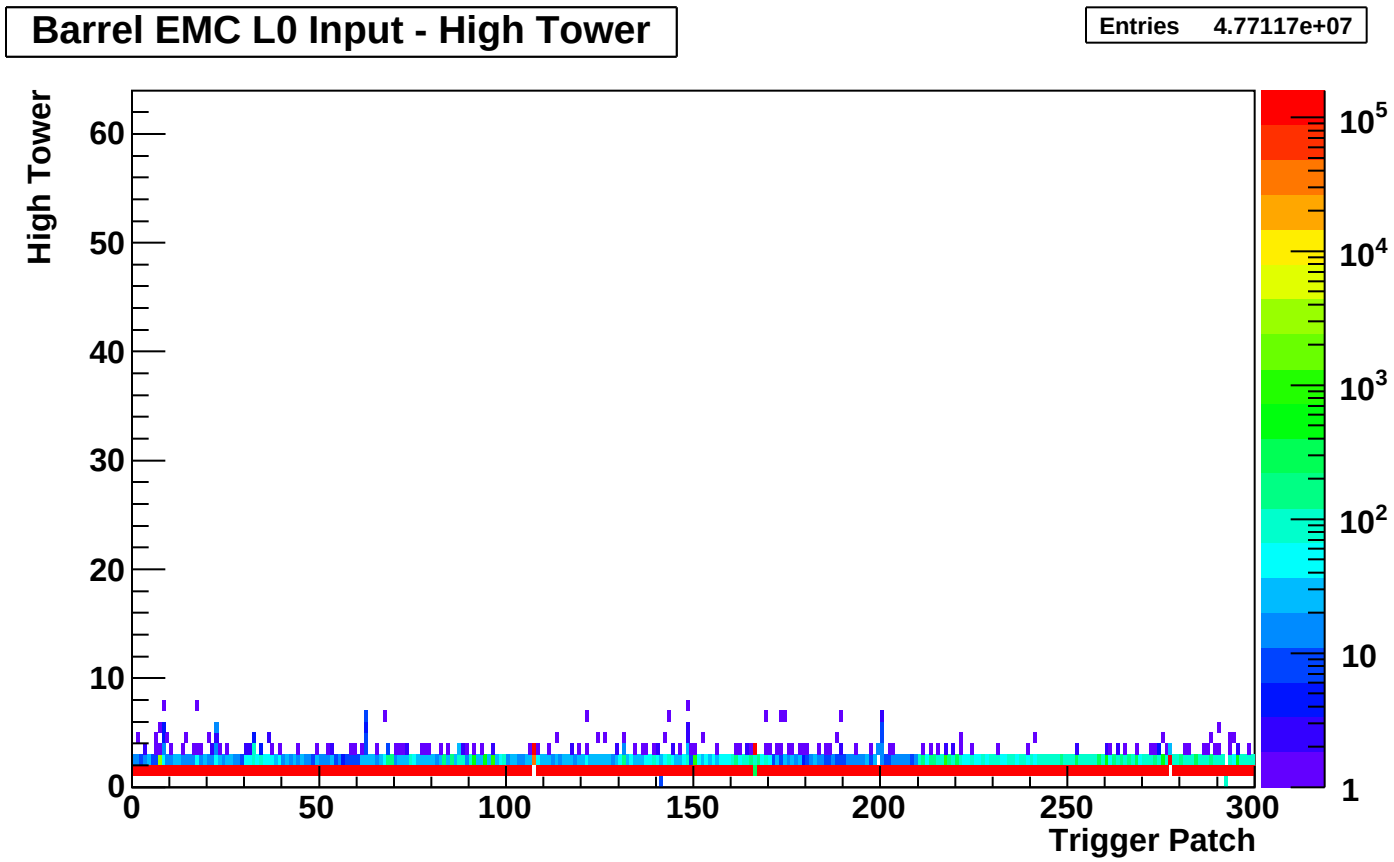
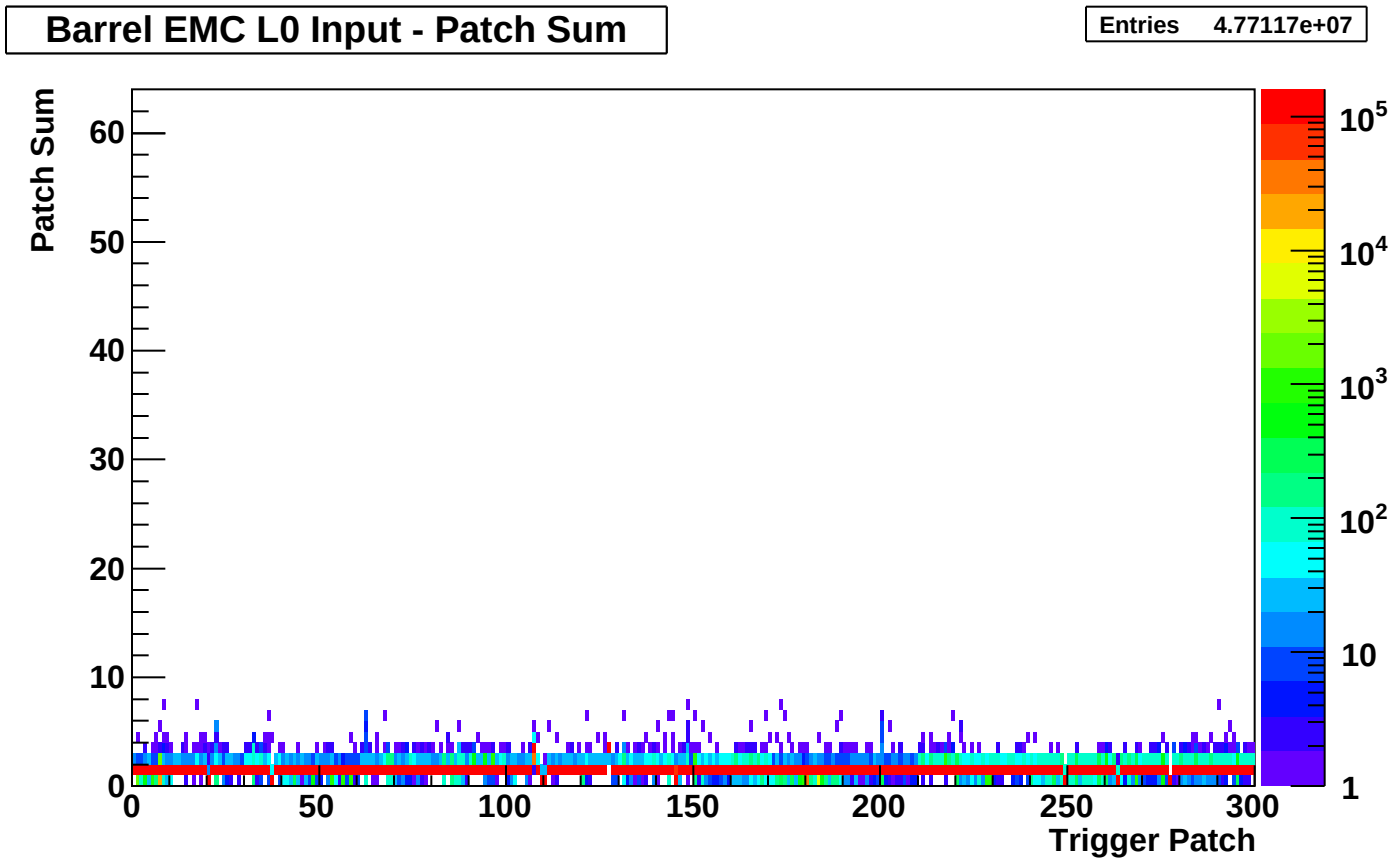
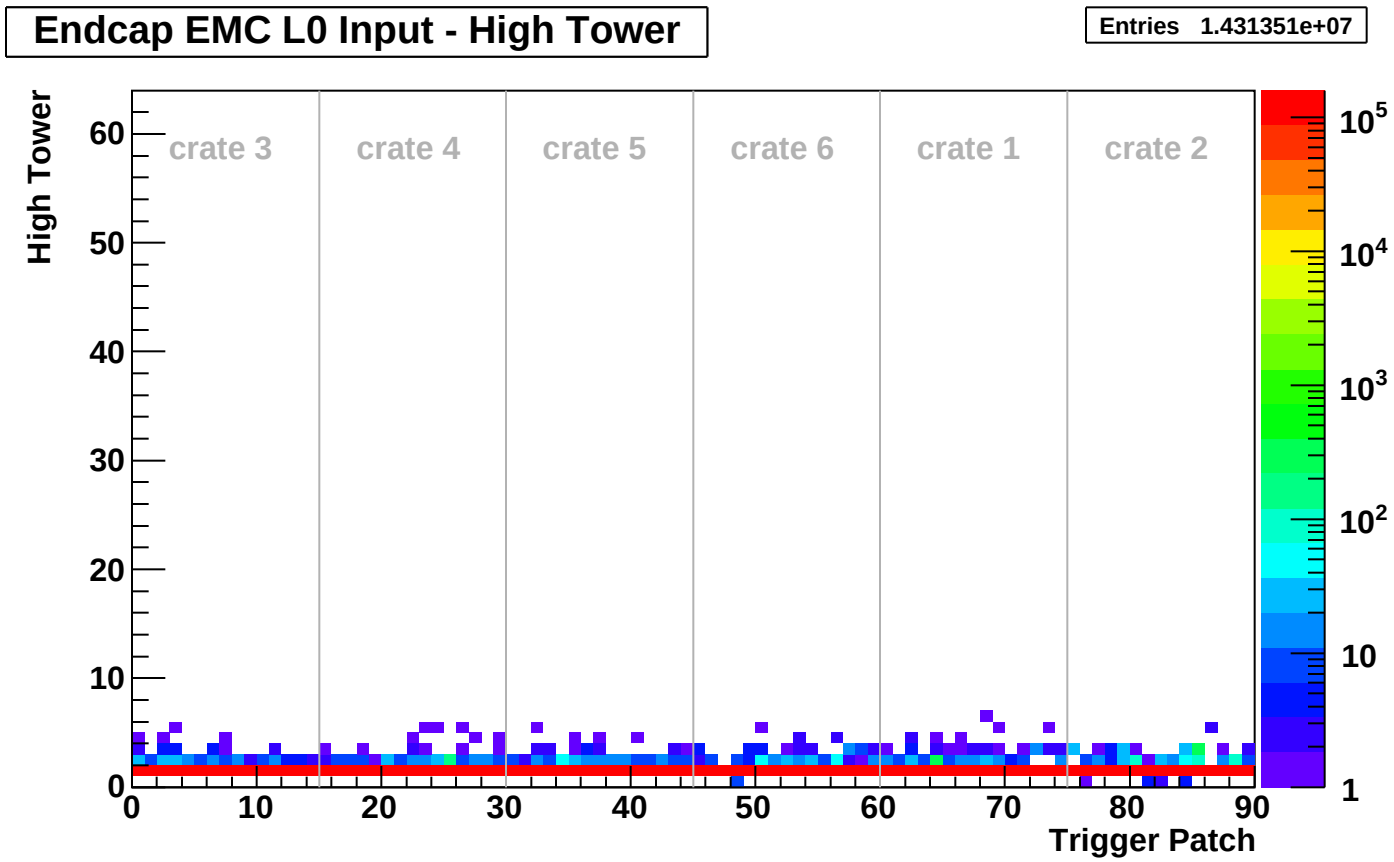
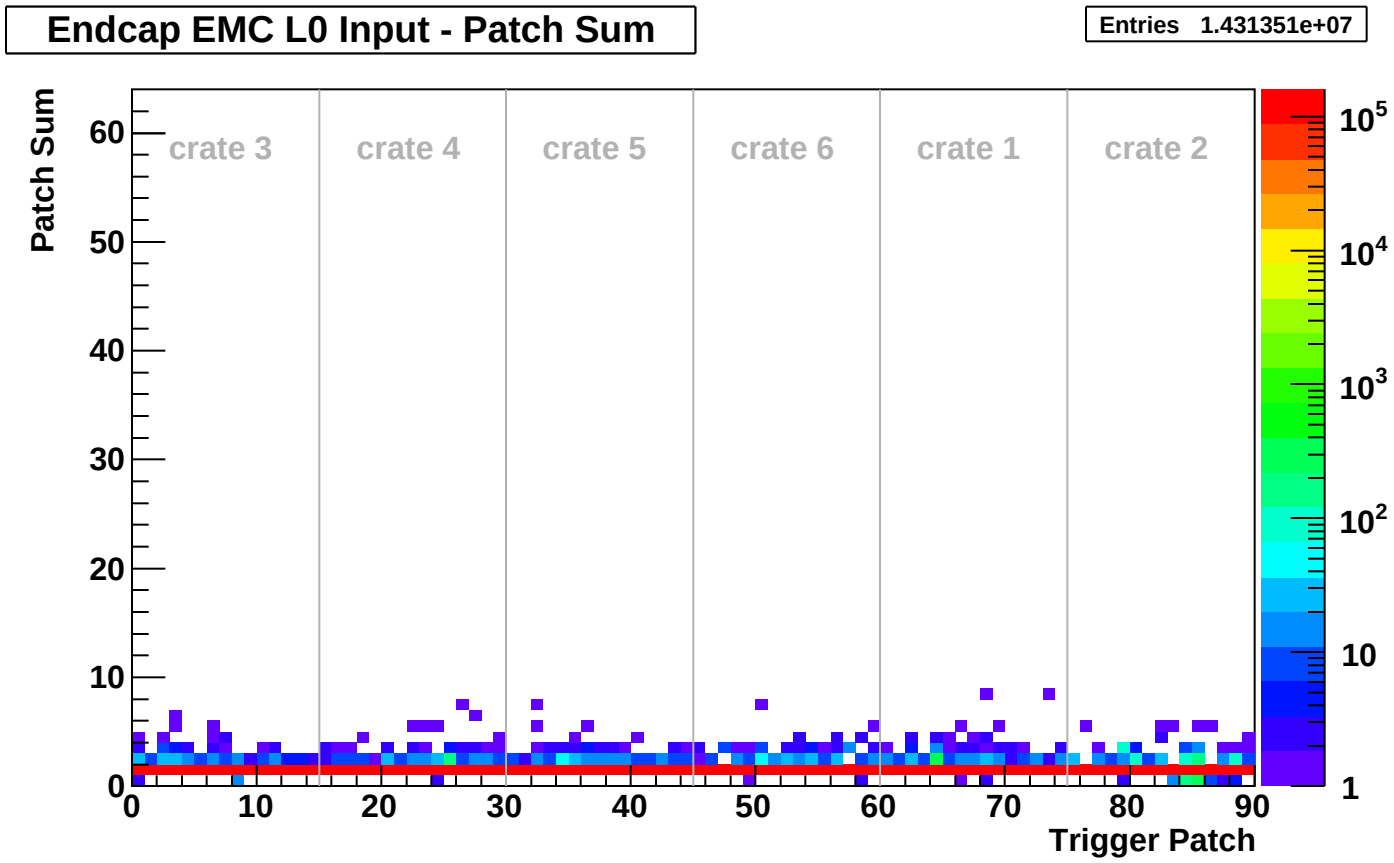
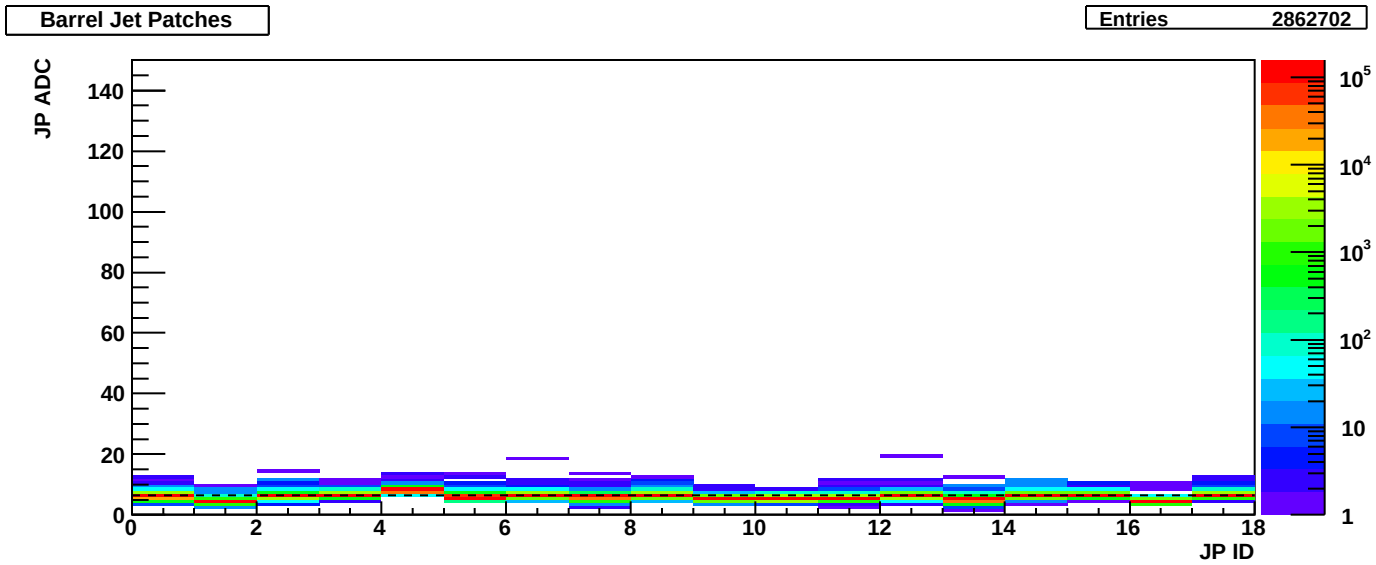
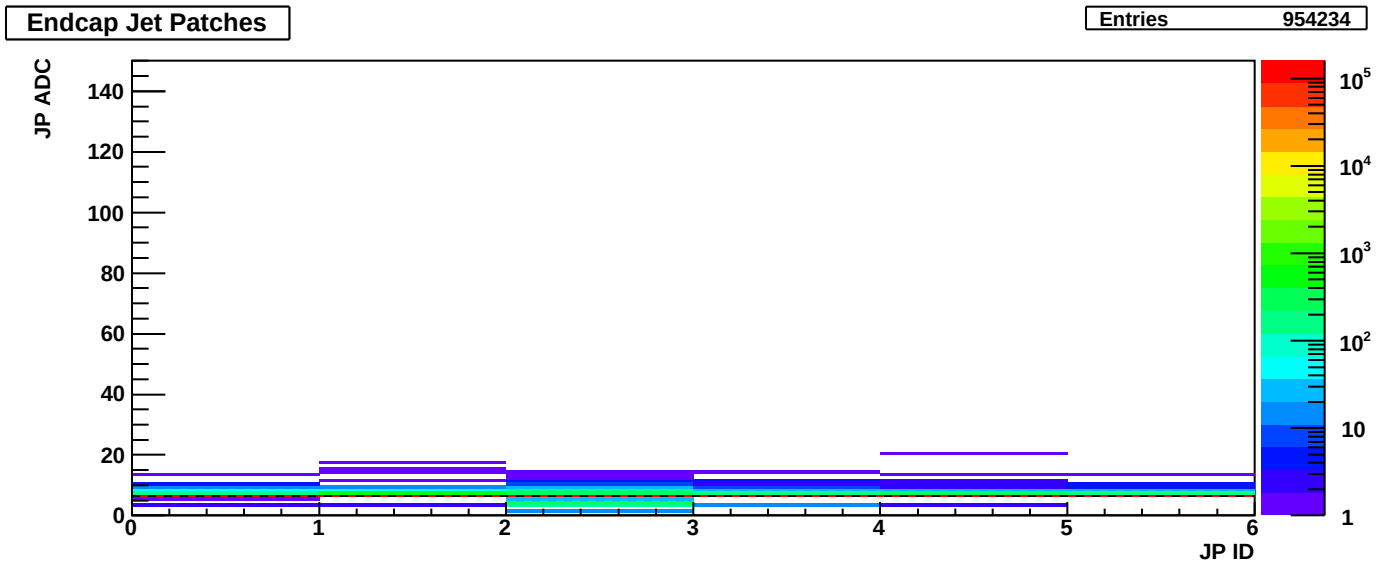

Barrel EMC L0 Input - High Tower
Entries 4.77117e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

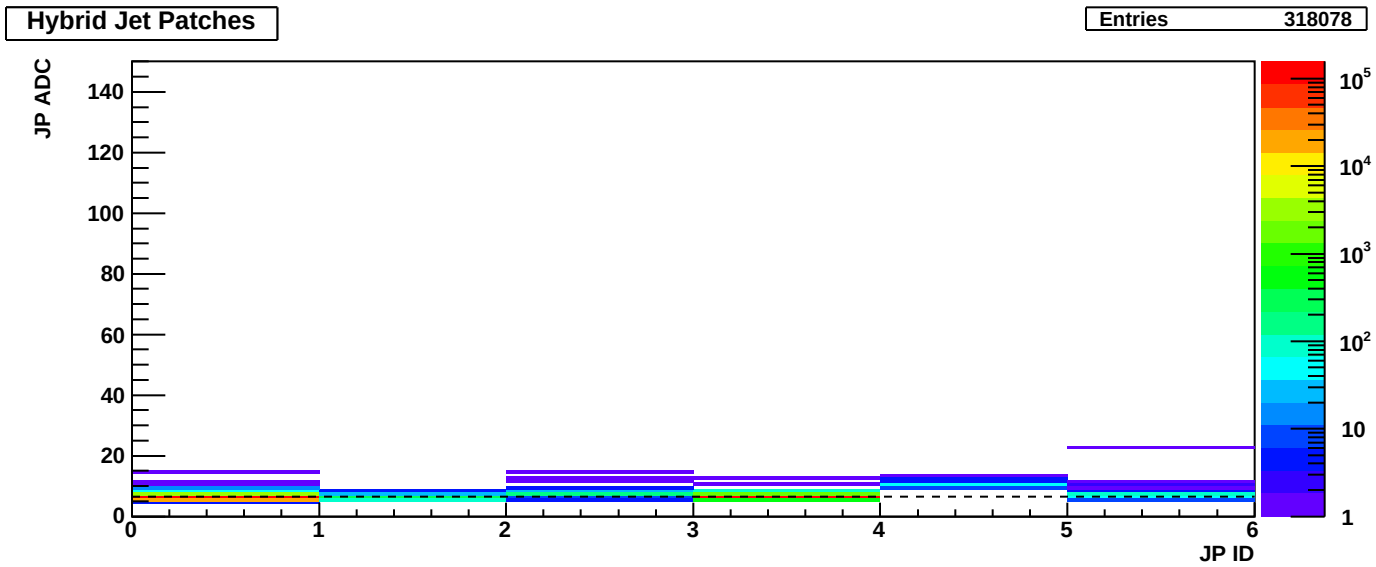

Barrel EMC L0 Input - Patch Sum
Entries 4.77117e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

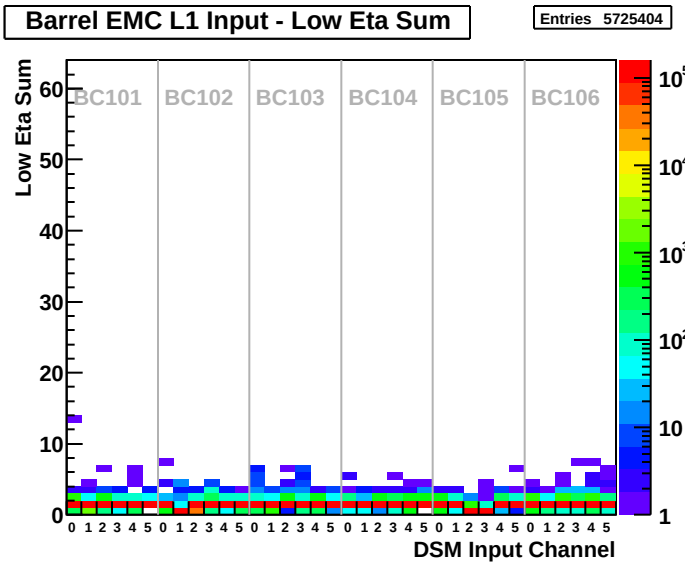

Endcap EMC L0 Input - High Tower
Entries 1.431351e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

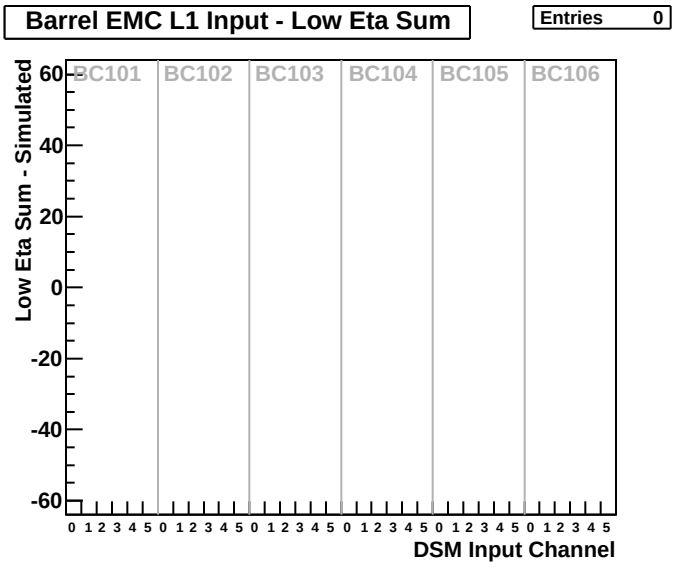

Endcap EMC L0 Input - Patch Sum
Entries 1.431351e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

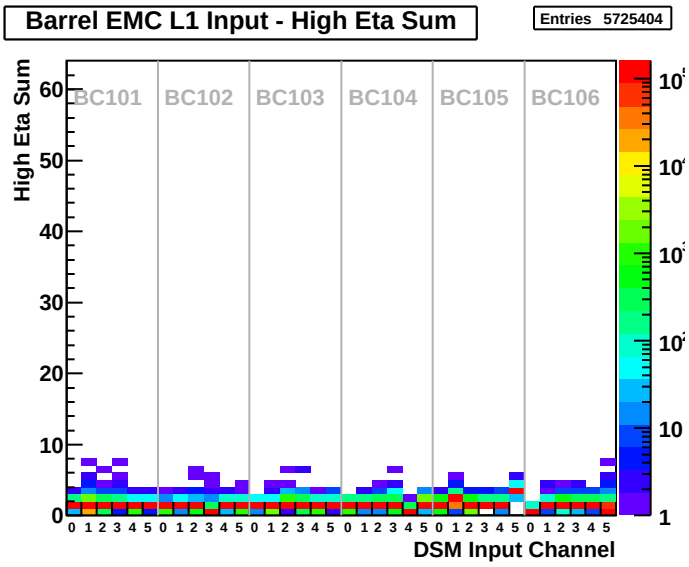

Barrel Jet Patches
Entries 2862702
JP ADC
JP ID

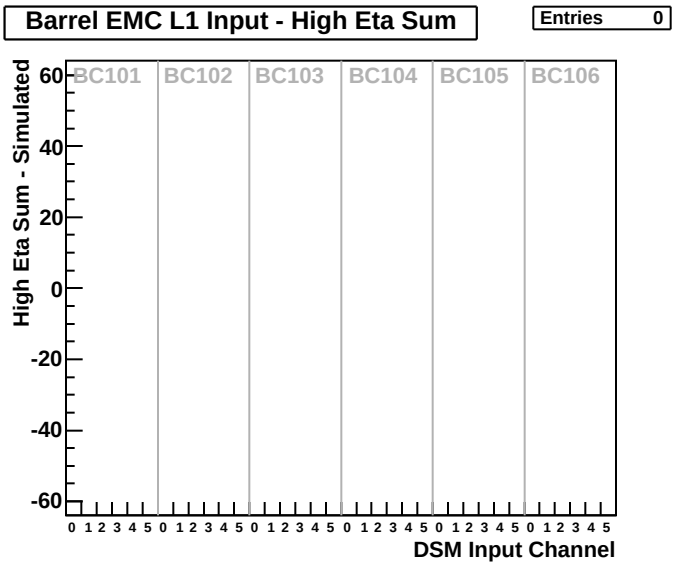

Endcap Jet Patches
Entries 954234
JP ADC
JP ID

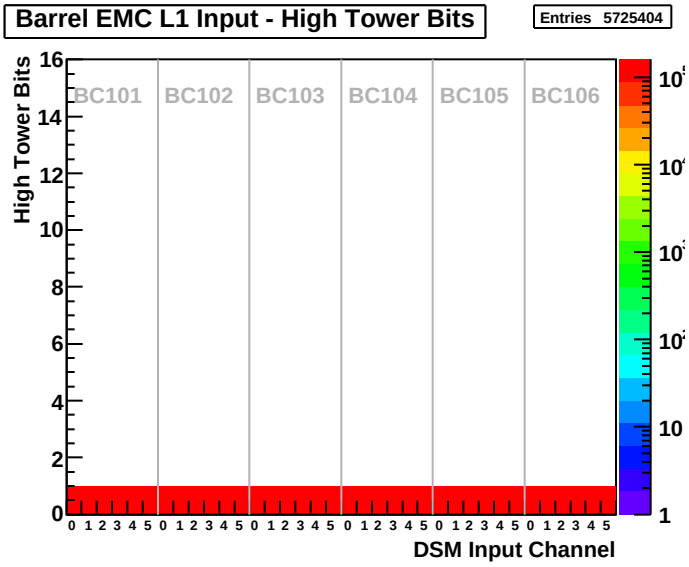

Hybrid Jet Patches
Entries 318078
JP ADC
JP ID

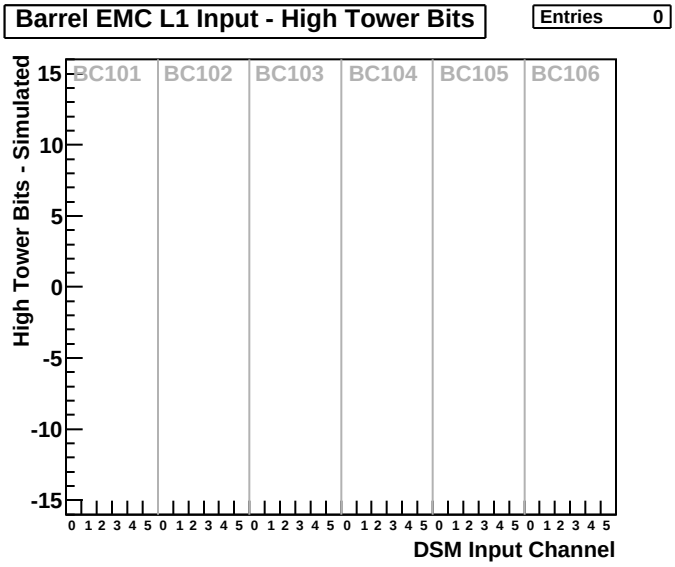

Barrel EMC L1 Input - Low Eta Sum
Entries 5725404
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

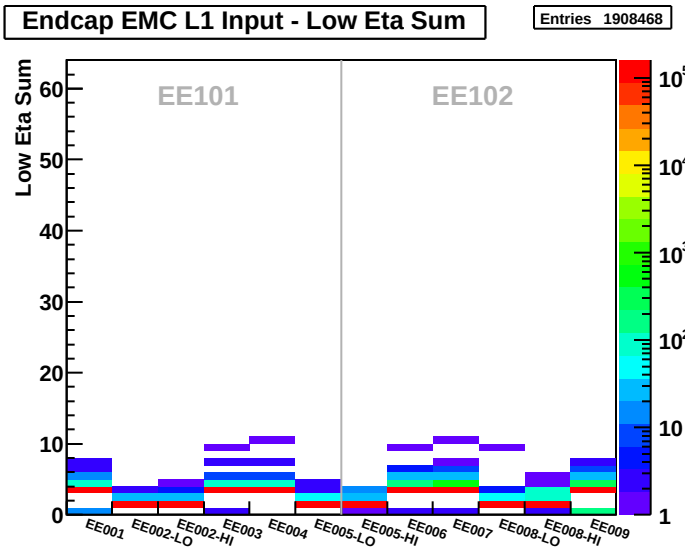

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

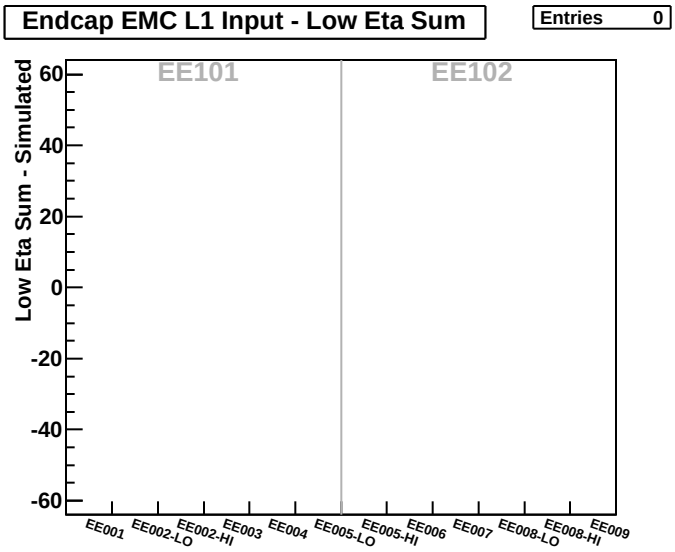

Barrel EMC L1 Input - High Eta Sum
Entries 5725404
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

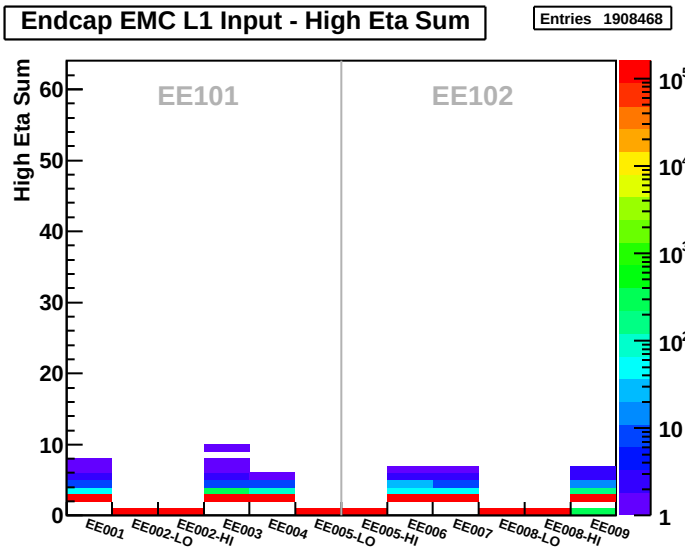

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

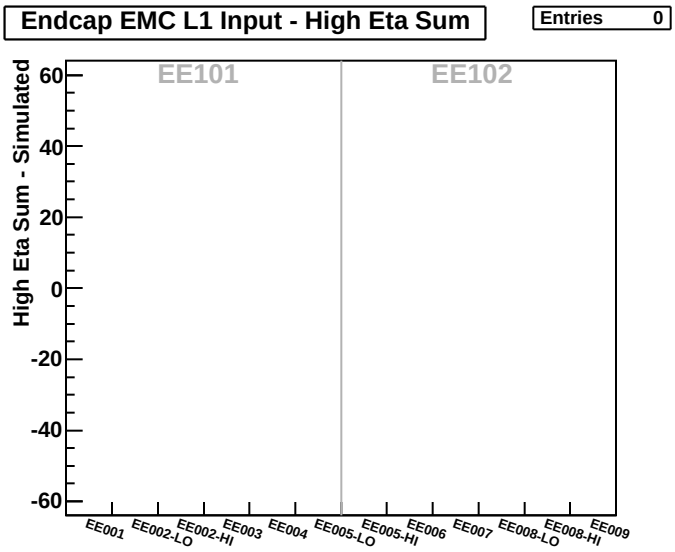

Barrel EMC L1 Input - High Tower Bits
Entries 5725404
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

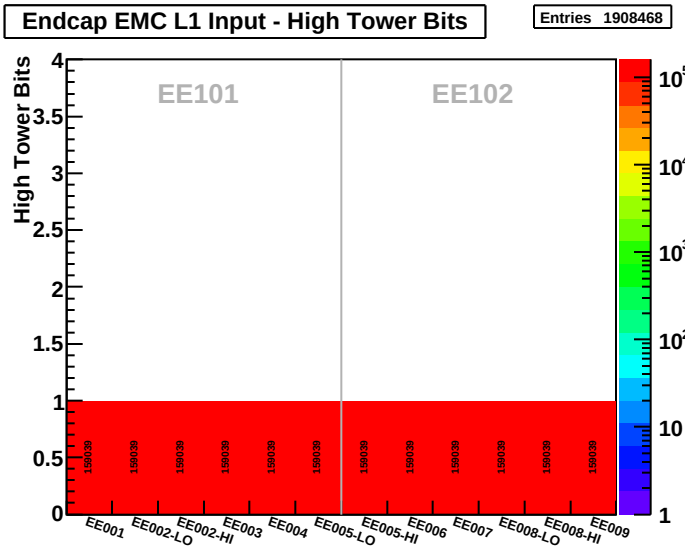

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

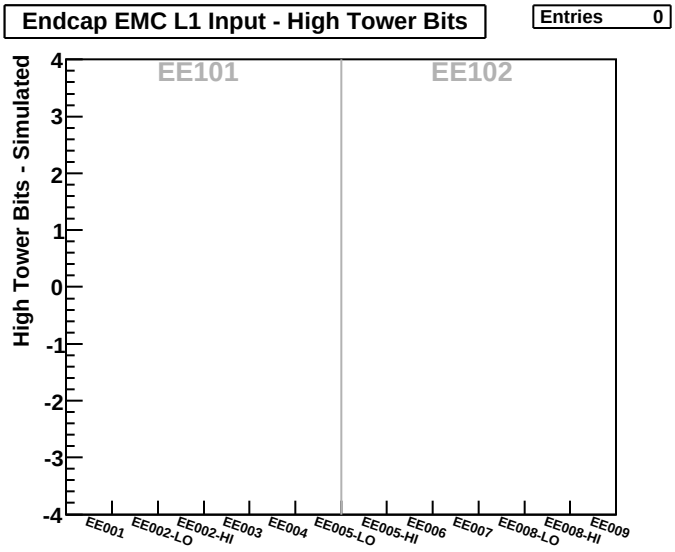

Endcap EMC L1 Input - Low Eta Sum
Entries 1908468
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

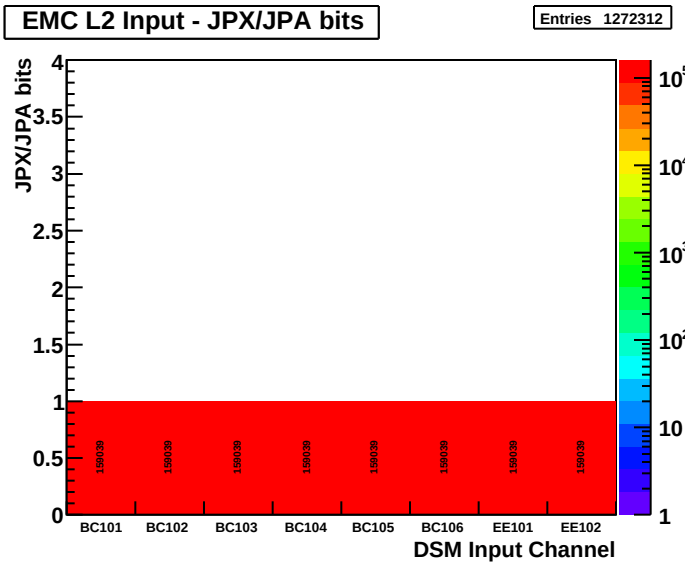

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

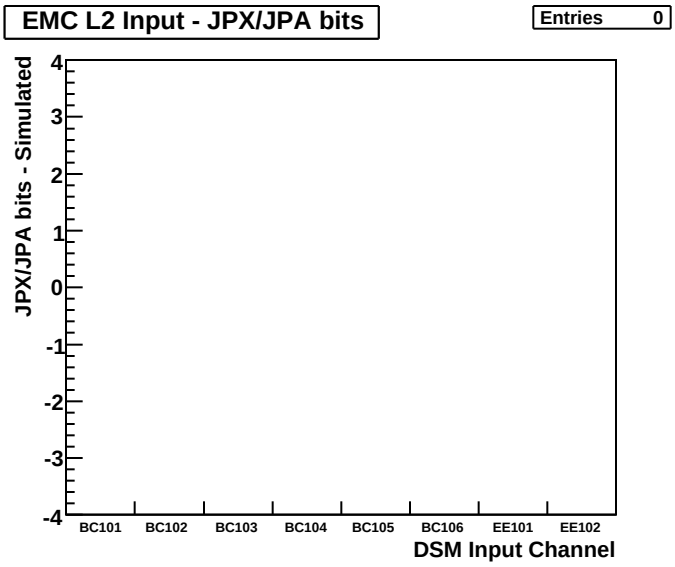

Endcap EMC L1 Input - High Eta Sum
Entries 1908468
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

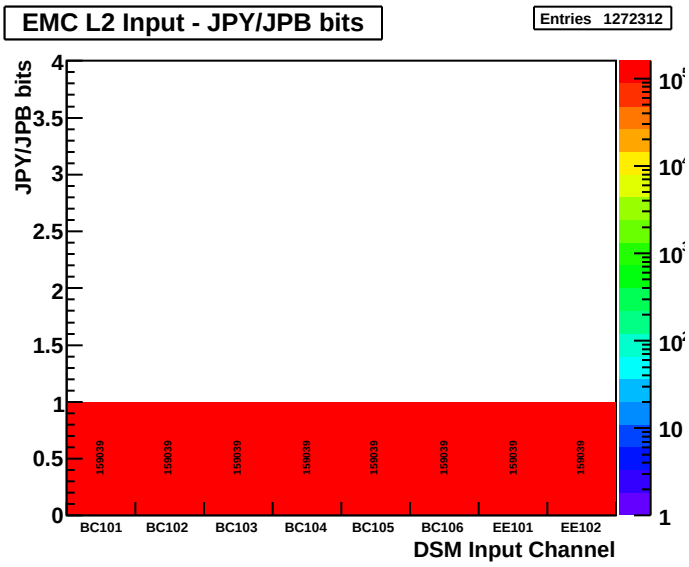

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

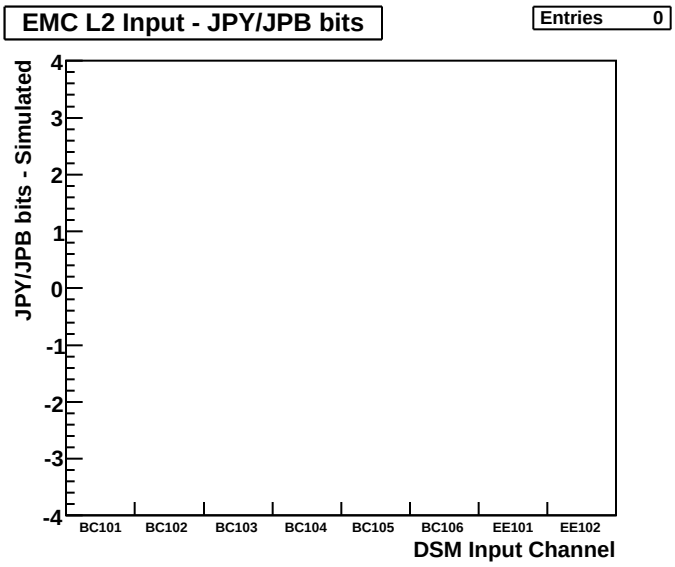

Endcap EMC L1 Input - High Tower Bits
Entries 1908468
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

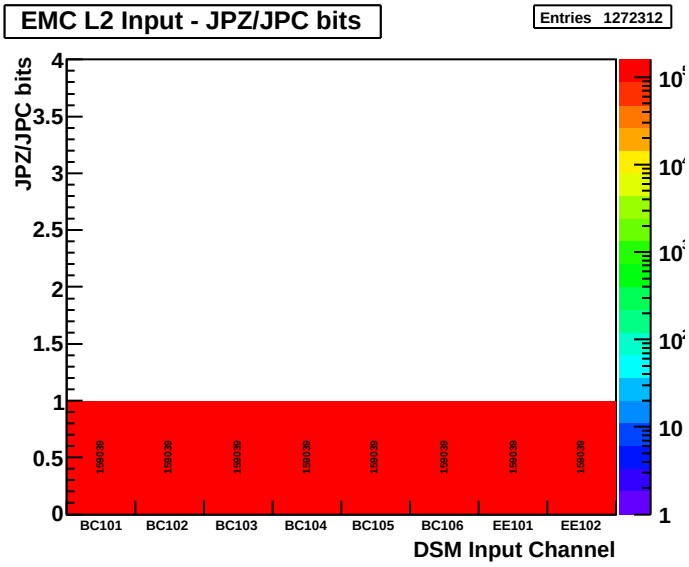

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

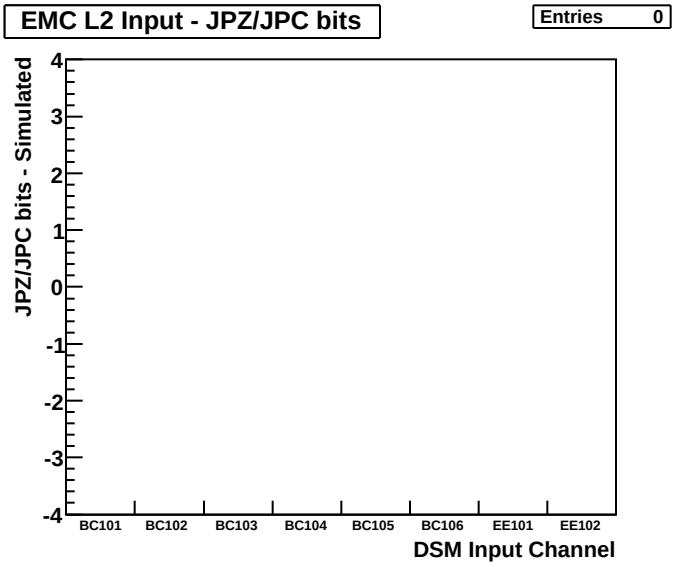

EMC L2 Input - JPX/JPA bits
Entries 1272312
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
159039

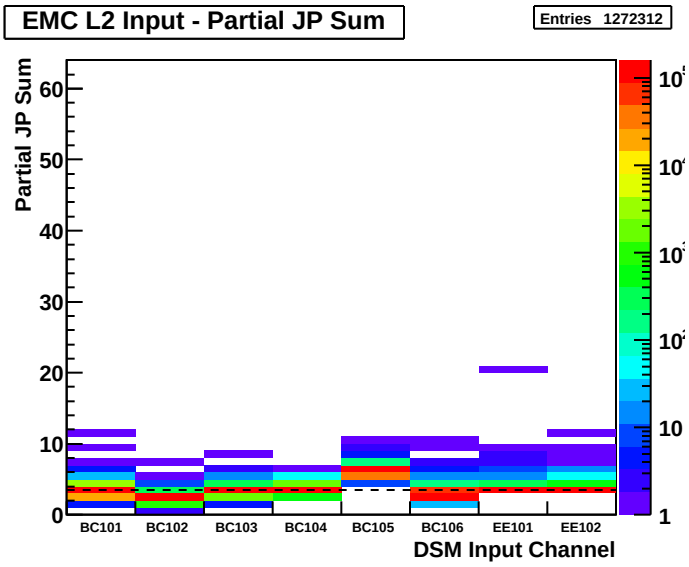

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

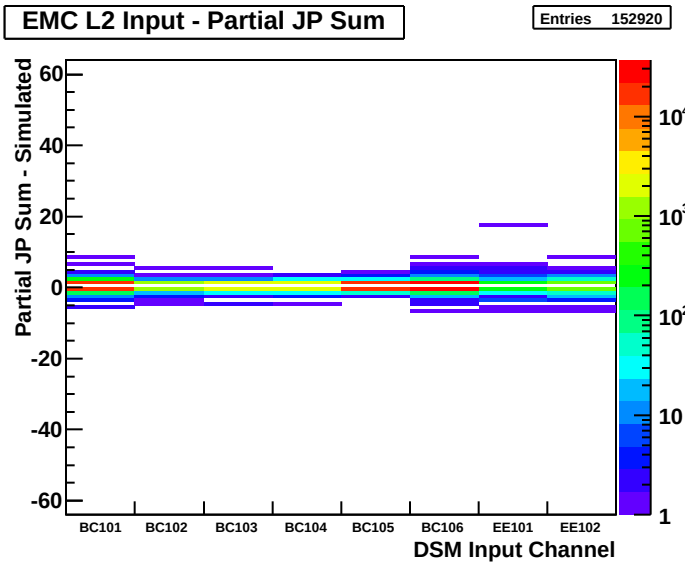

EMC L2 Input - JPY/JPB bits
Entries 1272312
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
159039

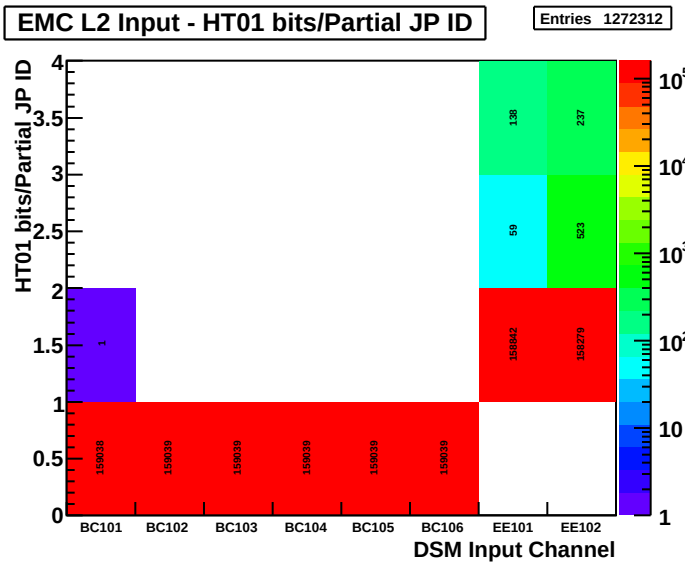

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

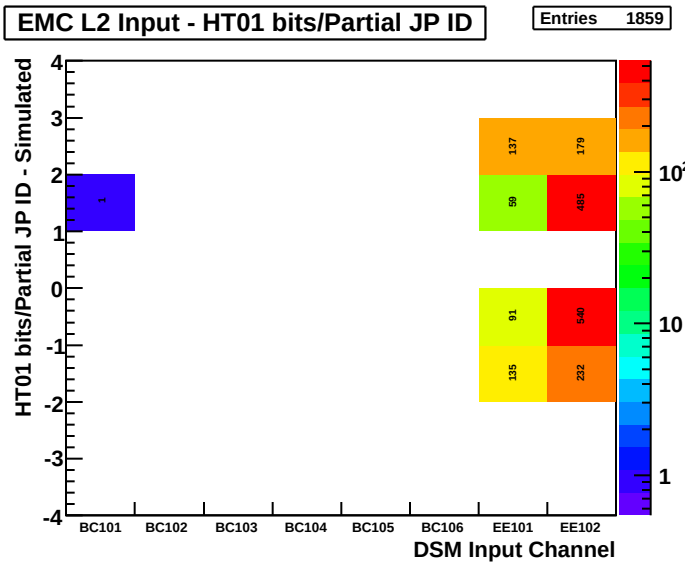

EMC L2 Input - JPZ/JPC bits
Entries 1272312
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
159039

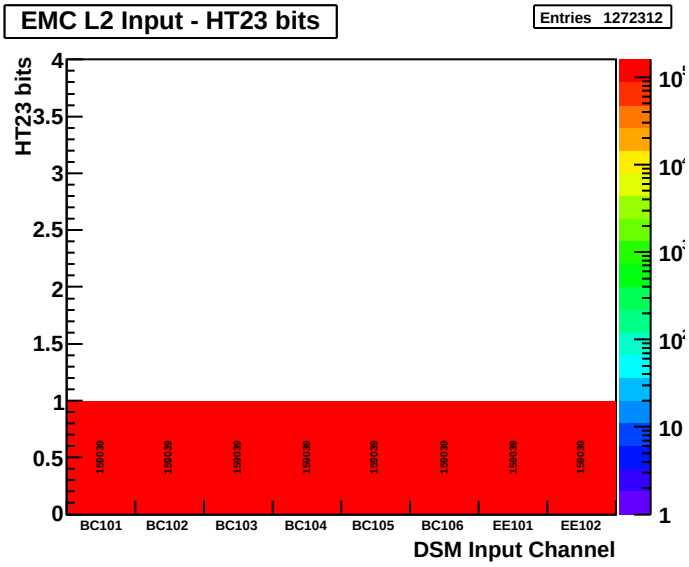

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

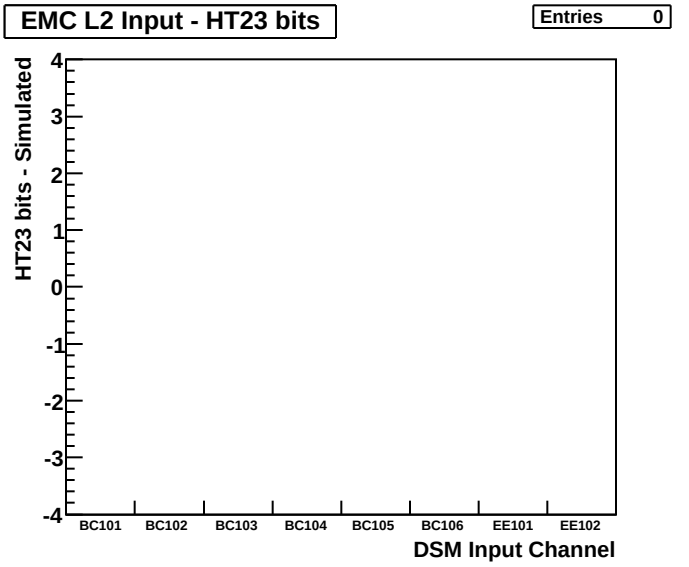

EMC L2 Input - Partial JP Sum
Entries 1272312
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

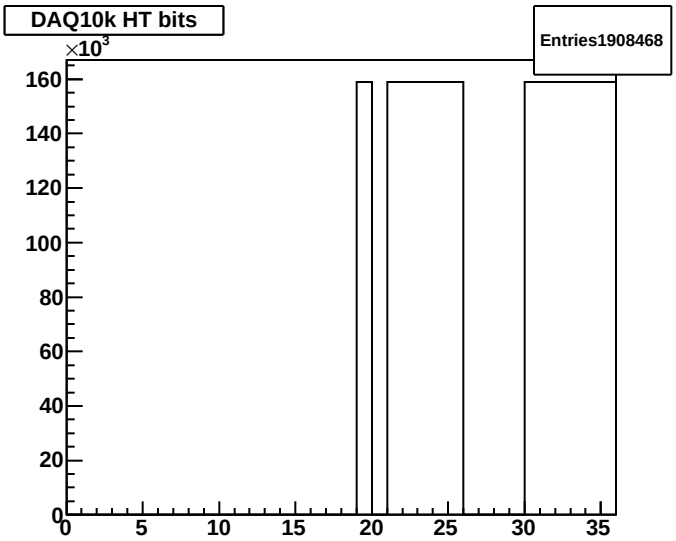

EMC L2 Input - Partial JP Sum
Entries 152920
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

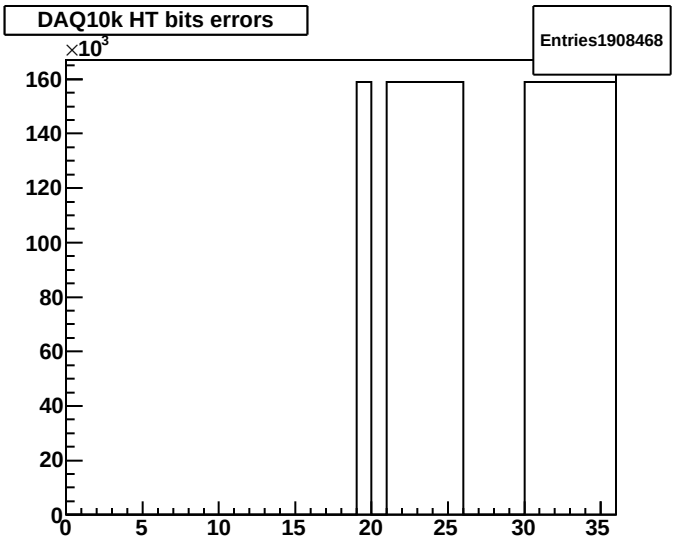

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1272312
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

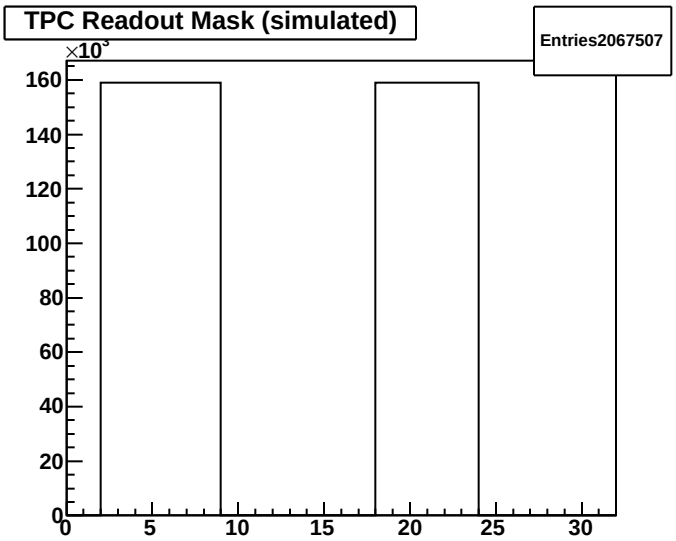

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1859
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

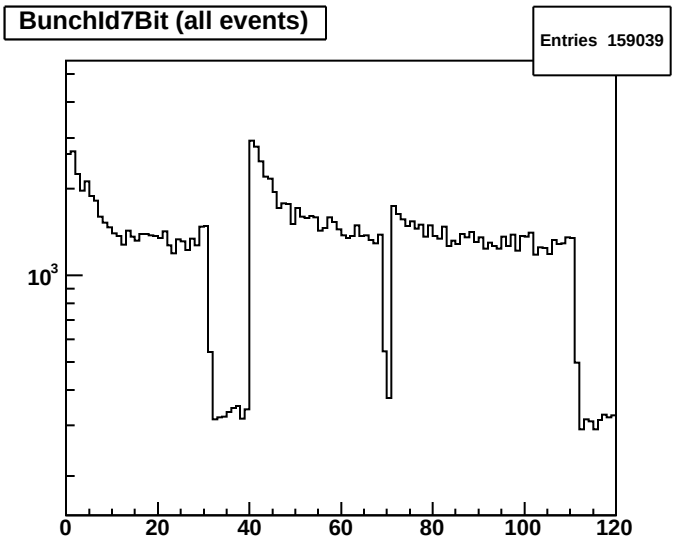

EMC L2 Input - HT23 bits
Entries 1272312
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

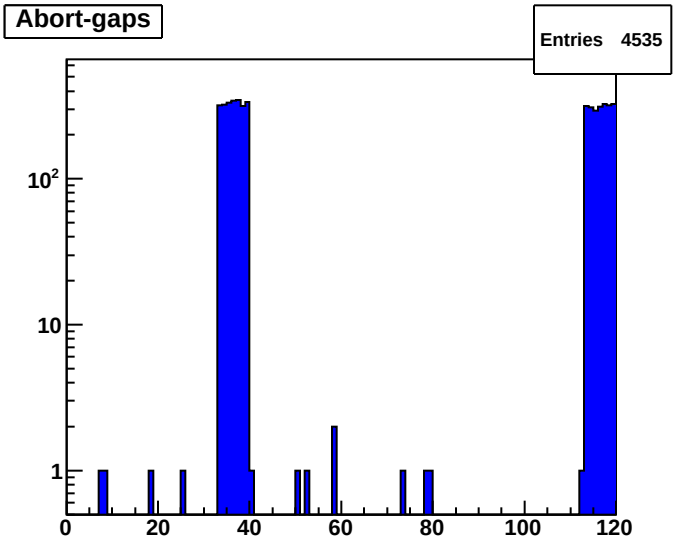

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

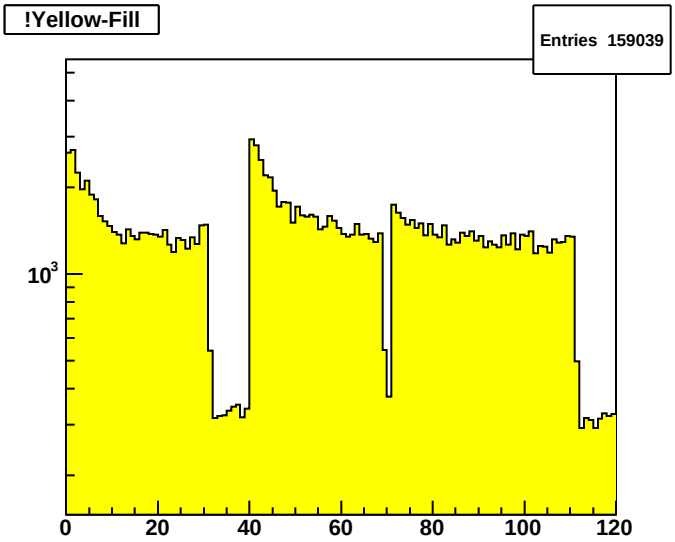

DAQ10k HT bits
Entries1908468
×10^3
160
140
120
100
80
60
40
20
0
0
5
10
15
20
25
30
35

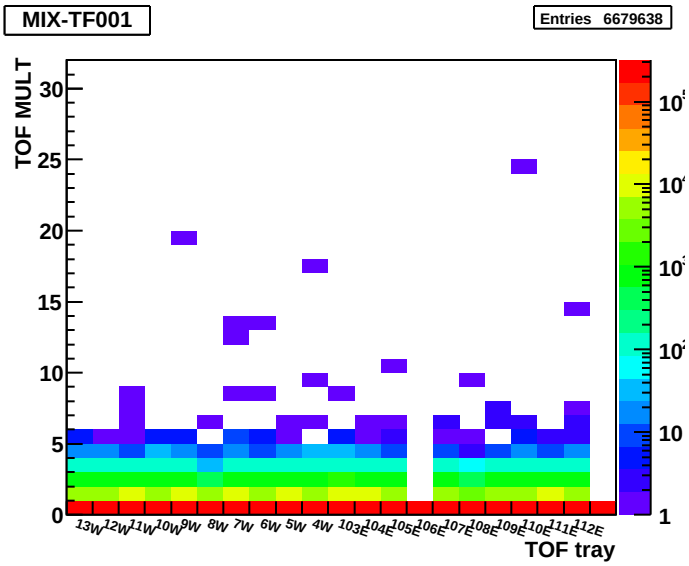

DAQ10k HT bits errors
Entries1908468
×10^3
160
140
120
100
80
60
40
20
0
0
5
10
15
20
25
30
35

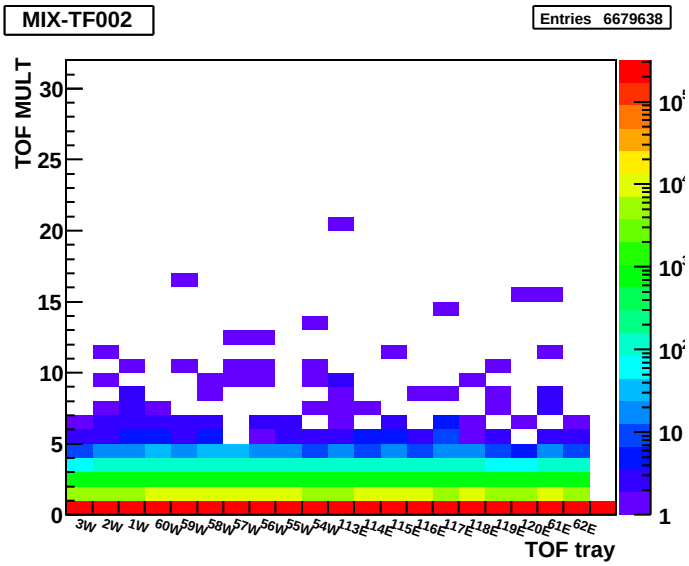

TPC Readout Mask (simulated)
Entries2067507
×10^3
160
140
120
100
80
60
40
20
0
0
5
10
15
20
25
30

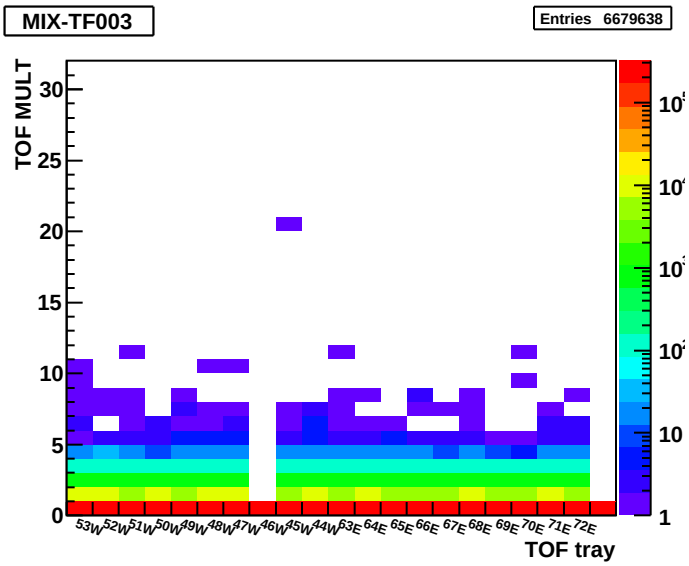

BunchId7Bit (all events)
Entries 159039
10^3
0
20
40
60
80
100
120

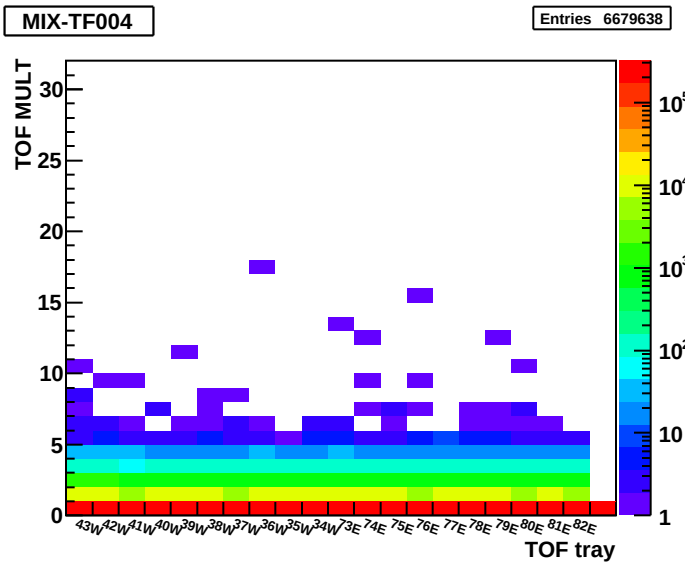

Abort-gaps
Entries 4535
10^2
10
1
0
20
40
60
80
100
120

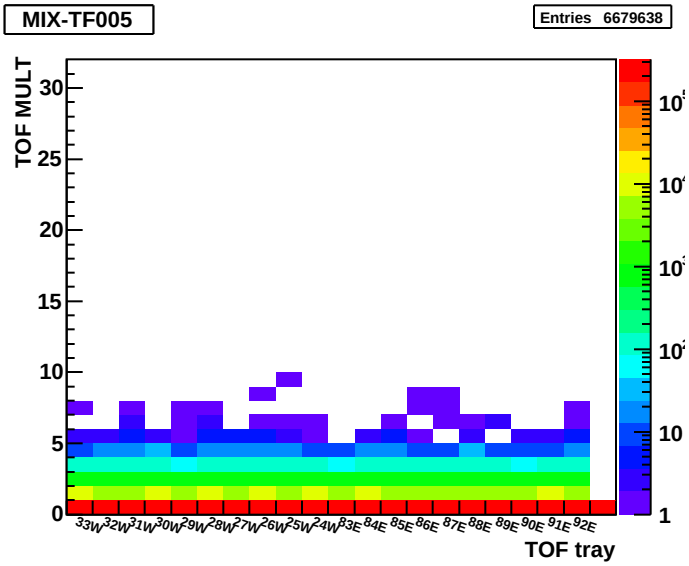

!Yellow-Fill
Entries 159039
10^3
0
20
40
60
80
100
120

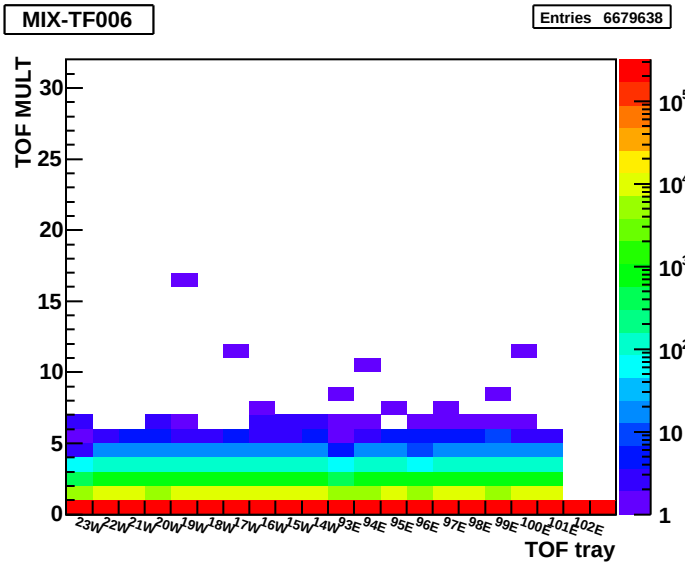

MIX-TF001
Entries 6679638
TOF MULT
TOF tray

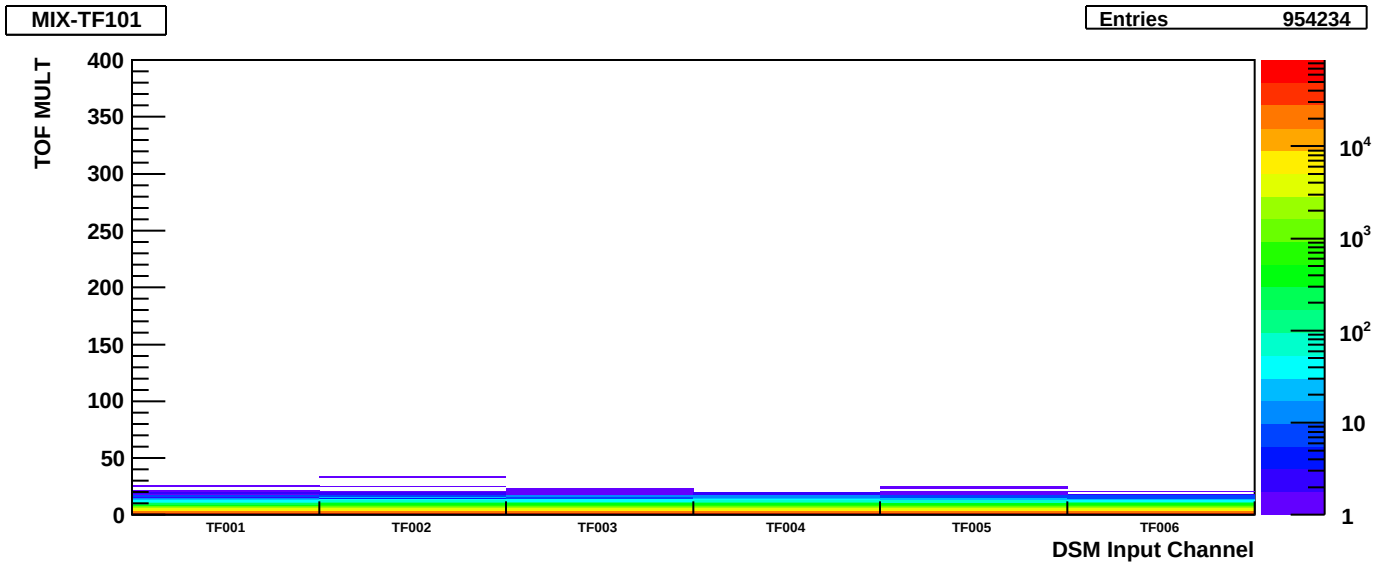

MIX-TF002
Entries 6679638
TOF MULT
TOF tray

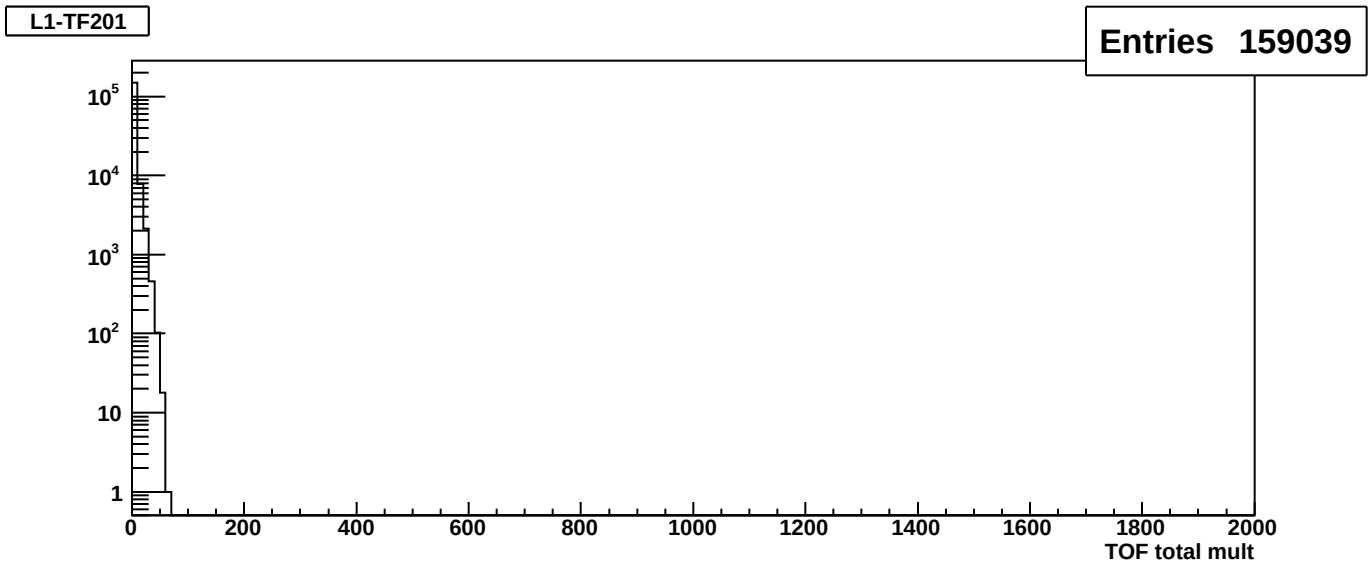

MIX-TF003
Entries 6679638
TOF MULT
TOF tray

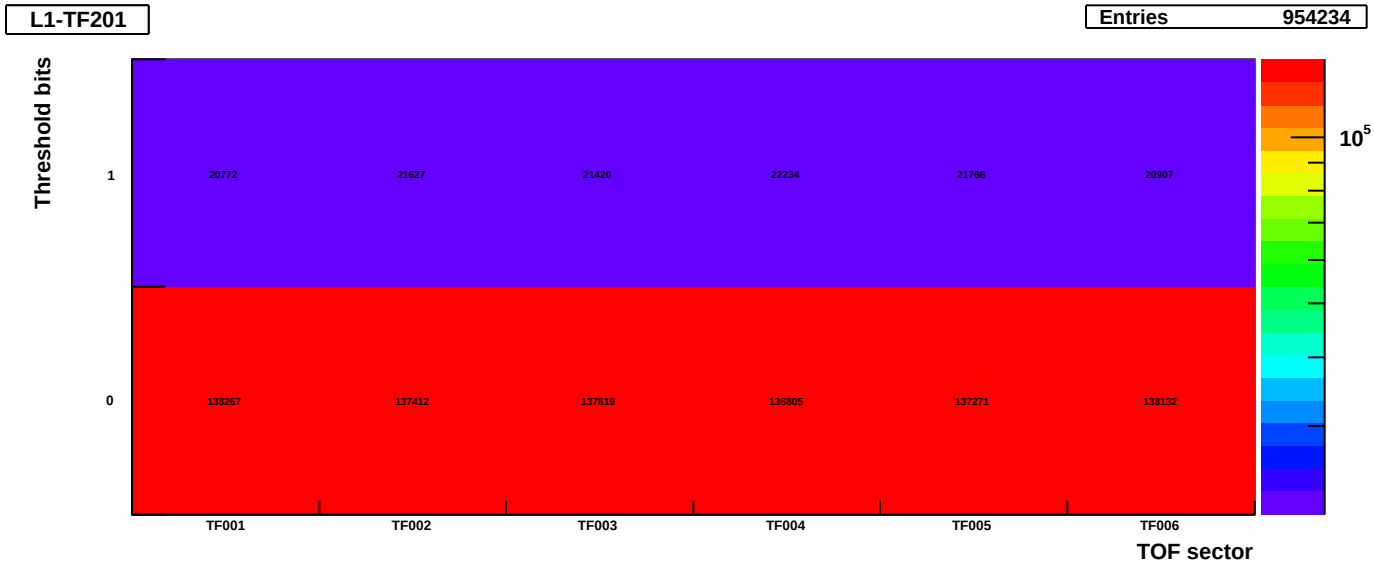

MIX-TF004
Entries 6679638
TOF MULT
TOF tray

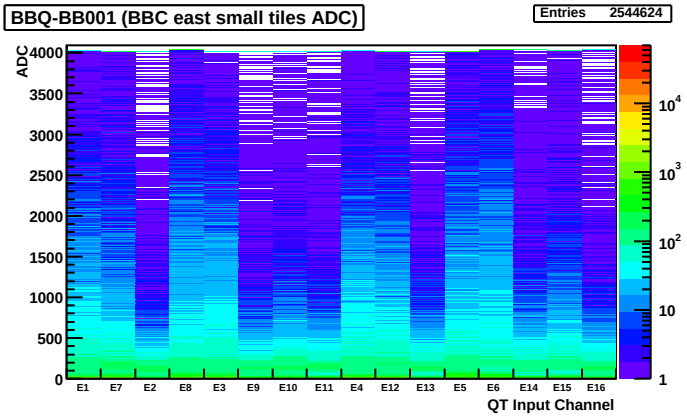

MIX-TF005
Entries 6679638
TOF MULT
TOF tray

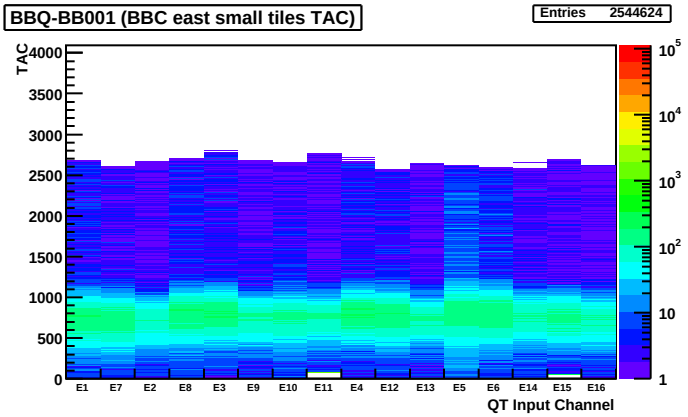

MIX-TF006
Entries 6679638
TOF MULT
TOF tray

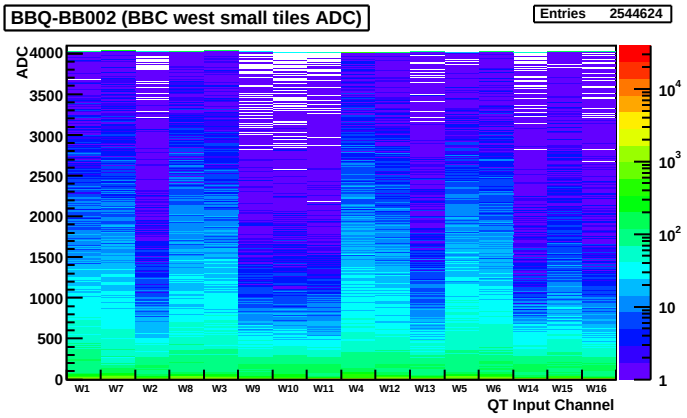

MIX-TF101
Entries 954234
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

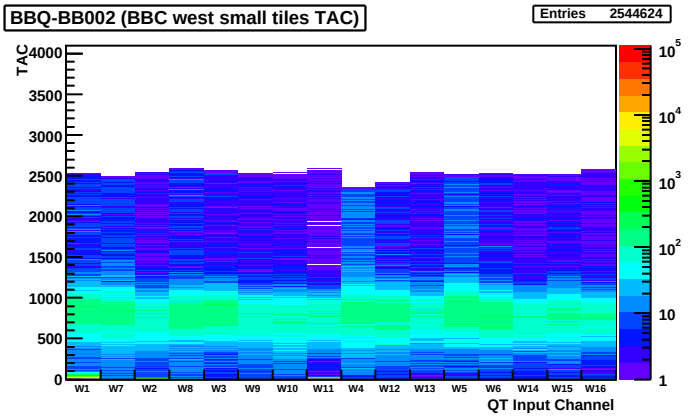

L1-TF201
Entries 159039
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

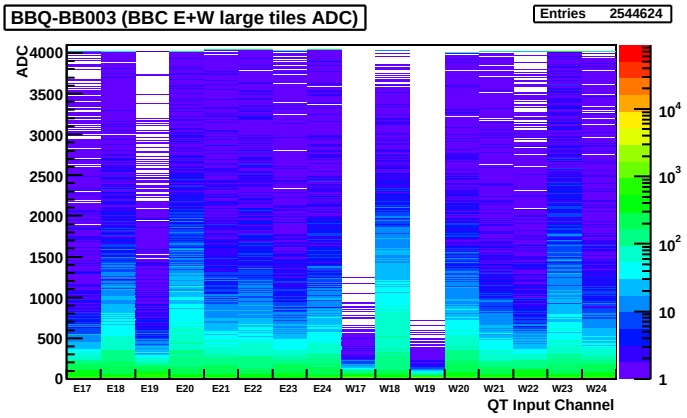

L1-TF201
Entries 954234
Threshold bits
1
0
20772
21627
21420
22234
21768
20907
138267
137412
137619
136805
137271
138132
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5

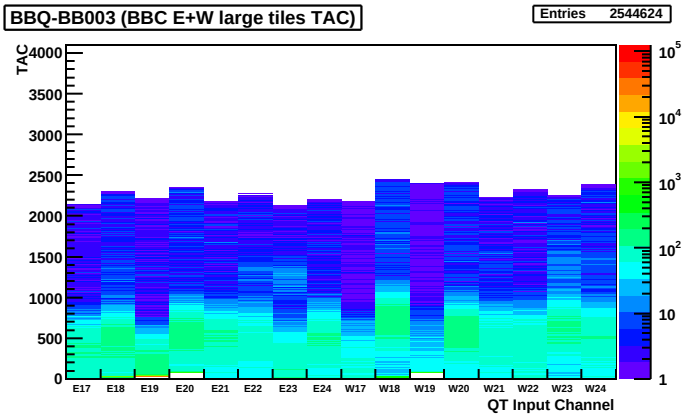

BBQ-BB001 (BBC east small tiles ADC)
Entries 2544624
ADC
QT Input Channel

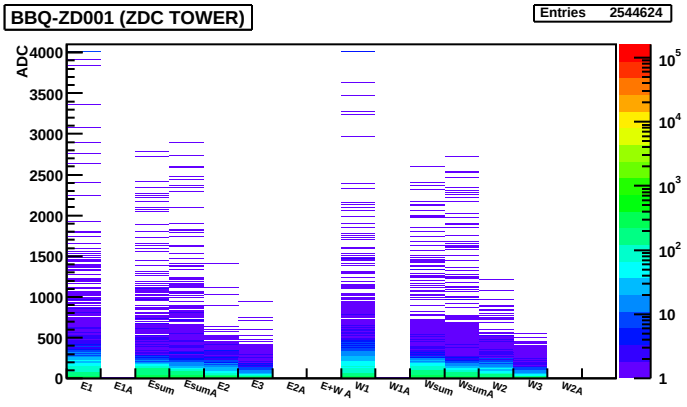

BBQ-BB001 (BBC east small tiles TAC)
Entries 2544624
TAC
QT Input Channel

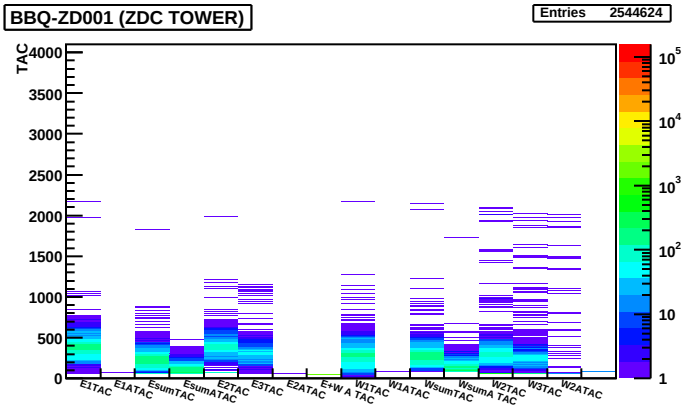

BBQ-BB002 (BBC west small tiles ADC)
Entries 2544624
ADC
QT Input Channel

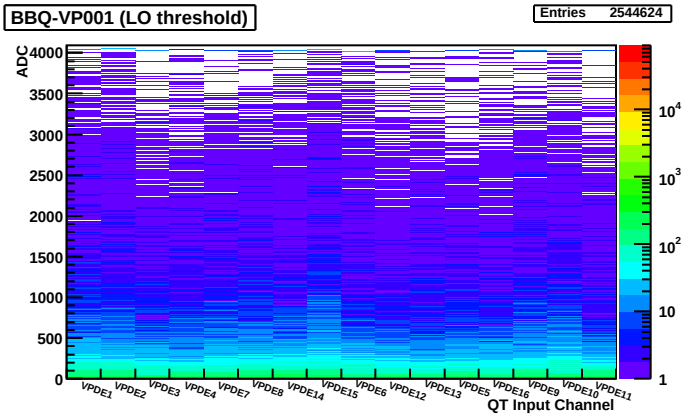

BBQ-BB002 (BBC west small tiles TAC)
Entries 2544624
TAC
QT Input Channel

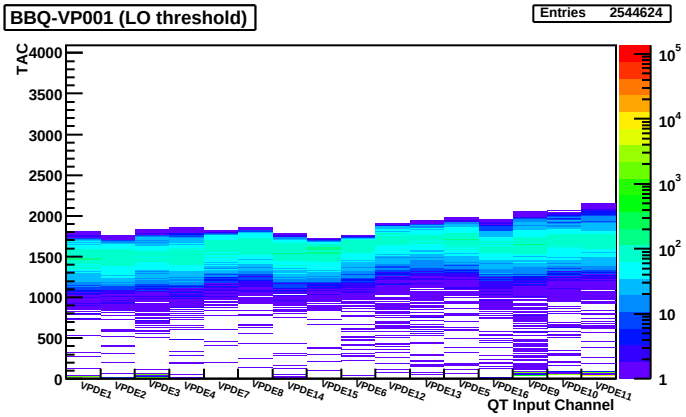

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 2544624
ADC
QT Input Channel

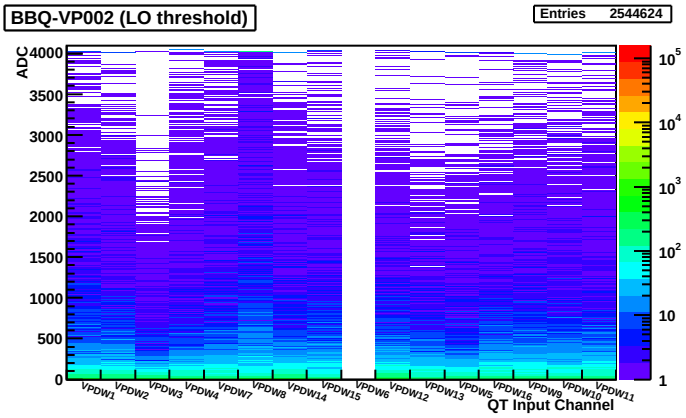

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 2544624
TAC
QT Input Channel

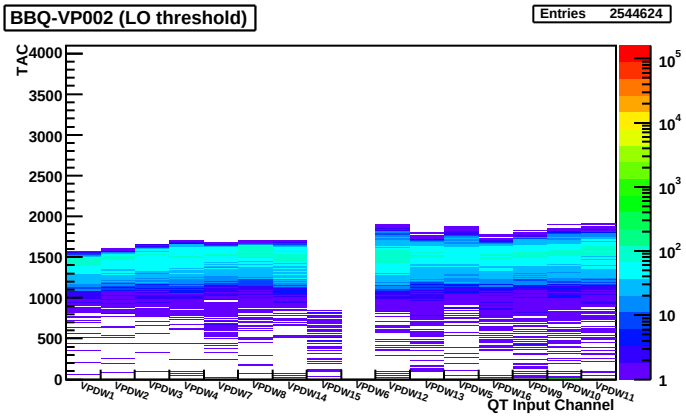

BBQ-ZD001 (ZDC TOWER)
Entries 2544624
ADC

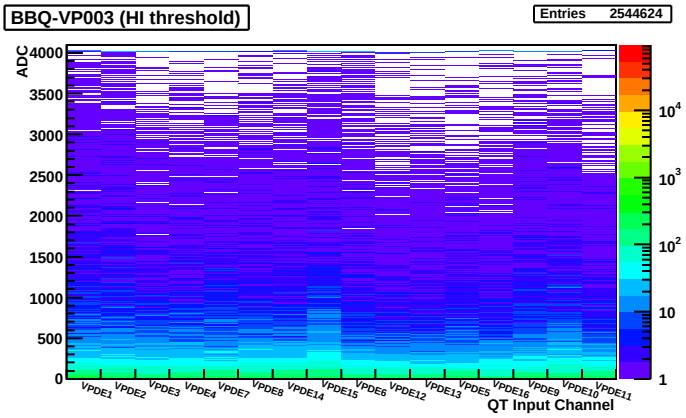

BBQ-ZD001 (ZDC TOWER)
Entries 2544624
TAC

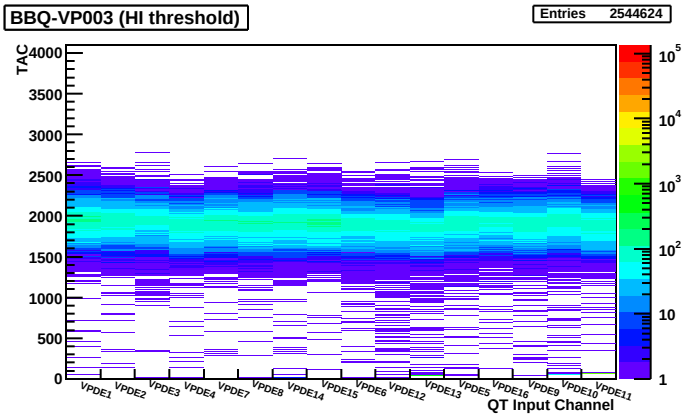

BBQ-VP001 (LO threshold)
Entries 2544624
ADC
QT Input Channel

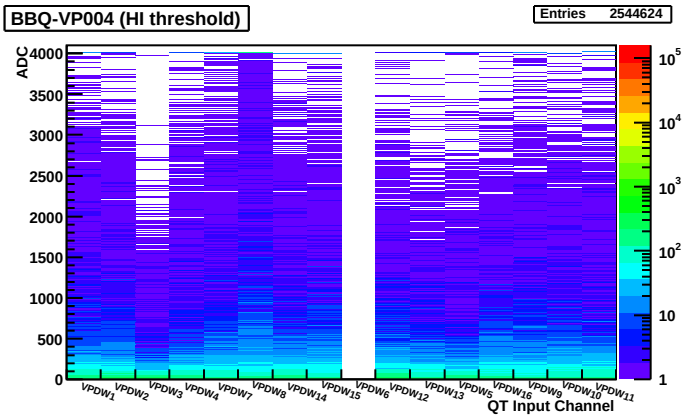

BBQ-VP001 (LO threshold)
Entries 2544624
TAC
QT Input Channel

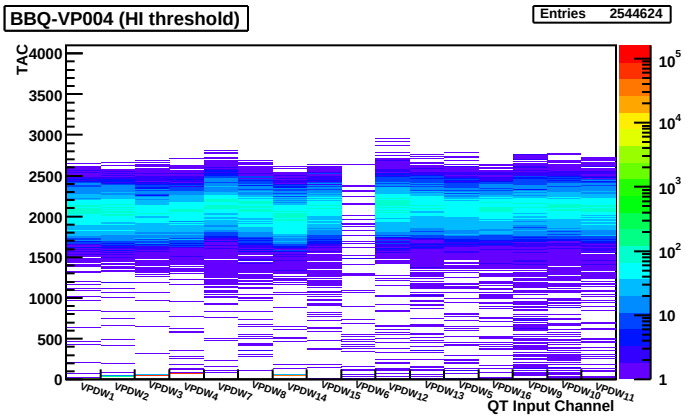

BBQ-VP002 (LO threshold)
Entries 2544624
ADC
QT Input Channel

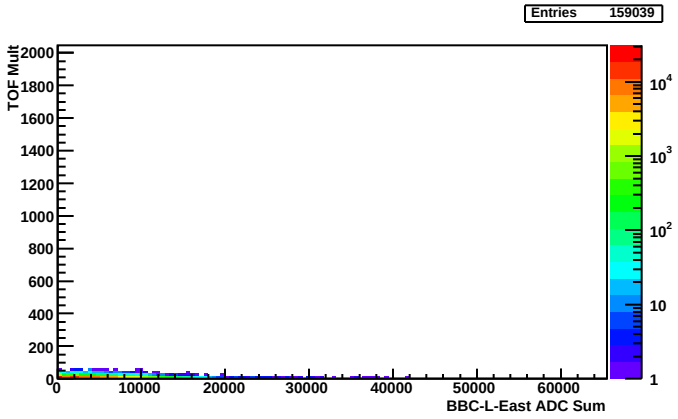

BBQ-VP002 (LO threshold)
Entries 2544624
TAC
QT Input Channel

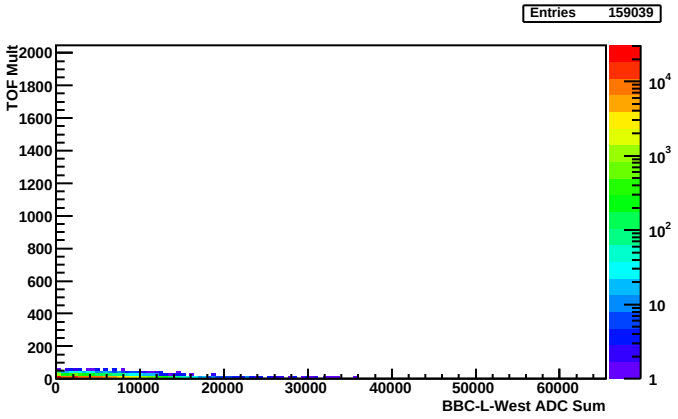

BBQ-VP003 (HI threshold)
Entries 2544624
ADC
QT Input Channel

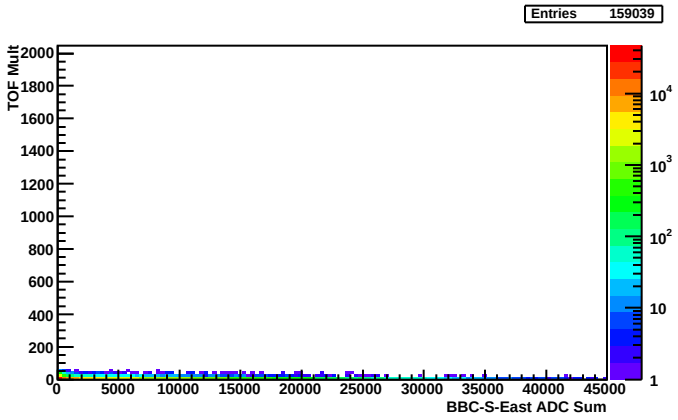

BBQ-VP003 (HI threshold)
Entries 2544624
TAC
QT Input Channel

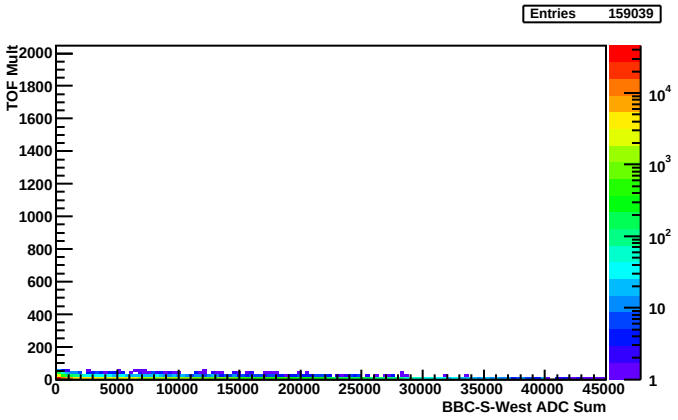

BBQ-VP004 (HI threshold)
Entries 2544624
ADC
QT Input Channel

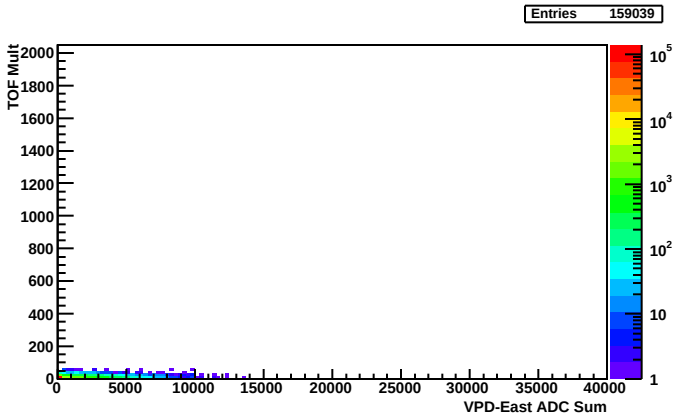

BBQ-VP004 (HI threshold)
Entries 2544624
TAC
QT Input Channel

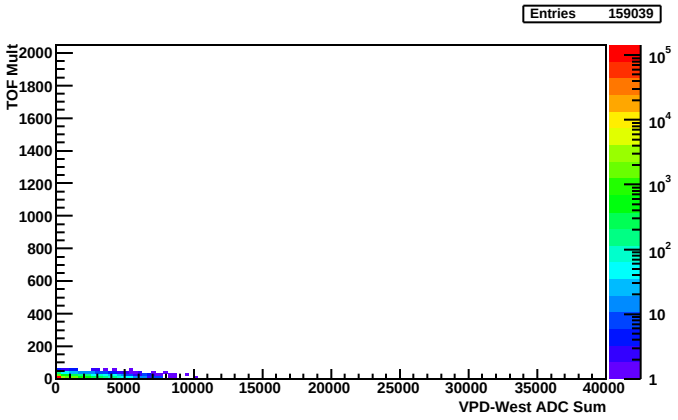

Entries 159039
TOF Mult
BBC-L-East ADC Sum

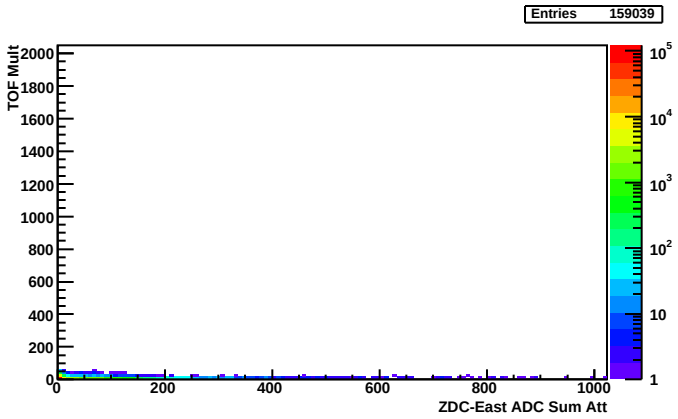

Entries 159039
TOF Mult
BBC-L-West ADC Sum

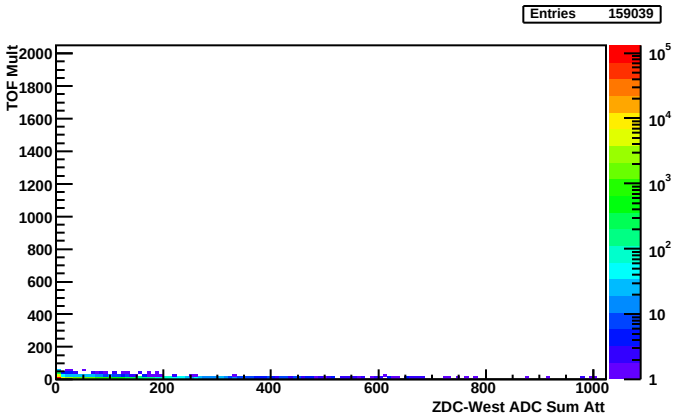

Entries 159039
TOF Mult
BBC-S-East ADC Sum

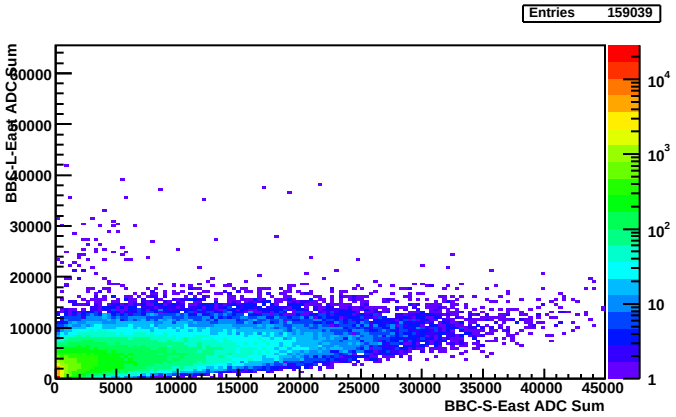

Entries 159039
TOF Mult
BBC-S-West ADC Sum

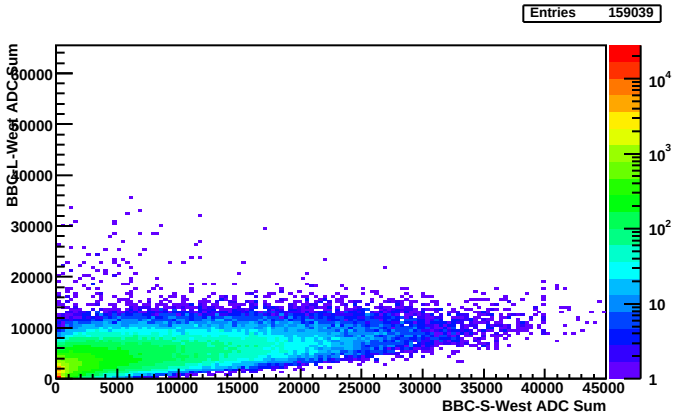

Entries 159039
TOF Mult
VPD-East ADC Sum

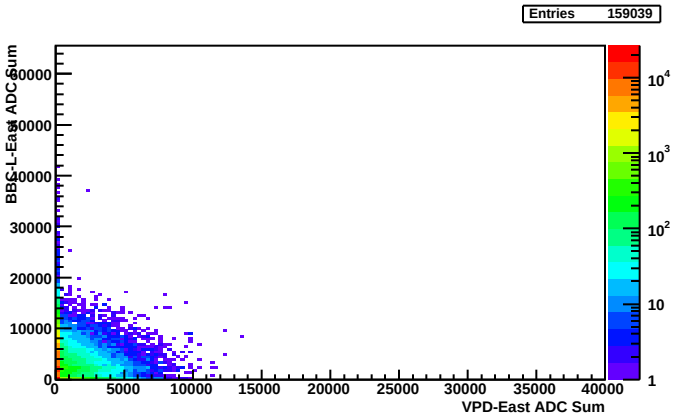

Entries 159039
TOF Mult
VPD-West ADC Sum

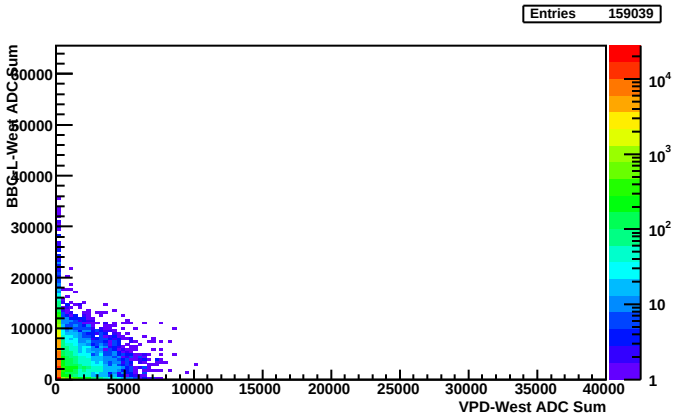

Entries 159039
TOF Mult
ZDC-East ADC Sum Att

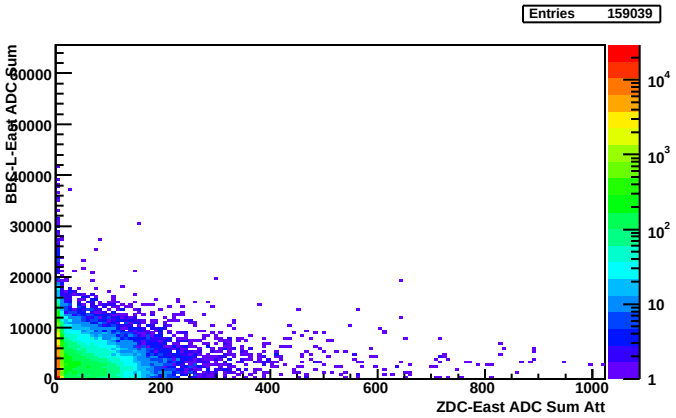

Entries 159039
TOF Mult
ZDC-West ADC Sum Att

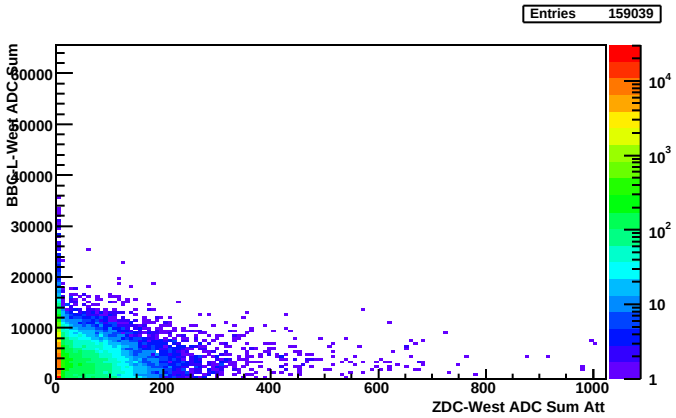

Entries 159039
BBC-L-East ADC Sum
BBC-S-East ADC Sum

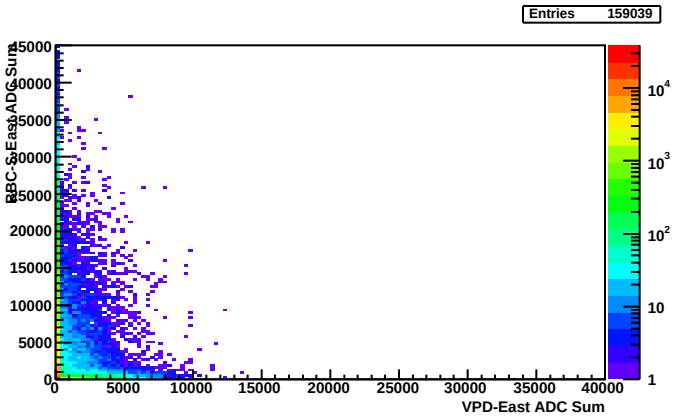

Entries 159039
BBC-L-West ADC Sum
BBC-S-West ADC Sum

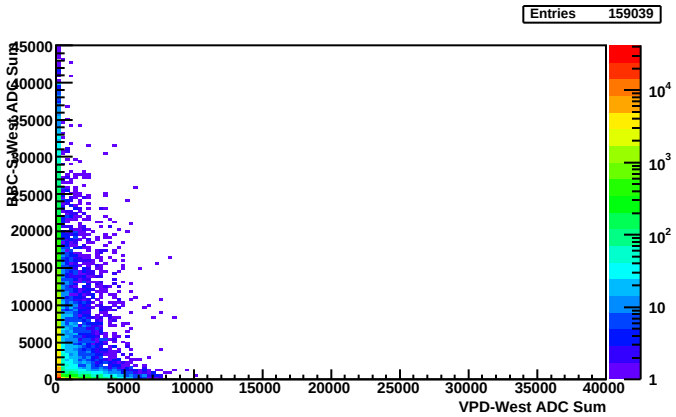

Entries 159039
BBC-L-East ADC Sum
VPD-East ADC Sum

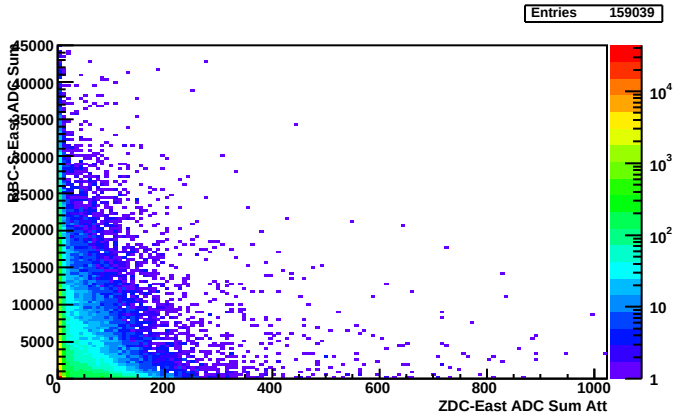

Entries 159039
BBC-L-West ADC Sum
VPD-West ADC Sum

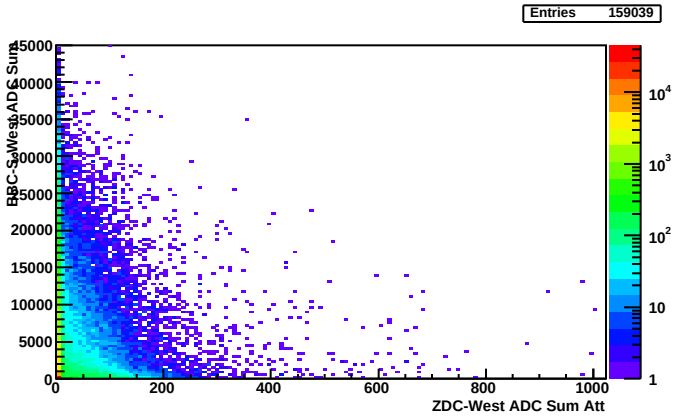

Entries 159039
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

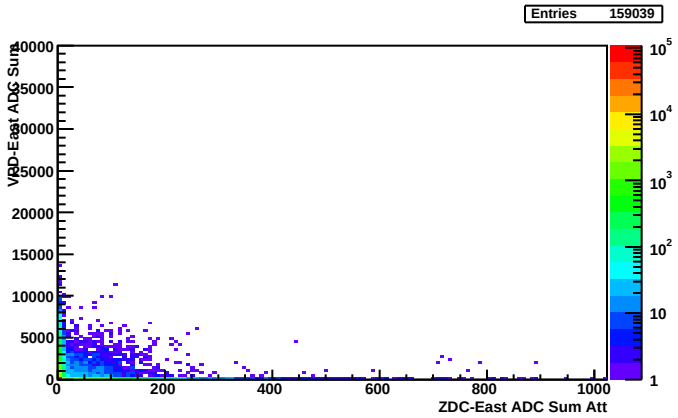

Entries 159039
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

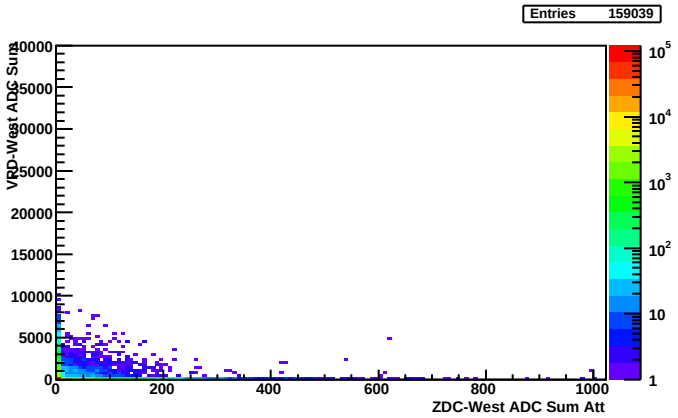

Entries 159039
BBC-S-East ADC Sum
VPD-East ADC Sum

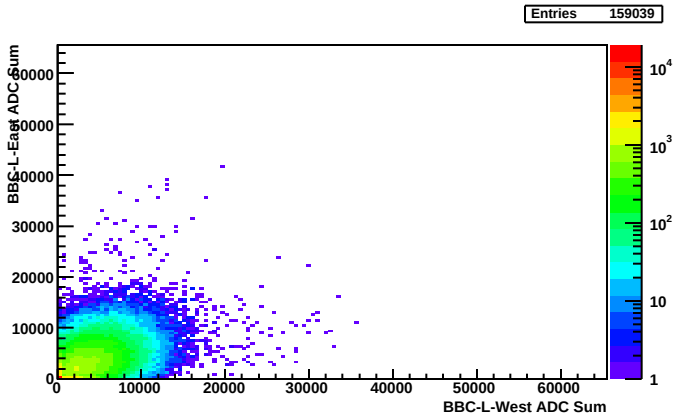

Entries 159039
BBC-S-West ADC Sum
VPD-West ADC Sum

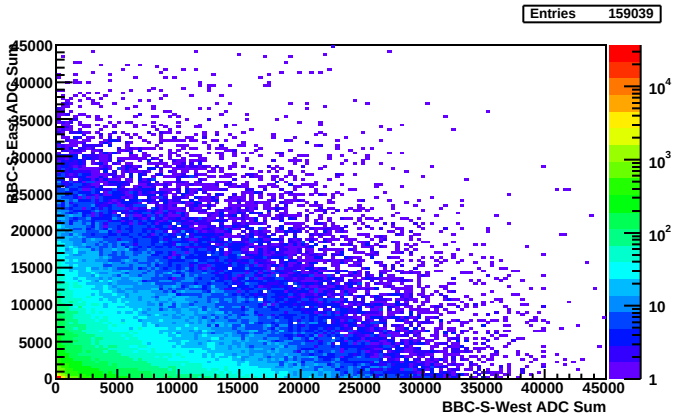

Entries 159039
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

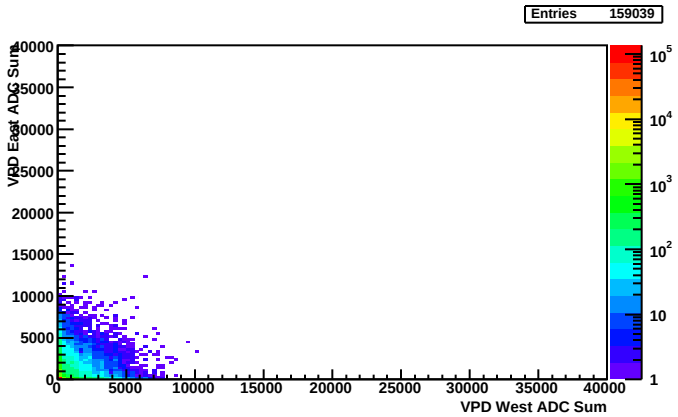

Entries 159039
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

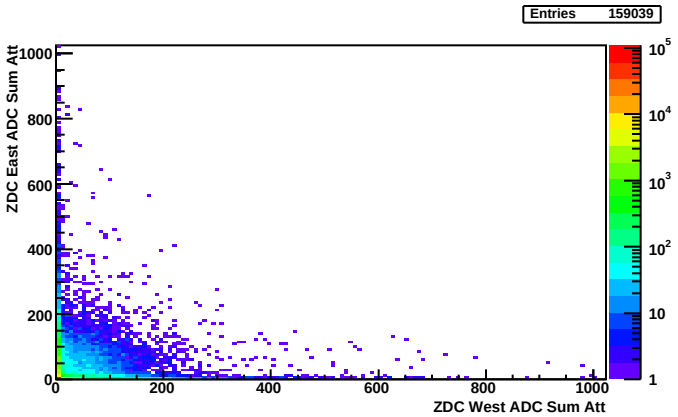

Entries 159039
VPD-East ADC Sum
ZDC-East ADC Sum Att

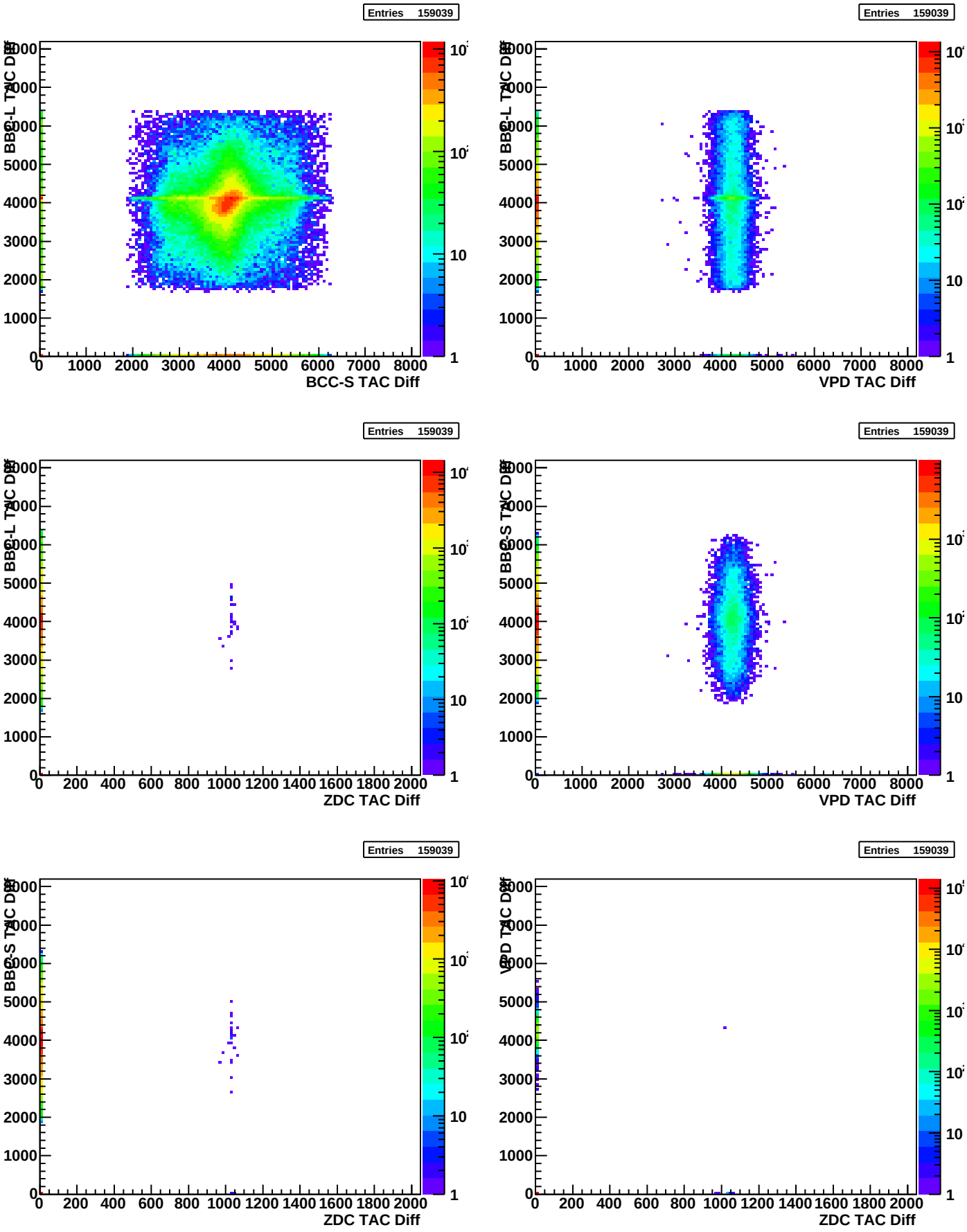

Entries 159039
VPD-West ADC Sum
ZDC-West ADC Sum Att

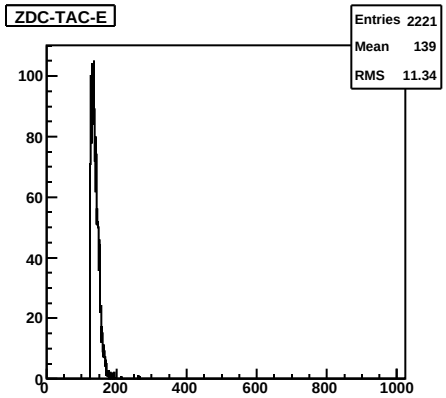

Entries 159039
BBC-L-East ADC Sum
BBC-L-West ADC Sum

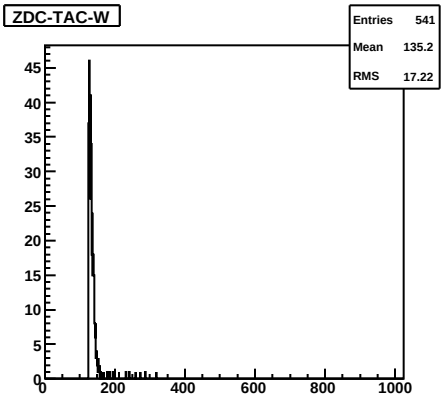

Entries 159039
BBC-S-East ADC Sum
BBC-S-West ADC Sum

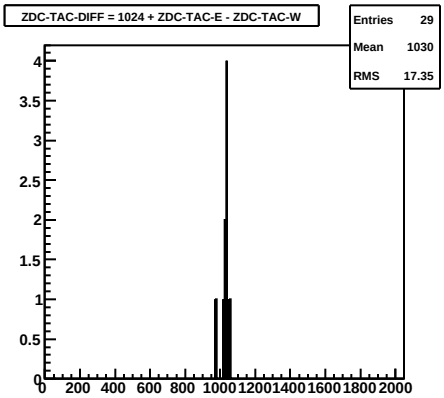

Entries 159039
VPD East ADC Sum
VPD West ADC Sum

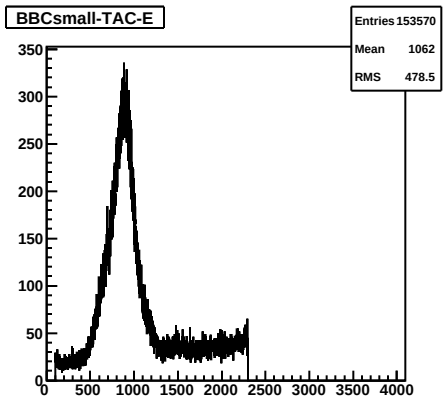

Entries 159039
ZDC East ADC Sum Att
ZDC West ADC Sum Att

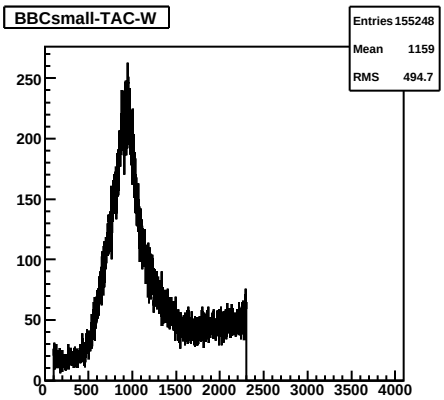

Entries 159039
BBC-L TAC Diff
BCC-S TAC Diff
Entries 159039
BBC-L TAC Diff
VPD TAC Diff
Entries 159039
BBC-L TAC Diff
ZDC TAC Diff
Entries 159039
BBC-S TAC Diff
VPD TAC Diff
Entries 159039
BBC-S TAC Diff
ZDC TAC Diff
Entries 159039
VPD TAC Diff
ZDC TAC Diff

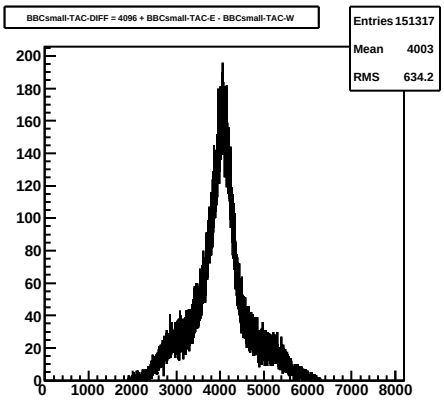

ZDC-TAC-E
Entries 2221
Mean 139
RMS 11.34

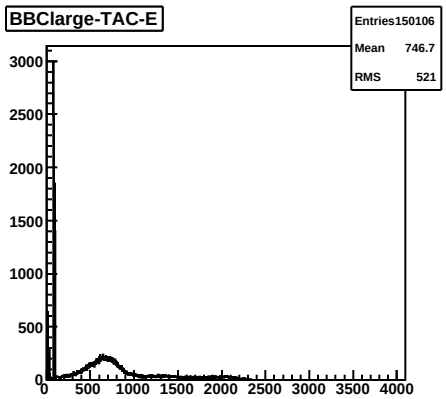

ZDC-TAC-W
Entries 541
Mean 135.2
RMS 17.22

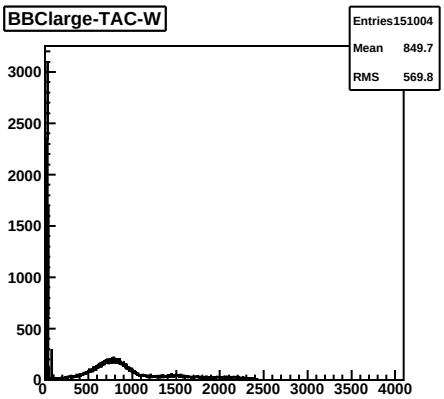

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 29
Mean 1030
RMS 17.35

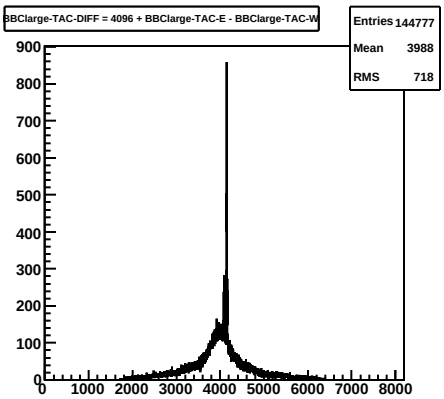

BBCsmall-TAC-E
Entries 153570
Mean 1062
RMS 478.5

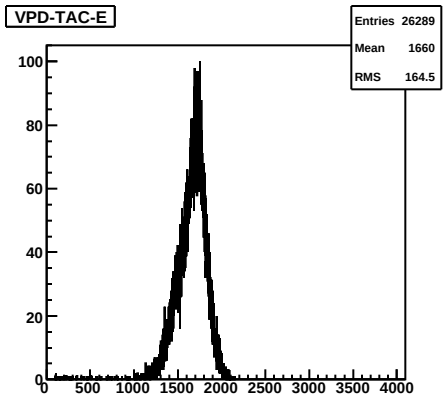

BBCsmall-TAC-W
Entries 155248
Mean 1159
RMS 494.7

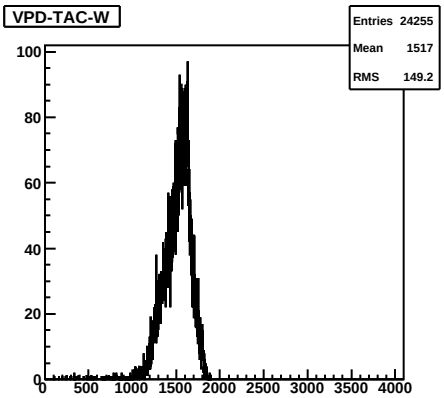

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 151317
Mean 4003
RMS 634.2

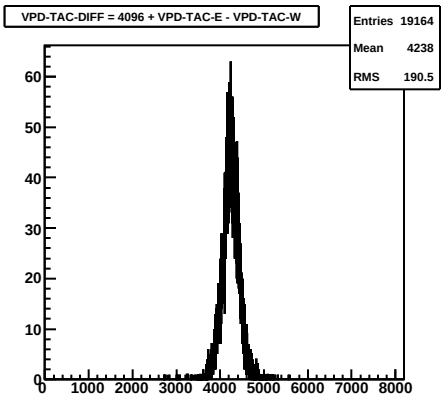

BBClarge-TAC-E
Entries 150106
Mean 746.7
RMS 521

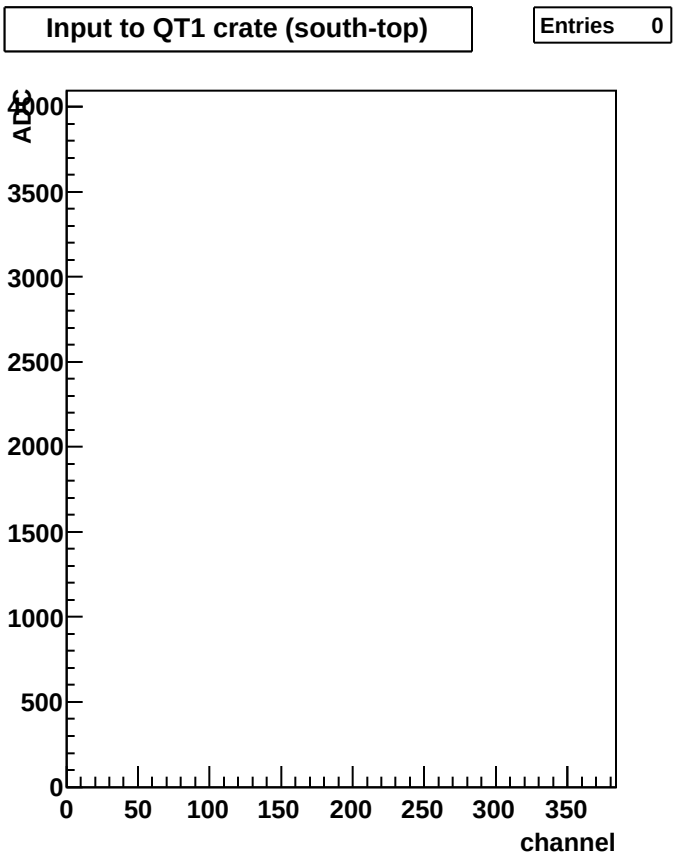

BBClarge-TAC-W
Entries 151004
Mean 849.7
RMS 569.8

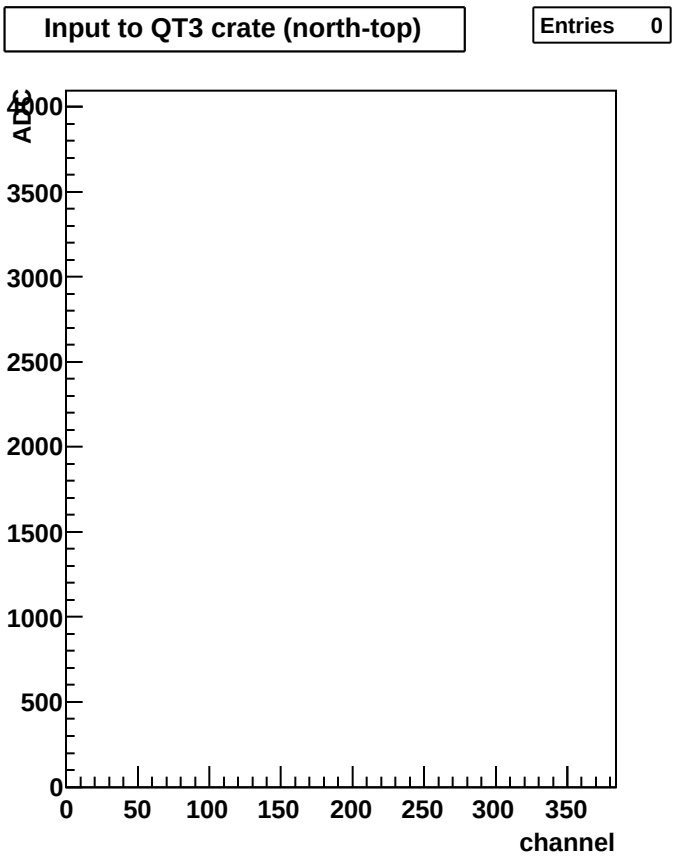

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 144777
Mean 3988
RMS 718

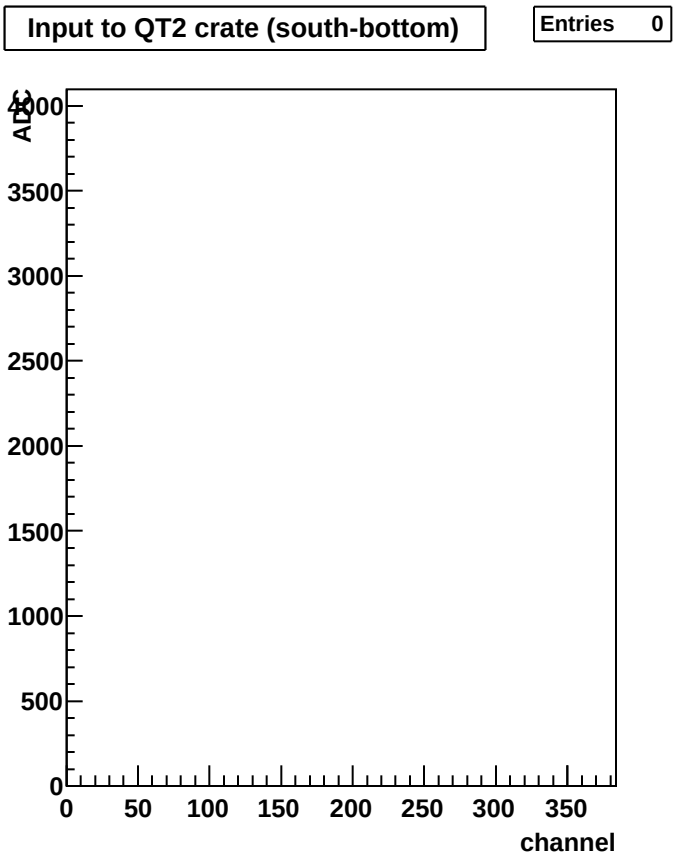

VPD-TAC-E
Entries 26289
Mean 1660
RMS 164.5

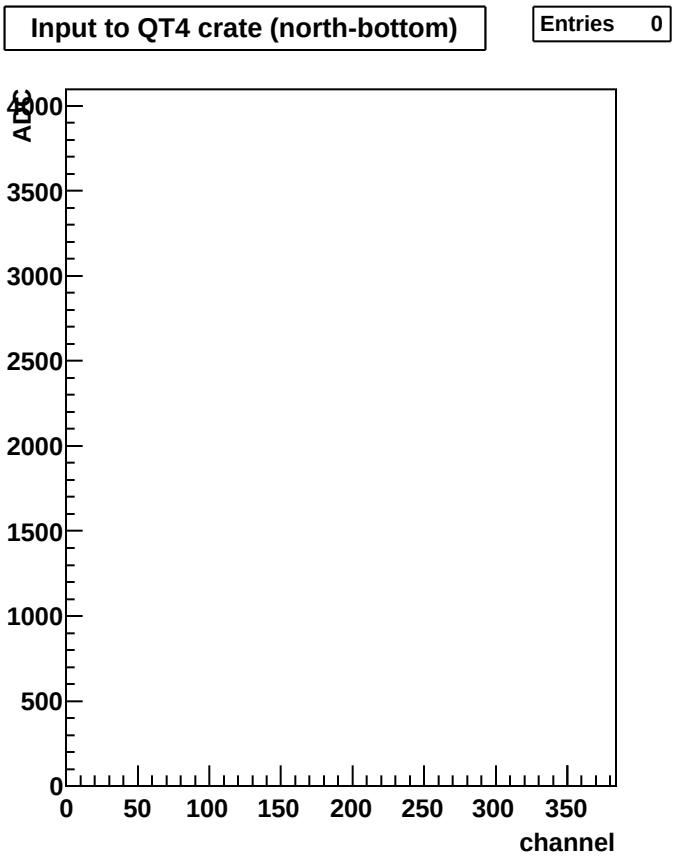

VPD-TAC-W
Entries 24255
Mean 1517
RMS 149.2

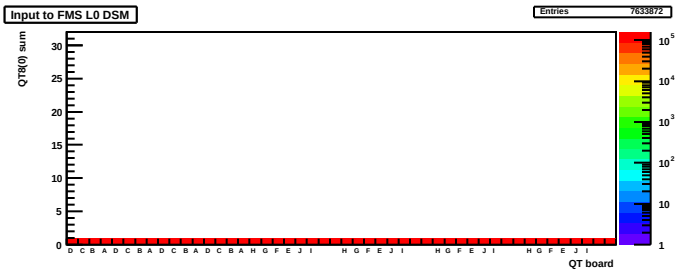

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 19164
Mean 4238
RMS 190.5

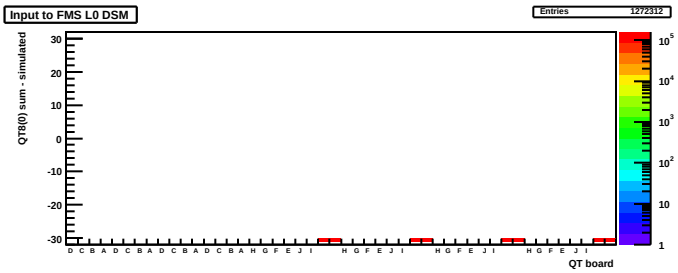

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

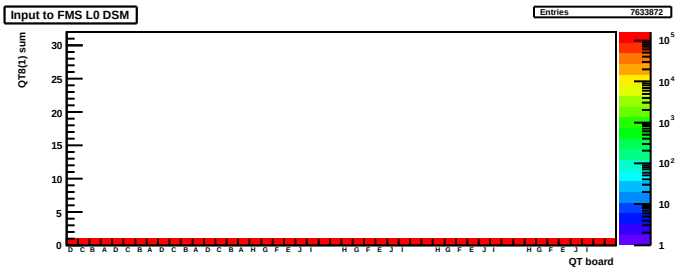

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

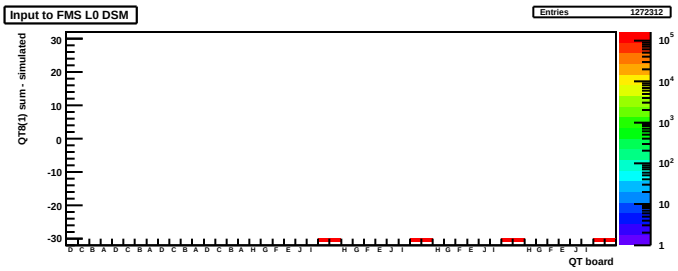

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

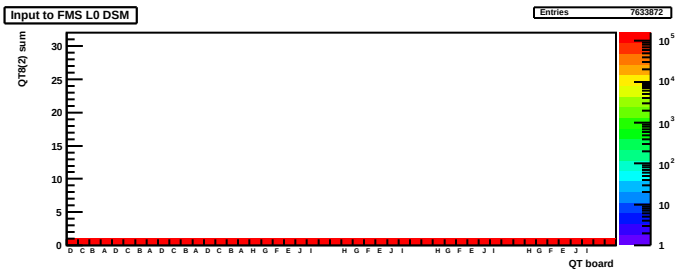

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

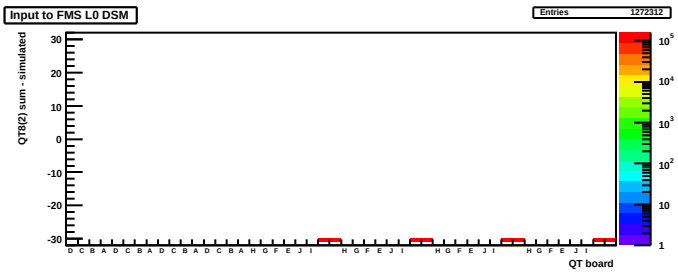

Input to FMS L0 DSM
Entries 7633872
QT8(0) sum
QT board

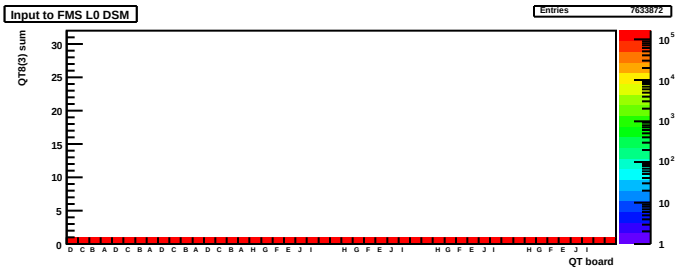

Input to FMS L0 DSM
Entries 1272312
QT8(0) sum - simulated
QT board

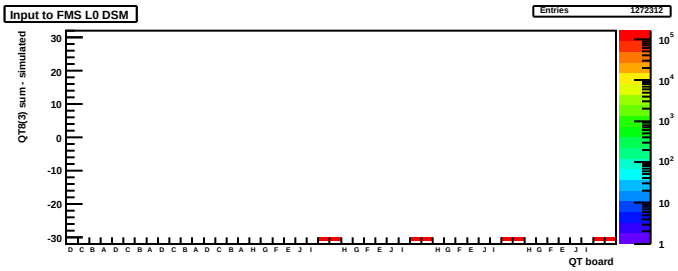

Input to FMS L0 DSM
Entries 7633872
QT8(1) sum
QT board

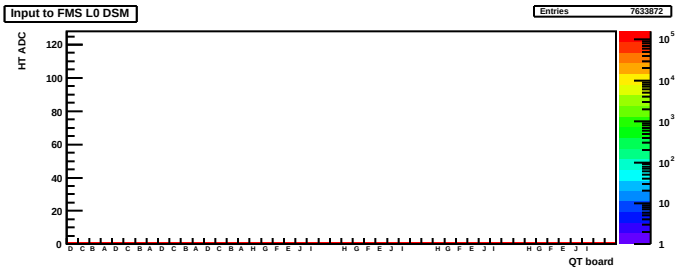

Input to FMS L0 DSM
Entries 1272312
QT8(1) sum - simulated
QT board

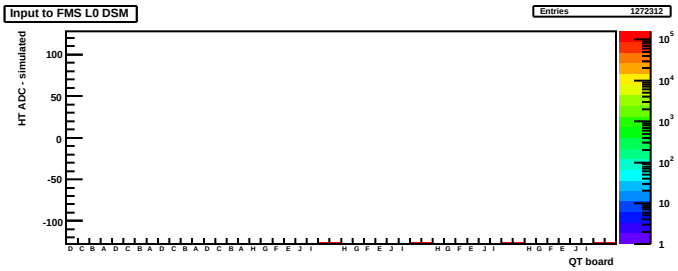

Input to FMS L0 DSM
Entries 7633872
QT8(2) sum
QT board

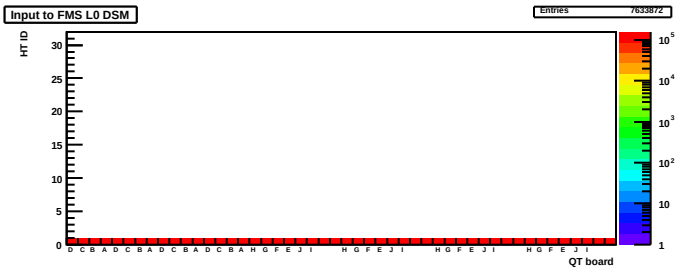

Input to FMS L0 DSM
Entries 1272312
QT8(2) sum - simulated
QT board

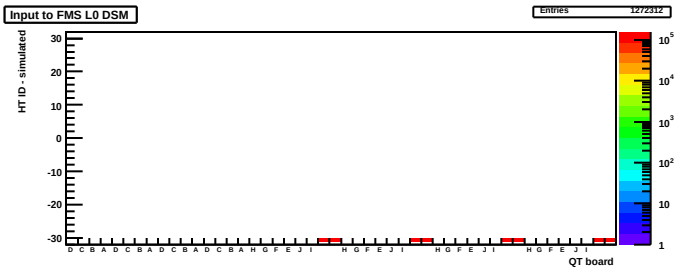

Input to FMS L0 DSM
Entries 7633872
QT8(3) sum
QT board

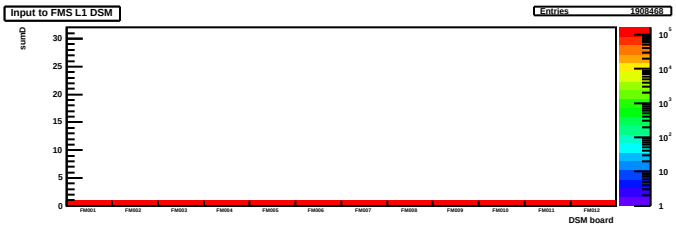

Input to FMS L0 DSM
Entries 1272312
QT8(3) sum - simulated
QT board

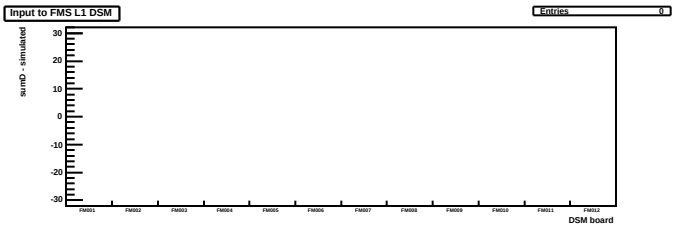

Input to FMS L0 DSM
Entries 7633872
HT ADC
QT board

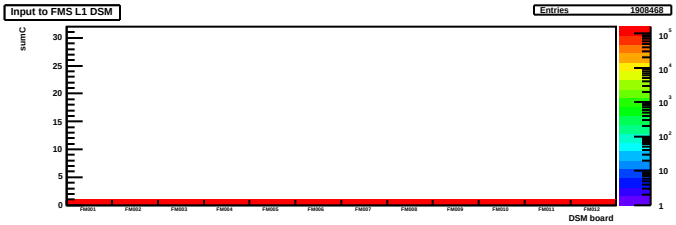

Input to FMS L0 DSM
Entries 1272312
HT ADC - simulated
QT board

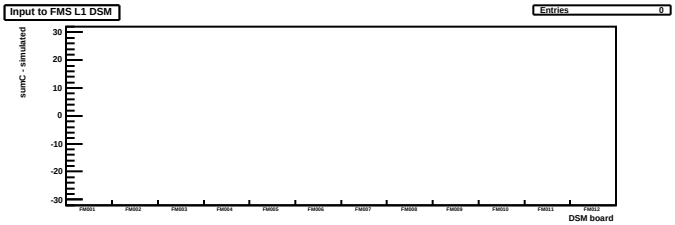

Input to FMS L0 DSM
Entries 7633872
HT ID
QT board

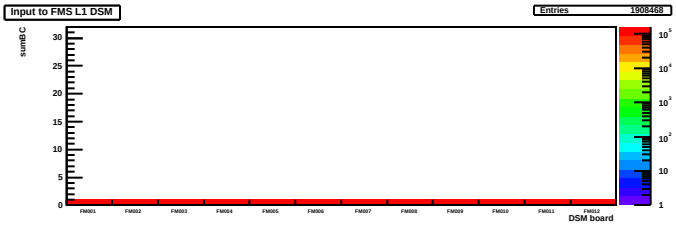

Input to FMS L0 DSM
Entries 1272312
HT ID - simulated
QT board

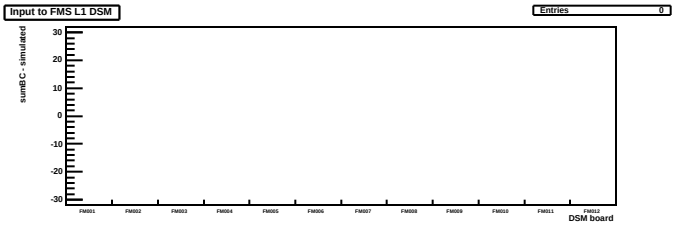

Input to FMS L1 DSM
Entries 1908468
sumD
DSM board

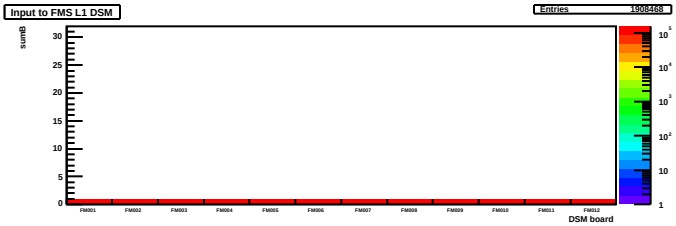

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

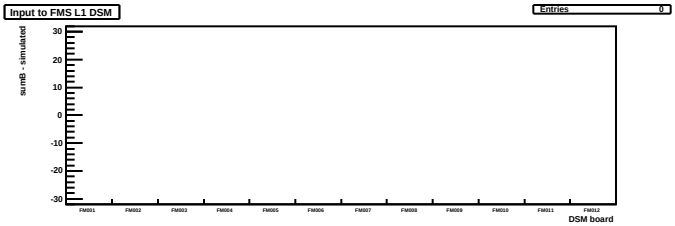

Input to FMS L1 DSM
Entries 1908468
sumC
DSM board

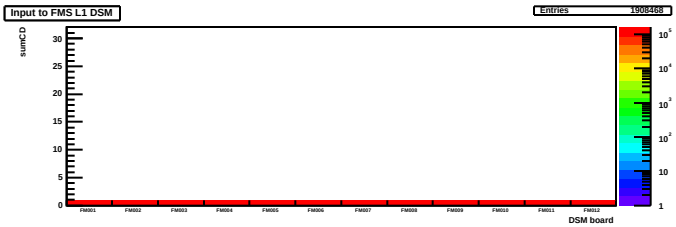

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

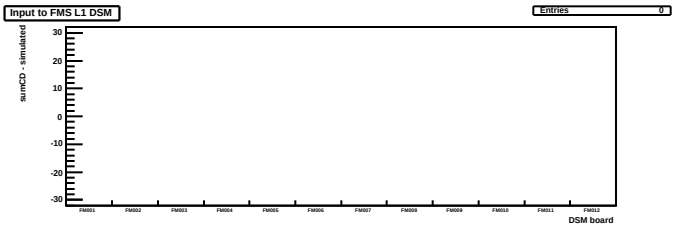

Input to FMS L1 DSM
Entries 1908468
sumBC
DSM board

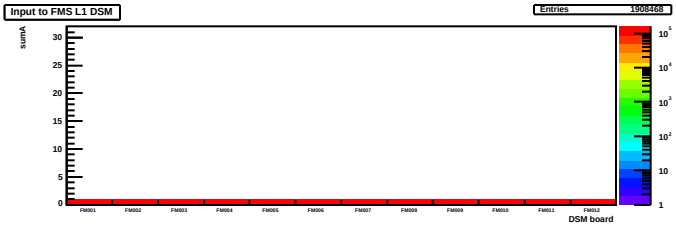

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

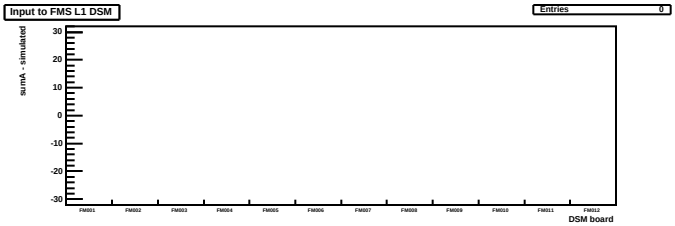

Input to FMS L1 DSM
Entries 1908468
sumB
DSM board

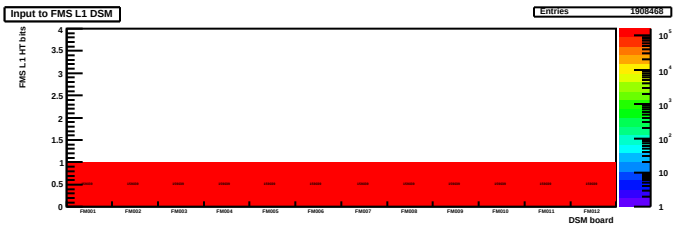

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

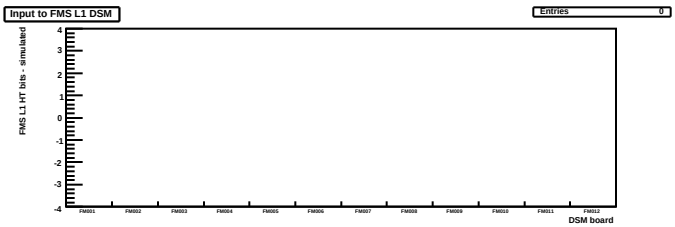

Input to FMS L1 DSM
Entries 1908468
sumCD
DSM board

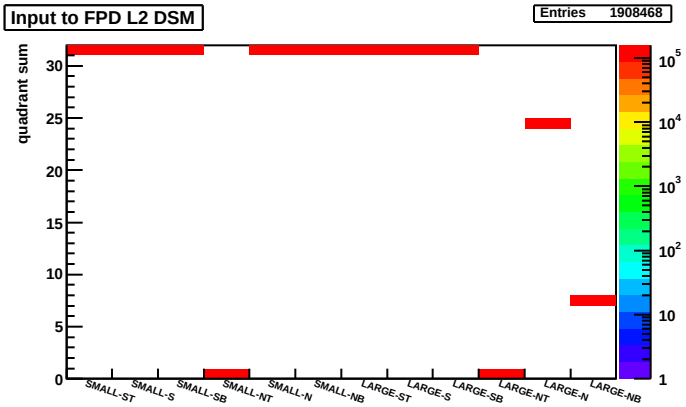

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

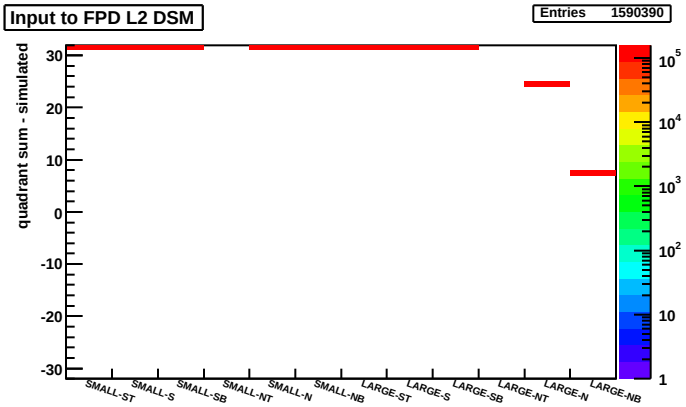

Input to FMS L1 DSM
Entries 1908468
sumA
DSM board

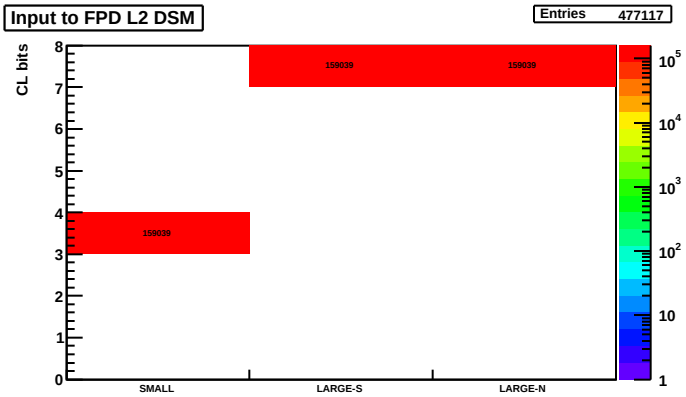

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

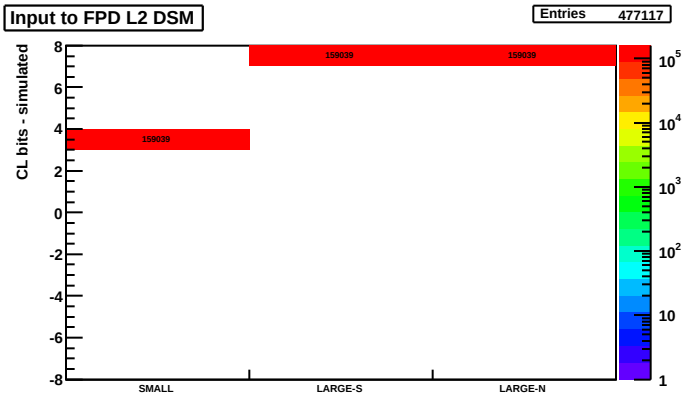

Input to FMS L1 DSM
Entries 1908468
FMS L1 HT bits
DSM board

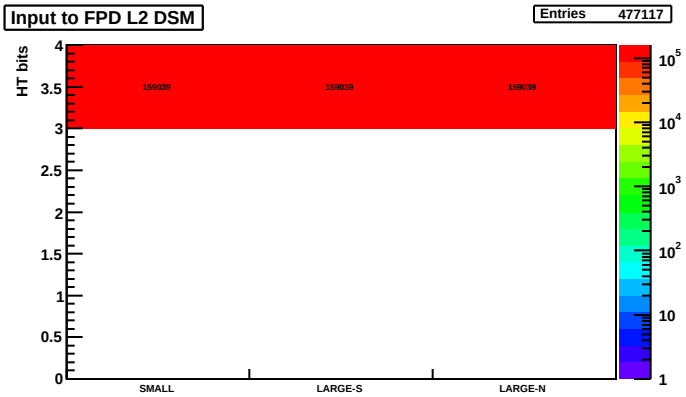

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

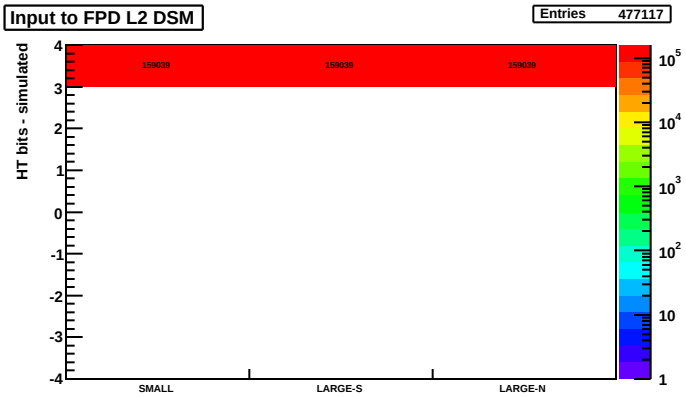

Input to FPD L2 DSM
Entries 1908468
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

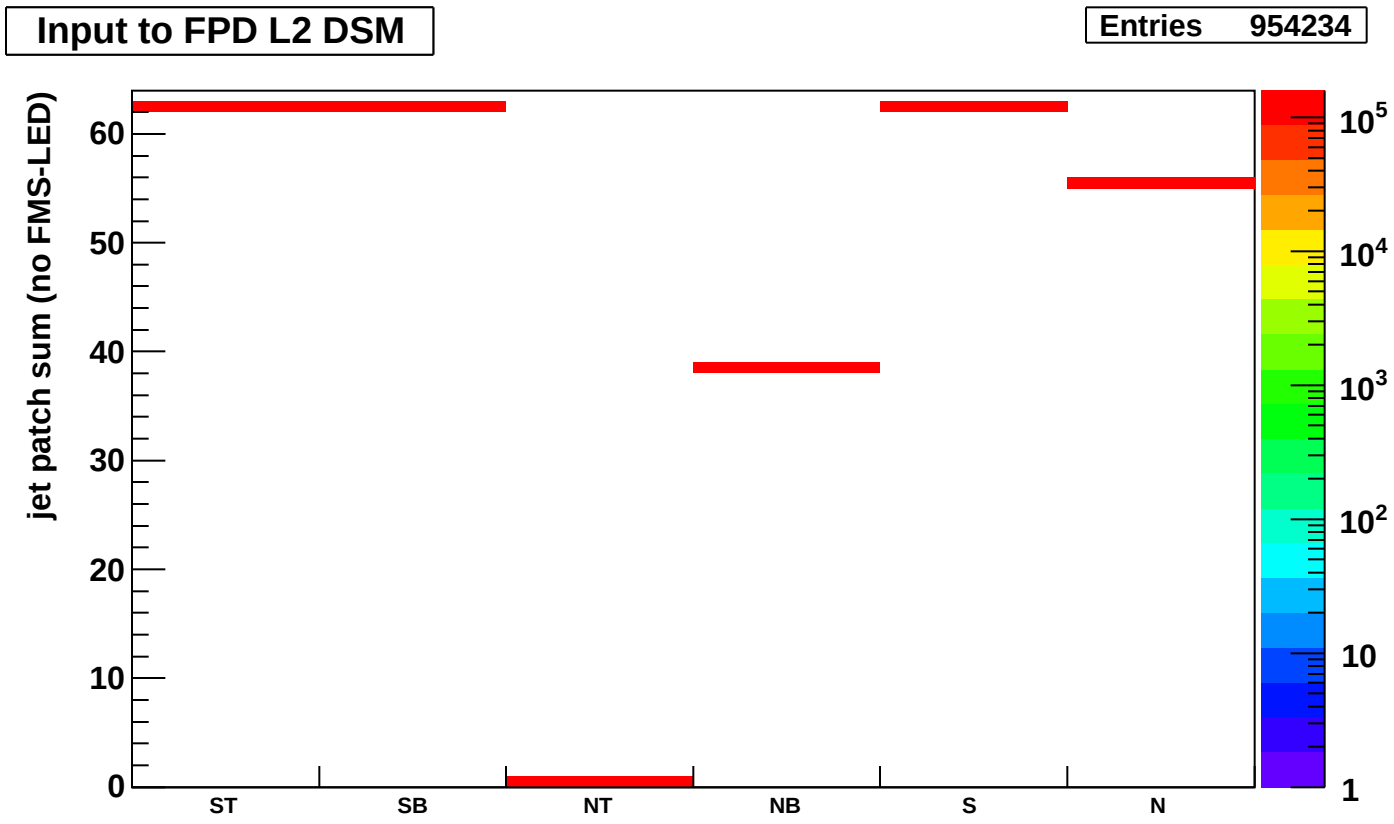

Input to FPD L2 DSM
Entries 1590390
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

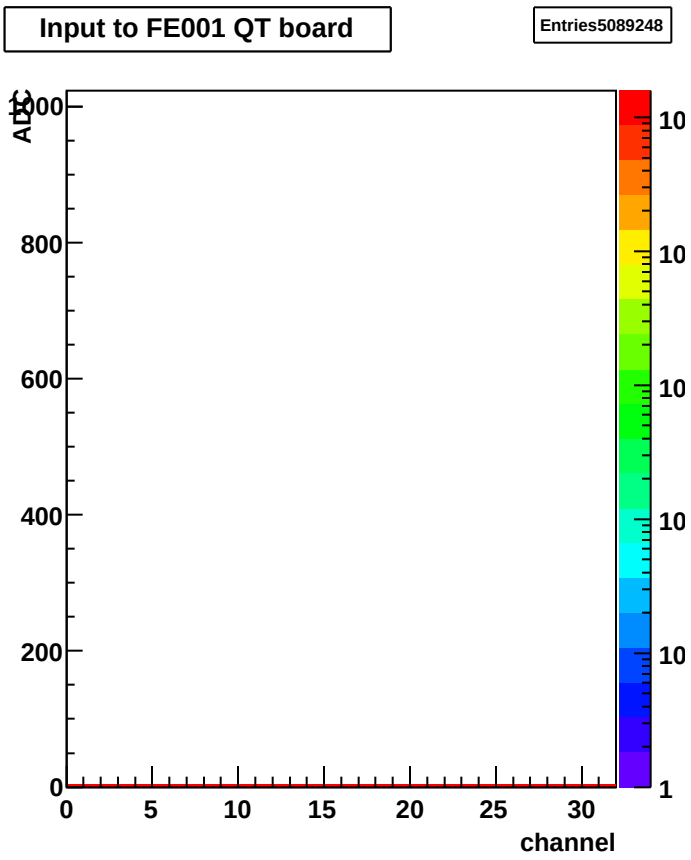

Input to FPD L2 DSM
Entries 477117
CL bits
159039
159039
159039
SMALL
LARGE-S
LARGE-N

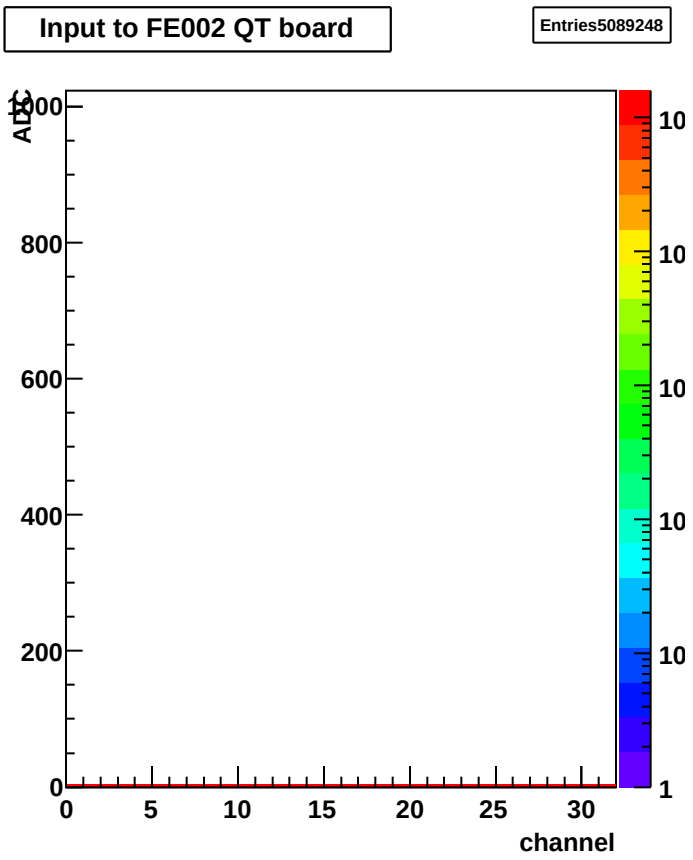

Input to FPD L2 DSM
Entries 477117
CL bits - simulated
159039
159039
159039
SMALL
LARGE-S
LARGE-N

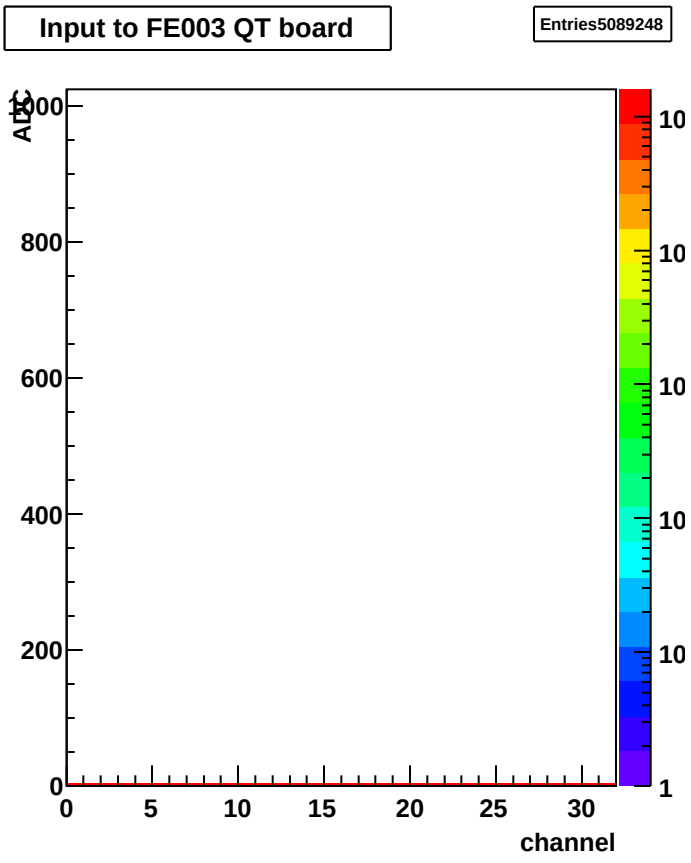

Input to FPD L2 DSM
Entries 477117
HT bits
159039
159039
159039
SMALL
LARGE-S
LARGE-N

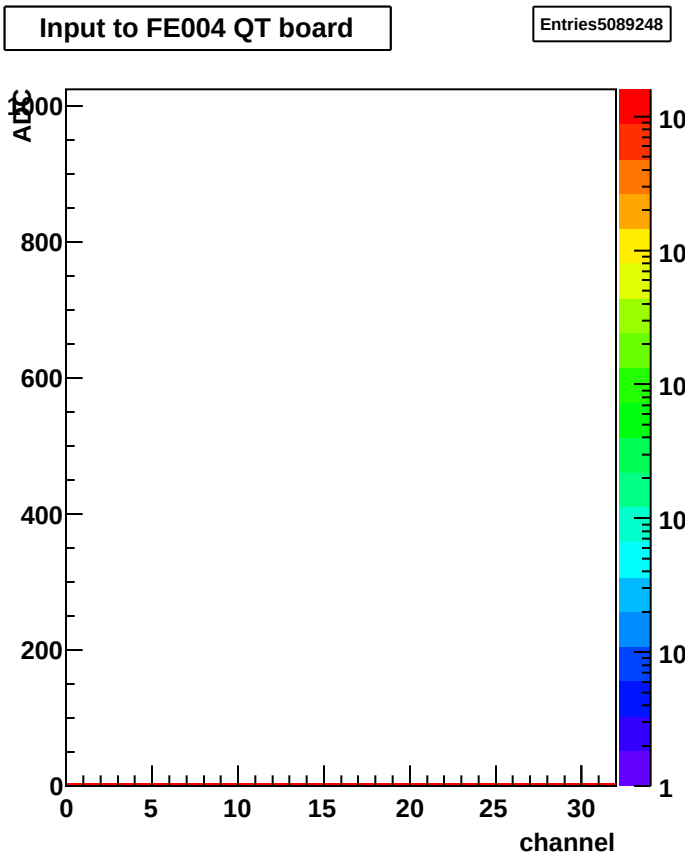

Input to FPD L2 DSM
Entries 477117
HT bits - simulated
159039
159039
159039
SMALL
LARGE-S
LARGE-N

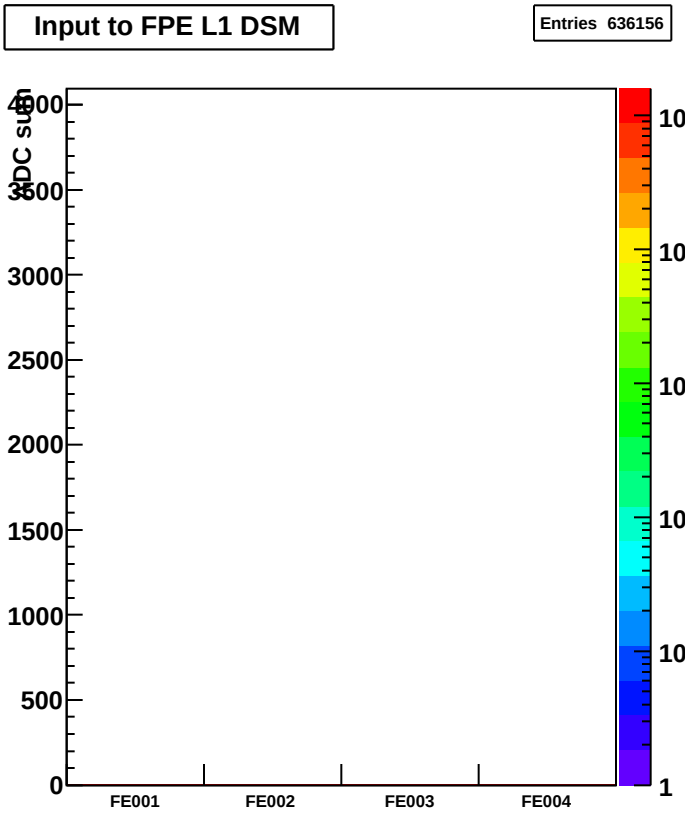

Input to FPD L2 DSM
Entries 954234
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

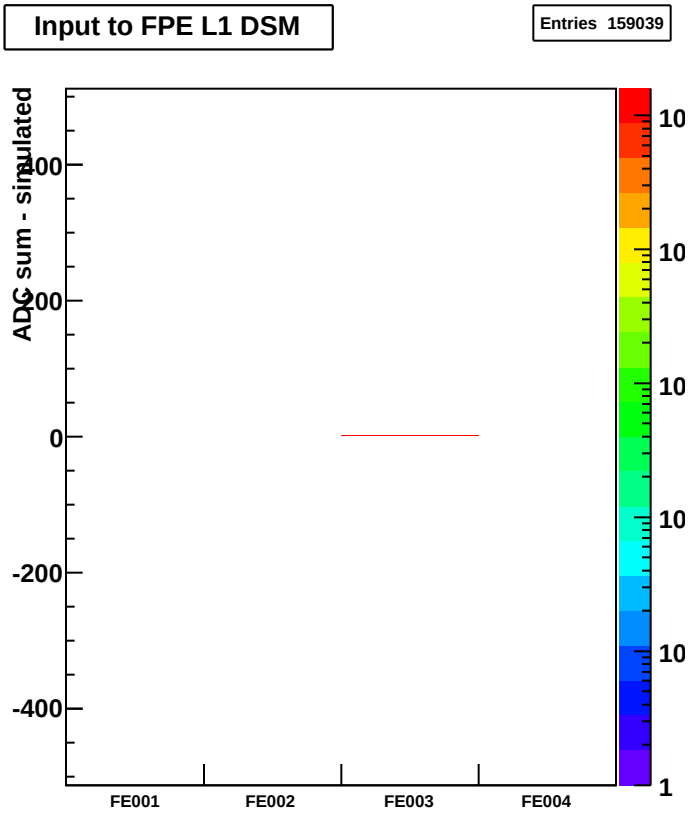

Input to FE001 QT board
Entries5089248
ADC
channel

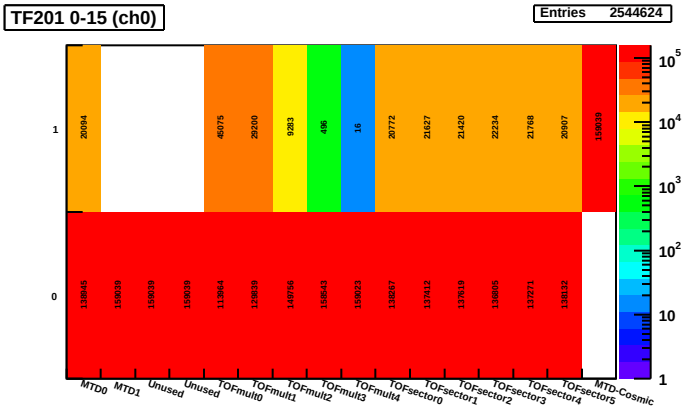

Input to FE002 QT board
Entries5089248
ADC
channel

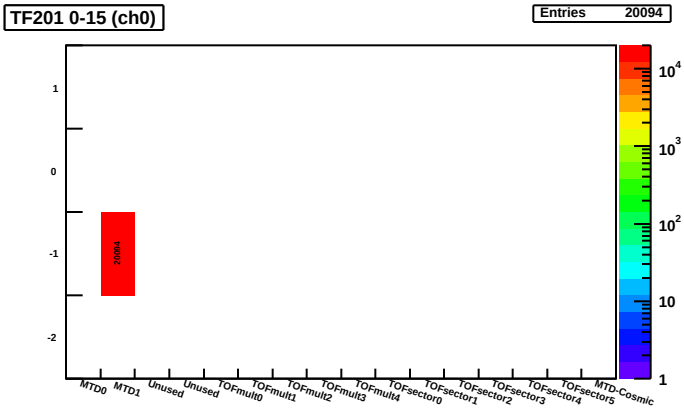

Input to FE003 QT board
Entries5089248
ADC
channel

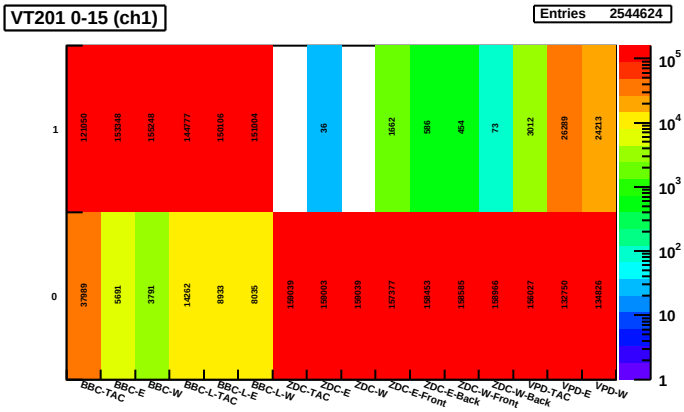

Input to FE004 QT board
Entries5089248
ADC
channel

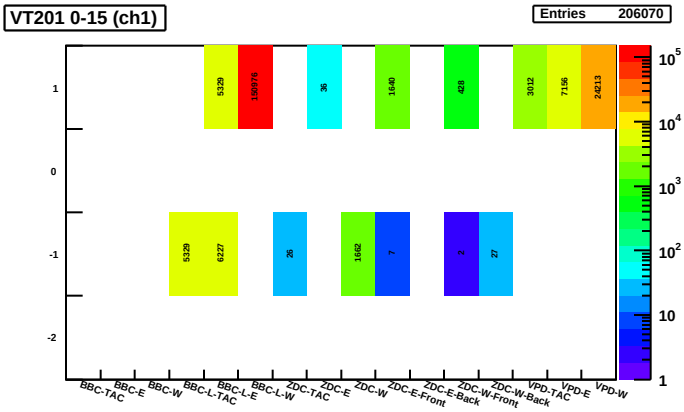

Input to FPE L1 DSM
Entries 636156
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1


Input to FPE L1 DSM
Entries 159039
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1


TF201 0-15 (ch0)
Entries 2544624
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 20094
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 2544624
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 206070
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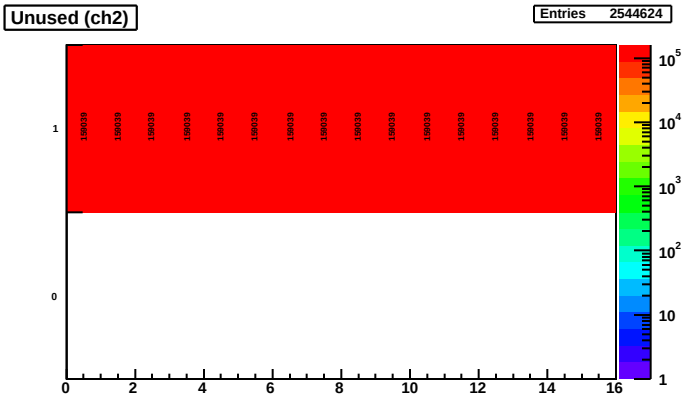
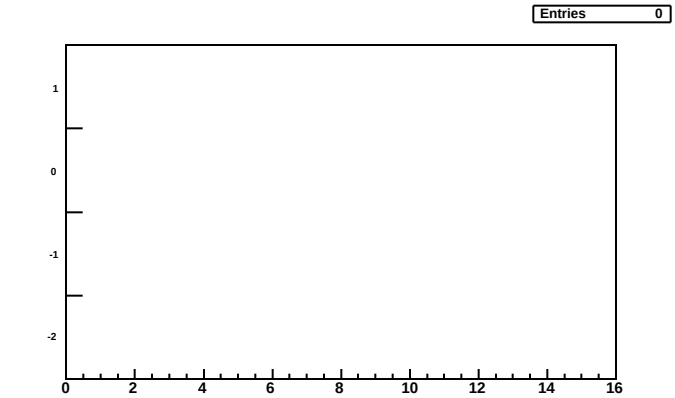
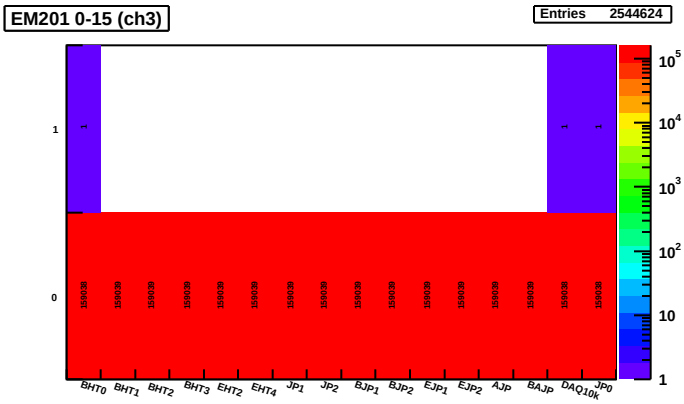

Unused (ch2)
Entries 2544624


Entries 0


EM201 0-15 (ch3)
Entries 2544624
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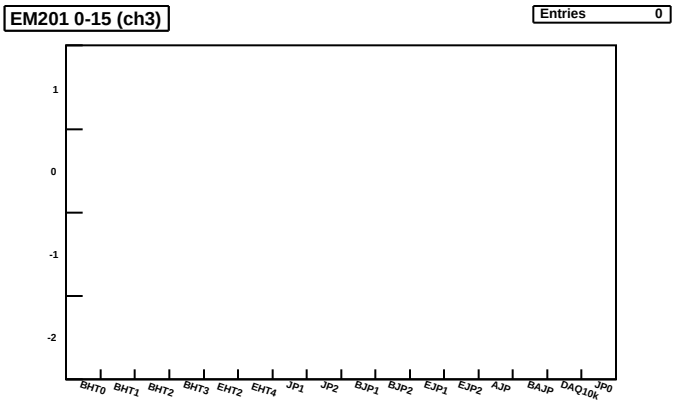
EM201 0-15 (ch3)
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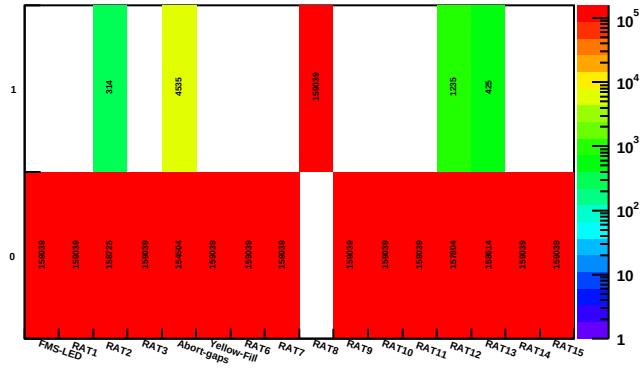
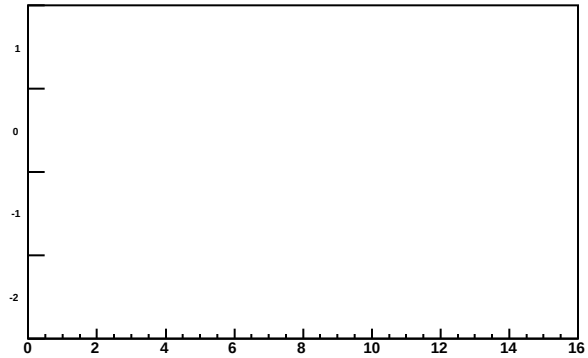
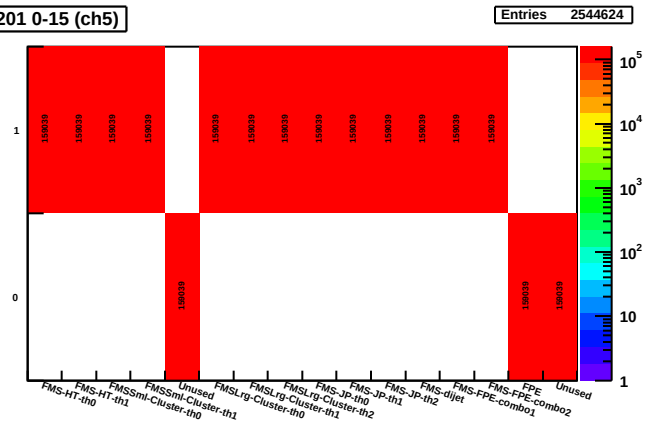
RAT board (ch4)





FP201 0-15 (ch5)



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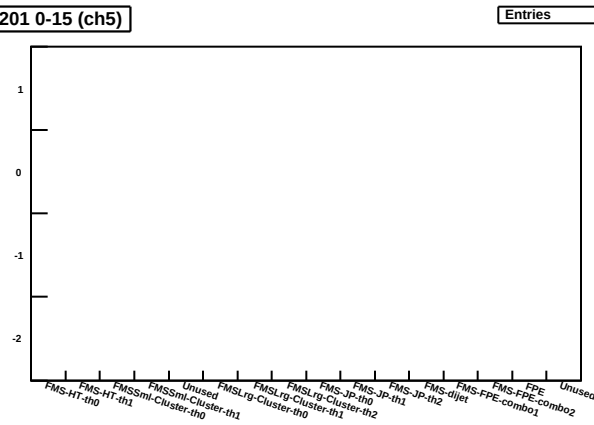
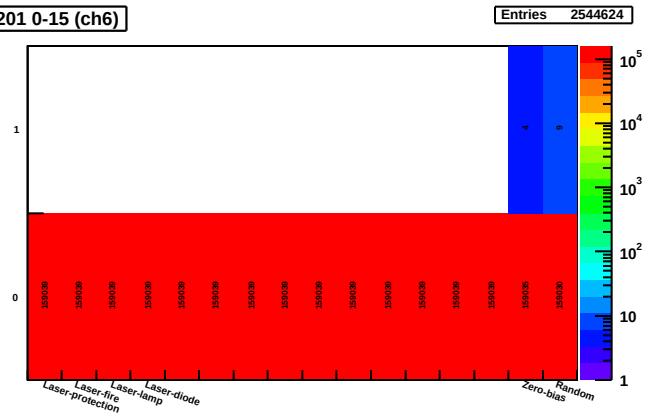
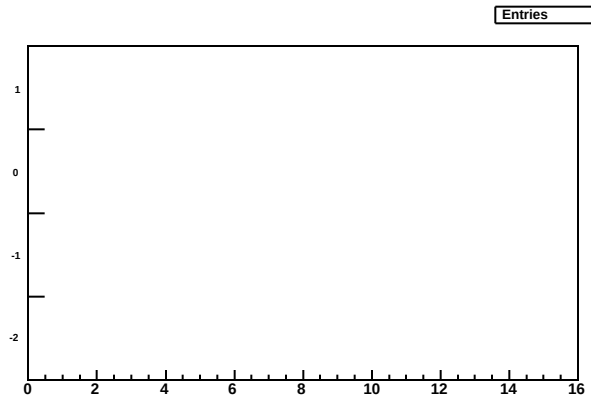
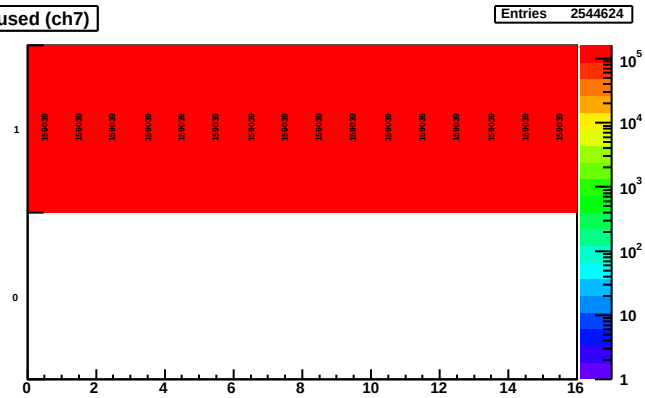
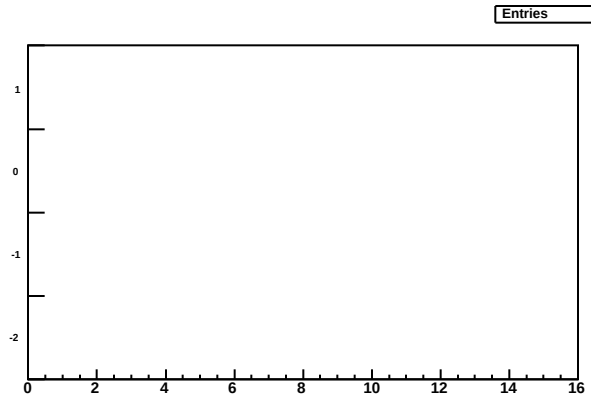


ST201 0-15 (ch6)





Unused (ch7)