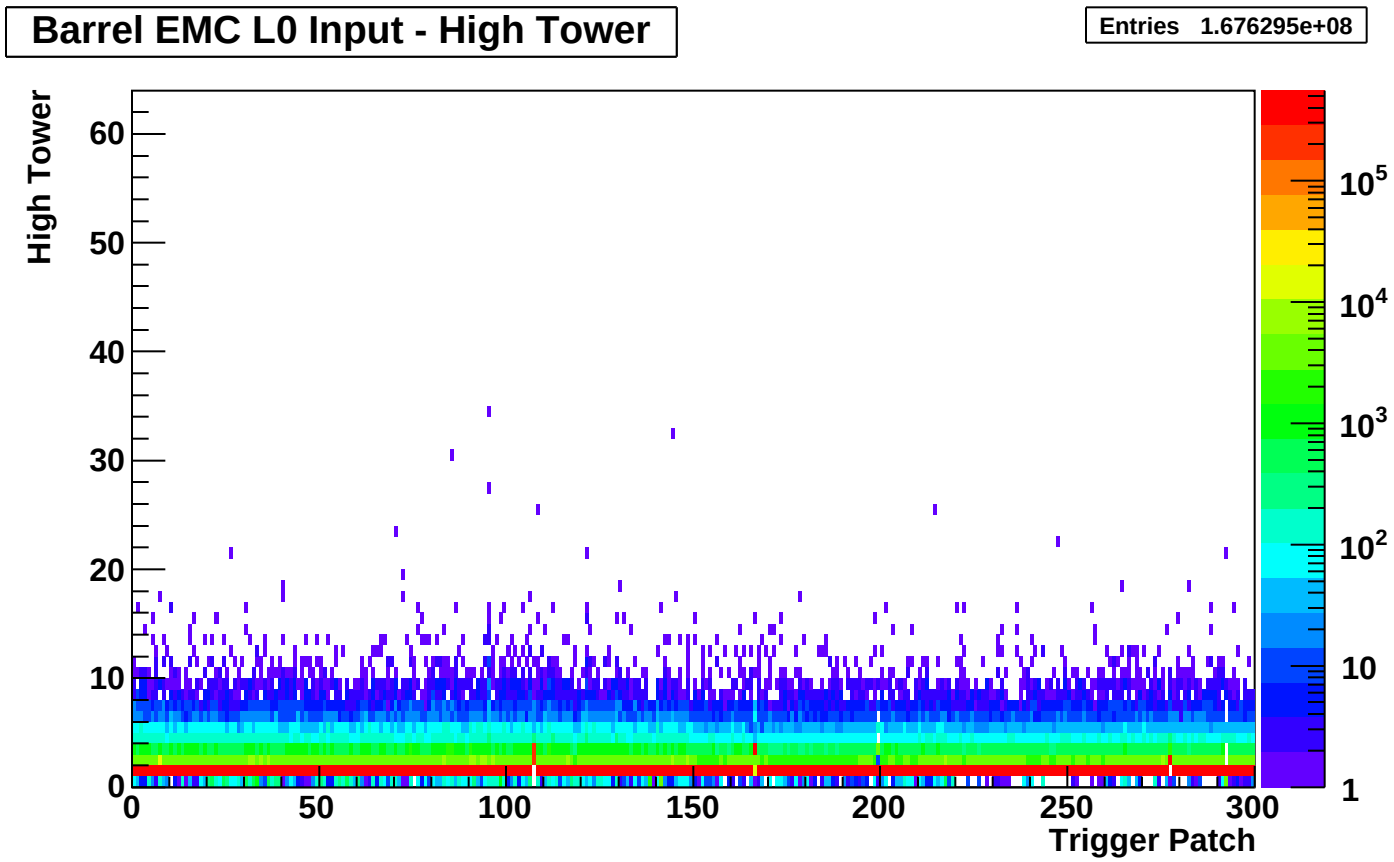
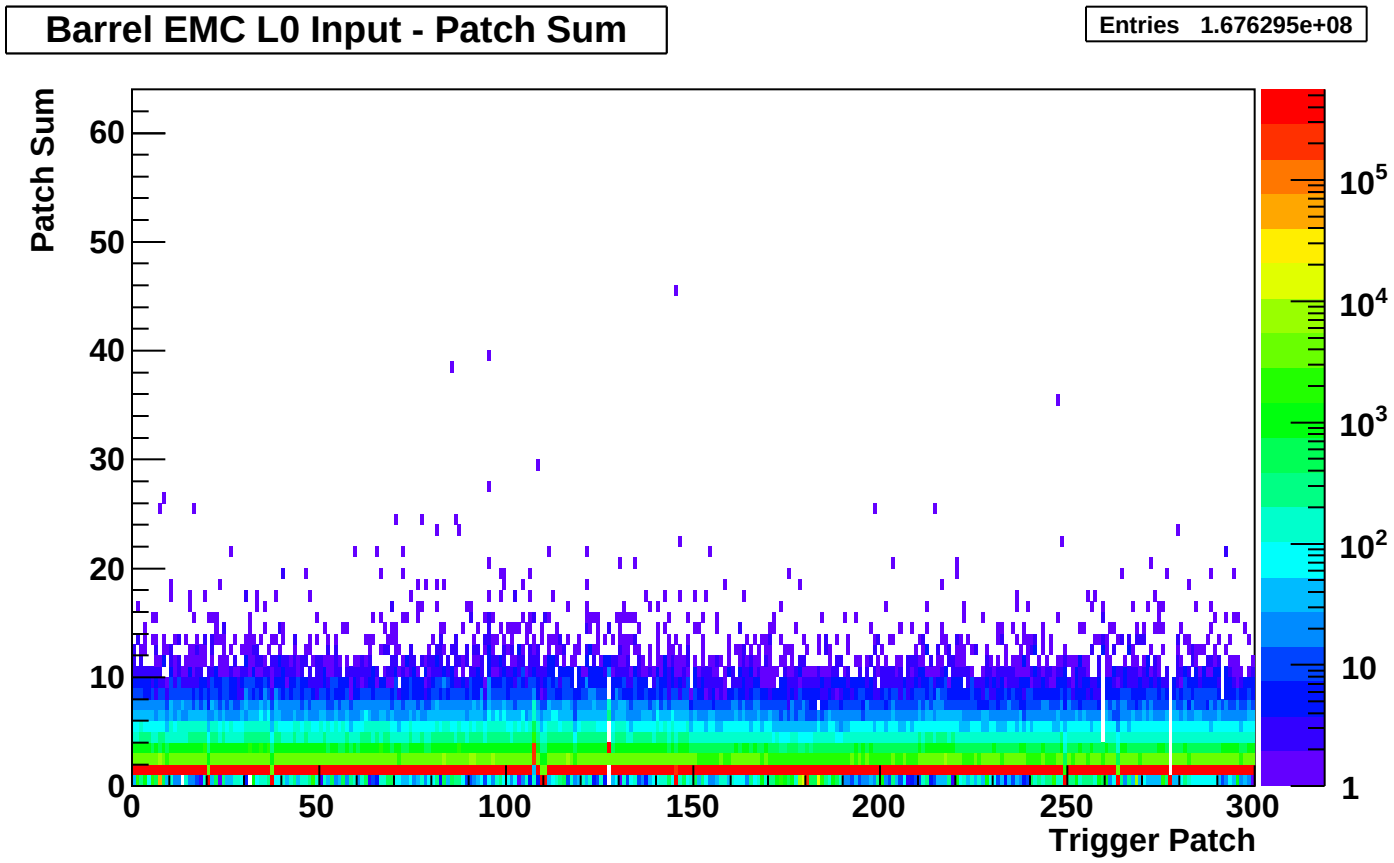
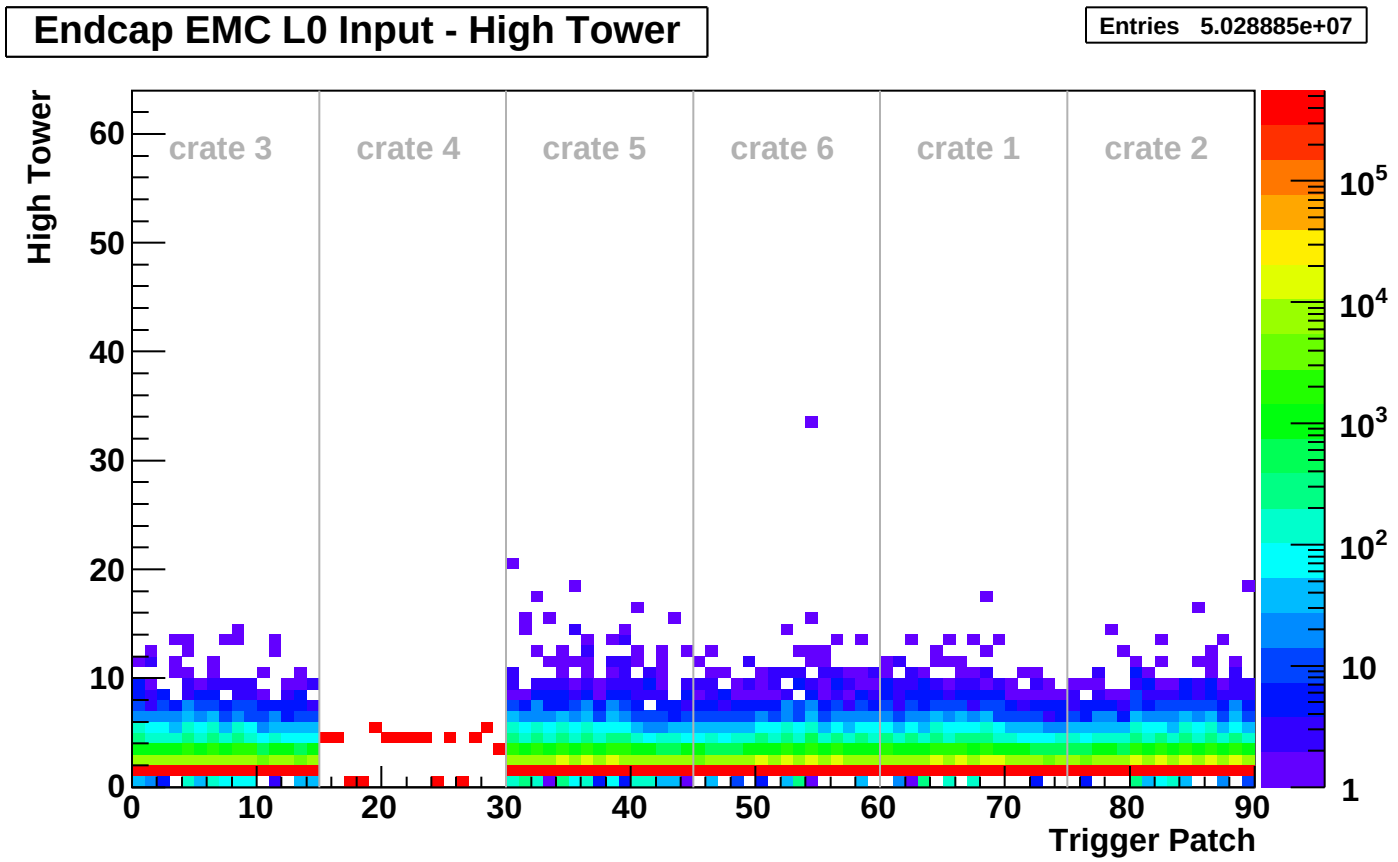
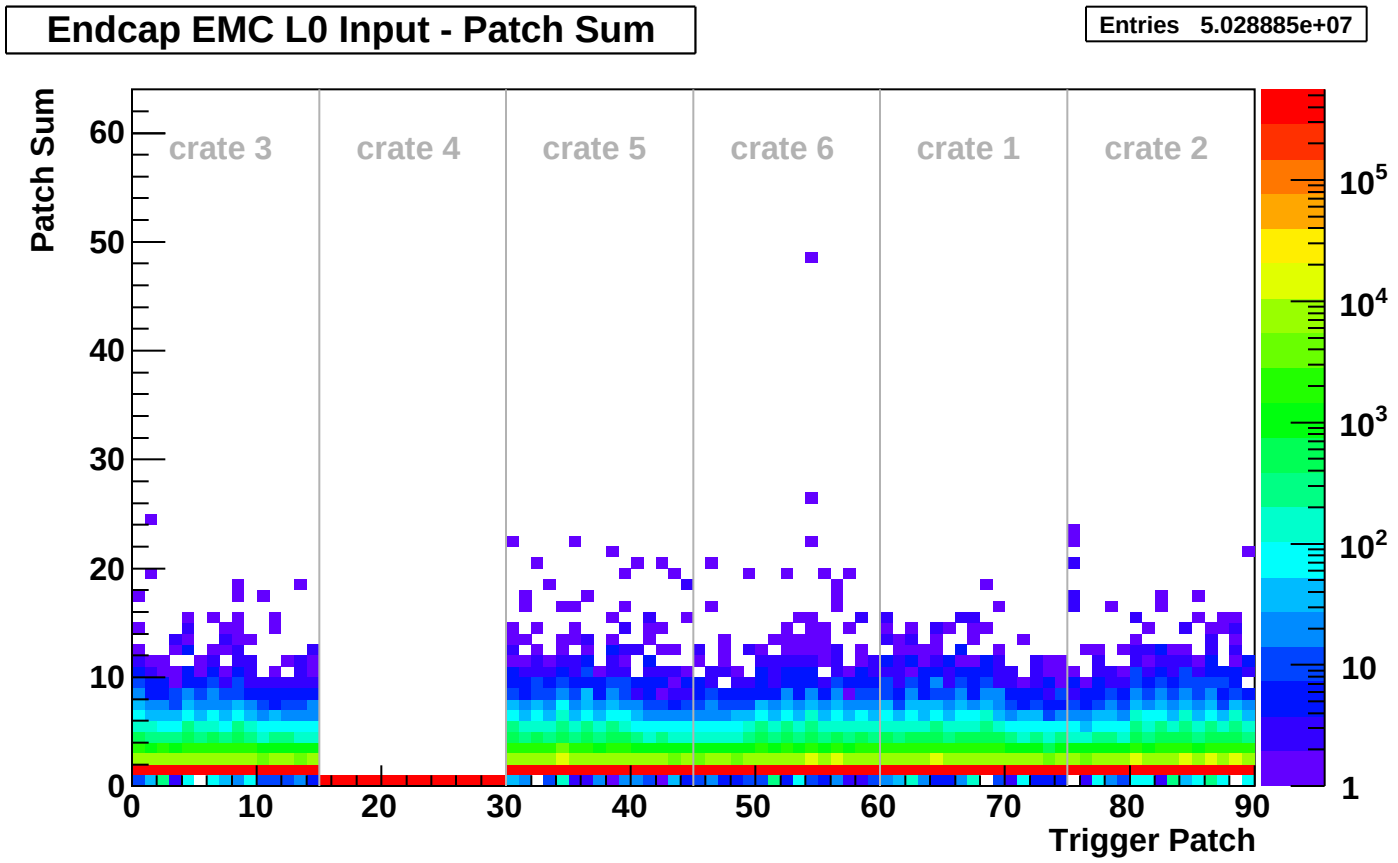
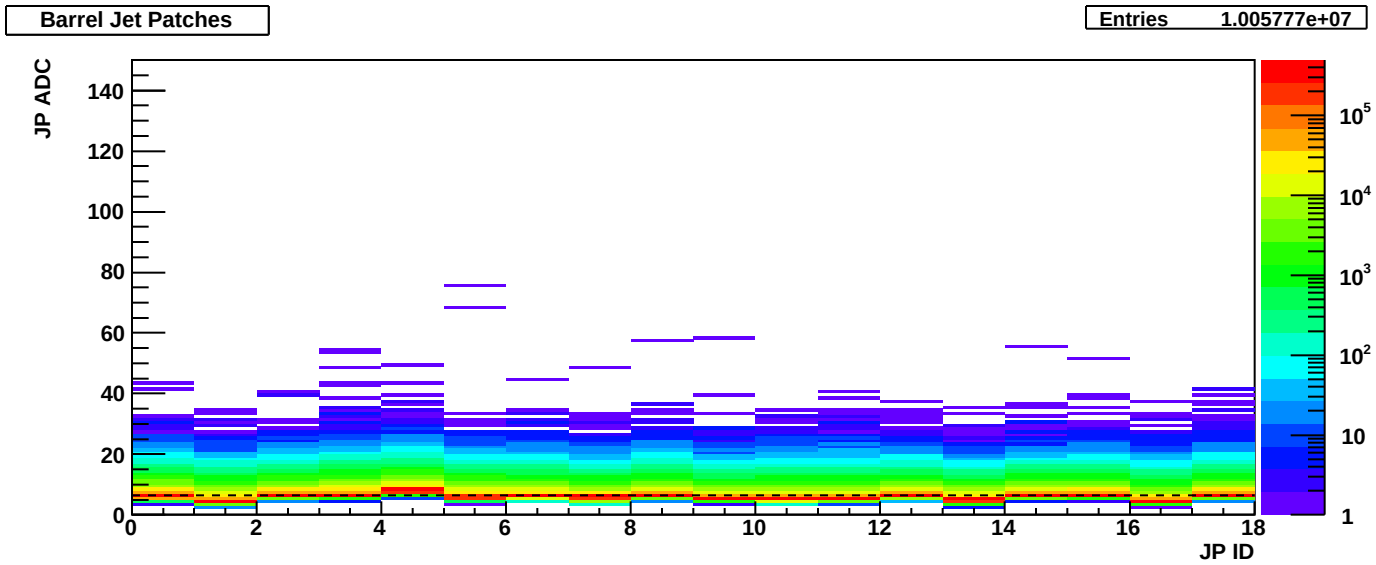
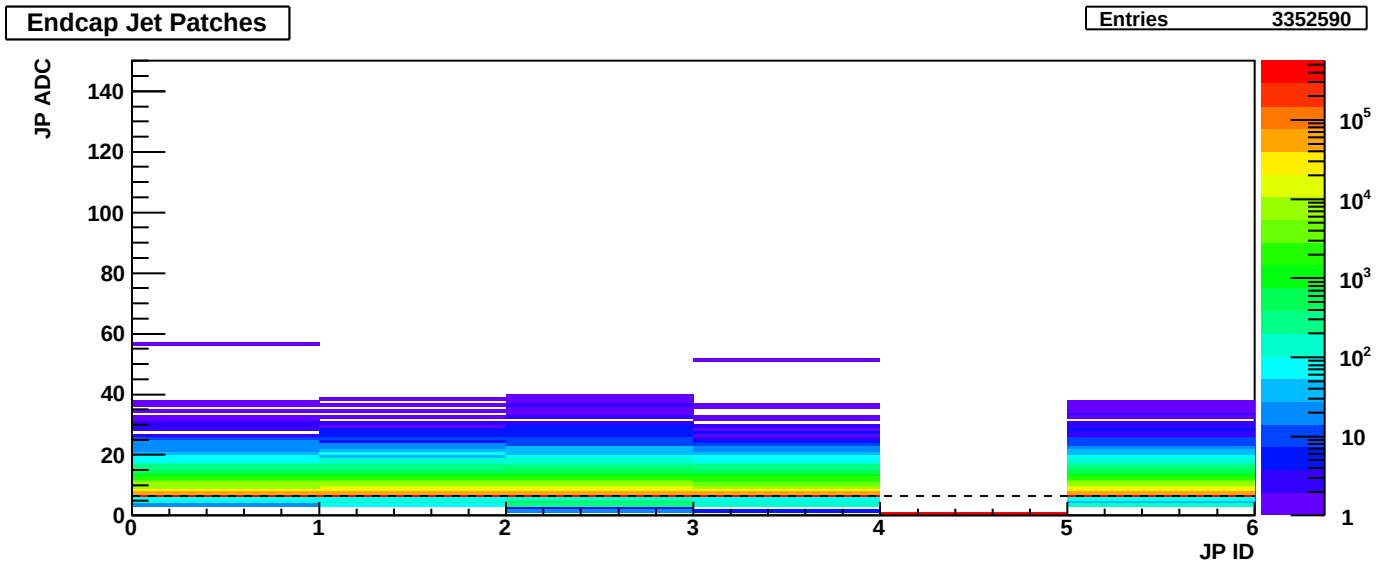

Barrel EMC L0 Input - High Tower
Entries 1.676295e+08
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

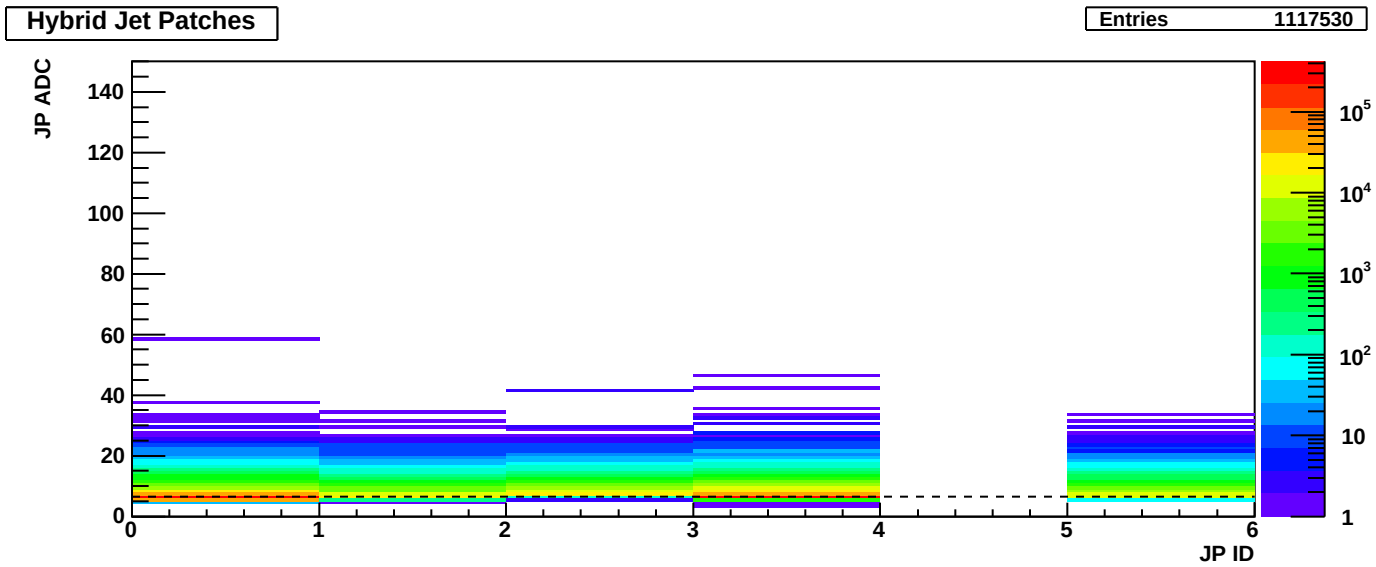

Barrel EMC L0 Input - Patch Sum
Entries 1.676295e+08
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

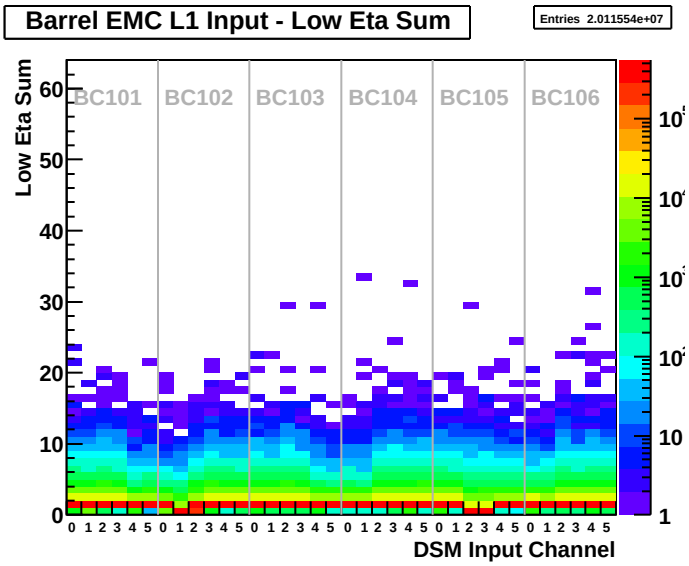

Endcap EMC L0 Input - High Tower
Entries 5.028885e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

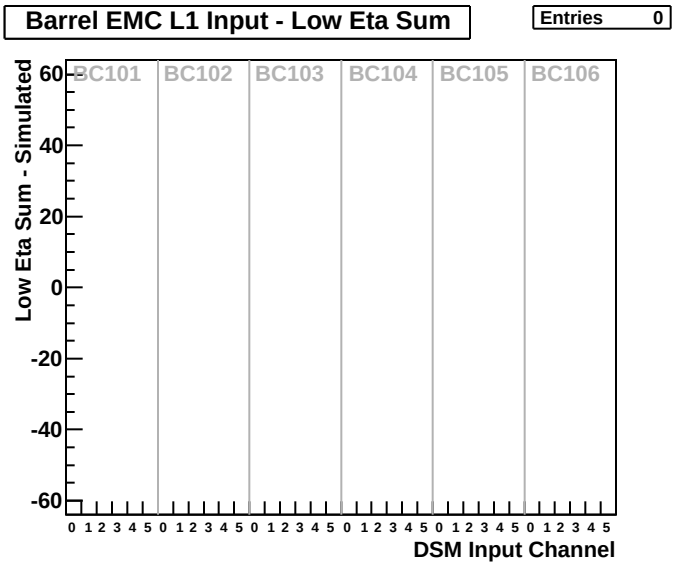

Endcap EMC L0 Input - Patch Sum
Entries 5.028885e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

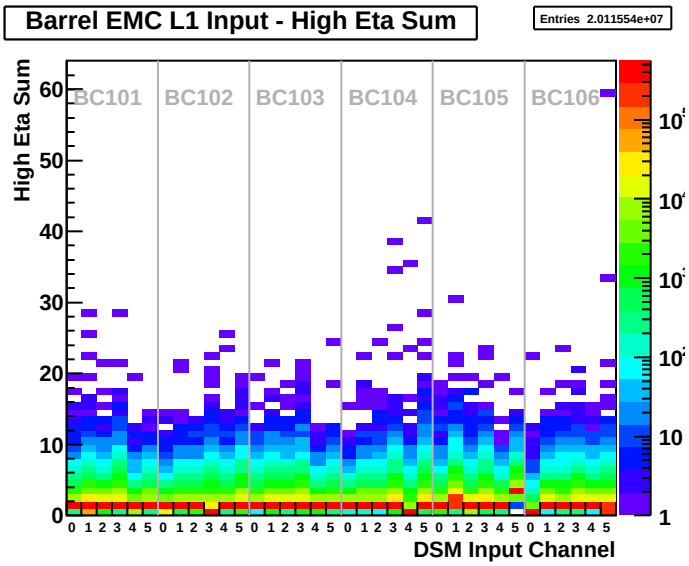

Barrel Jet Patches
Entries 1.005777e+07
JP ADC
JP ID

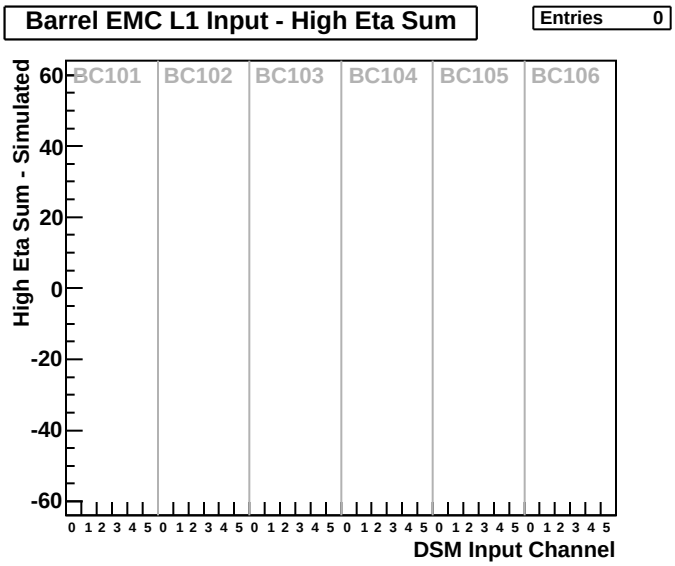

Endcap Jet Patches
Entries 3352590
JP ADC
JP ID

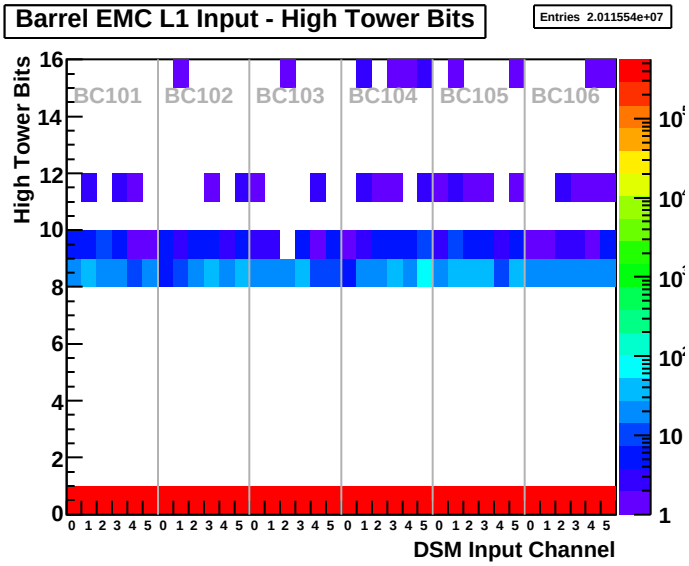

Hybrid Jet Patches
Entries 1117530
JP ADC
JP ID

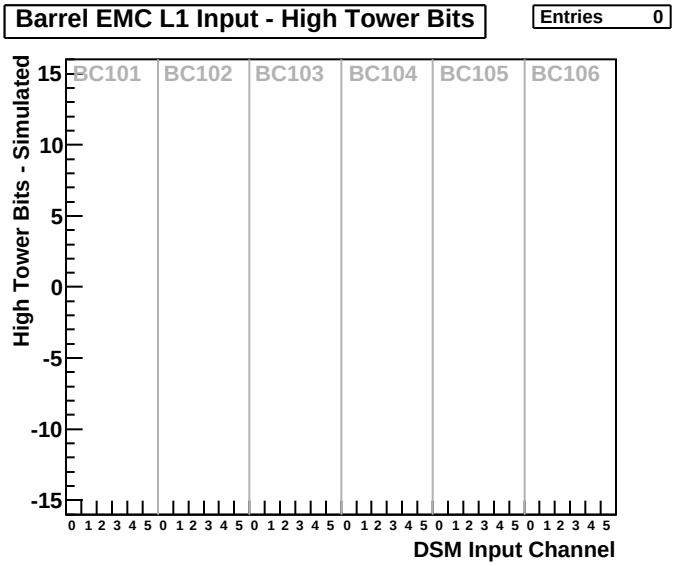

Barrel EMC L1 Input - Low Eta Sum
Entries 2.011554e+07
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

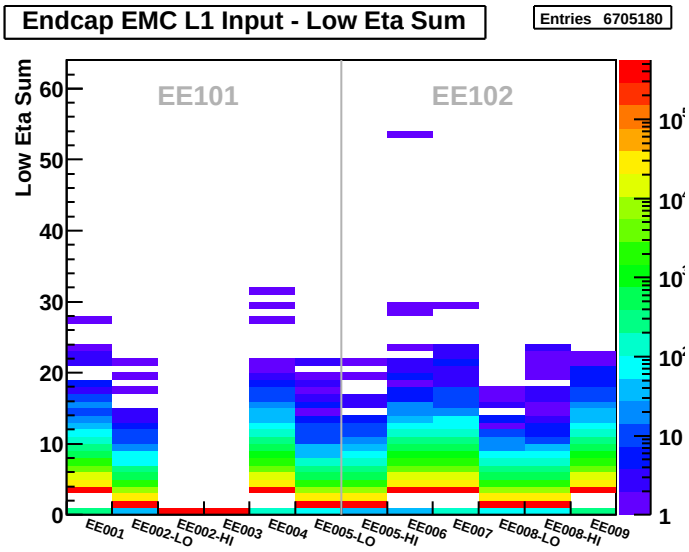

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

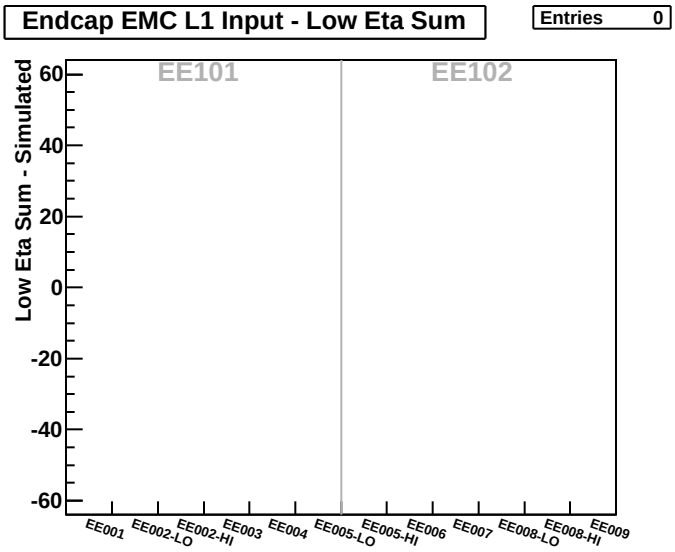

Barrel EMC L1 Input - High Eta Sum
Entries 2.011554e+07
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

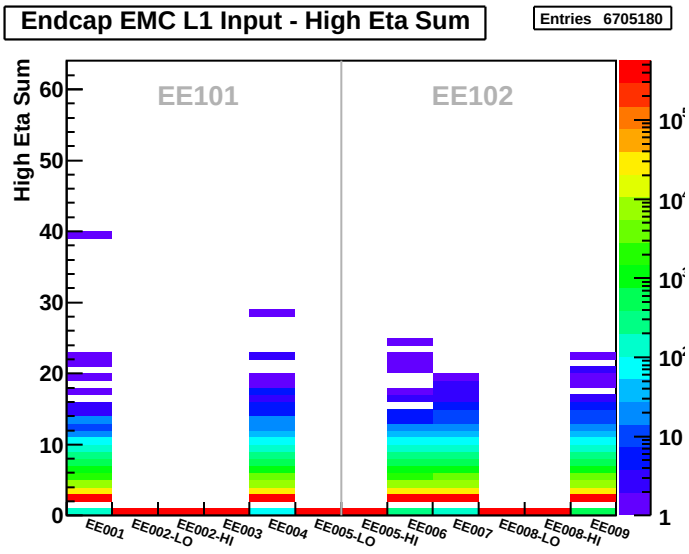

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

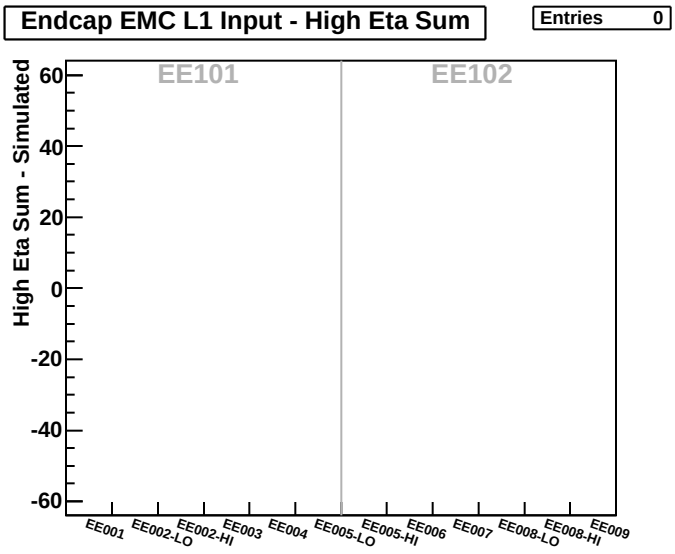

Barrel EMC L1 Input - High Tower Bits
Entries 2.011554e+07
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

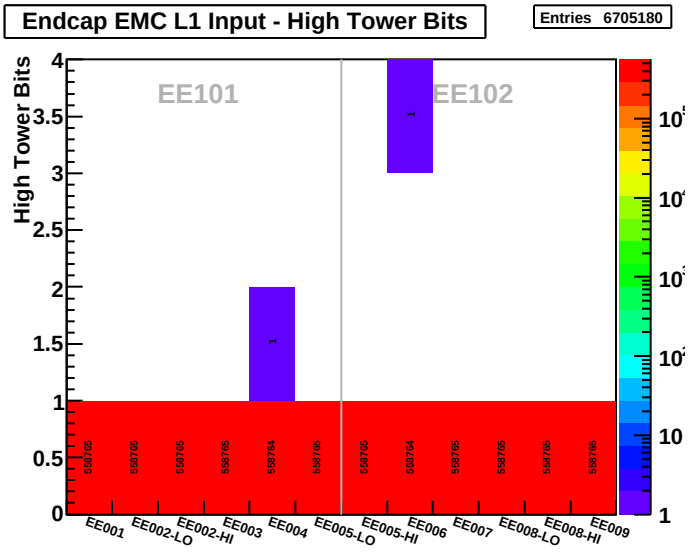

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

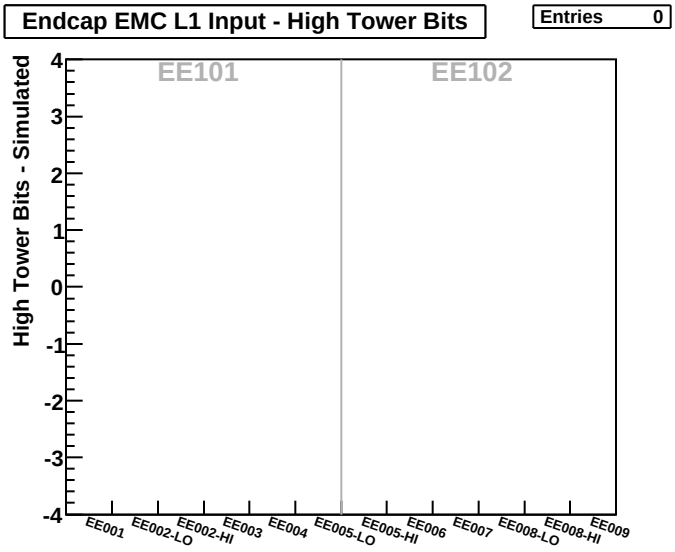

Endcap EMC L1 Input - Low Eta Sum
Entries 6705180
Low Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

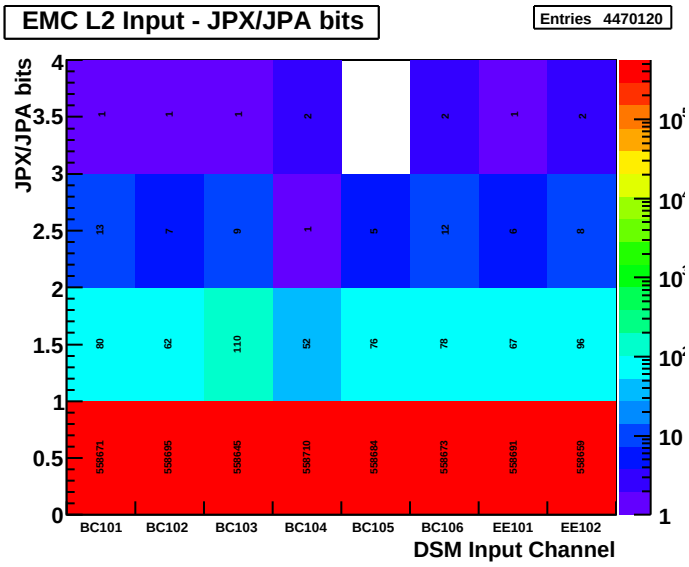

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

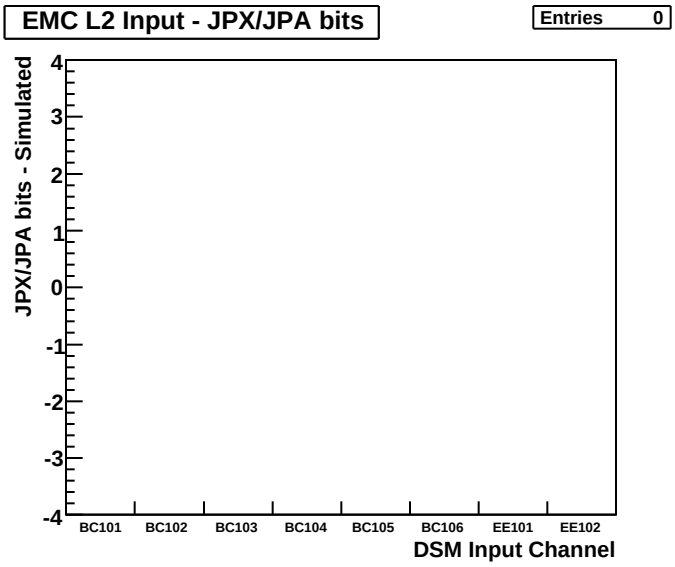

Endcap EMC L1 Input - High Eta Sum
Entries 6705180
High Eta Sum
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

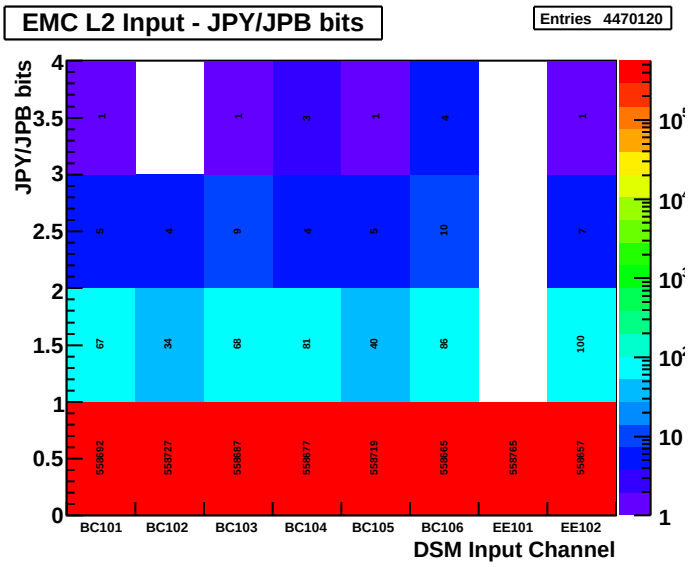

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

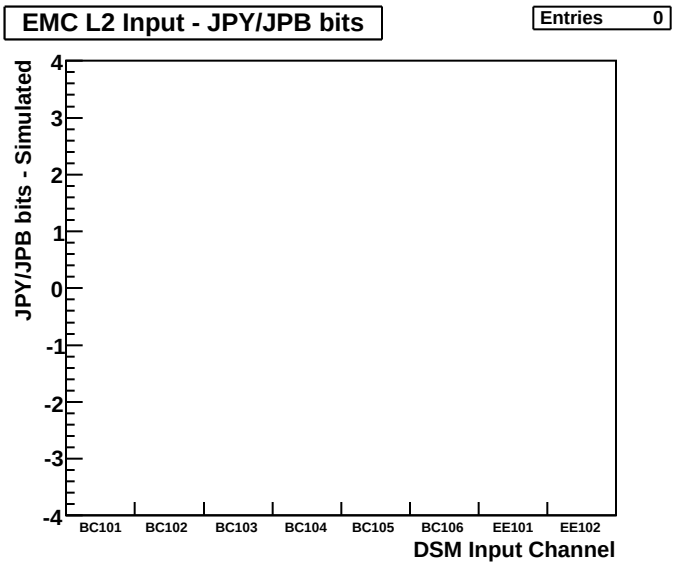

Endcap EMC L1 Input - High Tower Bits
Entries 6705180
High Tower Bits
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

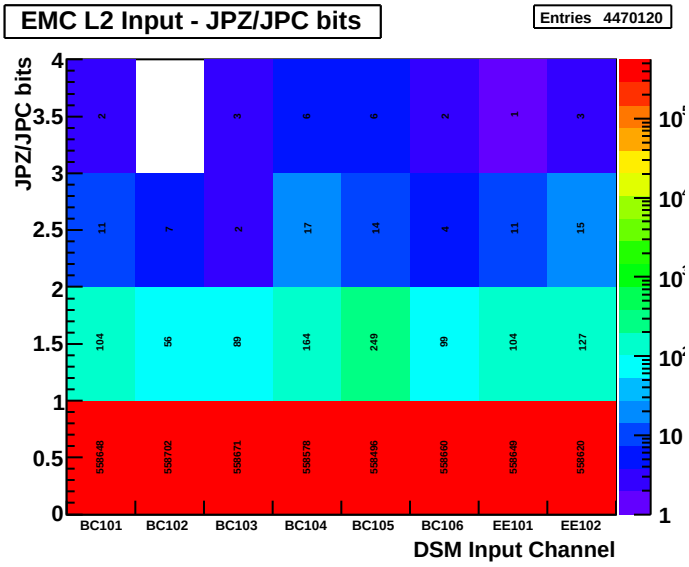

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001
EE002-LO
EE002-HI
EE003
EE004
EE005-LO
EE005-HI
EE006
EE007
EE008-LO
EE008-HI
EE009

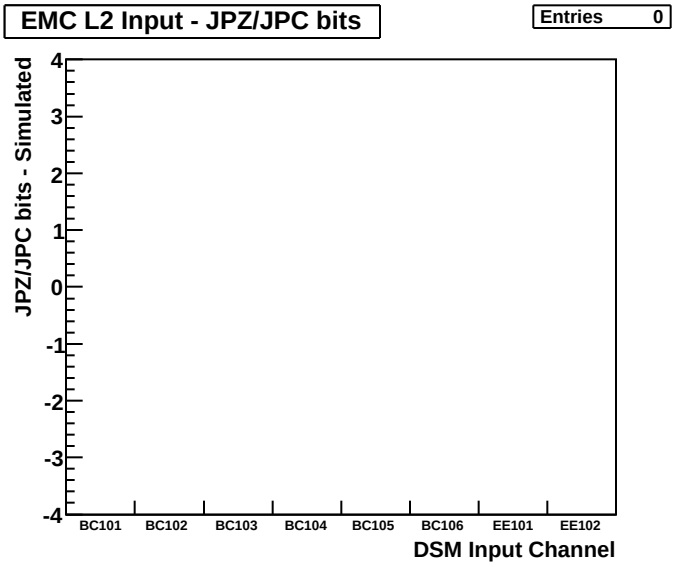

EMC L2 Input - JPX/JPA bits
Entries 4470120
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

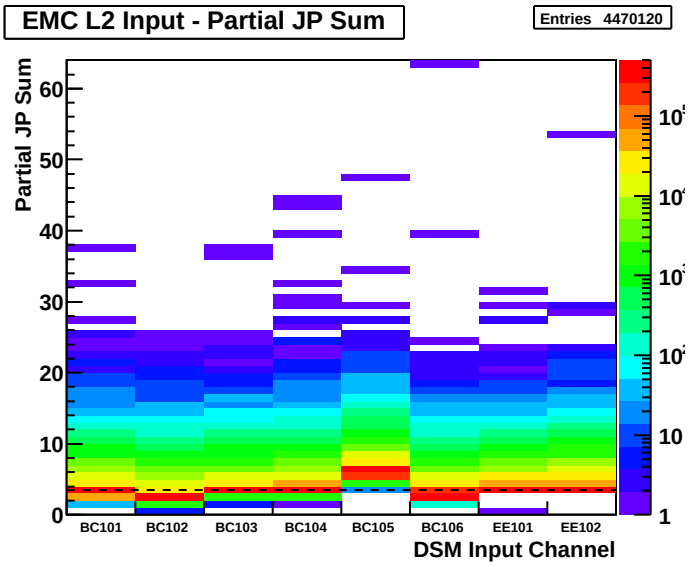

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

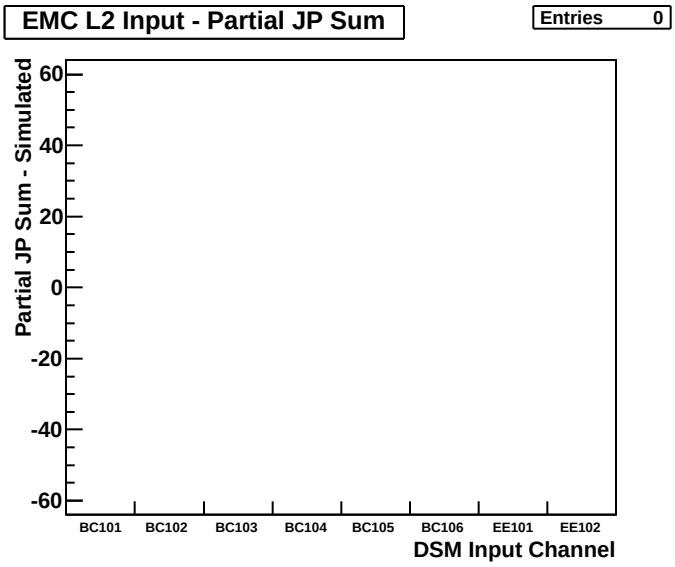

EMC L2 Input - JPY/JPB bits
Entries 4470120
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

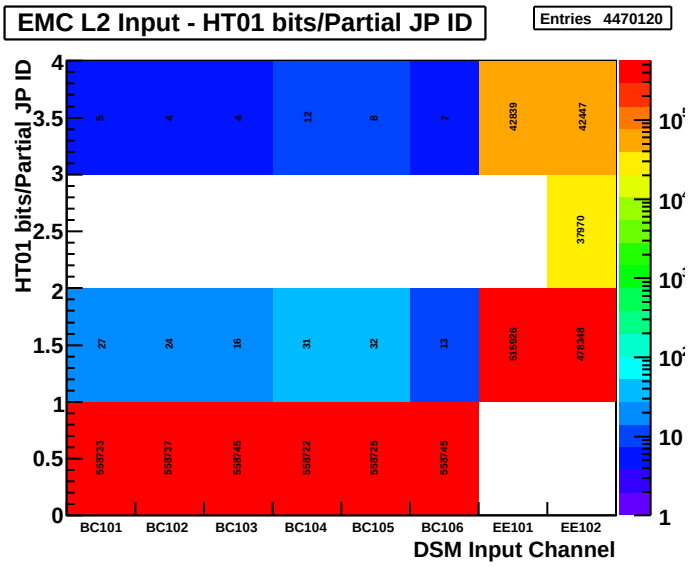

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

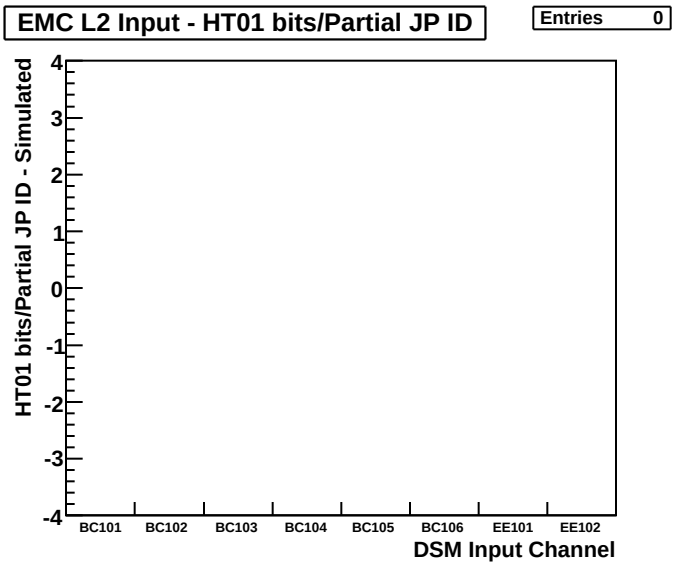

EMC L2 Input - JPZ/JPC bits
Entries 4470120
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

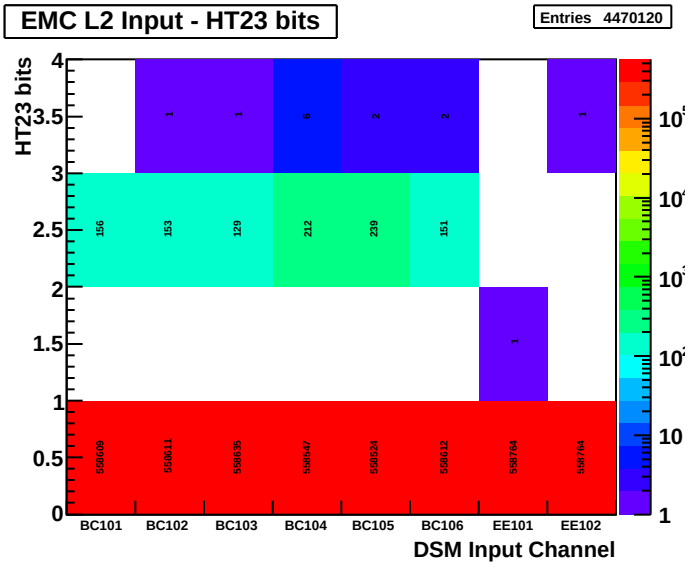

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

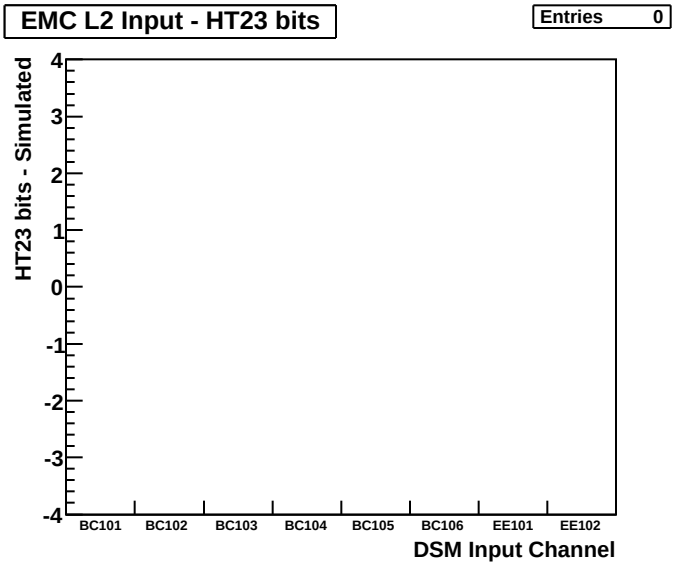

EMC L2 Input - Partial JP Sum
Entries 4470120
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

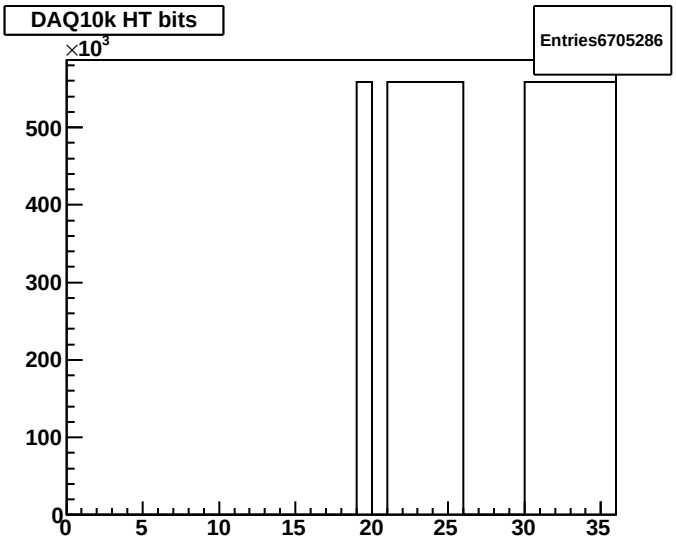

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

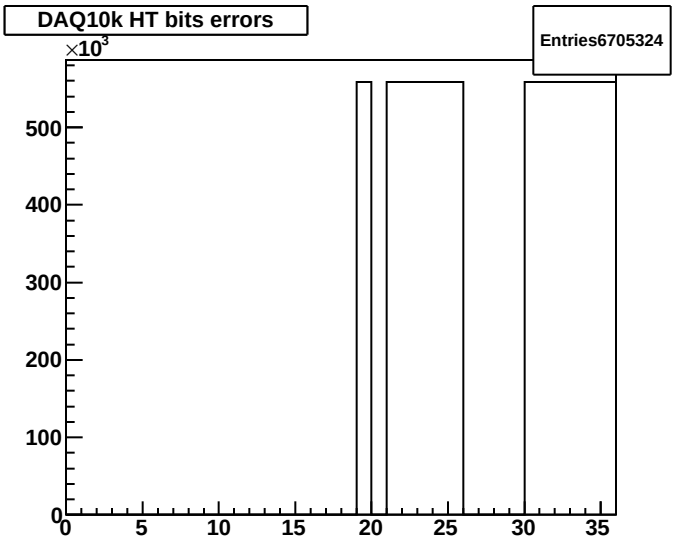

EMC L2 Input - HT01 bits/Partial JP ID
Entries 4470120
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

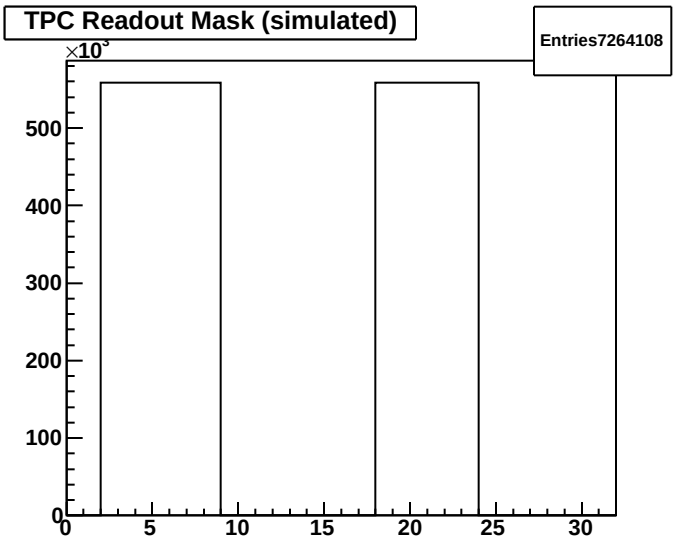

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

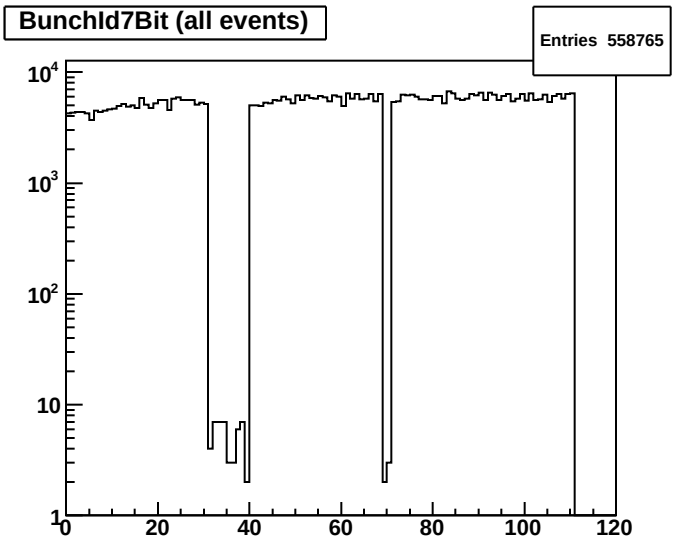

EMC L2 Input - HT23 bits
Entries 4470120
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

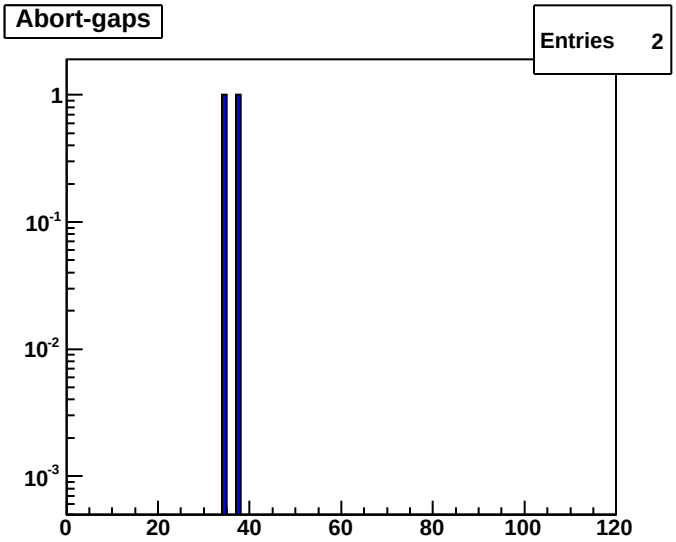

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

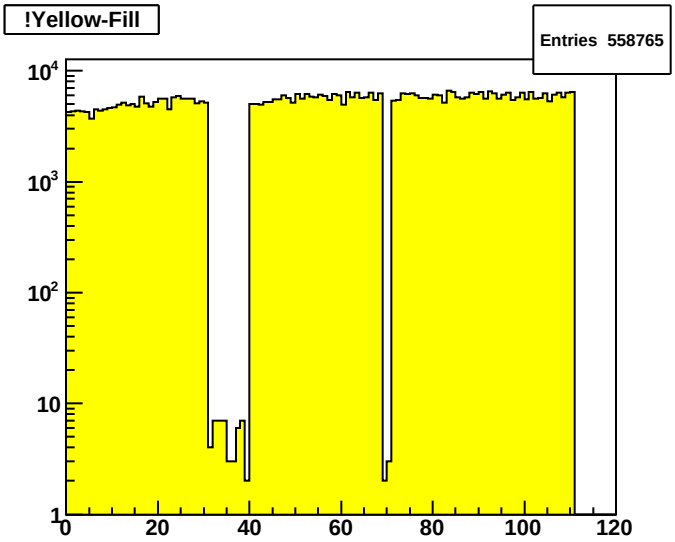

DAQ10k HT bits
Entries6705286
×10^3
500
400
300
200
100
0
0 5 10 15 20 25 30 35

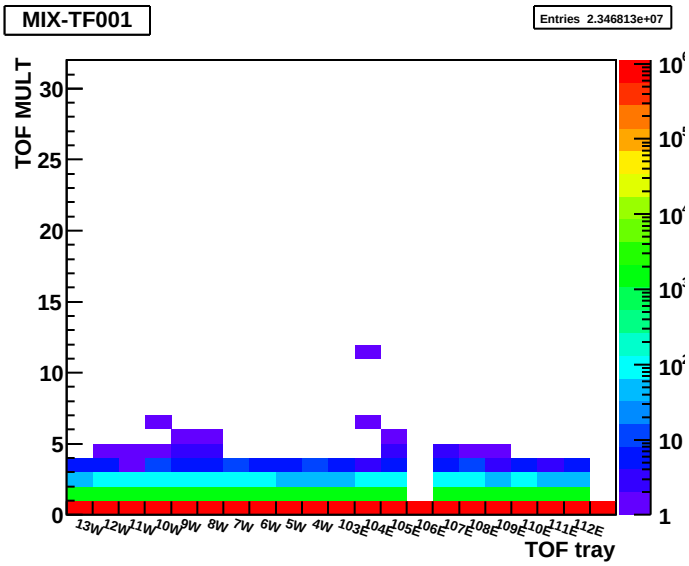

DAQ10k HT bits errors
Entries6705324
×10^3
500
400
300
200
100
0
0 5 10 15 20 25 30 35

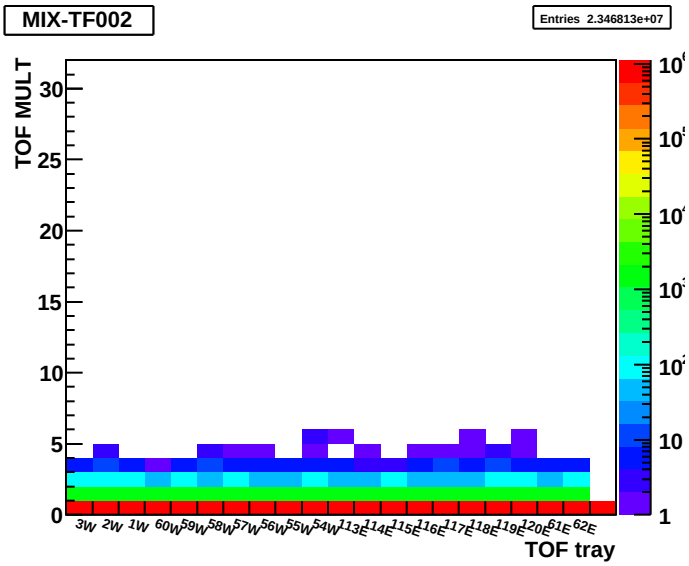

TPC Readout Mask (simulated)
Entries7264108
×10^3
500
400
300
200
100
0
0 5 10 15 20 25 30

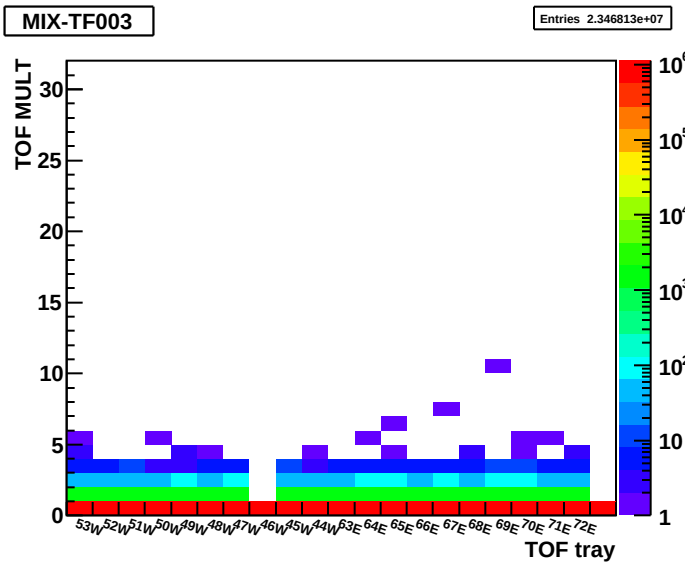

BunchId7Bit (all events)
Entries 558765
10^4
10^3
10^2
10
1
0 20 40 60 80 100 120

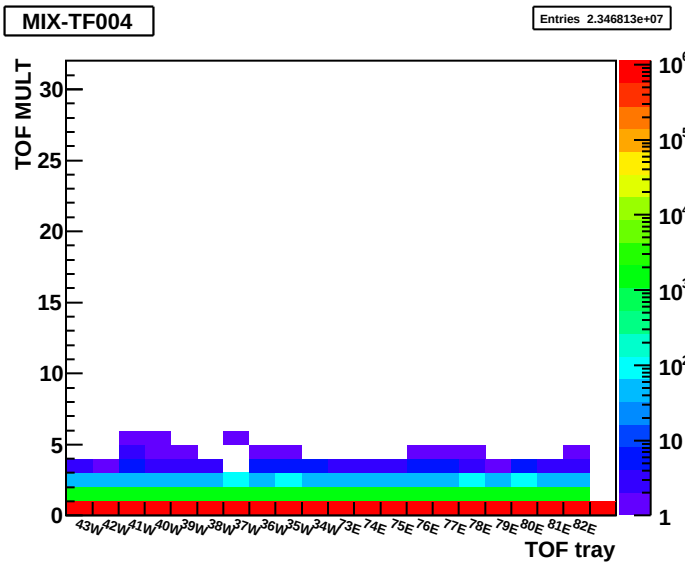

Abort-gaps
Entries 2
1
10^-1
10^-2
10^-3
0 20 40 60 80 100 120

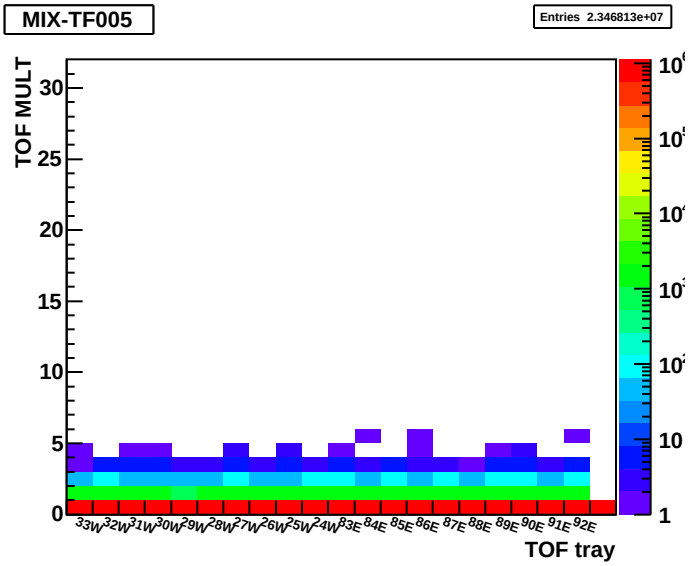

!Yellow-Fill
Entries 558765
10^4
10^3
10^2
10
1
0 20 40 60 80 100 120

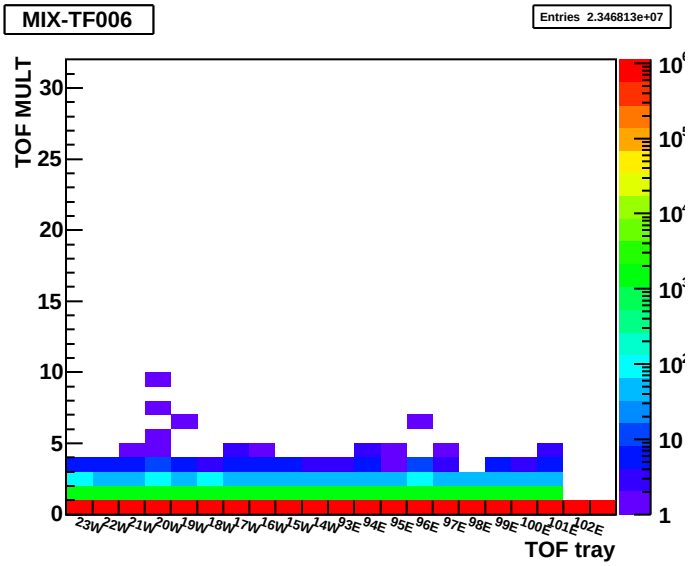

MIX-TF001
Entries 2.346813e+07
TOF MULT
TOF tray

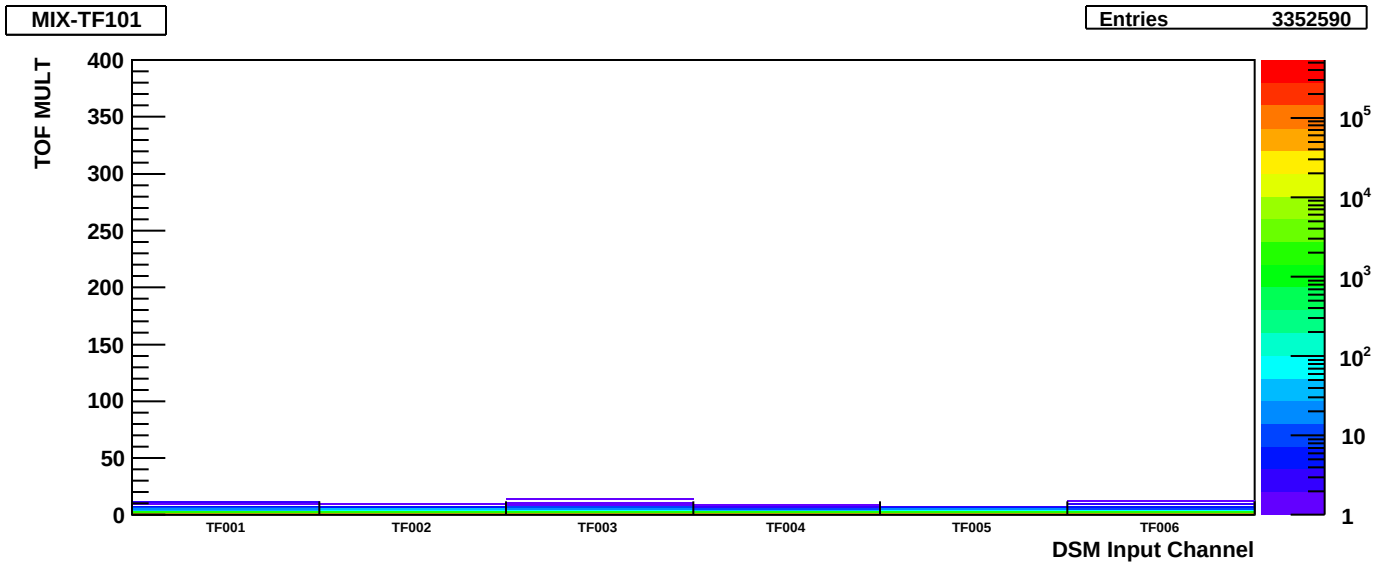

MIX-TF002
Entries 2.346813e+07
TOF MULT
TOF tray

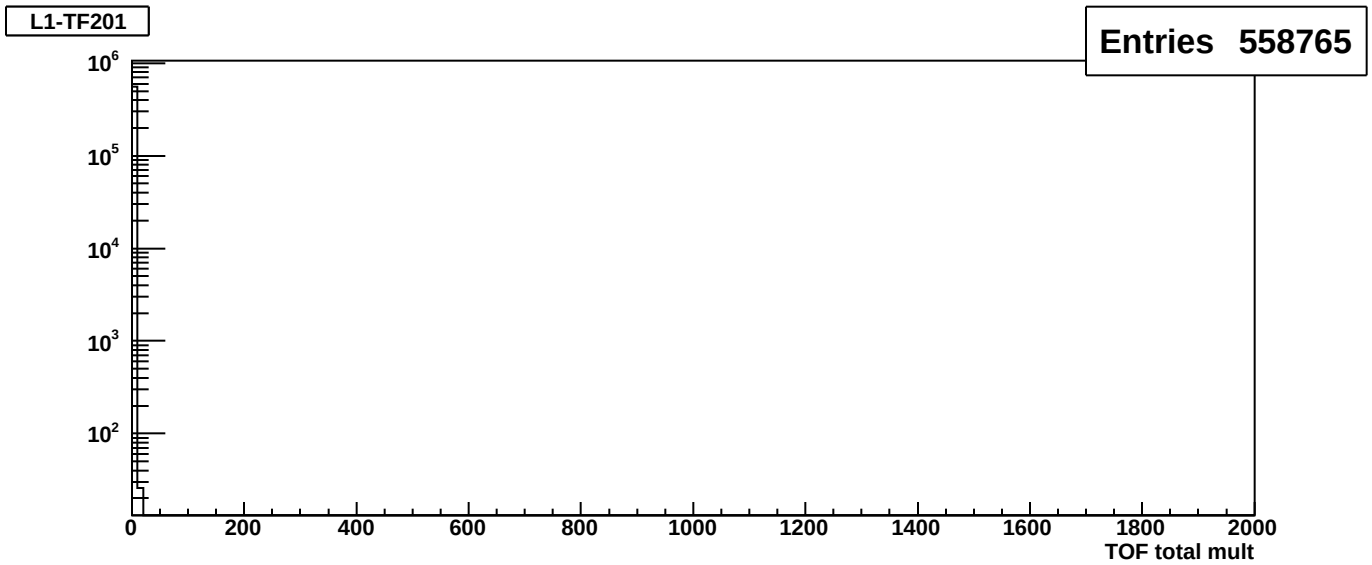

MIX-TF003
Entries 2.346813e+07
TOF MULT
TOF tray

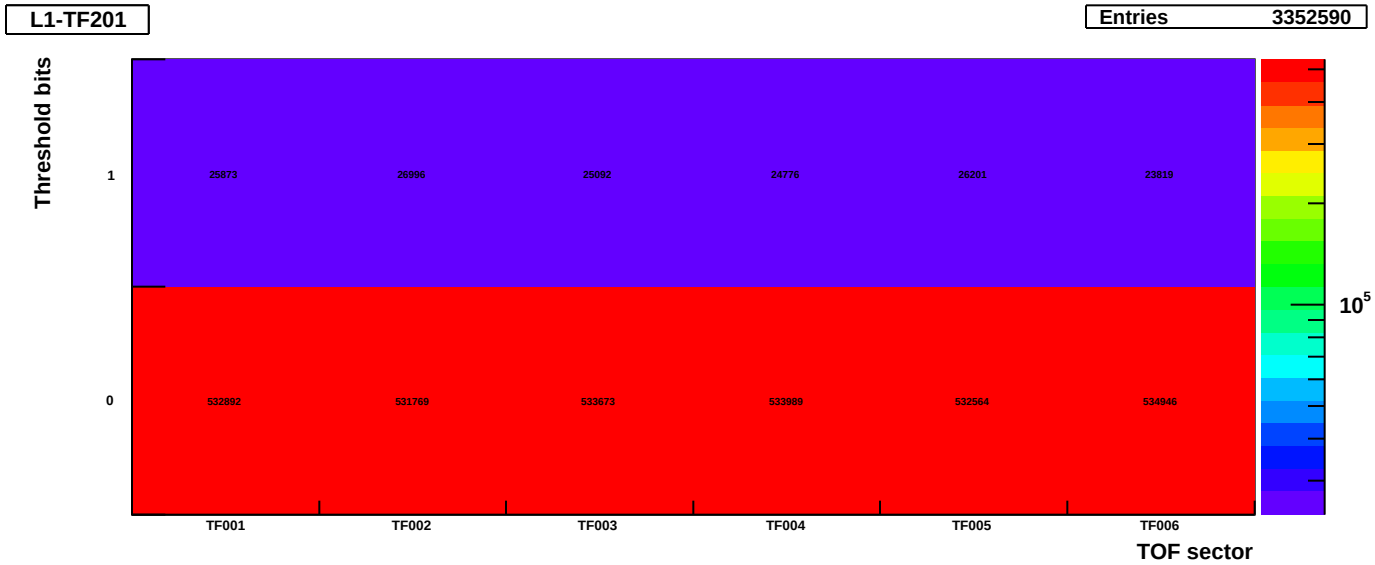

MIX-TF004
Entries 2.346813e+07
TOF MULT
TOF tray

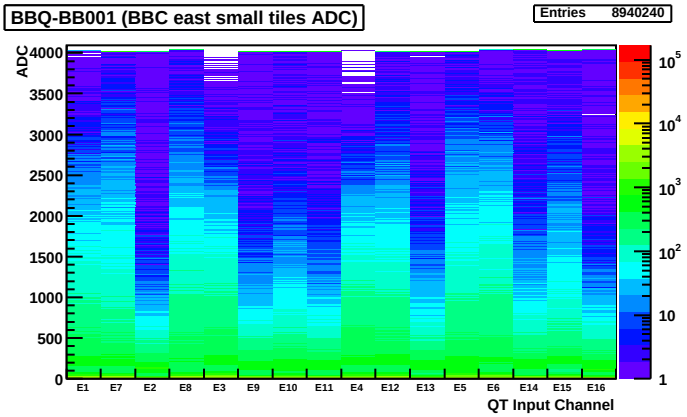

MIX-TF005
Entries 2.346813e+07
TOF MULT
TOF tray

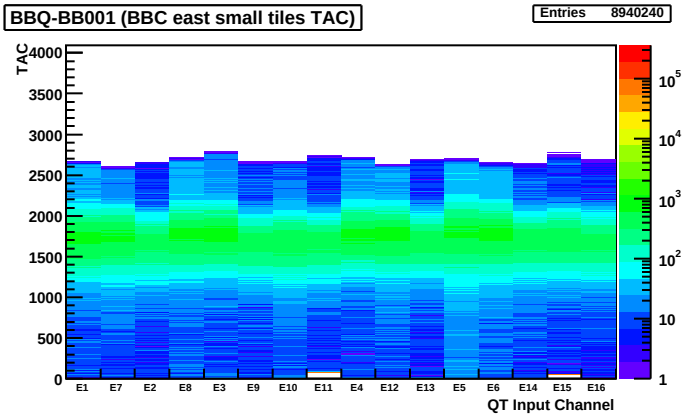

MIX-TF006
Entries 2.346813e+07
TOF MULT
TOF tray

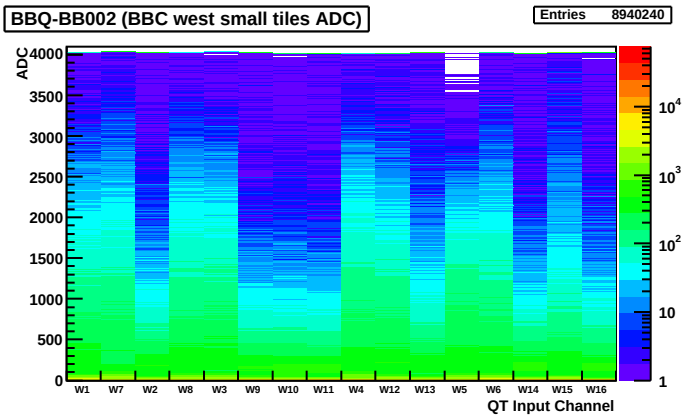

MIX-TF101
Entries 3352590
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

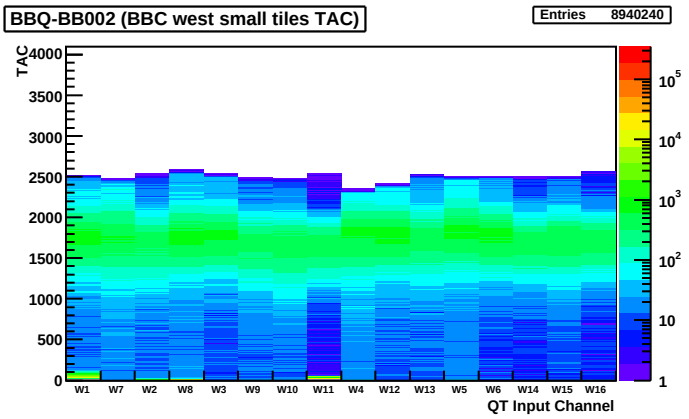

L1-TF201
Entries 558765
10^6
10^5
10^4
10^3
10^2
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

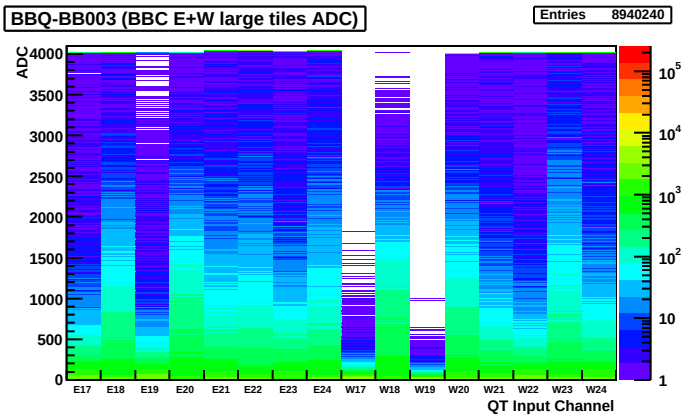

L1-TF201
Entries 3352590
Threshold bits
1
0
25873
26996
25092
24776
26201
23819
532892
531769
533673
533989
532564
534946
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5

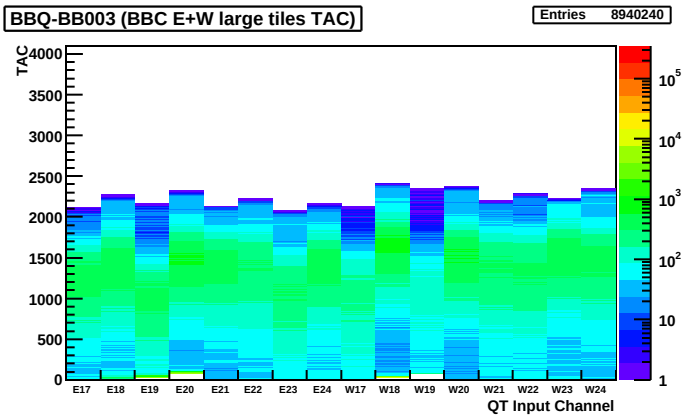

BBQ-BB001 (BBC east small tiles ADC)
Entries 8940240
ADC
QT Input Channel

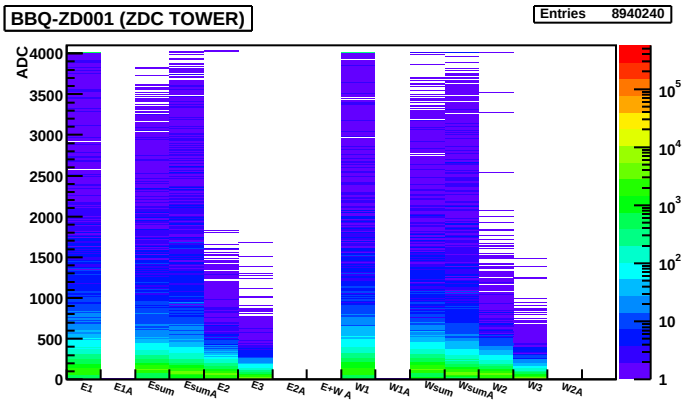

BBQ-BB001 (BBC east small tiles TAC)
Entries 8940240
TAC
QT Input Channel

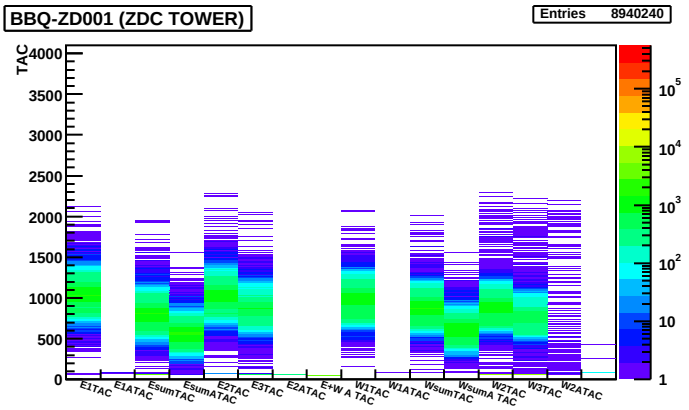

BBQ-BB002 (BBC west small tiles ADC)
Entries 8940240
ADC
QT Input Channel

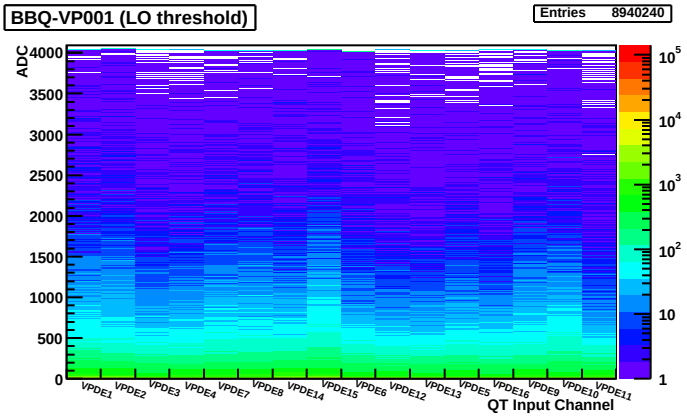

BBQ-BB002 (BBC west small tiles TAC)
Entries 8940240
TAC
QT Input Channel

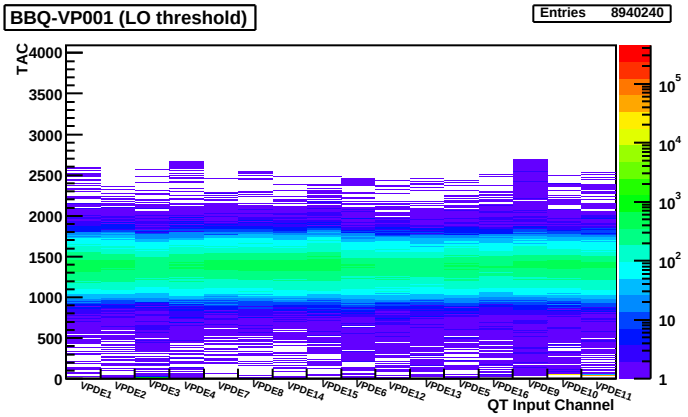

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 8940240
ADC
QT Input Channel

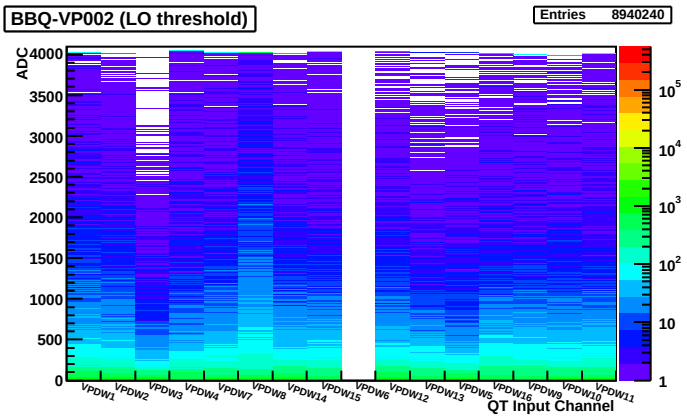

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 8940240
TAC
QT Input Channel

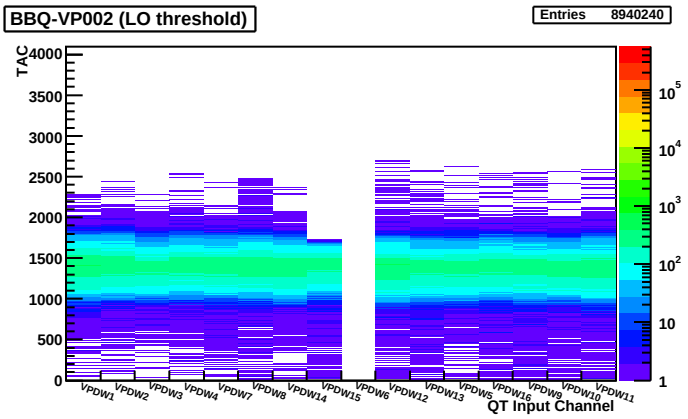

BBQ-ZD001 (ZDC TOWER)
Entries 8940240
ADC

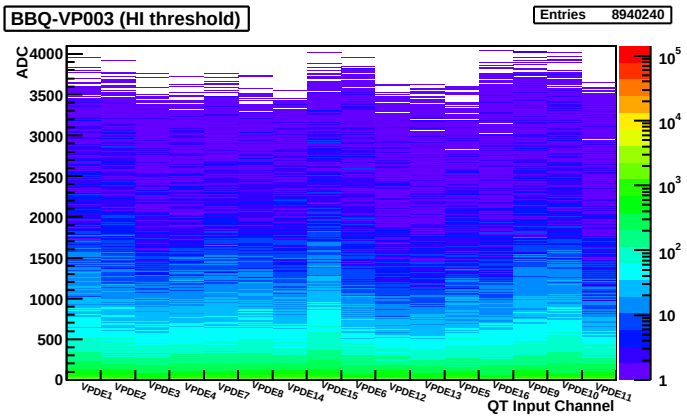

BBQ-ZD001 (ZDC TOWER)
Entries 8940240
TAC

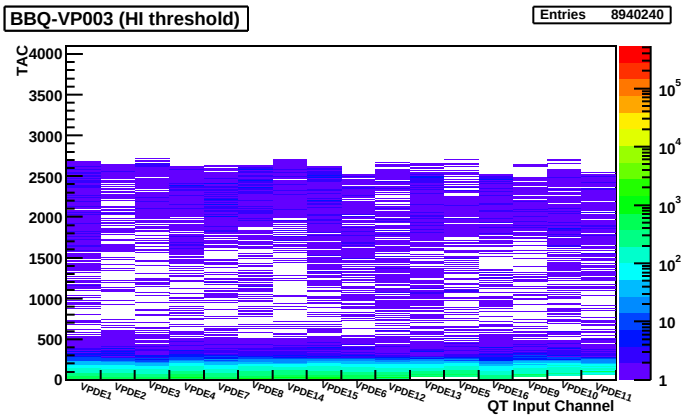

BBQ-VP001 (LO threshold)
Entries 8940240
ADC
QT Input Channel

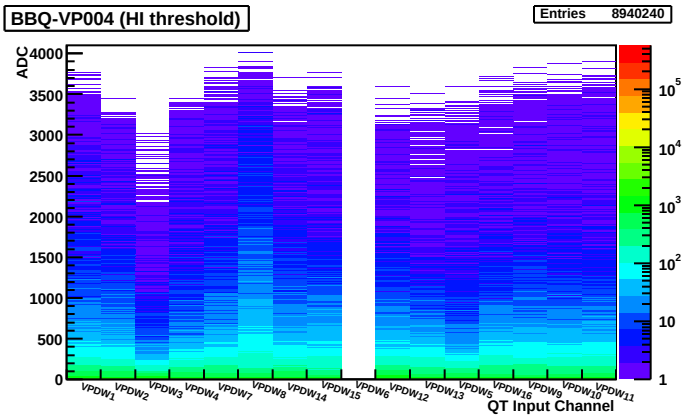

BBQ-VP001 (LO threshold)
Entries 8940240
TAC
QT Input Channel

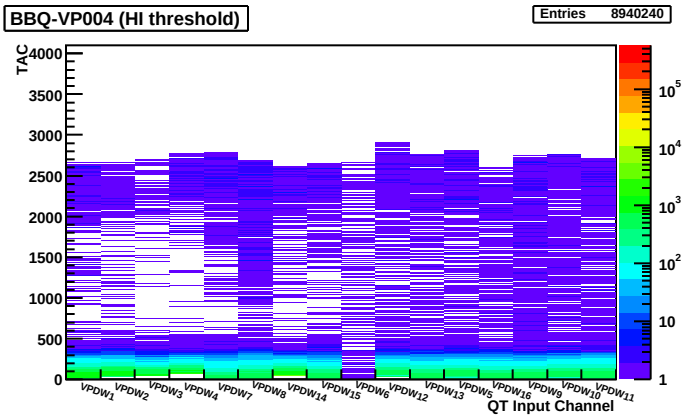

BBQ-VP002 (LO threshold)
Entries 8940240
ADC
QT Input Channel

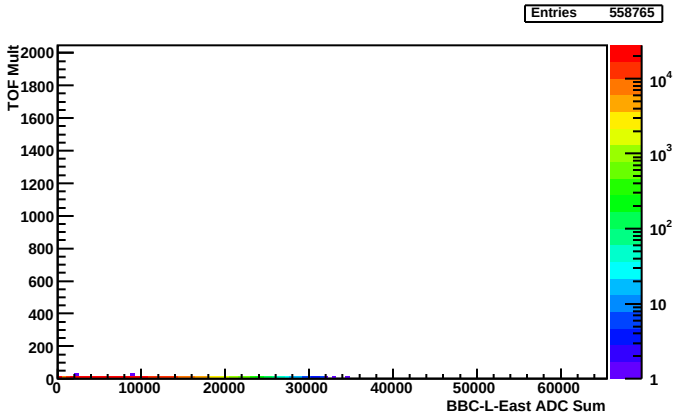

BBQ-VP002 (LO threshold)
Entries 8940240
TAC
QT Input Channel

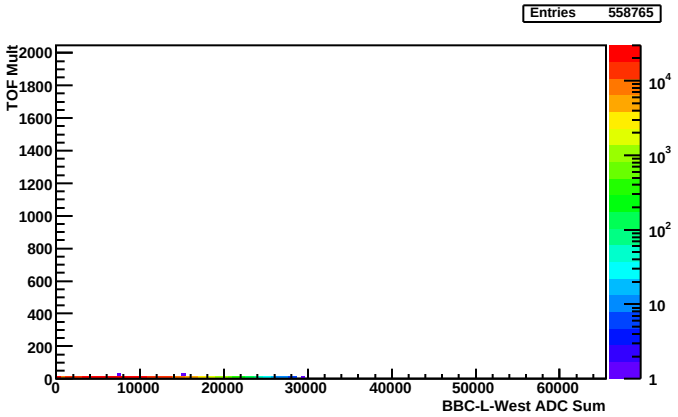

BBQ-VP003 (HI threshold)
Entries 8940240
ADC
QT Input Channel

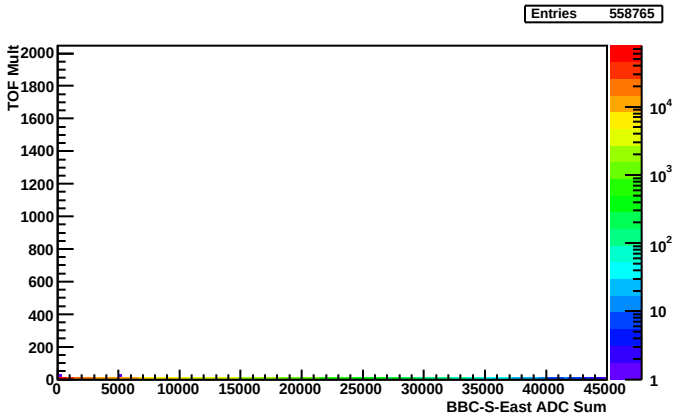

BBQ-VP003 (HI threshold)
Entries 8940240
TAC
QT Input Channel

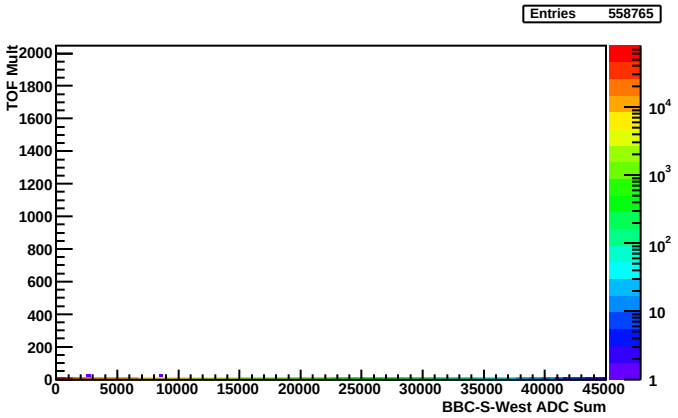

BBQ-VP004 (HI threshold)
Entries 8940240
ADC
QT Input Channel

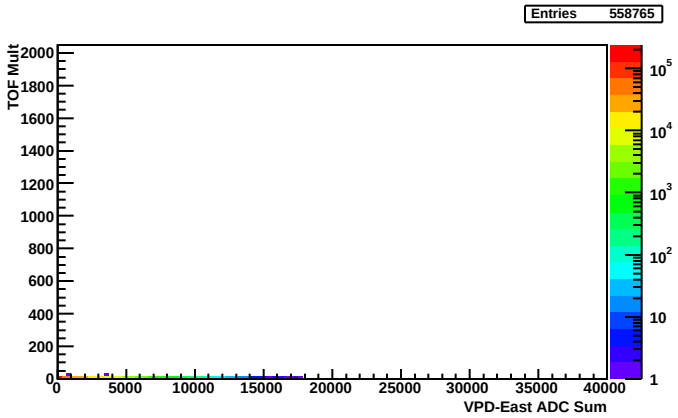

BBQ-VP004 (HI threshold)
Entries 8940240
TAC
QT Input Channel

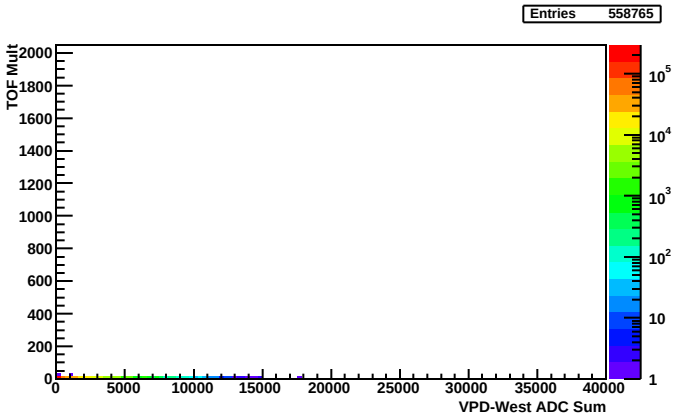

Entries 558765
TOF Mult
BBC-L-East ADC Sum

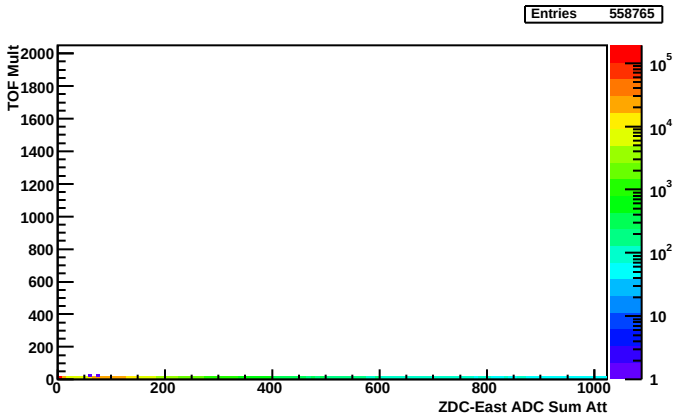

Entries 558765
TOF Mult
BBC-L-West ADC Sum

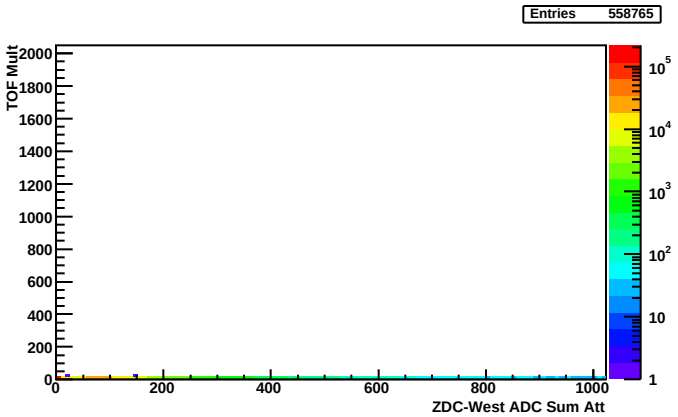

Entries 558765
TOF Mult
BBC-S-East ADC Sum

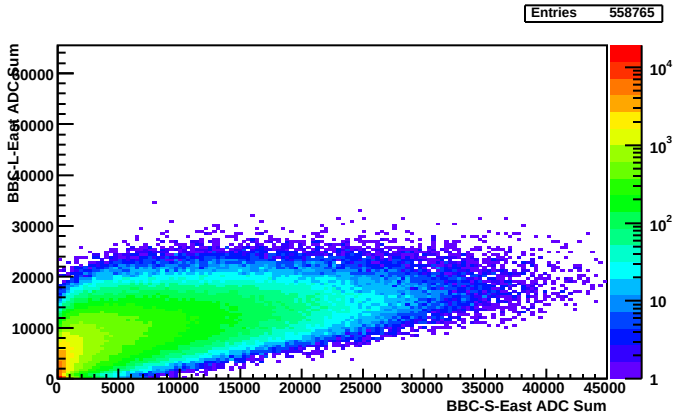

Entries 558765
TOF Mult
BBC-S-West ADC Sum

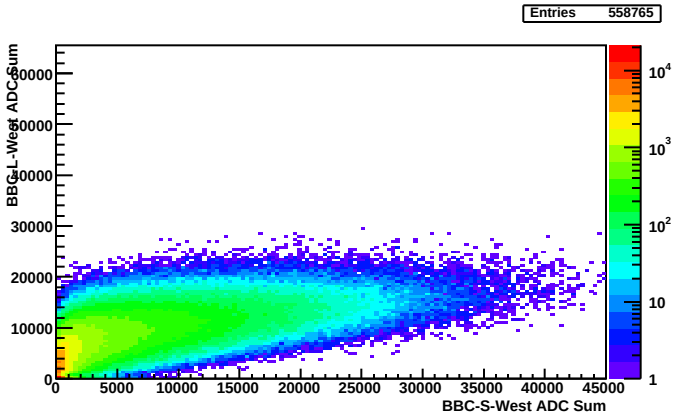

Entries 558765
TOF Mult
VPD-East ADC Sum

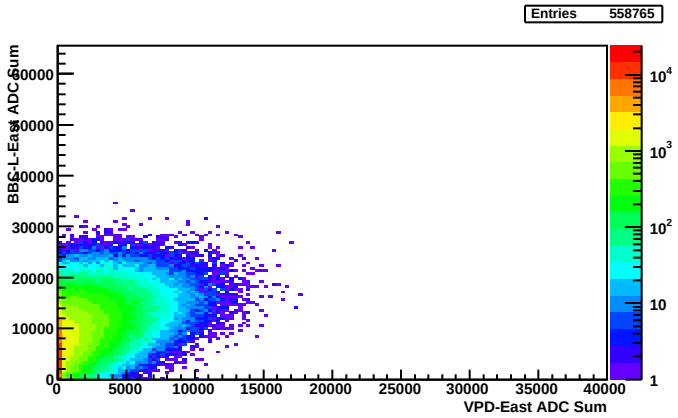

Entries 558765
TOF Mult
VPD-West ADC Sum

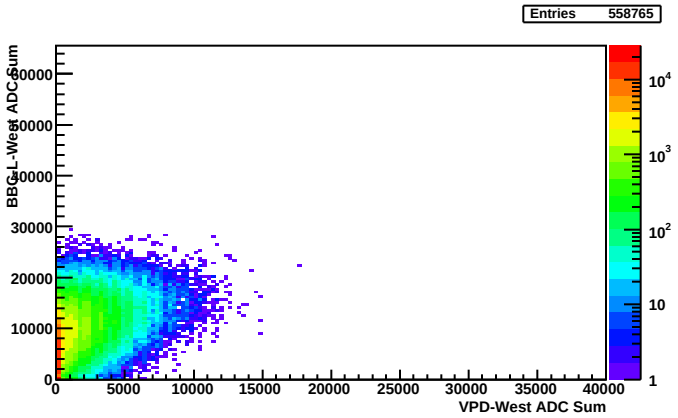

Entries 558765
TOF Mult
ZDC-East ADC Sum Att

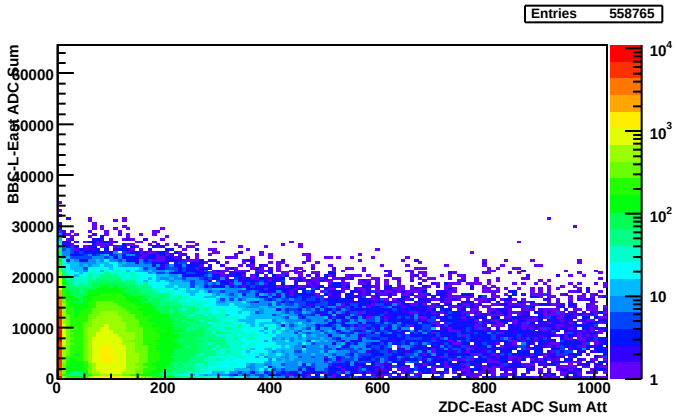

Entries 558765
TOF Mult
ZDC-West ADC Sum Att

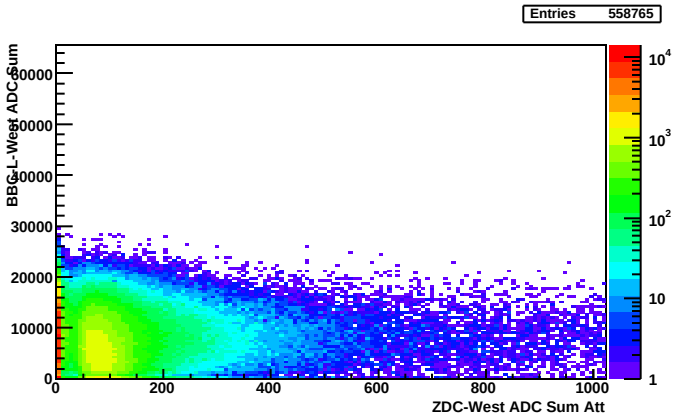

Entries 558765
BBC-L-East ADC Sum
BBC-S-East ADC Sum

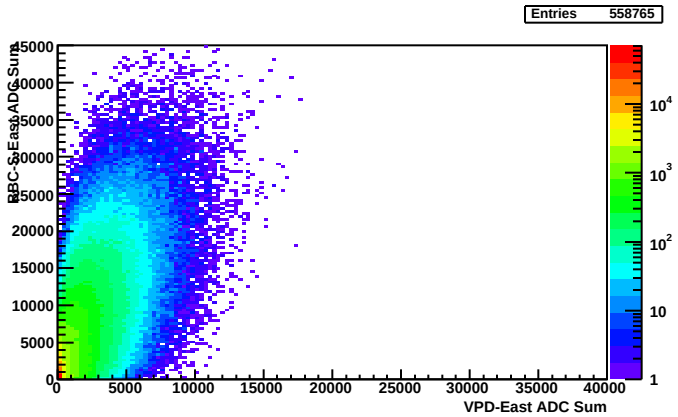

Entries 558765
BBC-L-West ADC Sum
BBC-S-West ADC Sum

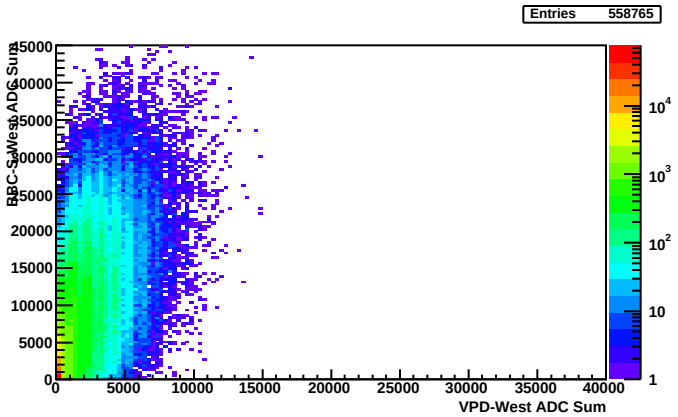

Entries 558765
BBC-L-East ADC Sum
VPD-East ADC Sum

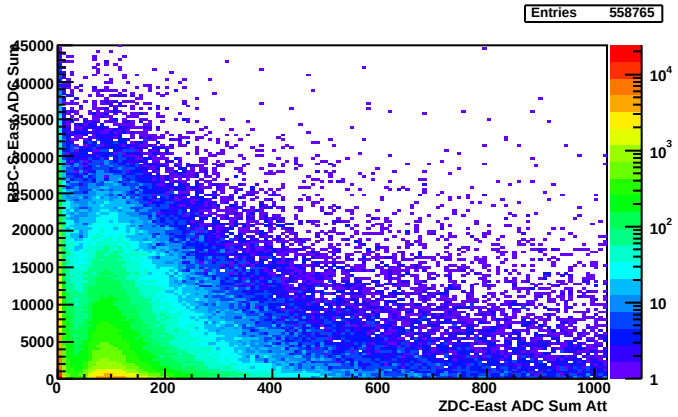

Entries 558765
BBC-L-West ADC Sum
VPD-West ADC Sum

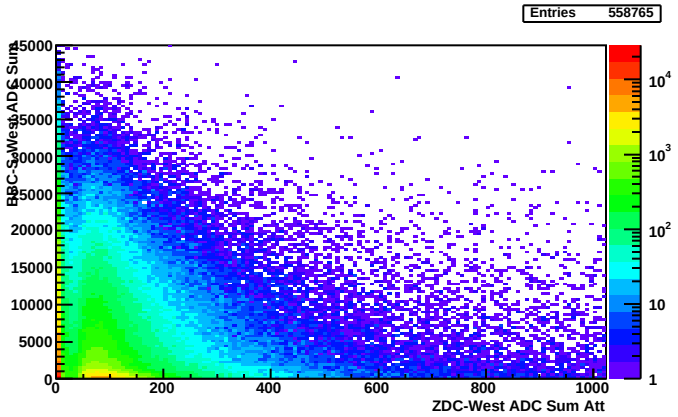

Entries 558765
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

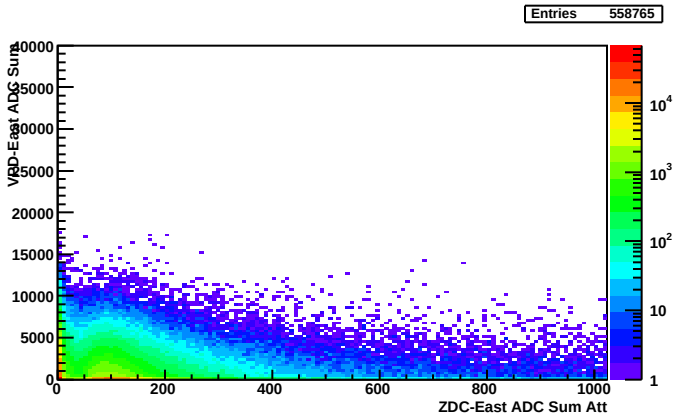

Entries 558765
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

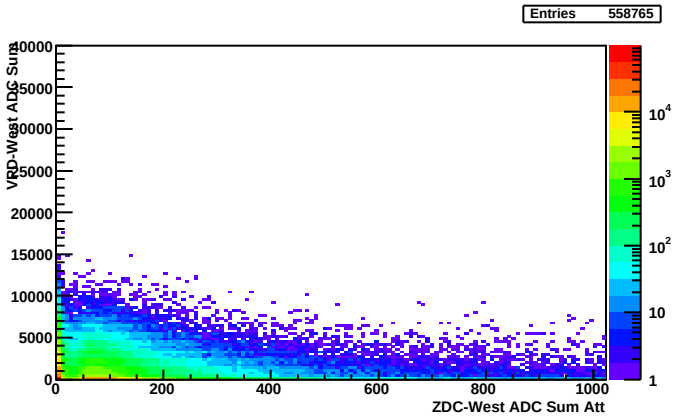

Entries 558765
BBC-S-East ADC Sum
VPD-East ADC Sum

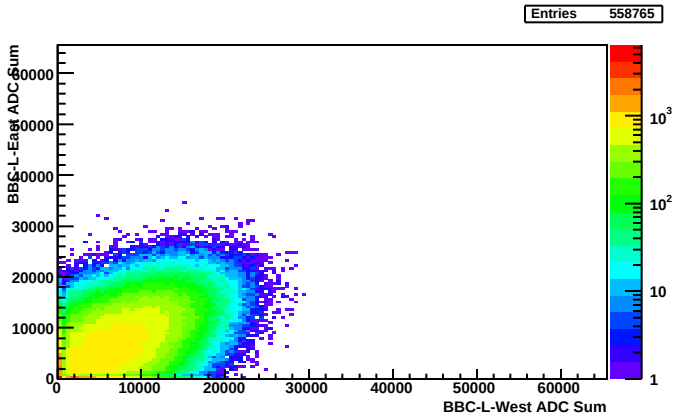

Entries 558765
BBC-S-West ADC Sum
VPD-West ADC Sum

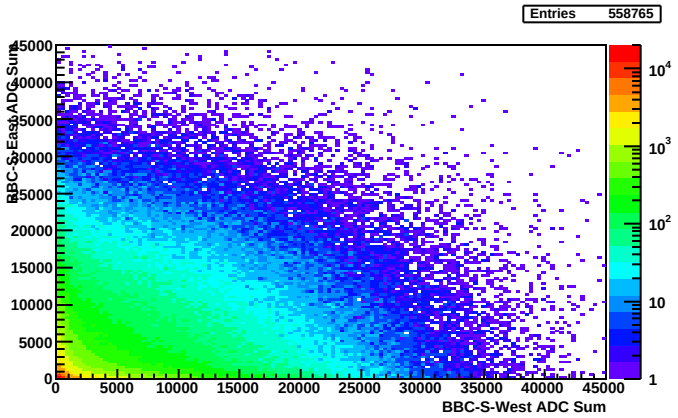

Entries 558765
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

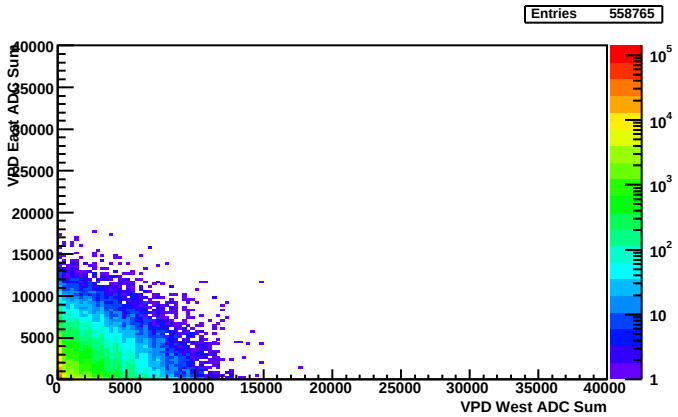

Entries 558765
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

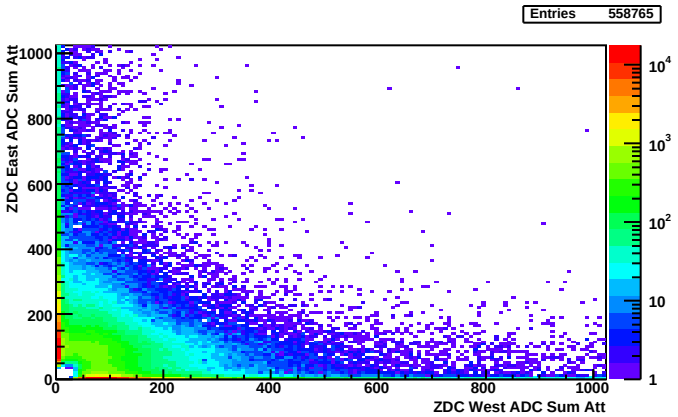

Entries 558765
VPD-East ADC Sum
ZDC-East ADC Sum Att

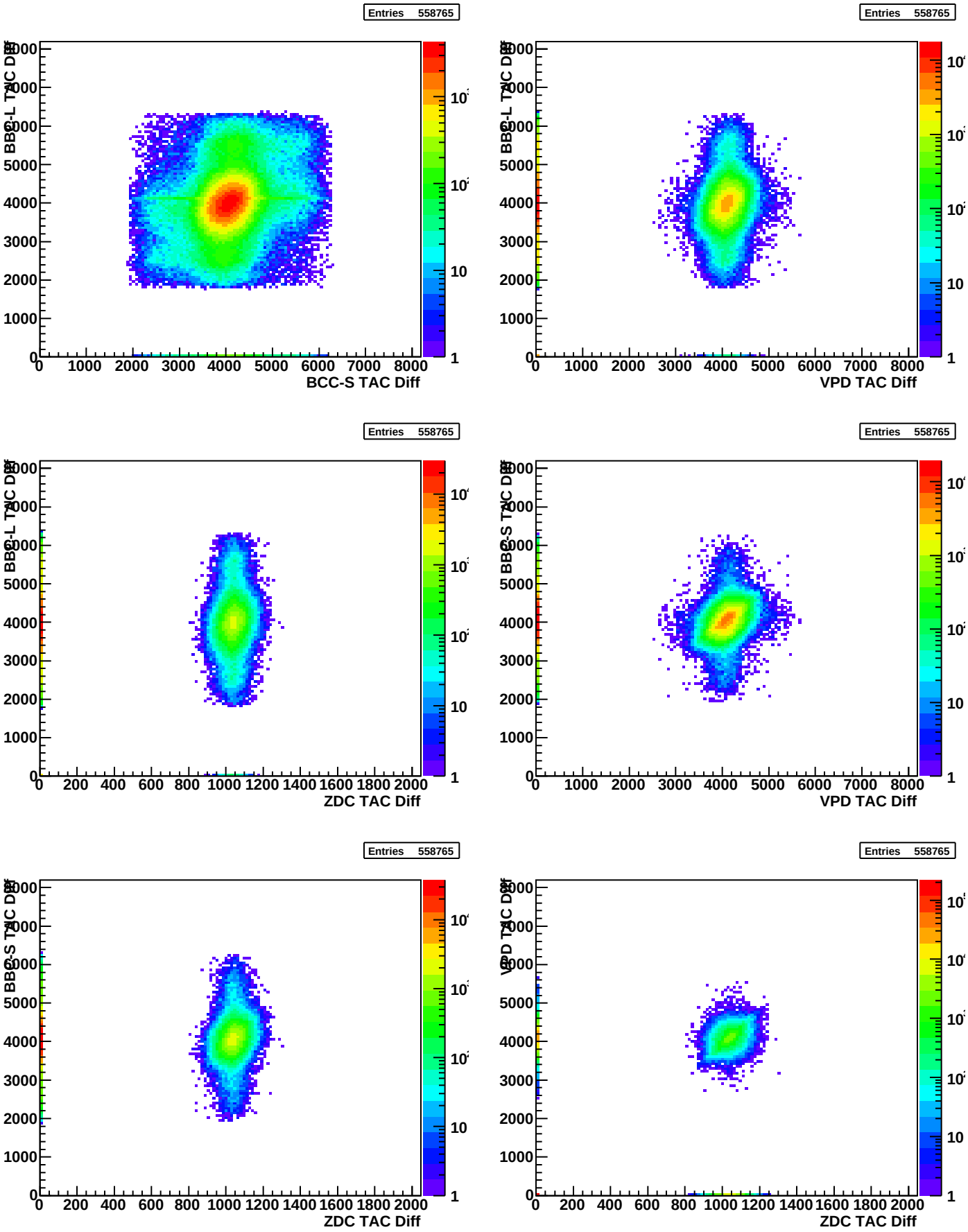

Entries 558765
VPD-West ADC Sum
ZDC-West ADC Sum Att

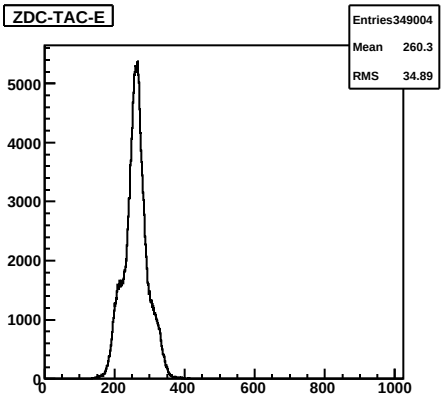

Entries 558765
BBC-L-East ADC Sum
BBC-L-West ADC Sum

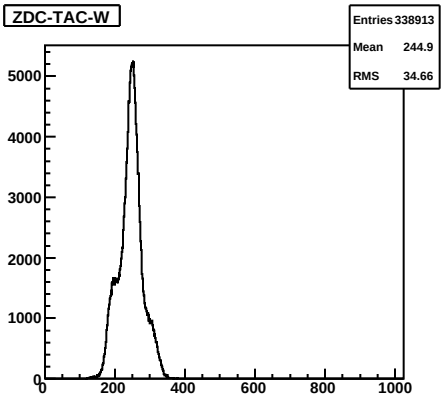

Entries 558765
BBC-S-East ADC Sum
BBC-S-West ADC Sum

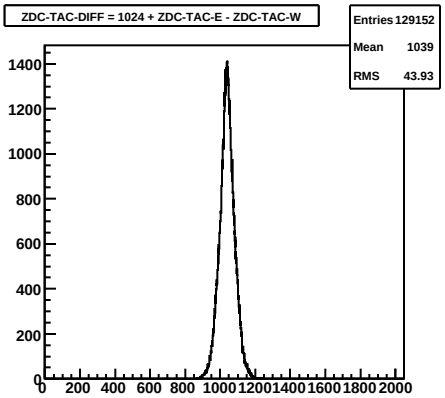

Entries 558765
VPD East ADC Sum
VPD West ADC Sum

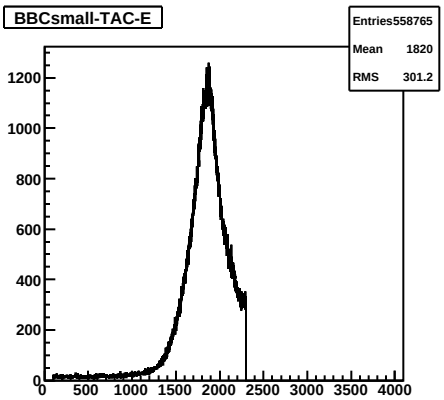

Entries 558765
ZDC East ADC Sum Att
ZDC West ADC Sum Att

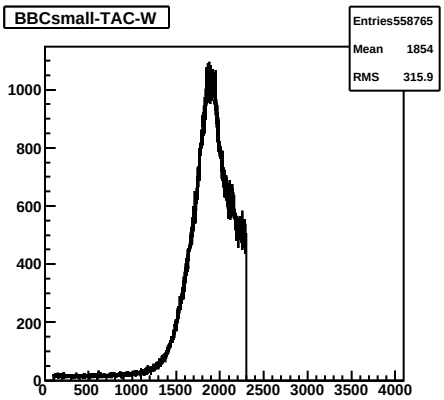

Entries 558765
BBC-L TAC Diff
BCC-S TAC Diff
Entries 558765
BBC-L TAC Diff
VPD TAC Diff
Entries 558765
BBC-L TAC Diff
ZDC TAC Diff
Entries 558765
BBC-S TAC Diff
VPD TAC Diff
Entries 558765
BBC-S TAC Diff
ZDC TAC Diff
Entries 558765
VPD TAC Diff
ZDC TAC Diff

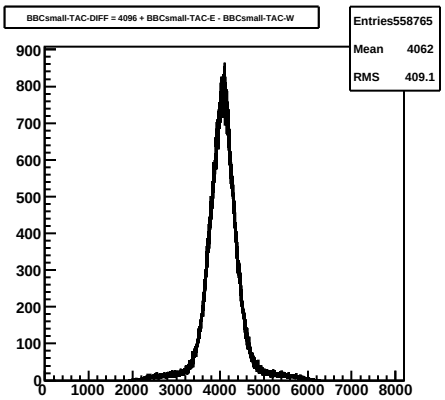

ZDC-TAC-E
Entries 349004
Mean 260.3
RMS 34.89

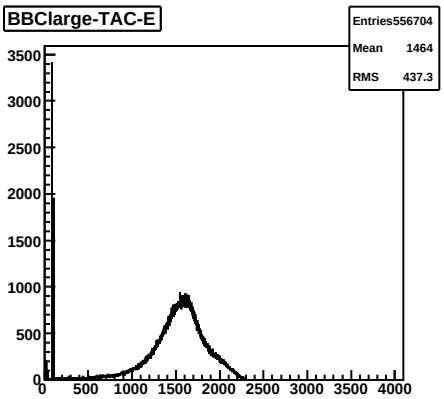

ZDC-TAC-W
Entries 338913
Mean 244.9
RMS 34.66

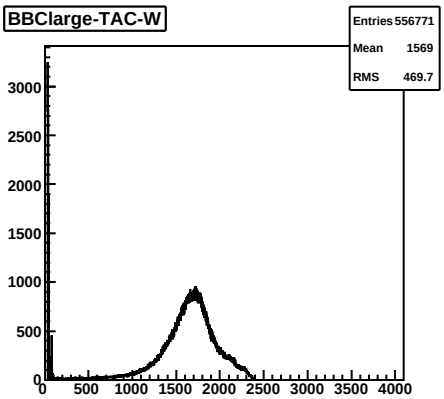

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 129152
Mean 1039
RMS 43.93

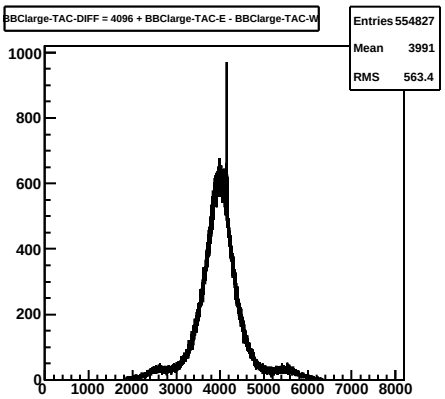

BBCsmall-TAC-E
Entries 558765
Mean 1820
RMS 301.2

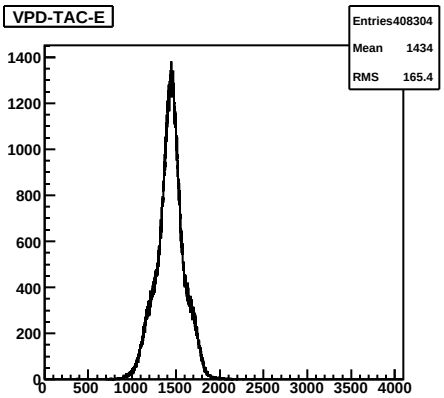

BBCsmall-TAC-W
Entries 558765
Mean 1854
RMS 315.9

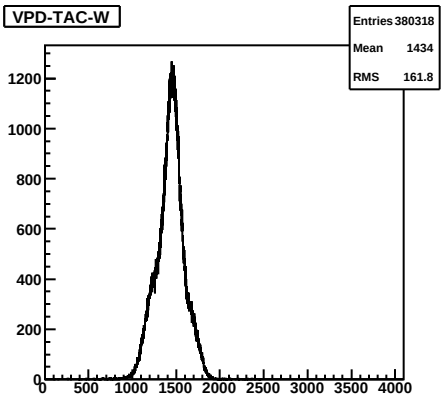

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 558765
Mean 4062
RMS 409.1

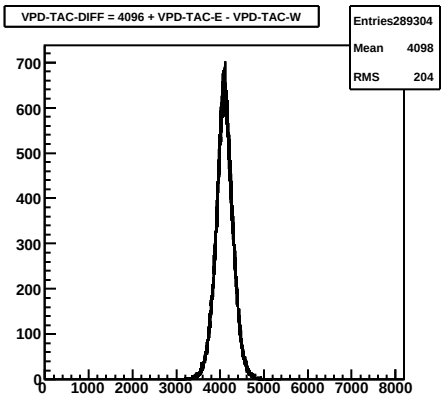

BBClarge-TAC-E
Entries 556704
Mean 1464
RMS 437.3

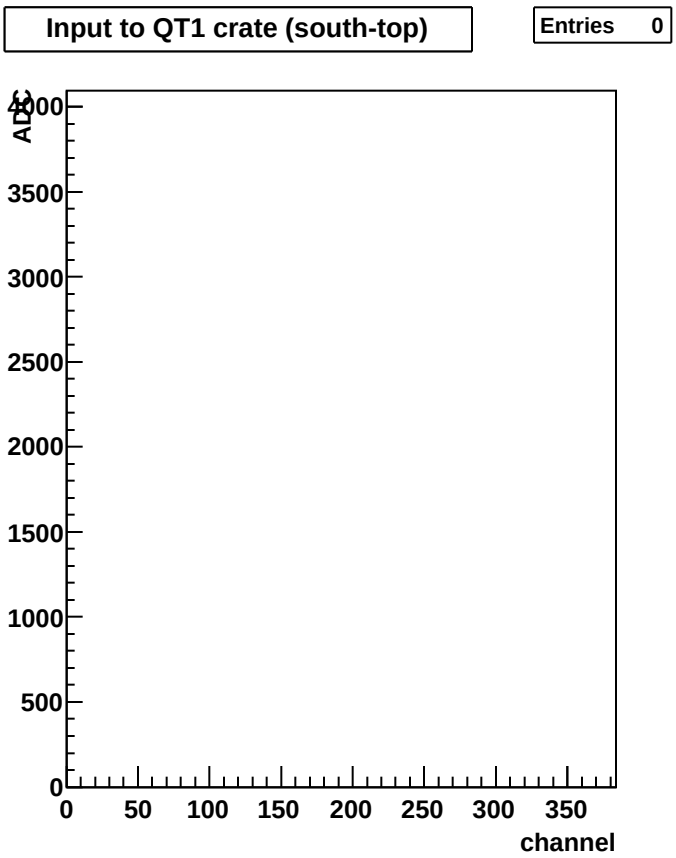

BBClarge-TAC-W
Entries 556771
Mean 1569
RMS 469.7

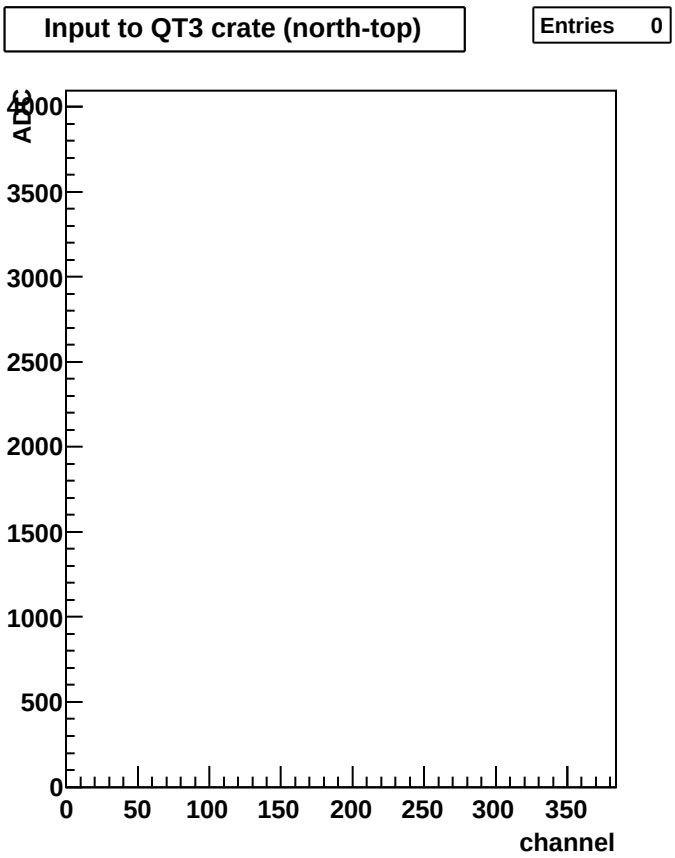

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 554827
Mean 3991
RMS 563.4

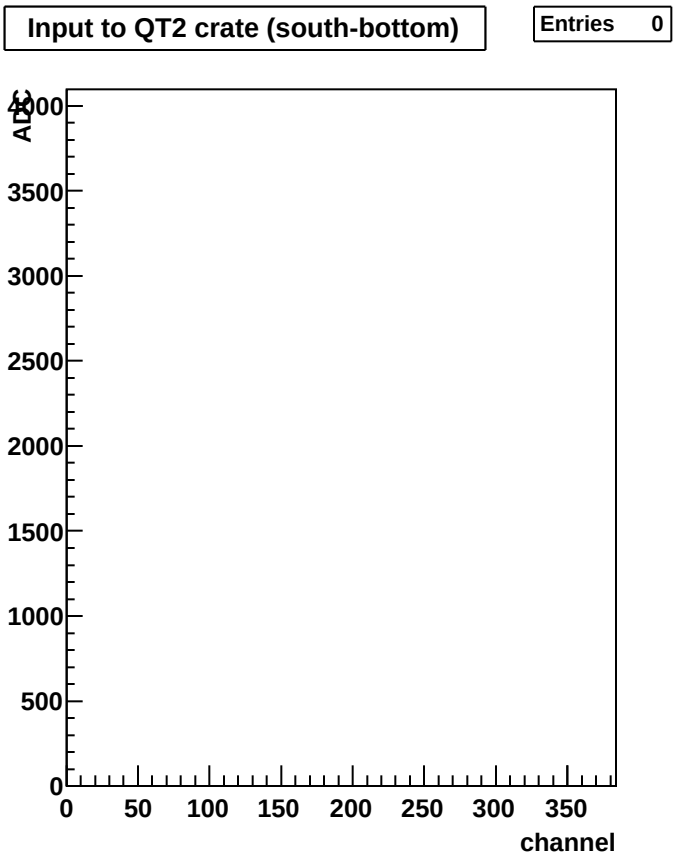

VPD-TAC-E
Entries 408304
Mean 1434
RMS 165.4

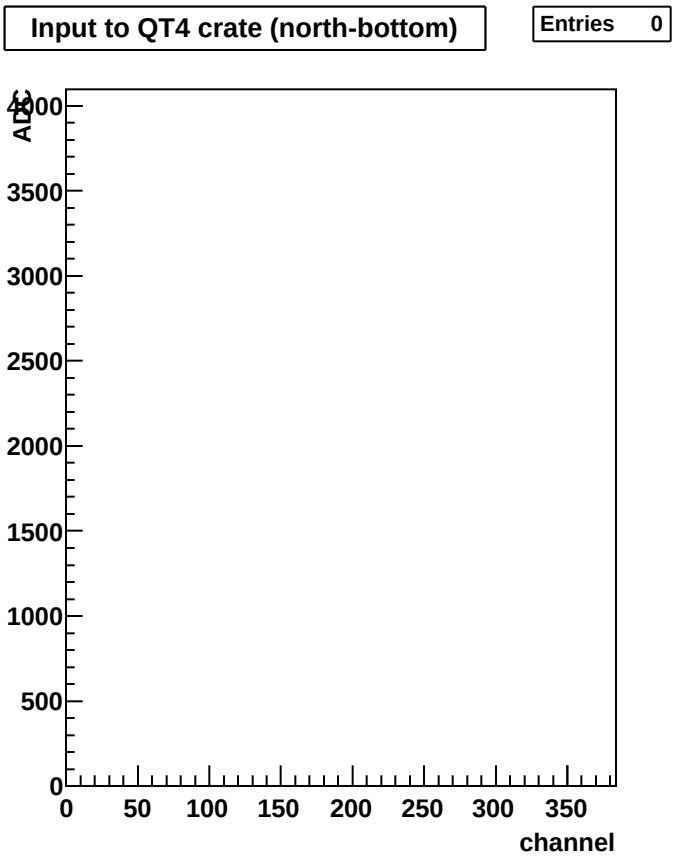

VPD-TAC-W
Entries 380318
Mean 1434
RMS 161.8

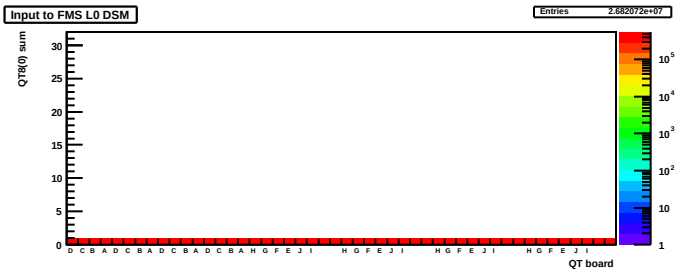

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 289304
Mean 4098
RMS 204

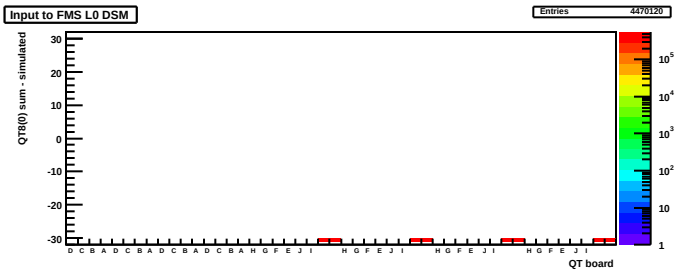

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

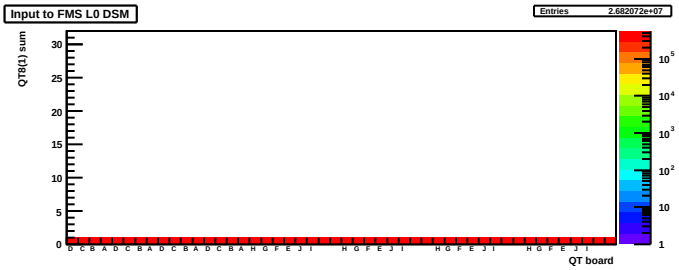

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

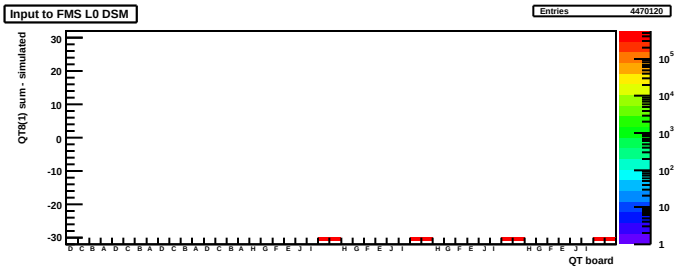

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

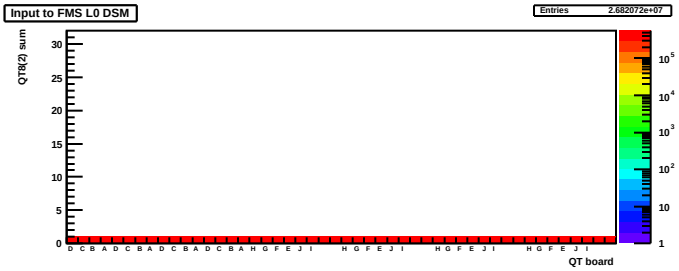

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

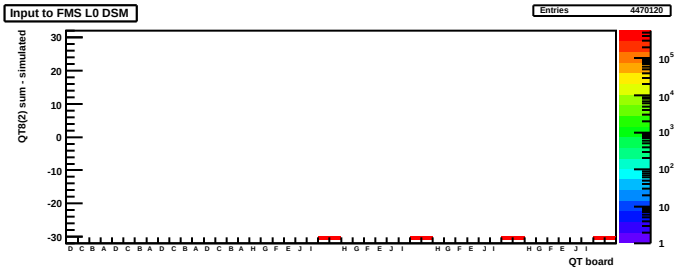

Input to FMS L0 DSM
Entries 2.682072e+07
QT8(0) sum
QT board

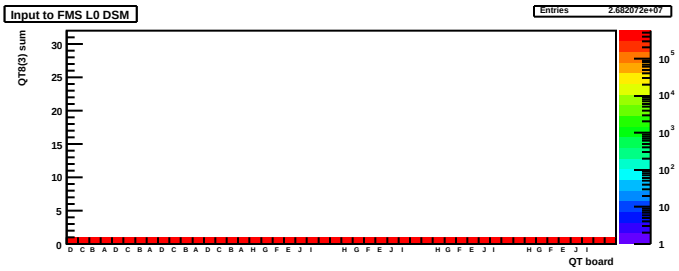

Input to FMS L0 DSM
Entries 4470120
QT8(0) sum - simulated
QT board

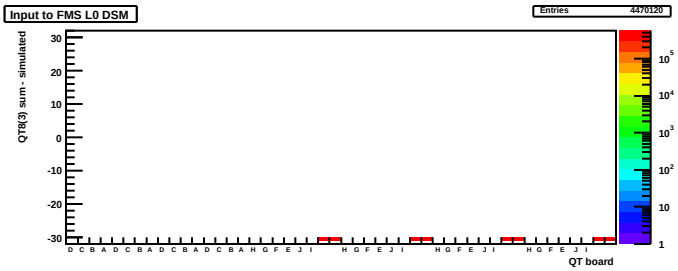

Input to FMS L0 DSM
Entries 2.682072e+07
QT8(1) sum
QT board

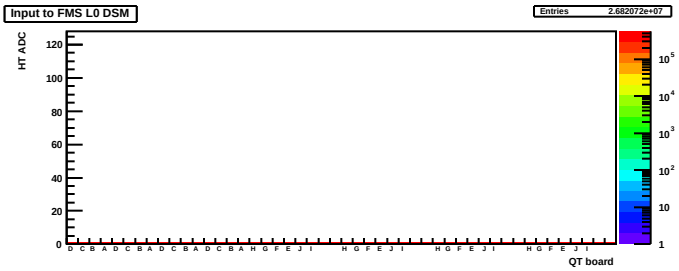

Input to FMS L0 DSM
Entries 4470120
QT8(1) sum - simulated
QT board

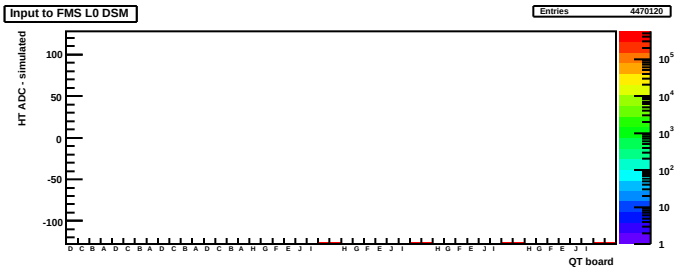

Input to FMS L0 DSM
Entries 2.682072e+07
QT8(2) sum
QT board

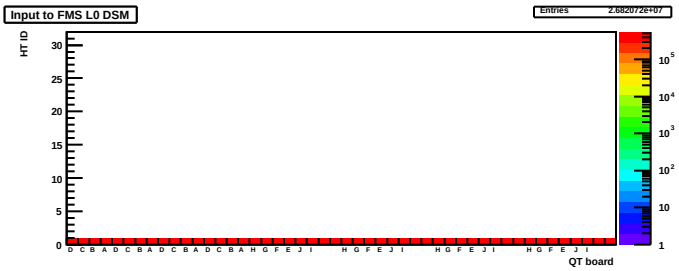

Input to FMS L0 DSM
Entries 4470120
QT8(2) sum - simulated
QT board

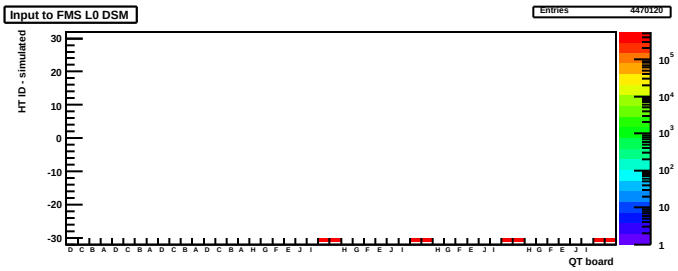

Input to FMS L0 DSM
Entries 2.682072e+07
QT8(3) sum
QT board

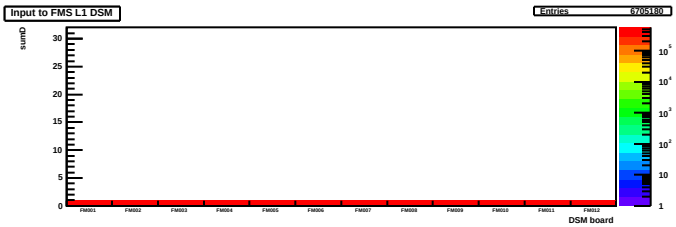

Input to FMS L0 DSM
Entries 4470120
QT8(3) sum - simulated
QT board

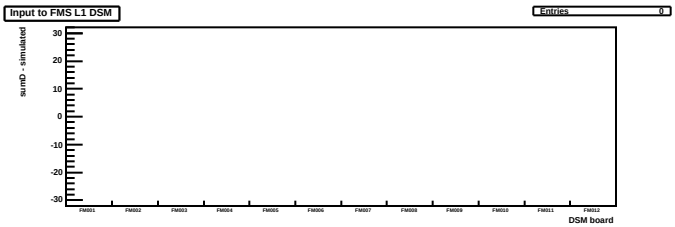

Input to FMS L0 DSM
Entries 2.682072e+07
HT ADC
QT board

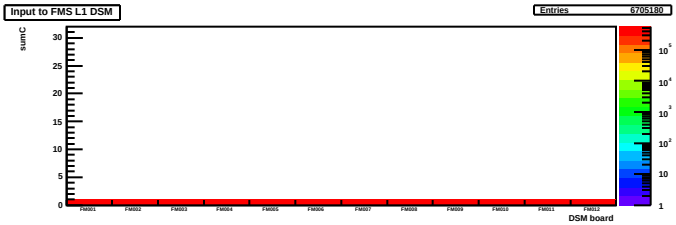

Input to FMS L0 DSM
Entries 4470120
HT ADC - simulated
QT board

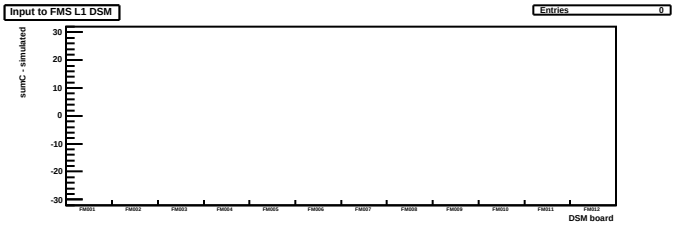

Input to FMS L0 DSM
Entries 2.682072e+07
HT ID
QT board

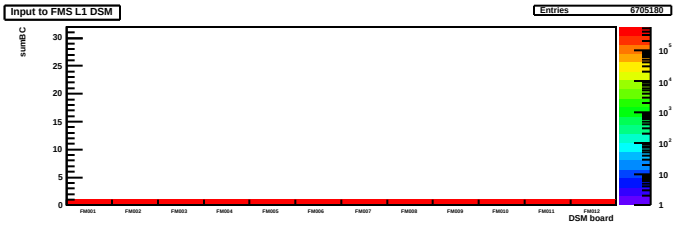

Input to FMS L0 DSM
Entries 4470120
HT ID - simulated
QT board

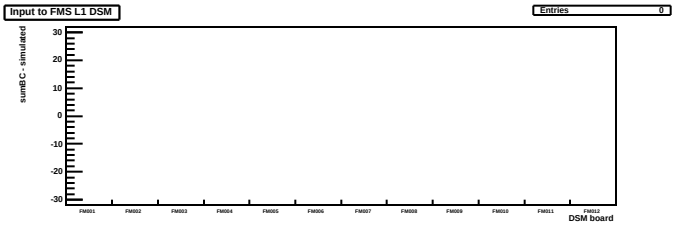

Input to FMS L1 DSM
Entries 6705180
sumD
DSM board

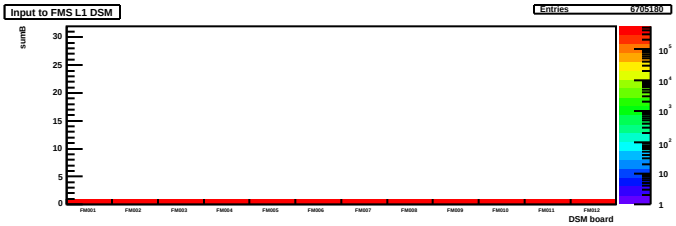

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

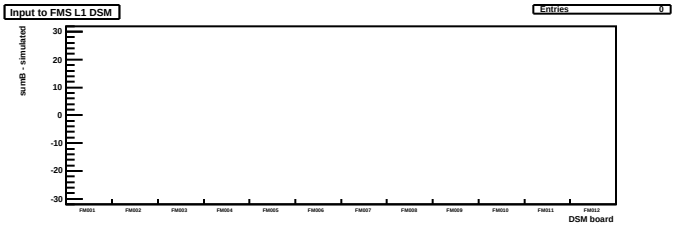

Input to FMS L1 DSM
Entries 6705180
sumC
DSM board

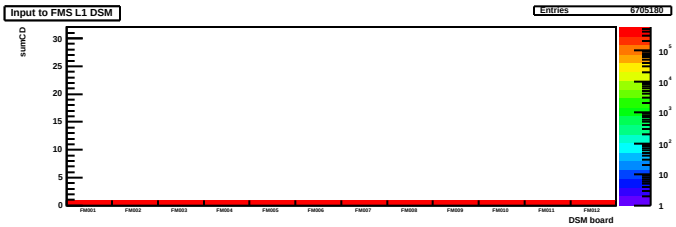

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

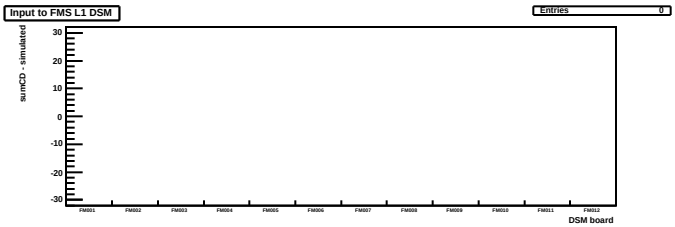

Input to FMS L1 DSM
Entries 6705180
sumBC
DSM board

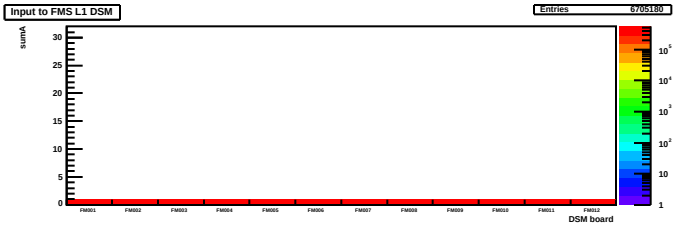

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

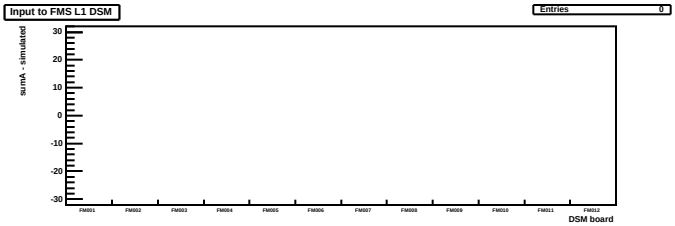

Input to FMS L1 DSM
Entries 6705180
sumB
DSM board

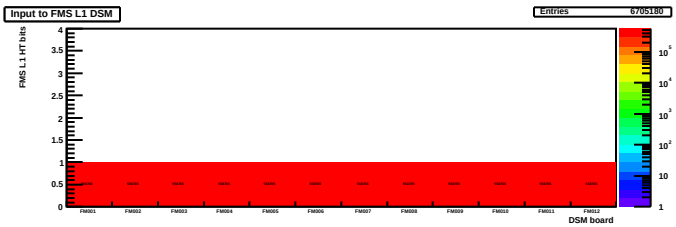

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

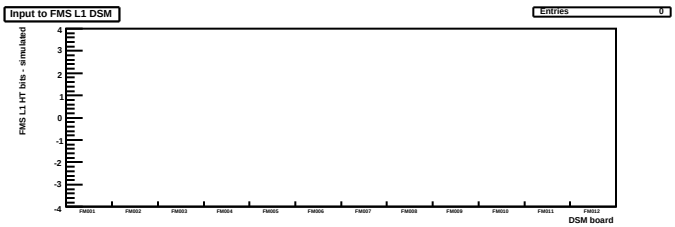

Input to FMS L1 DSM
Entries 6705180
sumCD
DSM board

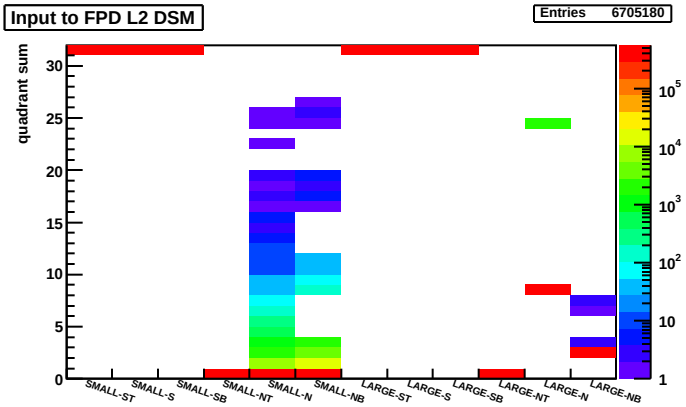

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

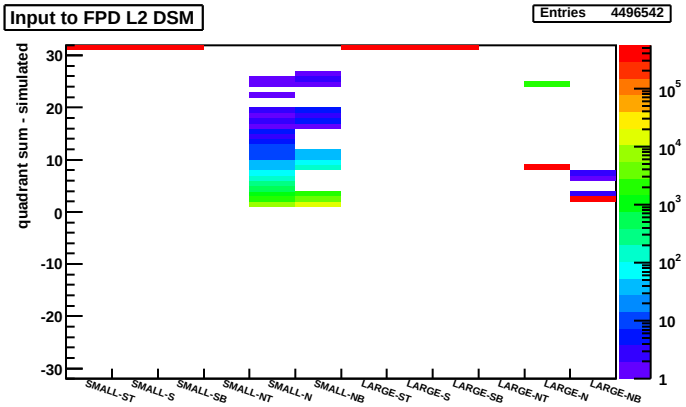

Input to FMS L1 DSM
Entries 6705180
sumA
DSM board

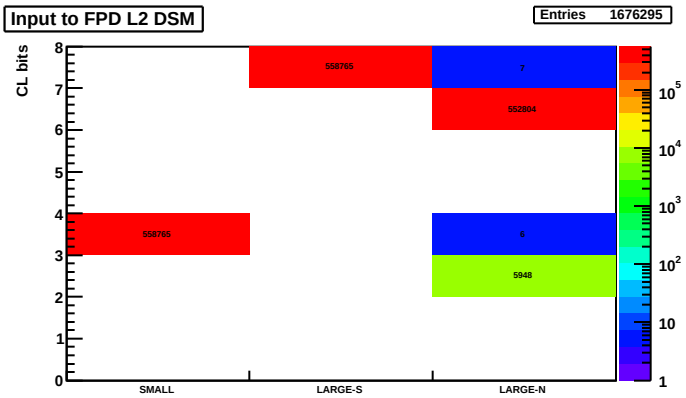

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

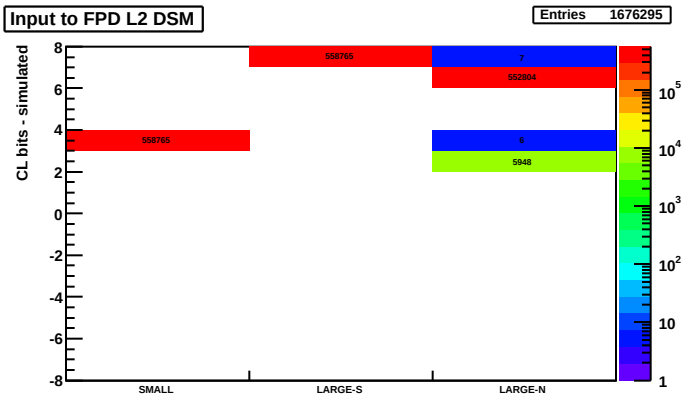

Input to FMS L1 DSM
Entries 6705180
FMS L1 HT bits
DSM board

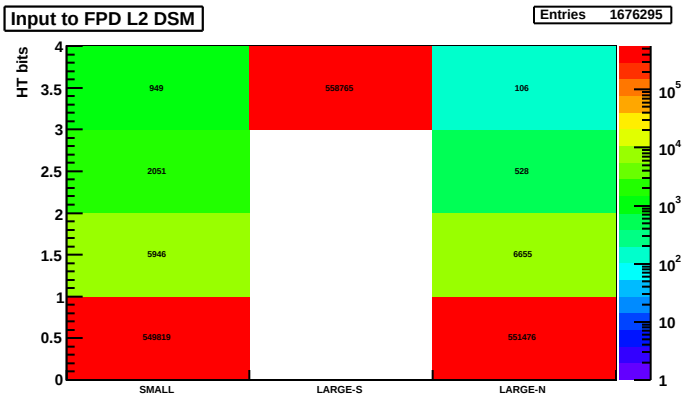

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

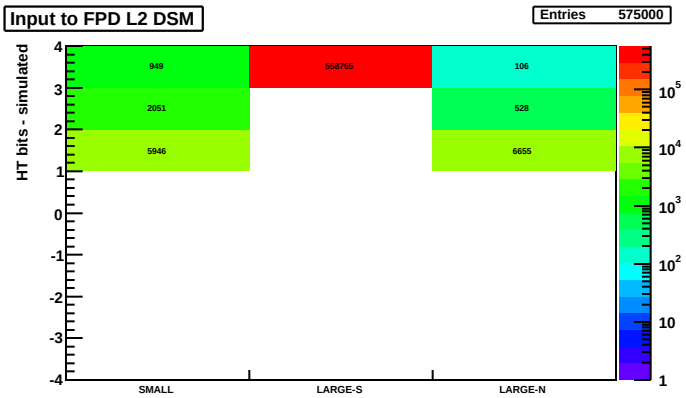

Input to FPD L2 DSM
Entries 6705180
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

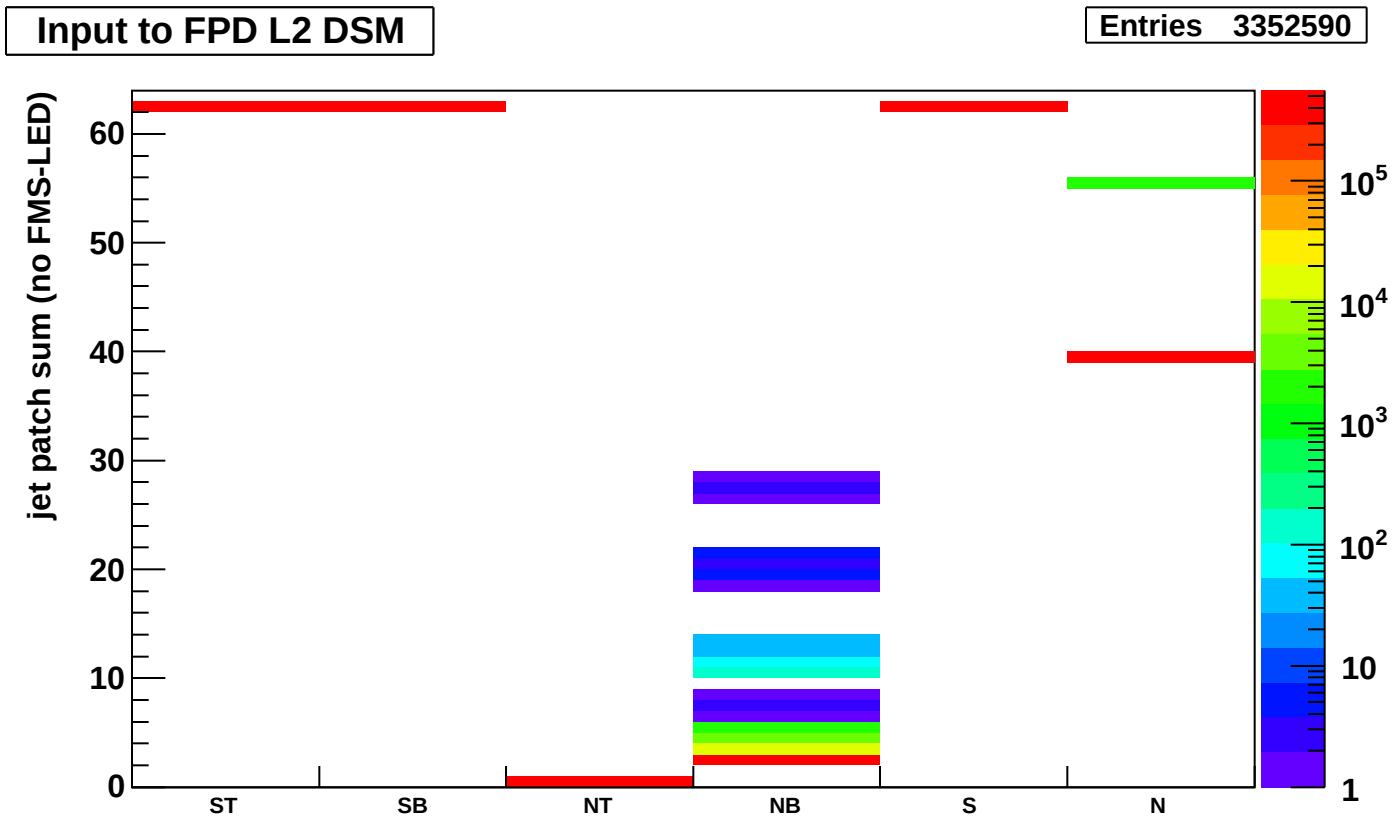

Input to FPD L2 DSM
Entries 4496542
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

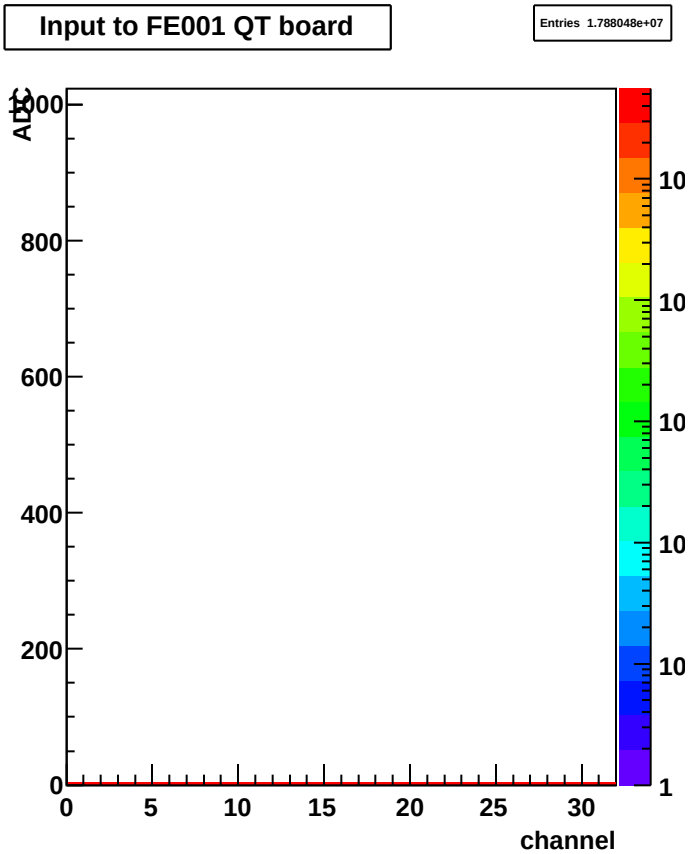

Input to FPD L2 DSM
Entries 1676295
CL bits
558765
7
552804
558765
6
5948
SMALL
LARGE-S
LARGE-N

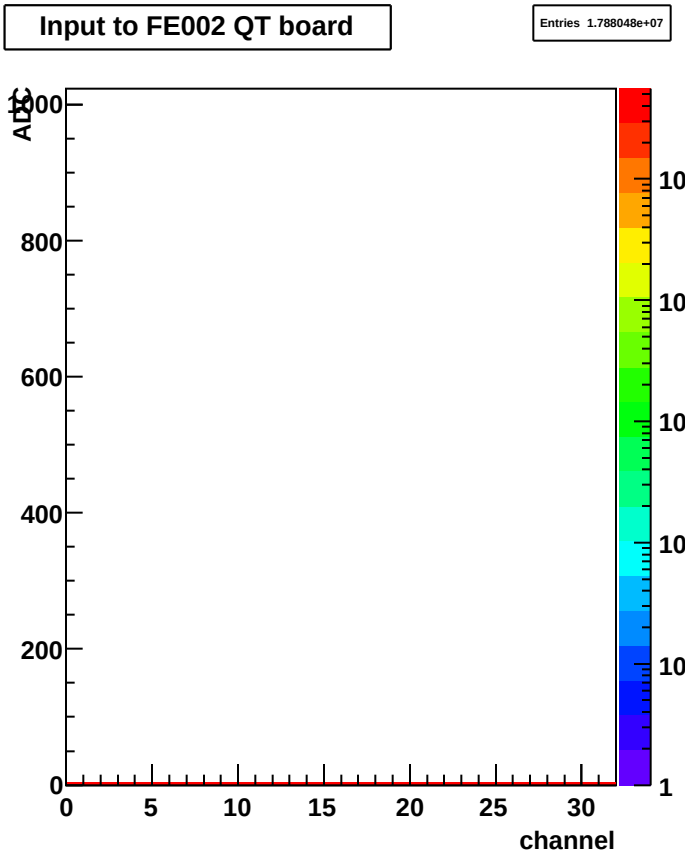

Input to FPD L2 DSM
Entries 1676295
CL bits - simulated
558765
7
552804
558765
6
5948
SMALL
LARGE-S
LARGE-N

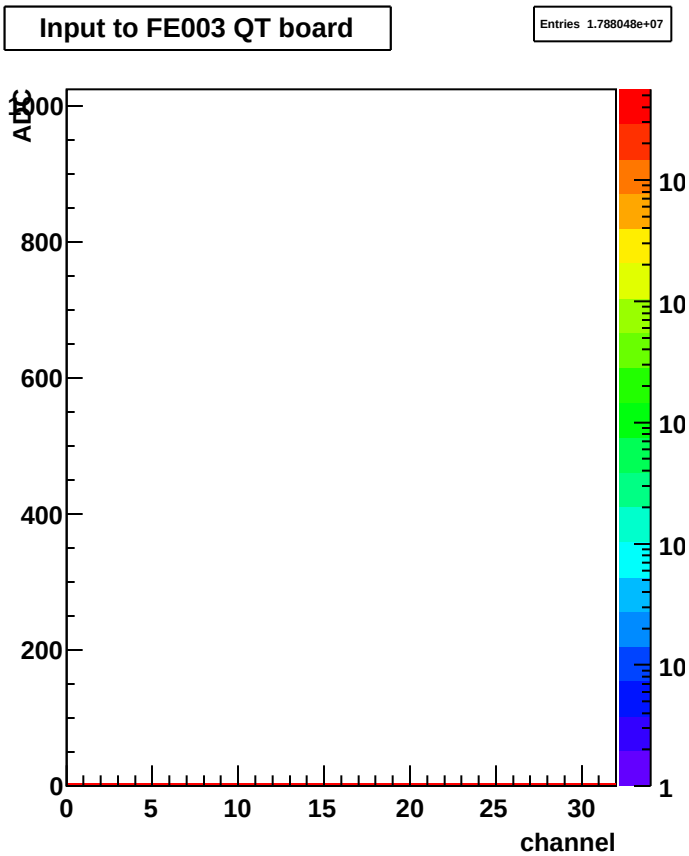

Input to FPD L2 DSM
Entries 1676295
HT bits
949
558765
106
2051
528
5946
6655
549819
551476
SMALL
LARGE-S
LARGE-N

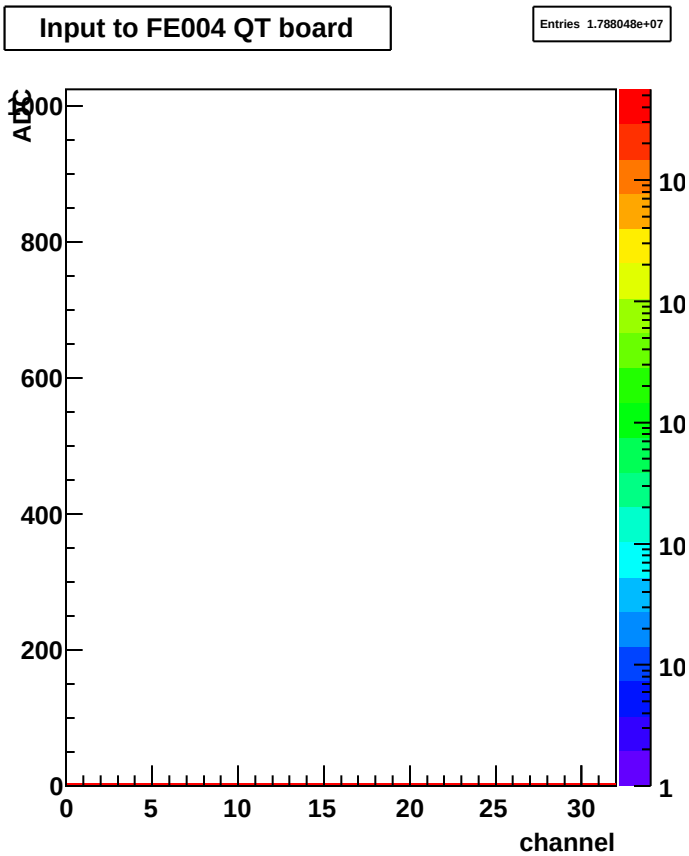

Input to FPD L2 DSM
Entries 575000
HT bits - simulated
949
558765
106
2051
528
5946
6655
SMALL
LARGE-S
LARGE-N

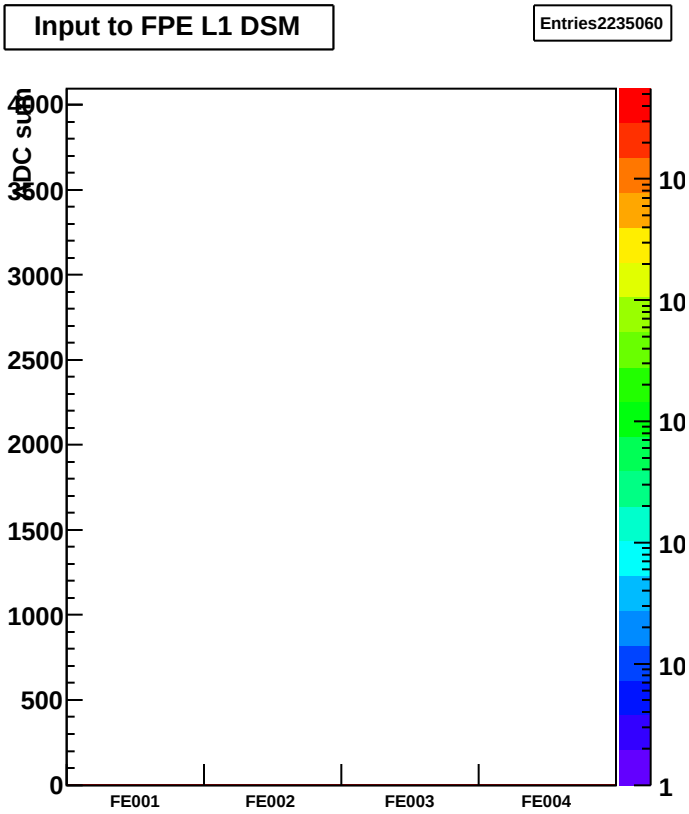

Input to FPD L2 DSM
Entries 3352590
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

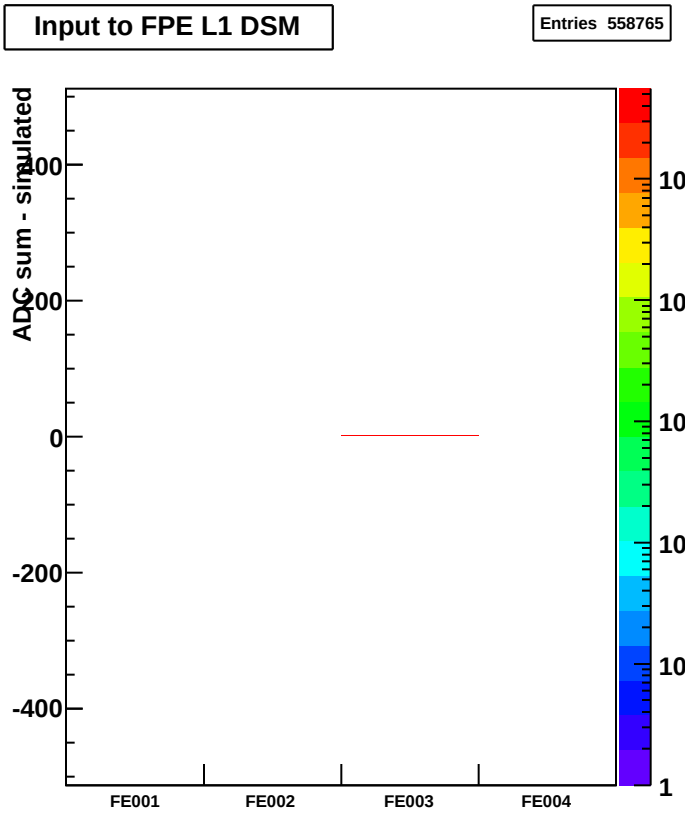

Input to FE001 QT board
Entries 1.788048e+07
ADC
channel

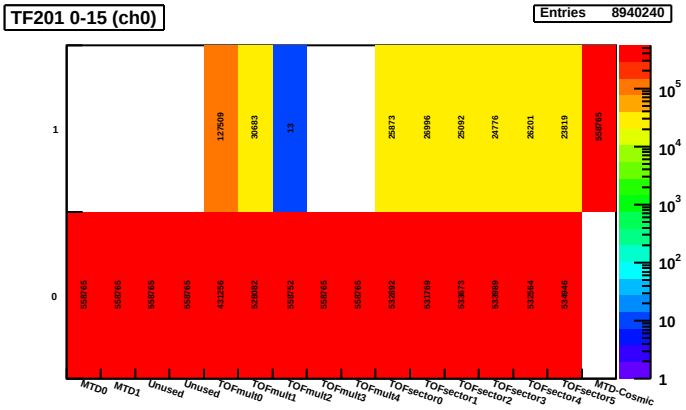

Input to FE002 QT board
Entries 1.788048e+07
ADC
channel

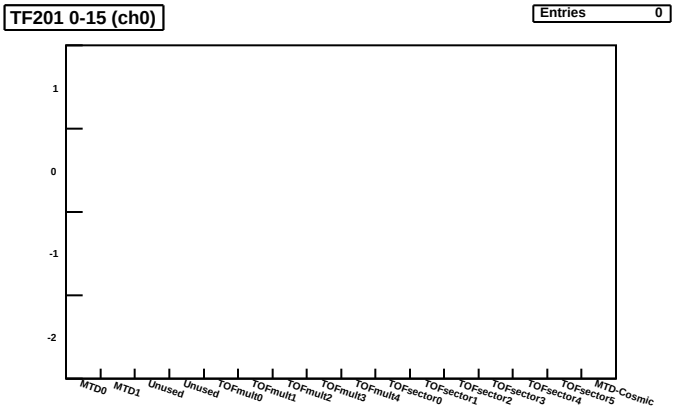

Input to FE003 QT board
Entries 1.788048e+07
ADC
channel

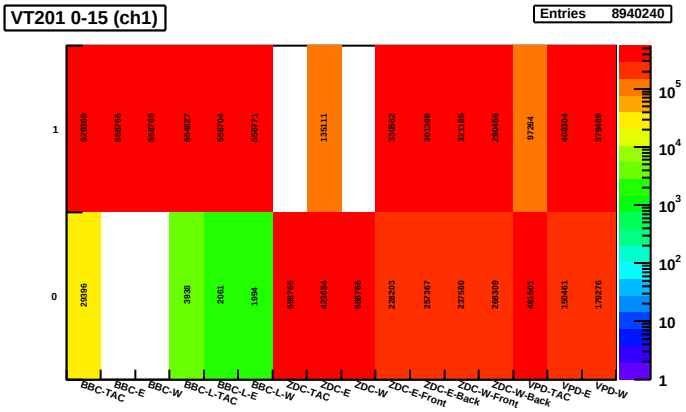

Input to FE004 QT board
Entries 1.788048e+07
ADC
channel

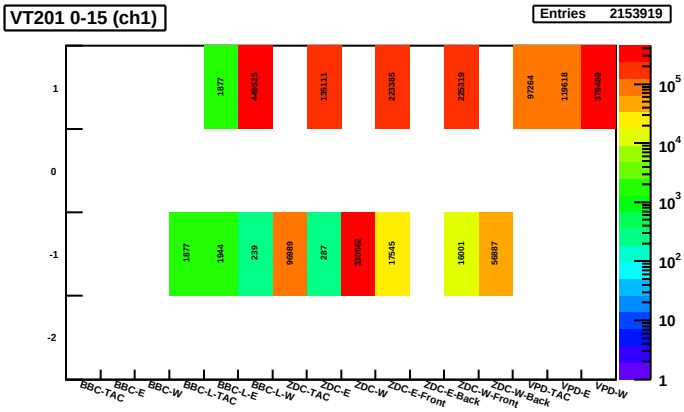

Input to FPE L1 DSM
Entries2235060
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

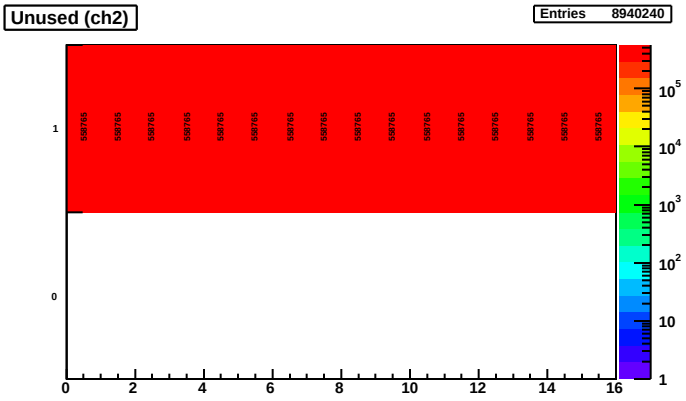

Input to FPE L1 DSM
Entries 558765
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

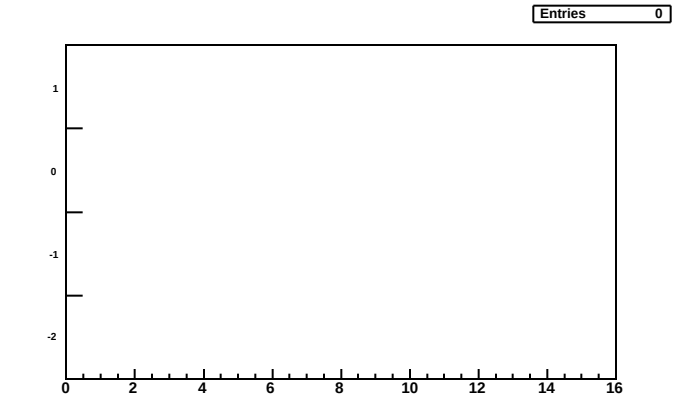

TF201 0-15 (ch0)
Entries 8940240
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

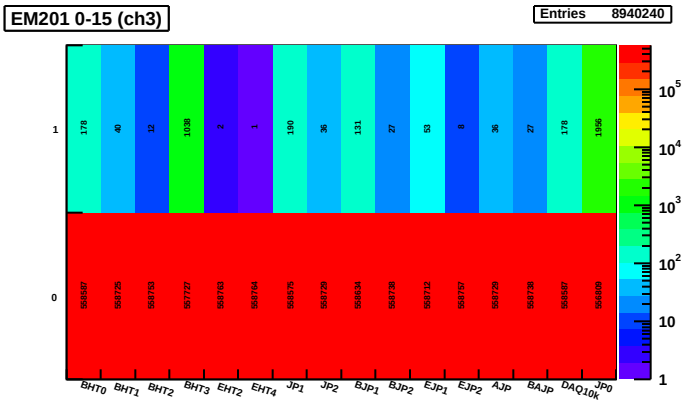

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

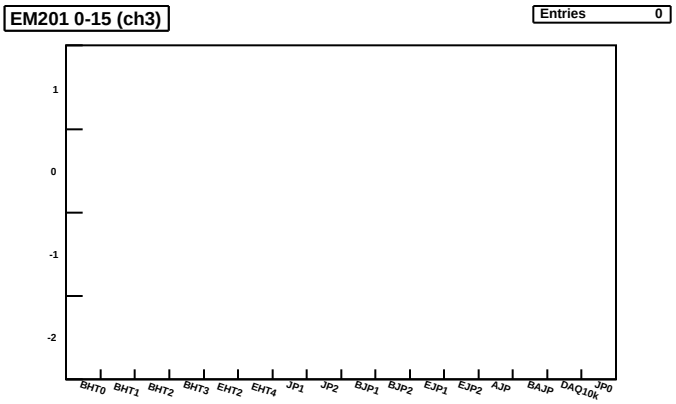

VT201 0-15 (ch1)
Entries 8940240
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 2153919
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 8940240


Entries 0


EM201 0-15 (ch3)
Entries 8940240
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0


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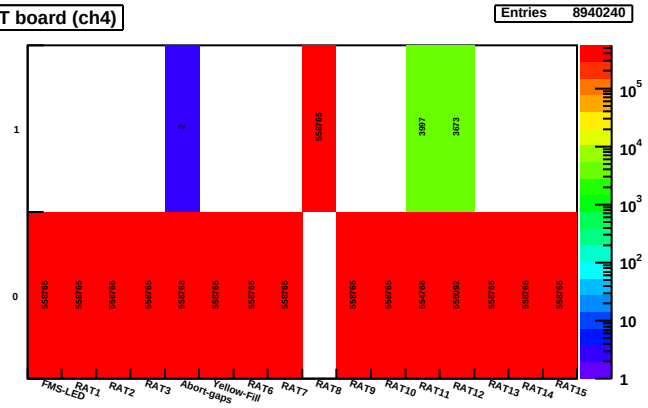
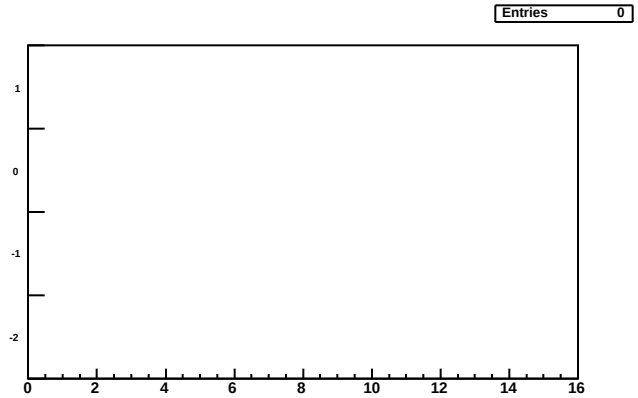
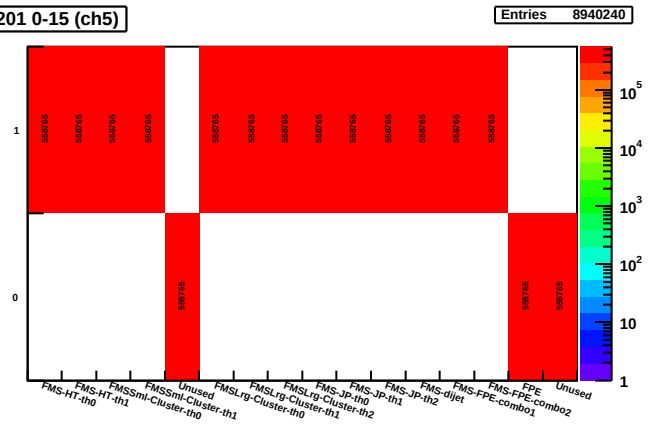
RAT board (ch4)





FP201 0-15 (ch5)



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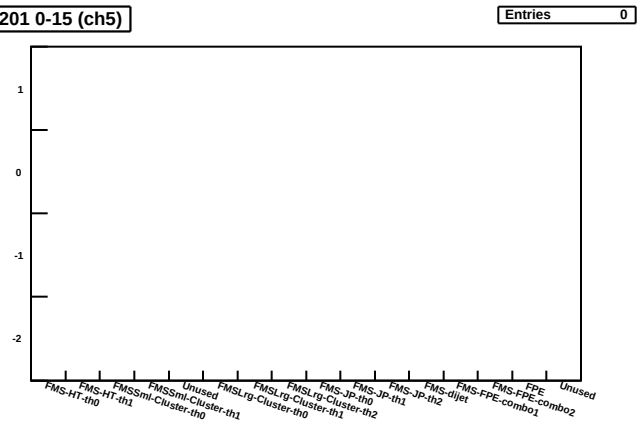
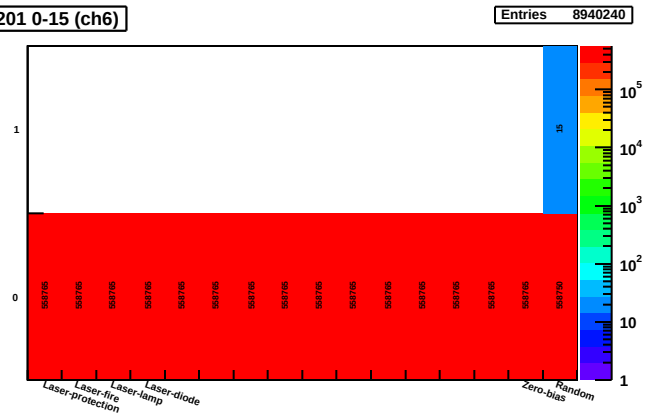
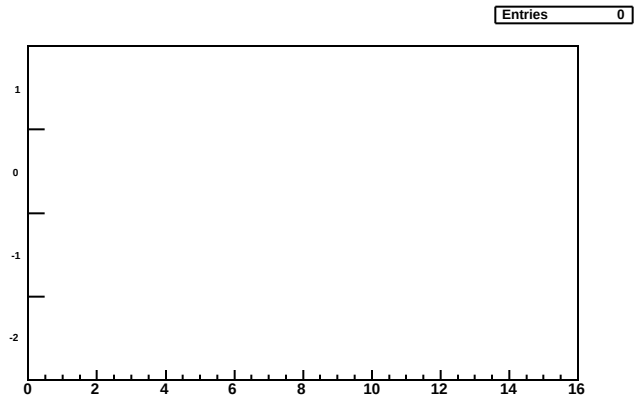
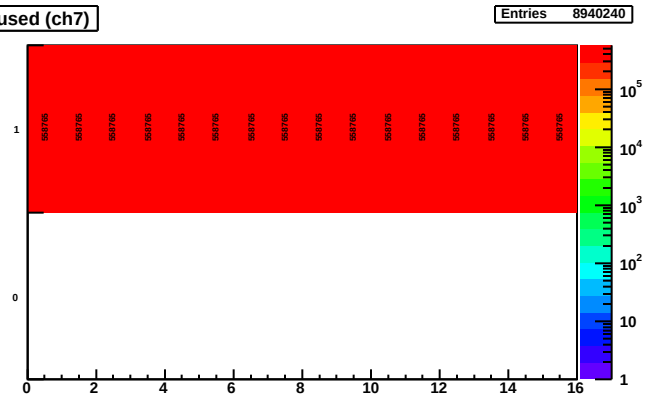
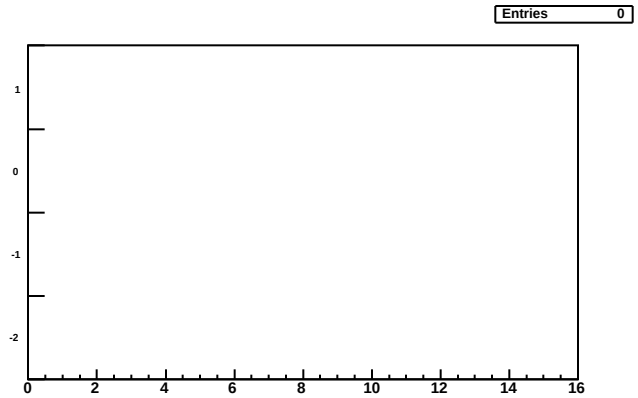


ST201 0-15 (ch6)





Unused (ch7)