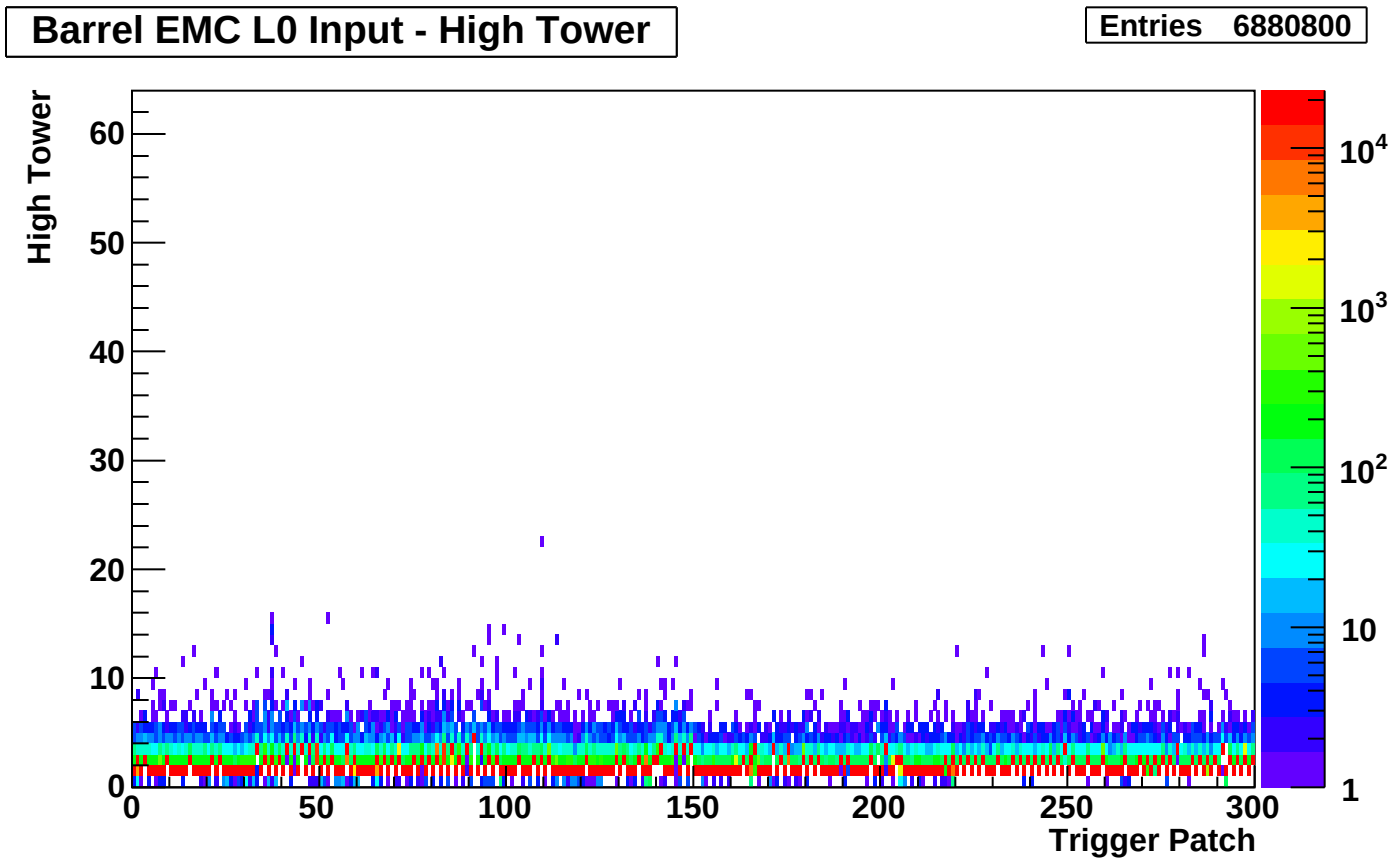
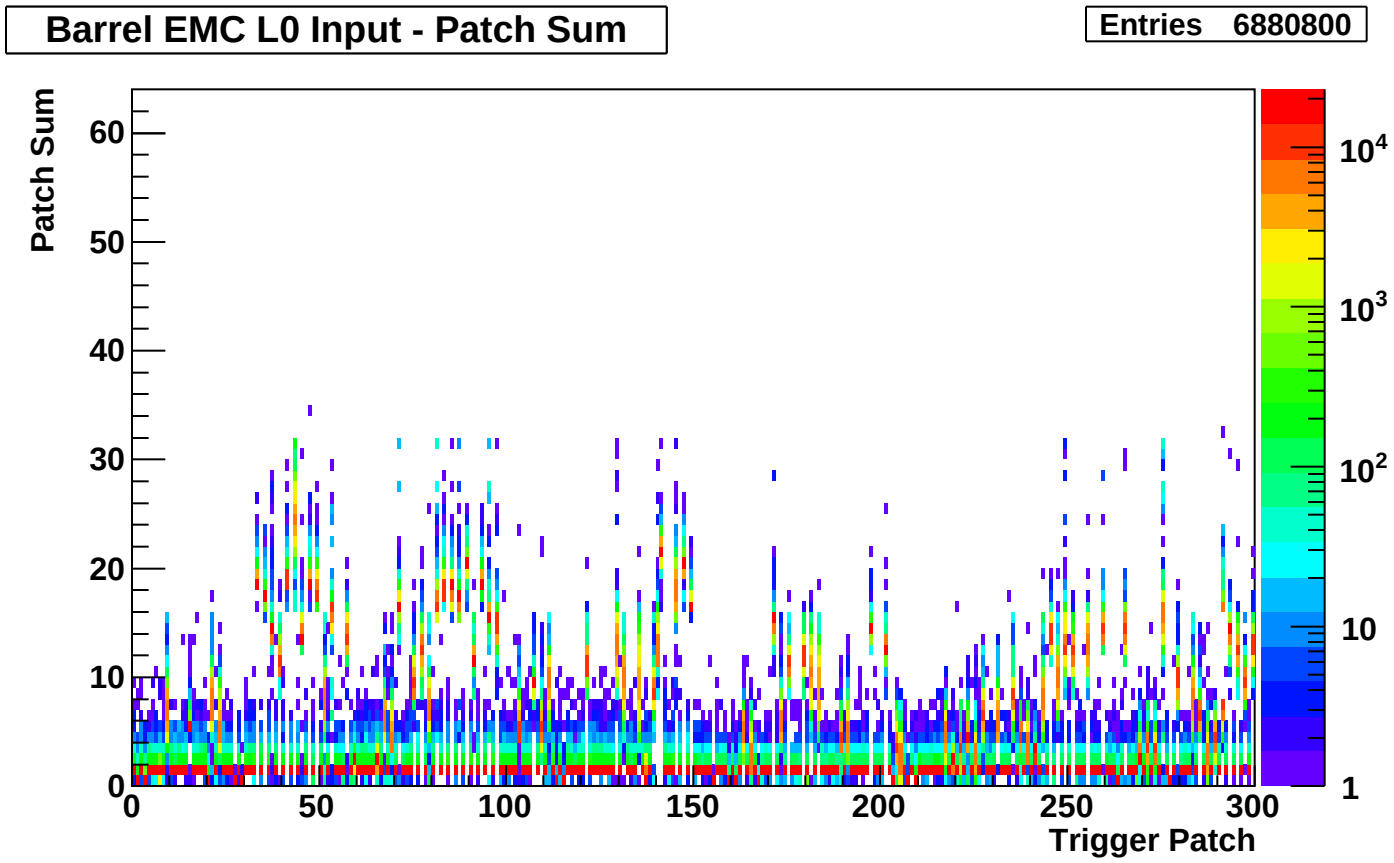
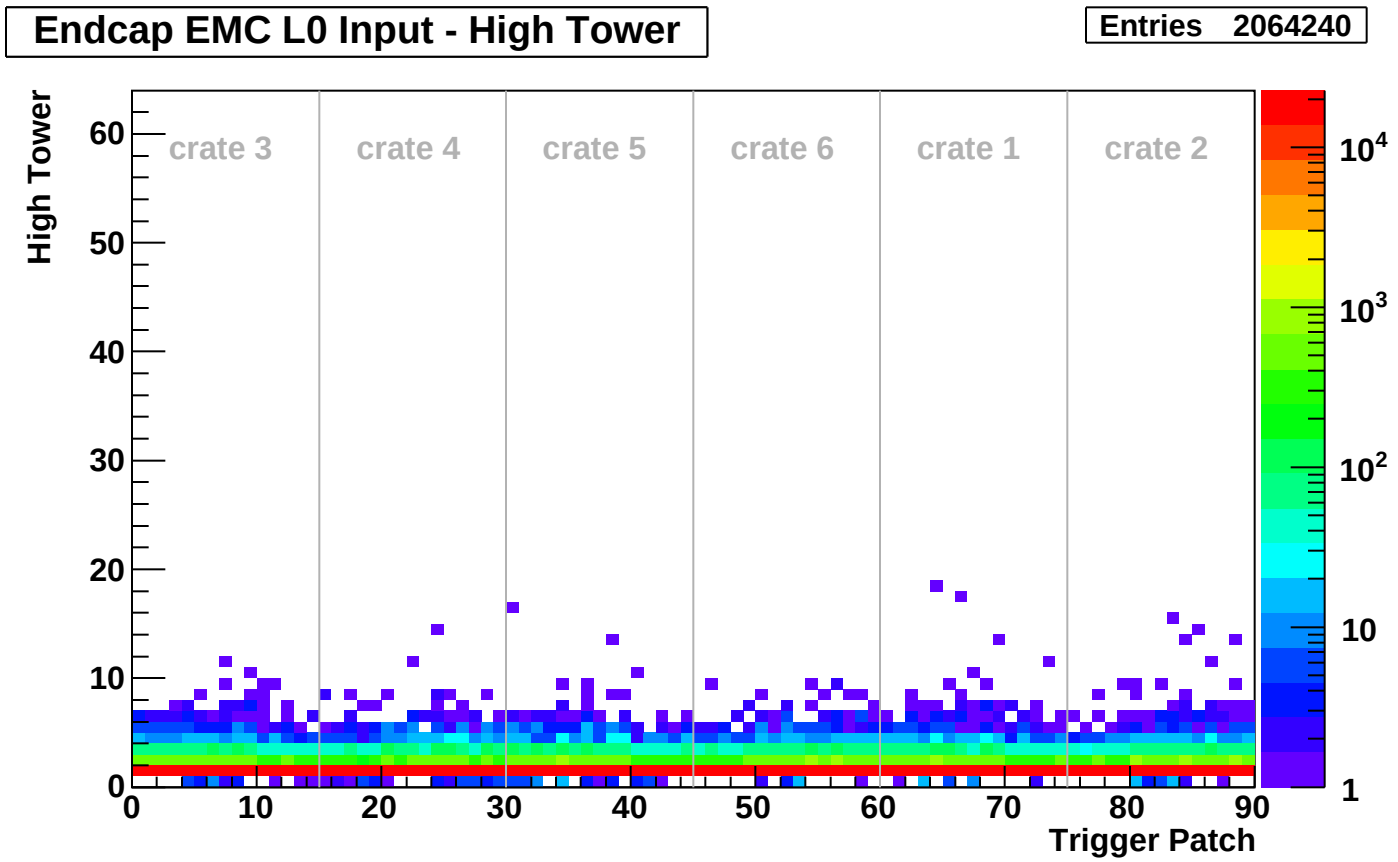
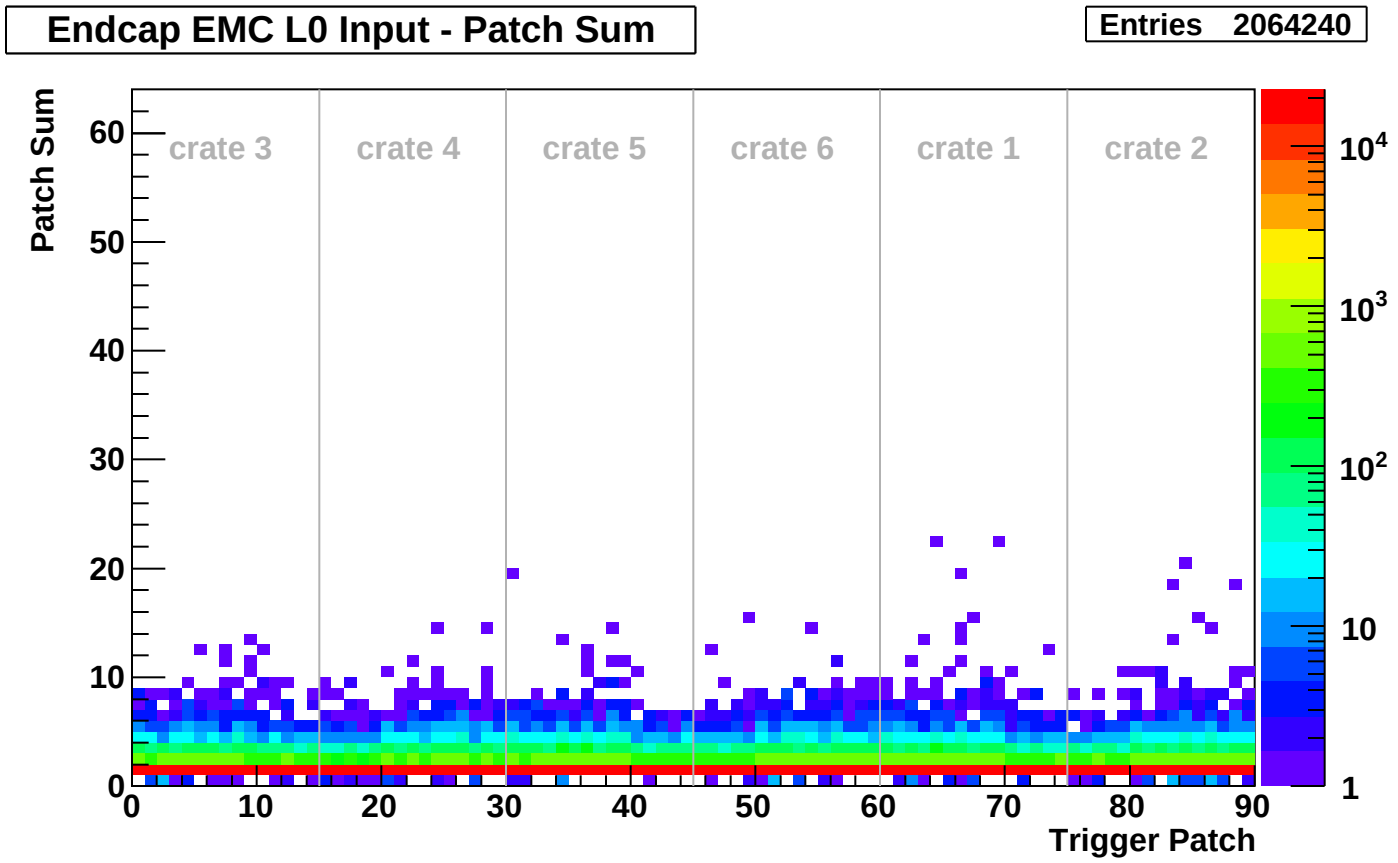
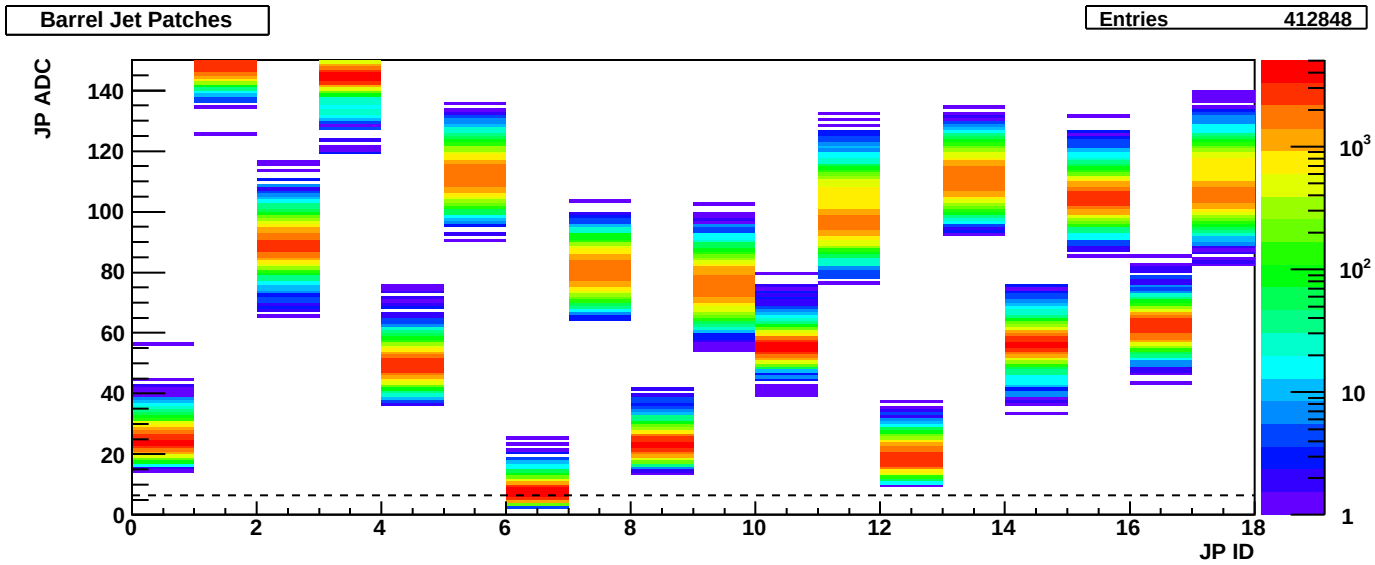
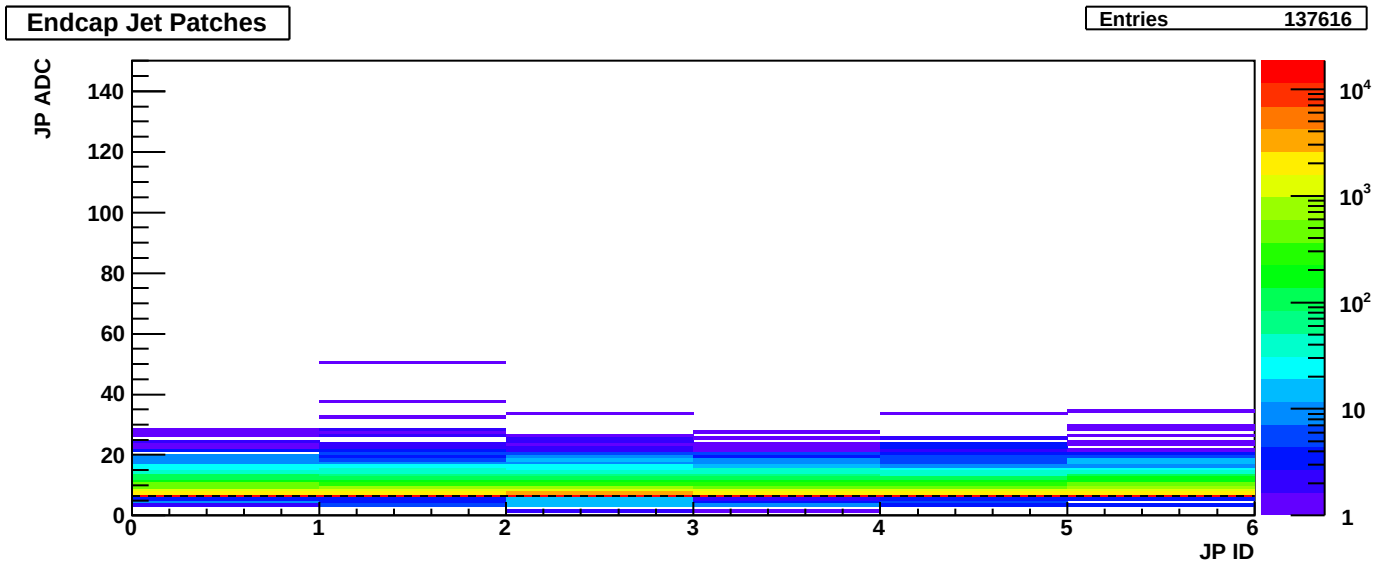

Barrel EMC L0 Input - High Tower
Entries 6880800
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$

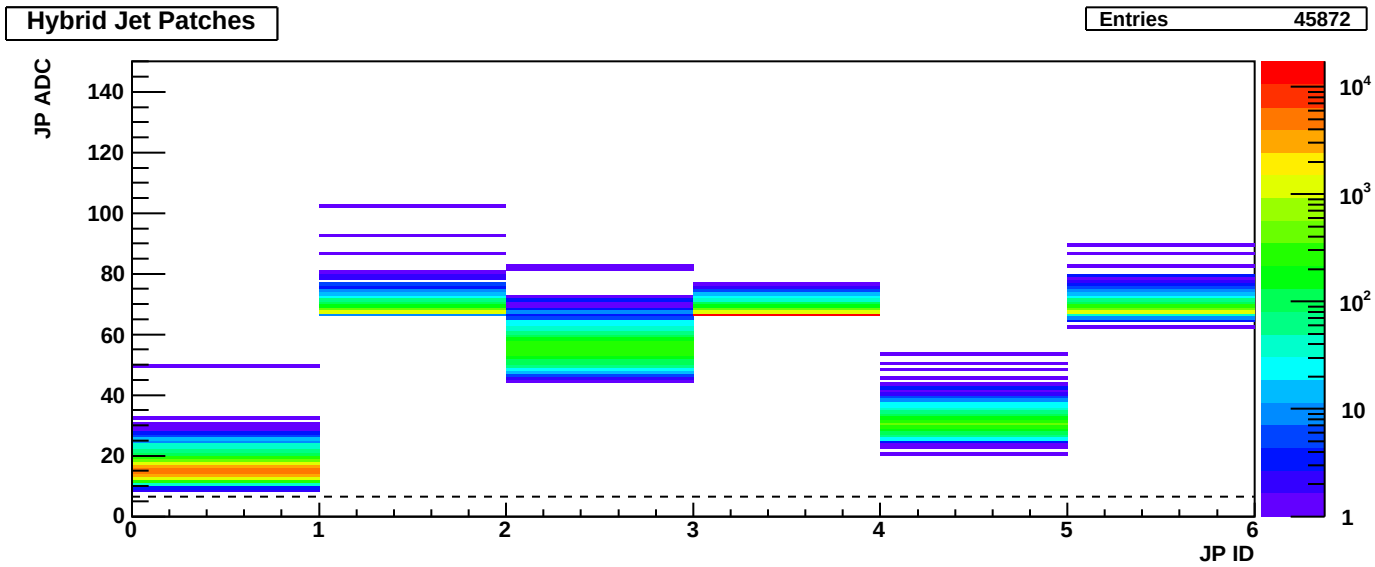

Barrel EMC L0 Input - Patch Sum
Entries 6880800
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$

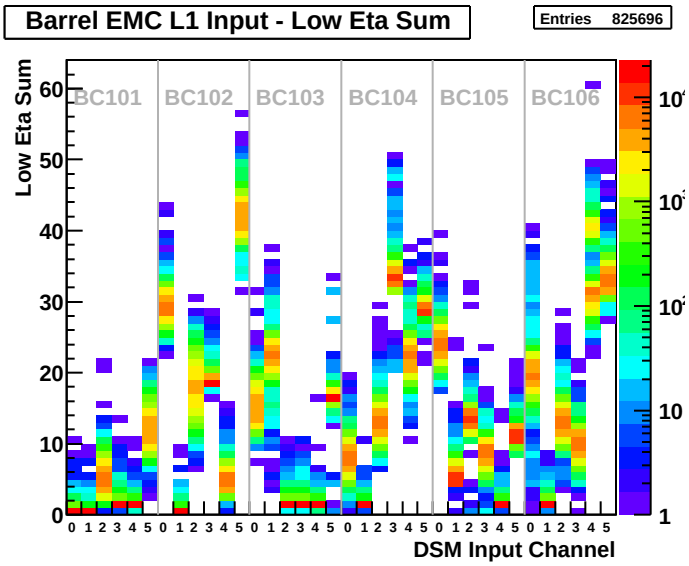

Endcap EMC L0 Input - High Tower
Entries 2064240
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

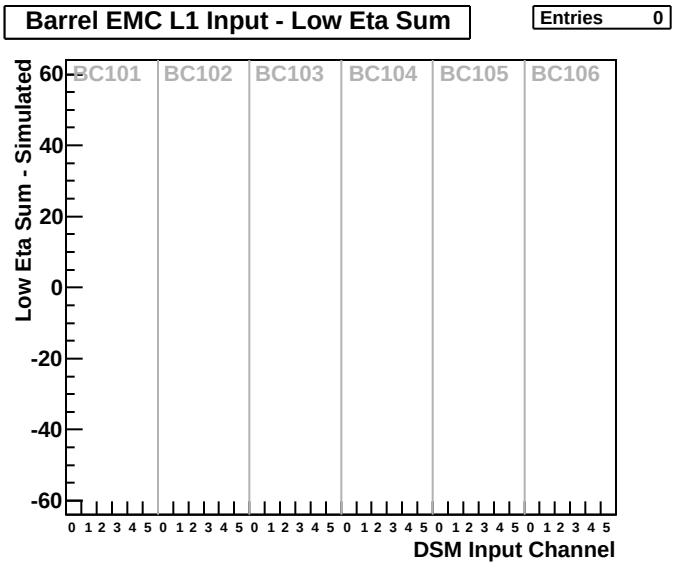

Endcap EMC L0 Input - Patch Sum
Entries 2064240
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

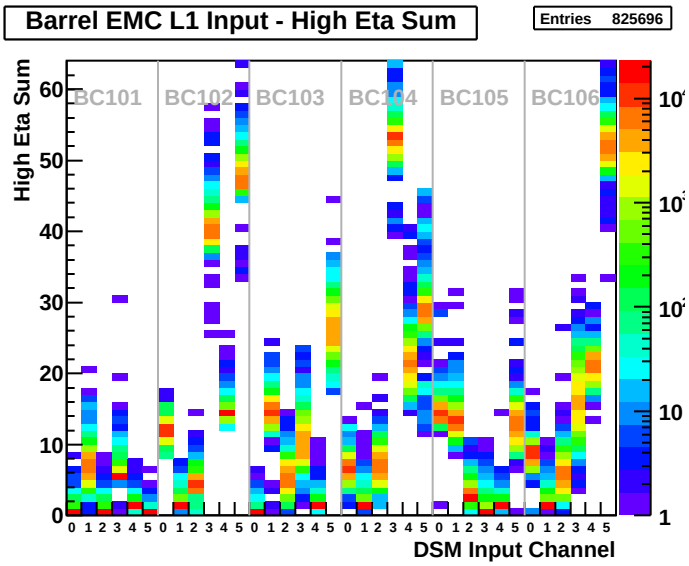

Barrel Jet Patches
Entries 412848
JP ADC
JP ID

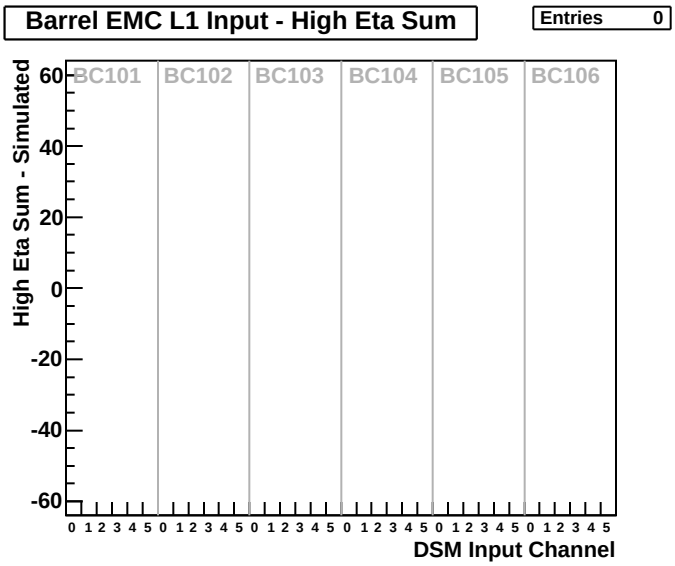

Endcap Jet Patches
Entries 137616
JP ADC
JP ID

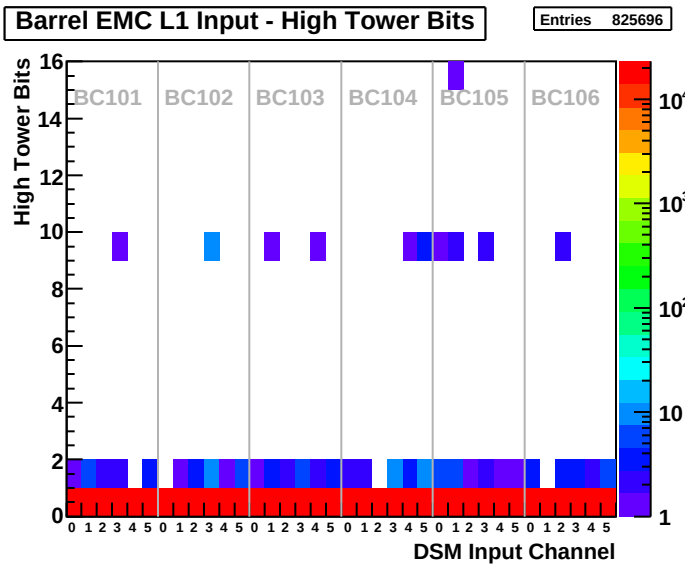

Hybrid Jet Patches
Entries 45872
JP ADC
JP ID

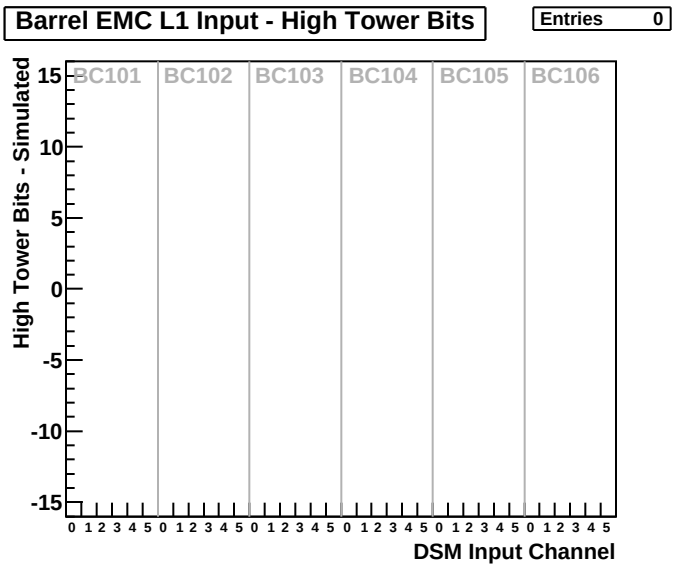

Barrel EMC L1 Input - Low Eta Sum
Entries 825696
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

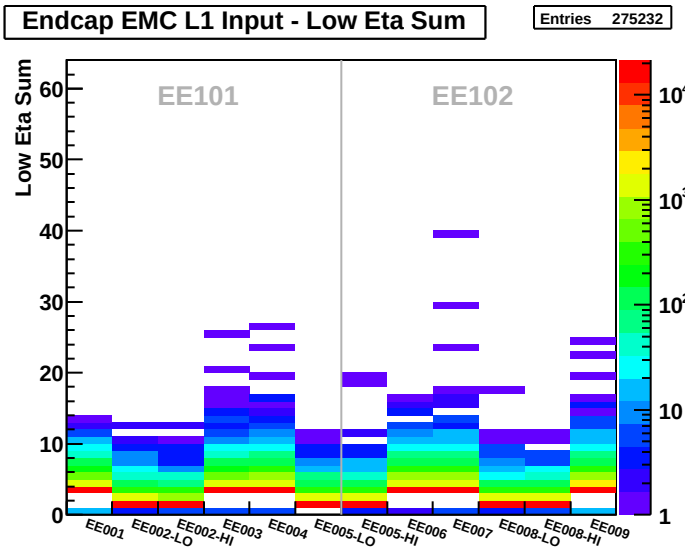

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

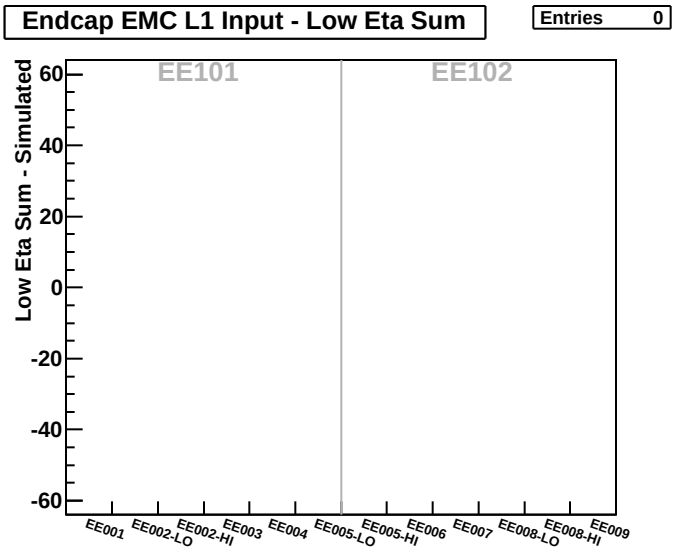

Barrel EMC L1 Input - High Eta Sum
Entries 825696
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

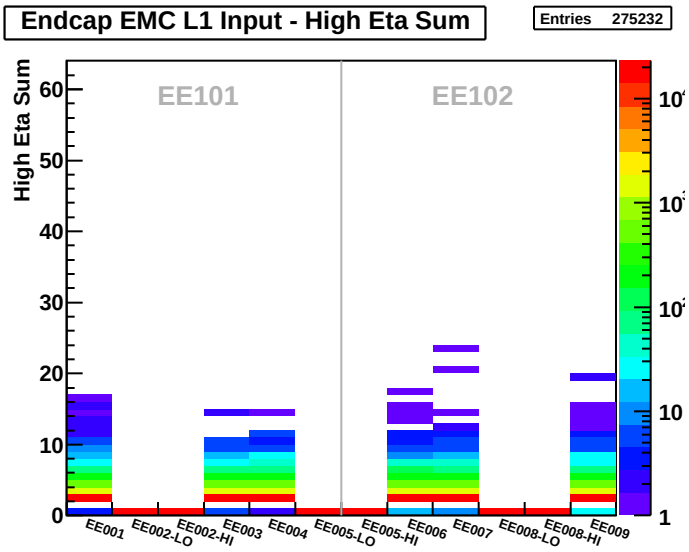

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

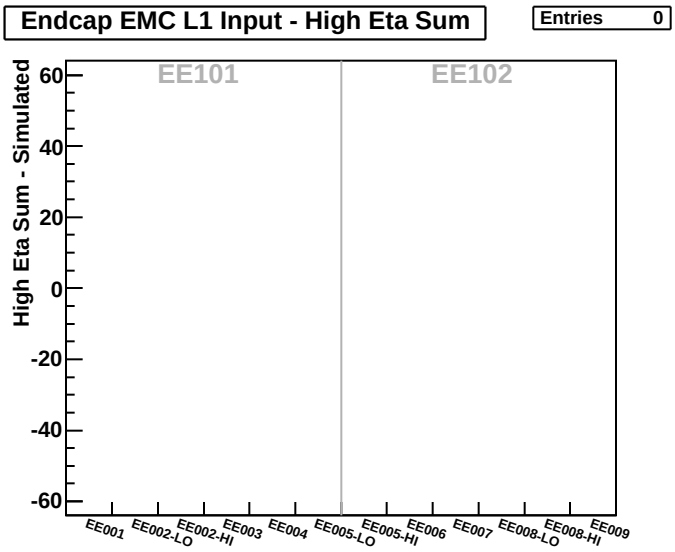

Barrel EMC L1 Input - High Tower Bits
Entries 825696
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

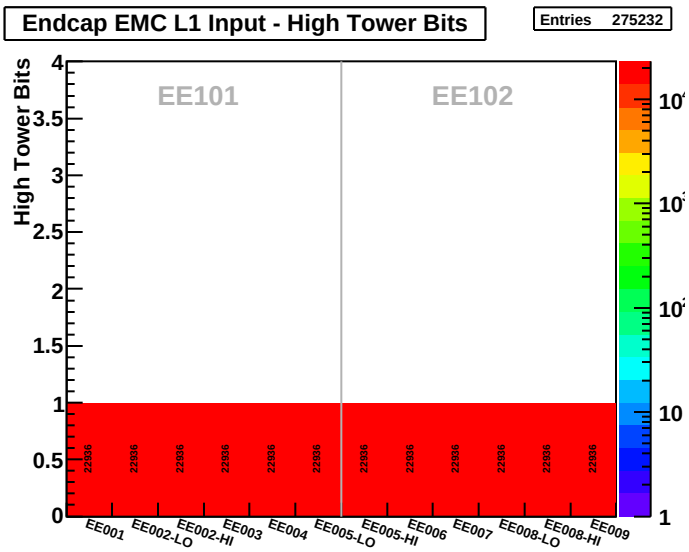

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

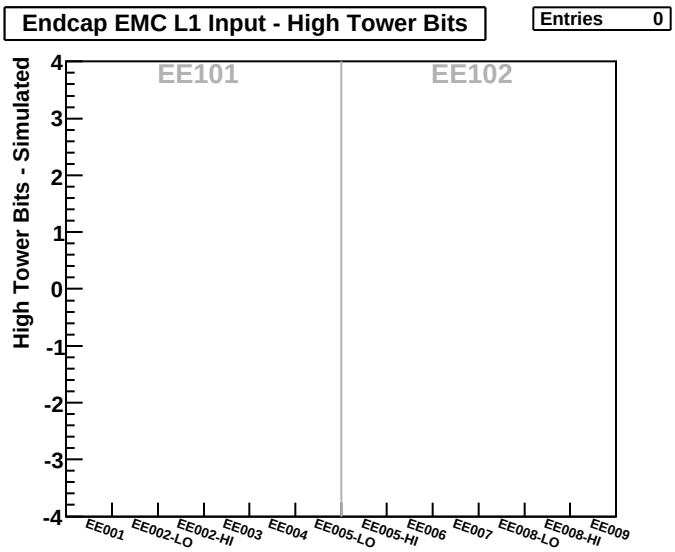

Endcap EMC L1 Input - Low Eta Sum
Entries 275232
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

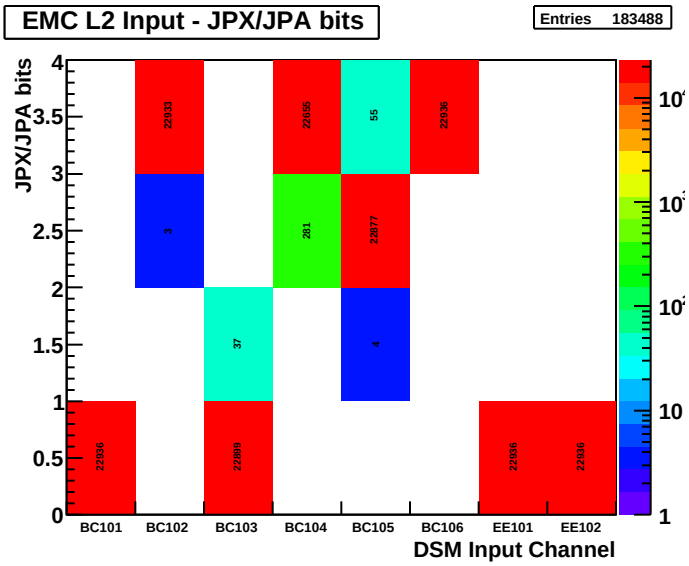

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

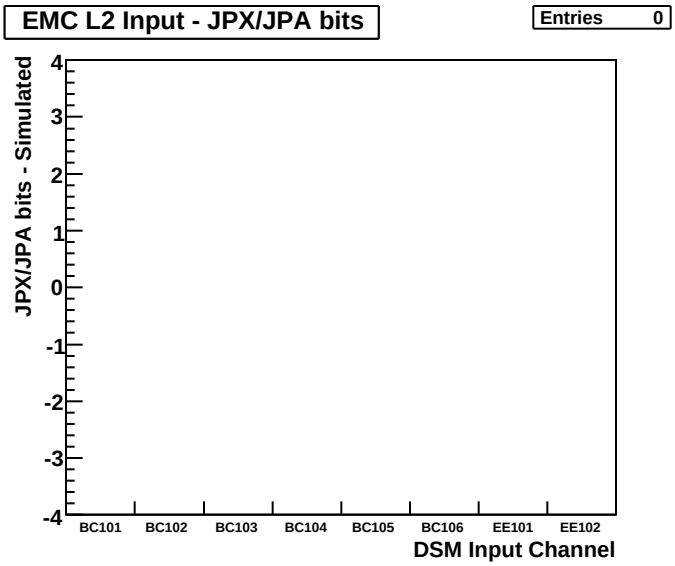

Endcap EMC L1 Input - High Eta Sum
Entries 275232
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

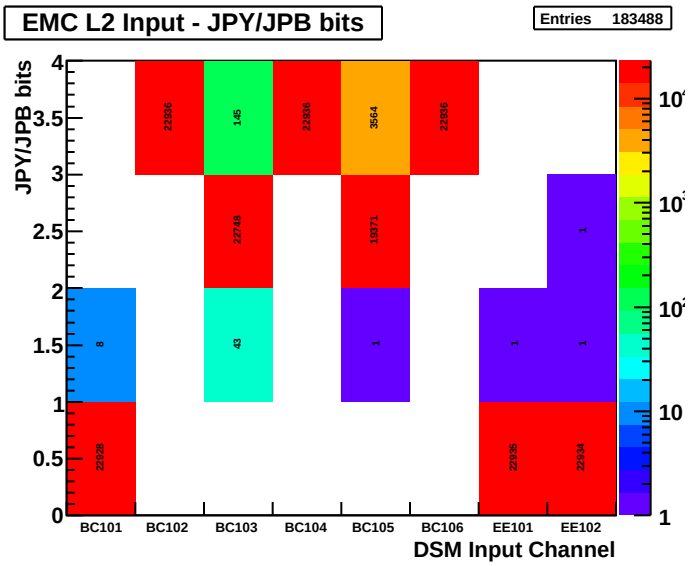

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

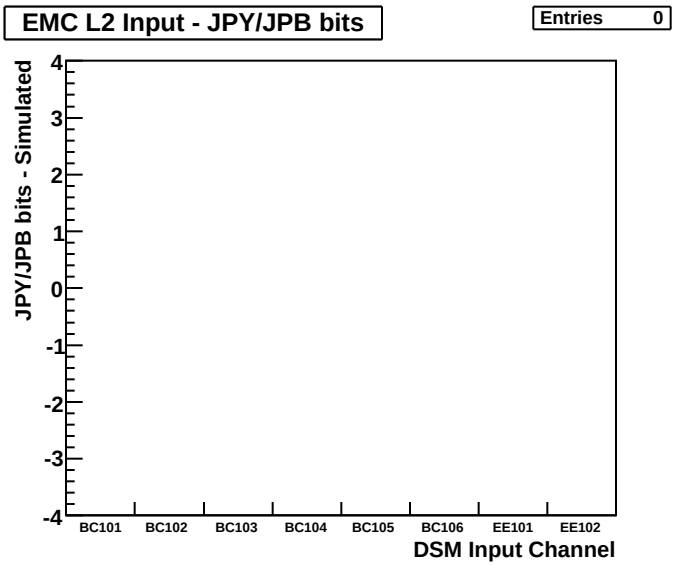

Endcap EMC L1 Input - High Tower Bits
Entries 275232
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

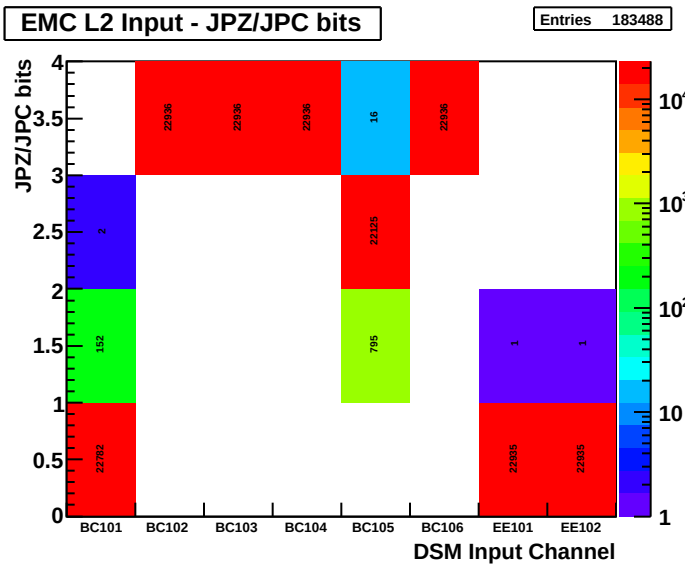

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

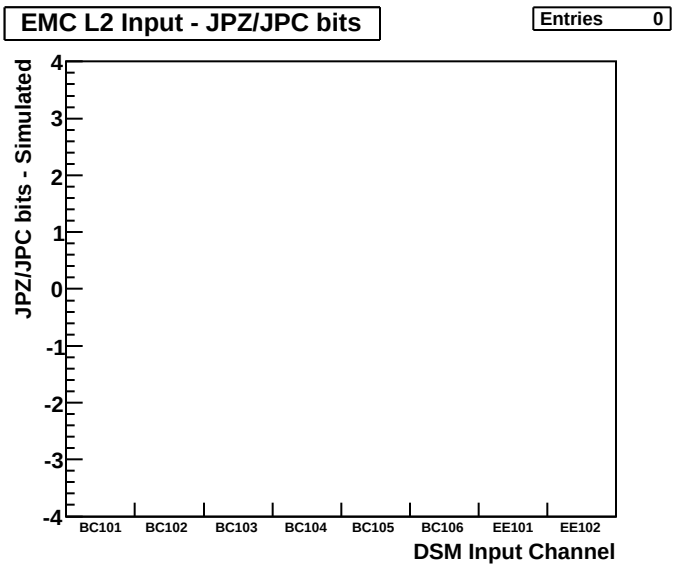

EMC L2 Input - JPX/JPA bits
Entries 183488
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
22936
3
22933
37
22899
281
22655
22877
4
55
22936
22936
22936

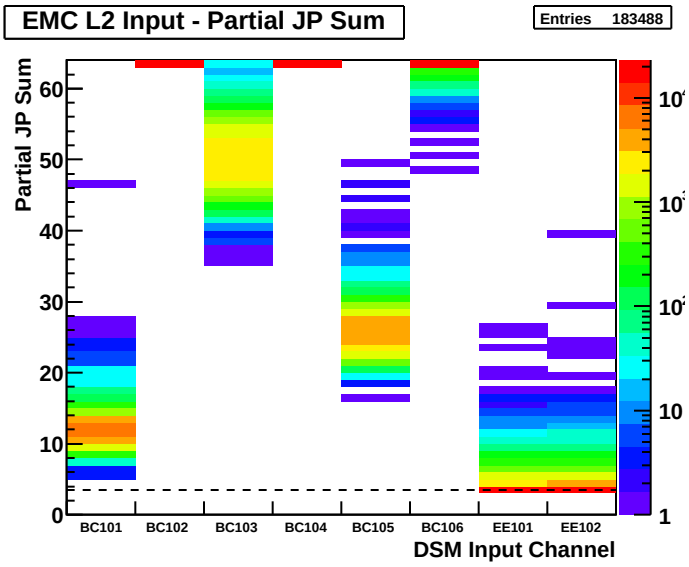

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

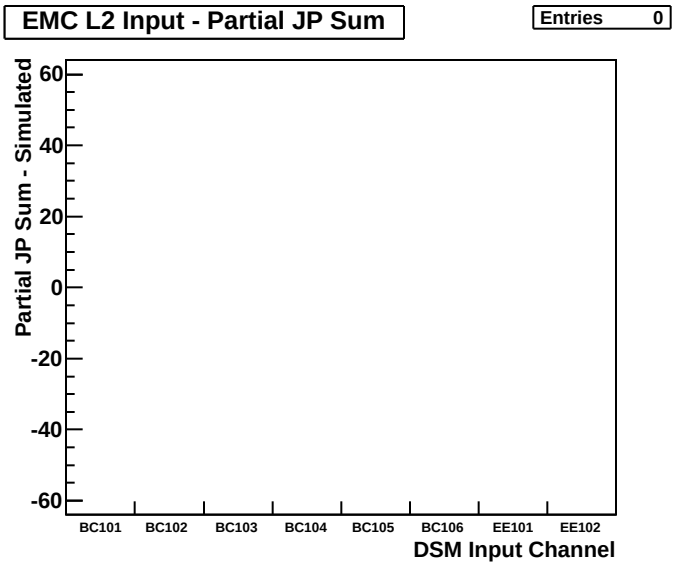

EMC L2 Input - JPY/JPB bits
Entries 183488
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
22928
8
22748
43
18371
1
22936
145
22936
3564
22936
1
1
22935
22934

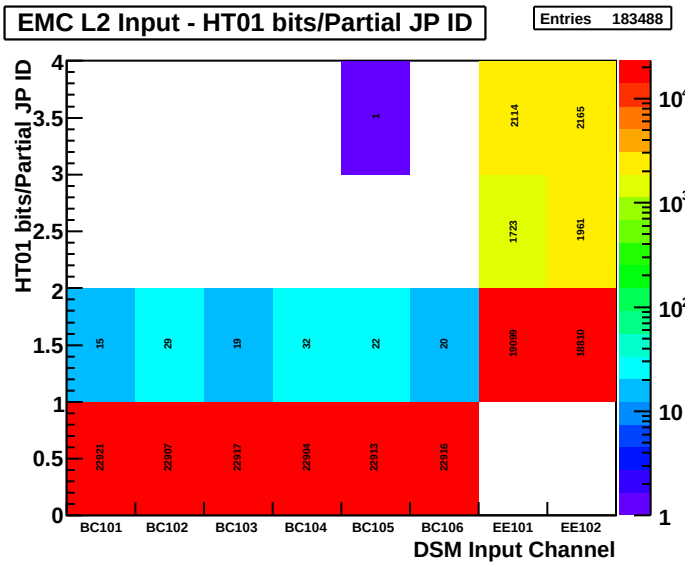

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

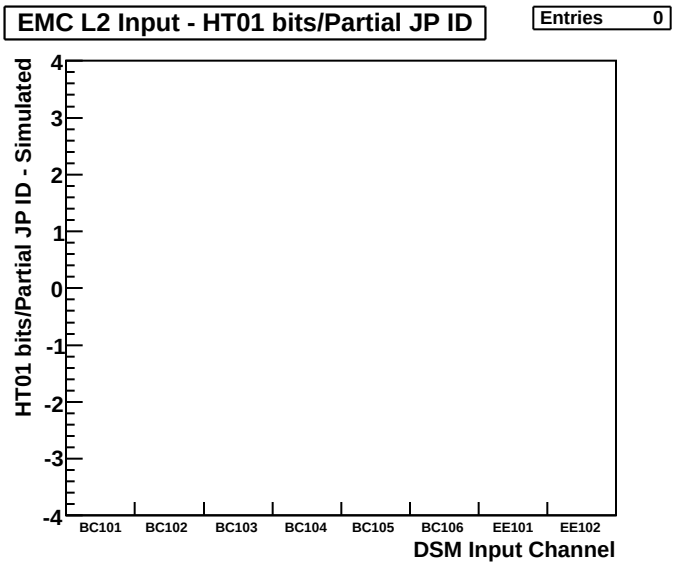

EMC L2 Input - JPZ/JPC bits
Entries 183488
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
22762
152
2
22125
795
16
22936
22936
22936
1
1
22935
22935

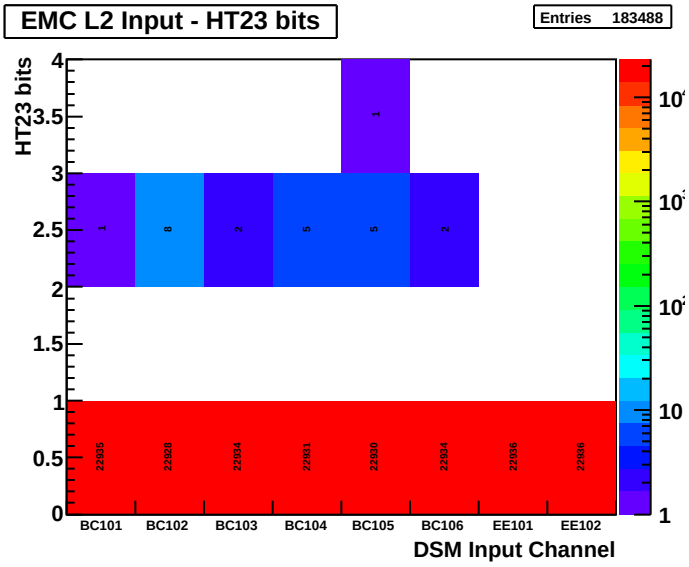

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

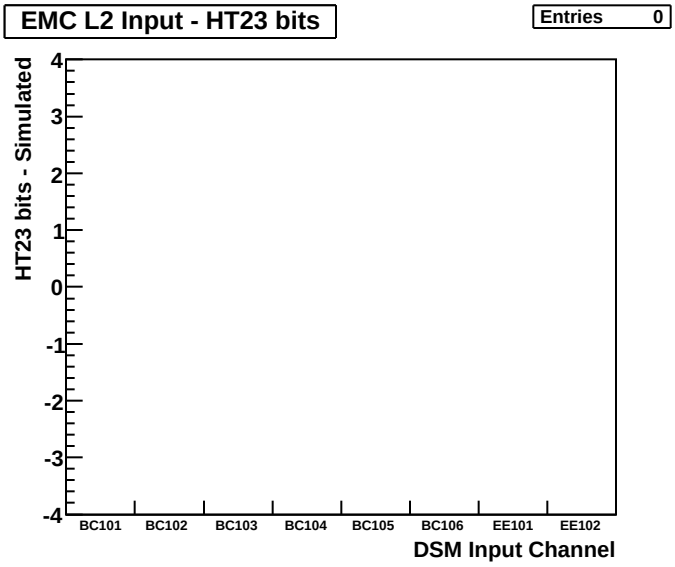

EMC L2 Input - Partial JP Sum
Entries 183488
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

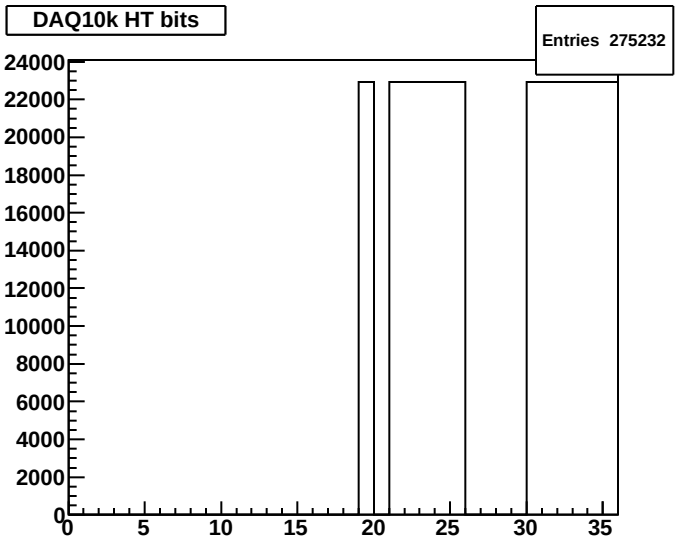

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

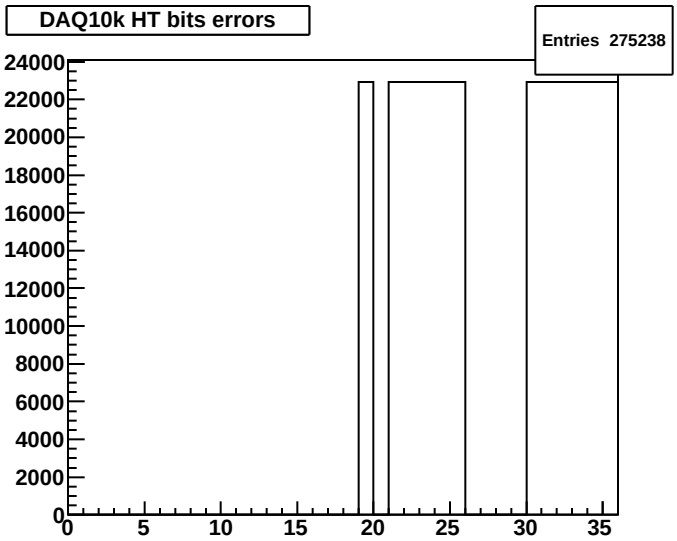

EMC L2 Input - HT01 bits/Partial JP ID
Entries 183488
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

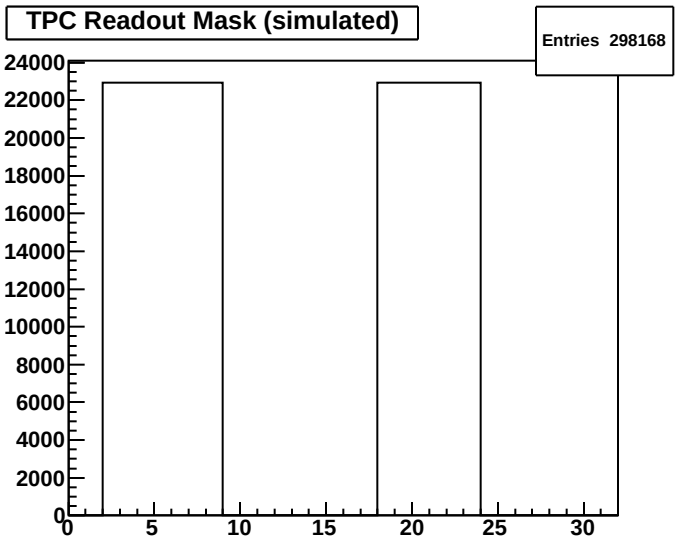

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

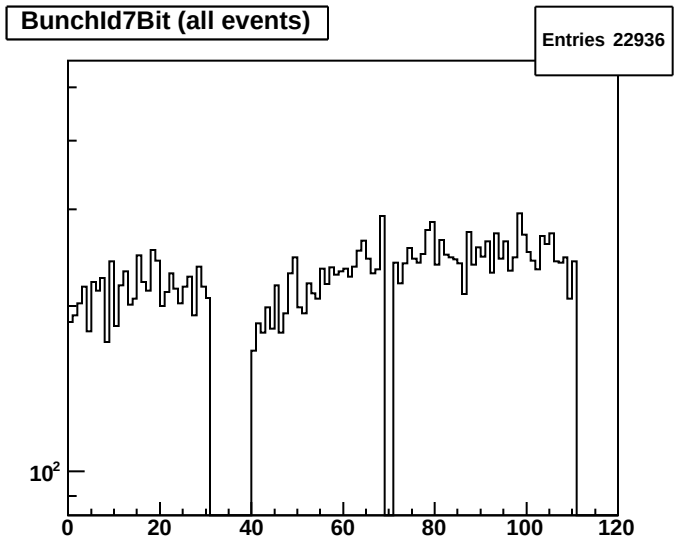

EMC L2 Input - HT23 bits
Entries 183488
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

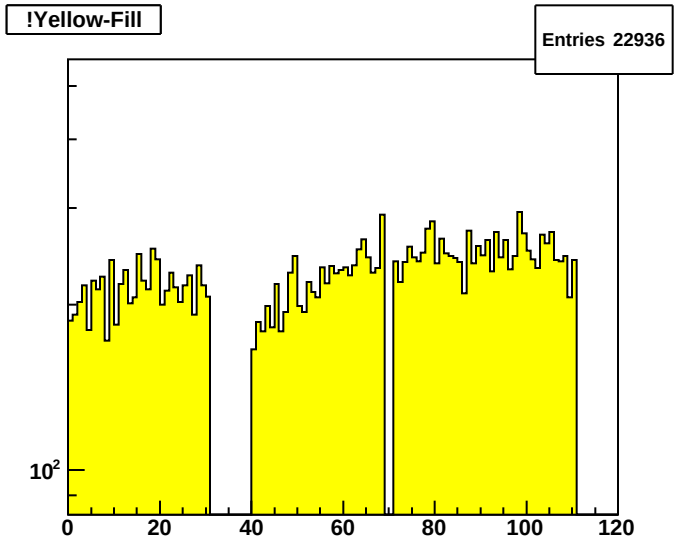

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

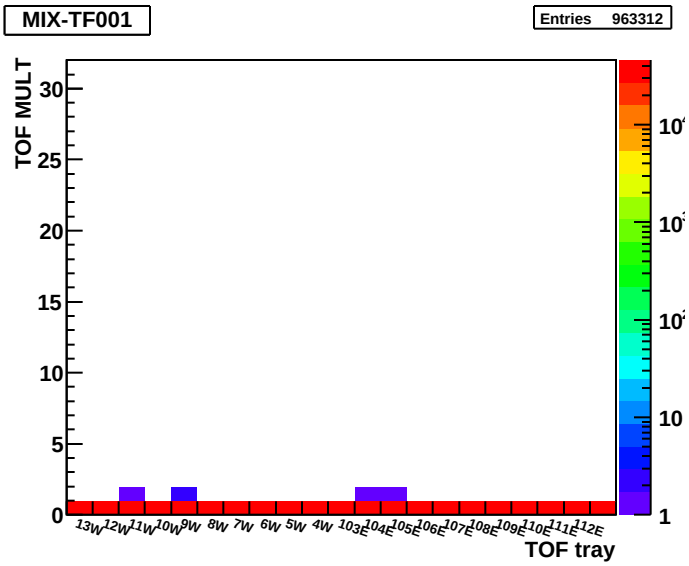

DAQ10k HT bits
Entries 275232
24000
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5
10
15
20
25
30
35

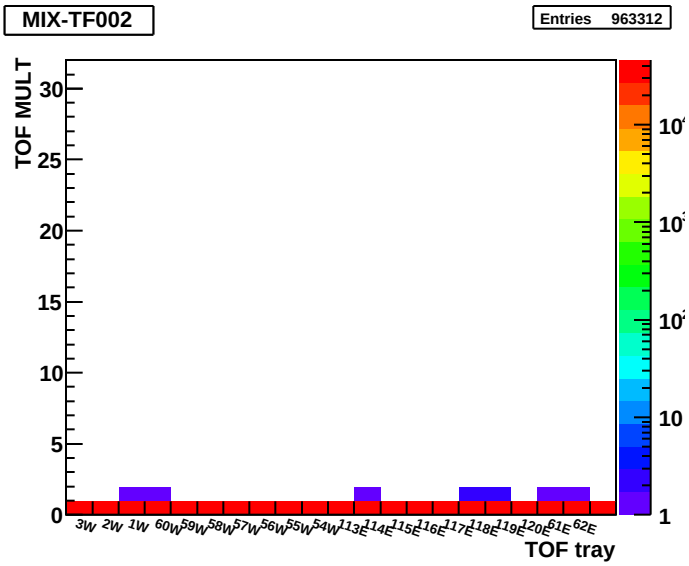

DAQ10k HT bits errors
Entries 275238
24000
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5
10
15
20
25
30
35

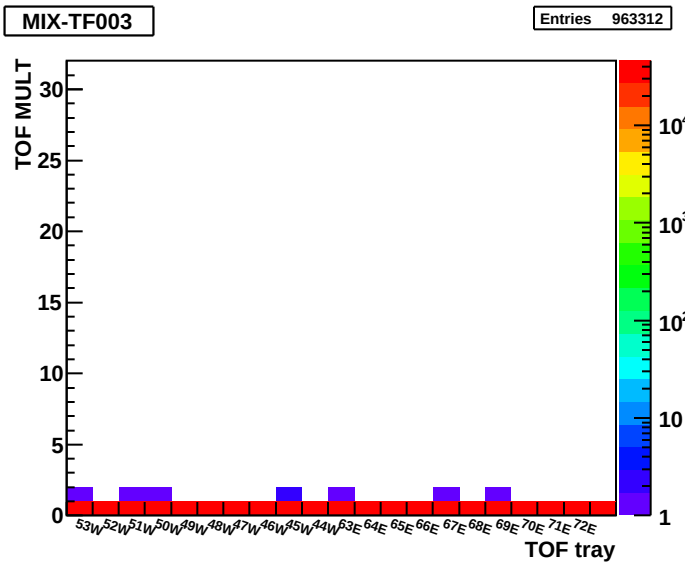

TPC Readout Mask (simulated)
Entries 298168
24000
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
5
10
15
20
25
30

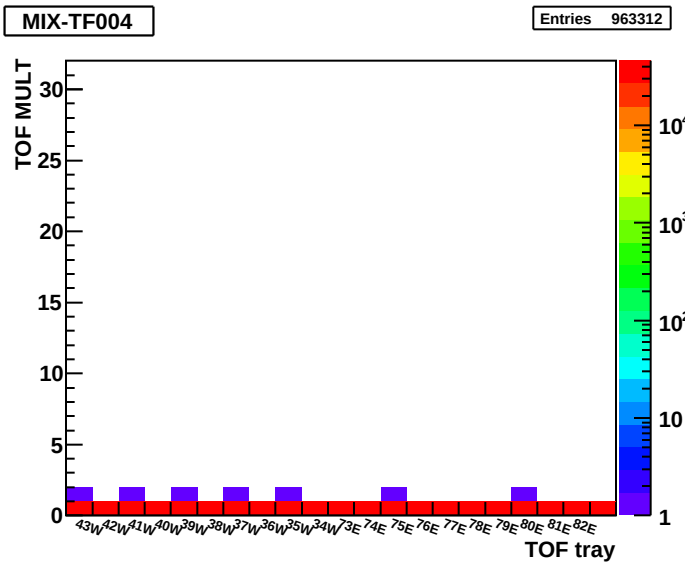

BunchId7Bit (all events)
Entries 22936
$10^2$
0
20
40
60
80
100
120

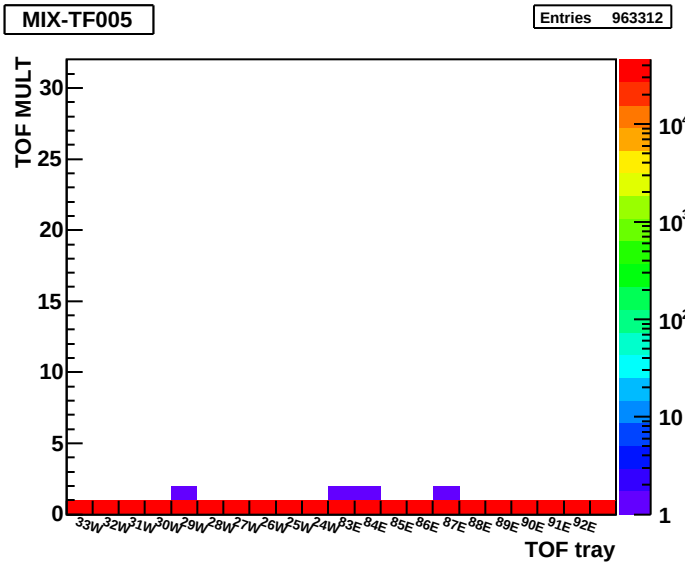

!Yellow-Fill
Entries 22936
$10^2$
0
20
40
60
80
100
120

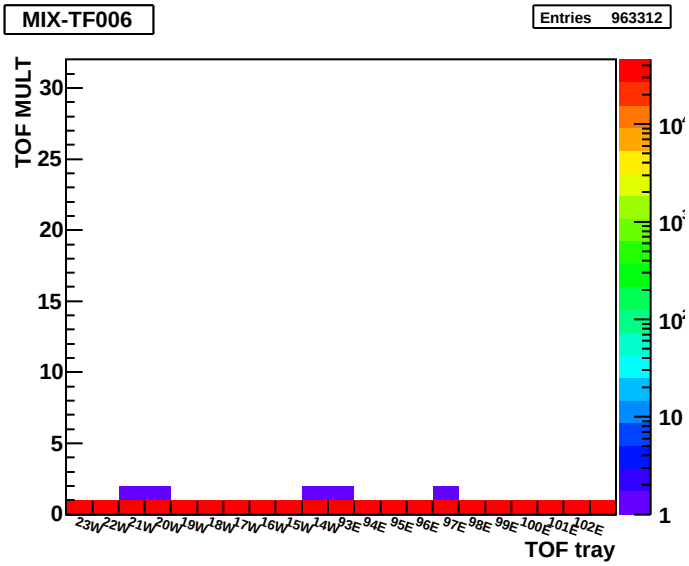

MIX-TF001
Entries 963312
TOF MULT
TOF tray

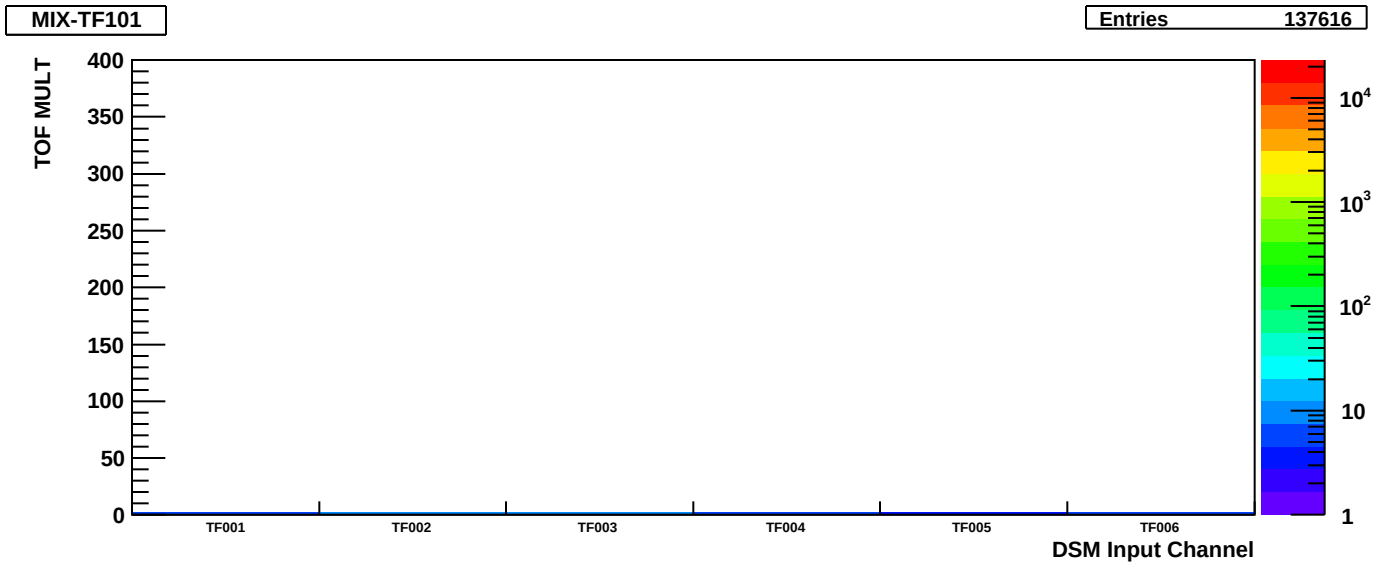

MIX-TF002
Entries 963312
TOF MULT
TOF tray

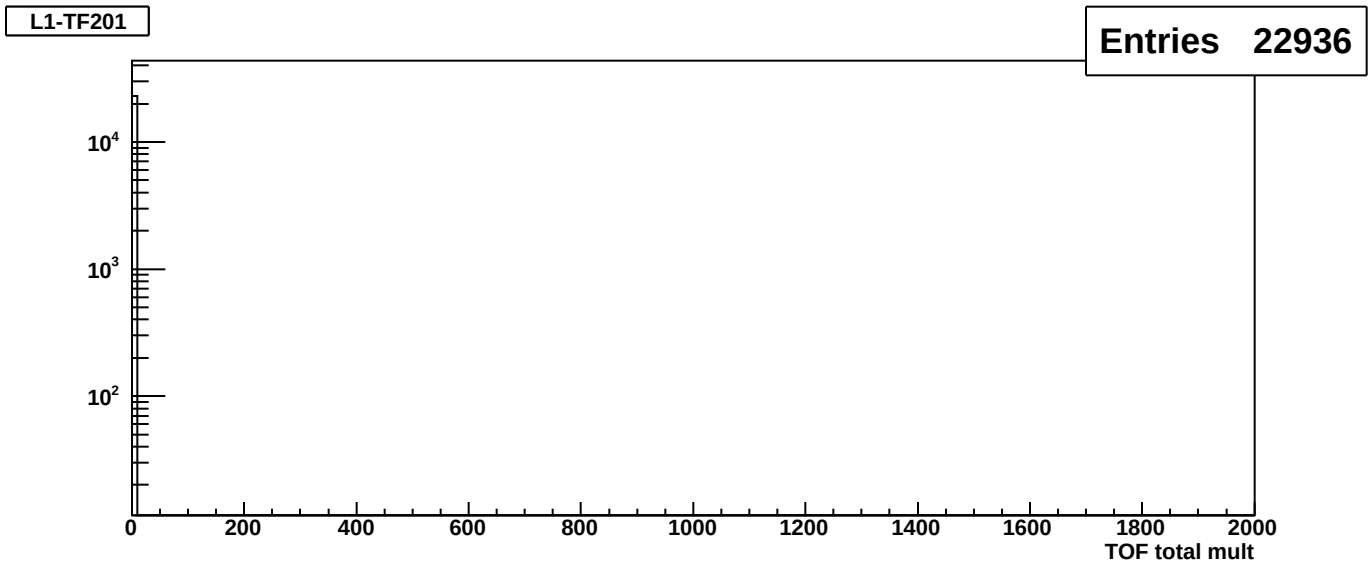

MIX-TF003
Entries 963312
TOF MULT
TOF tray

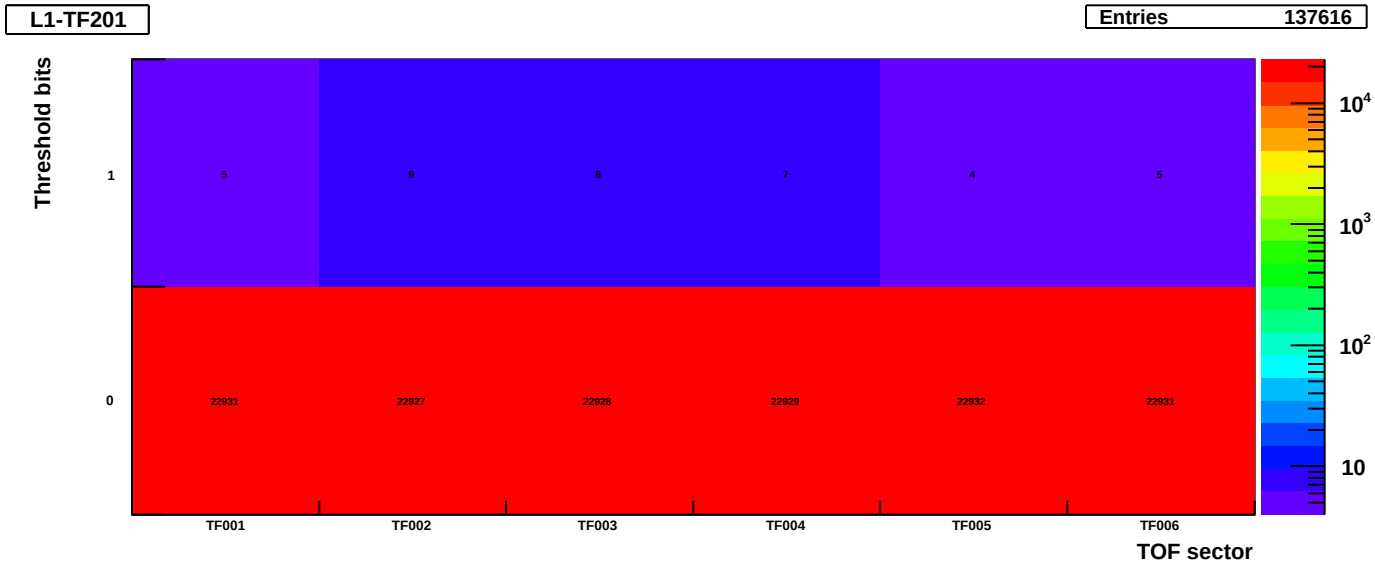

MIX-TF004
Entries 963312
TOF MULT
TOF tray

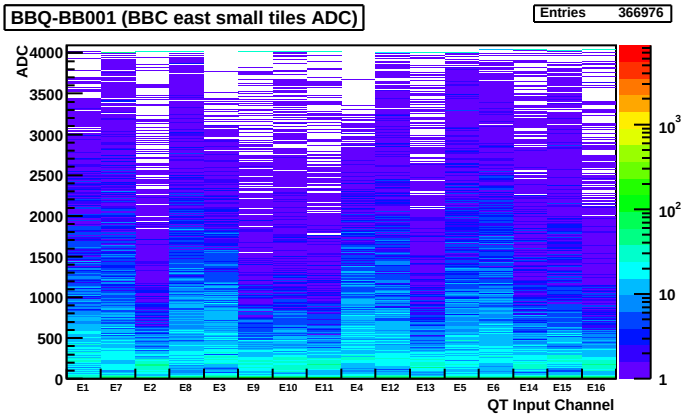

MIX-TF005
Entries 963312
TOF MULT
TOF tray

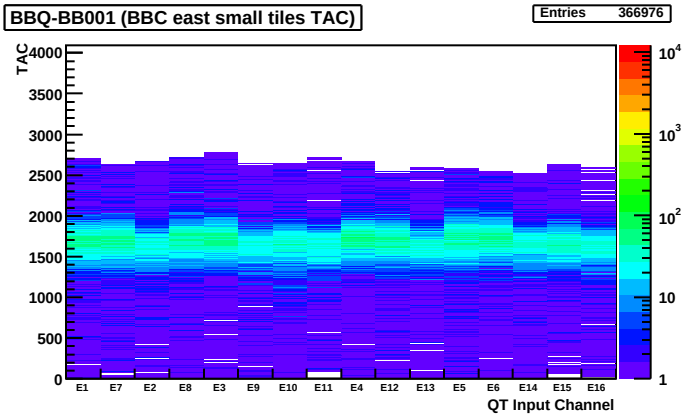

MIX-TF006
Entries 963312
TOF MULT
TOF tray

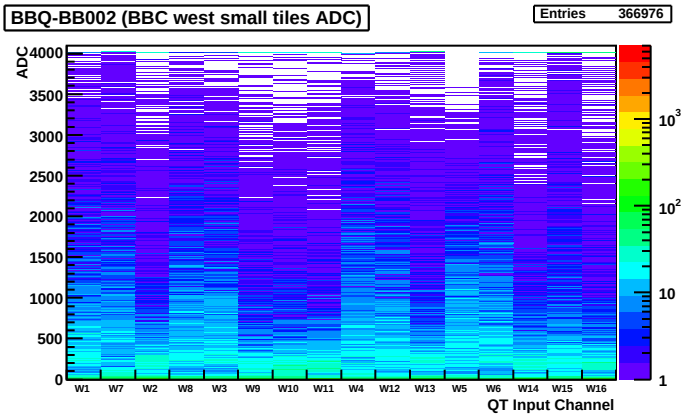

MIX-TF101
Entries 137616
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
$10^4$
$10^3$
$10^2$
10
1

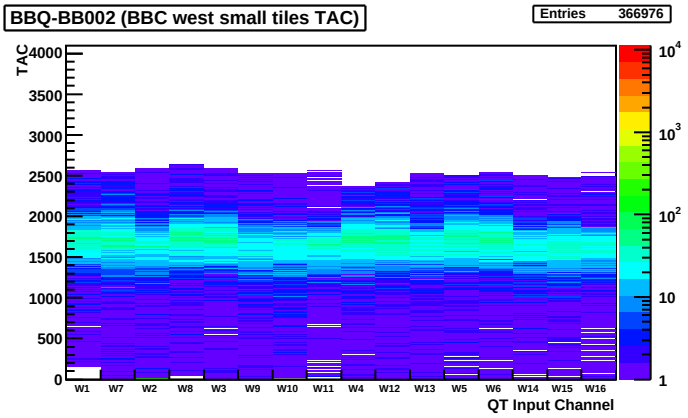

L1-TF201
Entries 22936
$10^4$
$10^3$
$10^2$
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

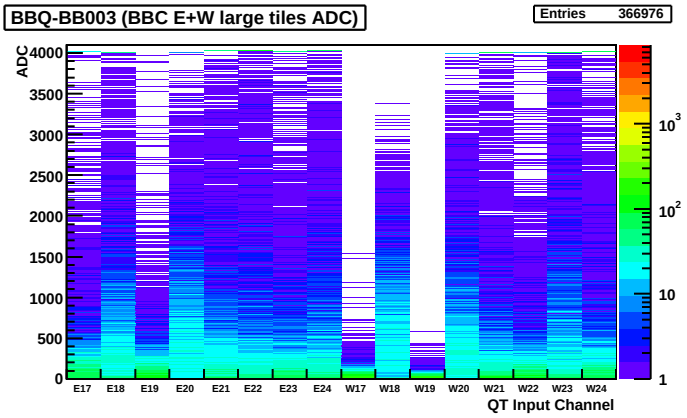

L1-TF201
Entries 137616
Threshold bits
1
0
5
9
8
7
4
5
22931
22927
22928
22929
22932
22931
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
$10^4$
$10^3$
$10^2$
10

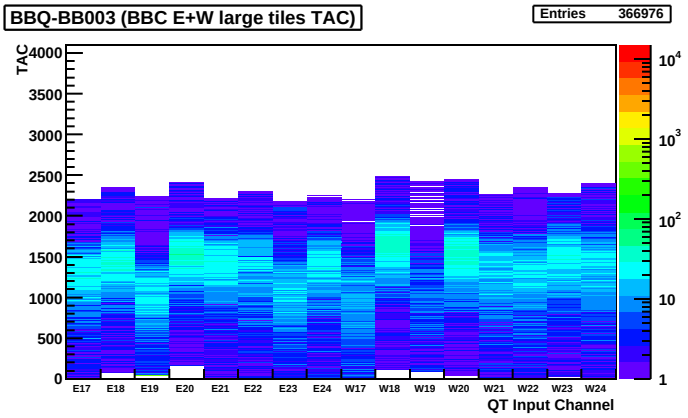

BBQ-BB001 (BBC east small tiles ADC)
Entries 366976
ADC
QT Input Channel

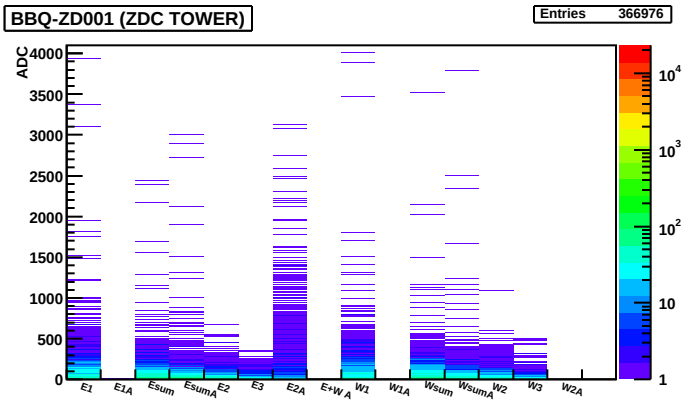

BBQ-BB001 (BBC east small tiles TAC)
Entries 366976
TAC
QT Input Channel

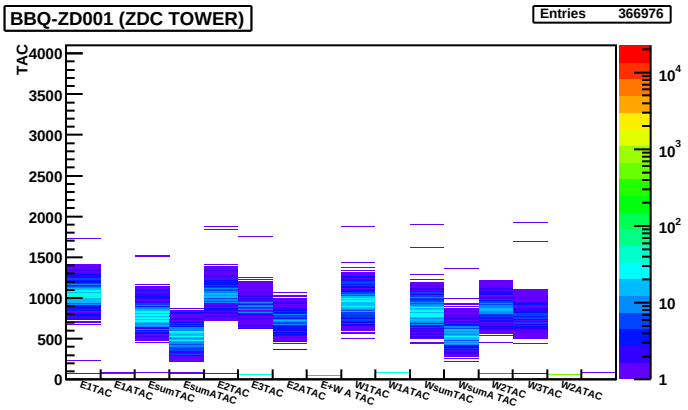

BBQ-BB002 (BBC west small tiles ADC)
Entries 366976
ADC
QT Input Channel

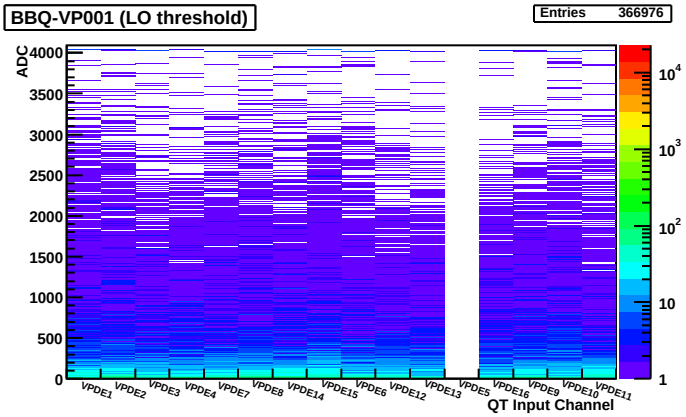

BBQ-BB002 (BBC west small tiles TAC)
Entries 366976
TAC
QT Input Channel

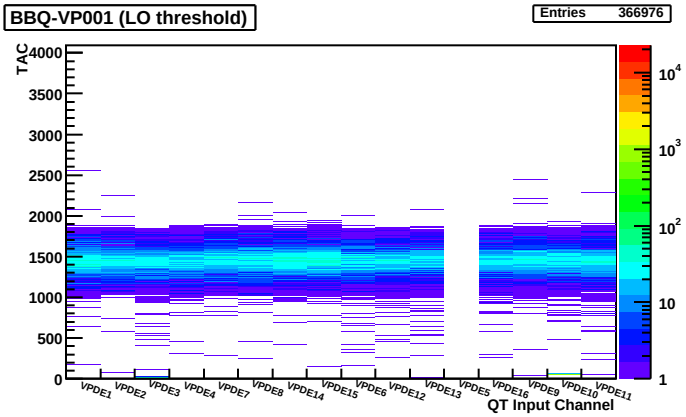

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 366976
ADC
QT Input Channel

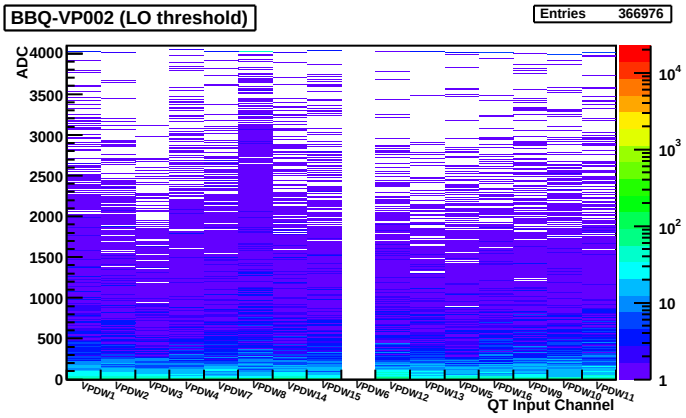

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 366976
TAC
QT Input Channel

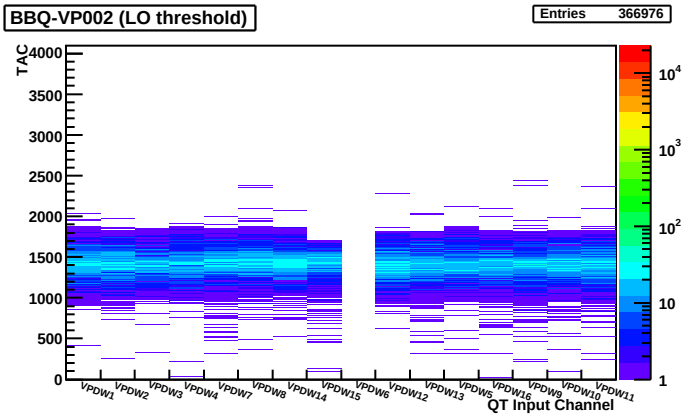

BBQ-ZD001 (ZDC TOWER)
Entries 366976
ADC

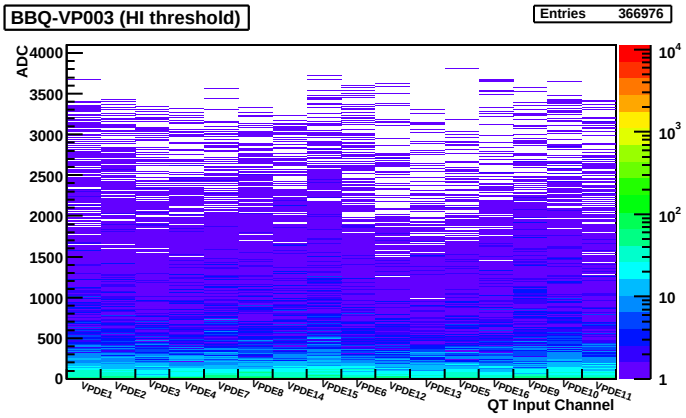

BBQ-ZD001 (ZDC TOWER)
Entries 366976
TAC

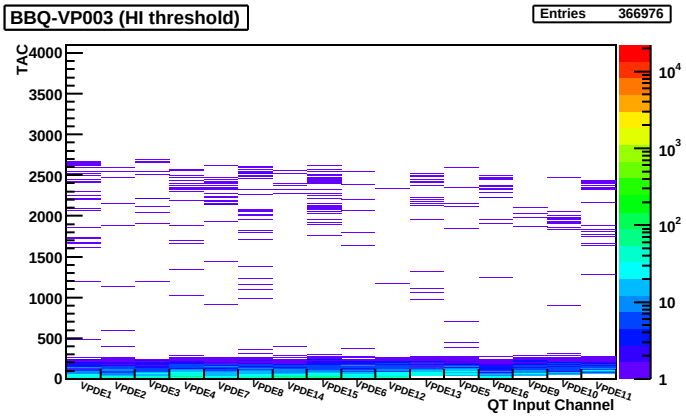

BBQ-VP001 (LO threshold)
Entries 366976
ADC
QT Input Channel

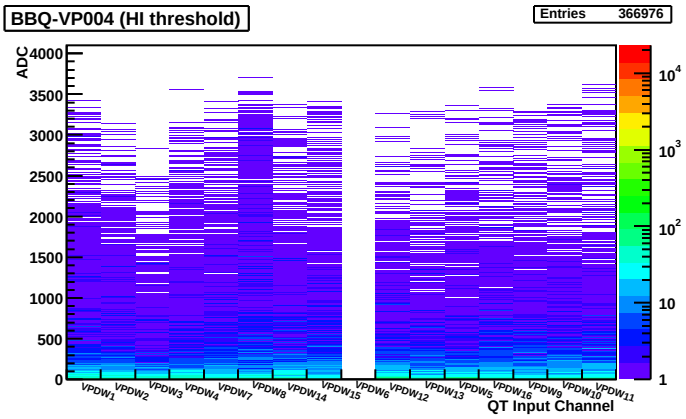

BBQ-VP001 (LO threshold)
Entries 366976
TAC
QT Input Channel

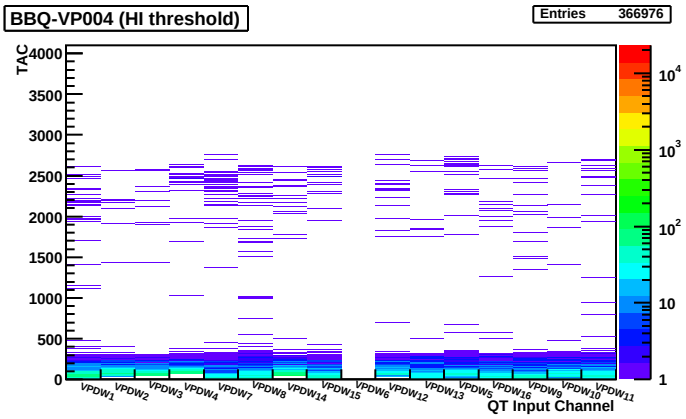

BBQ-VP002 (LO threshold)
Entries 366976
ADC
QT Input Channel

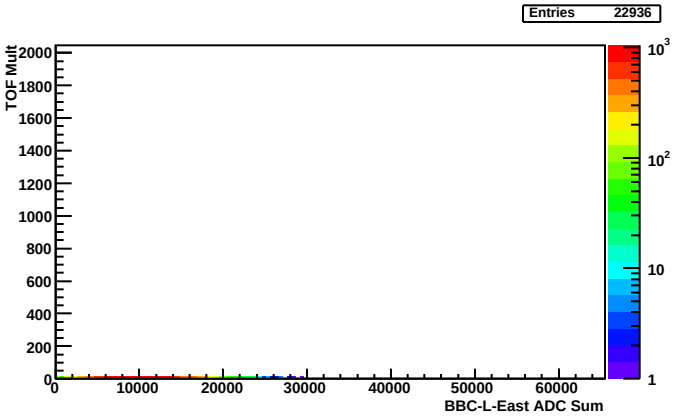

BBQ-VP002 (LO threshold)
Entries 366976
TAC
QT Input Channel

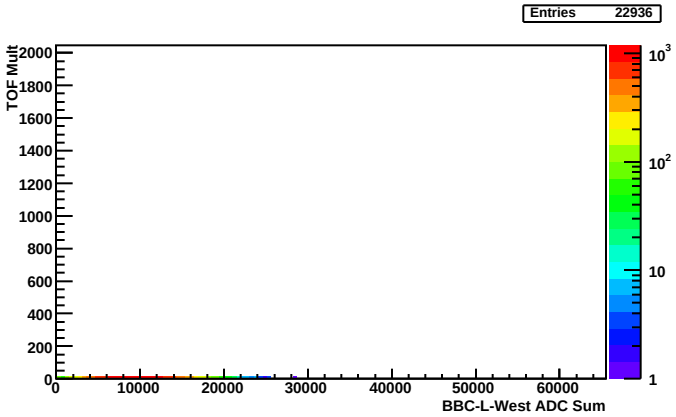

BBQ-VP003 (HI threshold)
Entries 366976
ADC
QT Input Channel

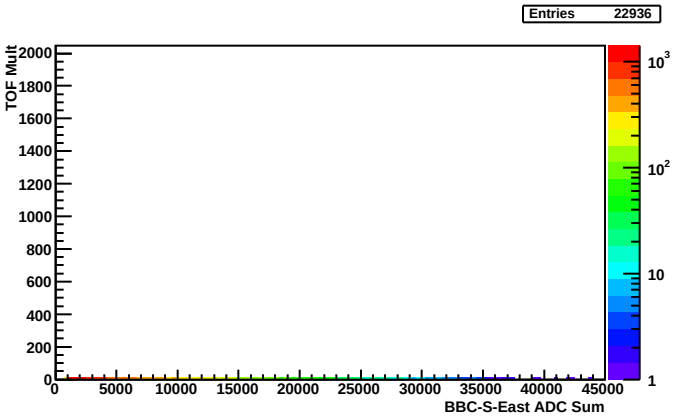

BBQ-VP003 (HI threshold)
Entries 366976
TAC
QT Input Channel

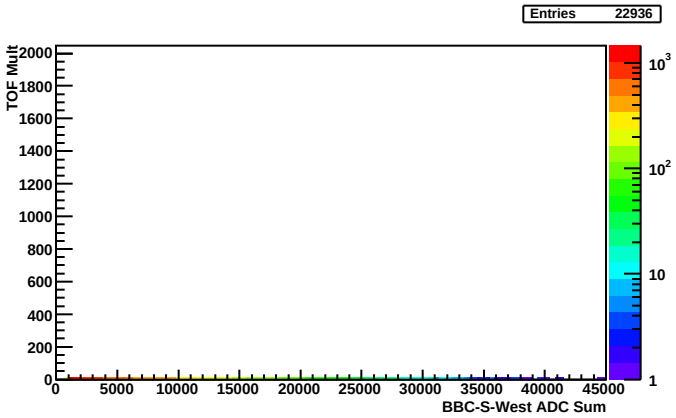

BBQ-VP004 (HI threshold)
Entries 366976
ADC
QT Input Channel

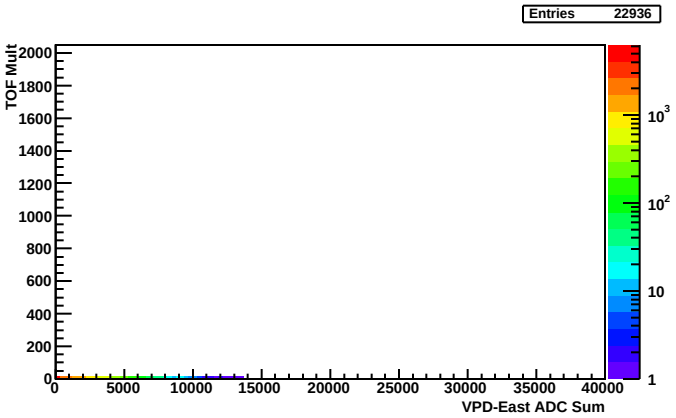

BBQ-VP004 (HI threshold)
Entries 366976
TAC
QT Input Channel

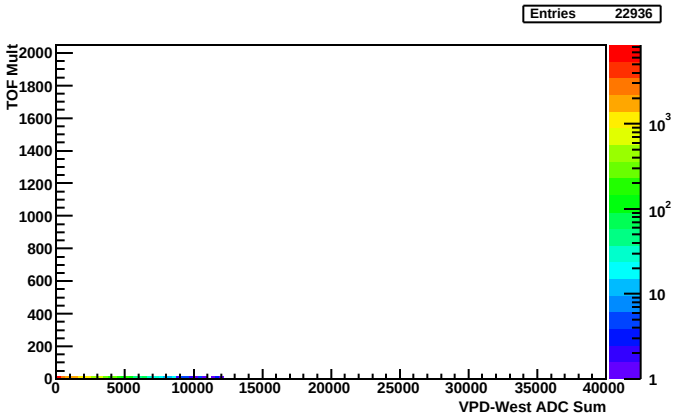

Entries 22936
TOF Mult
BBC-L-East ADC Sum

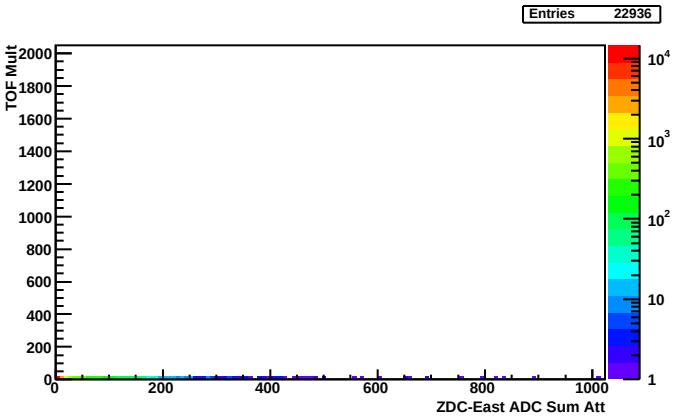

Entries 22936
TOF Mult
BBC-L-West ADC Sum

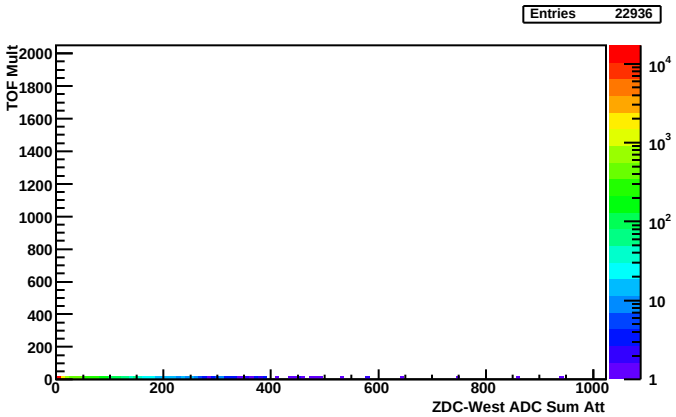

Entries 22936
TOF Mult
BBC-S-East ADC Sum

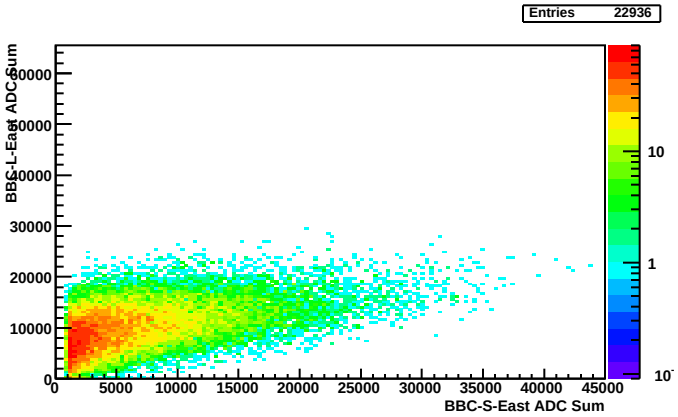

Entries 22936
TOF Mult
BBC-S-West ADC Sum

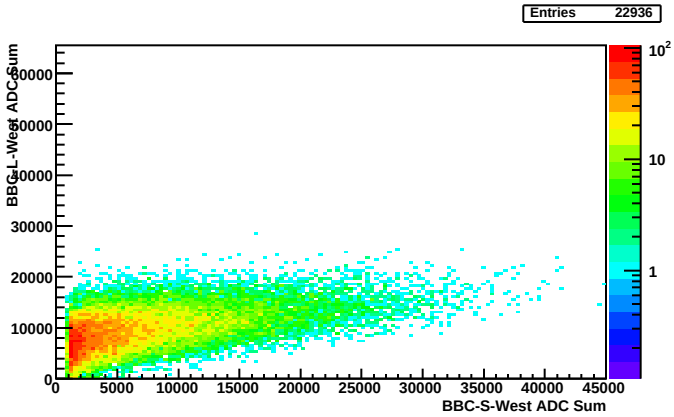

Entries 22936
TOF Mult
VPD-East ADC Sum

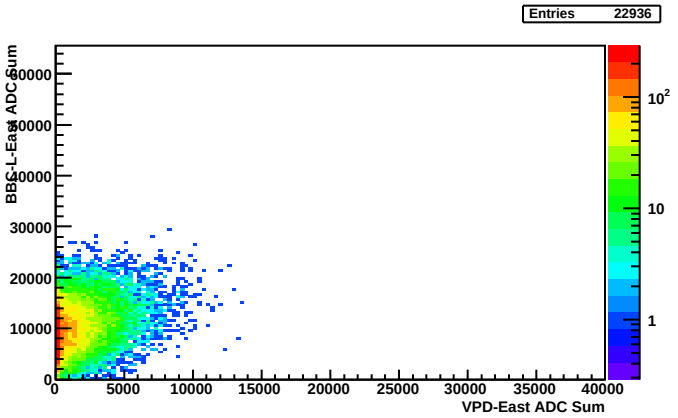

Entries 22936
TOF Mult
VPD-West ADC Sum

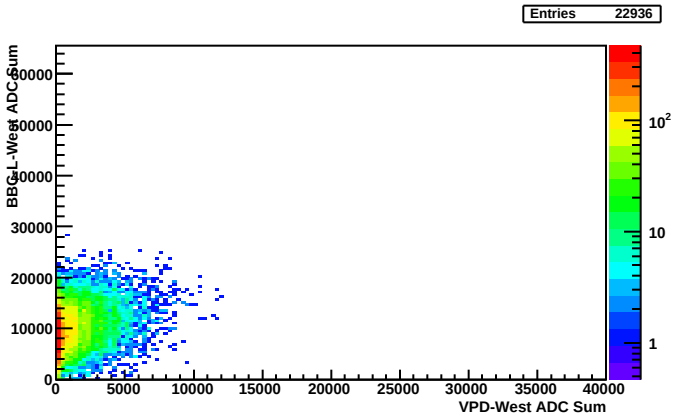

Entries 22936
TOF Mult
ZDC-East ADC Sum Att

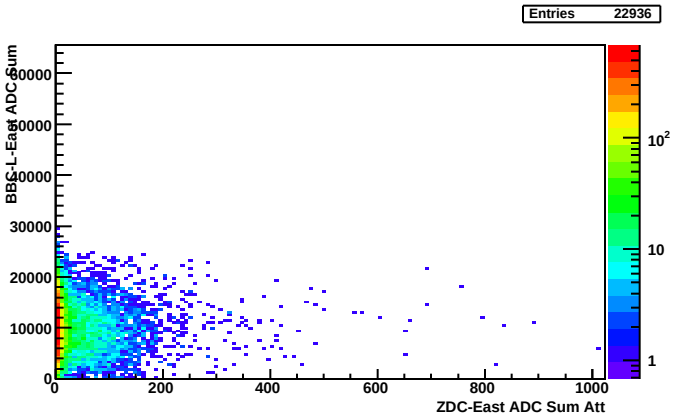

Entries 22936
TOF Mult
ZDC-West ADC Sum Att

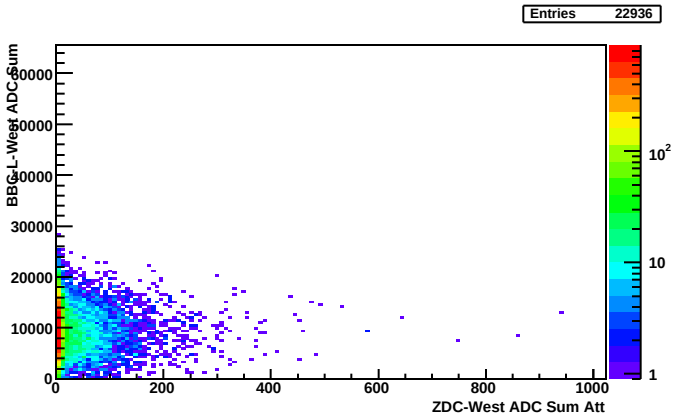

Entries 22936
BBC-L-East ADC Sum
BBC-S-East ADC Sum

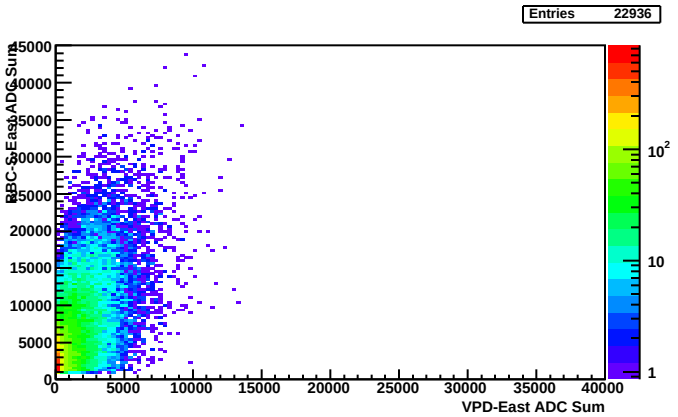

Entries 22936
BBC-L-West ADC Sum
BBC-S-West ADC Sum

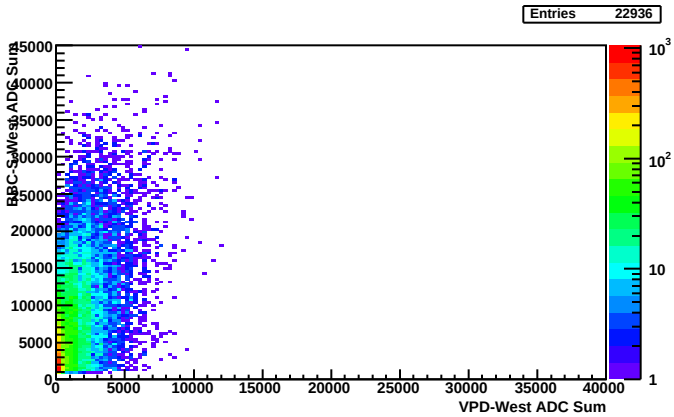

Entries 22936
BBC-L-East ADC Sum
VPD-East ADC Sum

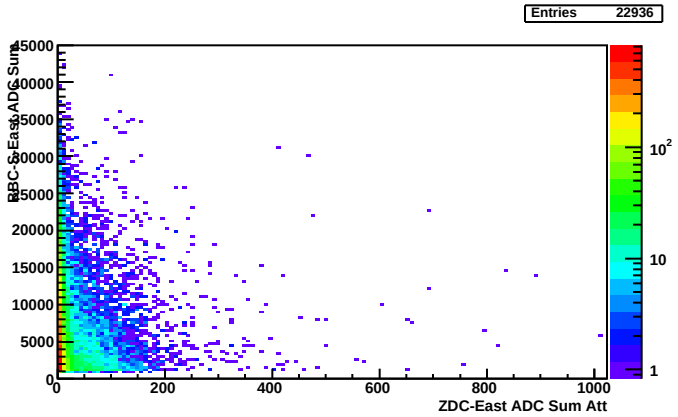

Entries 22936
BBC-L-West ADC Sum
VPD-West ADC Sum

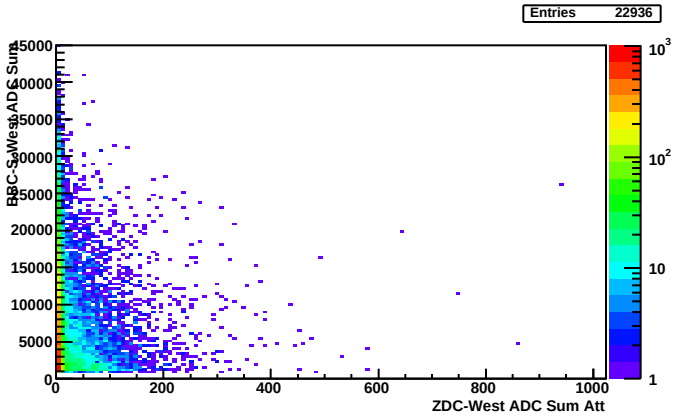

Entries 22936
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

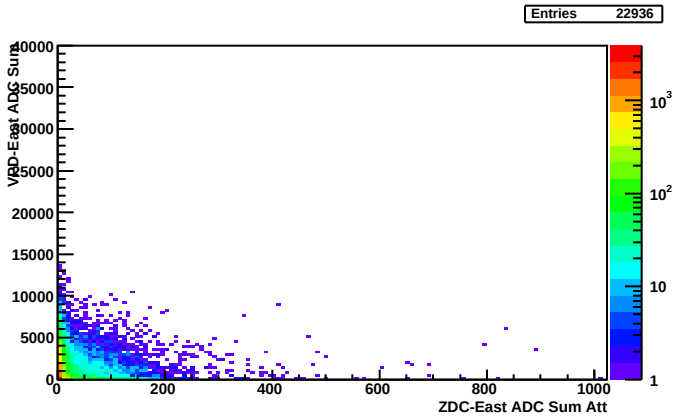

Entries 22936
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

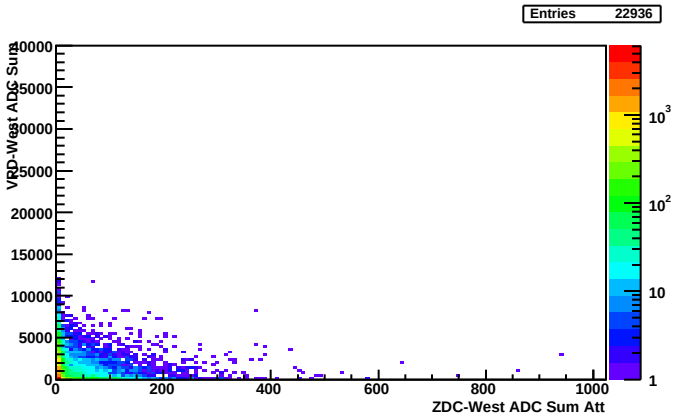

Entries 22936
BBC-S-East ADC Sum
VPD-East ADC Sum

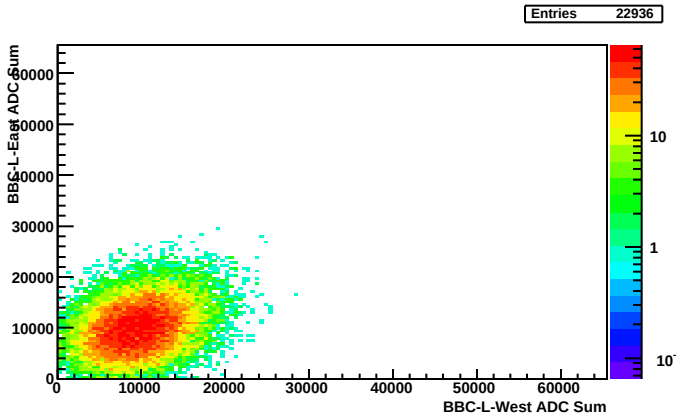

Entries 22936
BBC-S-West ADC Sum
VPD-West ADC Sum

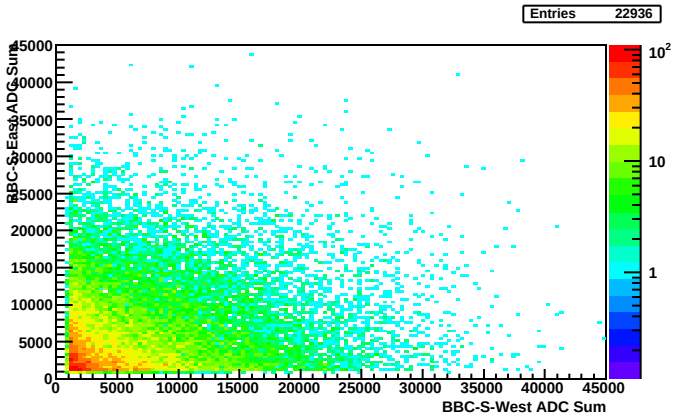

Entries 22936
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

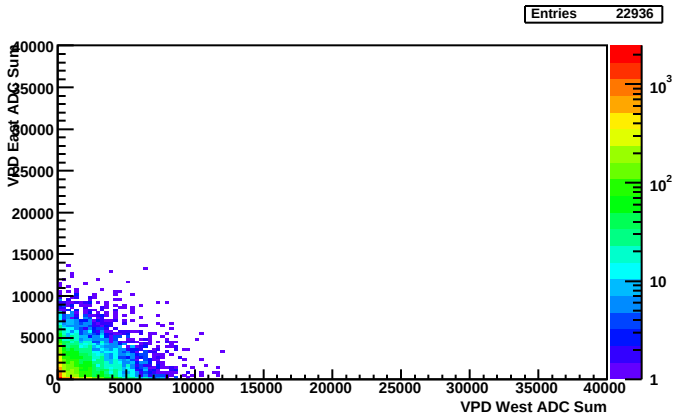

Entries 22936
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

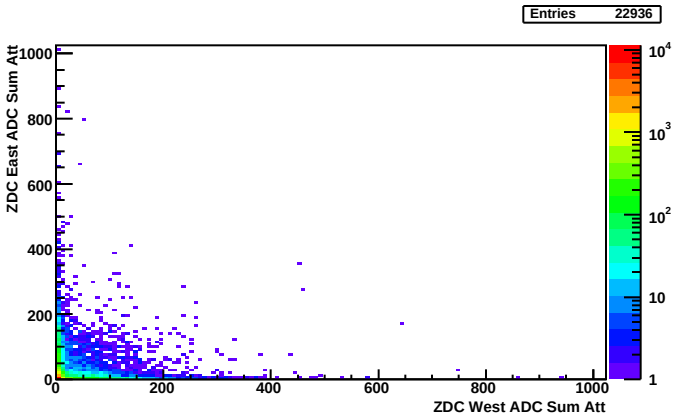

Entries 22936
VPD-East ADC Sum
ZDC-East ADC Sum Att

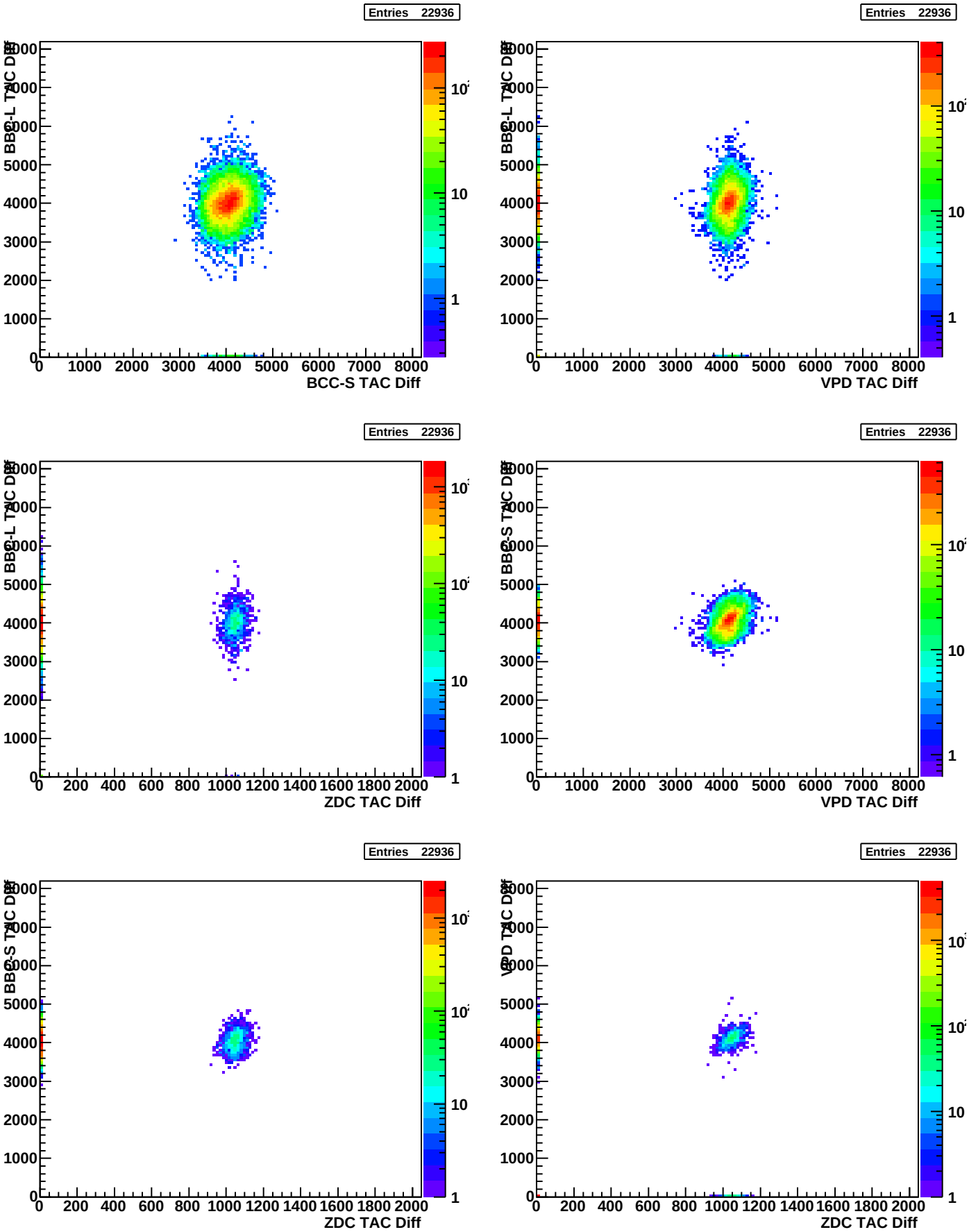

Entries 22936
VPD-West ADC Sum
ZDC-West ADC Sum Att

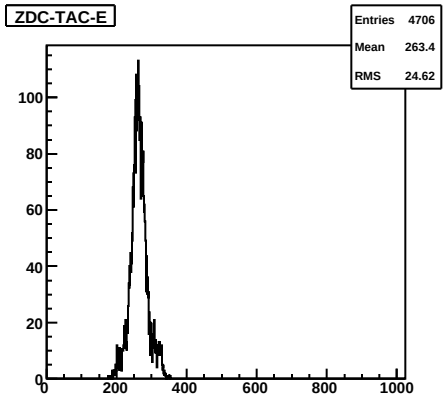

Entries 22936
BBC-L-East ADC Sum
BBC-L-West ADC Sum

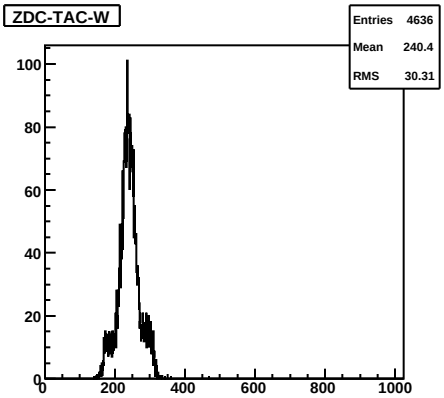

Entries 22936
BBC-S-East ADC Sum
BBC-S-West ADC Sum

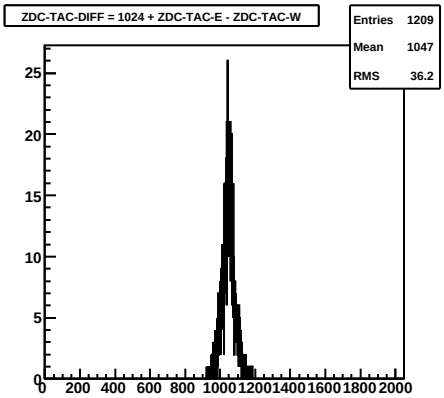

Entries 22936
VPD East ADC Sum
VPD West ADC Sum

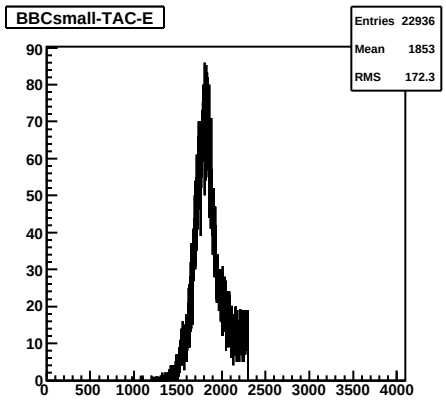

Entries 22936
ZDC East ADC Sum Att
ZDC West ADC Sum Att

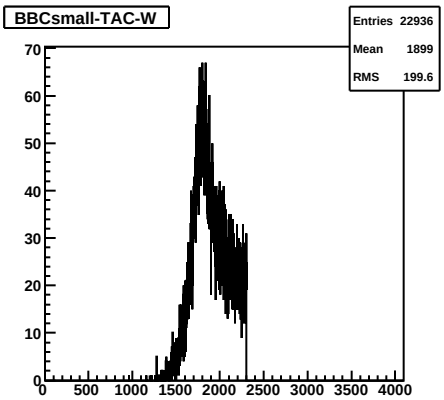

Entries 22936
BBC-L TAC Diff
BCC-S TAC Diff
Entries 22936
BBC-L TAC Diff
VPD TAC Diff
Entries 22936
BBC-L TAC Diff
ZDC TAC Diff
Entries 22936
BBC-S TAC Diff
VPD TAC Diff
Entries 22936
BBC-S TAC Diff
ZDC TAC Diff
Entries 22936
VPD TAC Diff
ZDC TAC Diff

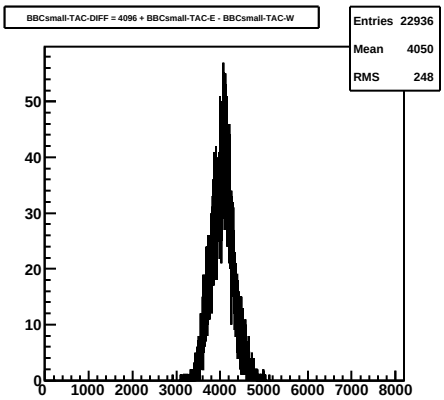

ZDC-TAC-E
Entries 4706
Mean 263.4
RMS 24.62

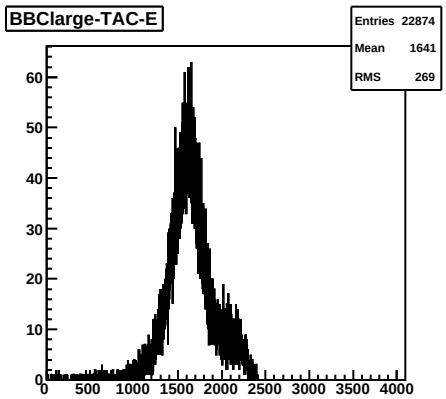

ZDC-TAC-W
Entries 4636
Mean 240.4
RMS 30.31

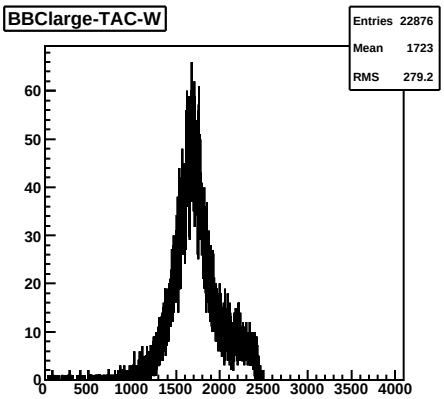

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 1209
Mean 1047
RMS 36.2

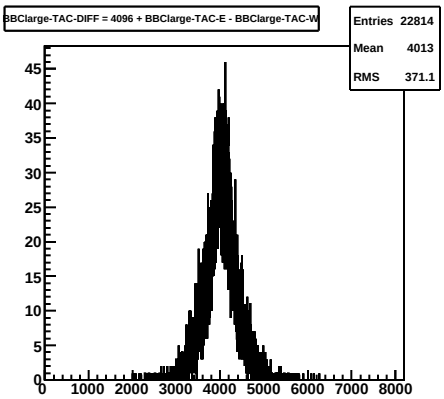

BBCsmall-TAC-E
Entries 22936
Mean 1853
RMS 172.3

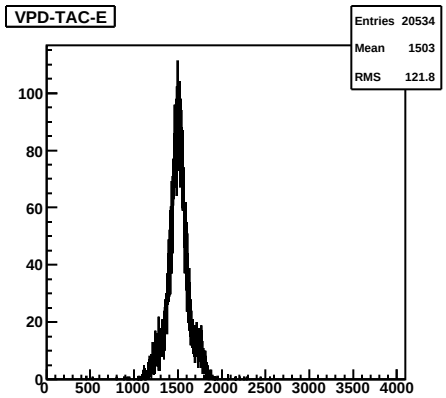

BBCsmall-TAC-W
Entries 22936
Mean 1899
RMS 199.6

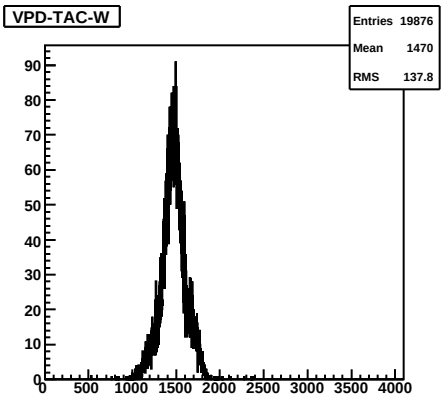

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 22936
Mean 4050
RMS 248

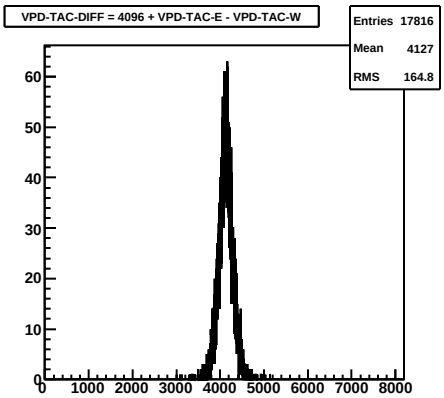

BBClarge-TAC-E
Entries 22874
Mean 1641
RMS 269

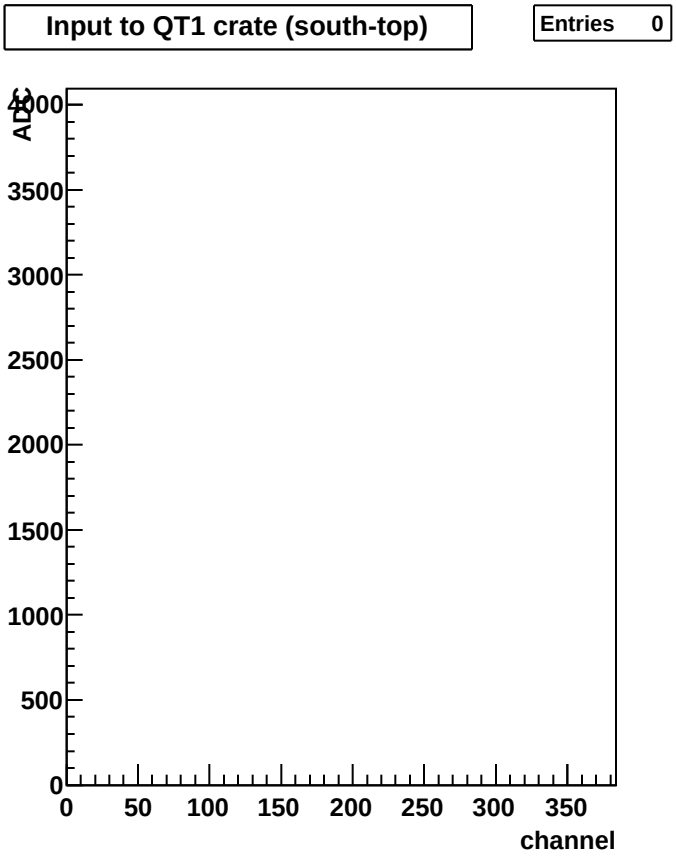

BBClarge-TAC-W
Entries 22876
Mean 1723
RMS 279.2

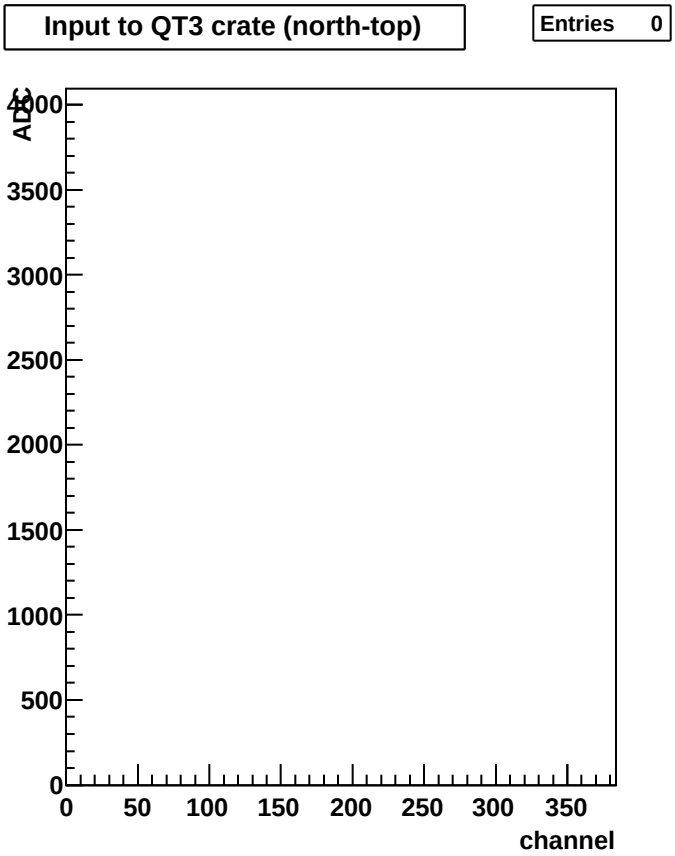

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 22814
Mean 4013
RMS 371.1

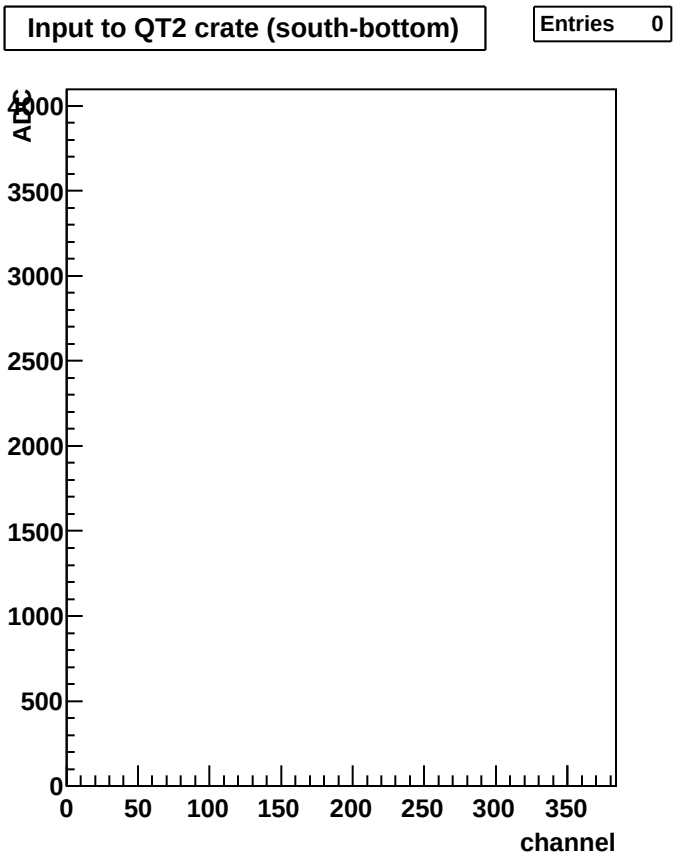

VPD-TAC-E
Entries 20534
Mean 1503
RMS 121.8

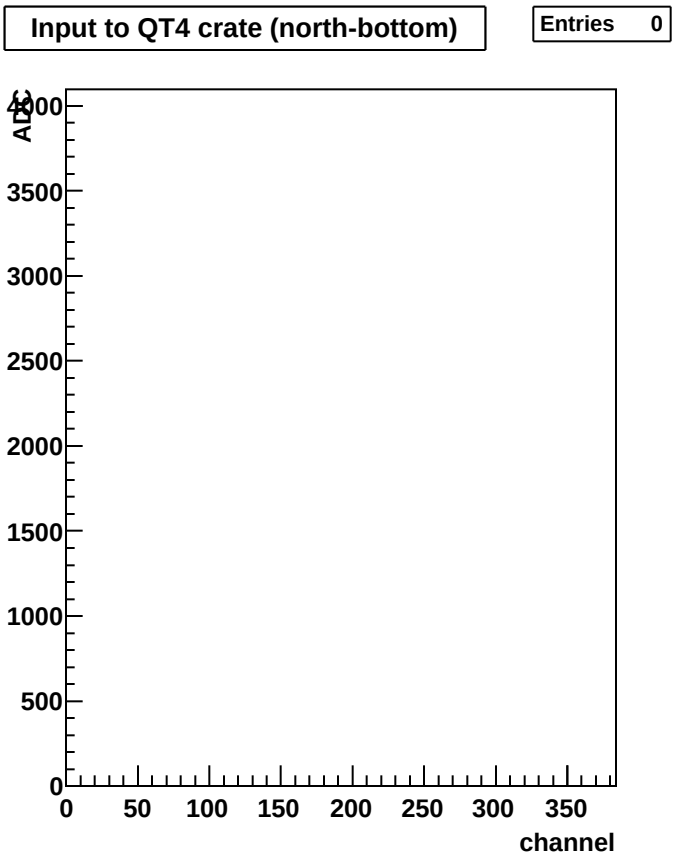

VPD-TAC-W
Entries 19876
Mean 1470
RMS 137.8

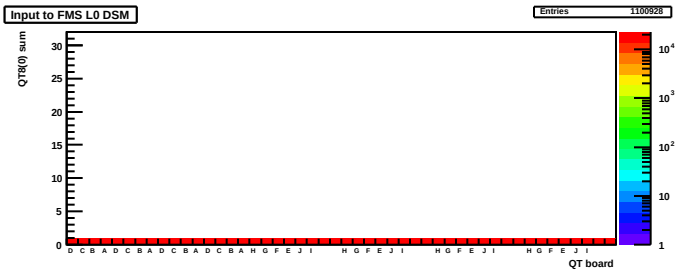

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 17816
Mean 4127
RMS 164.8

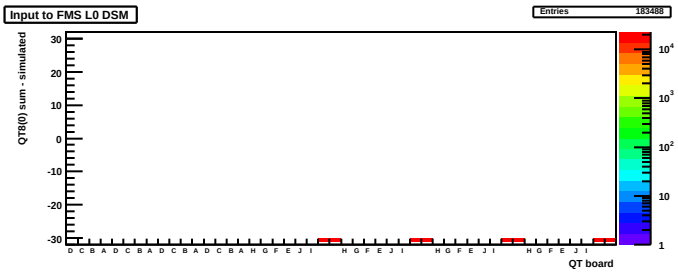

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

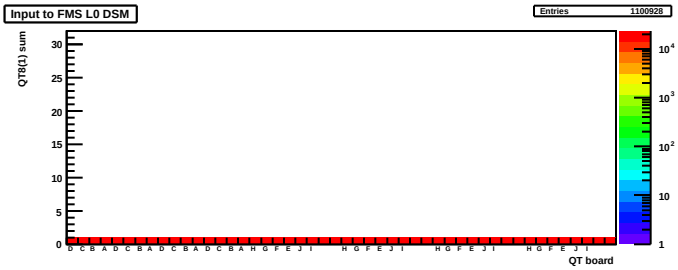

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

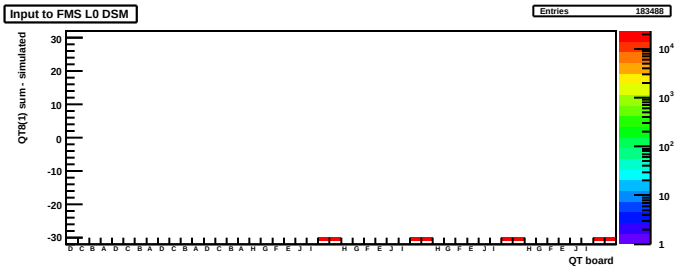

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

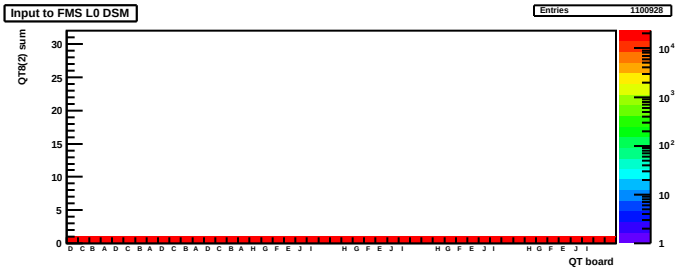

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

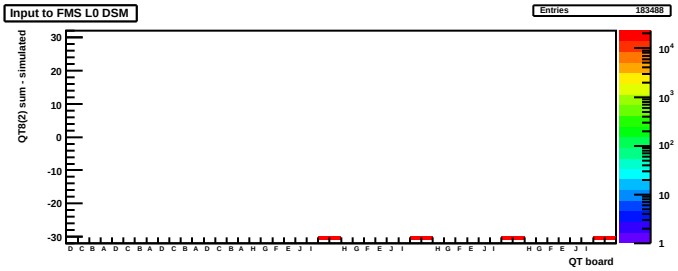

Input to FMS L0 DSM
Entries 1100928
QT8(0) sum
QT board

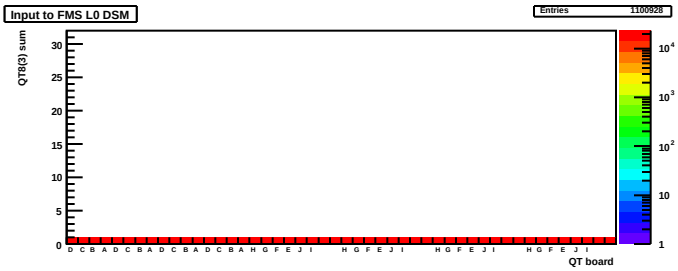

Input to FMS L0 DSM
Entries 183488
QT8(0) sum - simulated
QT board

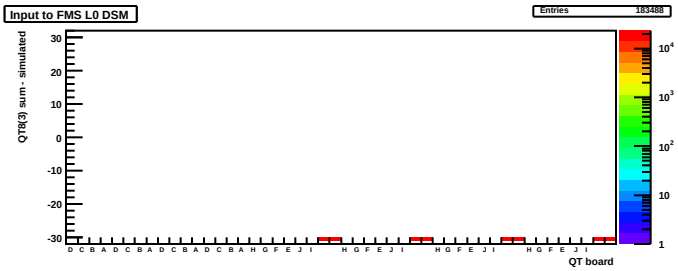

Input to FMS L0 DSM
Entries 1100928
QT8(1) sum
QT board

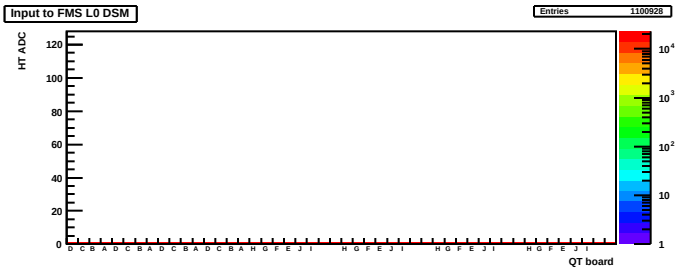

Input to FMS L0 DSM
Entries 183488
QT8(1) sum - simulated
QT board

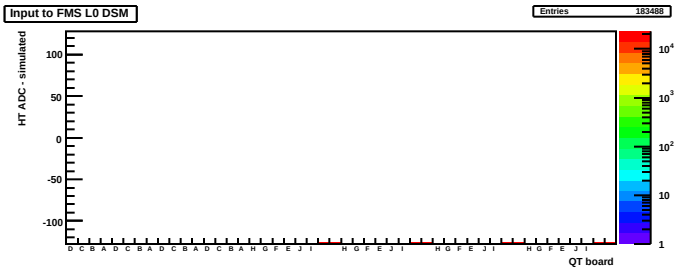

Input to FMS L0 DSM
Entries 1100928
QT8(2) sum
QT board

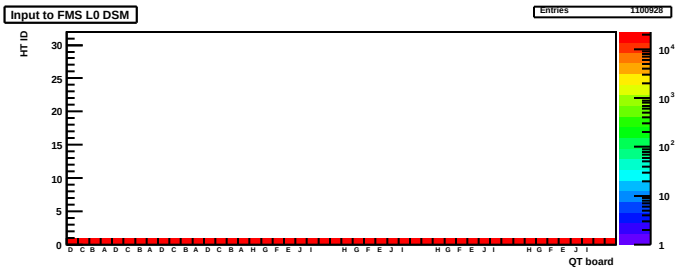

Input to FMS L0 DSM
Entries 183488
QT8(2) sum - simulated
QT board

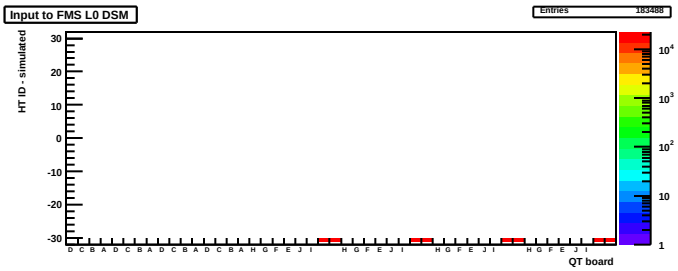

Input to FMS L0 DSM
Entries 1100928
QT8(3) sum
QT board

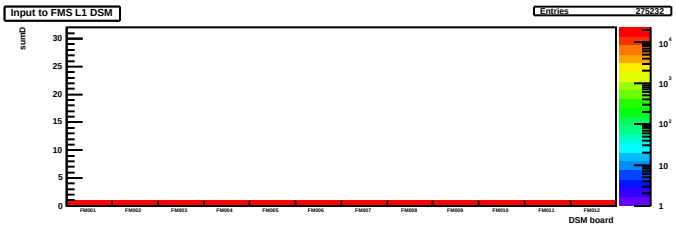

Input to FMS L0 DSM
Entries 183488
QT8(3) sum - simulated
QT board

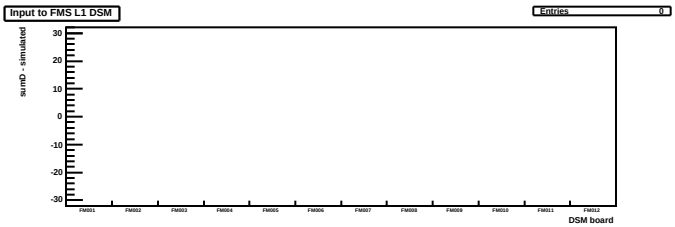

Input to FMS L0 DSM
Entries 1100928
HT ADC
QT board

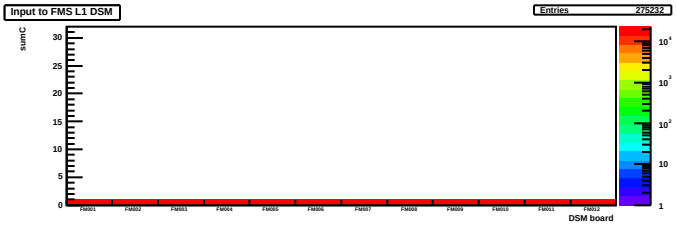

Input to FMS L0 DSM
Entries 183488
HT ADC - simulated
QT board

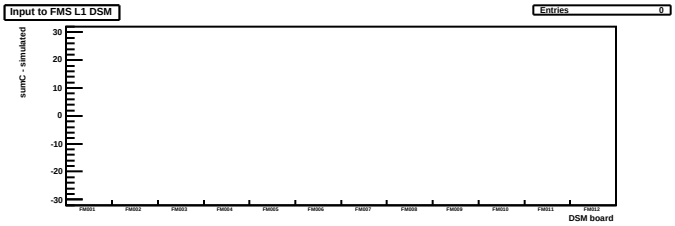

Input to FMS L0 DSM
Entries 1100928
HT ID
QT board

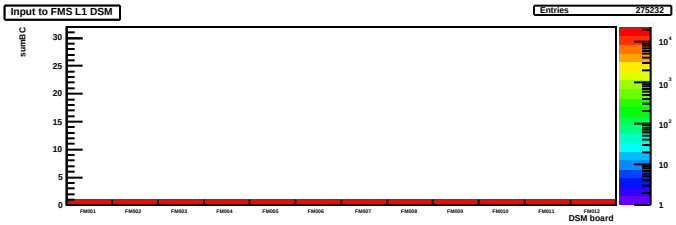

Input to FMS L0 DSM
Entries 183488
HT ID - simulated
QT board

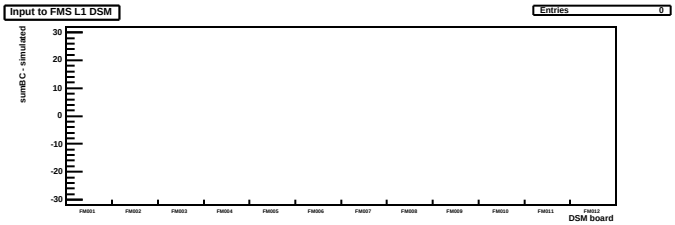

Input to FMS L1 DSM
Entries 275232
sumD
DSM board

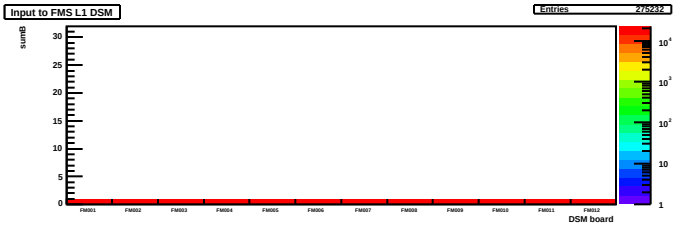

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

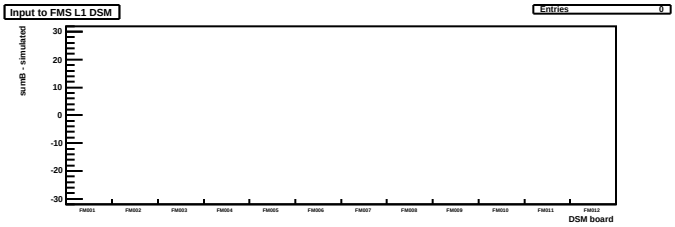

Input to FMS L1 DSM
Entries 275232
sumC
DSM board

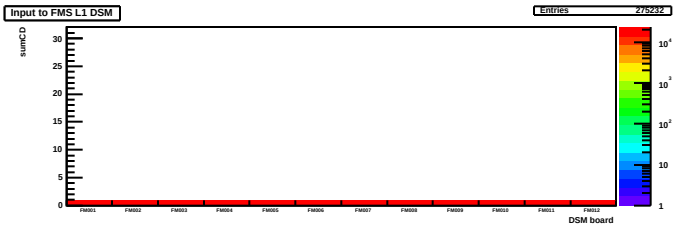

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

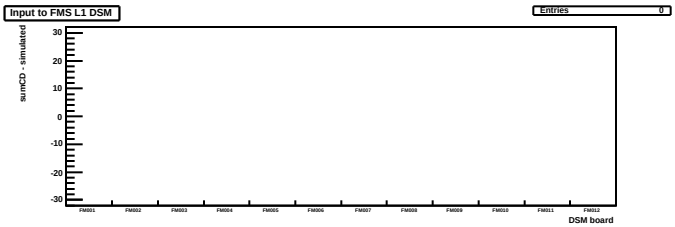

Input to FMS L1 DSM
Entries 275232
sumBC
DSM board

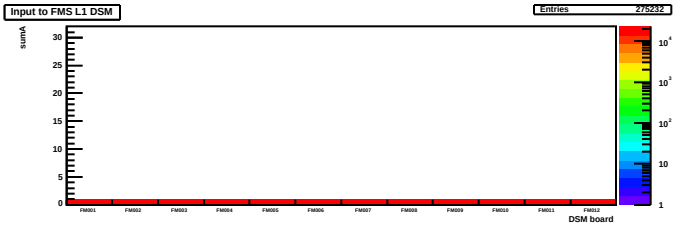

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

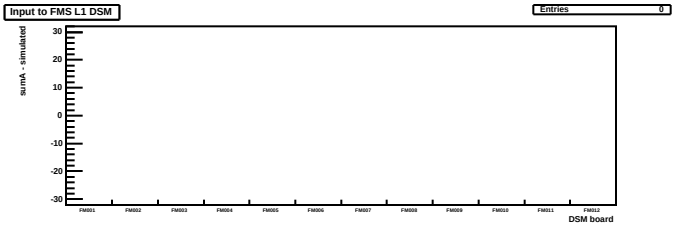

Input to FMS L1 DSM
Entries 275232
sumB
DSM board

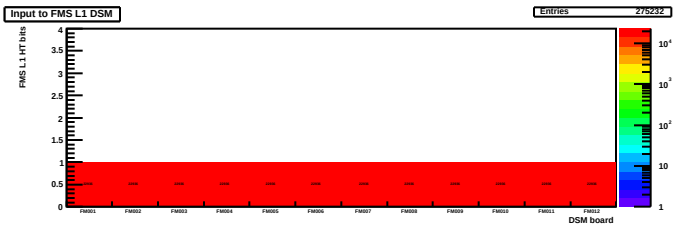

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

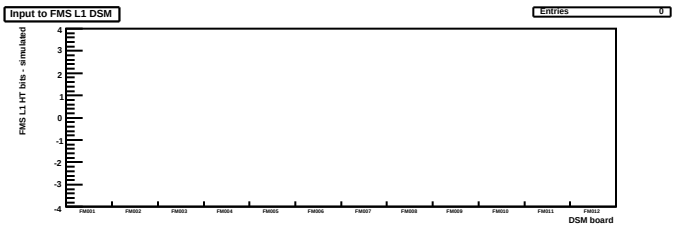

Input to FMS L1 DSM
Entries 275232
sumCD
DSM board

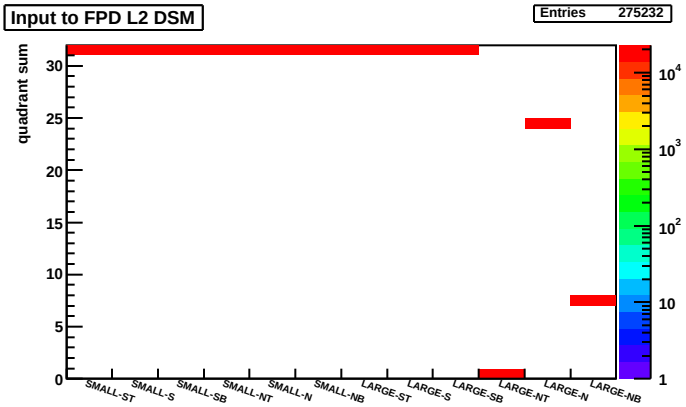

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

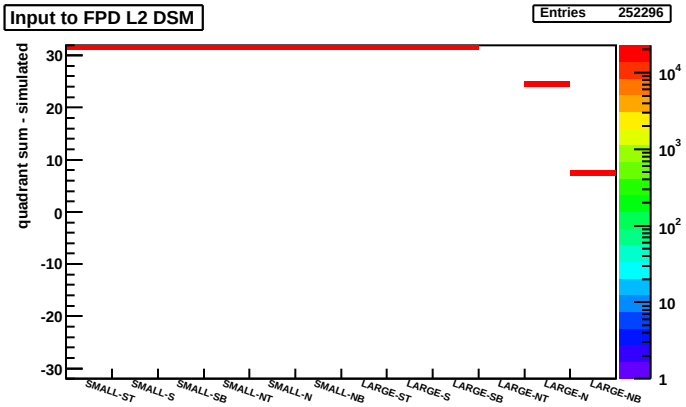

Input to FMS L1 DSM
Entries 275232
sumA
DSM board

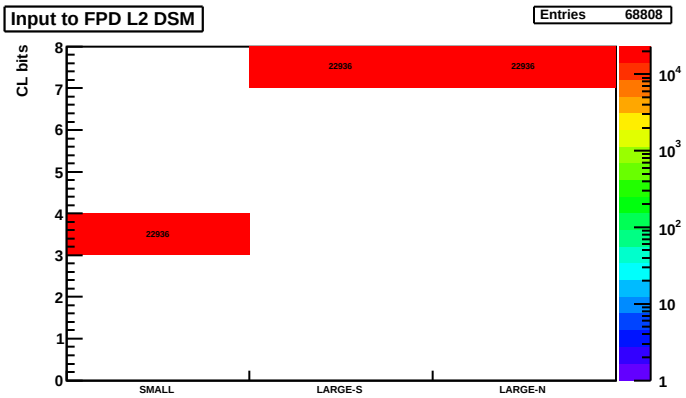

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

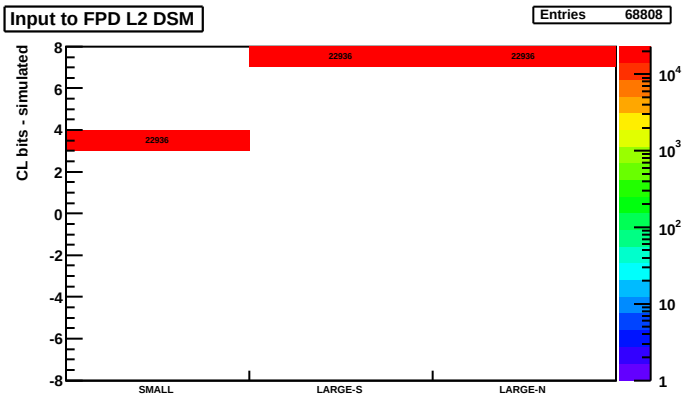

Input to FMS L1 DSM
Entries 275232
FMS L1 HT bits
DSM board

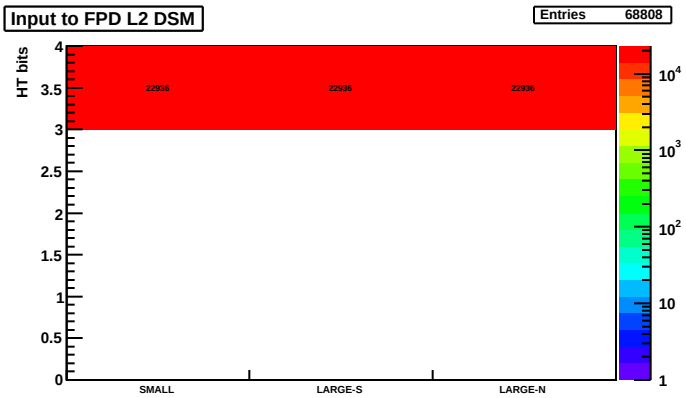

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

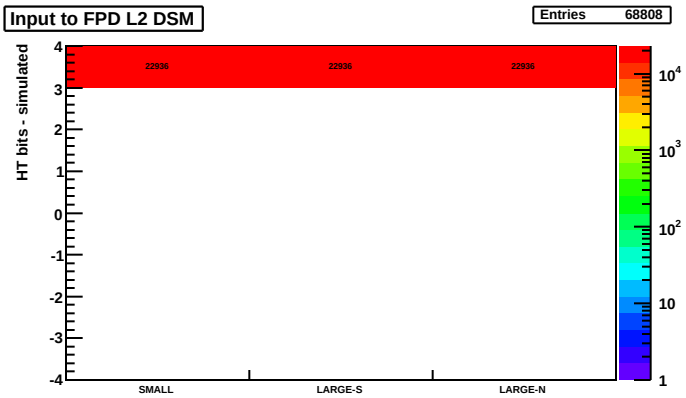

Input to FPD L2 DSM
Entries 275232
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

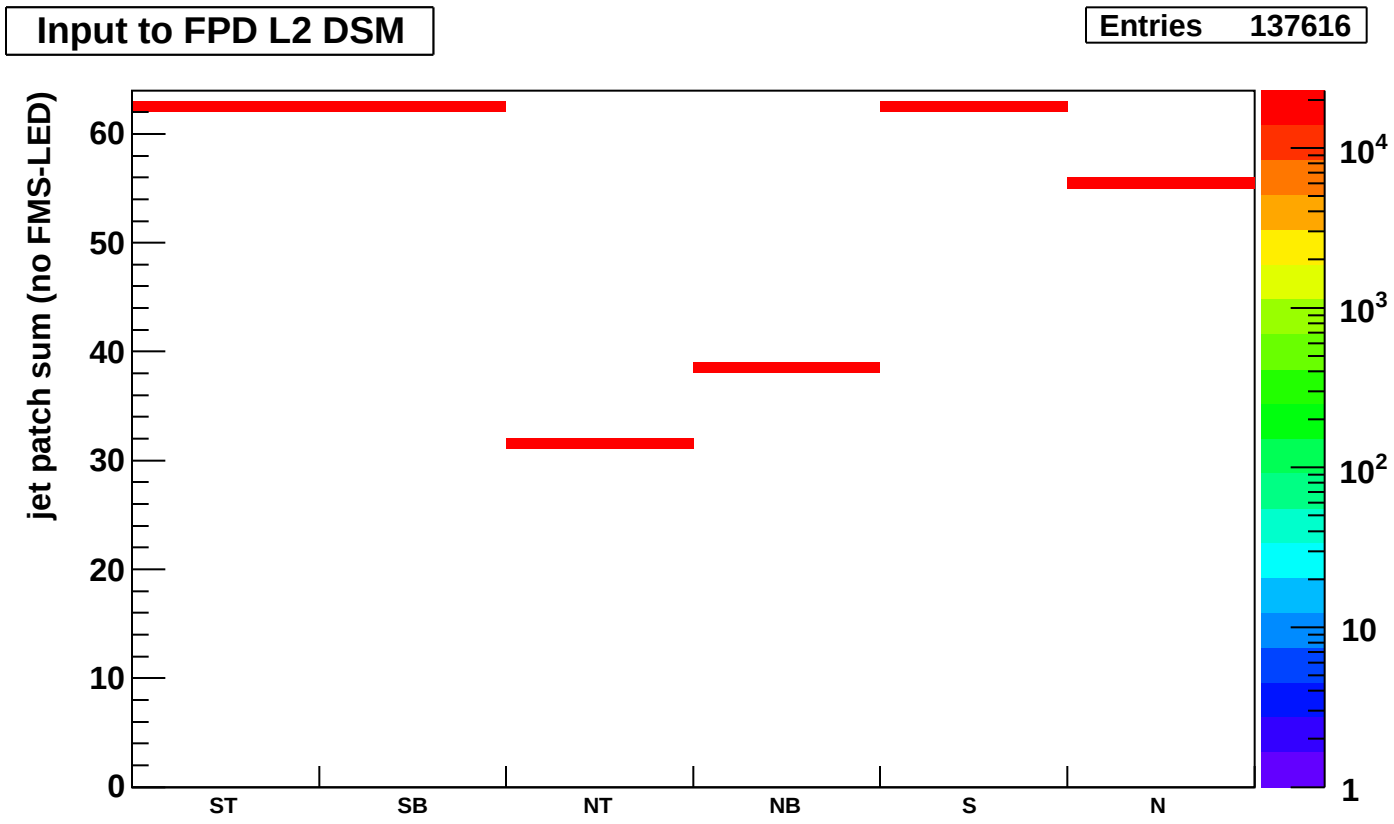

Input to FPD L2 DSM
Entries 252296
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

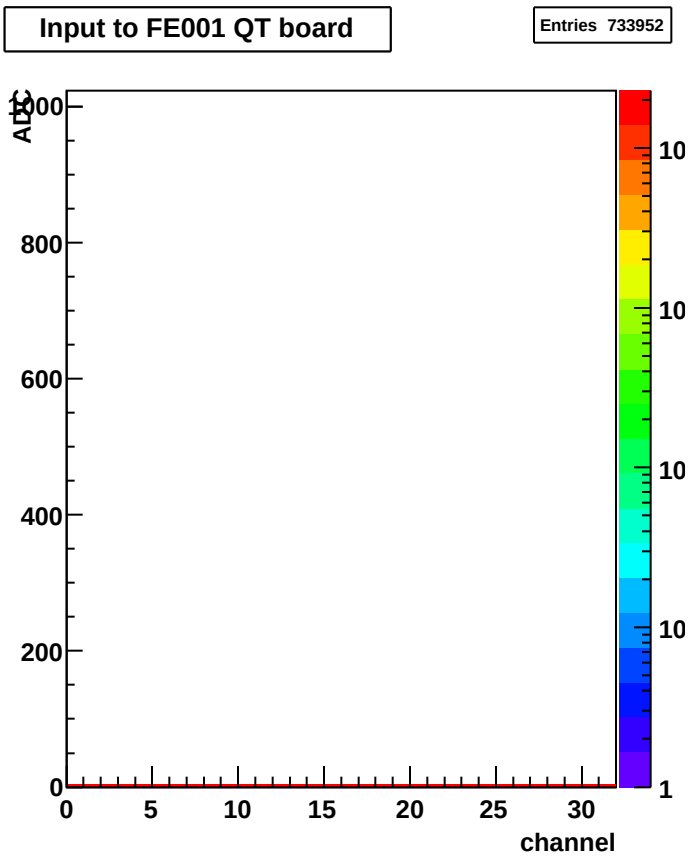

Input to FPD L2 DSM
Entries 68808
CL bits
22936
22936
22936
SMALL
LARGE-S
LARGE-N

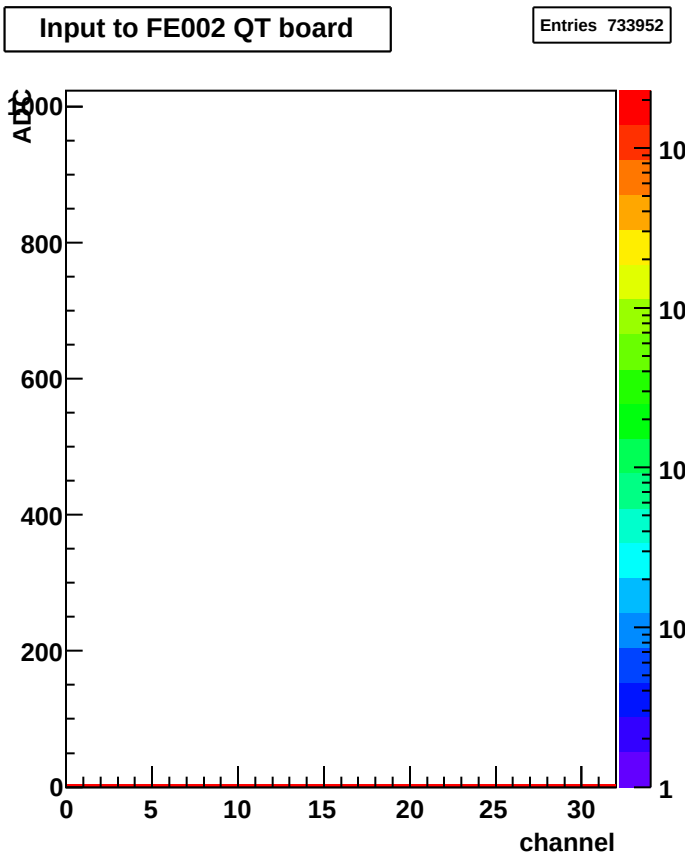

Input to FPD L2 DSM
Entries 68808
CL bits - simulated
22936
22936
22936
SMALL
LARGE-S
LARGE-N

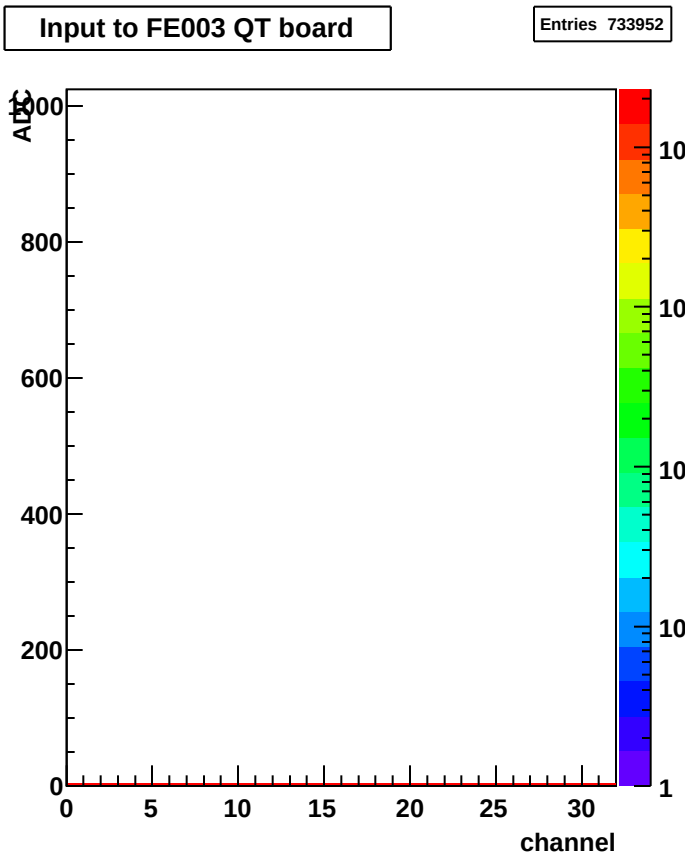

Input to FPD L2 DSM
Entries 68808
HT bits
22936
22936
22936
SMALL
LARGE-S
LARGE-N

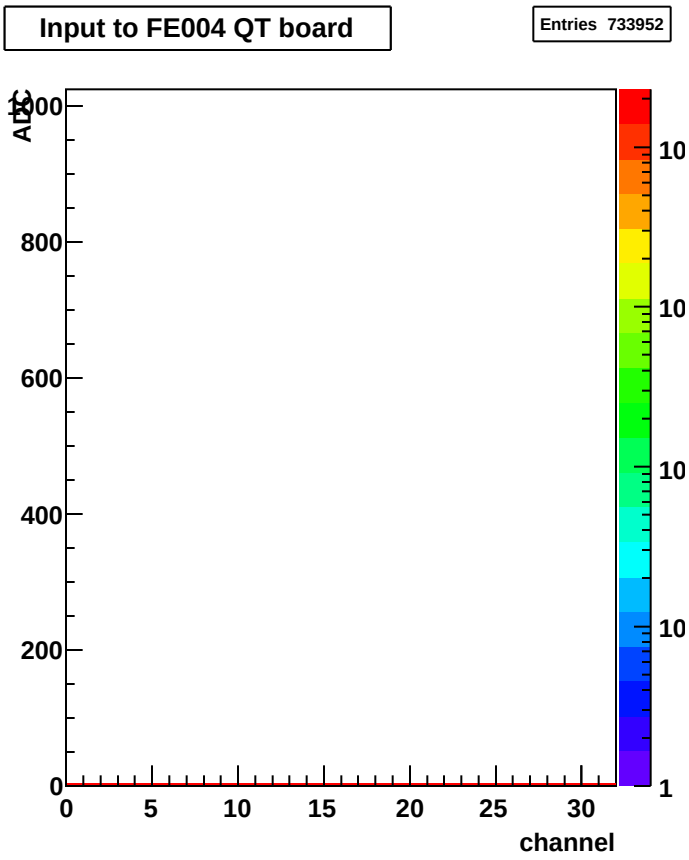

Input to FPD L2 DSM
Entries 68808
HT bits - simulated
22936
22936
22936
SMALL
LARGE-S
LARGE-N

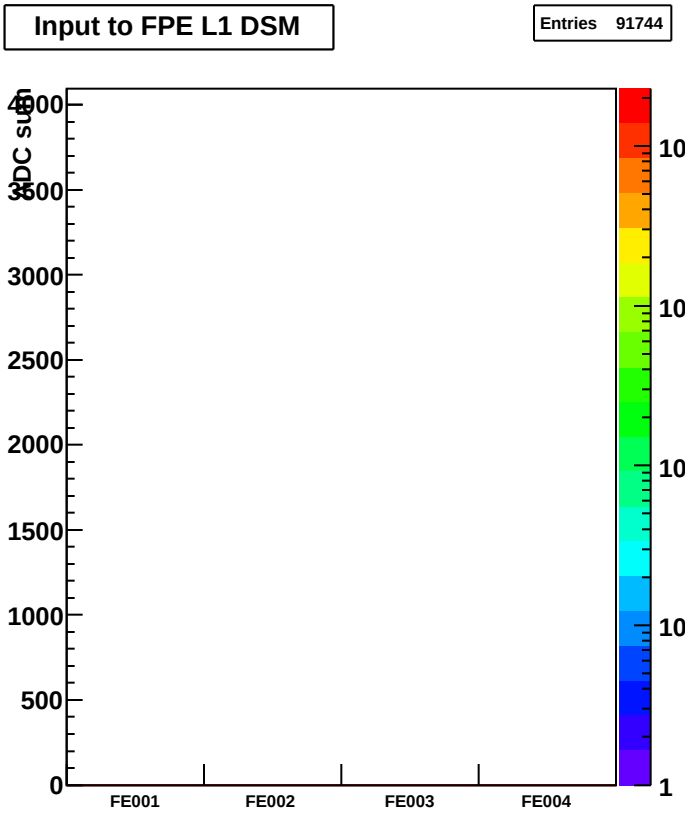

Input to FPD L2 DSM
Entries 137616
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
$10^2$
$10^3$
$10^4$

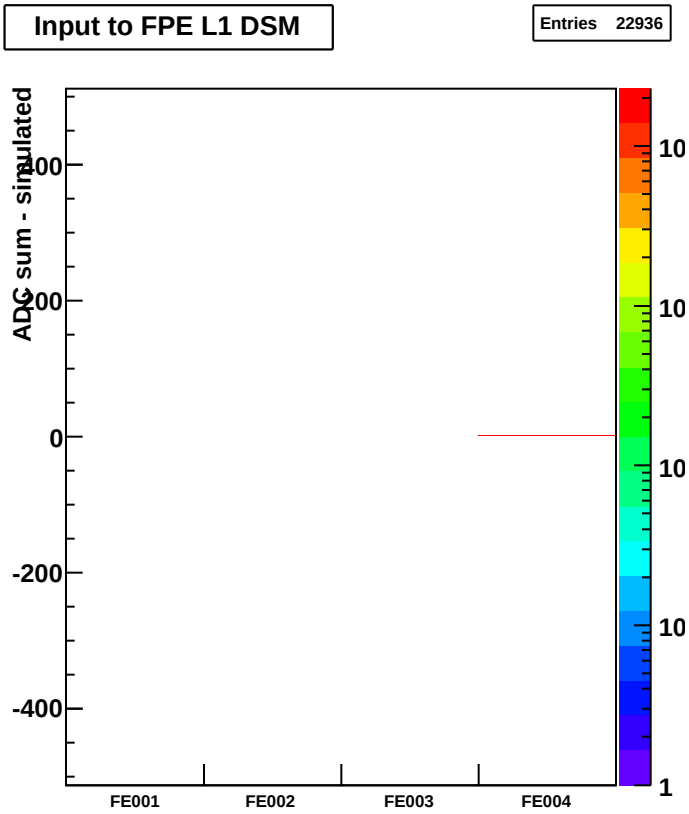

Input to FE001 QT board
Entries 733952
ADC
channel

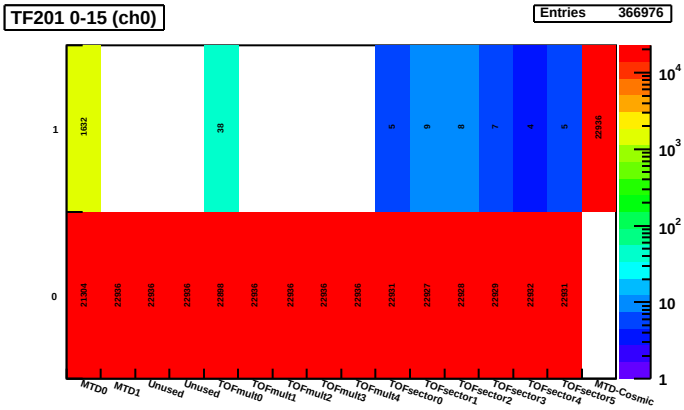

Input to FE002 QT board
Entries 733952
ADC
channel

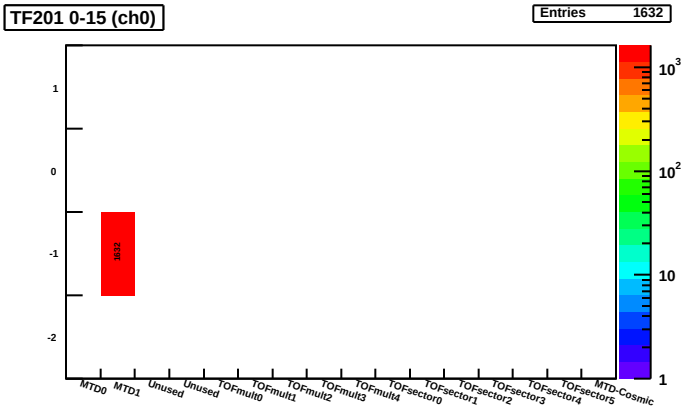

Input to FE003 QT board
Entries 733952
ADC
channel

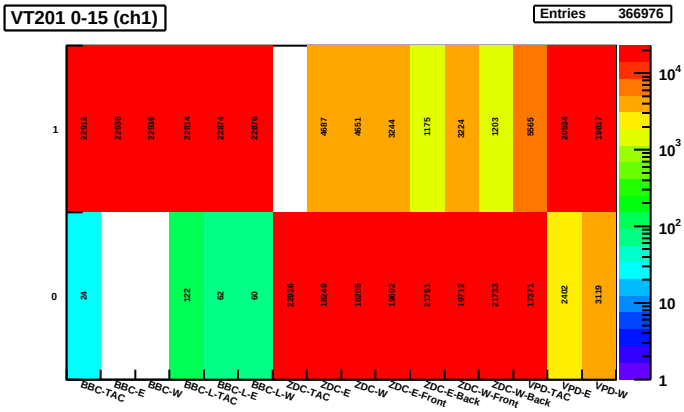

Input to FE004 QT board
Entries 733952
ADC
channel

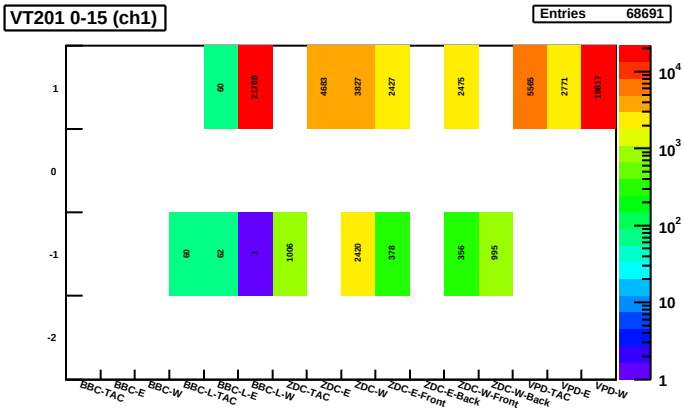

Input to FPE L1 DSM
Entries 91744
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1


Input to FPE L1 DSM
Entries 22936
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1


TF201 0-15 (ch0)
Entries 366976
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 1632
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 366976
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 68691
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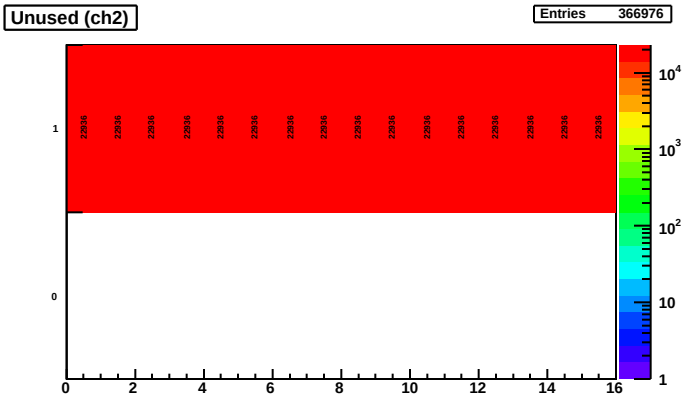
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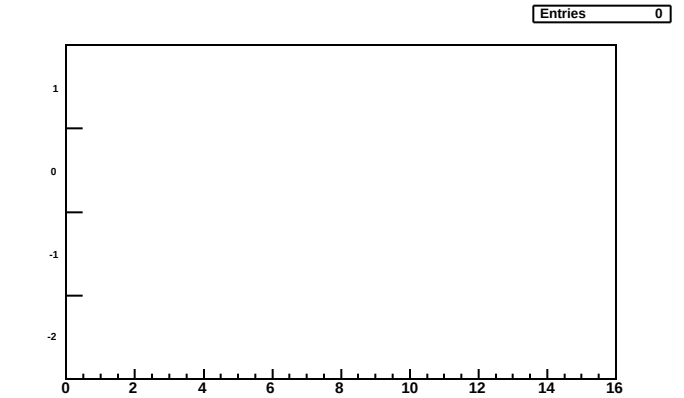
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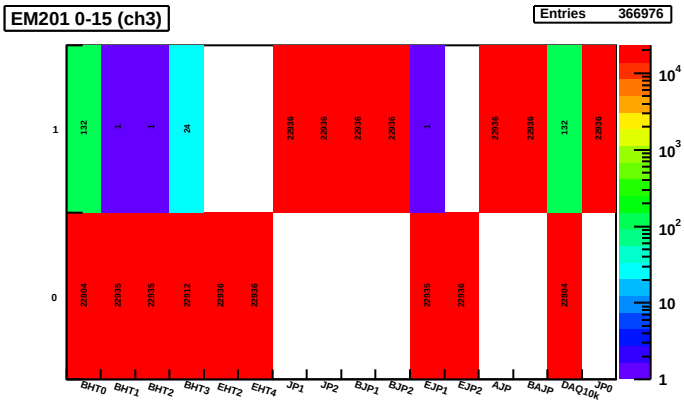
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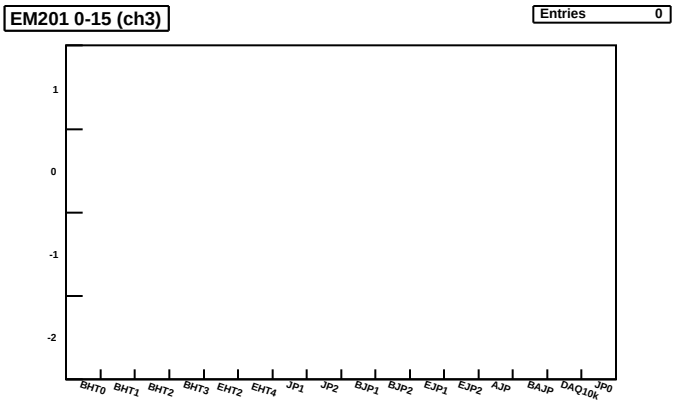
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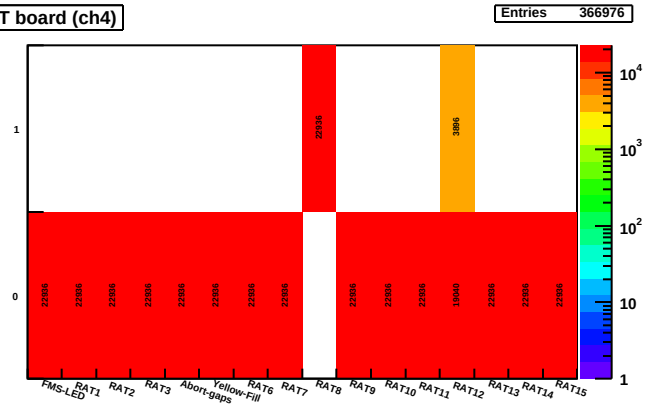
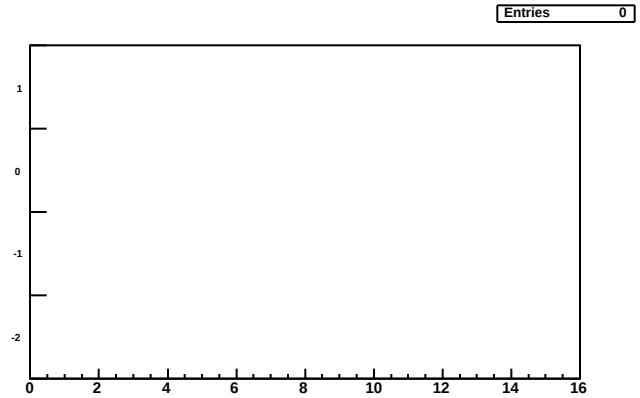
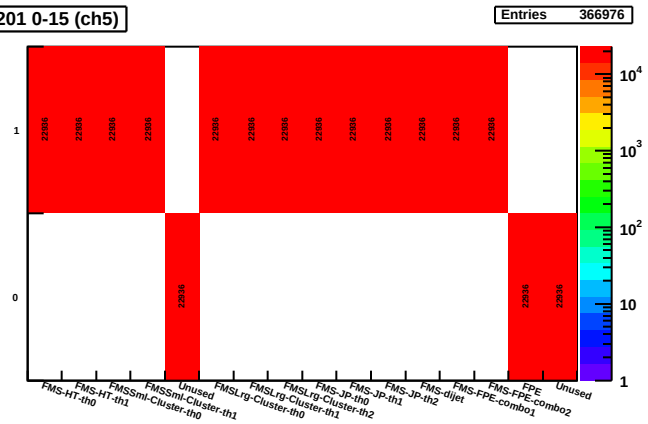
RAT board (ch4)

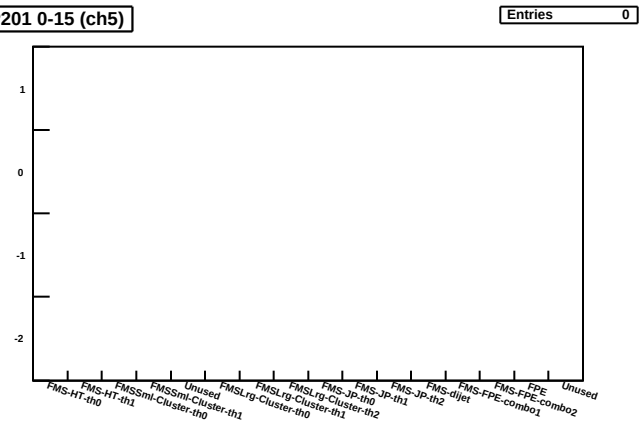


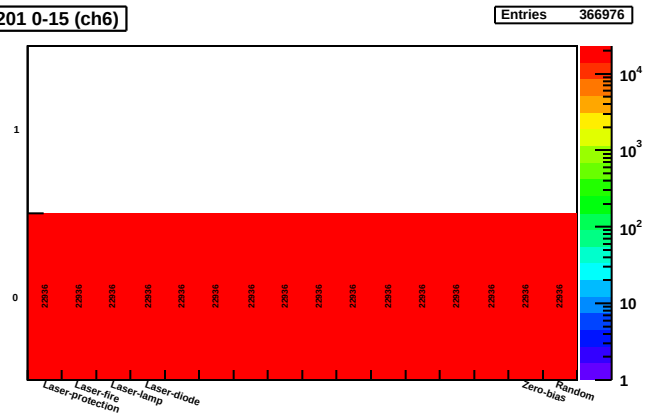

FP201 0-15 (ch5)

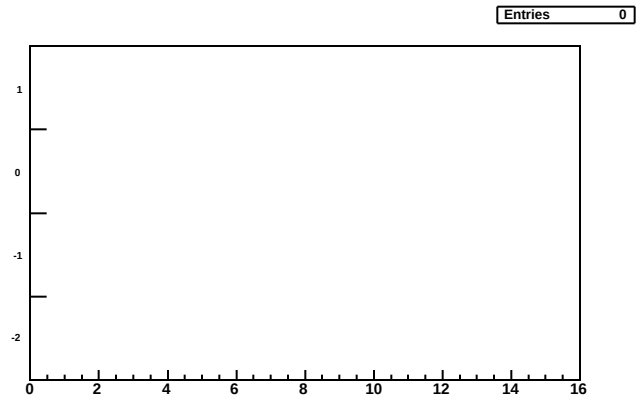


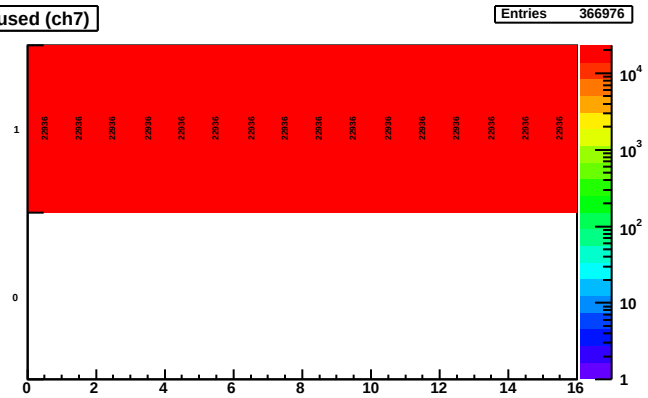
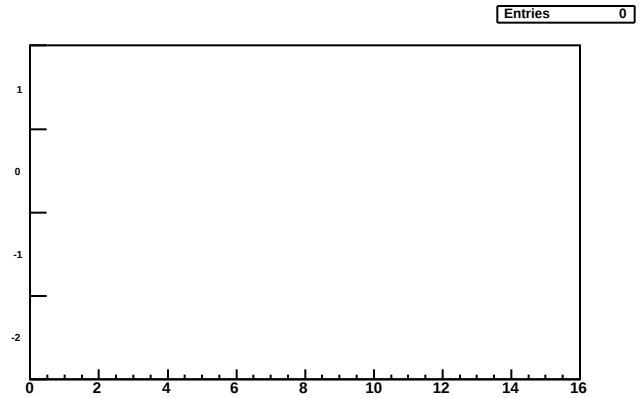

FP201 0-15 (ch5)




ST201 0-15 (ch6)




Unused (ch7)