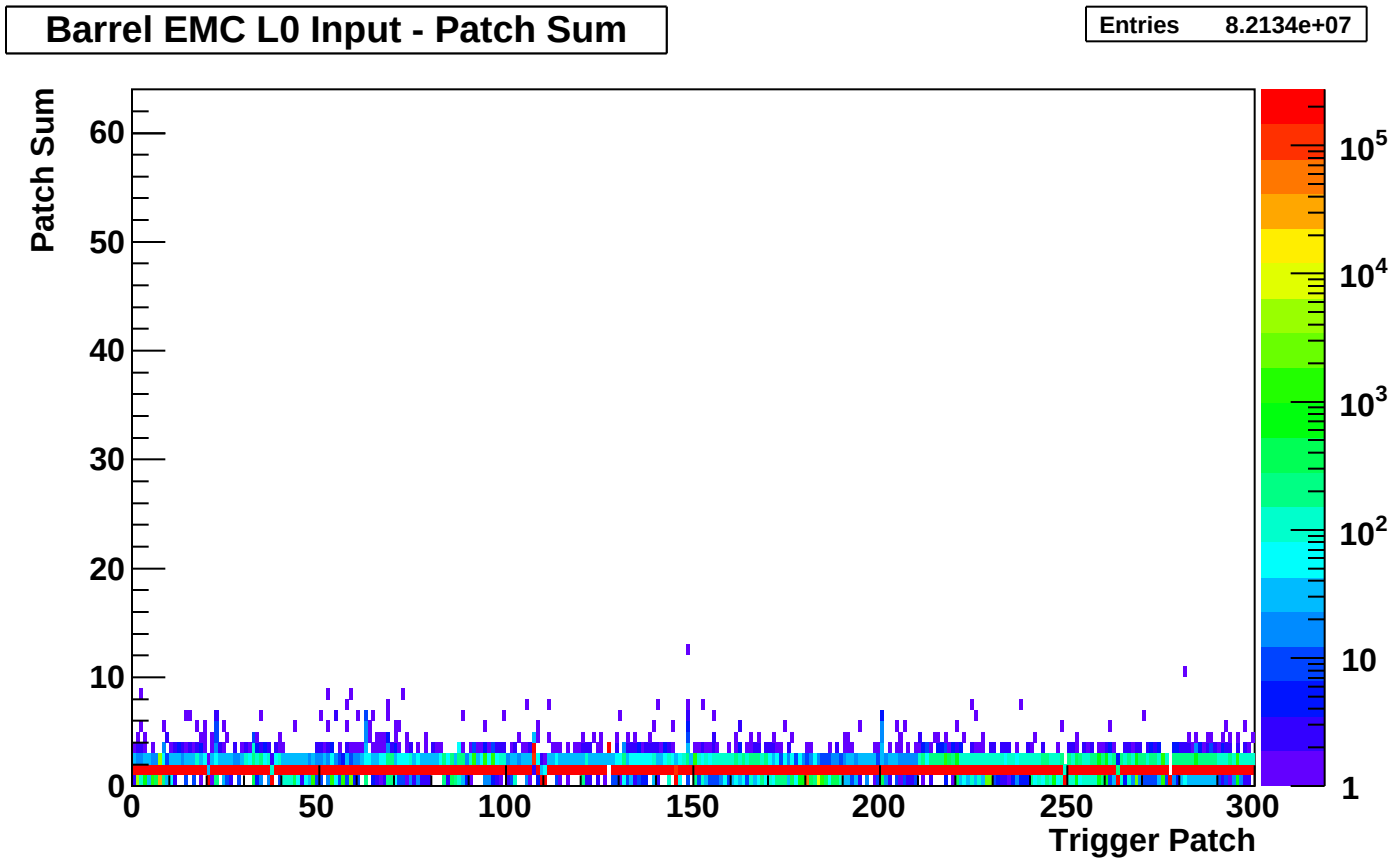
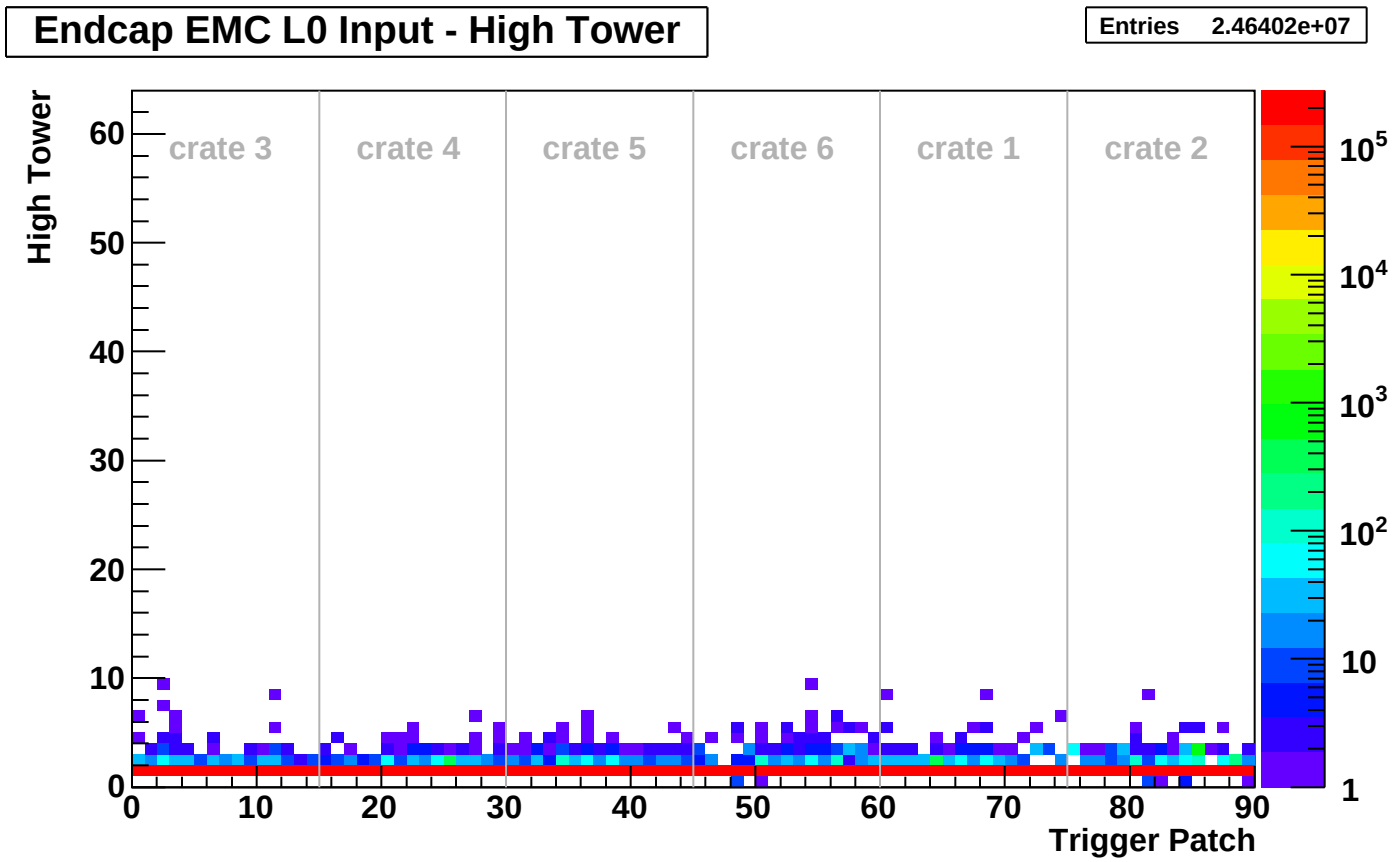
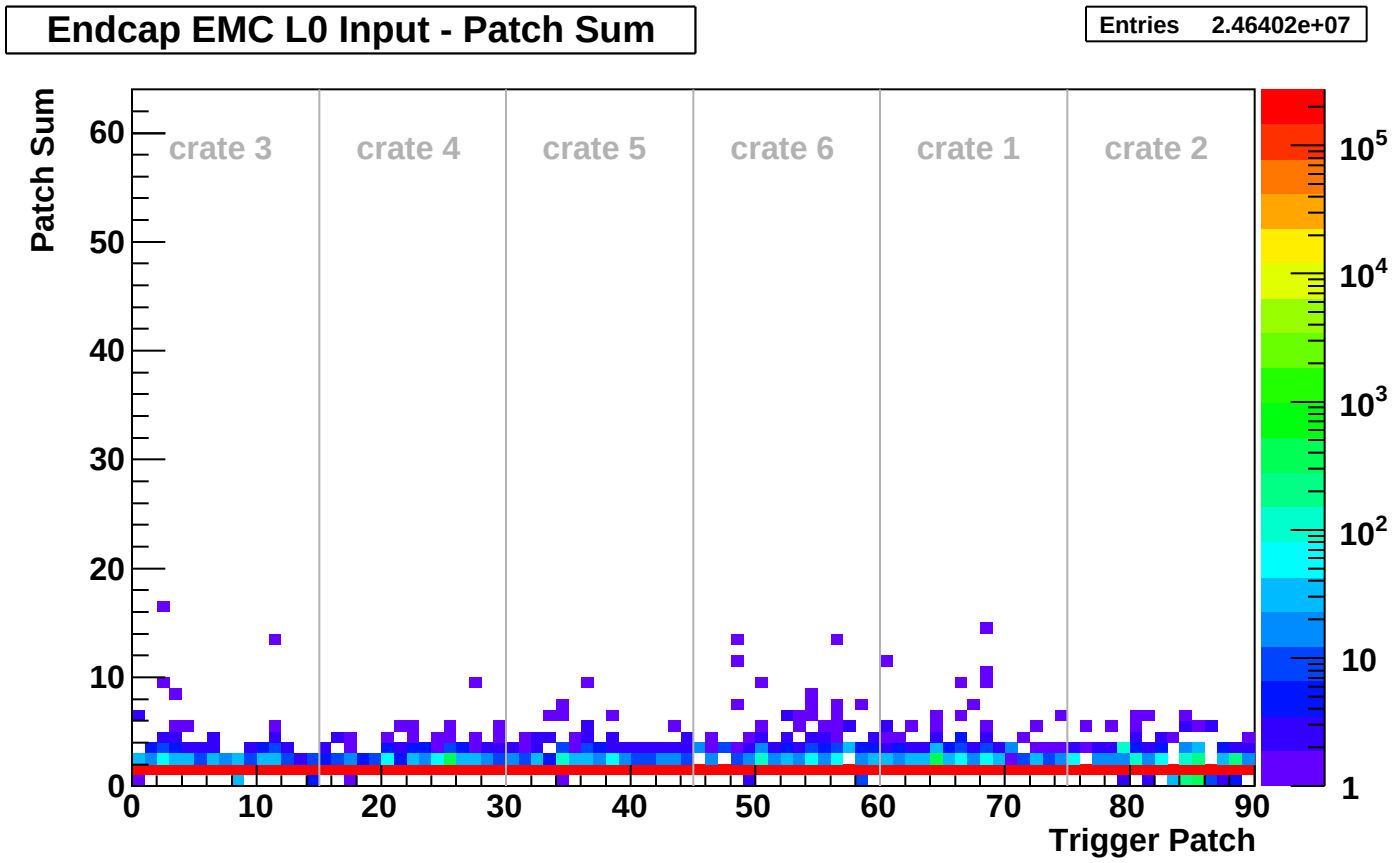
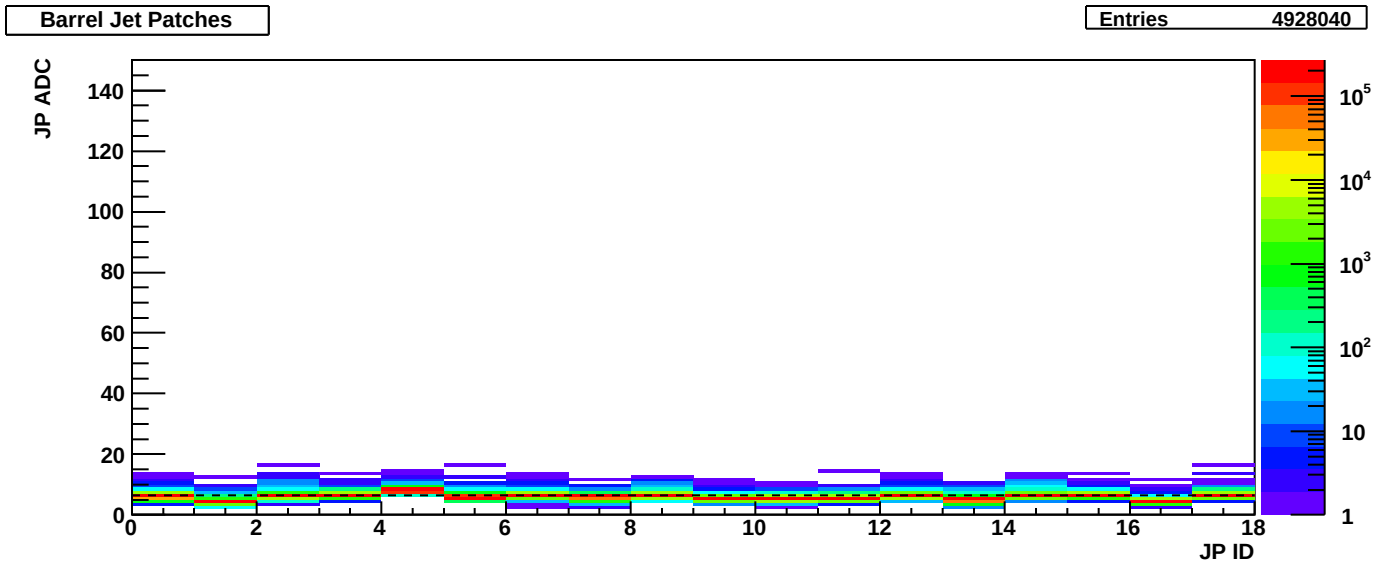
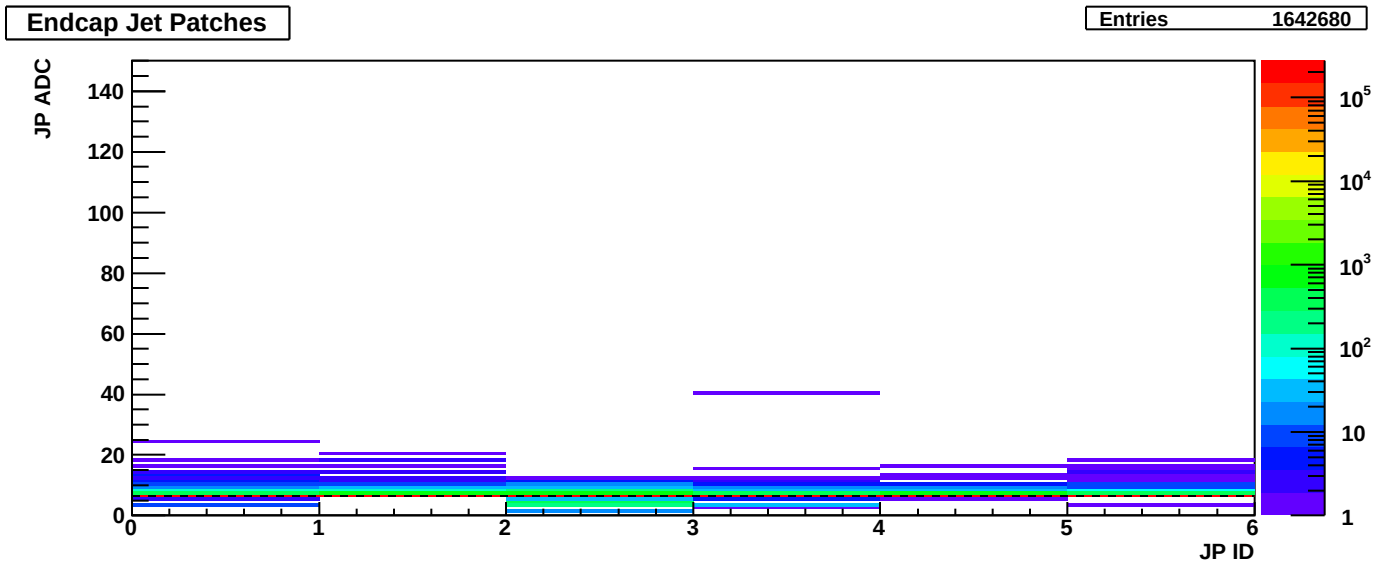

Barrel EMC L0 Input - High Tower
Entries 8.2134e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

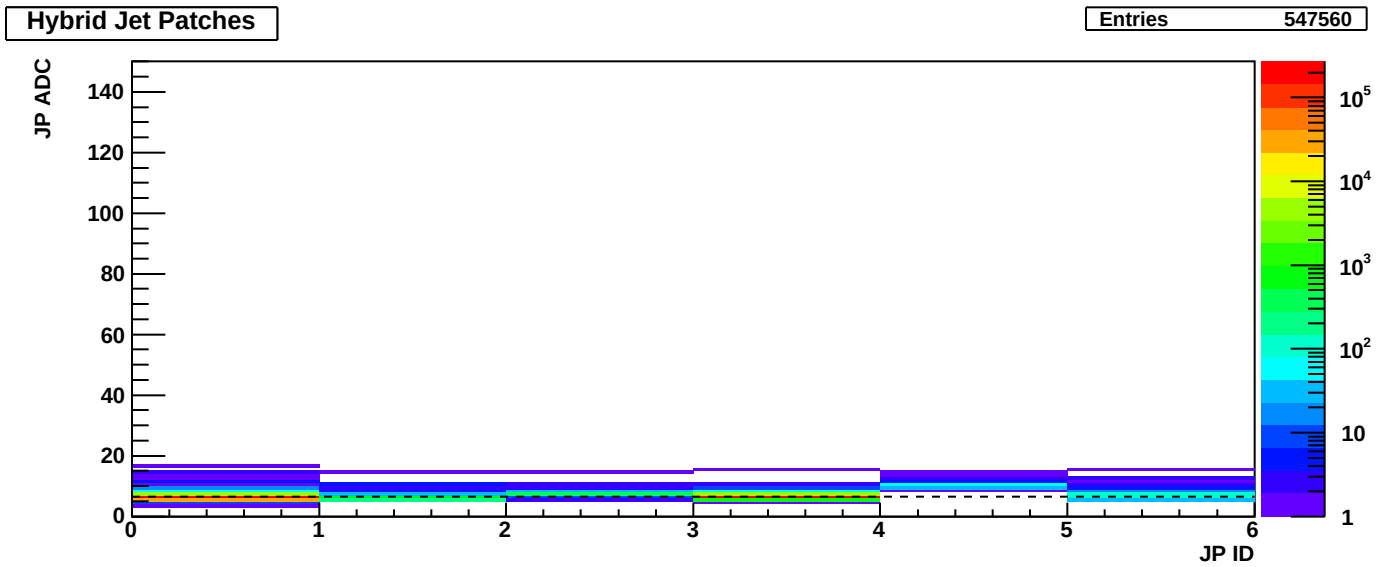

Barrel EMC L0 Input - Patch Sum
Entries 8.2134e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

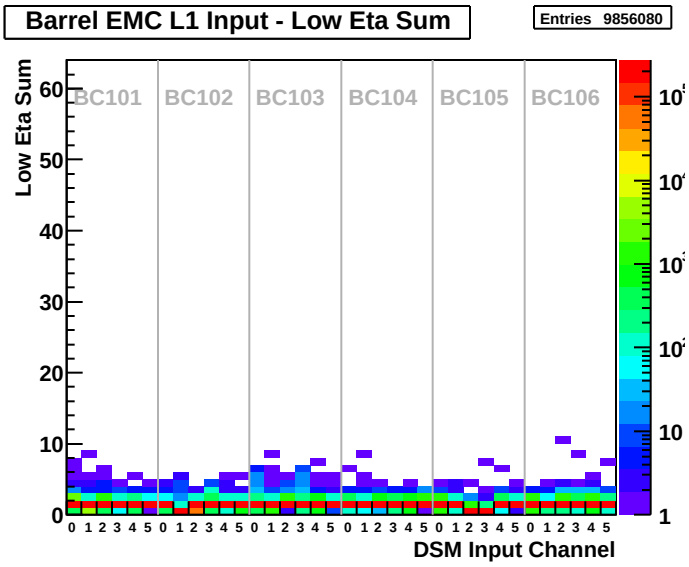

Endcap EMC L0 Input - High Tower
Entries 2.46402e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

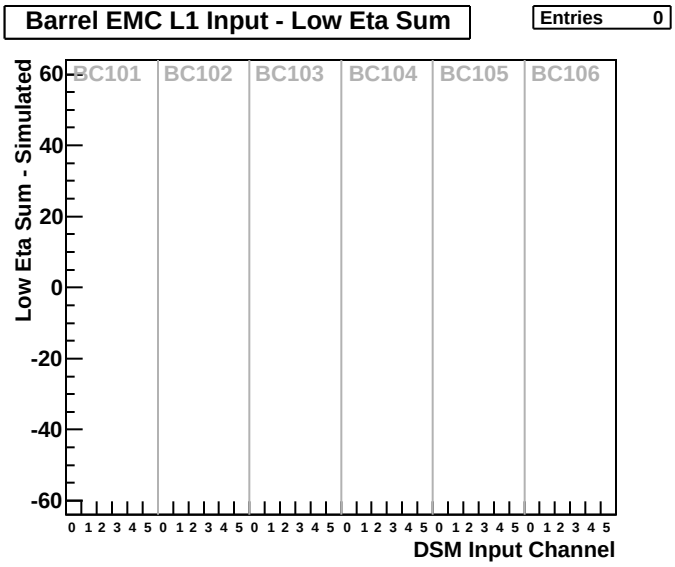

Endcap EMC L0 Input - Patch Sum
Entries 2.46402e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

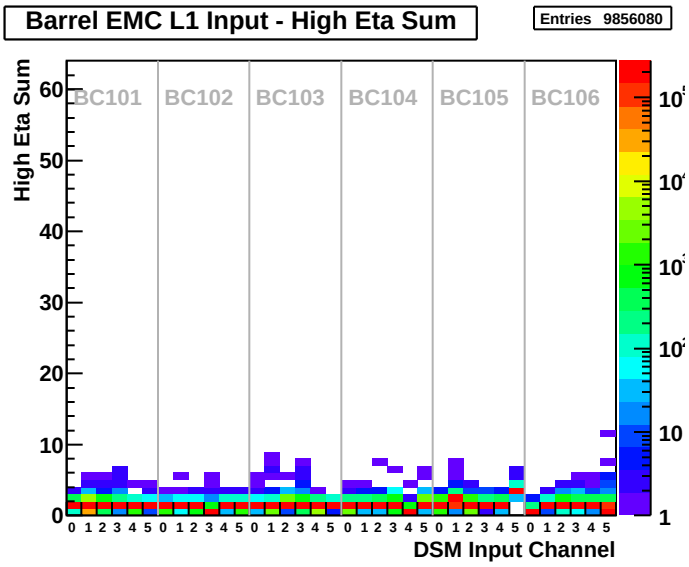

Barrel Jet Patches
Entries 4928040
JP ADC
JP ID

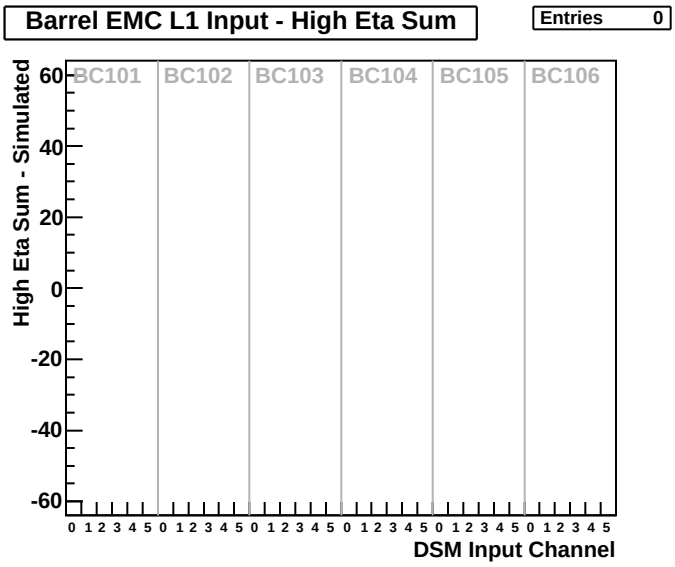

Endcap Jet Patches
Entries 1642680
JP ADC
JP ID

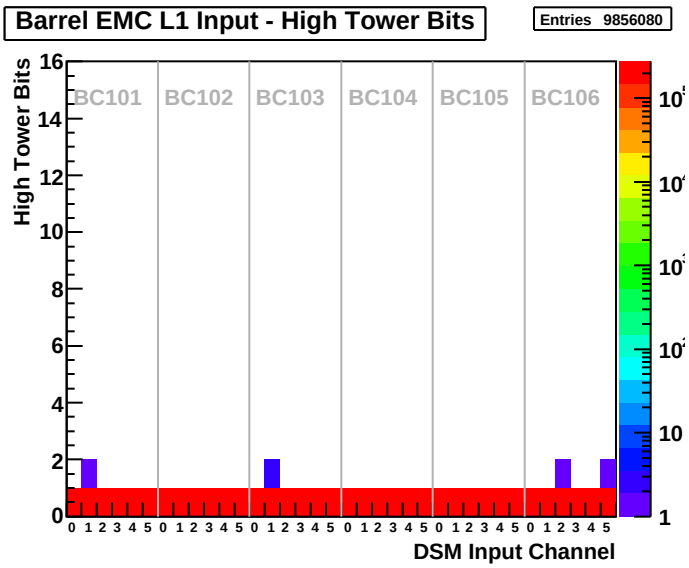

Hybrid Jet Patches
Entries 547560
JP ADC
JP ID

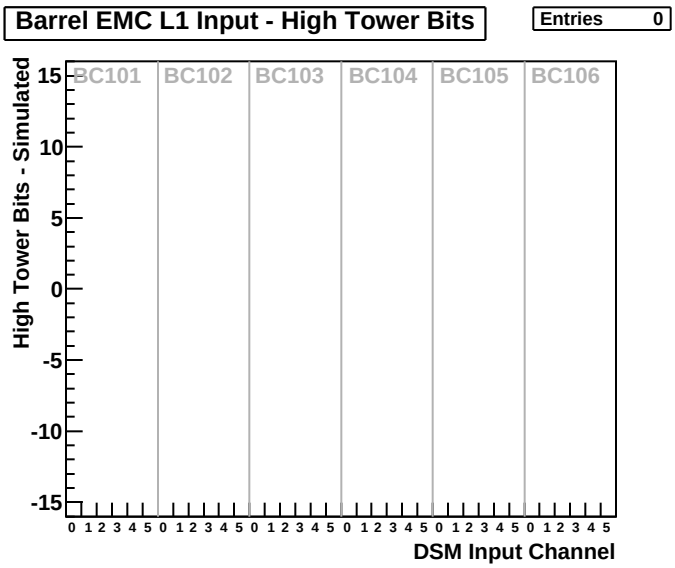

Barrel EMC L1 Input - Low Eta Sum
Entries 9856080
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

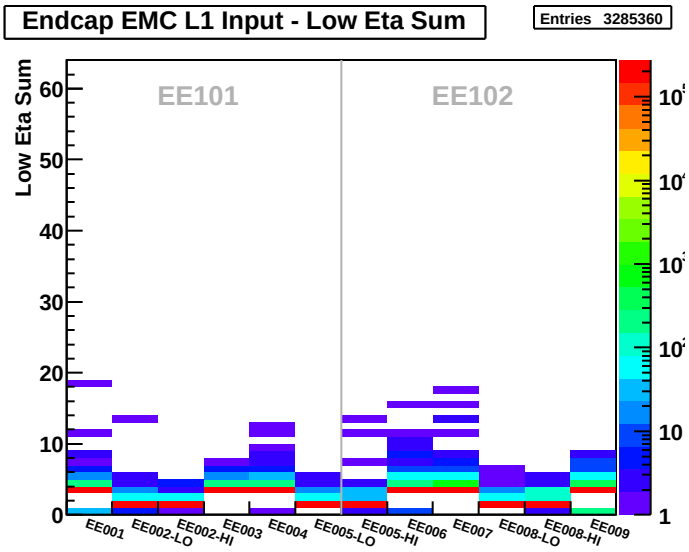

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

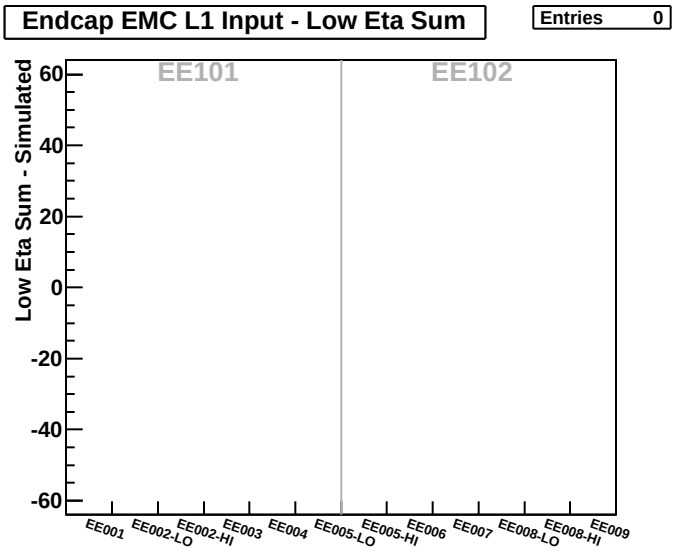

Barrel EMC L1 Input - High Eta Sum
Entries 9856080
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

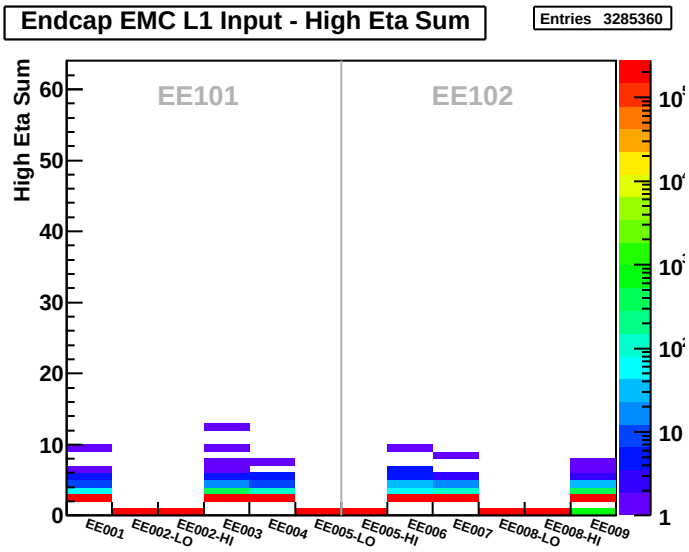

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

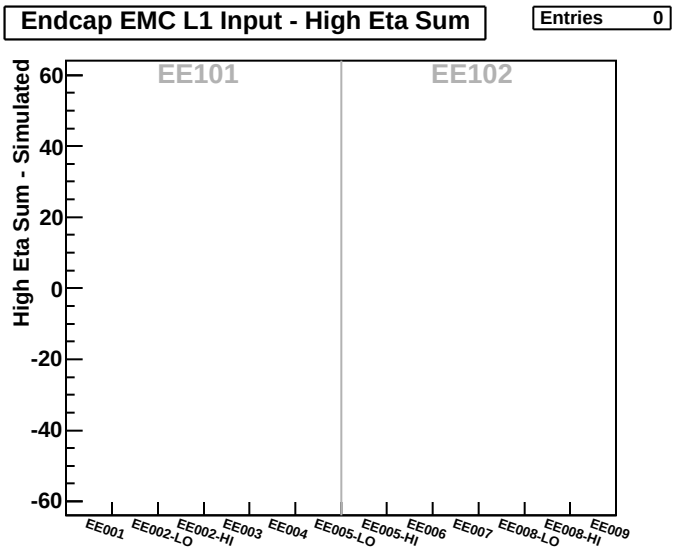

Barrel EMC L1 Input - High Tower Bits
Entries 9856080
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

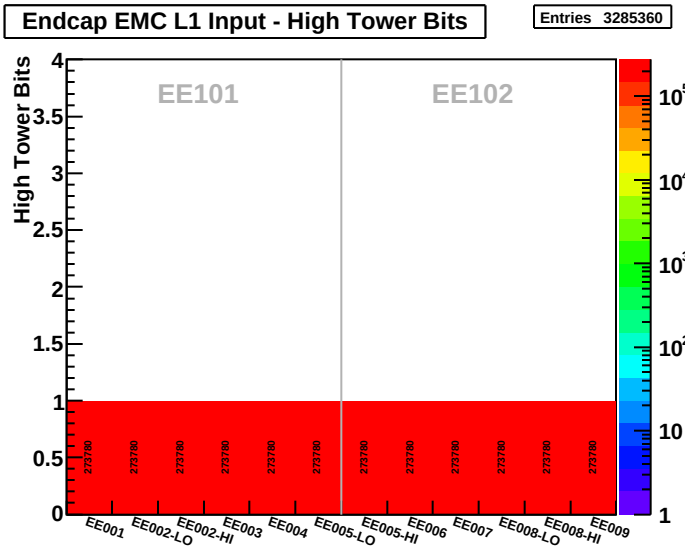

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

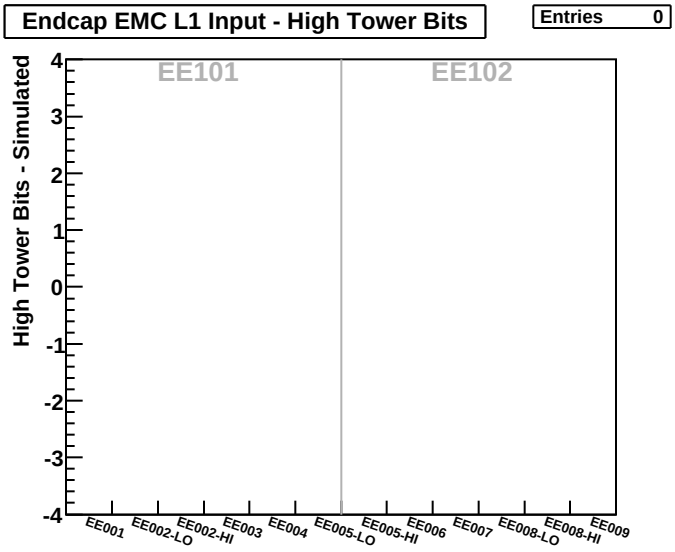

Endcap EMC L1 Input - Low Eta Sum
Entries 3285360
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

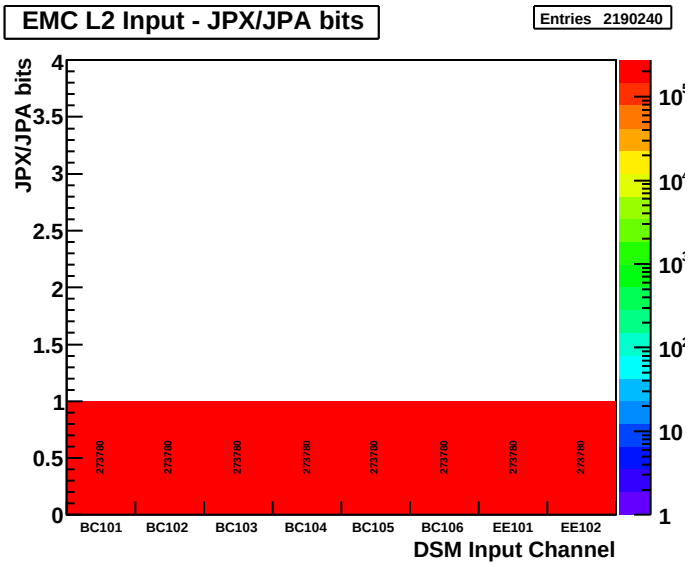

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

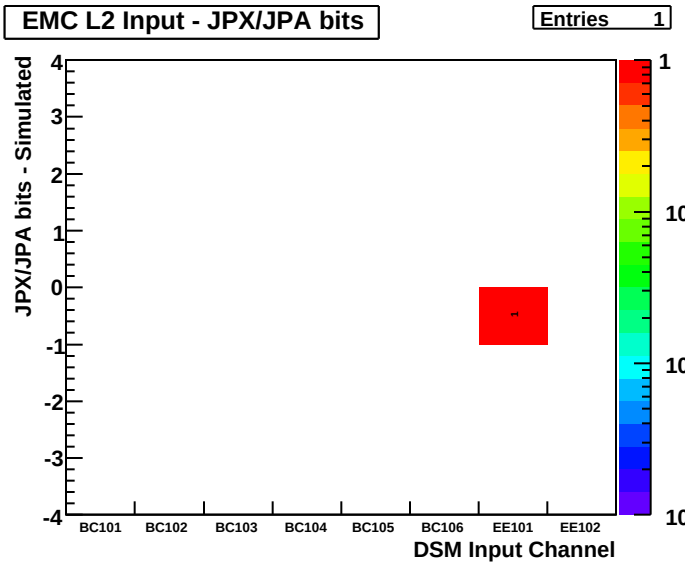

Endcap EMC L1 Input - High Eta Sum
Entries 3285360
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

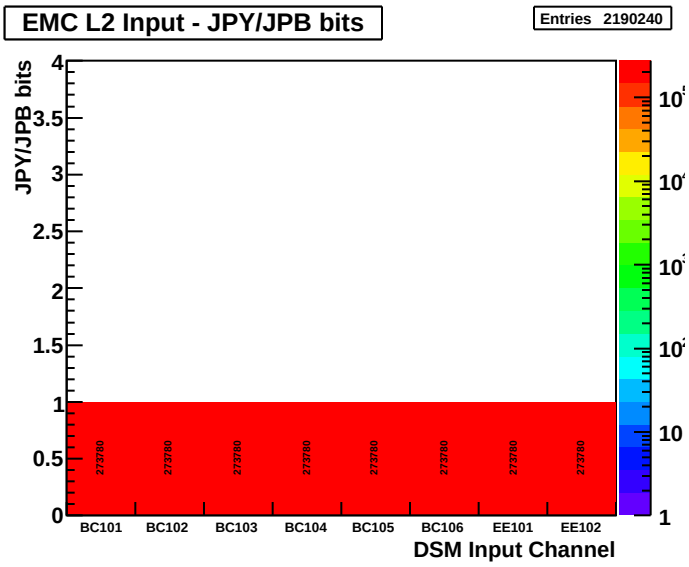

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

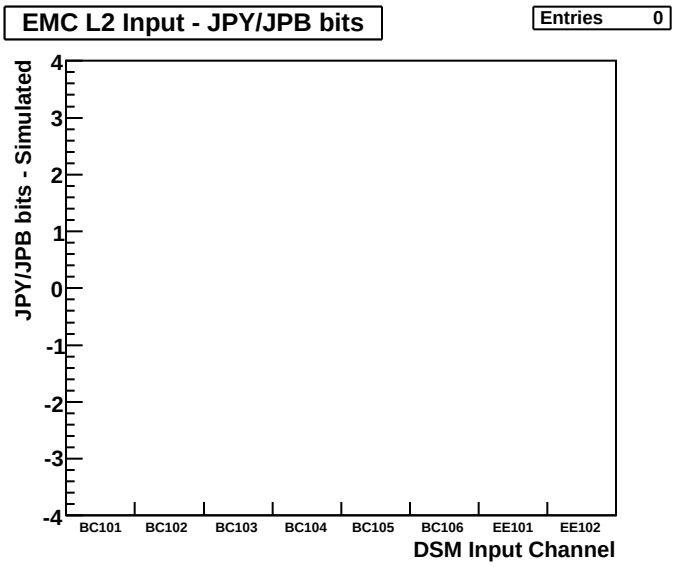

Endcap EMC L1 Input - High Tower Bits
Entries 3285360
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

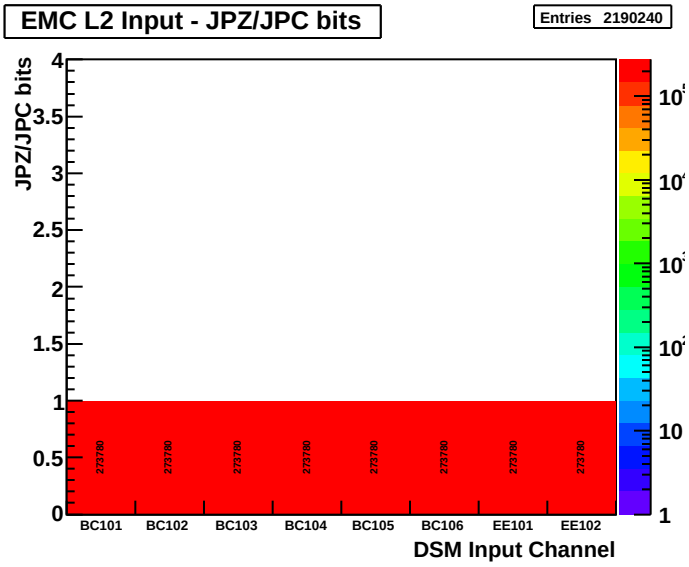

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

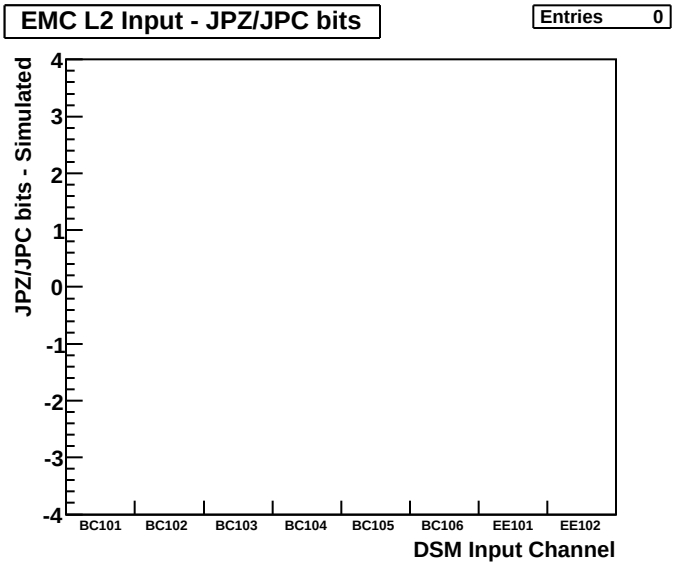

EMC L2 Input - JPX/JPA bits
Entries 2190240
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

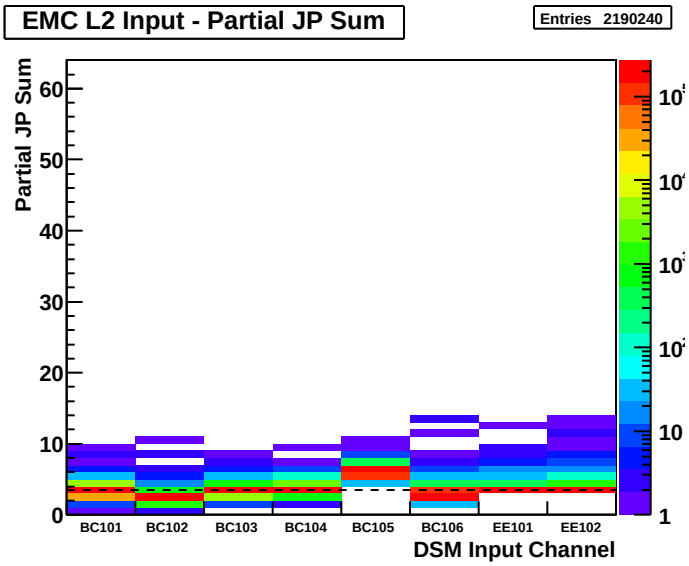

EMC L2 Input - JPX/JPA bits
Entries 1
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

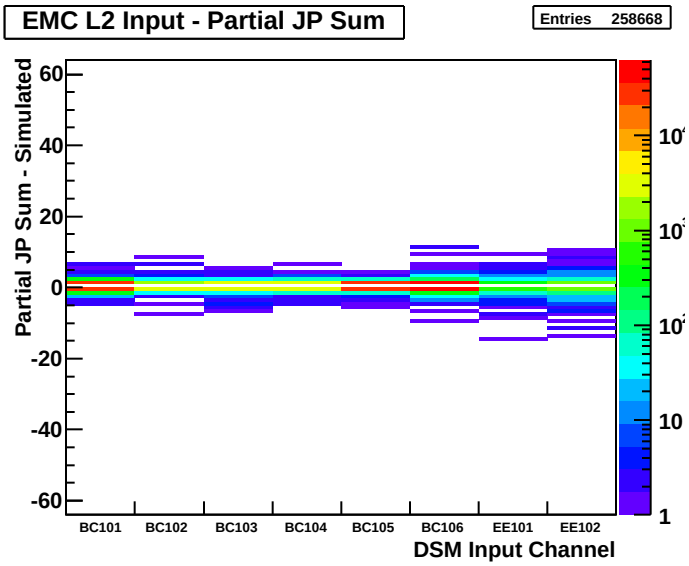

EMC L2 Input - JPY/JPB bits
Entries 2190240
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

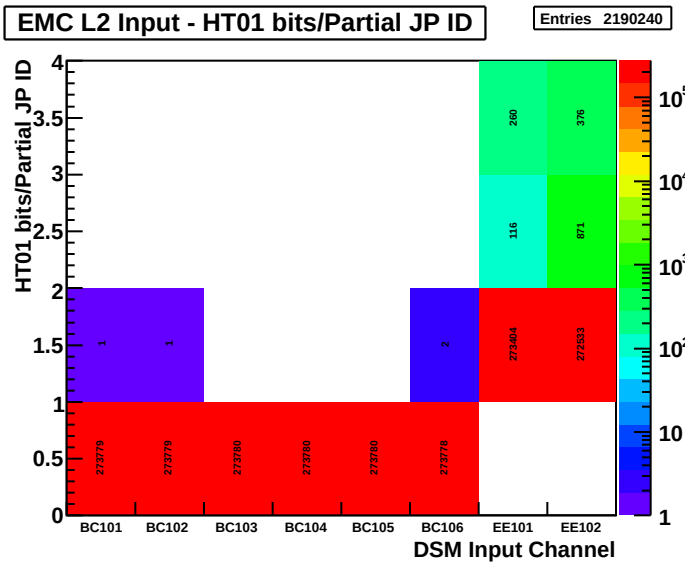

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

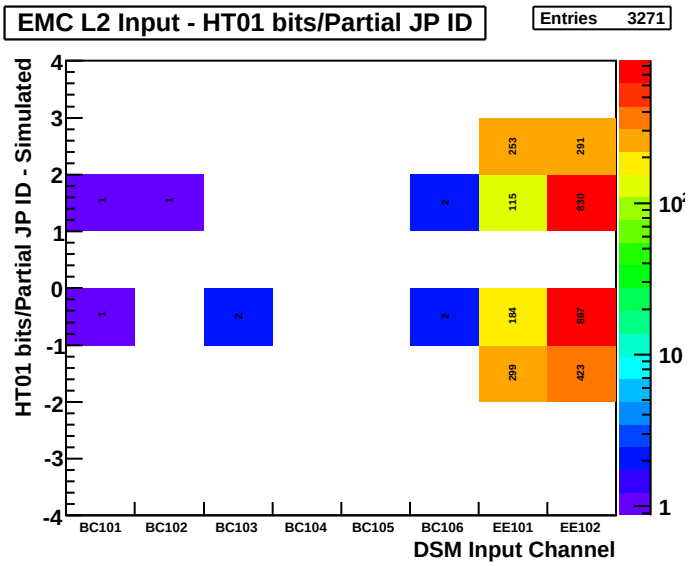

EMC L2 Input - JPZ/JPC bits
Entries 2190240
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

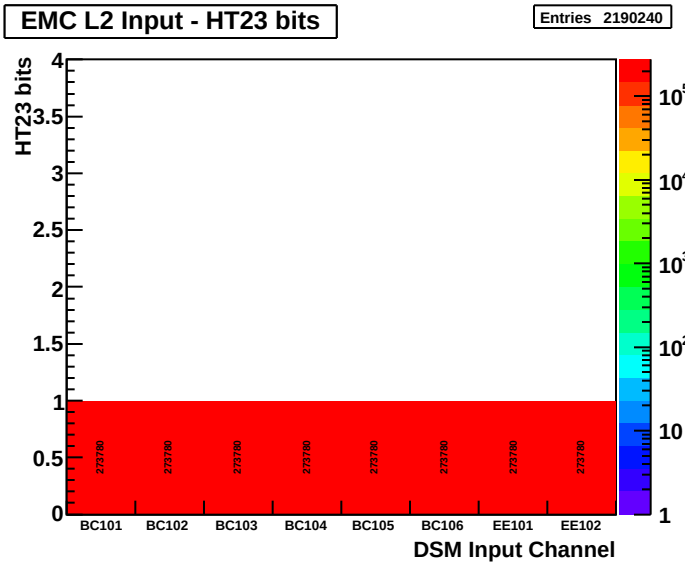

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

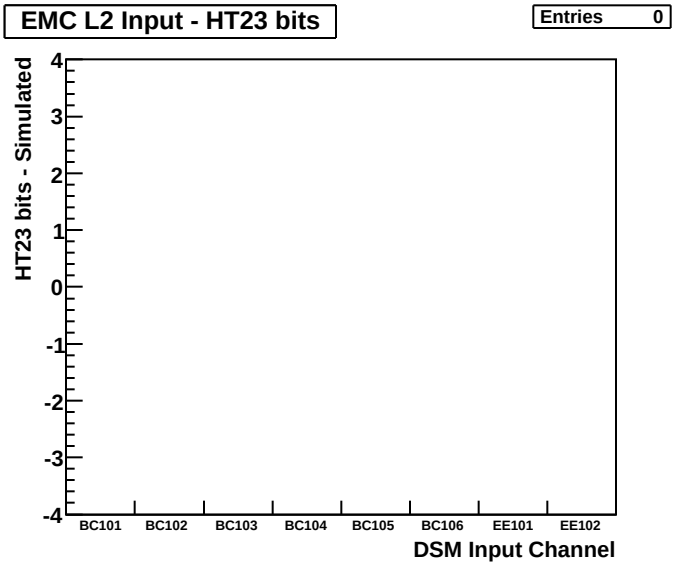

EMC L2 Input - Partial JP Sum
Entries 2190240
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

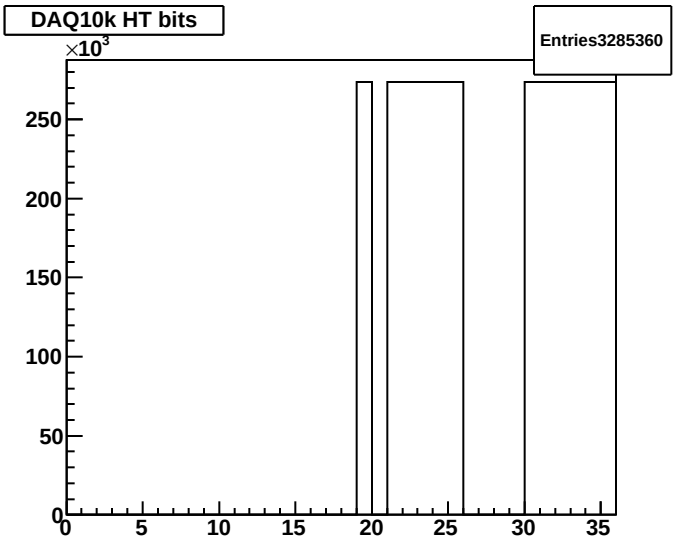

EMC L2 Input - Partial JP Sum
Entries 258668
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

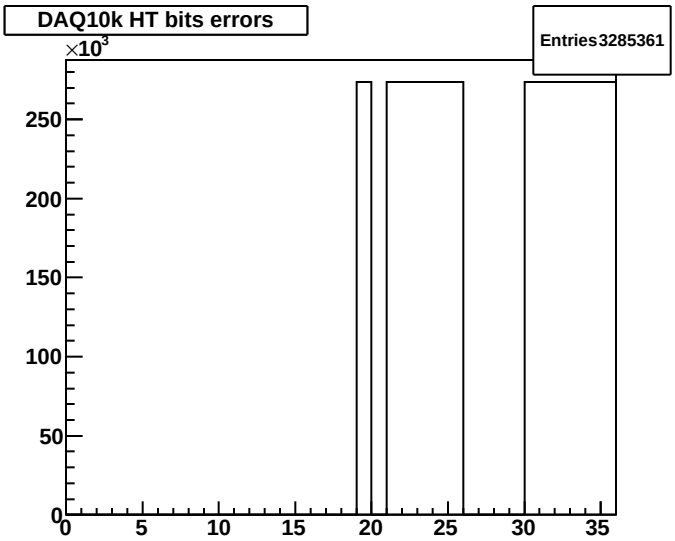

EMC L2 Input - HT01 bits/Partial JP ID
Entries 2190240
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

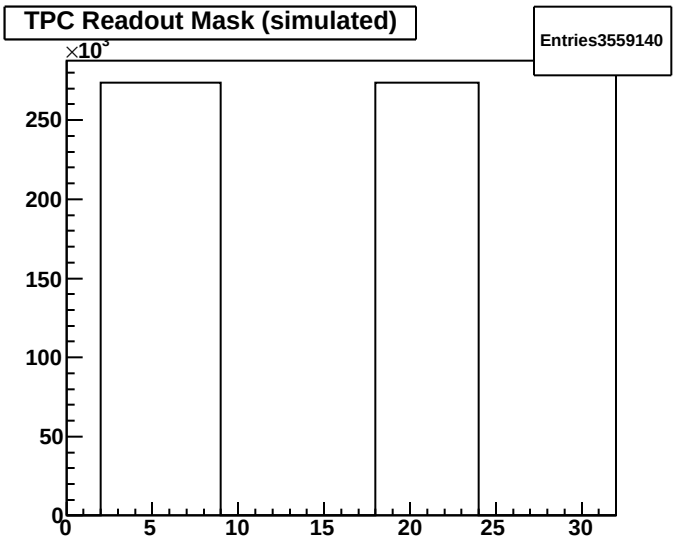

EMC L2 Input - HT01 bits/Partial JP ID
Entries 3271
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

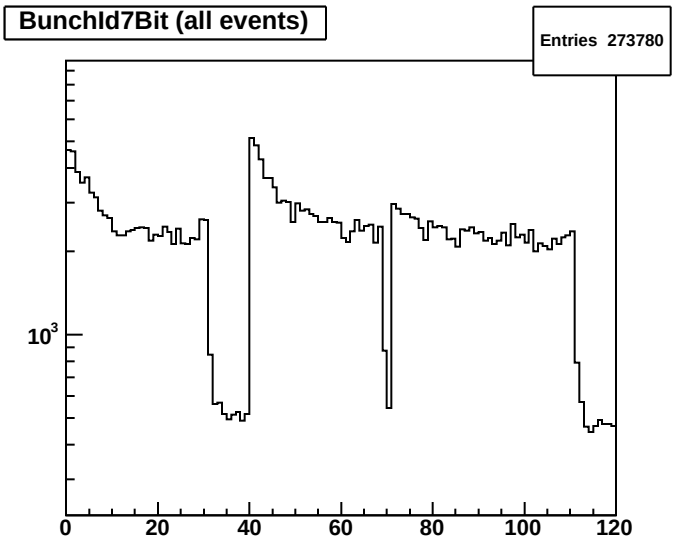

EMC L2 Input - HT23 bits
Entries 2190240
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

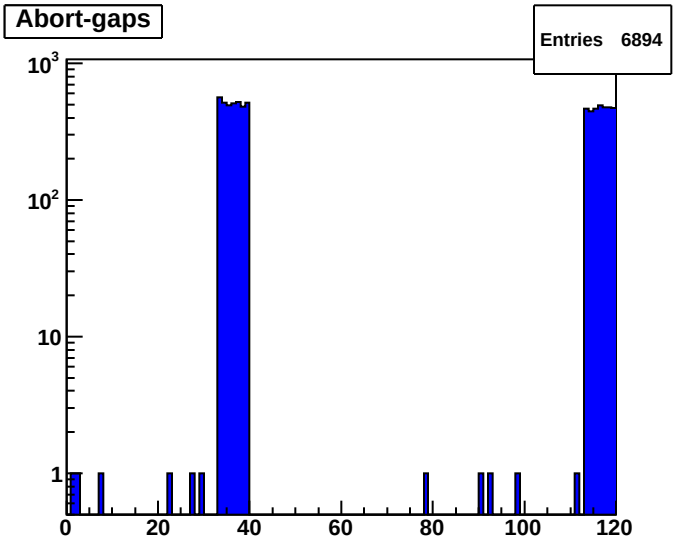

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

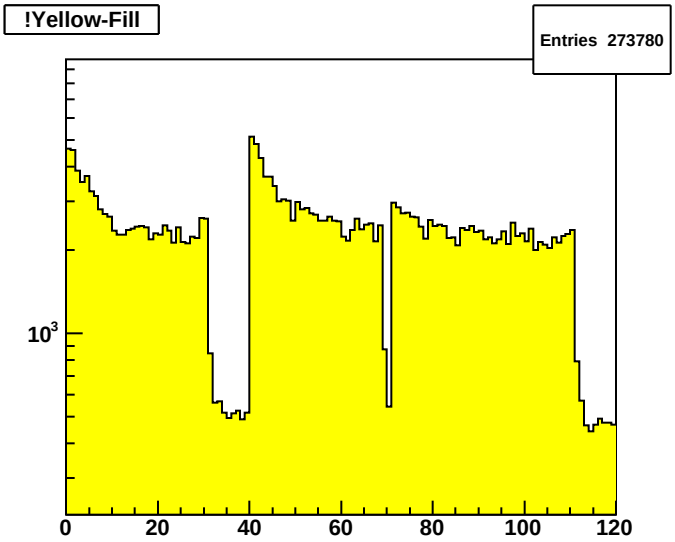

DAQ10k HT bits
Entries3285360
×10^3
250
200
150
100
50
0
0 5 10 15 20 25 30 35

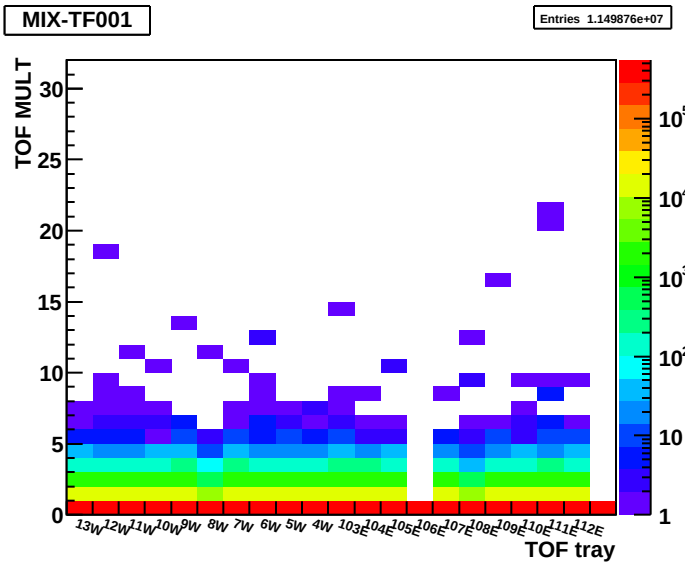

DAQ10k HT bits errors
Entries3285361
×10^3
250
200
150
100
50
0
0 5 10 15 20 25 30 35

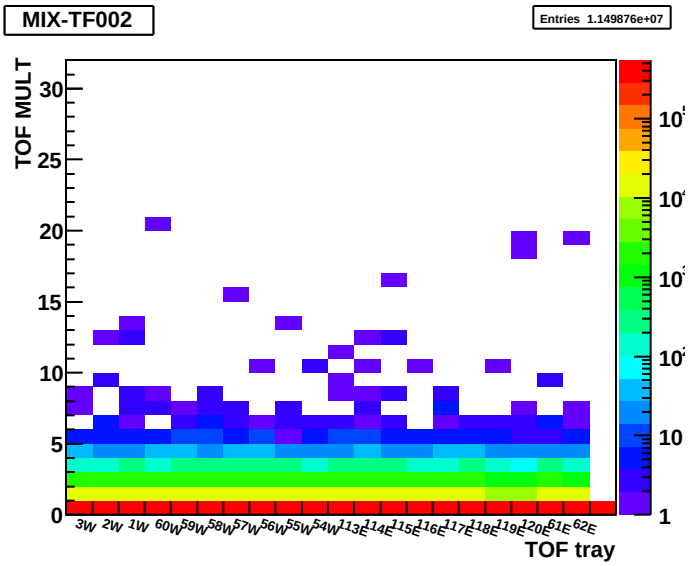

TPC Readout Mask (simulated)
Entries3559140
×10^3
250
200
150
100
50
0
0 5 10 15 20 25 30

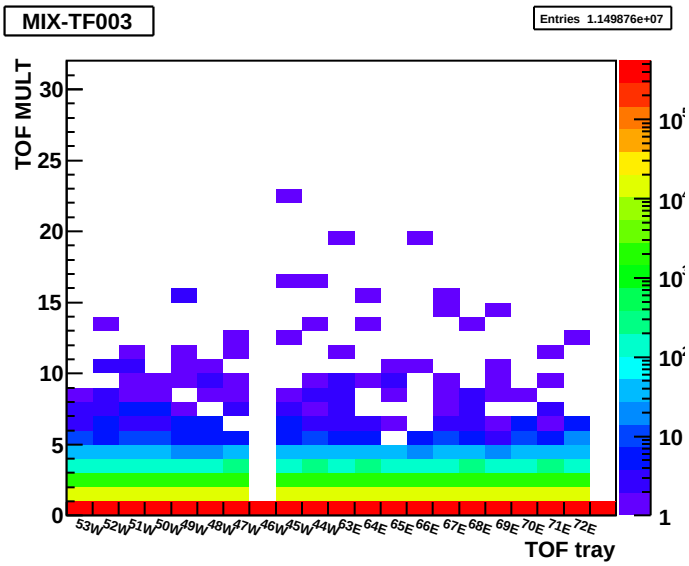

BunchId7Bit (all events)
Entries 273780
10^3
0 20 40 60 80 100 120

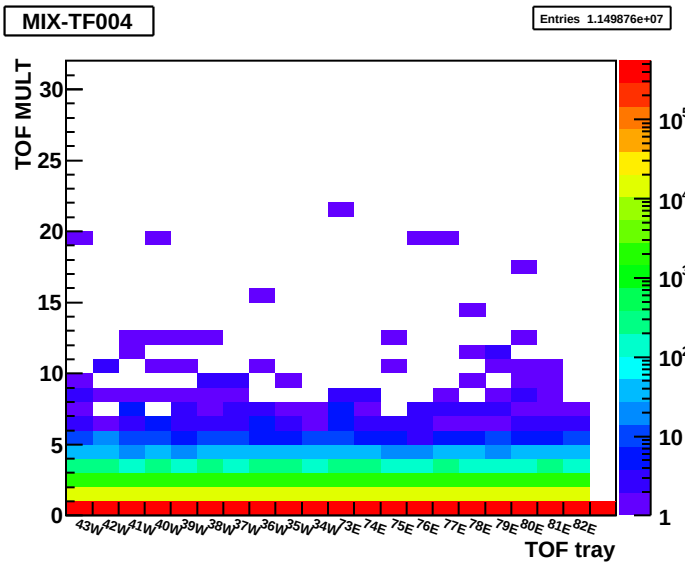

Abort-gaps
Entries 6894
10^3
10^2
10
1
0 20 40 60 80 100 120

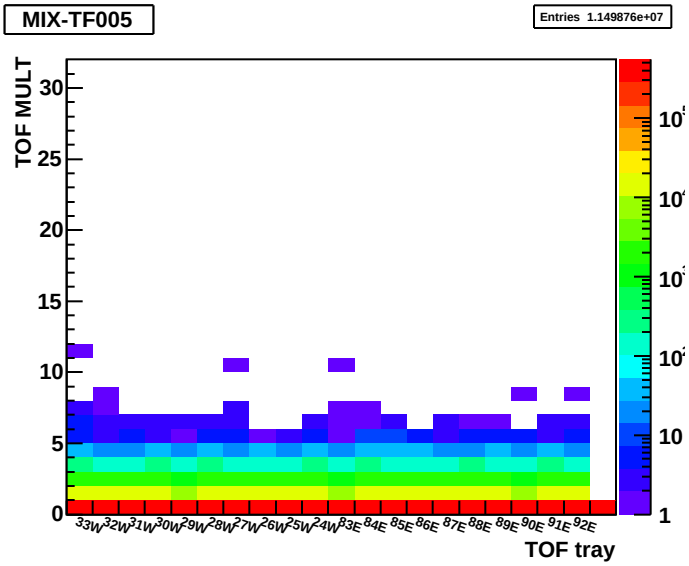

!Yellow-Fill
Entries 273780
10^3
0 20 40 60 80 100 120

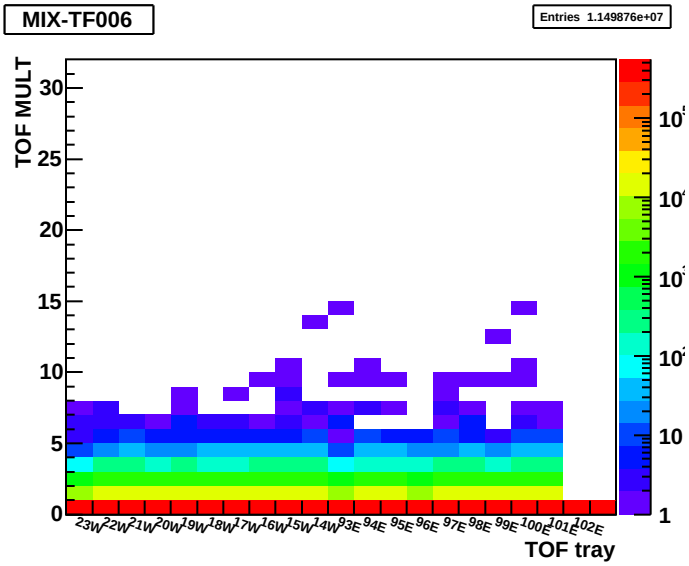

MIX-TF001
Entries 1.149876e+07
TOF MULT
TOF tray

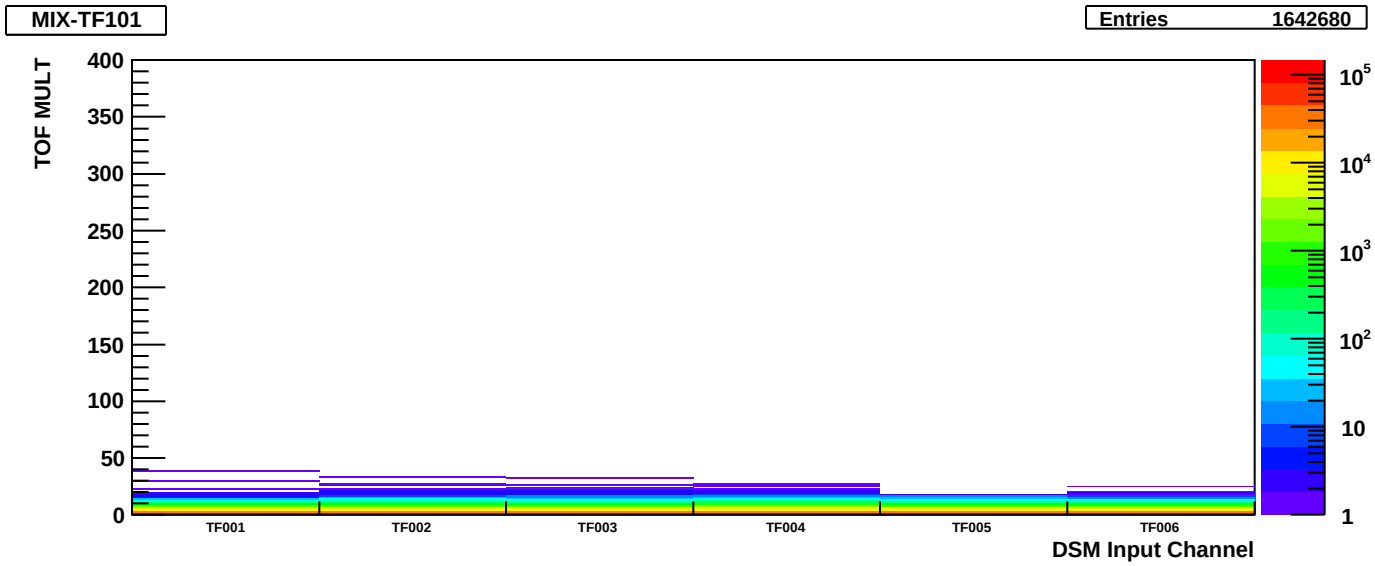

MIX-TF002
Entries 1.149876e+07
TOF MULT
TOF tray

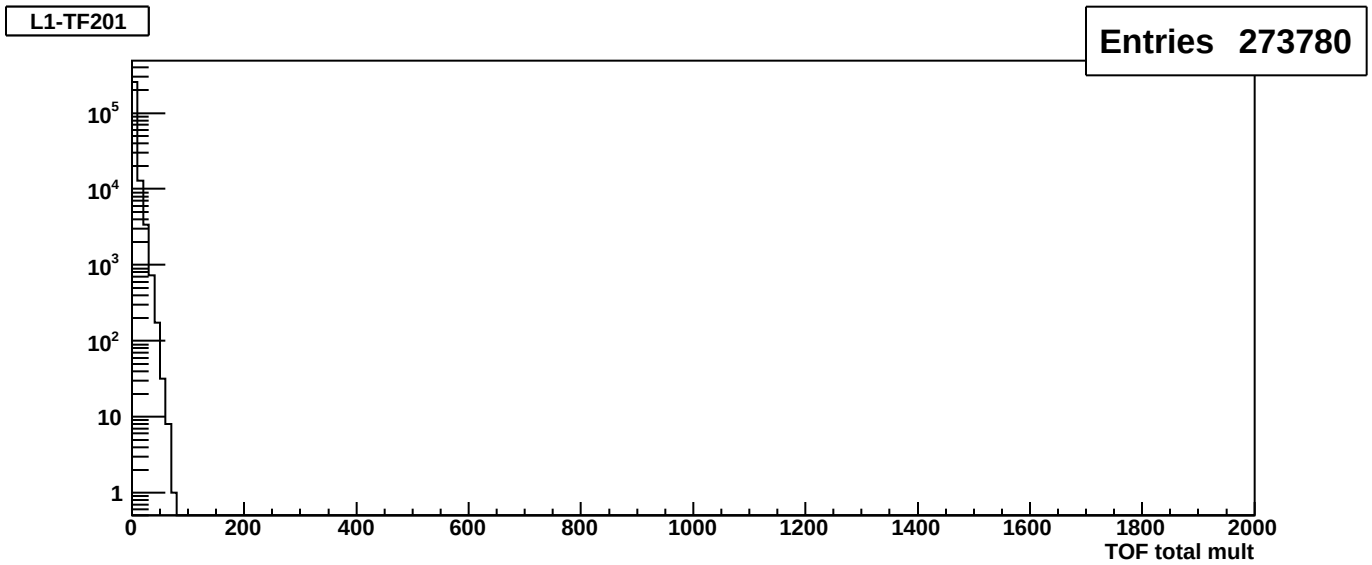

MIX-TF003
Entries 1.149876e+07
TOF MULT
TOF tray

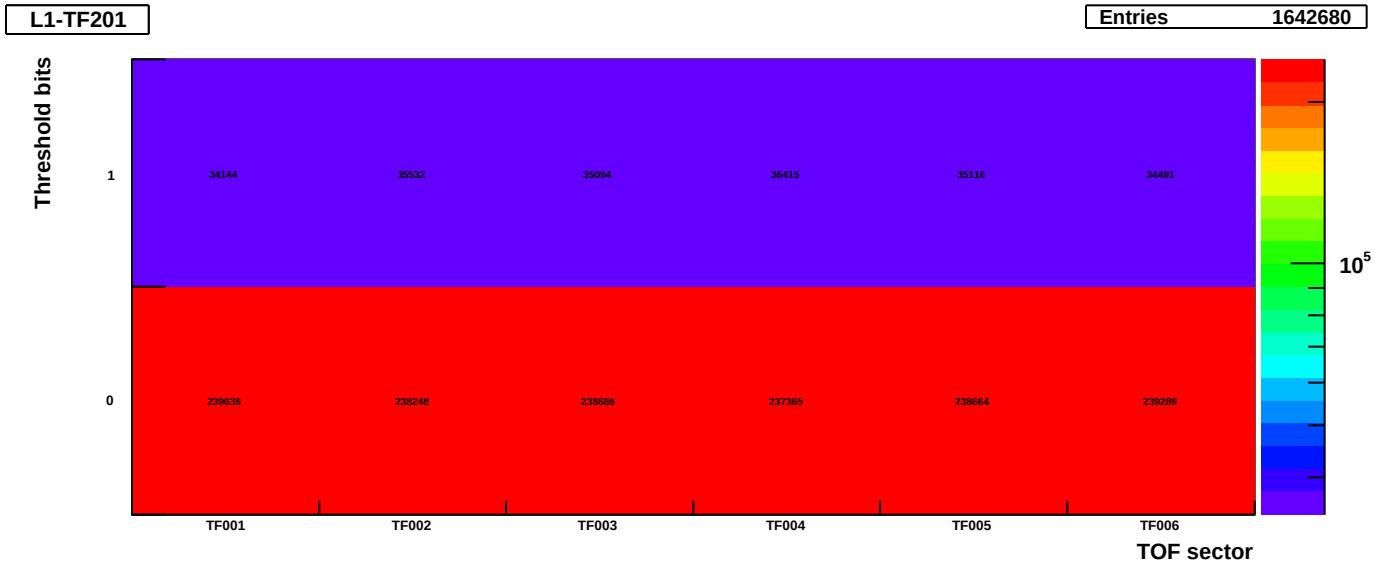

MIX-TF004
Entries 1.149876e+07
TOF MULT
TOF tray

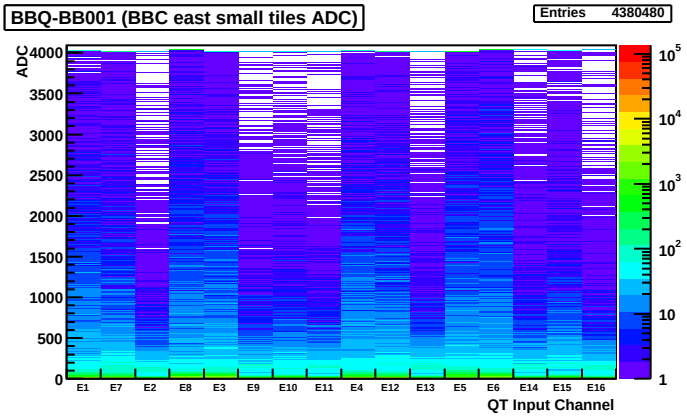

MIX-TF005
Entries 1.149876e+07
TOF MULT
TOF tray

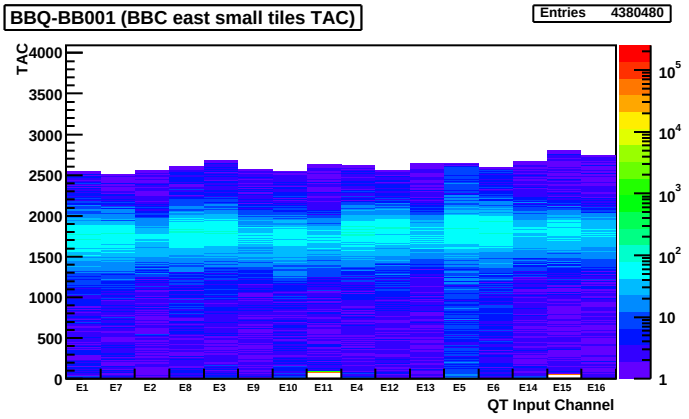

MIX-TF006
Entries 1.149876e+07
TOF MULT
TOF tray

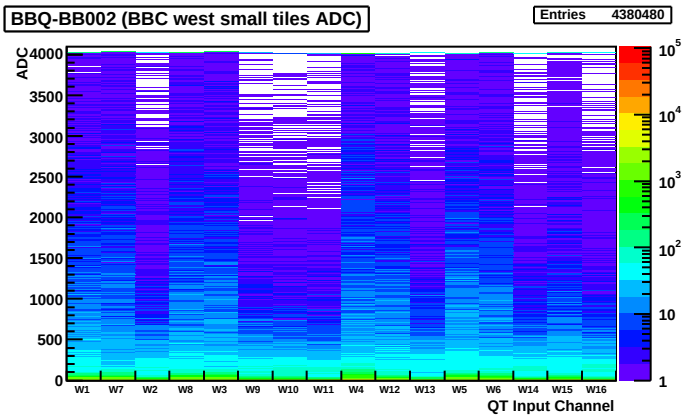

MIX-TF101
Entries 1642680
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

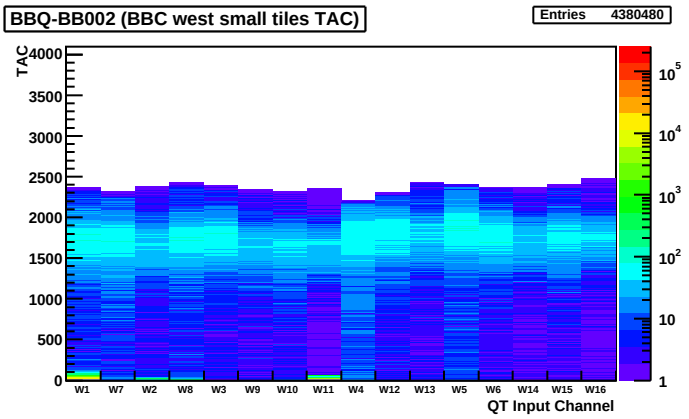

L1-TF201
Entries 273780
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

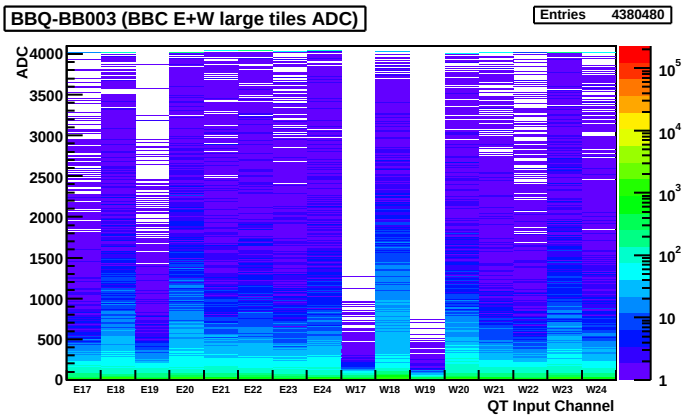

L1-TF201
Entries 1642680
Threshold bits
1
0
34144
35532
35094
36415
35116
34491
239636
238248
238686
237365
238664
239289
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5

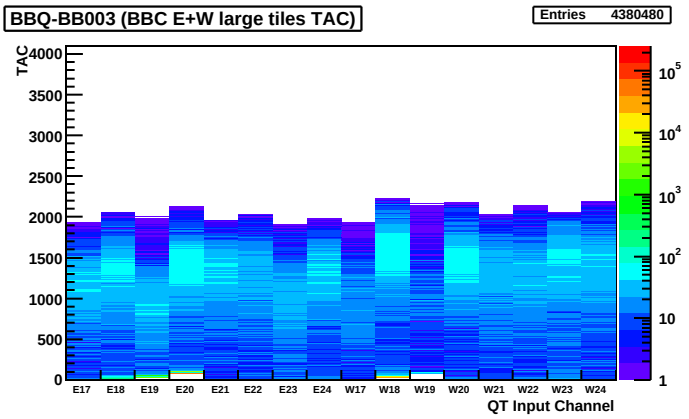

BBQ-BB001 (BBC east small tiles ADC)
Entries 4380480
ADC
QT Input Channel

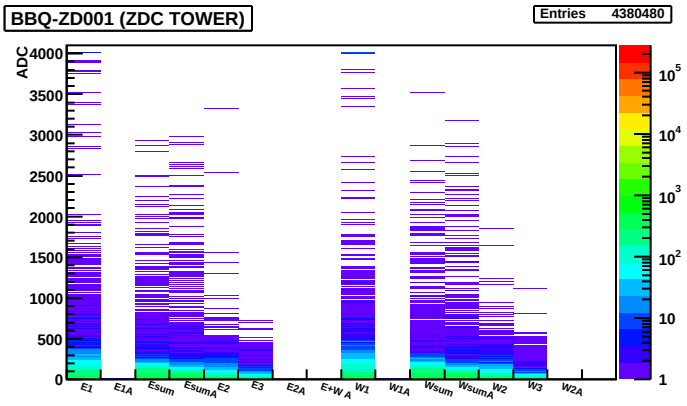

BBQ-BB001 (BBC east small tiles TAC)
Entries 4380480
TAC
QT Input Channel

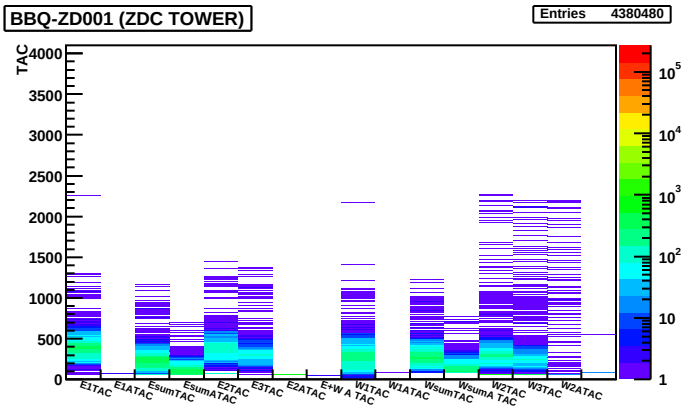

BBQ-BB002 (BBC west small tiles ADC)
Entries 4380480
ADC
QT Input Channel

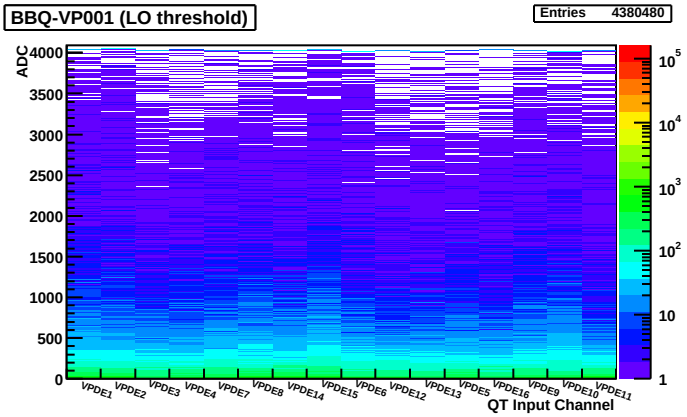

BBQ-BB002 (BBC west small tiles TAC)
Entries 4380480
TAC
QT Input Channel

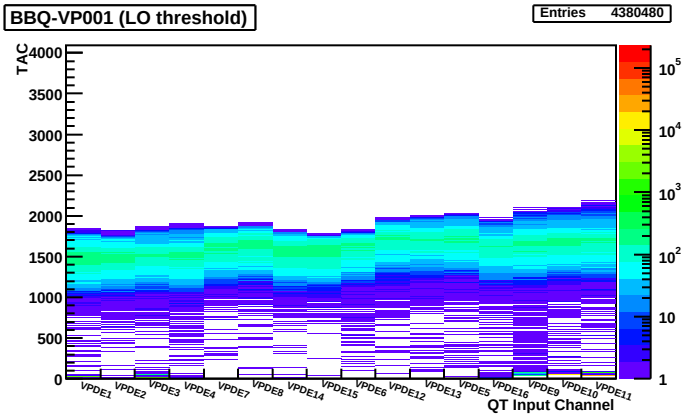

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 4380480
ADC
QT Input Channel

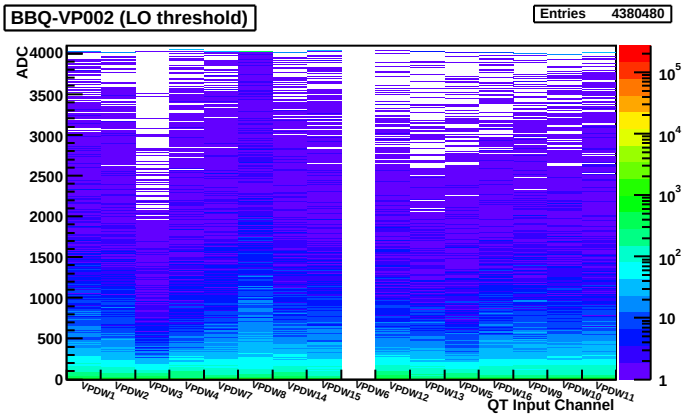

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 4380480
TAC
QT Input Channel

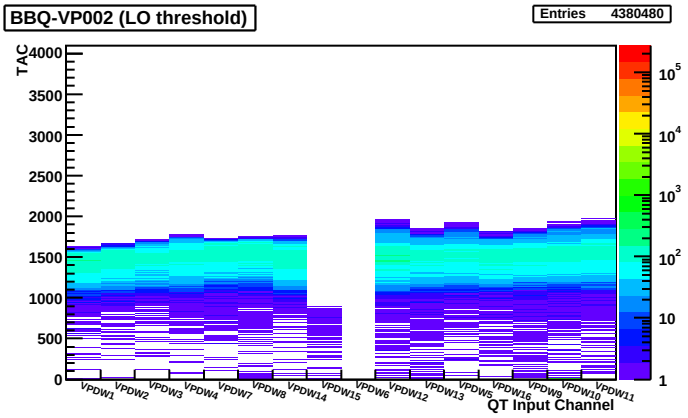

BBQ-ZD001 (ZDC TOWER)
Entries 4380480
ADC

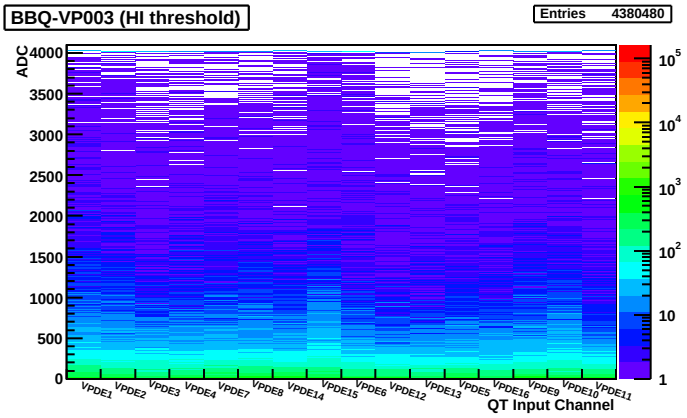

BBQ-ZD001 (ZDC TOWER)
Entries 4380480
TAC

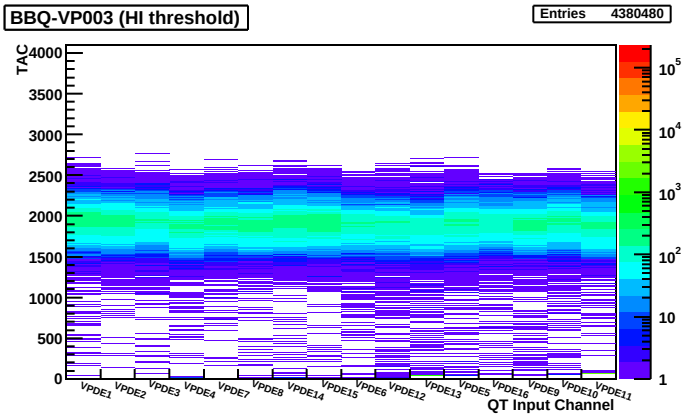

BBQ-VP001 (LO threshold)
Entries 4380480
ADC
QT Input Channel

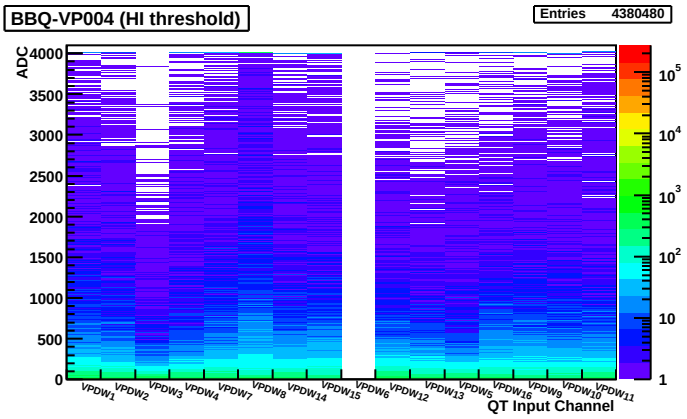

BBQ-VP001 (LO threshold)
Entries 4380480
TAC
QT Input Channel

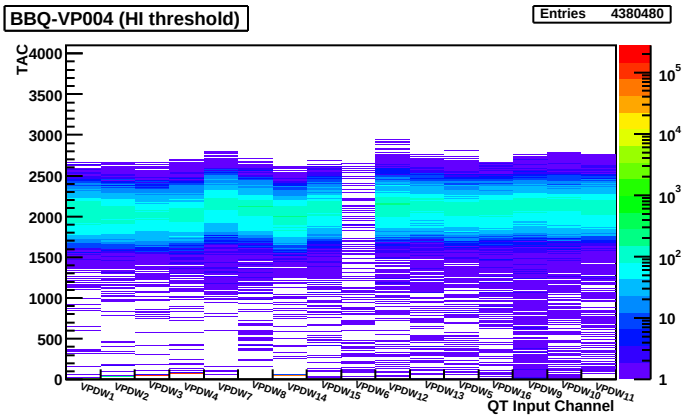

BBQ-VP002 (LO threshold)
Entries 4380480
ADC
QT Input Channel

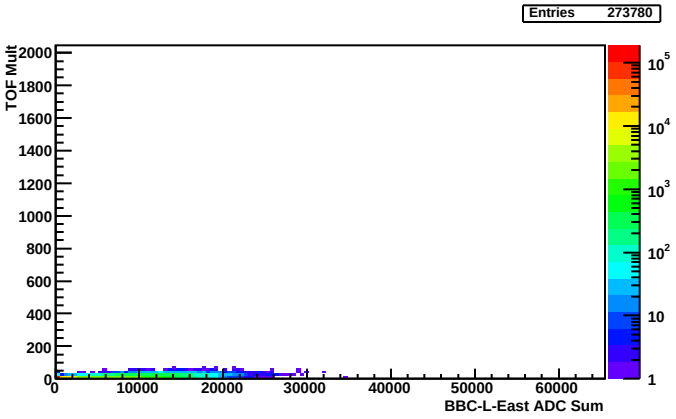

BBQ-VP002 (LO threshold)
Entries 4380480
TAC
QT Input Channel

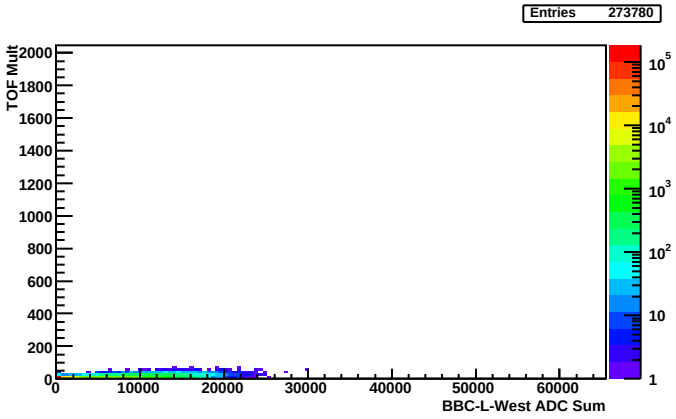

BBQ-VP003 (HI threshold)
Entries 4380480
ADC
QT Input Channel

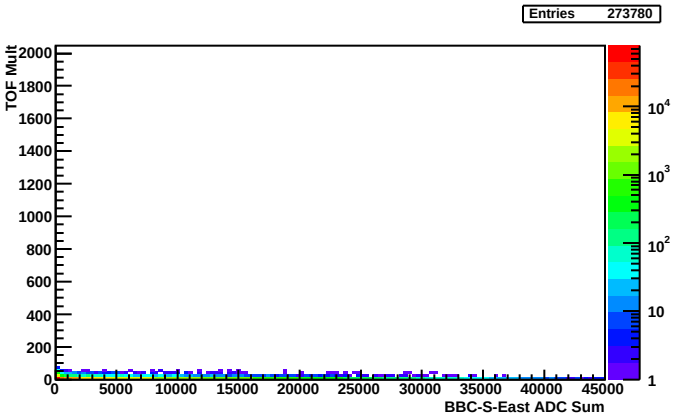

BBQ-VP003 (HI threshold)
Entries 4380480
TAC
QT Input Channel

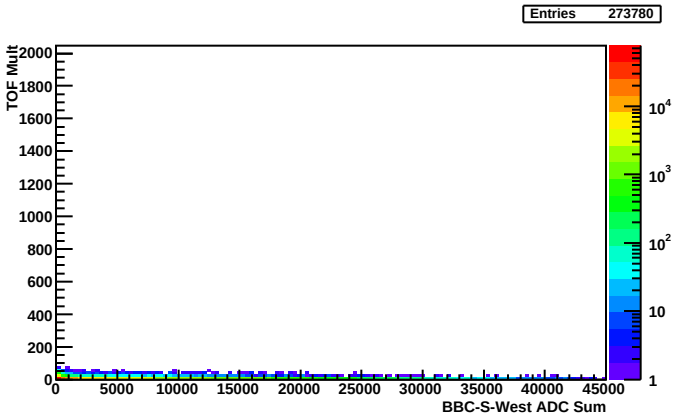

BBQ-VP004 (HI threshold)
Entries 4380480
ADC
QT Input Channel

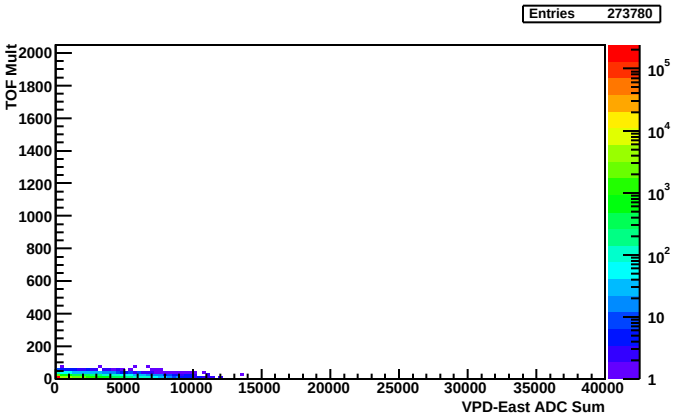

BBQ-VP004 (HI threshold)
Entries 4380480
TAC
QT Input Channel

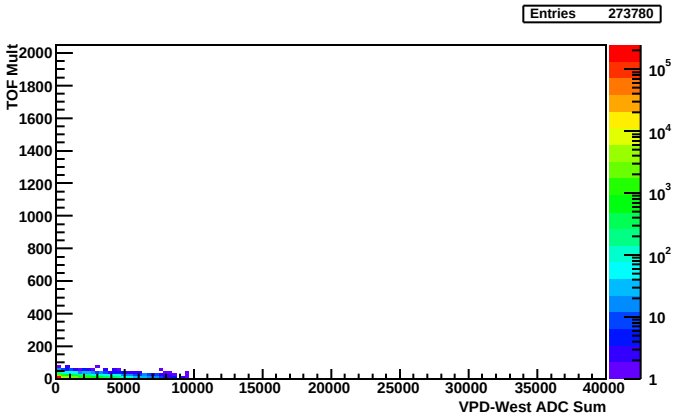

Entries 273780
TOF Mult
BBC-L-East ADC Sum

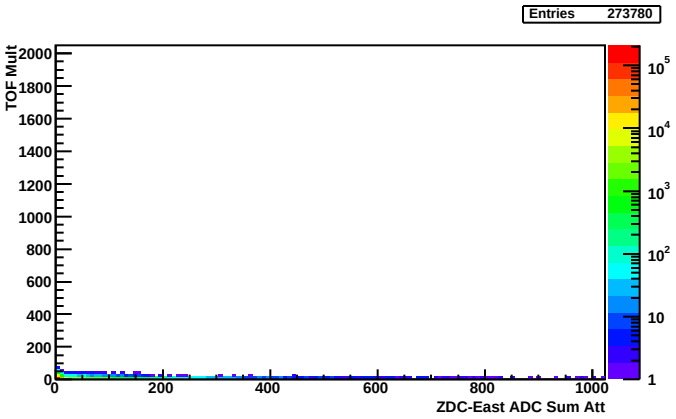

Entries 273780
TOF Mult
BBC-L-West ADC Sum

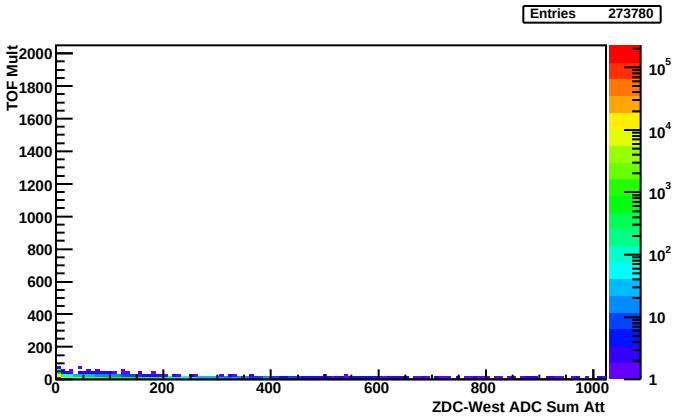

Entries 273780
TOF Mult
BBC-S-East ADC Sum

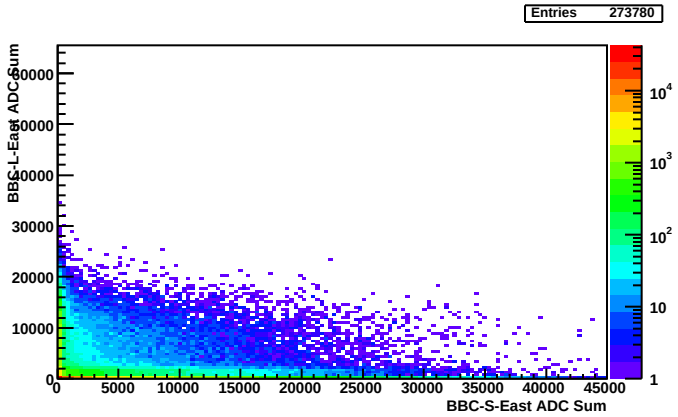

Entries 273780
TOF Mult
BBC-S-West ADC Sum

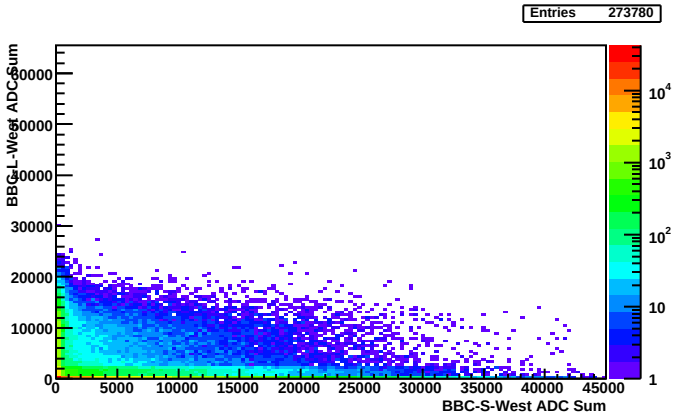

Entries 273780
TOF Mult
VPD-East ADC Sum

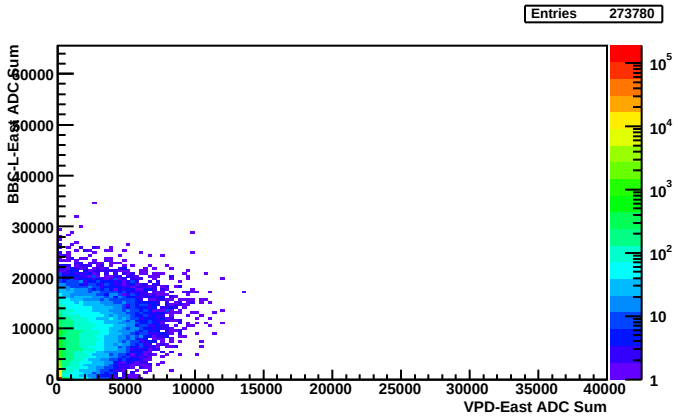

Entries 273780
TOF Mult
VPD-West ADC Sum

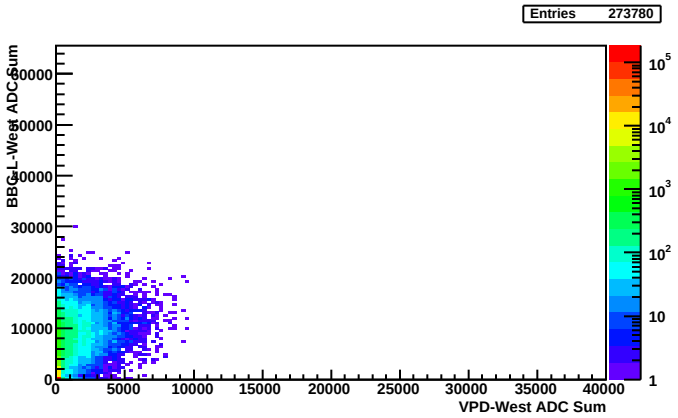

Entries 273780
TOF Mult
ZDC-East ADC Sum Att

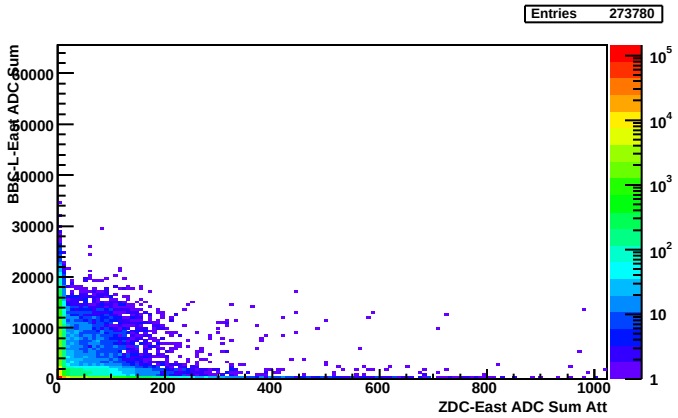

Entries 273780
TOF Mult
ZDC-West ADC Sum Att

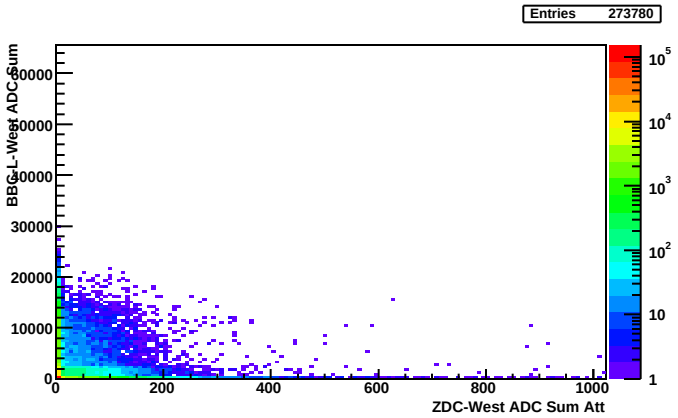

Entries 273780
BBC-L-East ADC Sum
BBC-S-East ADC Sum

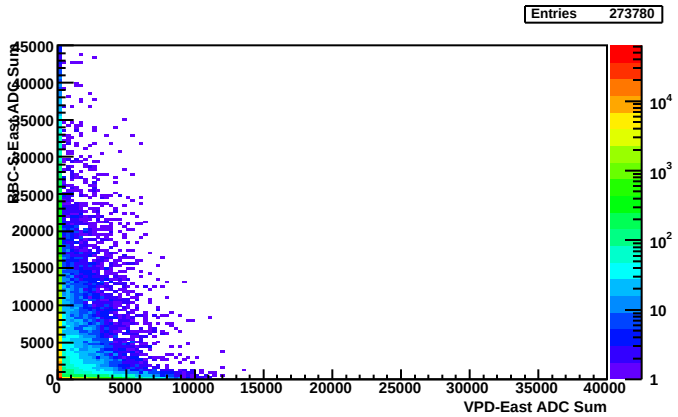

Entries 273780
BBC-L-West ADC Sum
BBC-S-West ADC Sum

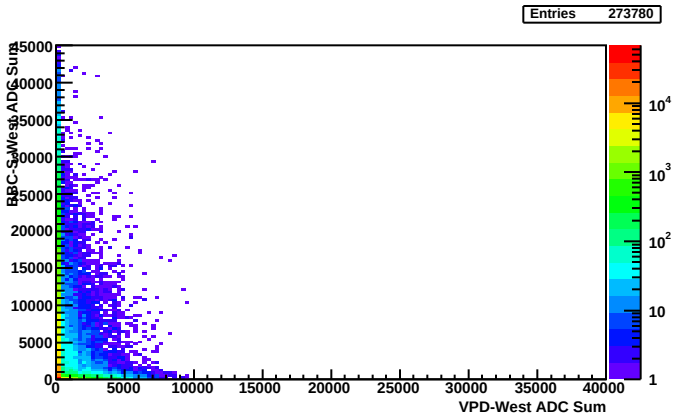

Entries 273780
BBC-L-East ADC Sum
VPD-East ADC Sum

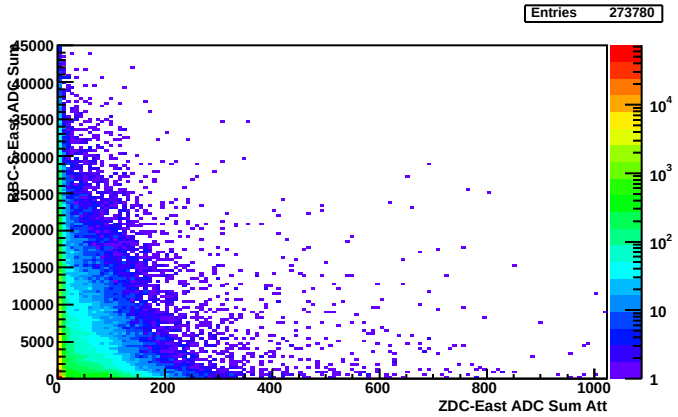

Entries 273780
BBC-L-West ADC Sum
VPD-West ADC Sum

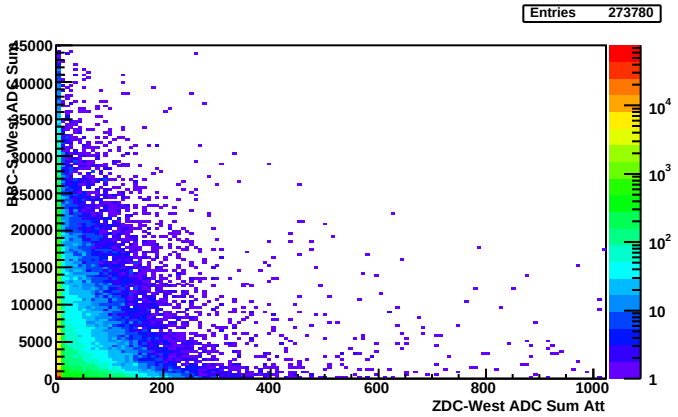

Entries 273780
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

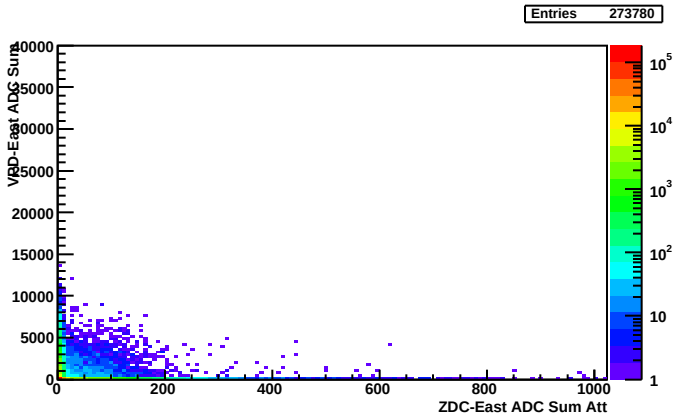

Entries 273780
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

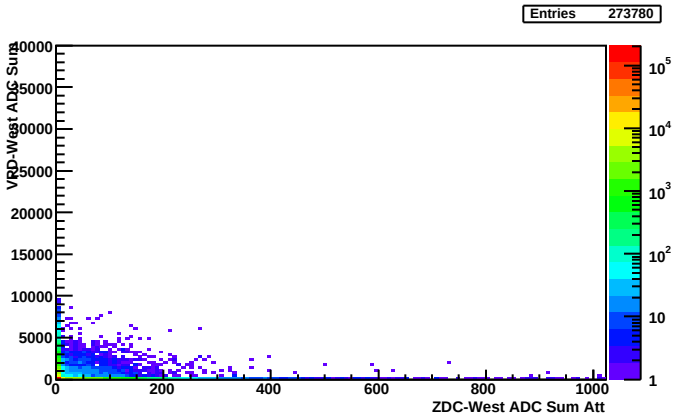

Entries 273780
BBC-S-East ADC Sum
VPD-East ADC Sum

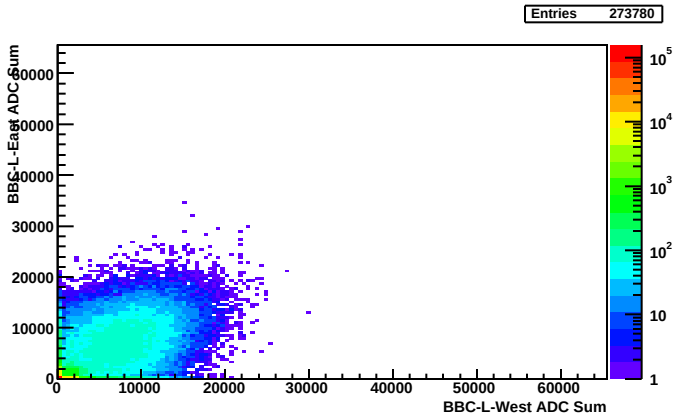

Entries 273780
BBC-S-West ADC Sum
VPD-West ADC Sum

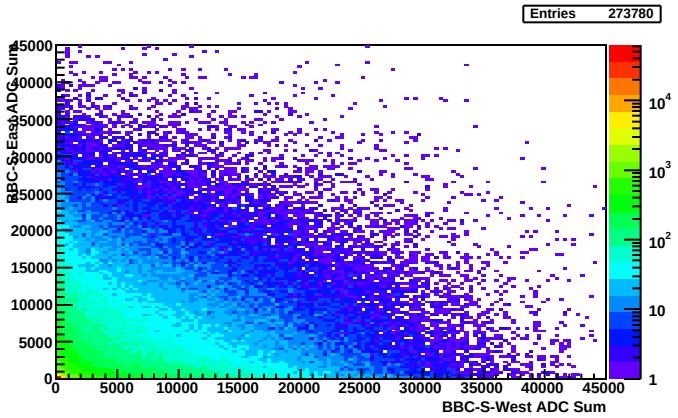

Entries 273780
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

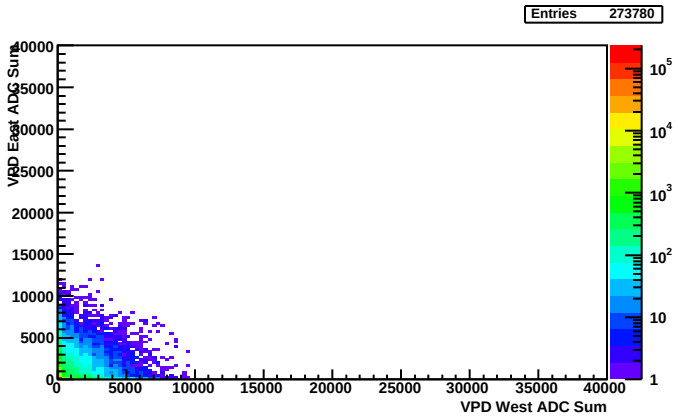

Entries 273780
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

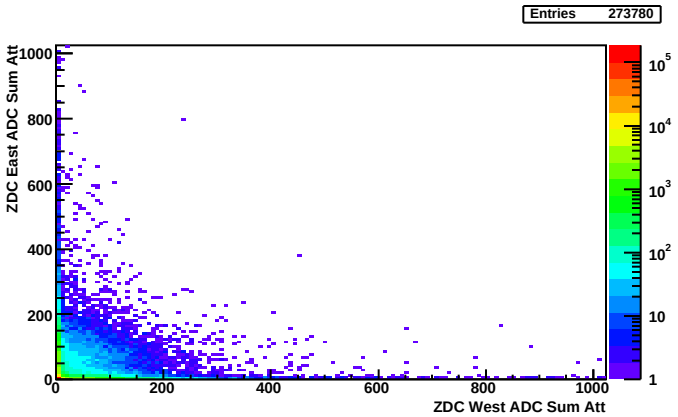

Entries 273780
VPD-East ADC Sum
ZDC-East ADC Sum Att

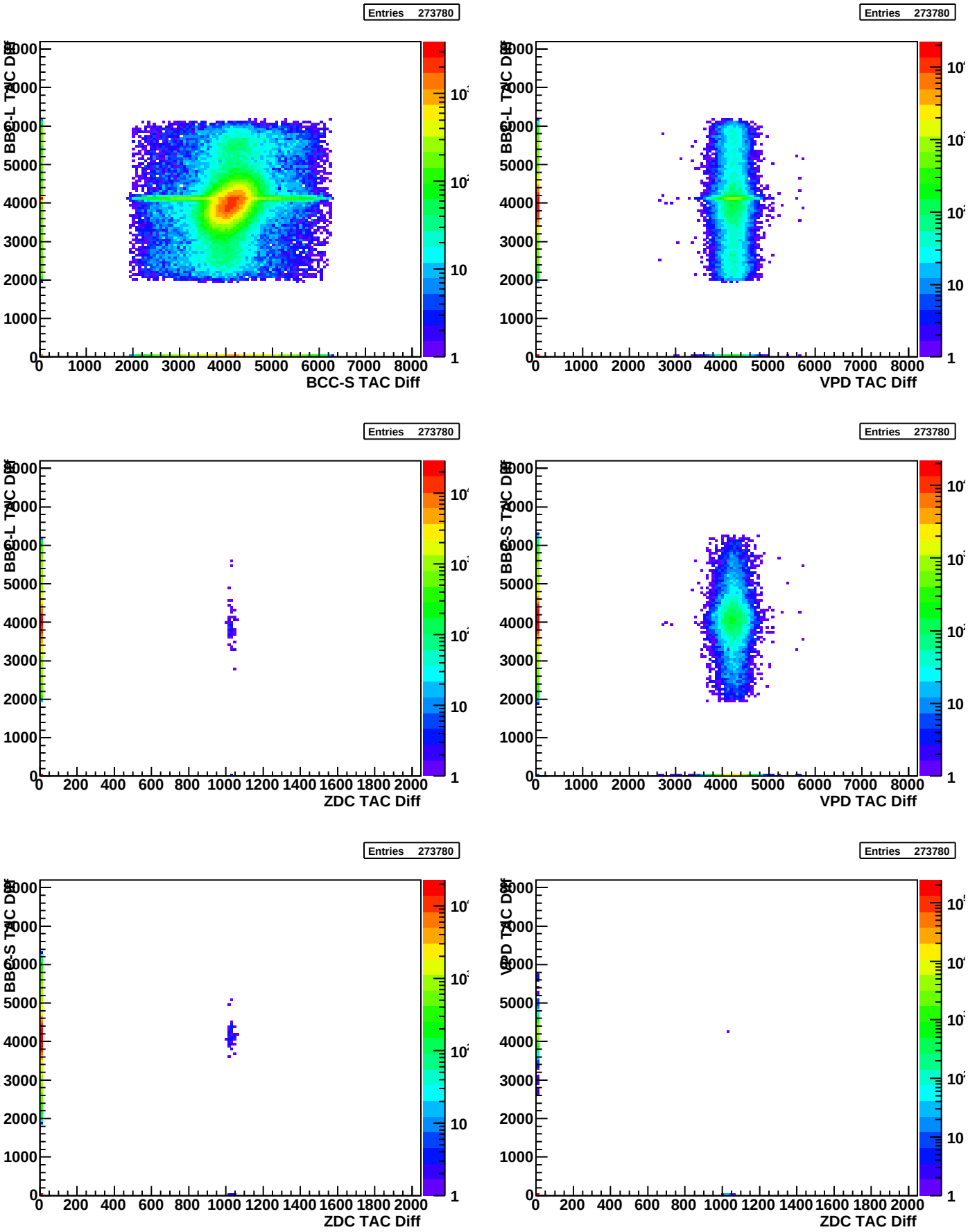

Entries 273780
VPD-West ADC Sum
ZDC-West ADC Sum Att

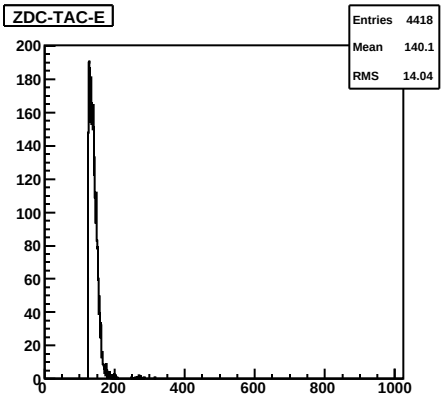

Entries 273780
BBC-L-East ADC Sum
BBC-L-West ADC Sum

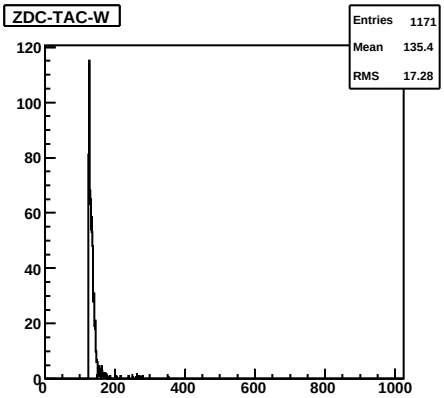

Entries 273780
BBC-S-East ADC Sum
BBC-S-West ADC Sum

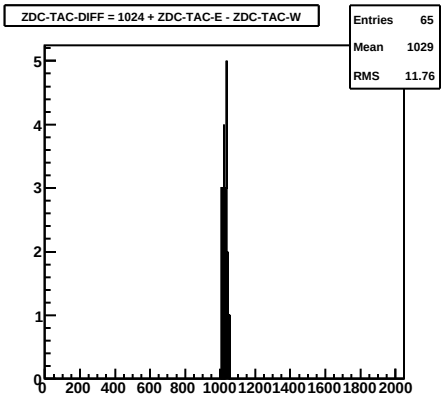

Entries 273780
VPD East ADC Sum
VPD West ADC Sum

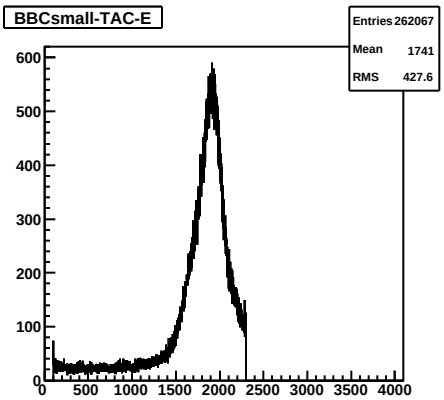

Entries 273780
ZDC East ADC Sum Att
ZDC West ADC Sum Att

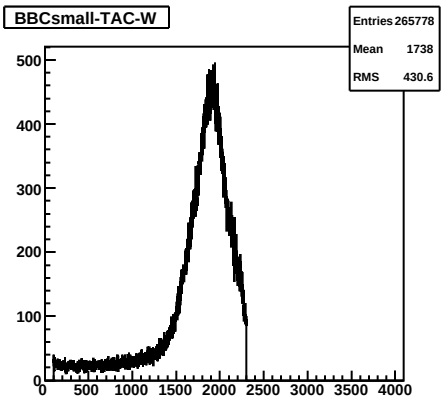

Entries 273780
BBC-L TAC Diff
BCC-S TAC Diff
Entries 273780
BBC-L TAC Diff
VPD TAC Diff
Entries 273780
BBC-L TAC Diff
ZDC TAC Diff
Entries 273780
BBC-S TAC Diff
VPD TAC Diff
Entries 273780
BBC-S TAC Diff
ZDC TAC Diff
Entries 273780
VPD TAC Diff
ZDC TAC Diff

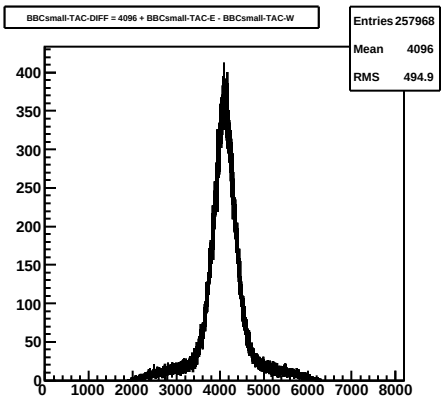

ZDC-TAC-E
Entries 4418
Mean 140.1
RMS 14.04

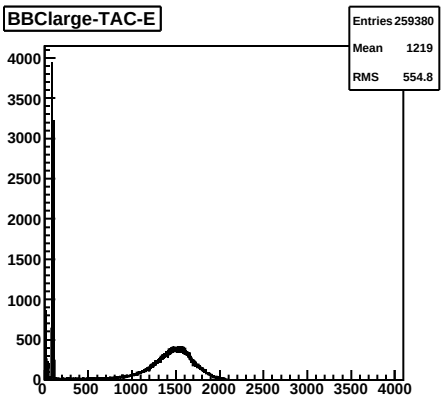

ZDC-TAC-W
Entries 1171
Mean 135.4
RMS 17.28

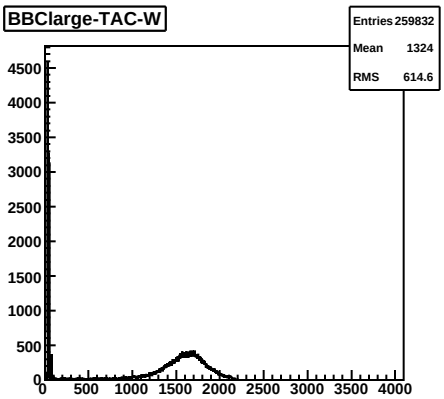

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 65
Mean 1029
RMS 11.76

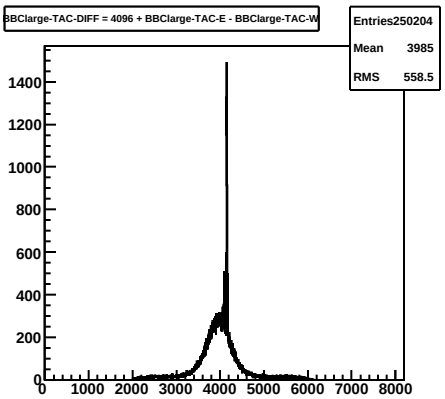

BBCsmall-TAC-E
Entries 262067
Mean 1741
RMS 427.6

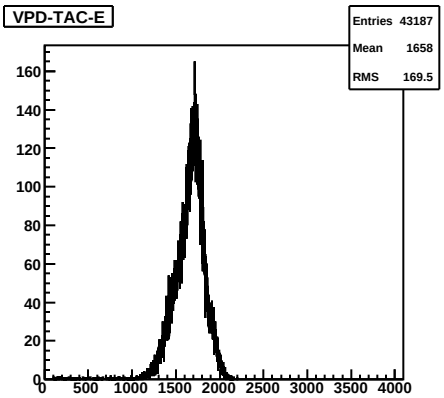

BBCsmall-TAC-W
Entries 265778
Mean 1738
RMS 430.6

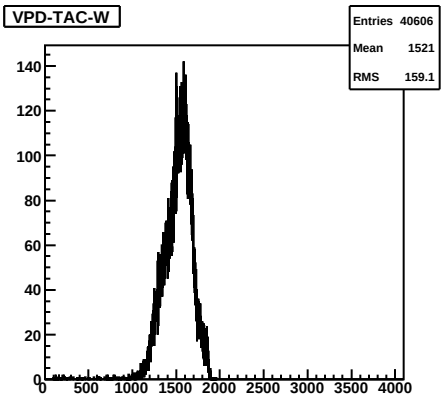

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 257968
Mean 4096
RMS 494.9

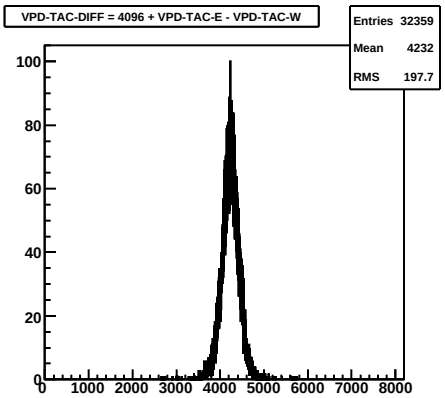

BBClarge-TAC-E
Entries 259380
Mean 1219
RMS 554.8

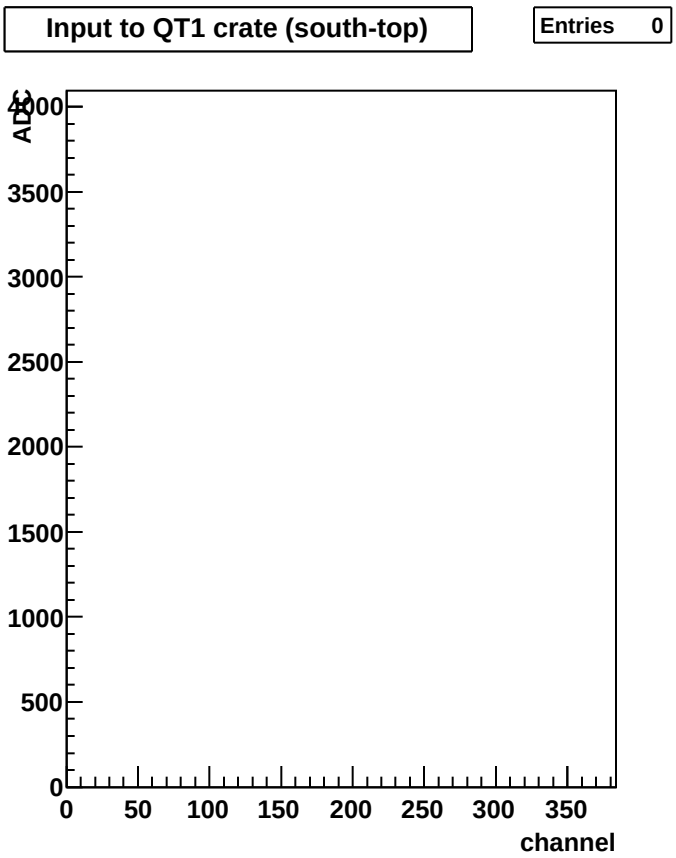

BBClarge-TAC-W
Entries 259832
Mean 1324
RMS 614.6

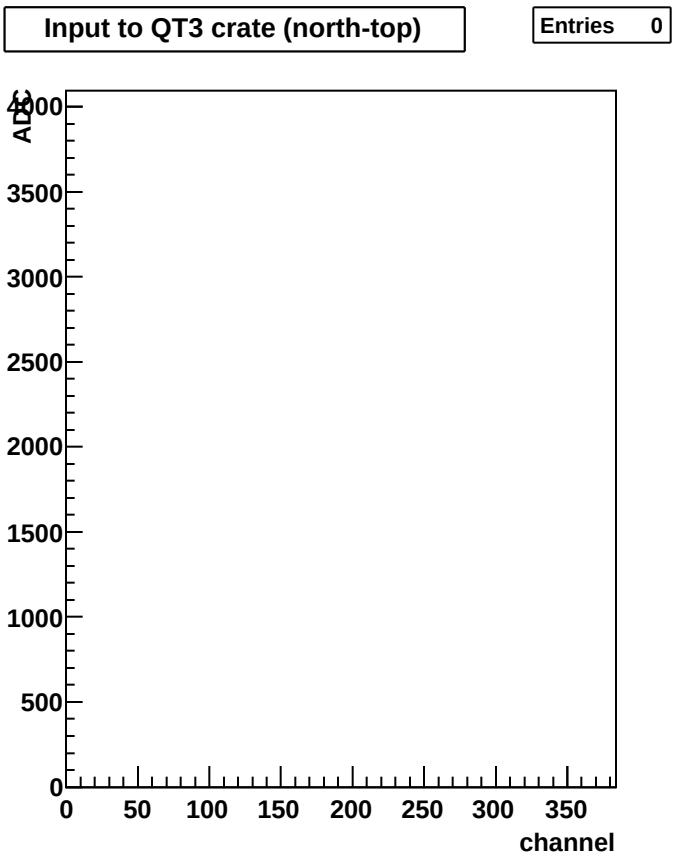

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 250204
Mean 3985
RMS 558.5

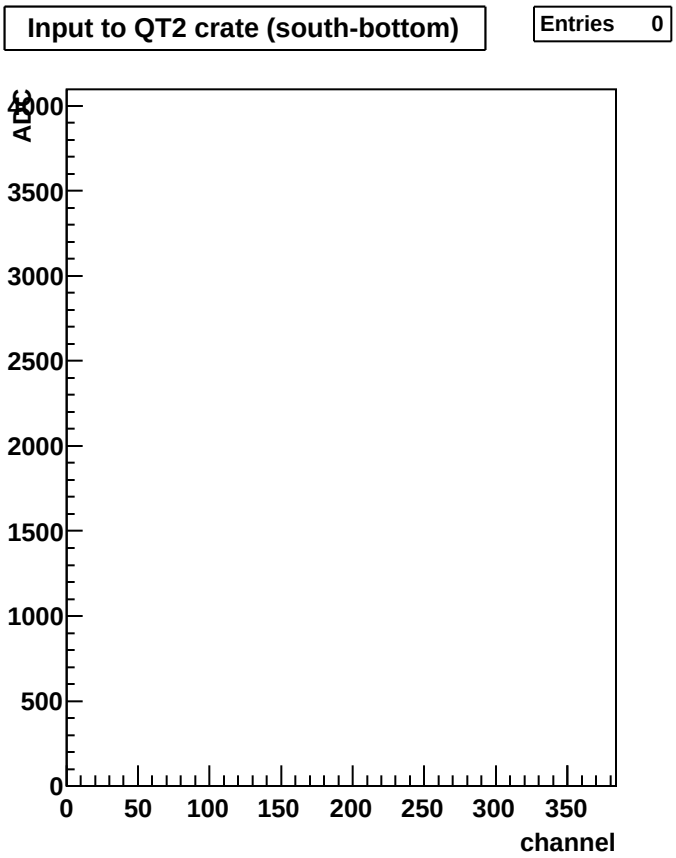

VPD-TAC-E
Entries 43187
Mean 1658
RMS 169.5

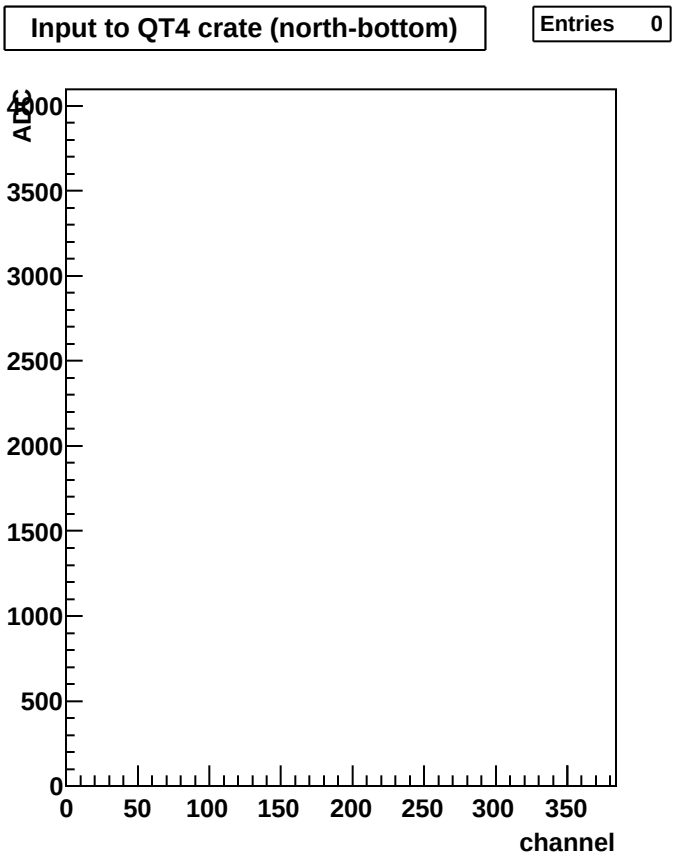

VPD-TAC-W
Entries 40606
Mean 1521
RMS 159.1

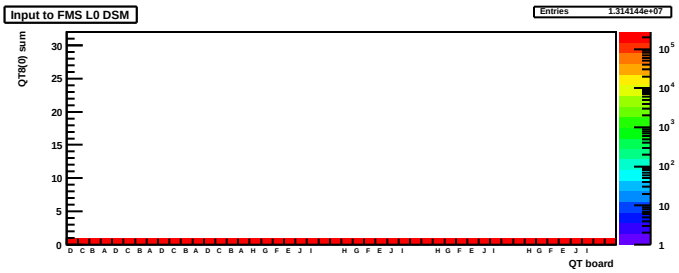

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 32359
Mean 4232
RMS 197.7

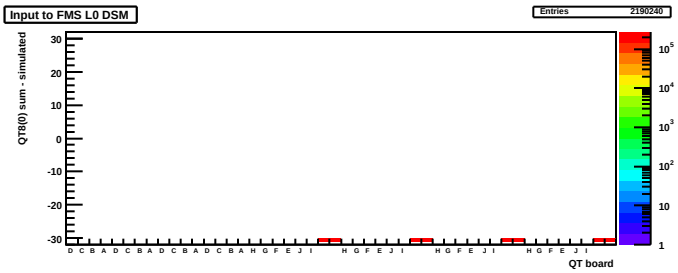

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

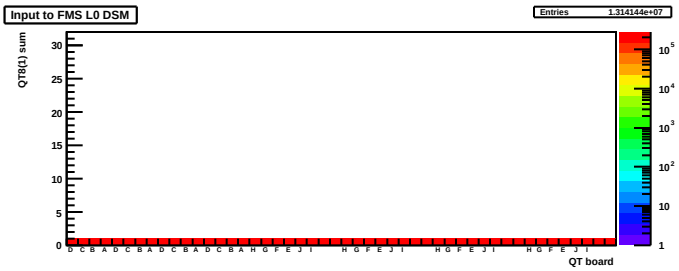

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

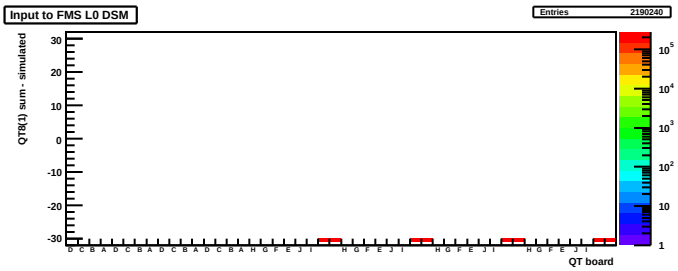

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

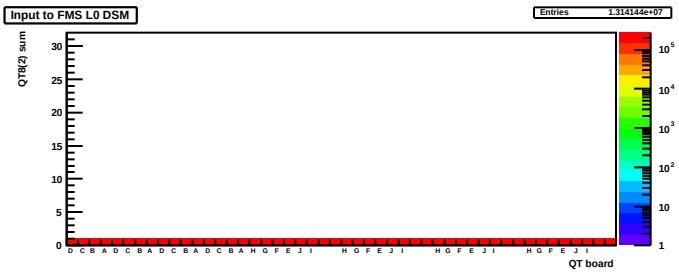

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

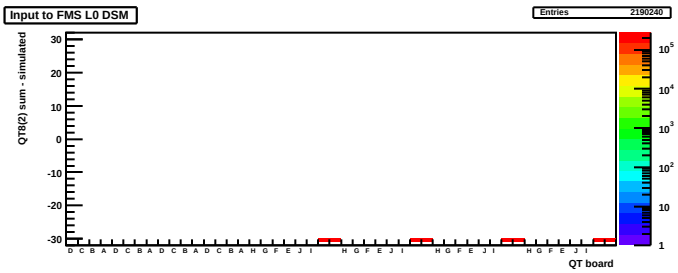

Input to FMS L0 DSM
Entries 1.314144e+07
QT8(0) sum
QT board

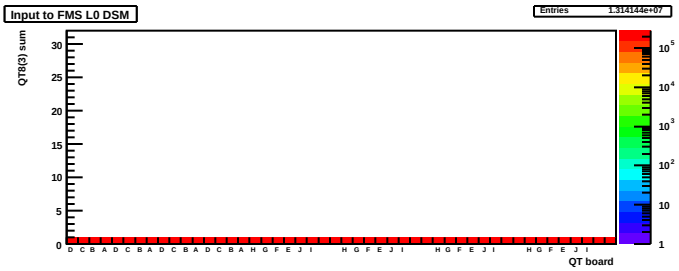

Input to FMS L0 DSM
Entries 2190240
QT8(0) sum - simulated
QT board

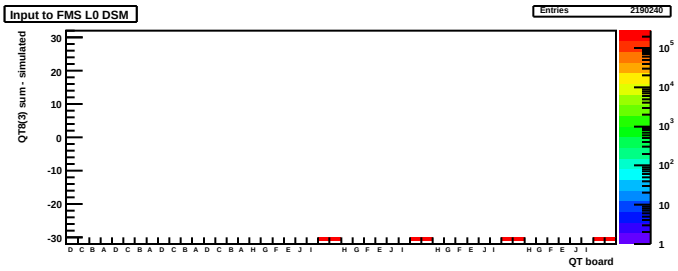

Input to FMS L0 DSM
Entries 1.314144e+07
QT8(1) sum
QT board

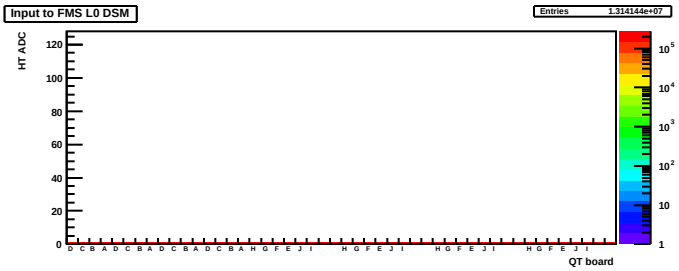

Input to FMS L0 DSM
Entries 2190240
QT8(1) sum - simulated
QT board

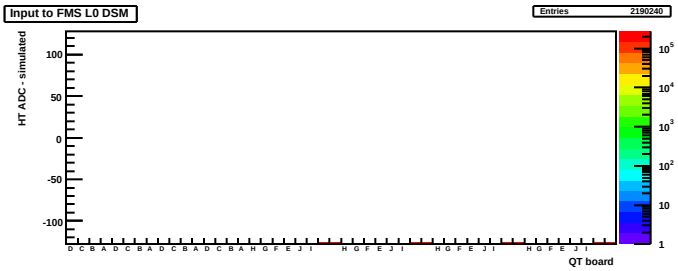

Input to FMS L0 DSM
Entries 1.314144e+07
QT8(2) sum
QT board

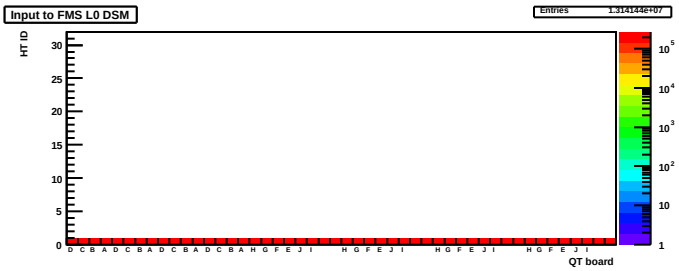

Input to FMS L0 DSM
Entries 2190240
QT8(2) sum - simulated
QT board

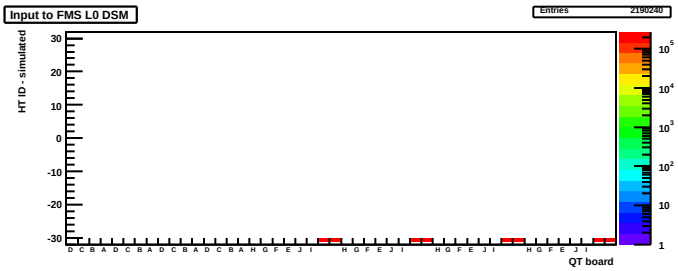

Input to FMS L0 DSM
Entries 1.314144e+07
QT8(3) sum
QT board

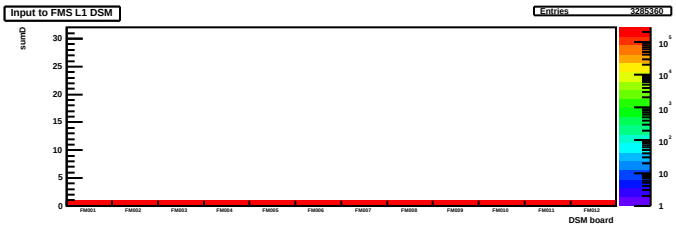

Input to FMS L0 DSM
Entries 2190240
QT8(3) sum - simulated
QT board

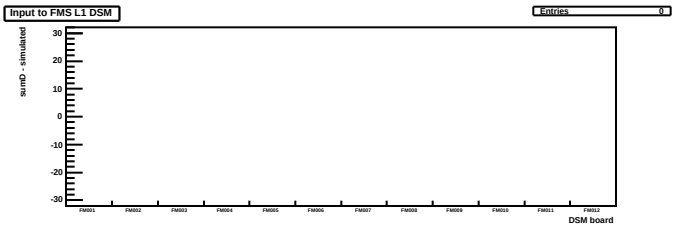

Input to FMS L0 DSM
Entries 1.314144e+07
HT ADC
QT board

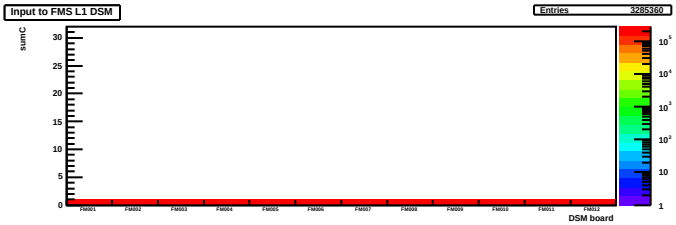

Input to FMS L0 DSM
Entries 2190240
HT ADC - simulated
QT board

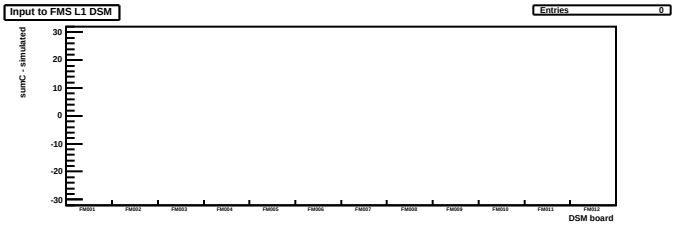

Input to FMS L0 DSM
Entries 1.314144e+07
HT ID
QT board

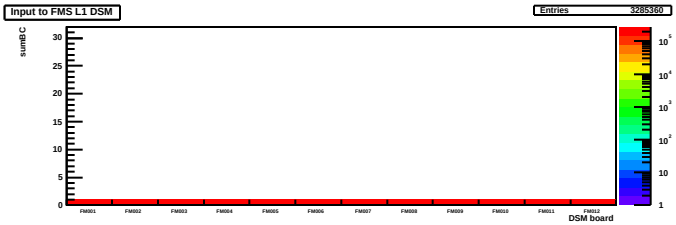

Input to FMS L0 DSM
Entries 2190240
HT ID - simulated
QT board

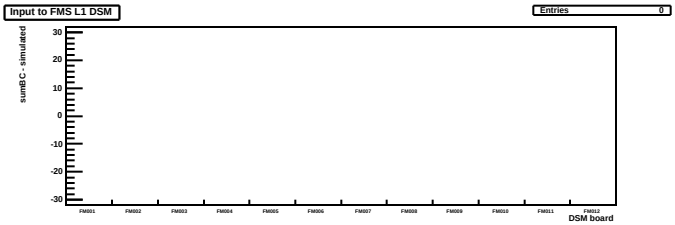

Input to FMS L1 DSM
Entries 3285360
sumD
DSM board

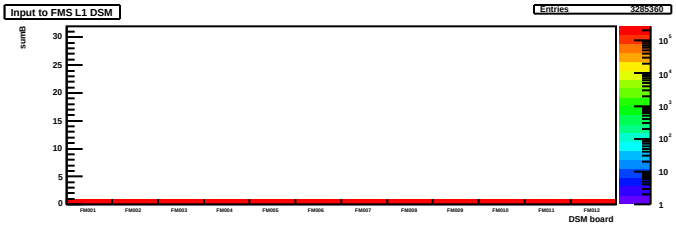

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

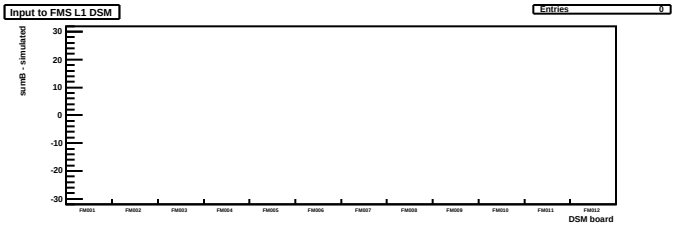

Input to FMS L1 DSM
Entries 3285360
sumC
DSM board

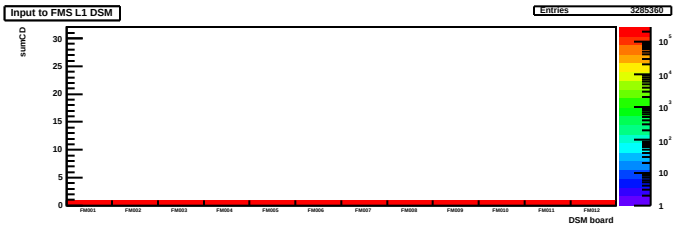

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

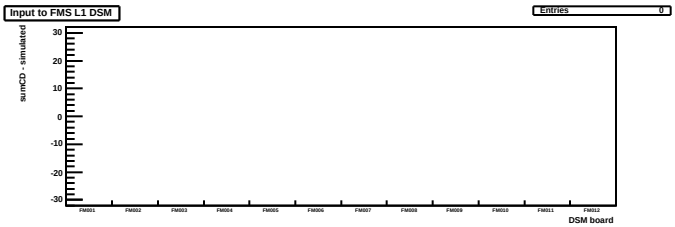

Input to FMS L1 DSM
Entries 3285360
sumBC
DSM board

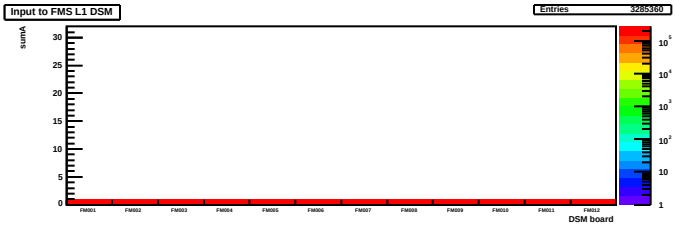

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

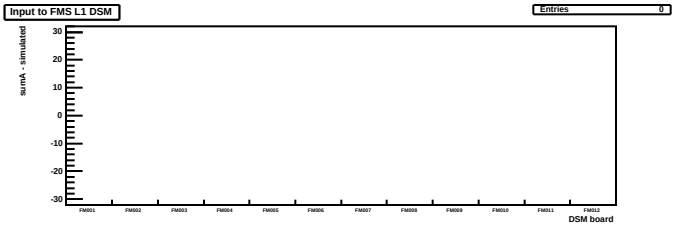

Input to FMS L1 DSM
Entries 3285360
sumB
DSM board

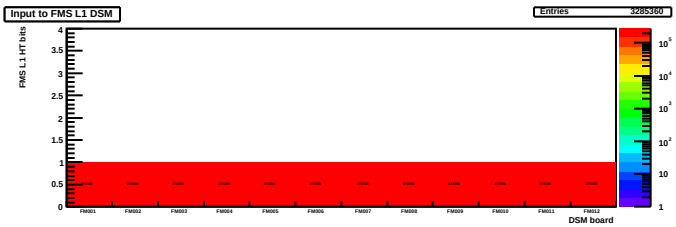

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

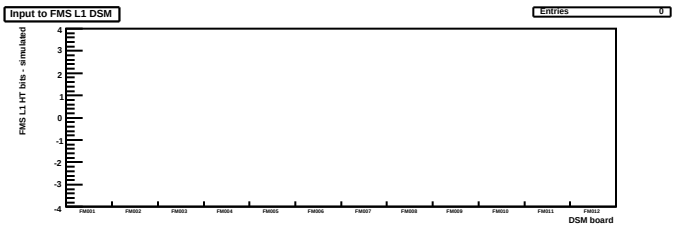

Input to FMS L1 DSM
Entries 3285360
sumCD
DSM board

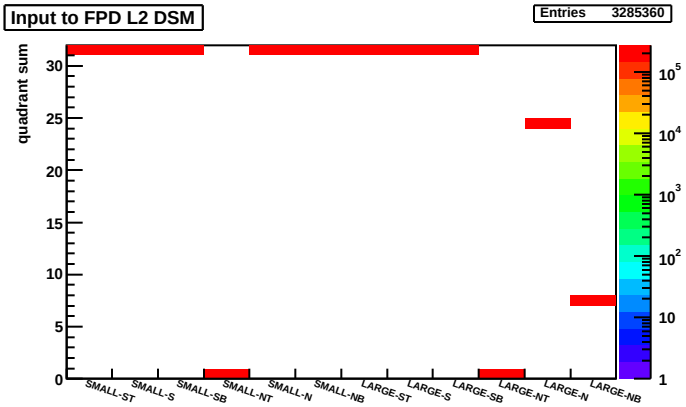

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

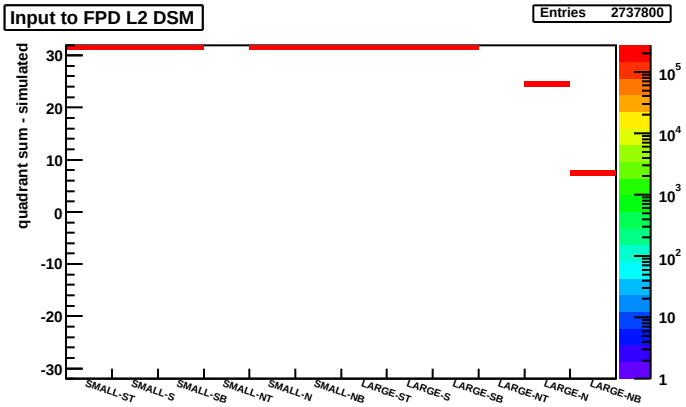

Input to FMS L1 DSM
Entries 3285360
sumA
DSM board

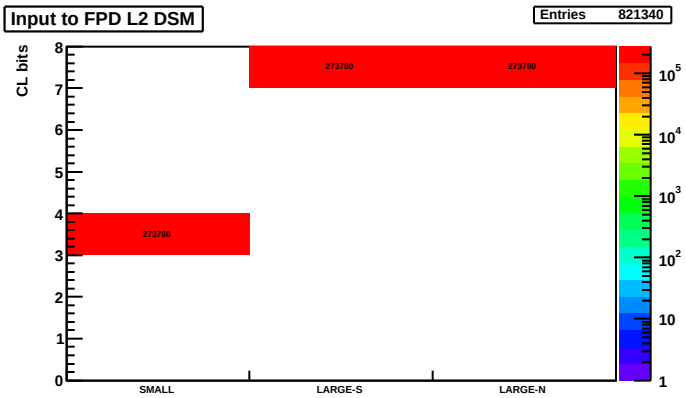

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

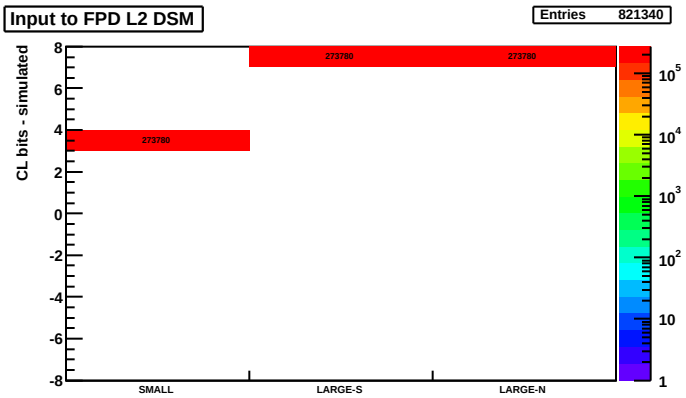

Input to FMS L1 DSM
Entries 3285360
FMS L1 HT bits
DSM board

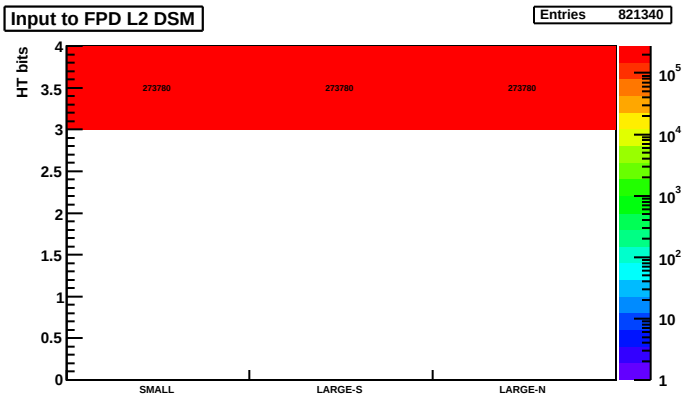

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

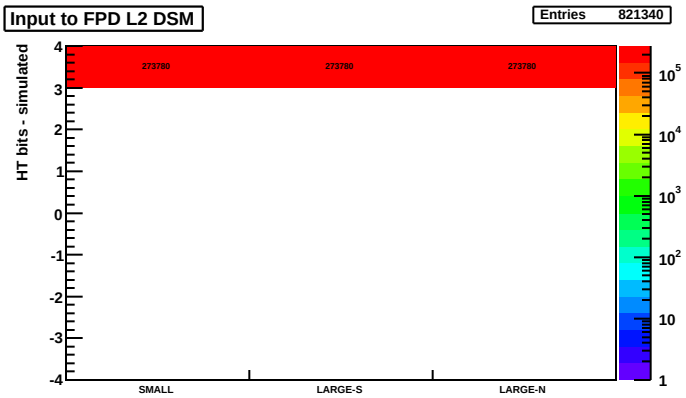

Input to FPD L2 DSM
Entries 3285360
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

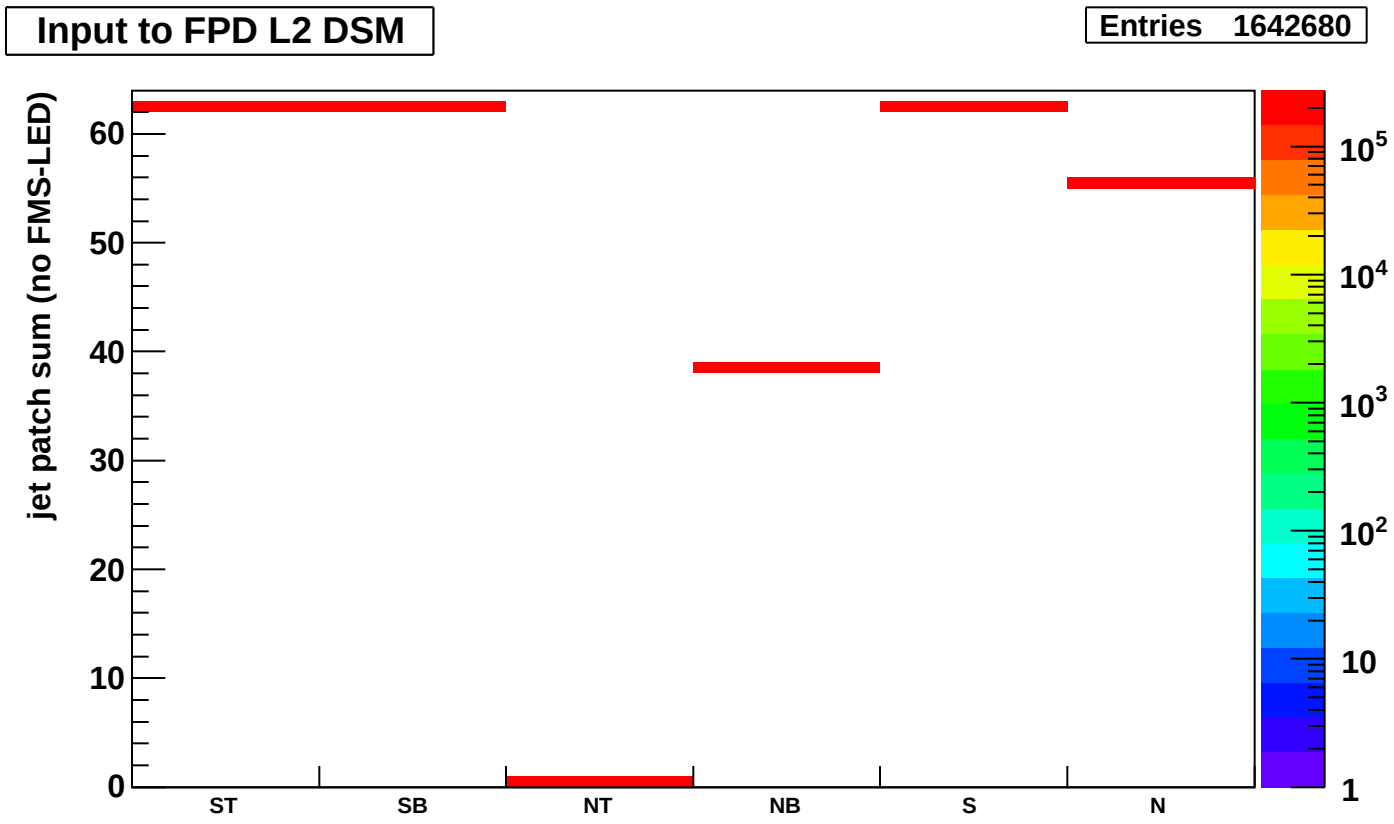

Input to FPD L2 DSM
Entries 2737800
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

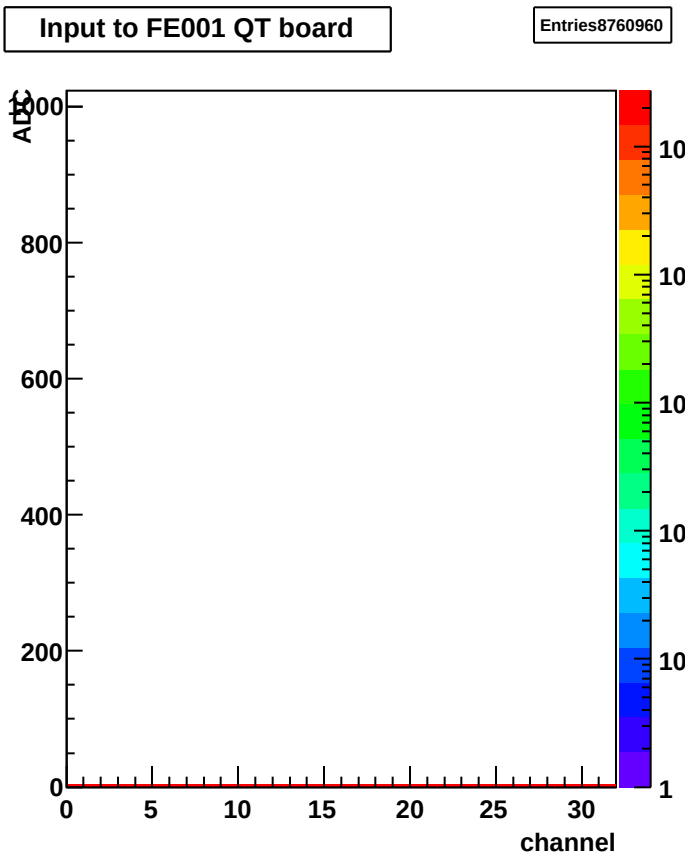

Input to FPD L2 DSM
Entries 821340
CL bits
273780
273780
273780
SMALL
LARGE-S
LARGE-N

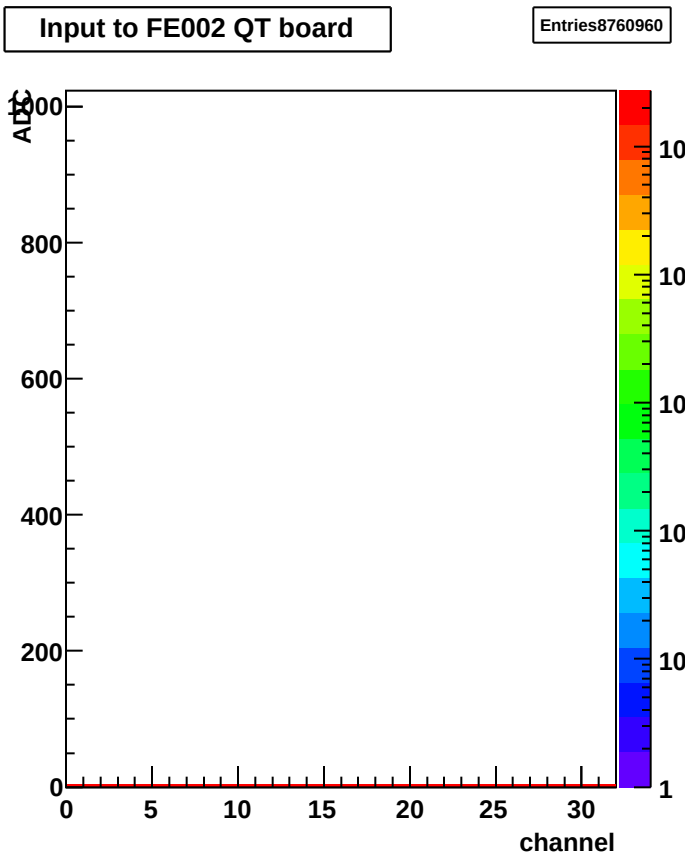

Input to FPD L2 DSM
Entries 821340
CL bits - simulated
273780
273780
273780
SMALL
LARGE-S
LARGE-N

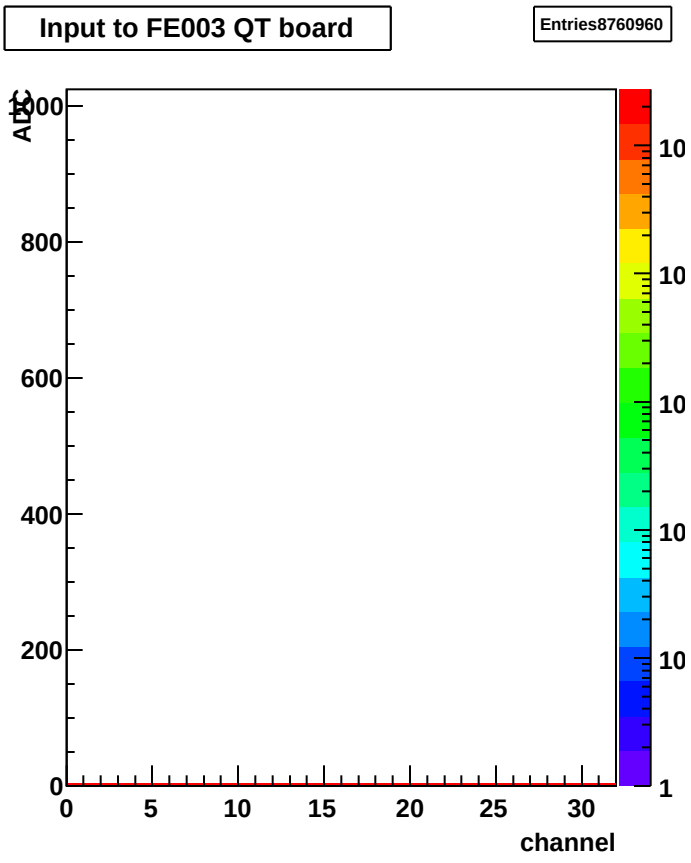

Input to FPD L2 DSM
Entries 821340
HT bits
273780
273780
273780
SMALL
LARGE-S
LARGE-N

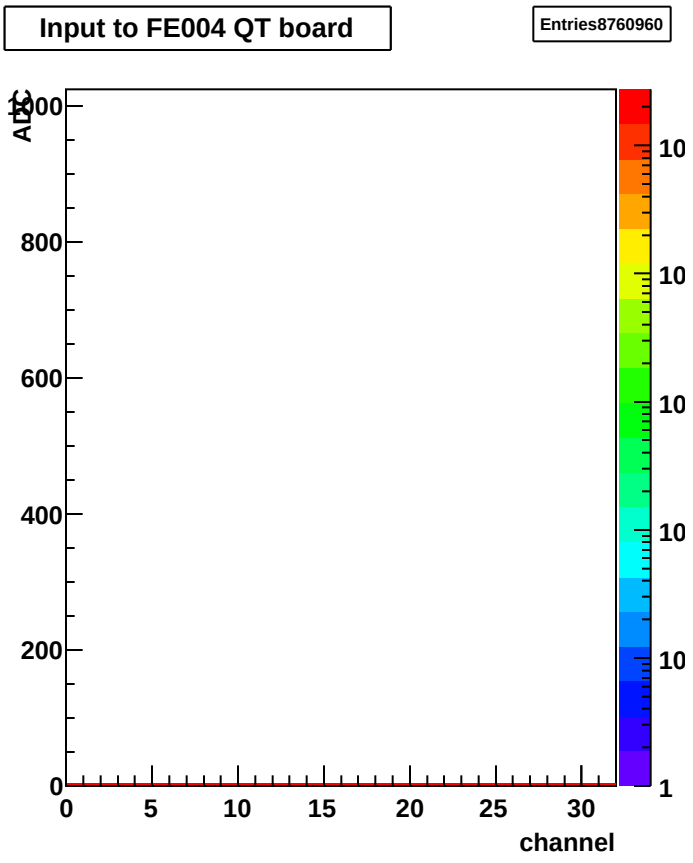

Input to FPD L2 DSM
Entries 821340
HT bits - simulated
273780
273780
273780
SMALL
LARGE-S
LARGE-N

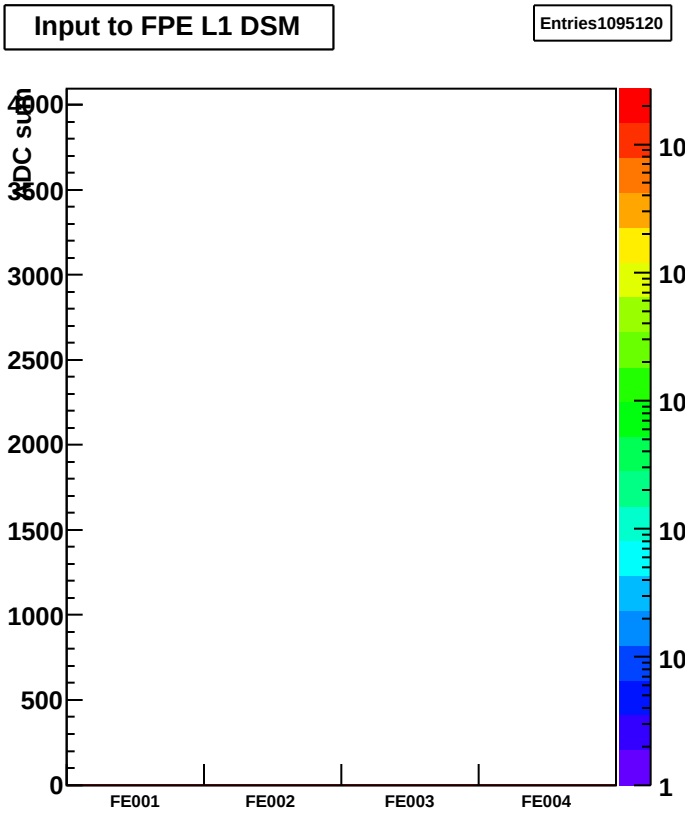

Input to FPD L2 DSM
Entries 1642680
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

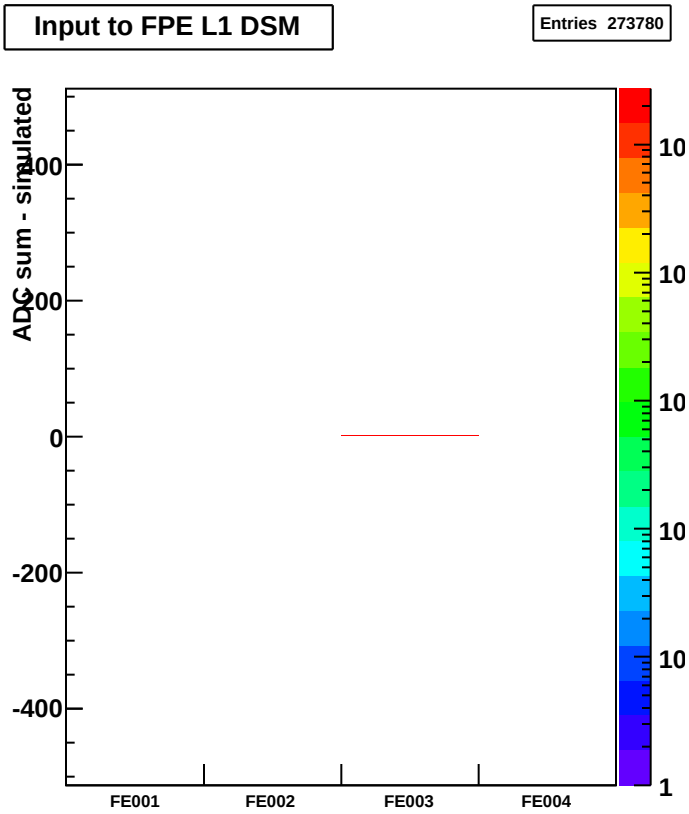

Input to FE001 QT board
Entries8760960
ADC
channel

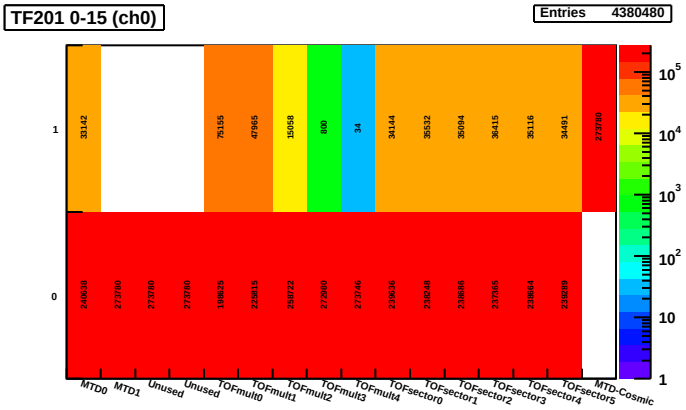

Input to FE002 QT board
Entries8760960
ADC
channel

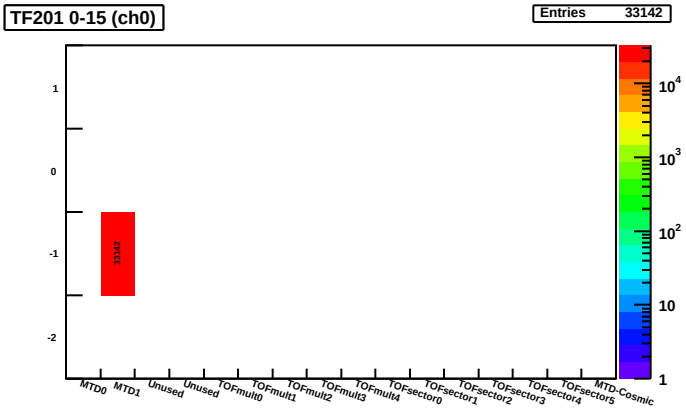

Input to FE003 QT board
Entries8760960
ADC
channel

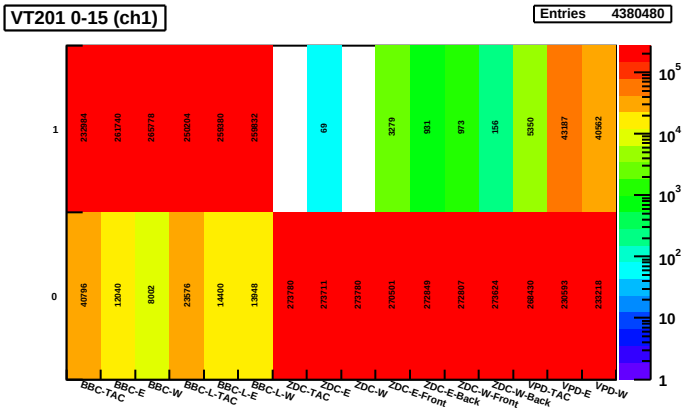

Input to FE004 QT board
Entries8760960
ADC
channel

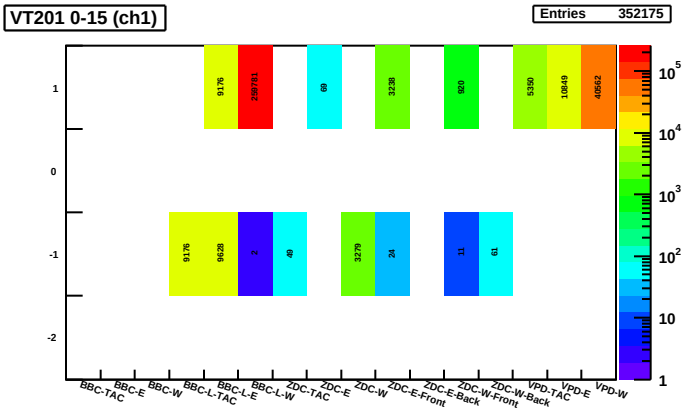

Input to FPE L1 DSM
Entries1095120
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

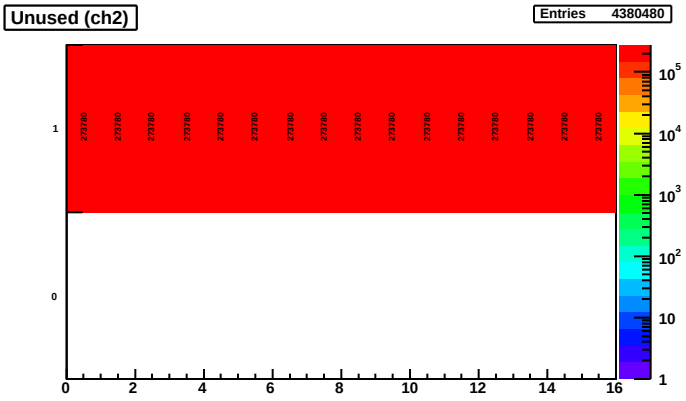

Input to FPE L1 DSM
Entries 273780
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

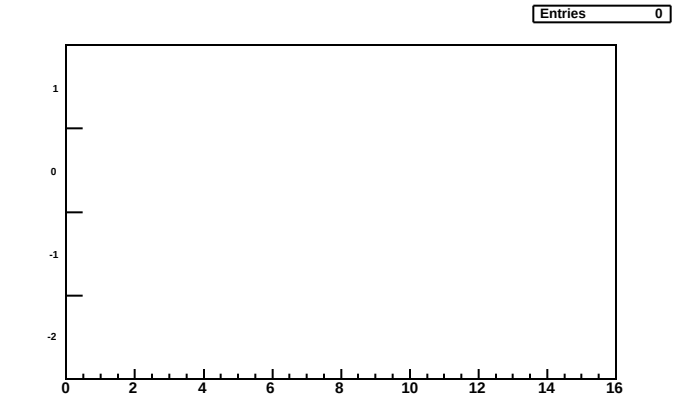

TF201 0-15 (ch0)
Entries 4380480
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

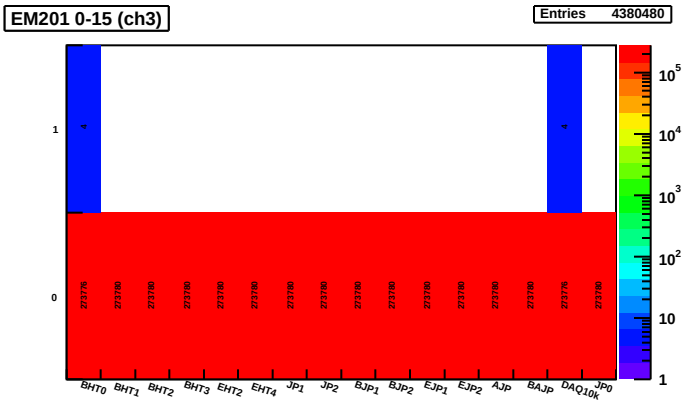

TF201 0-15 (ch0)
Entries 33142
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

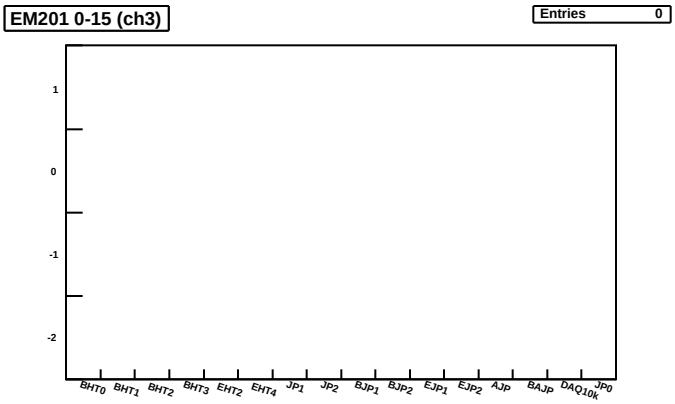

VT201 0-15 (ch1)
Entries 4380480
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 352175
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 4380480


Entries 0


EM201 0-15 (ch3)
Entries 4380480
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0


EM201 0-15 (ch3)
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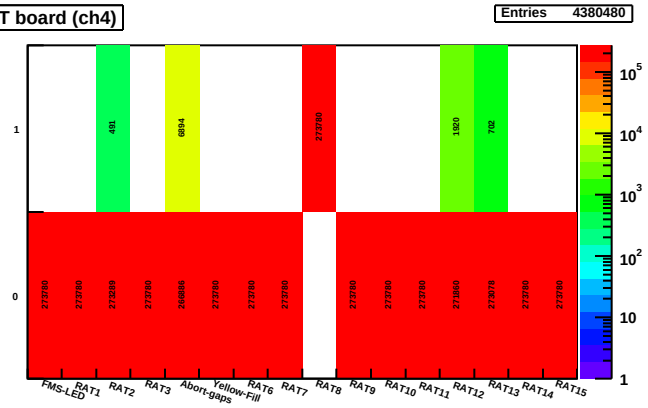
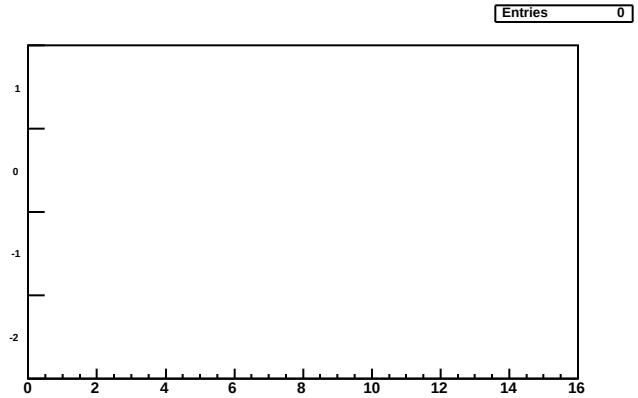
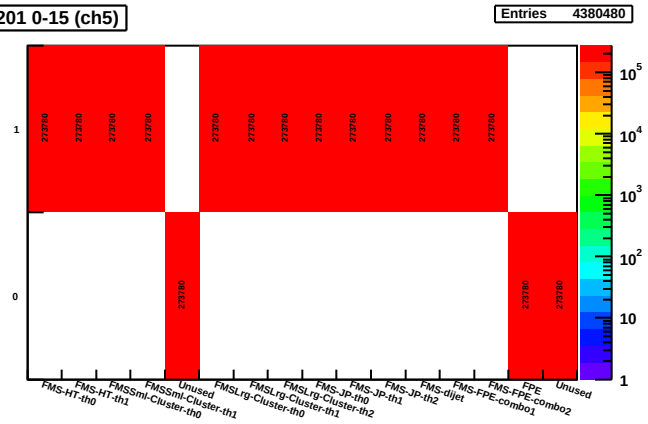
RAT board (ch4)





FP201 0-15 (ch5)



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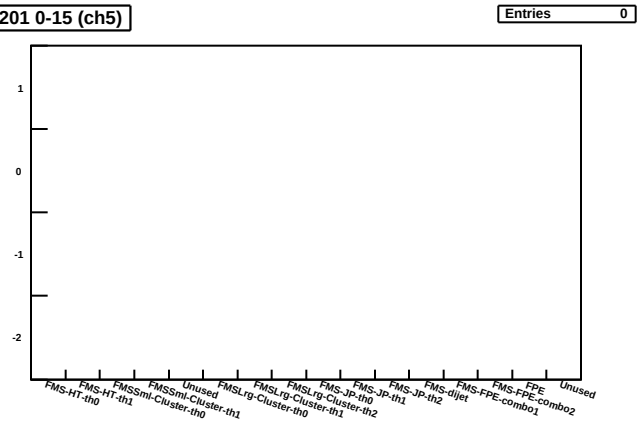
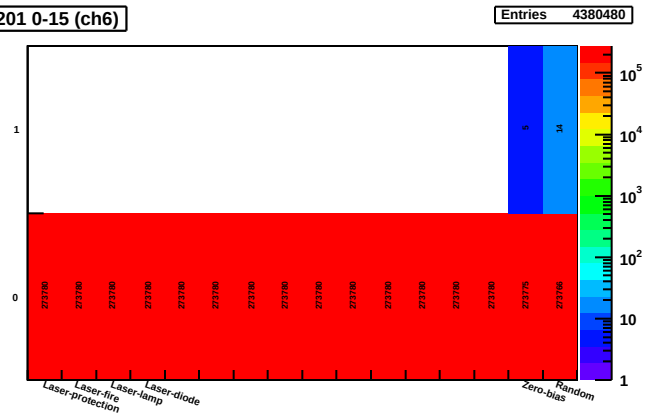
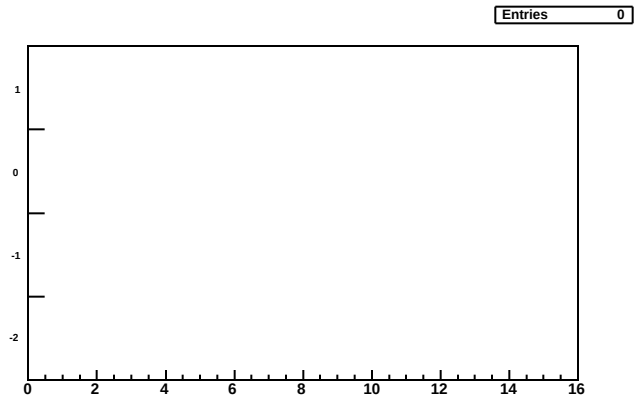
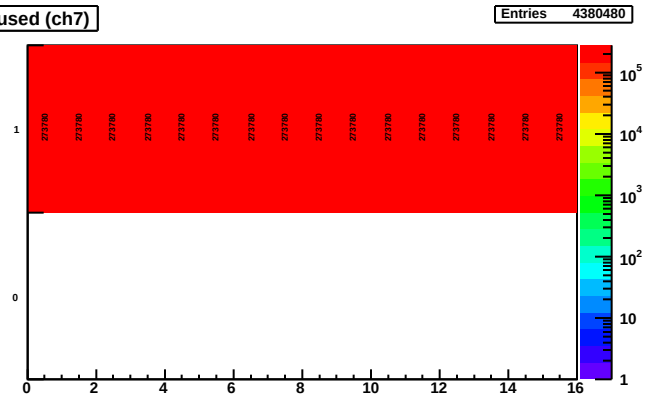
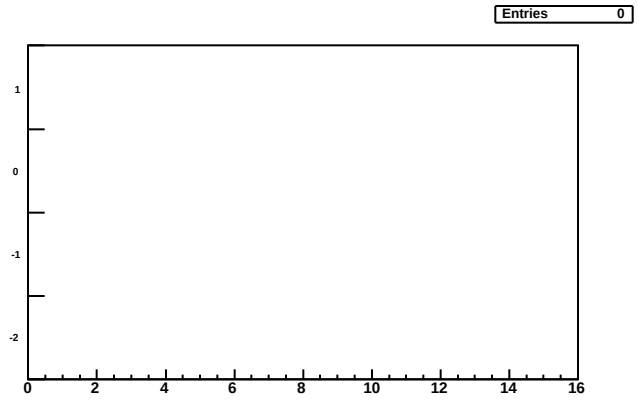


ST201 0-15 (ch6)





Unused (ch7)