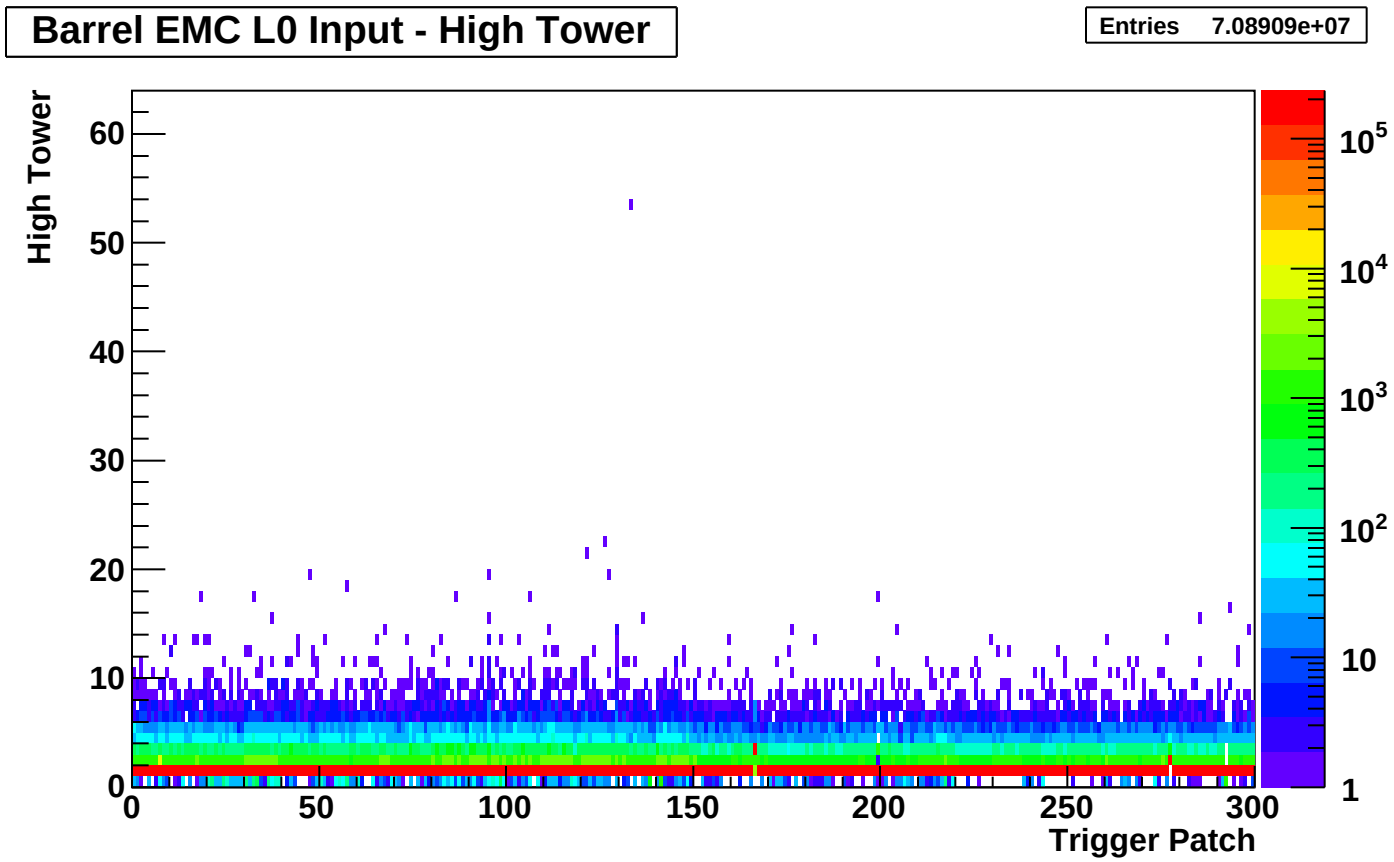
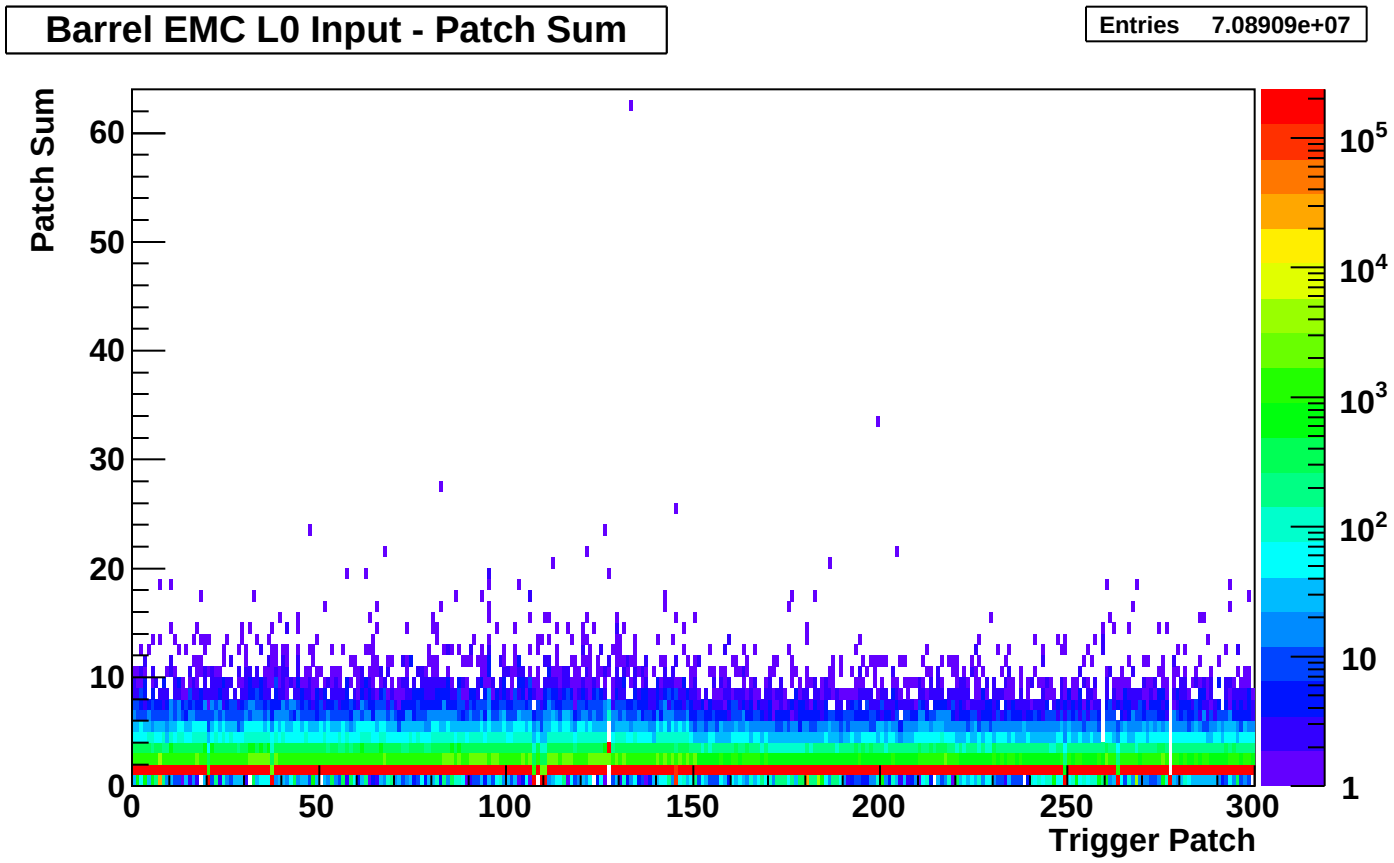
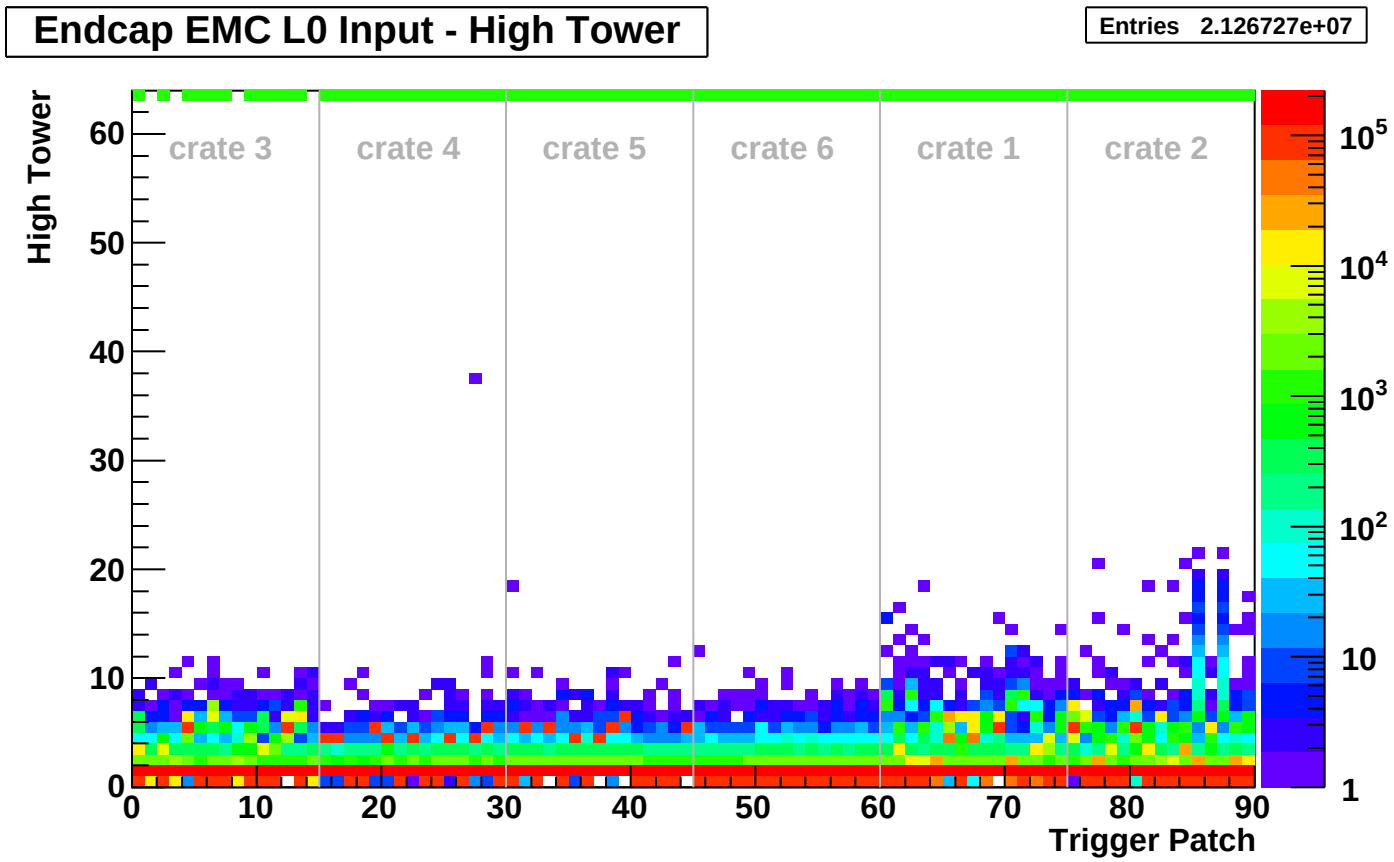
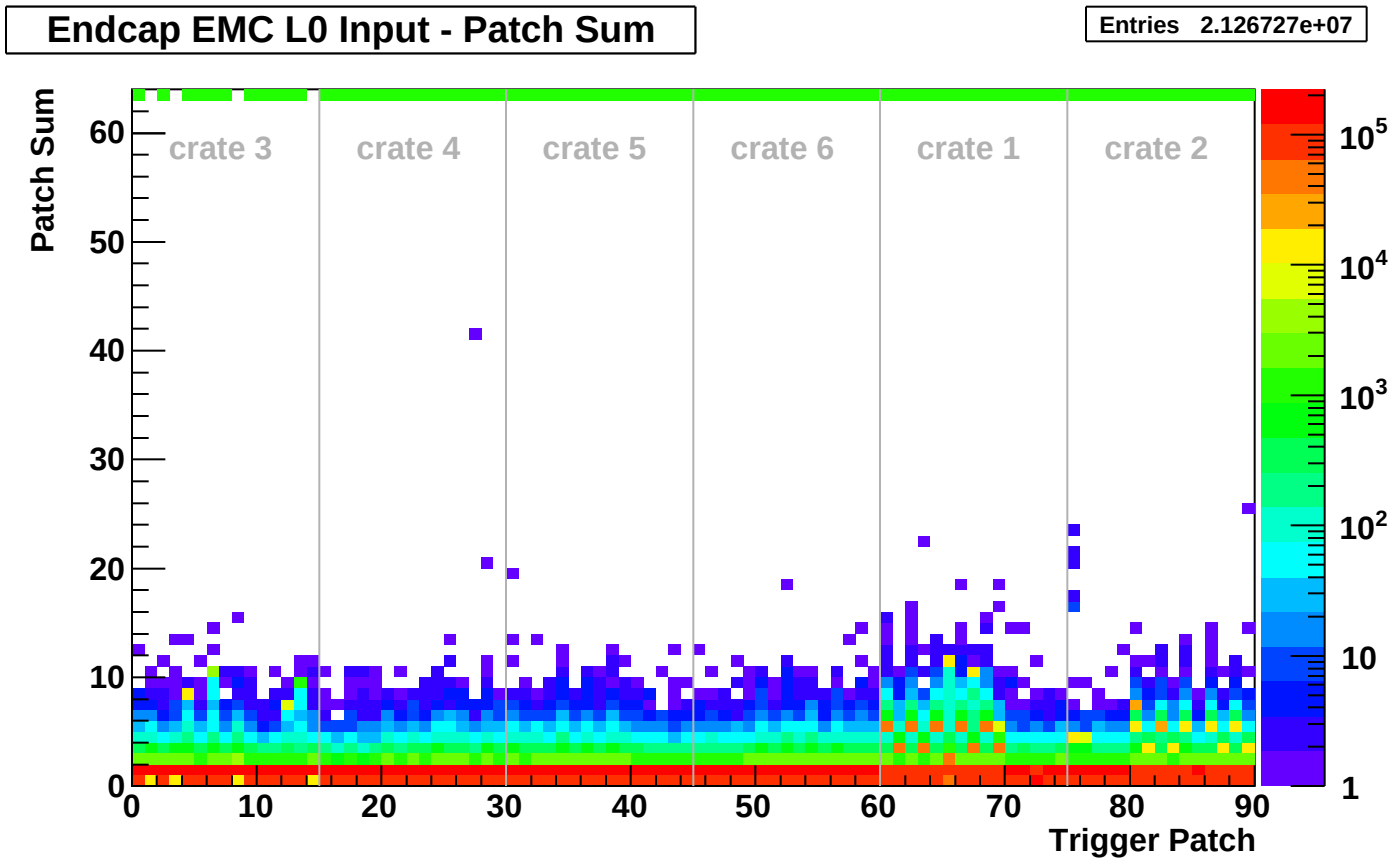
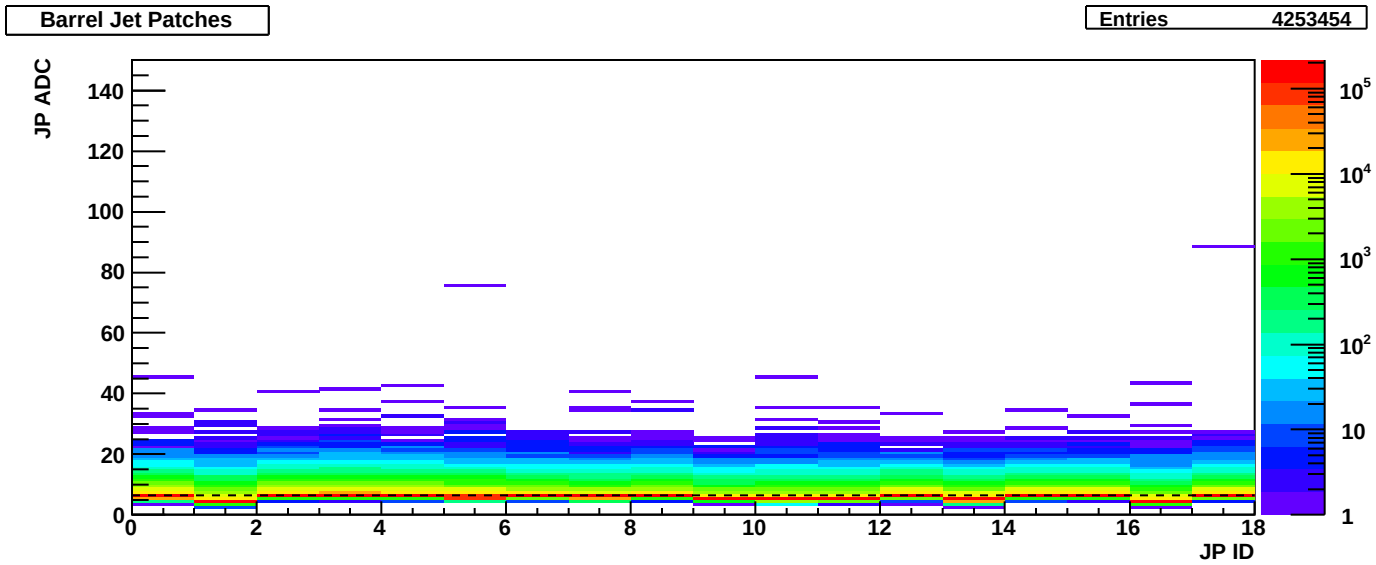
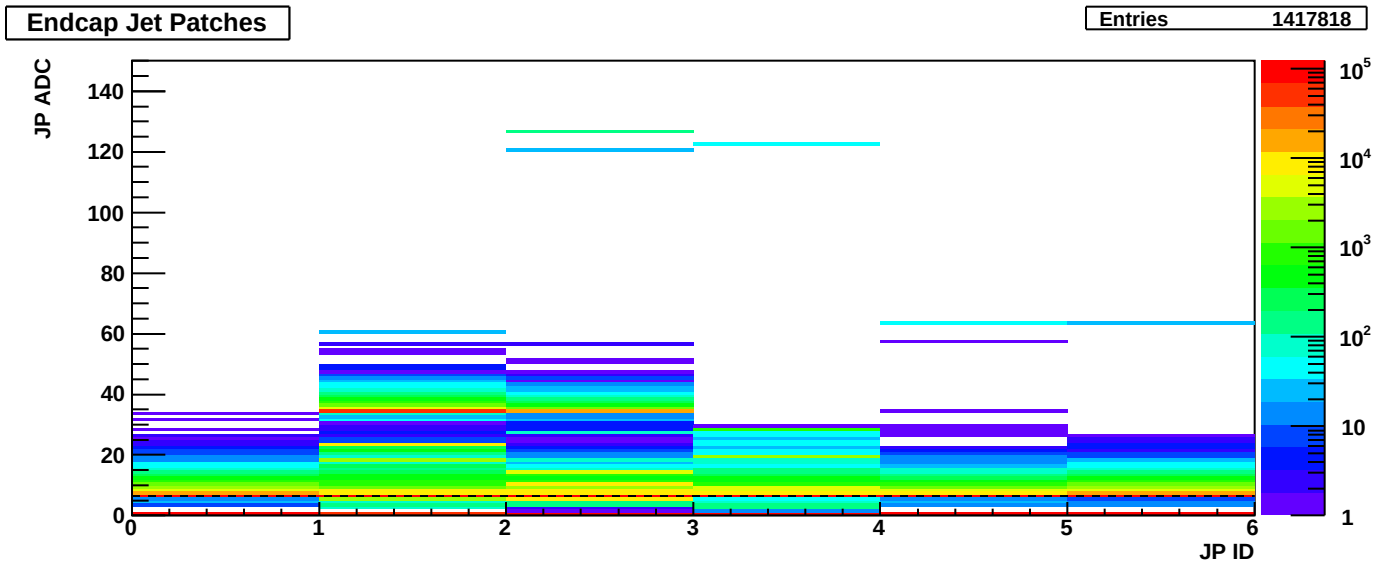

Barrel EMC L0 Input - High Tower
Entries 7.08909e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

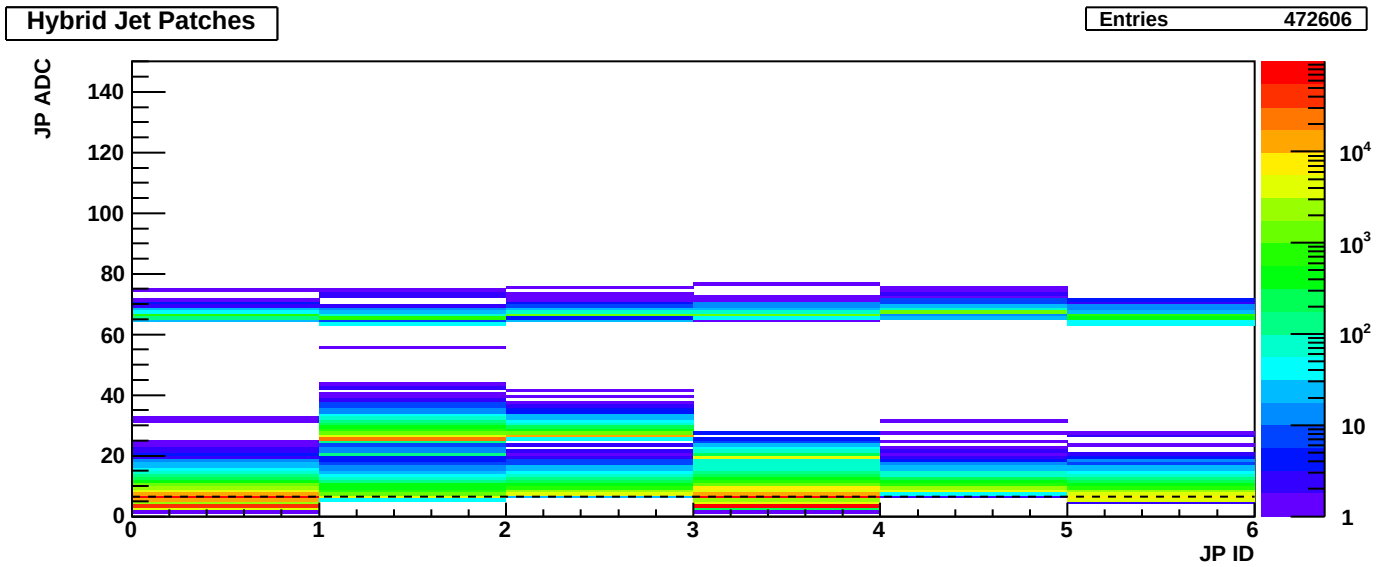

Barrel EMC L0 Input - Patch Sum
Entries 7.08909e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

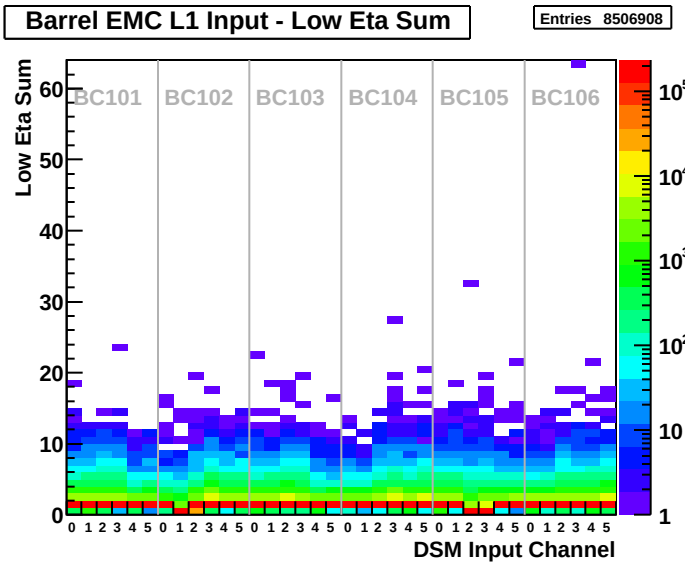

Endcap EMC L0 Input - High Tower
Entries 2.126727e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

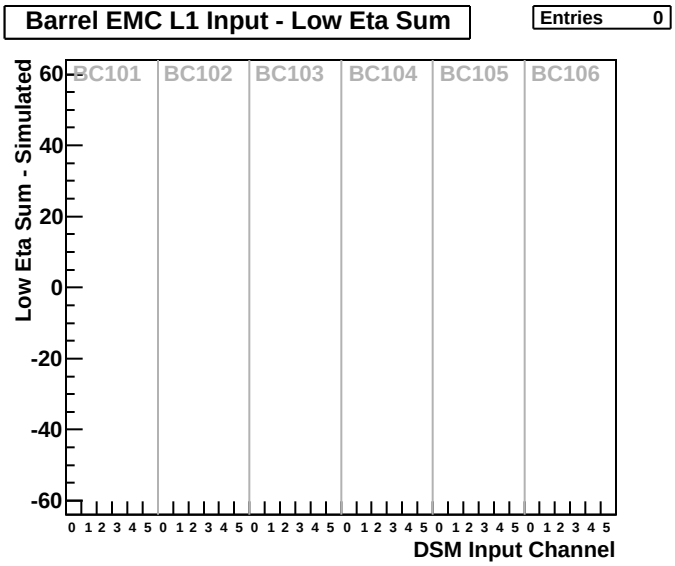

Endcap EMC L0 Input - Patch Sum
Entries 2.126727e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

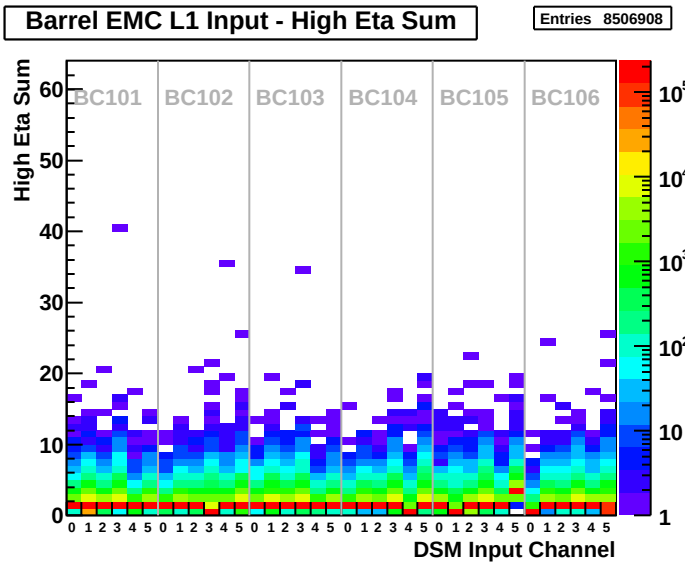

Barrel Jet Patches
Entries 4253454
JP ADC
JP ID

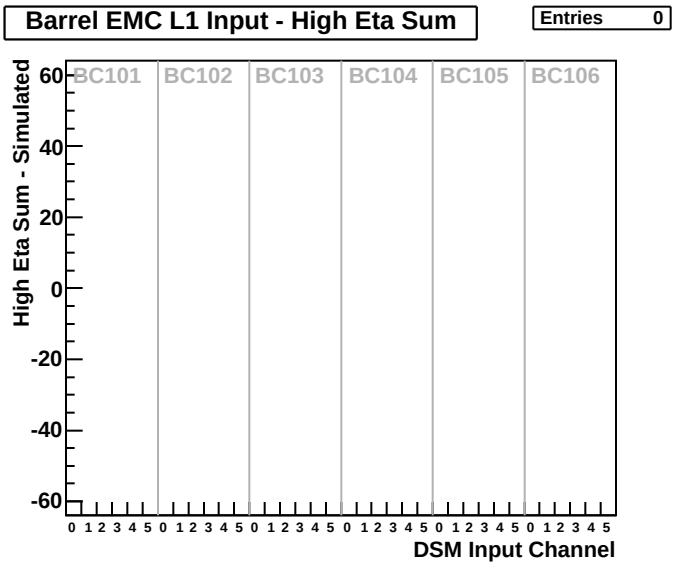

Endcap Jet Patches
Entries 1417818
JP ADC
JP ID

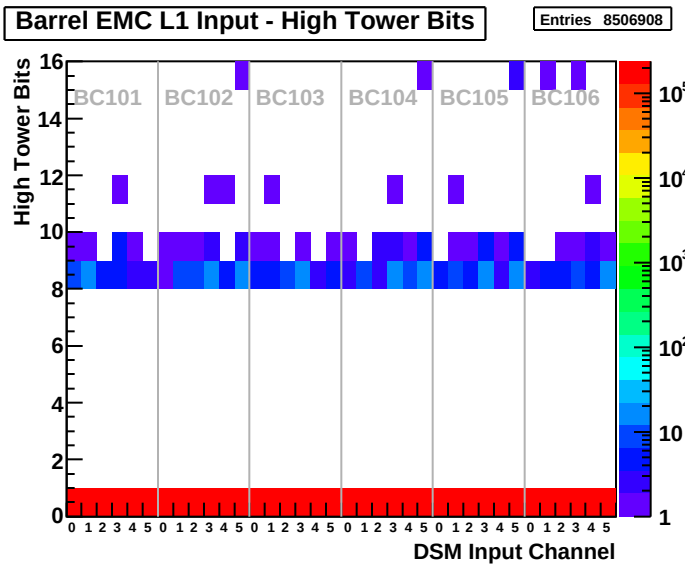

Hybrid Jet Patches
Entries 472606
JP ADC
JP ID

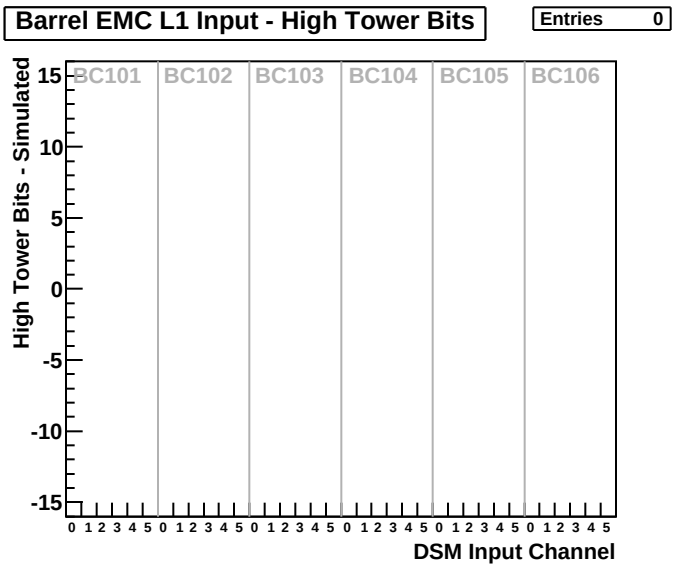

Barrel EMC L1 Input - Low Eta Sum
Entries 8506908
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

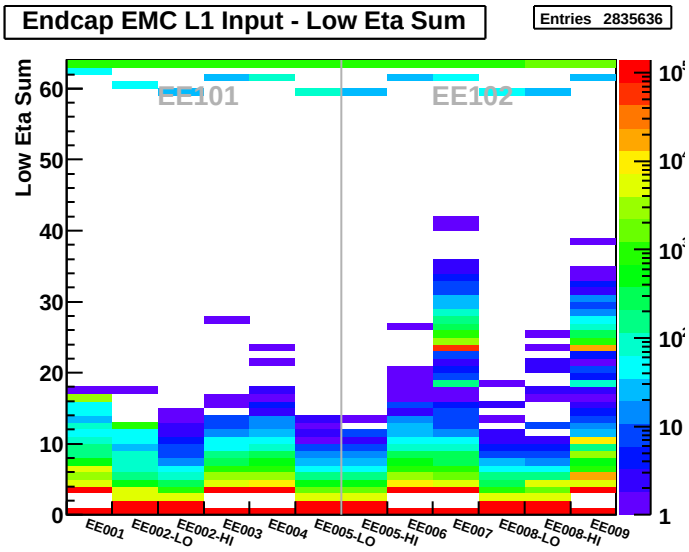

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

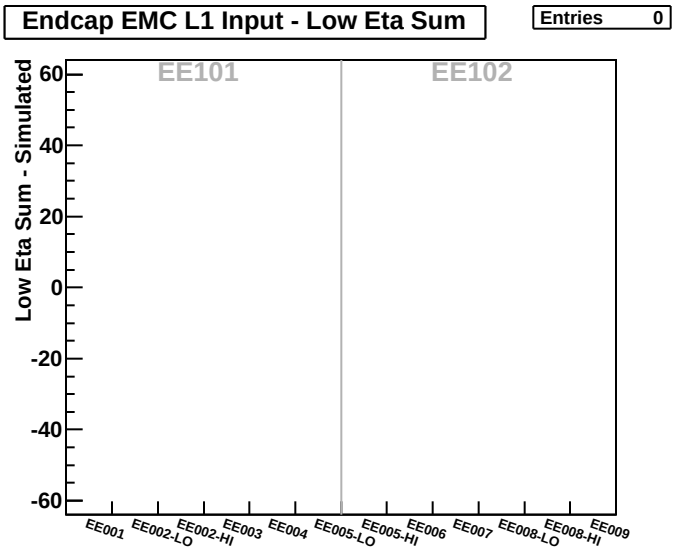

Barrel EMC L1 Input - High Eta Sum
Entries 8506908
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

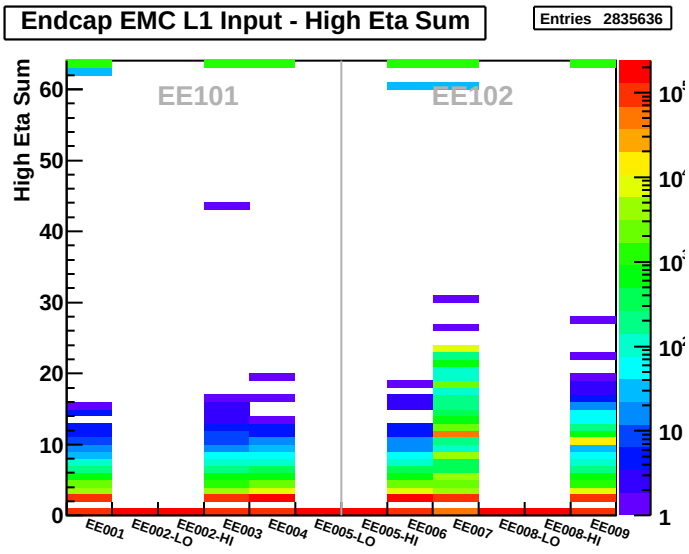

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

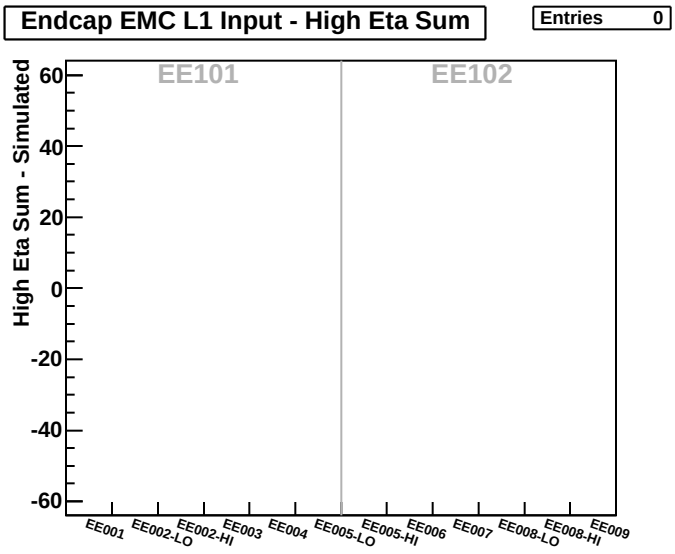

Barrel EMC L1 Input - High Tower Bits
Entries 8506908
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

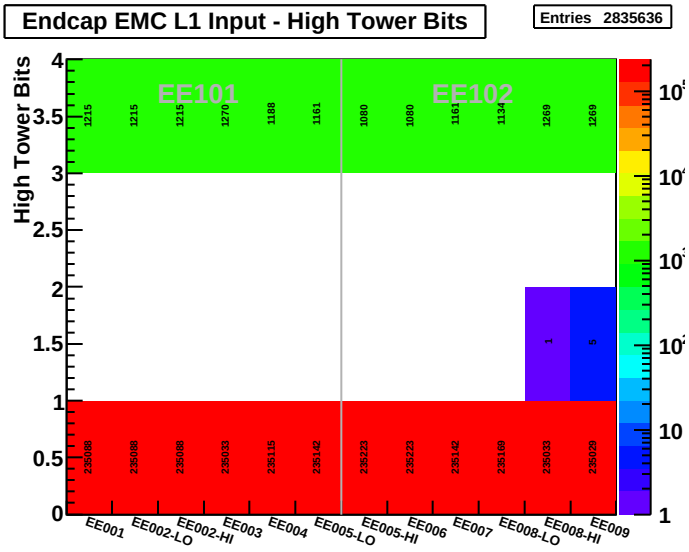

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

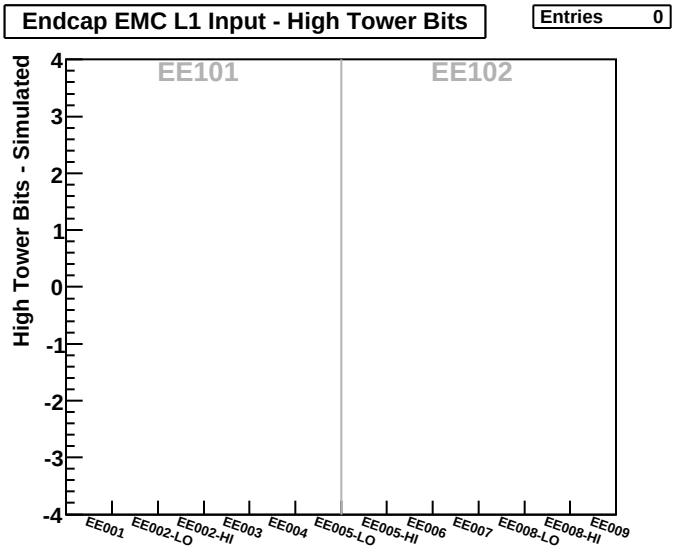

Endcap EMC L1 Input - Low Eta Sum
Entries 2835636
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

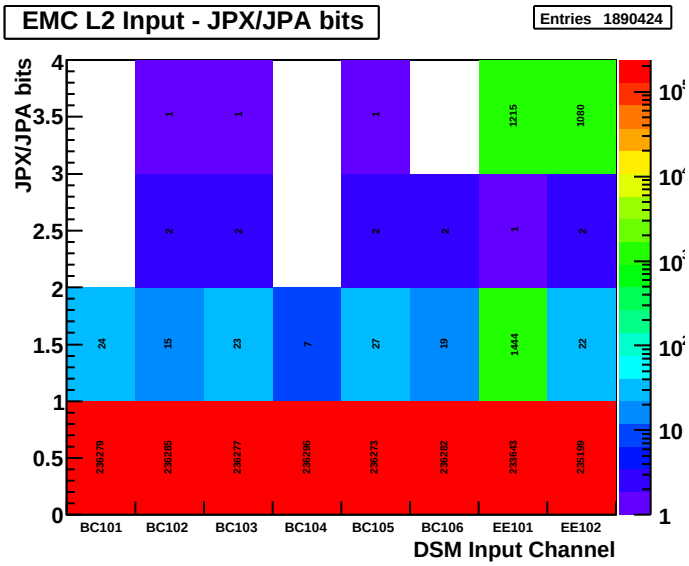

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

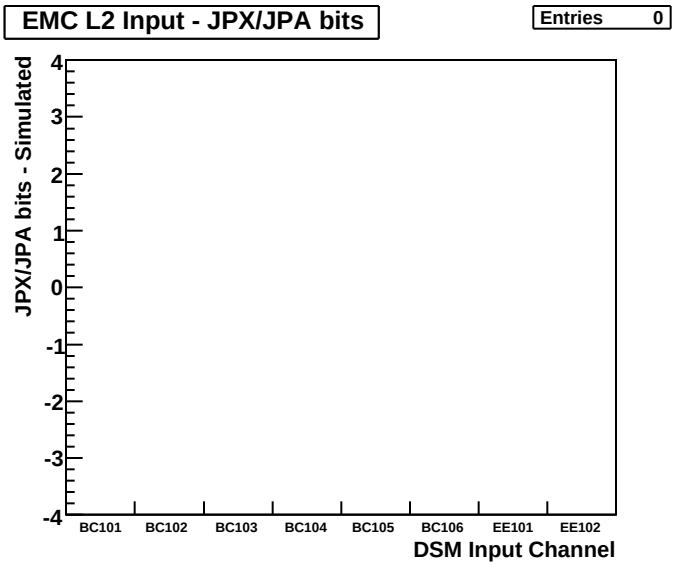

Endcap EMC L1 Input - High Eta Sum
Entries 2835636
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

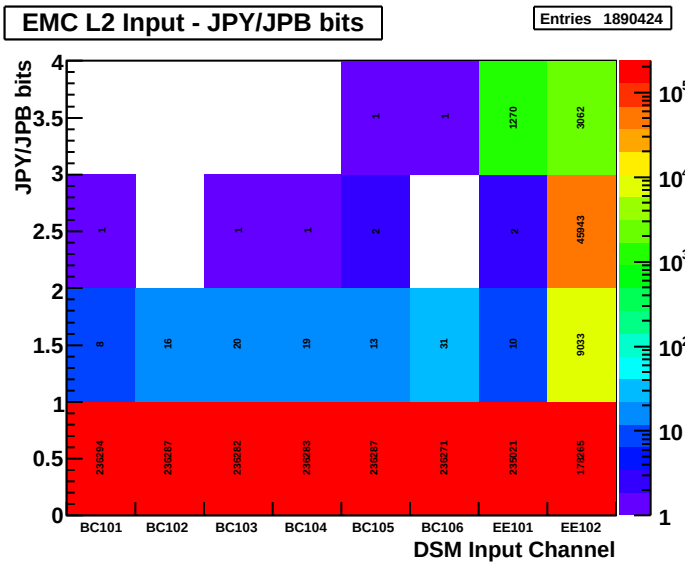

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

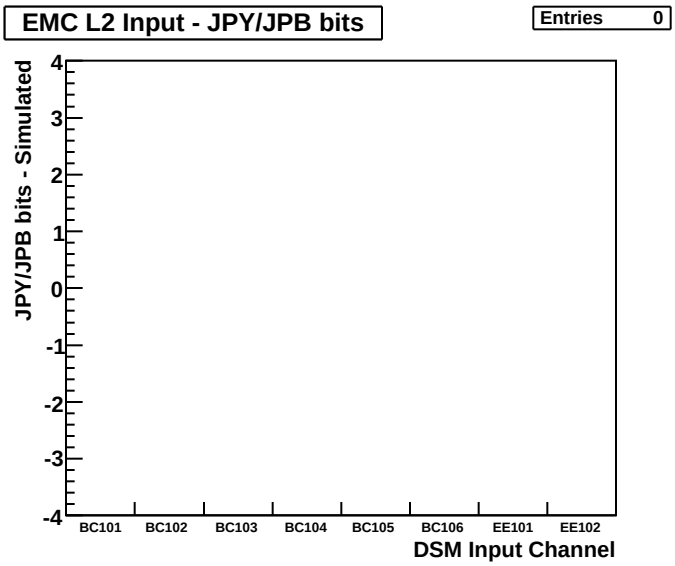

Endcap EMC L1 Input - High Tower Bits
Entries 2835636
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

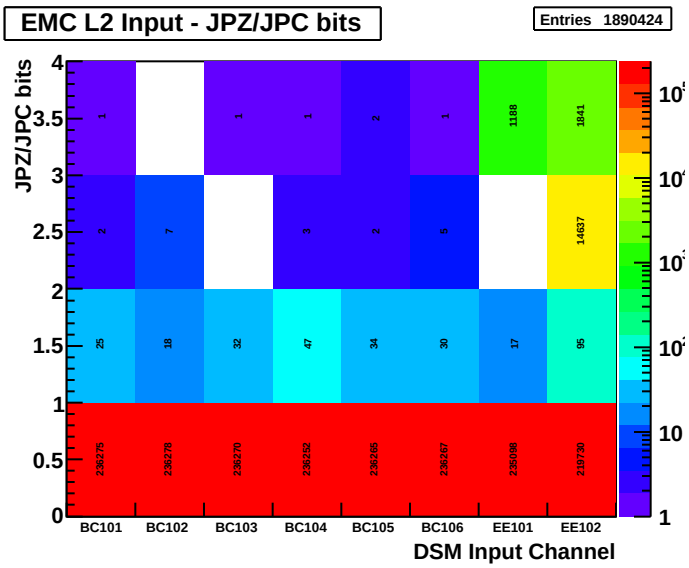

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

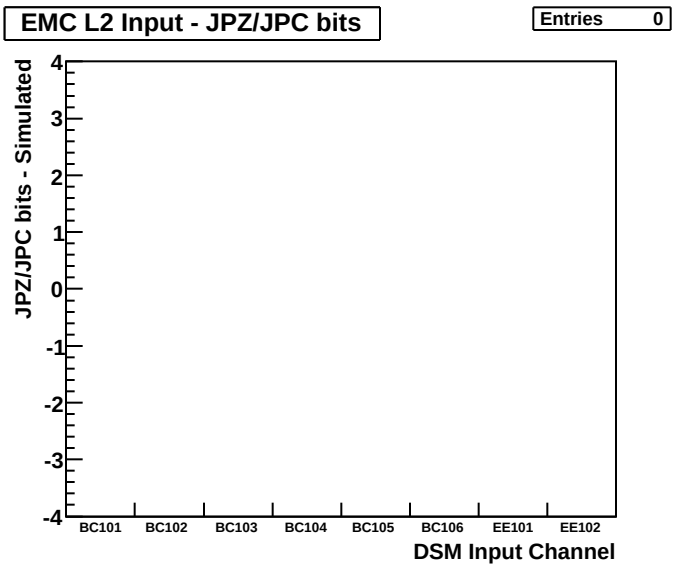

EMC L2 Input - JPX/JPA bits
Entries 1890424
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

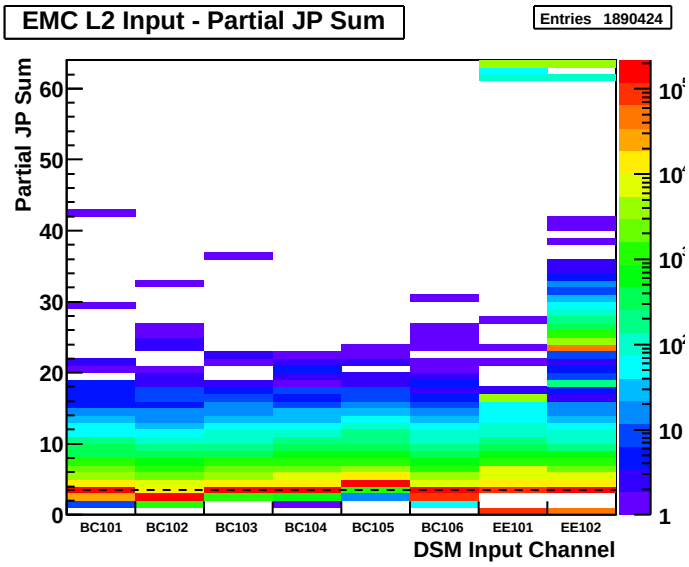

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

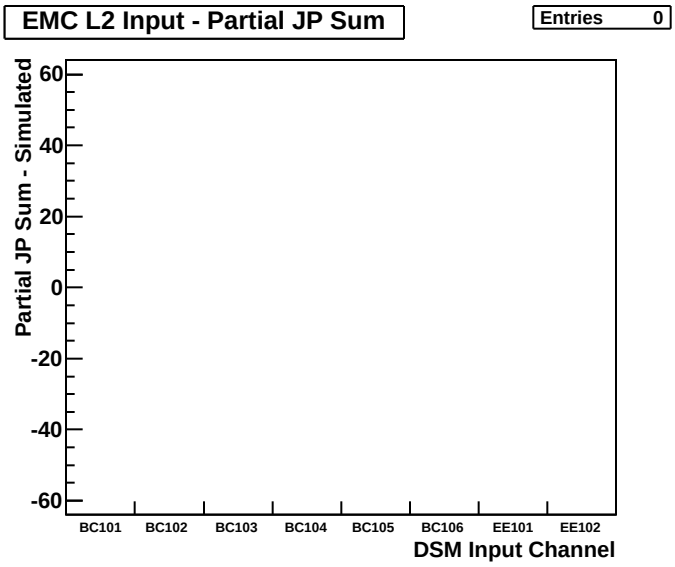

EMC L2 Input - JPY/JPB bits
Entries 1890424
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

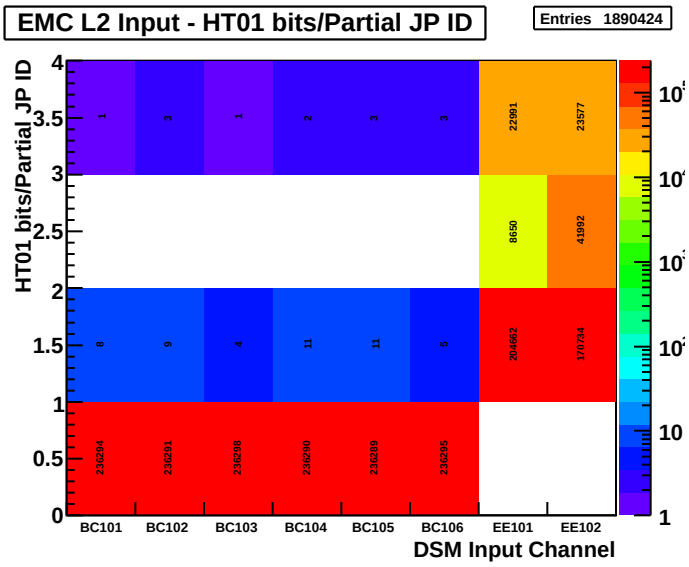

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

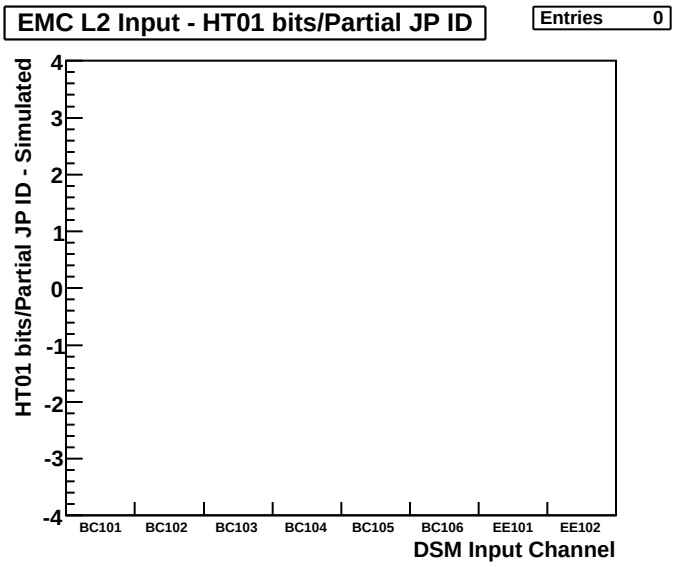

EMC L2 Input - JPZ/JPC bits
Entries 1890424
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

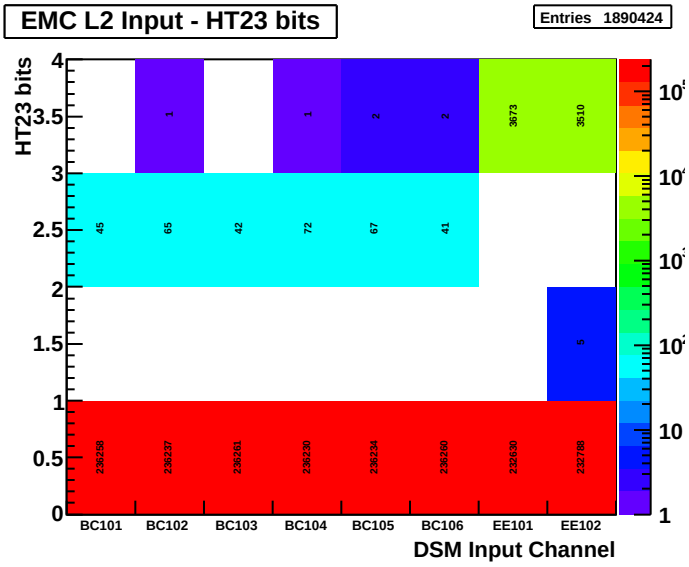

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

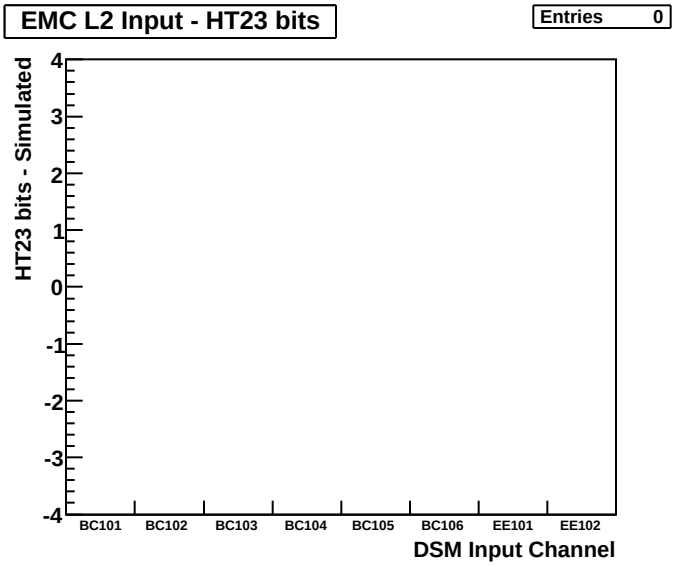

EMC L2 Input - Partial JP Sum
Entries 1890424
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

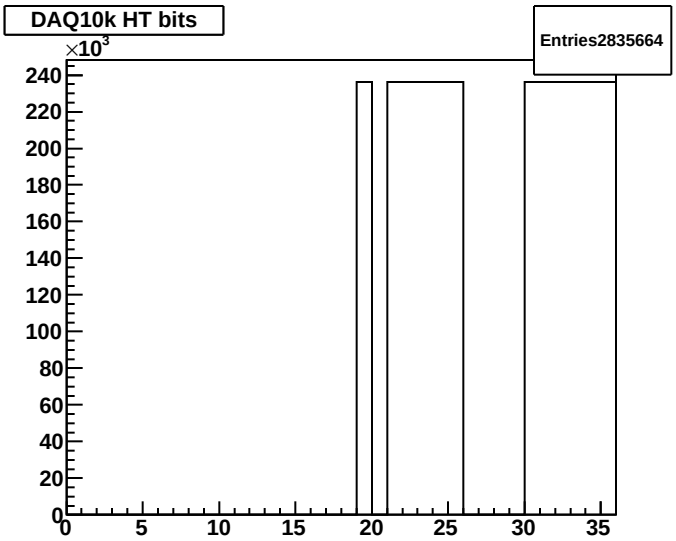

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

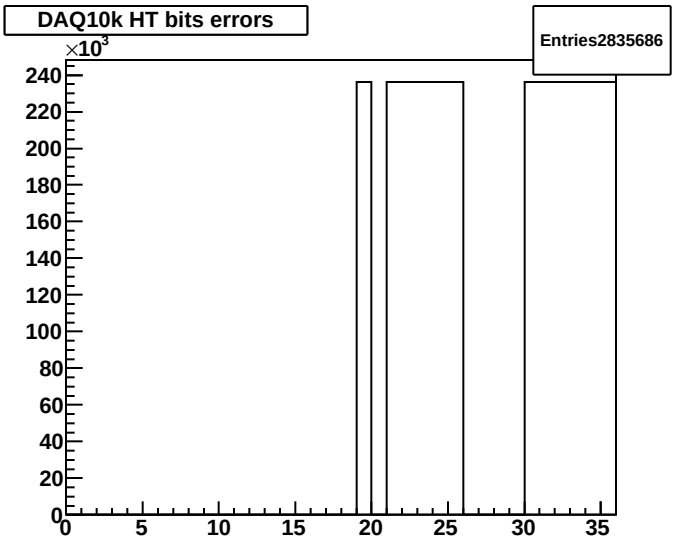

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1890424
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

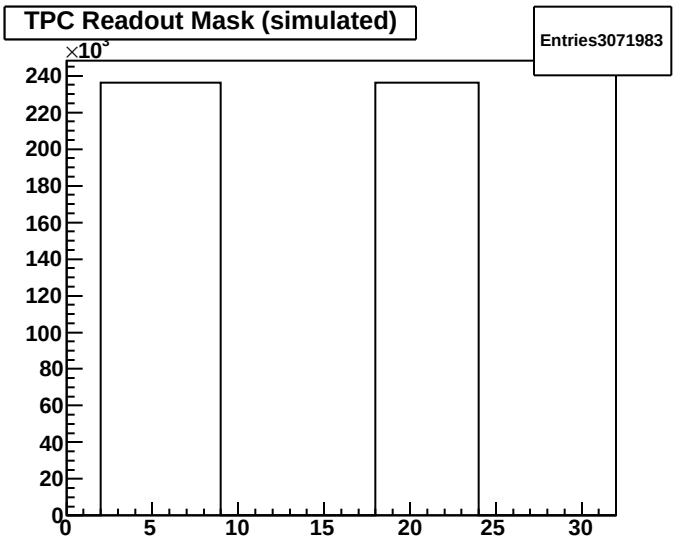

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

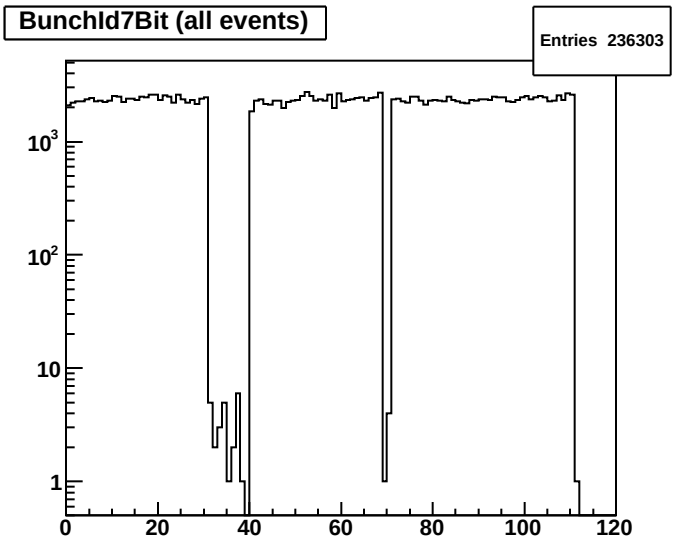

EMC L2 Input - HT23 bits
Entries 1890424
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

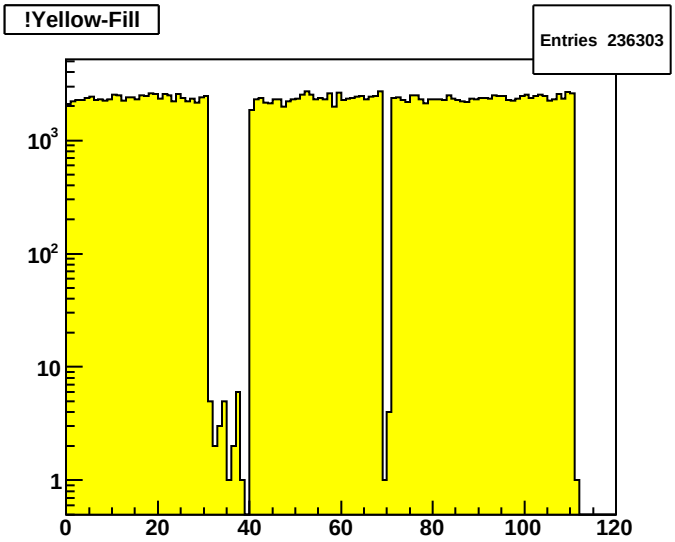

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

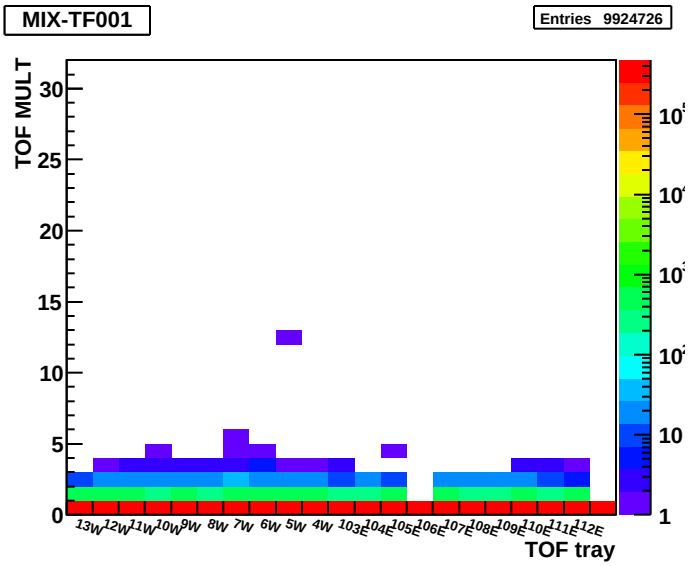

DAQ10k HT bits
Entries2835664
×10^3
240
220
200
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

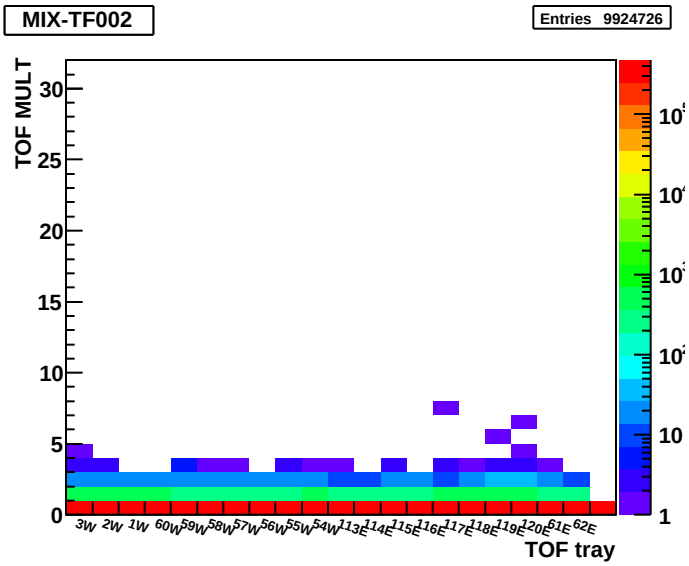

DAQ10k HT bits errors
Entries2835686
×10^3
240
220
200
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

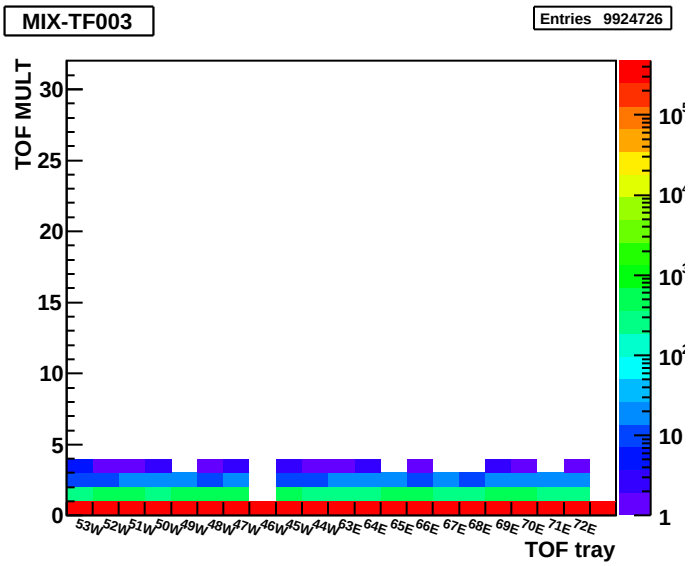

TPC Readout Mask (simulated)
Entries3071983
×10^3
240
220
200
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30

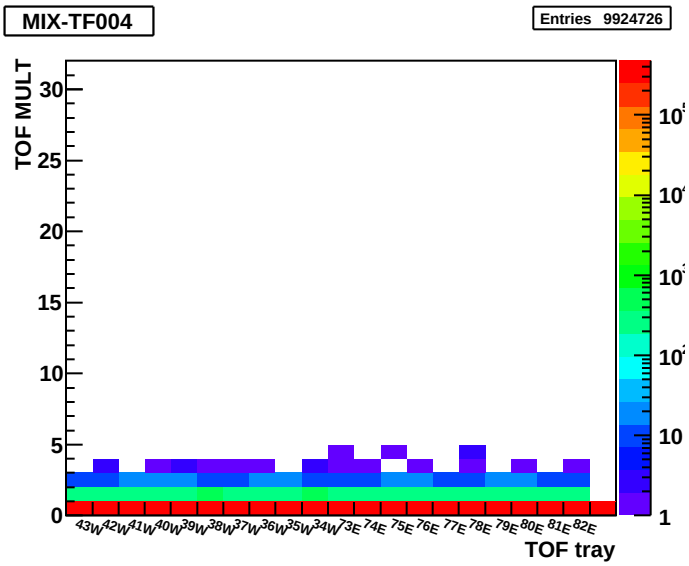

BunchId7Bit (all events)
Entries 236303
10^3
10^2
10
1
0 20 40 60 80 100 120

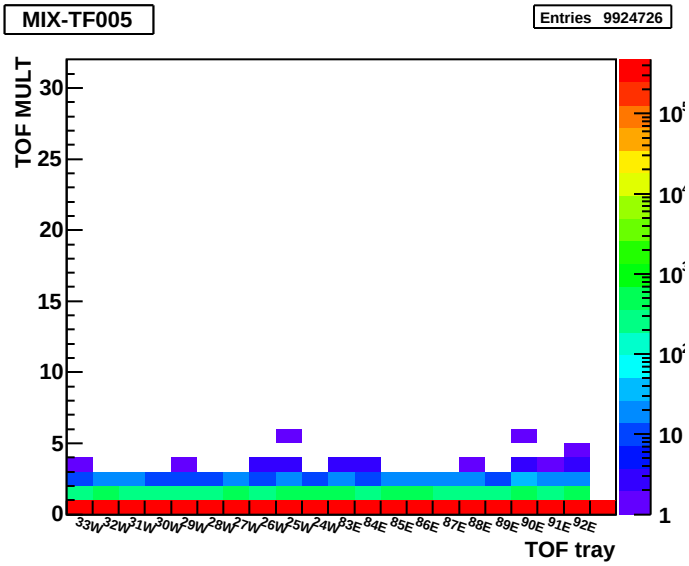

!Yellow-Fill
Entries 236303
10^3
10^2
10
1
0 20 40 60 80 100 120

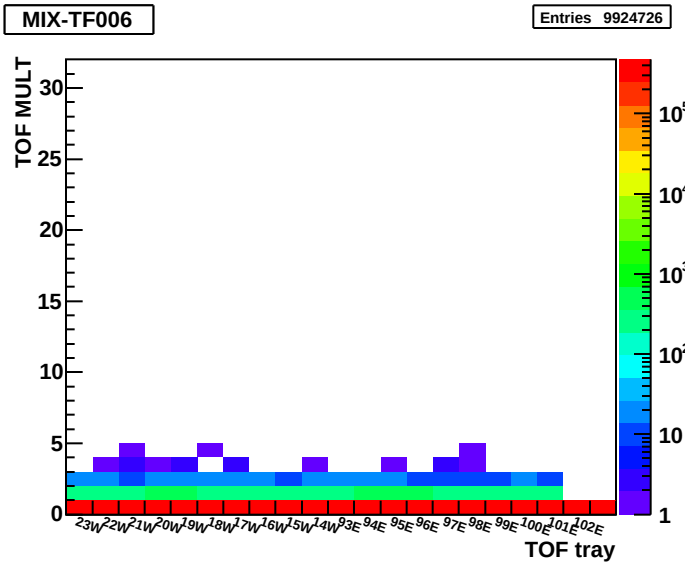

MIX-TF001
Entries 9924726
TOF MULT
TOF tray

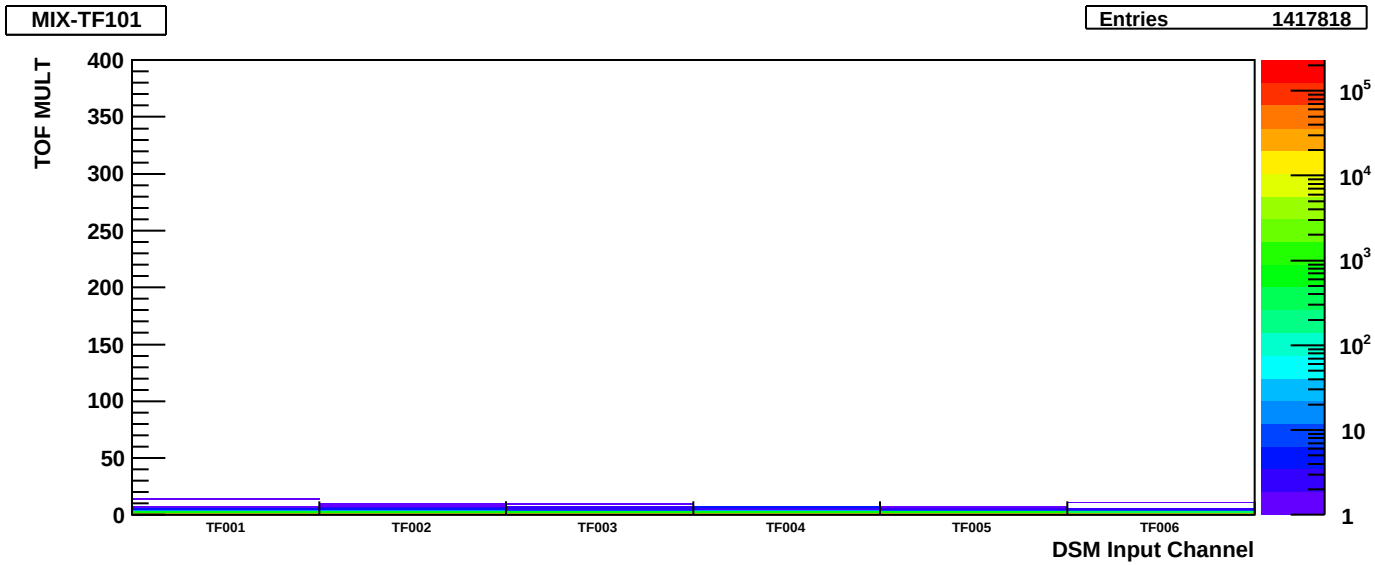

MIX-TF002
Entries 9924726
TOF MULT
TOF tray

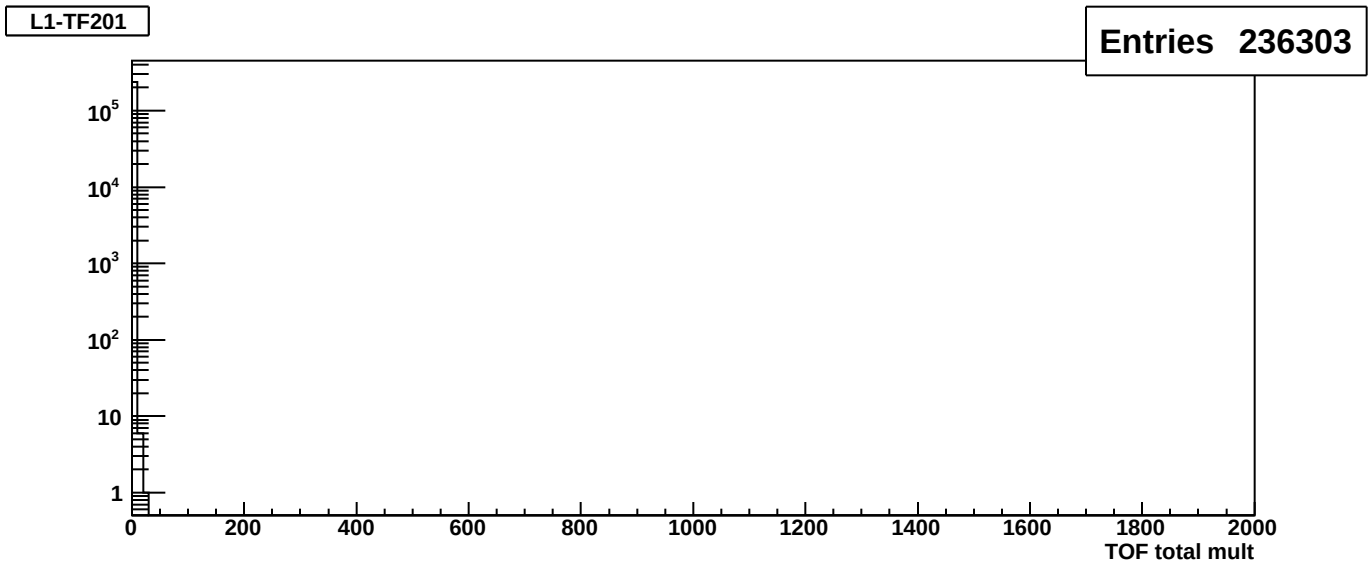

MIX-TF003
Entries 9924726
TOF MULT
TOF tray

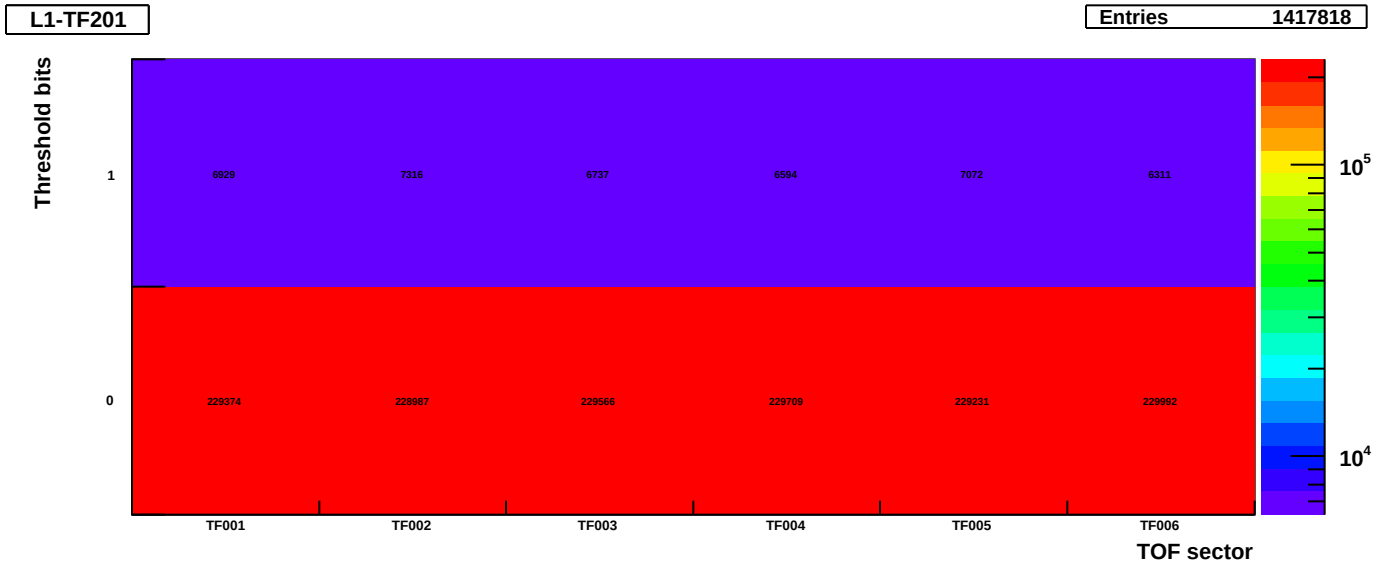

MIX-TF004
Entries 9924726
TOF MULT
TOF tray

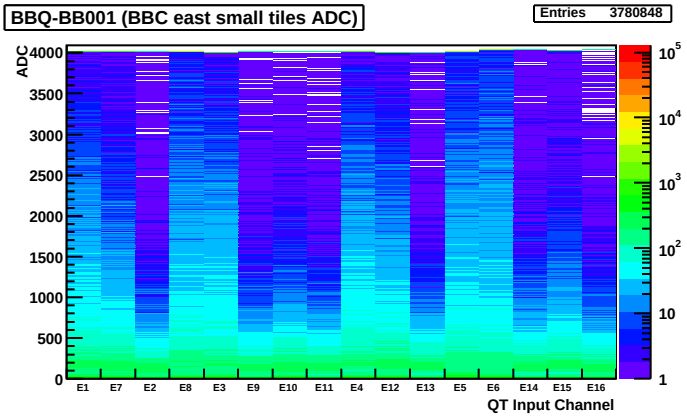

MIX-TF005
Entries 9924726
TOF MULT
TOF tray

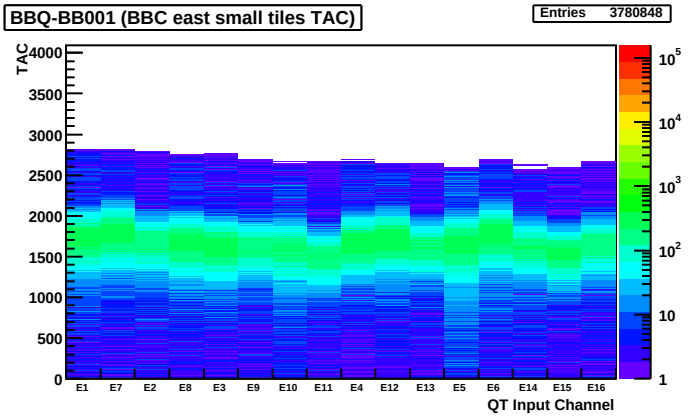

MIX-TF006
Entries 9924726
TOF MULT
TOF tray

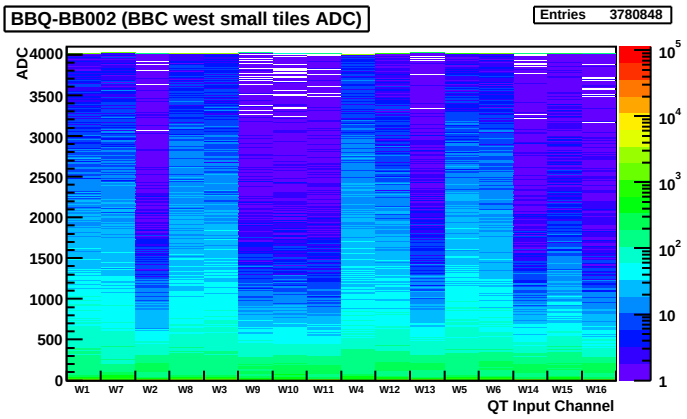

MIX-TF101
Entries 1417818
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

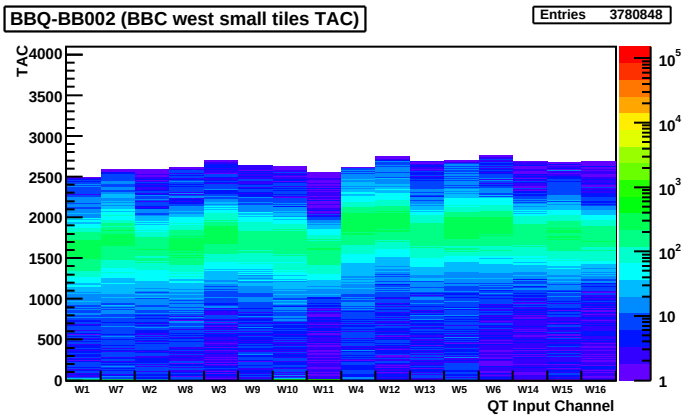

L1-TF201
Entries 236303
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

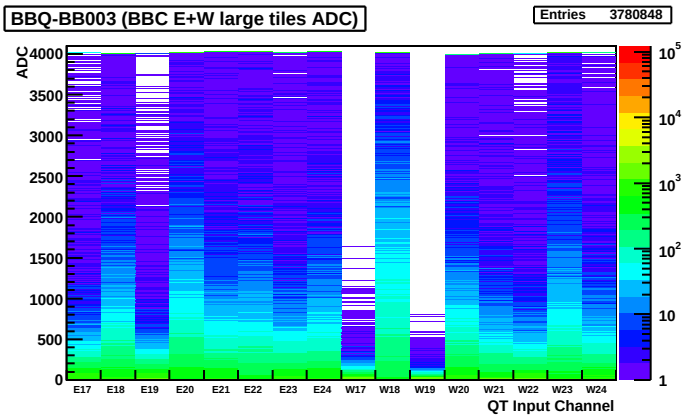

L1-TF201
Entries 1417818
Threshold bits
1
0
6929
7316
6737
6594
7072
6311
229374
228987
229566
229709
229231
229992
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5
10^4

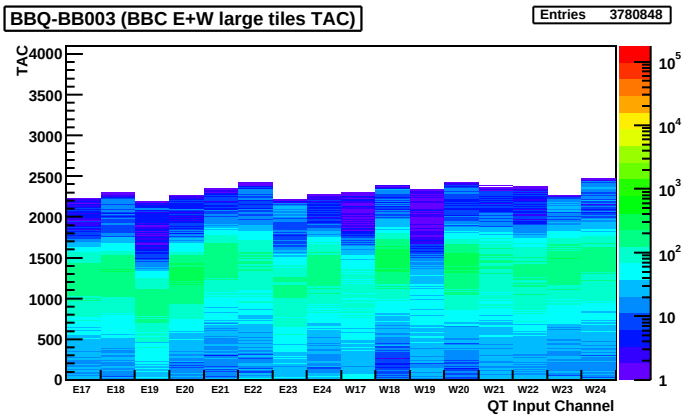

BBQ-BB001 (BBC east small tiles ADC)
Entries 3780848
ADC
QT Input Channel

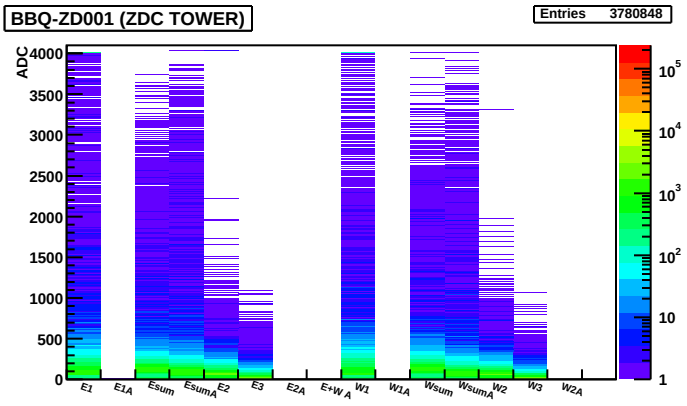

BBQ-BB001 (BBC east small tiles TAC)
Entries 3780848
TAC
QT Input Channel

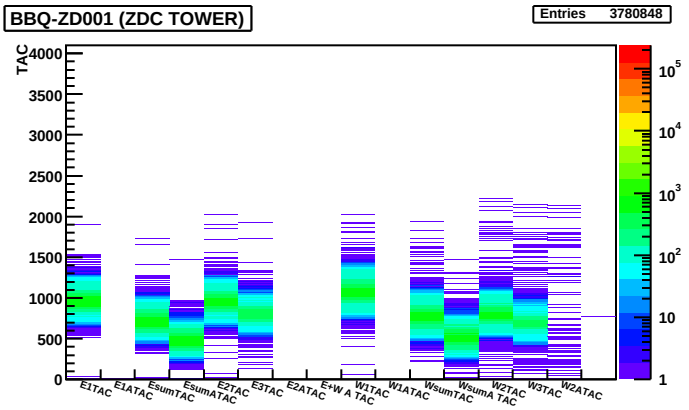

BBQ-BB002 (BBC west small tiles ADC)
Entries 3780848
ADC
QT Input Channel

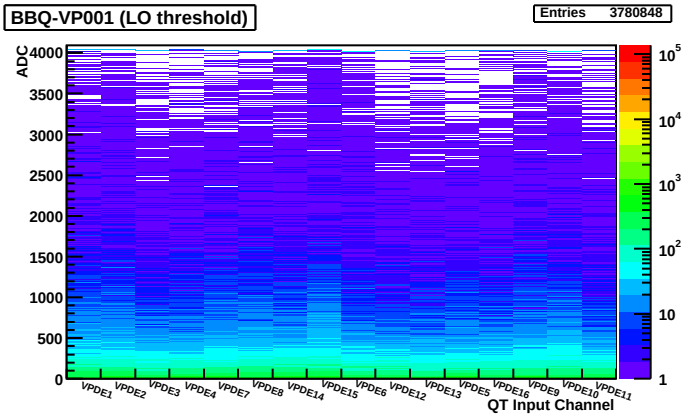

BBQ-BB002 (BBC west small tiles TAC)
Entries 3780848
TAC
QT Input Channel

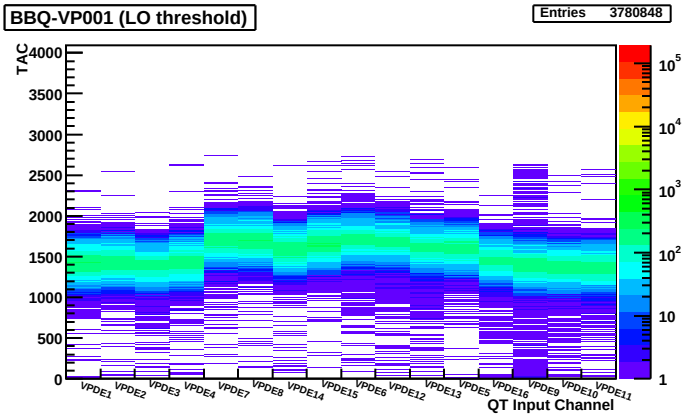

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 3780848
ADC
QT Input Channel

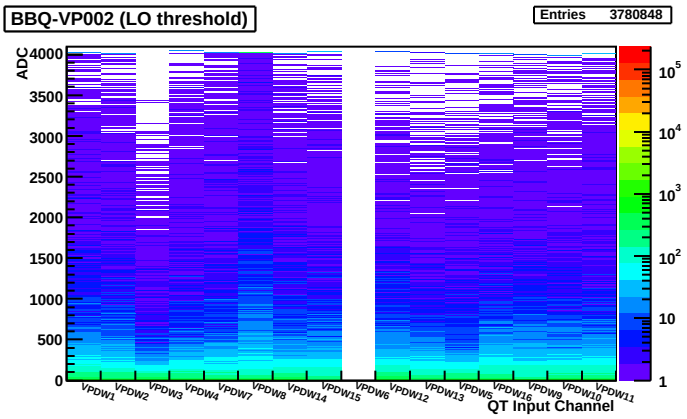

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 3780848
TAC
QT Input Channel

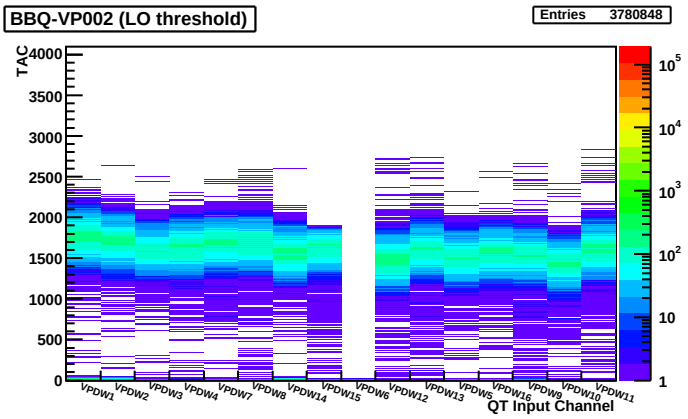

BBQ-ZD001 (ZDC TOWER)
Entries 3780848
ADC

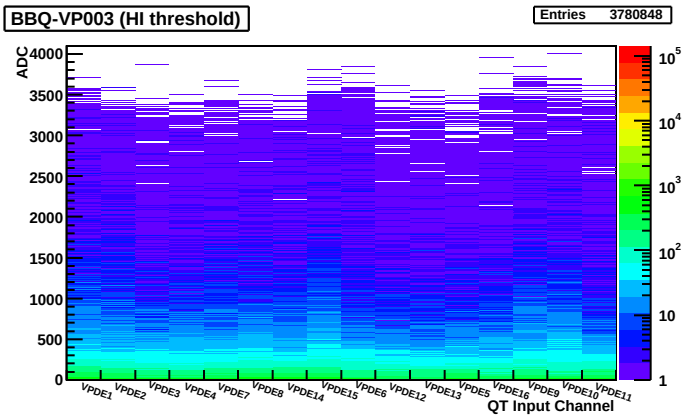

BBQ-ZD001 (ZDC TOWER)
Entries 3780848
TAC

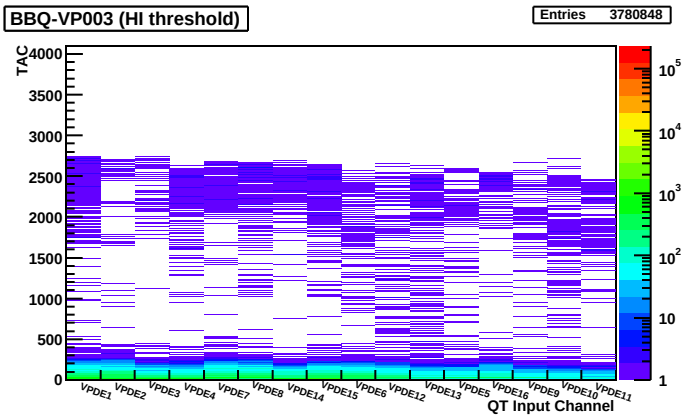

BBQ-VP001 (LO threshold)
Entries 3780848
ADC
QT Input Channel

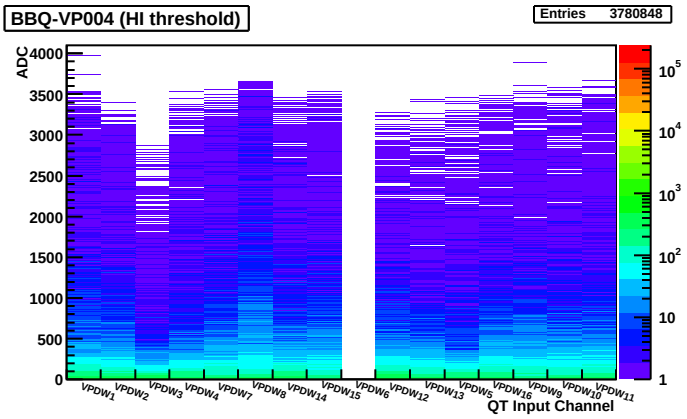

BBQ-VP001 (LO threshold)
Entries 3780848
TAC
QT Input Channel

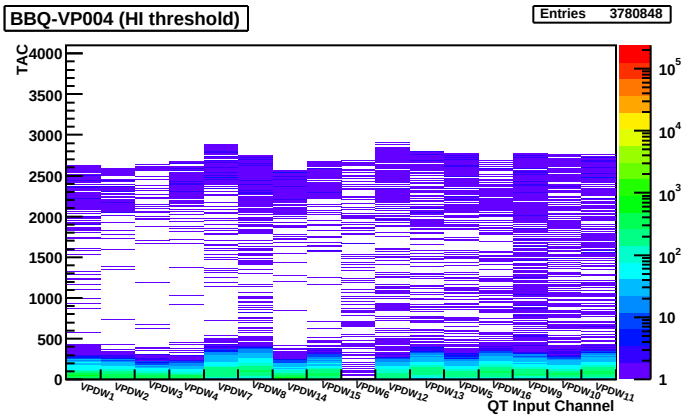

BBQ-VP002 (LO threshold)
Entries 3780848
ADC
QT Input Channel

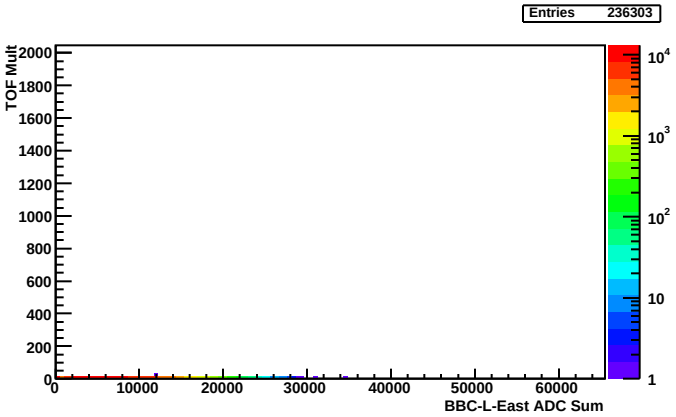

BBQ-VP002 (LO threshold)
Entries 3780848
TAC
QT Input Channel

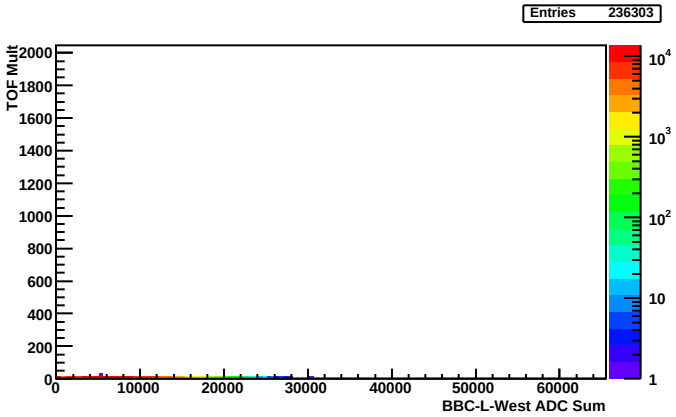

BBQ-VP003 (HI threshold)
Entries 3780848
ADC
QT Input Channel

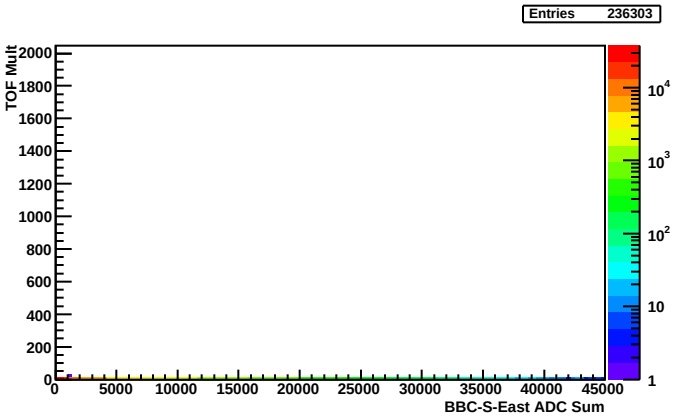

BBQ-VP003 (HI threshold)
Entries 3780848
TAC
QT Input Channel

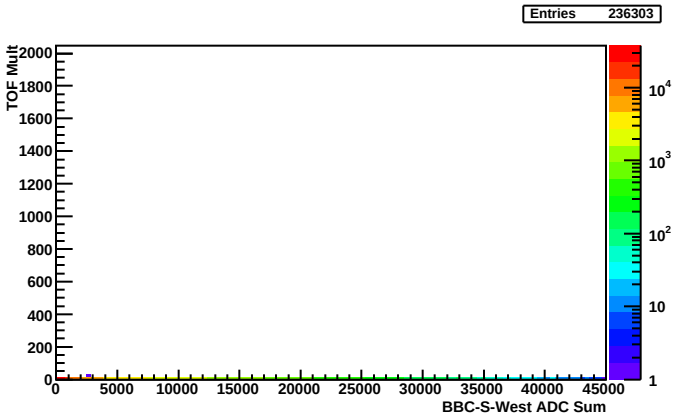

BBQ-VP004 (HI threshold)
Entries 3780848
ADC
QT Input Channel

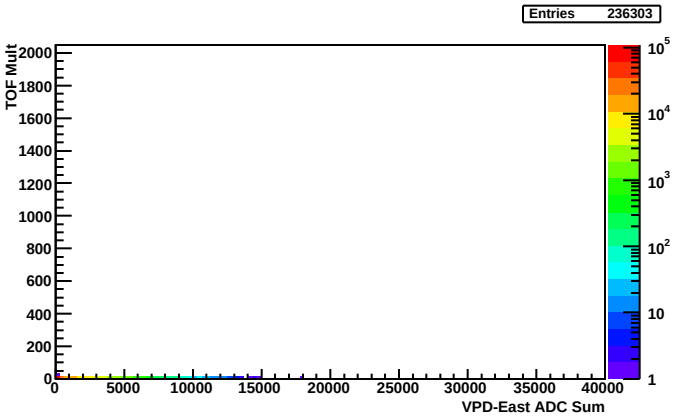

BBQ-VP004 (HI threshold)
Entries 3780848
TAC
QT Input Channel

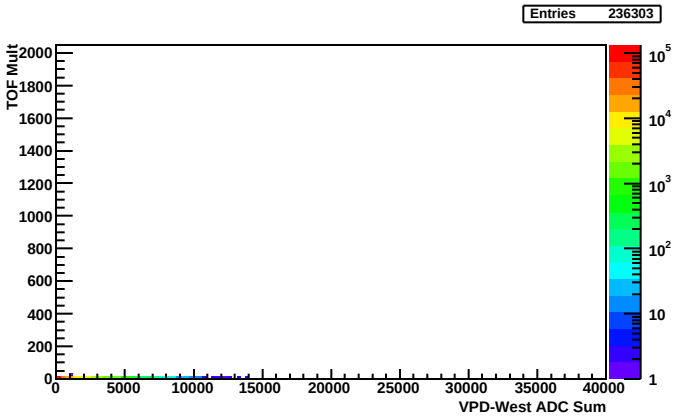

Entries 236303
TOF Mult
BBC-L-East ADC Sum

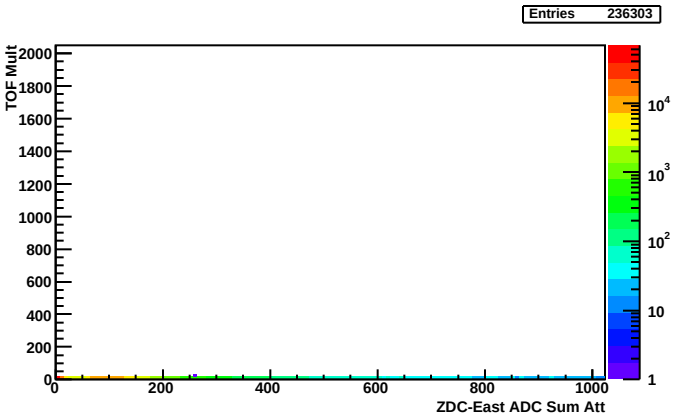

Entries 236303
TOF Mult
BBC-L-West ADC Sum

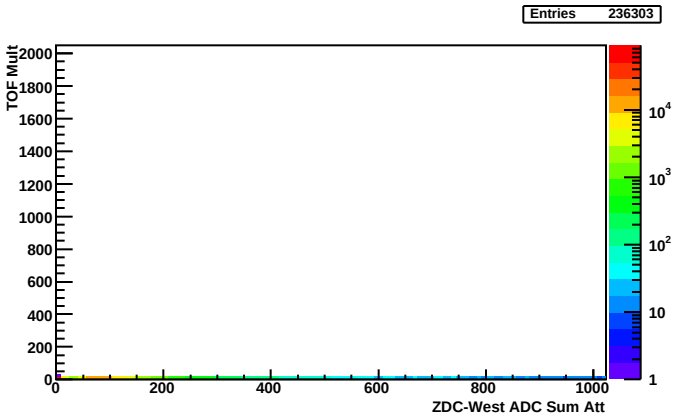

Entries 236303
TOF Mult
BBC-S-East ADC Sum

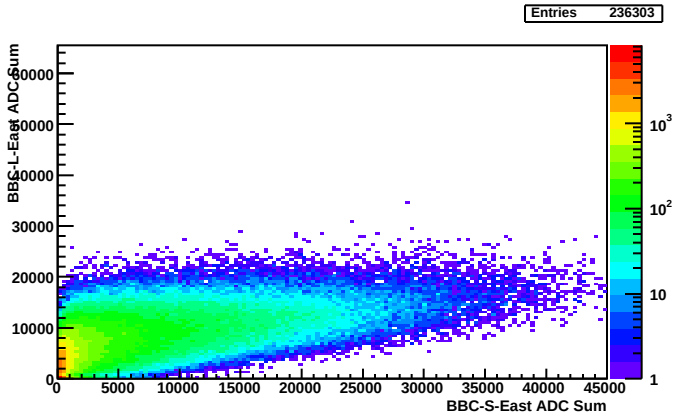

Entries 236303
TOF Mult
BBC-S-West ADC Sum

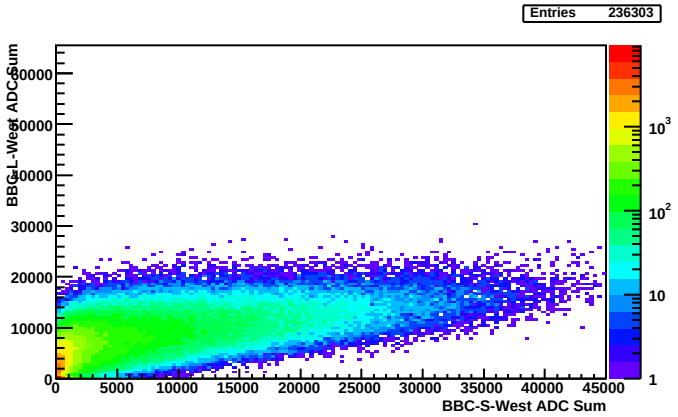

Entries 236303
TOF Mult
VPD-East ADC Sum

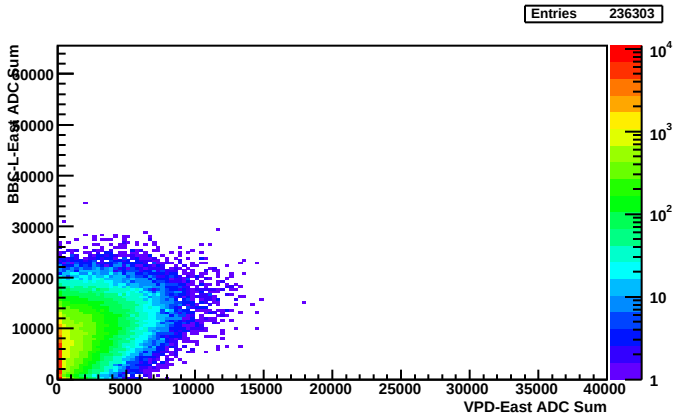

Entries 236303
TOF Mult
VPD-West ADC Sum

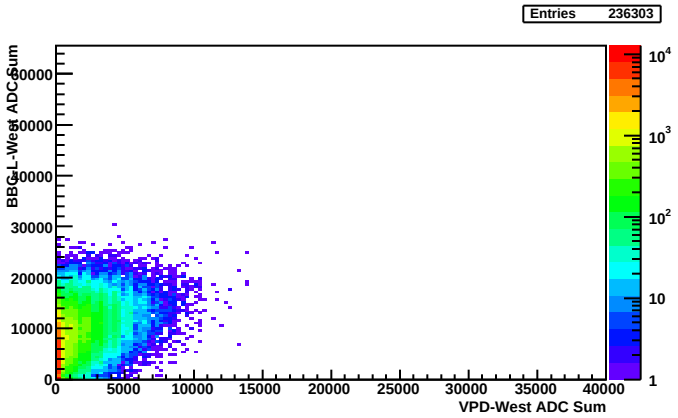

Entries 236303
TOF Mult
ZDC-East ADC Sum Att


Entries 236303
TOF Mult
ZDC-West ADC Sum Att


Entries 236303
BBC-L-East ADC Sum
BBC-S-East ADC Sum


Entries 236303
BBC-L-West ADC Sum
BBC-S-West ADC Sum


Entries 236303
BBC-L-East ADC Sum
VPD-East ADC Sum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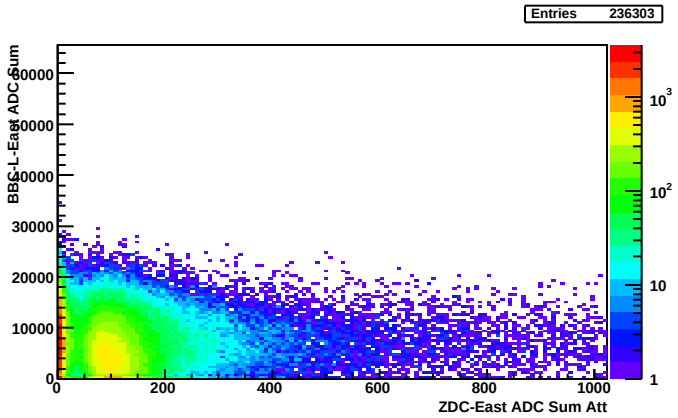
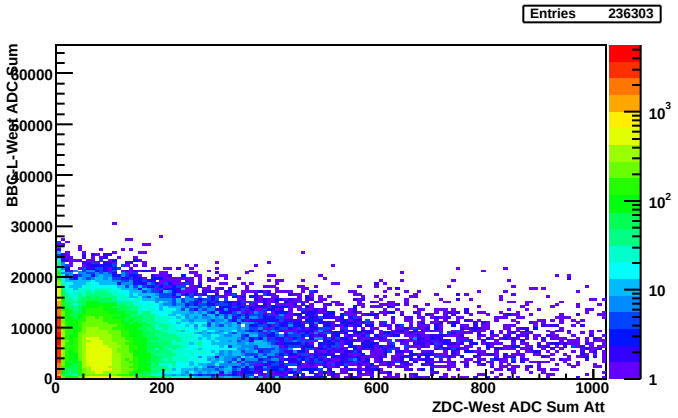
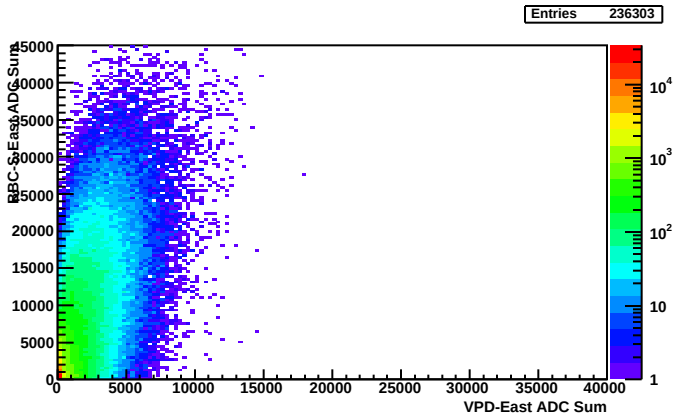
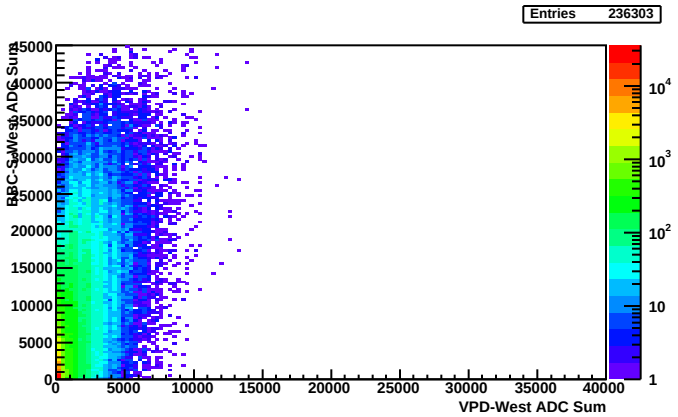
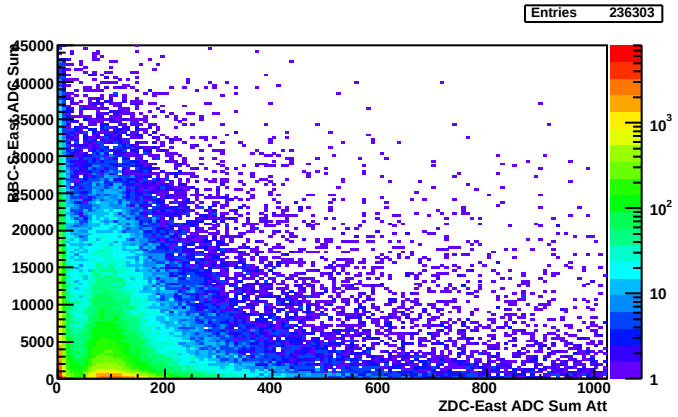
BBC-L-West ADC Sum
VPD-West ADC Sum

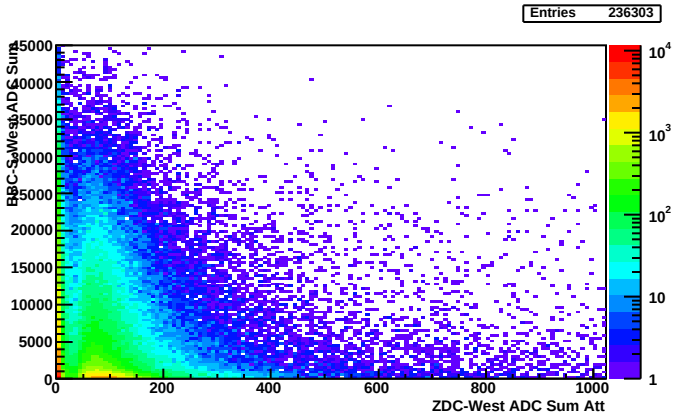

Entries 236303
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

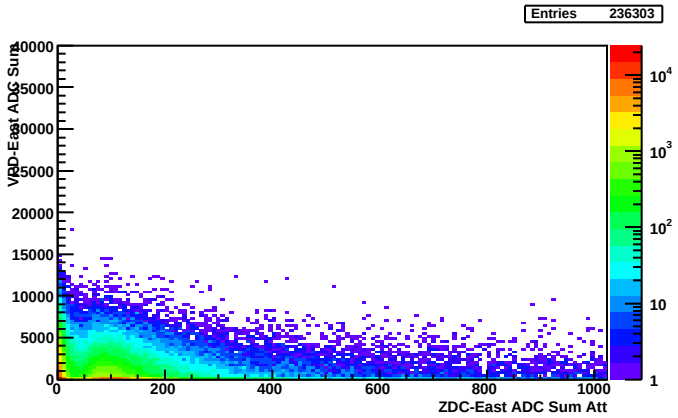

Entries 236303
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

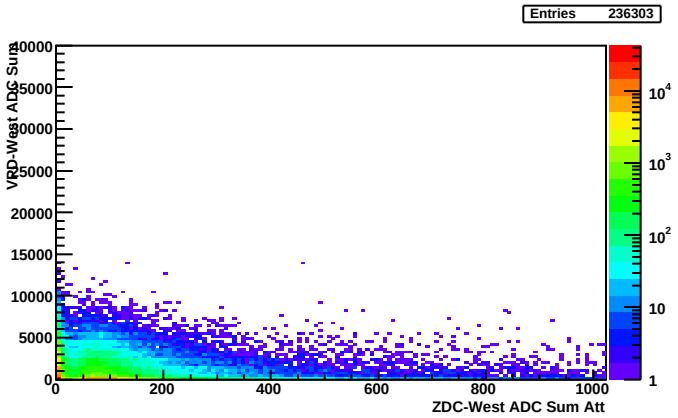

Entries 236303
BBC-S-East ADC Sum
VPD-East ADC Sum


Entries 236303
BBC-S-West ADC Sum
VPD-West ADC Sum


Entries 236303
BBC-S-East ADC Sum
ZDC-East ADC Sum Att


Entries 236303
BBC-S-West ADC Sum
ZDC-West ADC Sum Att


Entries 236303
VPD-East ADC Sum
ZDC-East ADC Sum Att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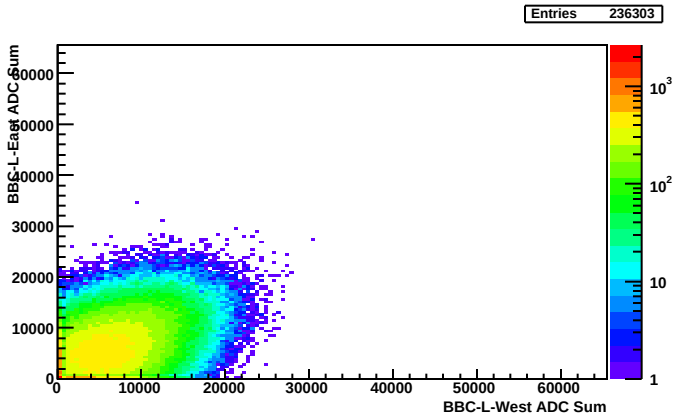
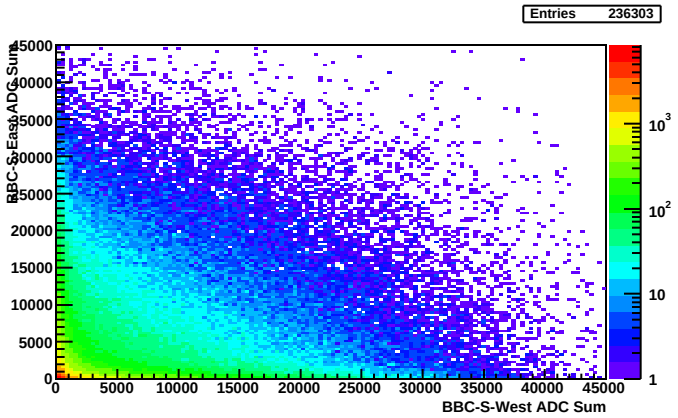
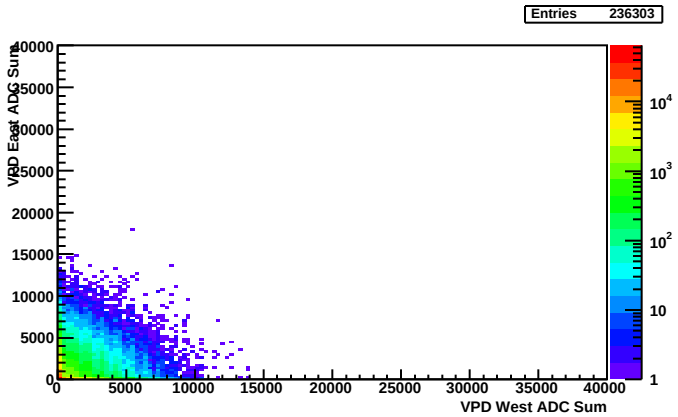
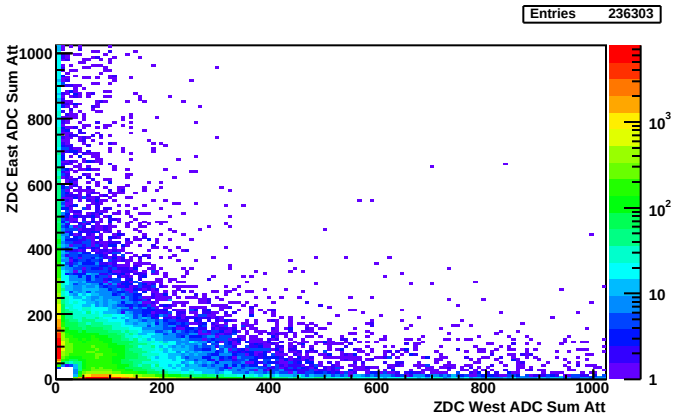
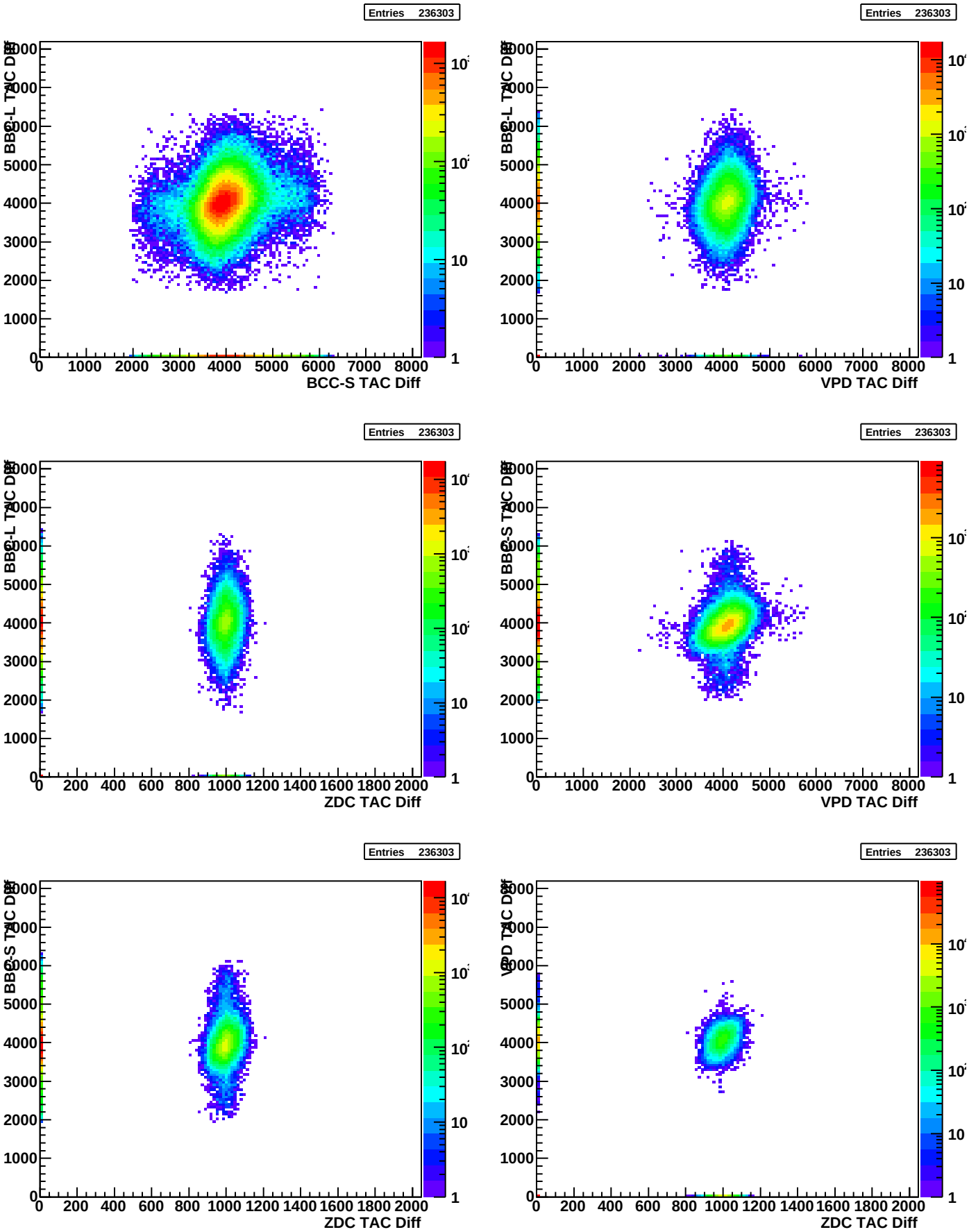
VPD-West ADC Sum
ZDC-West ADC Sum Att

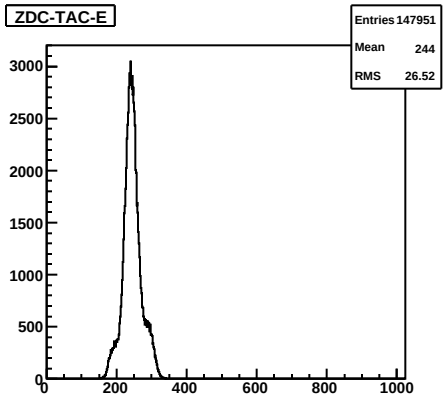

Entries 236303
BBC-L-East ADC Sum
BBC-L-West ADC Sum

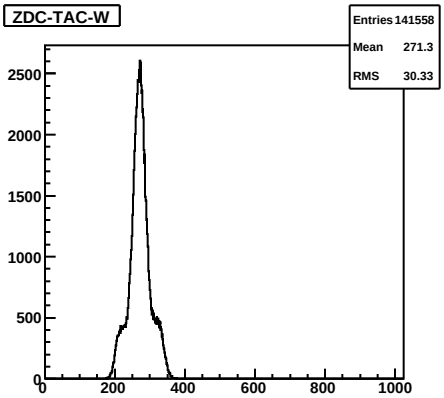

Entries 236303
BBC-S-East ADC Sum
BBC-S-West ADC Sum

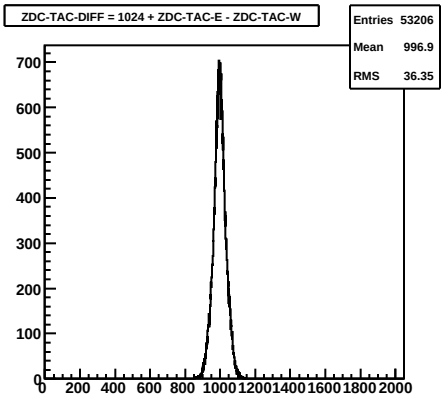

Entries 236303
VPD East ADC Sum
VPD West ADC Sum

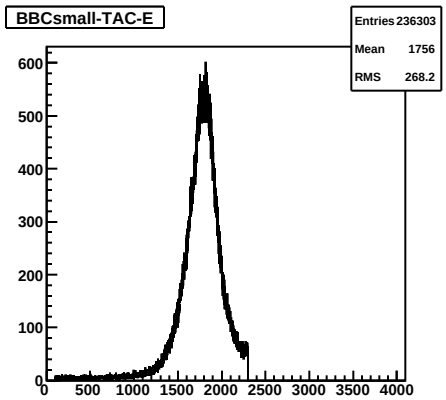

Entries 236303
ZDC East ADC Sum Att
ZDC West ADC Sum Att

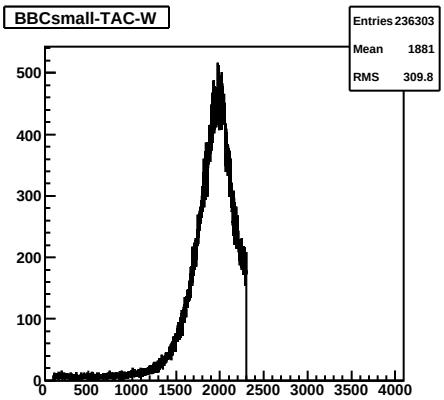

Entries 236303
BBC-L TAC Diff
BCC-S TAC Diff
Entries 236303
BBC-L TAC Diff
VPD TAC Diff
Entries 236303
BBC-L TAC Diff
ZDC TAC Diff
Entries 236303
BBC-S TAC Diff
VPD TAC Diff
Entries 236303
BBC-S TAC Diff
ZDC TAC Diff
Entries 236303
VPD TAC Diff
ZDC TAC Diff

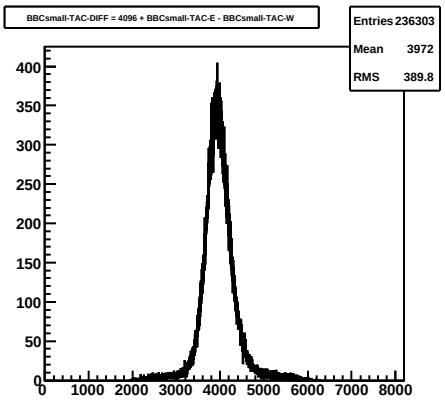

ZDC-TAC-E
Entries 147951
Mean 244
RMS 26.52

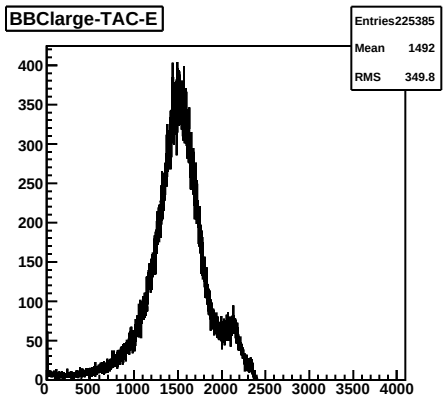

ZDC-TAC-W
Entries 141558
Mean 271.3
RMS 30.33

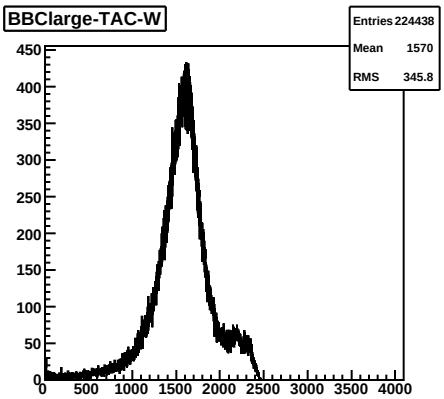

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 53206
Mean 996.9
RMS 36.35

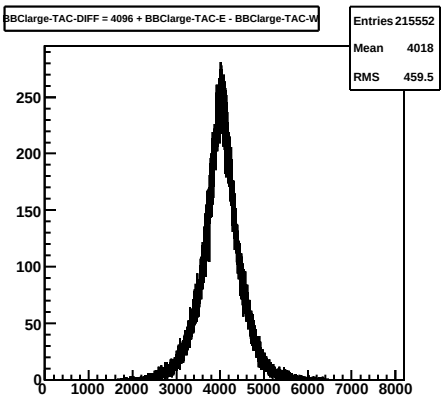

BBCsmall-TAC-E
Entries 236303
Mean 1756
RMS 268.2

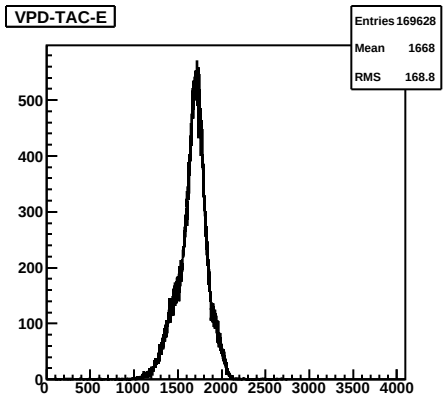

BBCsmall-TAC-W
Entries 236303
Mean 1881
RMS 309.8

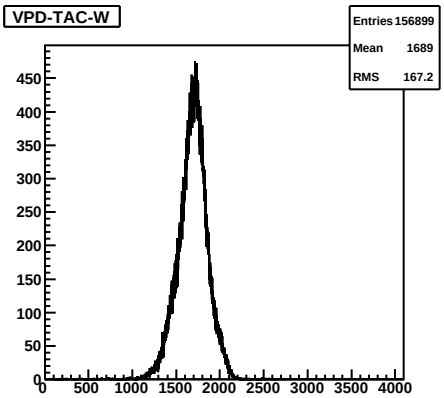

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 236303
Mean 3972
RMS 389.8

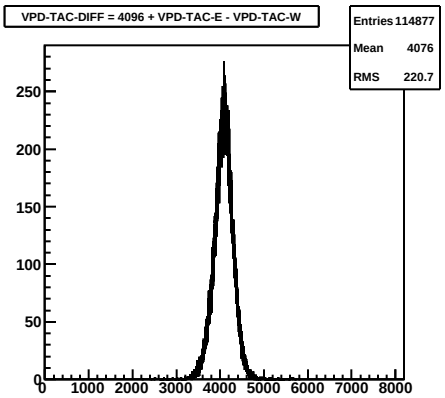

BBClarge-TAC-E
Entries 225385
Mean 1492
RMS 349.8

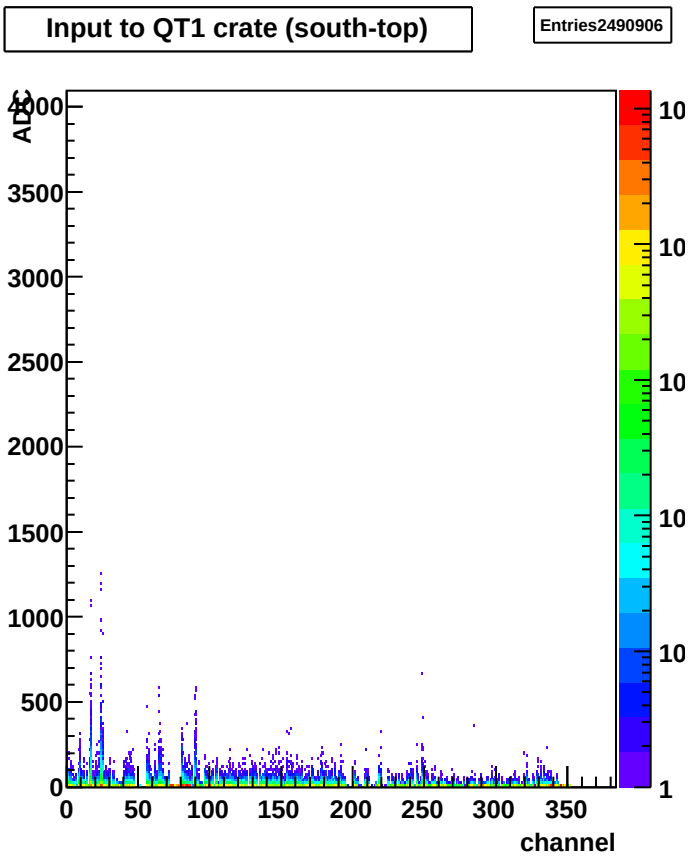

BBClarge-TAC-W
Entries 224438
Mean 1570
RMS 345.8

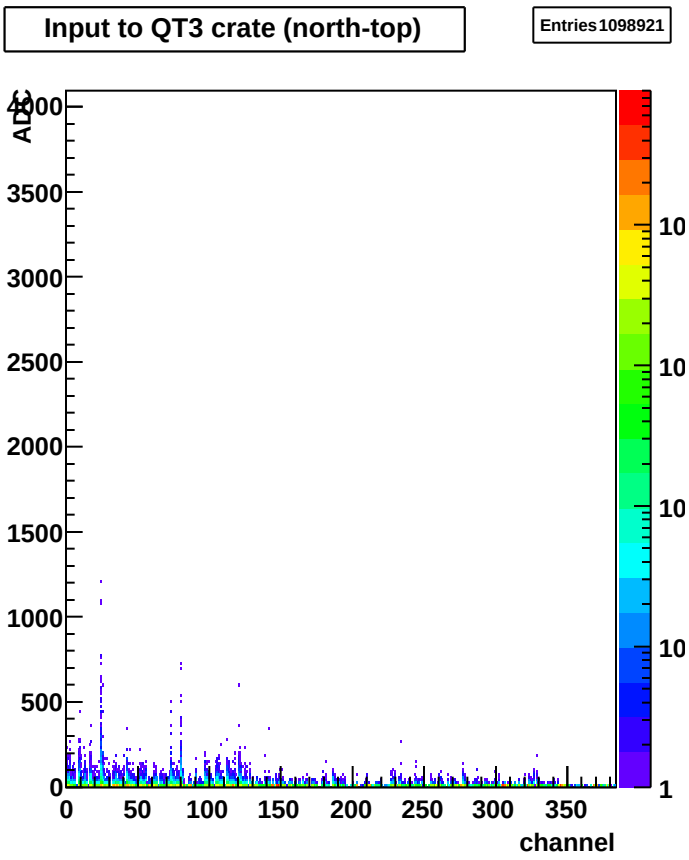

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 215552
Mean 4018
RMS 459.5

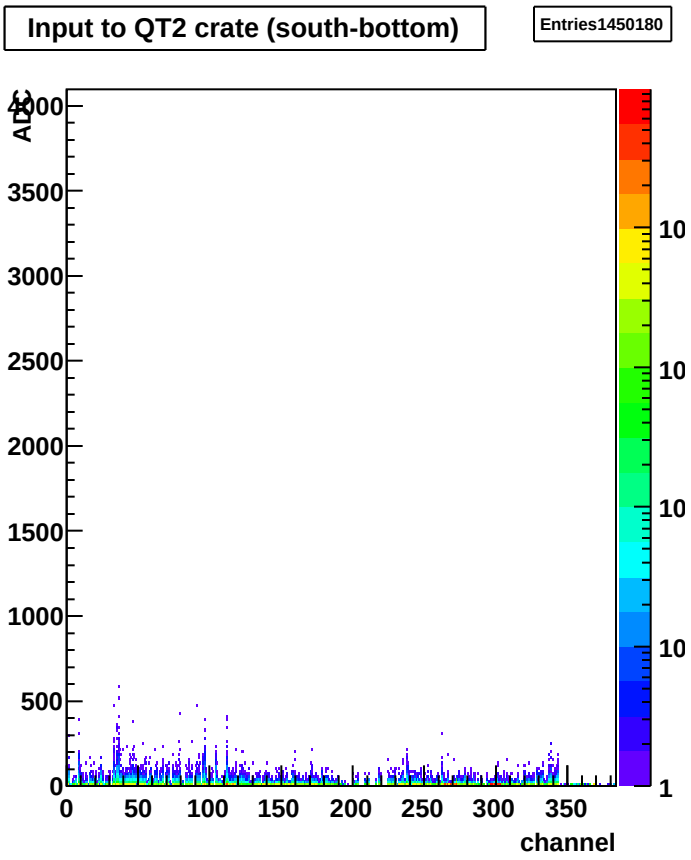

VPD-TAC-E
Entries 169628
Mean 1668
RMS 168.8

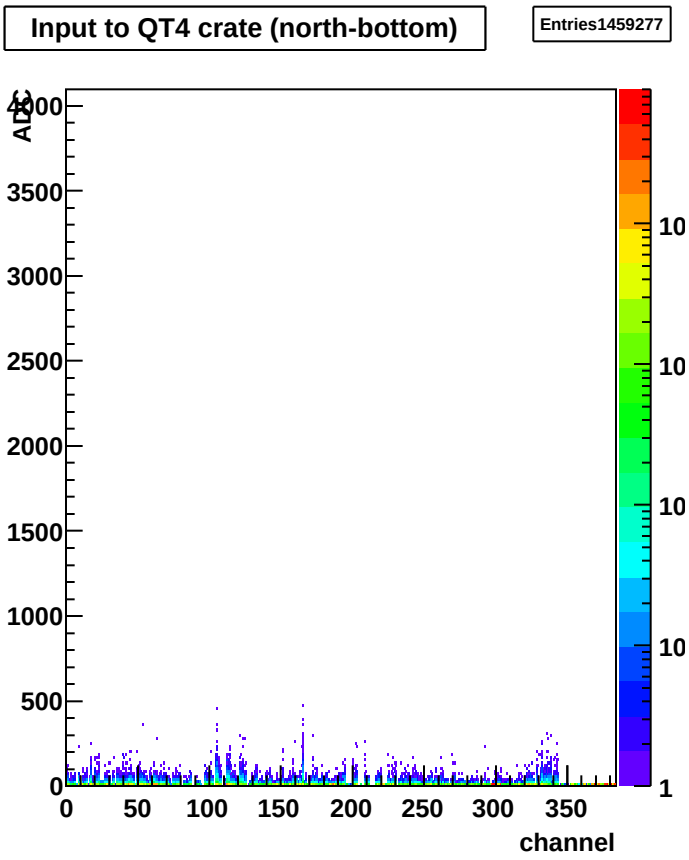

VPD-TAC-W
Entries 156899
Mean 1689
RMS 167.2

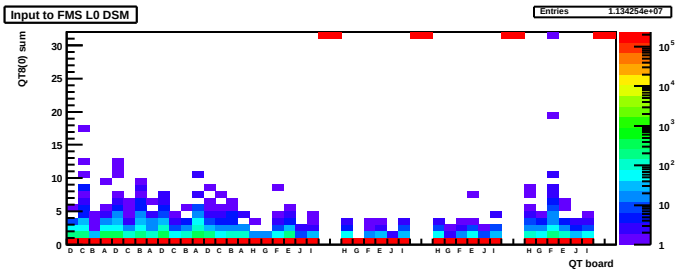

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 114877
Mean 4076
RMS 220.7

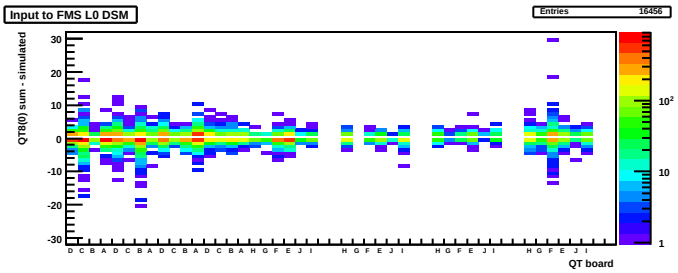

Input to QT1 crate (south-top)
Entries2490906
ADC
channel

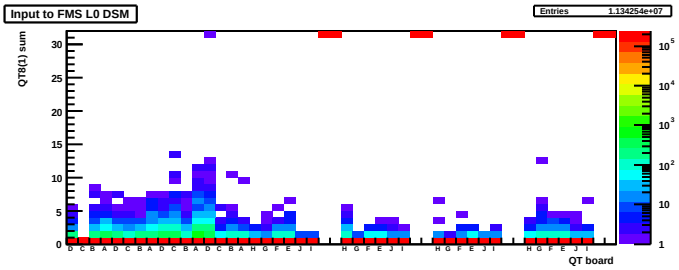

Input to QT3 crate (north-top)
Entries1098921
ADC
channel

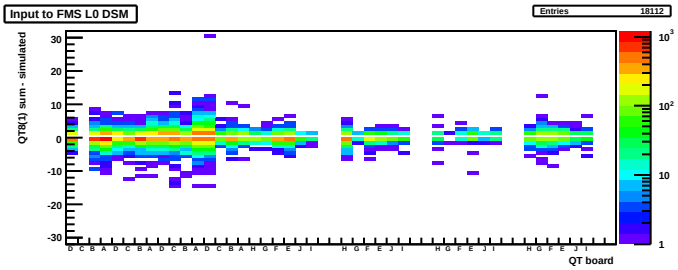

Input to QT2 crate (south-bottom)
Entries1450180
ADC
channel

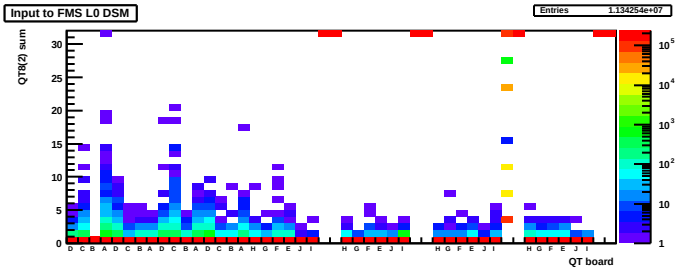

Input to QT4 crate (north-bottom)
Entries1459277
ADC
channel

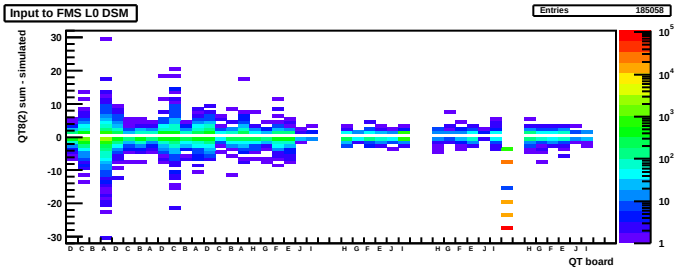

Input to FMS L0 DSM
Entries 1.134254e+07
QT8(0) sum
QT board

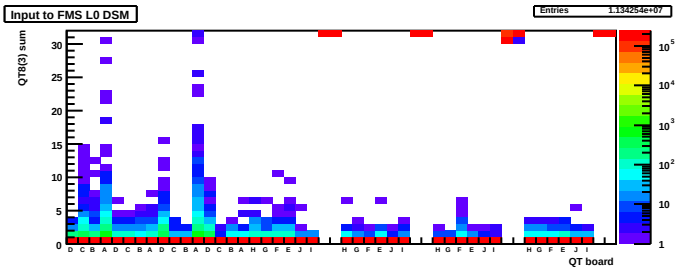

Input to FMS L0 DSM
Entries 16456
QT8(0) sum - simulated
QT board

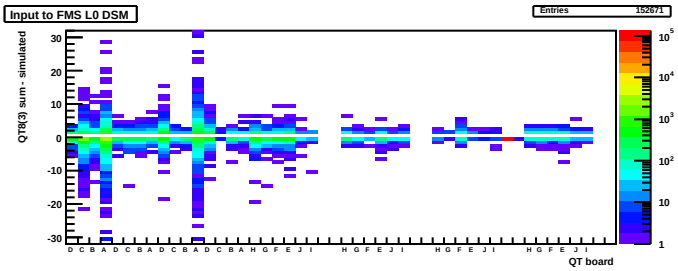

Input to FMS L0 DSM
Entries 1.134254e+07
QT8(1) sum
QT board

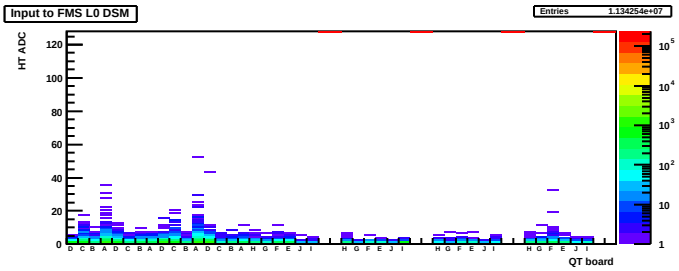

Input to FMS L0 DSM
Entries 18112
QT8(1) sum - simulated
QT board

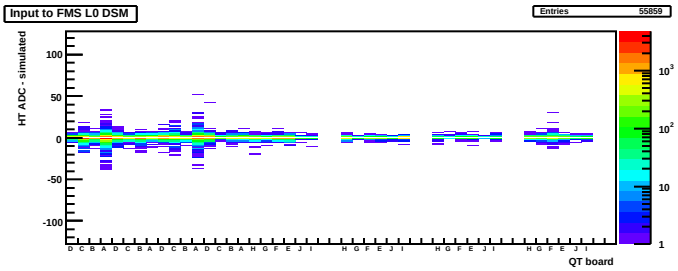

Input to FMS L0 DSM
Entries 1.134254e+07
QT8(2) sum
QT board

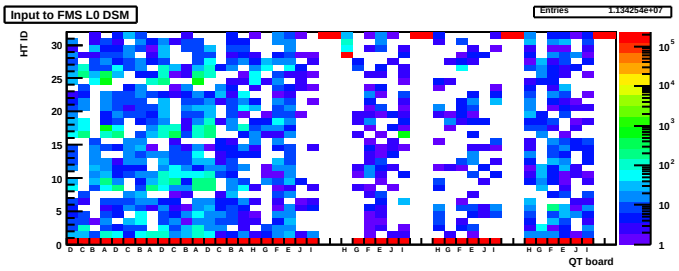

Input to FMS L0 DSM
Entries 185058
QT8(2) sum - simulated
QT board

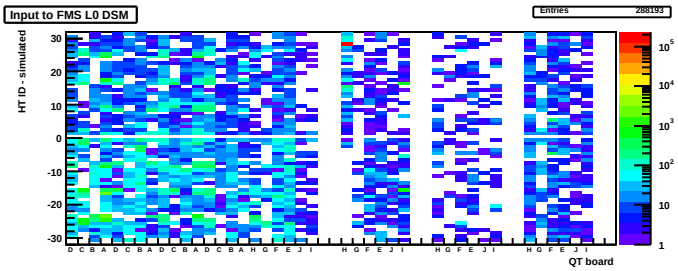

Input to FMS L0 DSM
Entries 1.134254e+07
QT8(3) sum
QT board

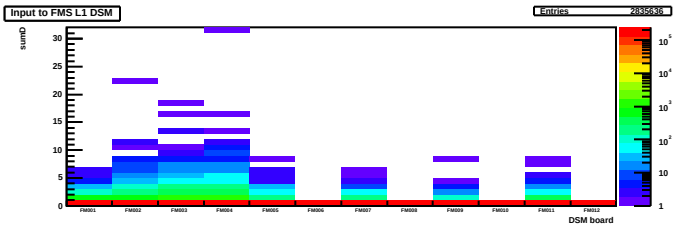

Input to FMS L0 DSM
Entries 152671
QT8(3) sum - simulated
QT board

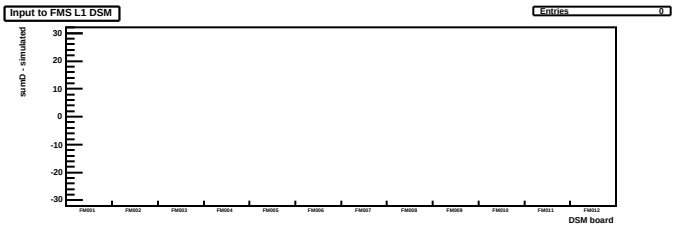

Input to FMS L0 DSM
Entries 1.134254e+07
HT ADC
QT board

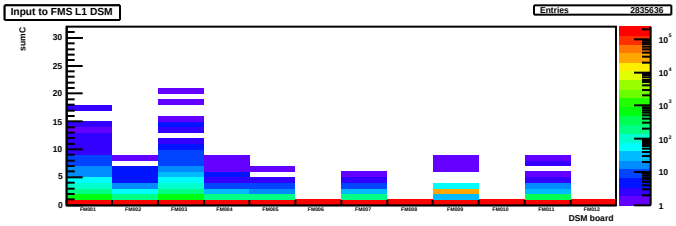

Input to FMS L0 DSM
Entries 55859
HT ADC - simulated
QT board

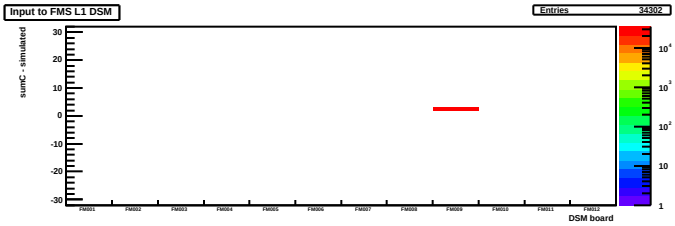

Input to FMS L0 DSM
Entries 1.134254e+07
HT ID
QT board

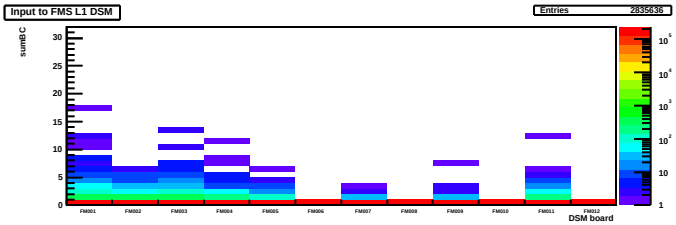

Input to FMS L0 DSM
Entries 288193
HT ID - simulated
QT board

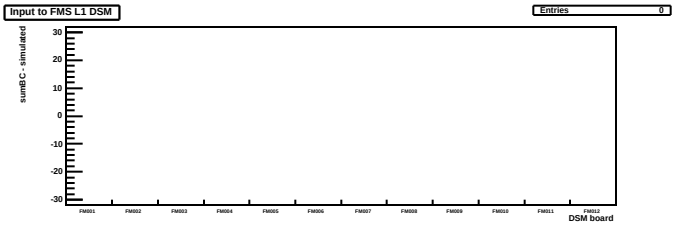

Input to FMS L1 DSM
Entries 2835636
sumD
DSM board

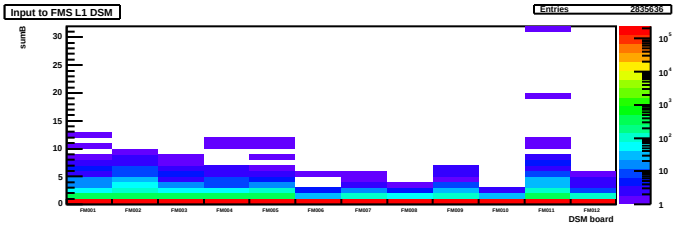

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

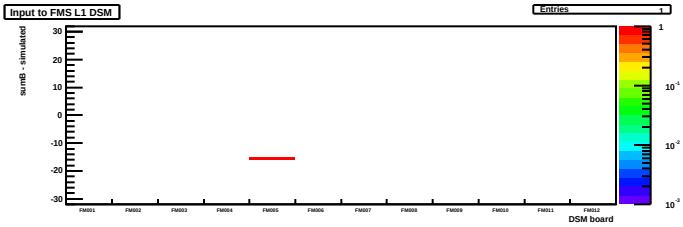

Input to FMS L1 DSM
Entries 2835636
sumC
DSM board

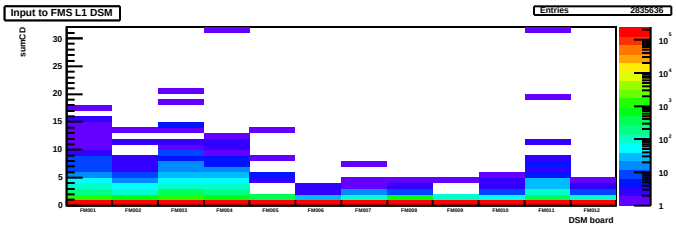

Input to FMS L1 DSM
Entries 34302
sumC - simulated
DSM board

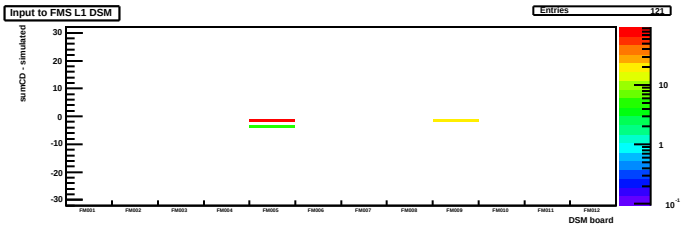

Input to FMS L1 DSM
Entries 2835636
sumBC
DSM board

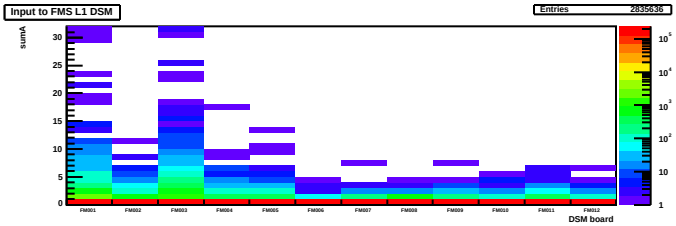

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

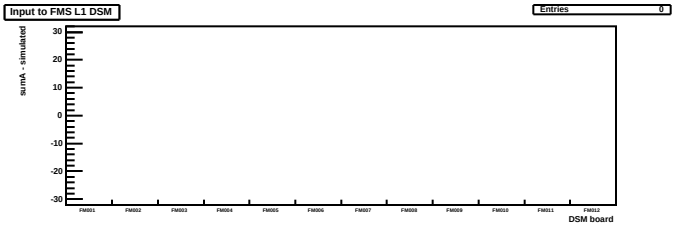

Input to FMS L1 DSM
Entries 2835636
sumB
DSM board

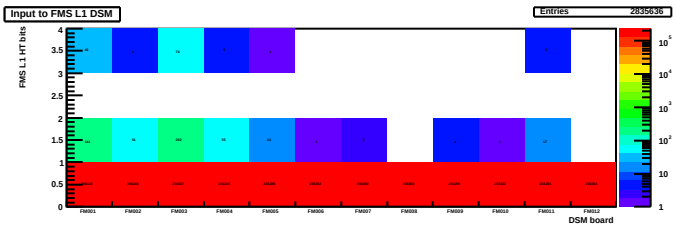

Input to FMS L1 DSM
Entries 1
sumB - simulated
DSM board

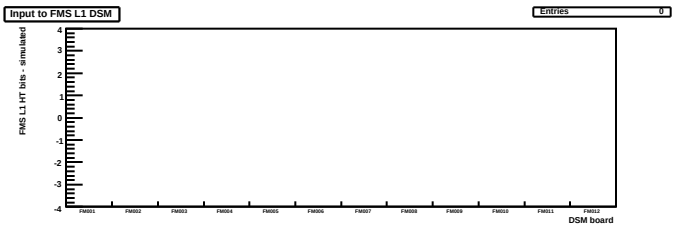

Input to FMS L1 DSM
Entries 2835636
sumCD
DSM board

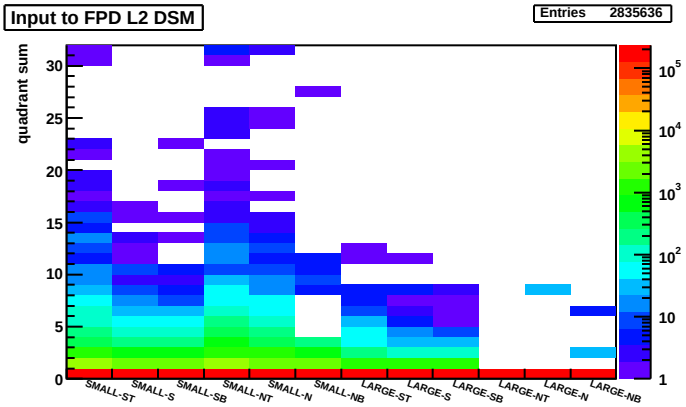

Input to FMS L1 DSM
Entries 121
sumCD - simulated
DSM board

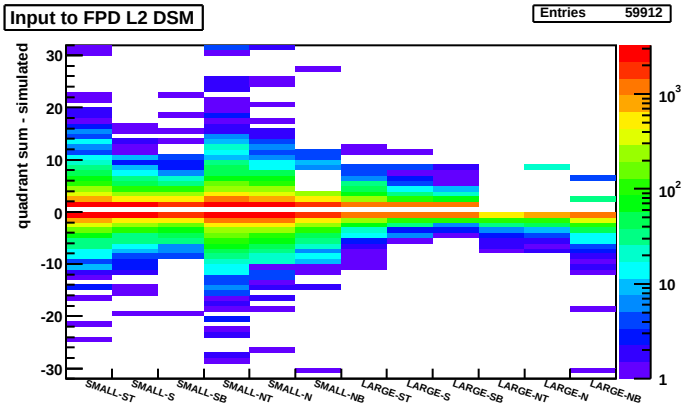

Input to FMS L1 DSM
Entries 2835636
sumA
DSM board

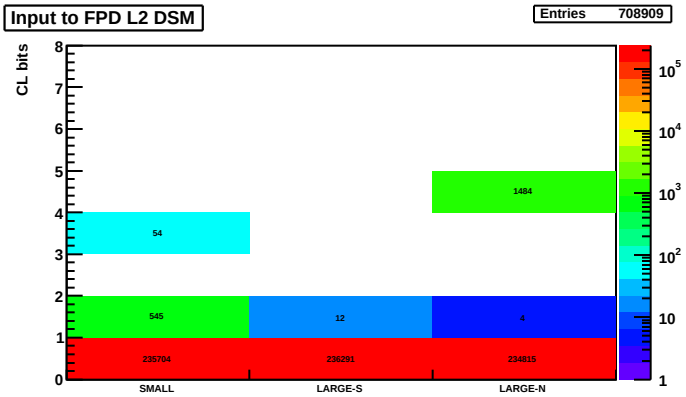

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

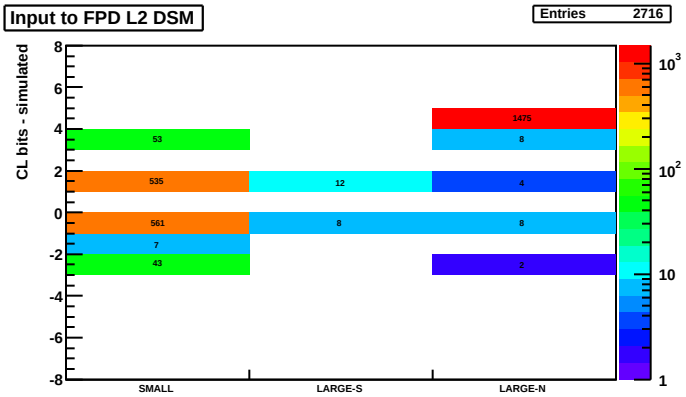

Input to FMS L1 DSM
Entries 2835636
FMS L1 HT bits
DSM board

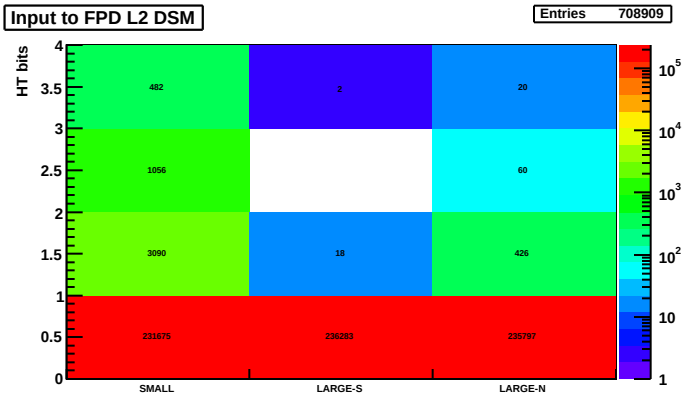

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

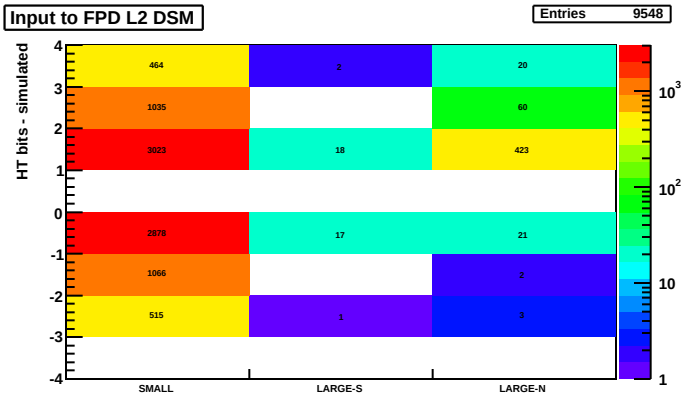

Input to FPD L2 DSM
Entries 2835636
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

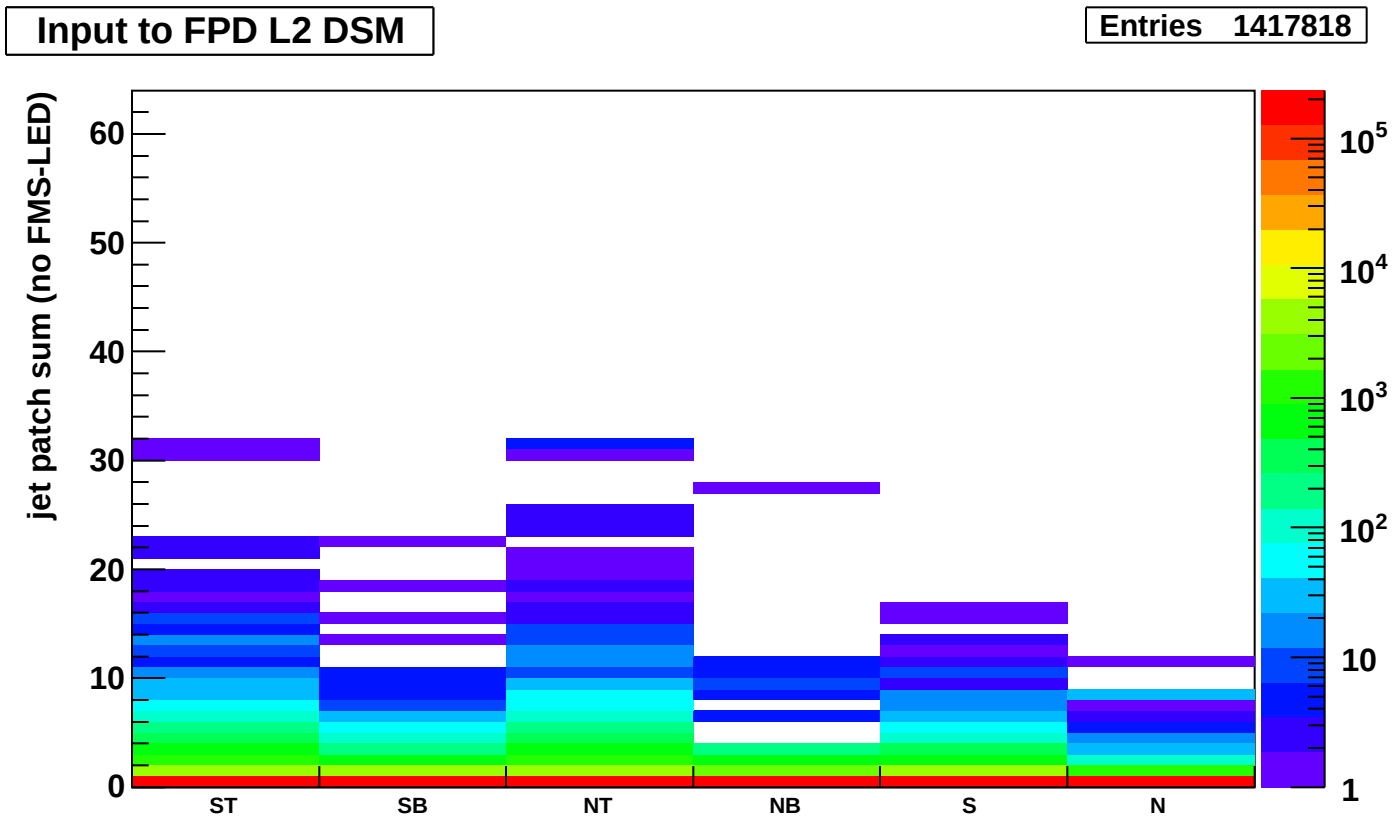

Input to FPD L2 DSM
Entries 59912
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

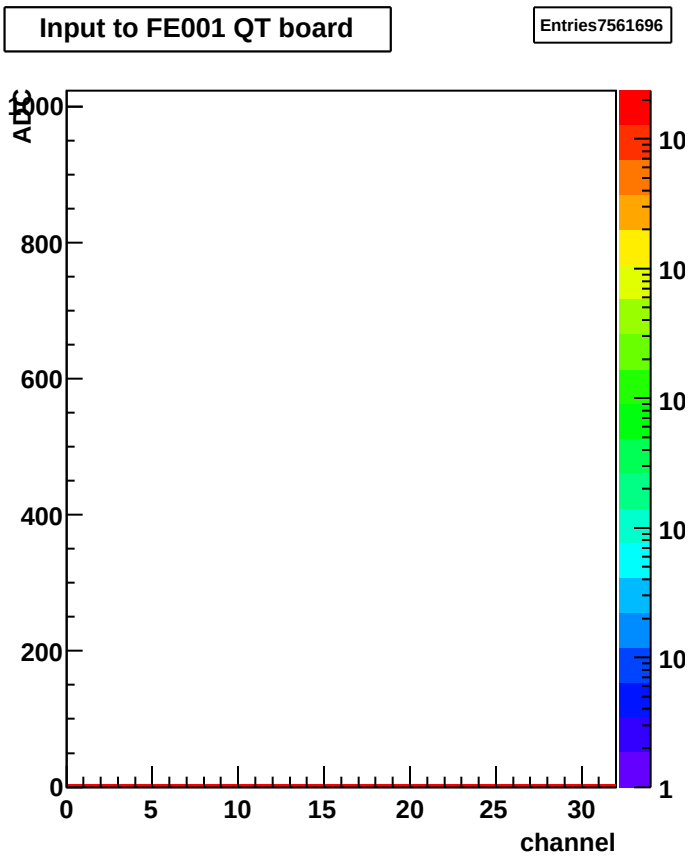

Input to FPD L2 DSM
Entries 708909
CL bits
54
1484
545
12
4
235704
236291
234815
SMALL
LARGE-S
LARGE-N

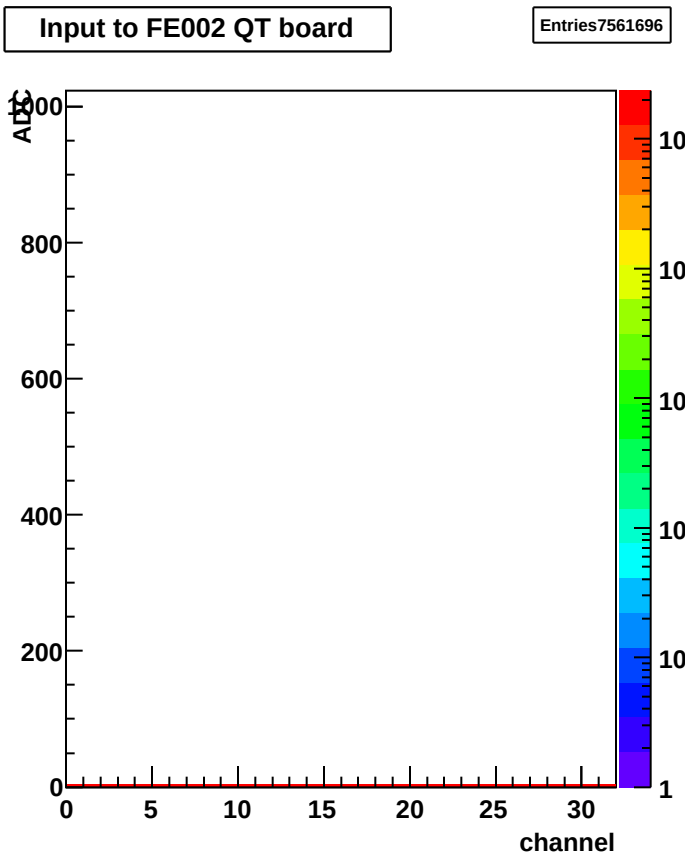

Input to FPD L2 DSM
Entries 2716
CL bits - simulated
1475
53
8
535
12
4
561
8
8
7
43
2
SMALL
LARGE-S
LARGE-N

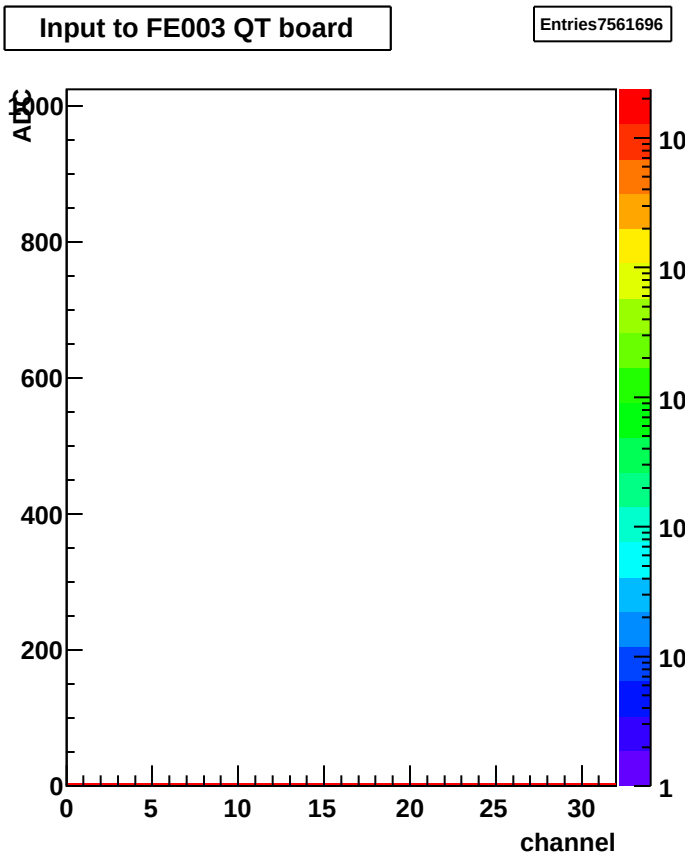

Input to FPD L2 DSM
Entries 708909
HT bits
482
2
20
1056
60
3090
18
426
231675
236283
235797
SMALL
LARGE-S
LARGE-N

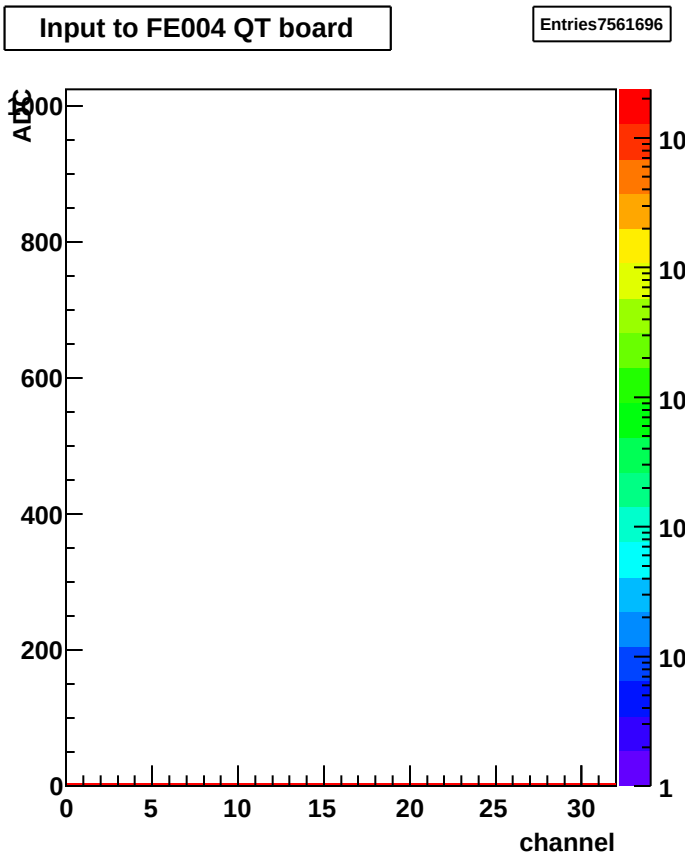

Input to FPD L2 DSM
Entries 9548
HT bits - simulated
464
2
20
1035
60
3023
18
423
2878
17
21
1066
2
515
1
3
SMALL
LARGE-S
LARGE-N

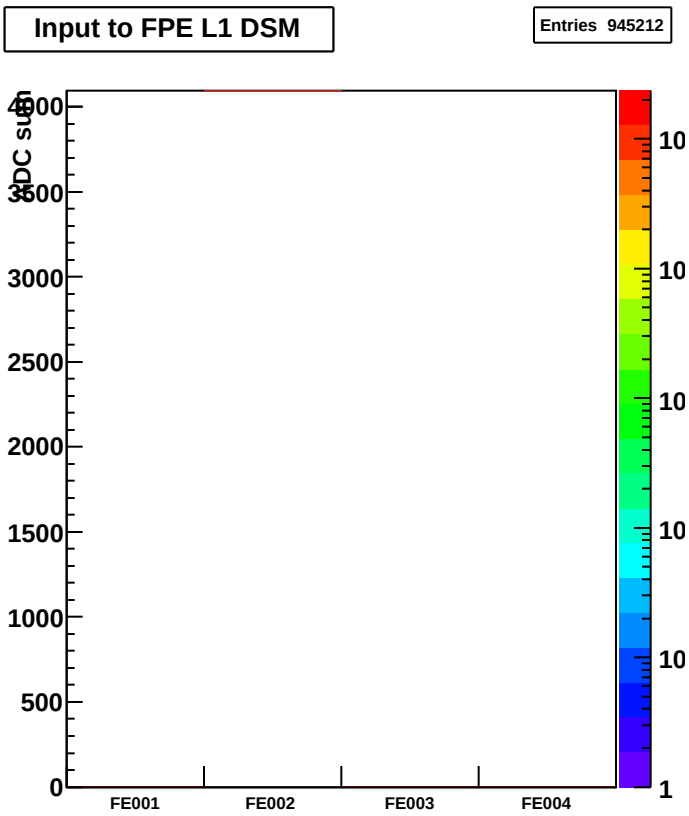

Input to FPD L2 DSM
Entries 1417818
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

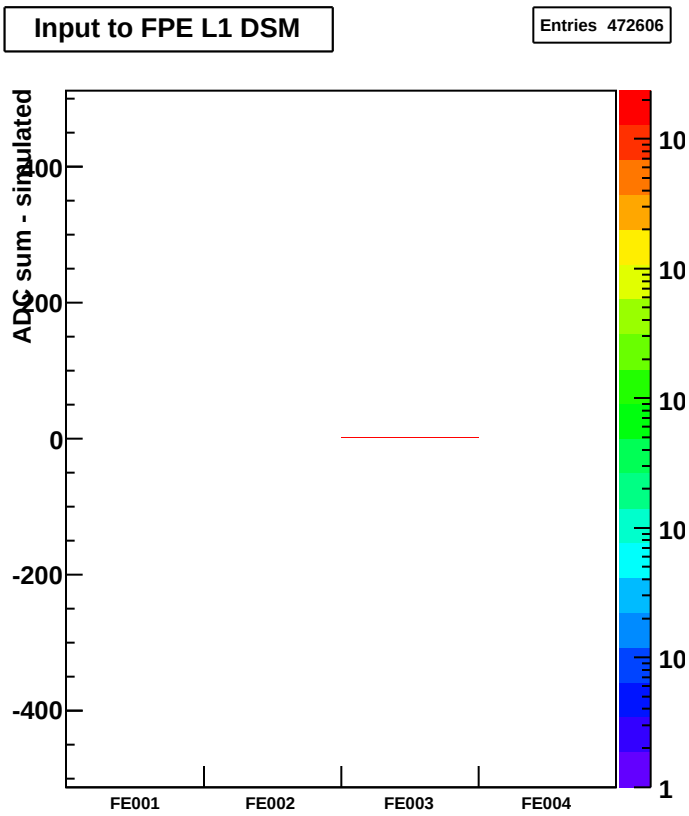

Input to FE001 QT board
Entries7561696
ADC
channel

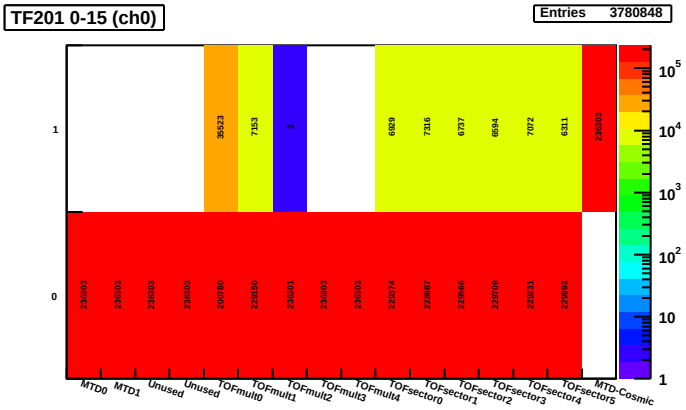

Input to FE002 QT board
Entries7561696
ADC
channel

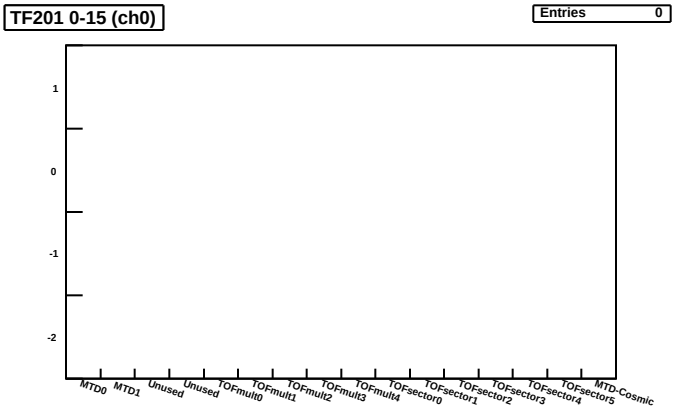

Input to FE003 QT board
Entries7561696
ADC
channel

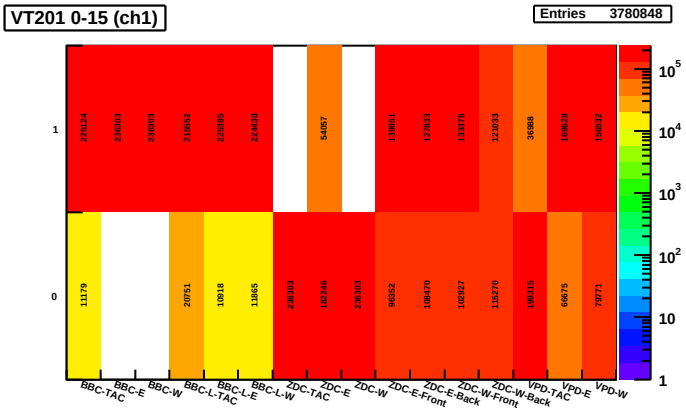

Input to FE004 QT board
Entries7561696
ADC
channel

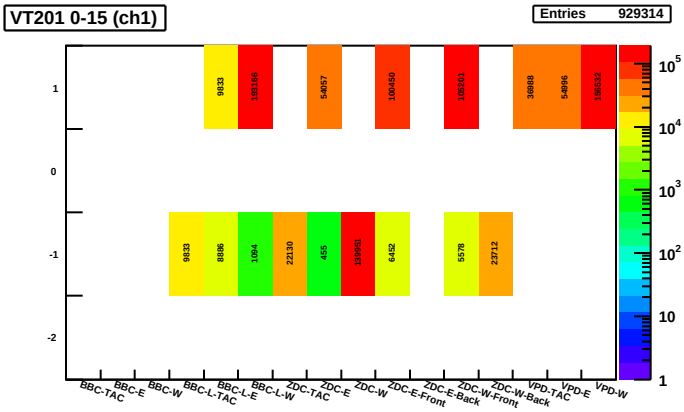

Input to FPE L1 DSM
Entries 945212
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

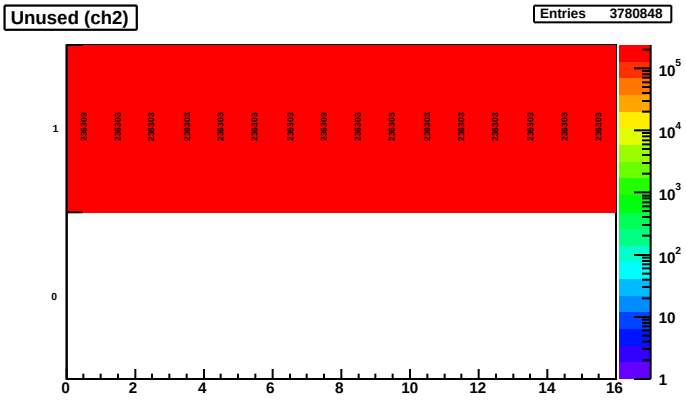

Input to FPE L1 DSM
Entries 472606
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

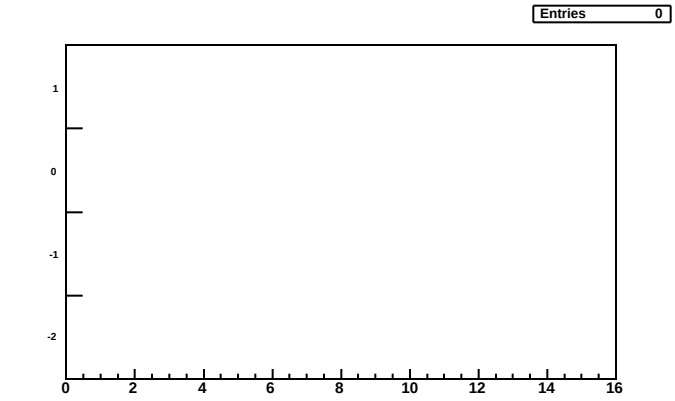

TF201 0-15 (ch0)
Entries 3780848
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

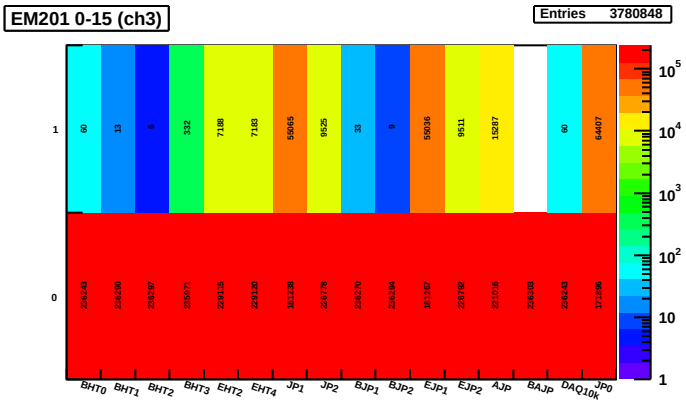

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

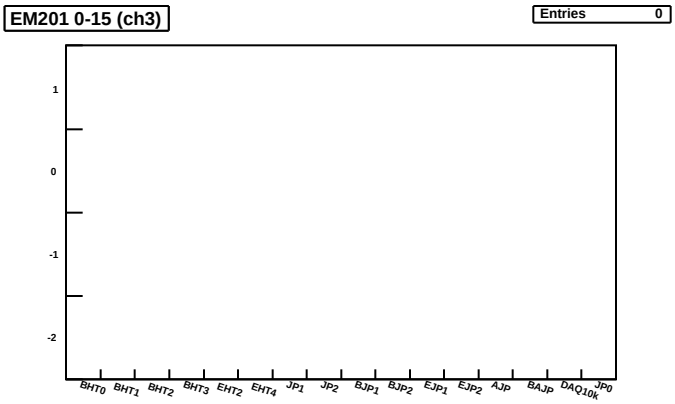

VT201 0-15 (ch1)
Entries 3780848
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 929314
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


Unused (ch2)
Entries 3780848


Entries 0


EM201 0-15 (ch3)
Entries 3780848
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0


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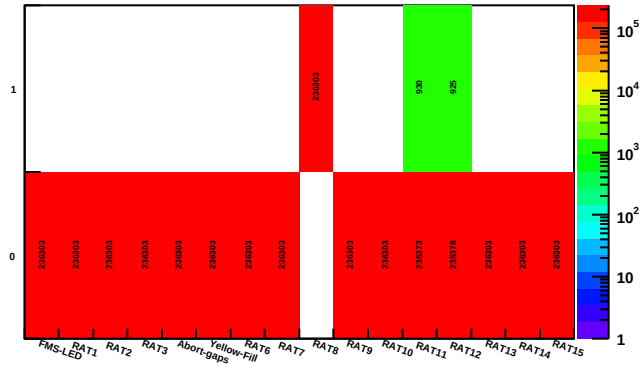
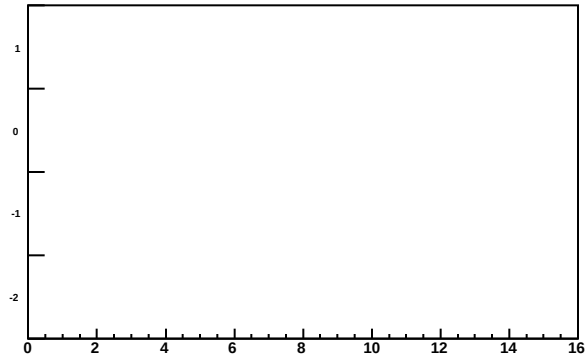
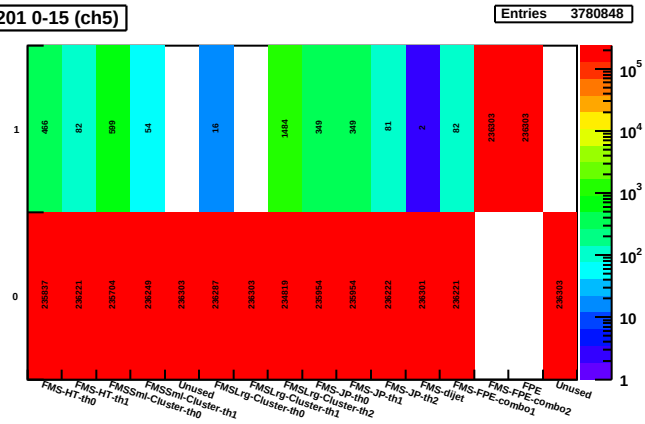
RAT board (ch4)

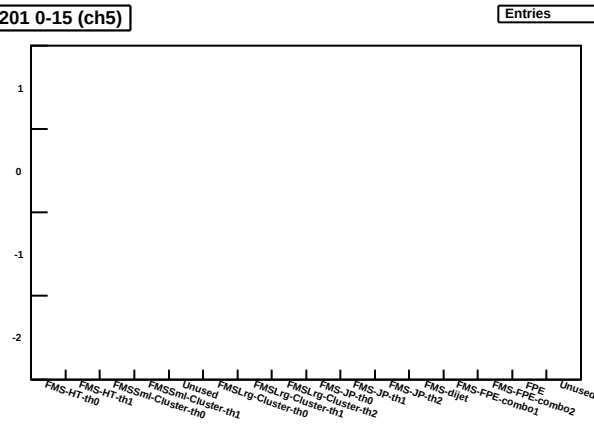




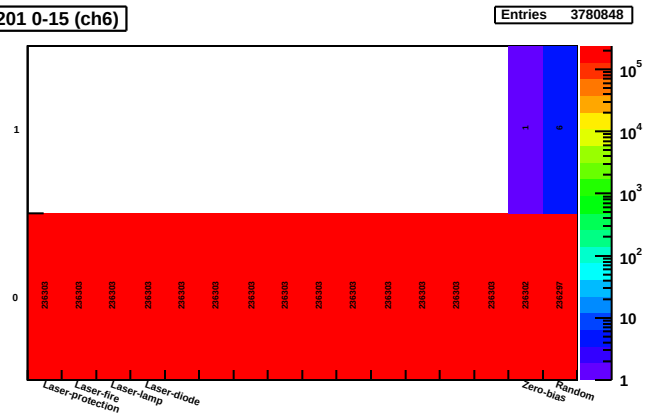
FP201 0-15 (ch5)

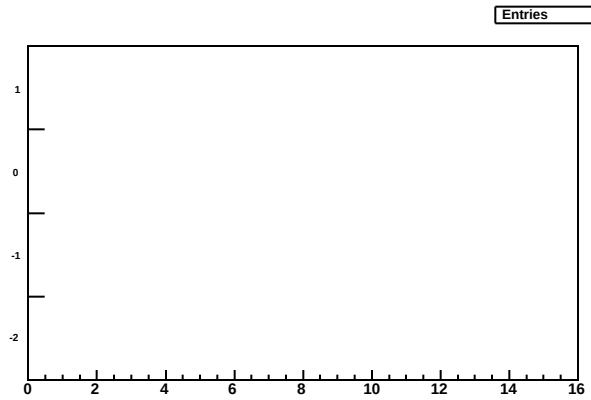
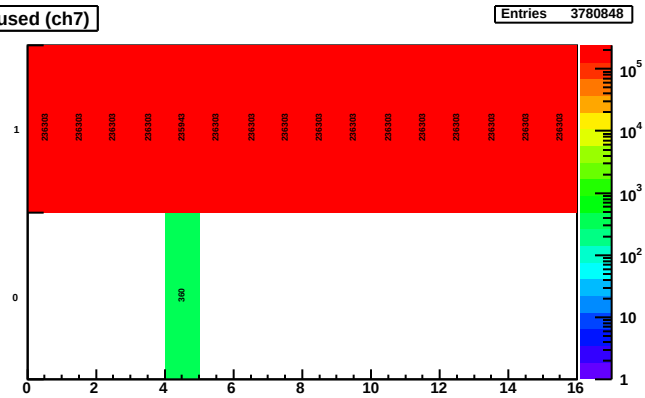
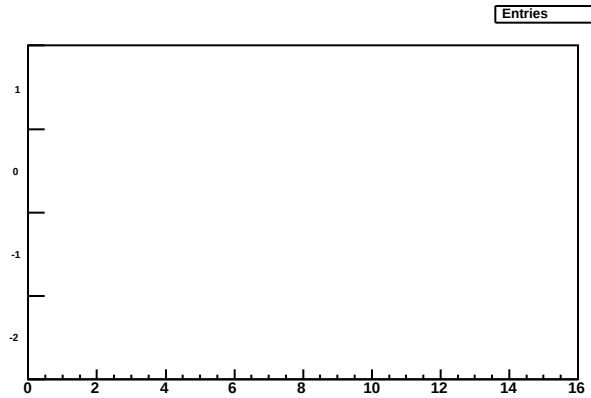


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)