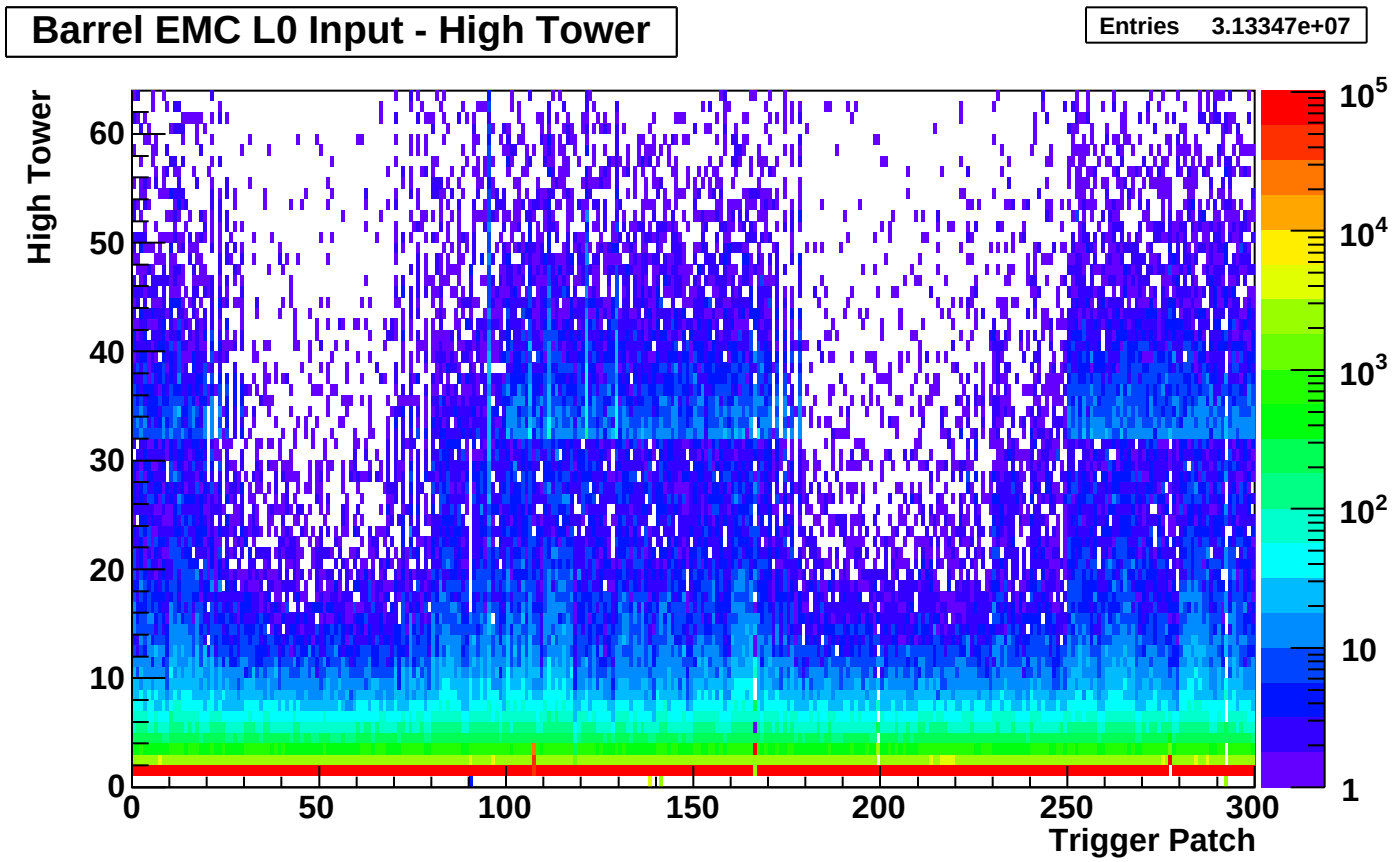
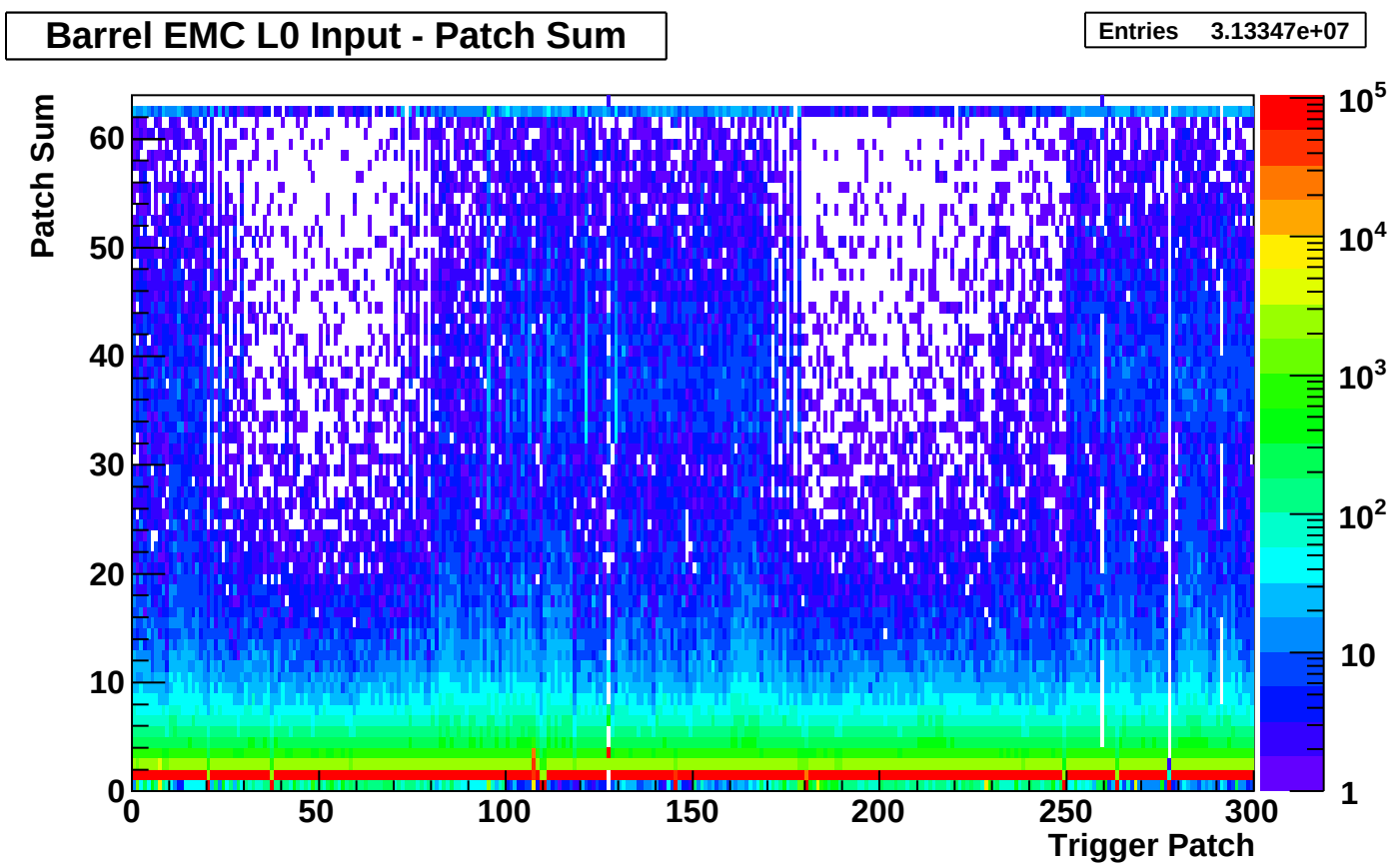
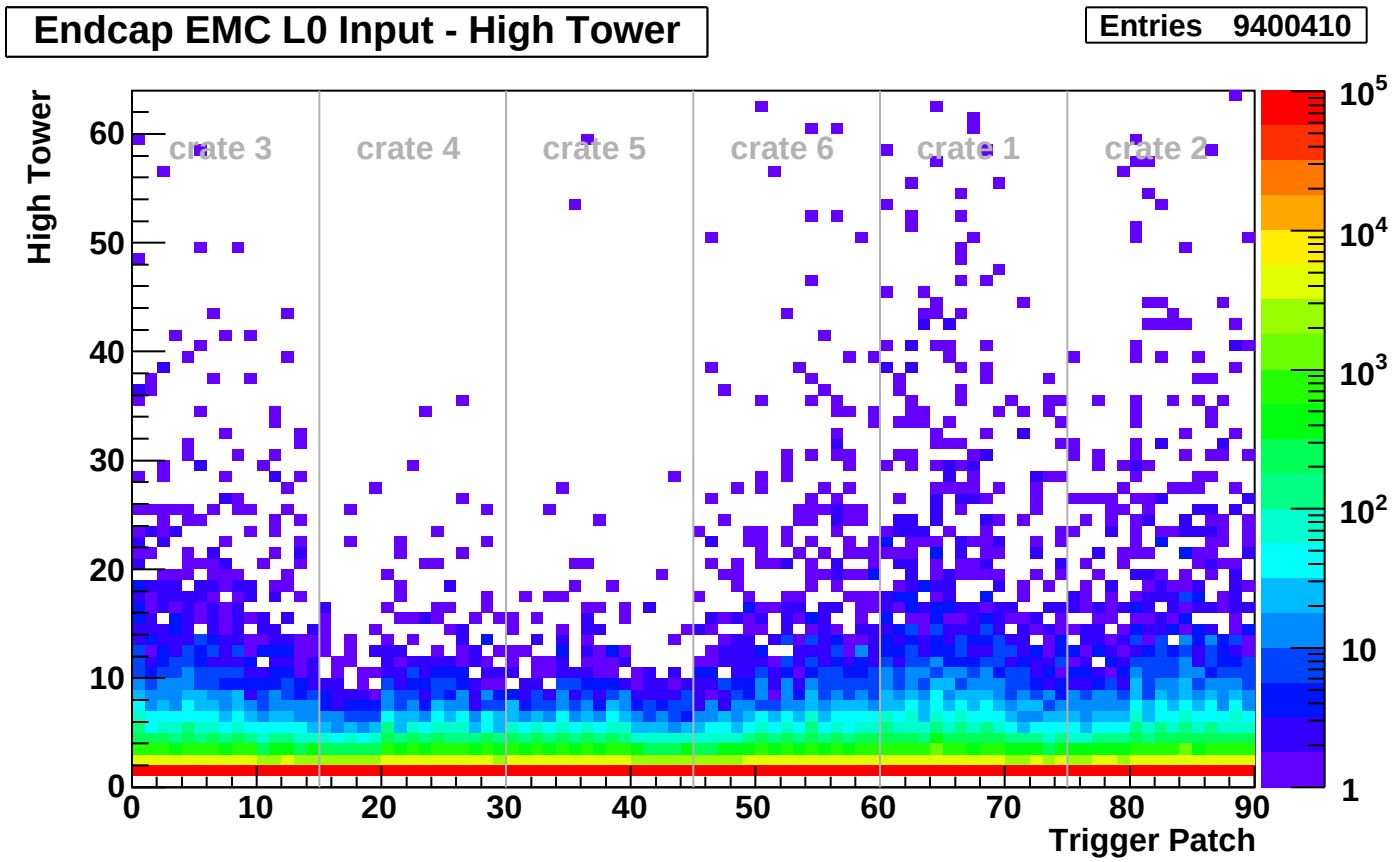
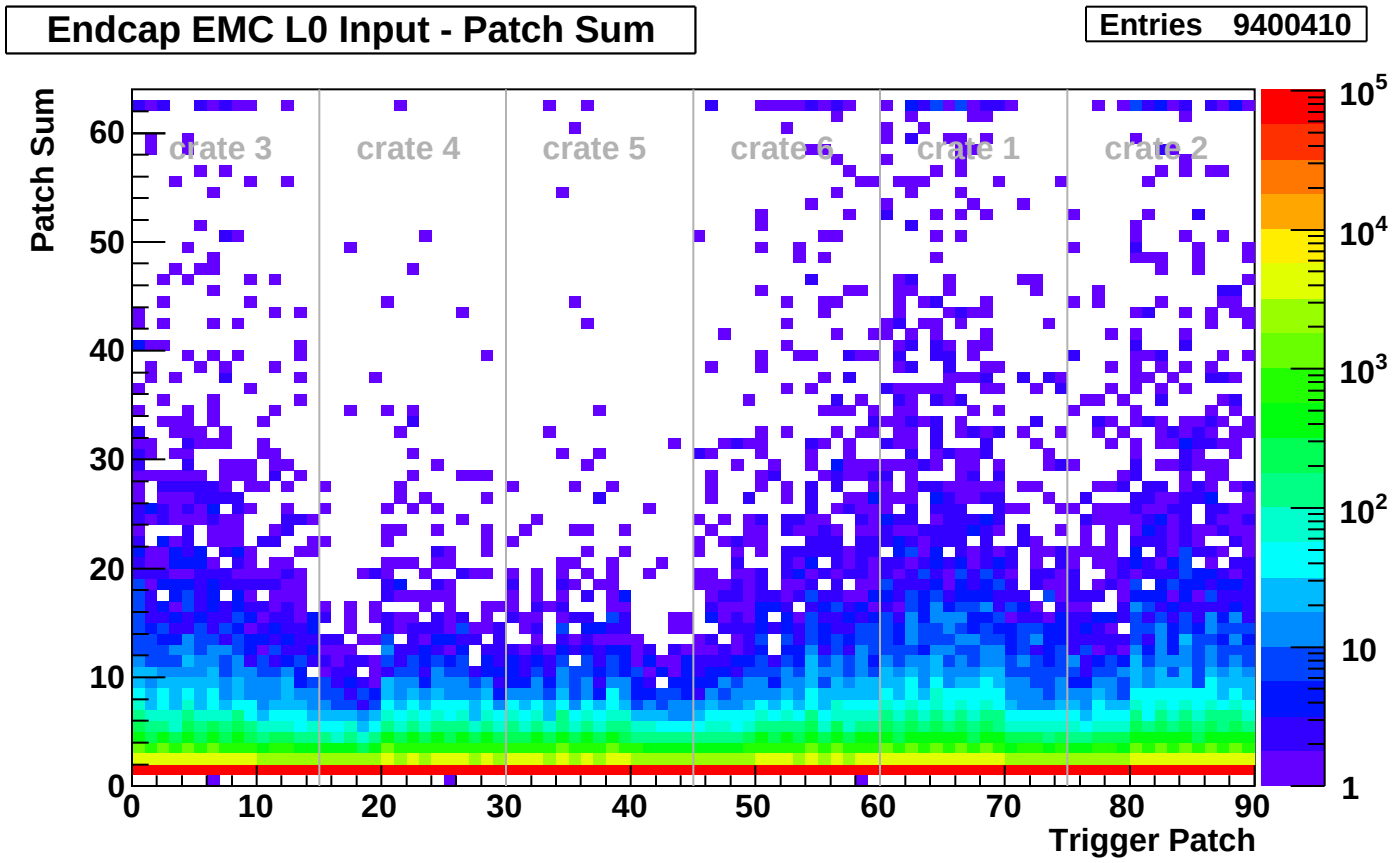
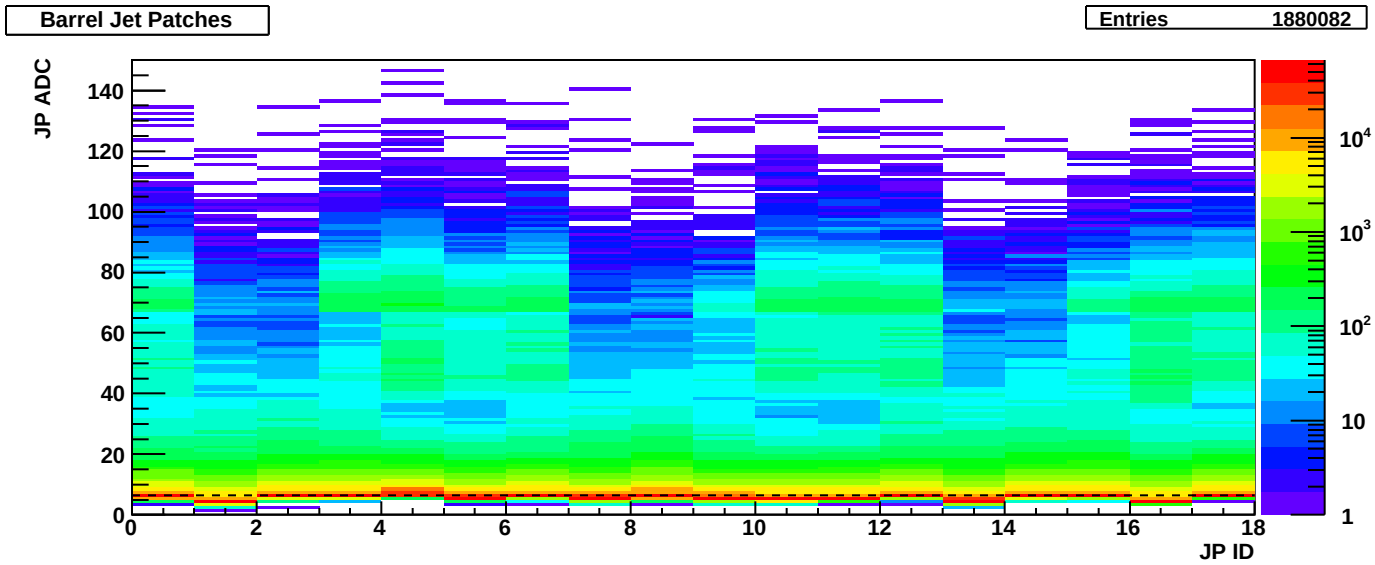
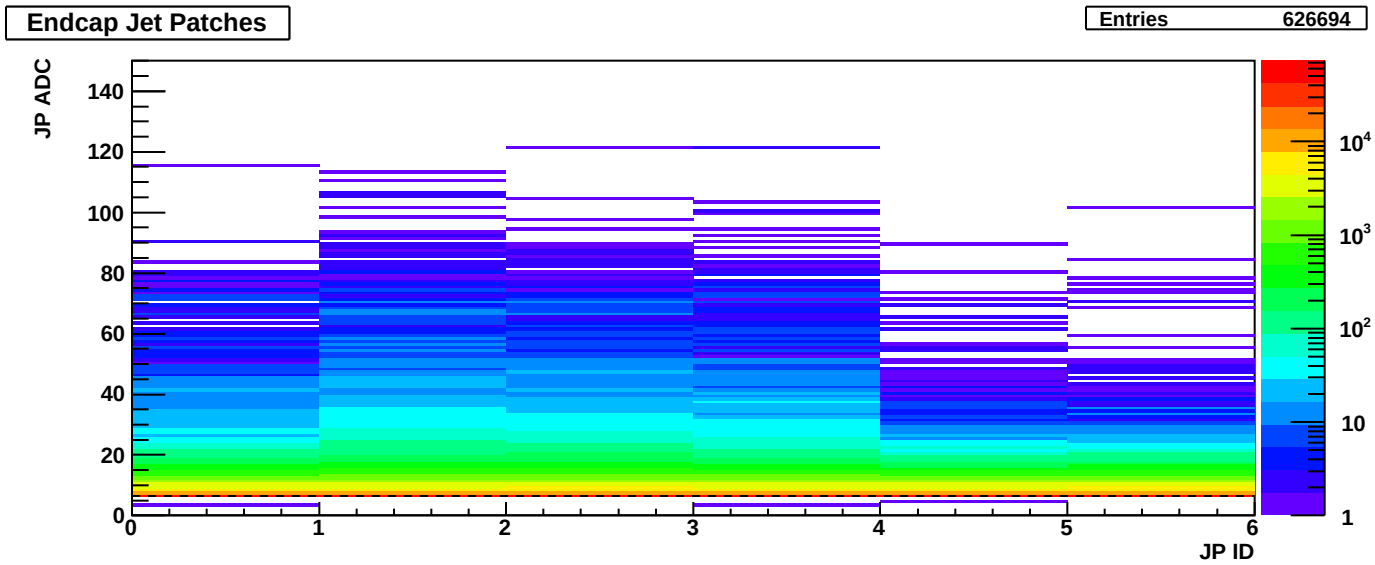

Barrel EMC L0 Input - High Tower
Entries 3.13347e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

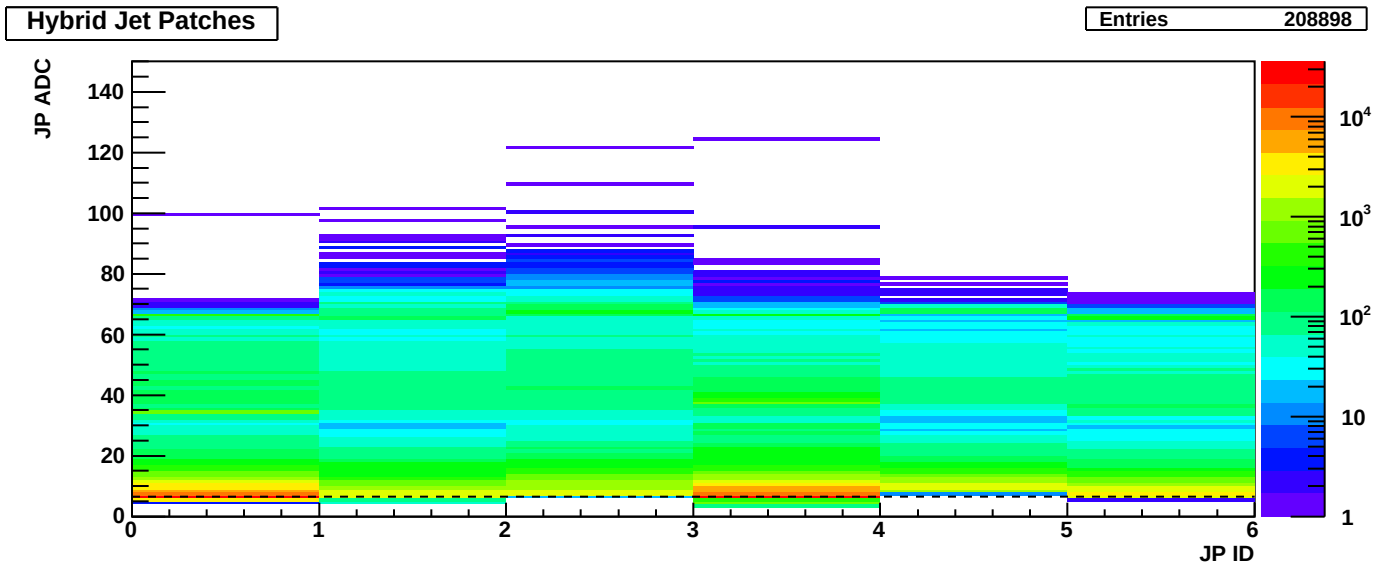

Barrel EMC L0 Input - Patch Sum
Entries 3.13347e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

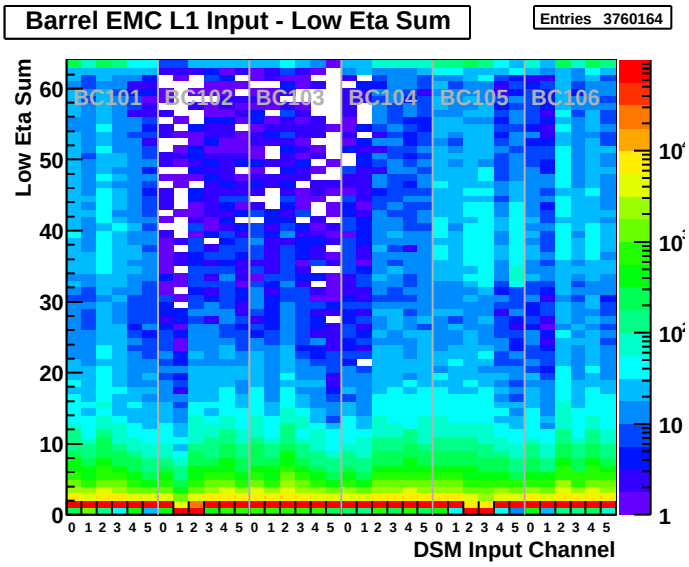

Endcap EMC L0 Input - High Tower
Entries 9400410
High Tower
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

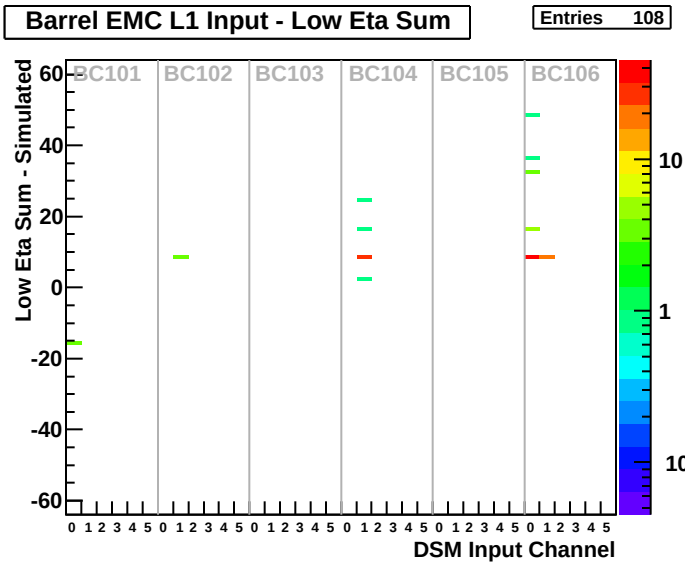

Endcap EMC L0 Input - Patch Sum
Entries 9400410
Patch Sum
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

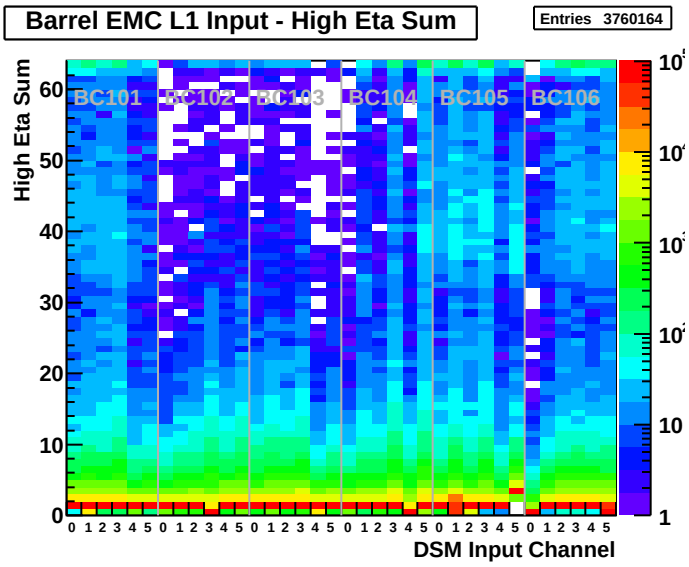

Barrel Jet Patches
Entries 1880082
JP ADC
JP ID

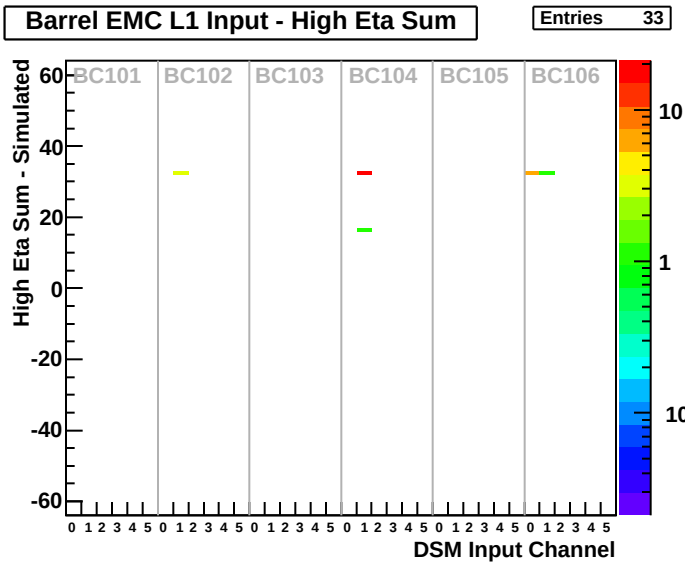

Endcap Jet Patches
Entries 626694
JP ADC
JP ID

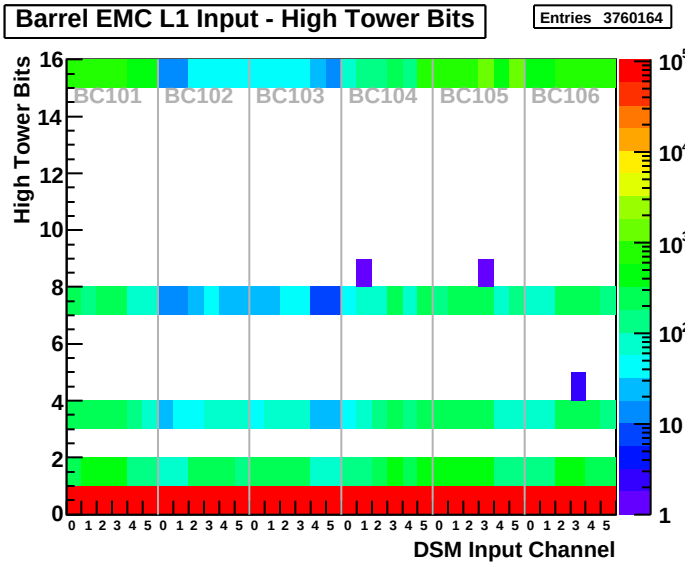

Hybrid Jet Patches
Entries 208898
JP ADC
JP ID

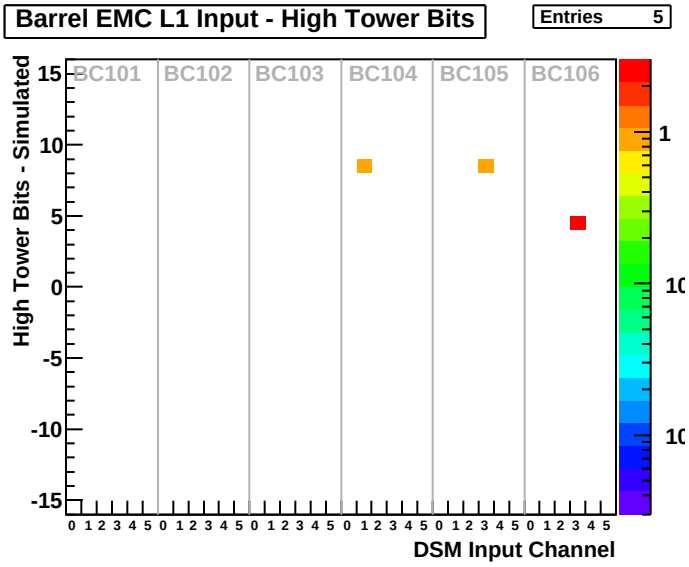

Barrel EMC L1 Input - Low Eta Sum
Entries 3760164
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

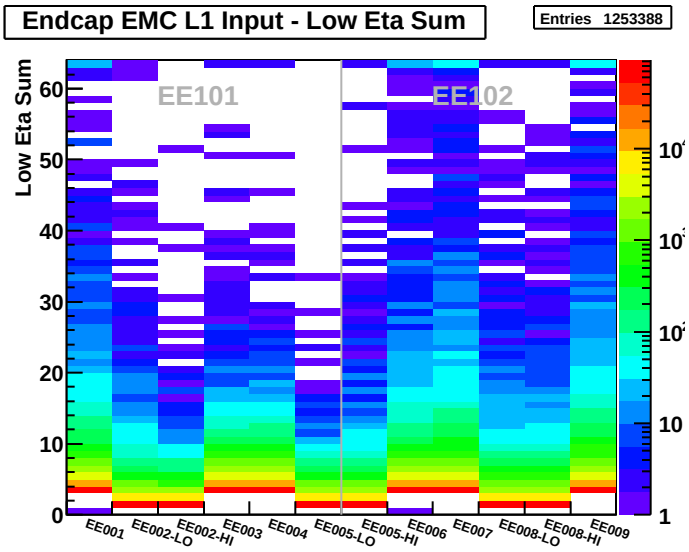

Barrel EMC L1 Input - Low Eta Sum
Entries 108
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

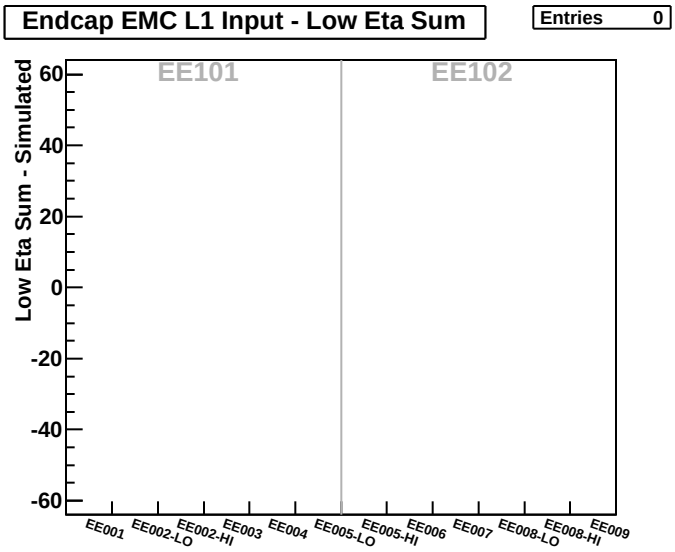

Barrel EMC L1 Input - High Eta Sum
Entries 3760164
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

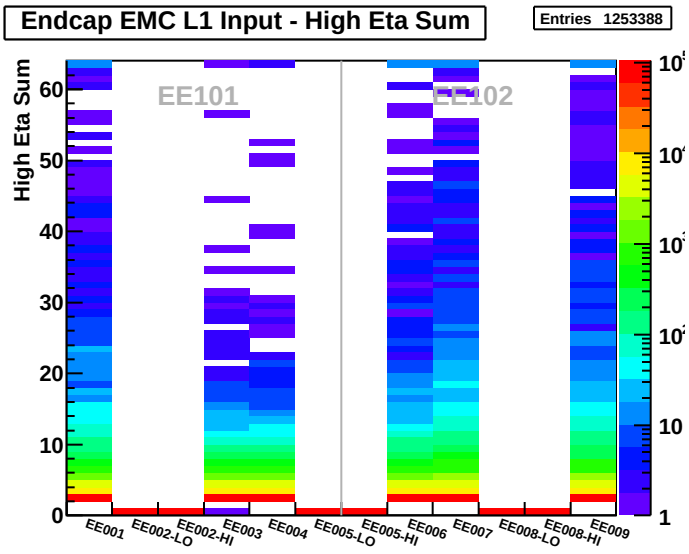

Barrel EMC L1 Input - High Eta Sum
Entries 33
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

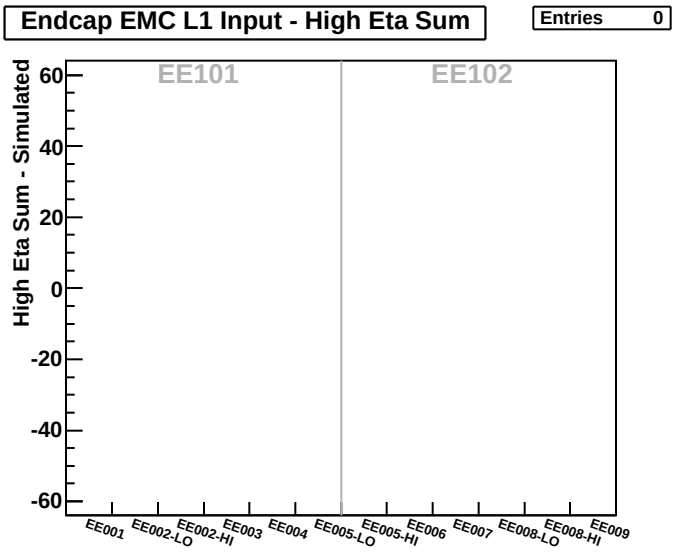

Barrel EMC L1 Input - High Tower Bits
Entries 3760164
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

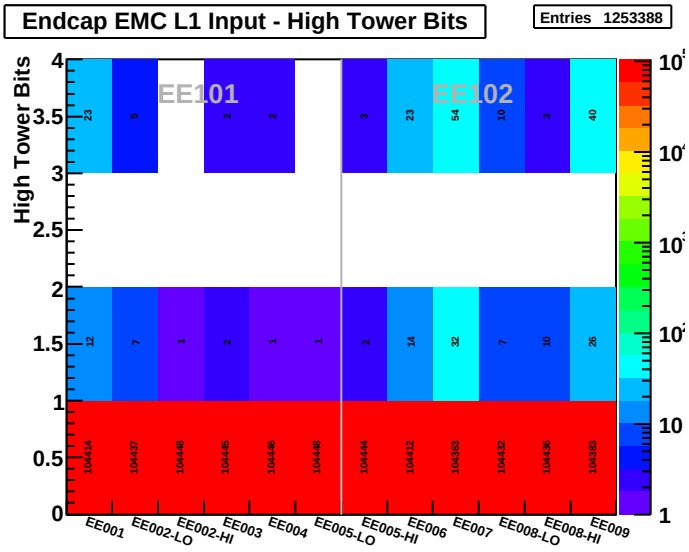

Barrel EMC L1 Input - High Tower Bits
Entries 5
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

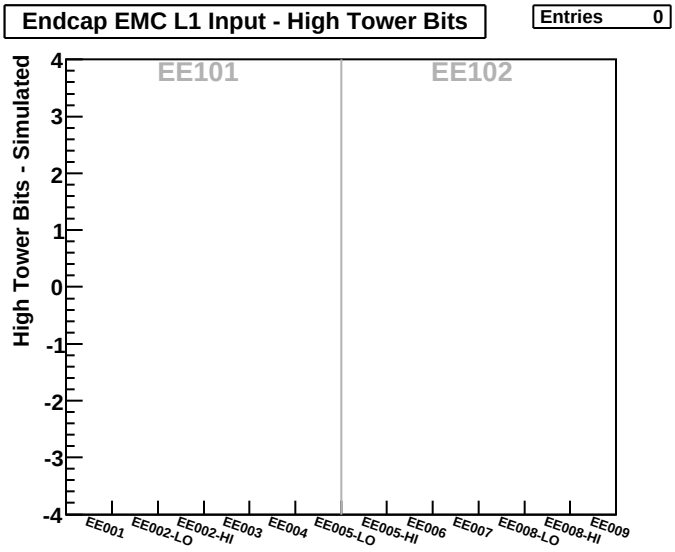

Endcap EMC L1 Input - Low Eta Sum
Entries 1253388
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

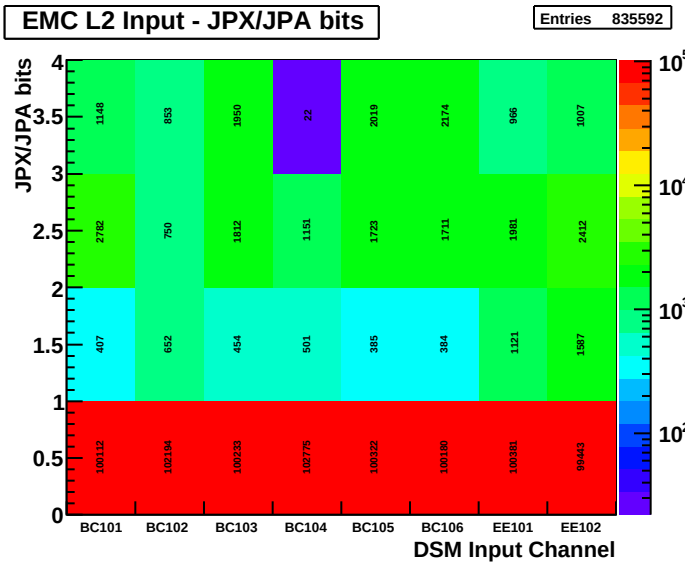

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

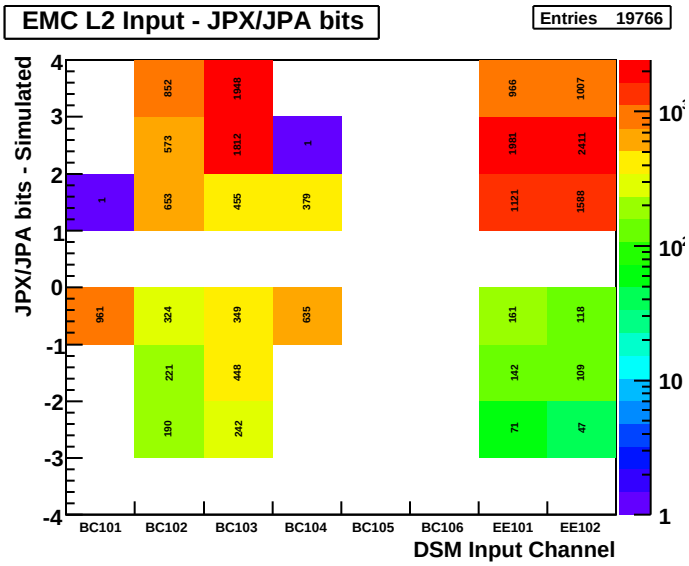

Endcap EMC L1 Input - High Eta Sum
Entries 1253388
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

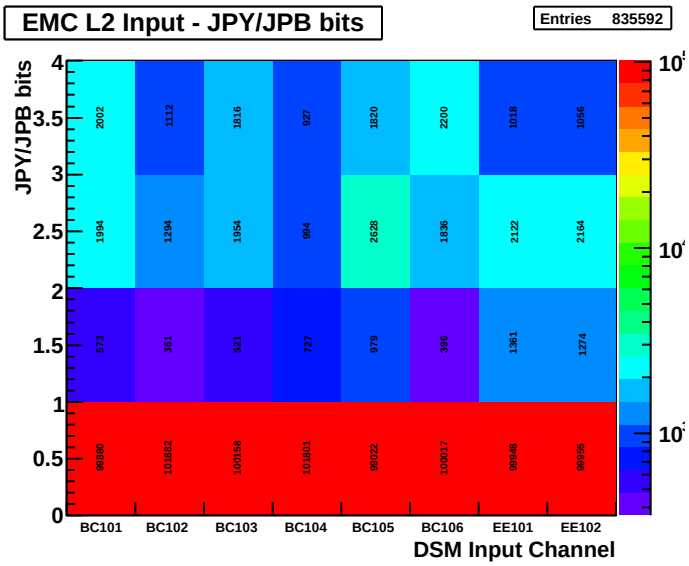

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

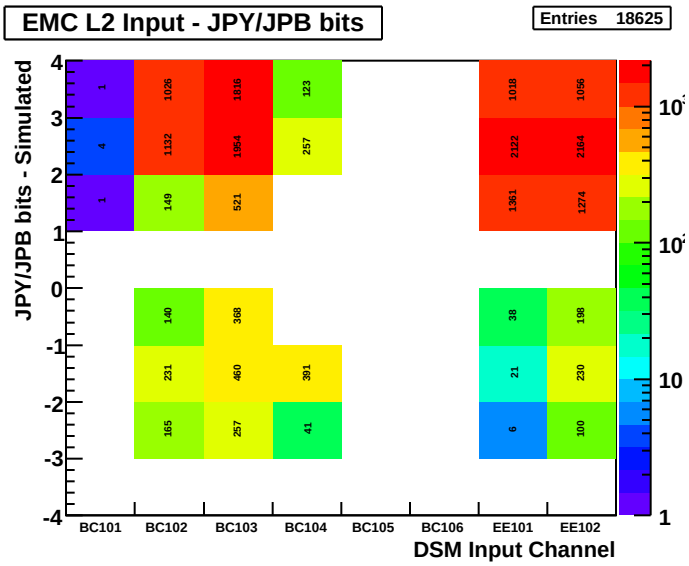

Endcap EMC L1 Input - High Tower Bits
Entries 1253388
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

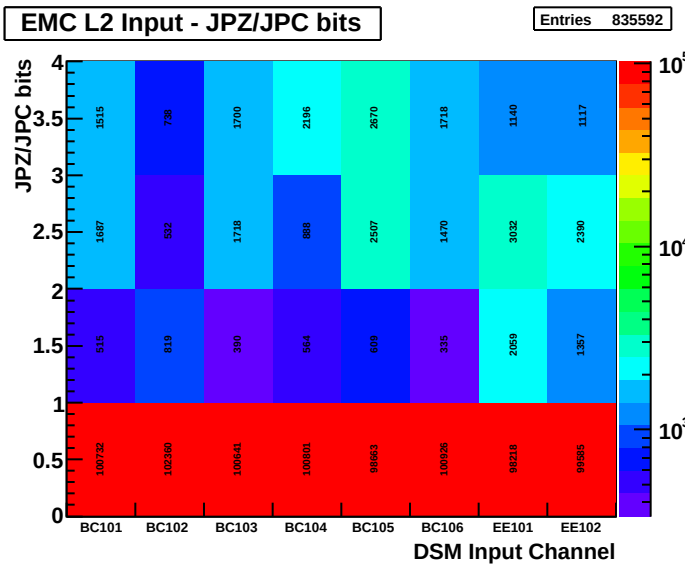

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

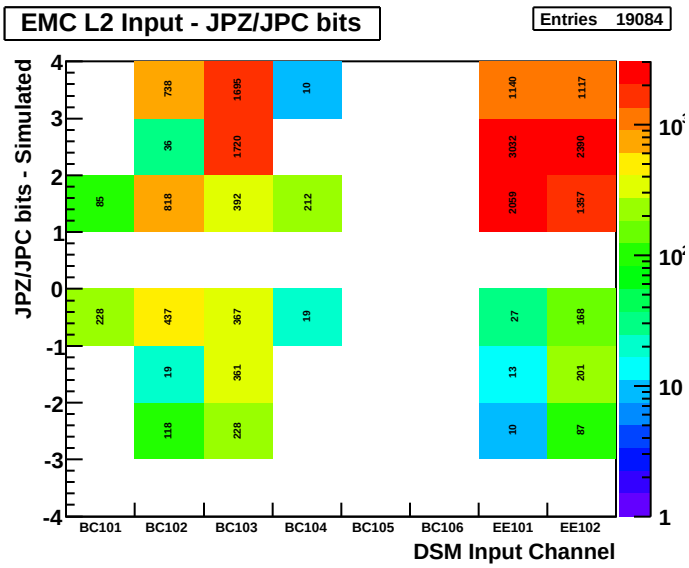

EMC L2 Input - JPX/JPA bits
Entries 835592
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

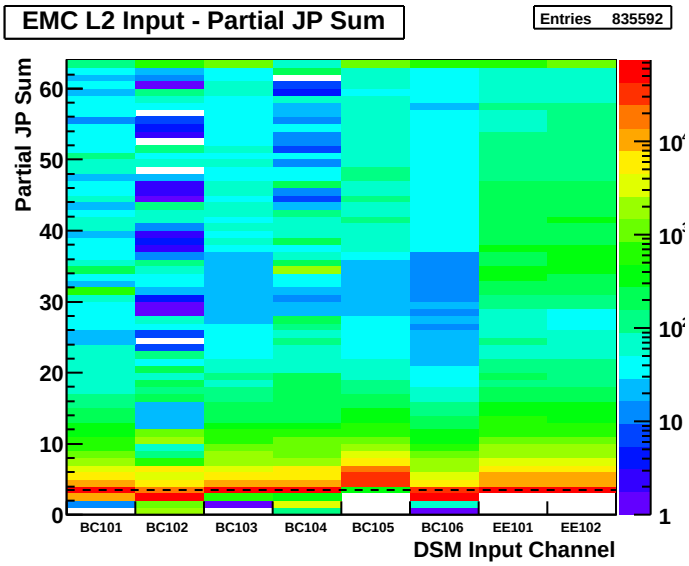

EMC L2 Input - JPX/JPA bits
Entries 19766
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

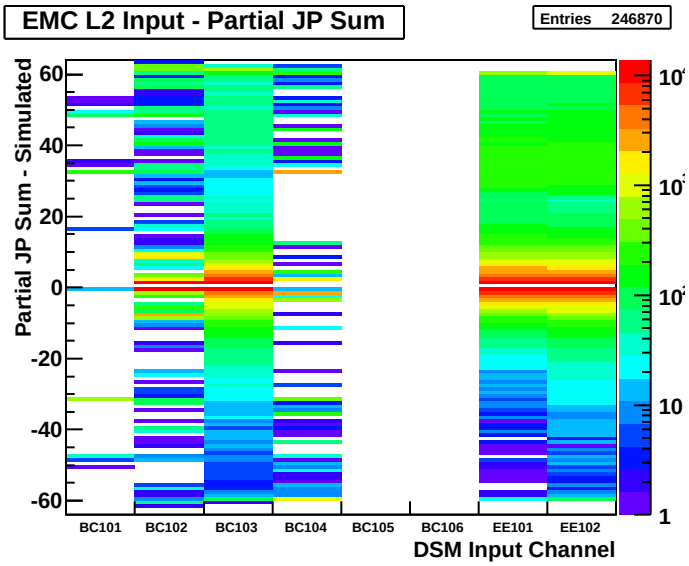

EMC L2 Input - JPY/JPB bits
Entries 835592
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

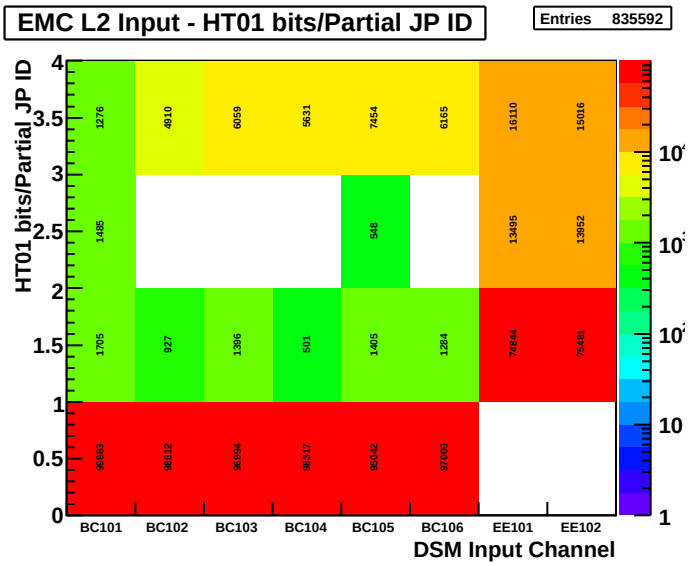

EMC L2 Input - JPY/JPB bits
Entries 18625
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

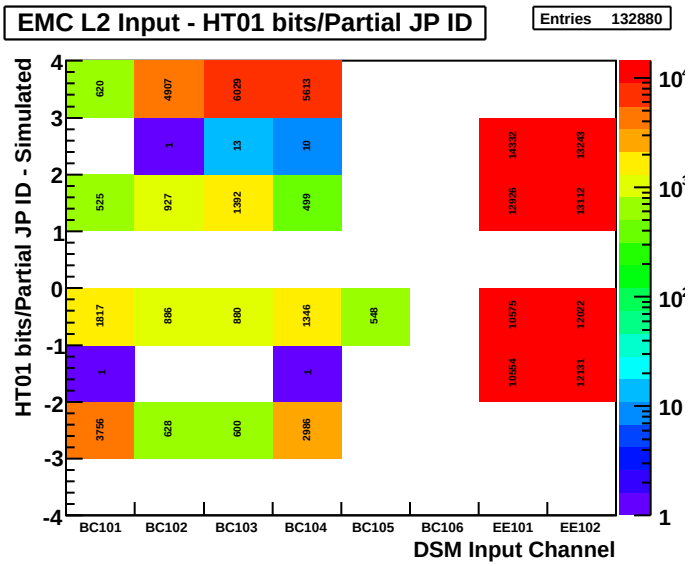

EMC L2 Input - JPZ/JPC bits
Entries 835592
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

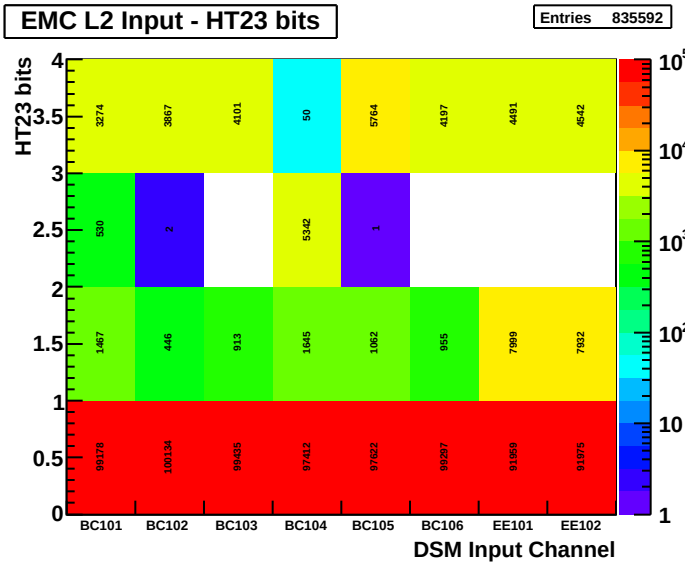

EMC L2 Input - JPZ/JPC bits
Entries 19084
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

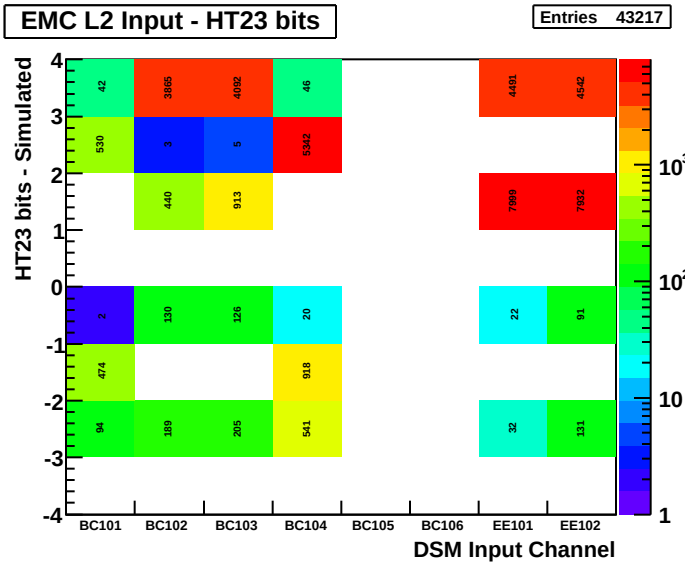

EMC L2 Input - Partial JP Sum
Entries 835592
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

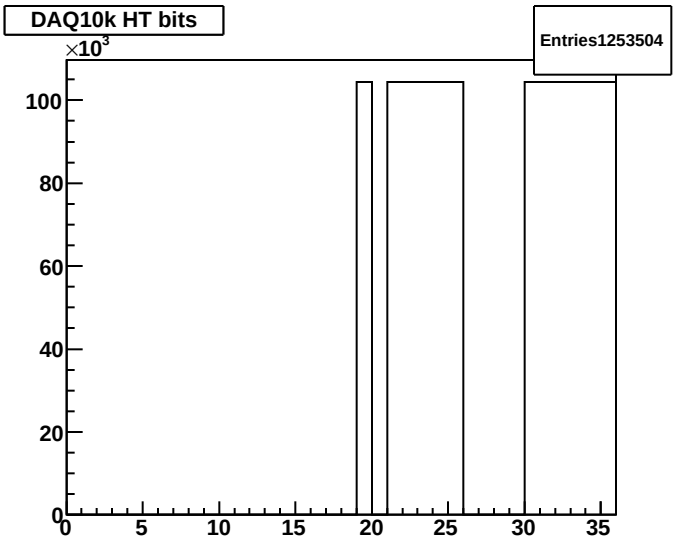

EMC L2 Input - Partial JP Sum
Entries 246870
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

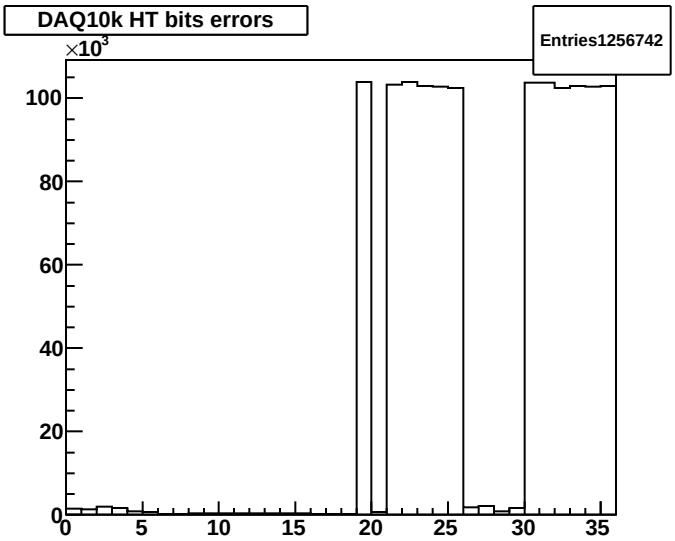

EMC L2 Input - HT01 bits/Partial JP ID
Entries 835592
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

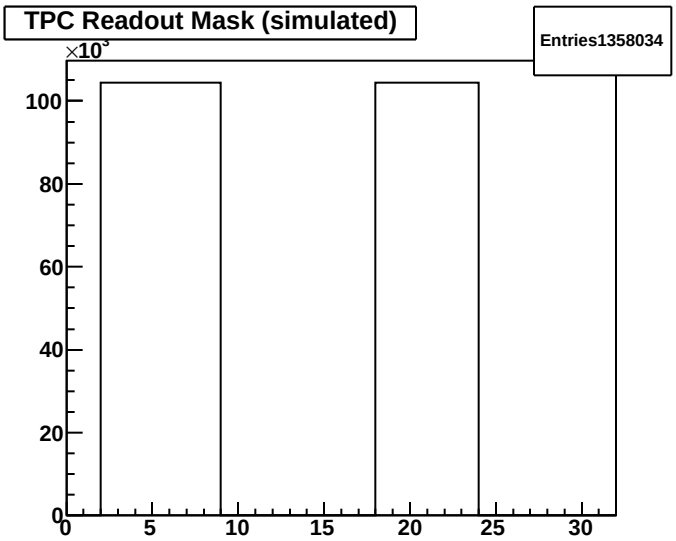

EMC L2 Input - HT01 bits/Partial JP ID
Entries 132880
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

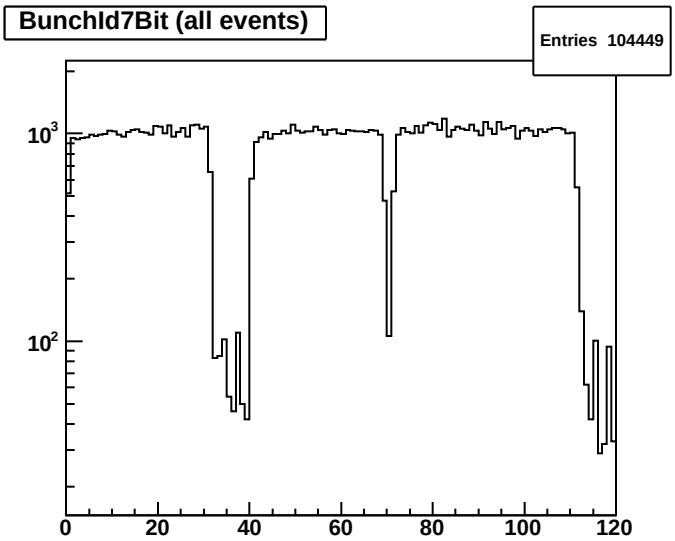

EMC L2 Input - HT23 bits
Entries 835592
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

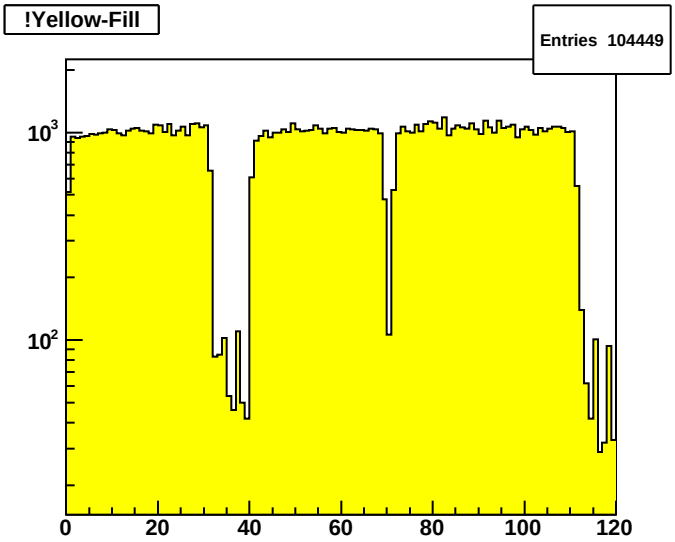

EMC L2 Input - HT23 bits
Entries 43217
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

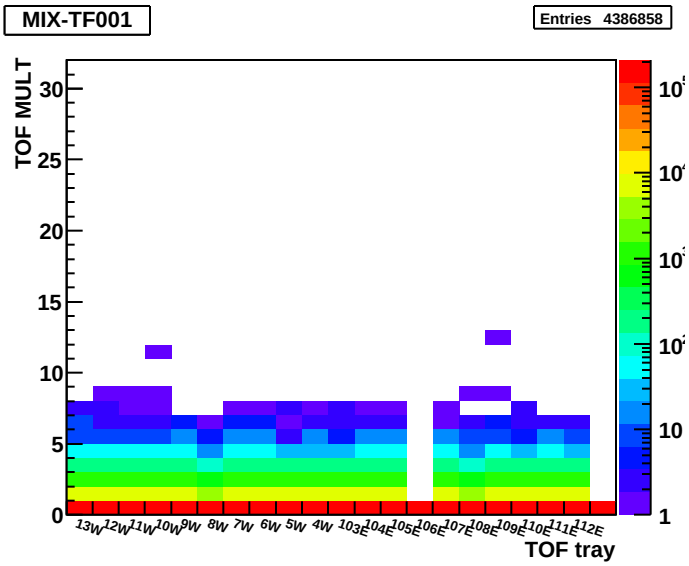

DAQ10k HT bits
Entries1253504
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

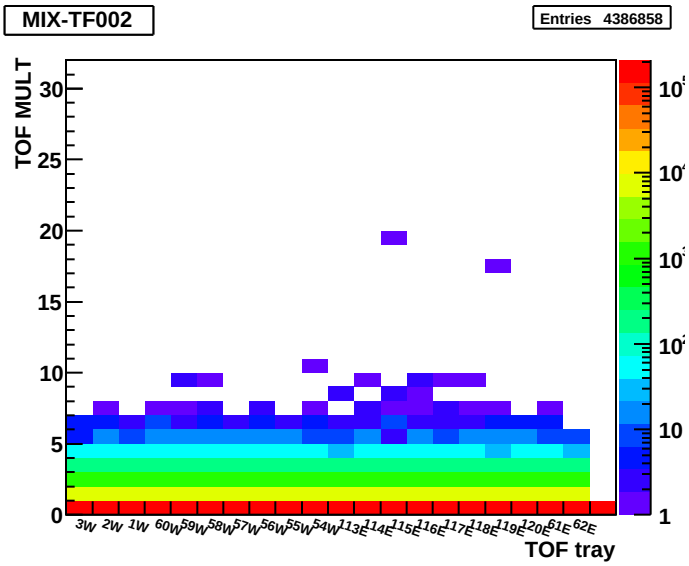

DAQ10k HT bits errors
Entries1256742
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

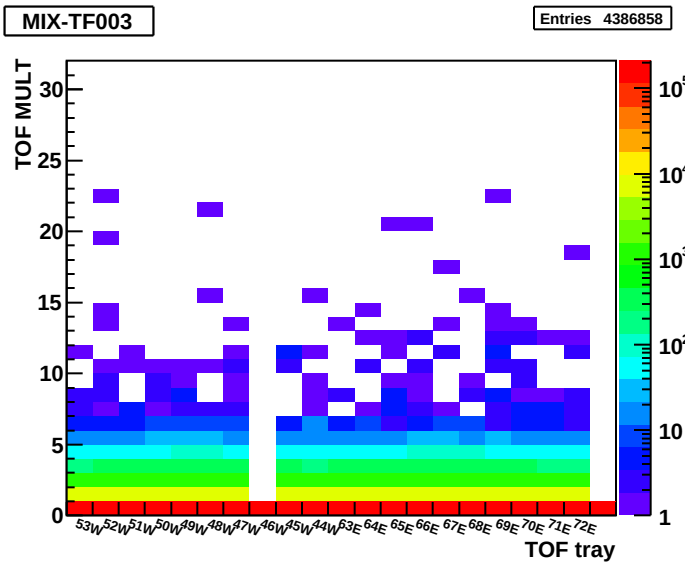

TPC Readout Mask (simulated)
Entries1358034
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30

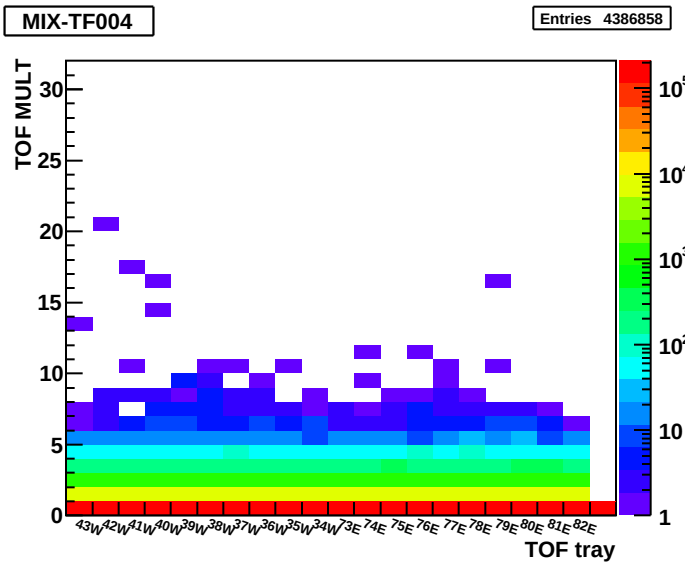

BunchId7Bit (all events)
Entries 104449
10^3
10^2
0 20 40 60 80 100 120

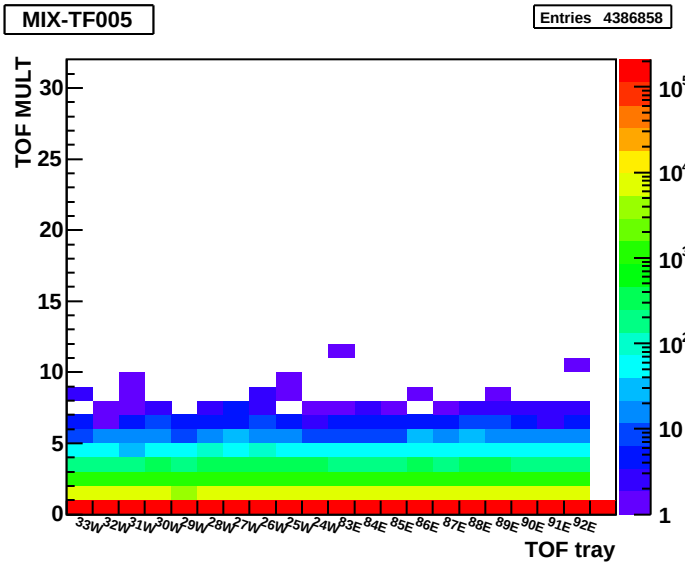

!Yellow-Fill
Entries 104449
10^3
10^2
0 20 40 60 80 100 120

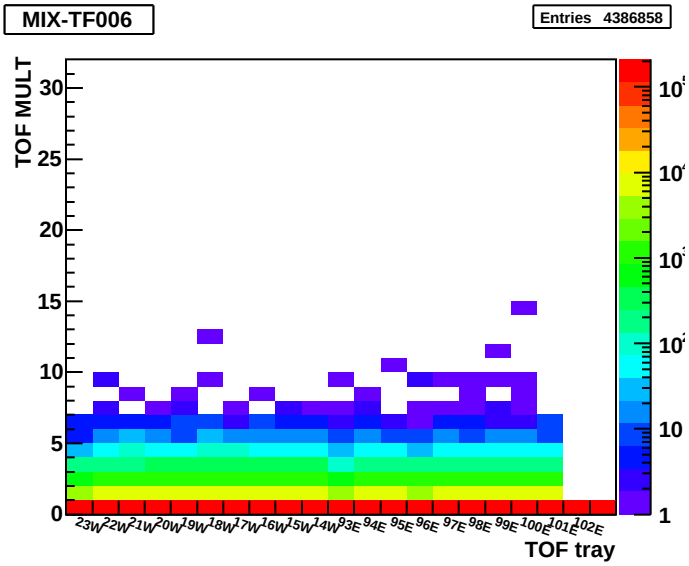

MIX-TF001
Entries 4386858
TOF MULT
TOF tray

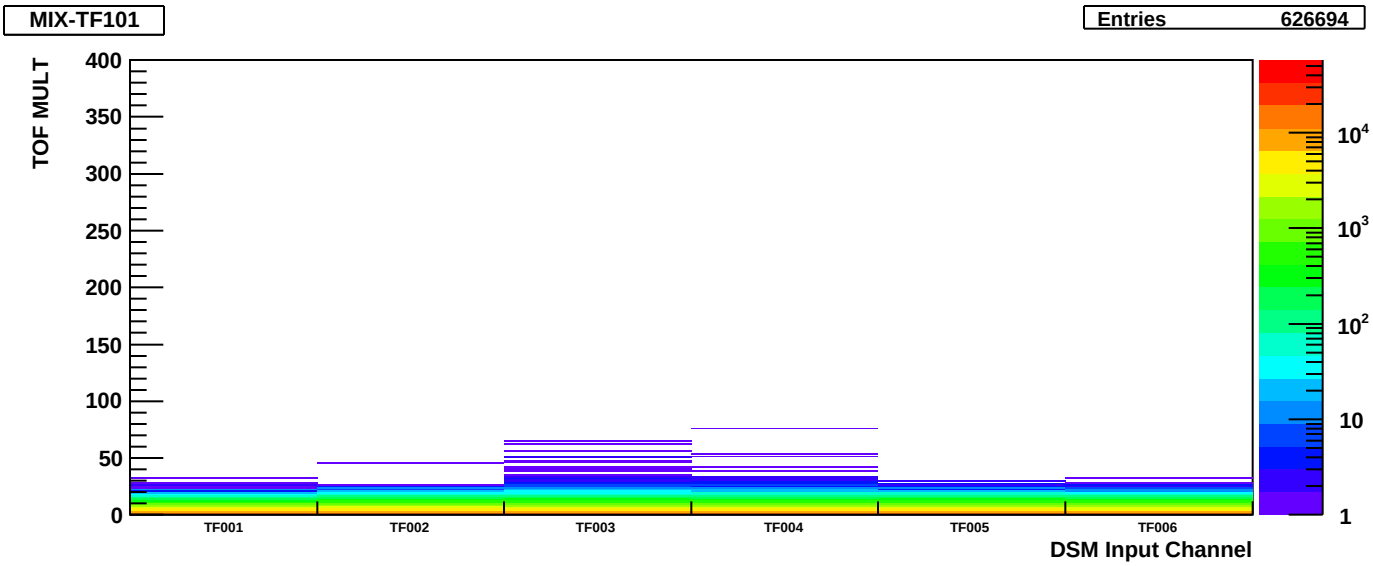

MIX-TF002
Entries 4386858
TOF MULT
TOF tray

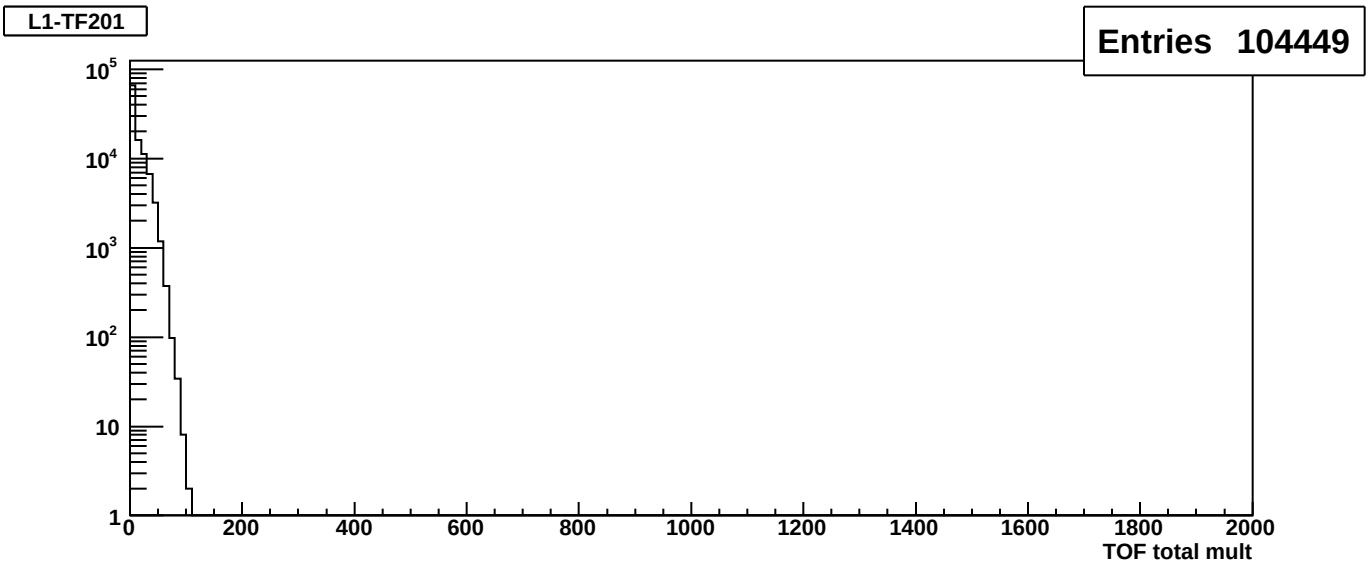

MIX-TF003
Entries 4386858
TOF MULT
TOF tray

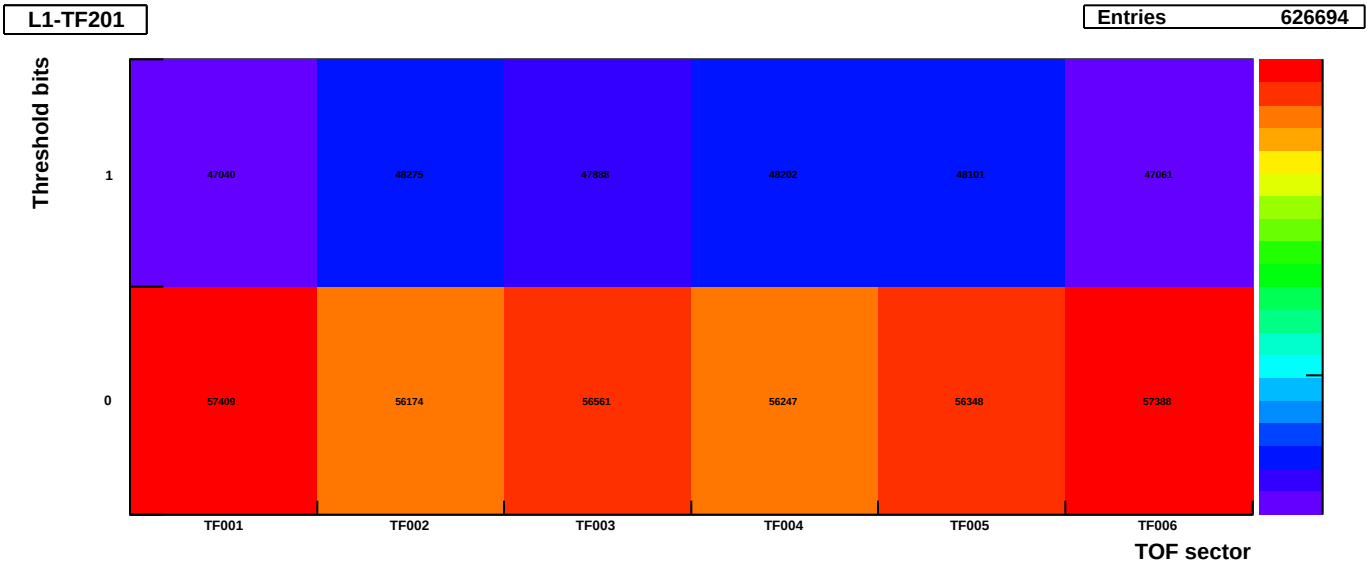

MIX-TF004
Entries 4386858
TOF MULT
TOF tray

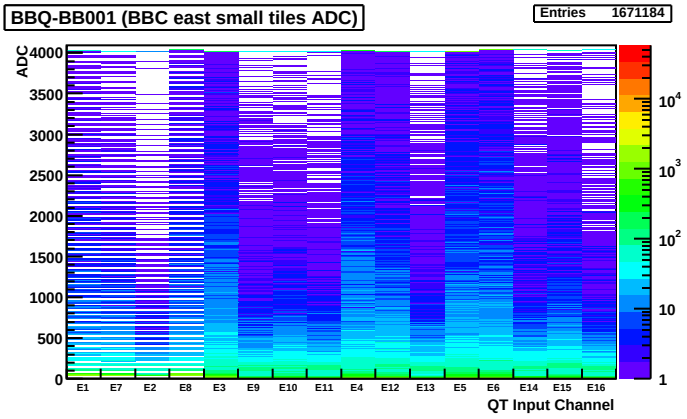

MIX-TF005
Entries 4386858
TOF MULT
TOF tray

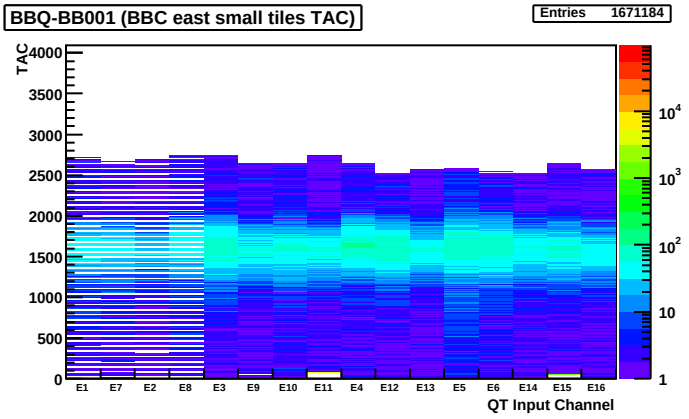

MIX-TF006
Entries 4386858
TOF MULT
TOF tray

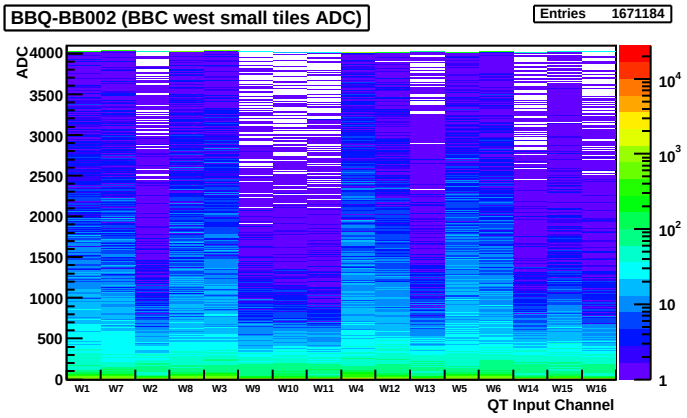

MIX-TF101
Entries 626694
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

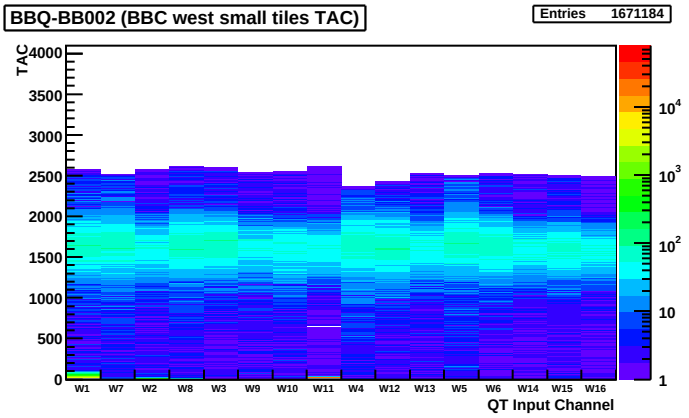

L1-TF201
Entries 104449
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

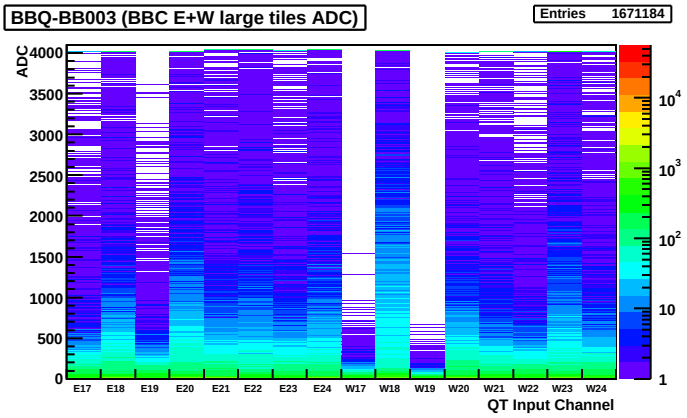

L1-TF201
Entries 626694
Threshold bits
1
0
47040
48275
47888
48202
48101
47061
57409
56174
56561
56247
56348
57388
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

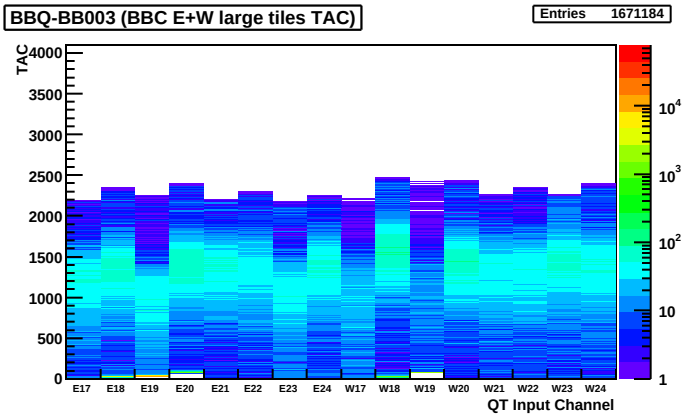

BBQ-BB001 (BBC east small tiles ADC)
Entries 1671184
ADC
QT Input Channel

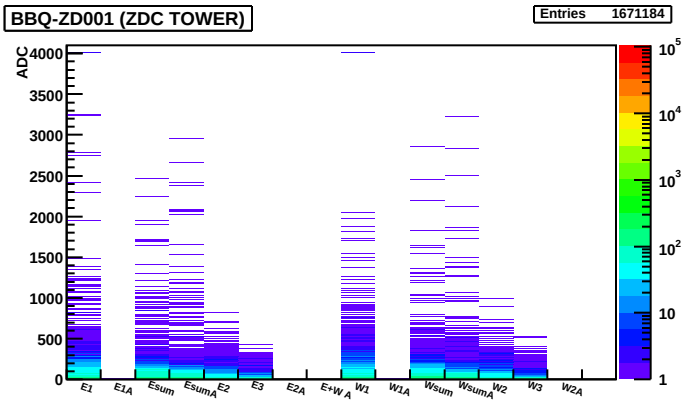

BBQ-BB001 (BBC east small tiles TAC)
Entries 1671184
TAC
QT Input Channel

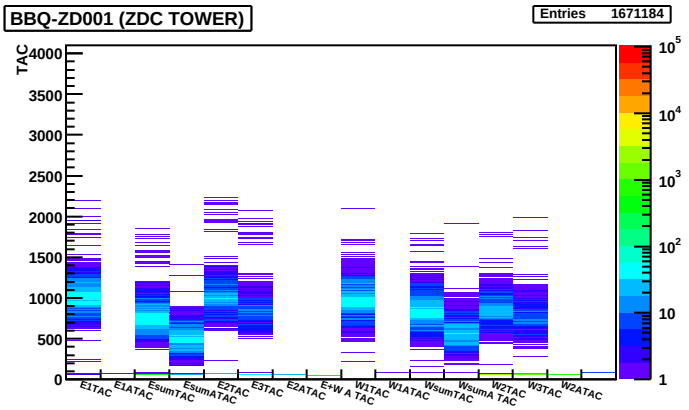

BBQ-BB002 (BBC west small tiles ADC)
Entries 1671184
ADC
QT Input Channel

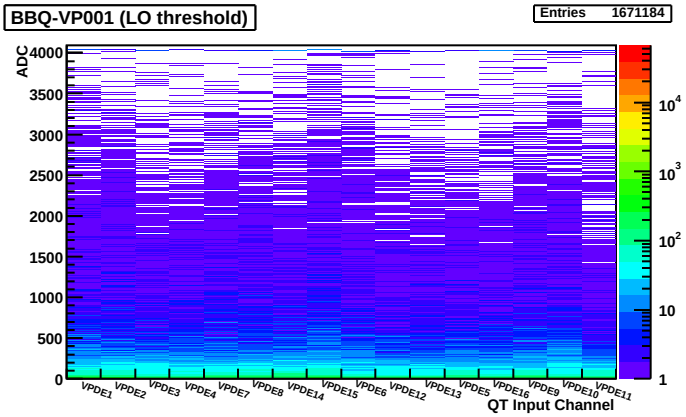

BBQ-BB002 (BBC west small tiles TAC)
Entries 1671184
TAC
QT Input Channel

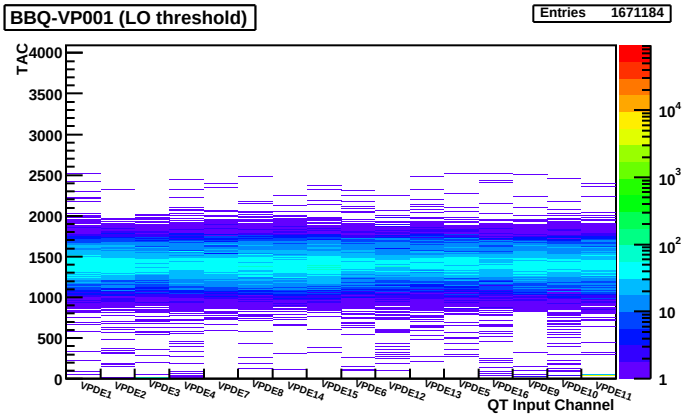

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1671184
ADC
QT Input Channel

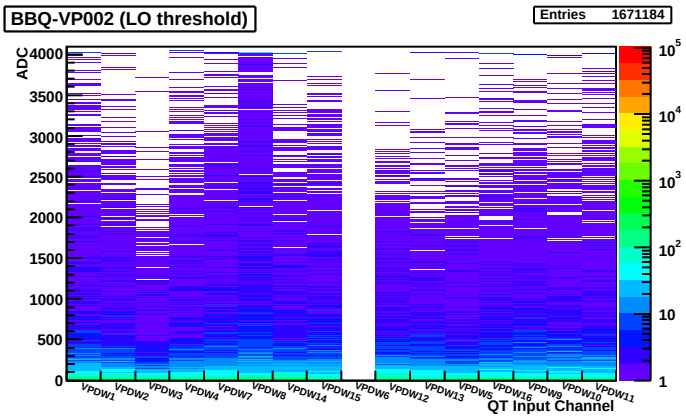

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1671184
TAC
QT Input Channel

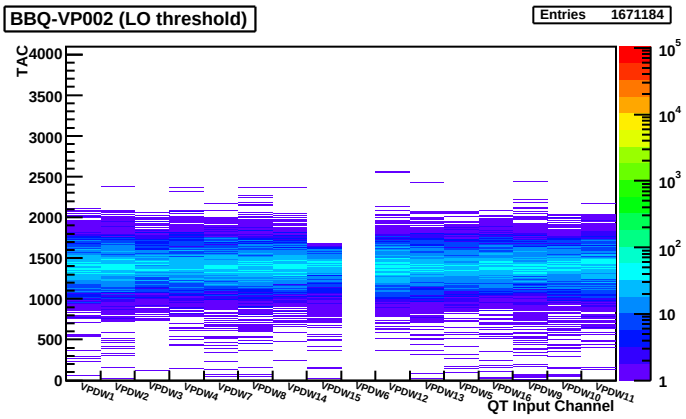

BBQ-ZD001 (ZDC TOWER)
Entries 1671184
ADC

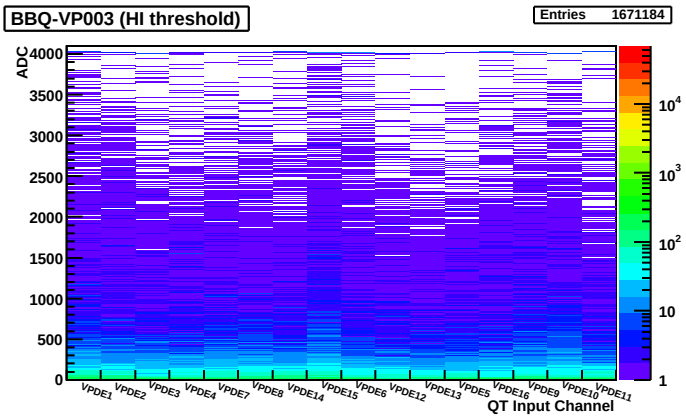

BBQ-ZD001 (ZDC TOWER)
Entries 1671184
TAC

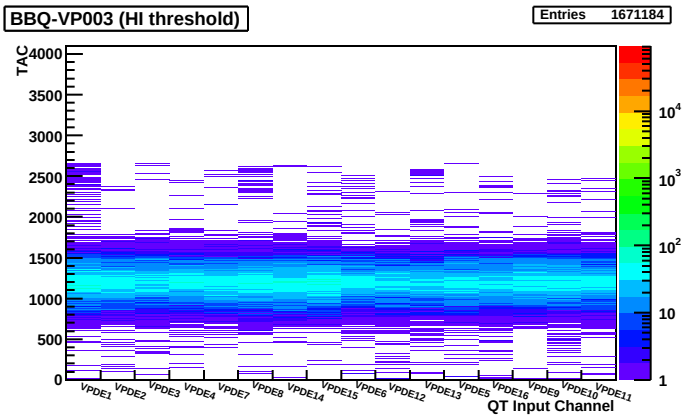

BBQ-VP001 (LO threshold)
Entries 1671184
ADC
QT Input Channel

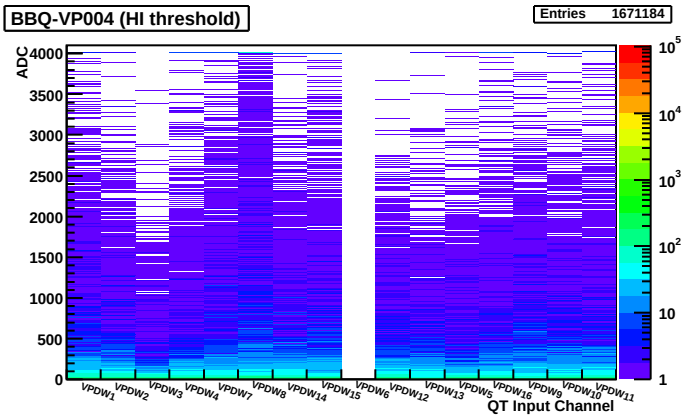

BBQ-VP001 (LO threshold)
Entries 1671184
TAC
QT Input Channel

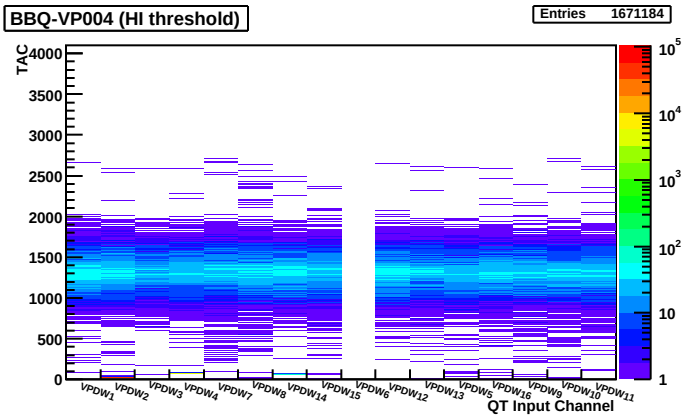

BBQ-VP002 (LO threshold)
Entries 1671184
ADC
QT Input Channel

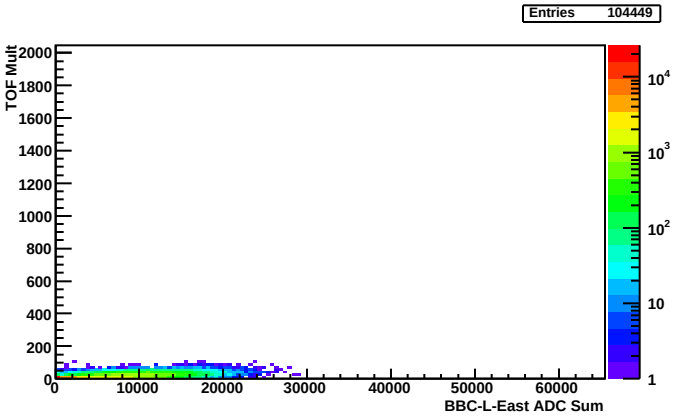

BBQ-VP002 (LO threshold)
Entries 1671184
TAC
QT Input Channel

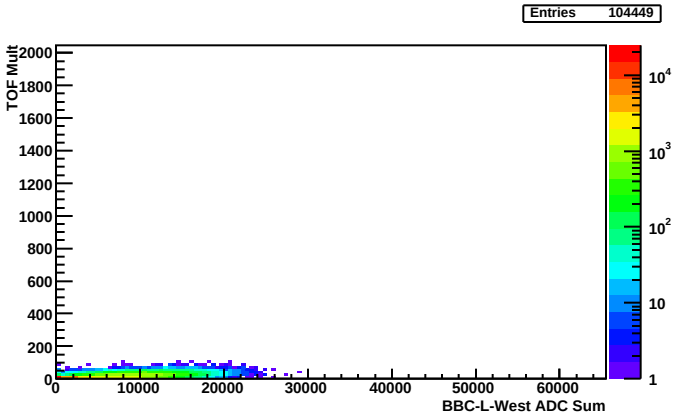

BBQ-VP003 (HI threshold)
Entries 1671184
ADC
QT Input Channel

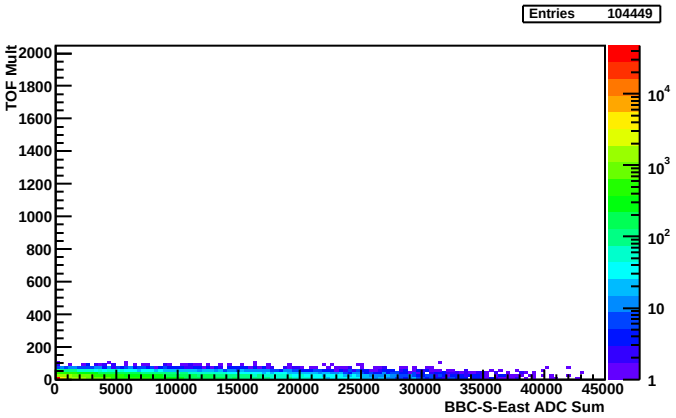

BBQ-VP003 (HI threshold)
Entries 1671184
TAC
QT Input Channel

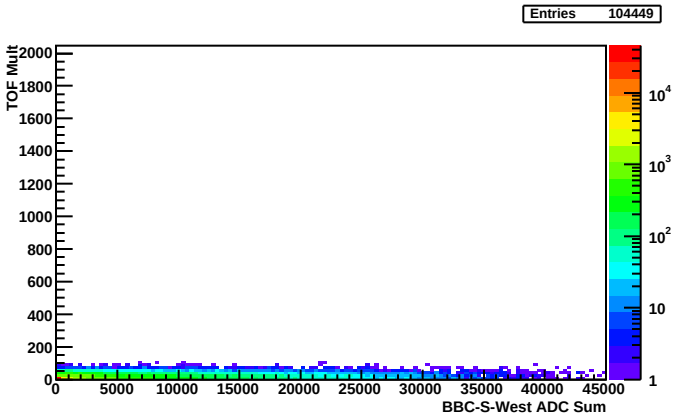

BBQ-VP004 (HI threshold)
Entries 1671184
ADC
QT Input Channel

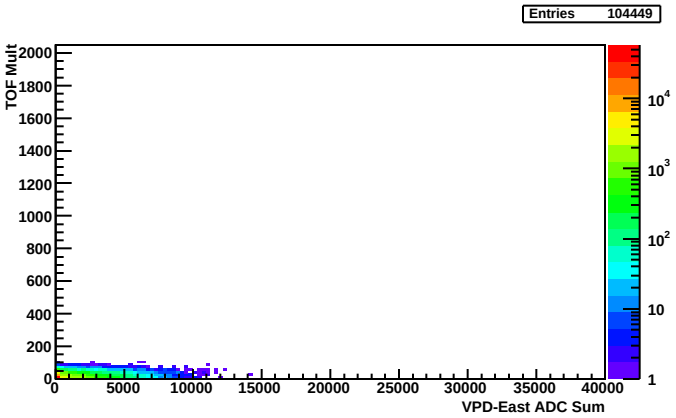

BBQ-VP004 (HI threshold)
Entries 1671184
TAC
QT Input Channel

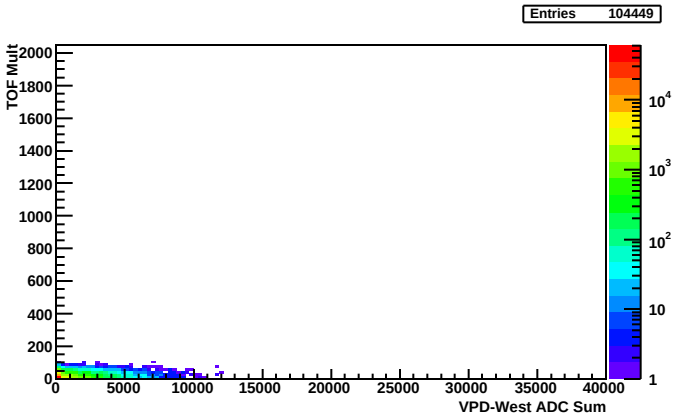

Entries 104449
TOF Mult
BBC-L-East ADC Sum

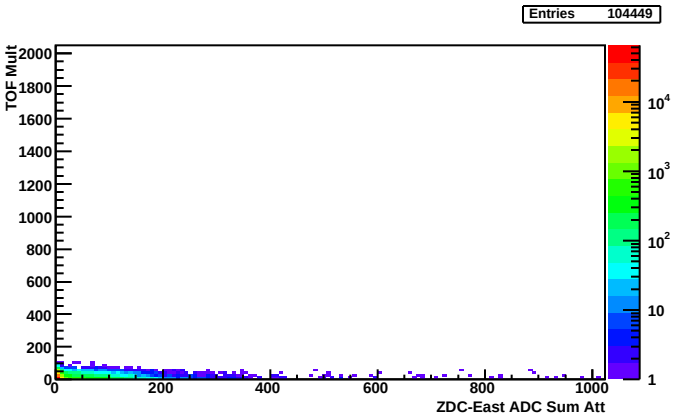

Entries 104449
TOF Mult
BBC-L-West ADC Sum

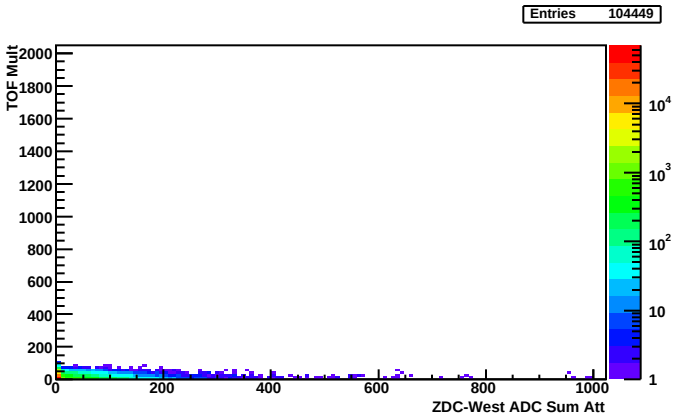

Entries 104449
TOF Mult
BBC-S-East ADC Sum

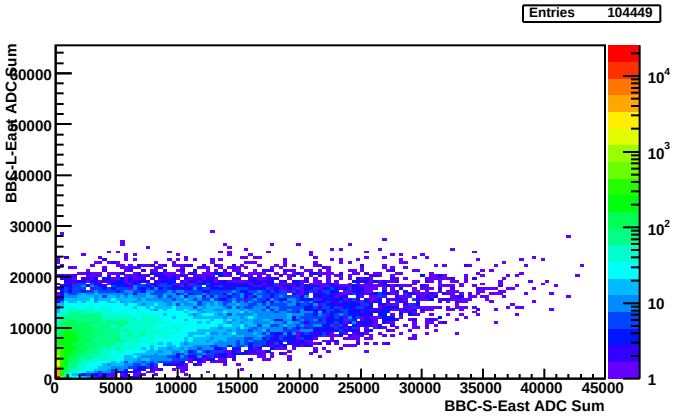

Entries 104449
TOF Mult
BBC-S-West ADC Sum

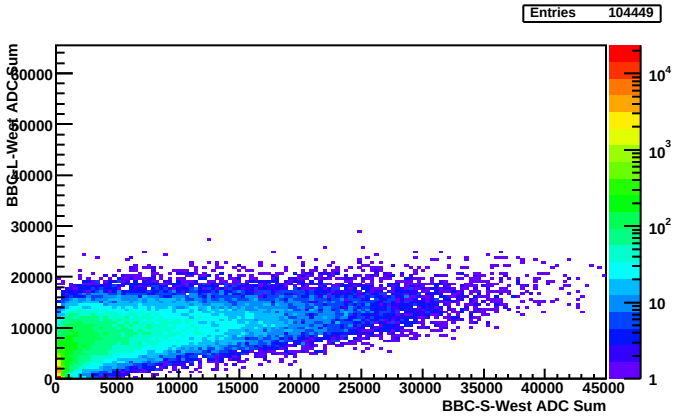

Entries 104449
TOF Mult
VPD-East ADC Sum

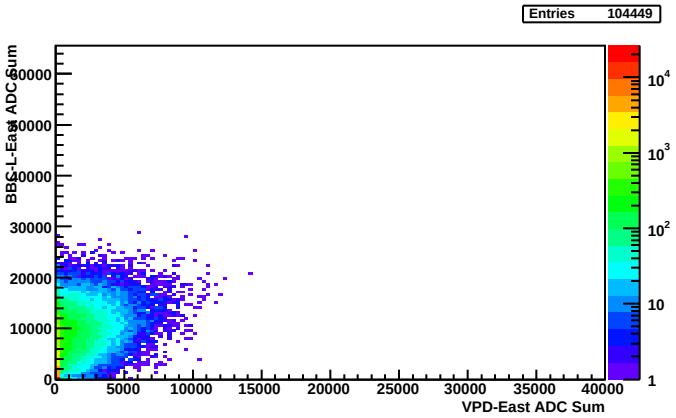

Entries 104449
TOF Mult
VPD-West ADC Sum

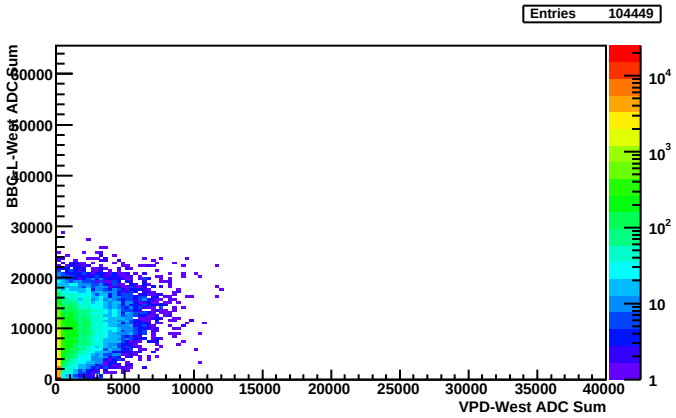

Entries 104449
TOF Mult
ZDC-East ADC Sum Att

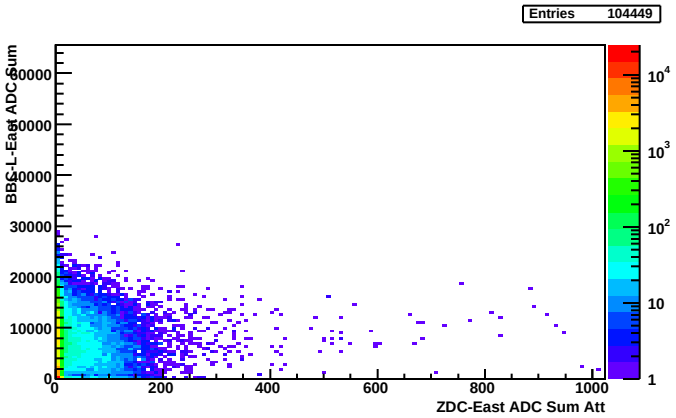

Entries 104449
TOF Mult
ZDC-West ADC Sum Att

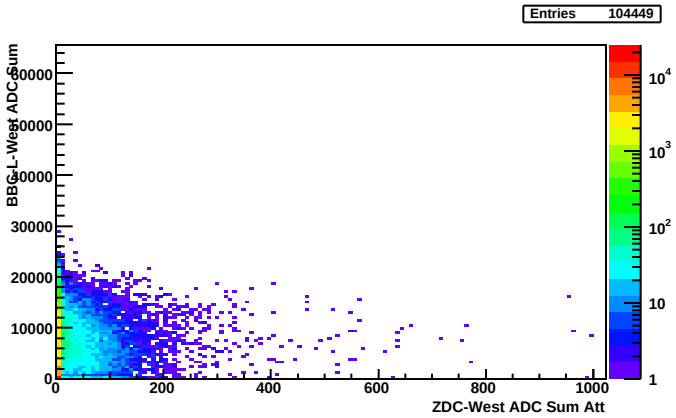

Entries 104449
BBC-L-East ADC Sum
BBC-S-East ADC Sum

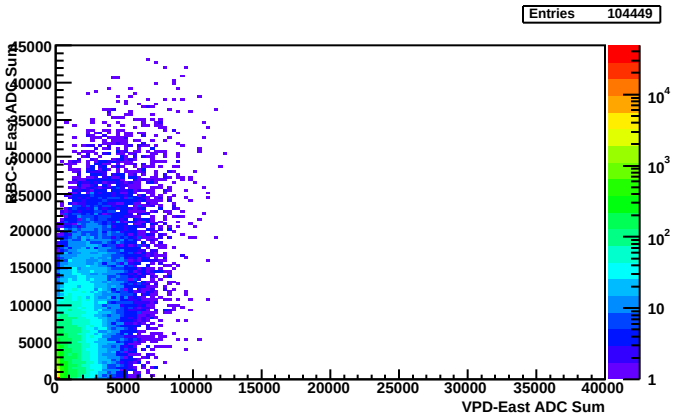

Entries 104449
BBC-L-West ADC Sum
BBC-S-West ADC Sum

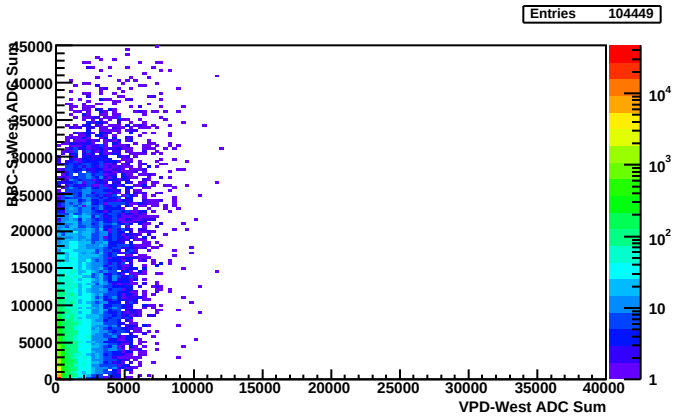

Entries 104449
BBC-L-East ADC Sum
VPD-East ADC Sum

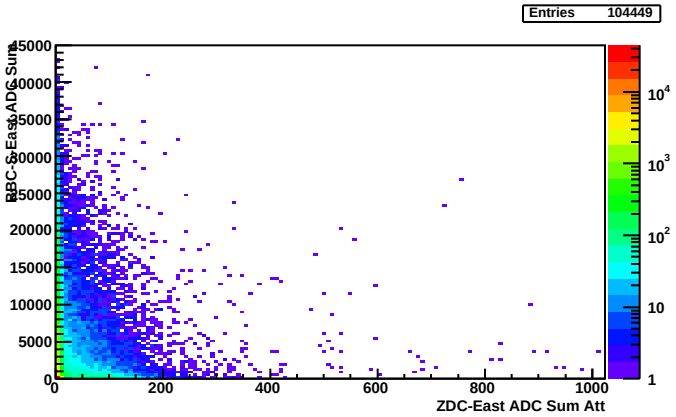

Entries 104449
BBC-L-West ADC Sum
VPD-West ADC Sum

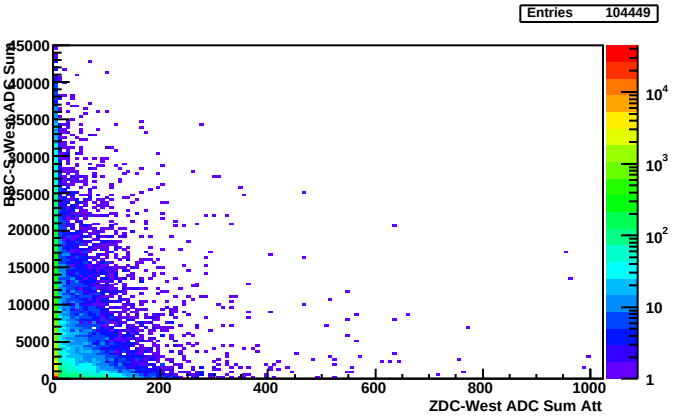

Entries 104449
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

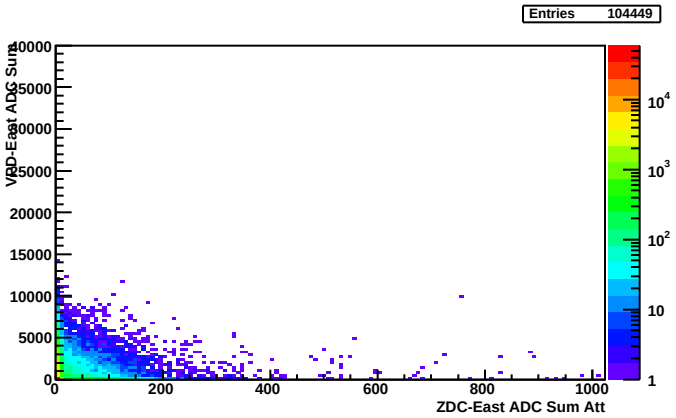

Entries 104449
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

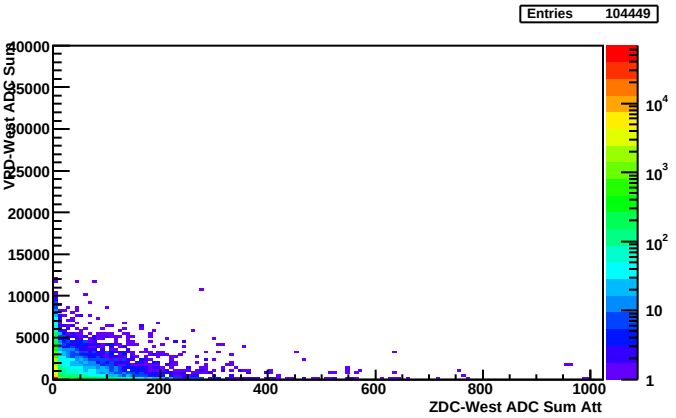

Entries 104449
BBC-S-East ADC Sum
VPD-East ADC Sum

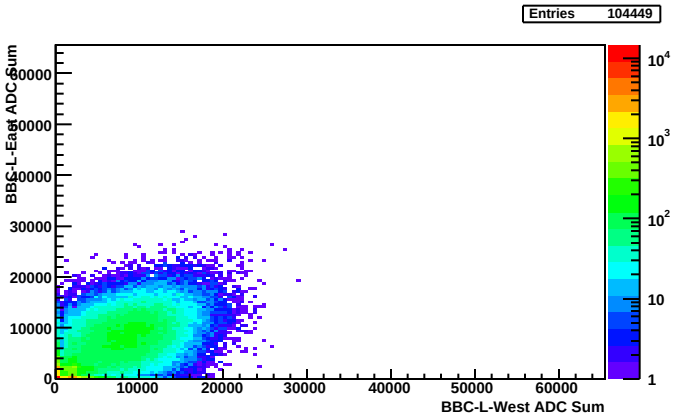

Entries 104449
BBC-S-West ADC Sum
VPD-West ADC Sum

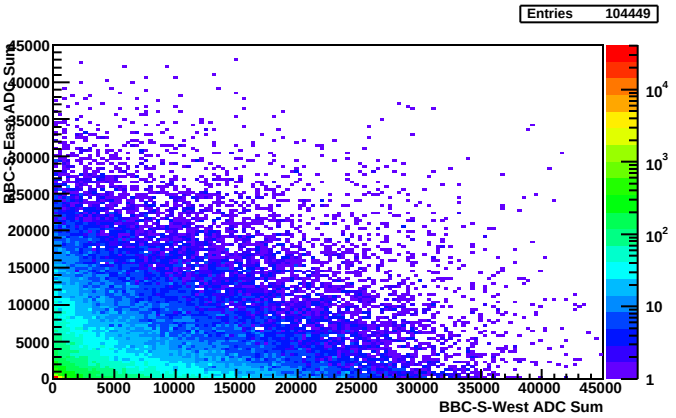

Entries 104449
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

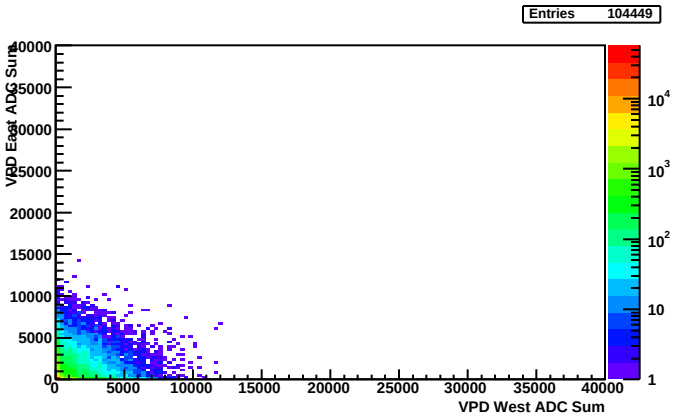

Entries 104449
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

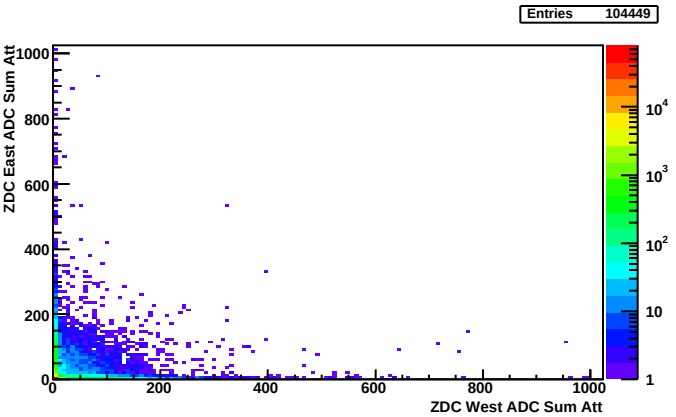

Entries 104449
VPD-East ADC Sum
ZDC-East ADC Sum Att

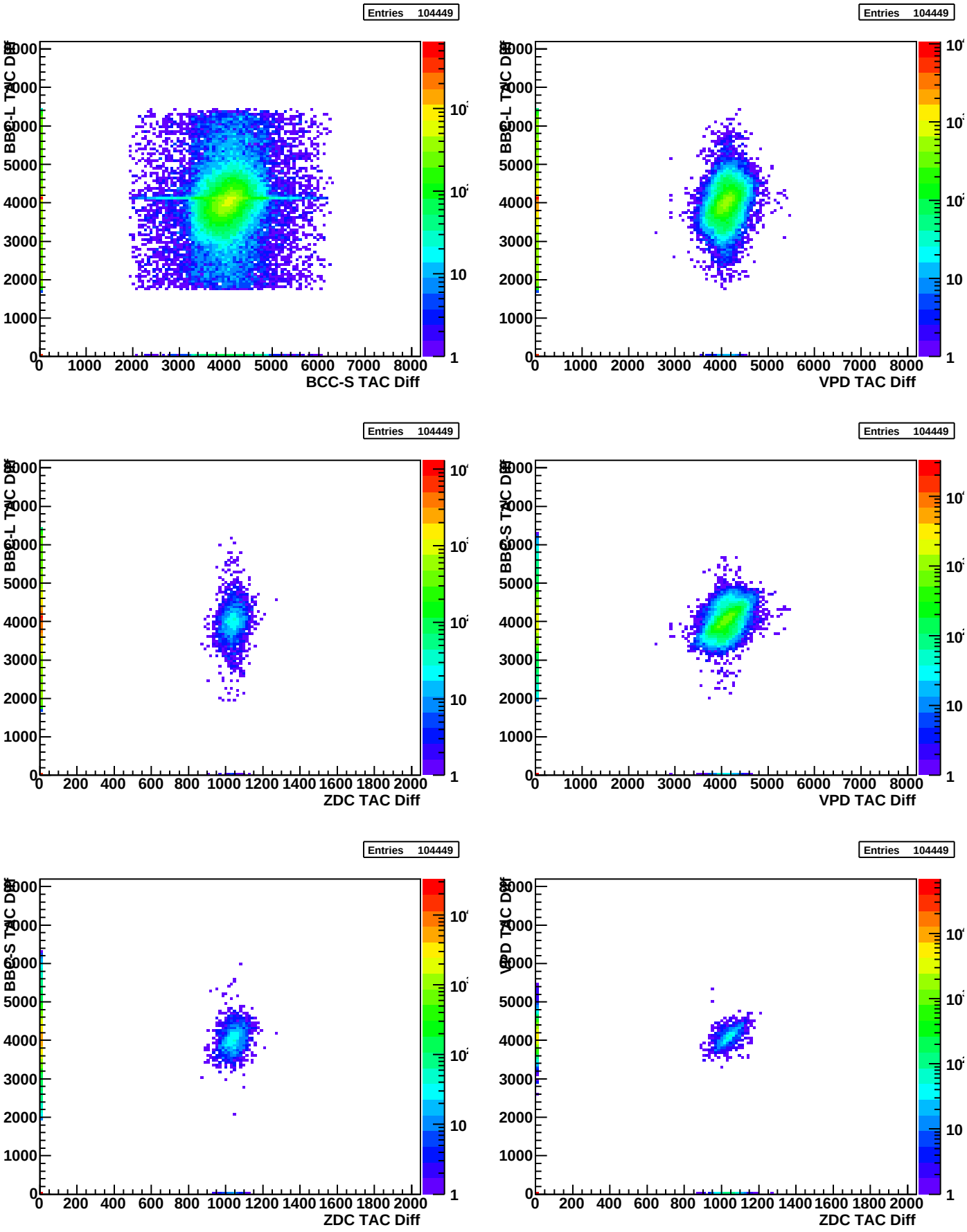

Entries 104449
VPD-West ADC Sum
ZDC-West ADC Sum Att

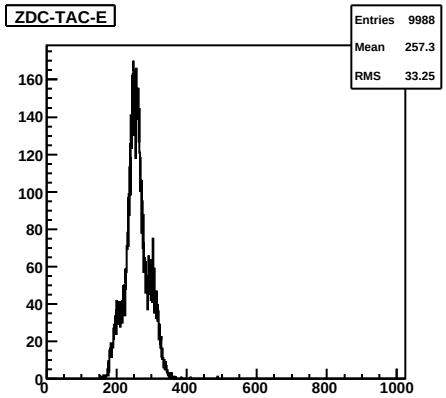

Entries 104449
BBC-L-East ADC Sum
BBC-L-West ADC Sum

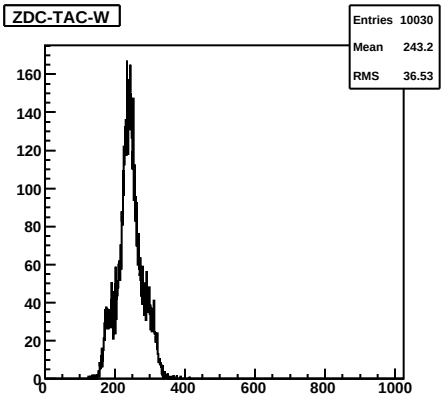

Entries 104449
BBC-S-East ADC Sum
BBC-S-West ADC Sum

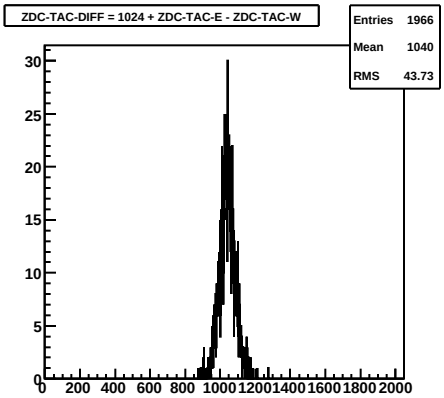

Entries 104449
VPD East ADC Sum
VPD West ADC Sum

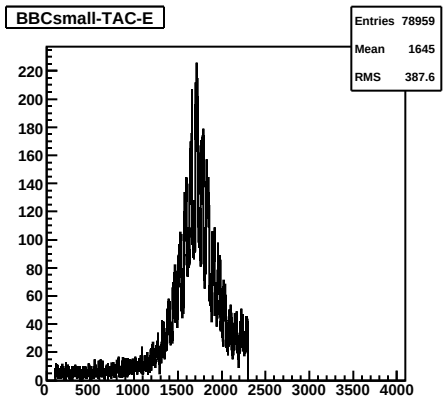

Entries 104449
ZDC East ADC Sum Att
ZDC West ADC Sum Att

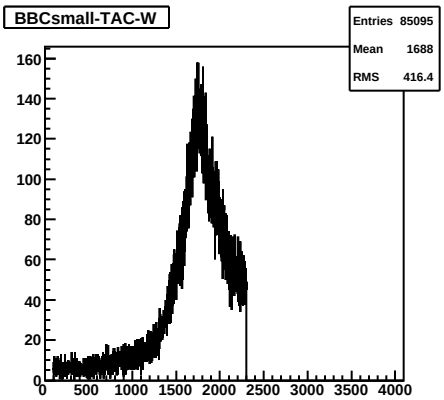

Entries 104449
BBC-L TAC Diff
BCC-S TAC Diff
VPD TAC Diff
ZDC TAC Diff
BBC-S TAC Diff
VPD TAC Diff
ZDC TAC Diff

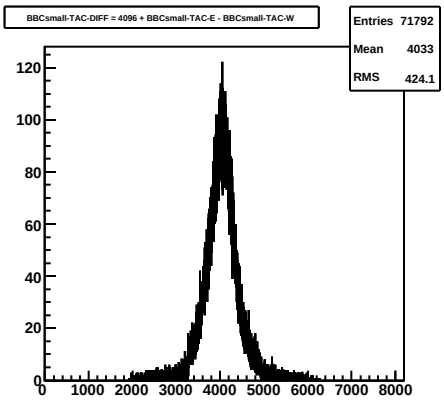

ZDC-TAC-E
Entries 9988
Mean 257.3
RMS 33.25

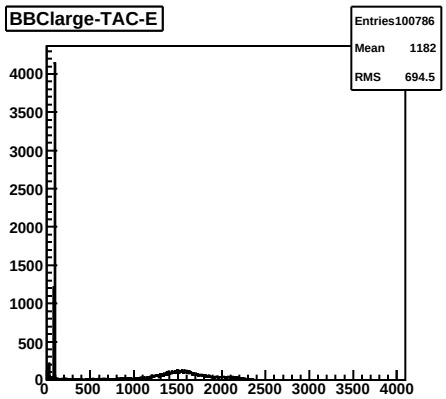

ZDC-TAC-W
Entries 10030
Mean 243.2
RMS 36.53

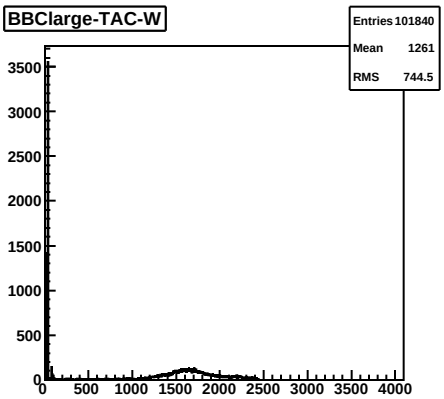

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 1966
Mean 1040
RMS 43.73

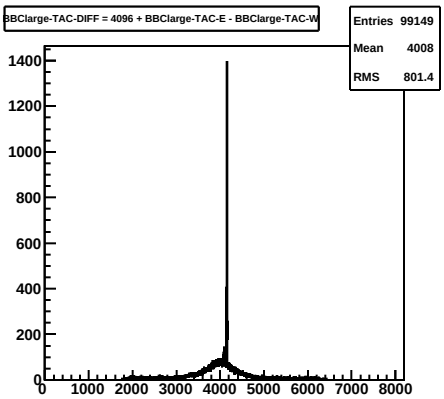

BBCsmall-TAC-E
Entries 78959
Mean 1645
RMS 387.6

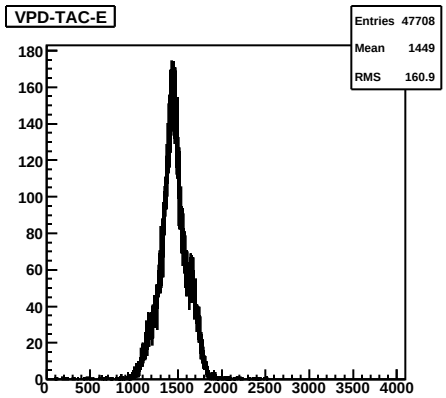

BBCsmall-TAC-W
Entries 85095
Mean 1688
RMS 416.4

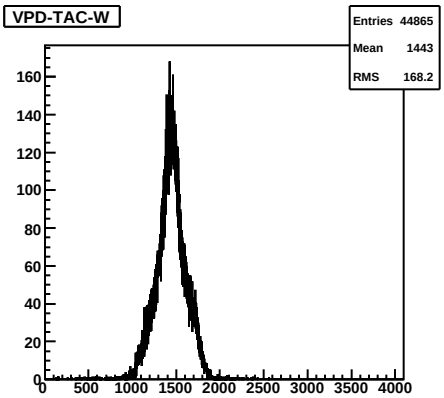

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 71792
Mean 4033
RMS 424.1

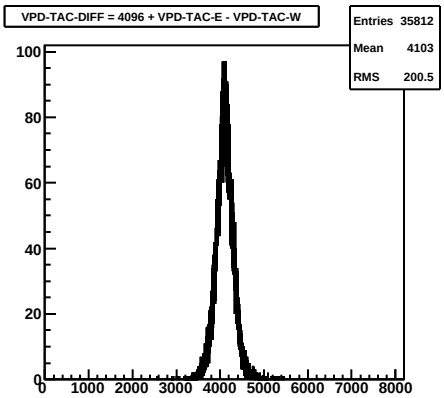

BBClarge-TAC-E
Entries 100786
Mean 1182
RMS 694.5

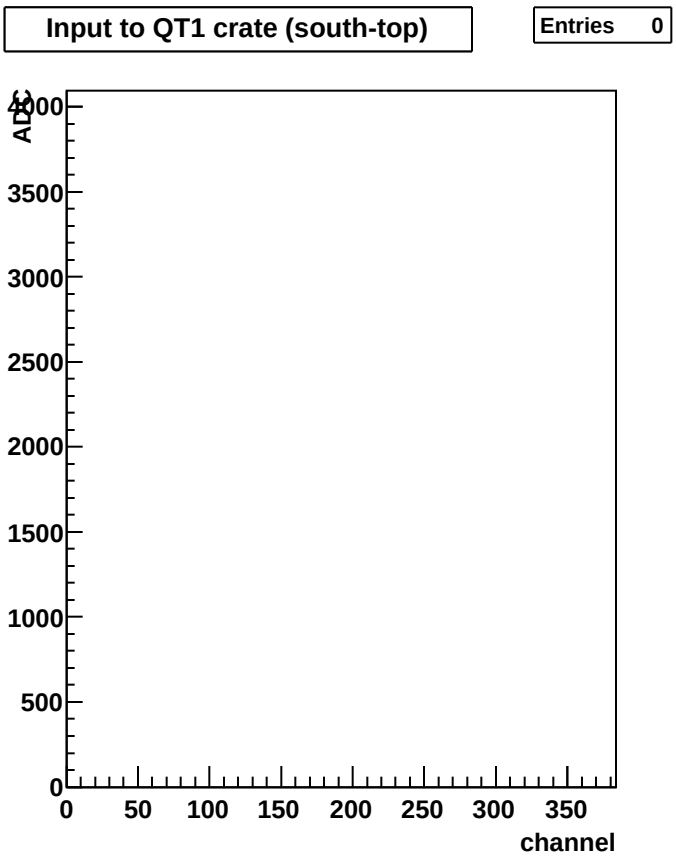

BBClarge-TAC-W
Entries 101840
Mean 1261
RMS 744.5

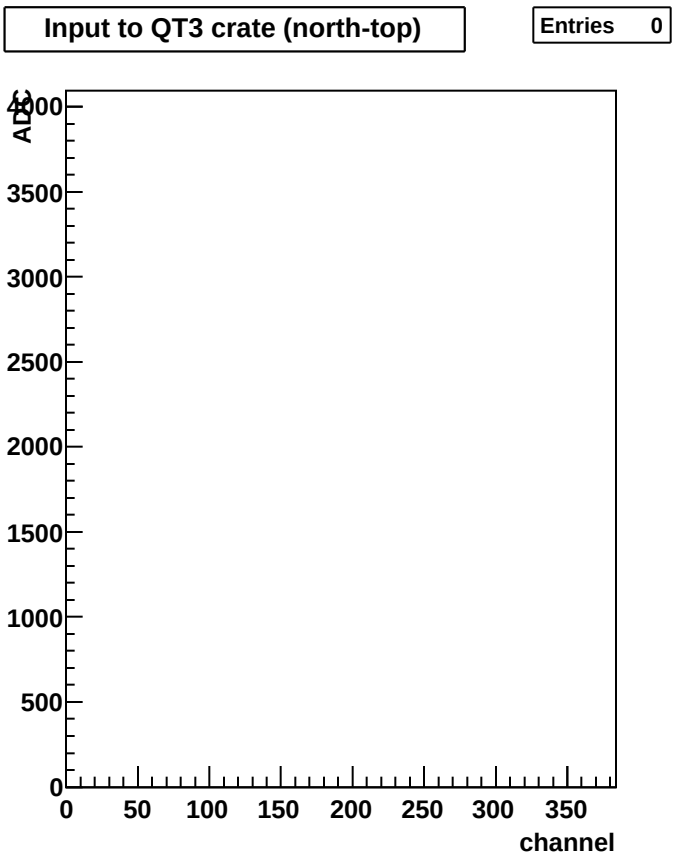

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 99149
Mean 4008
RMS 801.4

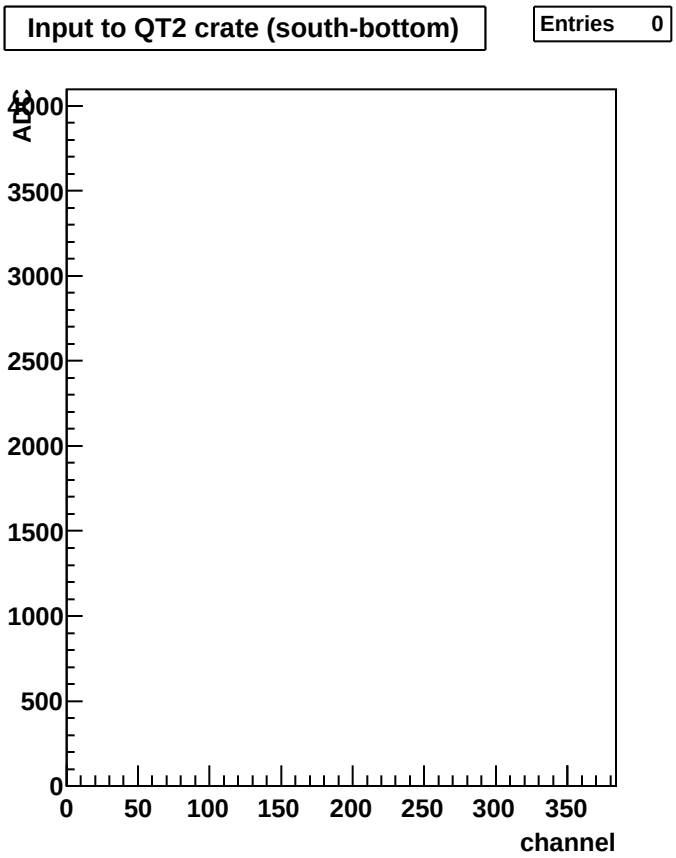

VPD-TAC-E
Entries 47708
Mean 1449
RMS 160.9

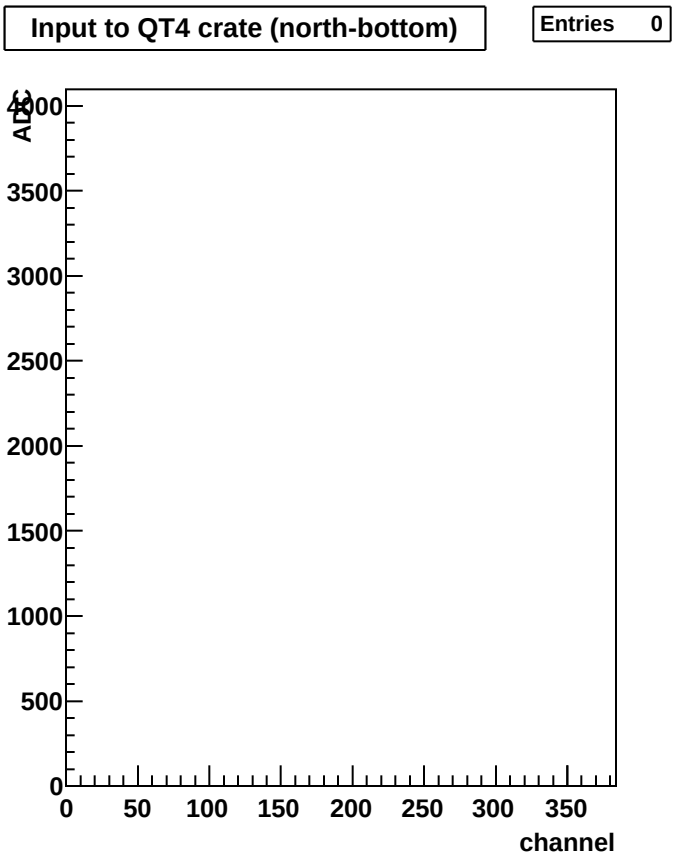

VPD-TAC-W
Entries 44865
Mean 1443
RMS 168.2

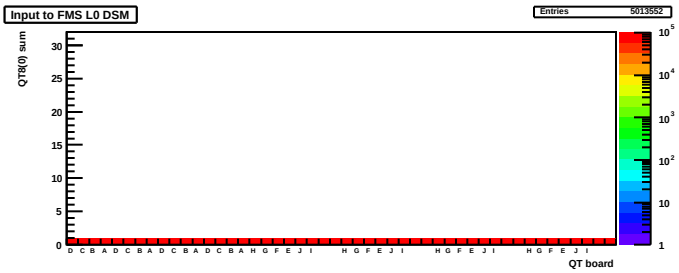

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 35812
Mean 4103
RMS 200.5

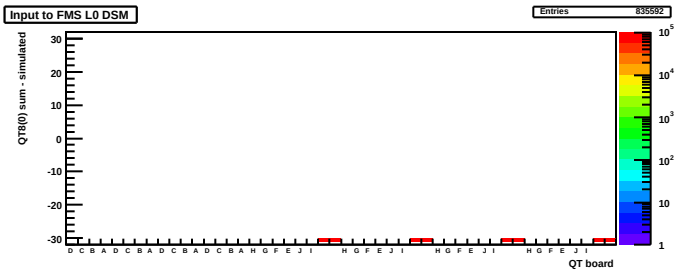

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

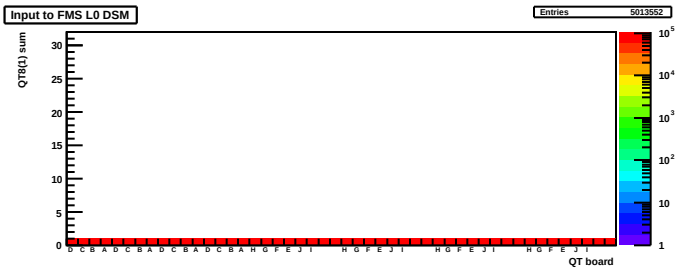

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

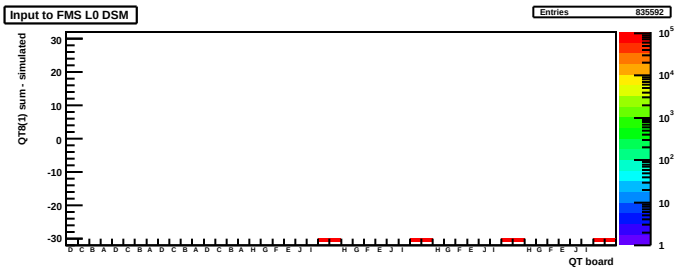

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

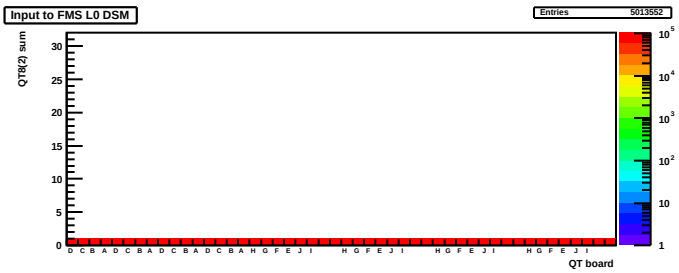

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

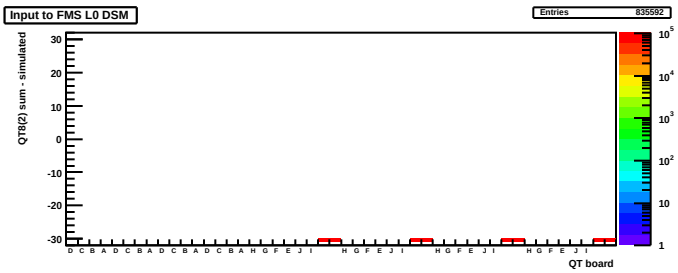

Input to FMS L0 DSM
Entries 5013552
QT8(0) sum
QT board

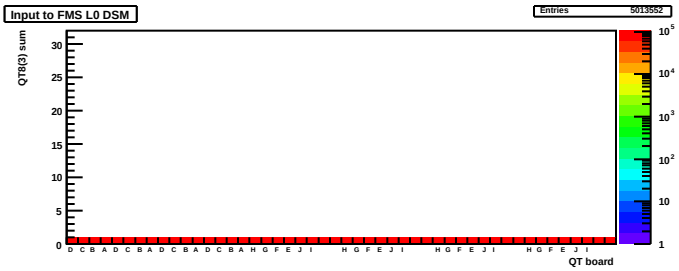

Input to FMS L0 DSM
Entries 835592
QT8(0) sum - simulated
QT board

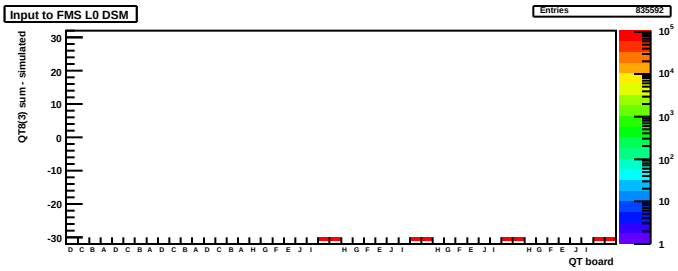

Input to FMS L0 DSM
Entries 5013552
QT8(1) sum
QT board

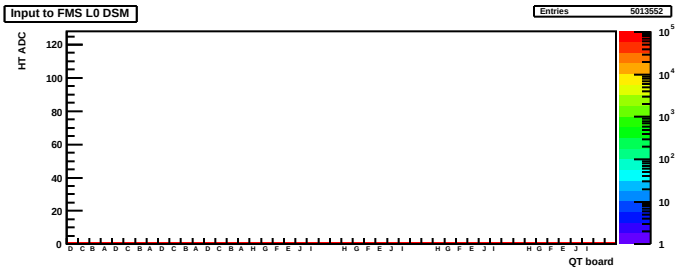

Input to FMS L0 DSM
Entries 835592
QT8(1) sum - simulated
QT board

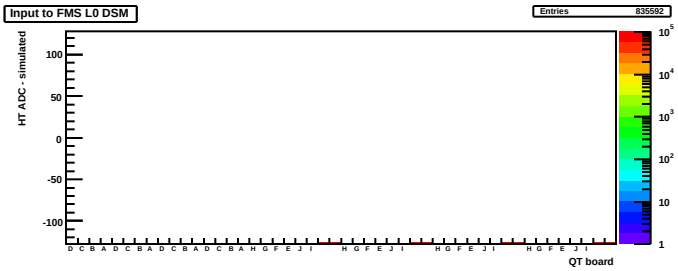

Input to FMS L0 DSM
Entries 5013552
QT8(2) sum
QT board

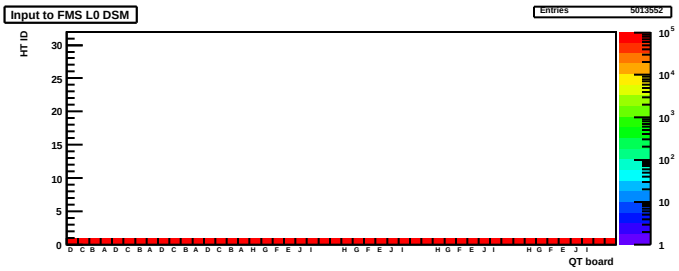

Input to FMS L0 DSM
Entries 835592
QT8(2) sum - simulated
QT board

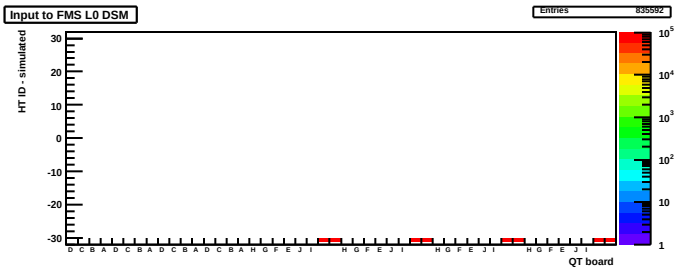

Input to FMS L0 DSM
Entries 5013552
QT8(3) sum
QT board

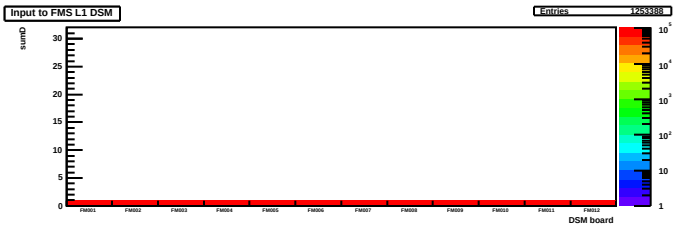

Input to FMS L0 DSM
Entries 835592
QT8(3) sum - simulated
QT board

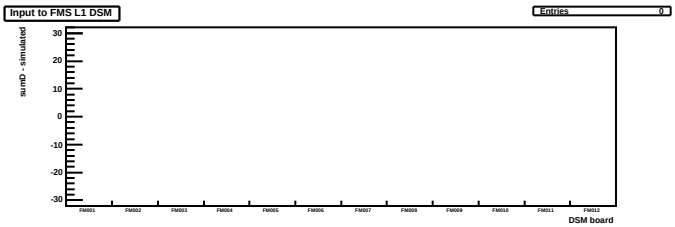

Input to FMS L0 DSM
Entries 5013552
HT ADC
QT board

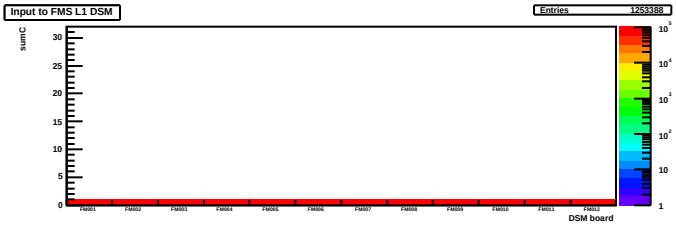

Input to FMS L0 DSM
Entries 835592
HT ADC - simulated
QT board

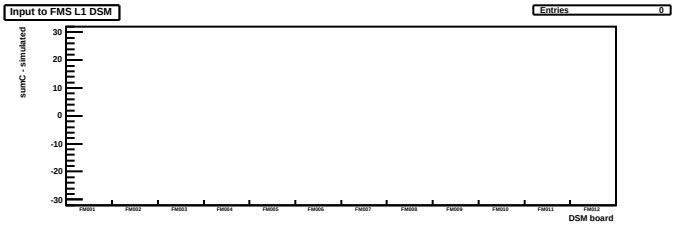

Input to FMS L0 DSM
Entries 5013552
HT ID
QT board

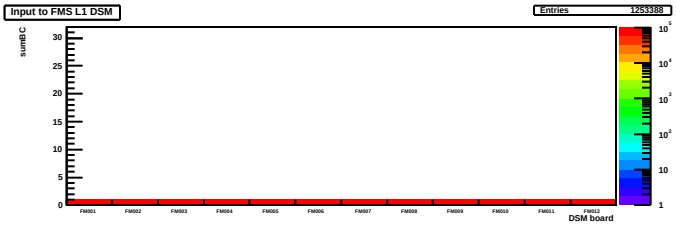

Input to FMS L0 DSM
Entries 835592
HT ID - simulated
QT board

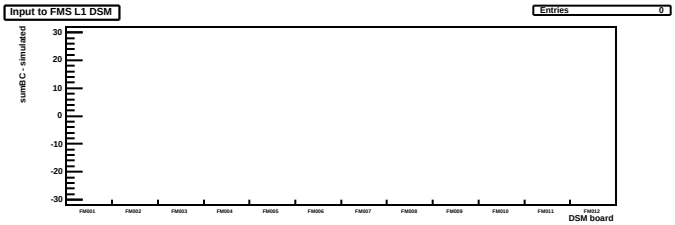

Input to FMS L1 DSM
Entries 1253388
sumD
DSM board

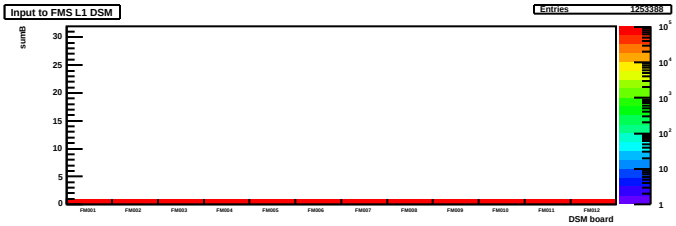

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

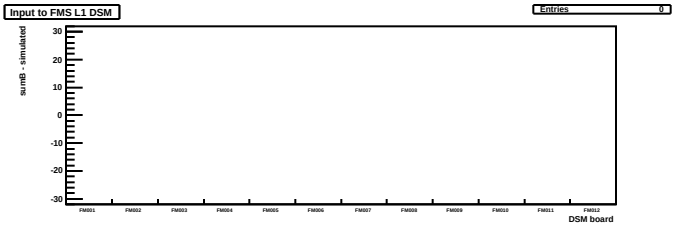

Input to FMS L1 DSM
Entries 1253388
sumC
DSM board

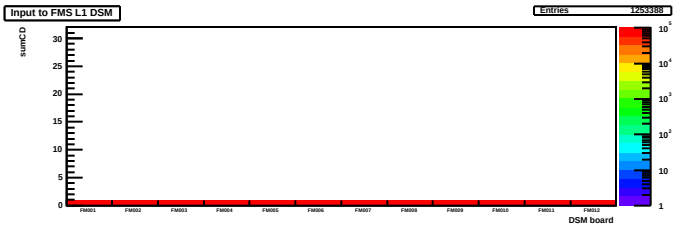

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

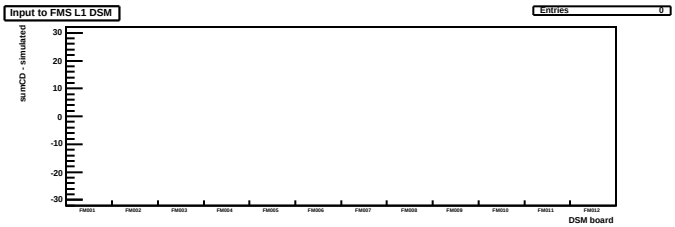

Input to FMS L1 DSM
Entries 1253388
sumBC
DSM board

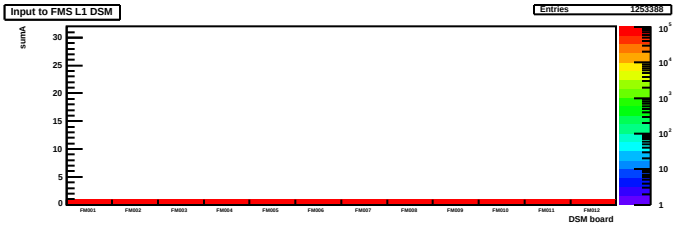

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

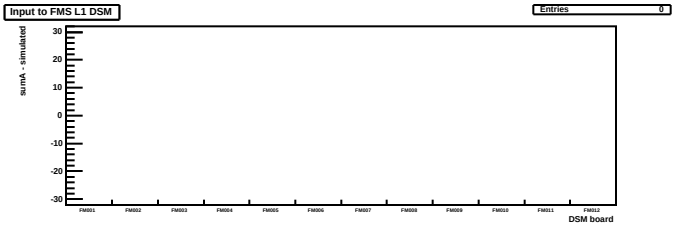

Input to FMS L1 DSM
Entries 1253388
sumB
DSM board

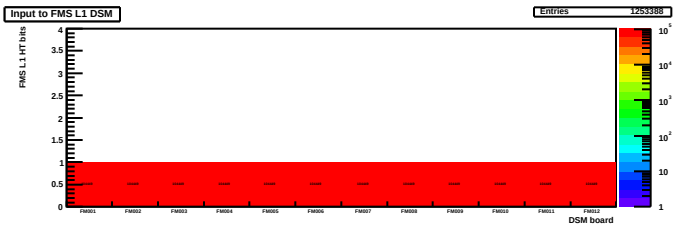

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

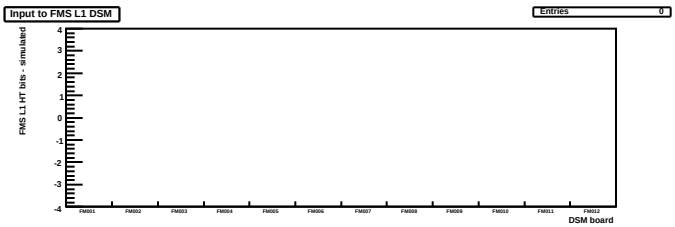

Input to FMS L1 DSM
Entries 1253388
sumCD
DSM board

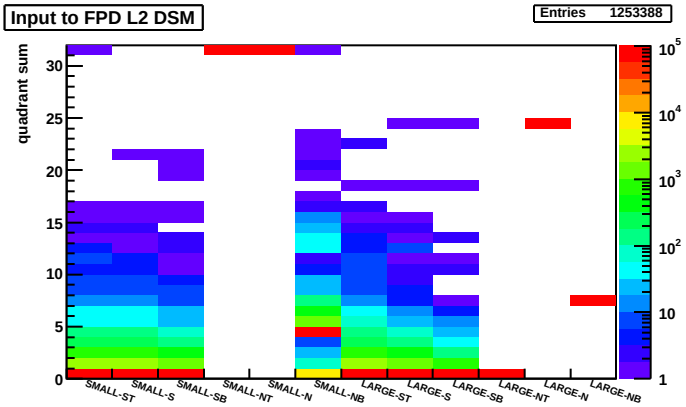

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

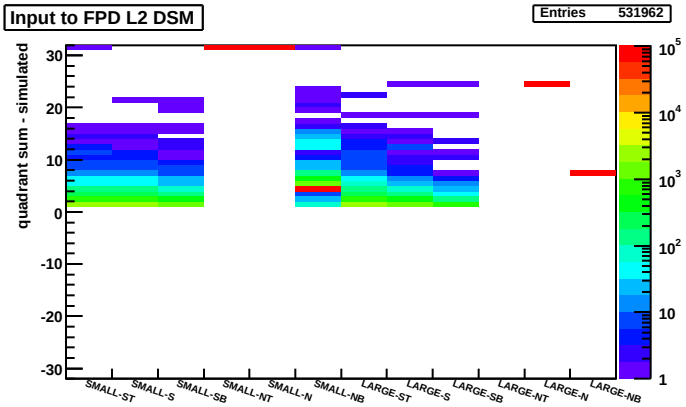

Input to FMS L1 DSM
Entries 1253388
sumA
DSM board

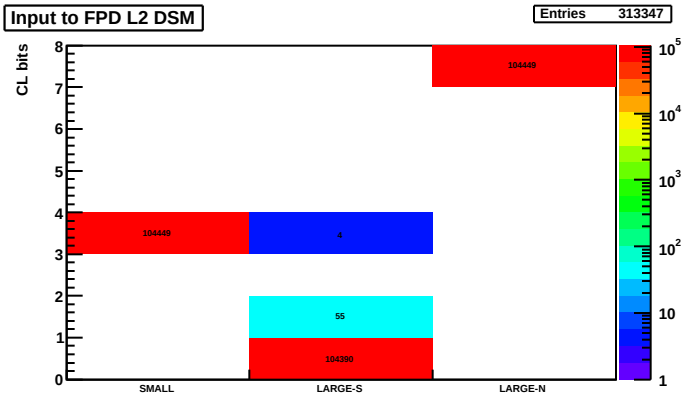

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

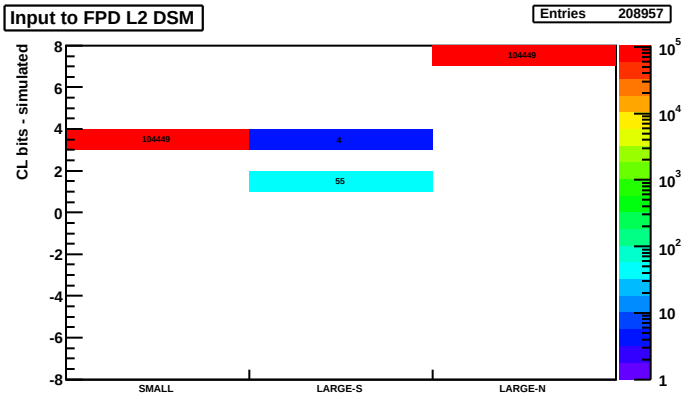

Input to FMS L1 DSM
Entries 1253388
FMS L1 HT bits
DSM board

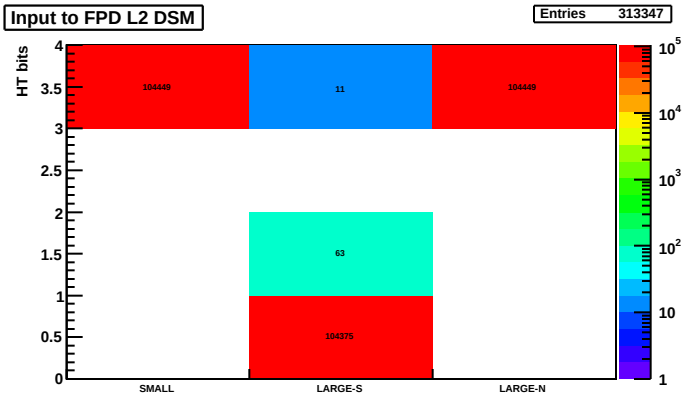

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

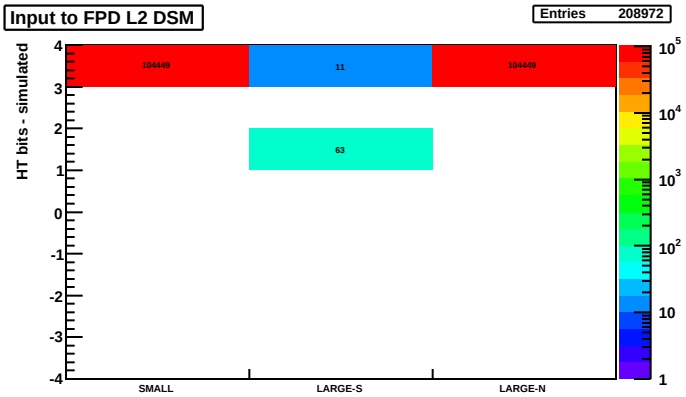

Input to FPD L2 DSM
Entries 1253388
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

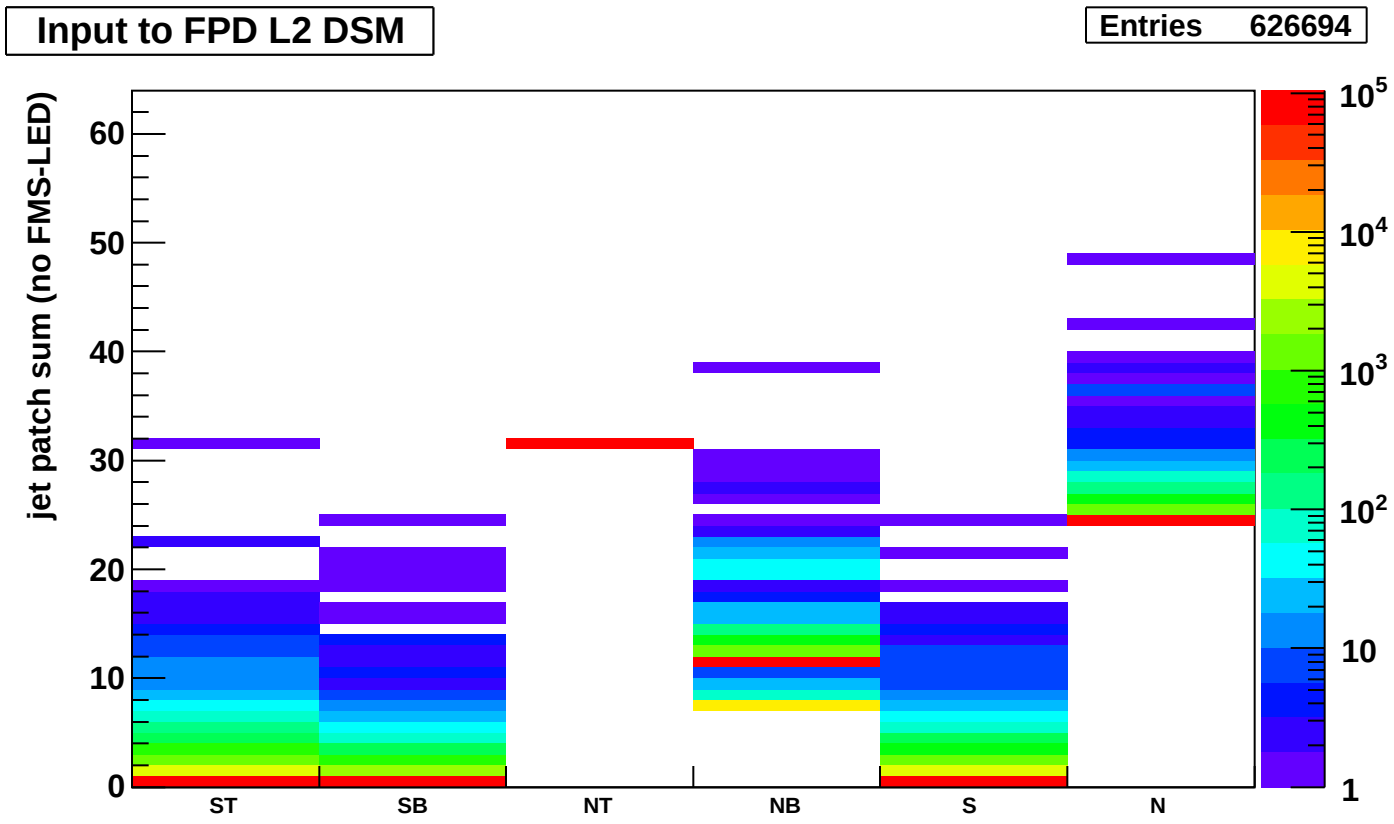

Input to FPD L2 DSM
Entries 531962
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

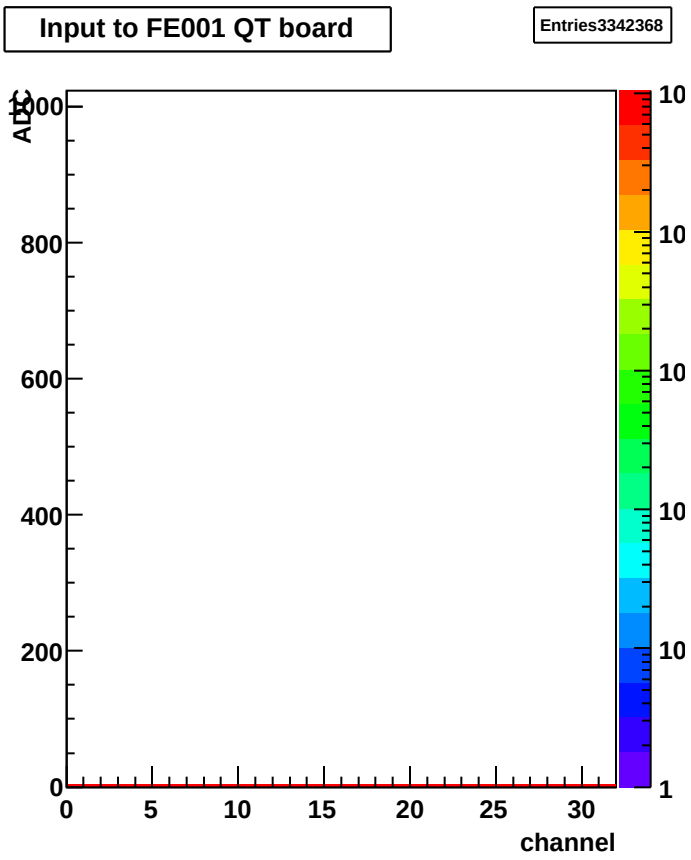

Input to FPD L2 DSM
Entries 313347
CL bits
104449
4
55
104390
104449
SMALL
LARGE-S
LARGE-N

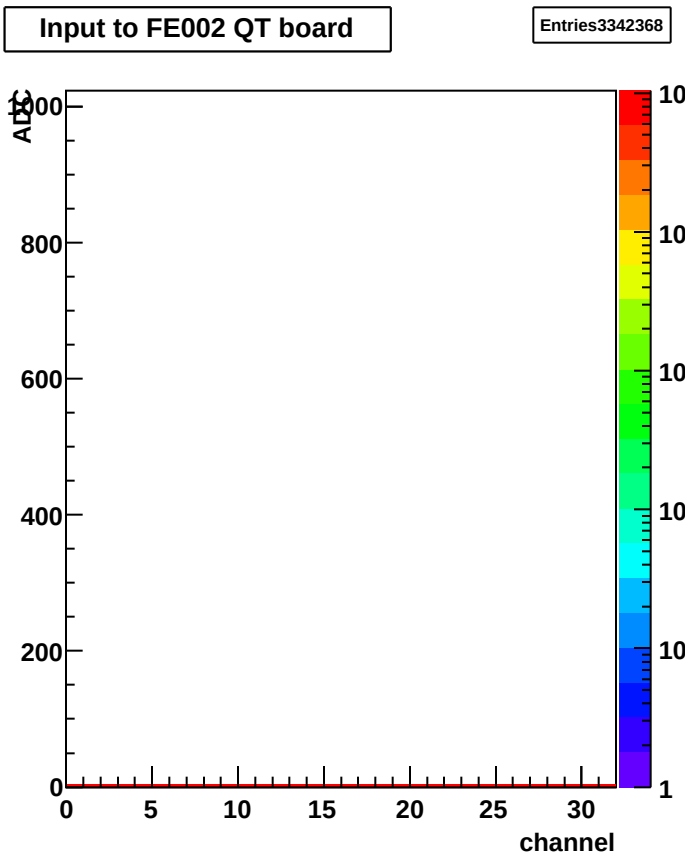

Input to FPD L2 DSM
Entries 208957
CL bits - simulated
104449
4
55
104449
SMALL
LARGE-S
LARGE-N

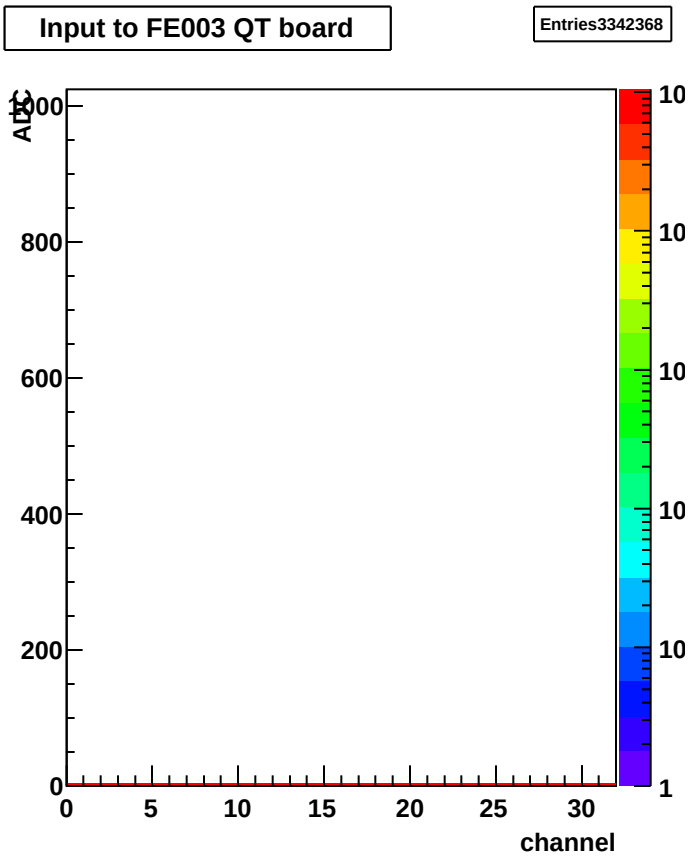

Input to FPD L2 DSM
Entries 313347
HT bits
104449
11
104449
63
104375
SMALL
LARGE-S
LARGE-N

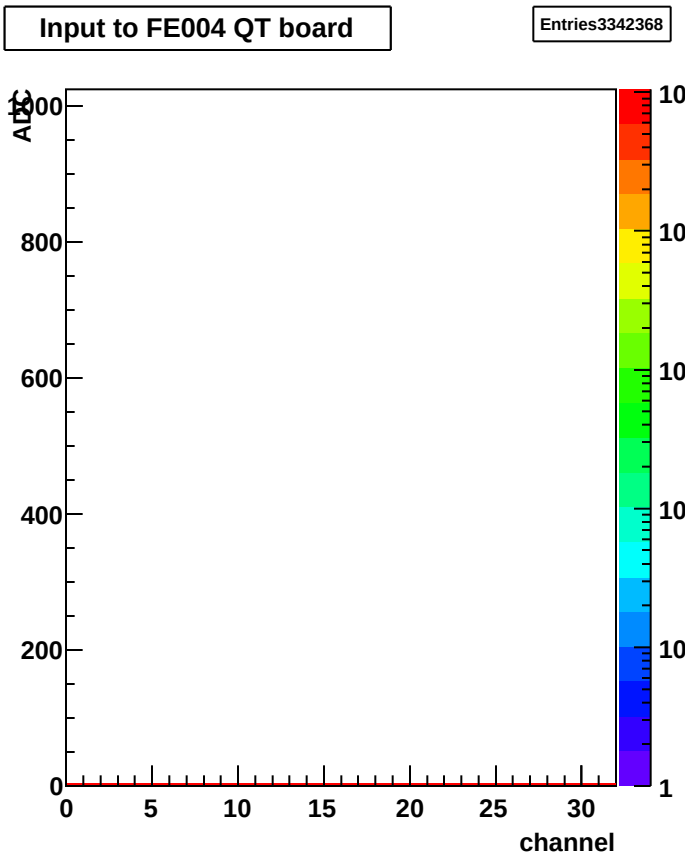

Input to FPD L2 DSM
Entries 208972
HT bits - simulated
104449
11
104449
63
SMALL
LARGE-S
LARGE-N

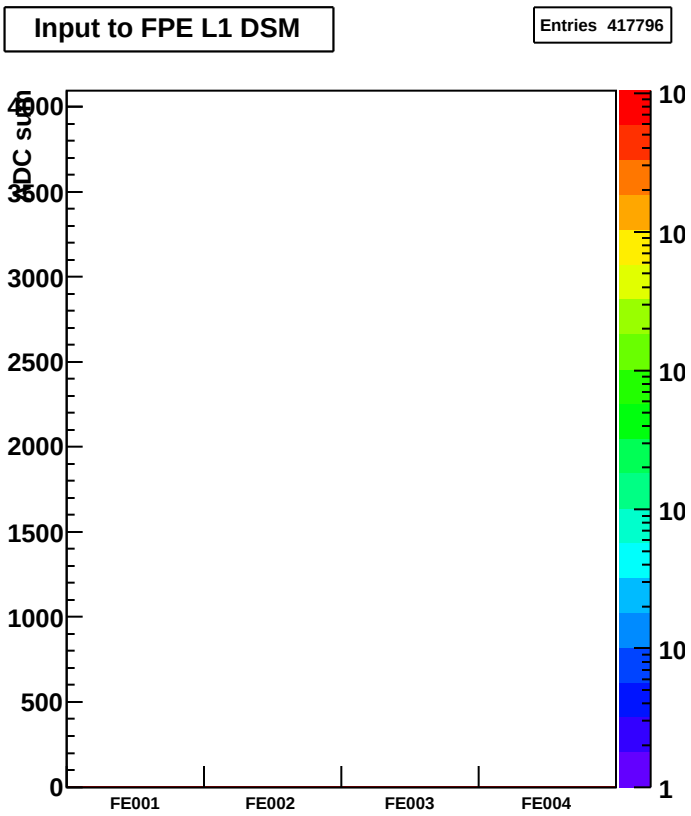

Input to FPD L2 DSM
Entries 626694
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

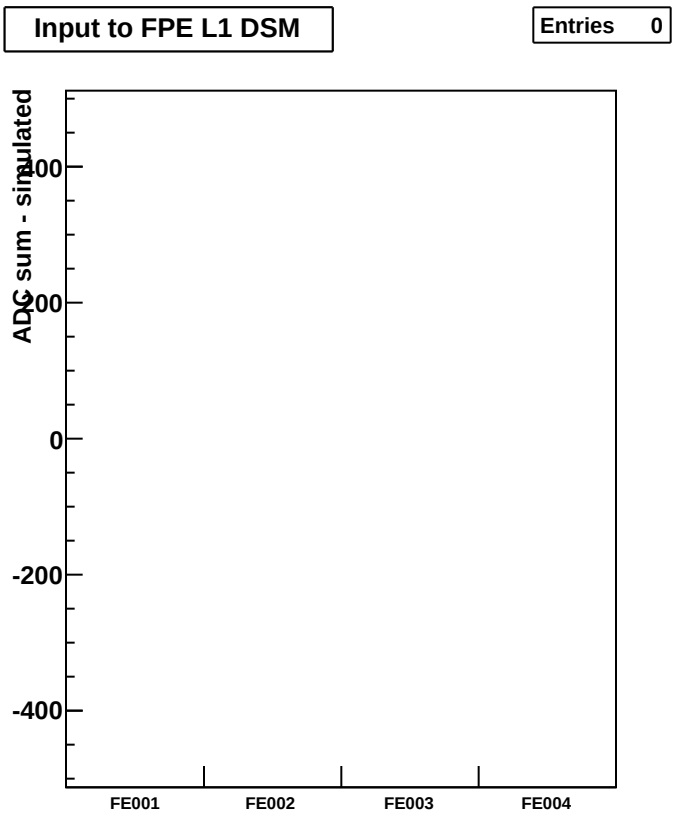

Input to FE001 QT board
Entries3342368
ADC
channel

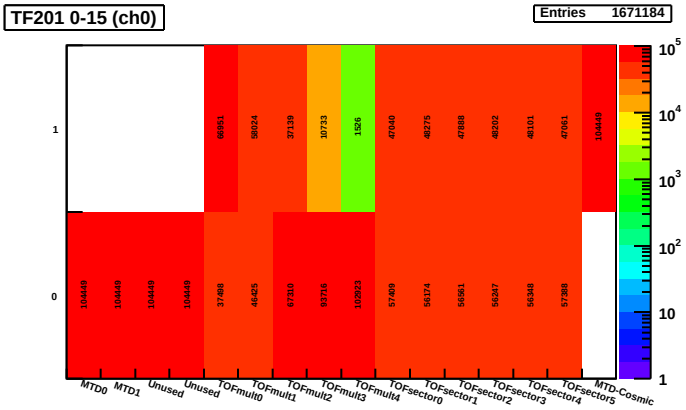

Input to FE002 QT board
Entries3342368
ADC
channel

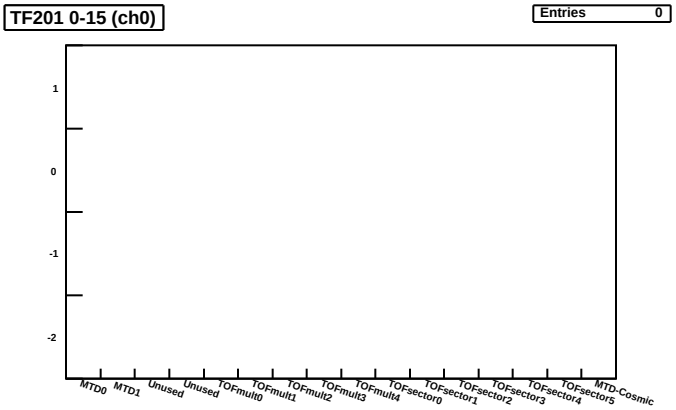

Input to FE003 QT board
Entries3342368
ADC
channel

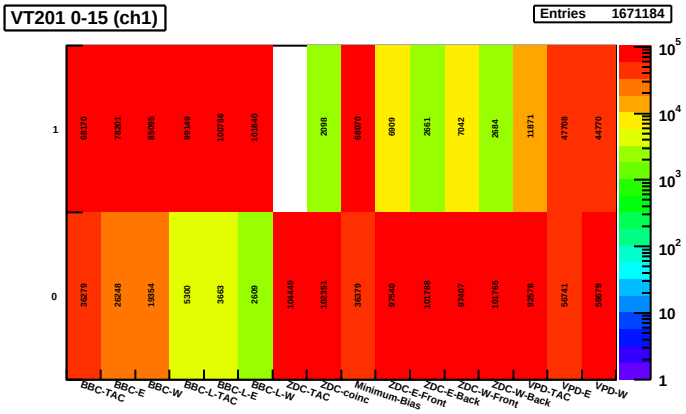

Input to FE004 QT board
Entries3342368
ADC
channel

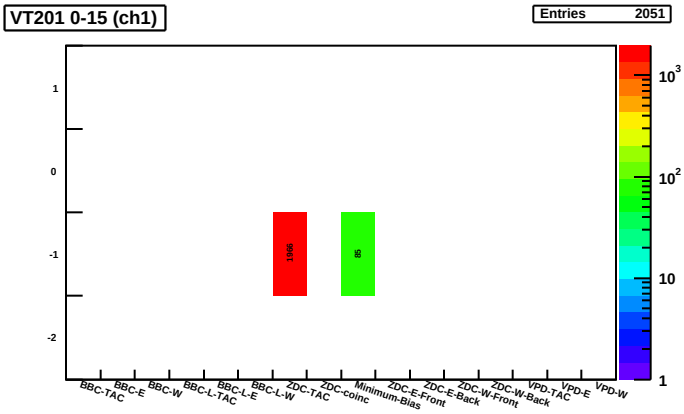

Input to FPE L1 DSM
Entries 417796
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

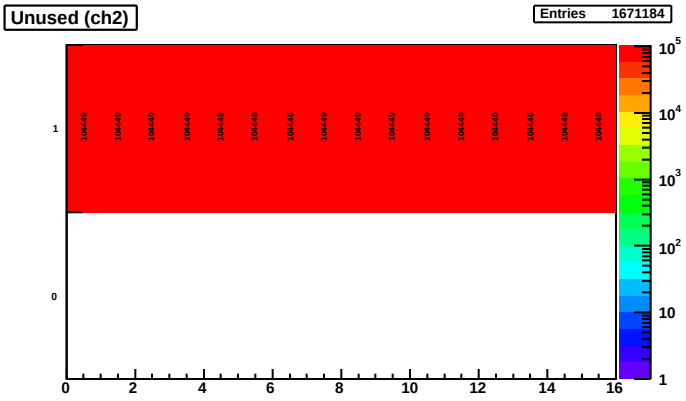

Input to FPE L1 DSM
Entries 0
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004

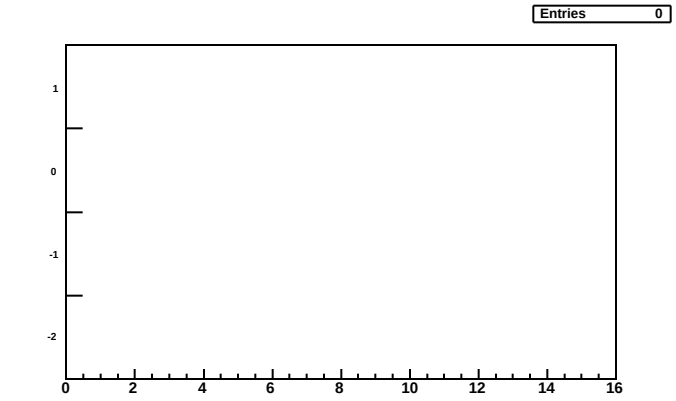

TF201 0-15 (ch0)
Entries 1671184
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

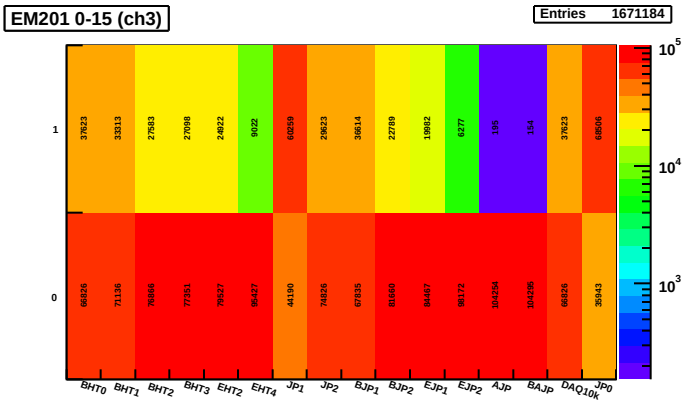

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

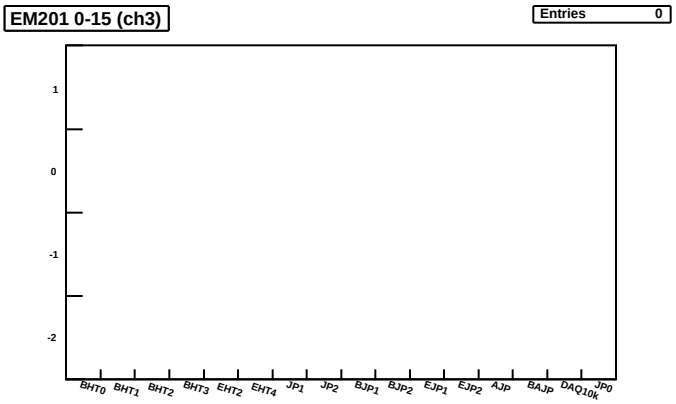

VT201 0-15 (ch1)
Entries 1671184
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

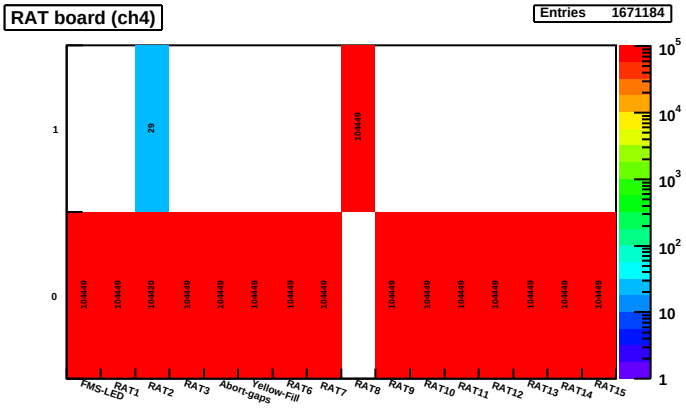

VT201 0-15 (ch1)
Entries 2051
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

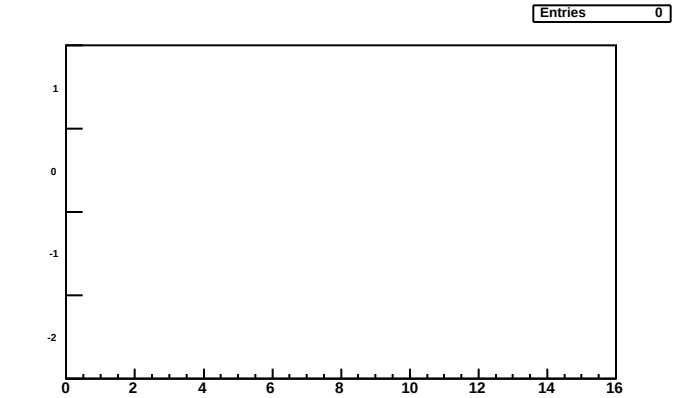

Unused (ch2)
Entries 1671184

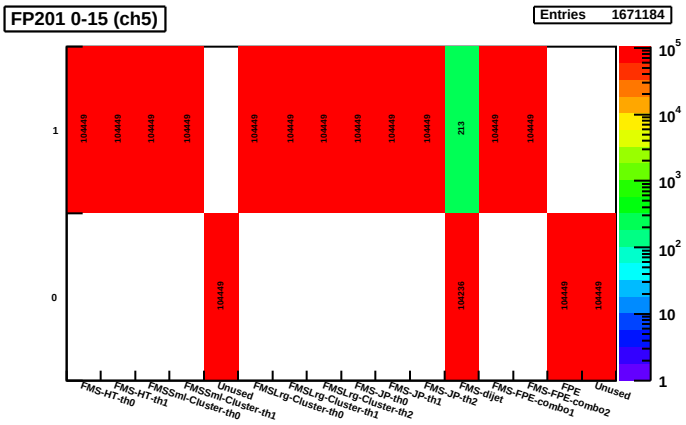

Entries 0

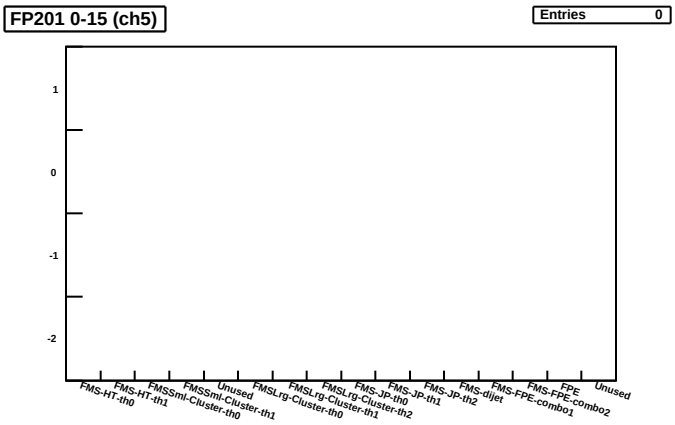

EM201 0-15 (ch3)
Entries 1671184
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

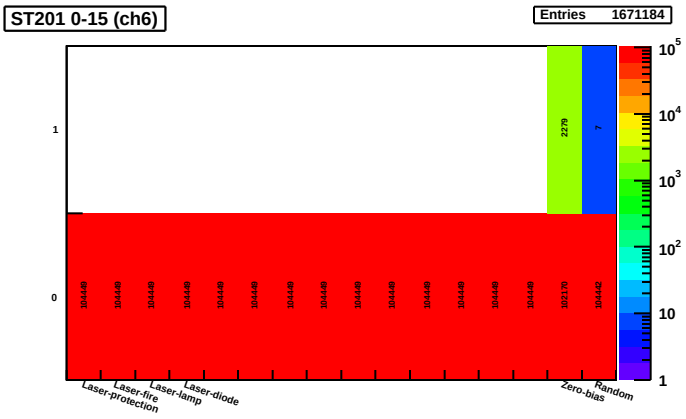

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

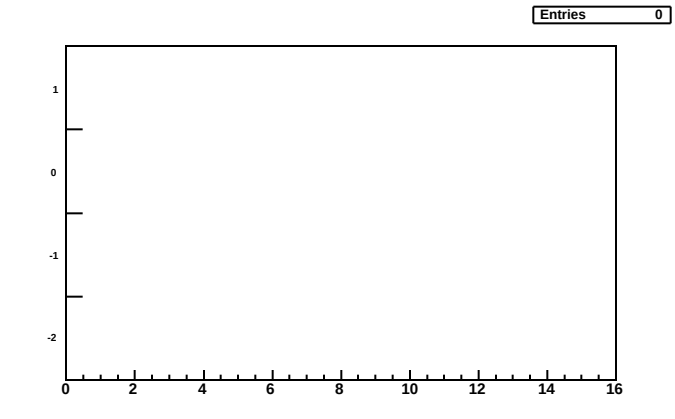

RAT board (ch4)
Entries 1671184
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15

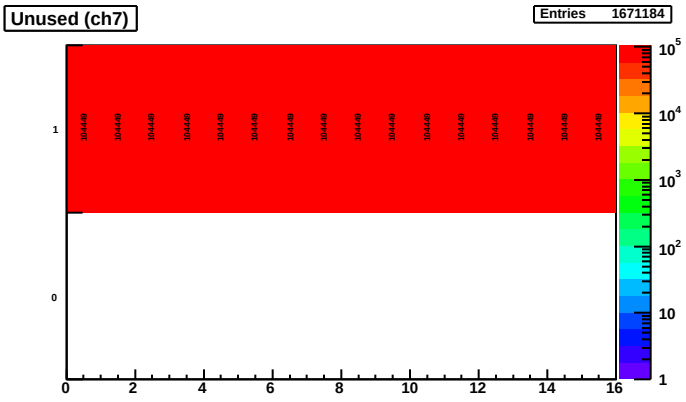

Entries 0

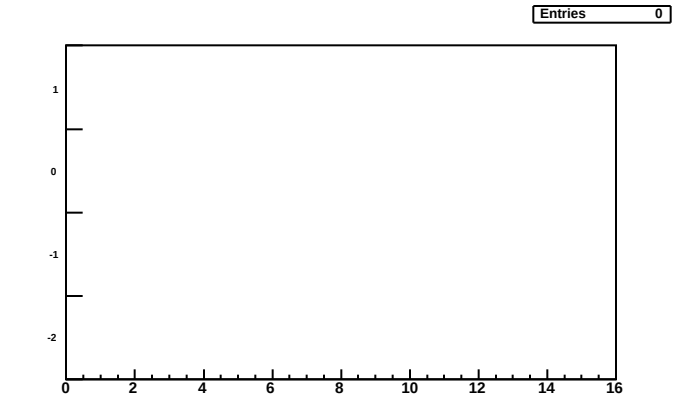

FP201 0-15 (ch5)
Entries 1671184
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


FP201 0-15 (ch5)
Entries 0


ST201 0-15 (ch6)
Entries 1671184
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random


Entries 0


Unused (ch7)
Entries 1671184


Entries 0