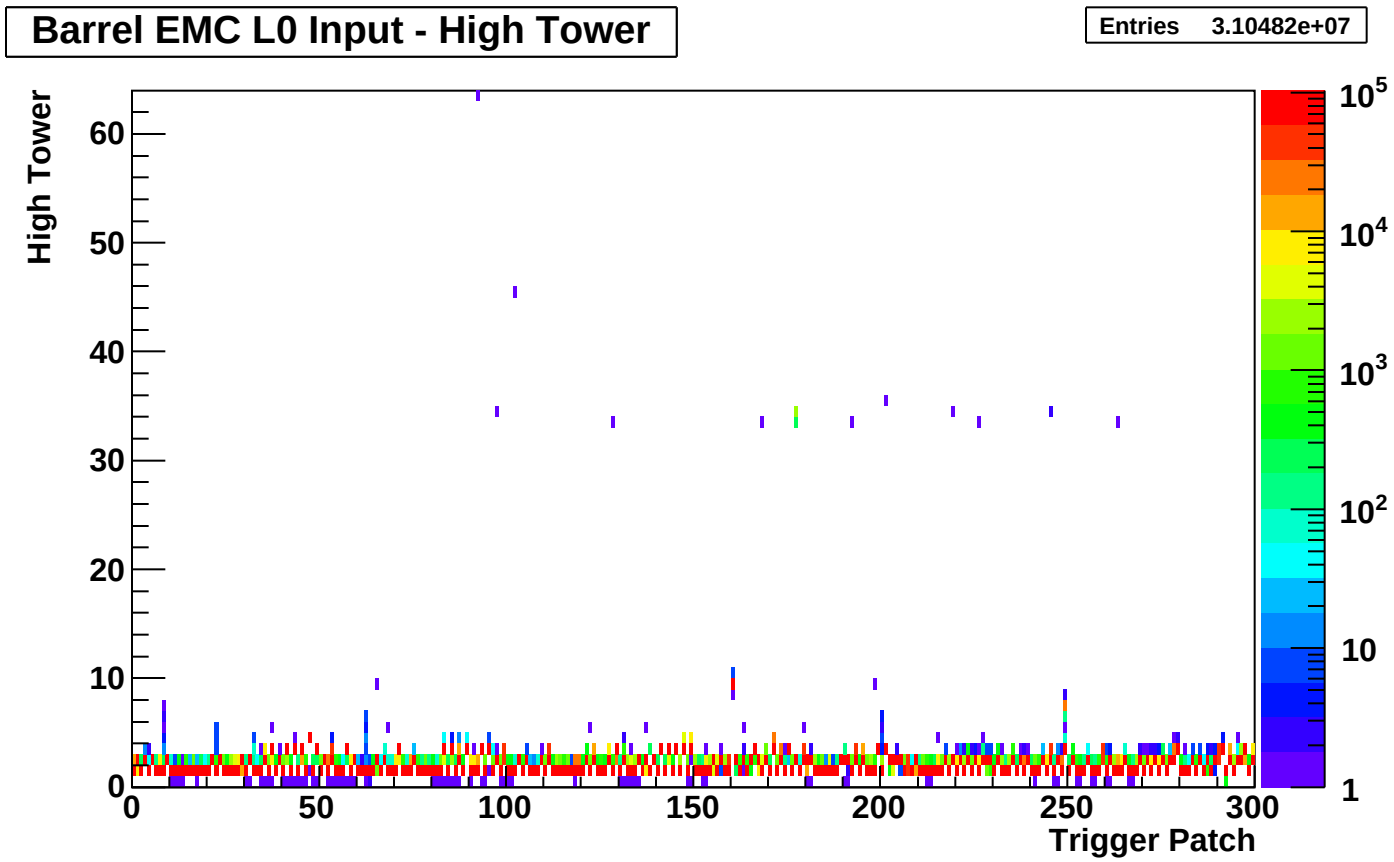
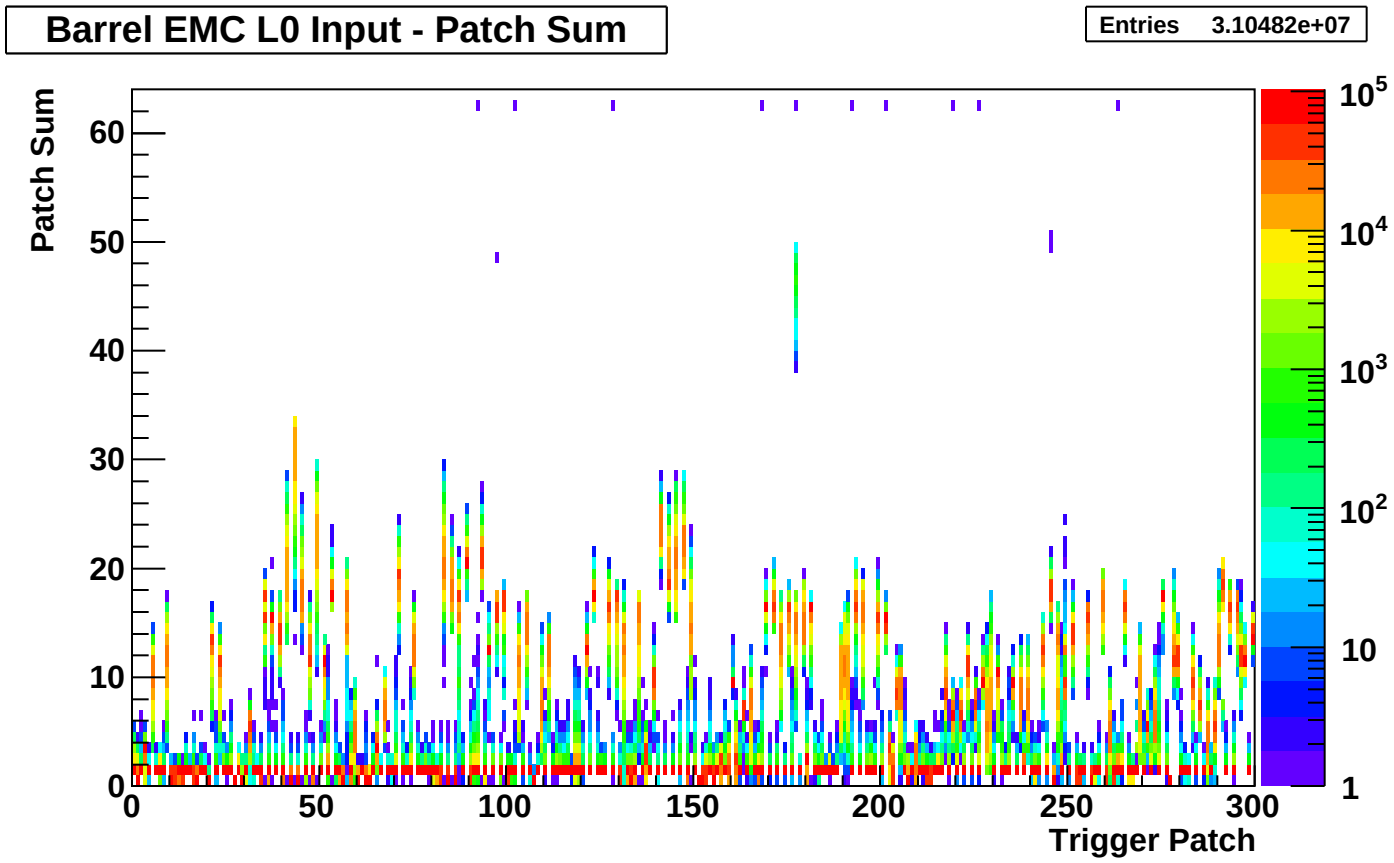
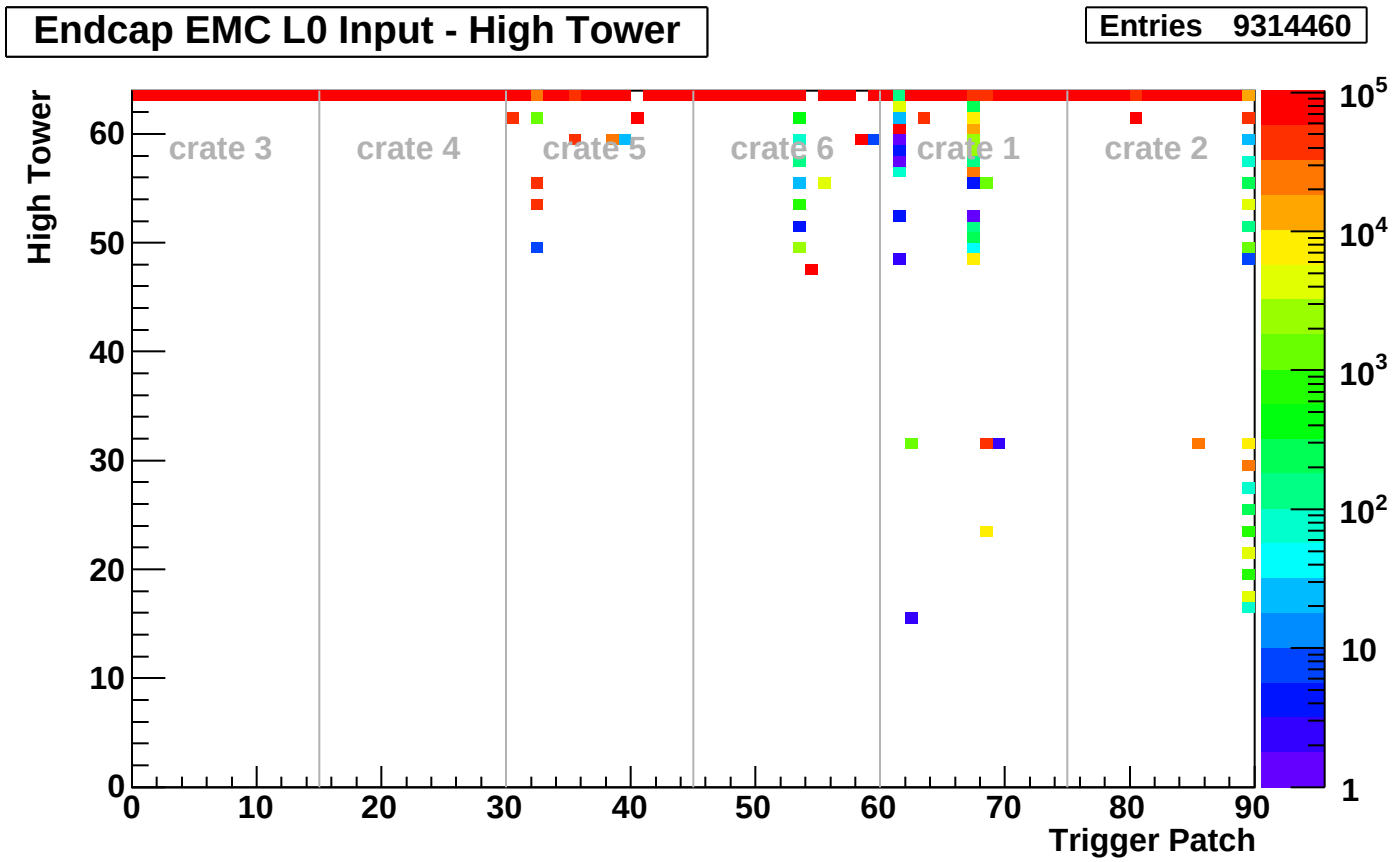
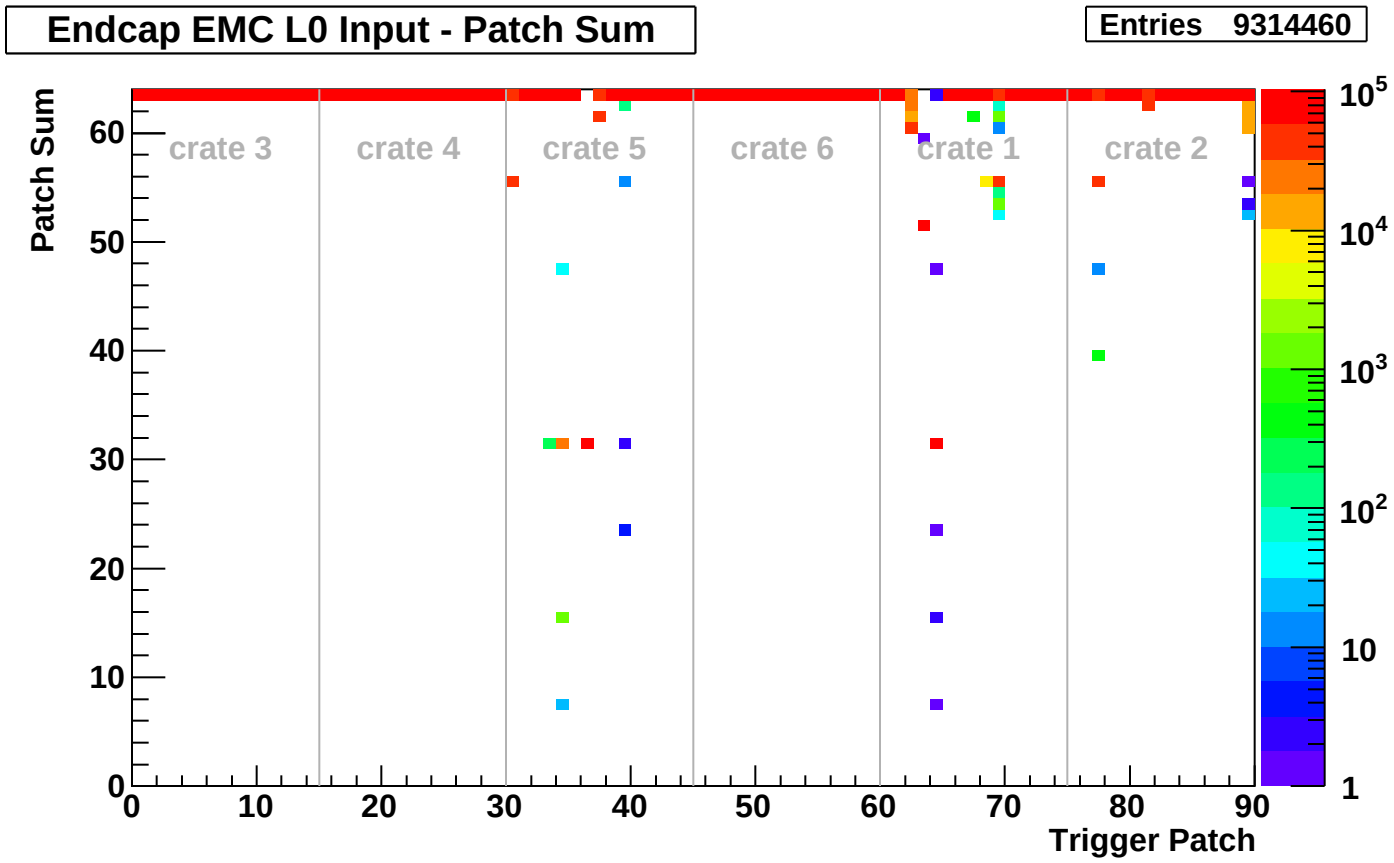
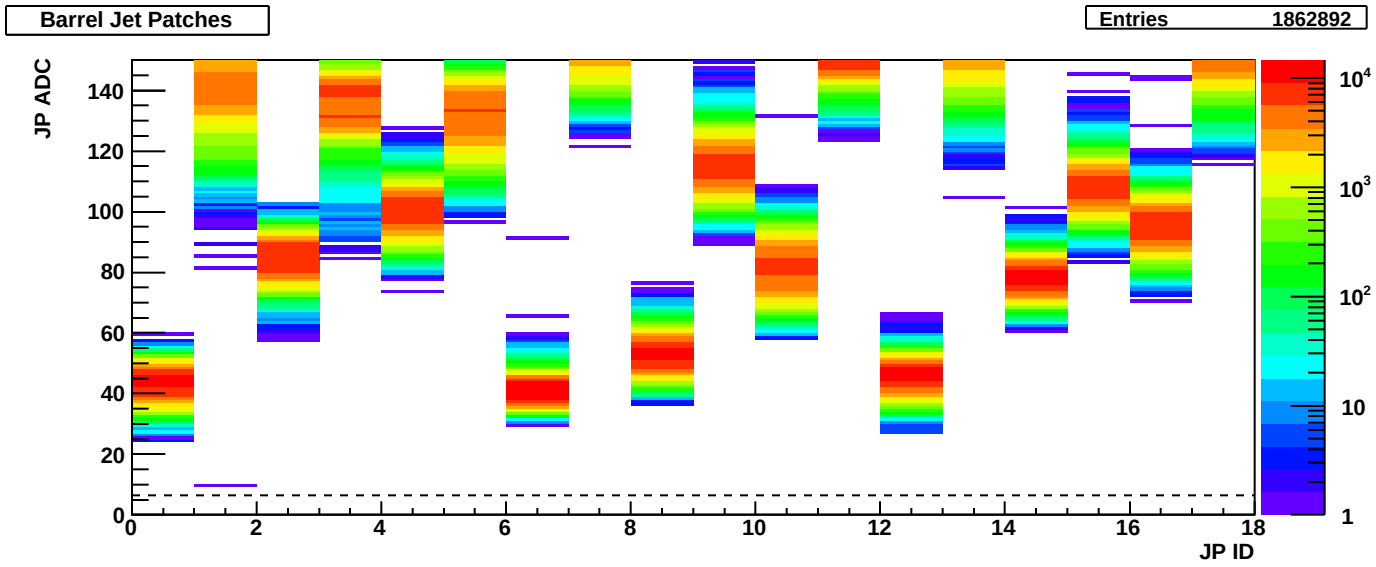
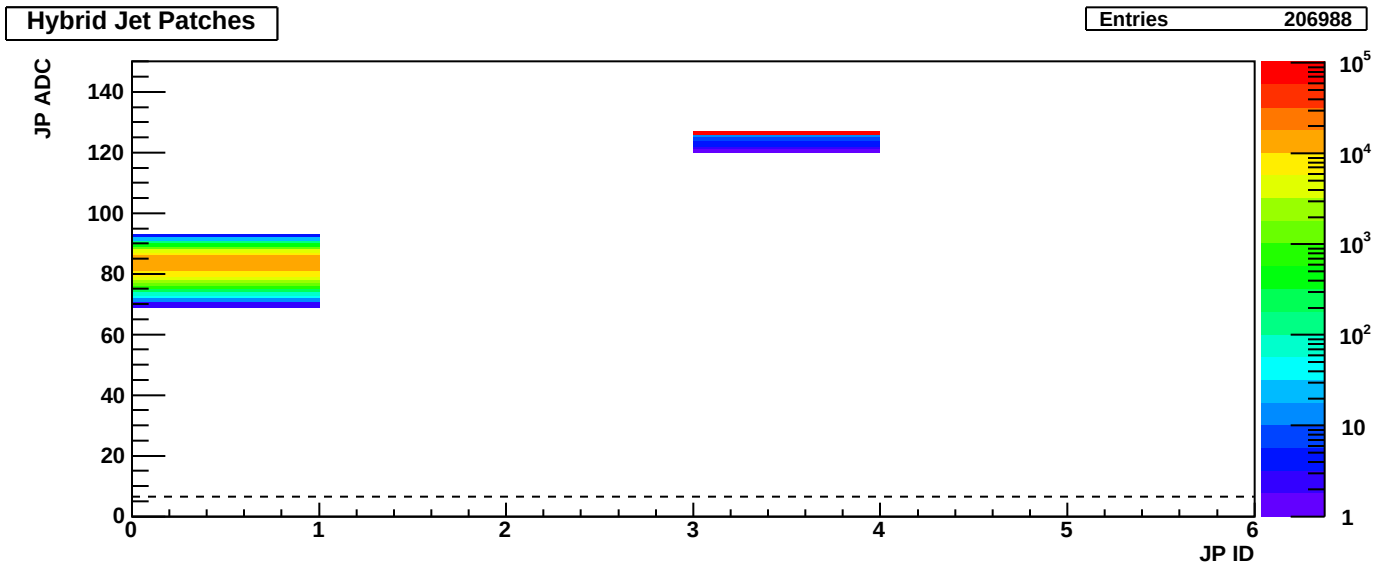

Barrel EMC L0 Input - High Tower
Entries 3.10482e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

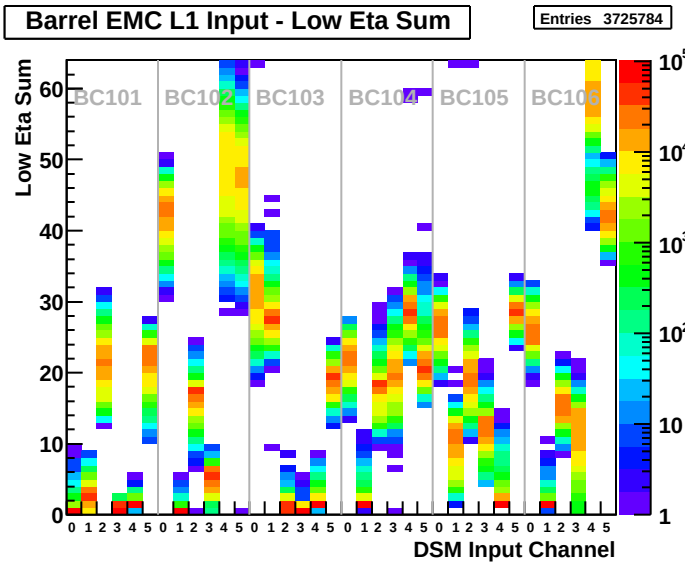

Barrel EMC L0 Input - Patch Sum
Entries 3.10482e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

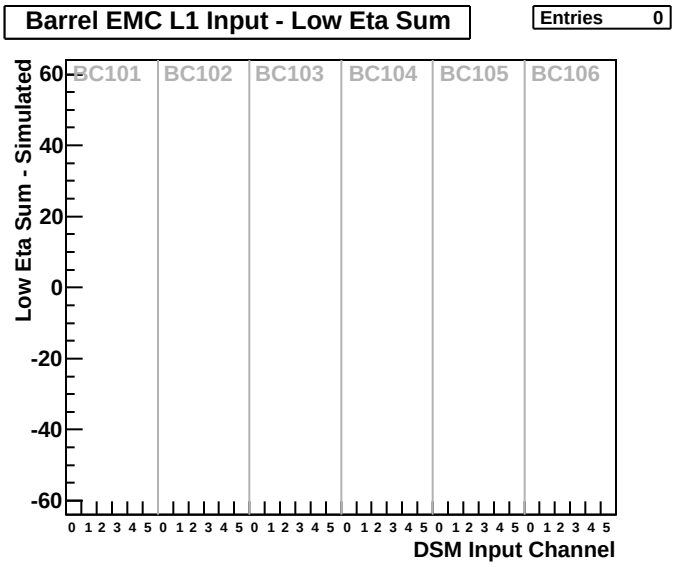

Endcap EMC L0 Input - High Tower
Entries 9314460
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

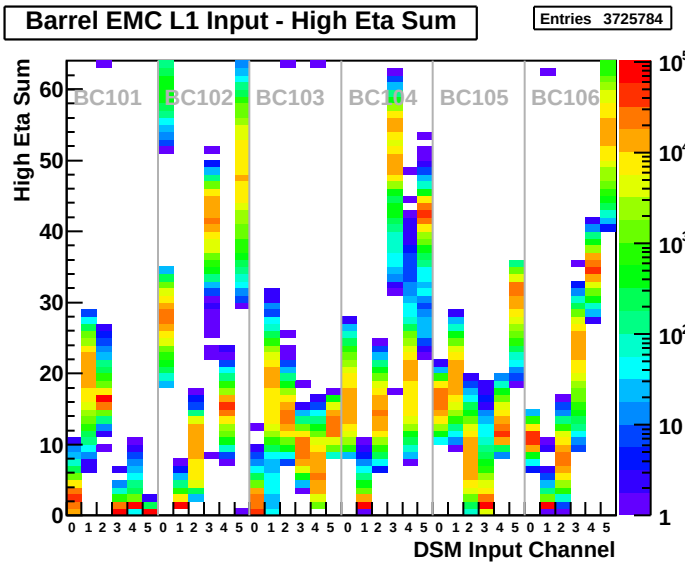

Endcap EMC L0 Input - Patch Sum
Entries 9314460
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

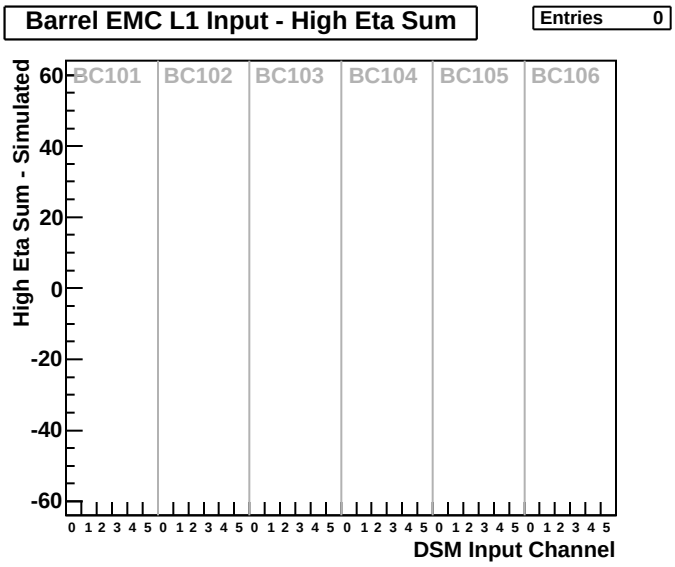

Barrel Jet Patches
Entries 1862892
JP ADC
JP ID

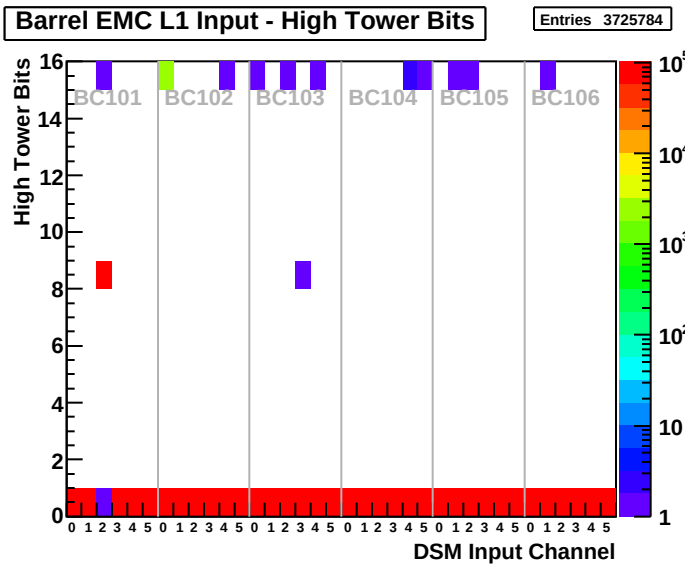

Hybrid Jet Patches
Entries 206988
JP ADC
JP ID

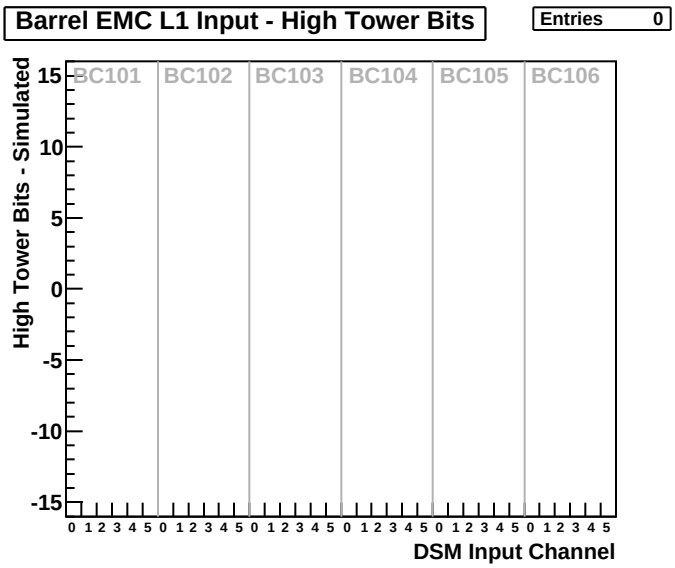

Barrel EMC L1 Input - Low Eta Sum
Entries 3725784
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

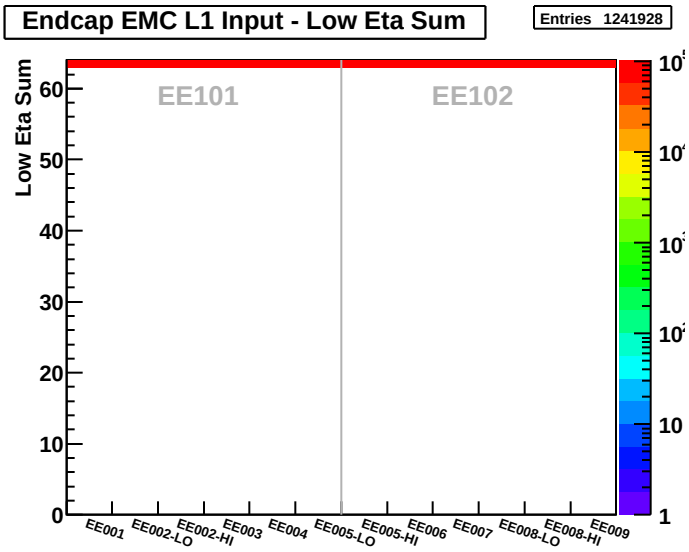

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

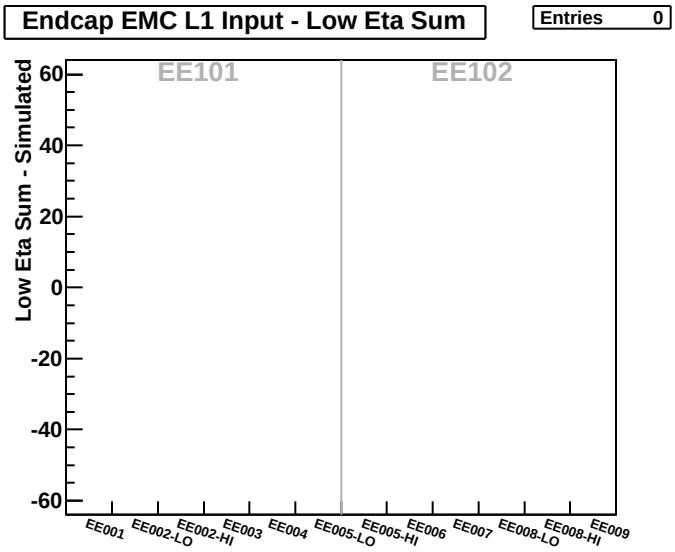

Barrel EMC L1 Input - High Eta Sum
Entries 3725784
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

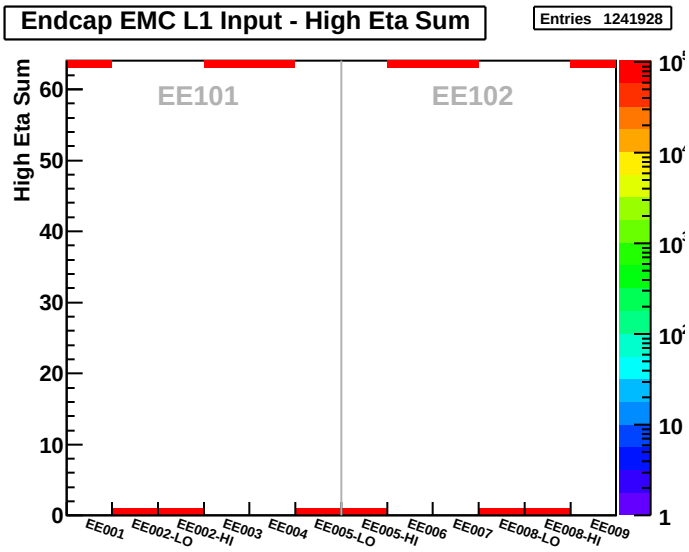

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

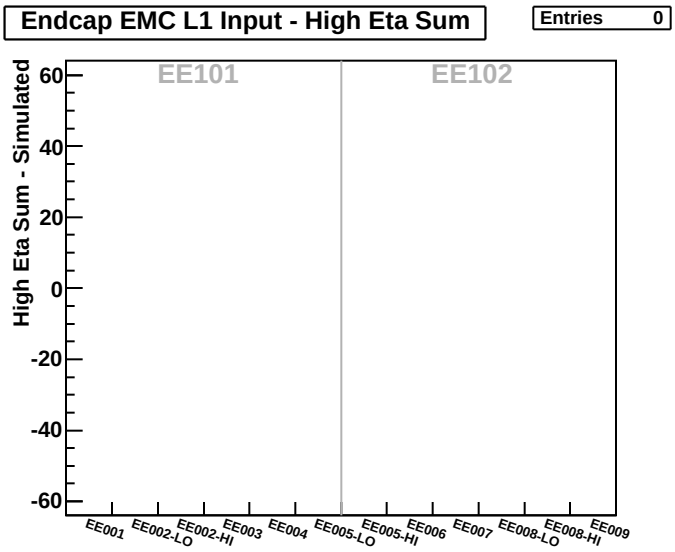

Barrel EMC L1 Input - High Tower Bits
Entries 3725784
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

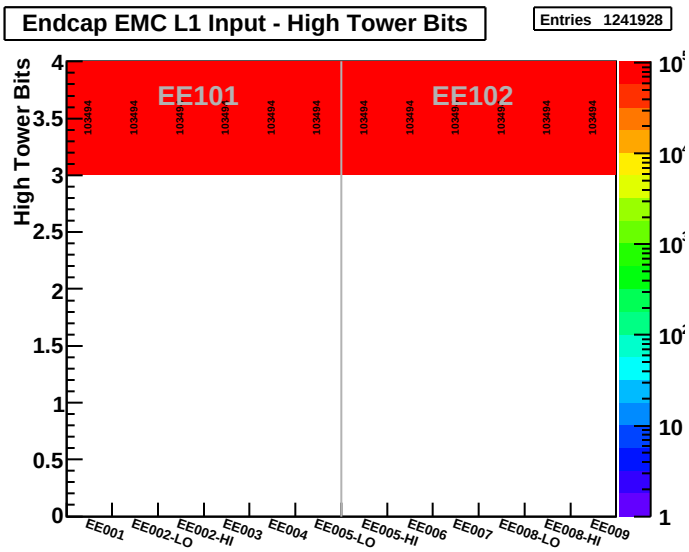

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

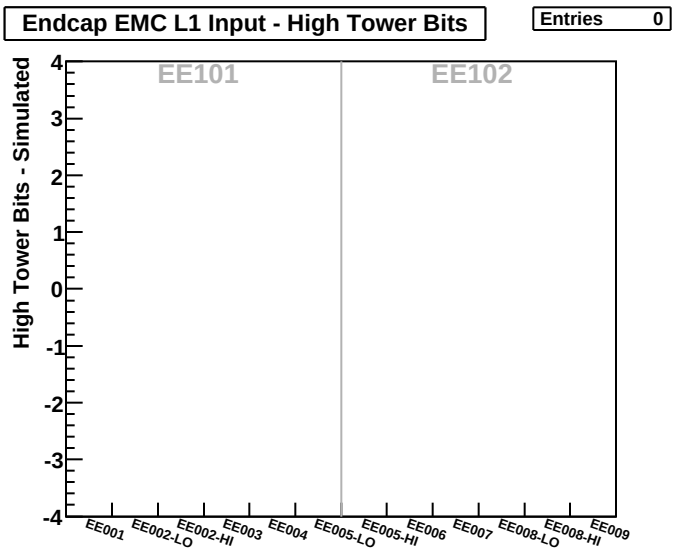

Endcap EMC L1 Input - Low Eta Sum
Entries 1241928
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

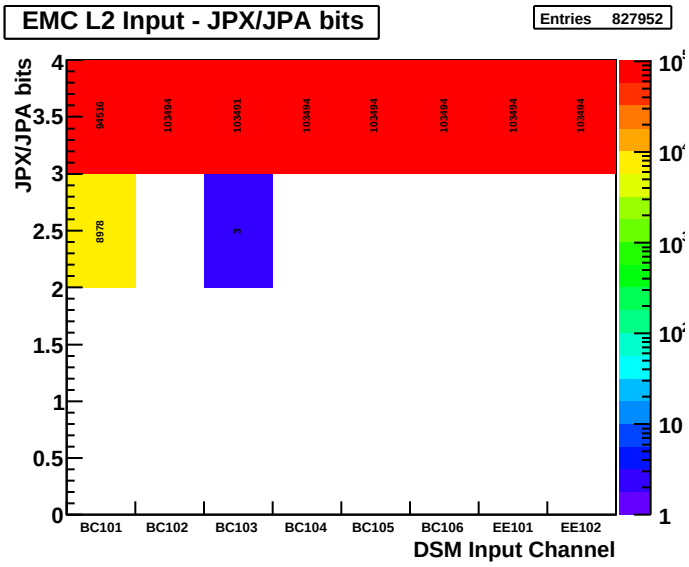

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

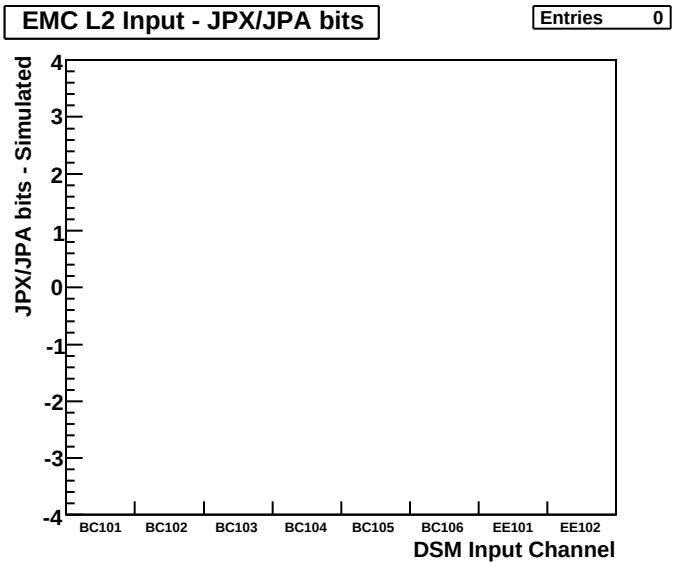

Endcap EMC L1 Input - High Eta Sum
Entries 1241928
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

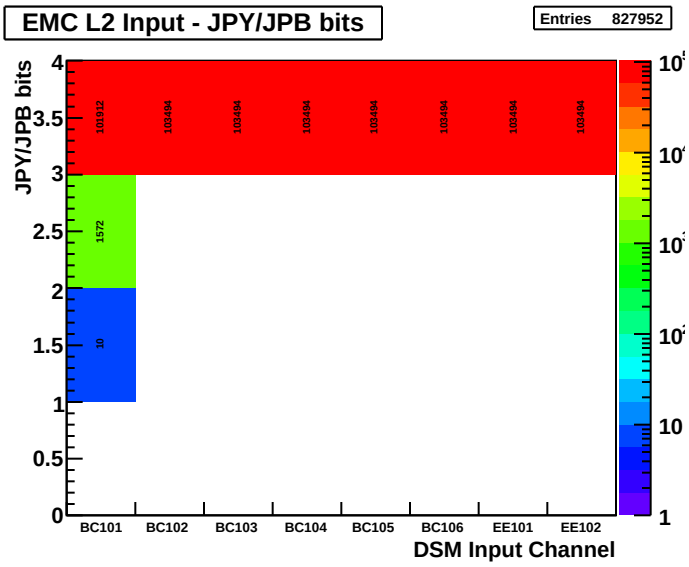

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

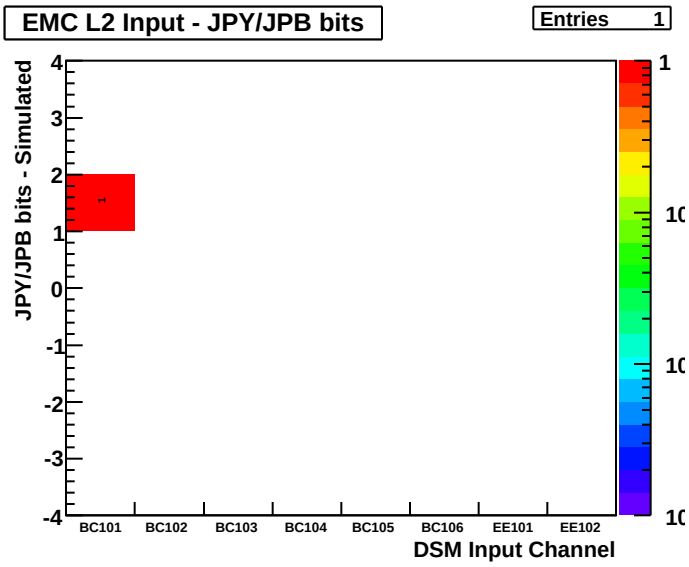

Endcap EMC L1 Input - High Tower Bits
Entries 1241928
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

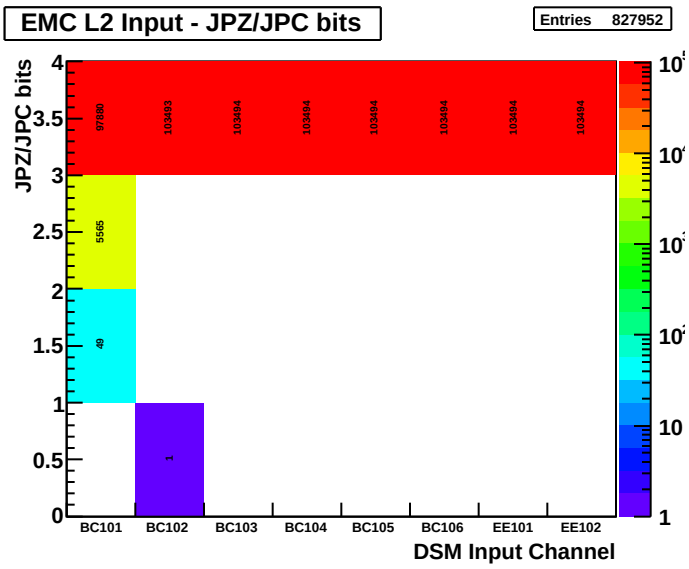

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

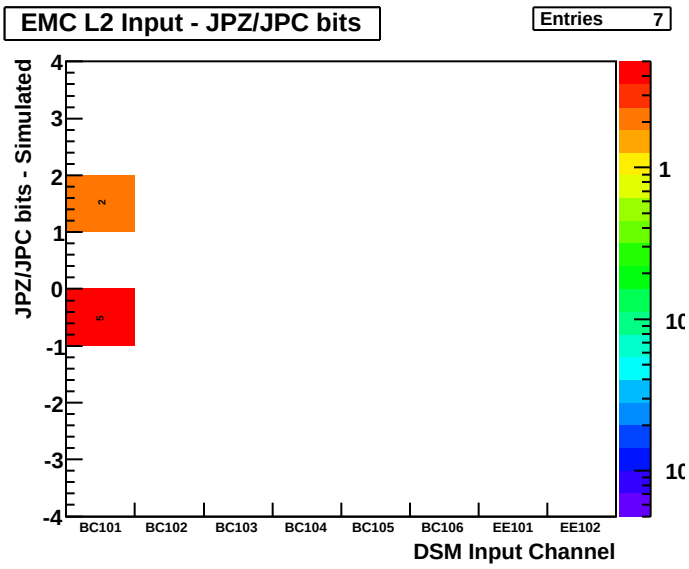

EMC L2 Input - JPX/JPA bits
Entries 827952
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
94516 103494 103491 103494 103494 103494 103494 103494
8978
3

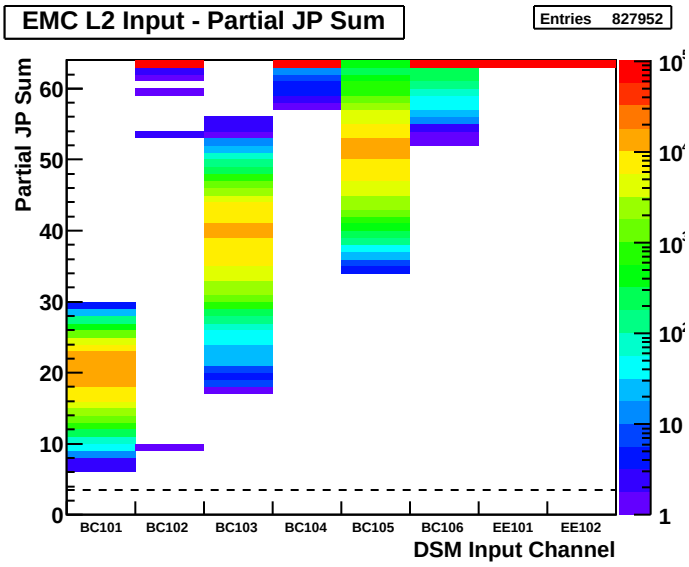

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

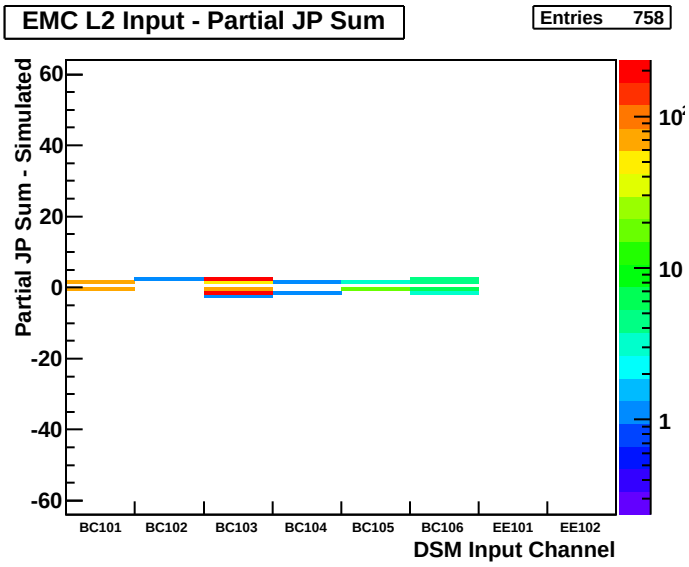

EMC L2 Input - JPY/JPB bits
Entries 827952
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
101912 103494 103494 103494 103494 103494 103494 103494
1572
10

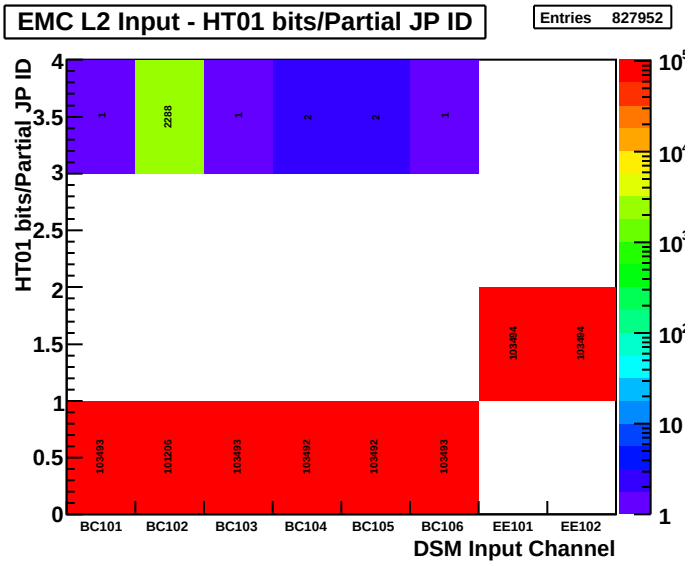

EMC L2 Input - JPY/JPB bits
Entries 1
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
1

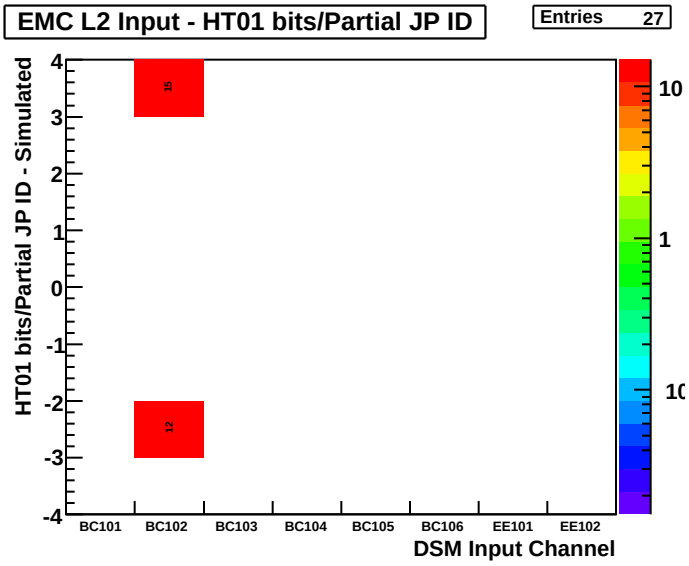

EMC L2 Input - JPZ/JPC bits
Entries 827952
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
97880 103493 103494 103494 103494 103494 103494 103494
5565
49
1

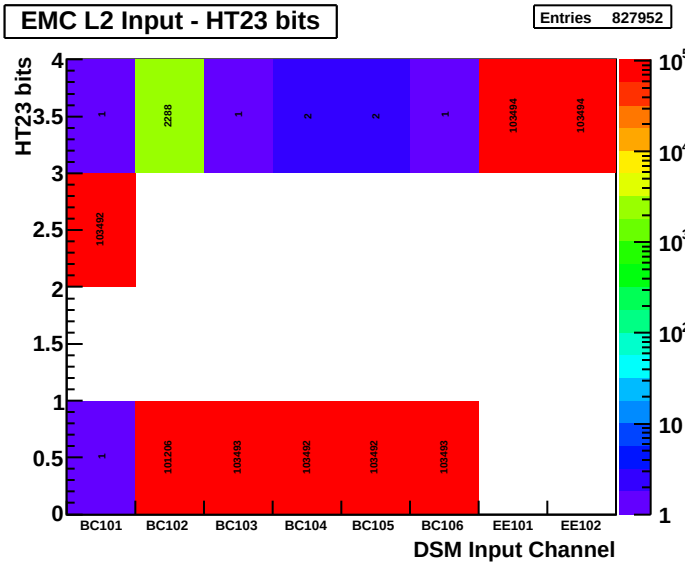

EMC L2 Input - JPZ/JPC bits
Entries 7
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
2
5

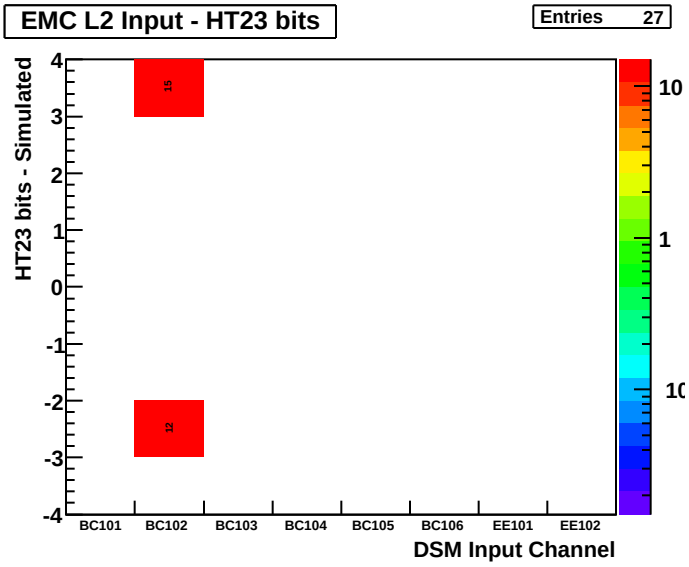

EMC L2 Input - Partial JP Sum
Entries 827952
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

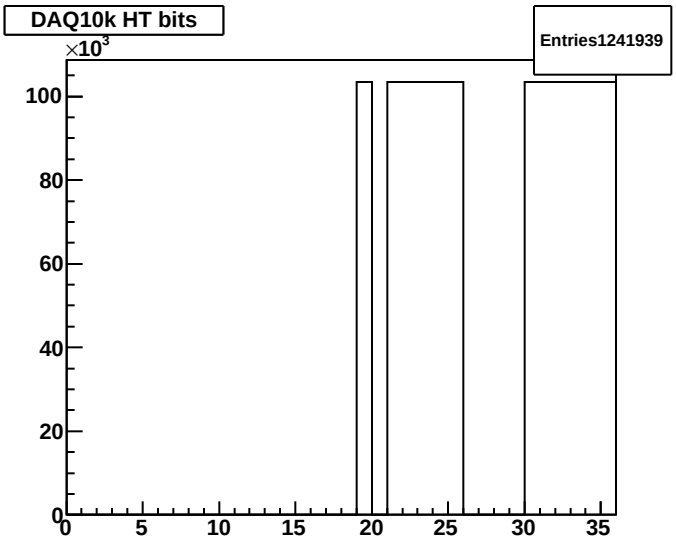

EMC L2 Input - Partial JP Sum
Entries 758
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

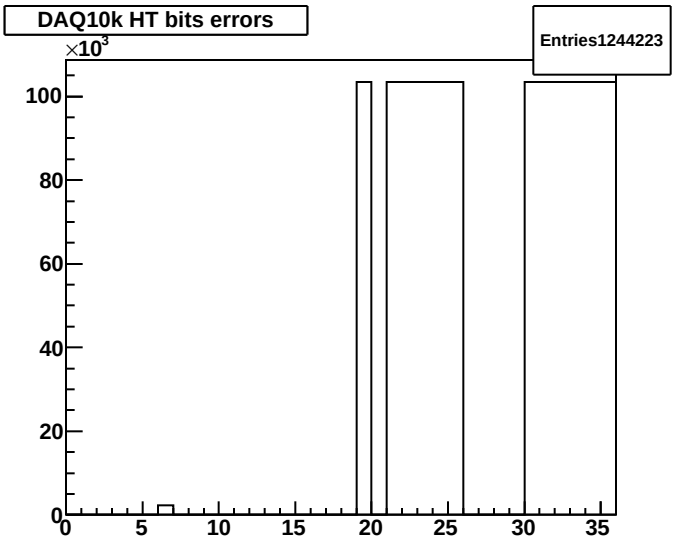

EMC L2 Input - HT01 bits/Partial JP ID
Entries 827952
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

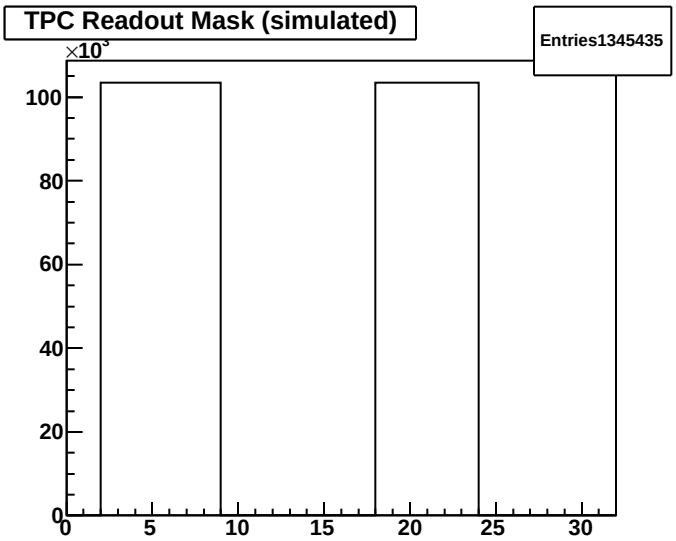

EMC L2 Input - HT01 bits/Partial JP ID
Entries 27
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

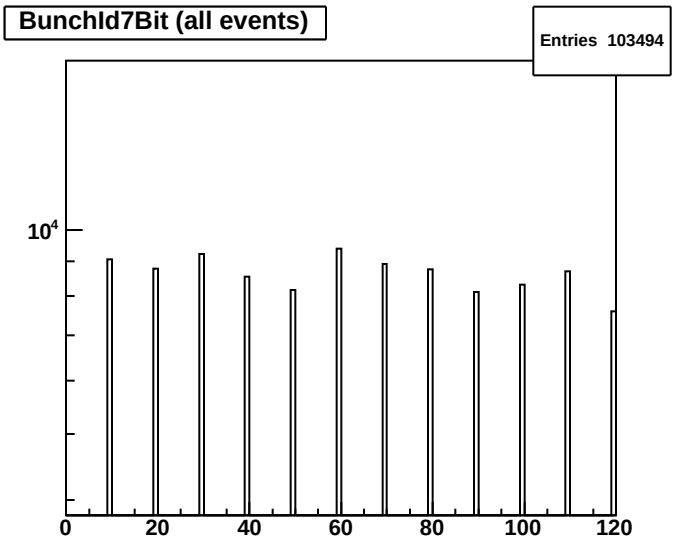

EMC L2 Input - HT23 bits
Entries 827952
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

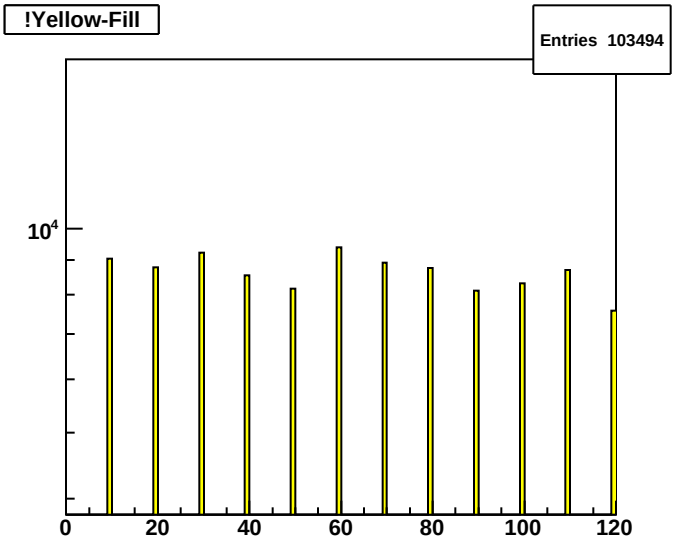

EMC L2 Input - HT23 bits
Entries 27
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

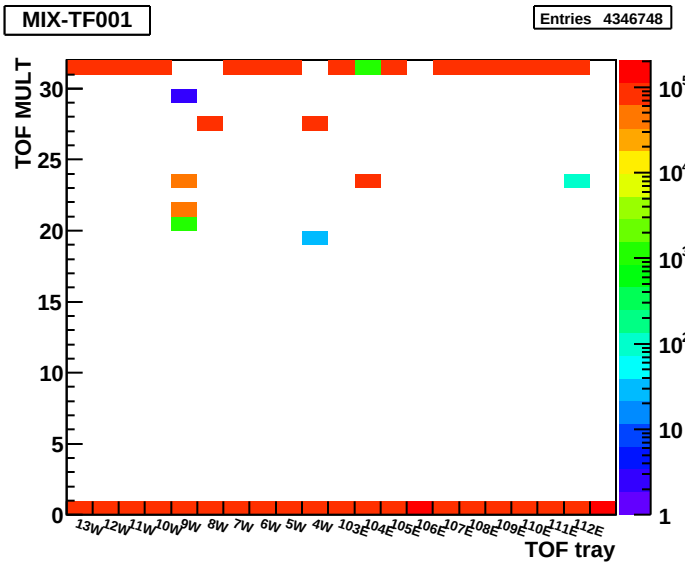

DAQ10k HT bits
Entries1241939
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

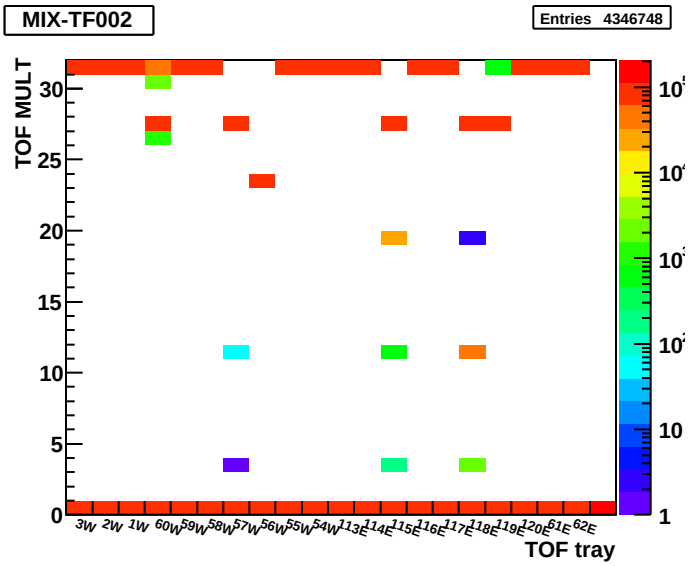

DAQ10k HT bits errors
Entries1244223
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

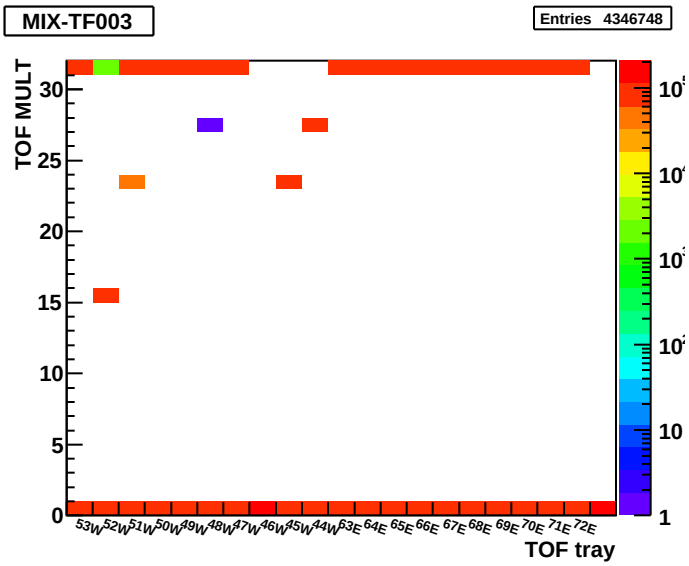

TPC Readout Mask (simulated)
Entries1345435
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30

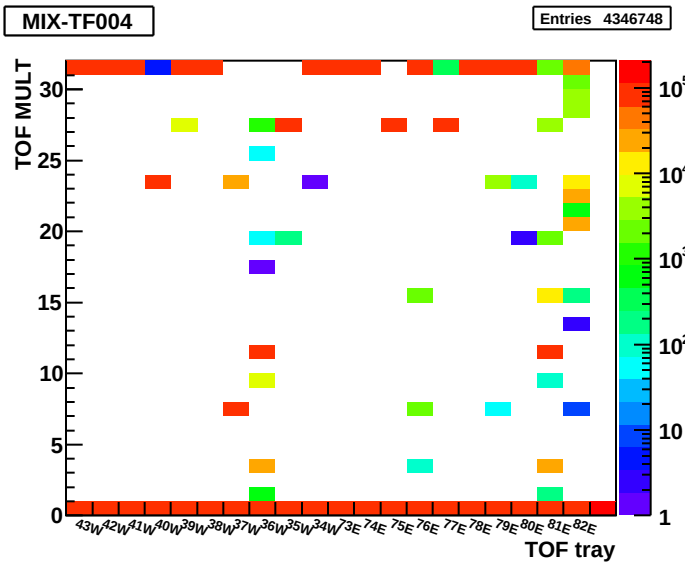

BunchId7Bit (all events)
Entries 103494
10^4
0 20 40 60 80 100 120

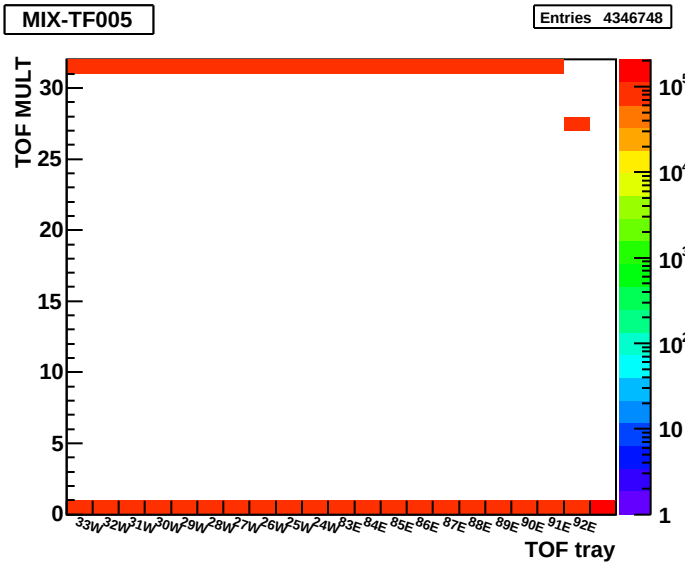

!Yellow-Fill
Entries 103494
10^4
0 20 40 60 80 100 120

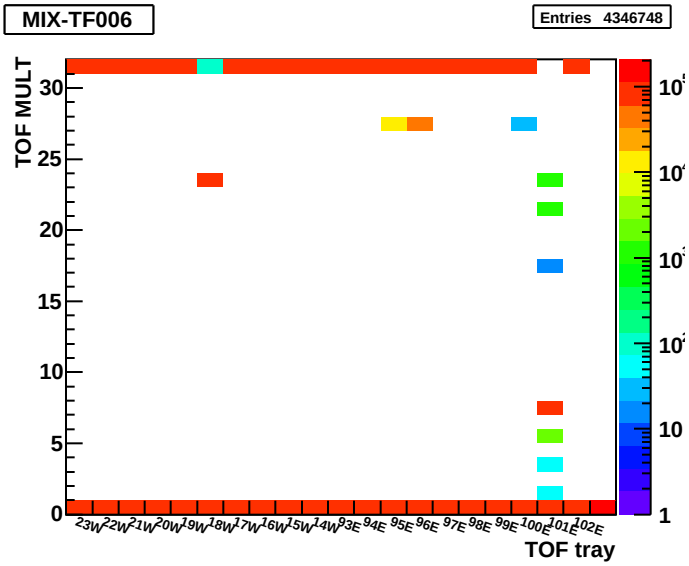

MIX-TF001
Entries 4346748
TOF MULT
TOF tray

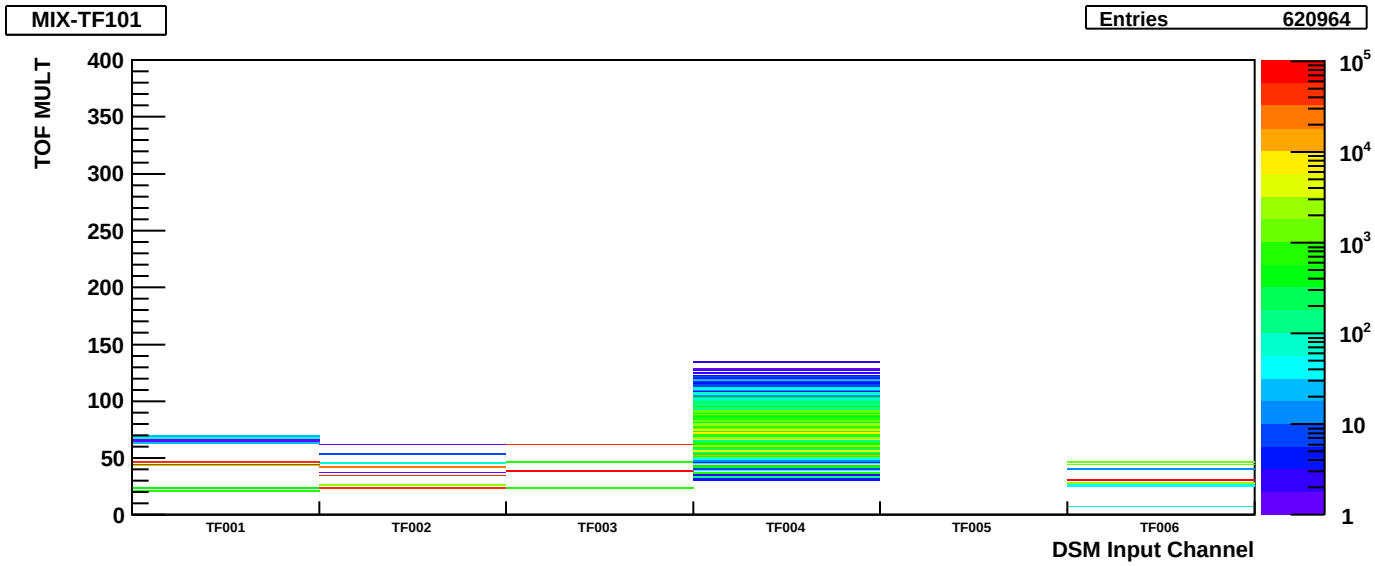

MIX-TF002
Entries 4346748
TOF MULT
TOF tray

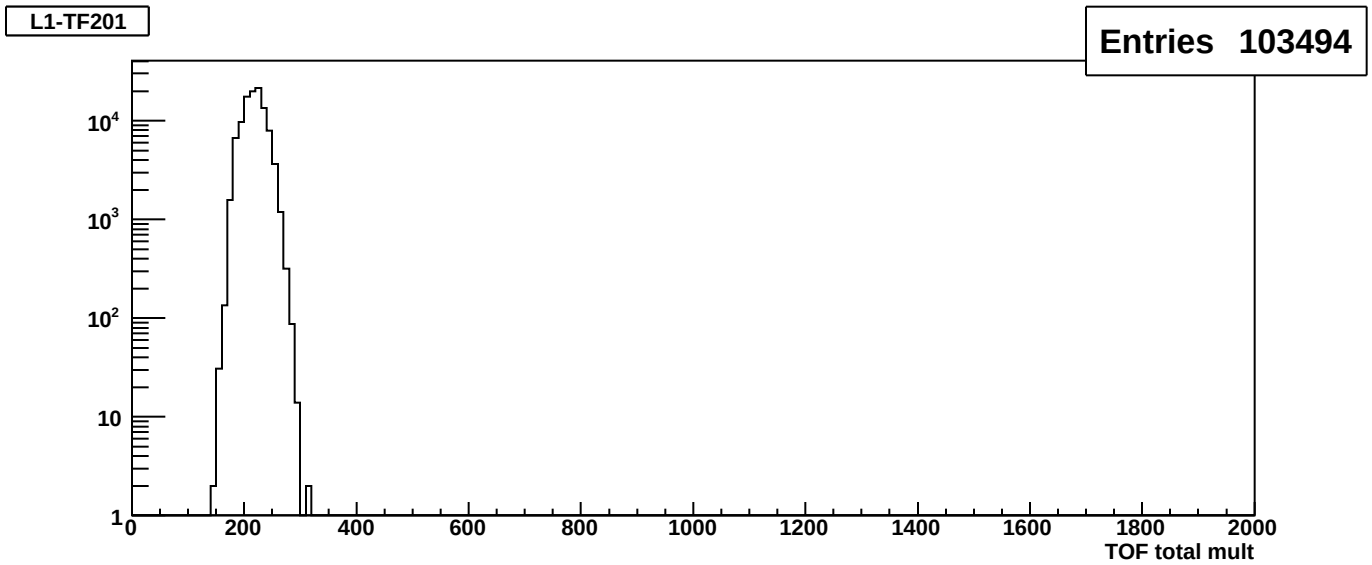

MIX-TF003
Entries 4346748
TOF MULT
TOF tray

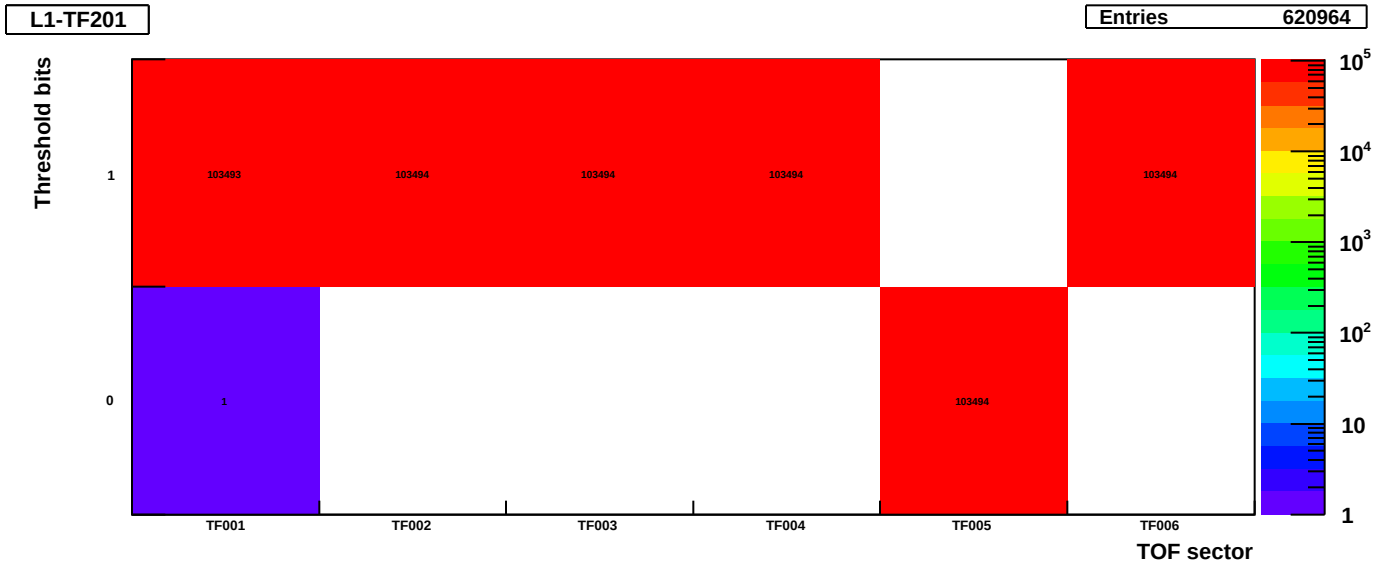

MIX-TF004
Entries 4346748
TOF MULT
TOF tray

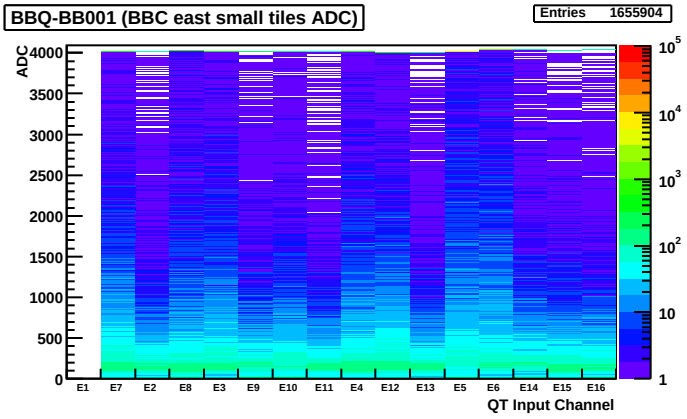

MIX-TF005
Entries 4346748
TOF MULT
TOF tray

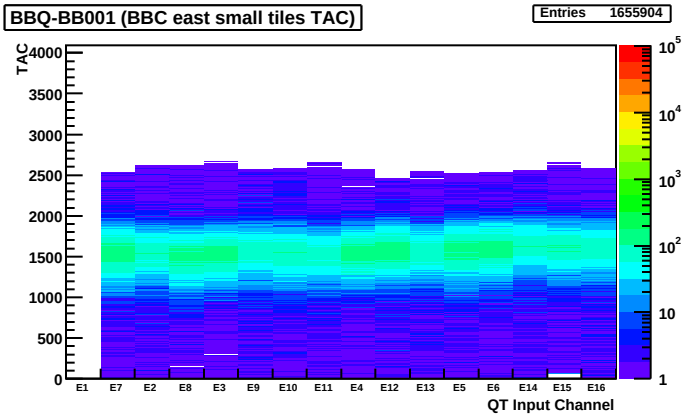

MIX-TF006
Entries 4346748
TOF MULT
TOF tray

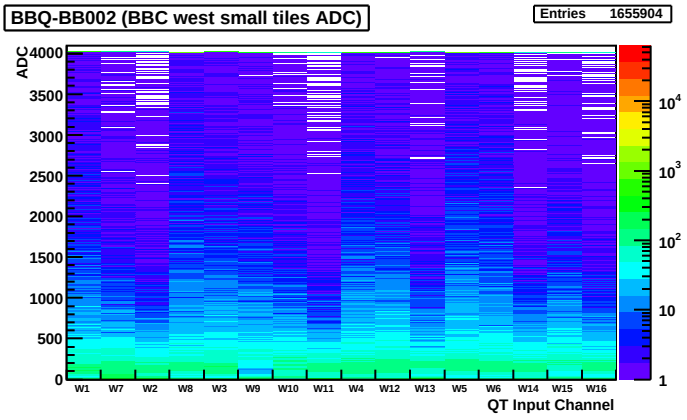

MIX-TF101
Entries 620964
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

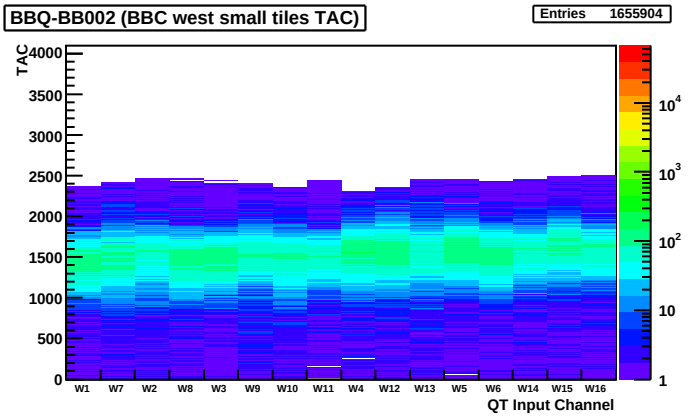

L1-TF201
Entries 103494
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

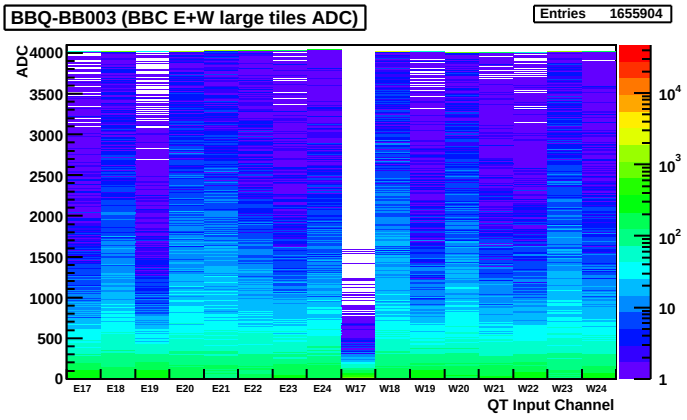

L1-TF201
Entries 620964
Threshold bits
1
0
103493
103494
103494
103494
103494
1
103494
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5
10^4
10^3
10^2
10
1

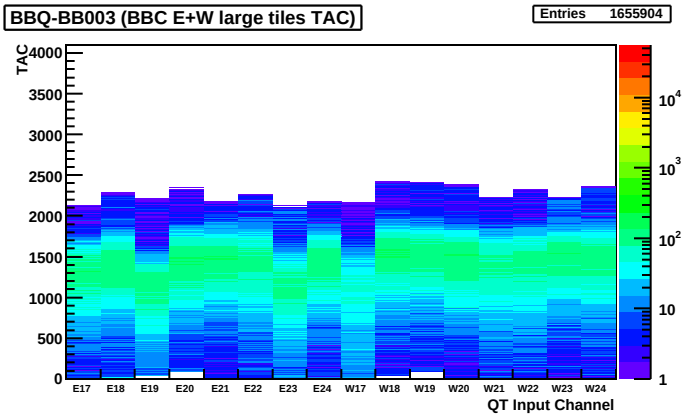

BBQ-BB001 (BBC east small tiles ADC)
Entries 1655904
ADC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

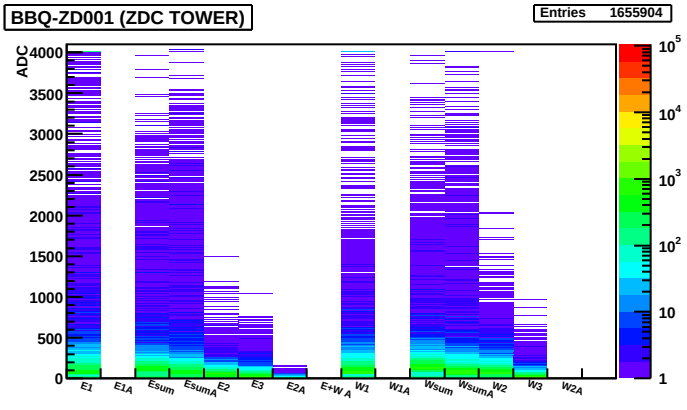

BBQ-BB001 (BBC east small tiles TAC)
Entries 1655904
TAC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

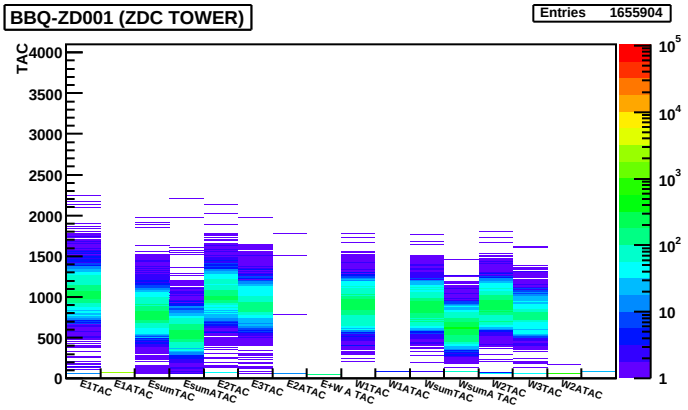

BBQ-BB002 (BBC west small tiles ADC)
Entries 1655904
ADC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

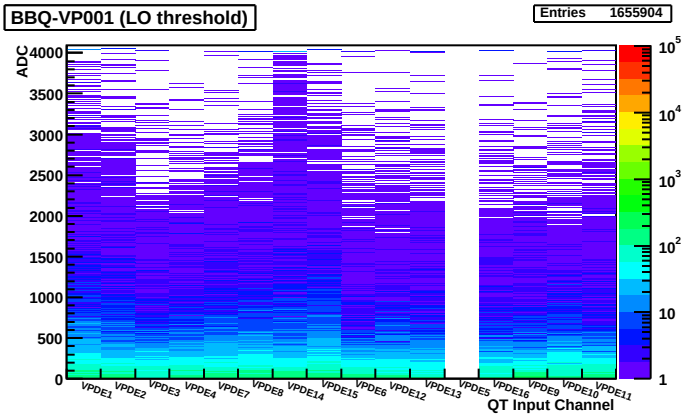

BBQ-BB002 (BBC west small tiles TAC)
Entries 1655904
TAC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

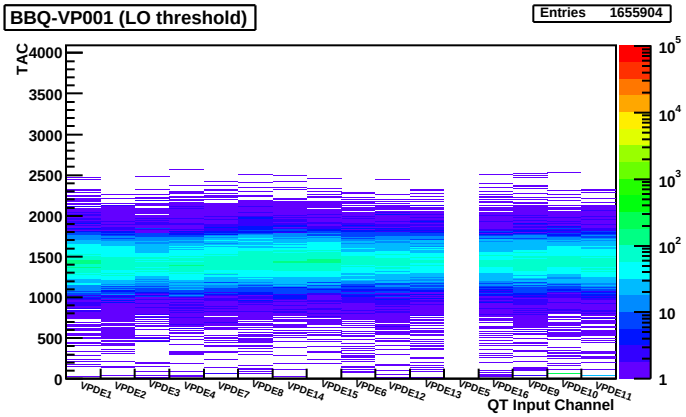

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1655904
ADC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

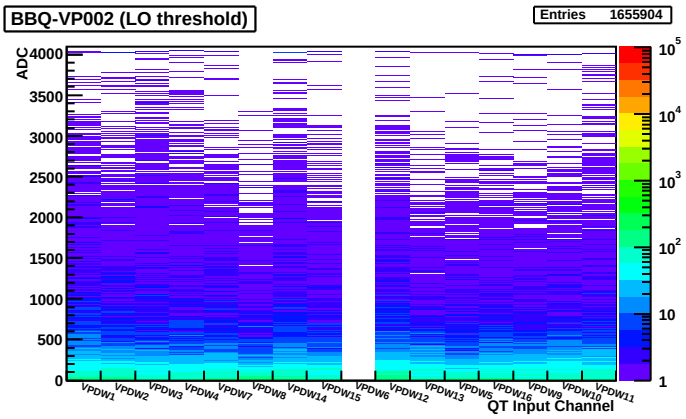

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1655904
TAC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

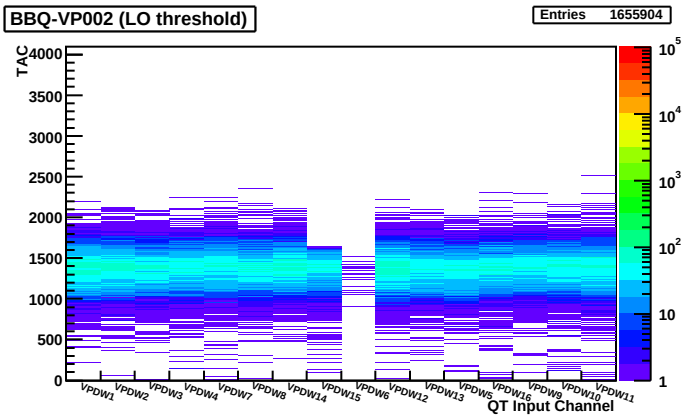

BBQ-ZD001 (ZDC TOWER)
Entries 1655904
ADC
E1 E1A Esum EsumA E2 E3 E2A E+W A W1 W1A Wsum WsumA W2 W3 W2A

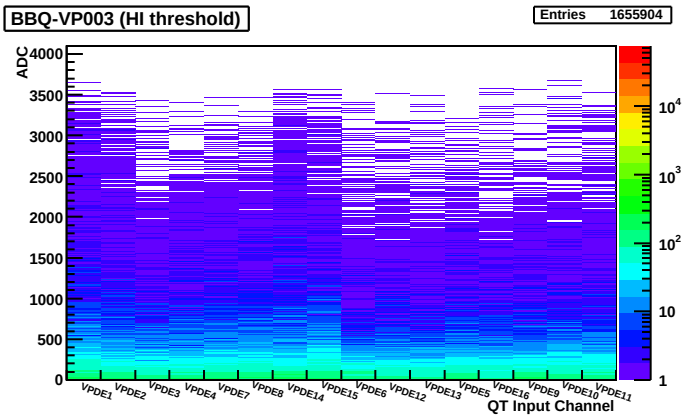

BBQ-ZD001 (ZDC TOWER)
Entries 1655904
TAC
E1TAC E1ATAC EsumTAC EsumATAC E2TAC E3TAC E2ATAC E+W A TAC W1TAC W1ATAC WsumTAC WsumA TAC W2TAC W3TAC W2ATAC

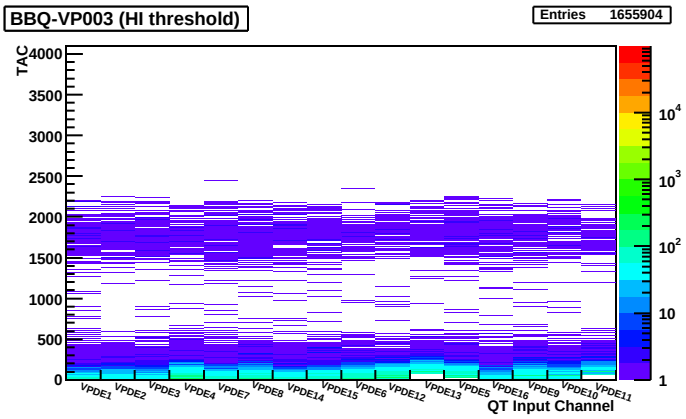

BBQ-VP001 (LO threshold)
Entries 1655904
ADC
QT Input Channel

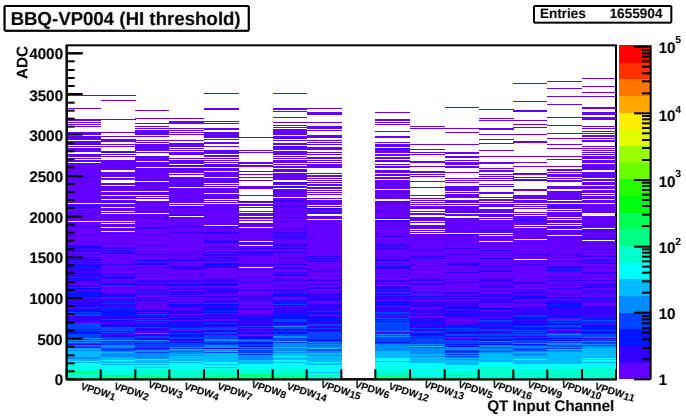

BBQ-VP001 (LO threshold)
Entries 1655904
TAC
QT Input Channel

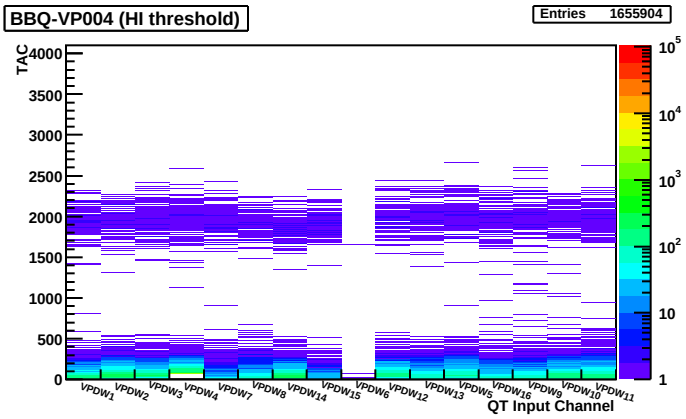

BBQ-VP002 (LO threshold)
Entries 1655904
ADC
QT Input Channel

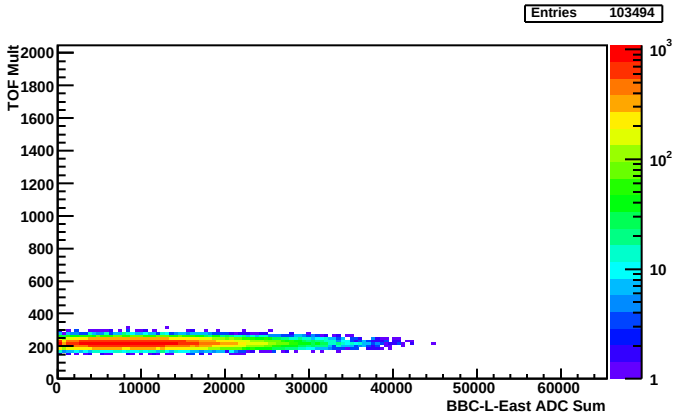

BBQ-VP002 (LO threshold)
Entries 1655904
TAC
QT Input Channel

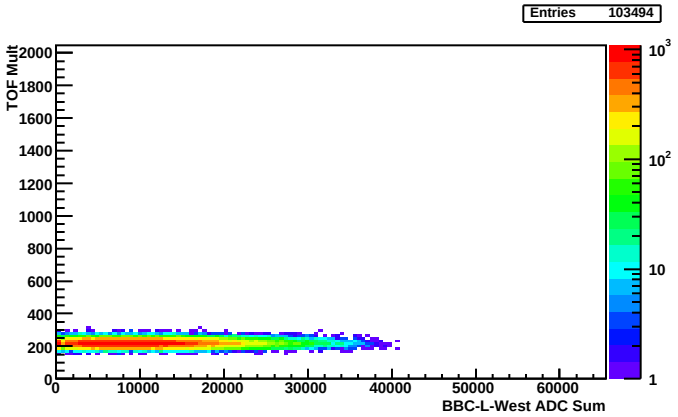

BBQ-VP003 (HI threshold)
Entries 1655904
ADC
QT Input Channel

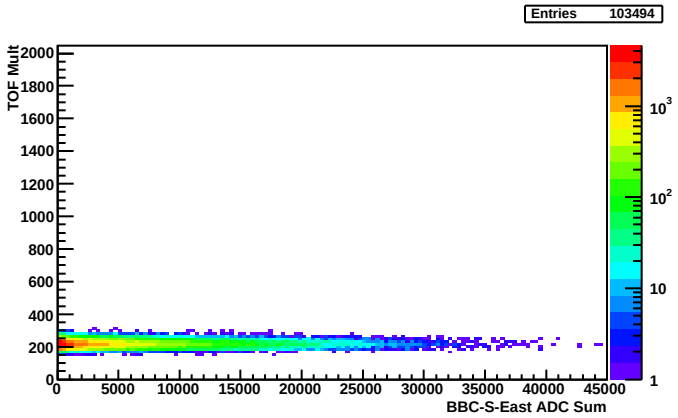

BBQ-VP003 (HI threshold)
Entries 1655904
TAC
QT Input Channel

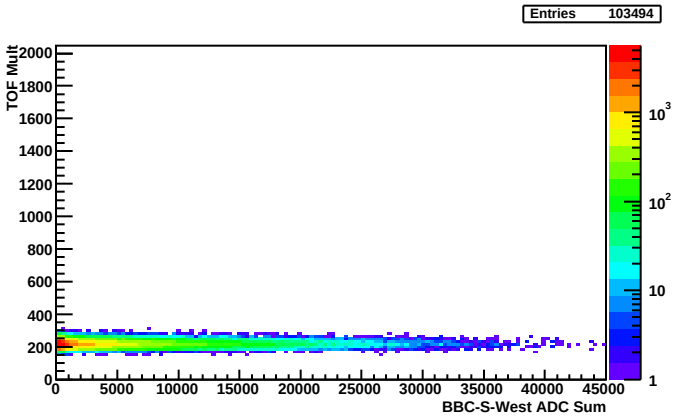

BBQ-VP004 (HI threshold)
Entries 1655904
ADC
QT Input Channel

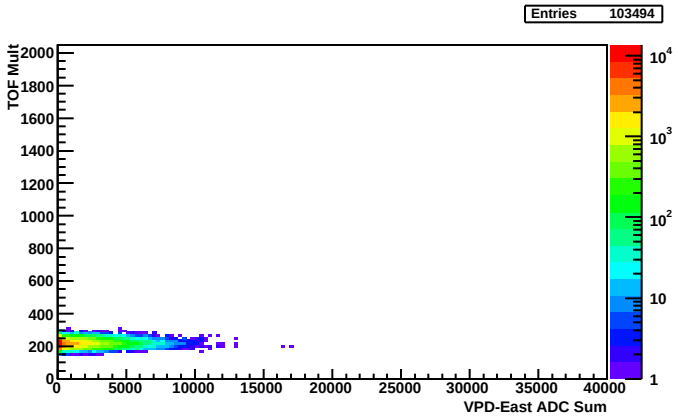

BBQ-VP004 (HI threshold)
Entries 1655904
TAC
QT Input Channel

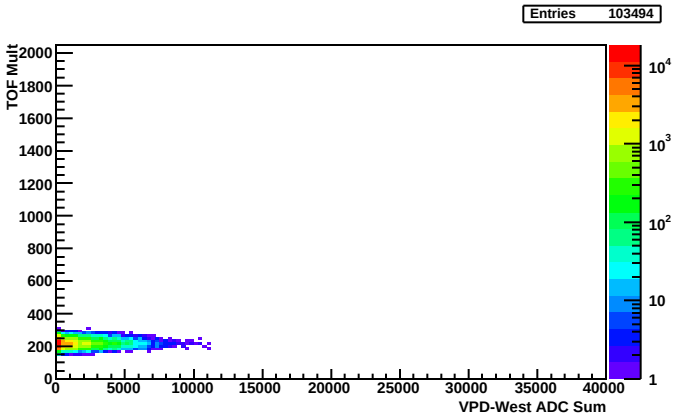

Entries 103494
TOF Mult
BBC-L-East ADC Sum

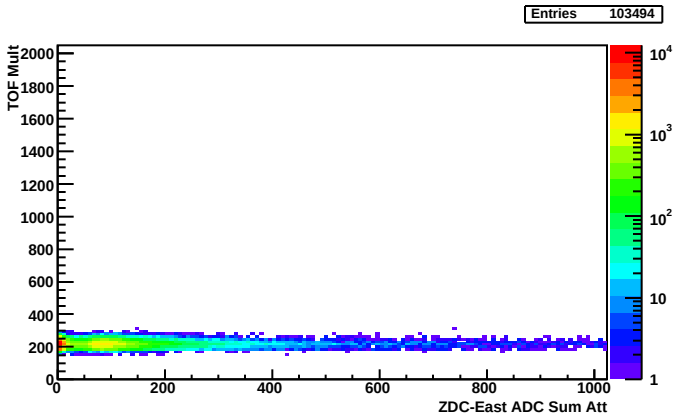

Entries 103494
TOF Mult
BBC-L-West ADC Sum

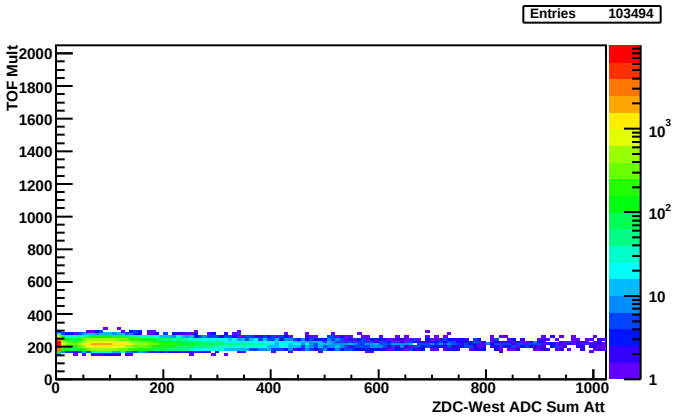

Entries 103494
TOF Mult
BBC-S-East ADC Sum

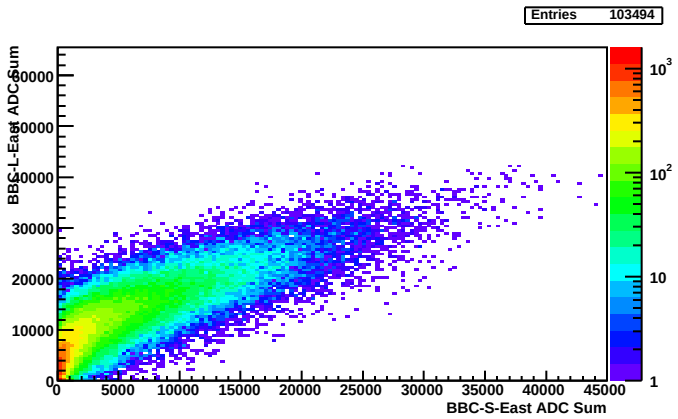

Entries 103494
TOF Mult
BBC-S-West ADC Sum

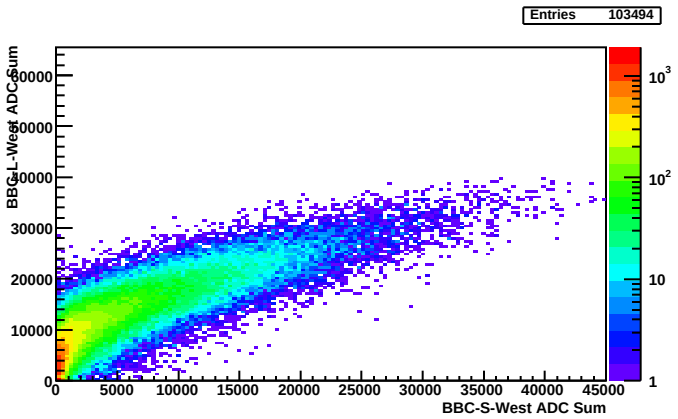

Entries 103494
TOF Mult
VPD-East ADC Sum

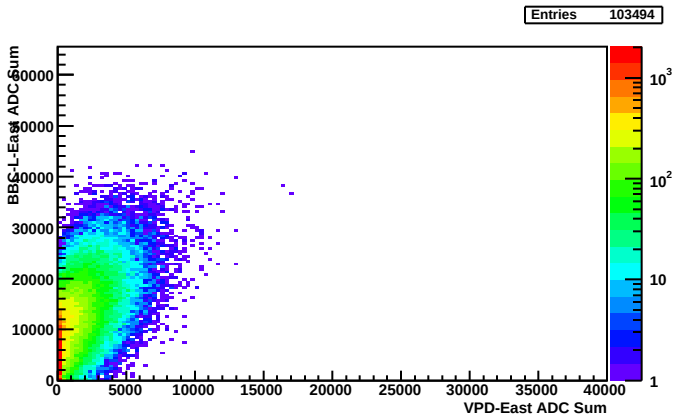

Entries 103494
TOF Mult
VPD-West ADC Sum

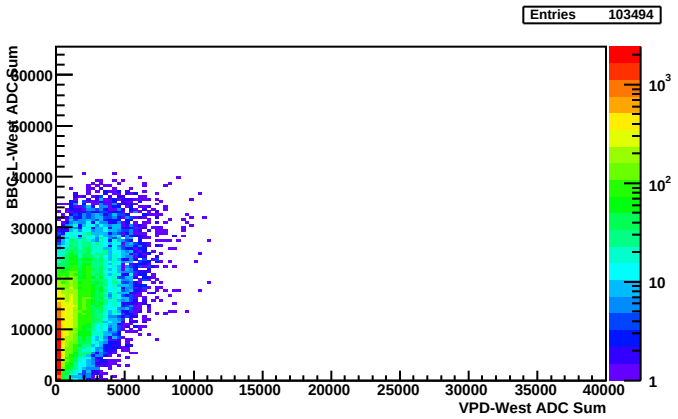

Entries 103494
TOF Mult
ZDC-East ADC Sum Att

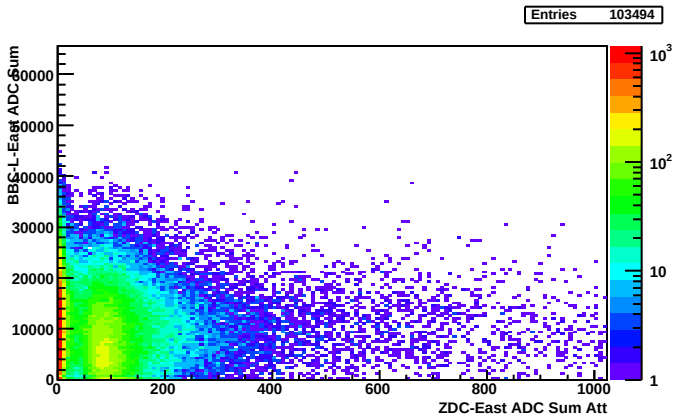

Entries 103494
TOF Mult
ZDC-West ADC Sum Att

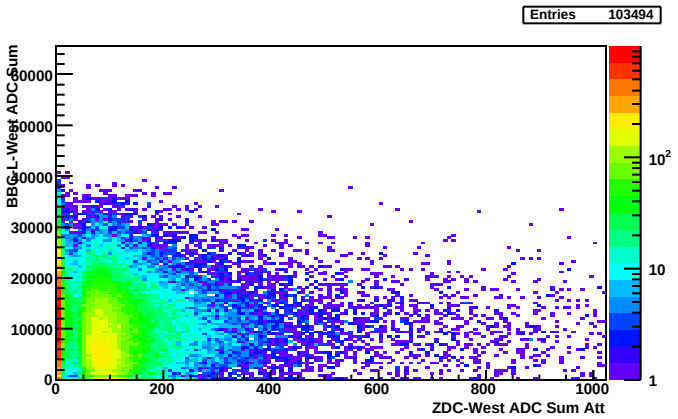

Entries 103494
BBC-L-East ADC Sum
BBC-S-East ADC Sum

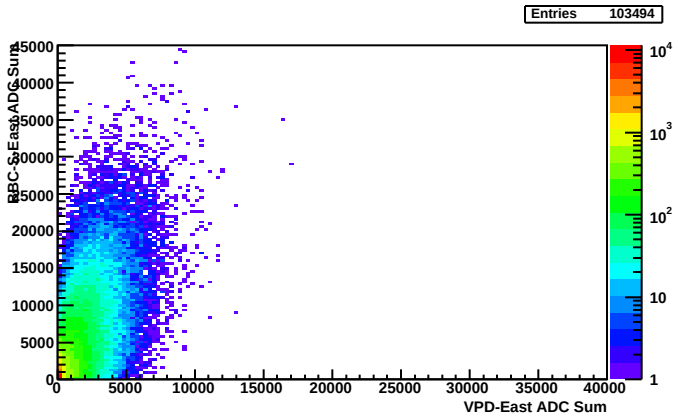

Entries 103494
BBC-L-West ADC Sum
BBC-S-West ADC Sum

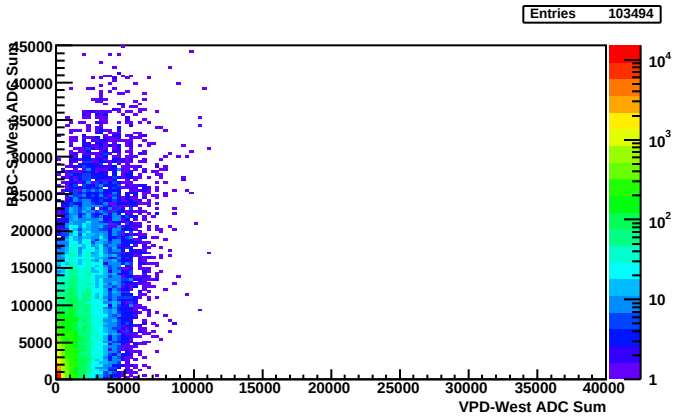

Entries 103494
BBC-L-East ADC Sum
VPD-East ADC Sum

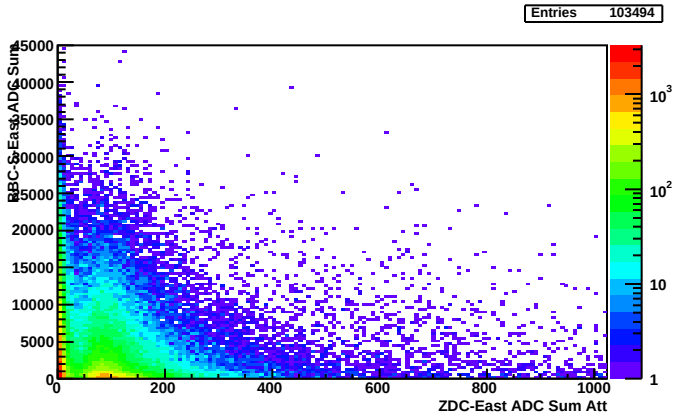

Entries 103494
BBC-L-West ADC Sum
VPD-West ADC Sum

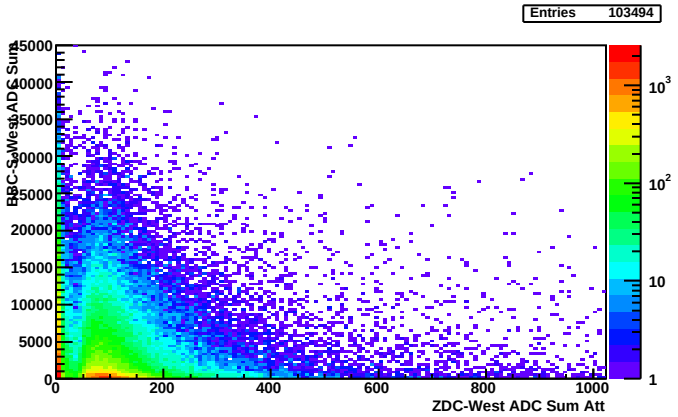

Entries 103494
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

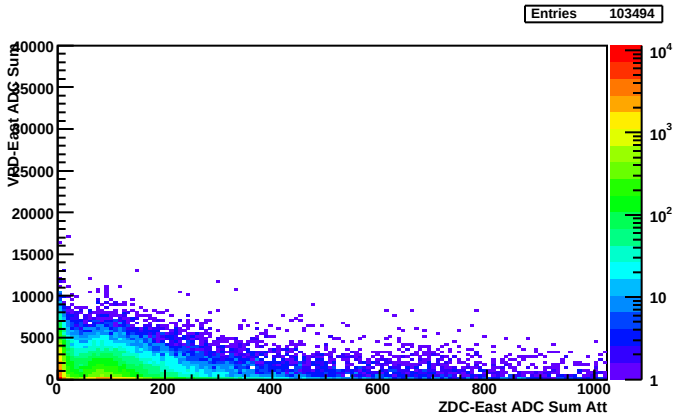

Entries 103494
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

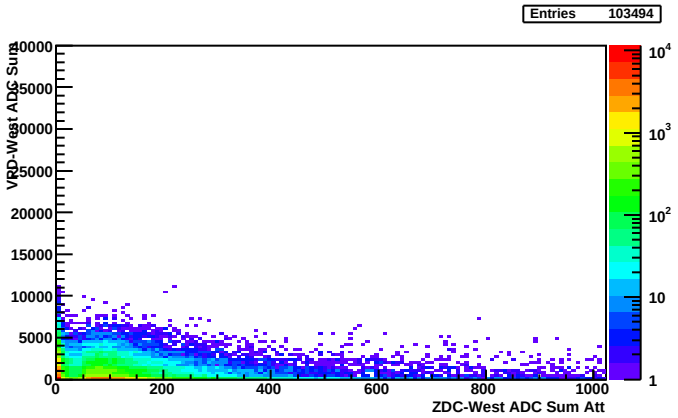

Entries 103494
BBC-S-East ADC Sum
VPD-East ADC Sum

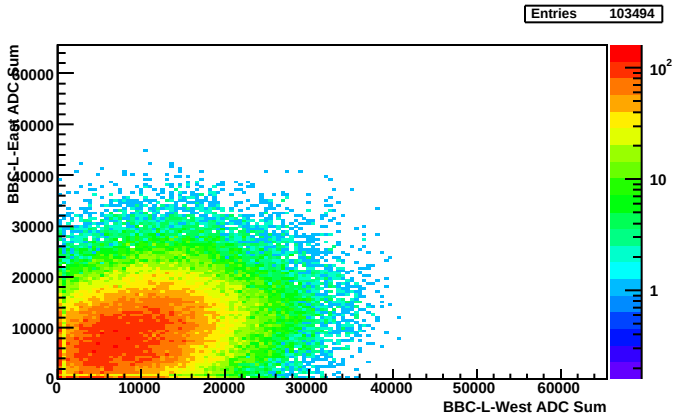

Entries 103494
BBC-S-West ADC Sum
VPD-West ADC Sum

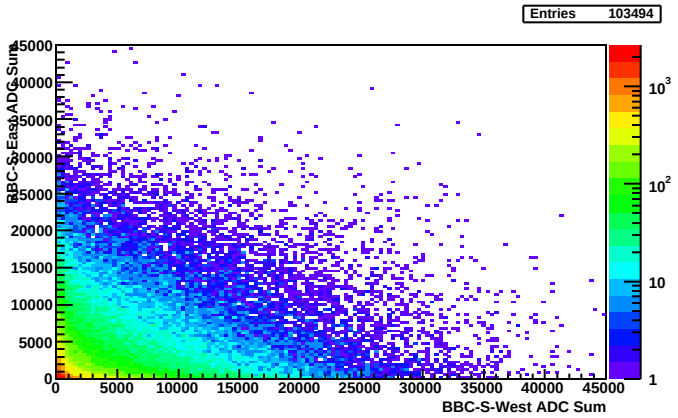

Entries 103494
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

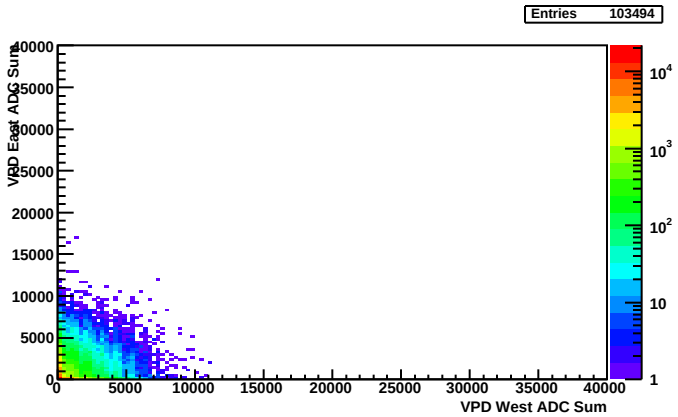

Entries 103494
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

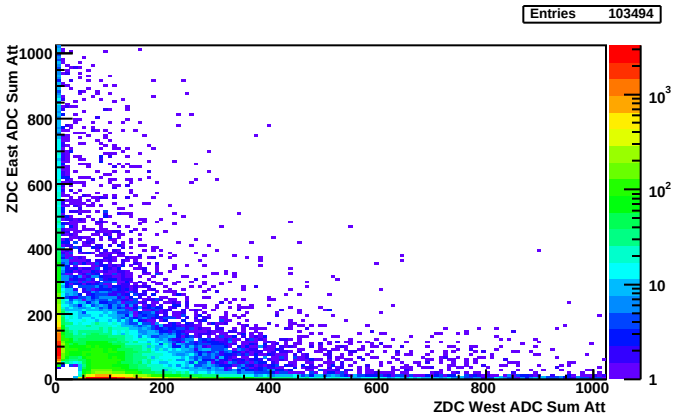

Entries 103494
VPD-East ADC Sum
ZDC-East ADC Sum Att

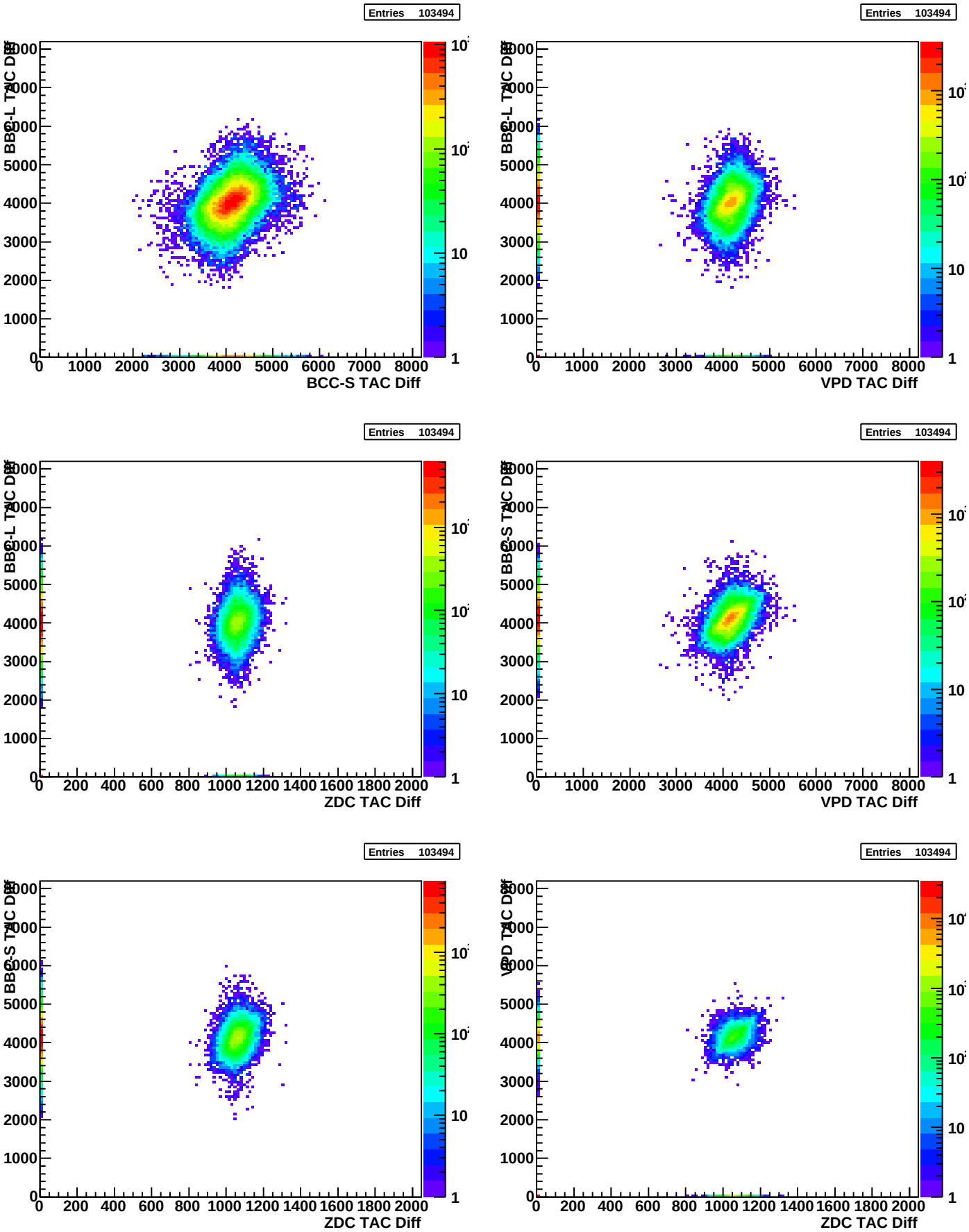

Entries 103494
VPD-West ADC Sum
ZDC-West ADC Sum Att

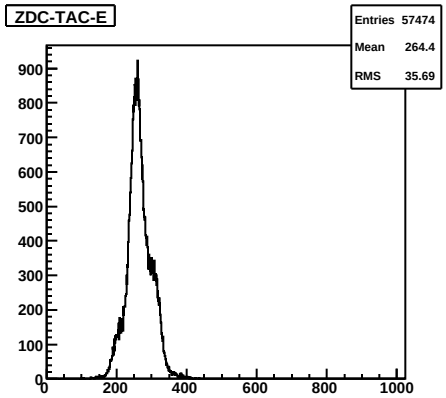

Entries 103494
BBC-L-East ADC Sum
BBC-L-West ADC Sum

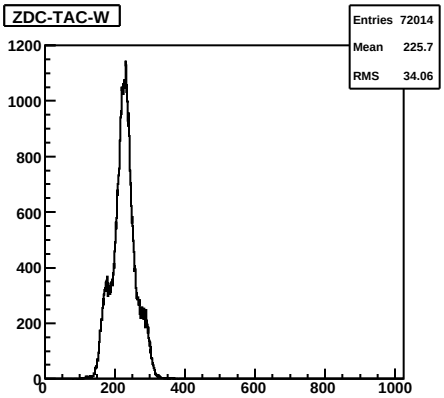

Entries 103494
BBC-S-East ADC Sum
BBC-S-West ADC Sum

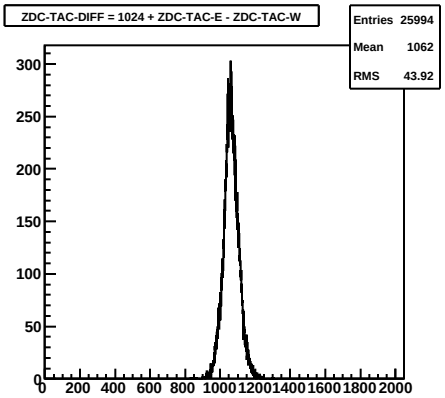

Entries 103494
VPD East ADC Sum
VPD West ADC Sum

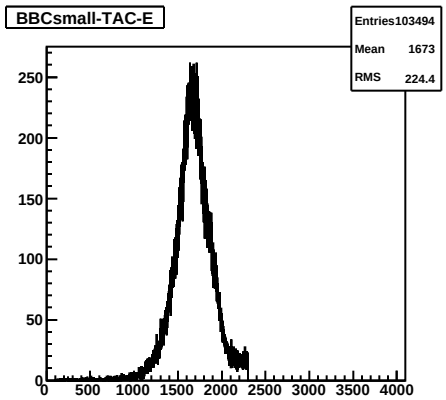

Entries 103494
ZDC East ADC Sum Att
ZDC West ADC Sum Att

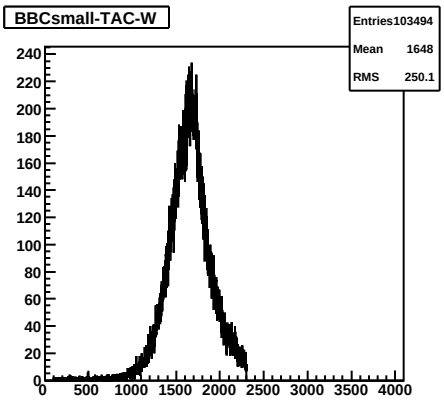

Entries 103494
BBC-L TAC Diff
BCC-S TAC Diff
Entries 103494
BBC-L TAC Diff
VPD TAC Diff
Entries 103494
BBC-L TAC Diff
ZDC TAC Diff
Entries 103494
BBC-S TAC Diff
VPD TAC Diff
Entries 103494
BBC-S TAC Diff
ZDC TAC Diff
Entries 103494
VPD TAC Diff
ZDC TAC Diff

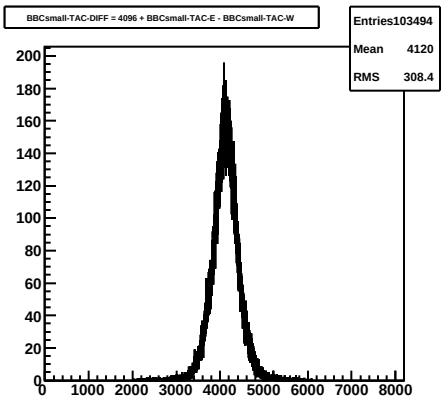

ZDC-TAC-E
Entries 57474
Mean 264.4
RMS 35.69

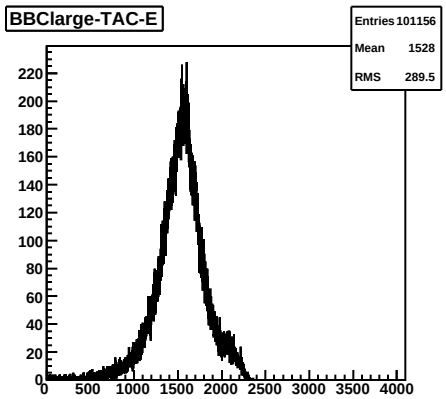

ZDC-TAC-W
Entries 72014
Mean 225.7
RMS 34.06

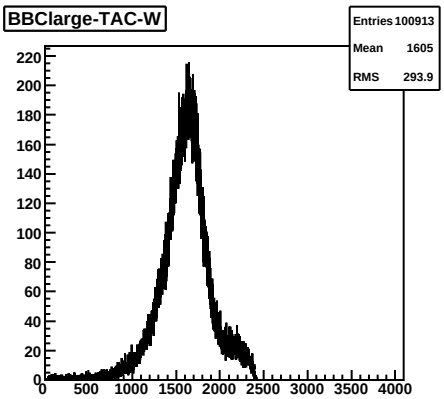

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 25994
Mean 1062
RMS 43.92

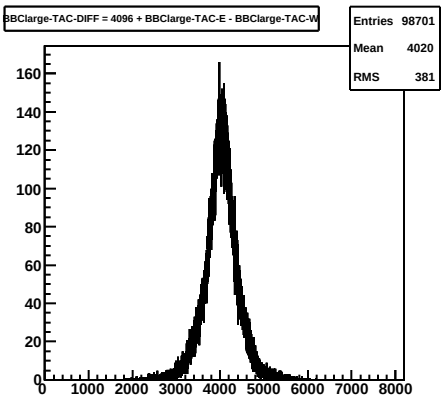

BBCsmall-TAC-E
Entries103494
Mean 1673
RMS 224.4

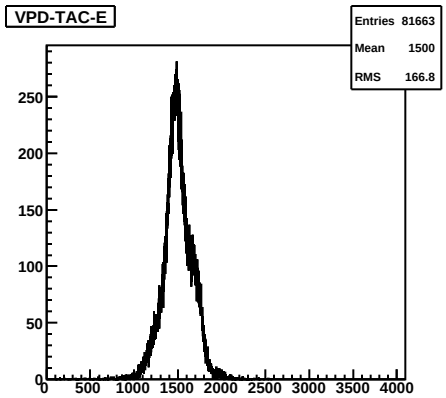

BBCsmall-TAC-W
Entries103494
Mean 1648
RMS 250.1

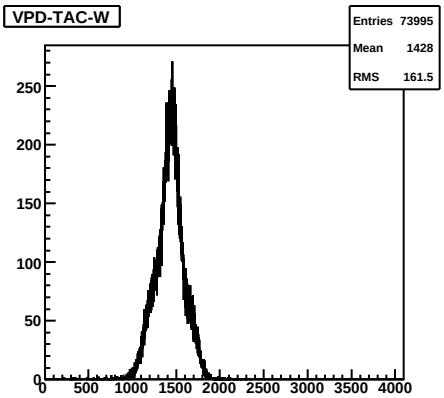

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries103494
Mean 4120
RMS 308.4

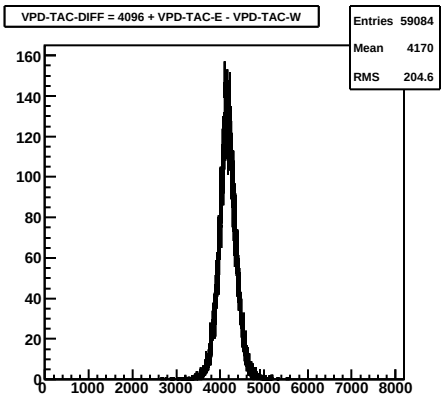

BBClarge-TAC-E
Entries101156
Mean 1528
RMS 289.5

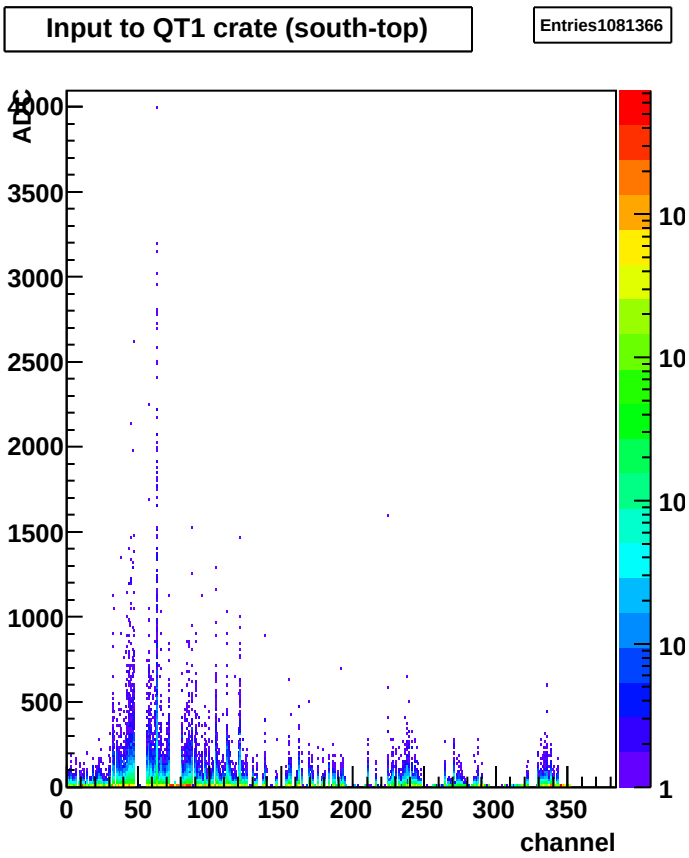

BBClarge-TAC-W
Entries100913
Mean 1605
RMS 293.9

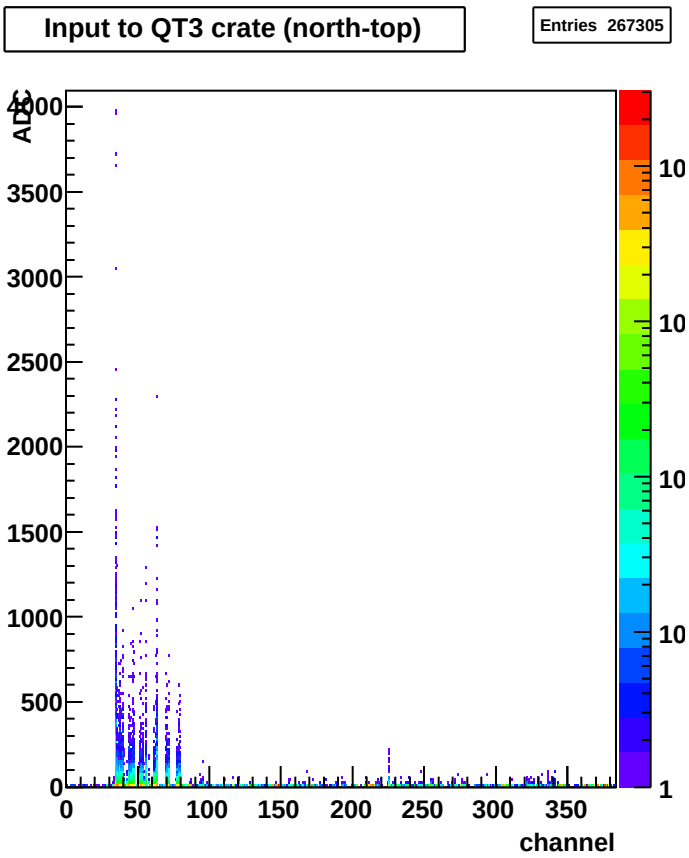

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 98701
Mean 4020
RMS 381

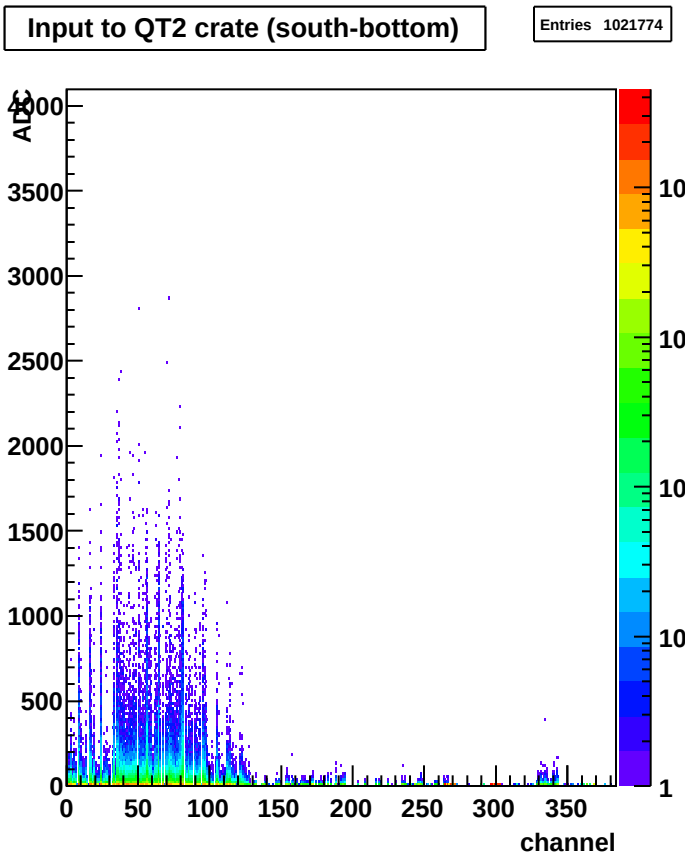

VPD-TAC-E
Entries 81663
Mean 1500
RMS 166.8

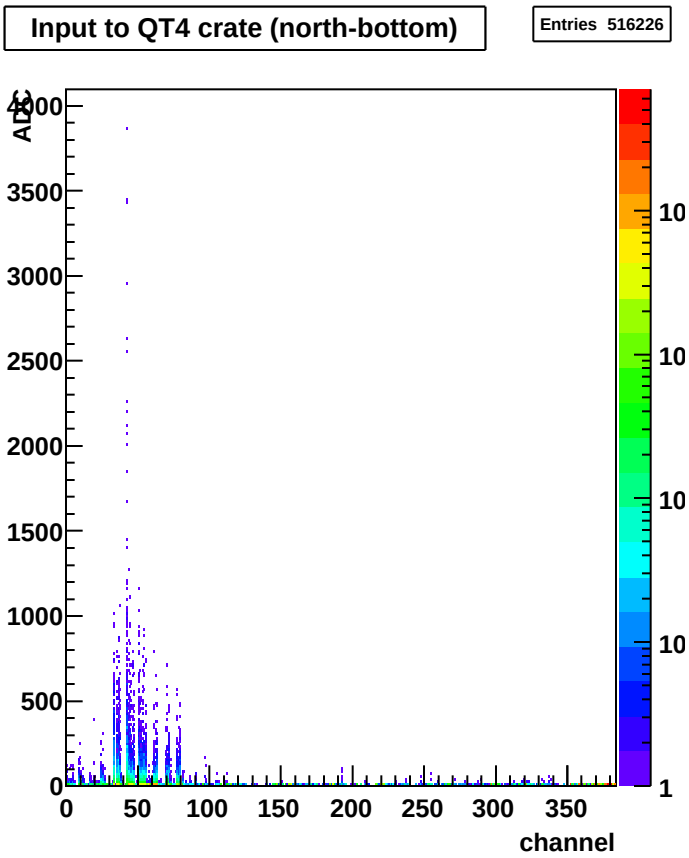

VPD-TAC-W
Entries 73995
Mean 1428
RMS 161.5

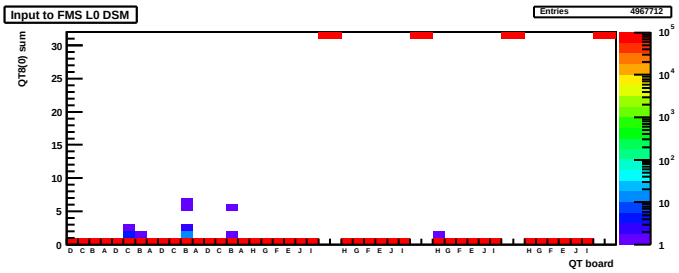

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 59084
Mean 4170
RMS 204.6

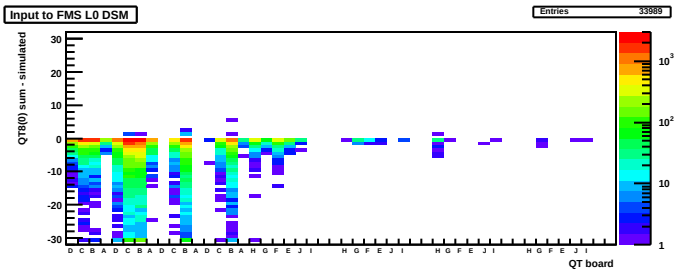

Input to QT1 crate (south-top)
Entries1081366
ADC
channel

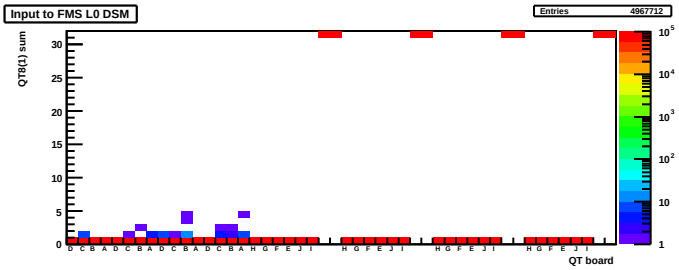

Input to QT3 crate (north-top)
Entries 267305
ADC
channel

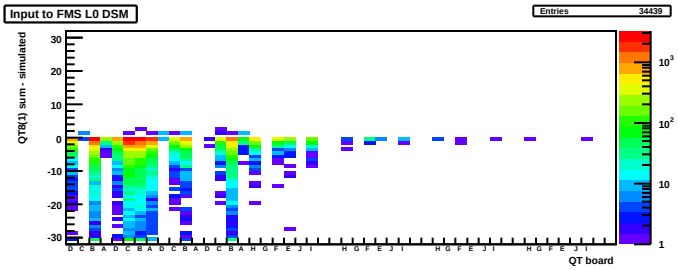

Input to QT2 crate (south-bottom)
Entries 1021774
ADC
channel

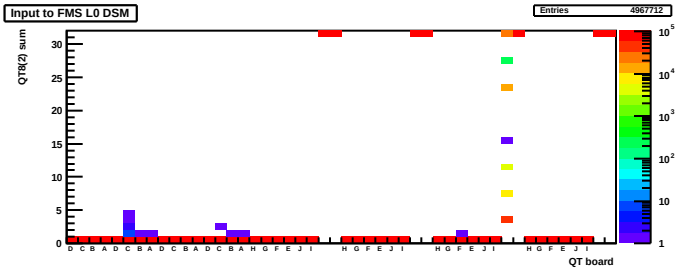

Input to QT4 crate (north-bottom)
Entries 516226
ADC
channel

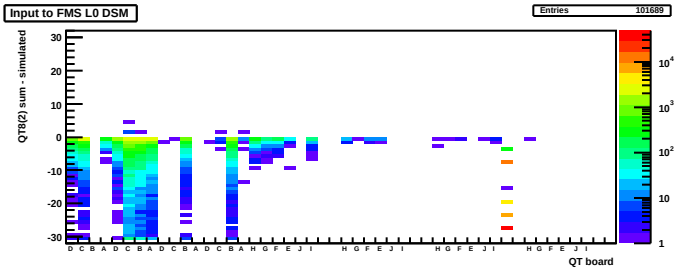

Input to FMS L0 DSM
Entries 4967712
QT8(0) sum
QT board

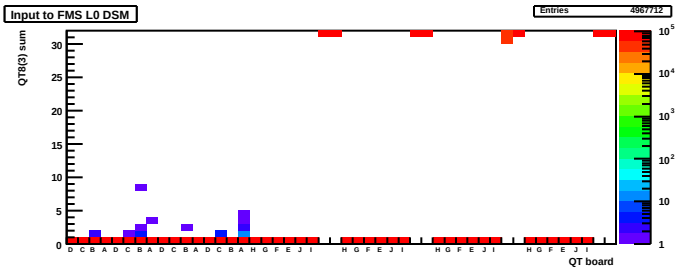

Input to FMS L0 DSM
Entries 33989
QT8(0) sum - simulated
QT board

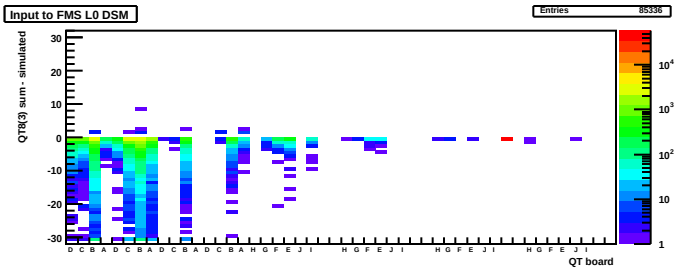

Input to FMS L0 DSM
Entries 4967712
QT8(1) sum
QT board

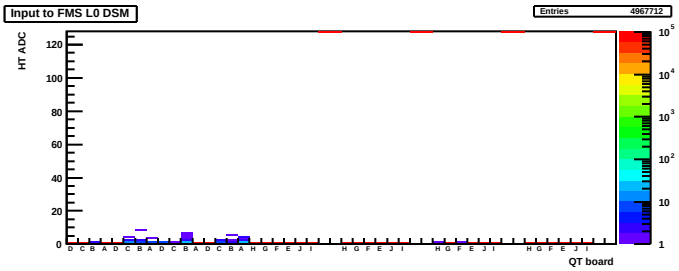

Input to FMS L0 DSM
Entries 34439
QT8(1) sum - simulated
QT board

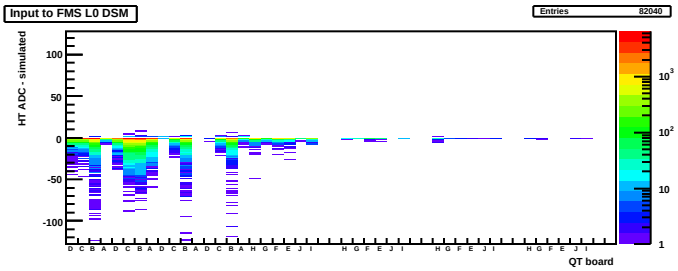

Input to FMS L0 DSM
Entries 4967712
QT8(2) sum
QT board

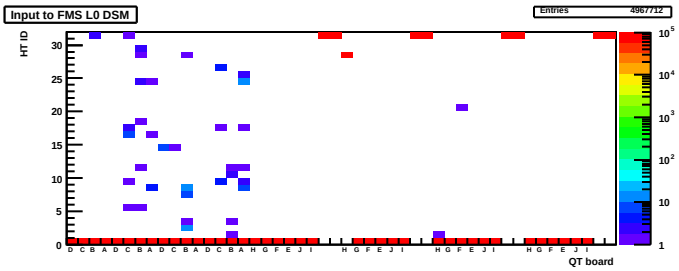

Input to FMS L0 DSM
Entries 101689
QT8(2) sum - simulated
QT board

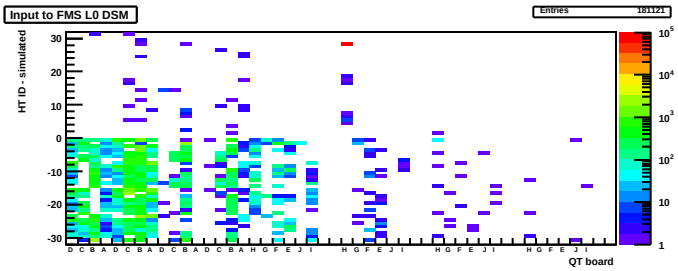

Input to FMS L0 DSM
Entries 4967712
QT8(3) sum
QT board

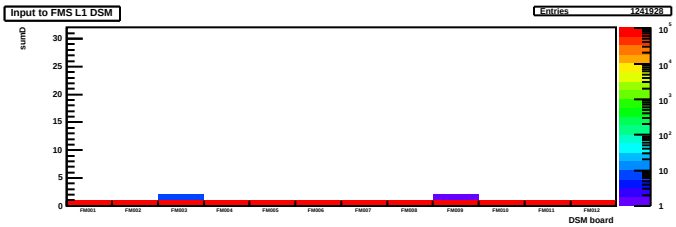

Input to FMS L0 DSM
Entries 85336
QT8(3) sum - simulated
QT board

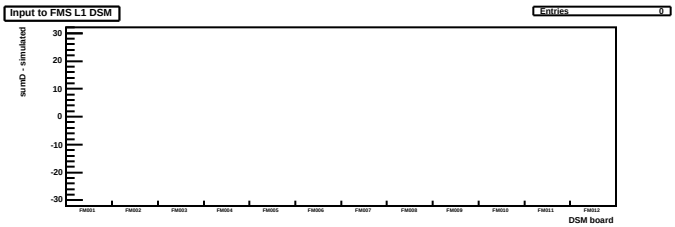

Input to FMS L0 DSM
Entries 4967712
HT ADC
QT board

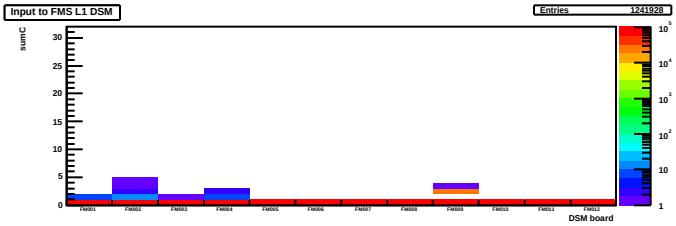

Input to FMS L0 DSM
Entries 82040
HT ADC - simulated
QT board

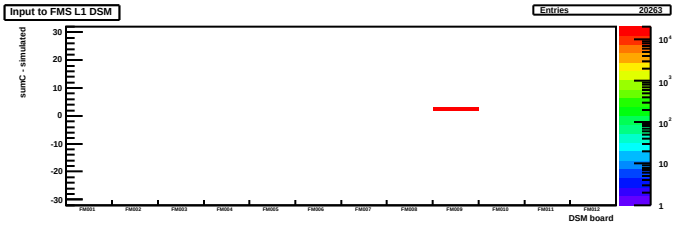

Input to FMS L0 DSM
Entries 4967712
HT ID
QT board

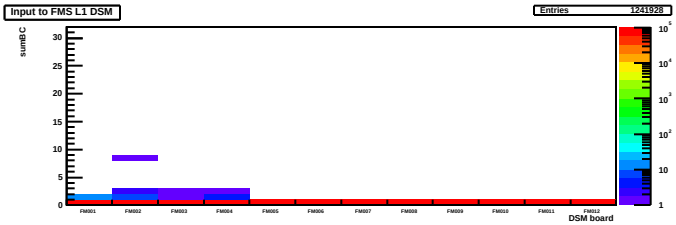

Input to FMS L0 DSM
Entries 181121
HT ID - simulated
QT board

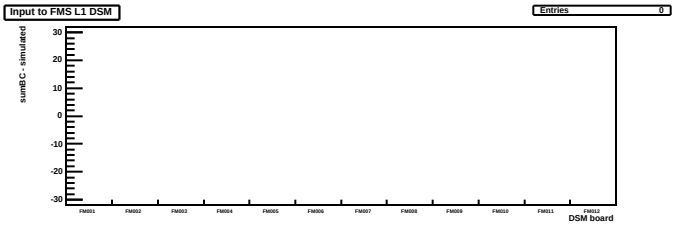

Input to FMS L1 DSM
Entries 1241928
sumD
DSM board

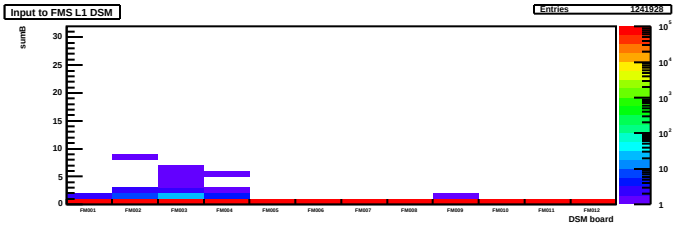

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

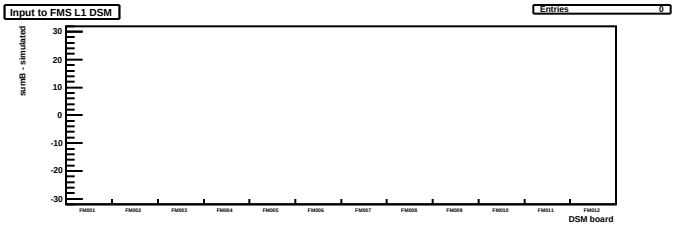

Input to FMS L1 DSM
Entries 1241928
sumC
DSM board

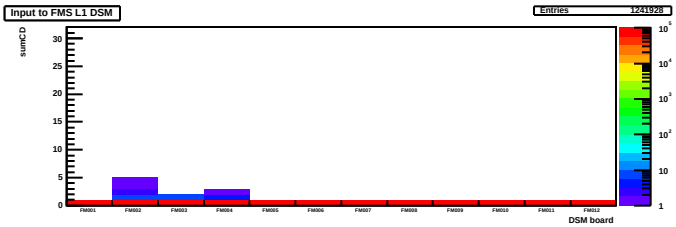

Input to FMS L1 DSM
Entries 20263
sumC - simulated
DSM board

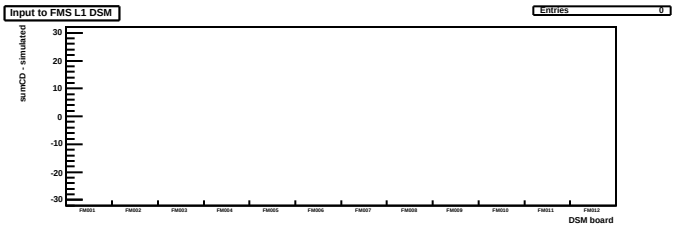

Input to FMS L1 DSM
Entries 1241928
sumBC
DSM board

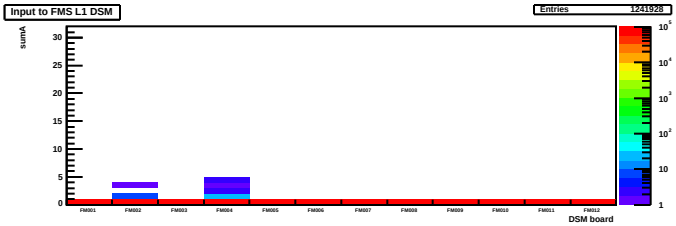

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

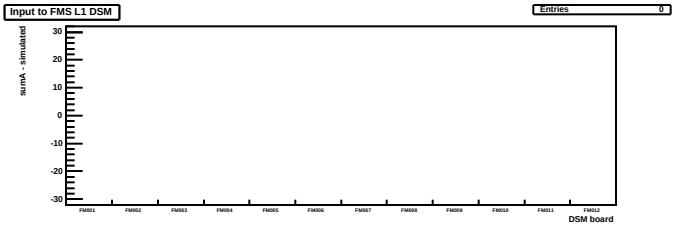

Input to FMS L1 DSM
Entries 1241928
sumB
DSM board

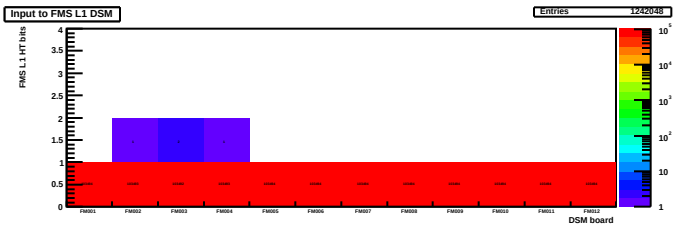

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

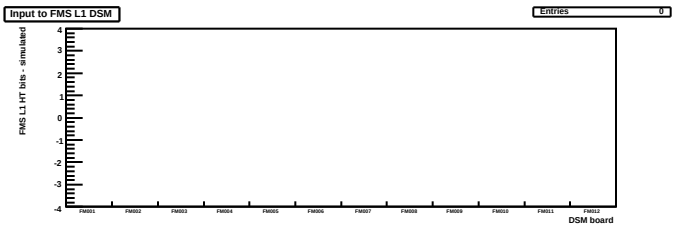

Input to FMS L1 DSM
Entries 1241928
sumCD
DSM board

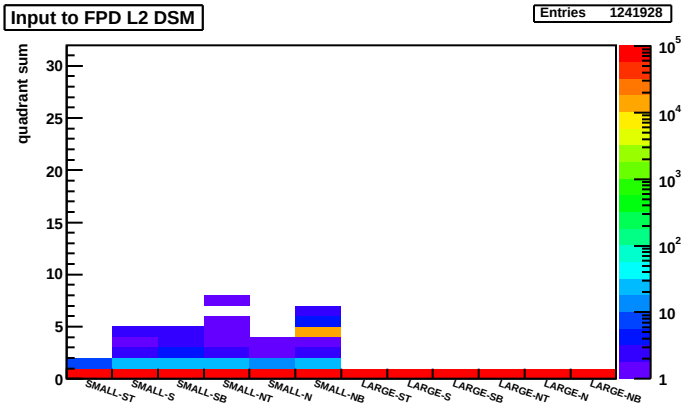

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

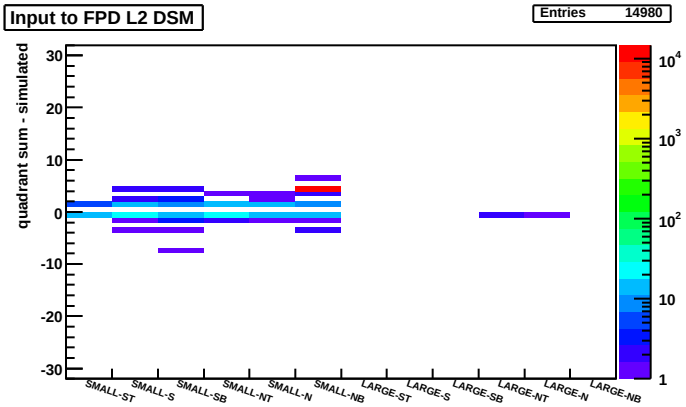

Input to FMS L1 DSM
Entries 1241928
sumA
DSM board

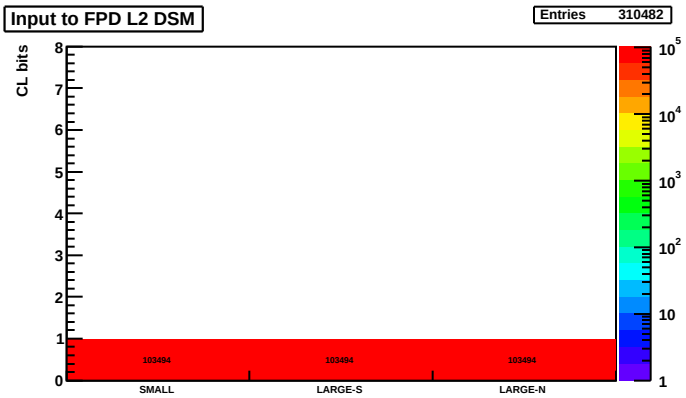

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

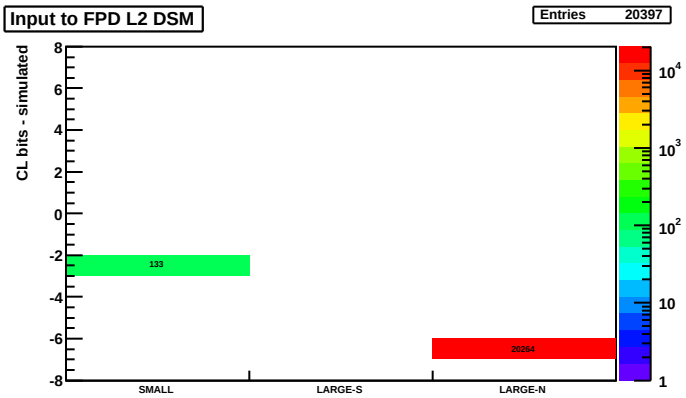

Input to FMS L1 DSM
Entries 1242048
FMS L1 HT bits
DSM board

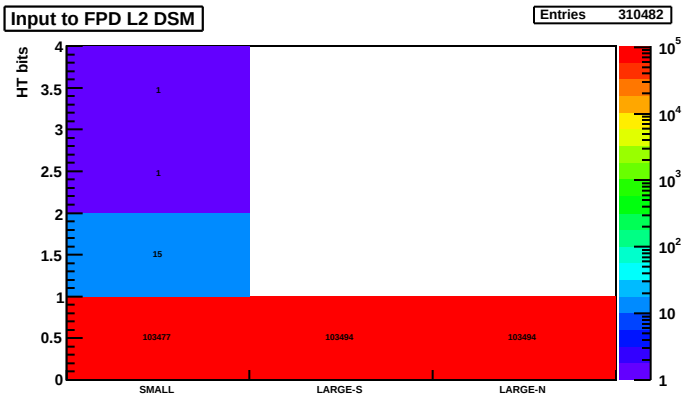

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

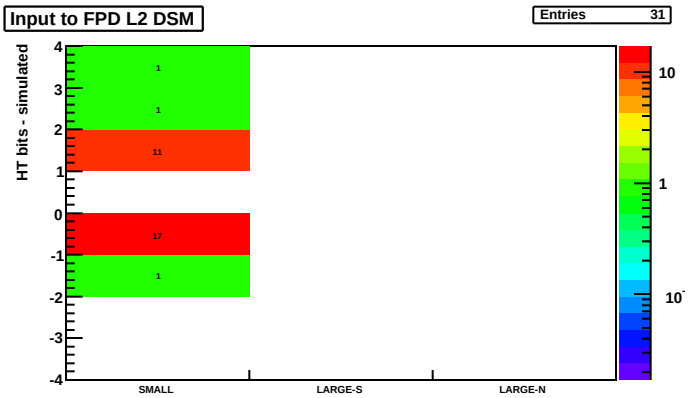

Input to FPD L2 DSM
Entries 1241928
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

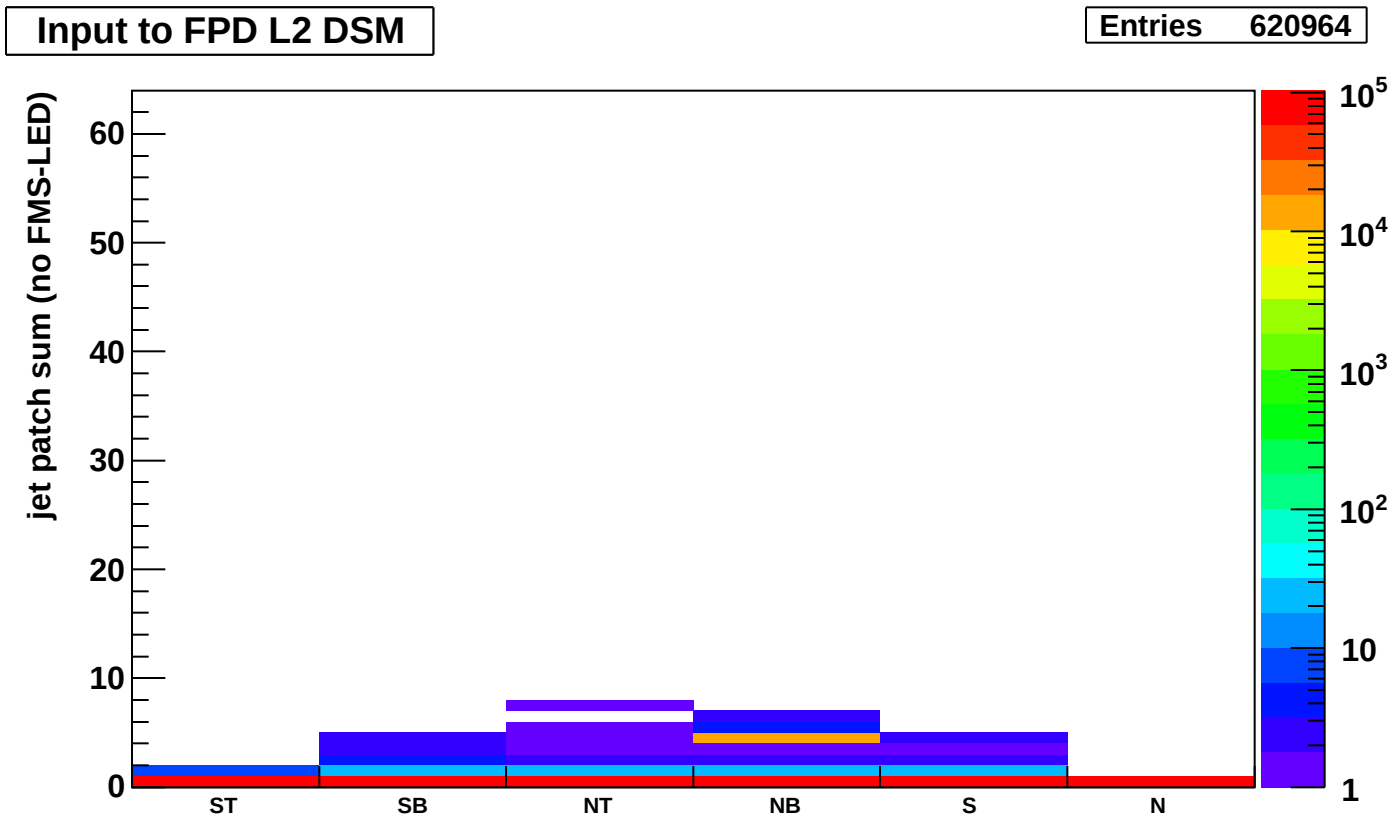

Input to FPD L2 DSM
Entries 14980
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

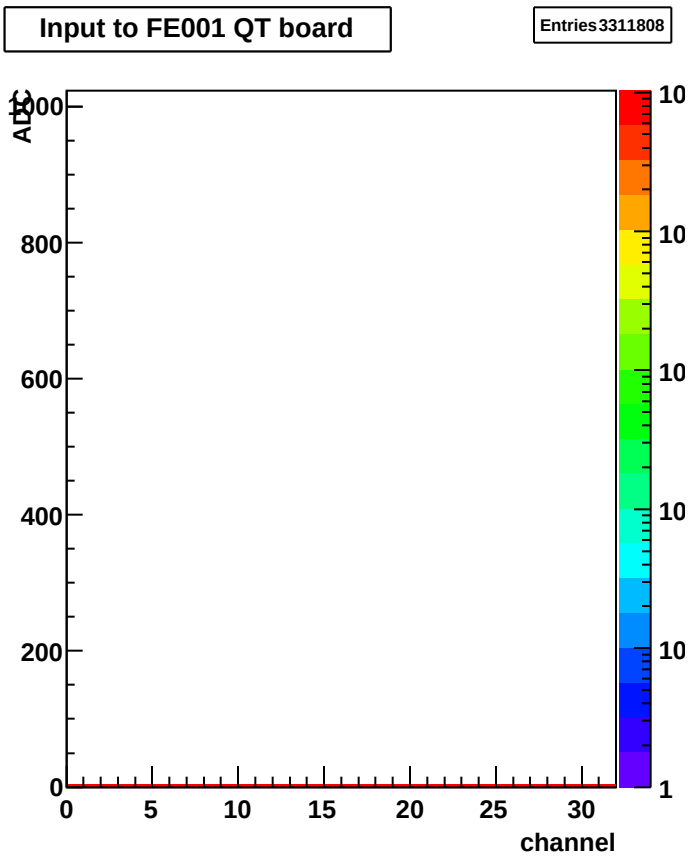

Input to FPD L2 DSM
Entries 310482
CL bits
103494
103494
103494
SMALL
LARGE-S
LARGE-N

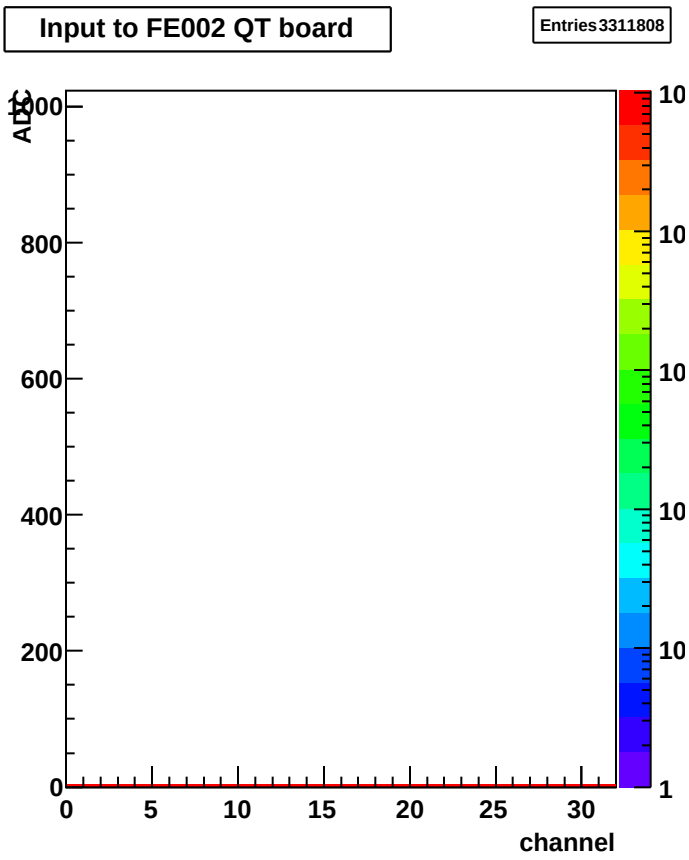

Input to FPD L2 DSM
Entries 20397
CL bits - simulated
133
20264
SMALL
LARGE-S
LARGE-N

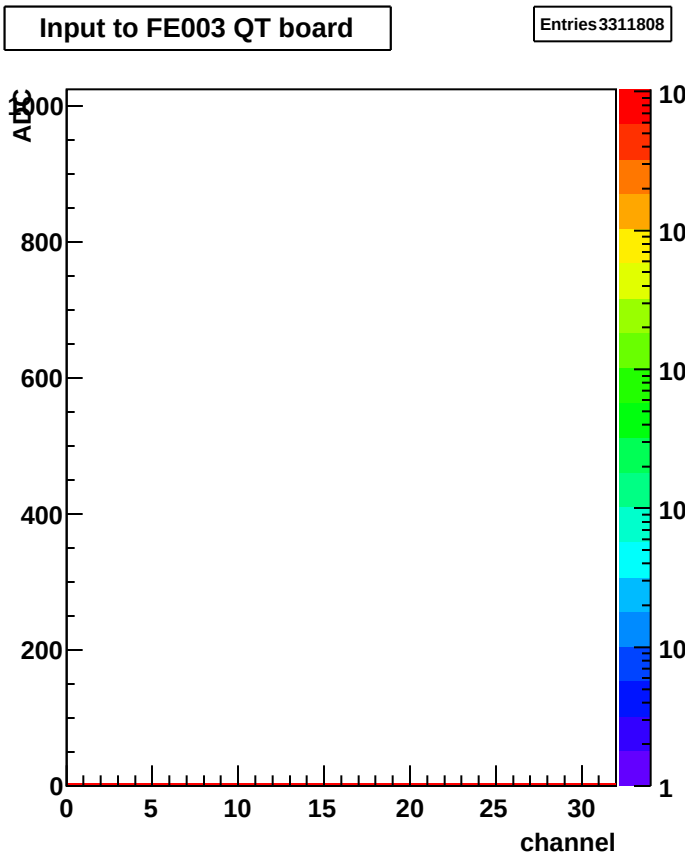

Input to FPD L2 DSM
Entries 310482
HT bits
1
1
15
103477
103494
103494
SMALL
LARGE-S
LARGE-N

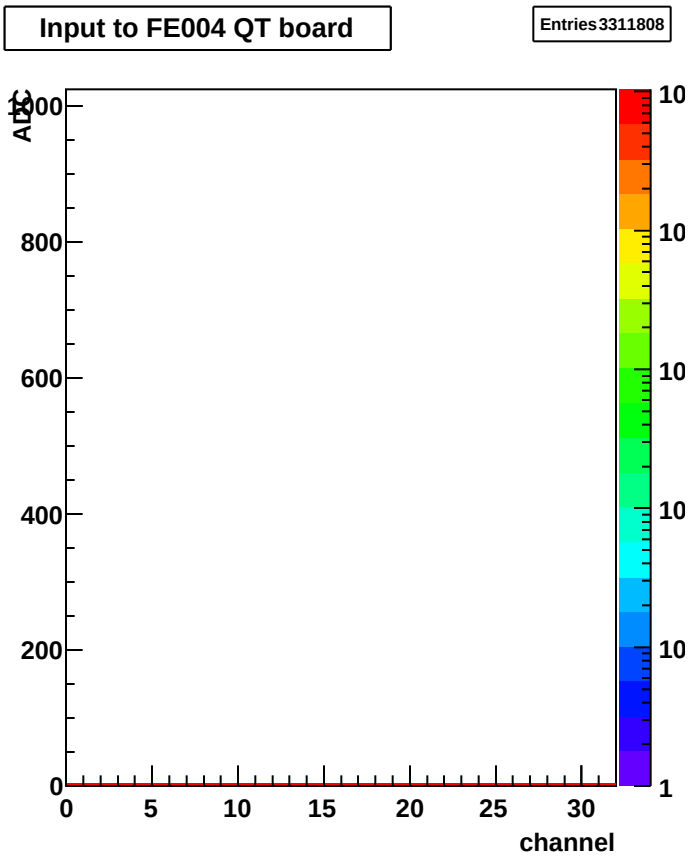

Input to FPD L2 DSM
Entries 31
HT bits - simulated
1
1
11
17
1
SMALL
LARGE-S
LARGE-N

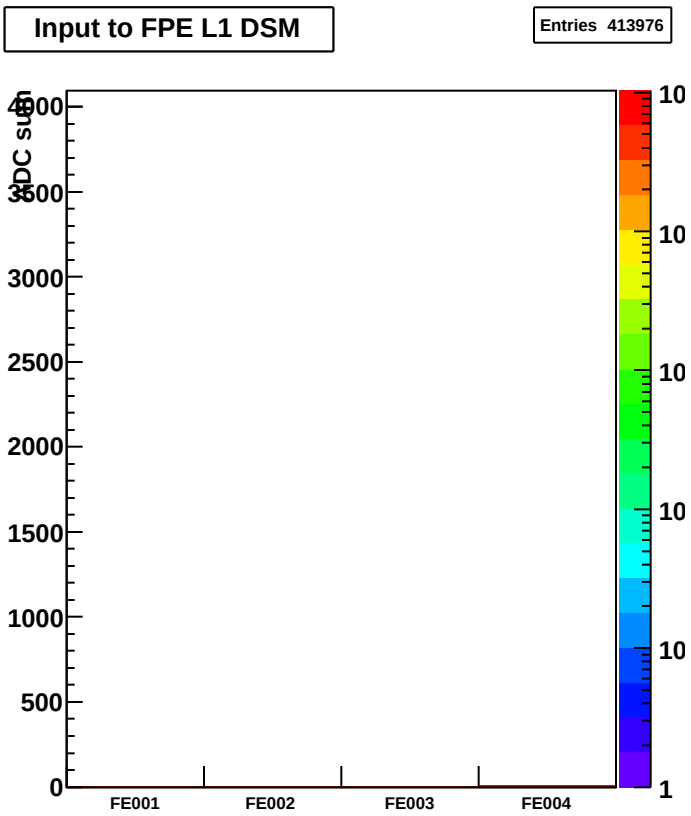

Input to FPD L2 DSM
Entries 620964
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

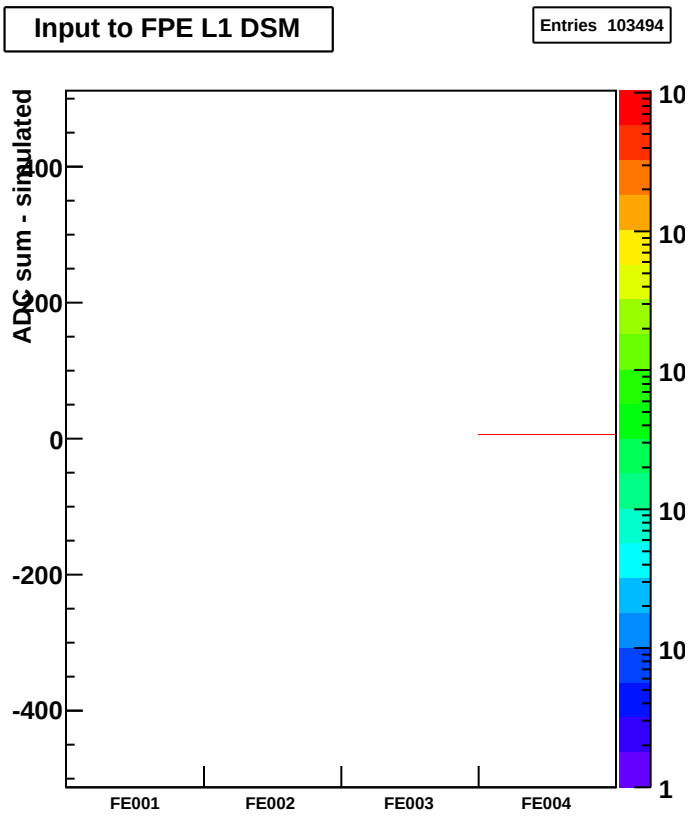

Input to FE001 QT board
Entries 3311808
ADC
channel

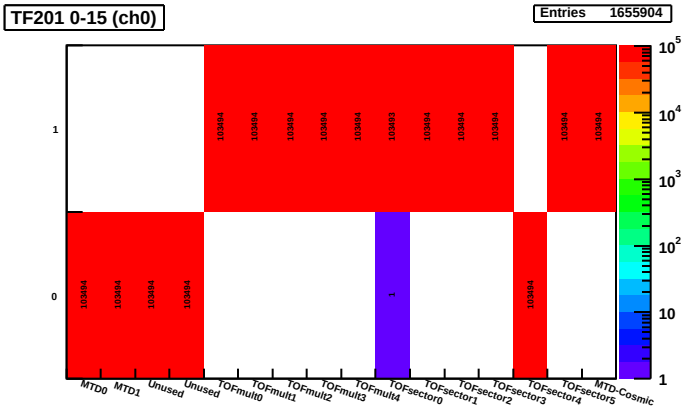

Input to FE002 QT board
Entries 3311808
ADC
channel

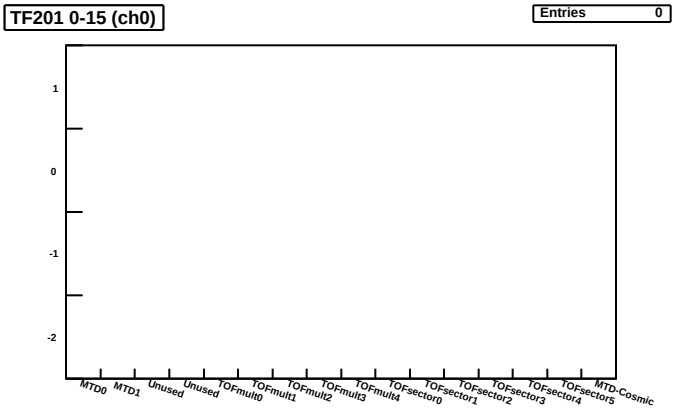

Input to FE003 QT board
Entries 3311808
ADC
channel

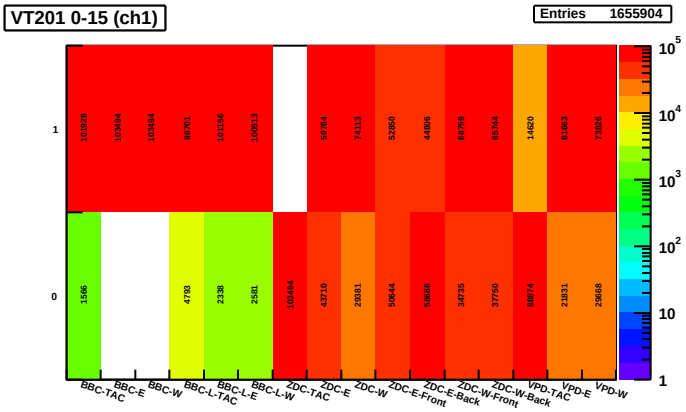

Input to FE004 QT board
Entries 3311808
ADC
channel

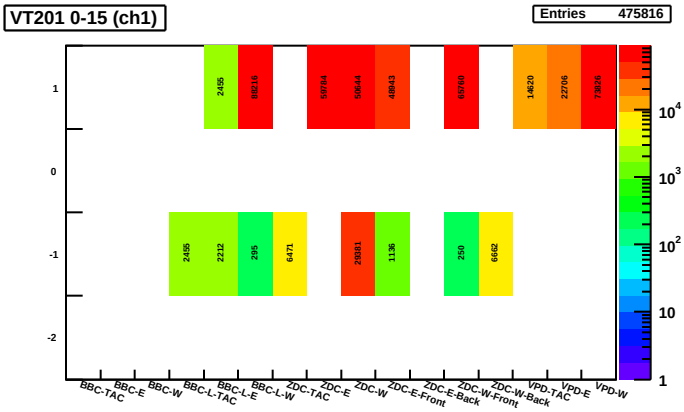

Input to FPE L1 DSM
Entries 413976
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

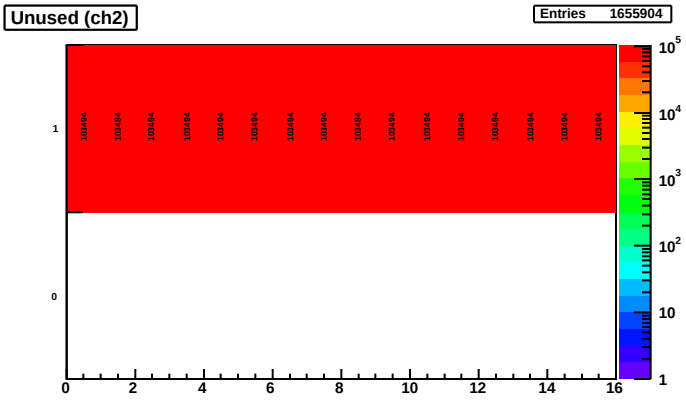

Input to FPE L1 DSM
Entries 103494
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

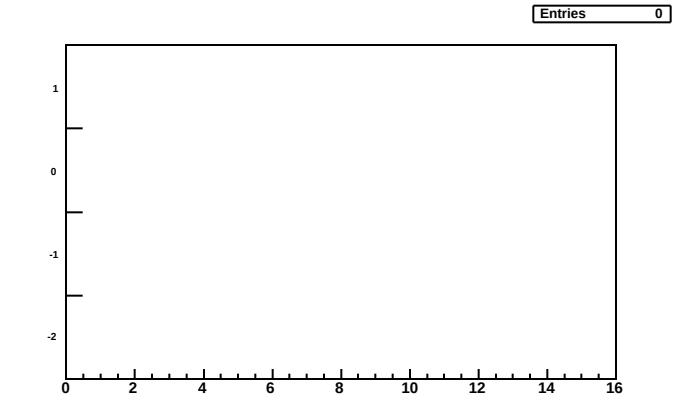

TF201 0-15 (ch0)
Entries 1655904
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

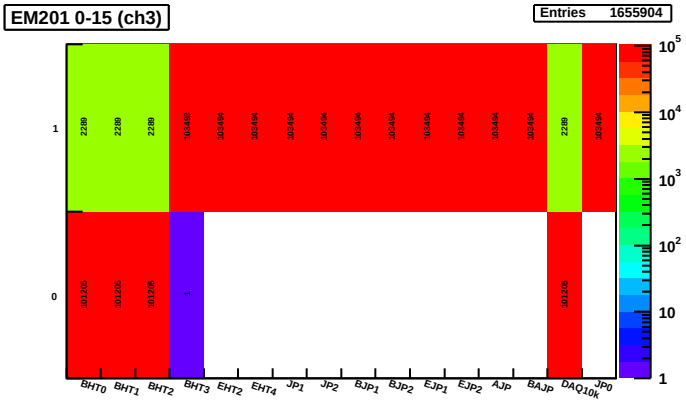

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

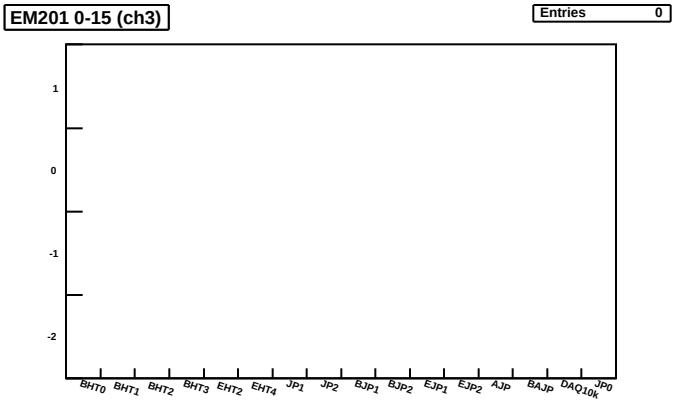

VT201 0-15 (ch1)
Entries 1655904
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

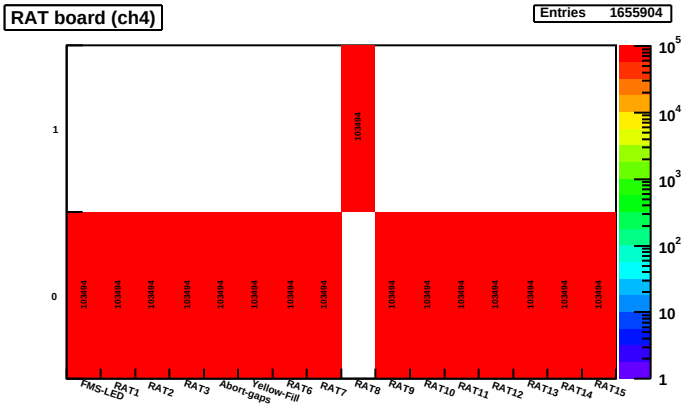

VT201 0-15 (ch1)
Entries 475816
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

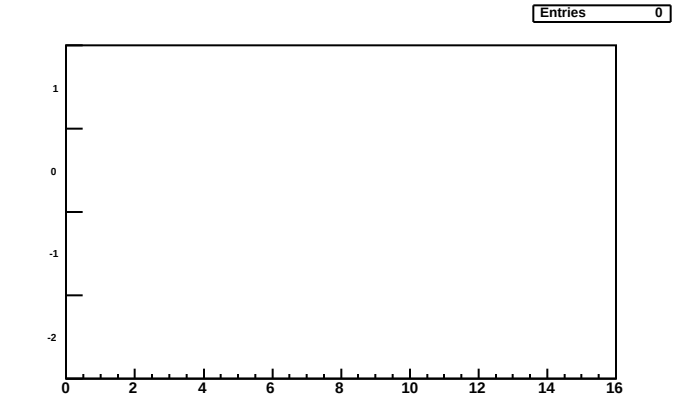

Unused (ch2)
Entries 1655904

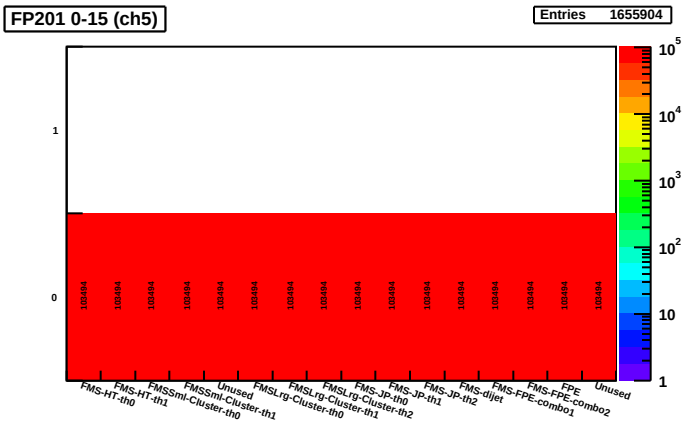

Entries 0

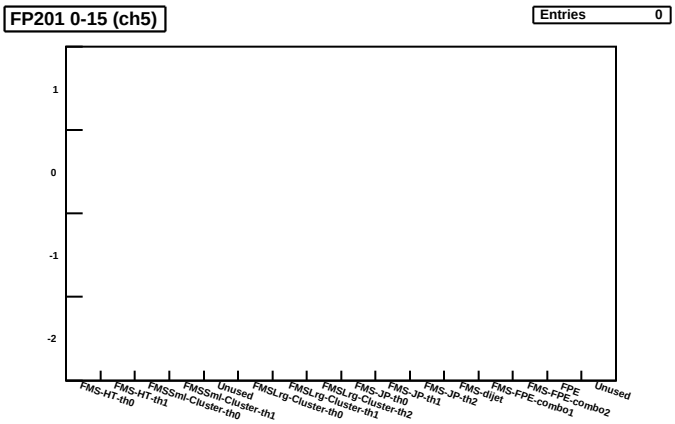

EM201 0-15 (ch3)
Entries 1655904
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

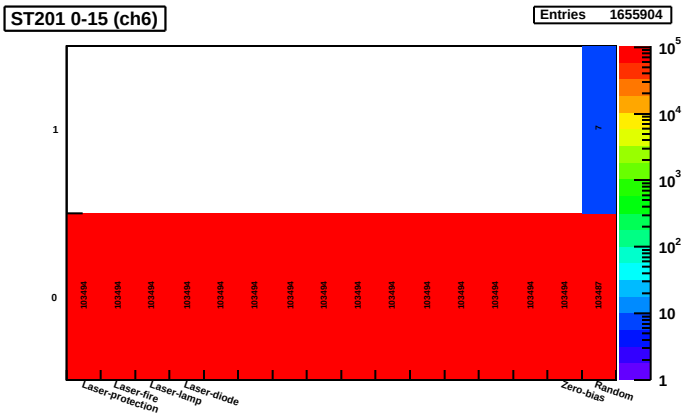

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

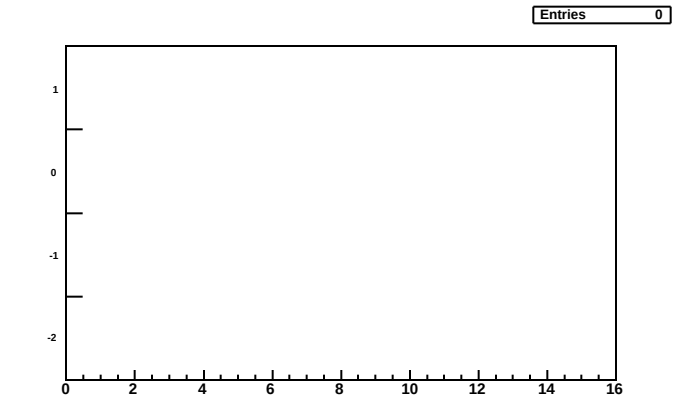

RAT board (ch4)
Entries 1655904
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15

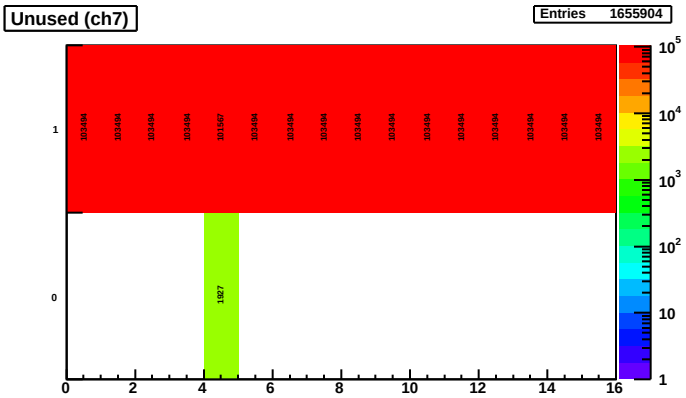

Entries 0

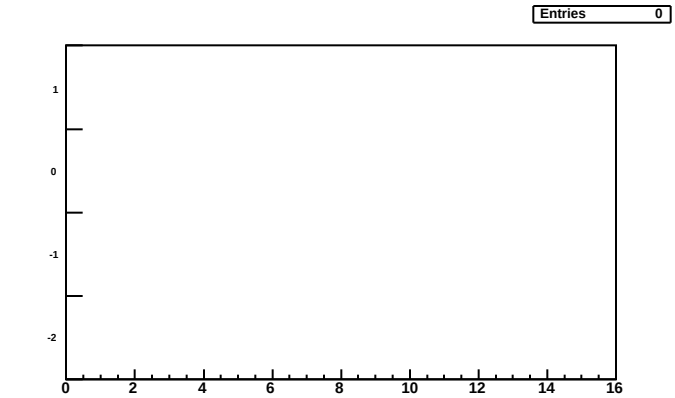

FP201 0-15 (ch5)
Entries 1655904
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-diJet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


FP201 0-15 (ch5)
Entries 0
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


ST201 0-15 (ch6)
Entries 1655904
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random


Entries 0


Unused (ch7)
Entries 1655904


Entries 0