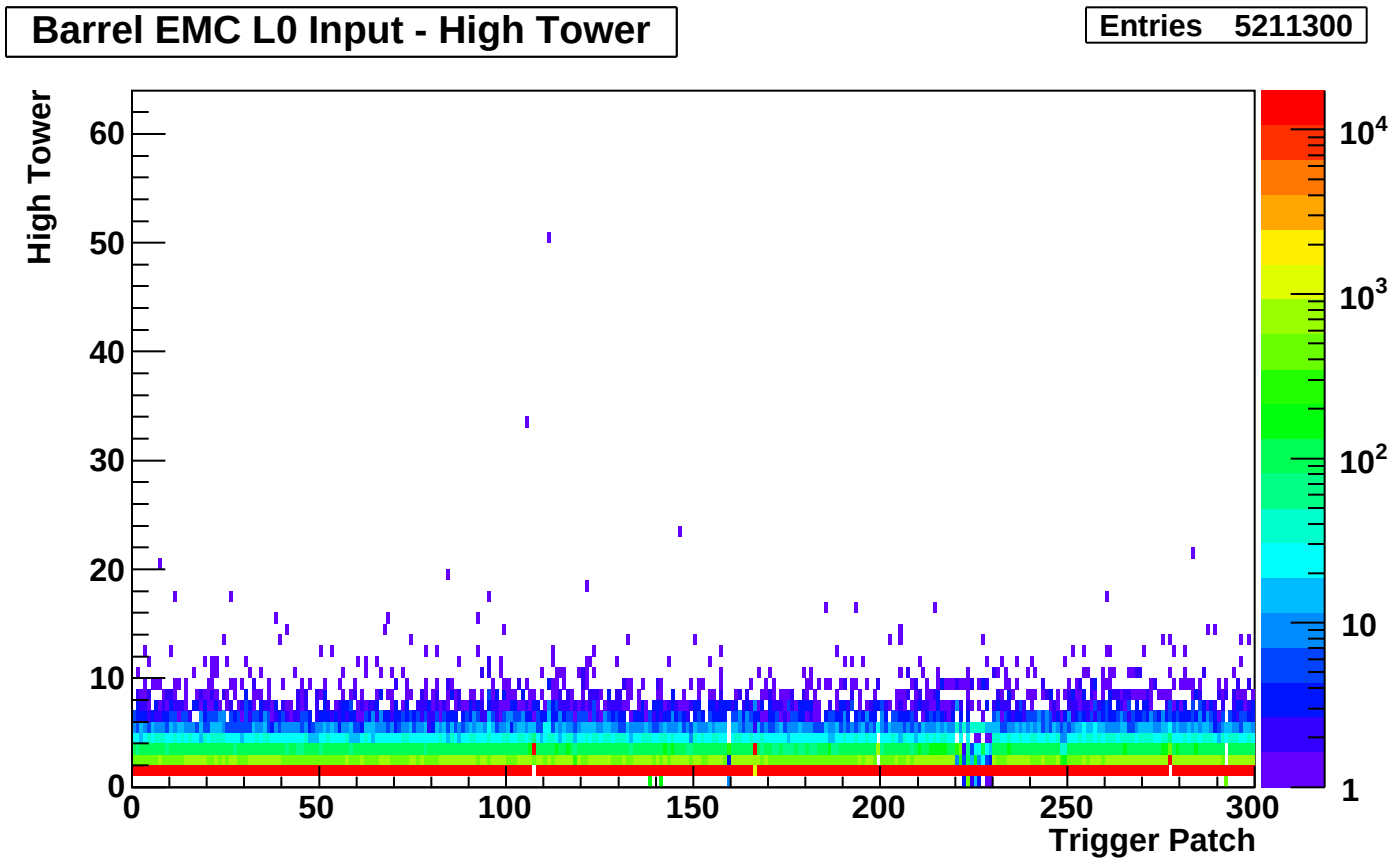
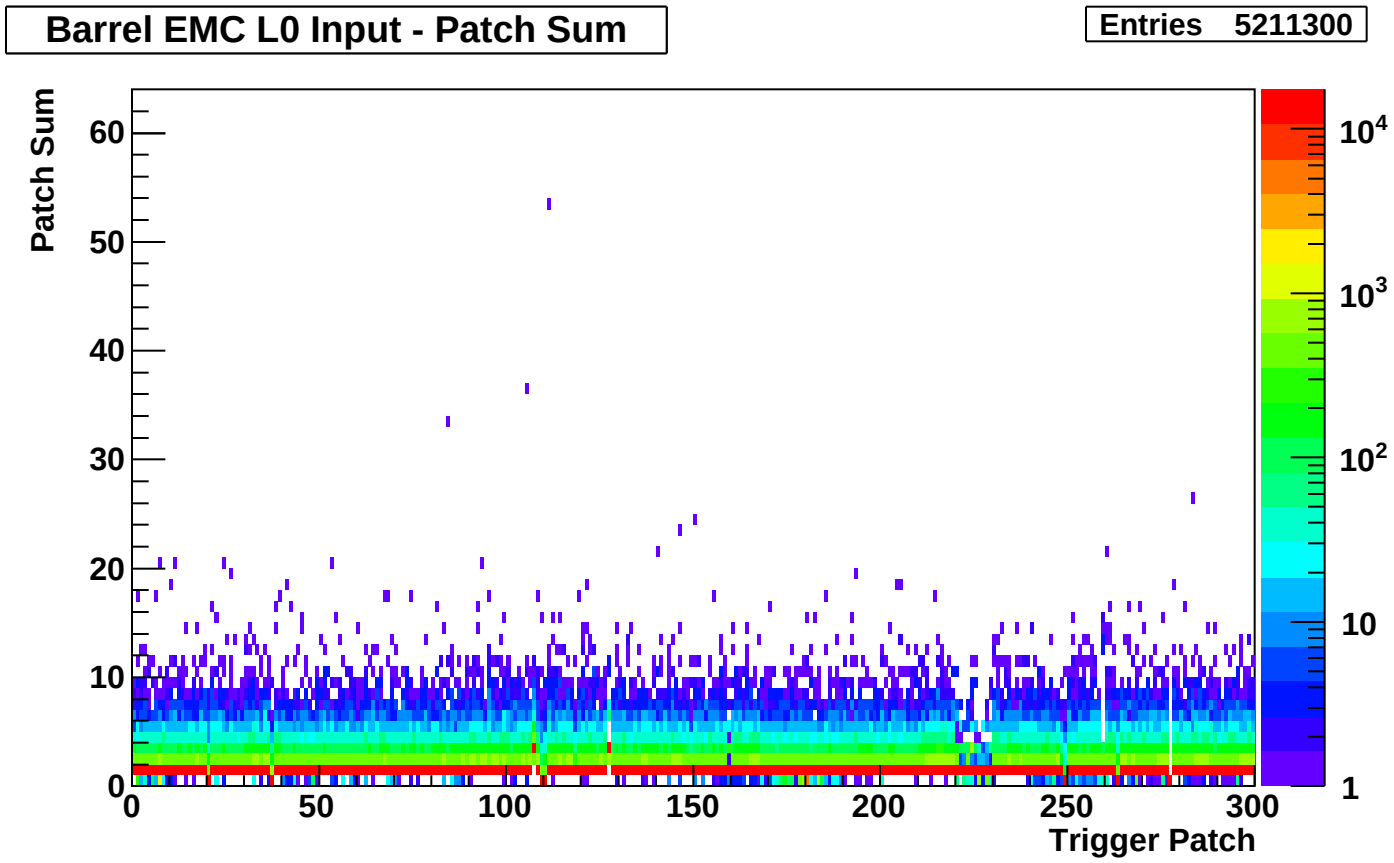
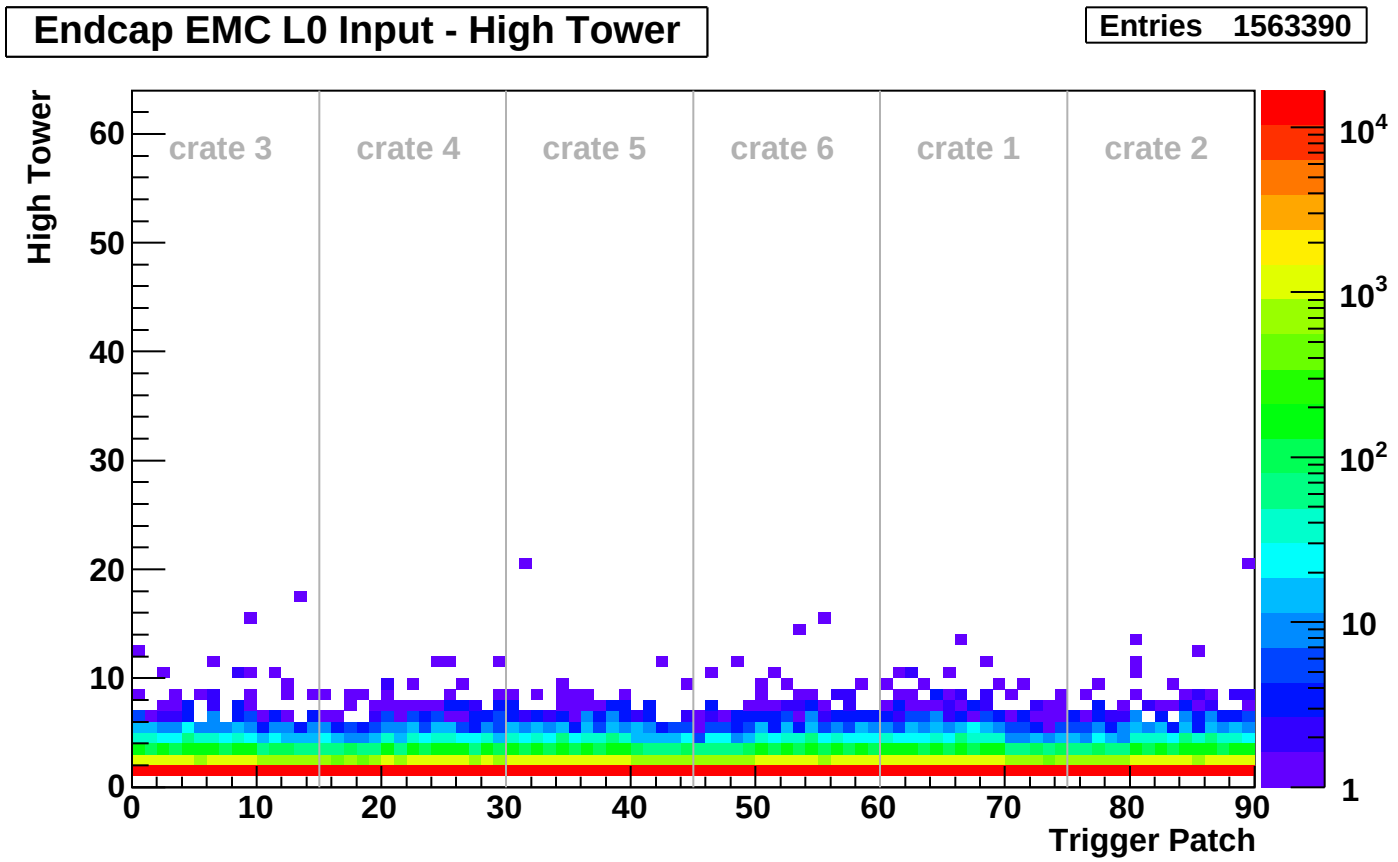
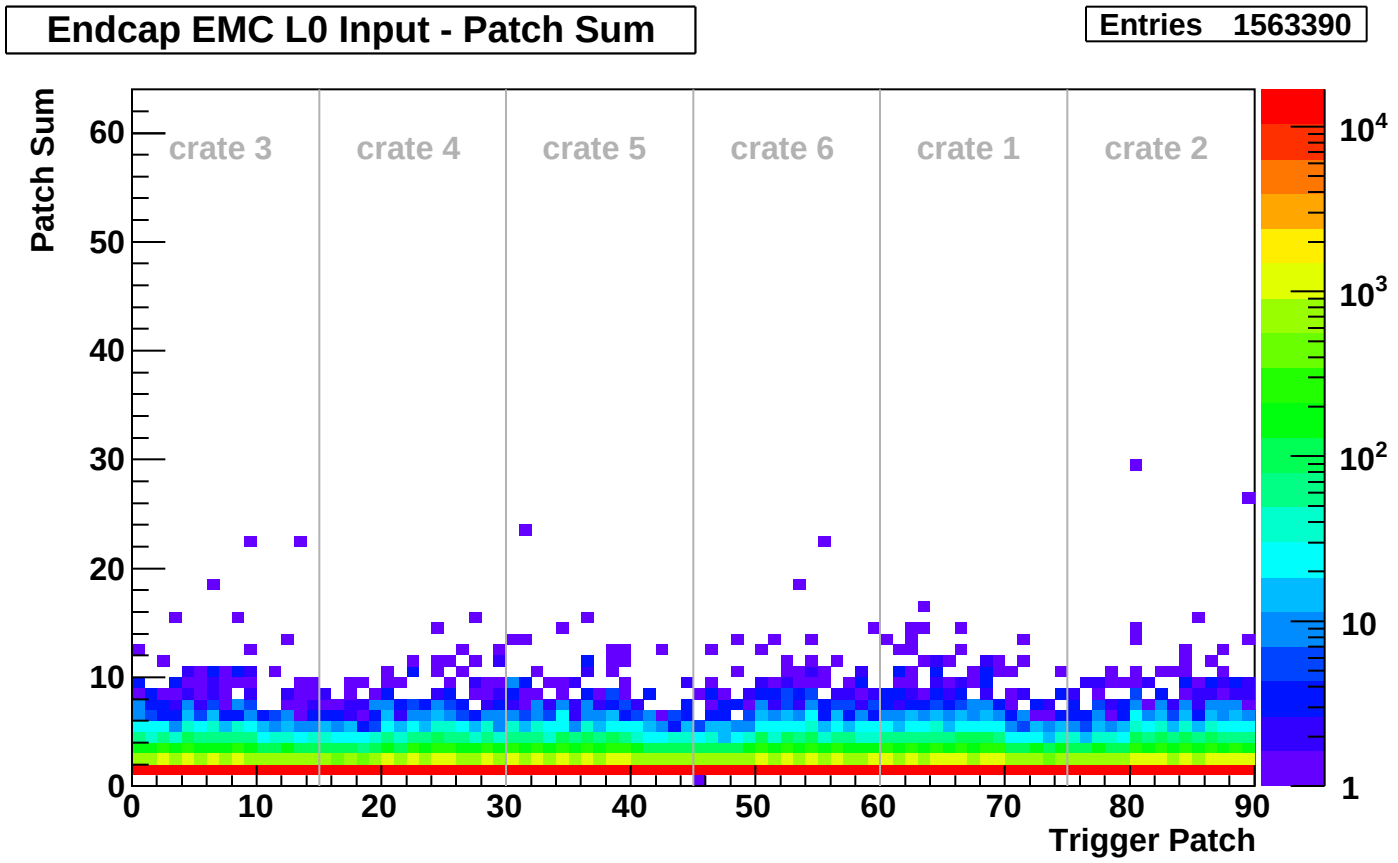
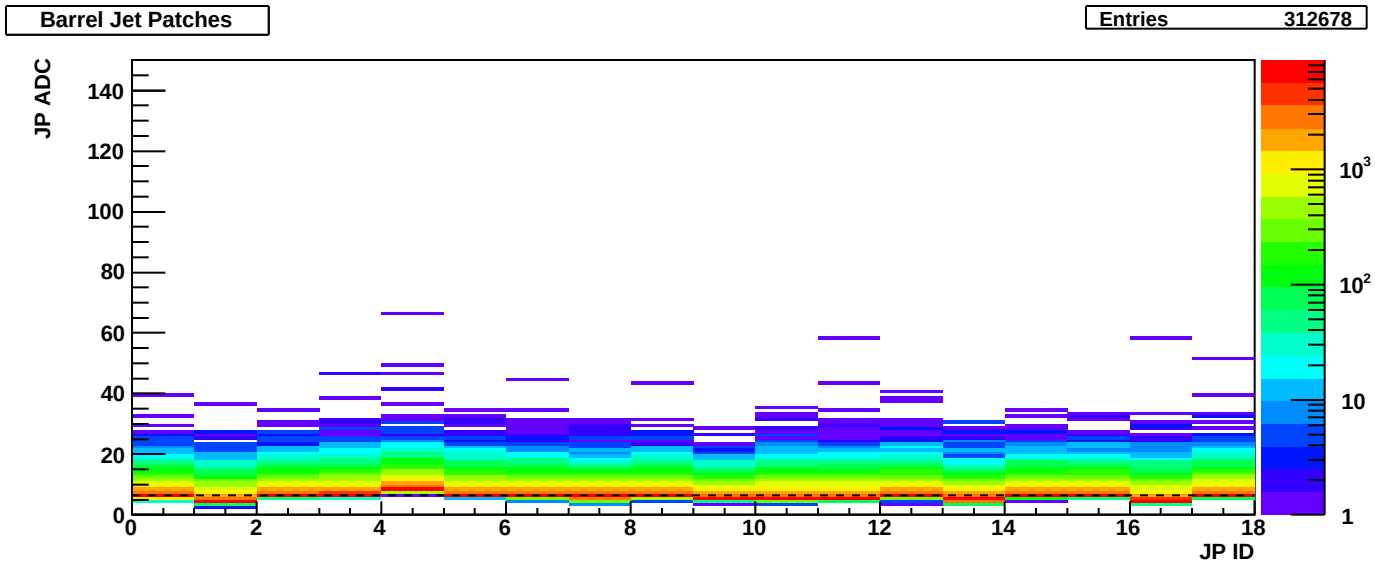
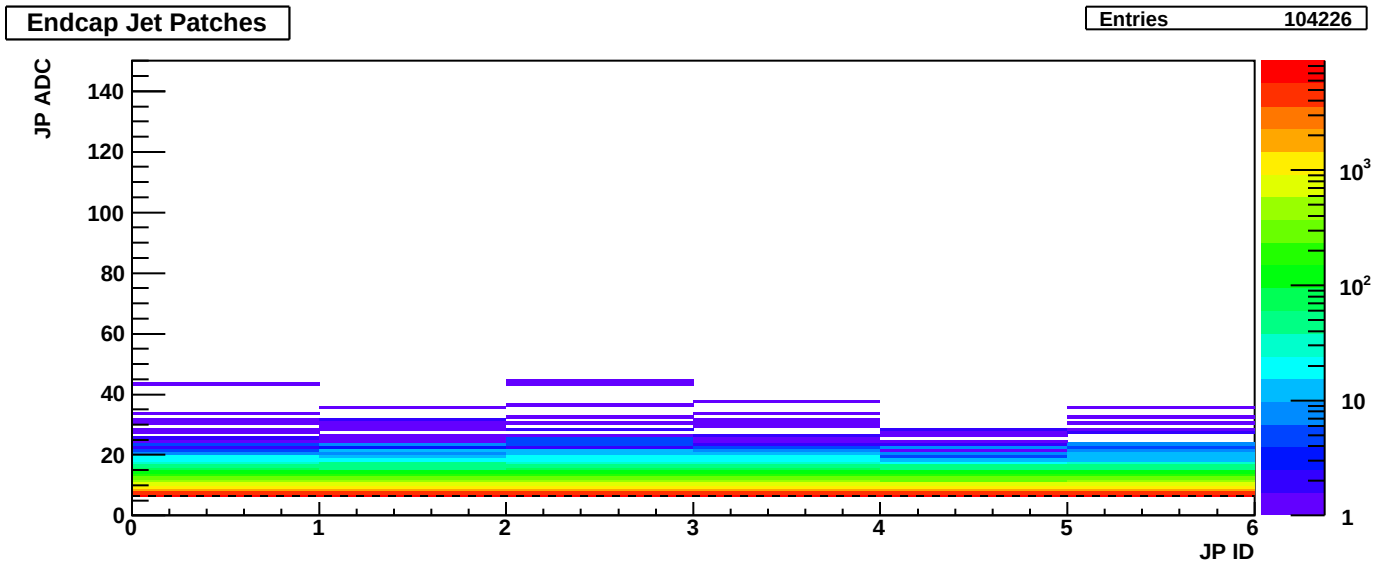

Barrel EMC L0 Input - High Tower
Entries 5211300
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

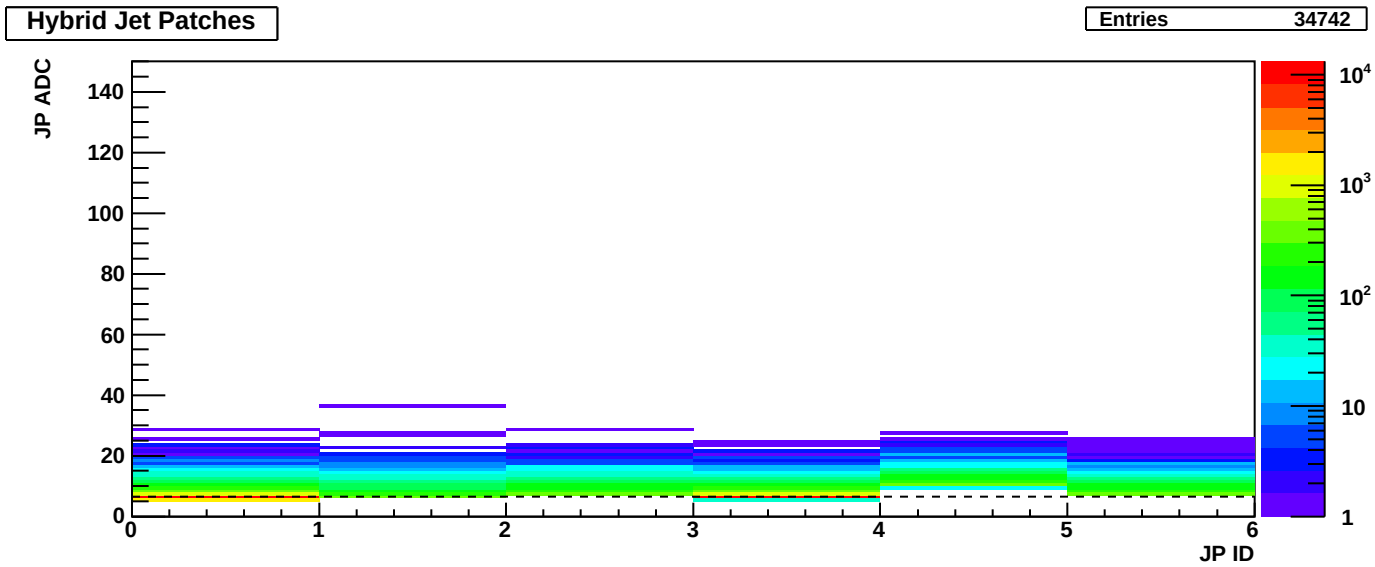

Barrel EMC L0 Input - Patch Sum
Entries 5211300
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

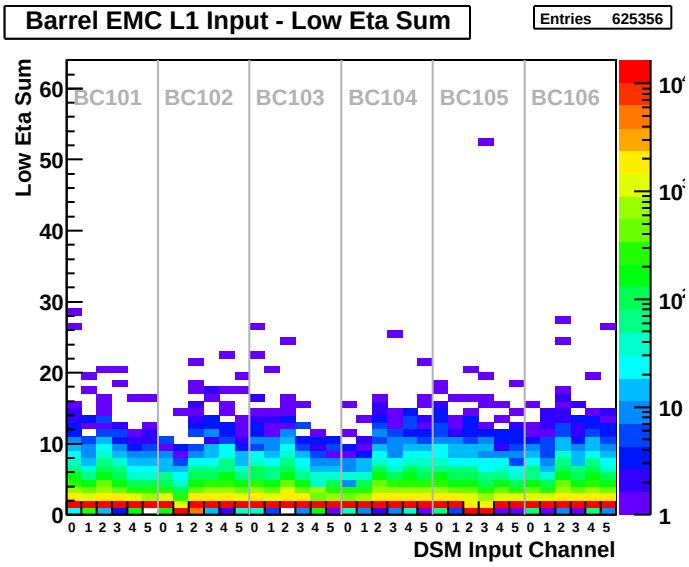

Endcap EMC L0 Input - High Tower
Entries 1563390
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2
10^3
10^4

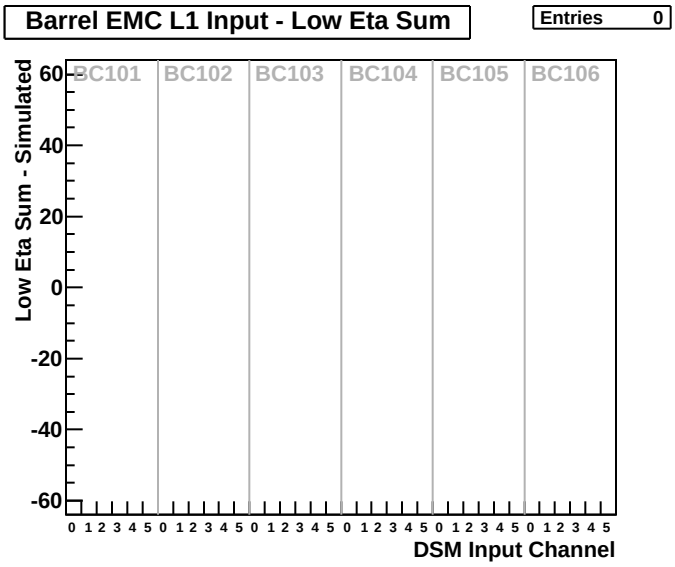

Endcap EMC L0 Input - Patch Sum
Entries 1563390
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2
10^3
10^4

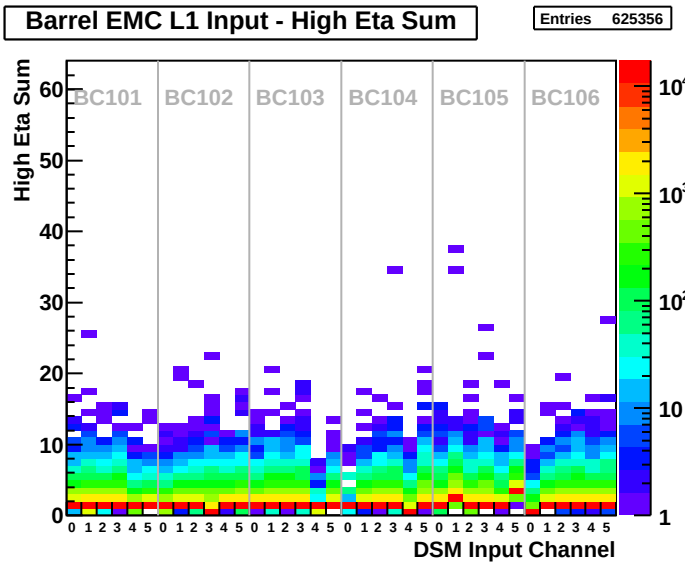

Barrel Jet Patches
Entries 312678
JP ADC
JP ID

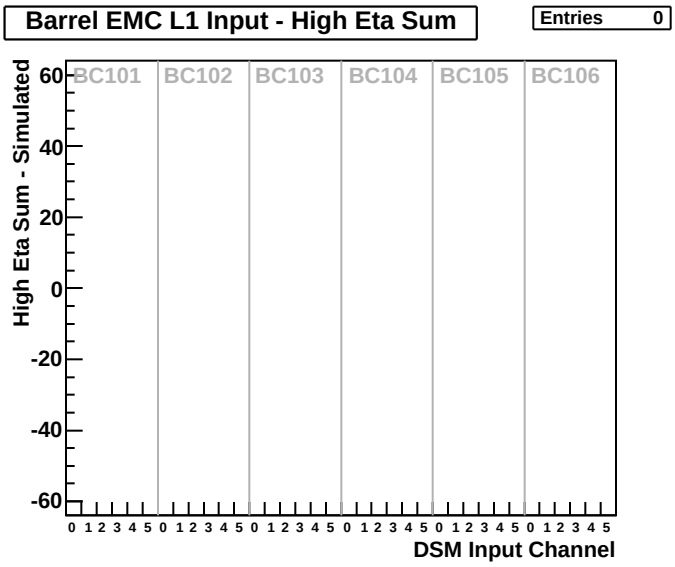

Endcap Jet Patches
Entries 104226
JP ADC
JP ID

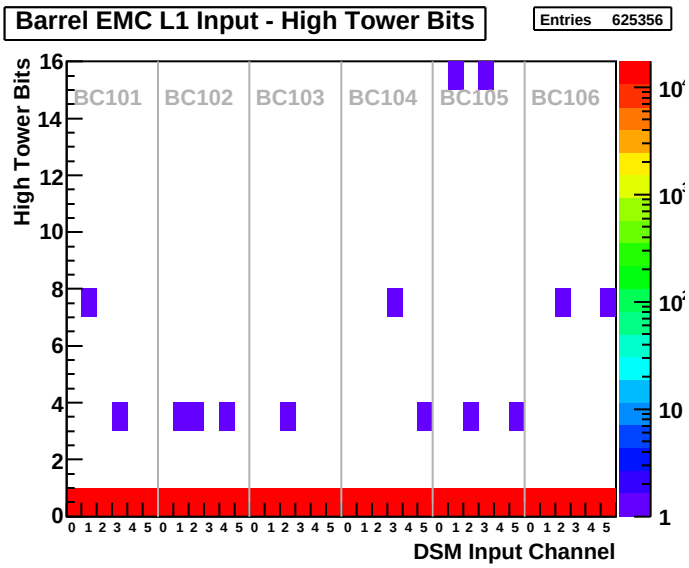

Hybrid Jet Patches
Entries 34742
JP ADC
JP ID

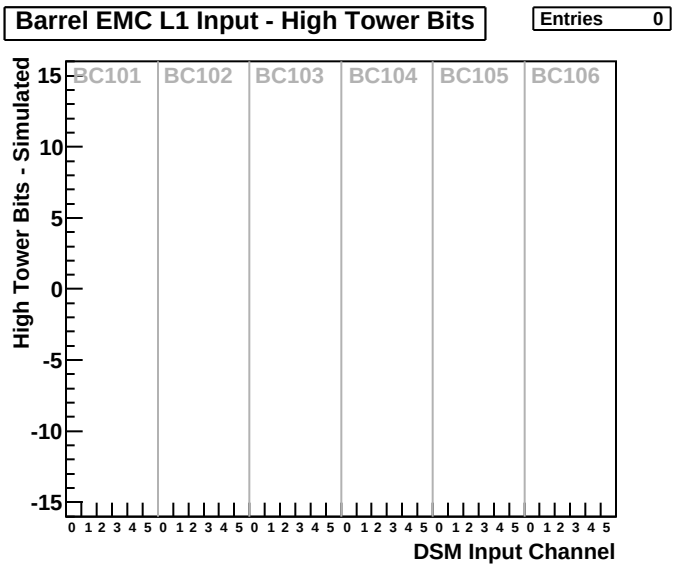

Barrel EMC L1 Input - Low Eta Sum
Entries 625356
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

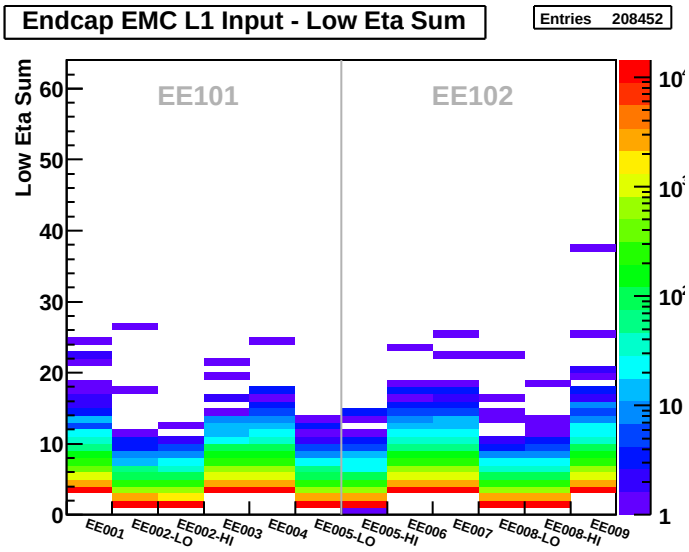

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

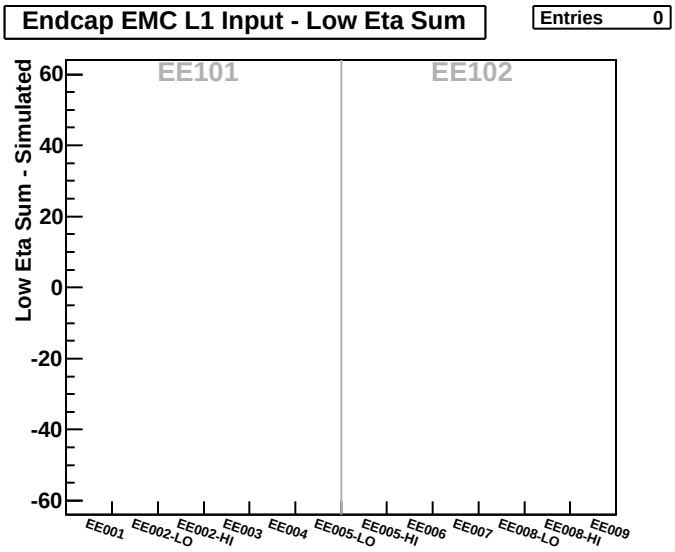

Barrel EMC L1 Input - High Eta Sum
Entries 625356
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

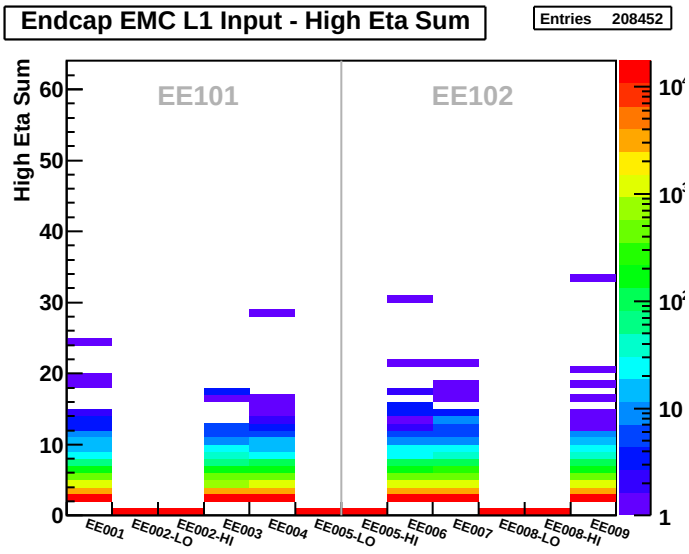

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

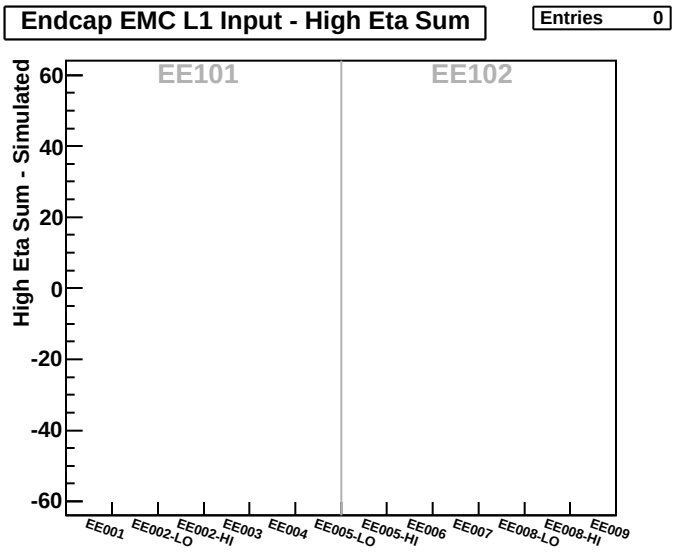

Barrel EMC L1 Input - High Tower Bits
Entries 625356
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

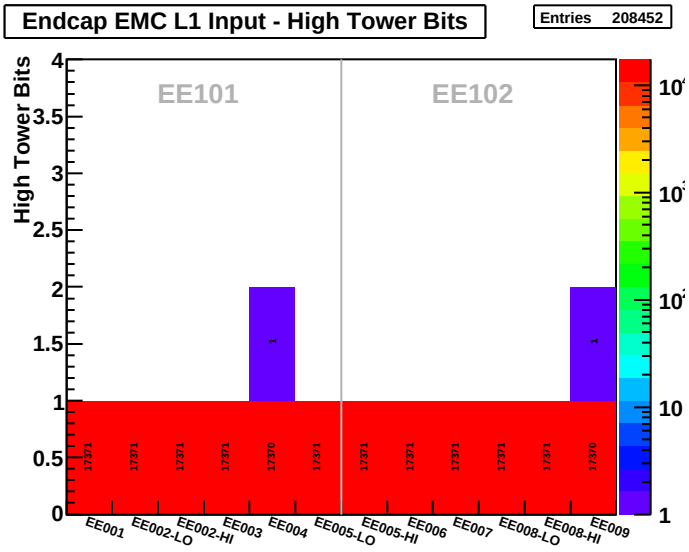

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

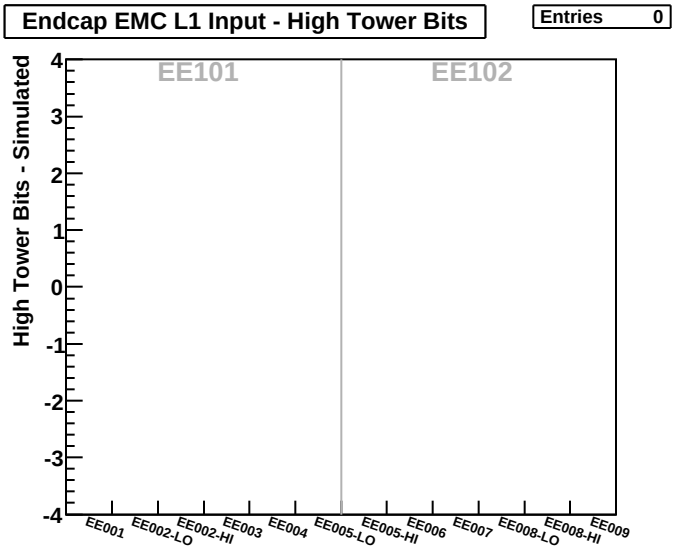

Endcap EMC L1 Input - Low Eta Sum
Entries 208452
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

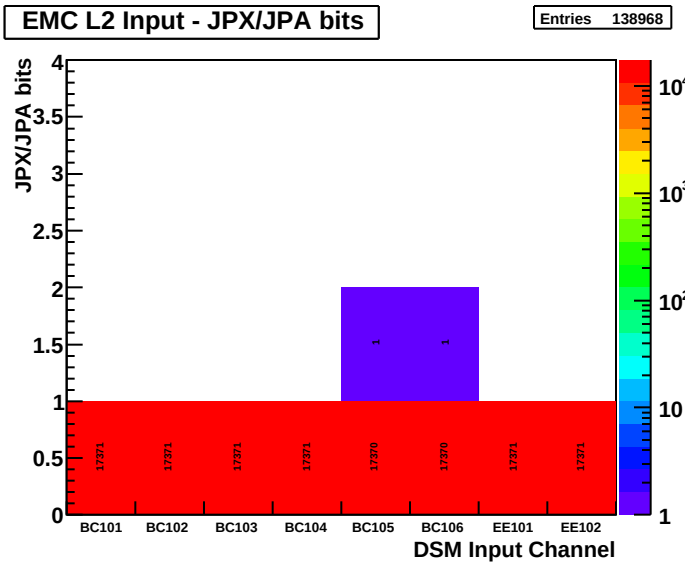

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

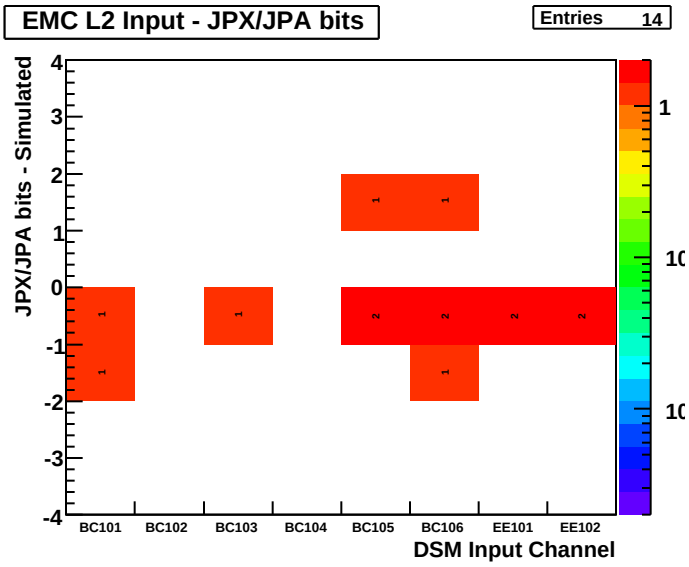

Endcap EMC L1 Input - High Eta Sum
Entries 208452
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

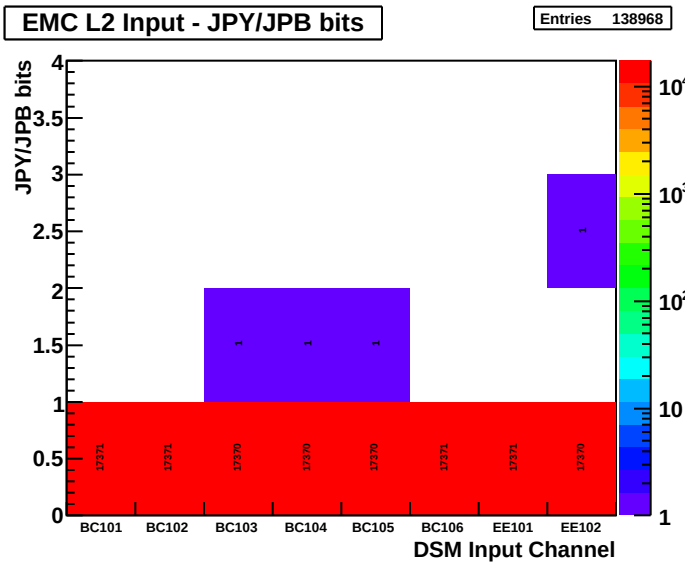

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

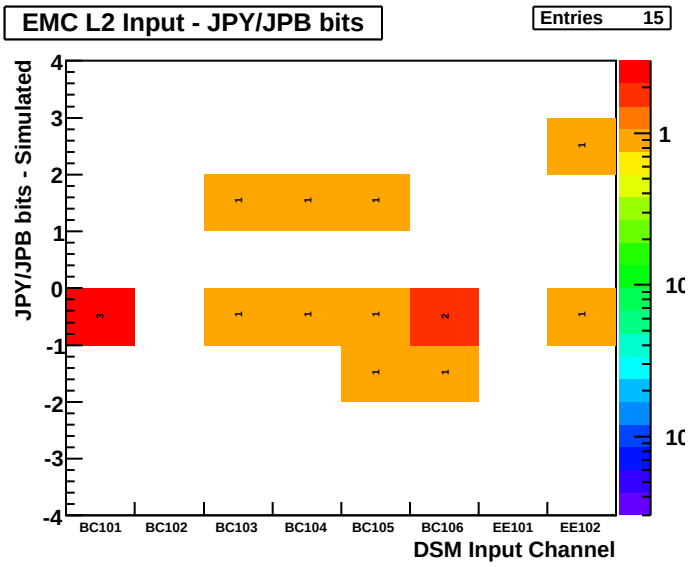

Endcap EMC L1 Input - High Tower Bits
Entries 208452
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

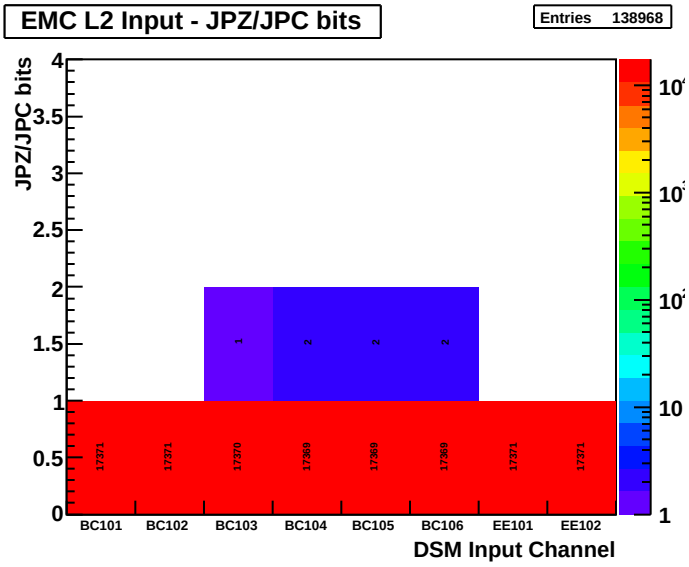

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

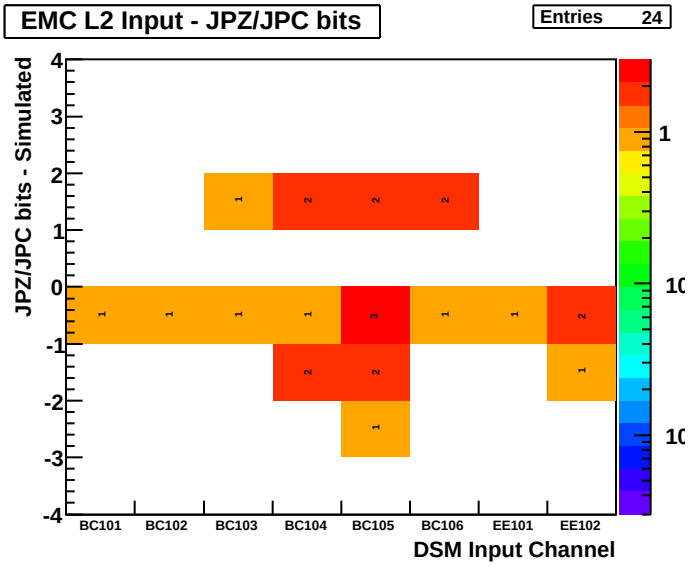

EMC L2 Input - JPX/JPA bits
Entries 138968
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

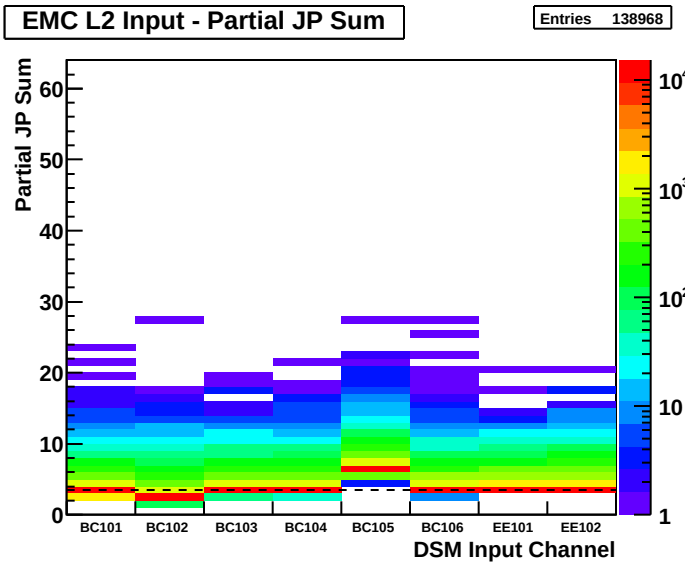

EMC L2 Input - JPX/JPA bits
Entries 14
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

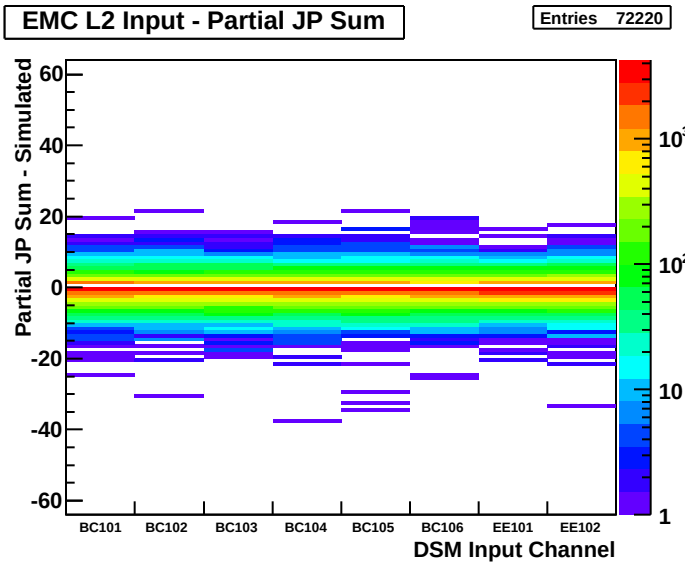

EMC L2 Input - JPY/JPB bits
Entries 138968
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

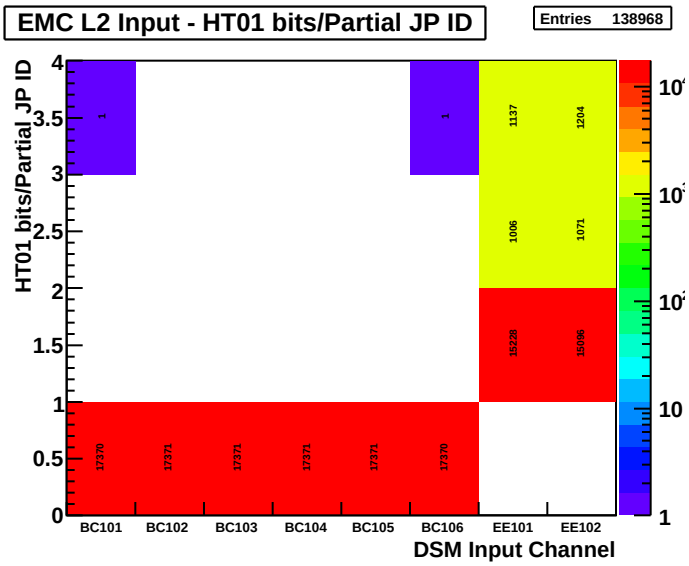

EMC L2 Input - JPY/JPB bits
Entries 15
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

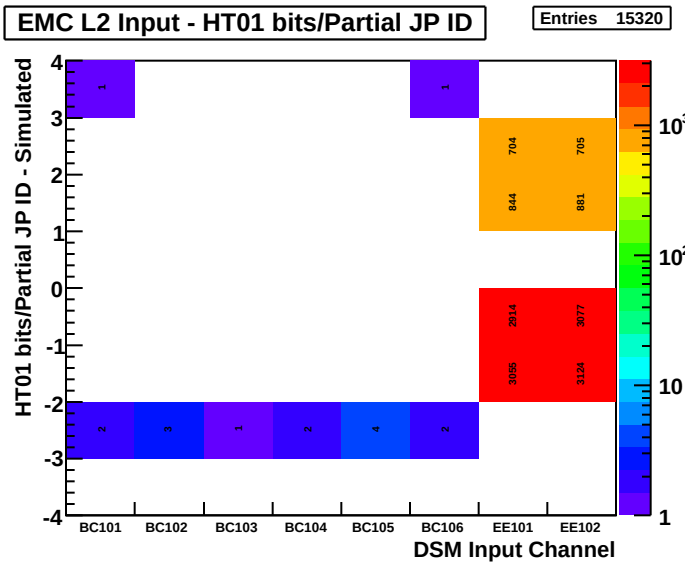

EMC L2 Input - JPZ/JPC bits
Entries 138968
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

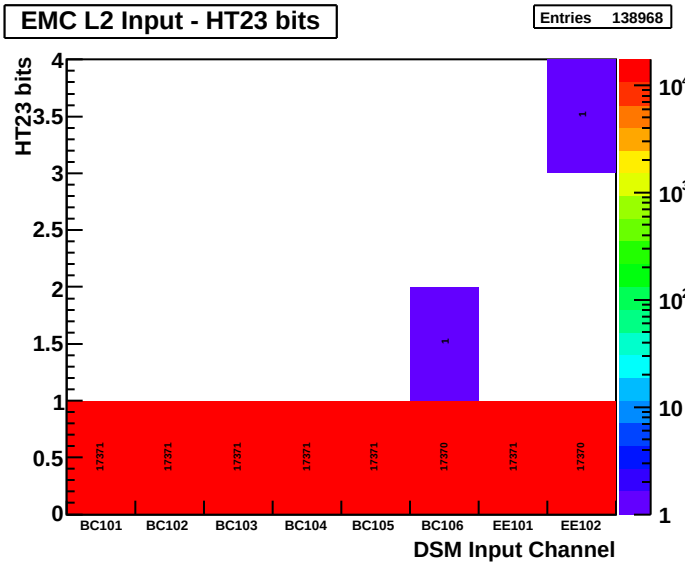

EMC L2 Input - JPZ/JPC bits
Entries 24
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

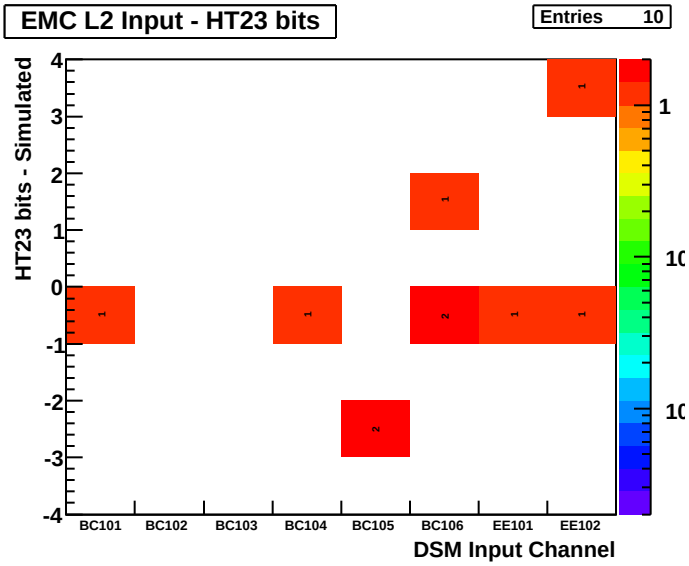

EMC L2 Input - Partial JP Sum
Entries 138968
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

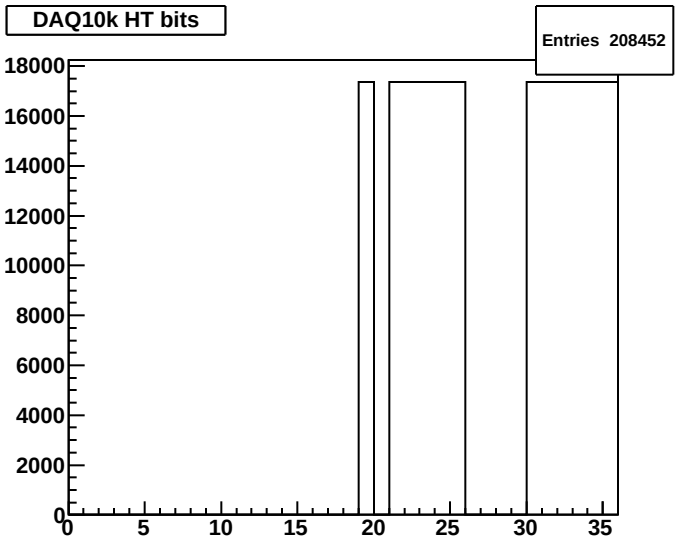

EMC L2 Input - Partial JP Sum
Entries 72220
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

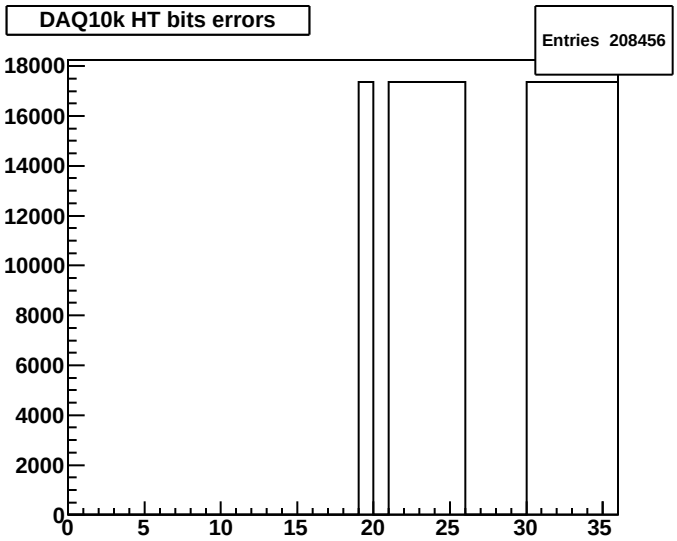

EMC L2 Input - HT01 bits/Partial JP ID
Entries 138968
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

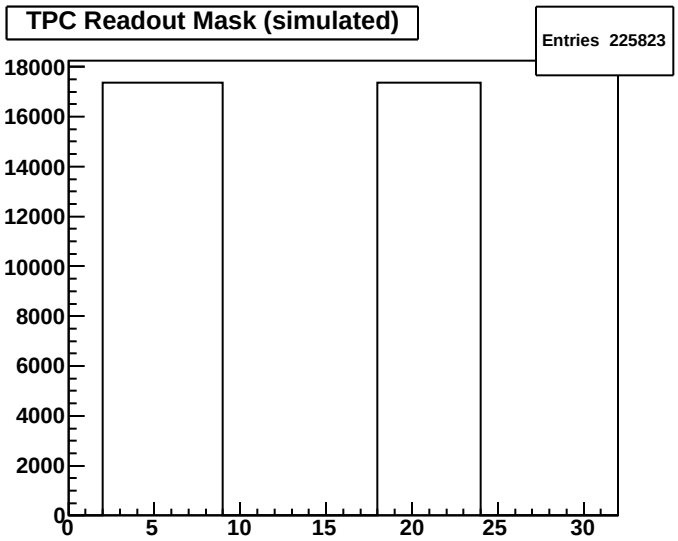

EMC L2 Input - HT01 bits/Partial JP ID
Entries 15320
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

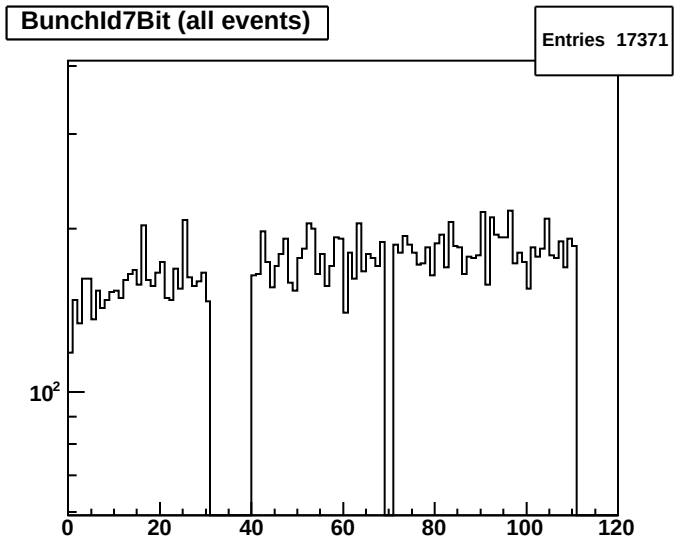

EMC L2 Input - HT23 bits
Entries 138968
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

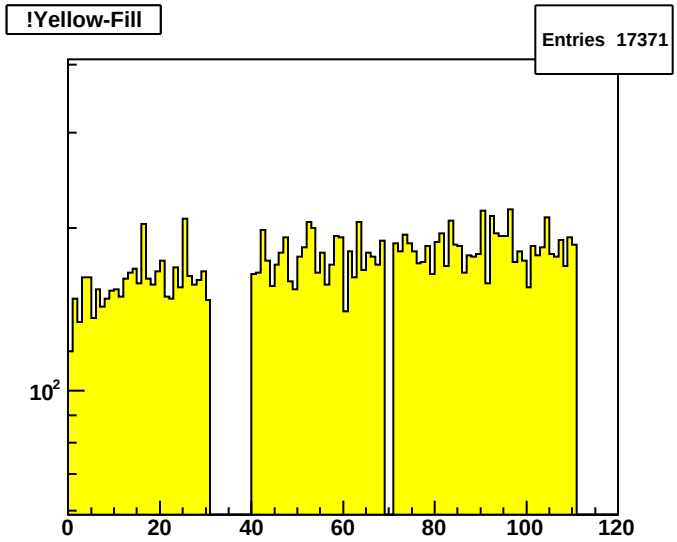

EMC L2 Input - HT23 bits
Entries 10
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

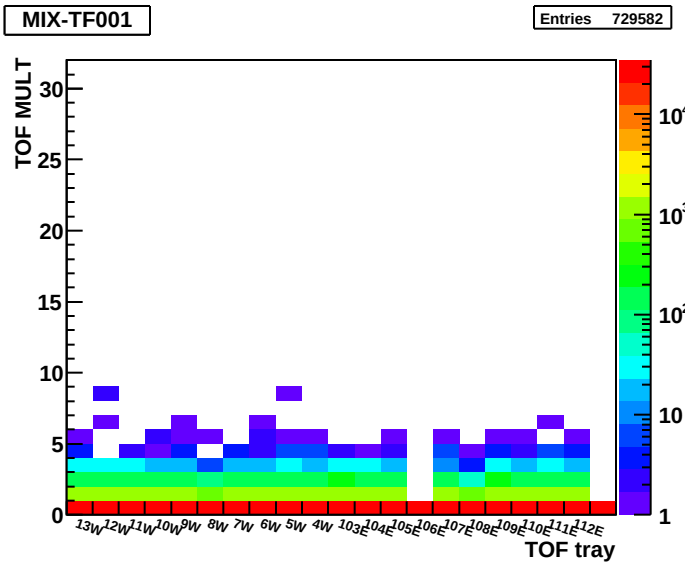

DAQ10k HT bits
Entries 208452
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5
10
15
20
25
30
35

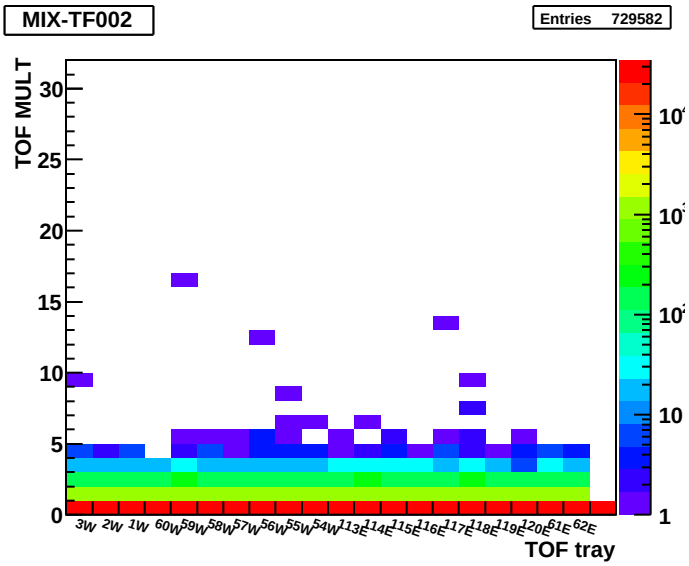

DAQ10k HT bits errors
Entries 208456
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5
10
15
20
25
30
35

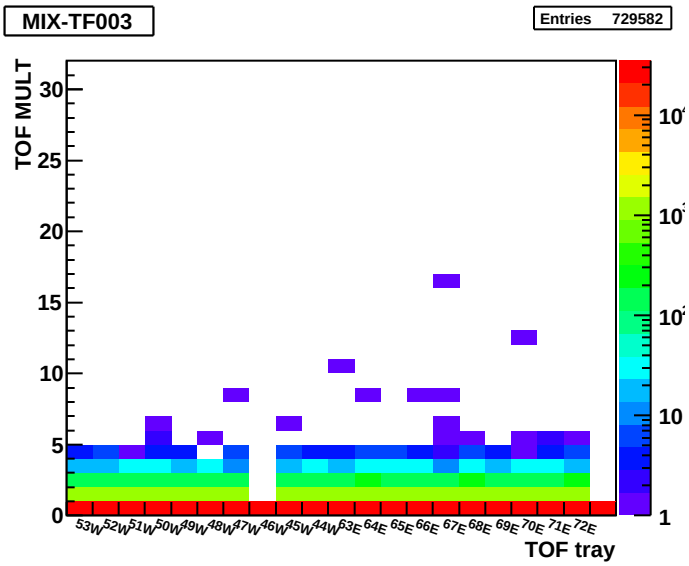

TPC Readout Mask (simulated)
Entries 225823
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5
10
15
20
25
30

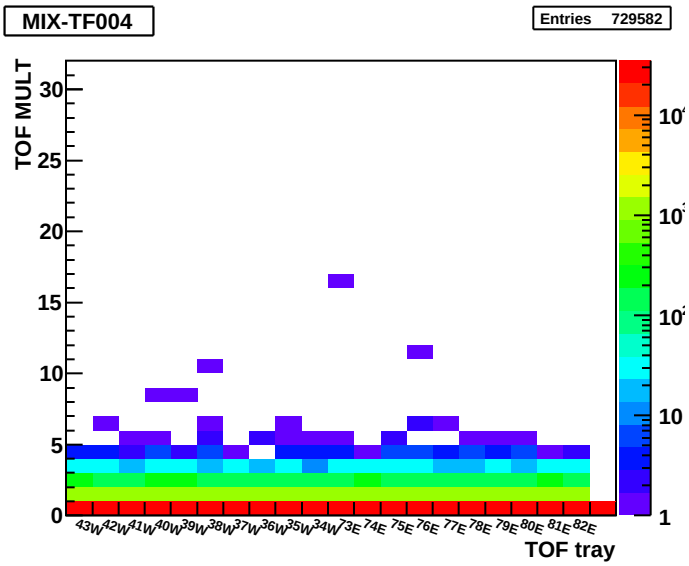

BunchId7Bit (all events)
Entries 17371
10^2
0
20
40
60
80
100
120

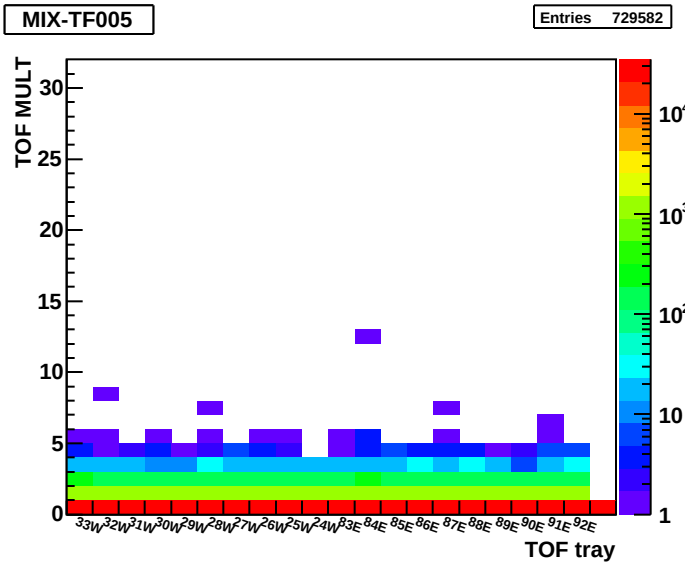

!Yellow-Fill
Entries 17371
10^2
0
20
40
60
80
100
120

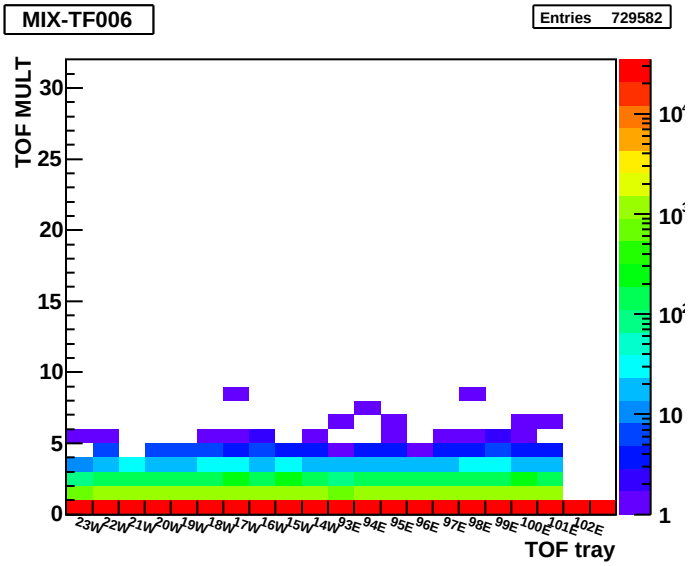

MIX-TF001
Entries 729582
TOF MULT
TOF tray

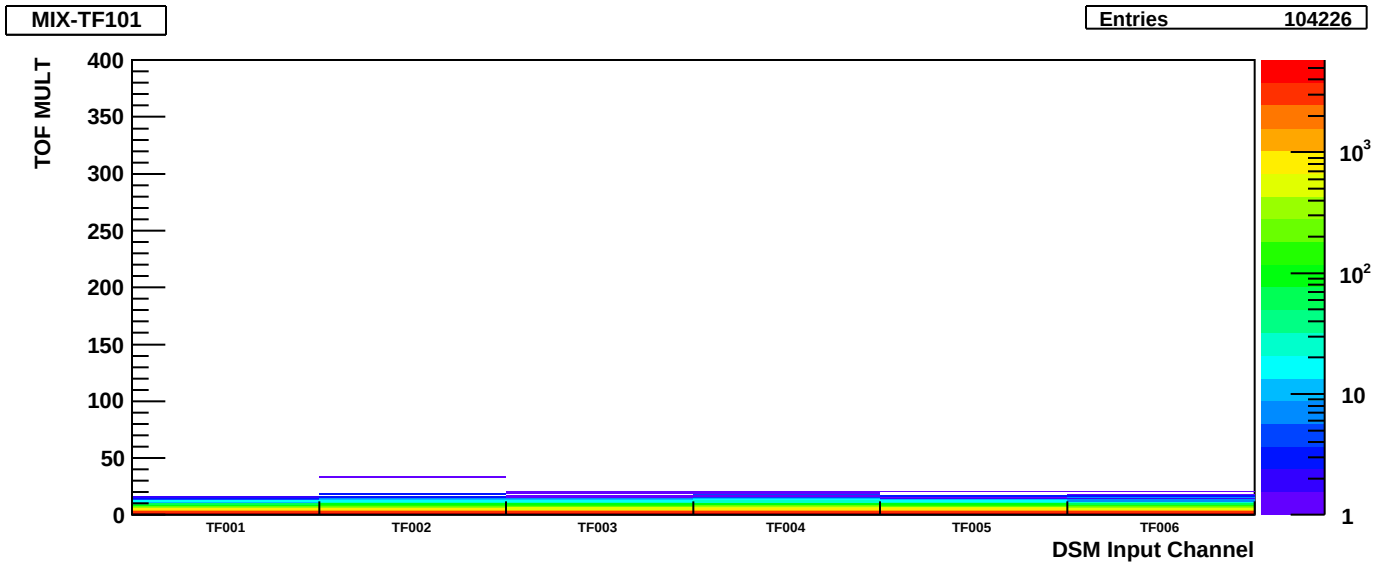

MIX-TF002
Entries 729582
TOF MULT
TOF tray

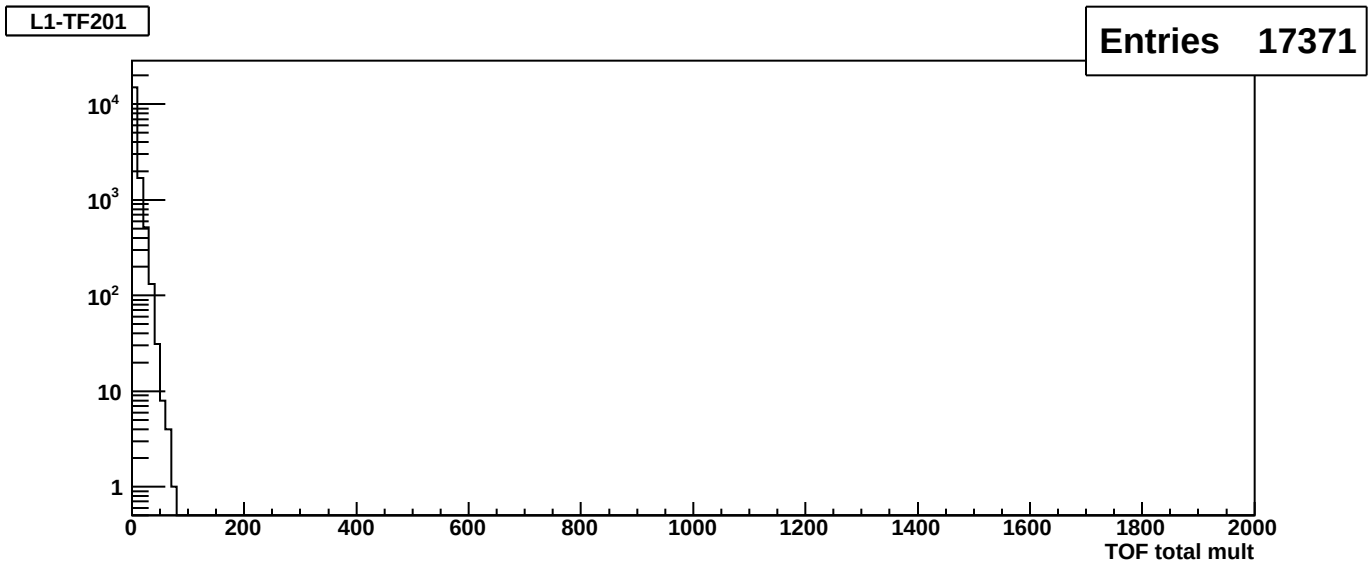

MIX-TF003
Entries 729582
TOF MULT
TOF tray

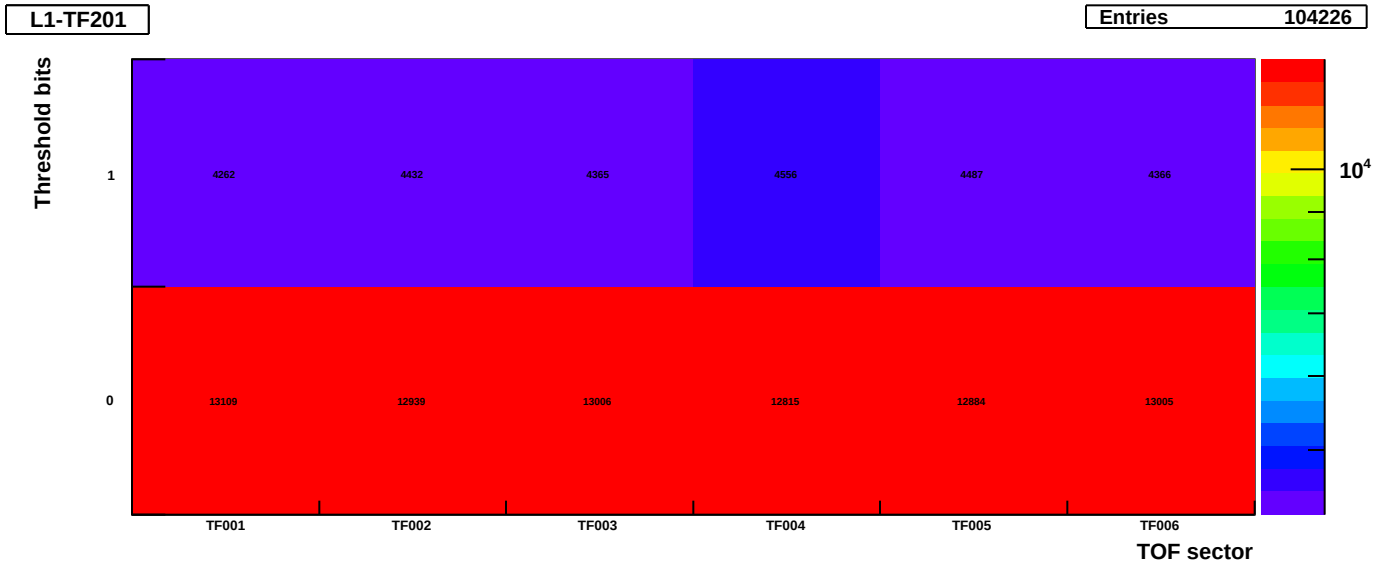

MIX-TF004
Entries 729582
TOF MULT
TOF tray

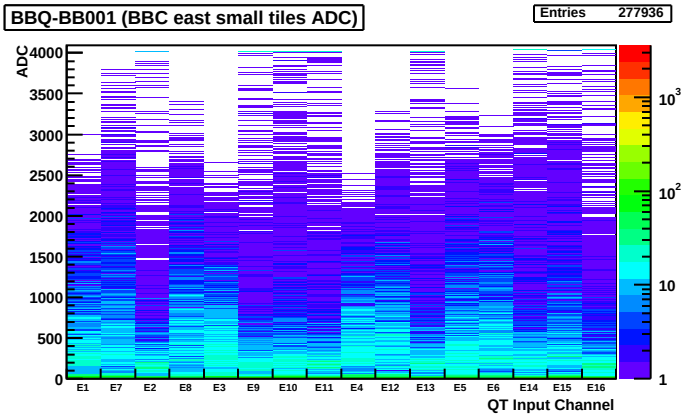

MIX-TF005
Entries 729582
TOF MULT
TOF tray

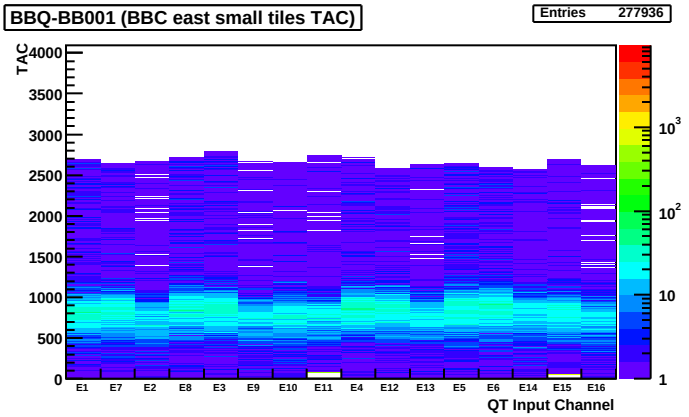

MIX-TF006
Entries 729582
TOF MULT
TOF tray

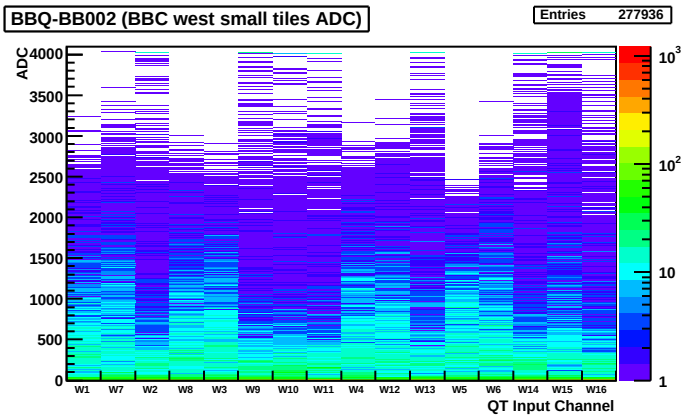

MIX-TF101
Entries 104226
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

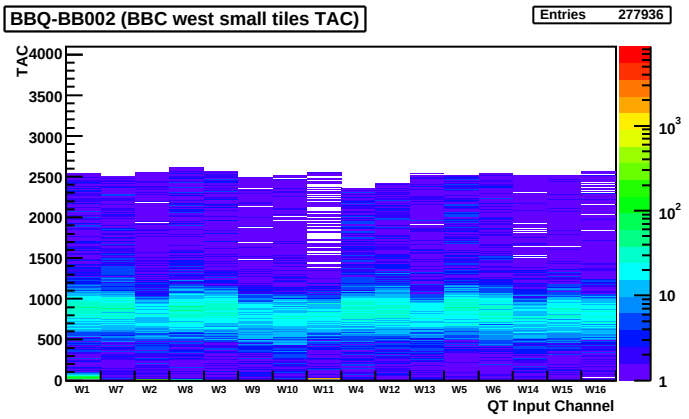

L1-TF201
Entries 17371
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

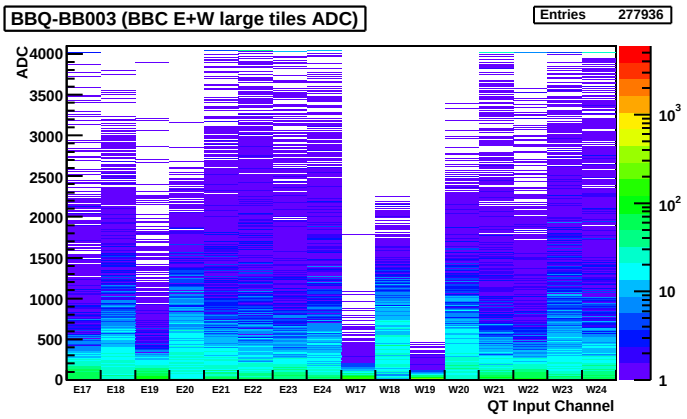

L1-TF201
Entries 104226
Threshold bits
1
0
4262
4432
4365
4556
4487
4366
13109
12939
13006
12815
12884
13005
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4

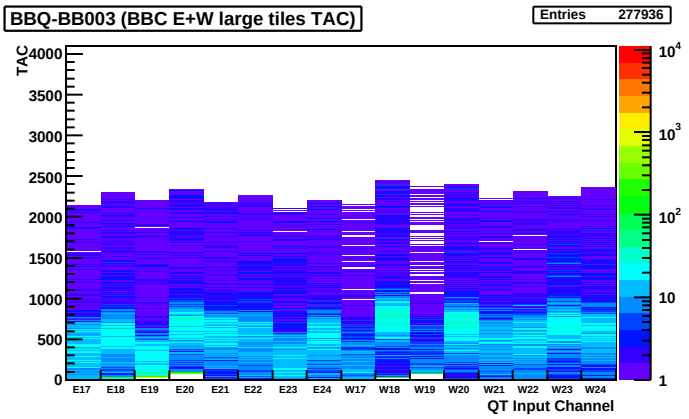

BBQ-BB001 (BBC east small tiles ADC)
Entries 277936
ADC
QT Input Channel

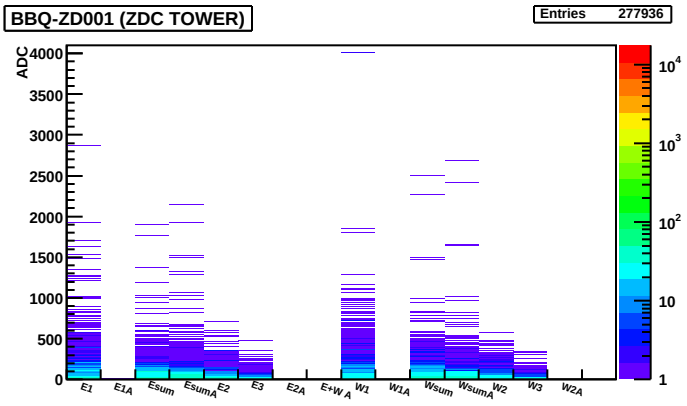

BBQ-BB001 (BBC east small tiles TAC)
Entries 277936
TAC
QT Input Channel

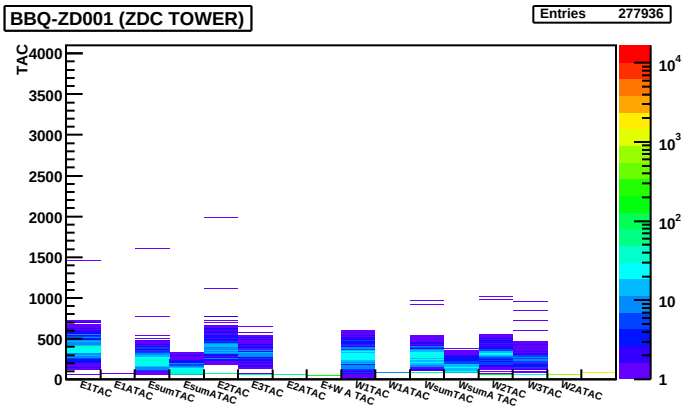

BBQ-BB002 (BBC west small tiles ADC)
Entries 277936
ADC
QT Input Channel

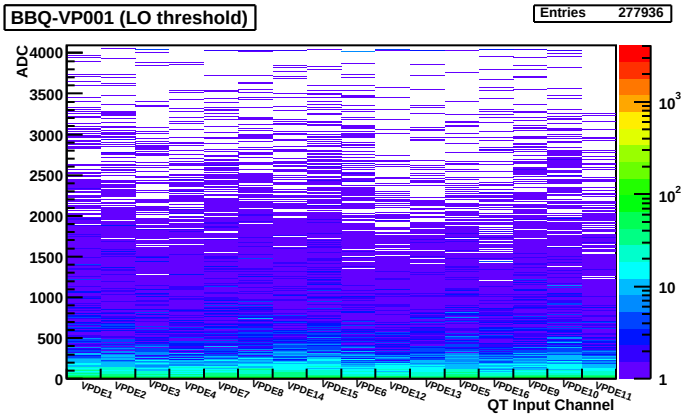

BBQ-BB002 (BBC west small tiles TAC)
Entries 277936
TAC
QT Input Channel

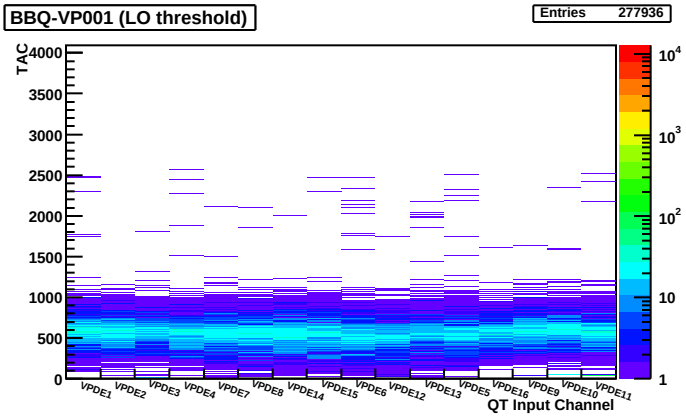

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 277936
ADC
QT Input Channel

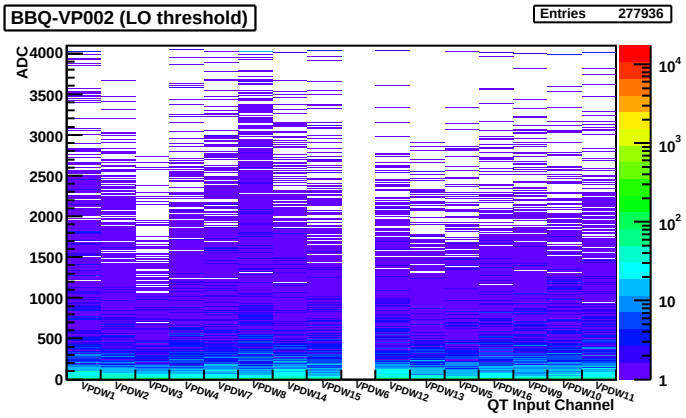

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 277936
TAC
QT Input Channel

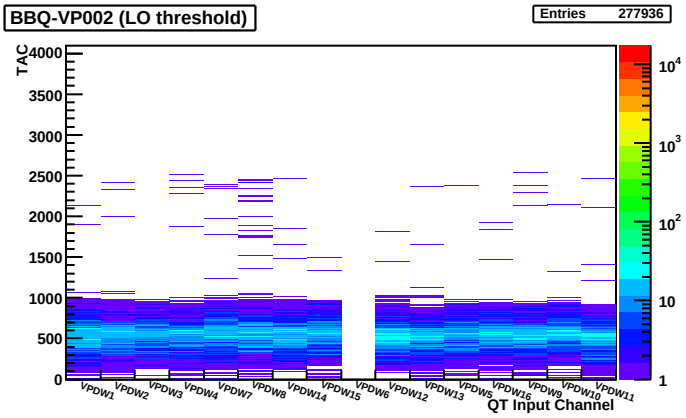

BBQ-ZD001 (ZDC TOWER)
Entries 277936
ADC

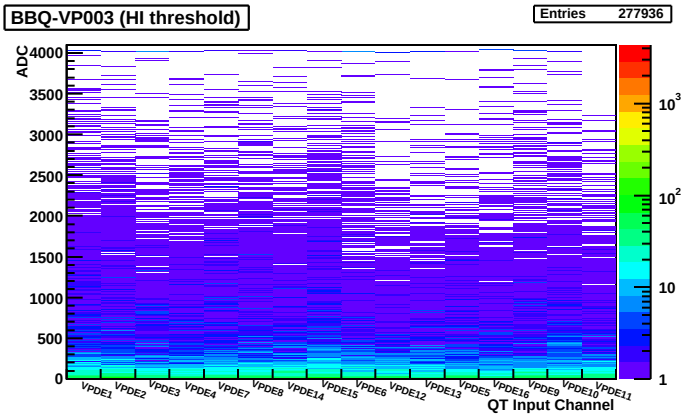

BBQ-ZD001 (ZDC TOWER)
Entries 277936
TAC

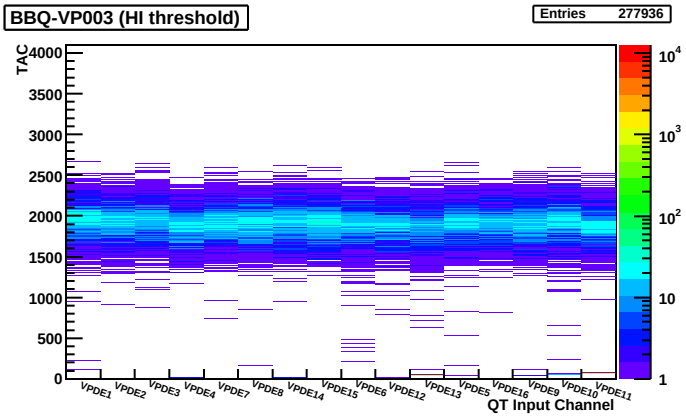

BBQ-VP001 (LO threshold)
Entries 277936
ADC
QT Input Channel

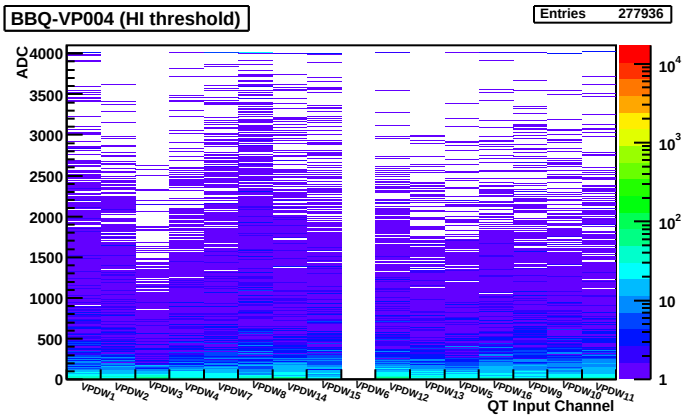

BBQ-VP001 (LO threshold)
Entries 277936
TAC
QT Input Channel

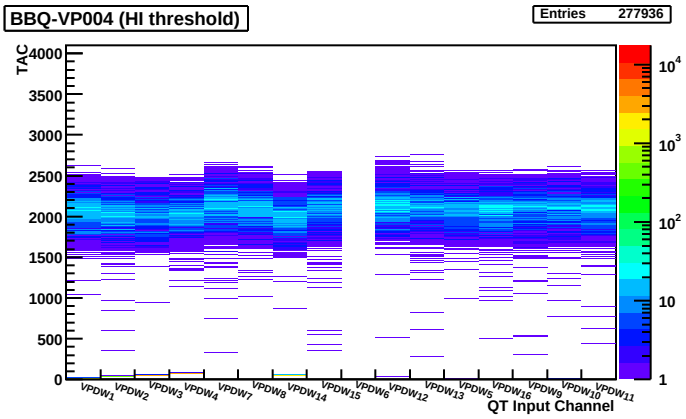

BBQ-VP002 (LO threshold)
Entries 277936
ADC
QT Input Channel

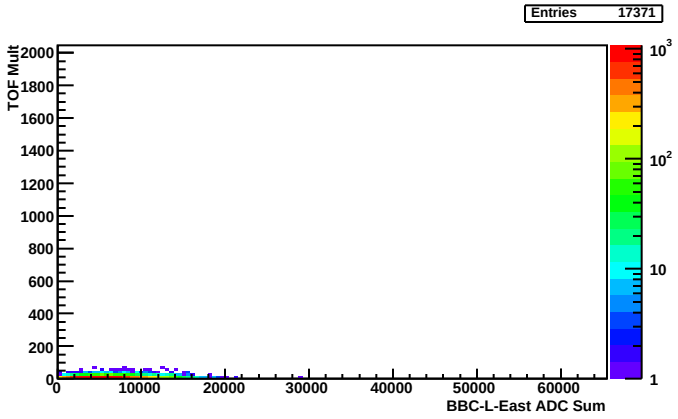

BBQ-VP002 (LO threshold)
Entries 277936
TAC
QT Input Channel

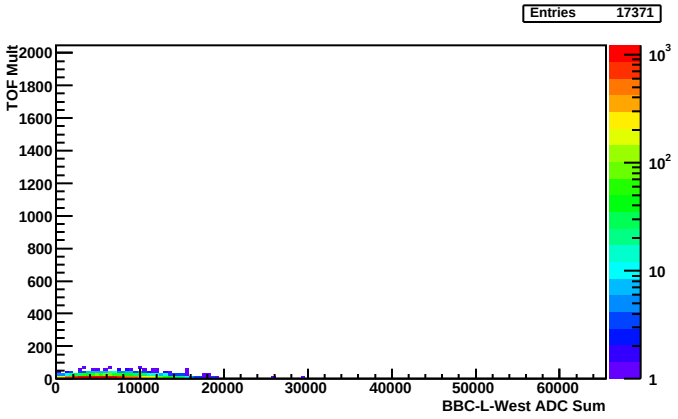

BBQ-VP003 (HI threshold)
Entries 277936
ADC
QT Input Channel

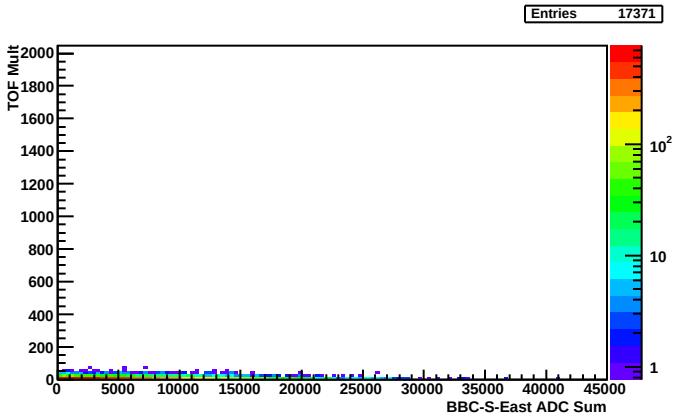

BBQ-VP003 (HI threshold)
Entries 277936
TAC
QT Input Channel

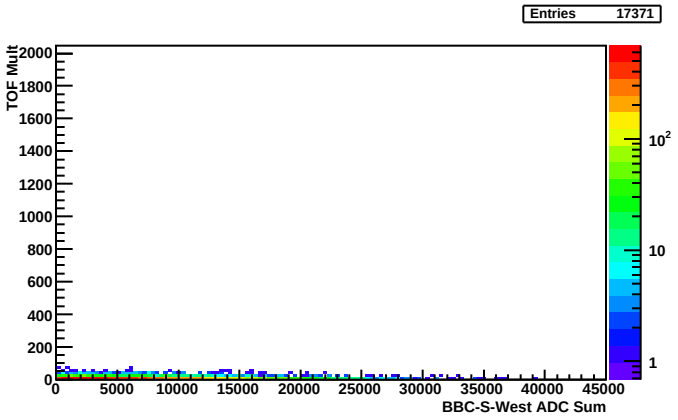

BBQ-VP004 (HI threshold)
Entries 277936
ADC
QT Input Channel

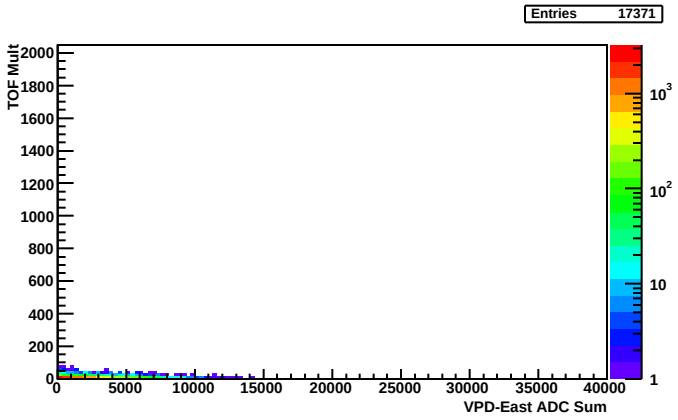

BBQ-VP004 (HI threshold)
Entries 277936
TAC
QT Input Channel

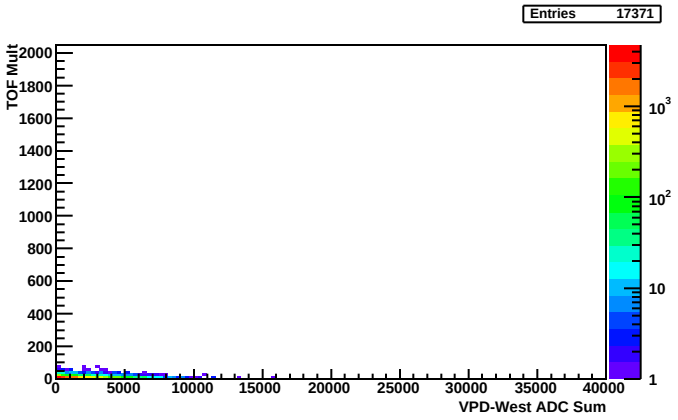

Entries 17371
TOF Mult
BBC-L-East ADC Sum

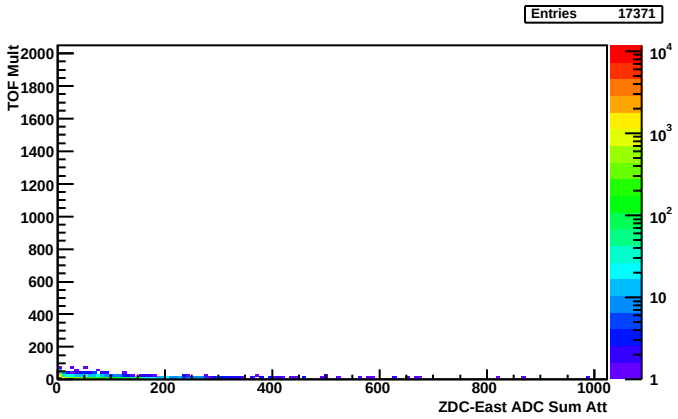

Entries 17371
TOF Mult
BBC-L-West ADC Sum

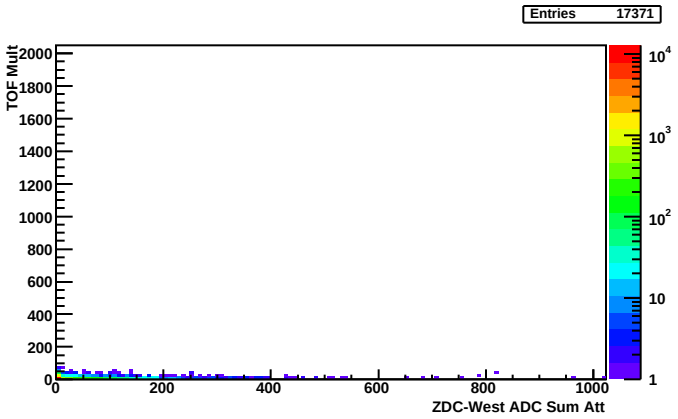

Entries 17371
TOF Mult
BBC-S-East ADC Sum

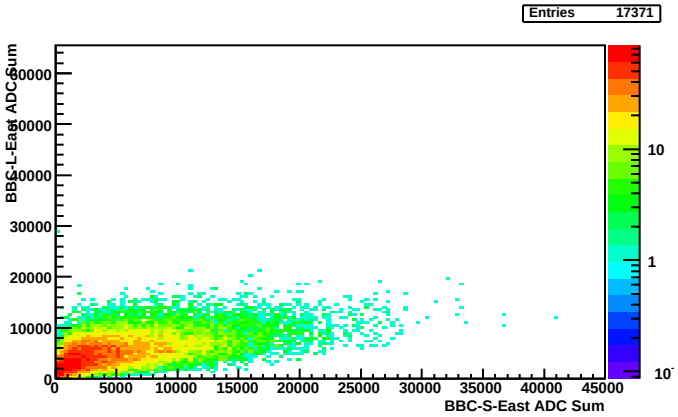

Entries 17371
TOF Mult
BBC-S-West ADC Sum

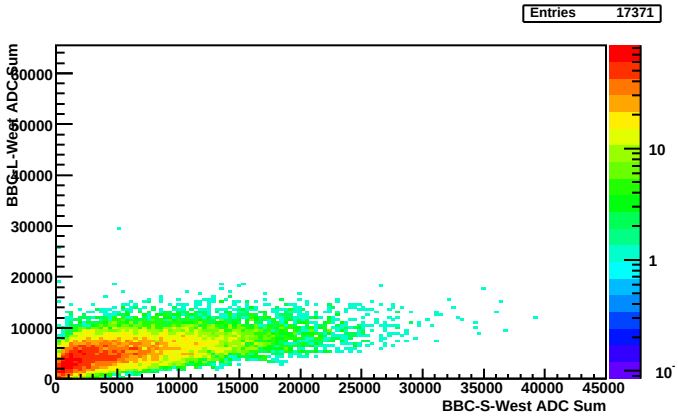

Entries 17371
TOF Mult
VPD-East ADC Sum

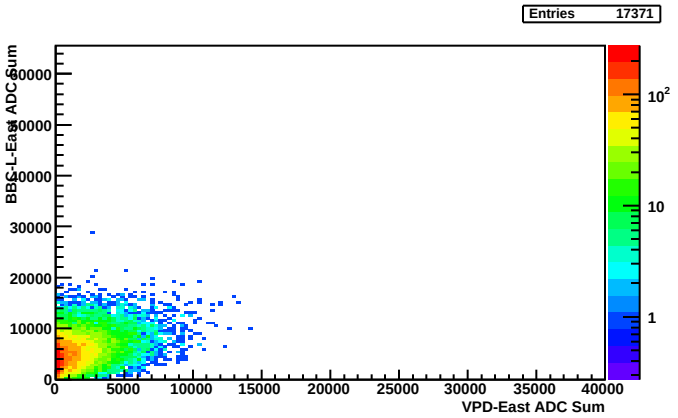

Entries 17371
TOF Mult
VPD-West ADC Sum

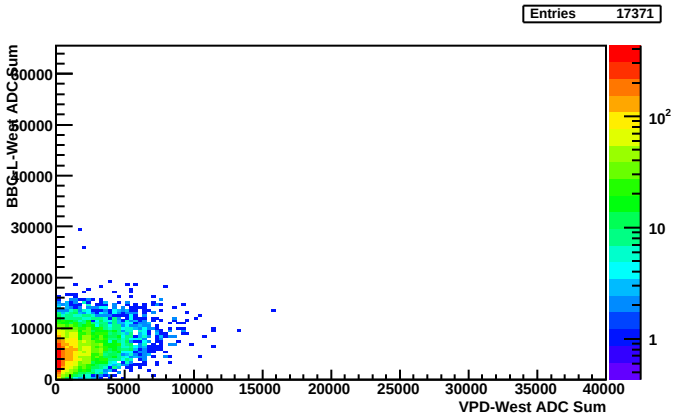

Entries 17371
TOF Mult
ZDC-East ADC Sum Att

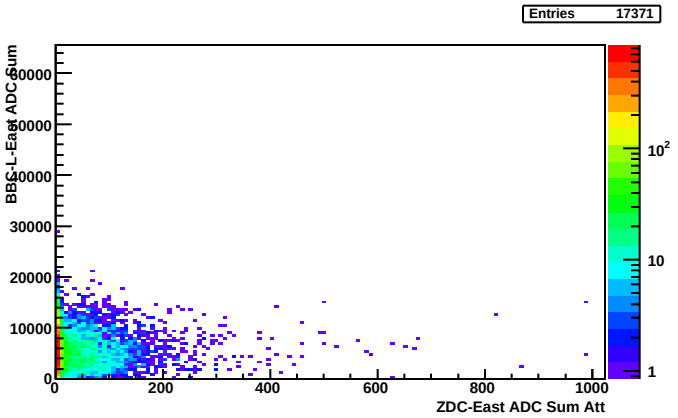

Entries 17371
TOF Mult
ZDC-West ADC Sum Att

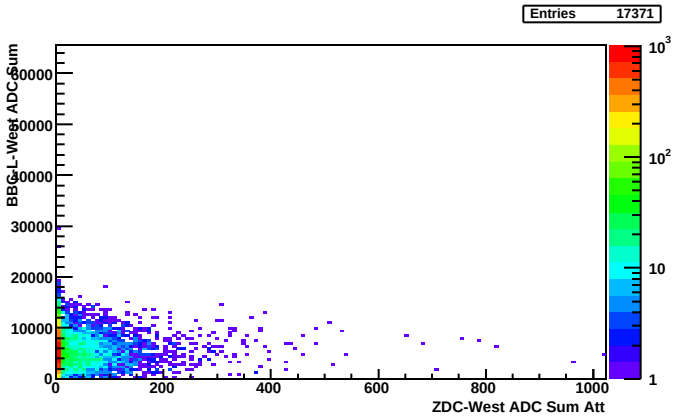

Entries 17371
BBC-L-East ADC Sum
BBC-S-East ADC Sum

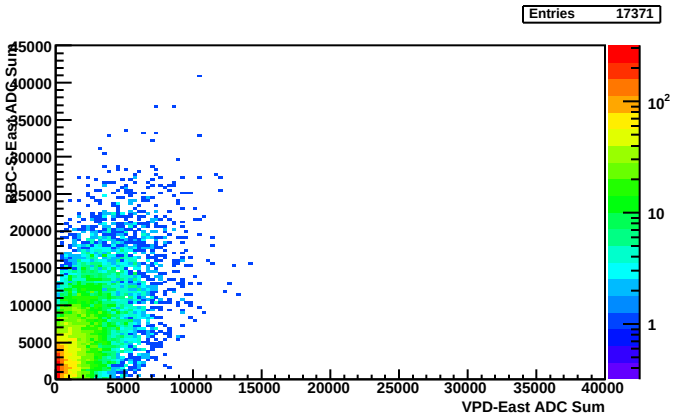

Entries 17371
BBC-L-West ADC Sum
BBC-S-West ADC Sum

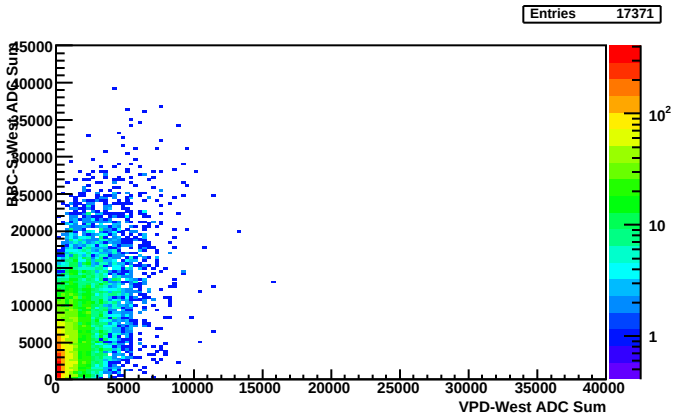

Entries 17371
BBC-L-East ADC Sum
VPD-East ADC Sum

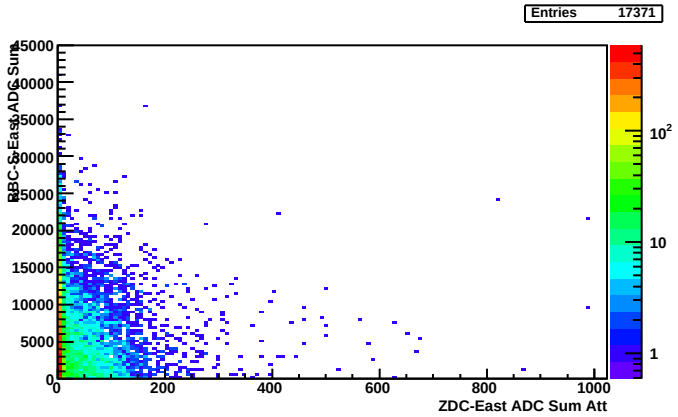

Entries 17371
BBC-L-West ADC Sum
VPD-West ADC Sum

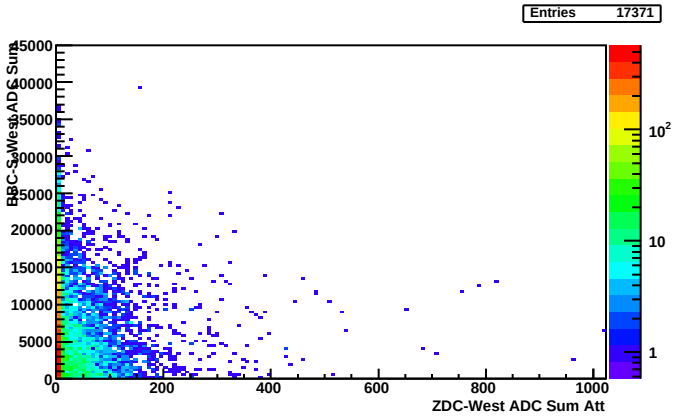

Entries 17371
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

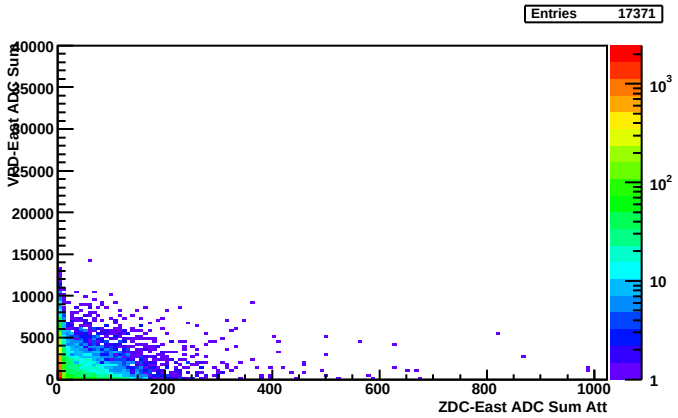

Entries 17371
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

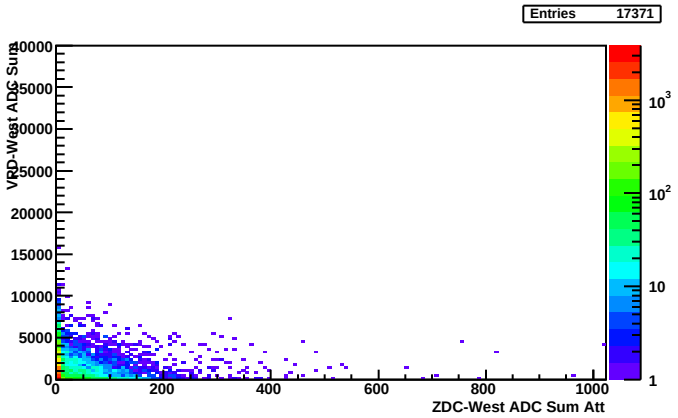

Entries 17371
BBC-S-East ADC Sum
VPD-East ADC Sum

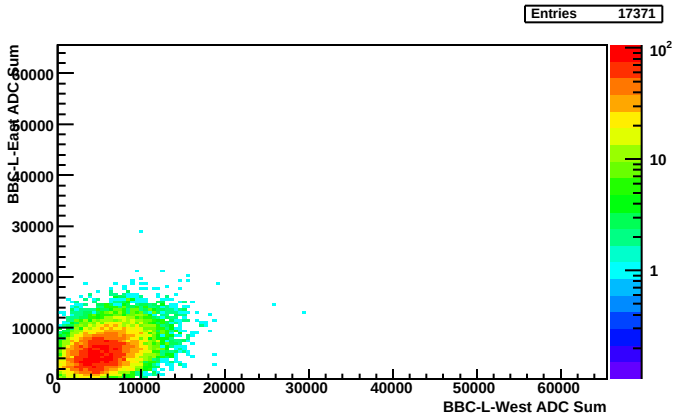

Entries 17371
BBC-S-West ADC Sum
VPD-West ADC Sum

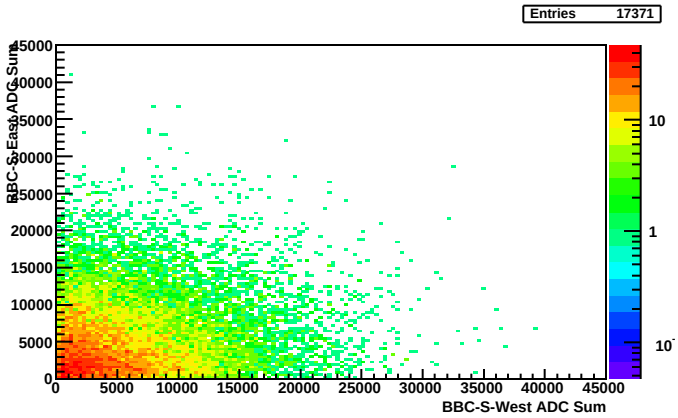

Entries 17371
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

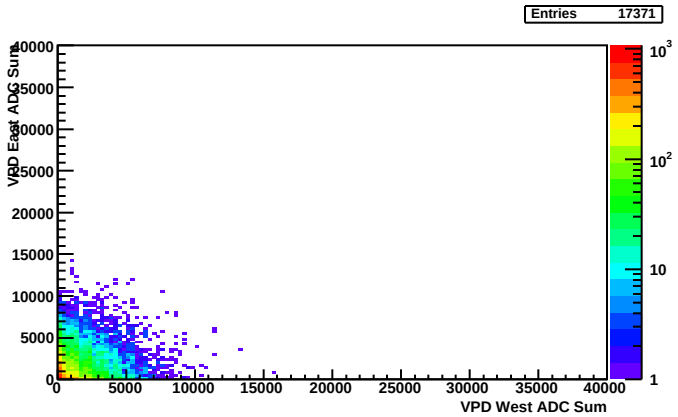

Entries 17371
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

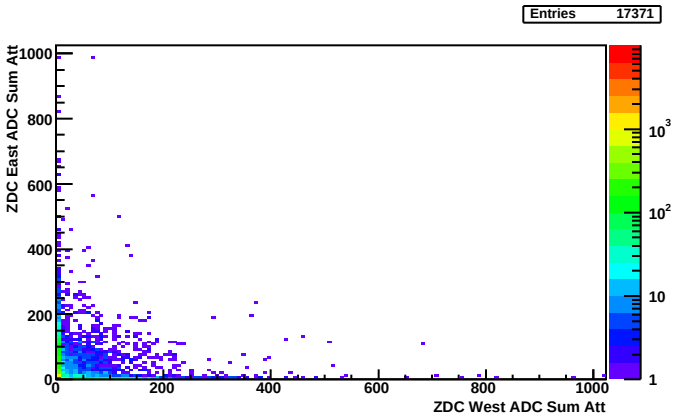

Entries 17371
VPD-East ADC Sum
ZDC-East ADC Sum Att

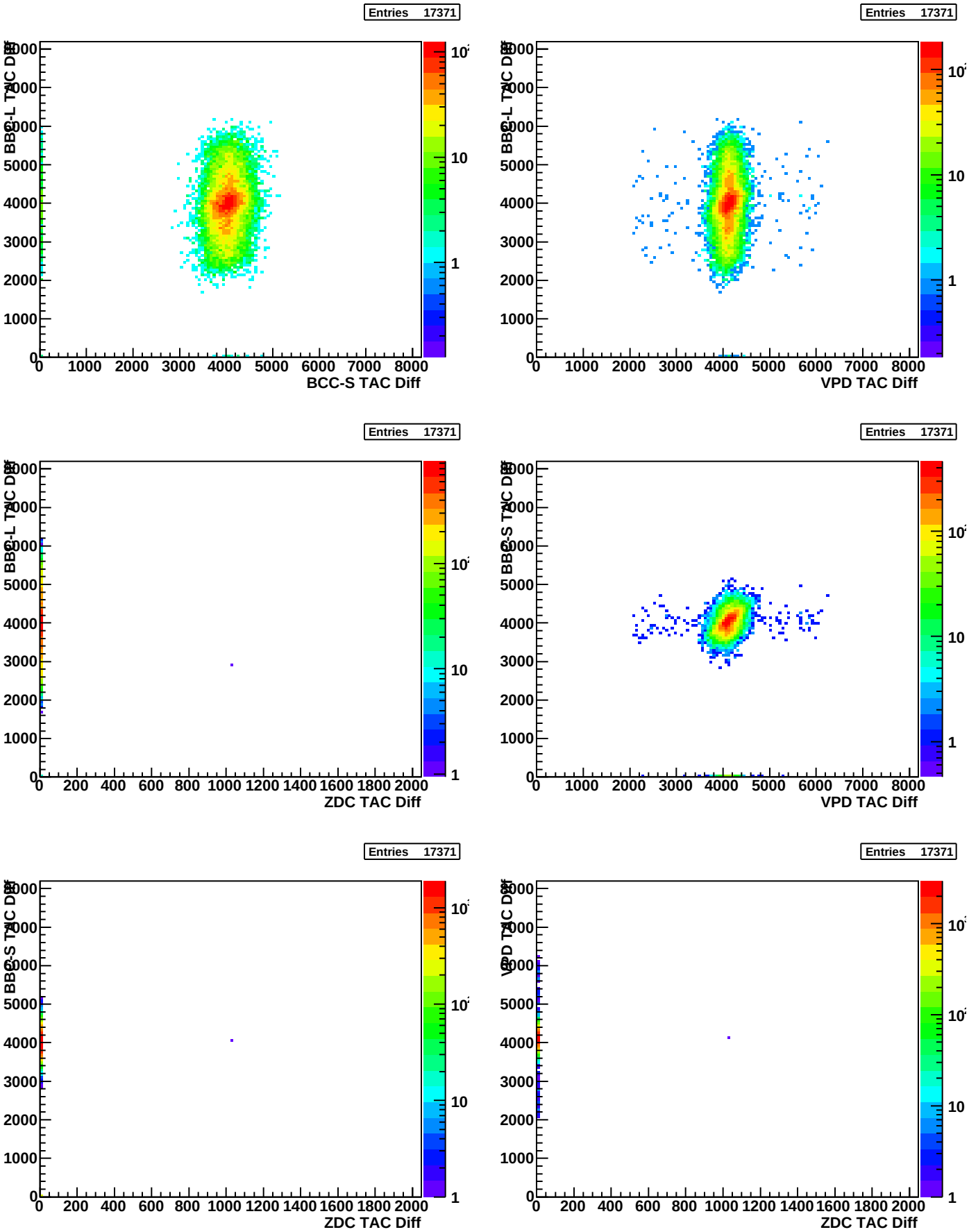

Entries 17371
VPD-West ADC Sum
ZDC-West ADC Sum Att

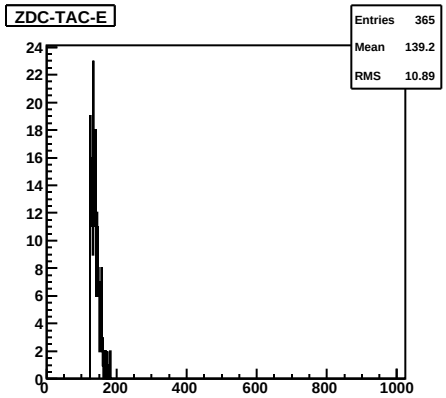

Entries 17371
BBC-L-East ADC Sum
BBC-L-West ADC Sum

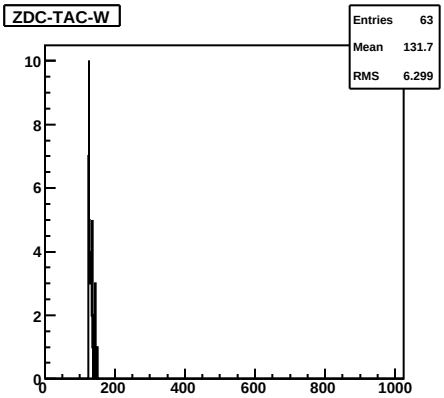

Entries 17371
BBC-S-East ADC Sum
BBC-S-West ADC Sum

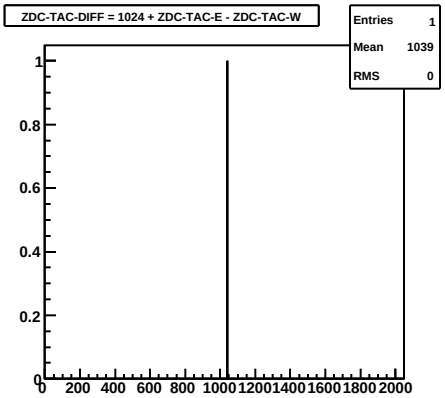

Entries 17371
VPD East ADC Sum
VPD West ADC Sum

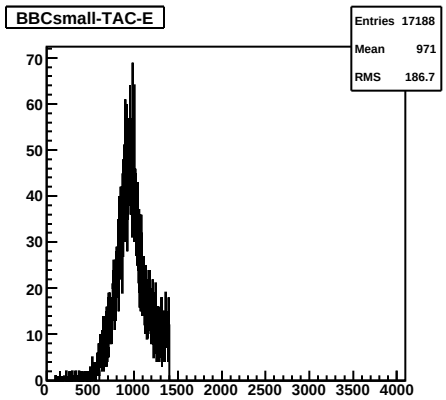

Entries 17371
ZDC East ADC Sum Att
ZDC West ADC Sum Att

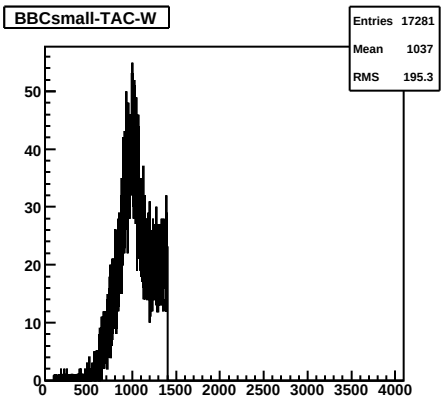

Entries 17371
BBC-L TAC Diff
BCC-S TAC Diff
Entries 17371
BBC-L TAC Diff
VPD TAC Diff
Entries 17371
BBC-L TAC Diff
ZDC TAC Diff
Entries 17371
BBC-S TAC Diff
VPD TAC Diff
Entries 17371
BBC-S TAC Diff
ZDC TAC Diff
Entries 17371
VPD TAC Diff
ZDC TAC Diff

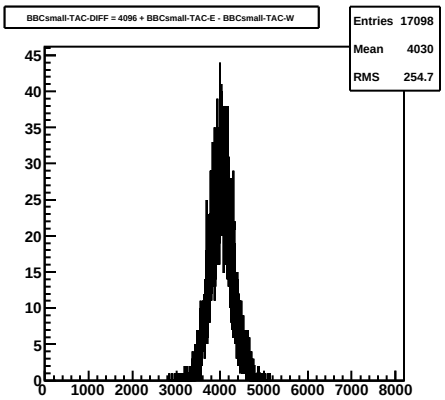

ZDC-TAC-E
Entries 365
Mean 139.2
RMS 10.89

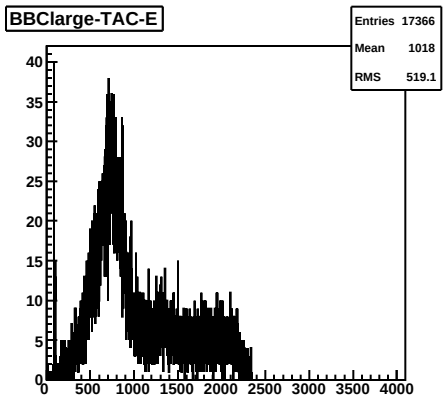

ZDC-TAC-W
Entries 63
Mean 131.7
RMS 6.299

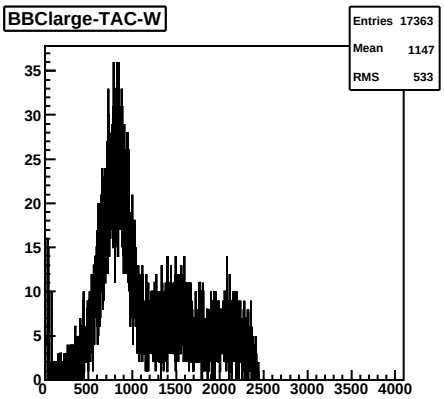

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 1
Mean 1039
RMS 0

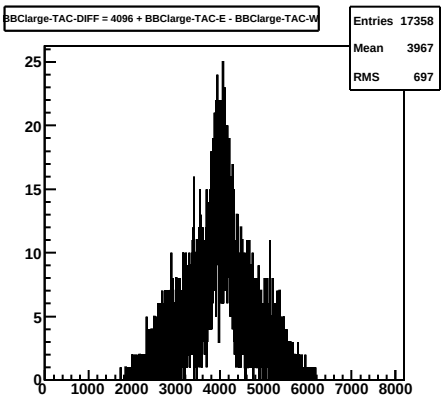

BBCsmall-TAC-E
Entries 17188
Mean 971
RMS 186.7

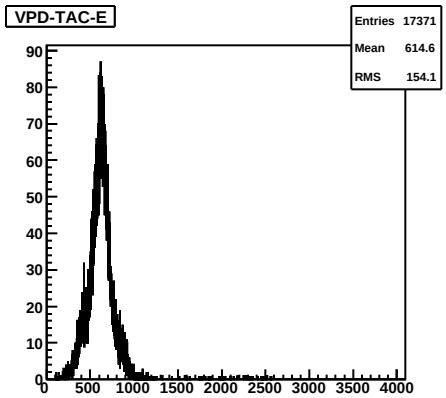

BBCsmall-TAC-W
Entries 17281
Mean 1037
RMS 195.3

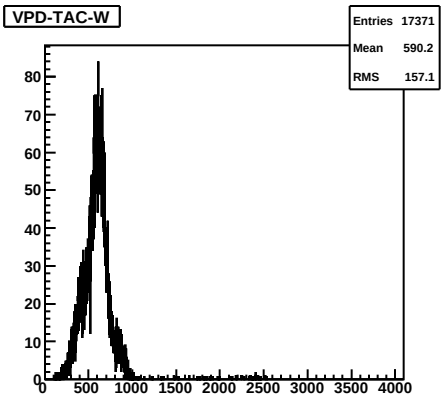

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 17098
Mean 4030
RMS 254.7

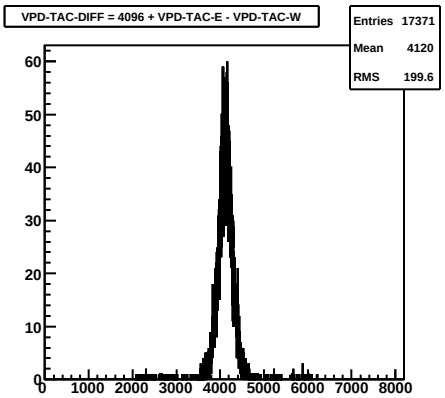

BBClarge-TAC-E
Entries 17366
Mean 1018
RMS 519.1

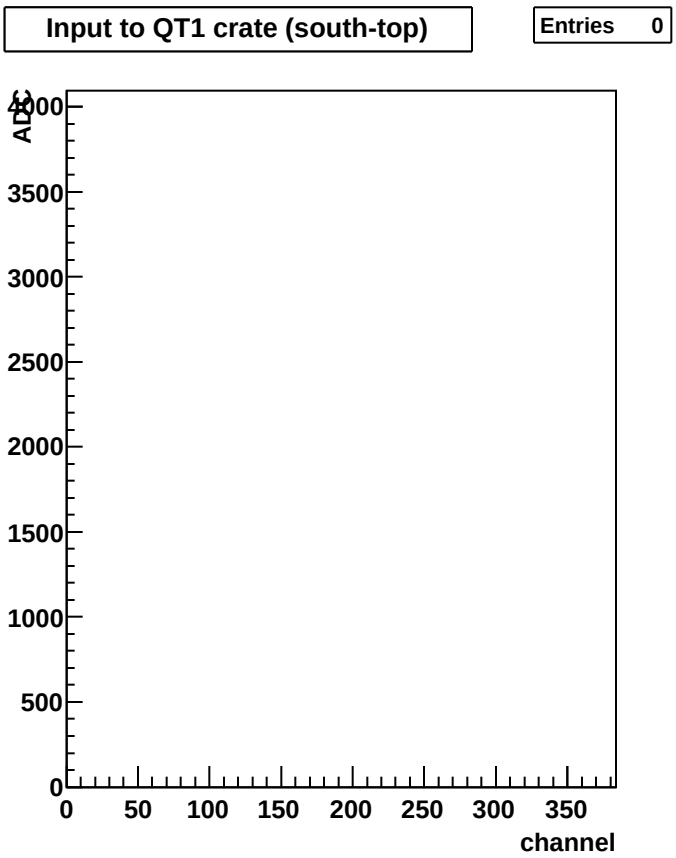

BBClarge-TAC-W
Entries 17363
Mean 1147
RMS 533

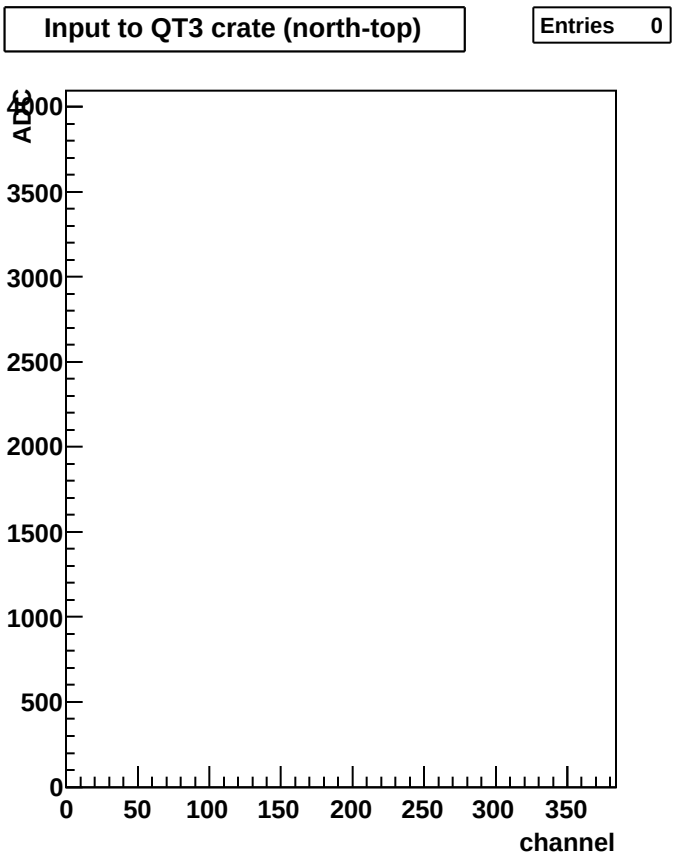

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 17358
Mean 3967
RMS 697

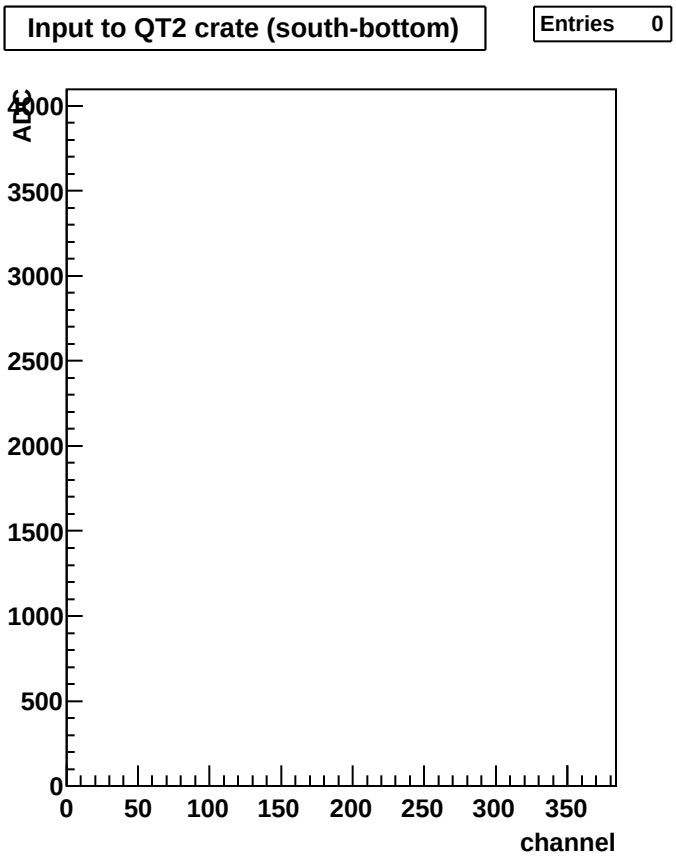

VPD-TAC-E
Entries 17371
Mean 614.6
RMS 154.1

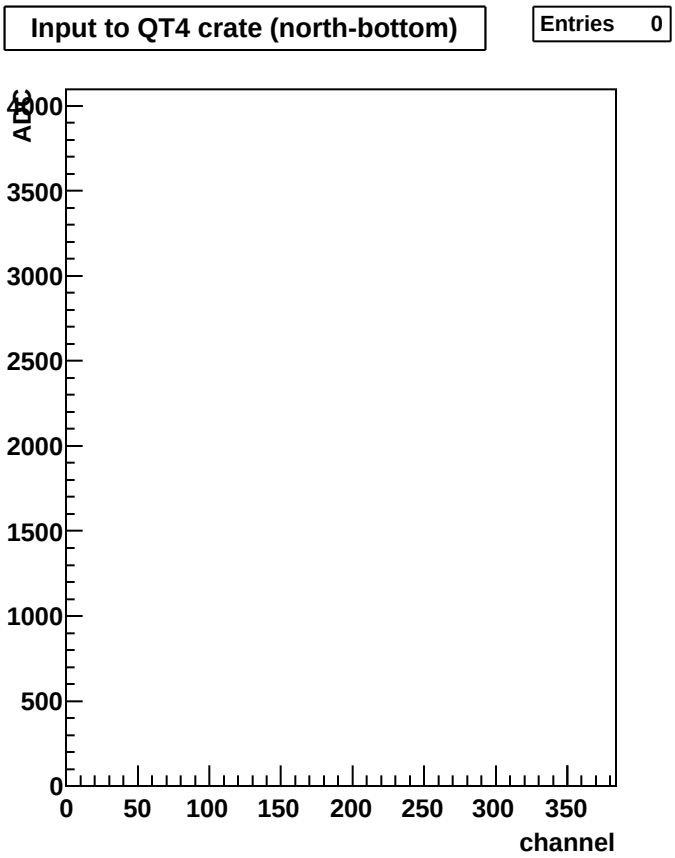

VPD-TAC-W
Entries 17371
Mean 590.2
RMS 157.1

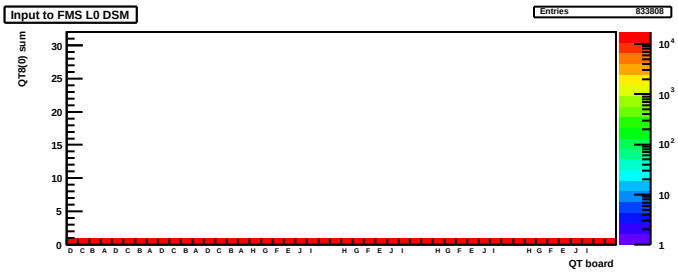

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 17371
Mean 4120
RMS 199.6

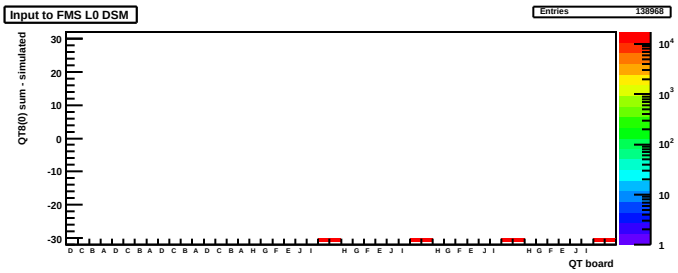

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

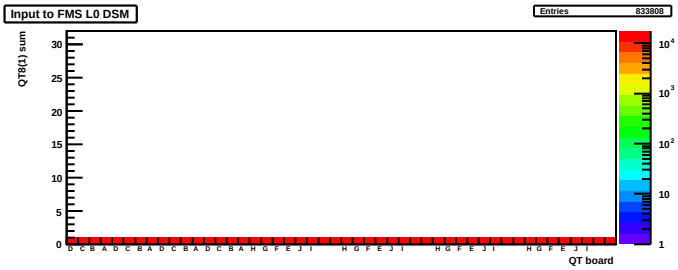

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

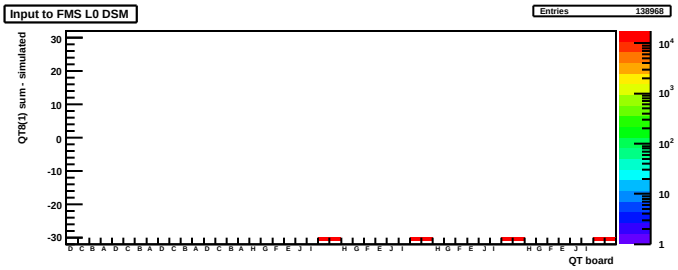

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

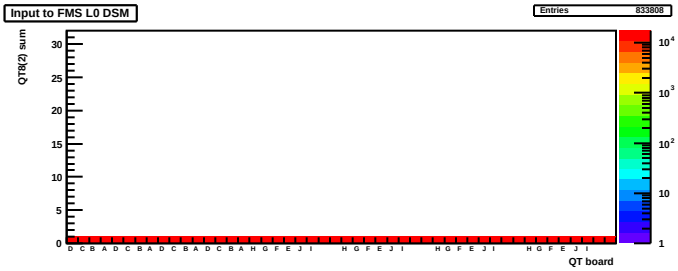

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

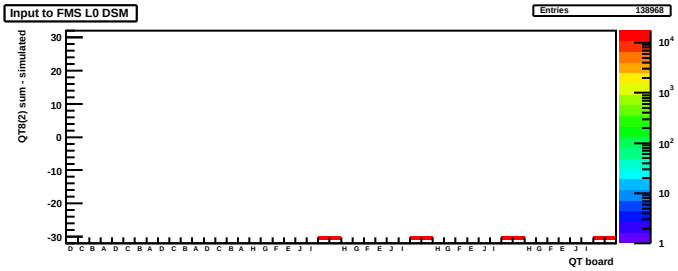

Input to FMS L0 DSM
Entries 833808
QT8(0) sum
QT board

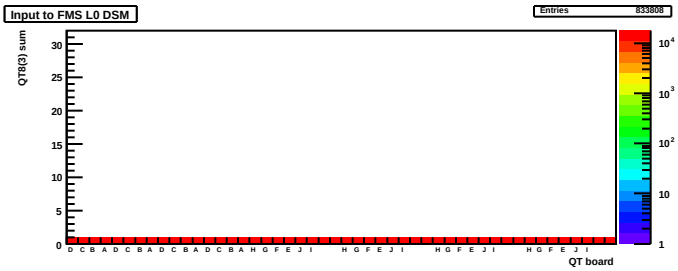

Input to FMS L0 DSM
Entries 138968
QT8(0) sum - simulated
QT board

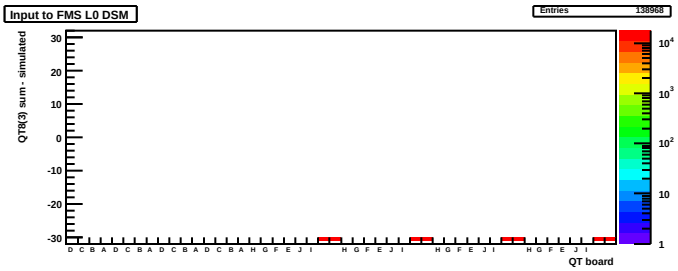

Input to FMS L0 DSM
Entries 833808
QT8(1) sum
QT board

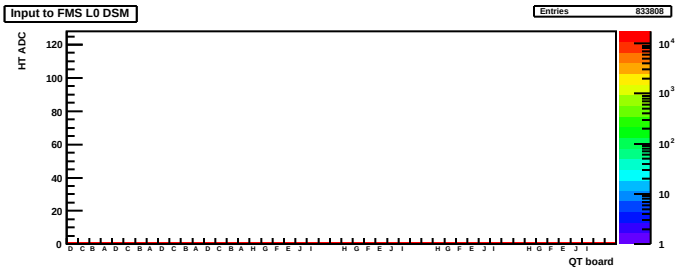

Input to FMS L0 DSM
Entries 138968
QT8(1) sum - simulated
QT board

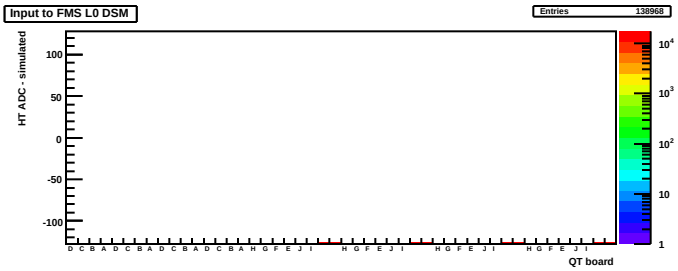

Input to FMS L0 DSM
Entries 833808
QT8(2) sum
QT board

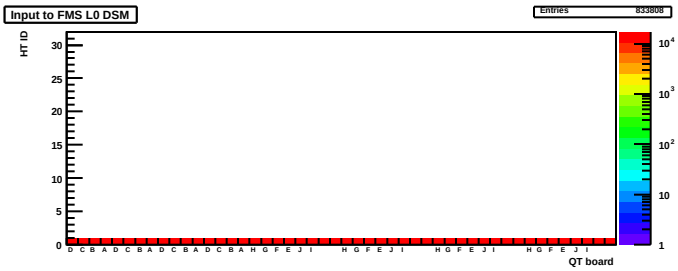

Input to FMS L0 DSM
Entries 138968
QT8(2) sum - simulated
QT board

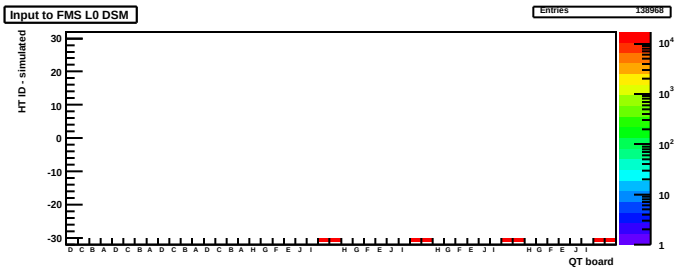

Input to FMS L0 DSM
Entries 833808
QT8(3) sum
QT board

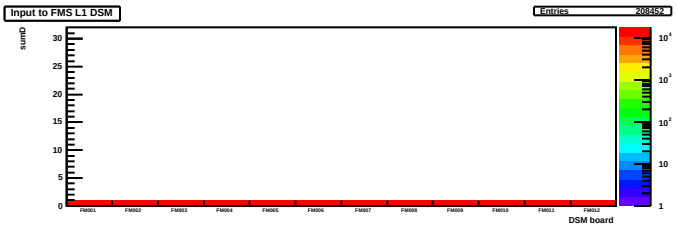

Input to FMS L0 DSM
Entries 138968
QT8(3) sum - simulated
QT board

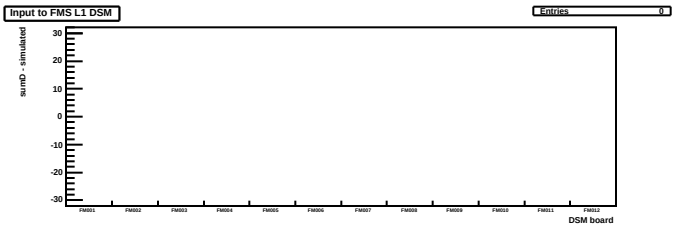

Input to FMS L0 DSM
Entries 833808
HT ADC
QT board

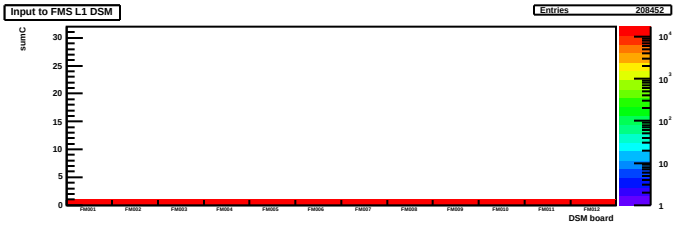

Input to FMS L0 DSM
Entries 138968
HT ADC - simulated
QT board

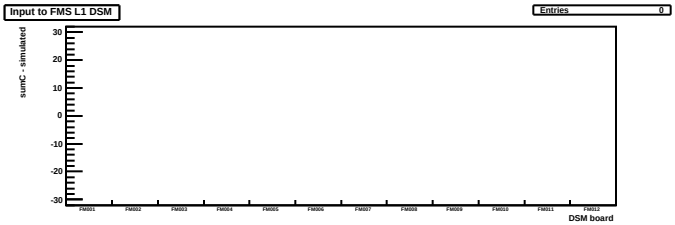

Input to FMS L0 DSM
Entries 833808
HT ID
QT board

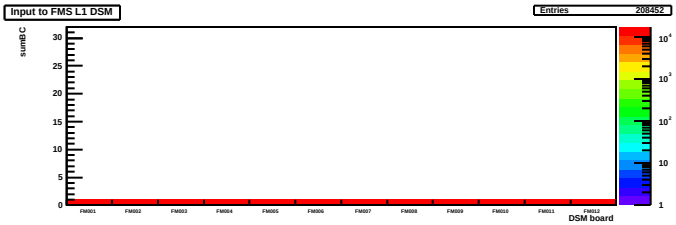

Input to FMS L0 DSM
Entries 138968
HT ID - simulated
QT board

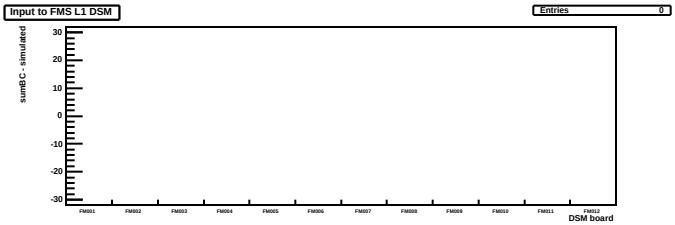

Input to FMS L1 DSM
Entries 208452
sumD
DSM board

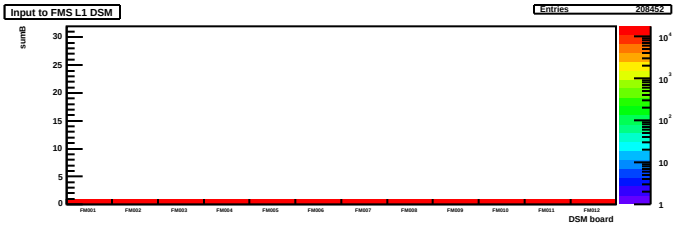

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

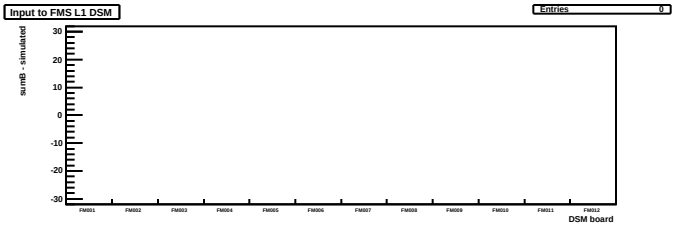

Input to FMS L1 DSM
Entries 208452
sumC
DSM board

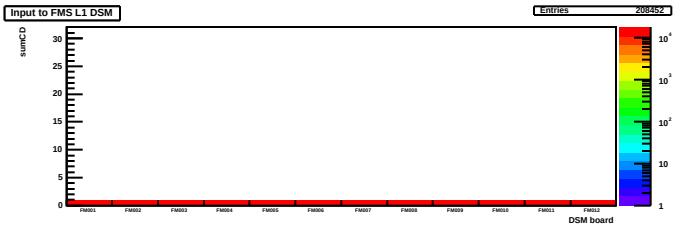

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

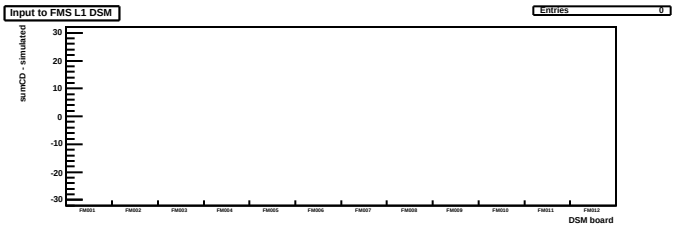

Input to FMS L1 DSM
Entries 208452
sumBC
DSM board

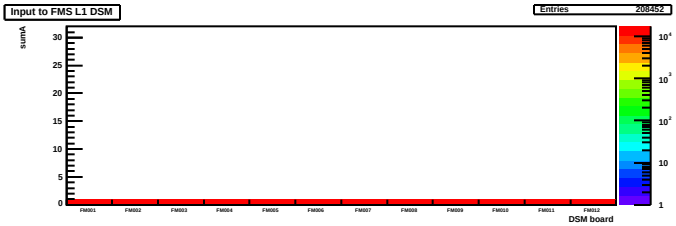

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

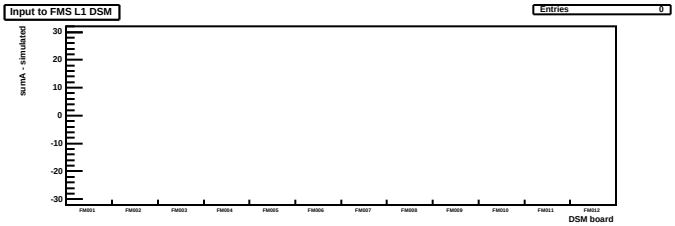

Input to FMS L1 DSM
Entries 208452
sumB
DSM board

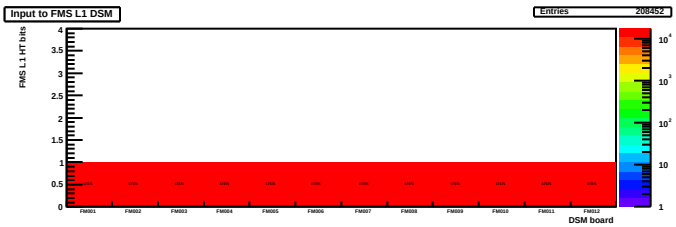

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

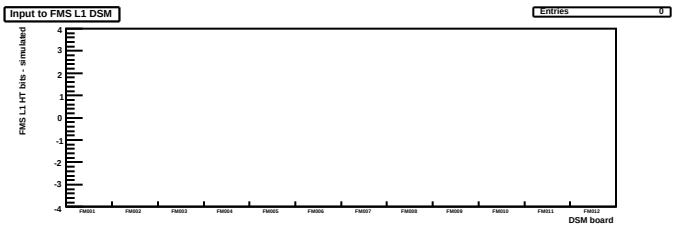

Input to FMS L1 DSM
Entries 208452
sumCD
DSM board

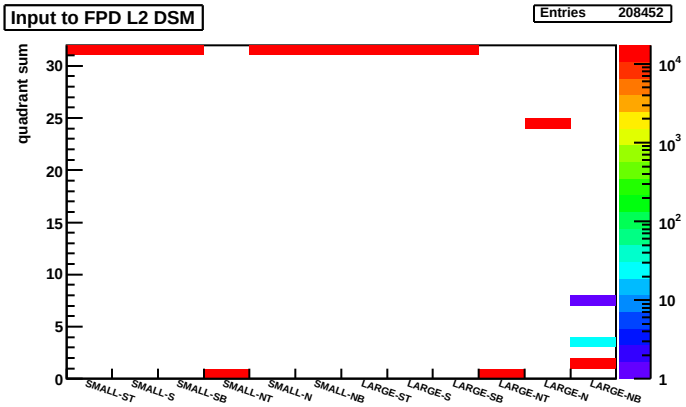

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

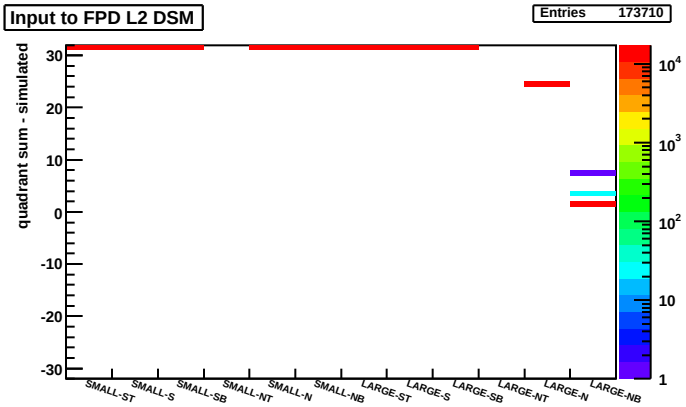

Input to FMS L1 DSM
Entries 208452
sumA
DSM board

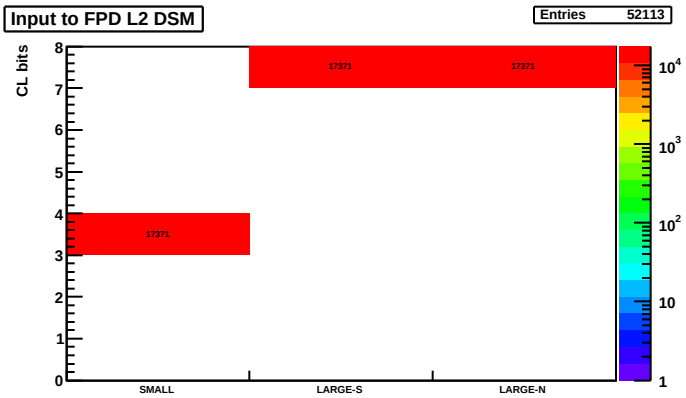

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

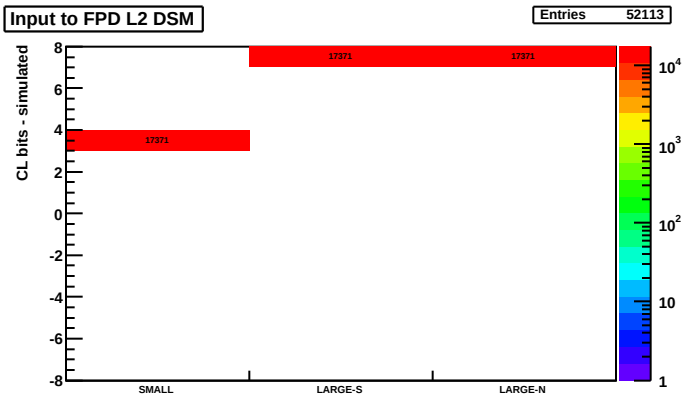

Input to FMS L1 DSM
Entries 208452
FMS L1 HT bits
DSM board

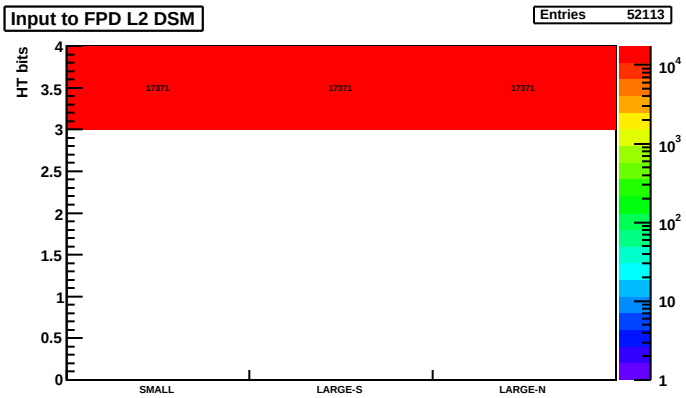

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

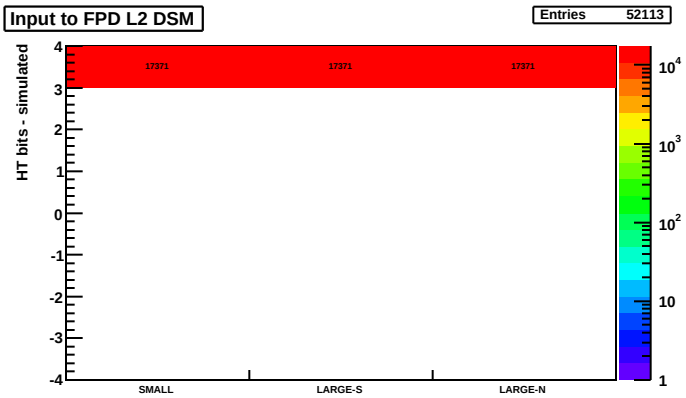

Input to FPD L2 DSM
Entries 208452
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

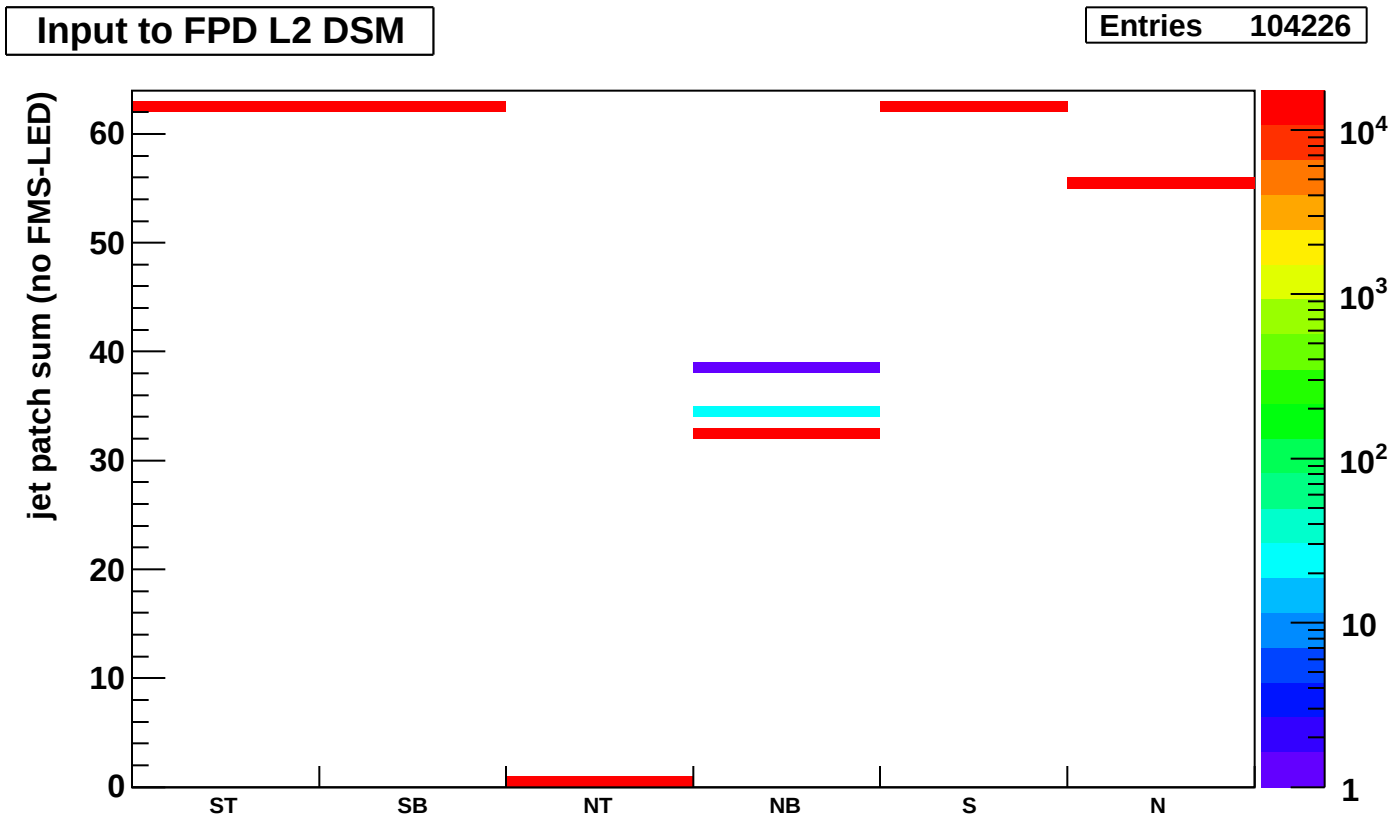

Input to FPD L2 DSM
Entries 173710
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

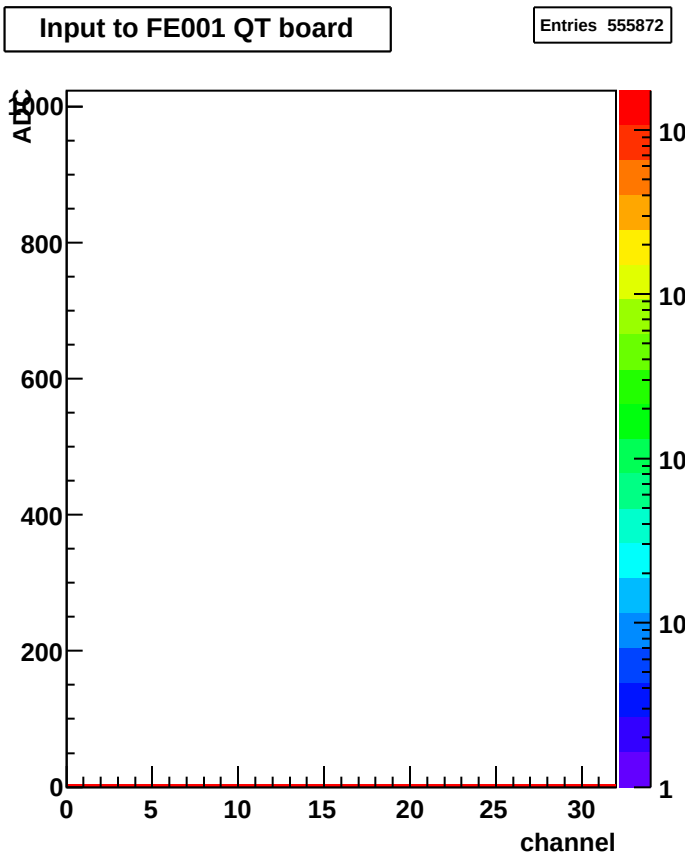

Input to FPD L2 DSM
Entries 52113
CL bits
17371
17371
17371
SMALL
LARGE-S
LARGE-N

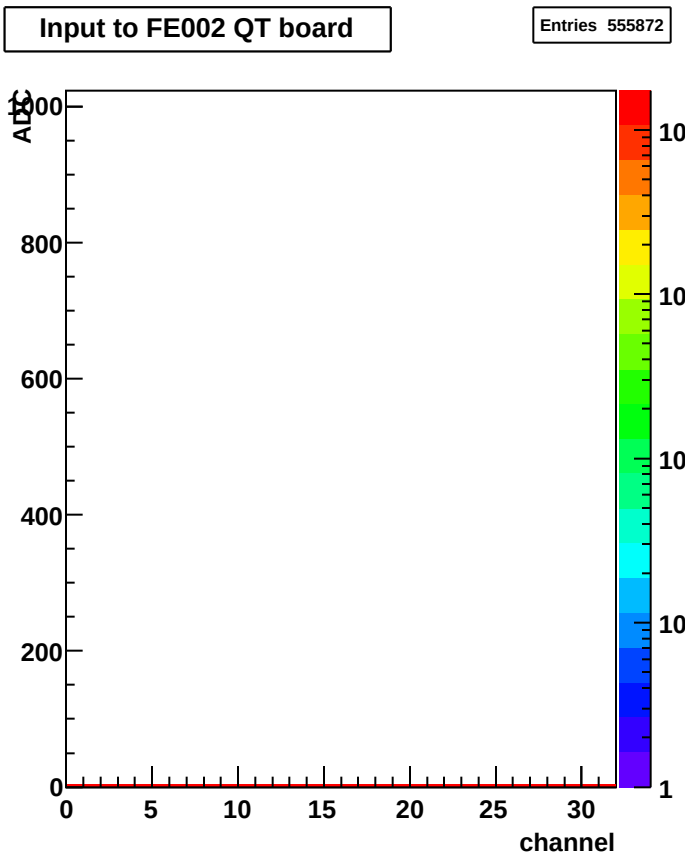

Input to FPD L2 DSM
Entries 52113
CL bits - simulated
17371
17371
17371
SMALL
LARGE-S
LARGE-N

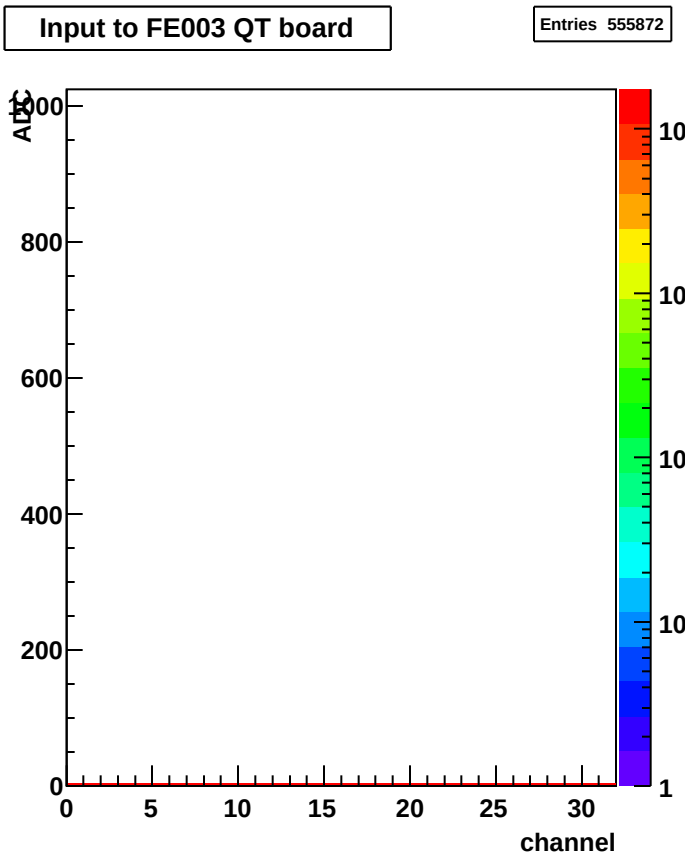

Input to FPD L2 DSM
Entries 52113
HT bits
17371
17371
17371
SMALL
LARGE-S
LARGE-N

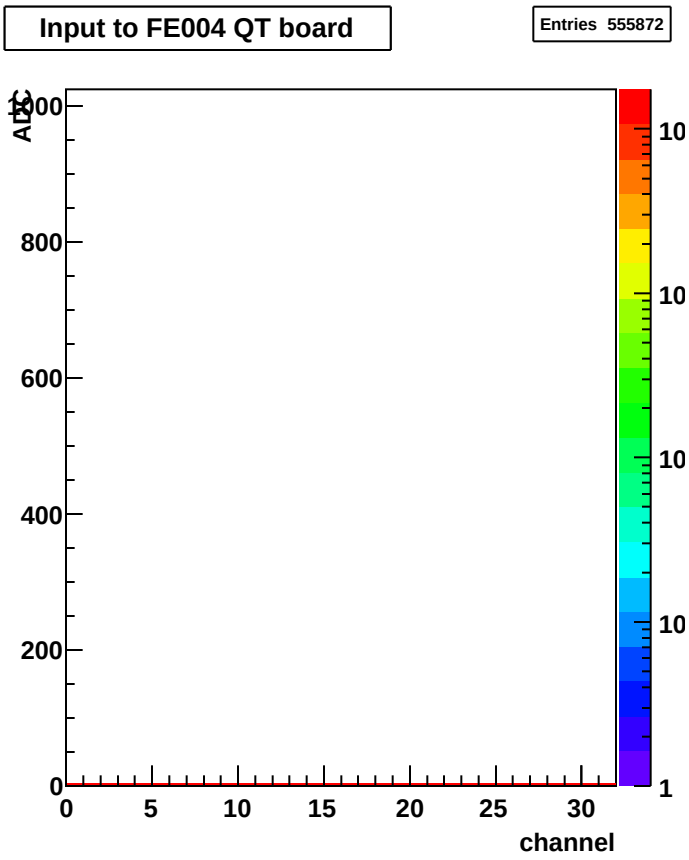

Input to FPD L2 DSM
Entries 52113
HT bits - simulated
17371
17371
17371
SMALL
LARGE-S
LARGE-N

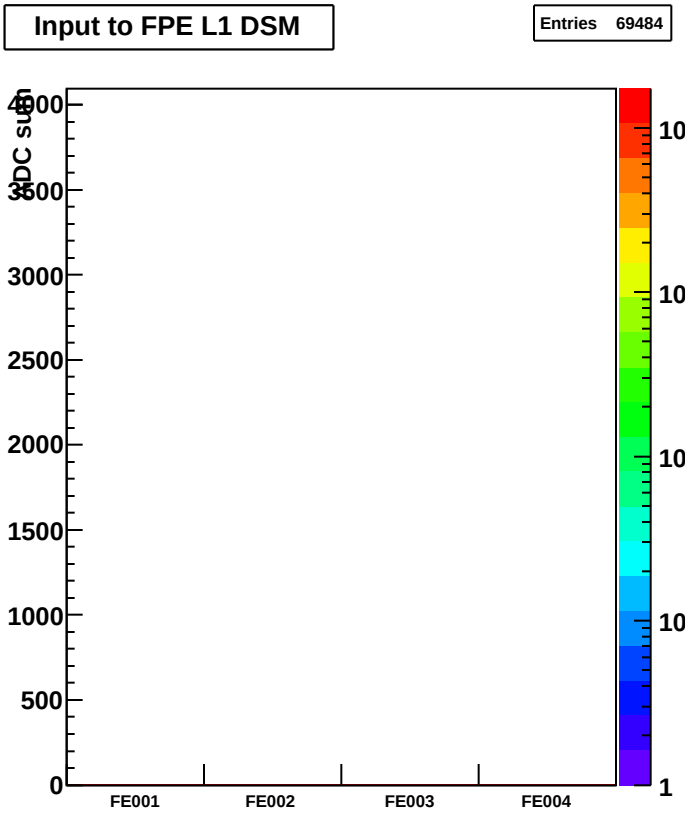

Input to FPD L2 DSM
Entries 104226
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

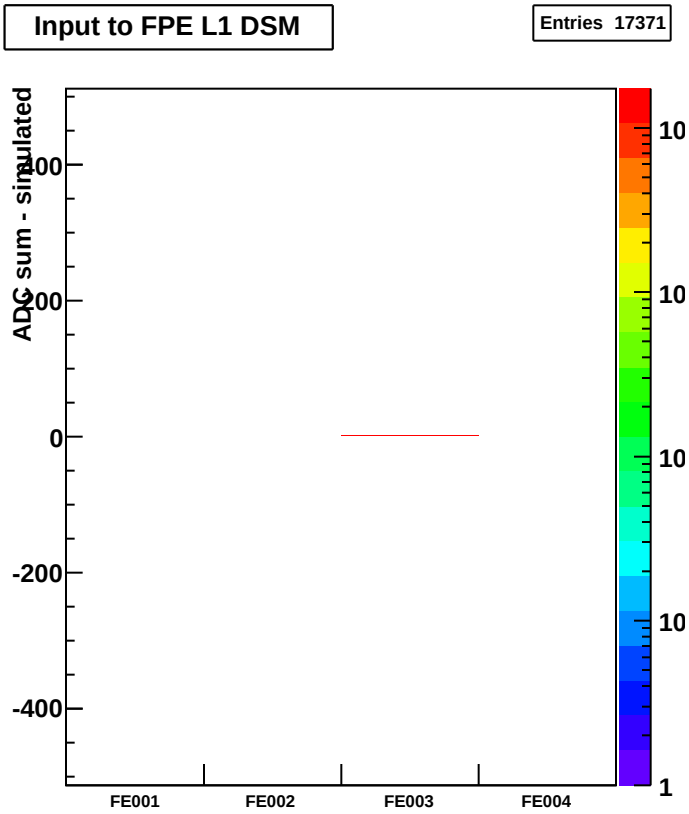

Input to FE001 QT board
Entries 555872
ADC
channel

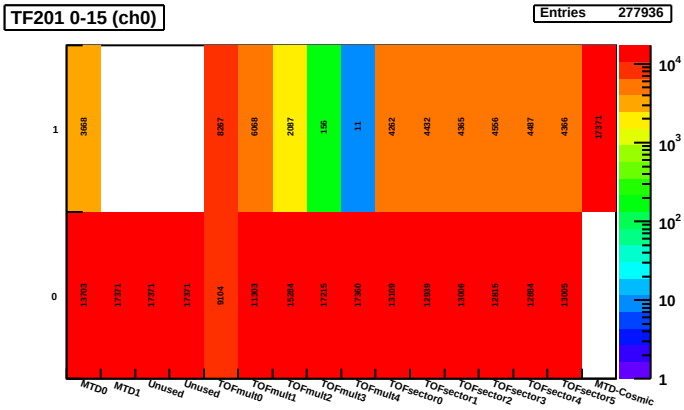

Input to FE002 QT board
Entries 555872
ADC
channel

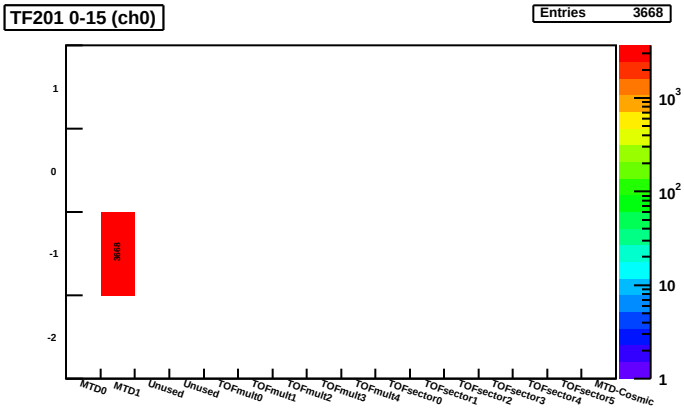

Input to FE003 QT board
Entries 555872
ADC
channel

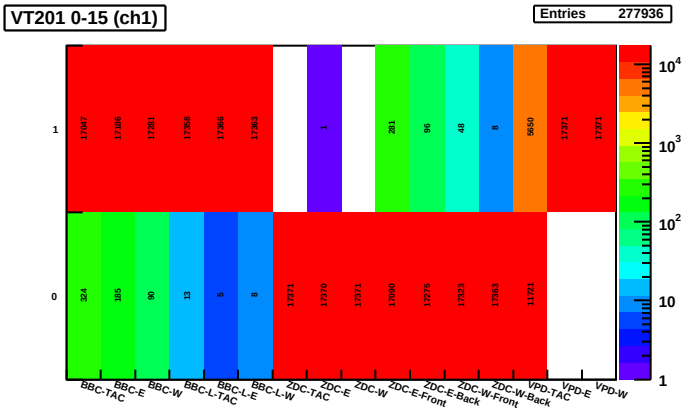

Input to FE004 QT board
Entries 555872
ADC
channel

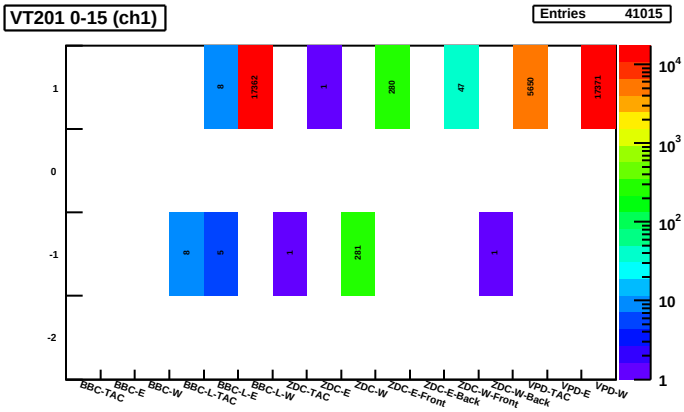

Input to FPE L1 DSM
Entries 69484
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1


Input to FPE L1 DSM
Entries 17371
ADC sum - simulated
200
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1


TF201 0-15 (ch0)
Entries 277936
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 3668
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 277936
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 41015
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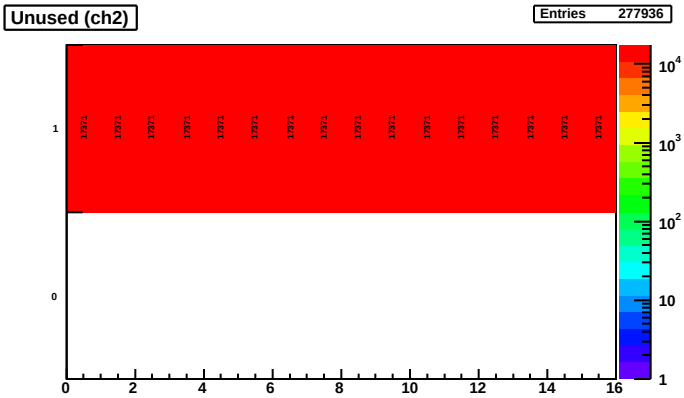
Unused (ch2)
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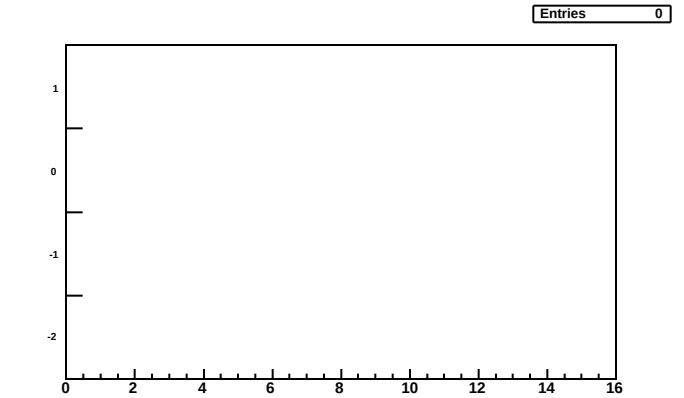
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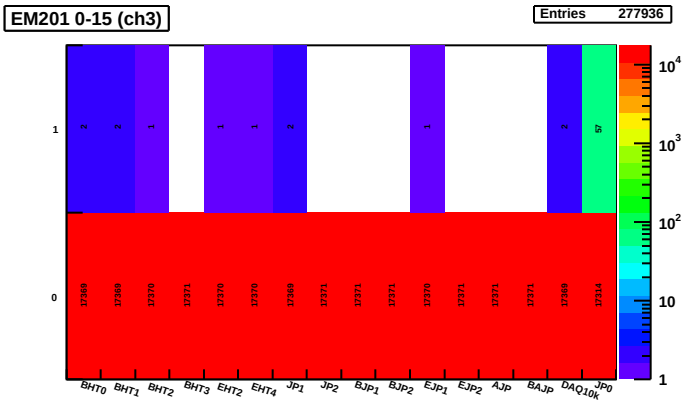
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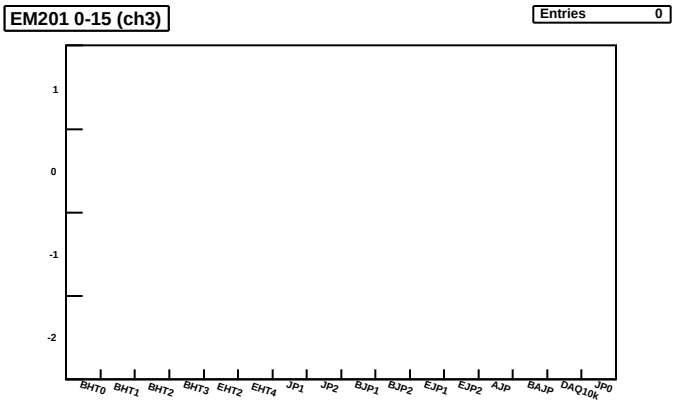
EM201 0-15 (ch3)
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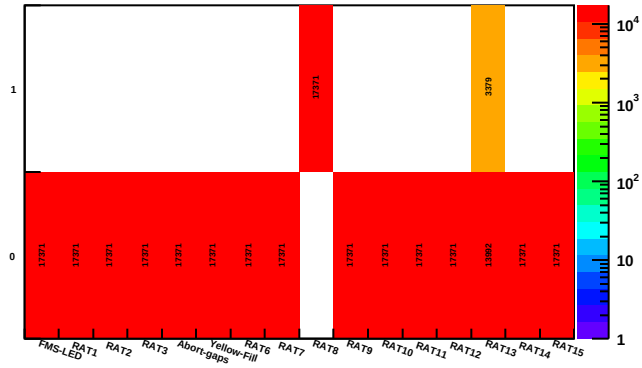
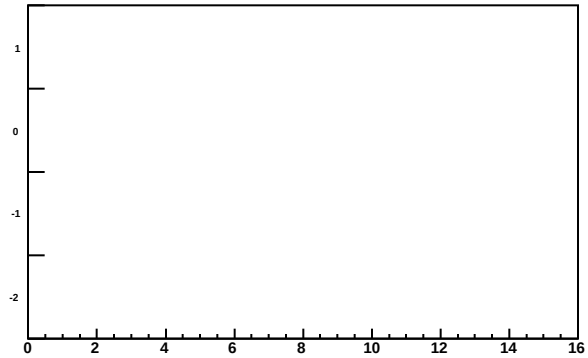
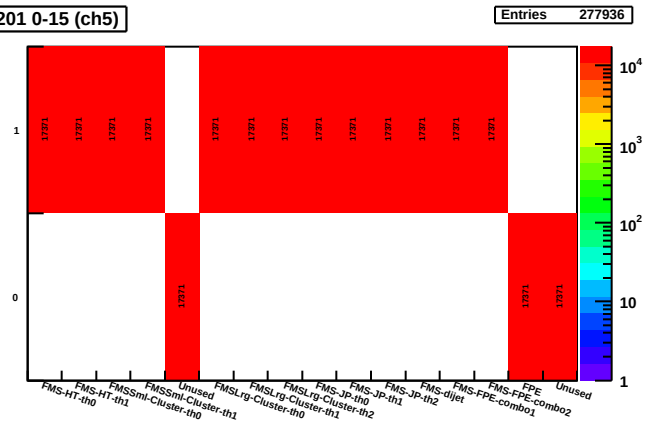
RAT board (ch4)





FP201 0-15 (ch5)



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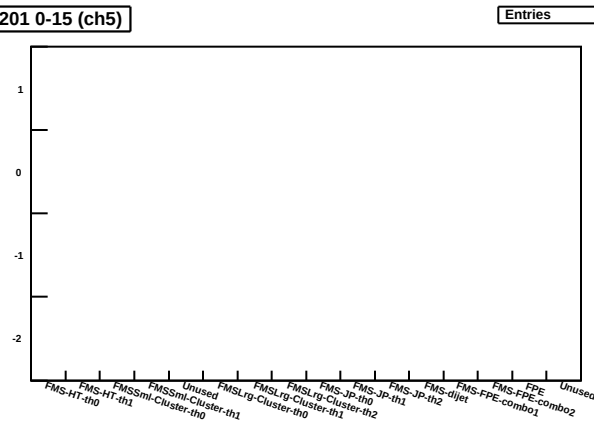
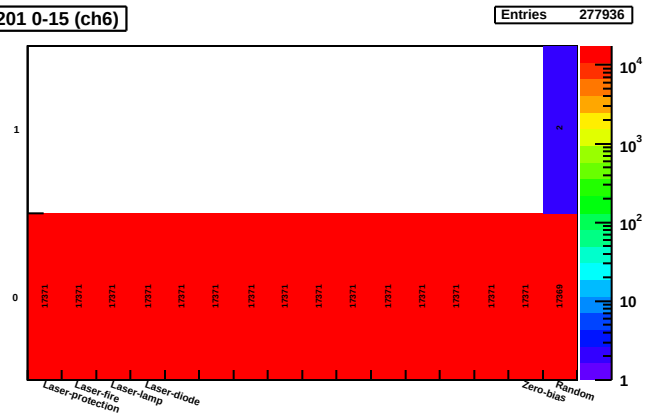
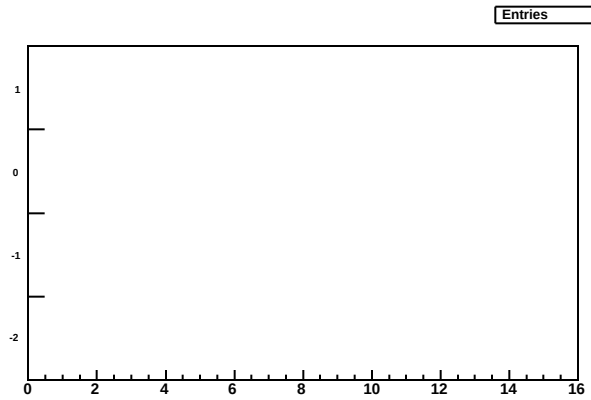
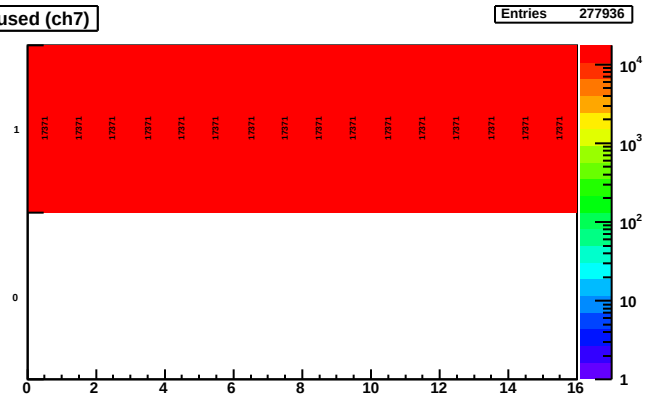
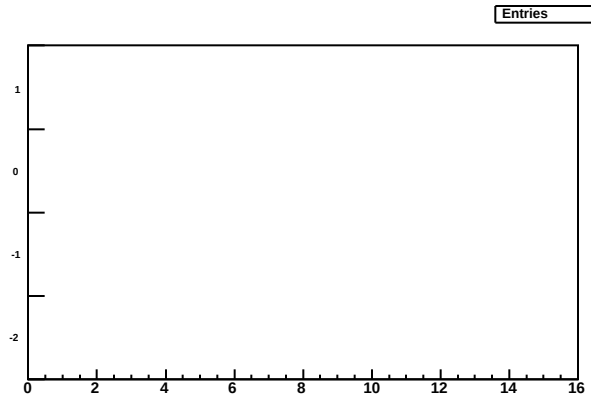


ST201 0-15 (ch6)





Unused (ch7)