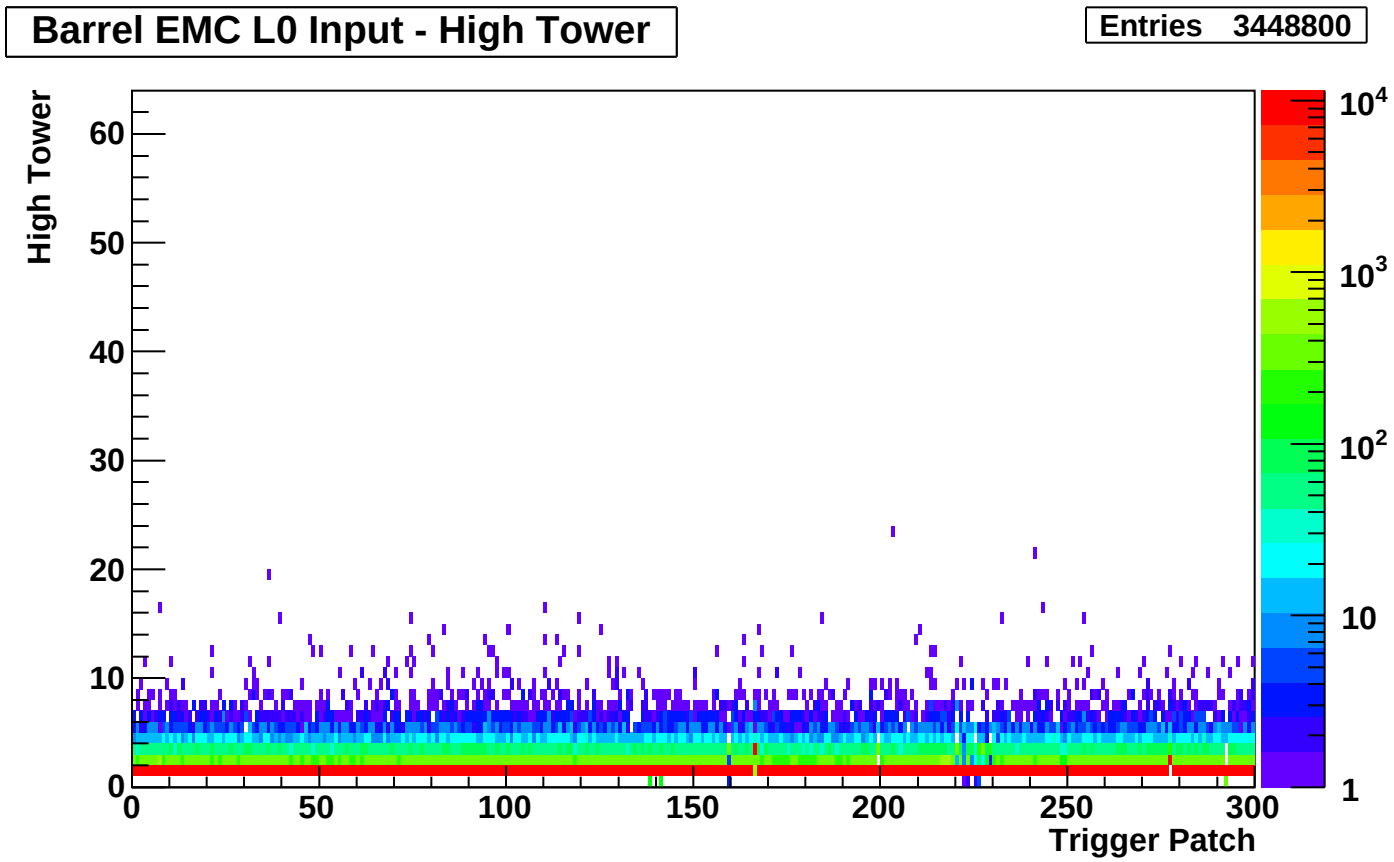
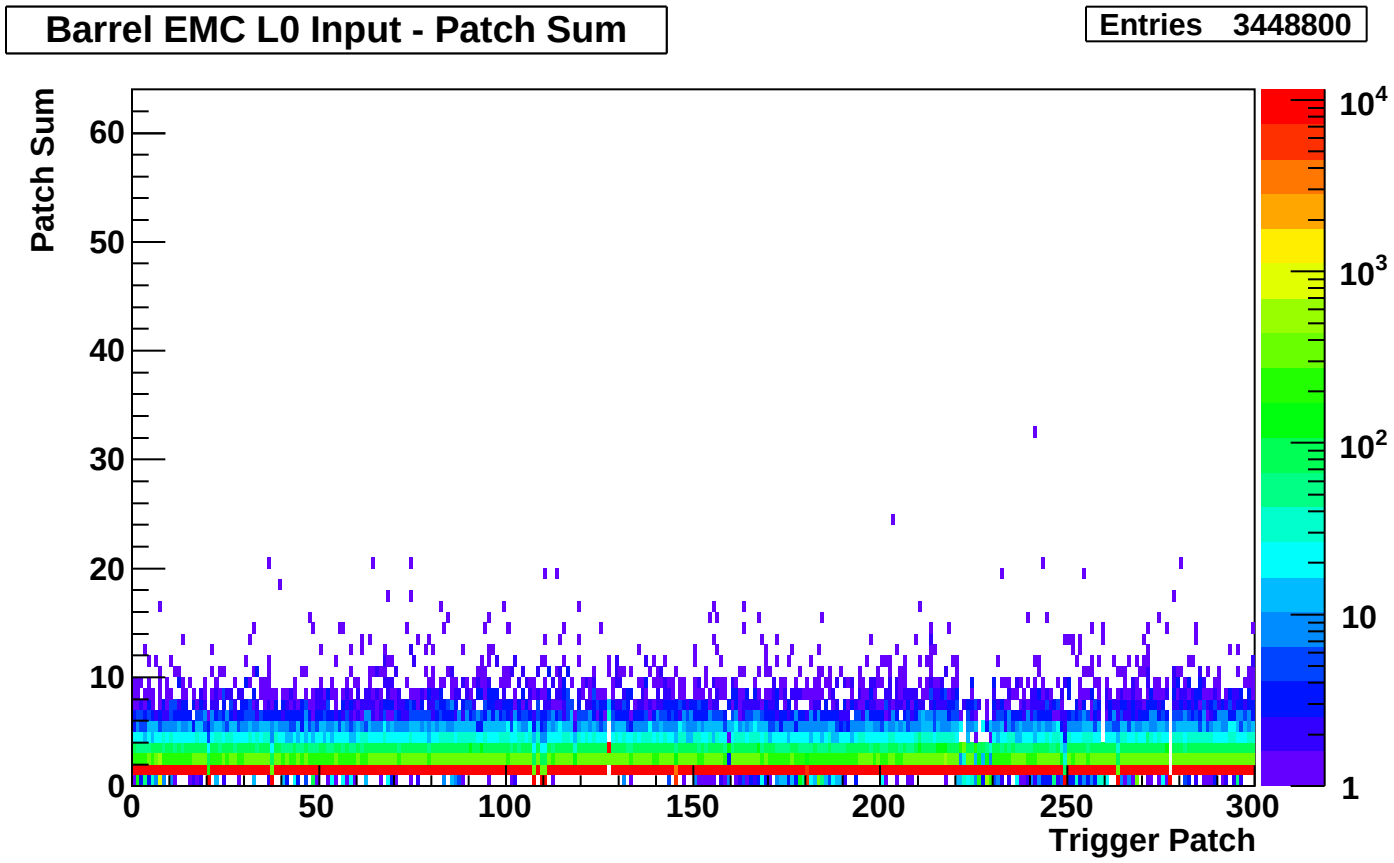
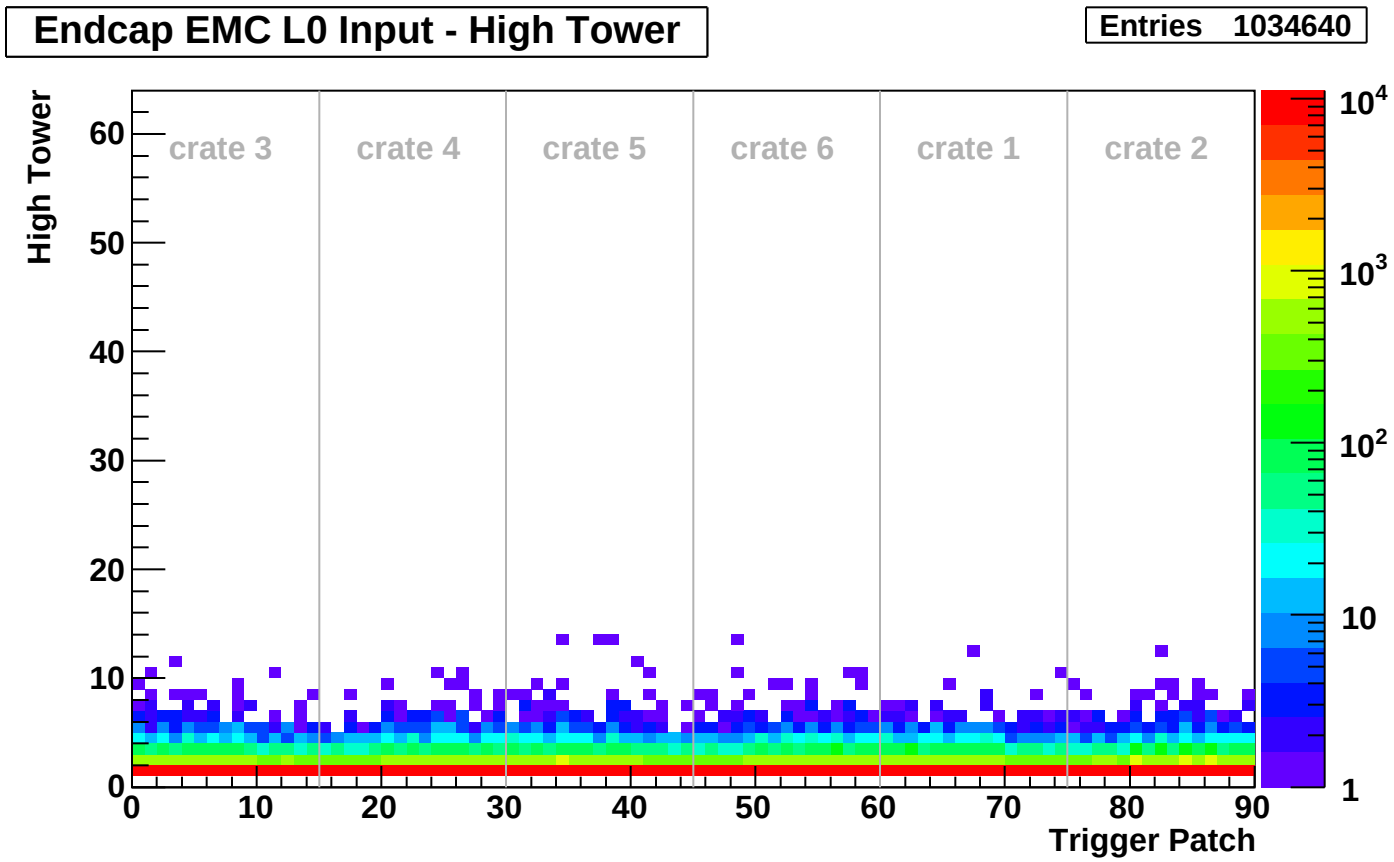
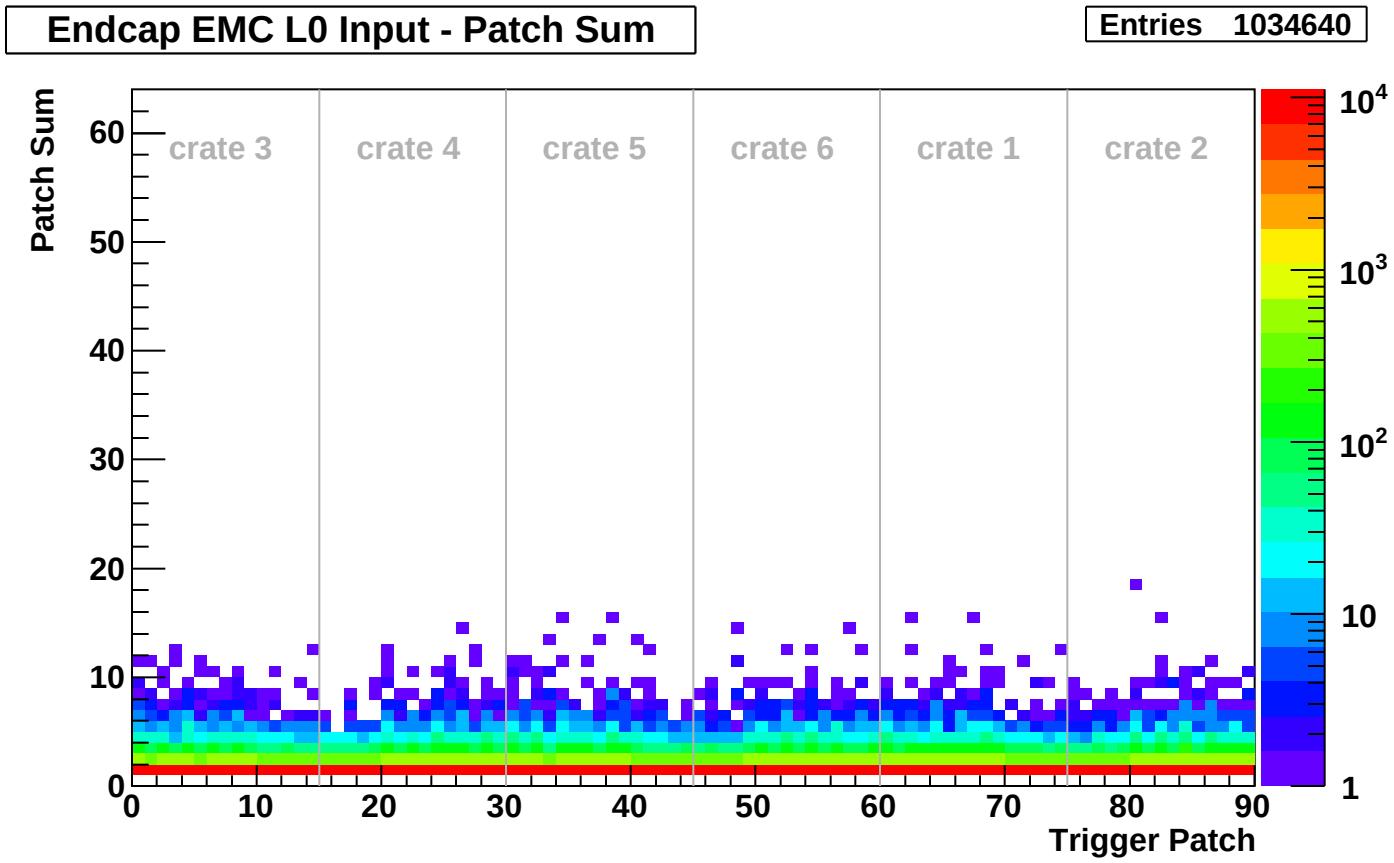
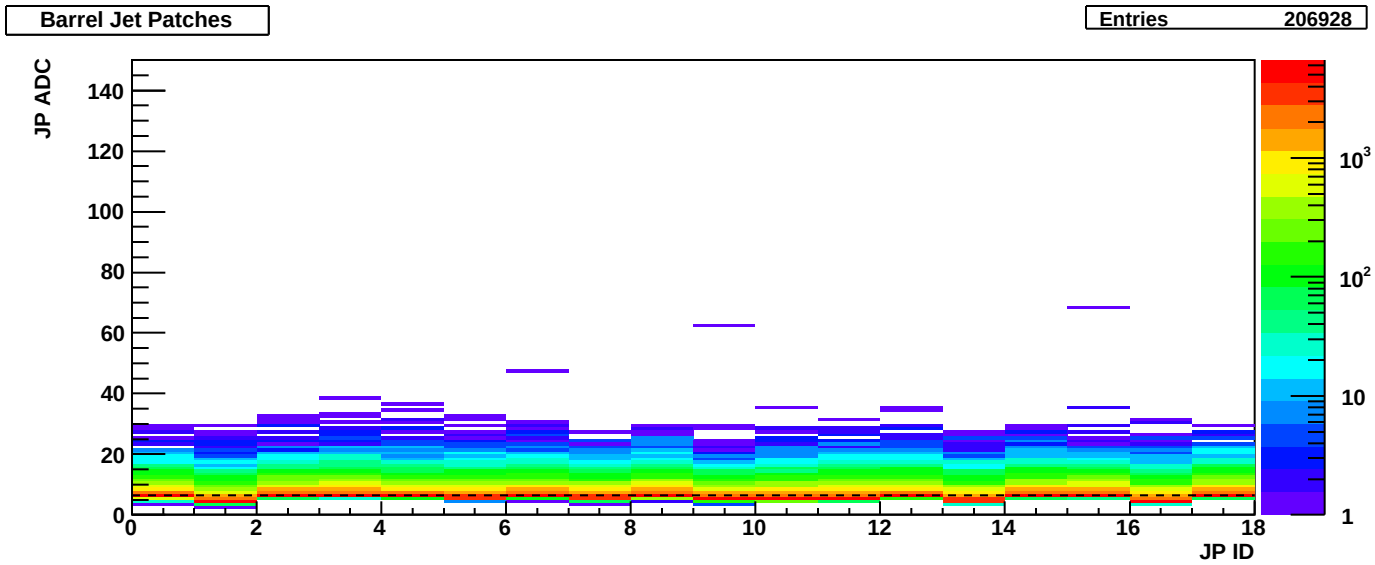
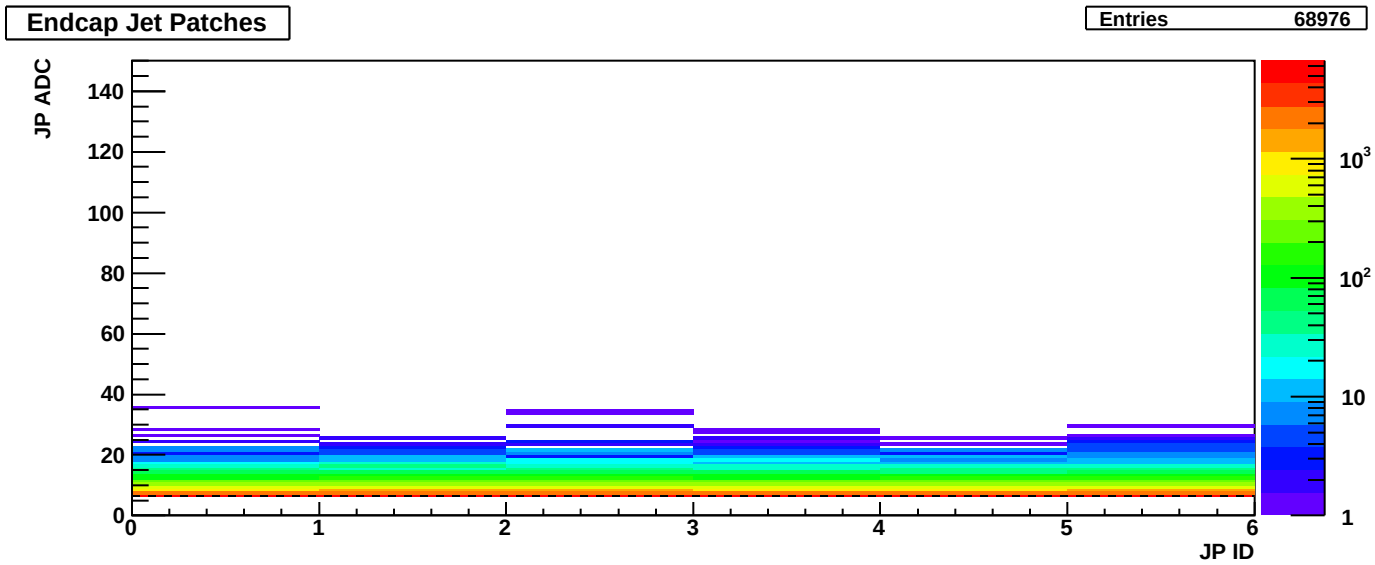

Barrel EMC L0 Input - High Tower
Entries 3448800
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

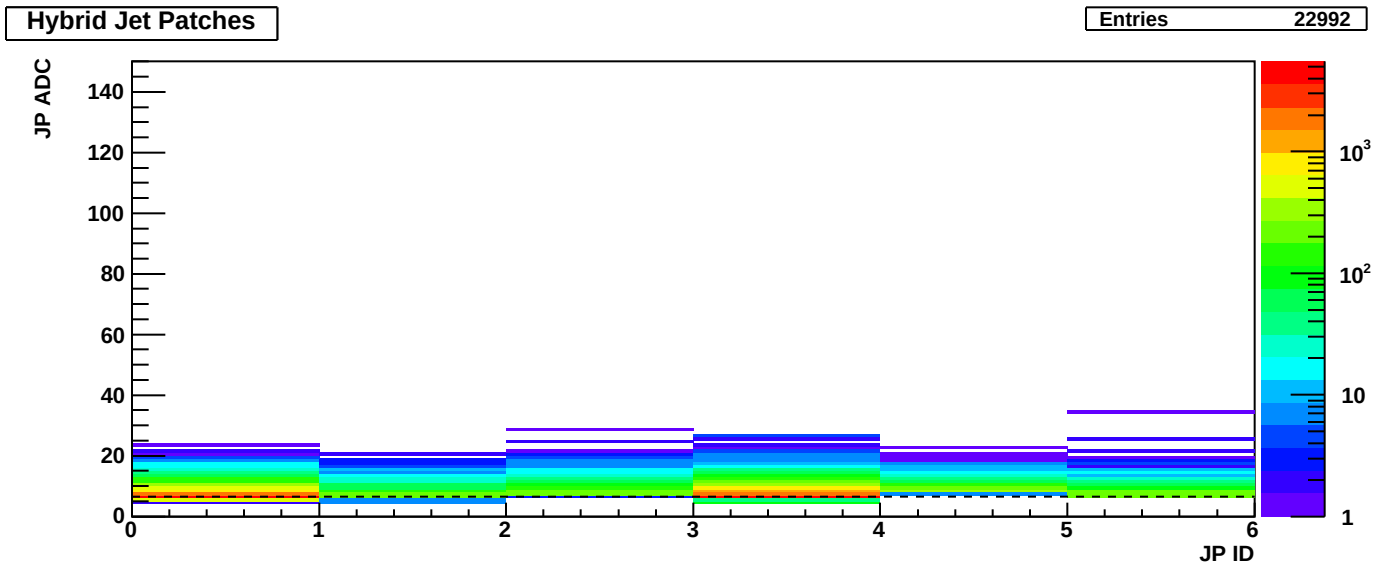

Barrel EMC L0 Input - Patch Sum
Entries 3448800
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

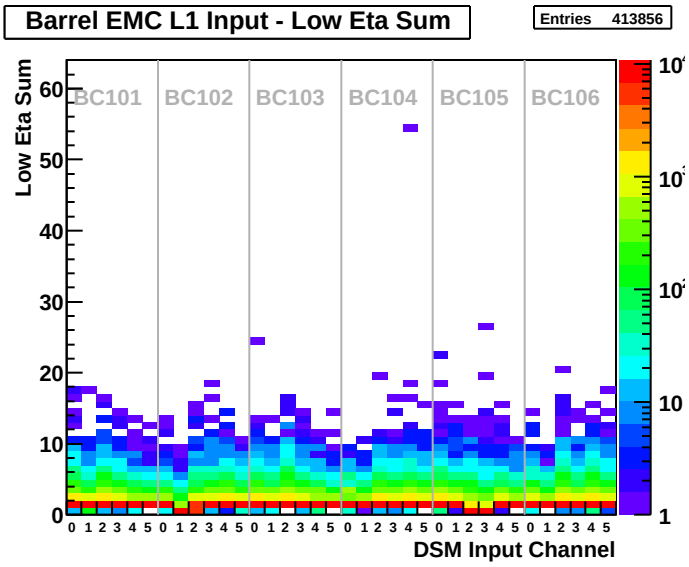

Endcap EMC L0 Input - High Tower
Entries 1034640
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

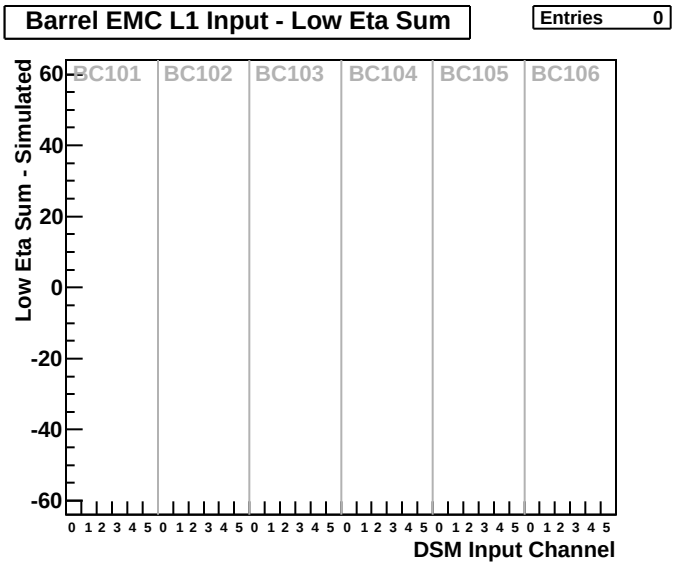

Endcap EMC L0 Input - Patch Sum
Entries 1034640
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

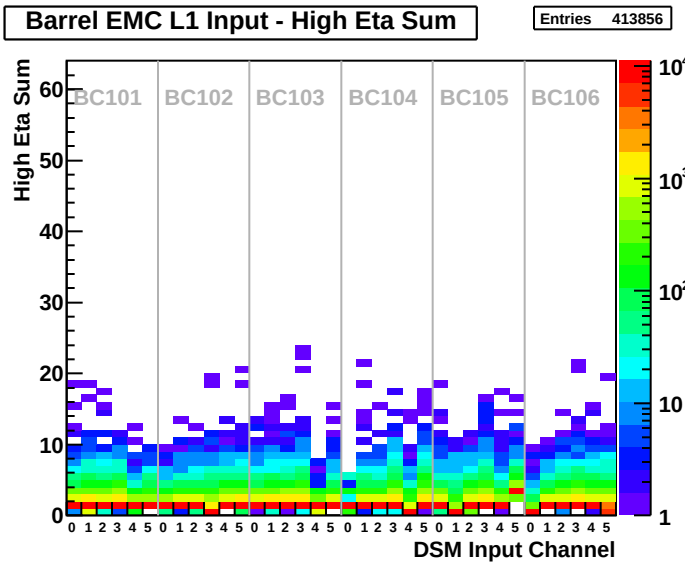

Barrel Jet Patches
Entries 206928
JP ADC
JP ID

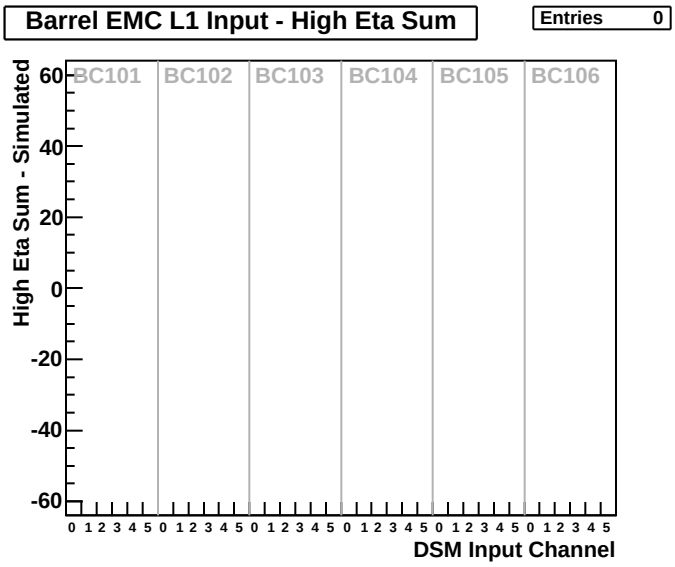

Endcap Jet Patches
Entries 68976
JP ADC
JP ID

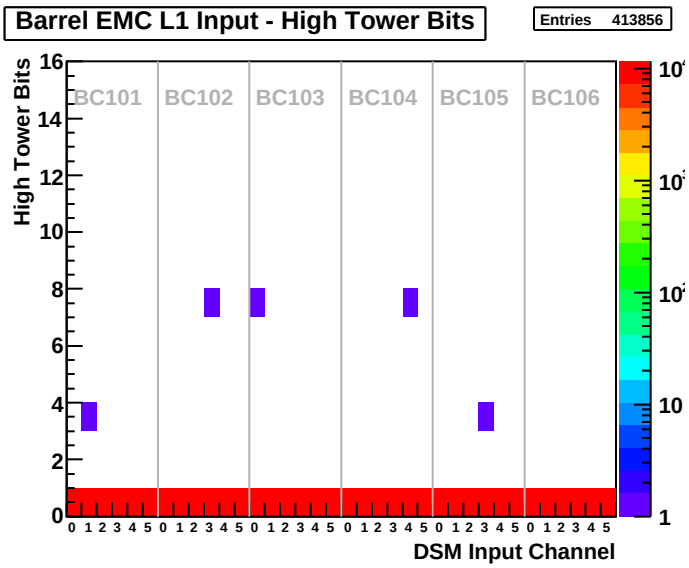

Hybrid Jet Patches
Entries 22992
JP ADC
JP ID

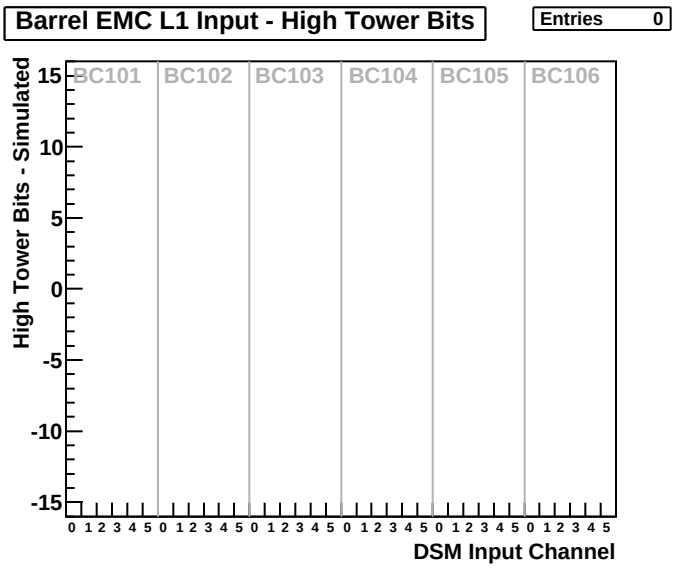

Barrel EMC L1 Input - Low Eta Sum
Entries 413856
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

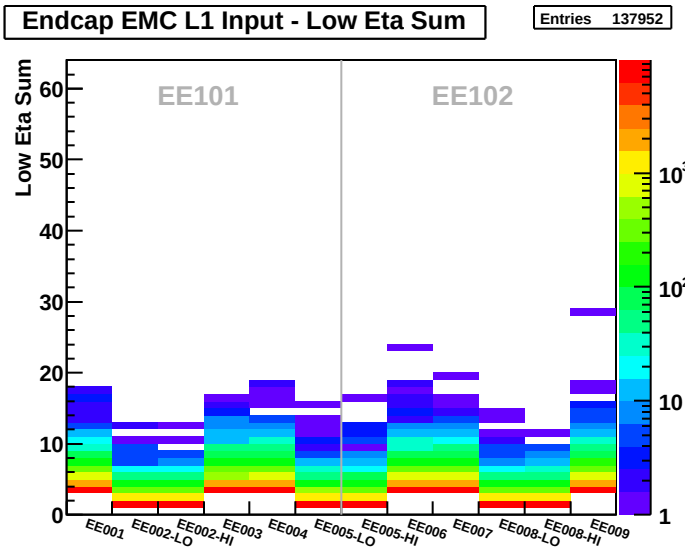

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

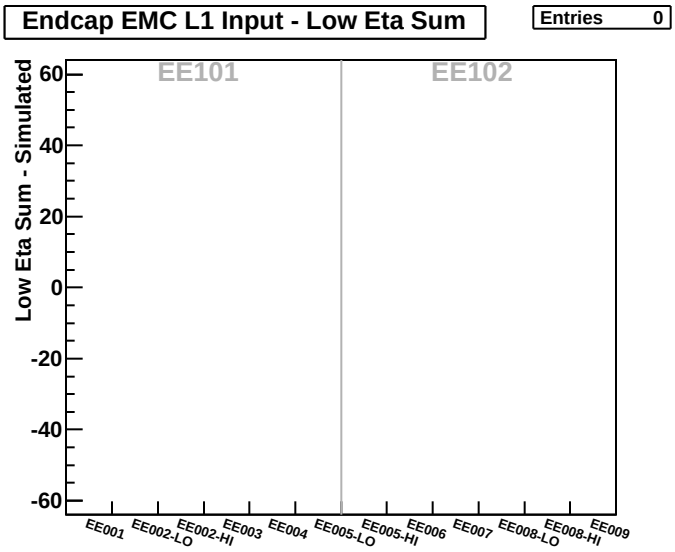

Barrel EMC L1 Input - High Eta Sum
Entries 413856
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

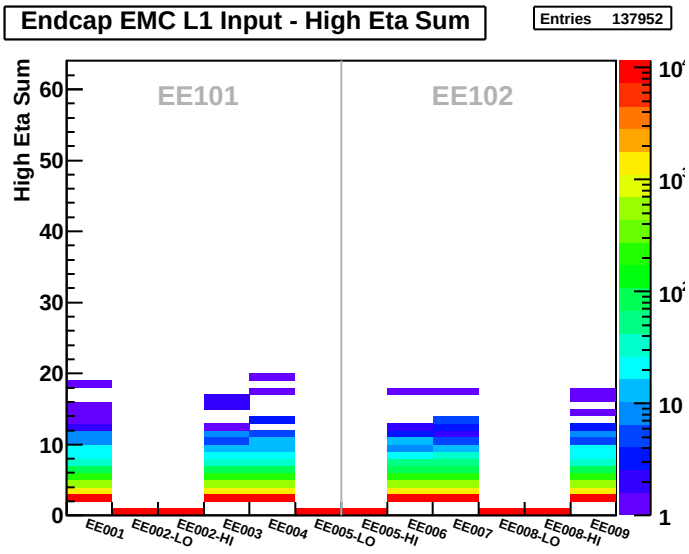

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

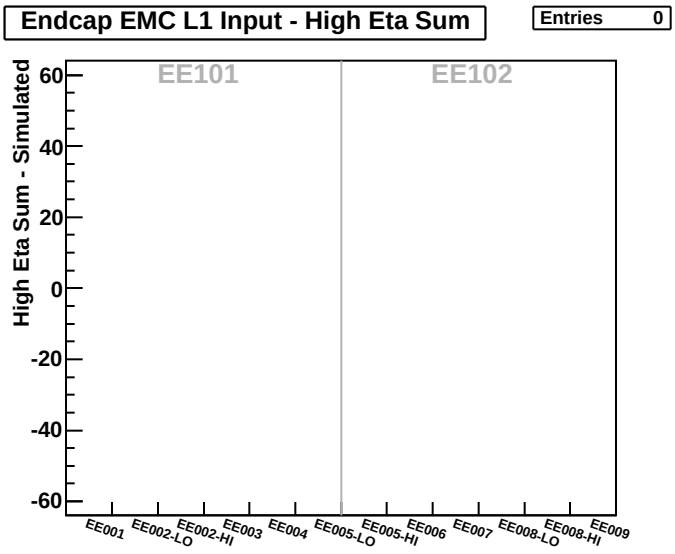

Barrel EMC L1 Input - High Tower Bits
Entries 413856
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

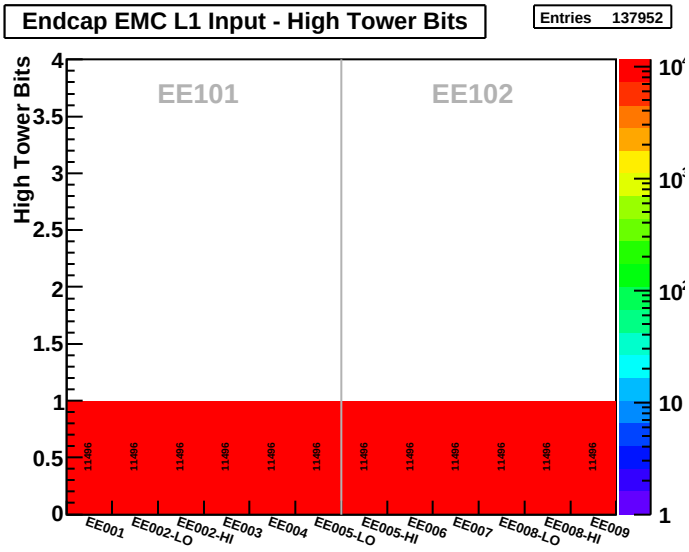

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

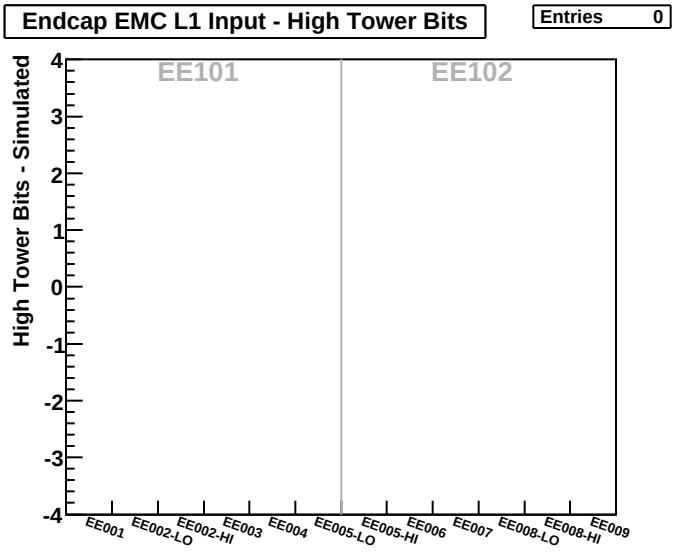

Endcap EMC L1 Input - Low Eta Sum
Entries 137952
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

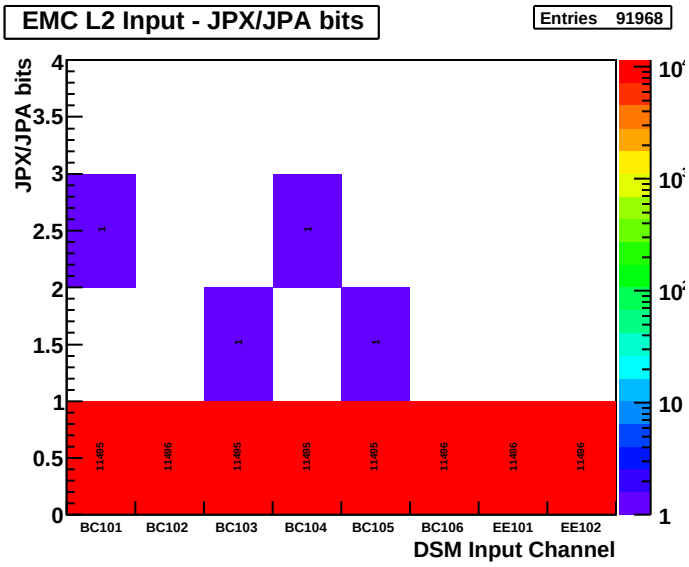

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

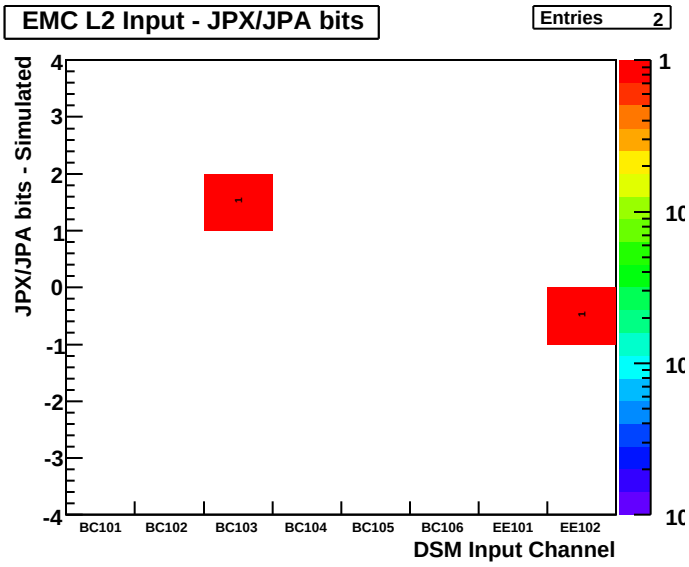

Endcap EMC L1 Input - High Eta Sum
Entries 137952
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

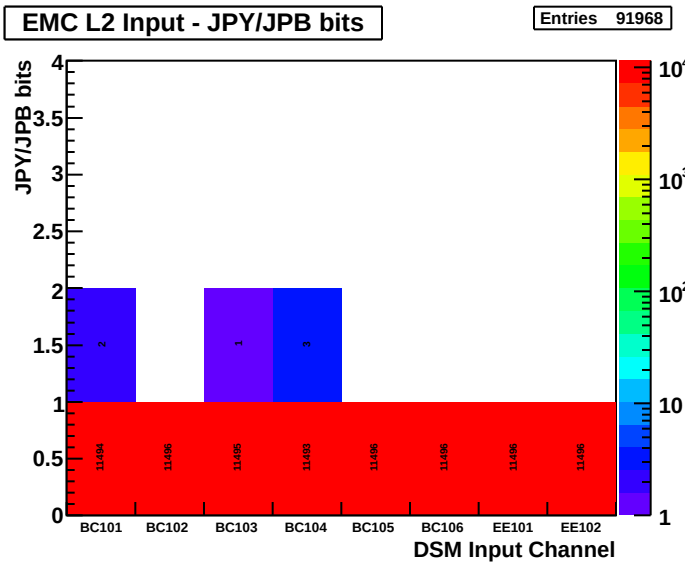

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

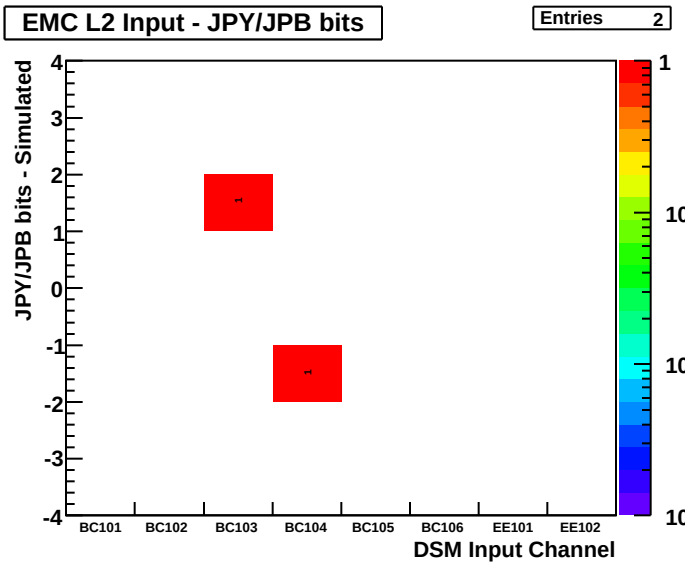

Endcap EMC L1 Input - High Tower Bits
Entries 137952
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

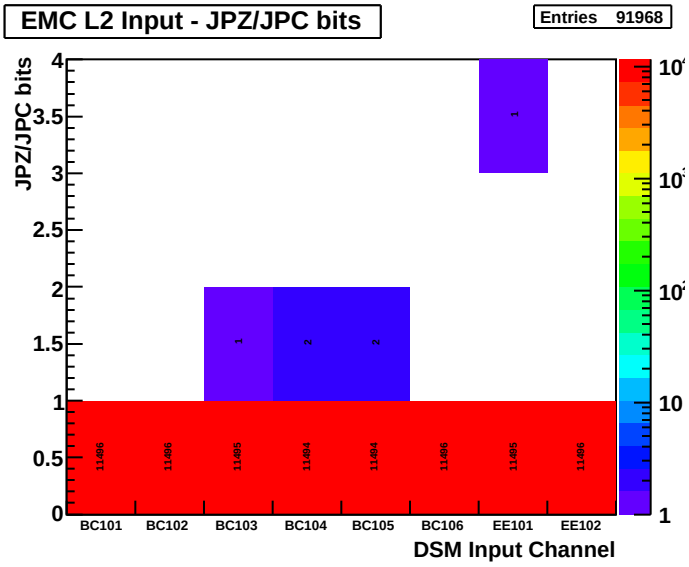

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

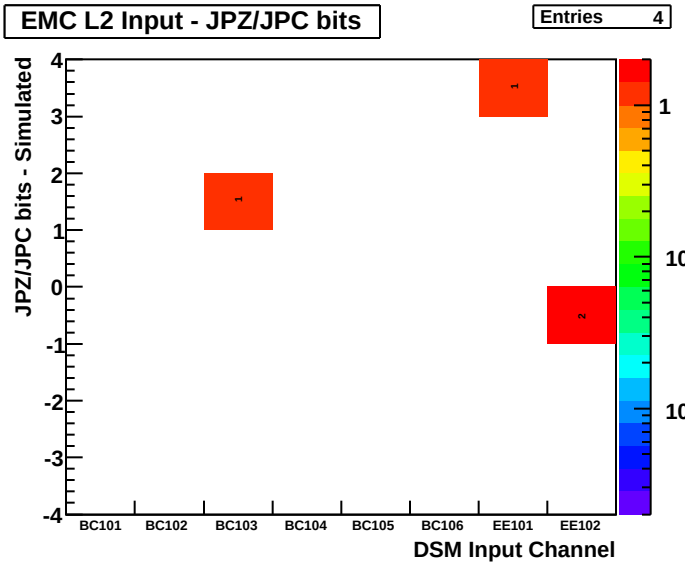

EMC L2 Input - JPX/JPA bits
Entries 91968
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

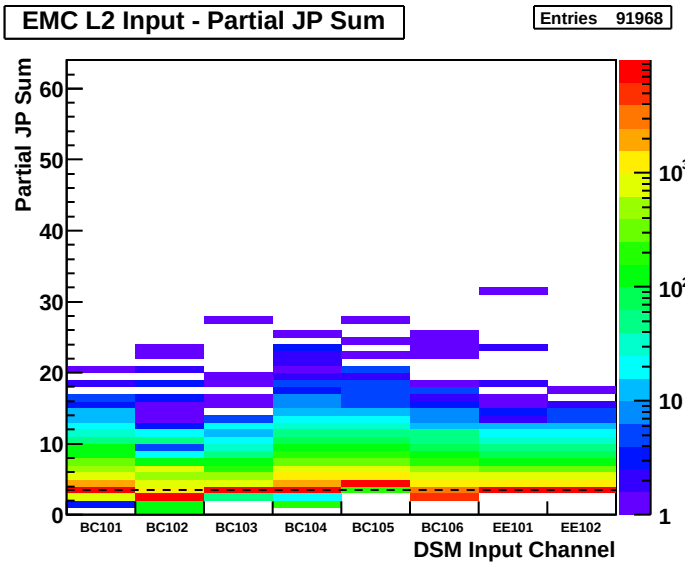

EMC L2 Input - JPX/JPA bits
Entries 2
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

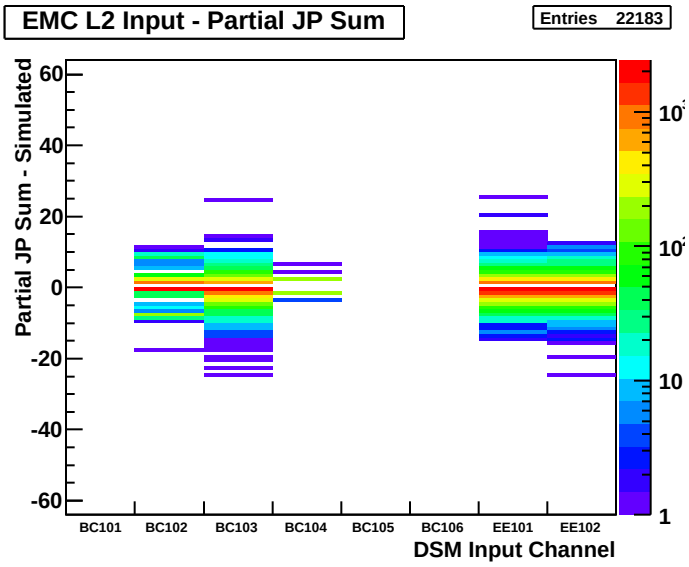

EMC L2 Input - JPY/JPB bits
Entries 91968
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

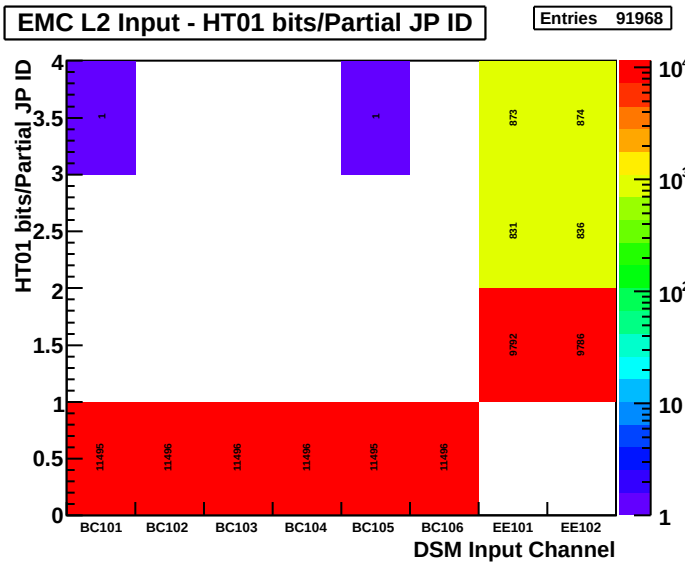

EMC L2 Input - JPY/JPB bits
Entries 2
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

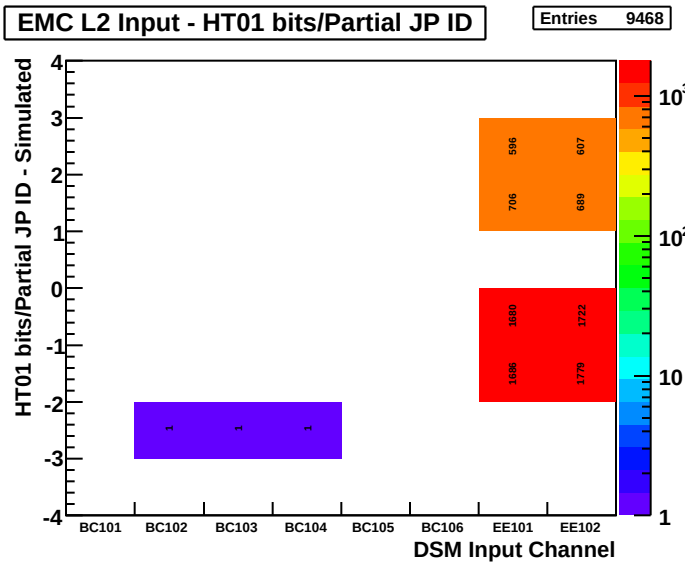

EMC L2 Input - JPZ/JPC bits
Entries 91968
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

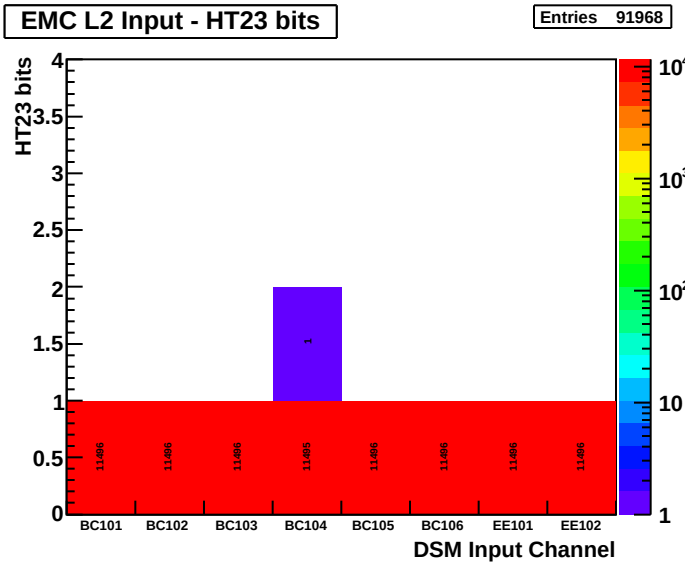

EMC L2 Input - JPZ/JPC bits
Entries 4
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

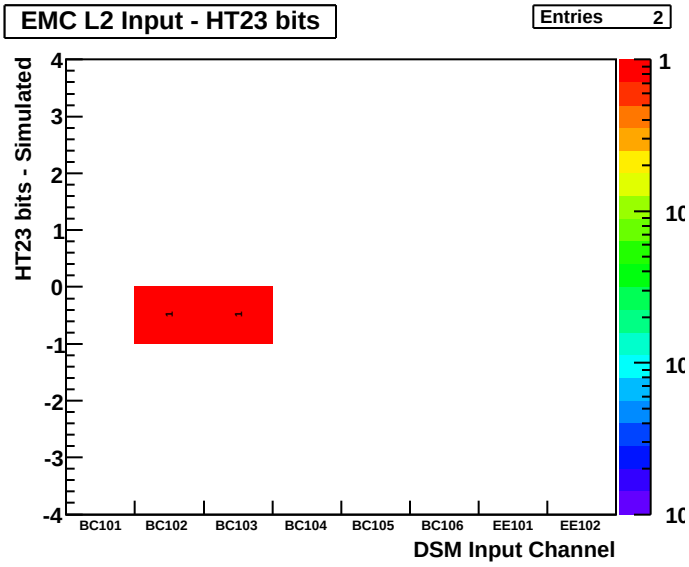

EMC L2 Input - Partial JP Sum
Entries 91968
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

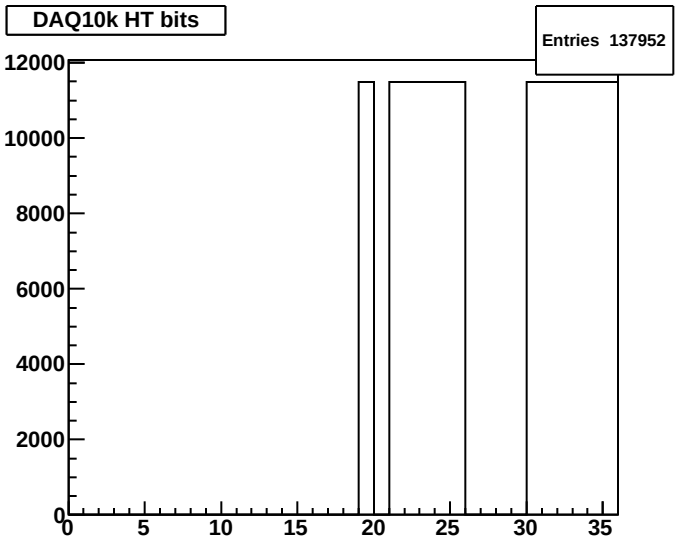

EMC L2 Input - Partial JP Sum
Entries 22183
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

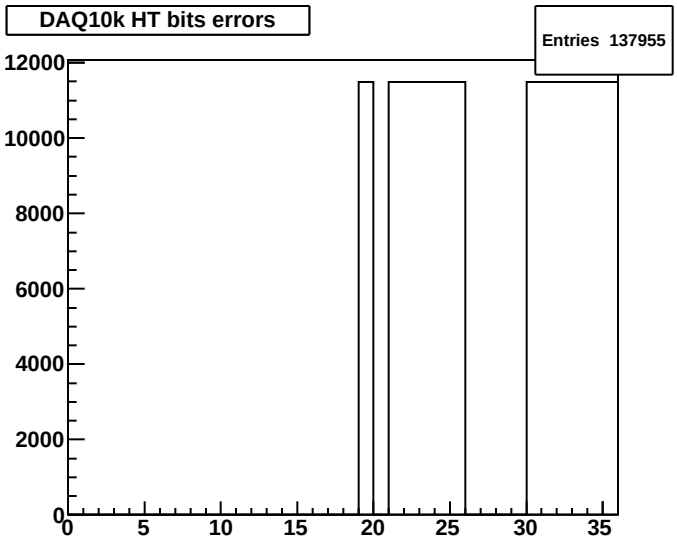

EMC L2 Input - HT01 bits/Partial JP ID
Entries 91968
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

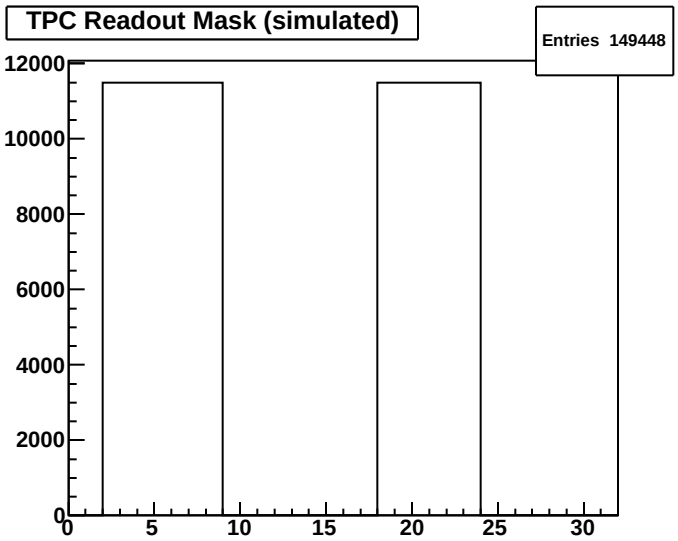

EMC L2 Input - HT01 bits/Partial JP ID
Entries 9468
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

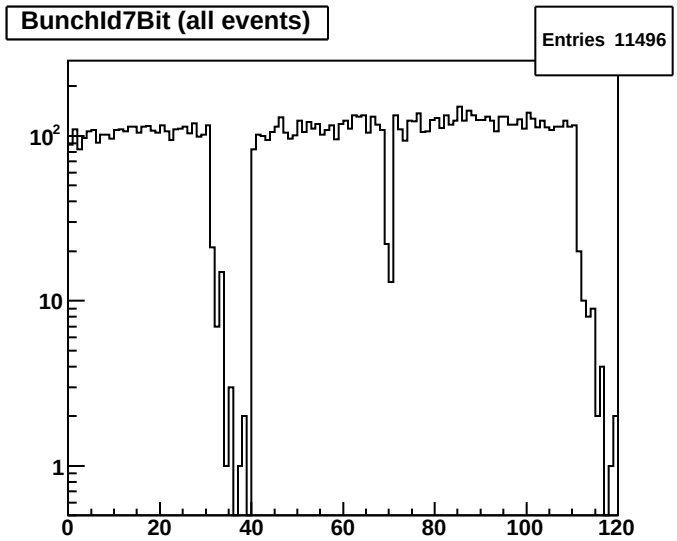

EMC L2 Input - HT23 bits
Entries 91968
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

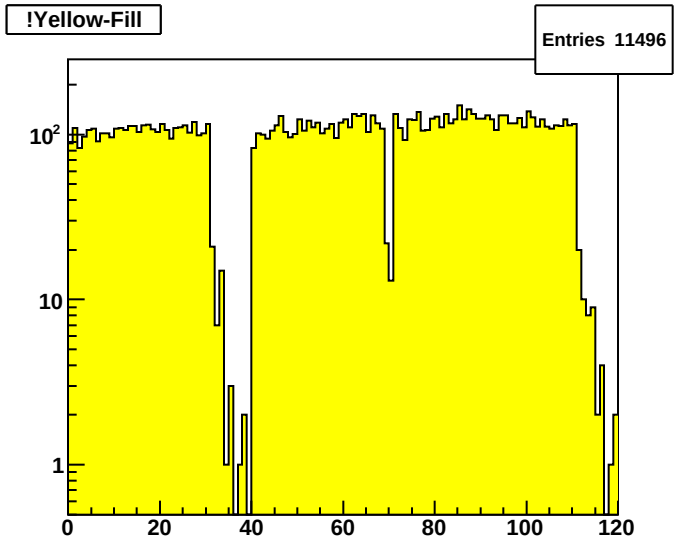

EMC L2 Input - HT23 bits
Entries 2
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

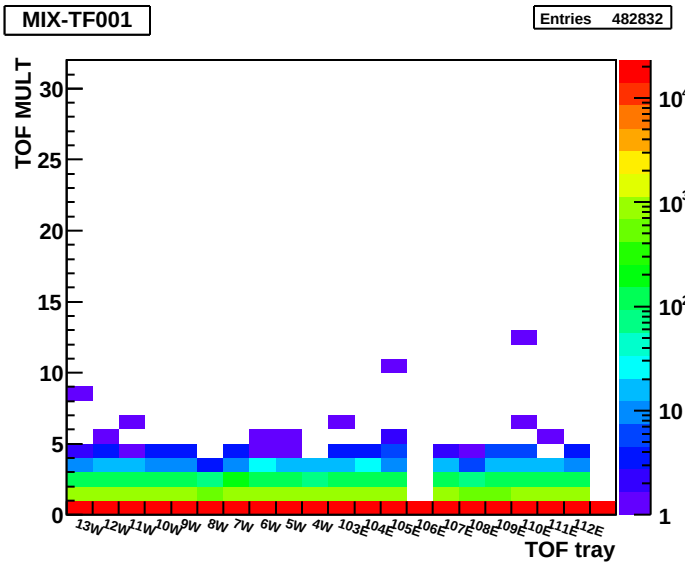

DAQ10k HT bits
Entries 137952
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30 35

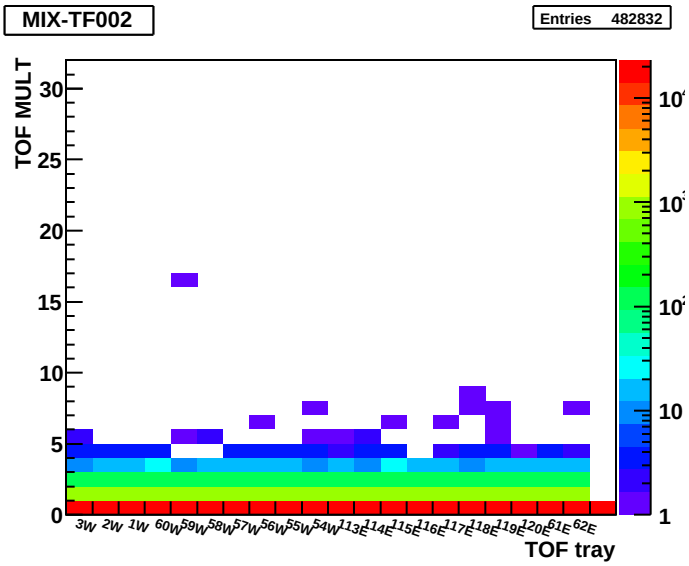

DAQ10k HT bits errors
Entries 137955
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30 35

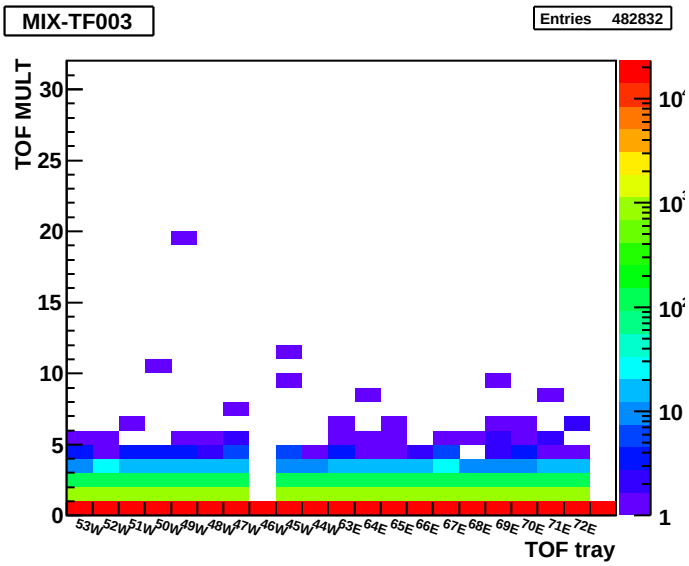

TPC Readout Mask (simulated)
Entries 149448
12000
10000
8000
6000
4000
2000
0
0 5 10 15 20 25 30

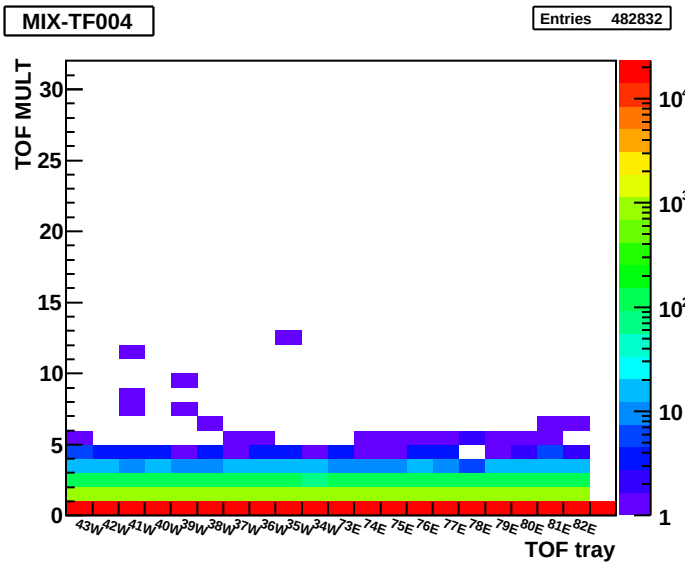

BunchId7Bit (all events)
Entries 11496
10^2
10
1
0 20 40 60 80 100 120

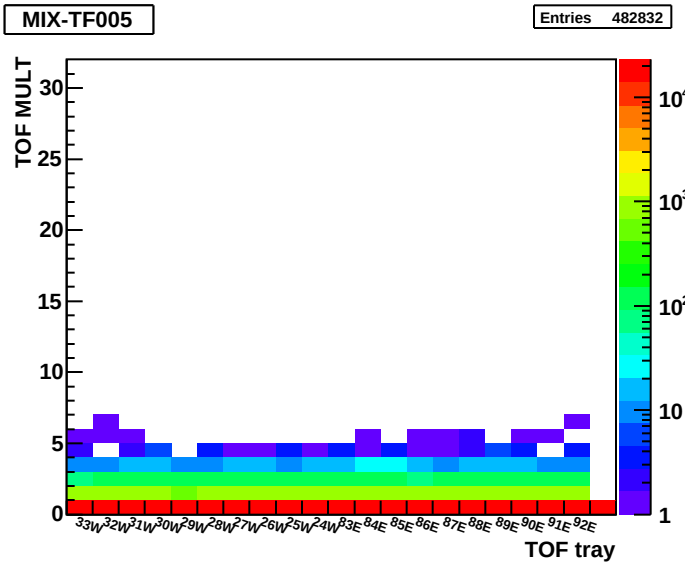

!Yellow-Fill
Entries 11496
10^2
10
1
0 20 40 60 80 100 120

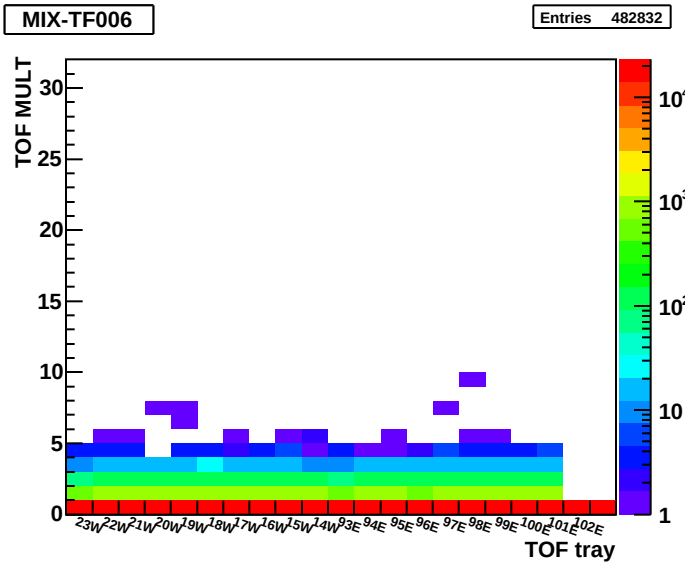

MIX-TF001
Entries 482832
TOF MULT
TOF tray

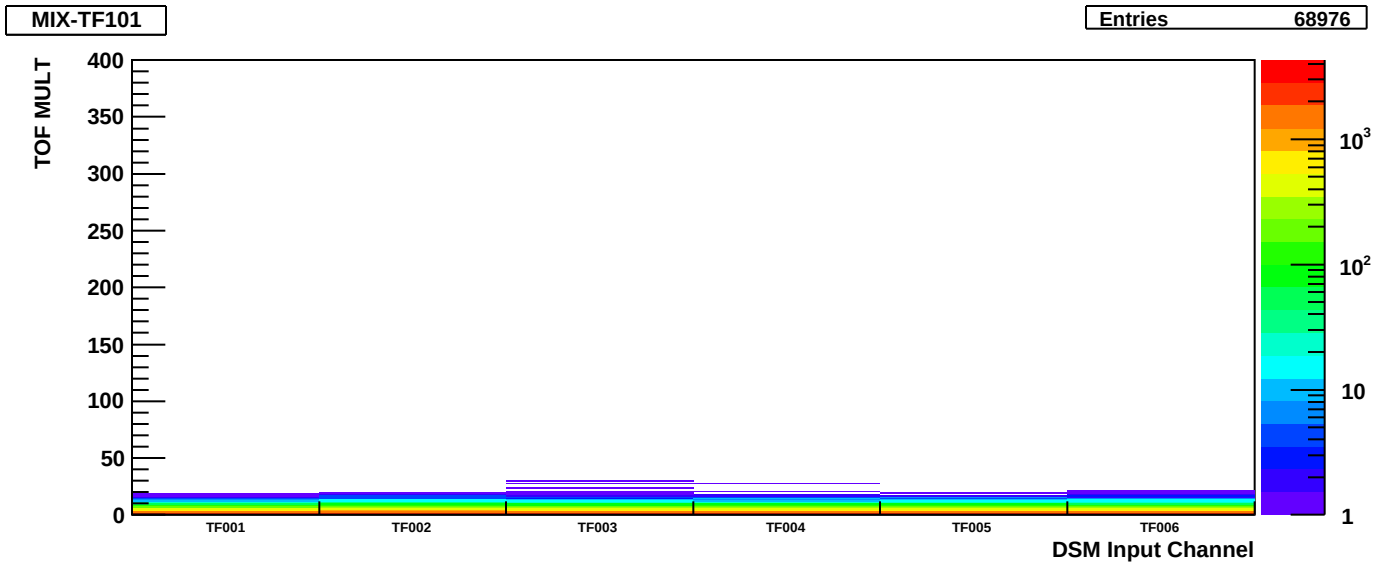

MIX-TF002
Entries 482832
TOF MULT
TOF tray

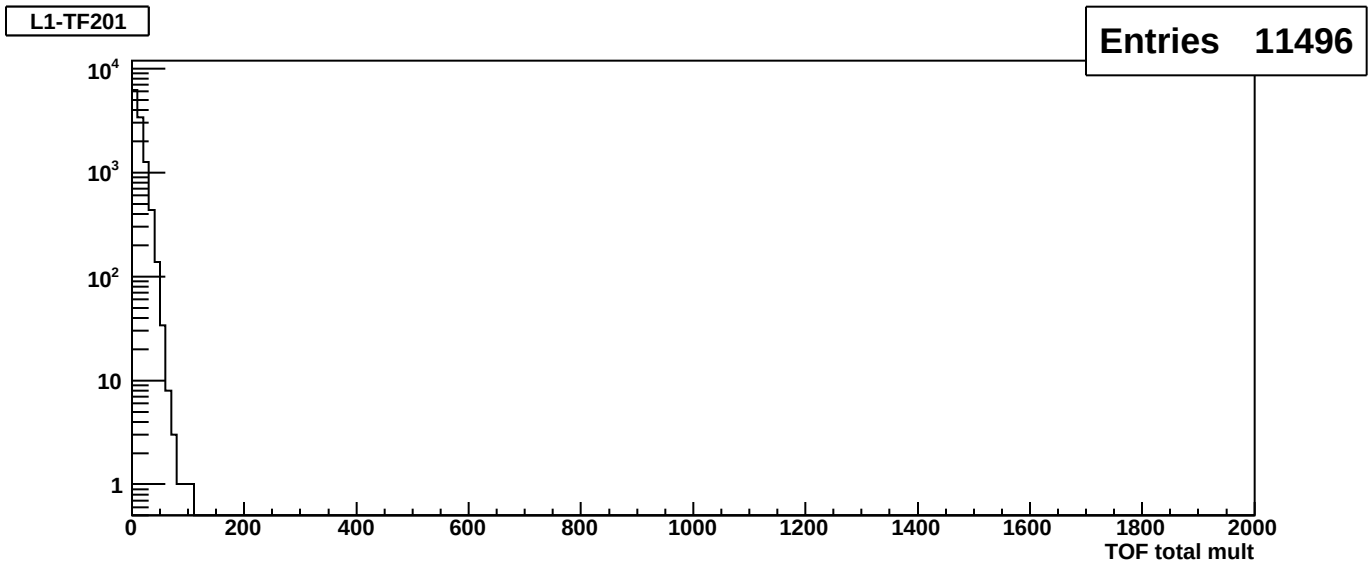

MIX-TF003
Entries 482832
TOF MULT
TOF tray

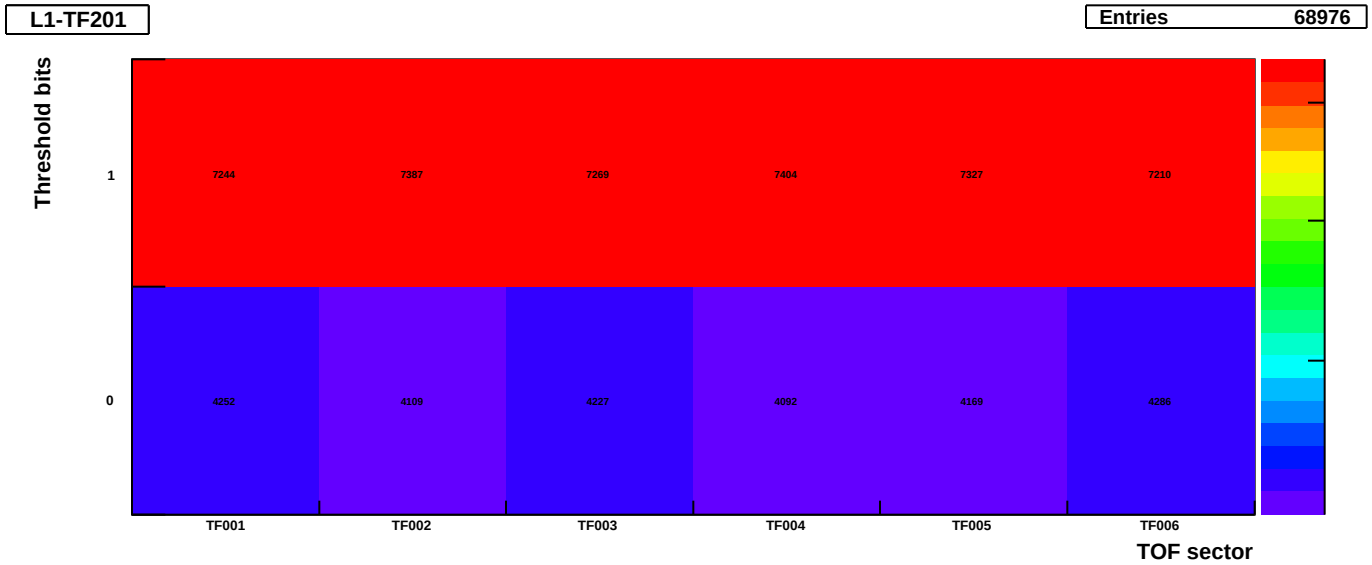

MIX-TF004
Entries 482832
TOF MULT
TOF tray

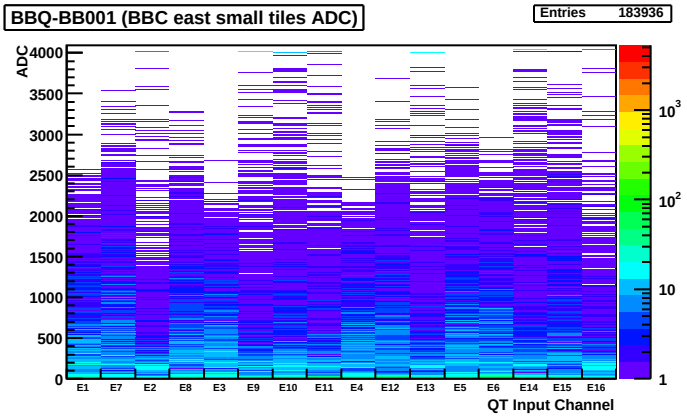

MIX-TF005
Entries 482832
TOF MULT
TOF tray

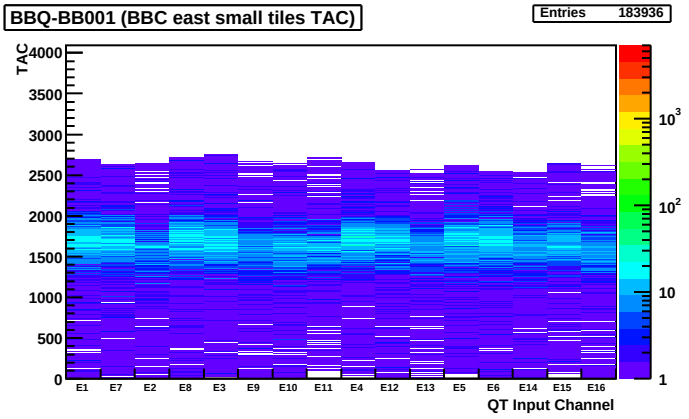

MIX-TF006
Entries 482832
TOF MULT
TOF tray

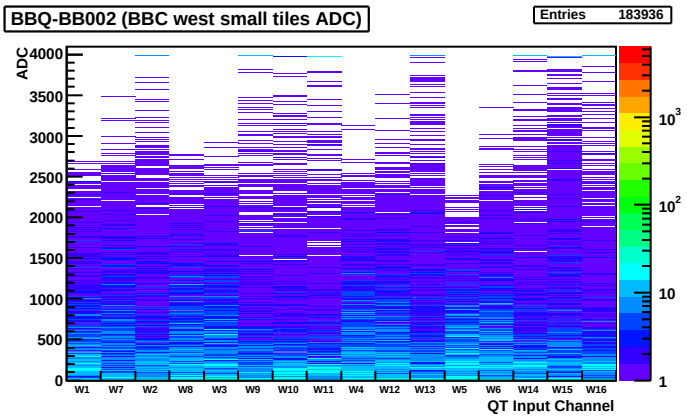

MIX-TF101
Entries 68976
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

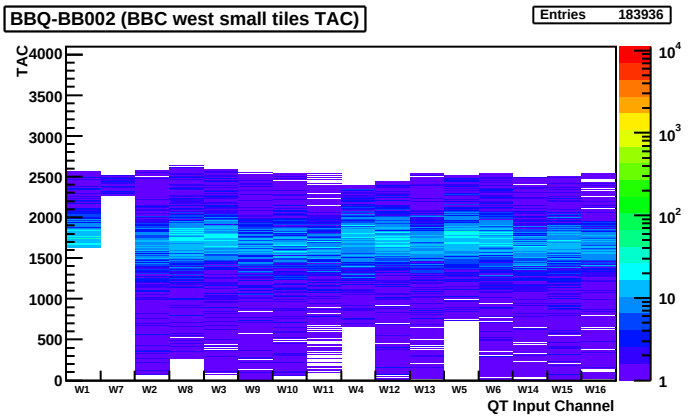

L1-TF201
Entries 11496
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

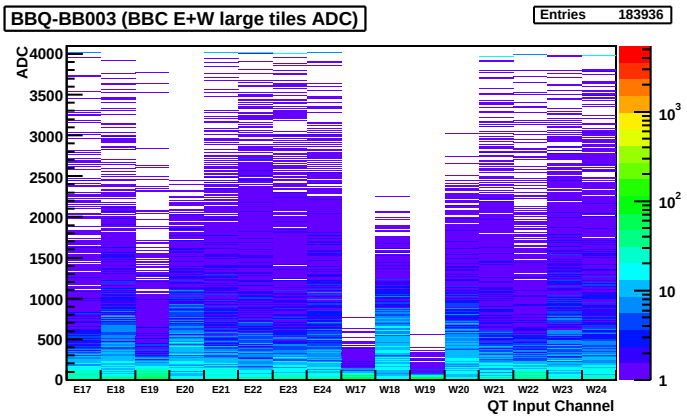

L1-TF201
Entries 68976
Threshold bits
1
0
7244
7387
7269
7404
7327
7210
4252
4109
4227
4092
4169
4286
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

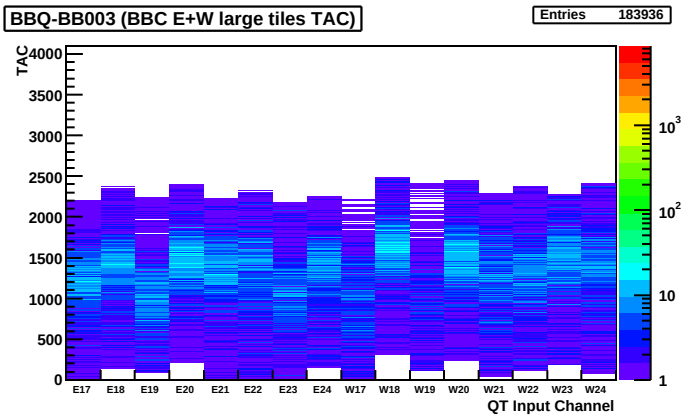

BBQ-BB001 (BBC east small tiles ADC)
Entries 183936
ADC
QT Input Channel

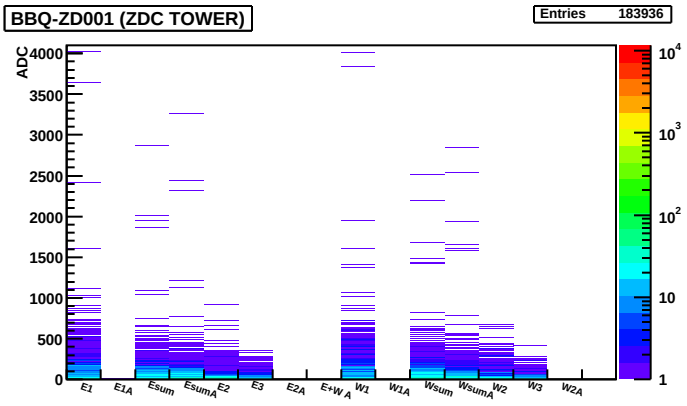

BBQ-BB001 (BBC east small tiles TAC)
Entries 183936
TAC
QT Input Channel

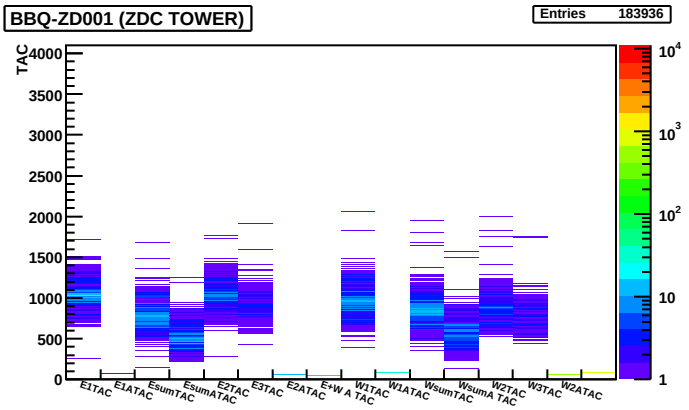

BBQ-BB002 (BBC west small tiles ADC)
Entries 183936
ADC
QT Input Channel

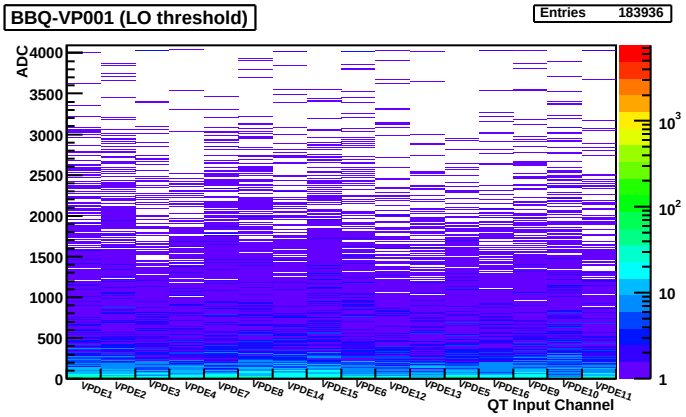

BBQ-BB002 (BBC west small tiles TAC)
Entries 183936
TAC
QT Input Channel

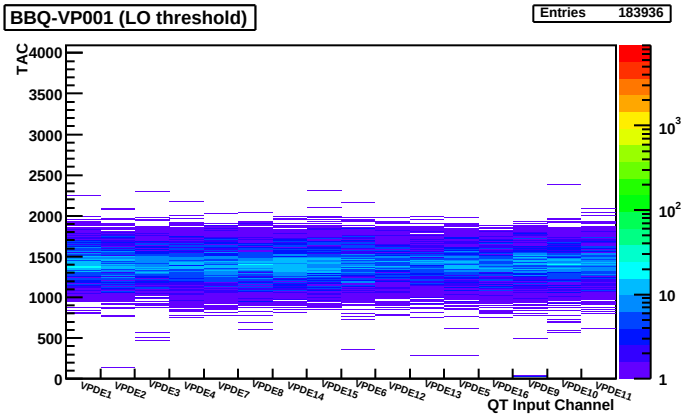

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 183936
ADC
QT Input Channel

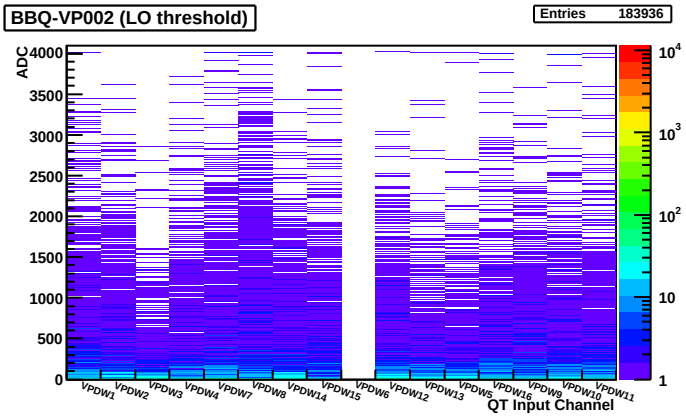

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 183936
TAC
QT Input Channel

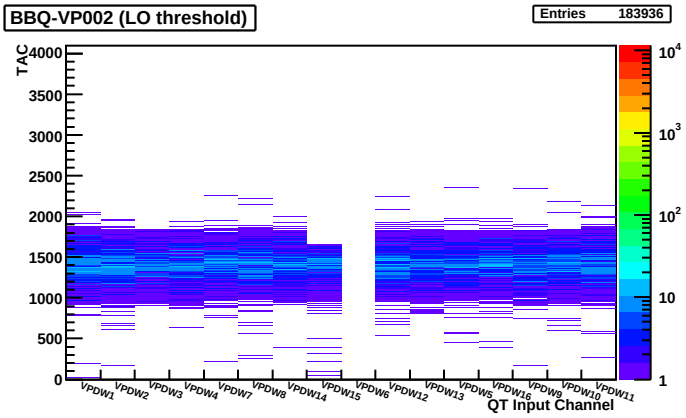

BBQ-ZD001 (ZDC TOWER)
Entries 183936
ADC

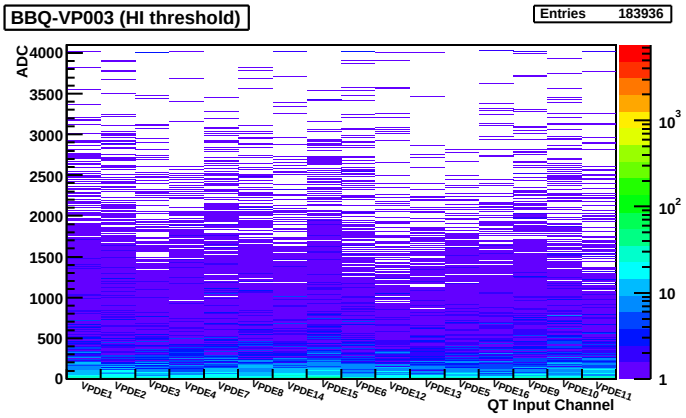

BBQ-ZD001 (ZDC TOWER)
Entries 183936
TAC

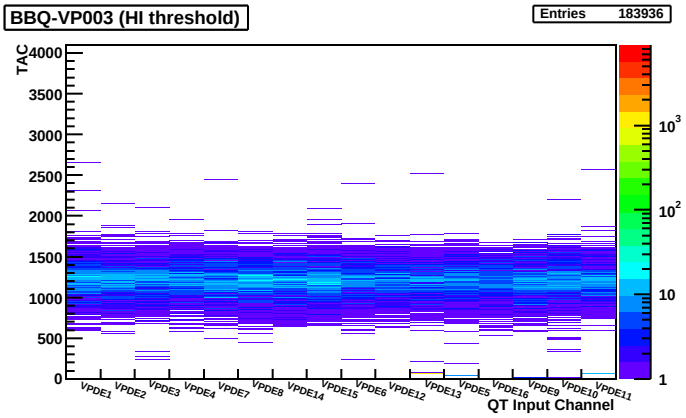

BBQ-VP001 (LO threshold)
Entries 183936
ADC
QT Input Channel

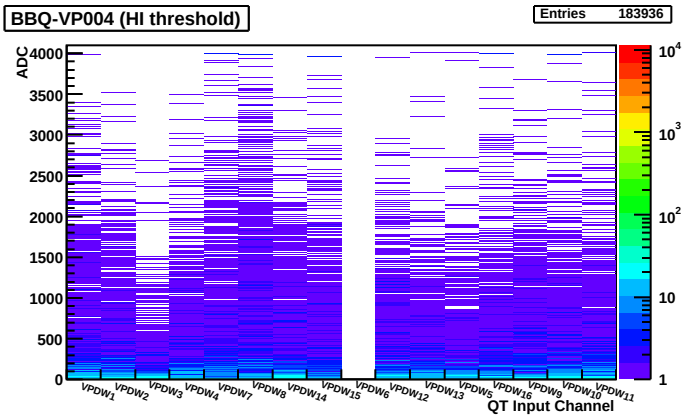

BBQ-VP001 (LO threshold)
Entries 183936
TAC
QT Input Channel

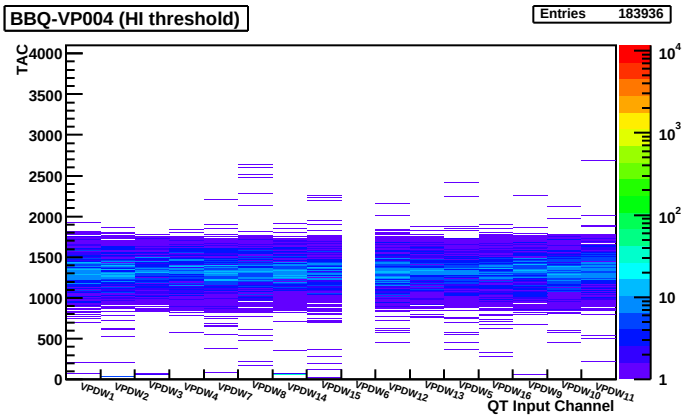

BBQ-VP002 (LO threshold)
Entries 183936
ADC
QT Input Channel

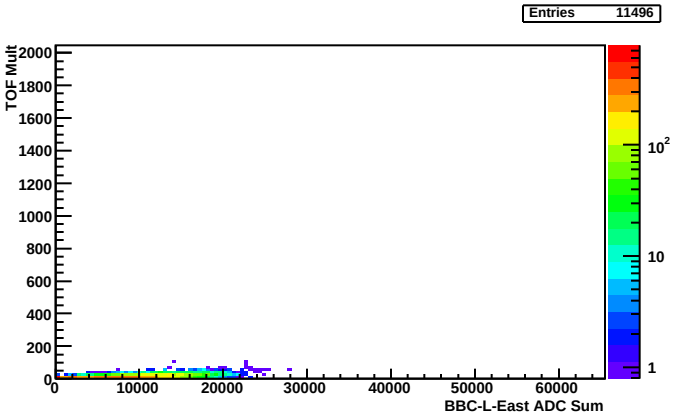

BBQ-VP002 (LO threshold)
Entries 183936
TAC
QT Input Channel

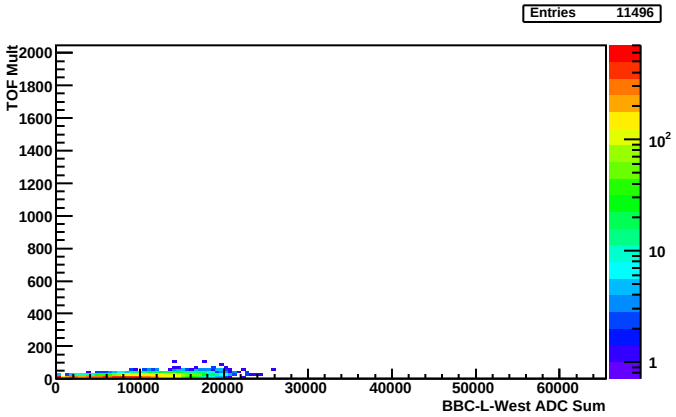

BBQ-VP003 (HI threshold)
Entries 183936
ADC
QT Input Channel

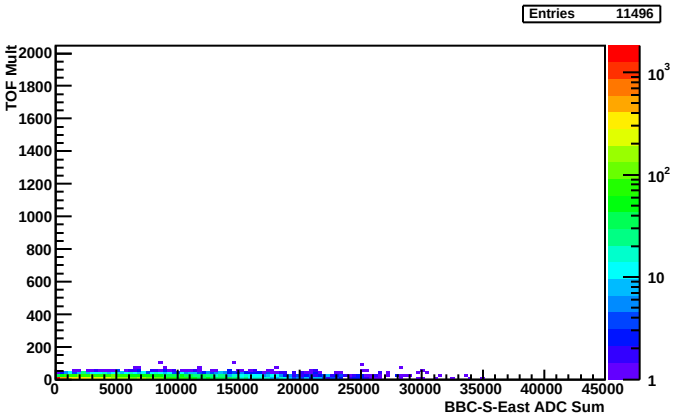

BBQ-VP003 (HI threshold)
Entries 183936
TAC
QT Input Channel

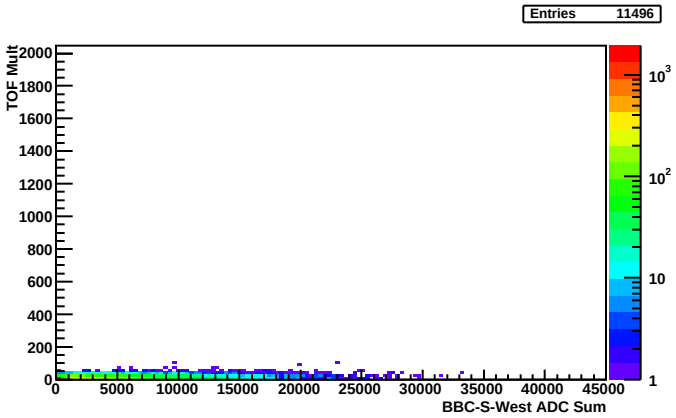

BBQ-VP004 (HI threshold)
Entries 183936
ADC
QT Input Channel

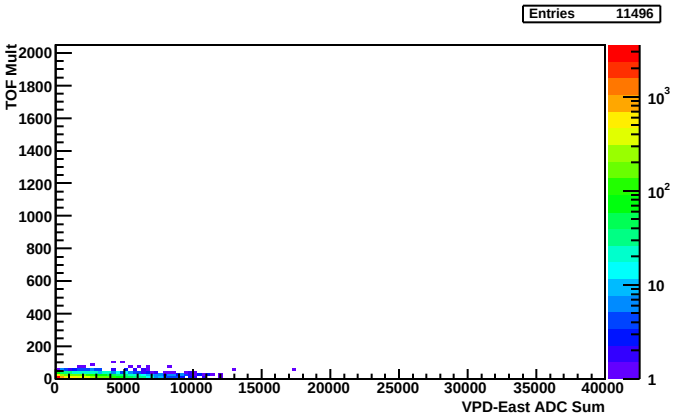

BBQ-VP004 (HI threshold)
Entries 183936
TAC
QT Input Channel

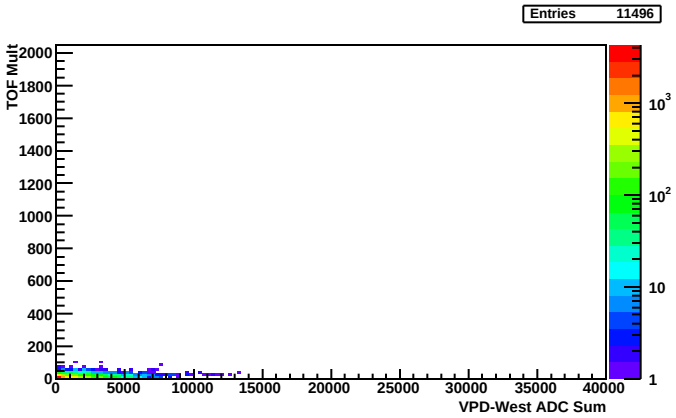

Entries 11496
TOF Mult
BBC-L-East ADC Sum

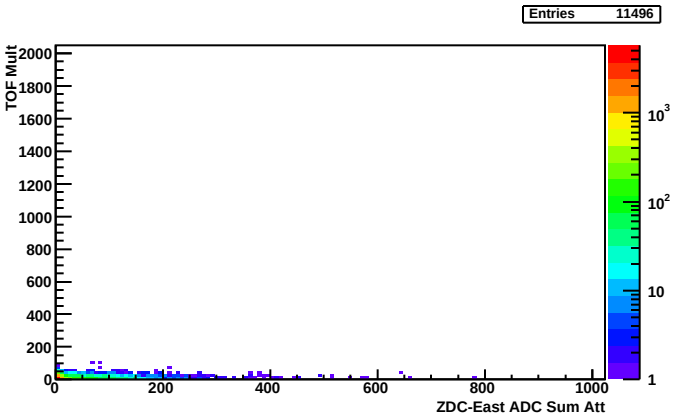

Entries 11496
TOF Mult
BBC-L-West ADC Sum

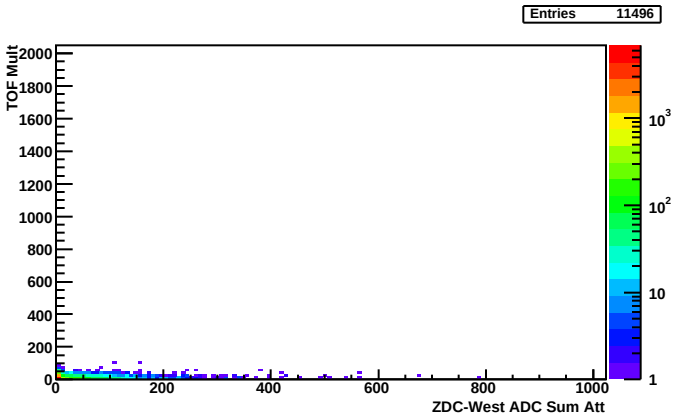

Entries 11496
TOF Mult
BBC-S-East ADC Sum

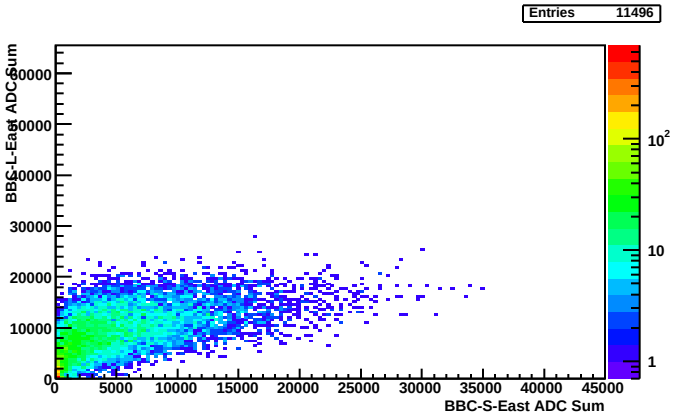

Entries 11496
TOF Mult
BBC-S-West ADC Sum

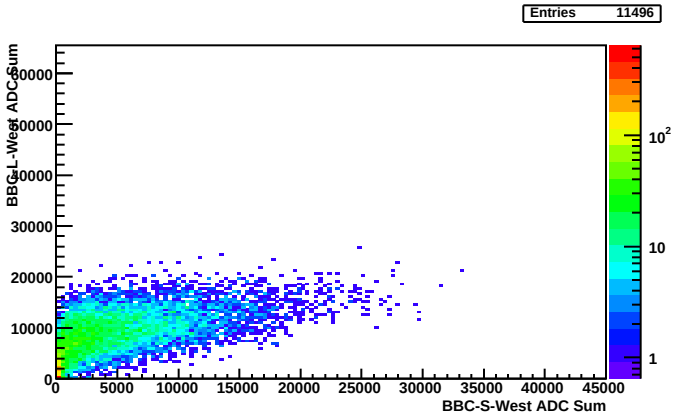

Entries 11496
TOF Mult
VPD-East ADC Sum

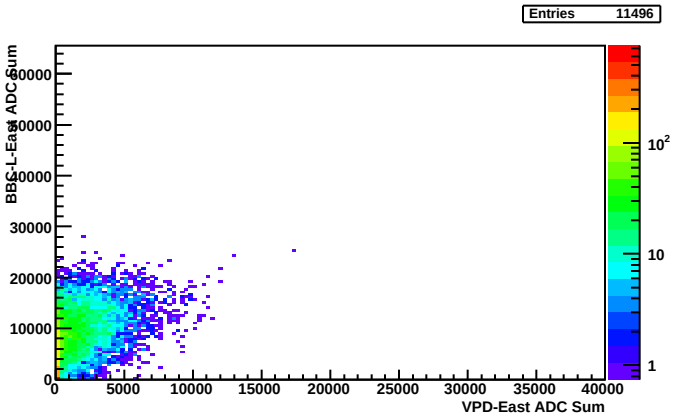

Entries 11496
TOF Mult
VPD-West ADC Sum

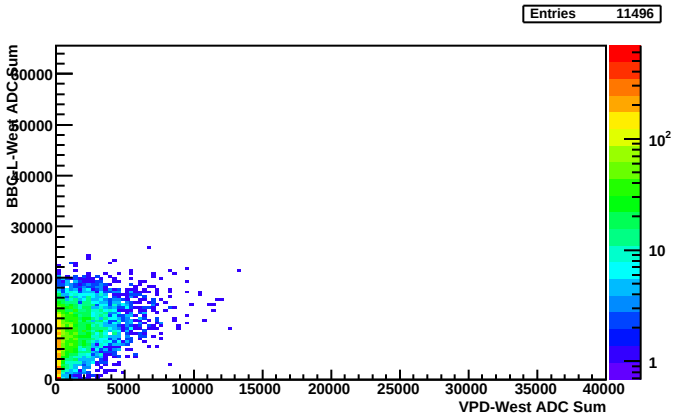

Entries 11496
TOF Mult
ZDC-East ADC Sum Att

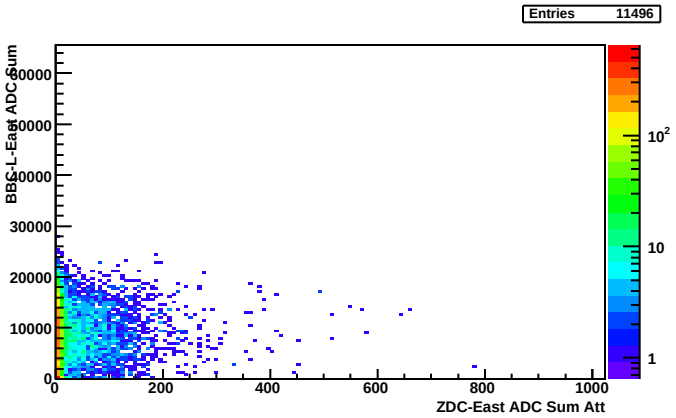

Entries 11496
TOF Mult
ZDC-West ADC Sum Att


Entries 11496
BBC-L-East ADC Sum
BBC-S-East ADC Sum


Entries 11496
BBC-L-West ADC Sum
BBC-S-West ADC Sum


Entries 11496
BBC-L-East ADC Sum
VPD-East ADC Sum


Entries 11496
BBC-L-West ADC Sum
VPD-West ADC Sum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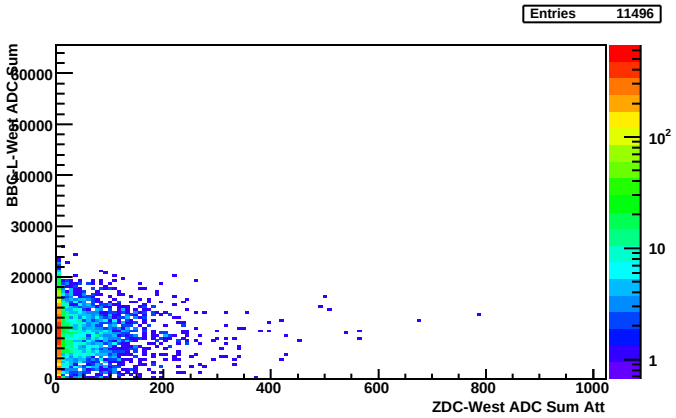
BBC-L-East ADC Sum
ZDC-East ADC Sum Att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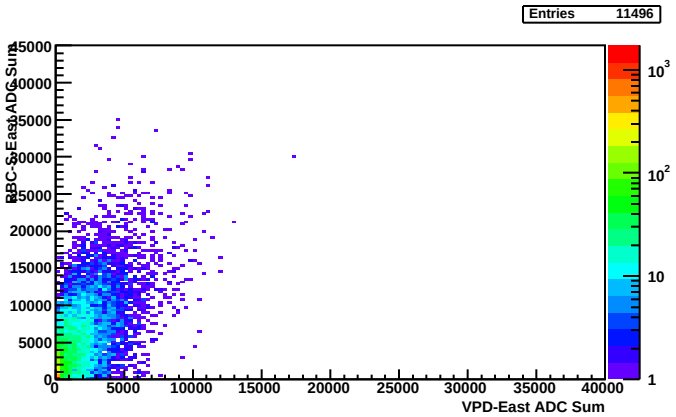
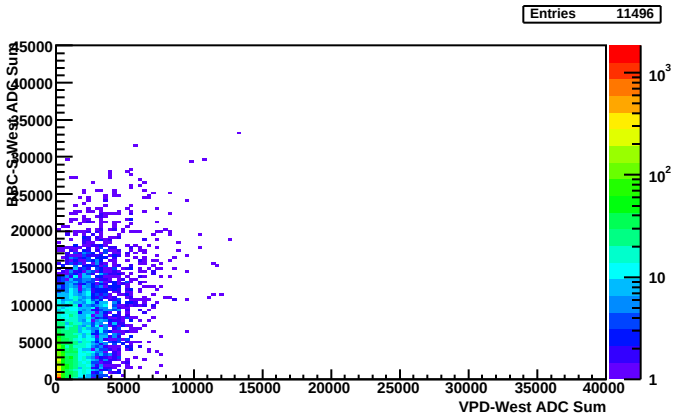
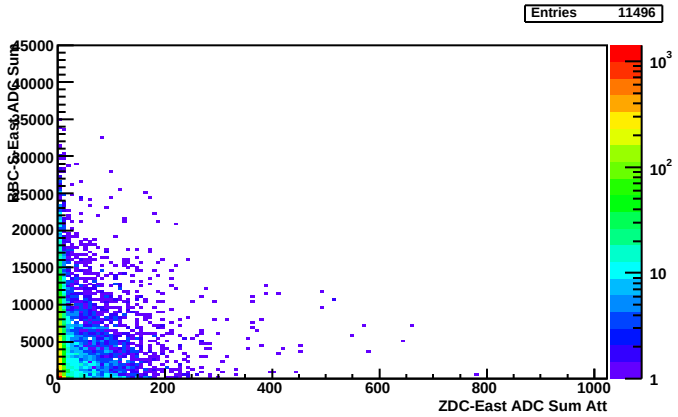
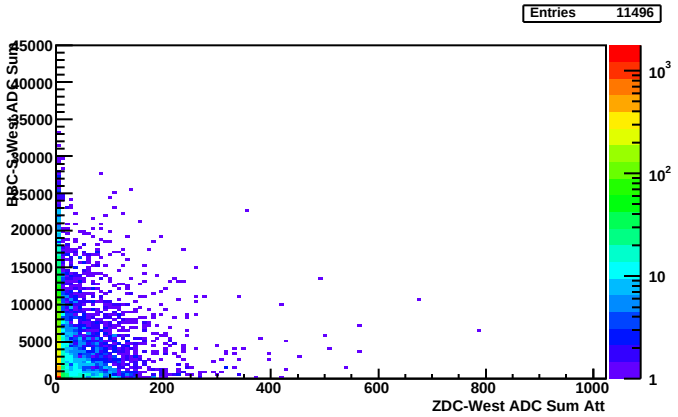
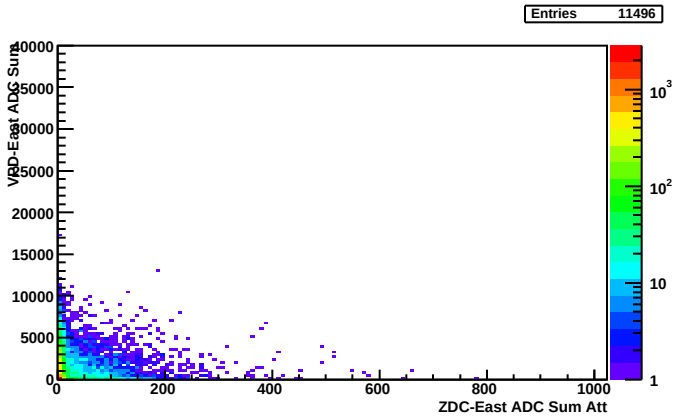
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

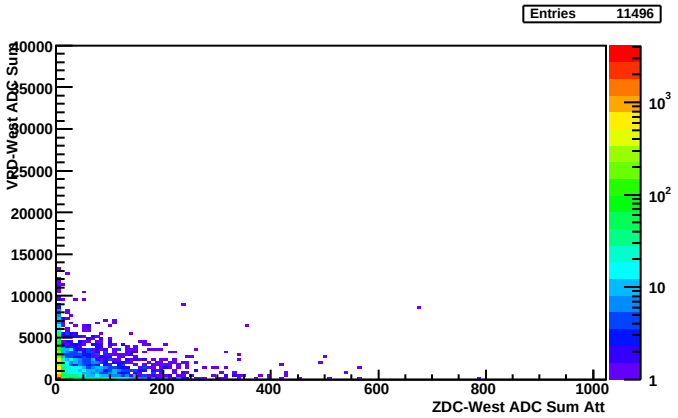

Entries 11496
BBC-S-East ADC Sum
VPD-East ADC Sum

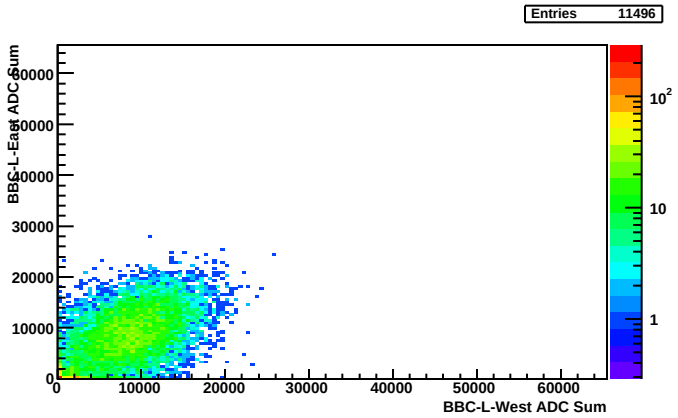

Entries 11496
BBC-S-West ADC Sum
VPD-West ADC Sum

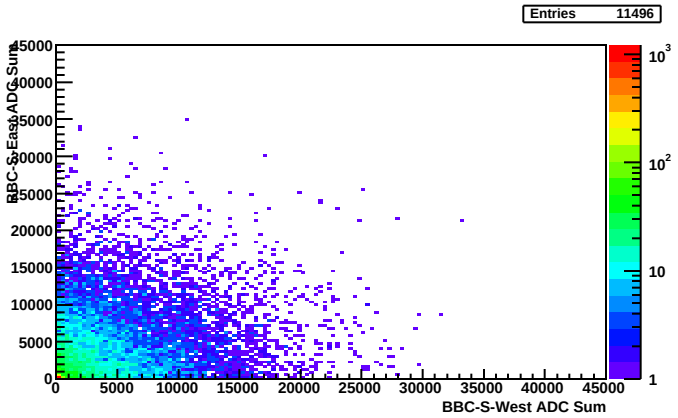

Entries 11496
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

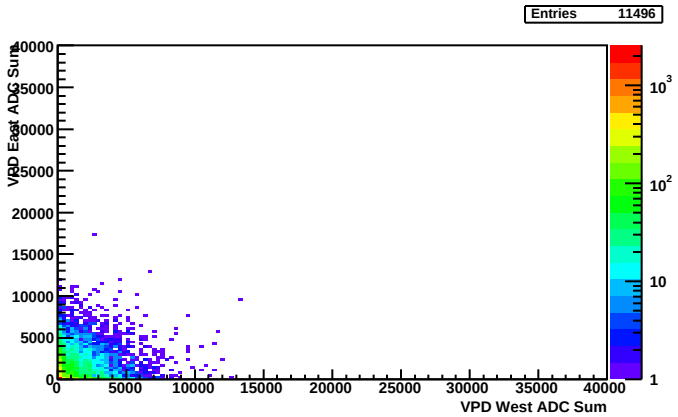

Entries 11496
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

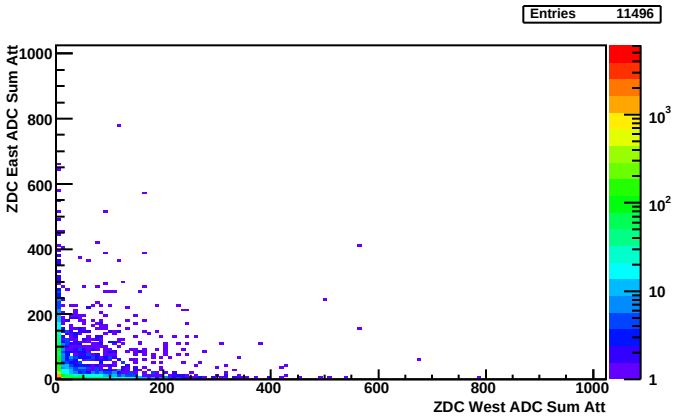

Entries 11496
VPD-East ADC Sum
ZDC-East ADC Sum Att

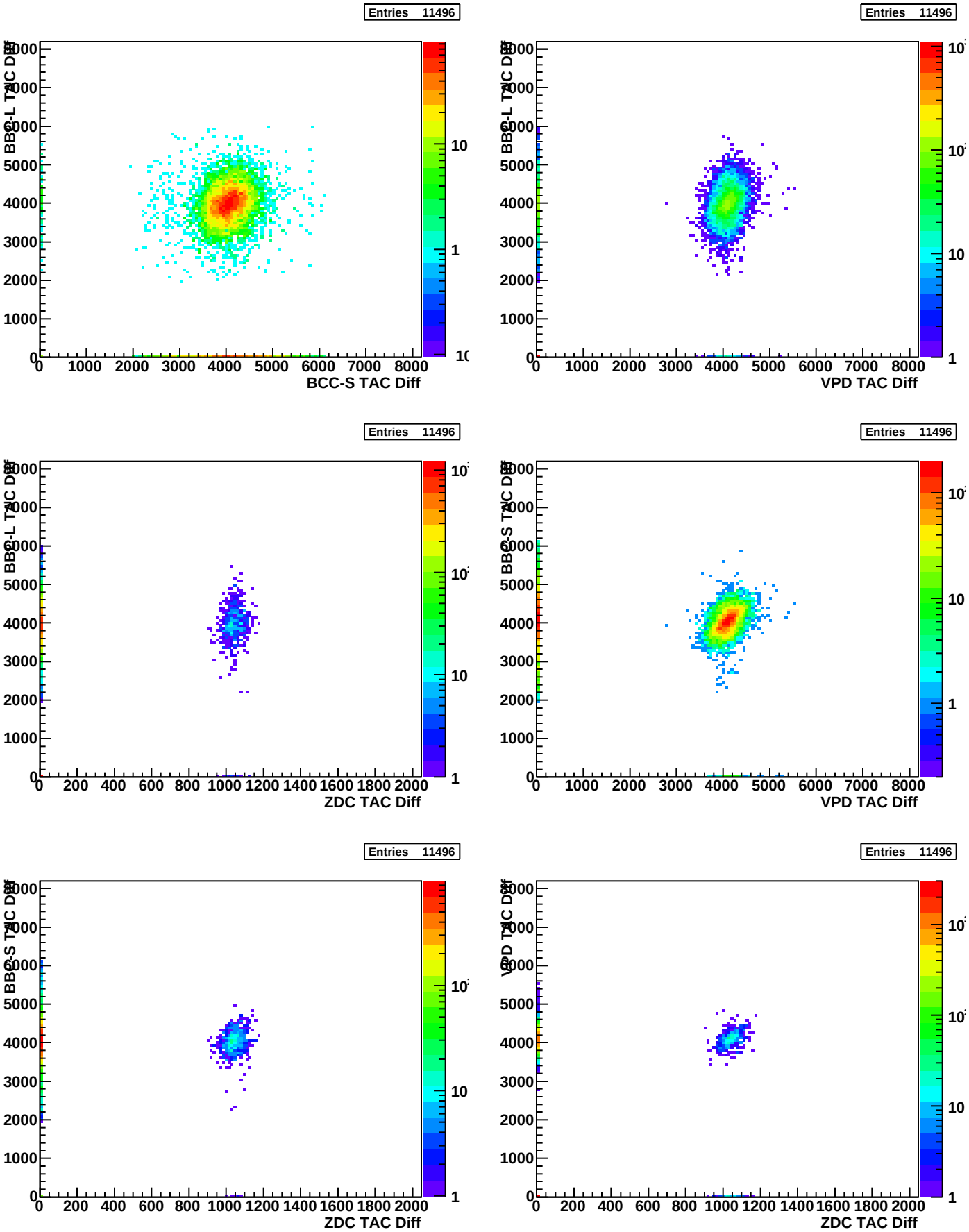

Entries 11496
VPD-West ADC Sum
ZDC-West ADC Sum Att

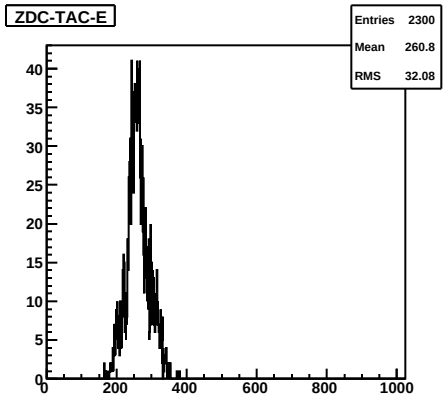

Entries 11496
BBC-L-East ADC Sum
BBC-L-West ADC Sum

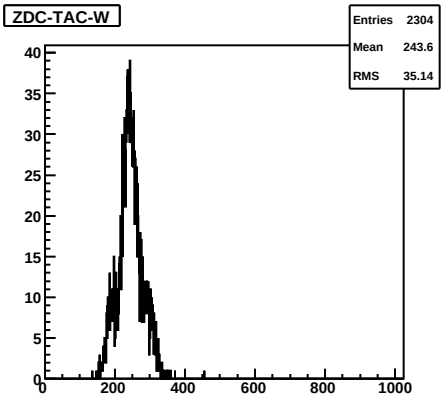

Entries 11496
BBC-S-East ADC Sum
BBC-S-West ADC Sum

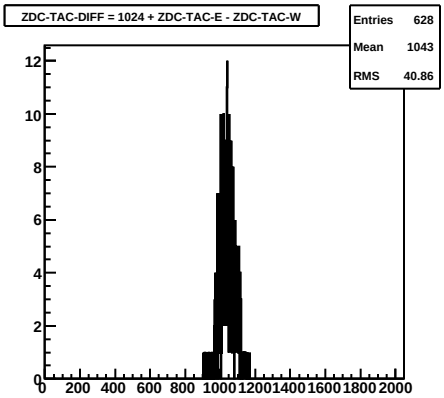

Entries 11496
VPD East ADC Sum
VPD West ADC Sum

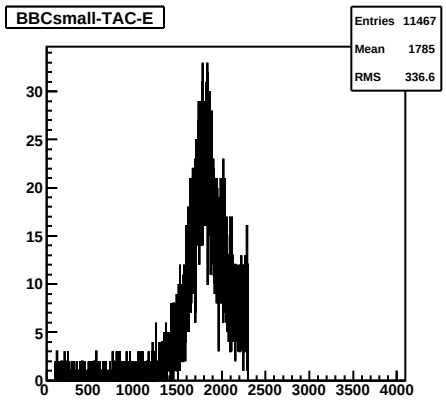

Entries 11496
ZDC East ADC Sum Att
ZDC West ADC Sum Att

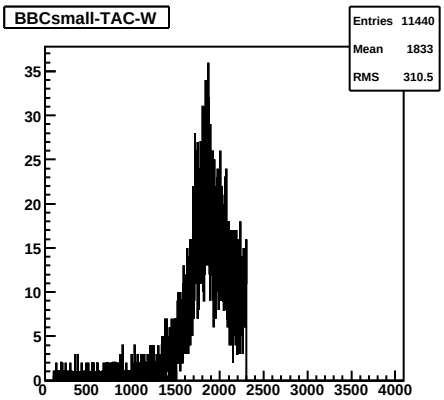

Entries 11496
BBC-L TAC Diff
BCC-S TAC Diff
Entries 11496
BBC-L TAC Diff
VPD TAC Diff
Entries 11496
BBC-L TAC Diff
ZDC TAC Diff
Entries 11496
BBC-S TAC Diff
VPD TAC Diff
Entries 11496
BBC-S TAC Diff
ZDC TAC Diff
Entries 11496
VPD TAC Diff
ZDC TAC Diff

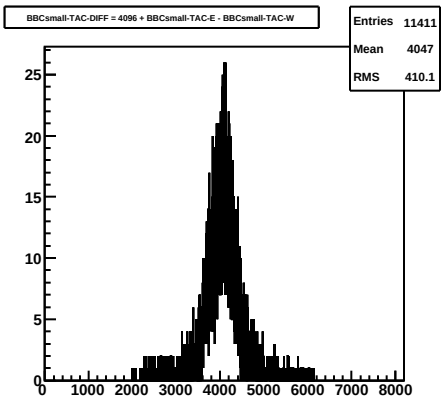

ZDC-TAC-E
Entries 2300
Mean 260.8
RMS 32.08

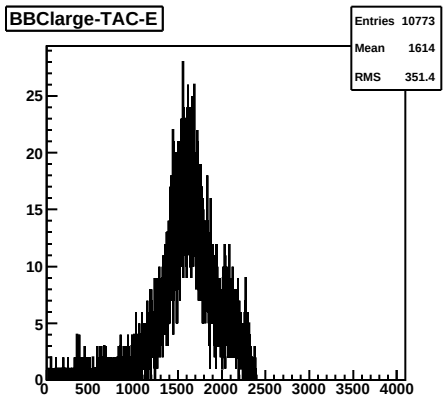

ZDC-TAC-W
Entries 2304
Mean 243.6
RMS 35.14

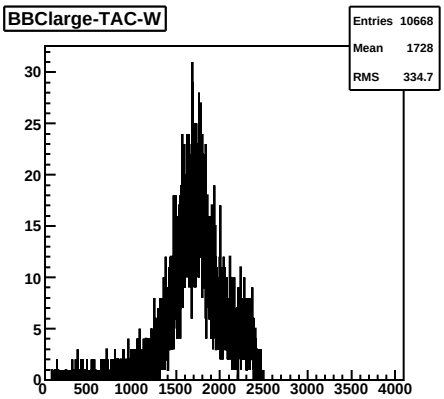

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 628
Mean 1043
RMS 40.86

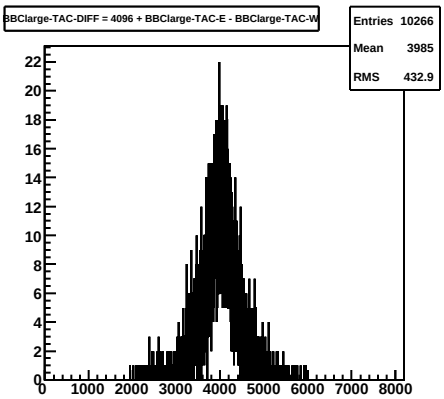

BBCsmall-TAC-E
Entries 11467
Mean 1785
RMS 336.6

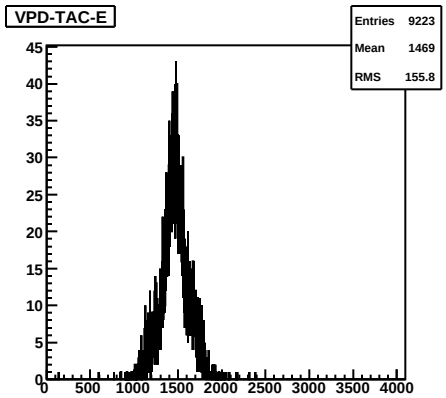

BBCsmall-TAC-W
Entries 11440
Mean 1833
RMS 310.5

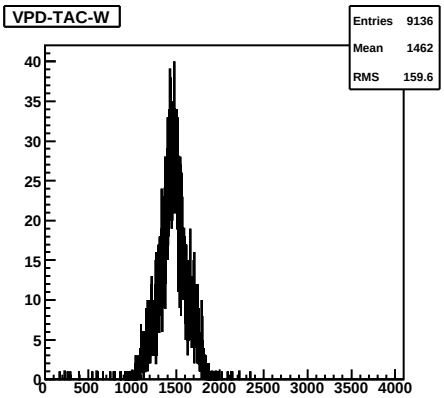

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 11411
Mean 4047
RMS 410.1

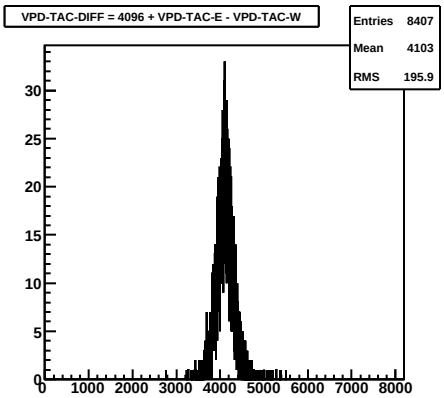

BBClarge-TAC-E
Entries 10773
Mean 1614
RMS 351.4

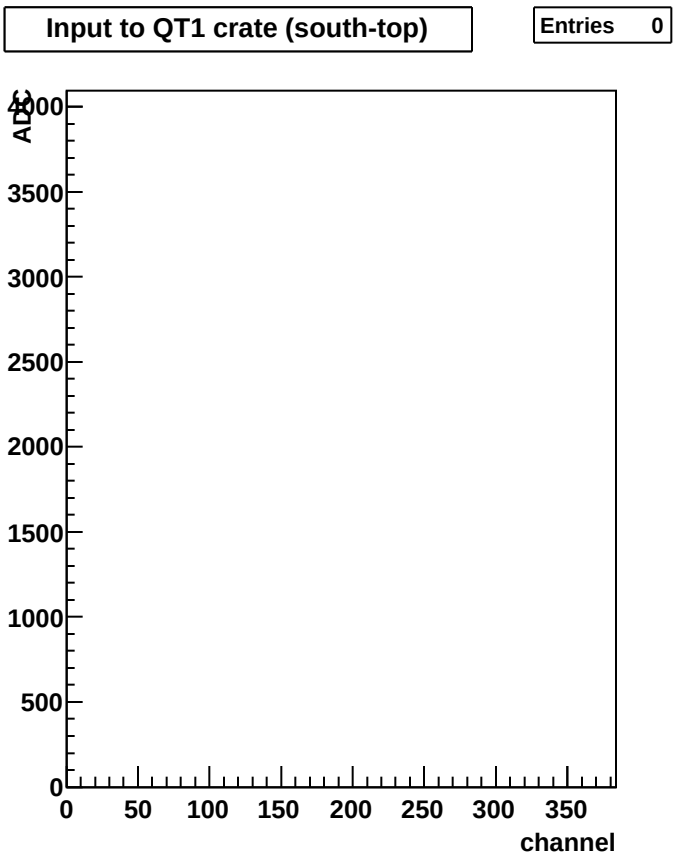

BBClarge-TAC-W
Entries 10668
Mean 1728
RMS 334.7

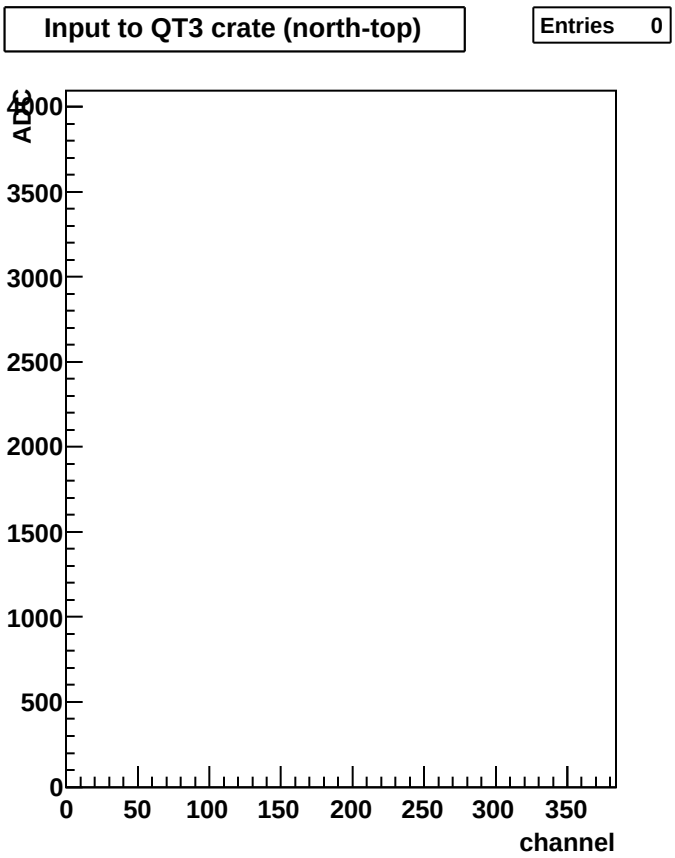

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 10266
Mean 3985
RMS 432.9

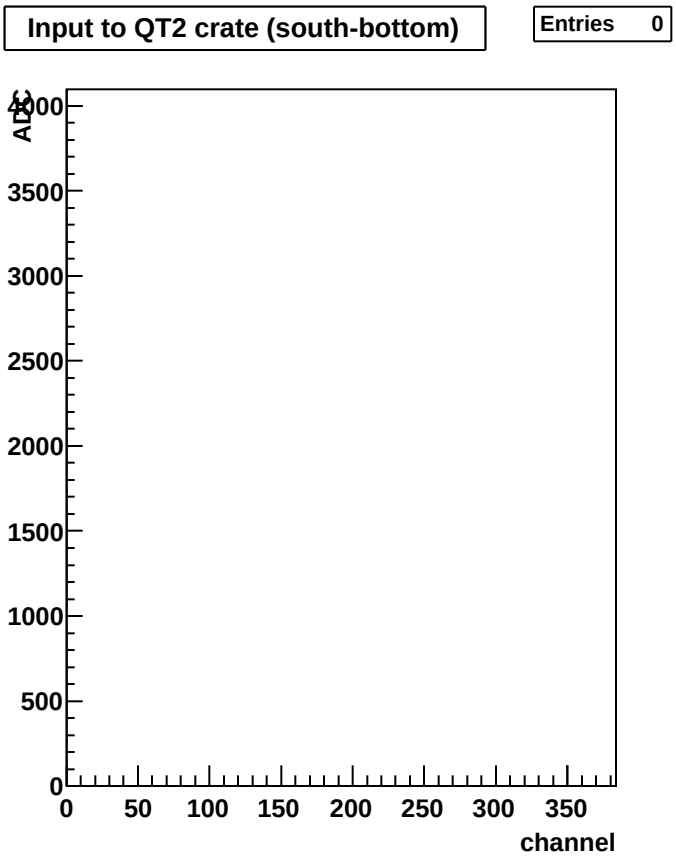

VPD-TAC-E
Entries 9223
Mean 1469
RMS 155.8

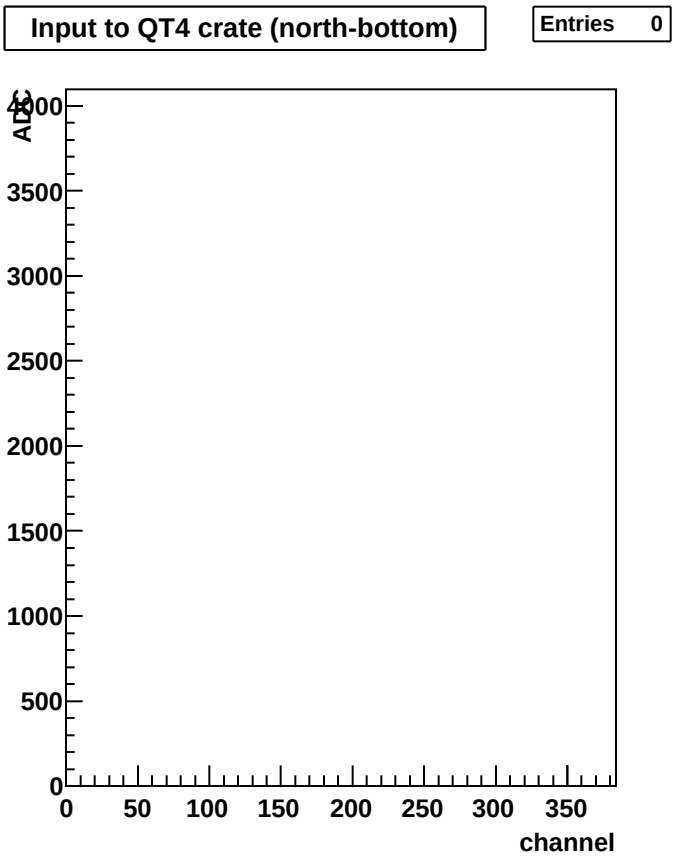

VPD-TAC-W
Entries 9136
Mean 1462
RMS 159.6

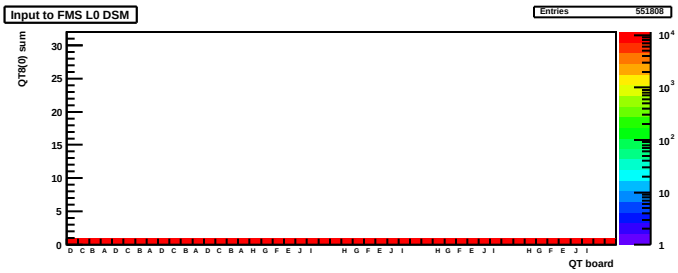

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 8407
Mean 4103
RMS 195.9

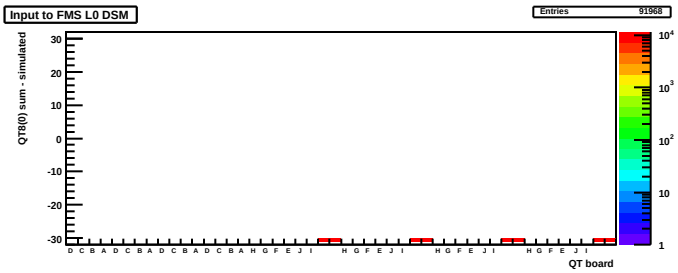

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

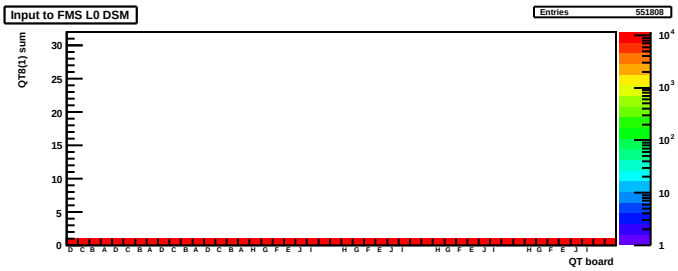

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

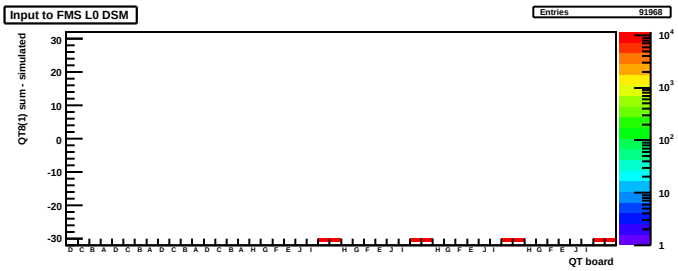

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

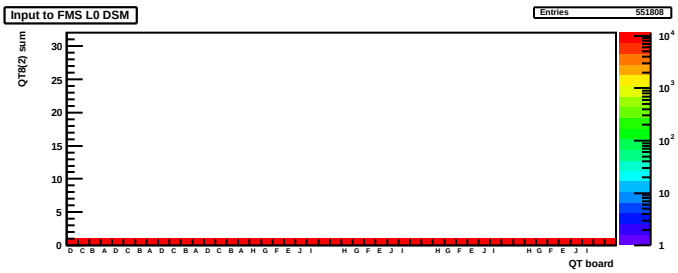

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

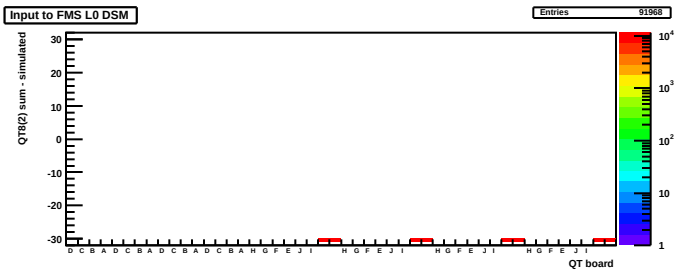

Input to FMS L0 DSM
Entries 551808
QT8(0) sum
QT board

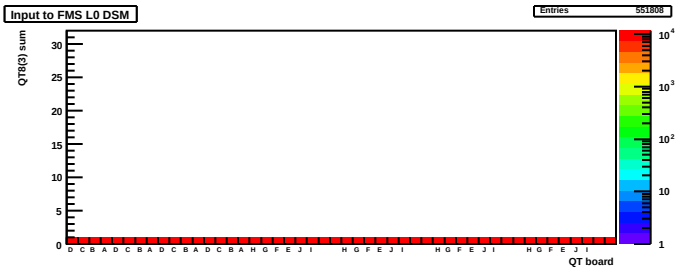

Input to FMS L0 DSM
Entries 91968
QT8(0) sum - simulated
QT board

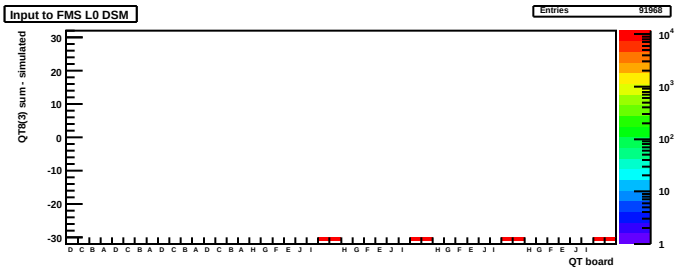

Input to FMS L0 DSM
Entries 551808
QT8(1) sum
QT board

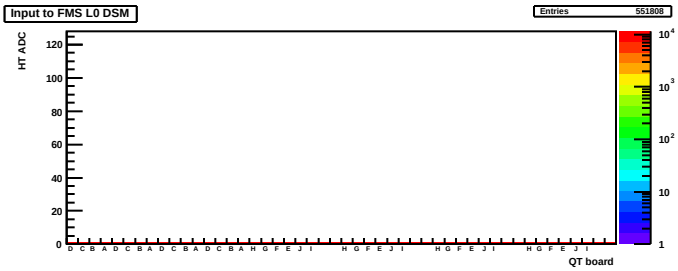

Input to FMS L0 DSM
Entries 91968
QT8(1) sum - simulated
QT board

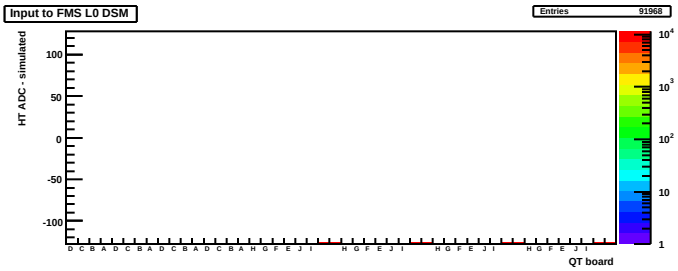

Input to FMS L0 DSM
Entries 551808
QT8(2) sum
QT board

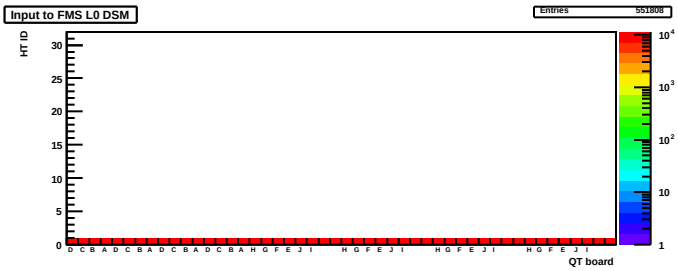

Input to FMS L0 DSM
Entries 91968
QT8(2) sum - simulated
QT board

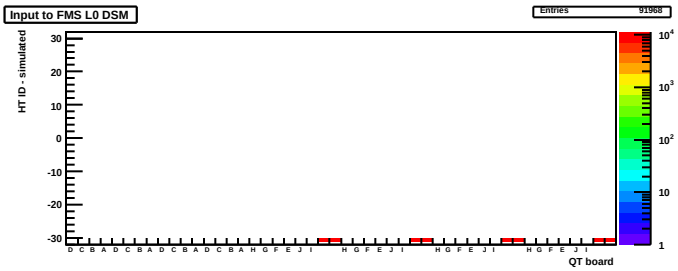

Input to FMS L0 DSM
Entries 551808
QT8(3) sum
QT board

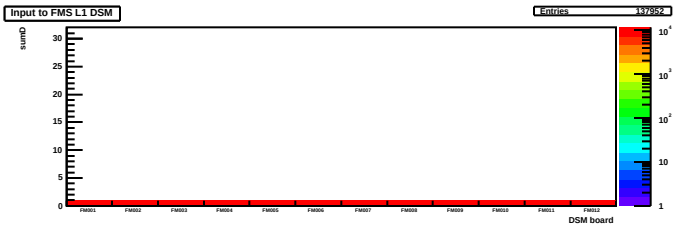

Input to FMS L0 DSM
Entries 91968
QT8(3) sum - simulated
QT board

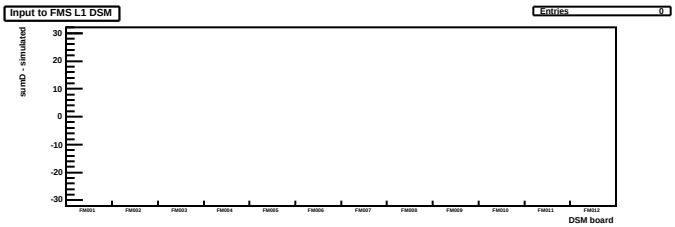

Input to FMS L0 DSM
Entries 551808
HT ADC
QT board

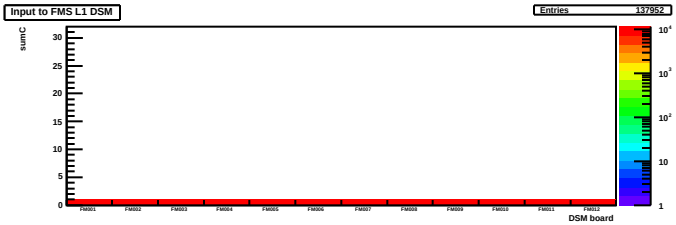

Input to FMS L0 DSM
Entries 91968
HT ADC - simulated
QT board

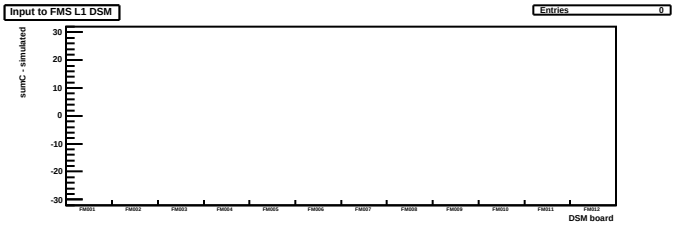

Input to FMS L0 DSM
Entries 551808
HT ID
QT board

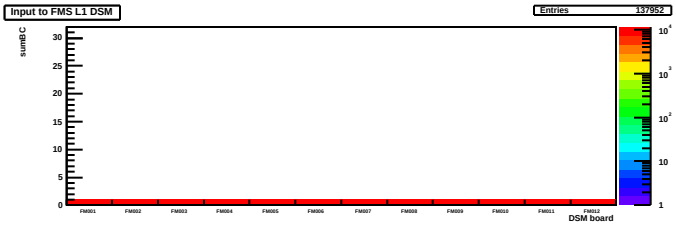

Input to FMS L0 DSM
Entries 91968
HT ID - simulated
QT board

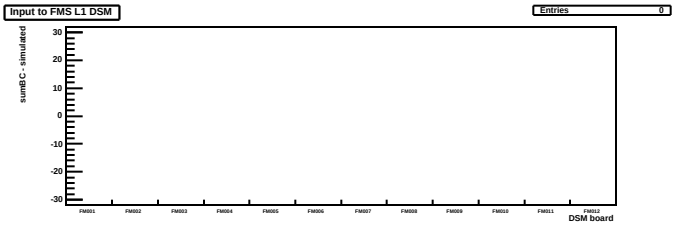

Input to FMS L1 DSM
Entries 137952
sumD
DSM board

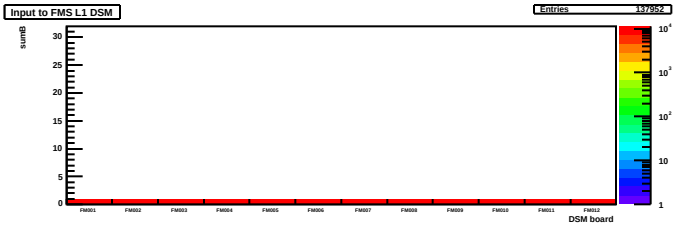

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

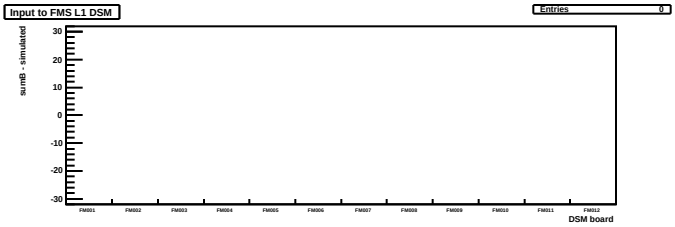

Input to FMS L1 DSM
Entries 137952
sumC
DSM board

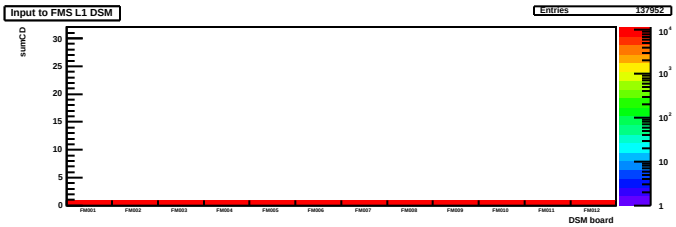

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

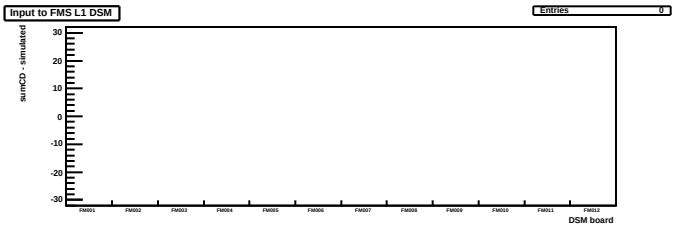

Input to FMS L1 DSM
Entries 137952
sumBC
DSM board

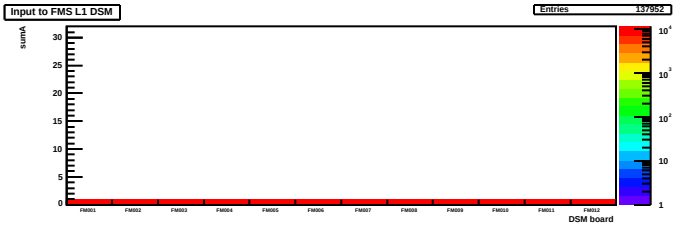

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

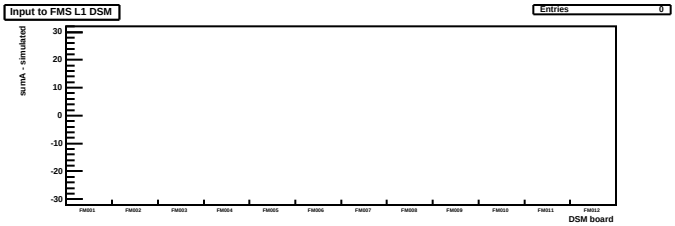

Input to FMS L1 DSM
Entries 137952
sumB
DSM board

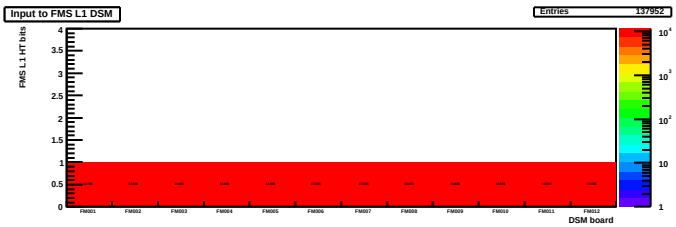

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

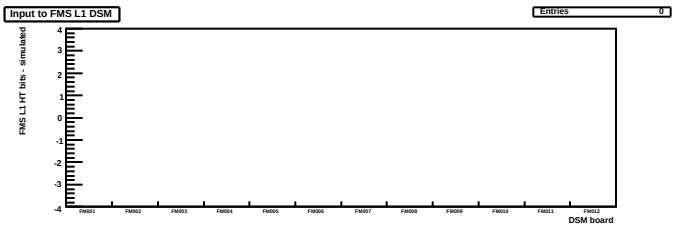

Input to FMS L1 DSM
Entries 137952
sumCD
DSM board

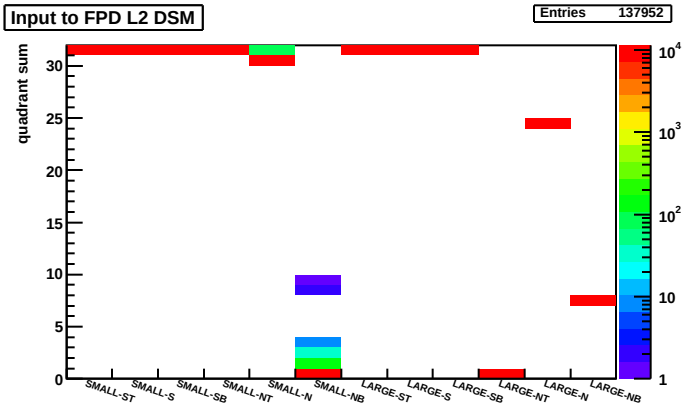

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

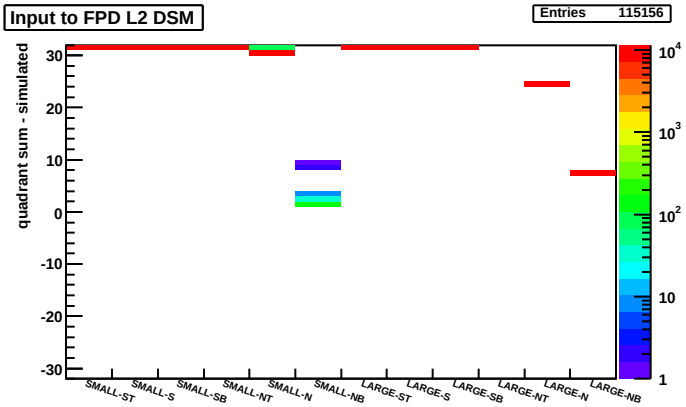

Input to FMS L1 DSM
Entries 137952
sumA
DSM board

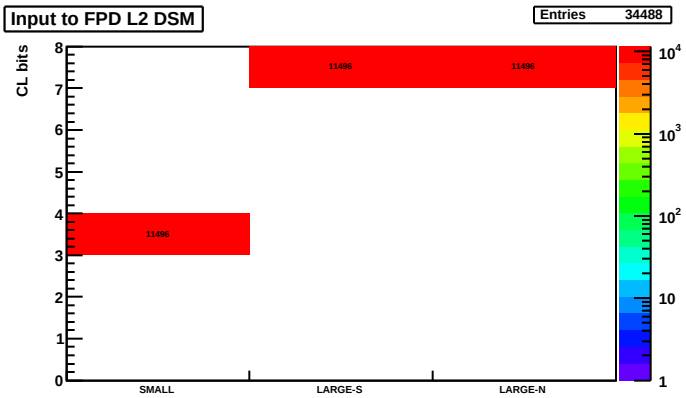

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

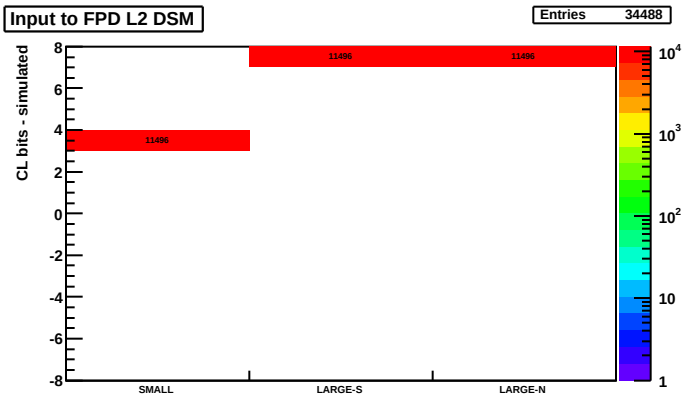

Input to FMS L1 DSM
Entries 137952
FMS L1 HT bits
DSM board

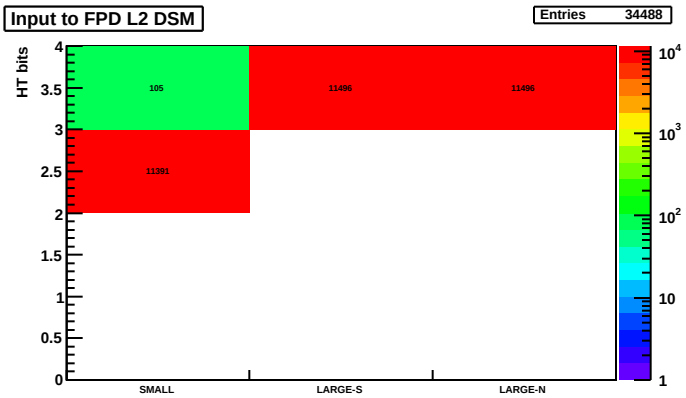

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

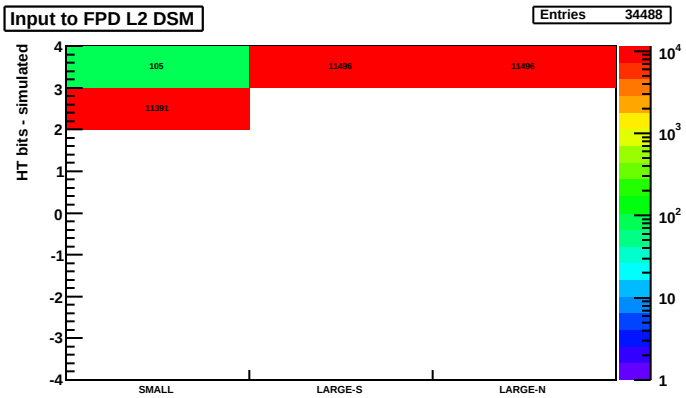

Input to FPD L2 DSM
Entries 137952
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

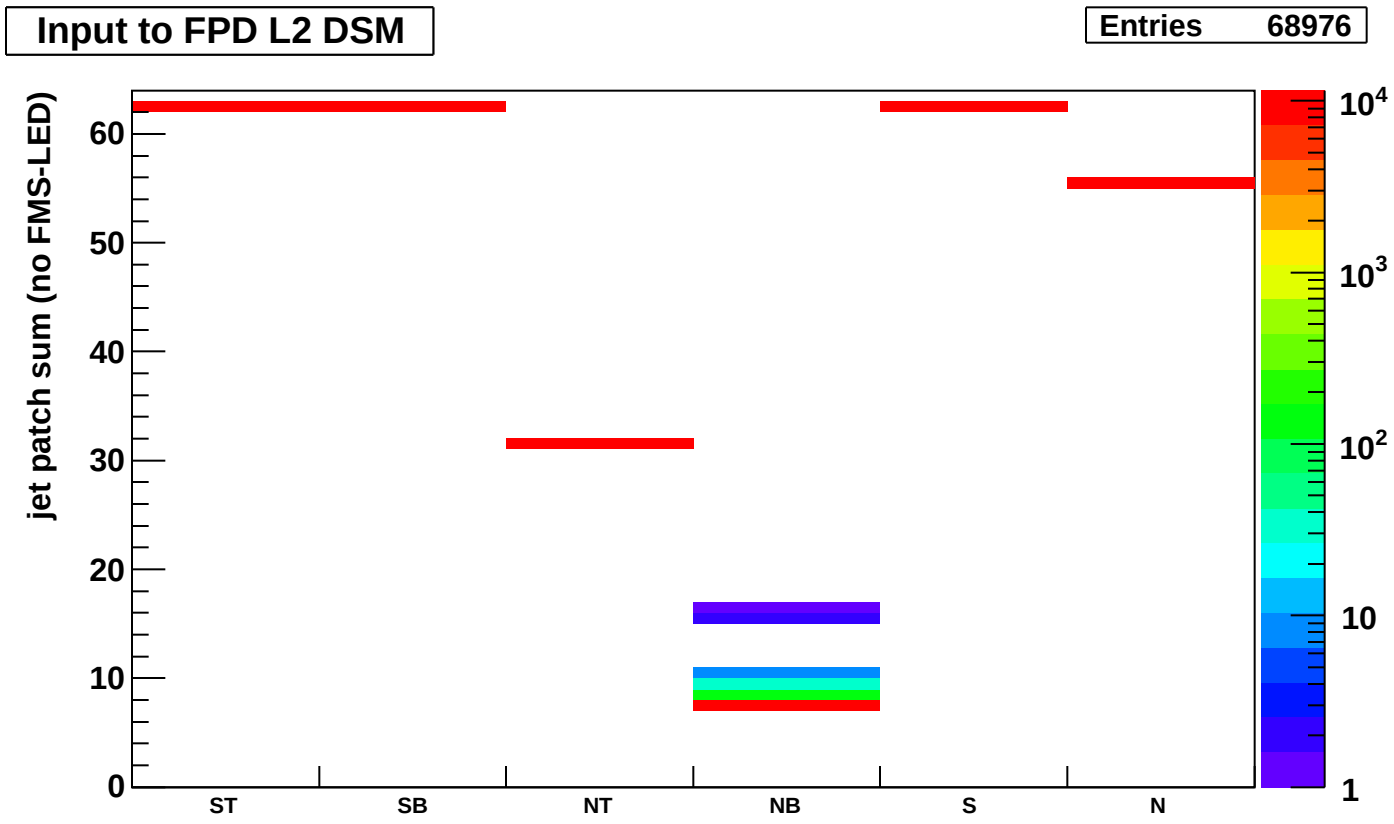

Input to FPD L2 DSM
Entries 115156
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

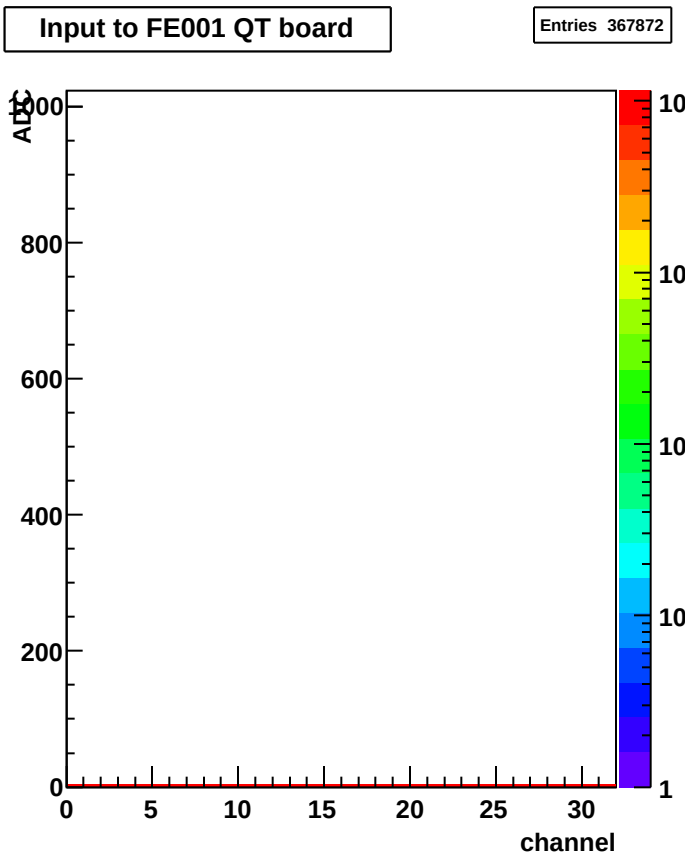

Input to FPD L2 DSM
Entries 34488
CL bits
11496
11496
11496
SMALL
LARGE-S
LARGE-N

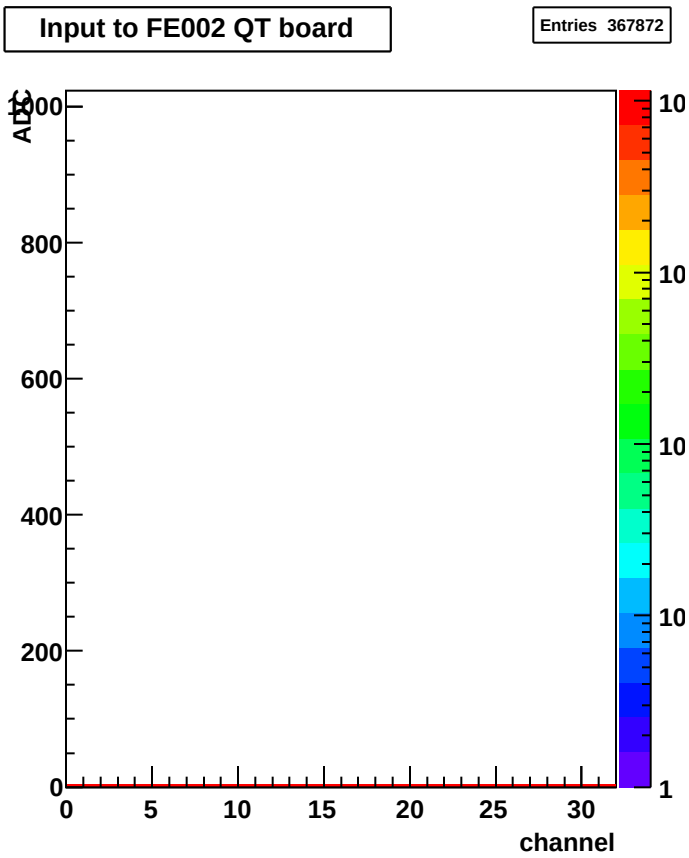

Input to FPD L2 DSM
Entries 34488
CL bits - simulated
11496
11496
11496
SMALL
LARGE-S
LARGE-N

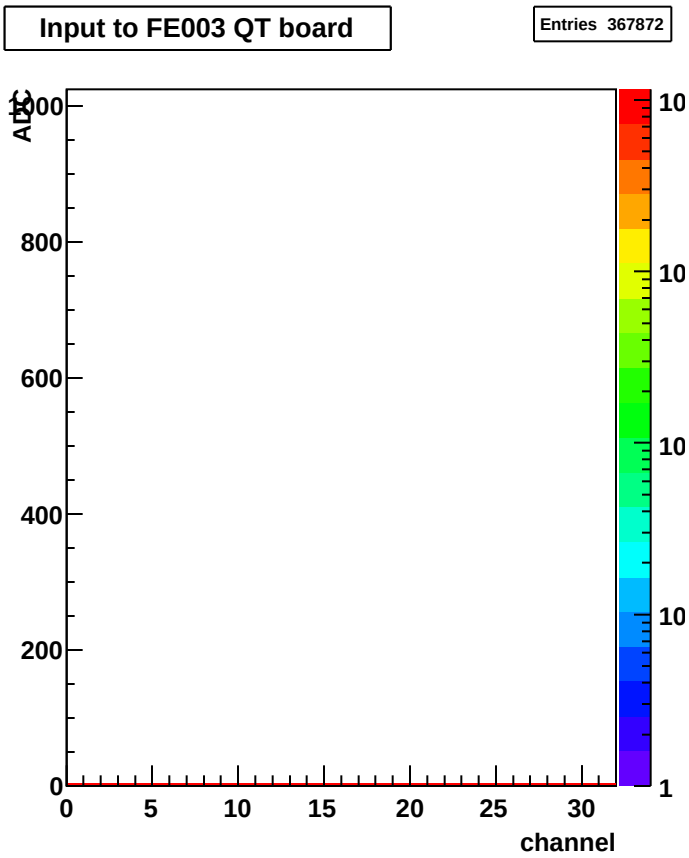

Input to FPD L2 DSM
Entries 34488
HT bits
105
11391
11496
11496
SMALL
LARGE-S
LARGE-N

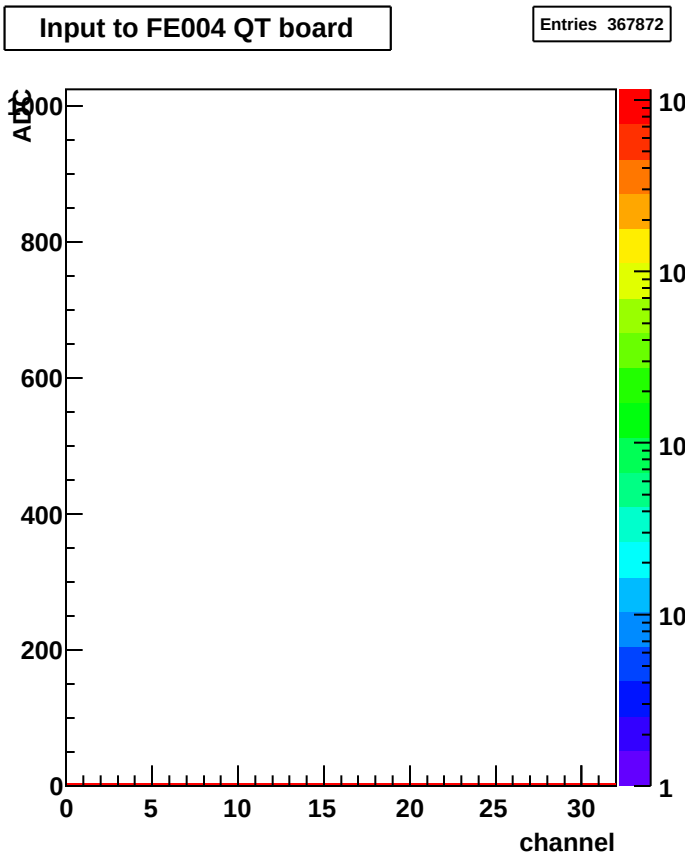

Input to FPD L2 DSM
Entries 34488
HT bits - simulated
105
11391
11496
11496
SMALL
LARGE-S
LARGE-N

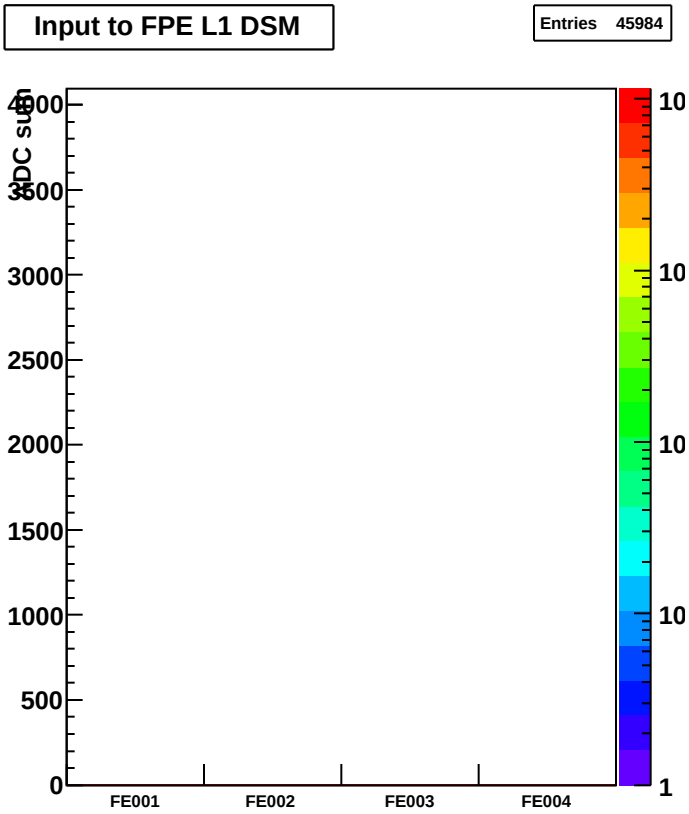

Input to FPD L2 DSM
Entries 68976
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

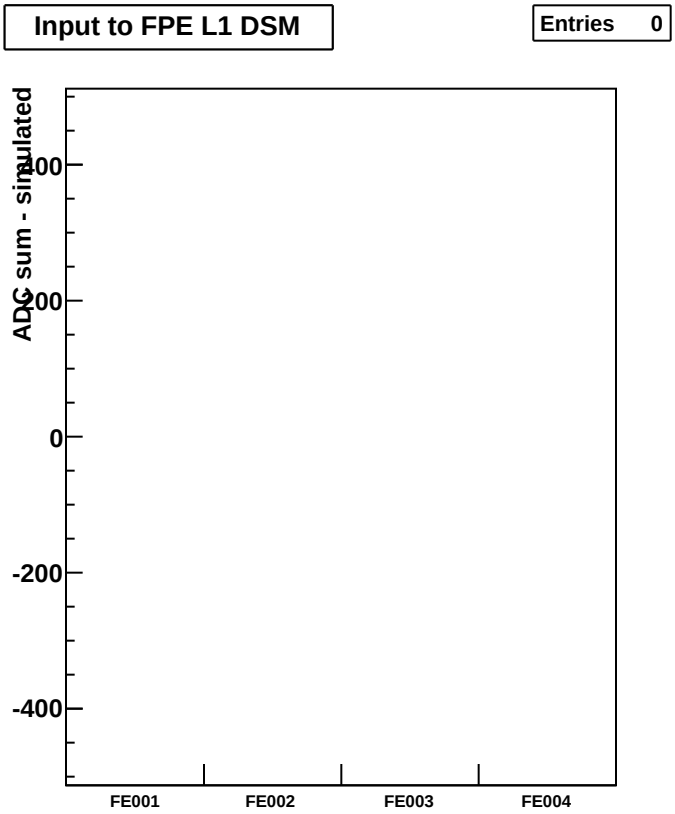

Input to FE001 QT board
Entries 367872
ADC
channel

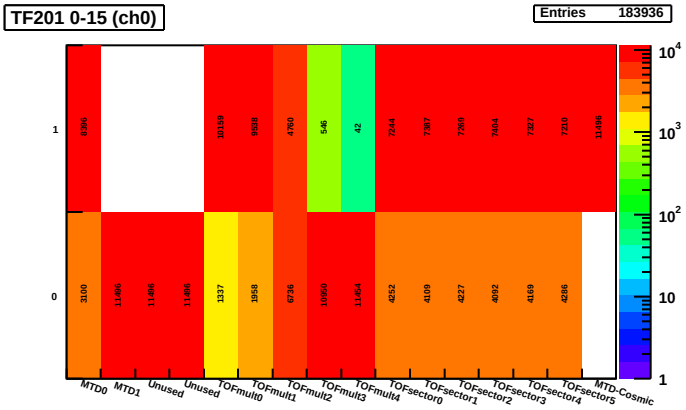

Input to FE002 QT board
Entries 367872
ADC
channel

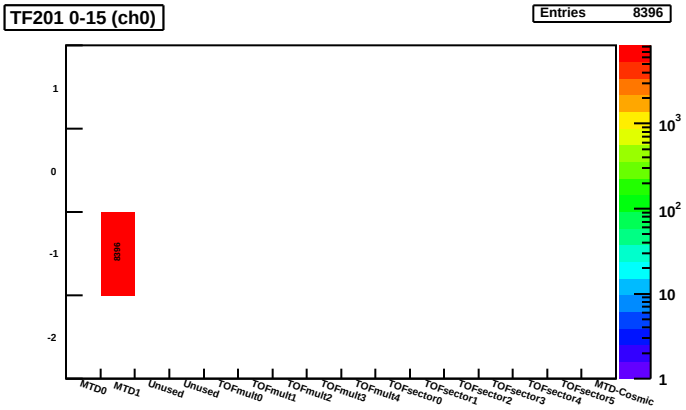

Input to FE003 QT board
Entries 367872
ADC
channel

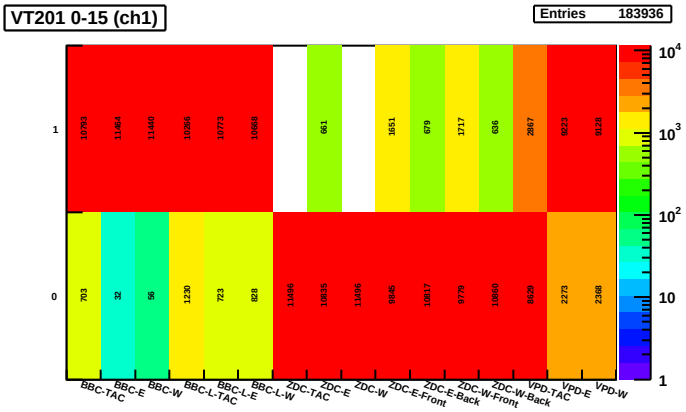

Input to FE004 QT board
Entries 367872
ADC
channel

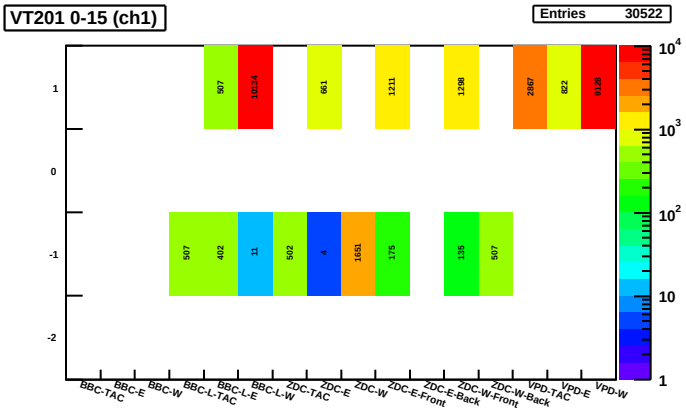

Input to FPE L1 DSM
Entries 45984
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1

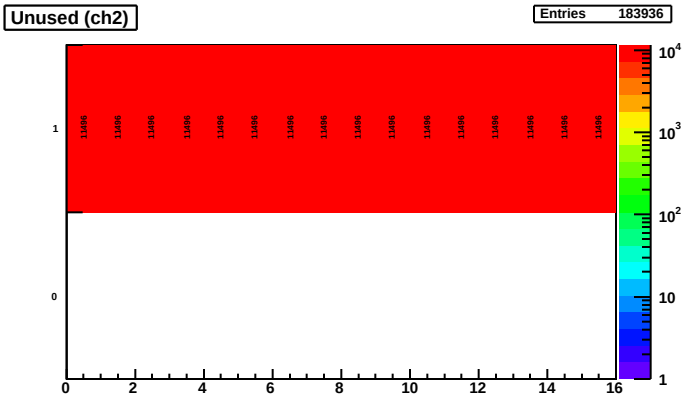

Input to FPE L1 DSM
Entries 0
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004


TF201 0-15 (ch0)
Entries 183936
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 8396
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 183936
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 30522
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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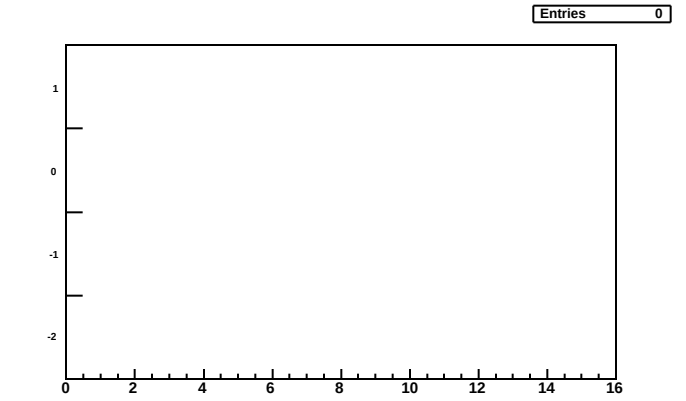
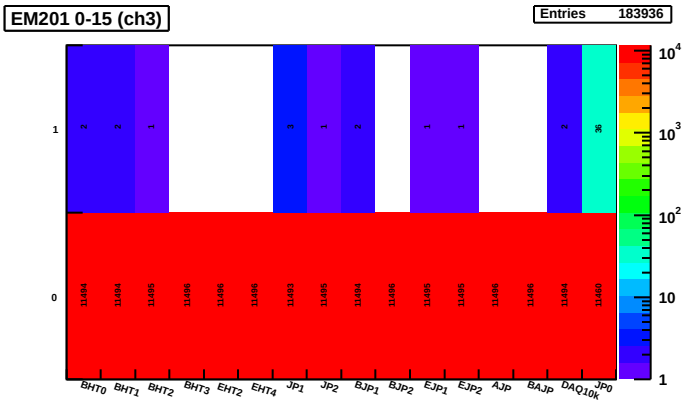
Entries 183936


Entries 0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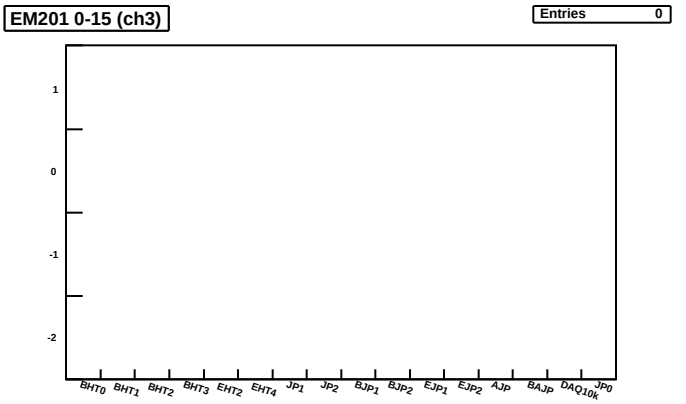
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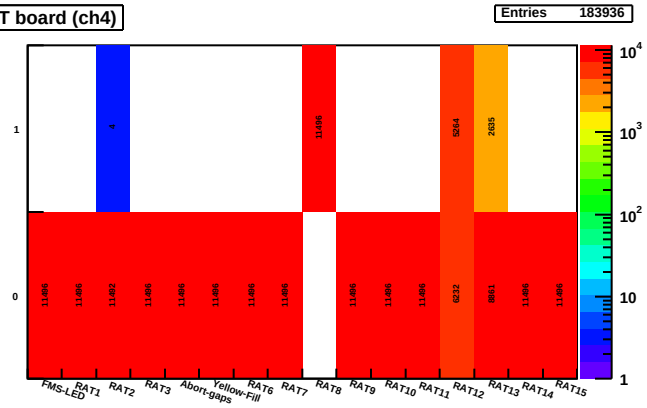
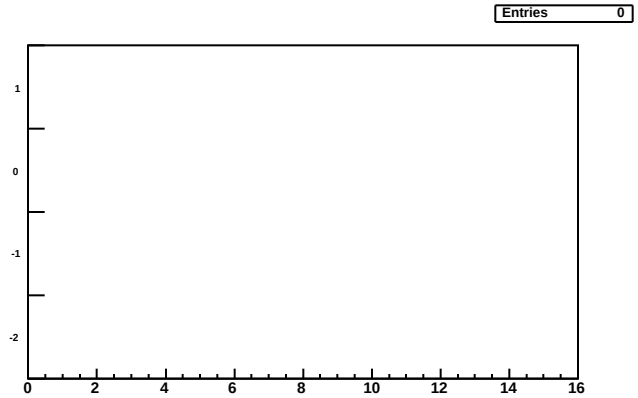
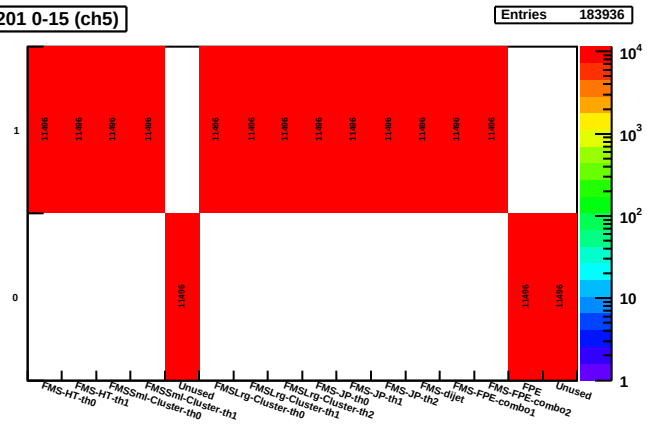
RAT board (ch4)





FP201 0-15 (ch5)



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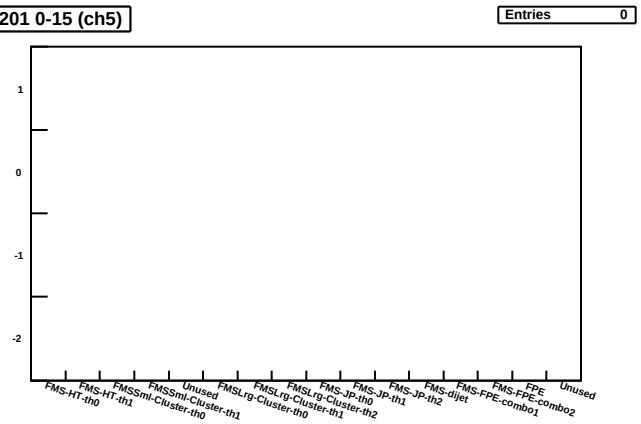
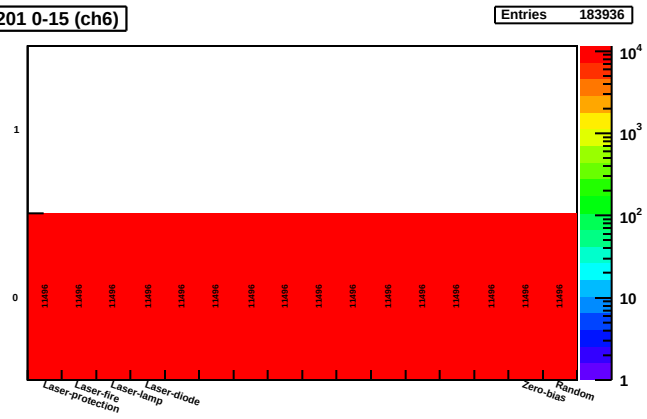
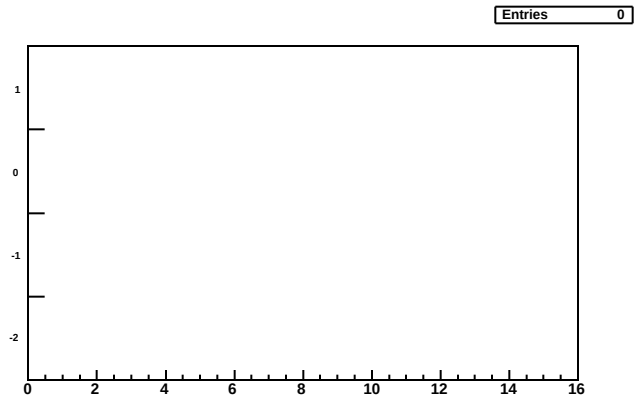
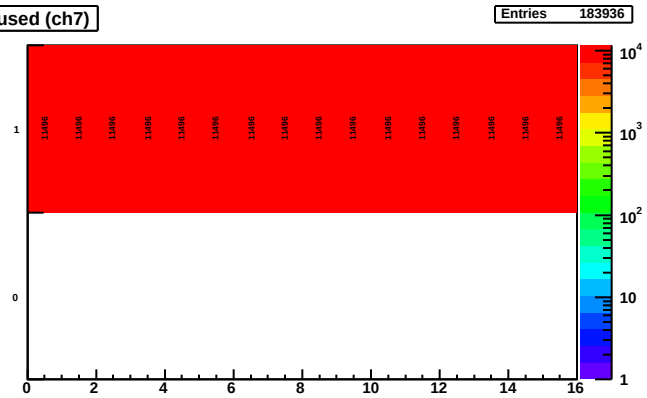
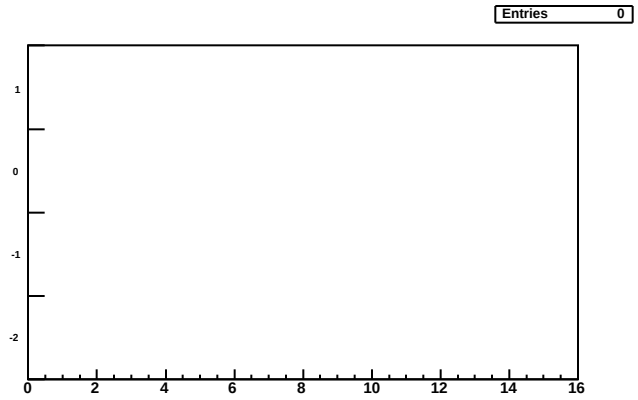


ST201 0-15 (ch6)





Unused (ch7)