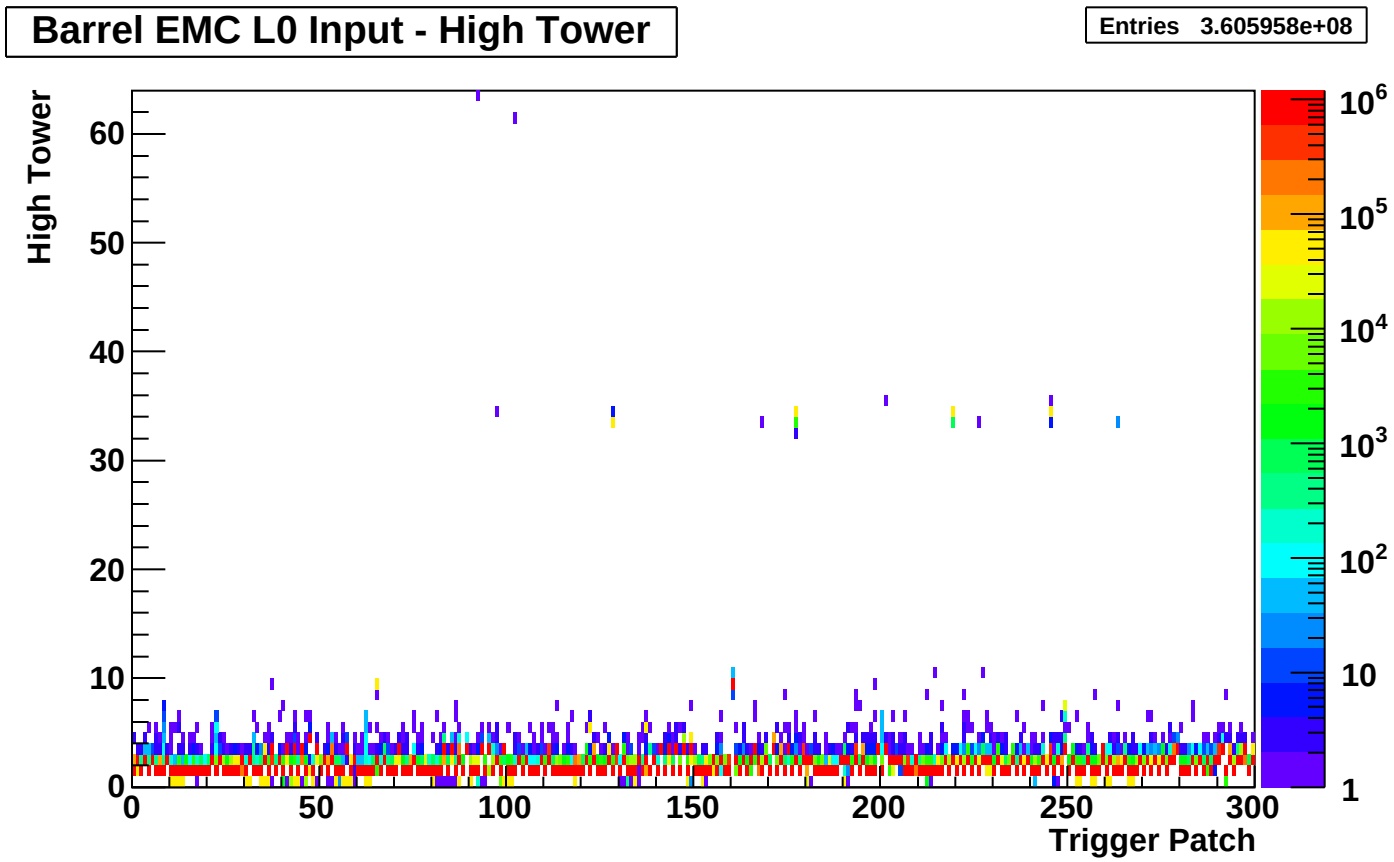
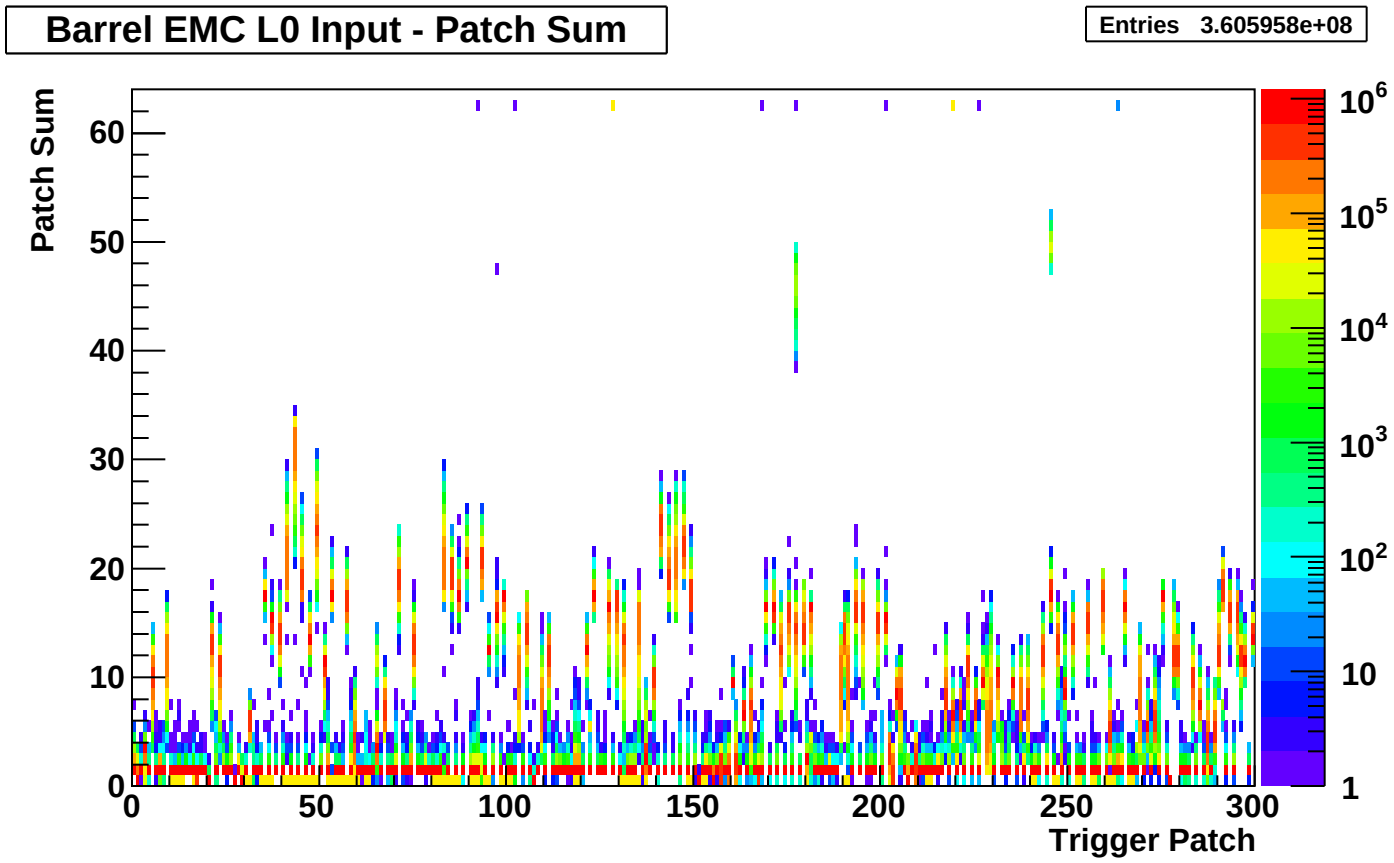
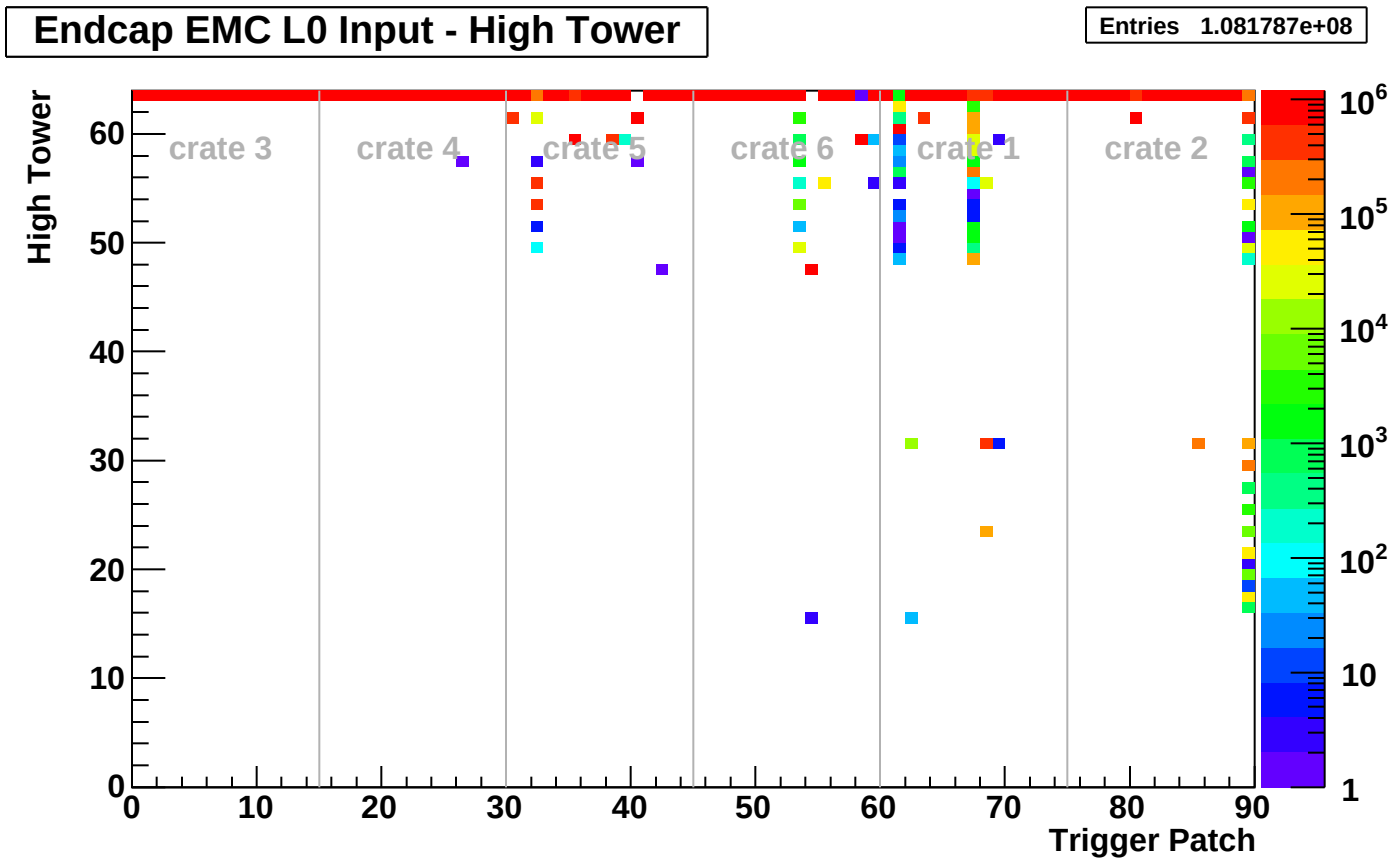
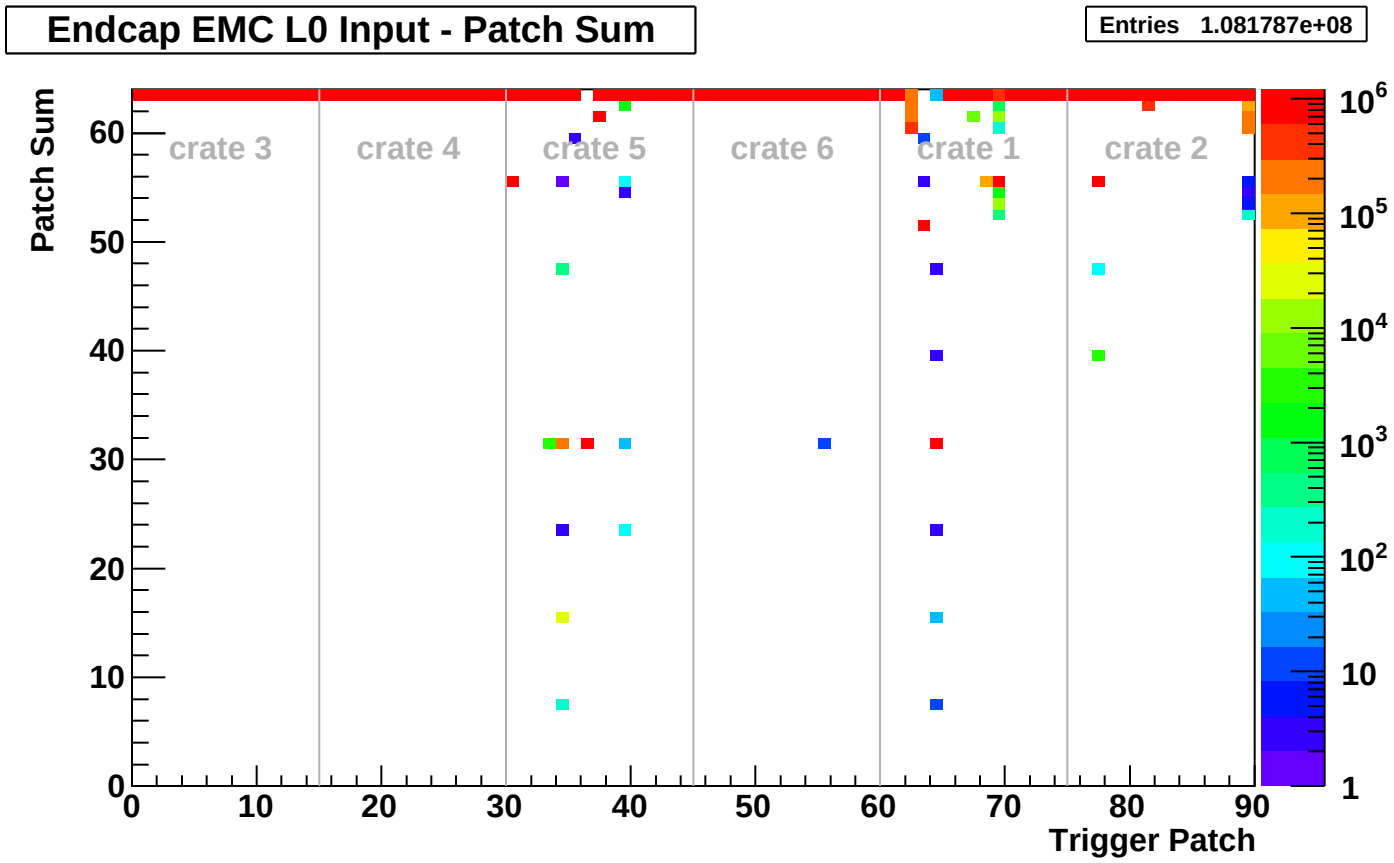
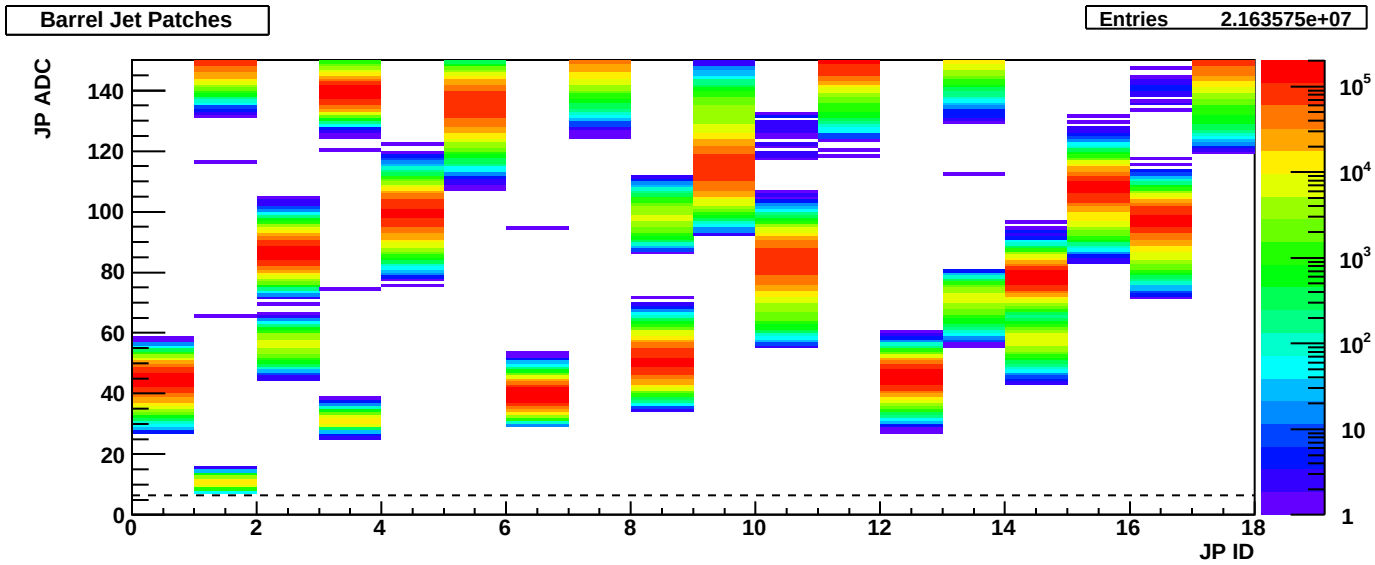
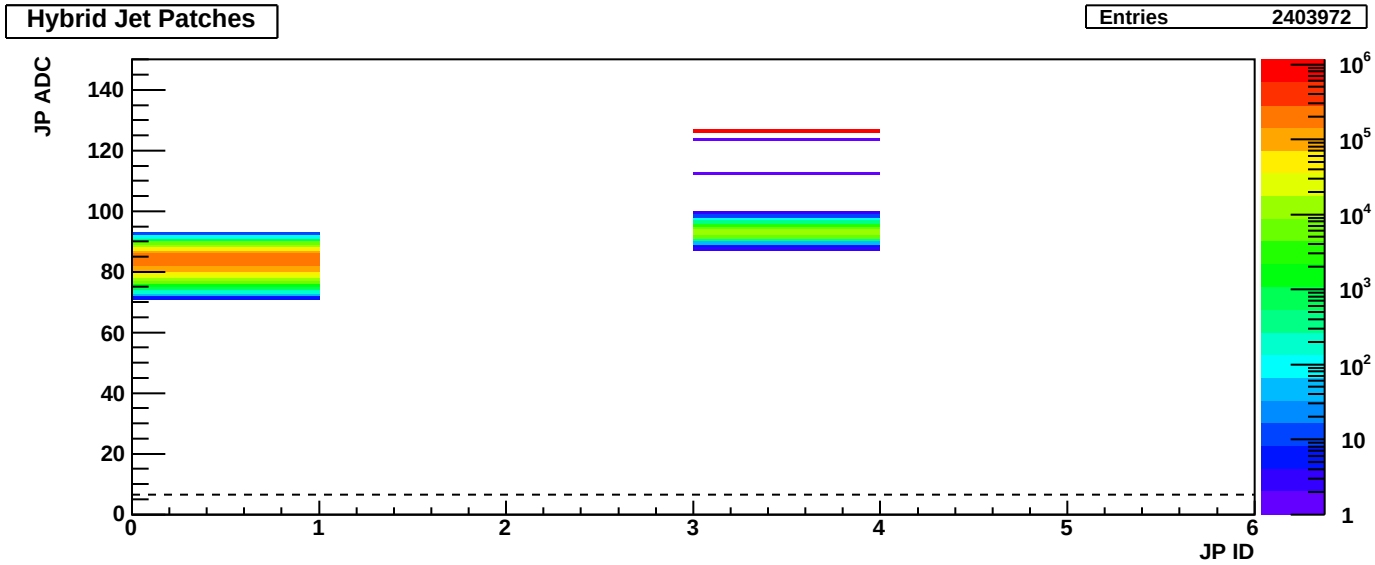

Barrel EMC L0 Input - High Tower
Entries 3.605958e+08
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5
10^6

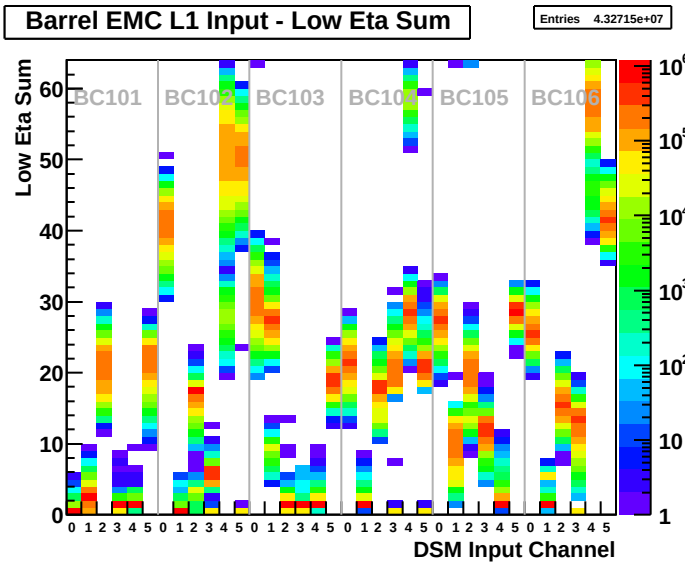

Barrel EMC L0 Input - Patch Sum
Entries 3.605958e+08
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5
10^6

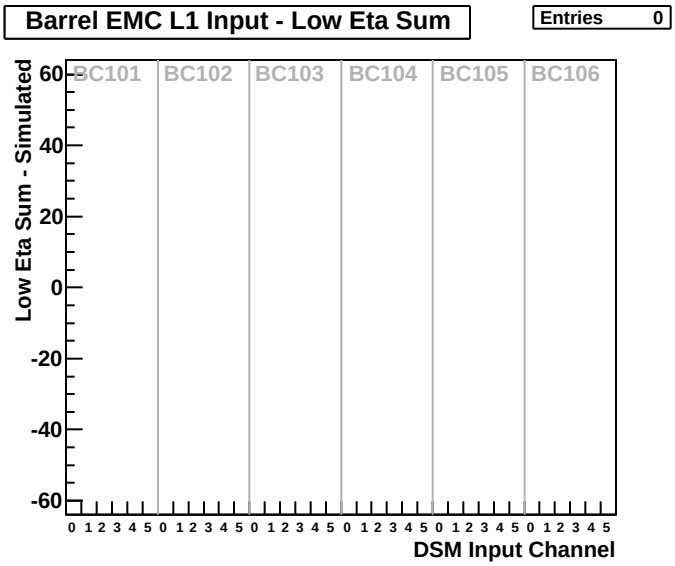

Endcap EMC L0 Input - High Tower
Entries 1.081787e+08
High Tower
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

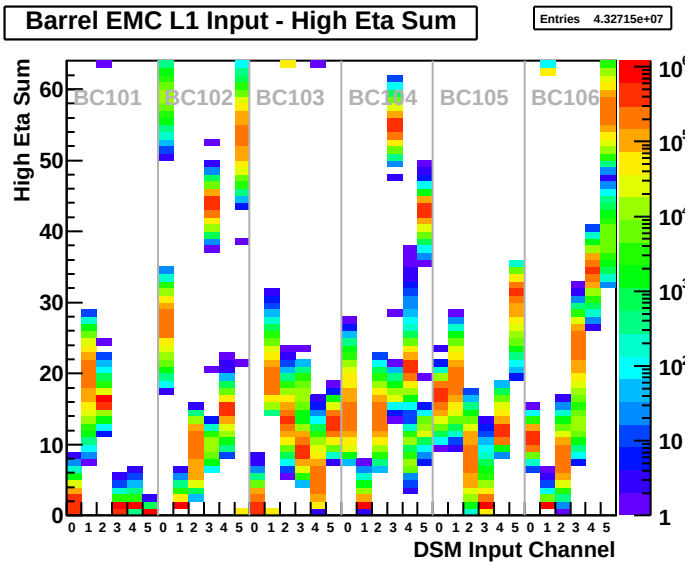

Endcap EMC L0 Input - Patch Sum
Entries 1.081787e+08
Patch Sum
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

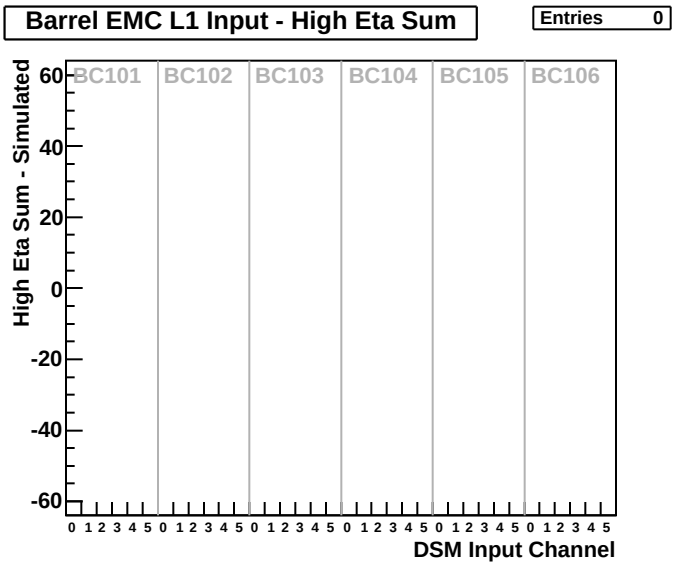

Barrel Jet Patches
Entries 2.163575e+07
JP ADC
JP ID

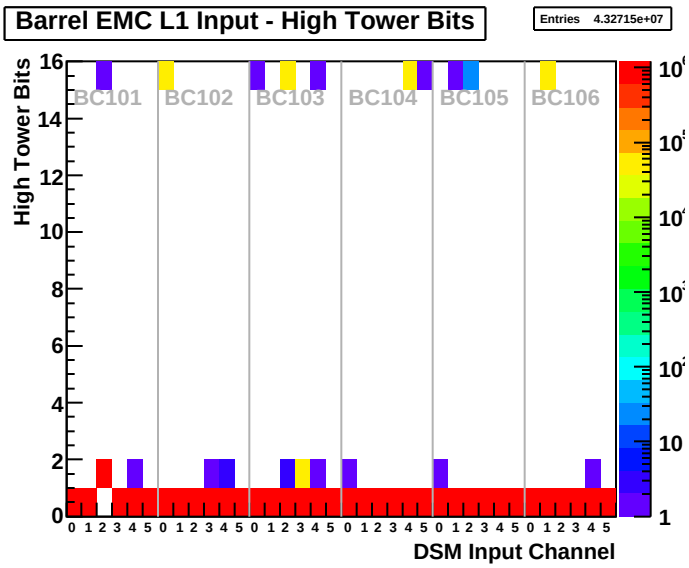

Hybrid Jet Patches
Entries 2403972
JP ADC
JP ID

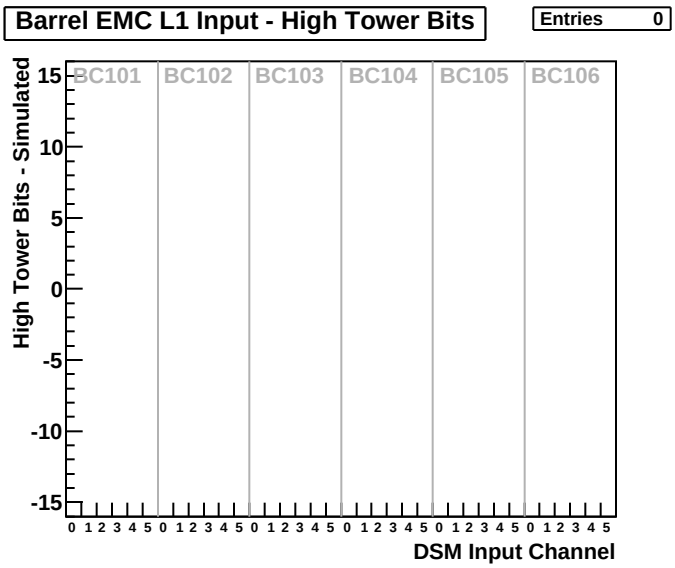

Barrel EMC L1 Input - Low Eta Sum
Entries 4.32715e+07
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

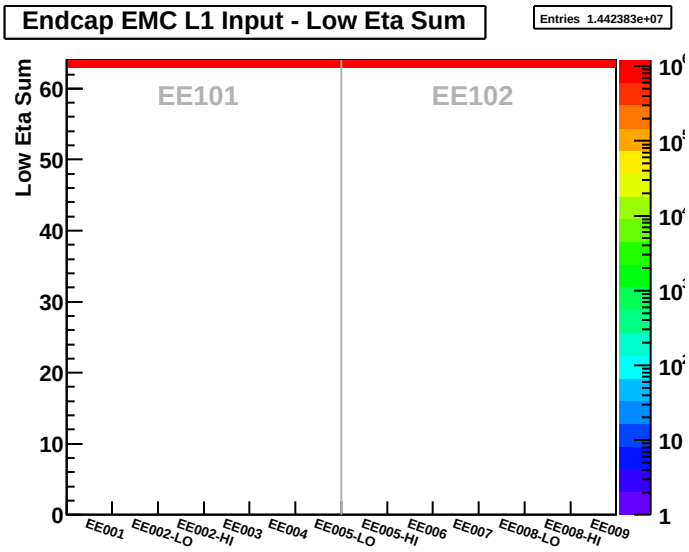

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

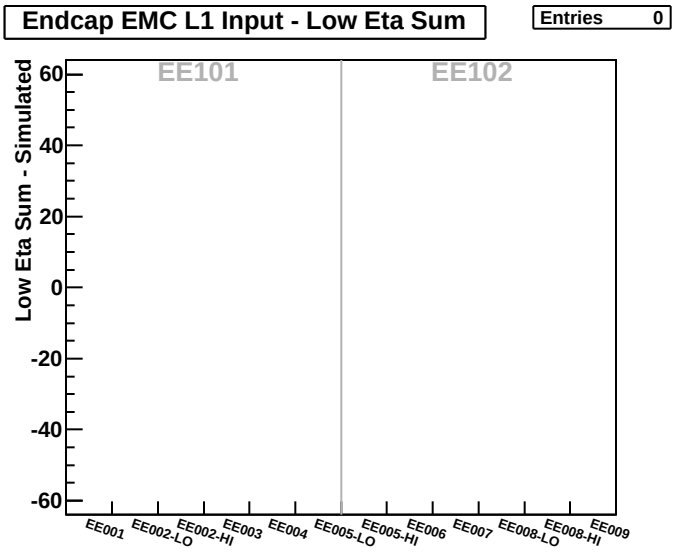

Barrel EMC L1 Input - High Eta Sum
Entries 4.32715e+07
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

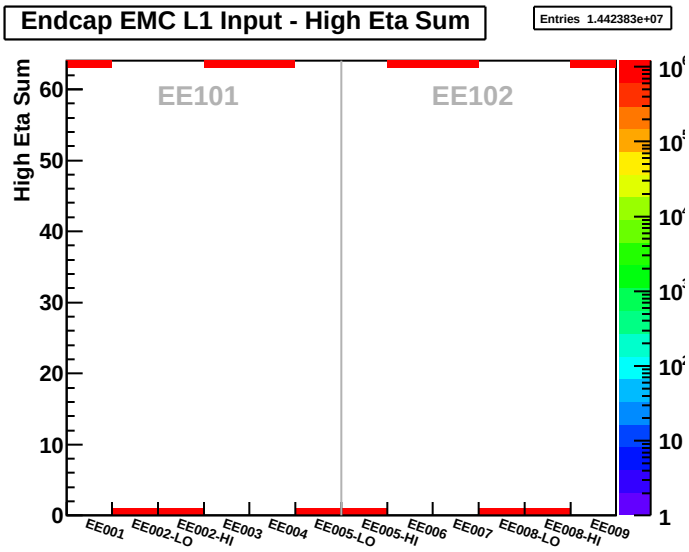

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

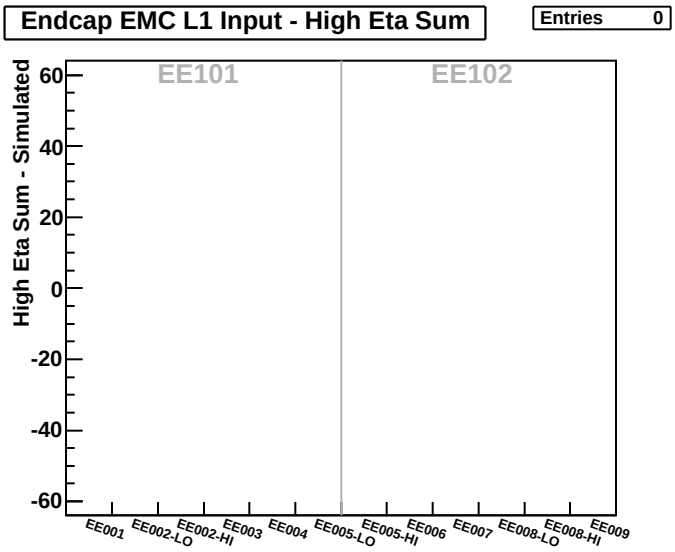

Barrel EMC L1 Input - High Tower Bits
Entries 4.32715e+07
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

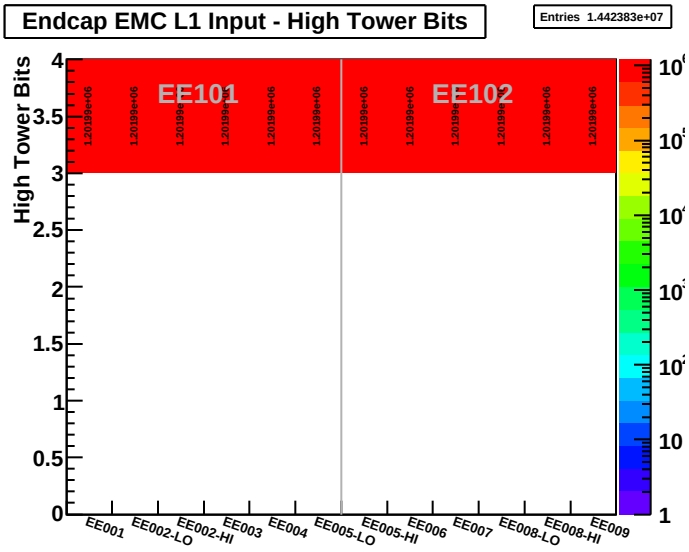

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

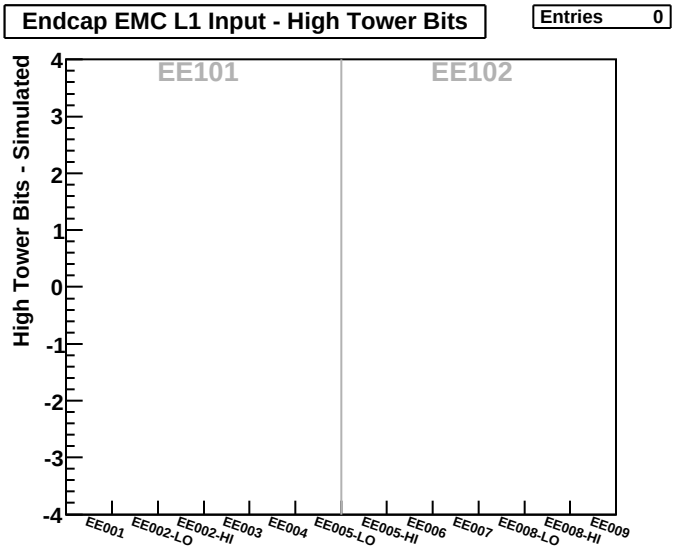

Endcap EMC L1 Input - Low Eta Sum
Entries 1.442383e+07
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

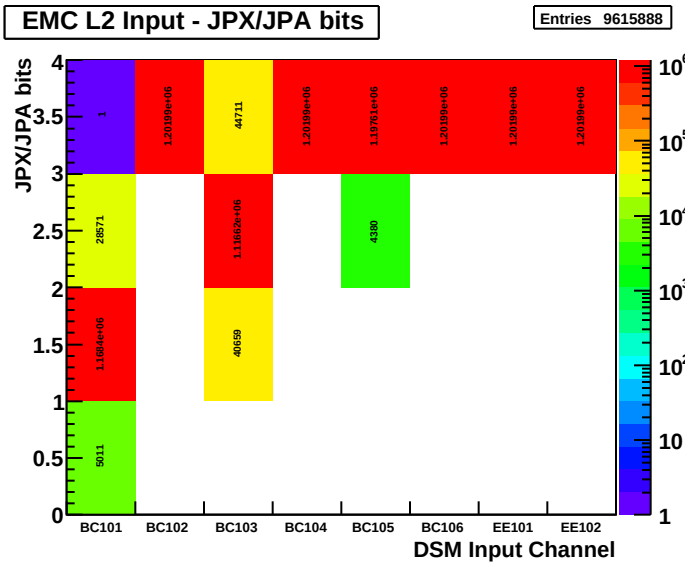

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

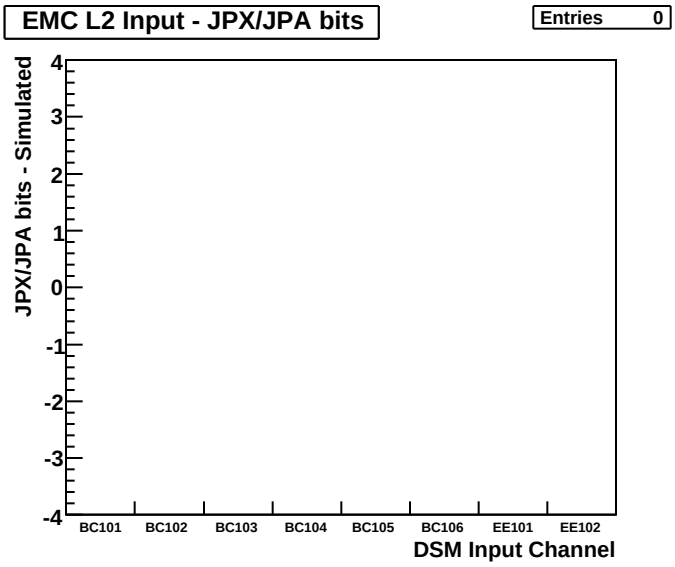

Endcap EMC L1 Input - High Eta Sum
Entries 1.442383e+07
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

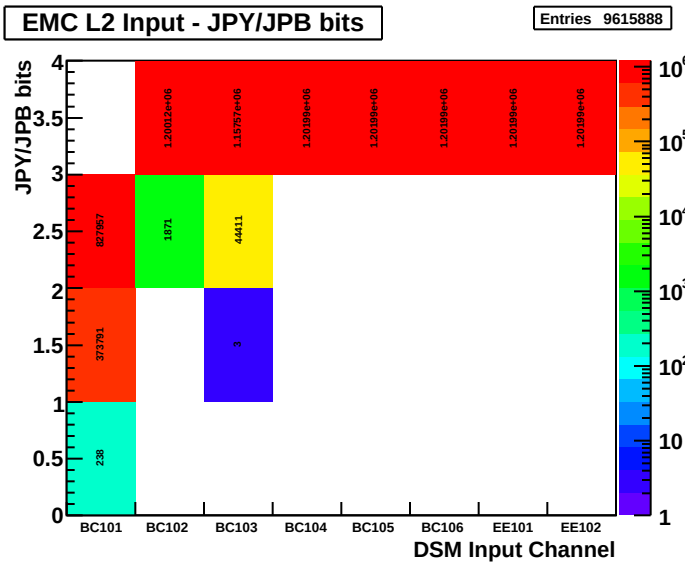

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

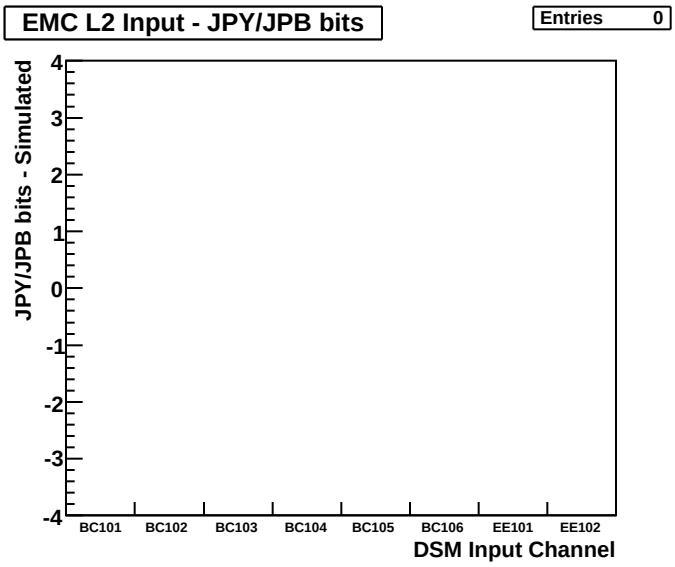

Endcap EMC L1 Input - High Tower Bits
Entries 1.442383e+07
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

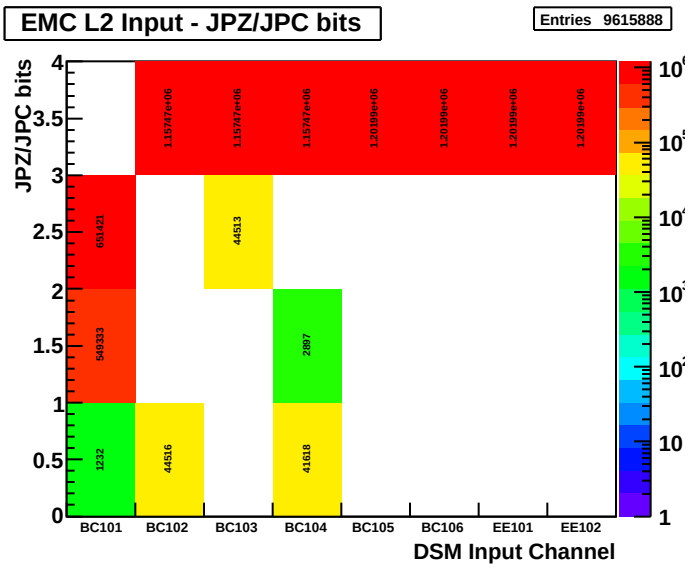

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

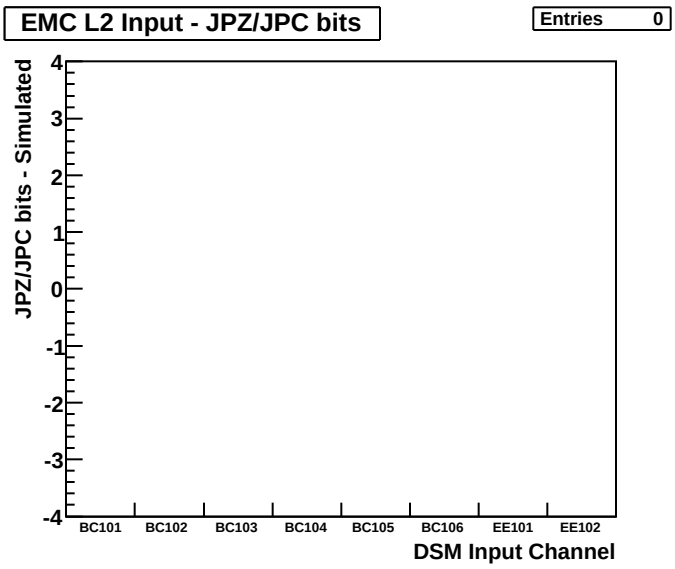

EMC L2 Input - JPX/JPA bits
Entries 9615888
JPX/JPA bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

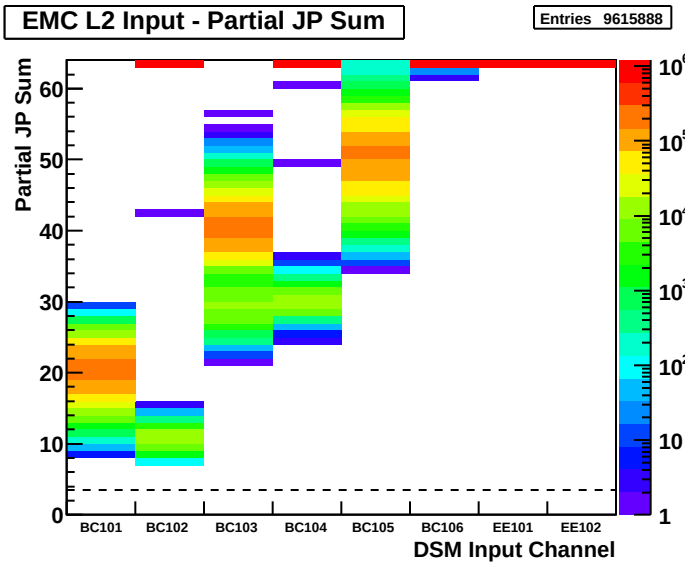

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

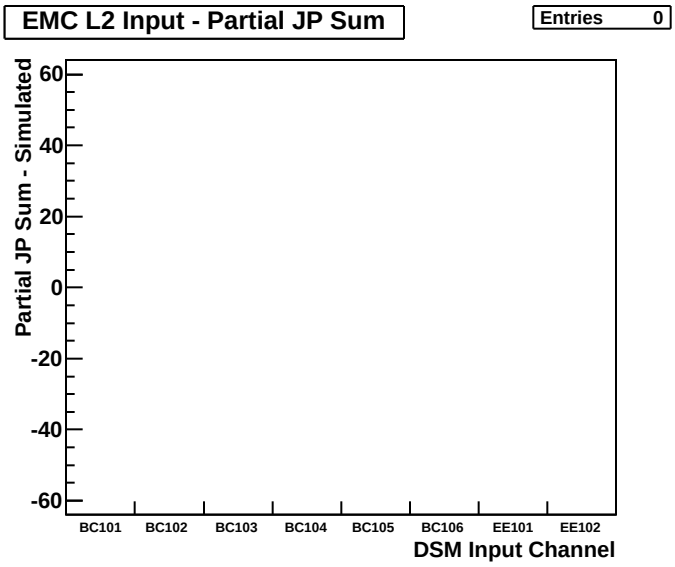

EMC L2 Input - JPY/JPB bits
Entries 9615888
JPY/JPB bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

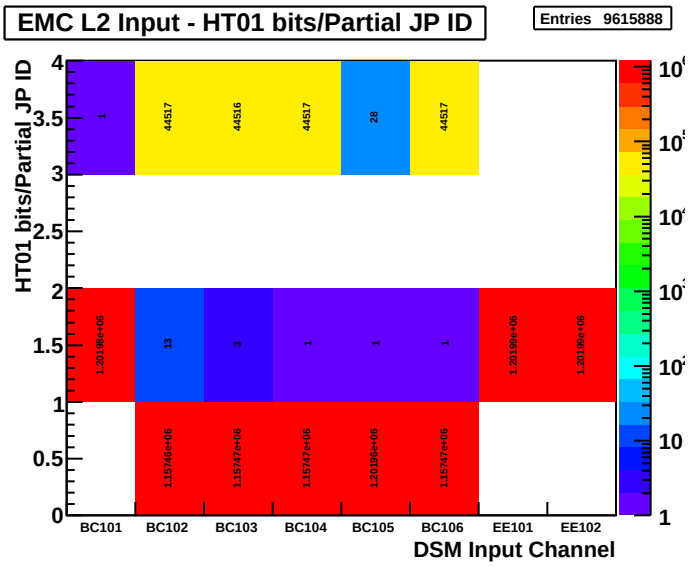

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

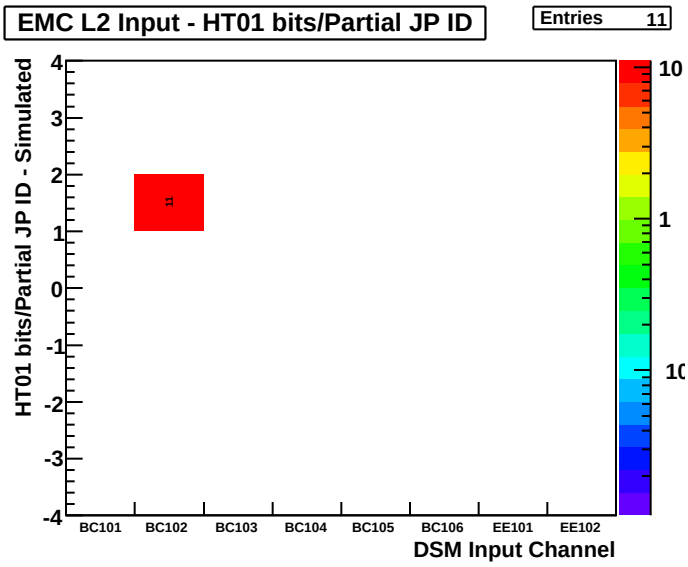

EMC L2 Input - JPZ/JPC bits
Entries 9615888
JPZ/JPC bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

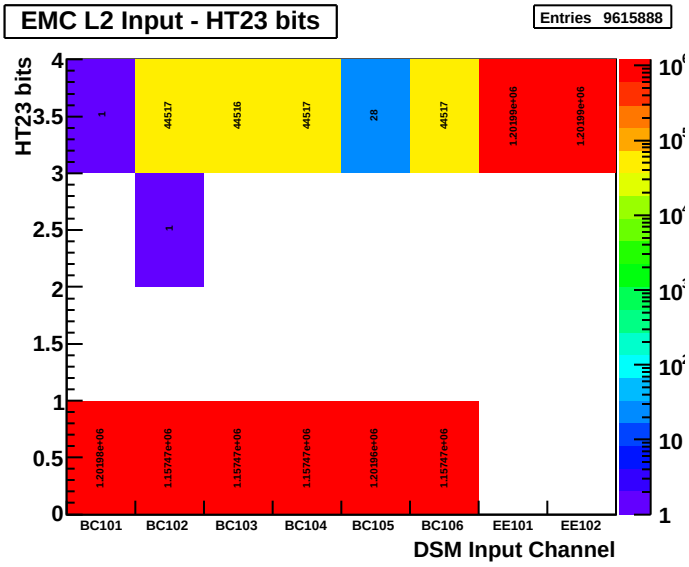

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

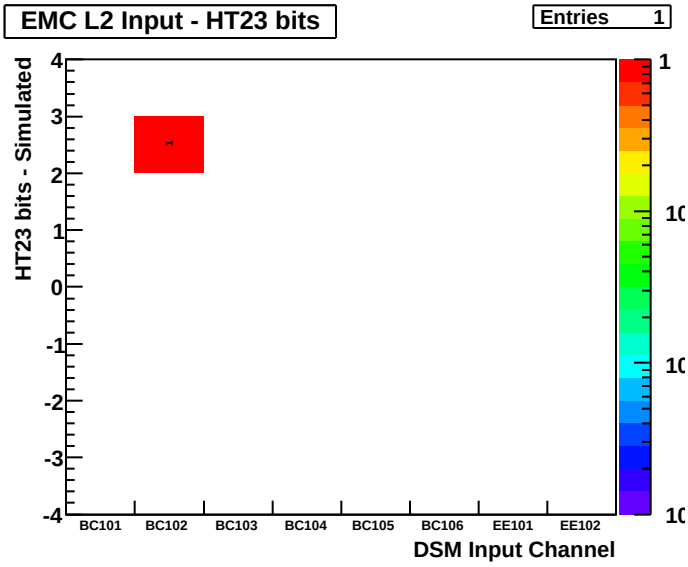

EMC L2 Input - Partial JP Sum
Entries 9615888
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

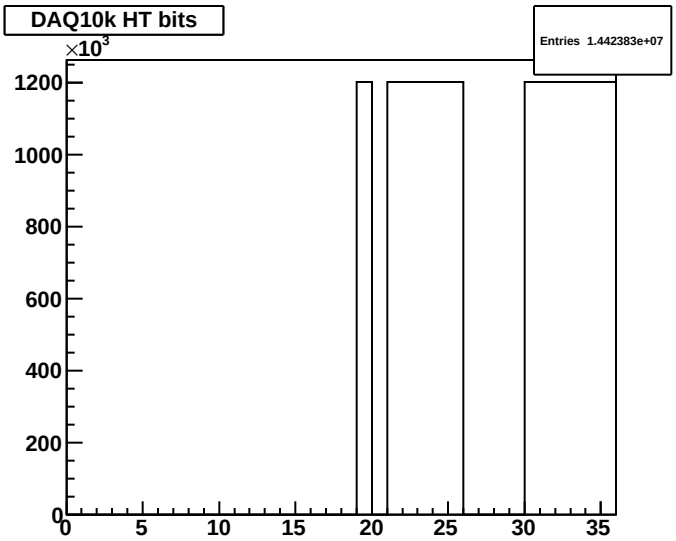

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

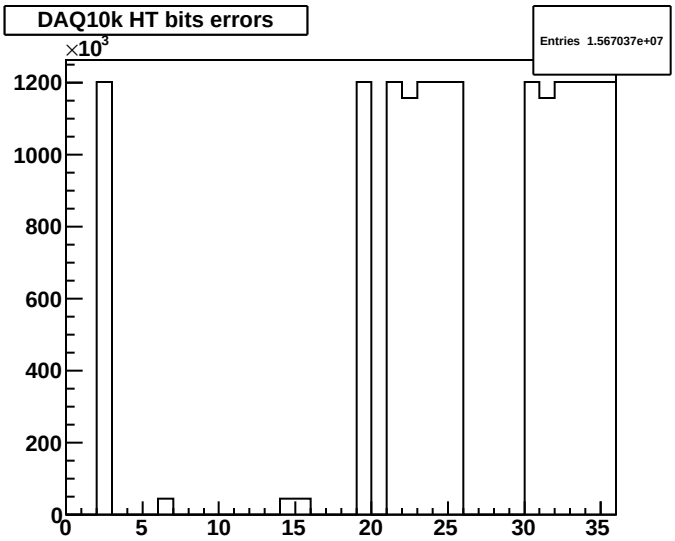

EMC L2 Input - HT01 bits/Partial JP ID
Entries 9615888
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

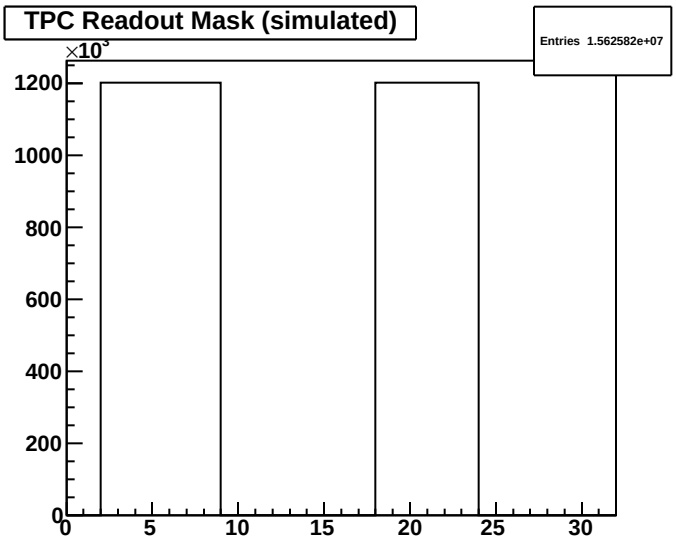

EMC L2 Input - HT01 bits/Partial JP ID
Entries 11
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

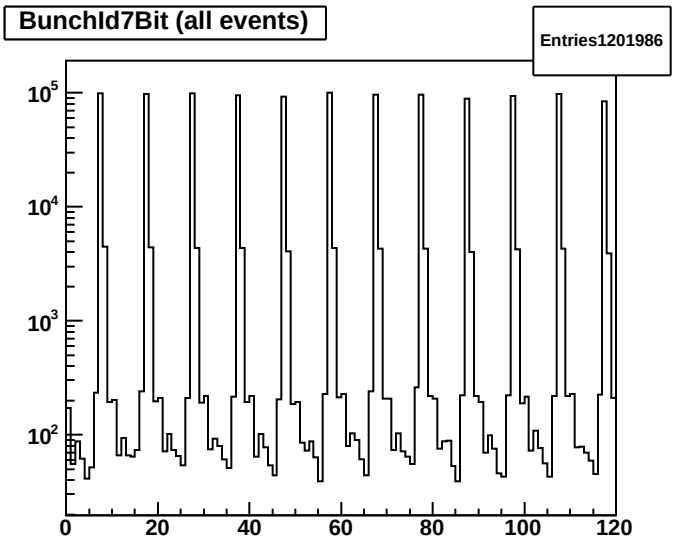

EMC L2 Input - HT23 bits
Entries 9615888
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

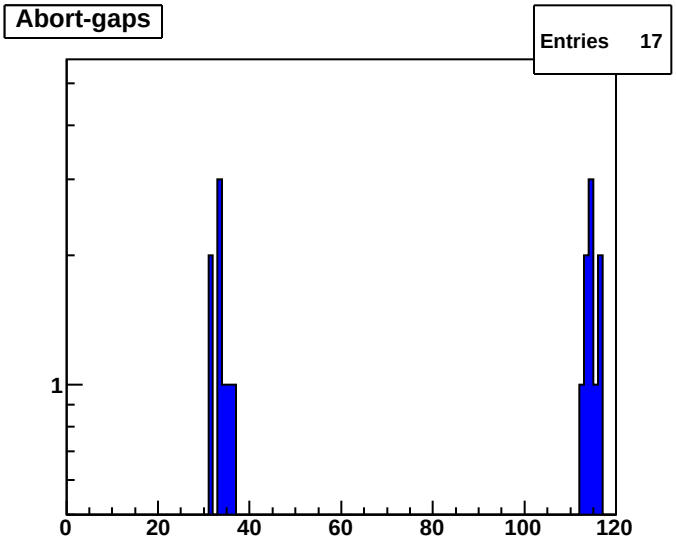

EMC L2 Input - HT23 bits
Entries 1
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

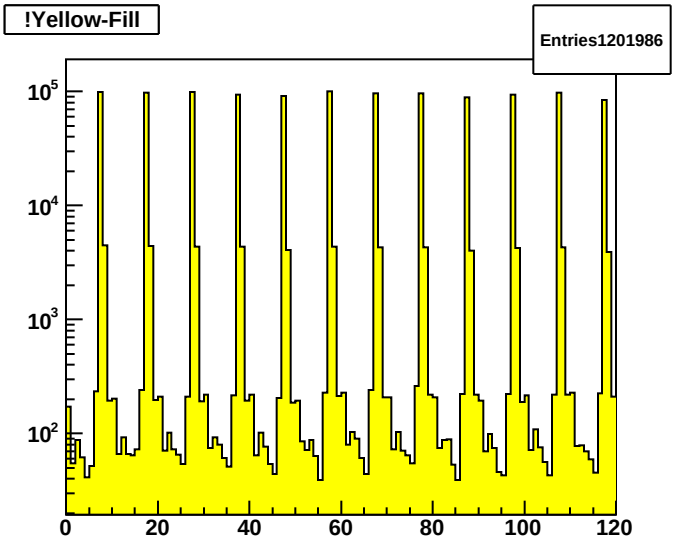

DAQ10k HT bits
Entries 1.442383e+07
×10^3
1200
1000
800
600
400
200
0
0 5 10 15 20 25 30 35

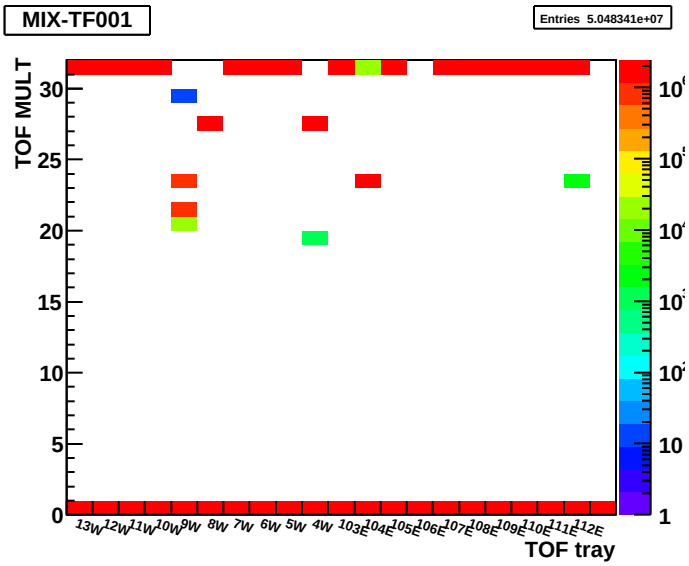

DAQ10k HT bits errors
Entries 1.567037e+07
×10^3
1200
1000
800
600
400
200
0
0 5 10 15 20 25 30 35

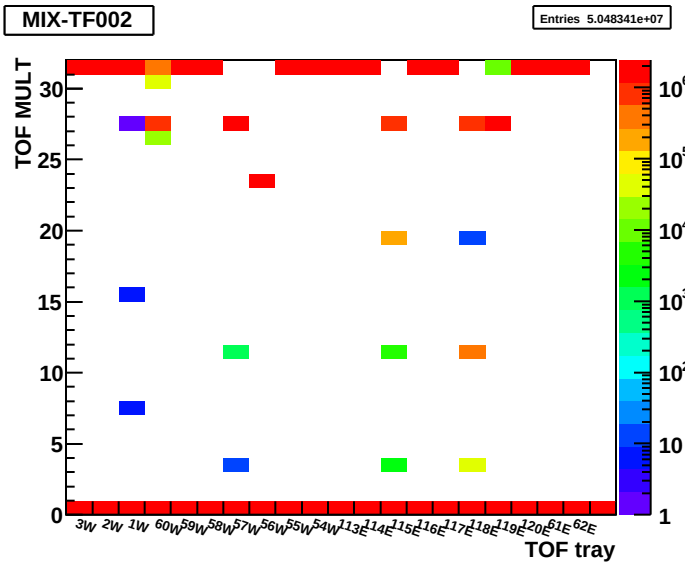

TPC Readout Mask (simulated)
Entries 1.562582e+07
×10^3
1200
1000
800
600
400
200
0
0 5 10 15 20 25 30

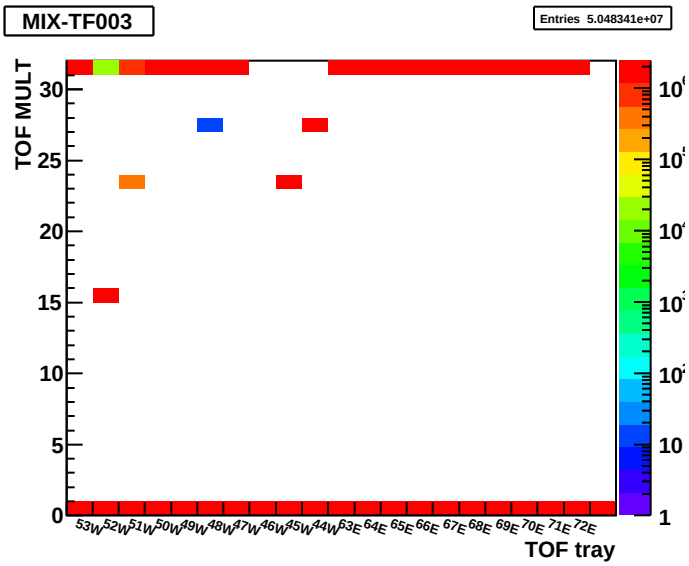

BunchId7Bit (all events)
Entries1201986
10^5
10^4
10^3
10^2
0 20 40 60 80 100 120

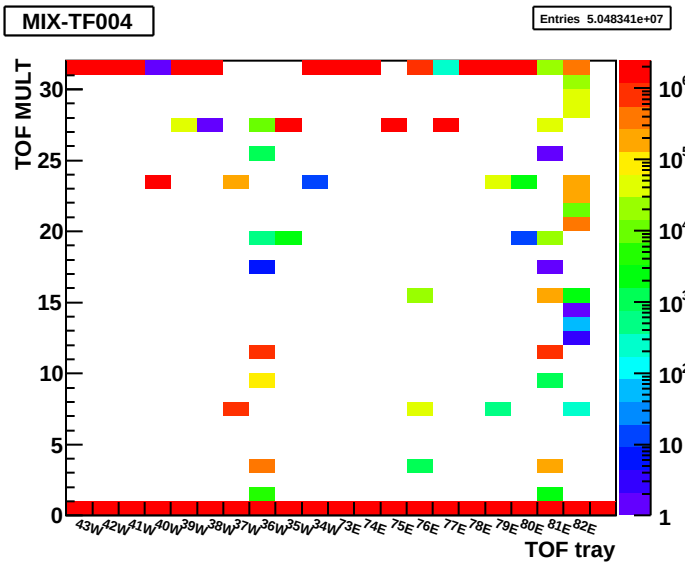

Abort-gaps
Entries 17
1
0 20 40 60 80 100 120

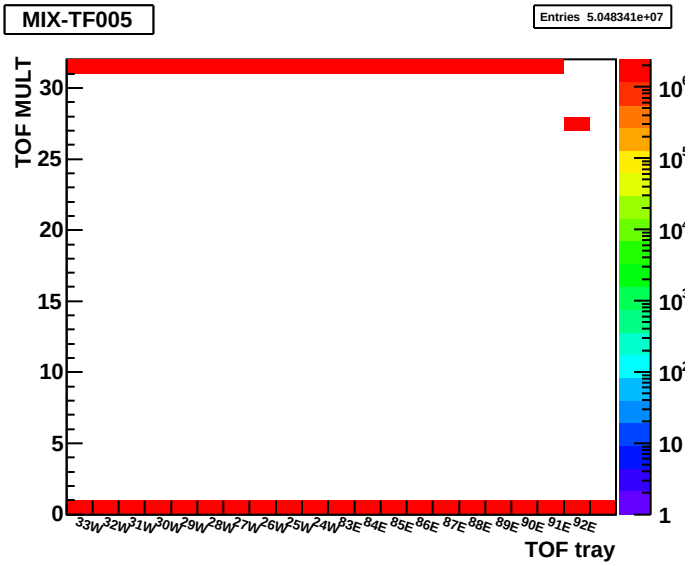

!Yellow-Fill
Entries1201986
10^5
10^4
10^3
10^2
0 20 40 60 80 100 120

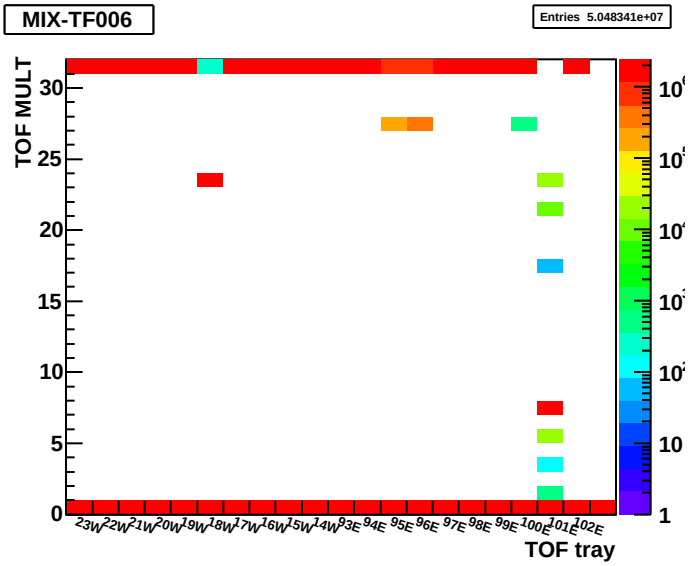

MIX-TF001
Entries 5.048341e+07
TOF MULT
TOF tray

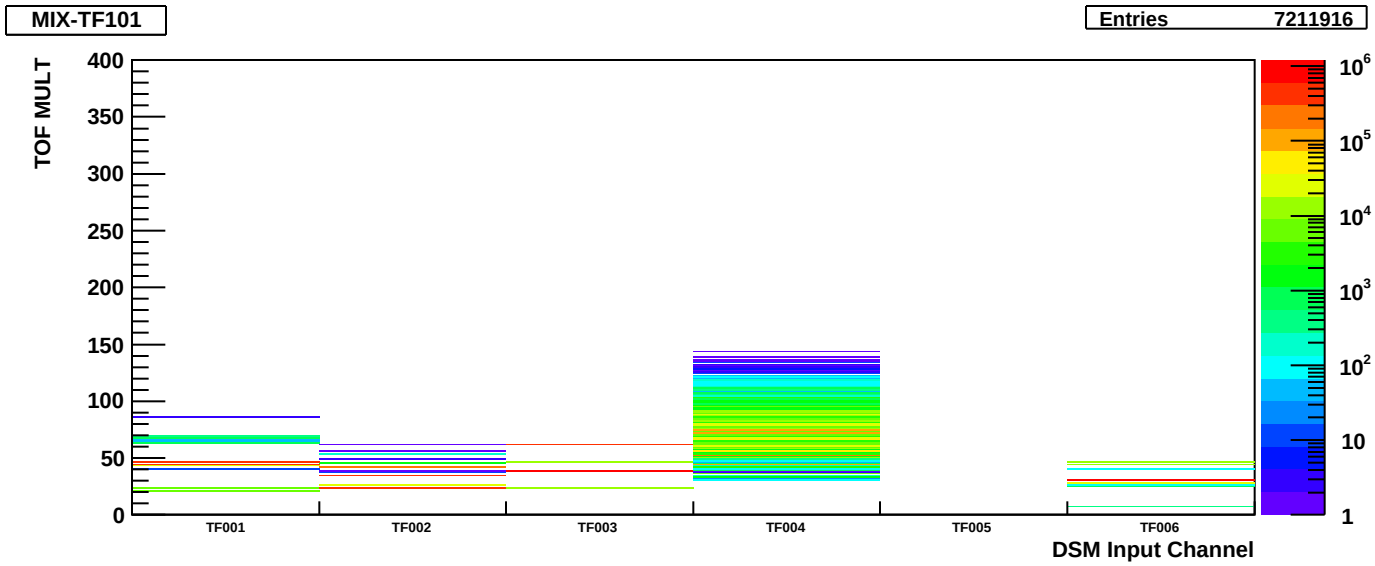

MIX-TF002
Entries 5.048341e+07
TOF MULT
TOF tray

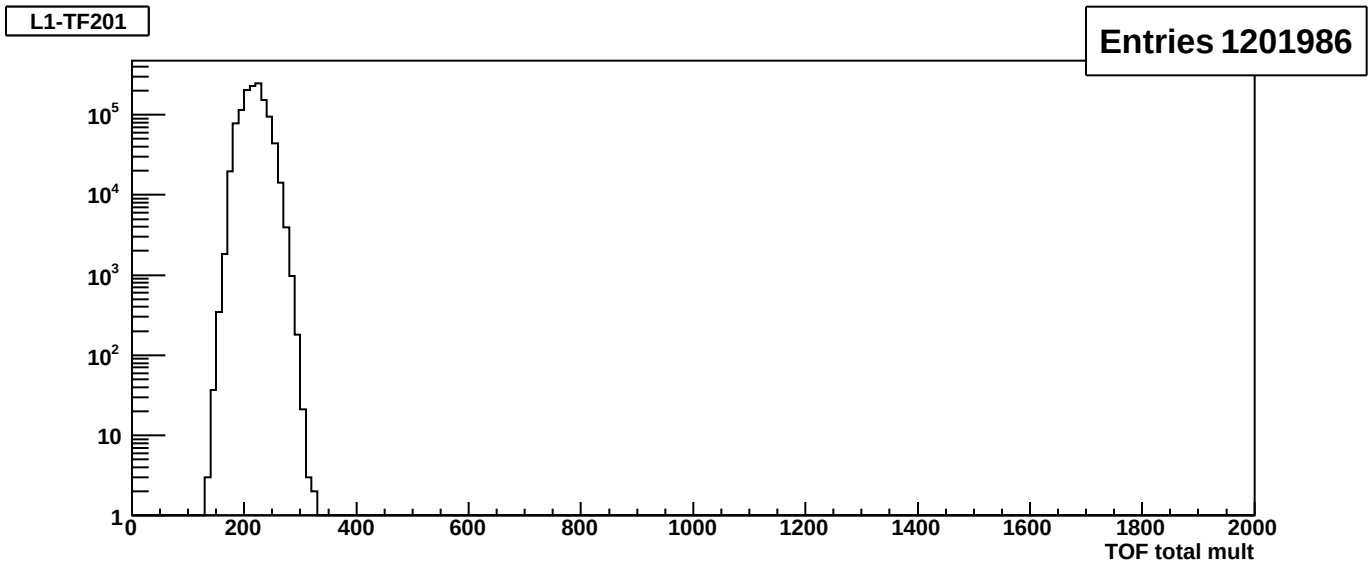

MIX-TF003
Entries 5.048341e+07
TOF MULT
TOF tray

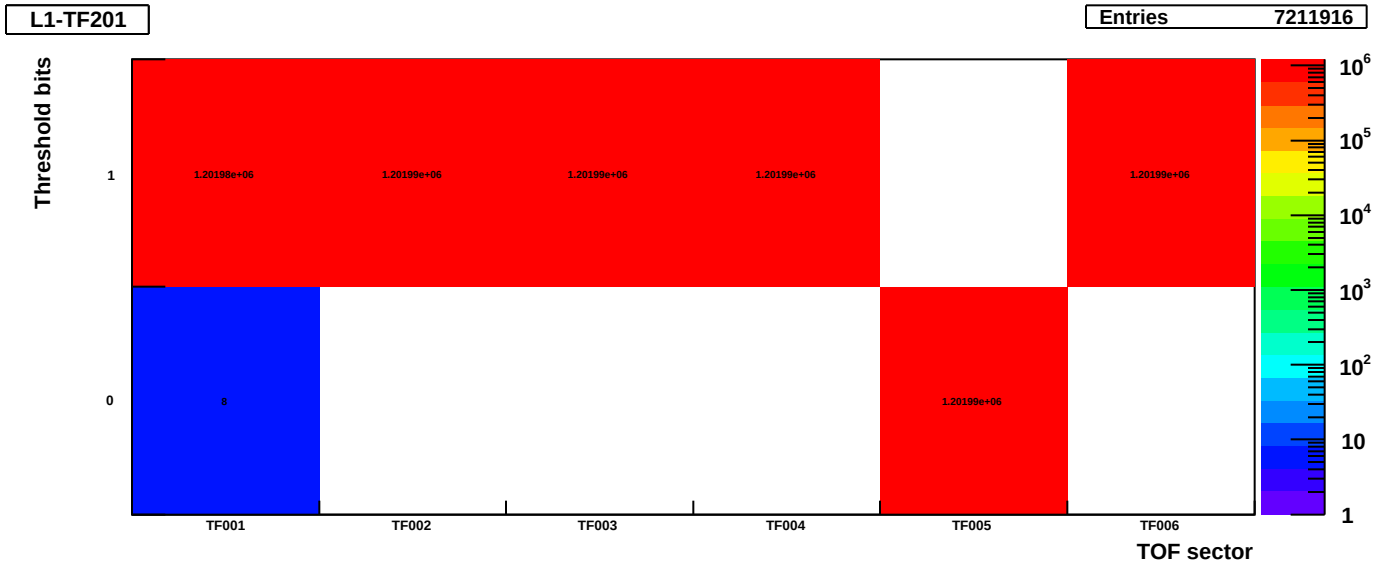

MIX-TF004
Entries 5.048341e+07
TOF MULT
TOF tray

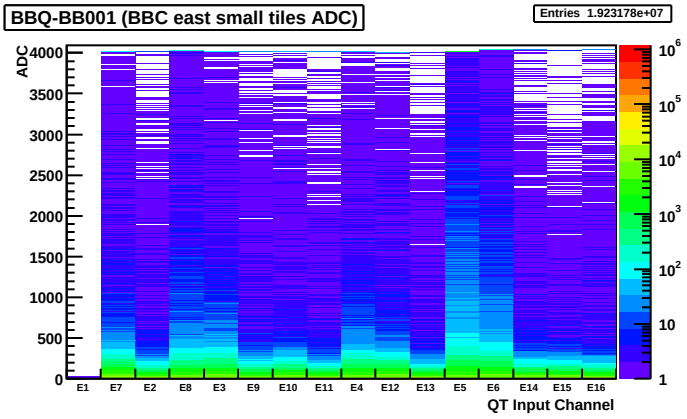

MIX-TF005
Entries 5.048341e+07
TOF MULT
TOF tray

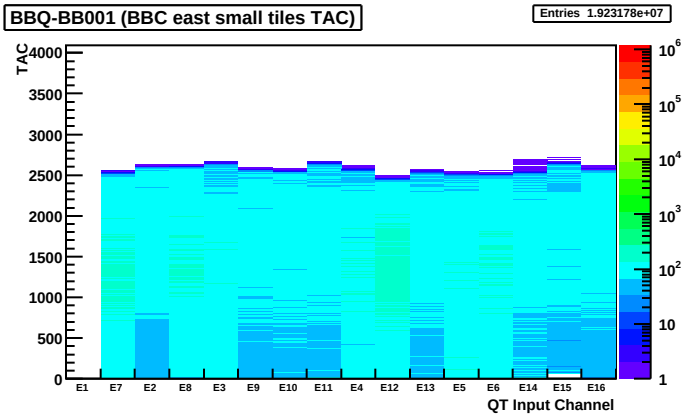

MIX-TF006
Entries 5.048341e+07
TOF MULT
TOF tray

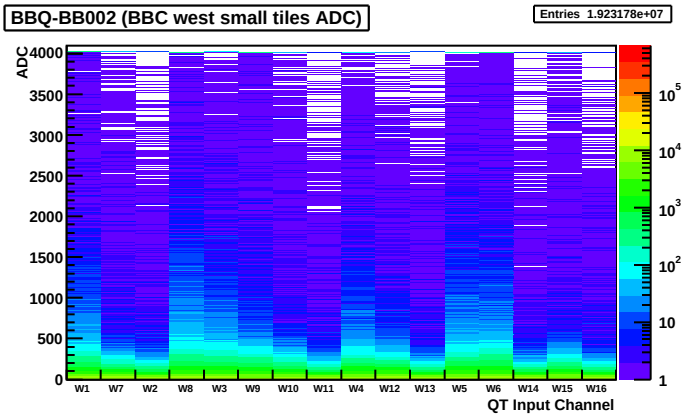

MIX-TF101
Entries 7211916
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^6
10^5
10^4
10^3
10^2
10
1

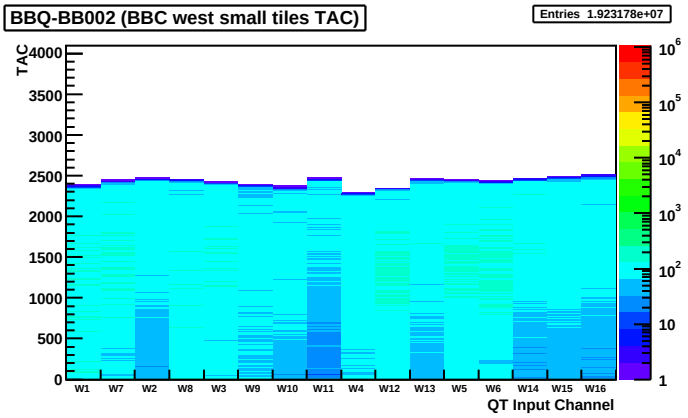

L1-TF201
Entries 1201986
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

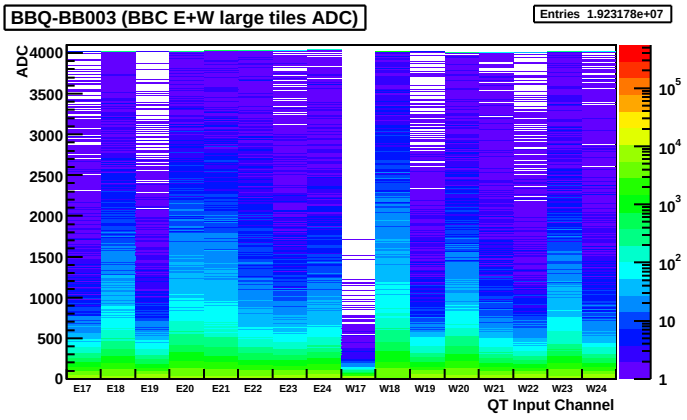

L1-TF201
Entries 7211916
Threshold bits
1
0
1.20198e+06
1.20199e+06
1.20199e+06
1.20199e+06
1.20199e+06
8
1.20199e+06
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^6
10^5
10^4
10^3
10^2
10
1

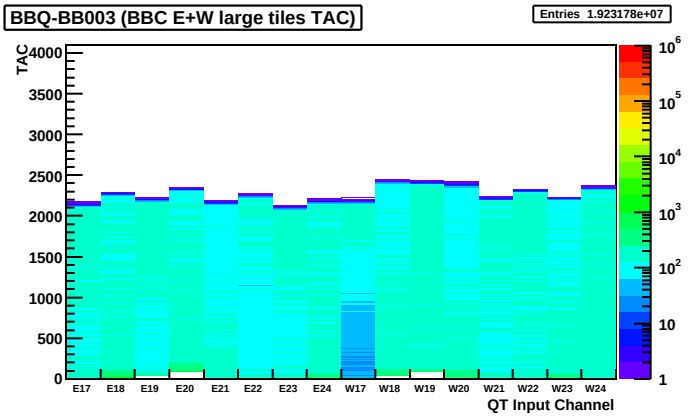

BBQ-BB001 (BBC east small tiles ADC)
Entries 1.923178e+07
ADC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

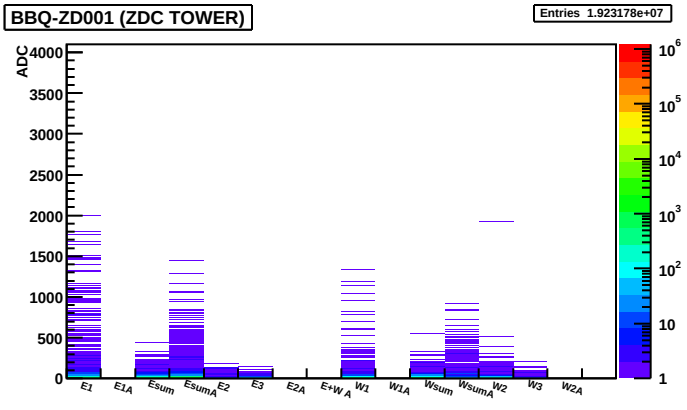

BBQ-BB001 (BBC east small tiles TAC)
Entries 1.923178e+07
TAC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

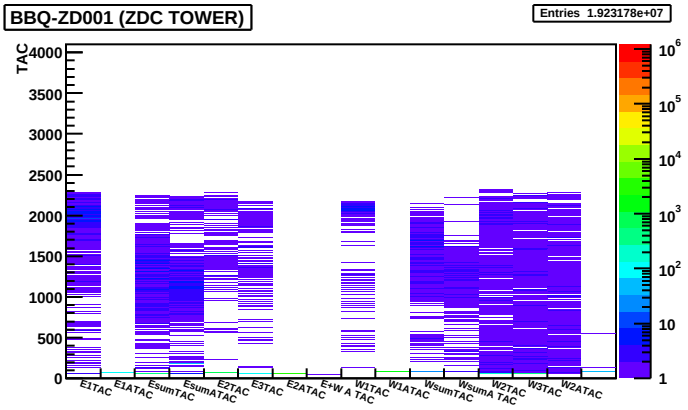

BBQ-BB002 (BBC west small tiles ADC)
Entries 1.923178e+07
ADC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

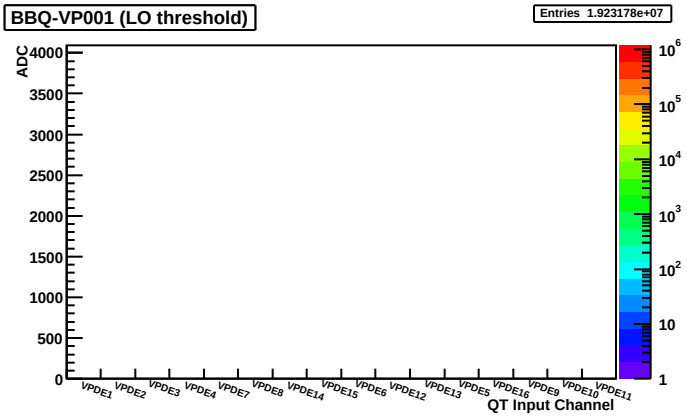

BBQ-BB002 (BBC west small tiles TAC)
Entries 1.923178e+07
TAC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

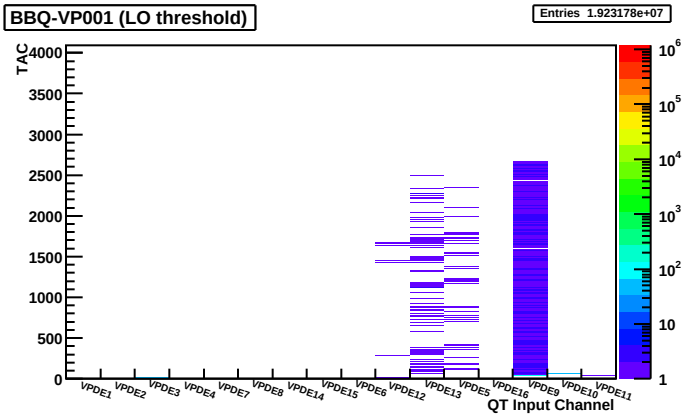

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1.923178e+07
ADC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

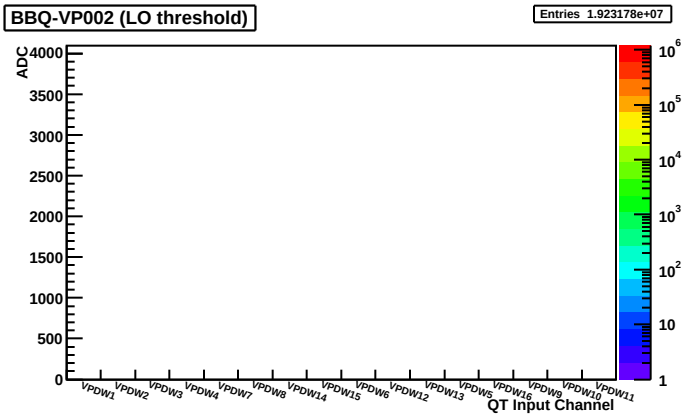

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1.923178e+07
TAC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

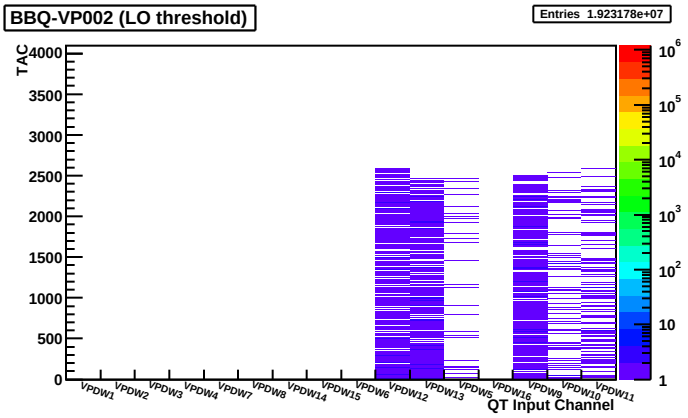

BBQ-ZD001 (ZDC TOWER)
Entries 1.923178e+07
ADC
E1 E1A Esum EsumA E2 E3 E2A E+W A W1 W1A Wsum WsumA W2 W3 W2A

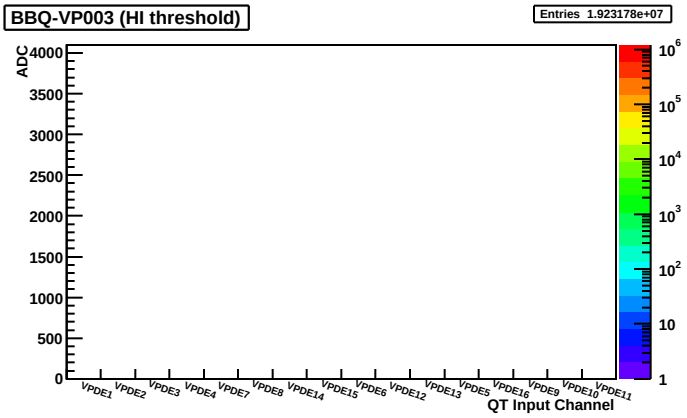

BBQ-ZD001 (ZDC TOWER)
Entries 1.923178e+07
TAC
E1TAC E1ATAC EsumTAC EsumATAC E2TAC E3TAC E2ATAC E+W A TAC W1TAC W1ATAC WsumTAC WsumA TAC W2TAC W3TAC W2ATAC

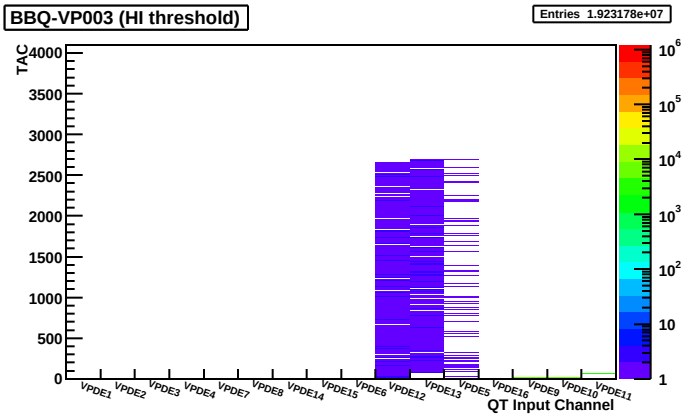

BBQ-VP001 (LO threshold)
Entries 1.923178e+07
ADC
QT Input Channel

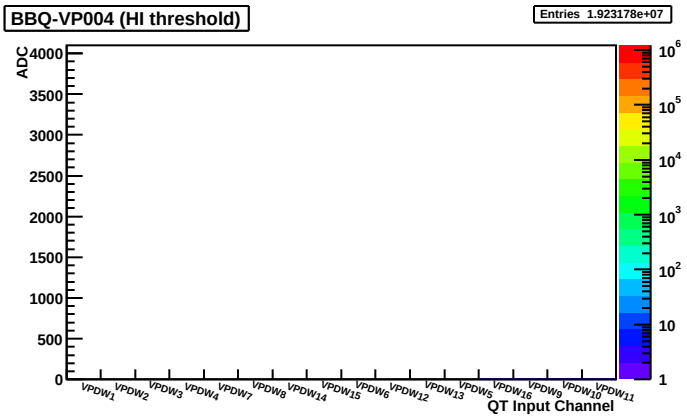

BBQ-VP001 (LO threshold)
Entries 1.923178e+07
TAC
QT Input Channel

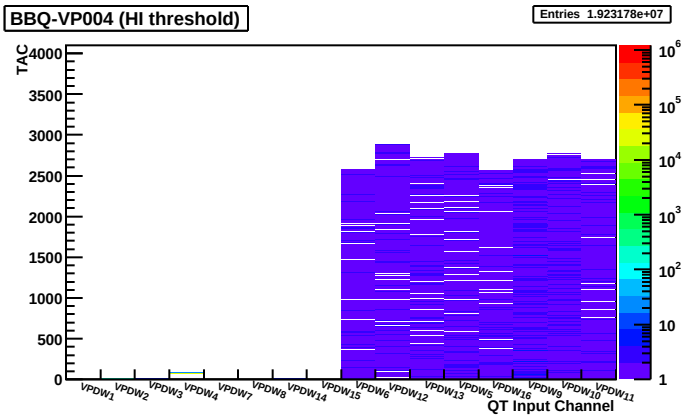

BBQ-VP002 (LO threshold)
Entries 1.923178e+07
ADC
QT Input Channel

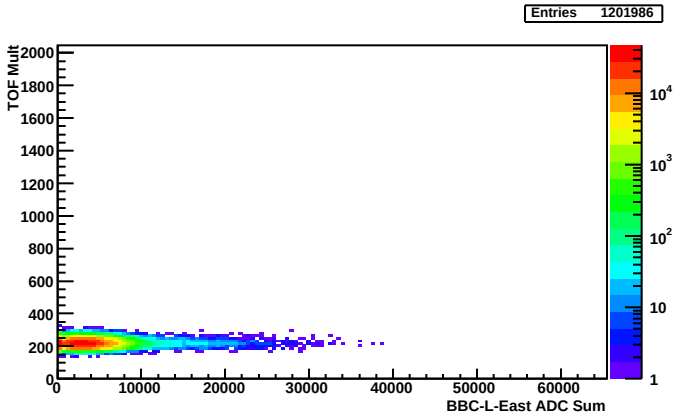

BBQ-VP002 (LO threshold)
Entries 1.923178e+07
TAC
QT Input Channel

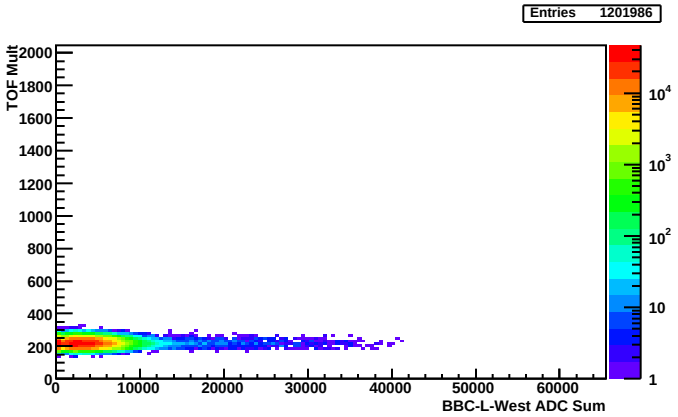

BBQ-VP003 (HI threshold)
Entries 1.923178e+07
ADC
QT Input Channel

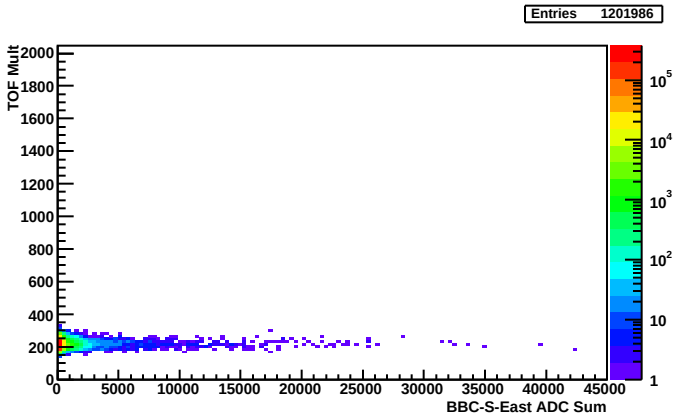

BBQ-VP003 (HI threshold)
Entries 1.923178e+07
TAC
QT Input Channel

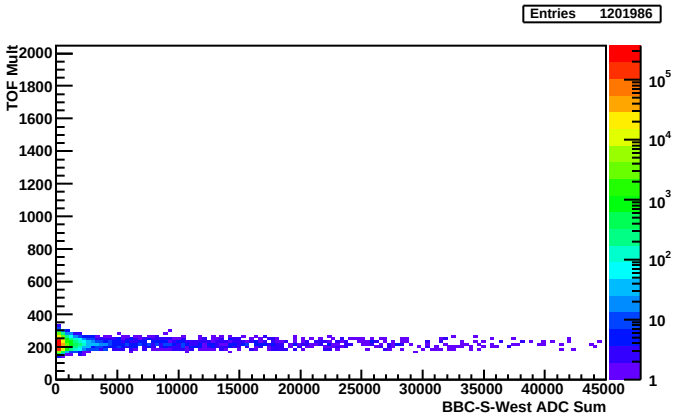

BBQ-VP004 (HI threshold)
Entries 1.923178e+07
ADC
QT Input Channel

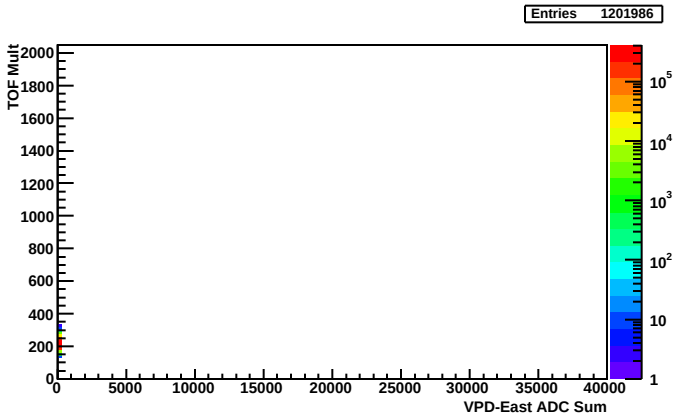

BBQ-VP004 (HI threshold)
Entries 1.923178e+07
TAC
QT Input Channel

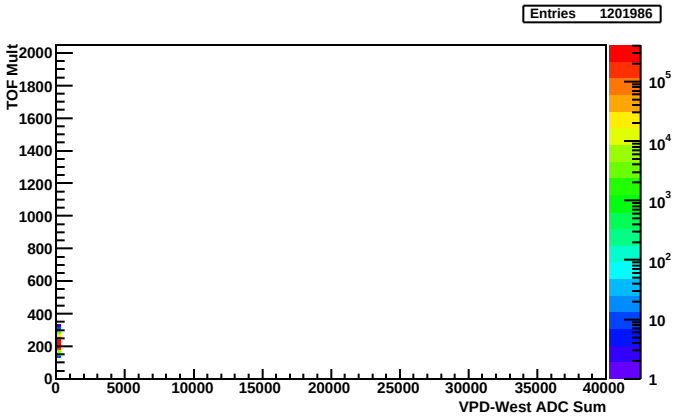

Entries 1201986
TOF Mult
BBC-L-East ADC Sum

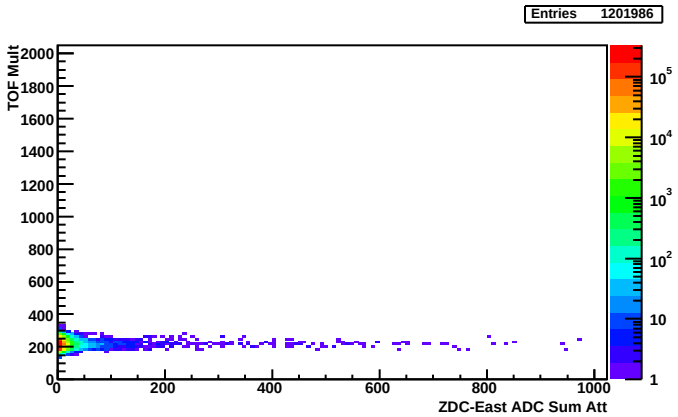

Entries 1201986
TOF Mult
BBC-L-West ADC Sum

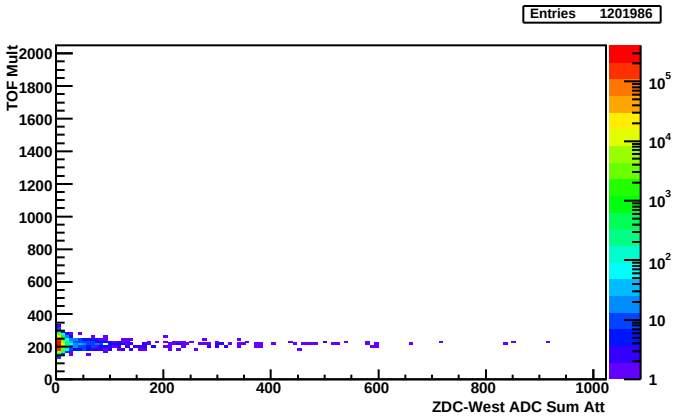

Entries 1201986
TOF Mult
BBC-S-East ADC Sum

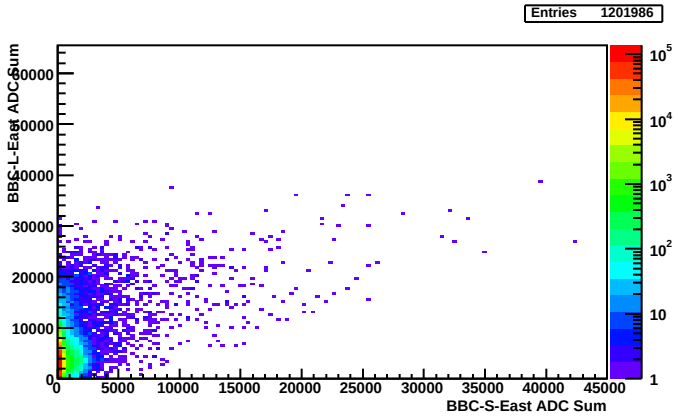

Entries 1201986
TOF Mult
BBC-S-West ADC Sum

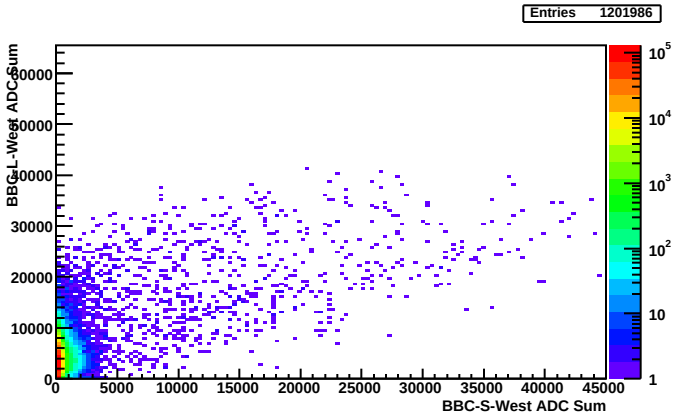

Entries 1201986
TOF Mult
VPD-East ADC Sum

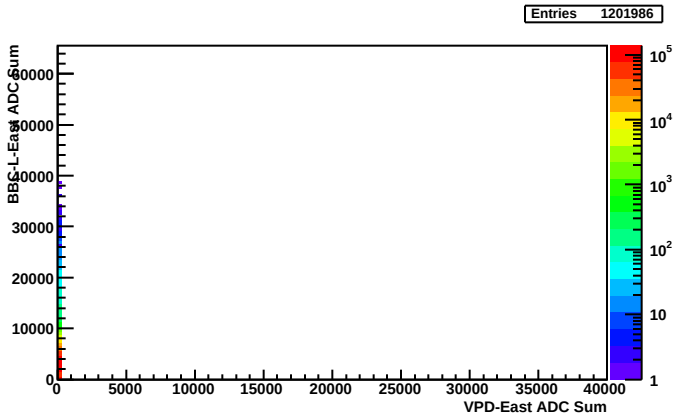

Entries 1201986
TOF Mult
VPD-West ADC Sum

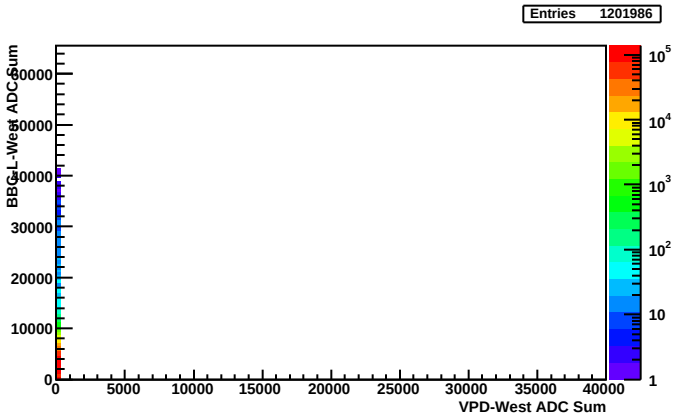

Entries 1201986
TOF Mult
ZDC-East ADC Sum Att

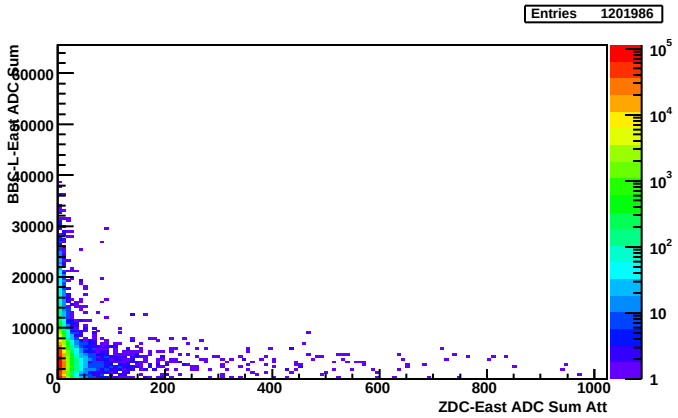

Entries 1201986
TOF Mult
ZDC-West ADC Sum Att

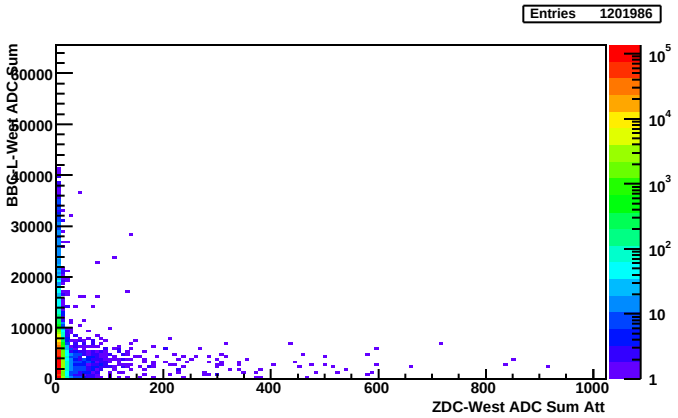

Entries 1201986
BBC-L-East ADC Sum
BBC-S-East ADC Sum

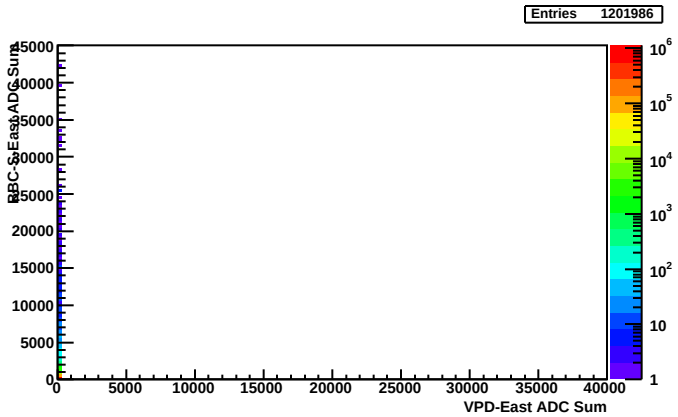

Entries 1201986
BBC-L-West ADC Sum
BBC-S-West ADC Sum

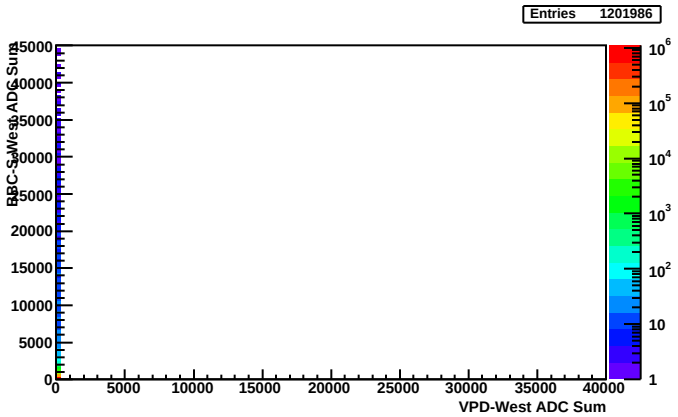

Entries 1201986
BBC-L-East ADC Sum
VPD-East ADC Sum

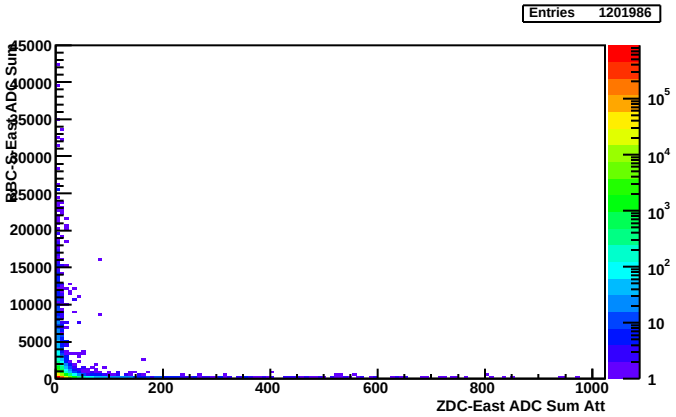

Entries 1201986
BBC-L-West ADC Sum
VPD-West ADC Sum

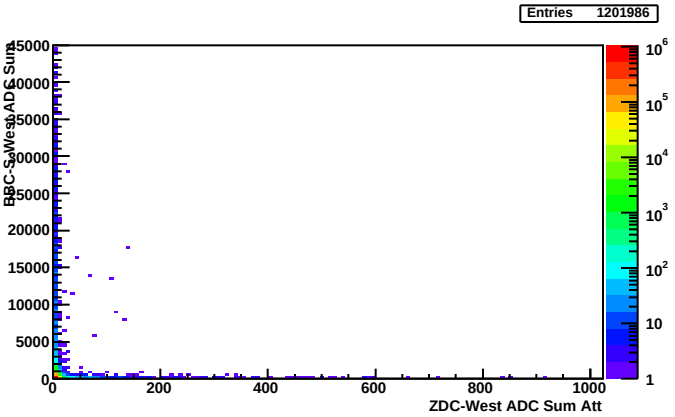

Entries 1201986
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

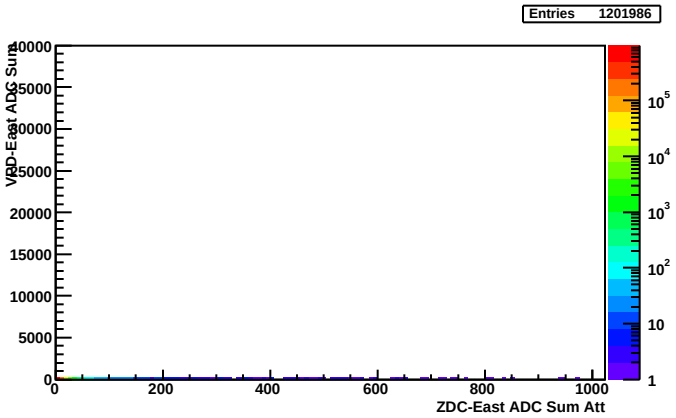

Entries 1201986
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

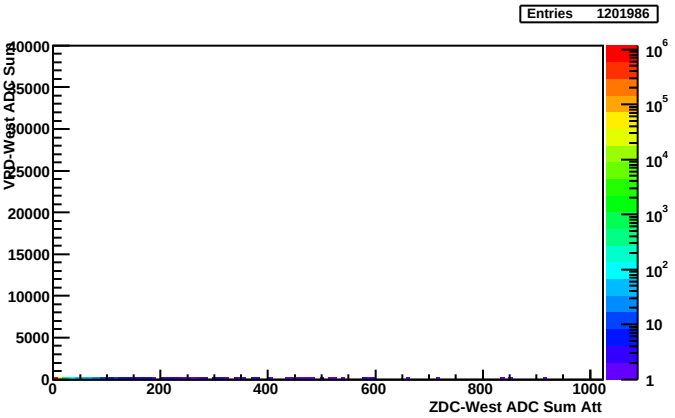

Entries 1201986
BBC-S-East ADC Sum
VPD-East ADC Sum

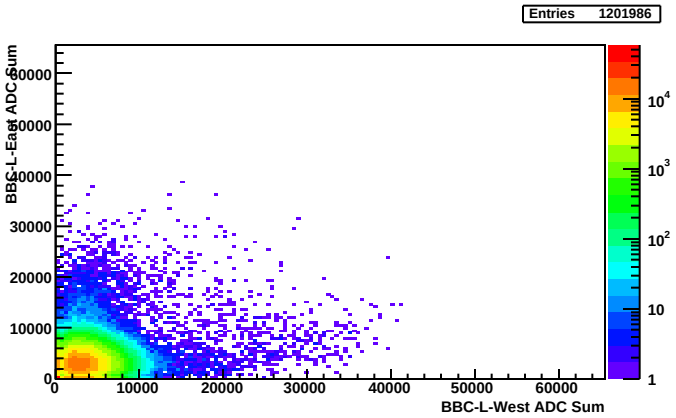

Entries 1201986
BBC-S-West ADC Sum
VPD-West ADC Sum

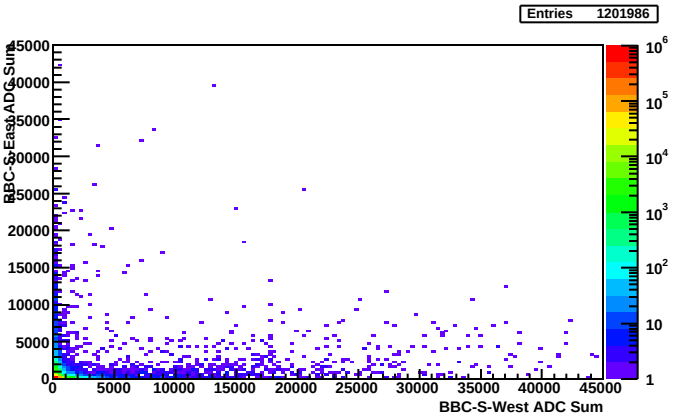

Entries 1201986
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

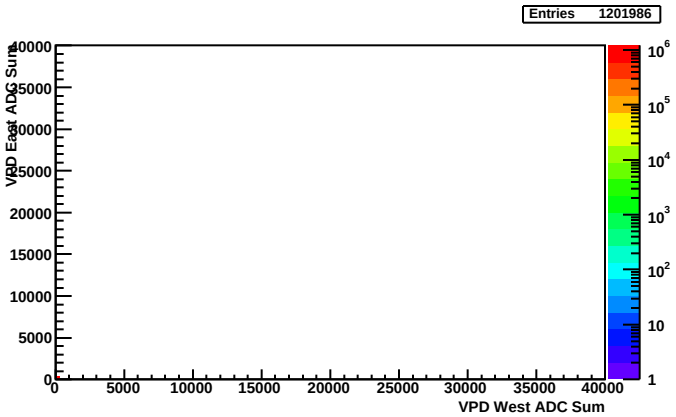

Entries 1201986
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

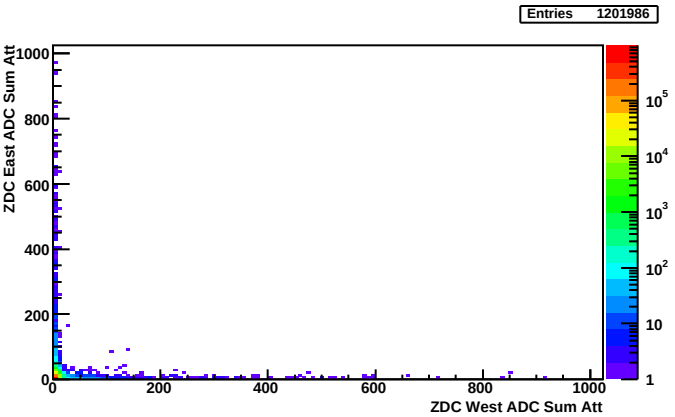

Entries 1201986
VPD-East ADC Sum
ZDC-East ADC Sum Att

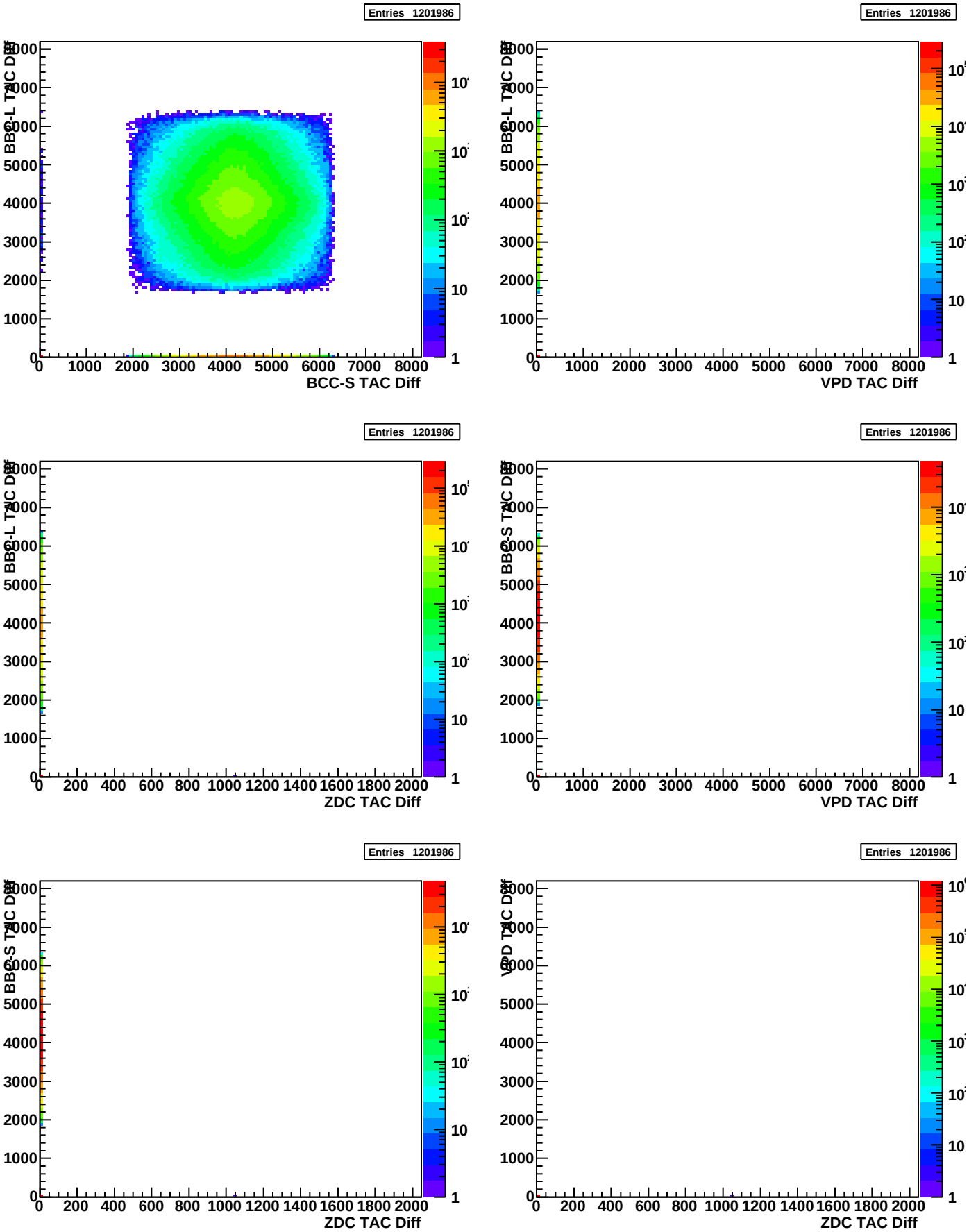

Entries 1201986
VPD-West ADC Sum
ZDC-West ADC Sum Att

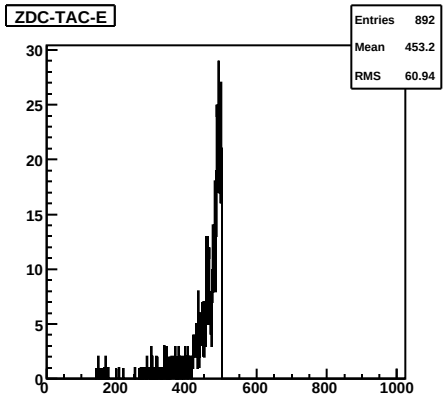

Entries 1201986
BBC-L-East ADC Sum
BBC-L-West ADC Sum

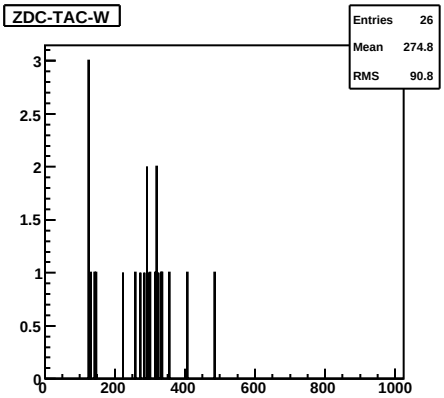

Entries 1201986
BBC-S-East ADC Sum
BBC-S-West ADC Sum

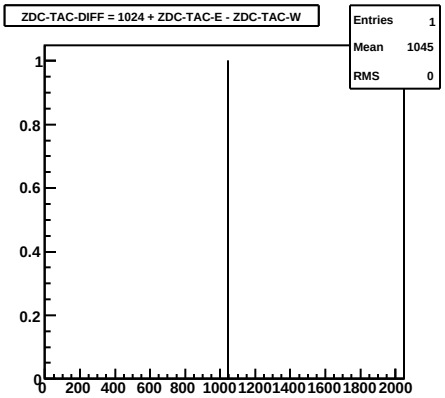

Entries 1201986
VPD East ADC Sum
VPD West ADC Sum

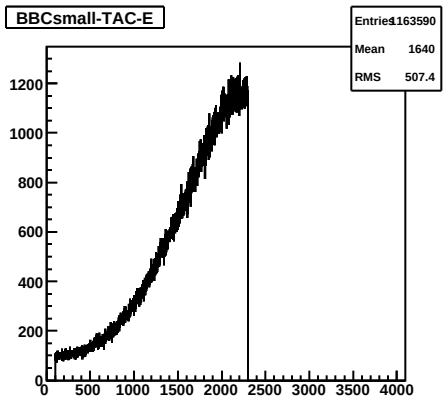

Entries 1201986
ZDC East ADC Sum Att
ZDC West ADC Sum Att

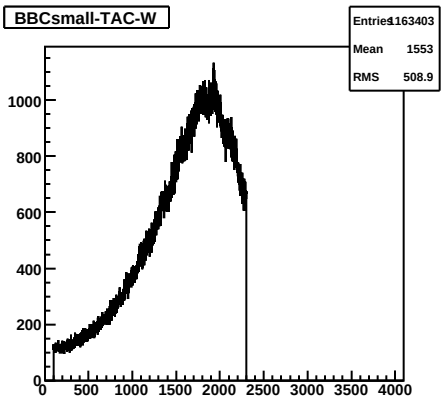

Entries 1201986
BBC-L TAC Diff
BCC-S TAC Diff
Entries 1201986
BBC-L TAC Diff
VPD TAC Diff
Entries 1201986
BBC-L TAC Diff
ZDC TAC Diff
Entries 1201986
BBC-S TAC Diff
VPD TAC Diff
Entries 1201986
BBC-S TAC Diff
ZDC TAC Diff
Entries 1201986
VPD TAC Diff
ZDC TAC Diff

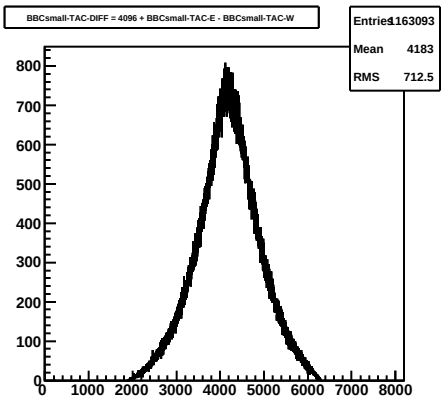

ZDC-TAC-E
Entries 892
Mean 453.2
RMS 60.94

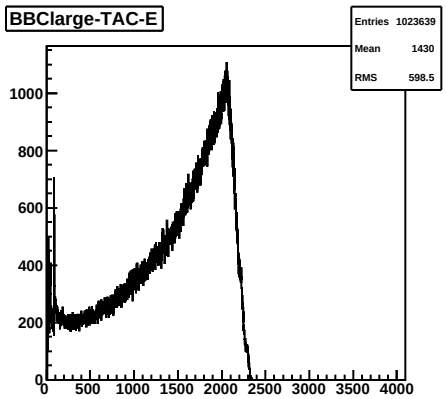

ZDC-TAC-W
Entries 26
Mean 274.8
RMS 90.8

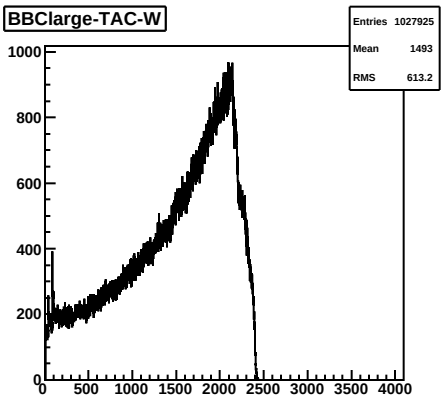

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 1
Mean 1045
RMS 0

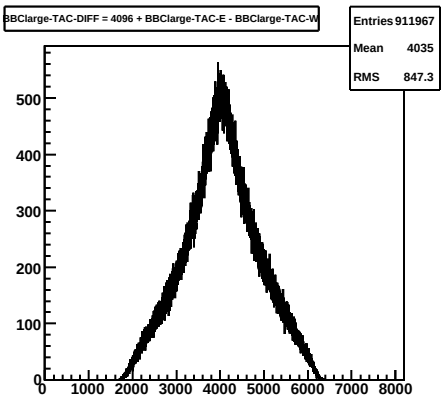

BBCsmall-TAC-E
Entries 1163590
Mean 1640
RMS 507.4

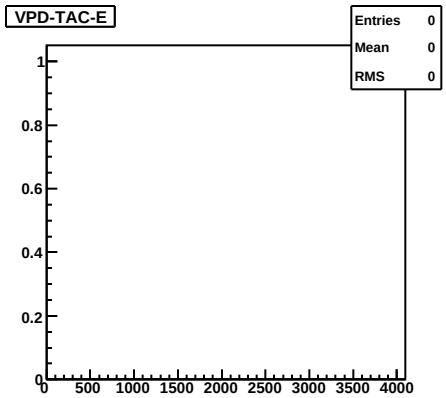

BBCsmall-TAC-W
Entries 1163403
Mean 1553
RMS 508.9

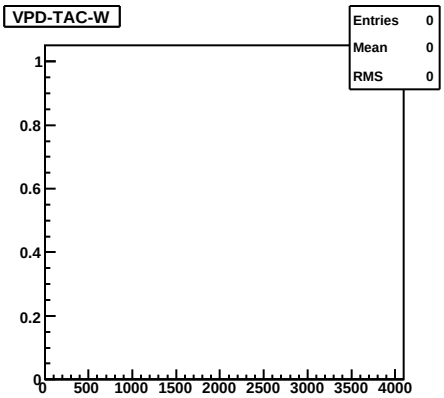

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 1163093
Mean 4183
RMS 712.5

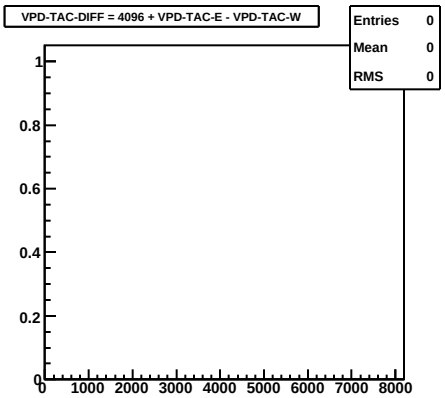

BBClarge-TAC-E
Entries 1023639
Mean 1430
RMS 598.5

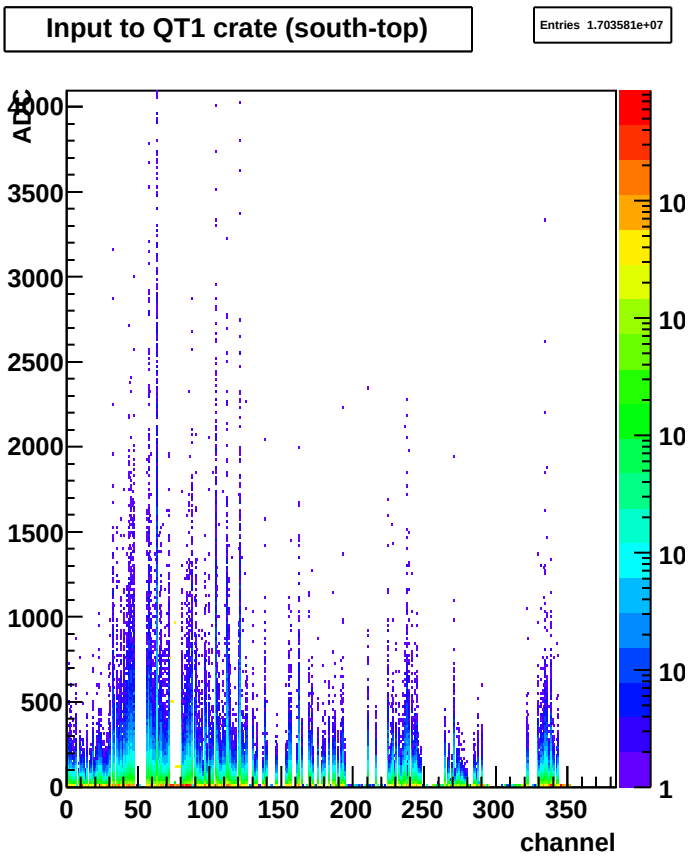

BBClarge-TAC-W
Entries 1027925
Mean 1493
RMS 613.2

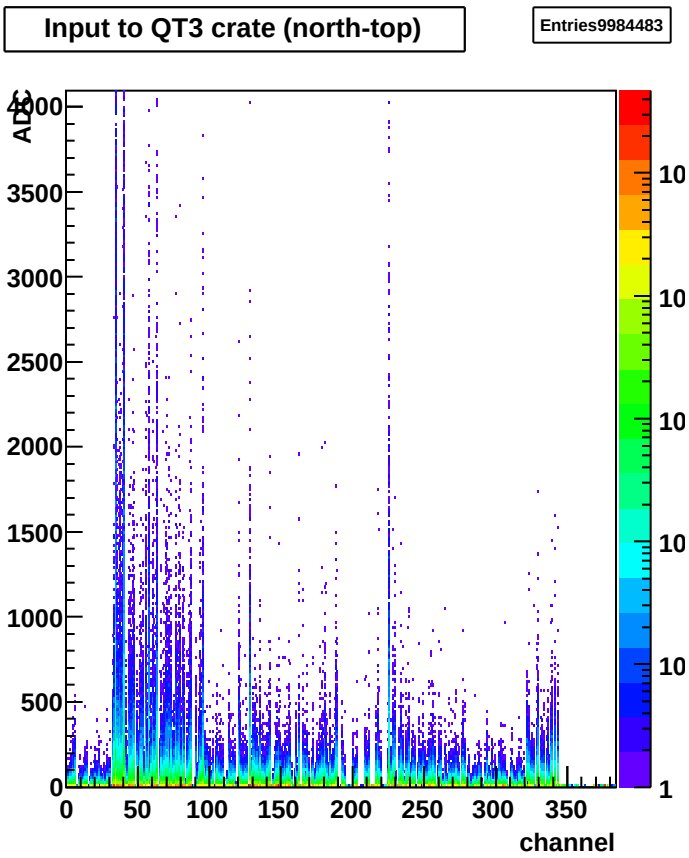

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 911967
Mean 4035
RMS 847.3

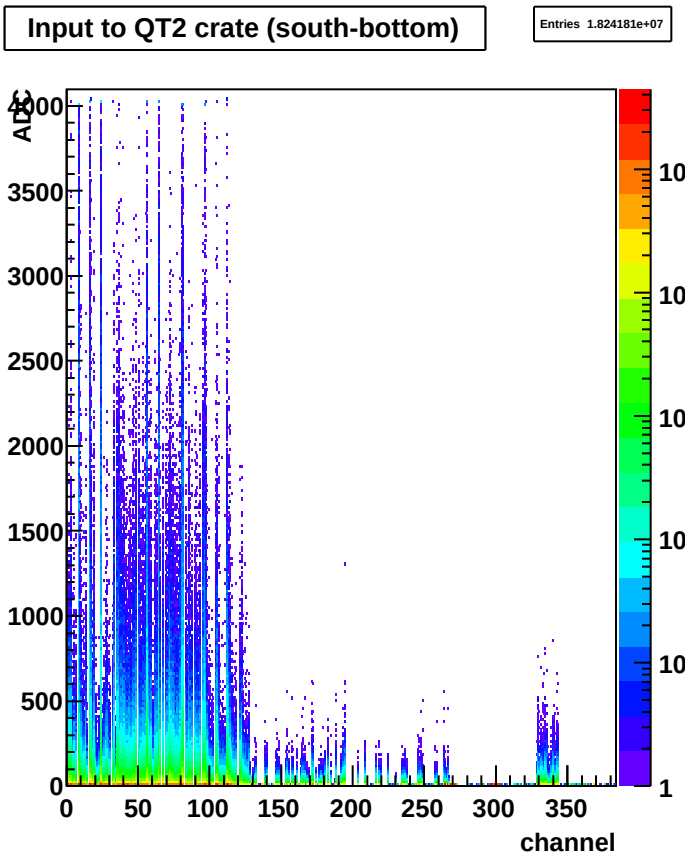

VPD-TAC-E
Entries 0
Mean 0
RMS 0

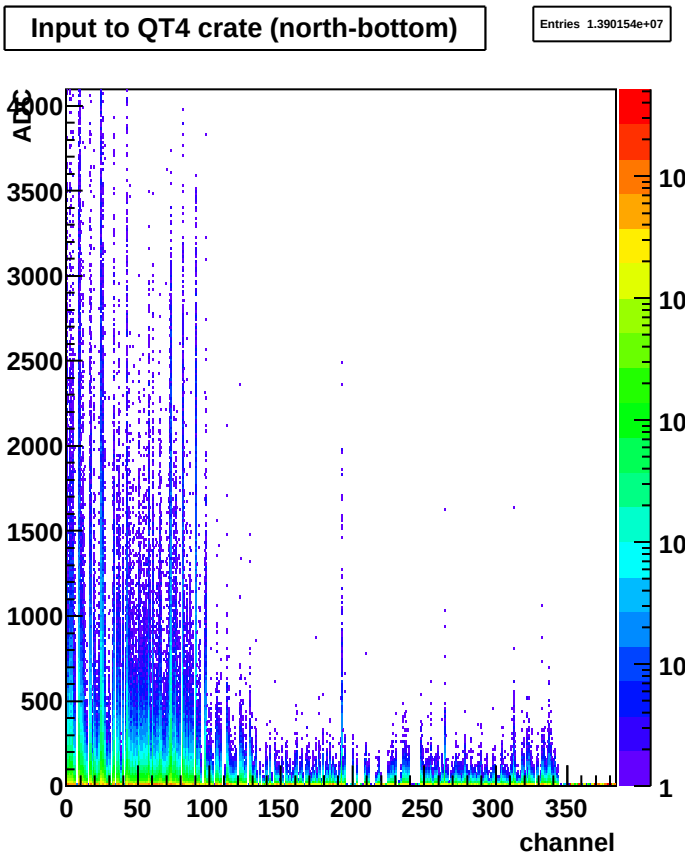

VPD-TAC-W
Entries 0
Mean 0
RMS 0

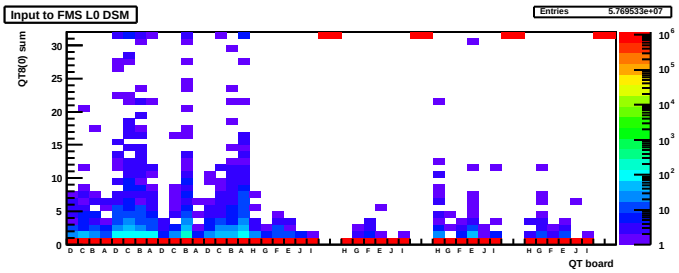

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 0
Mean 0
RMS 0

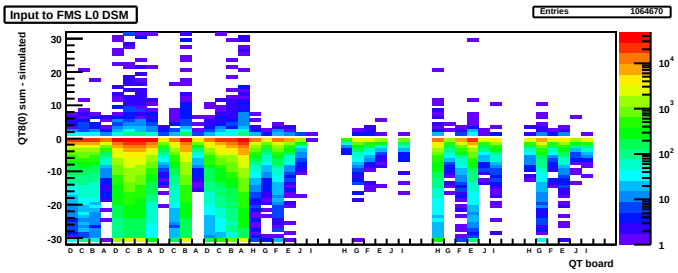

Input to QT1 crate (south-top)
Entries 1.703581e+07
ADC
channel

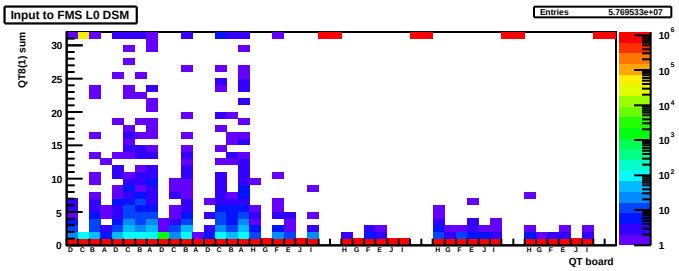

Input to QT3 crate (north-top)
Entries9984483
ADC
channel

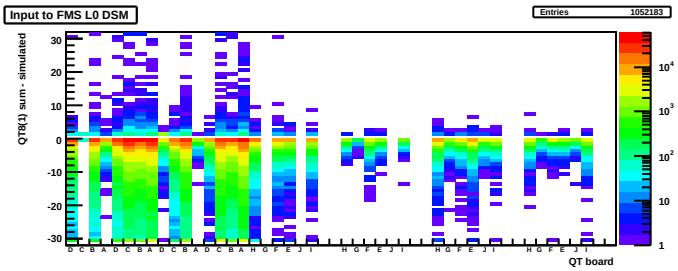

Input to QT2 crate (south-bottom)
Entries 1.824181e+07
ADC
channel

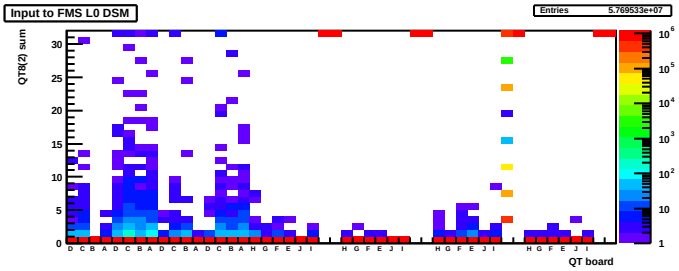

Input to QT4 crate (north-bottom)
Entries 1.390154e+07
ADC
channel

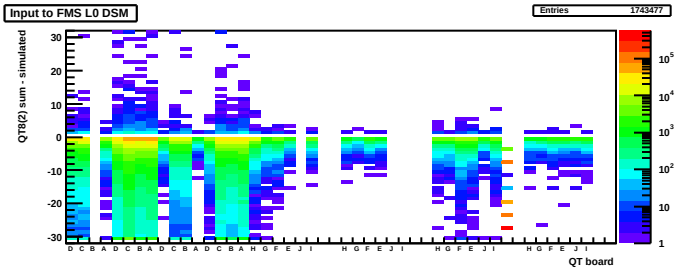

Input to FMS L0 DSM
Entries 5.769533e+07
QT8(0) sum
QT board

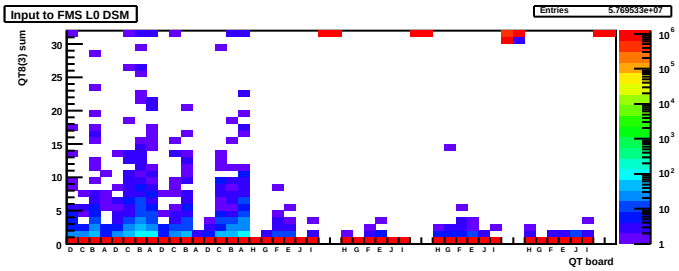

Input to FMS L0 DSM
Entries 1064670
QT8(0) sum - simulated
QT board

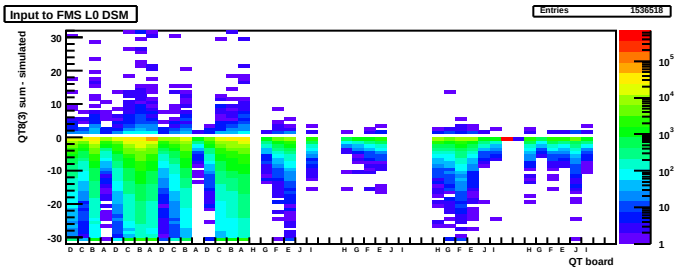

Input to FMS L0 DSM
Entries 5.769533e+07
QT8(1) sum
QT board

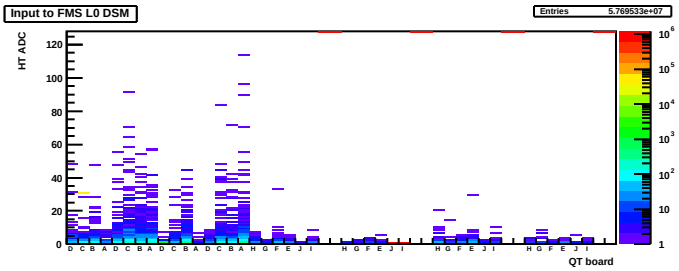

Input to FMS L0 DSM
Entries 1052183
QT8(1) sum - simulated
QT board

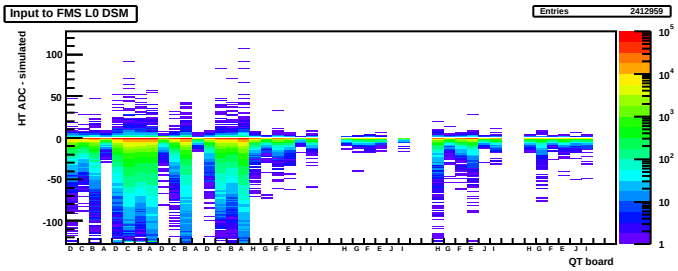

Input to FMS L0 DSM
Entries 5.769533e+07
QT8(2) sum
QT board

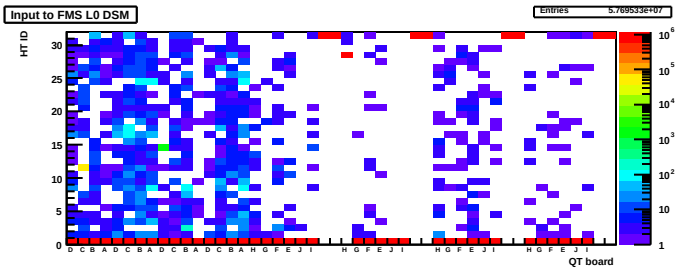

Input to FMS L0 DSM
Entries 1743477
QT8(2) sum - simulated
QT board

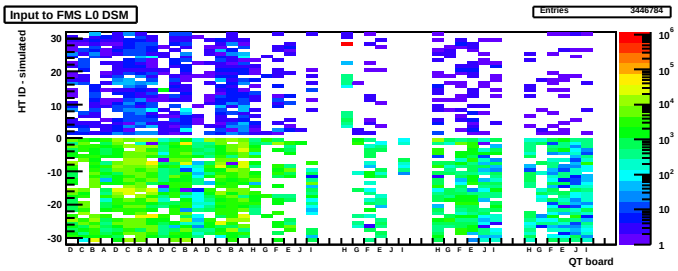

Input to FMS L0 DSM
Entries 5.769533e+07
QT8(3) sum
QT board

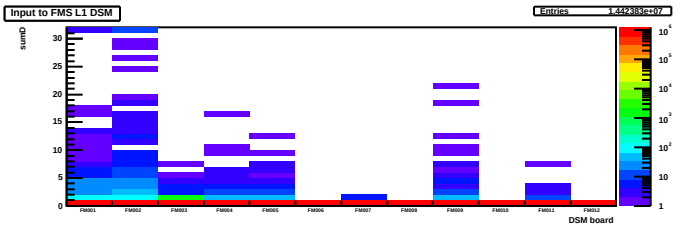

Input to FMS L0 DSM
Entries 1536518
QT8(3) sum - simulated
QT board

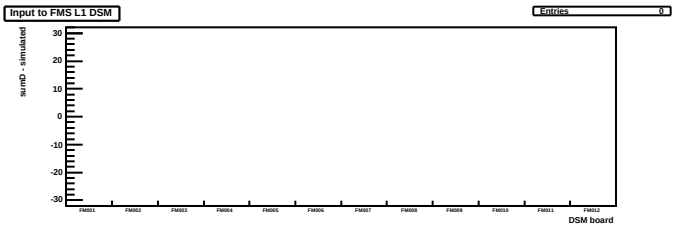

Input to FMS L0 DSM
Entries 5.769533e+07
HT ADC
QT board

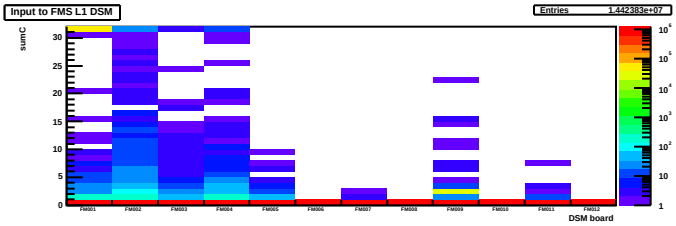

Input to FMS L0 DSM
Entries 2412959
HT ADC - simulated
QT board

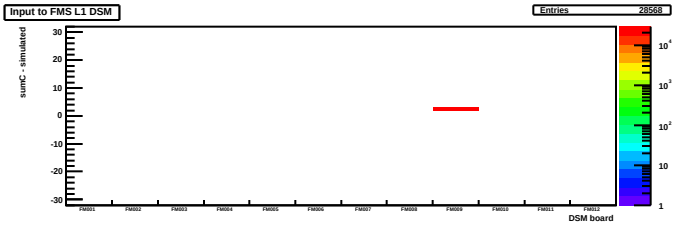

Input to FMS L0 DSM
Entries 5.769533e+07
HT ID
QT board

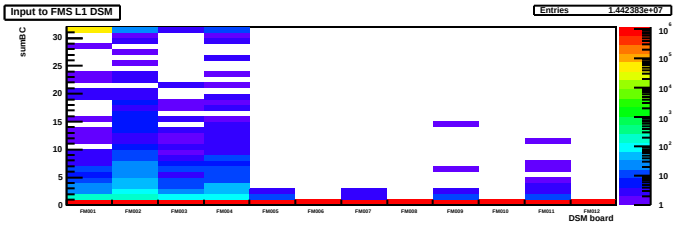

Input to FMS L0 DSM
Entries 3446784
HT ID - simulated
QT board

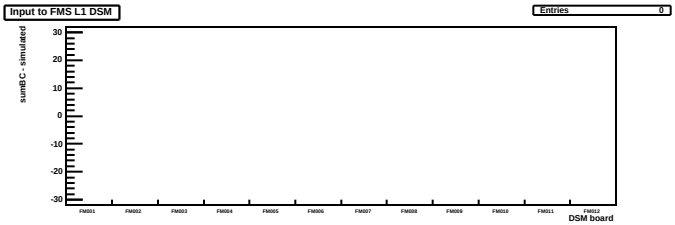

Input to FMS L1 DSM
Entries 1.442383e+07
sumD
DSM board

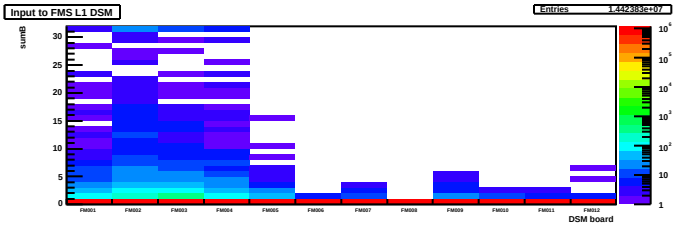

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

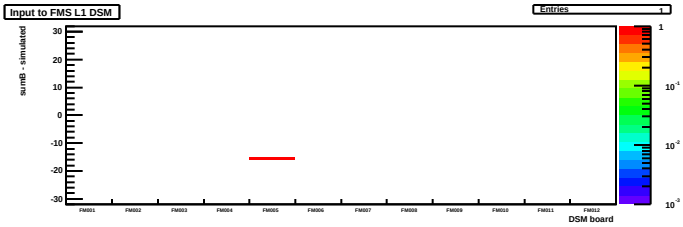

Input to FMS L1 DSM
Entries 1.442383e+07
sumC
DSM board

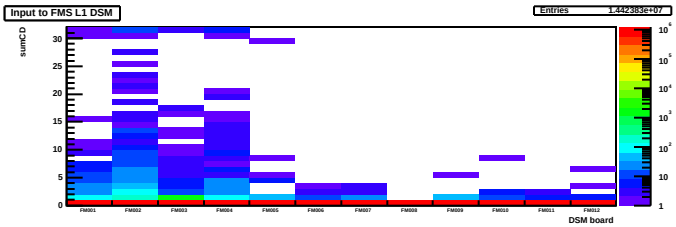

Input to FMS L1 DSM
Entries 28568
sumC - simulated
DSM board

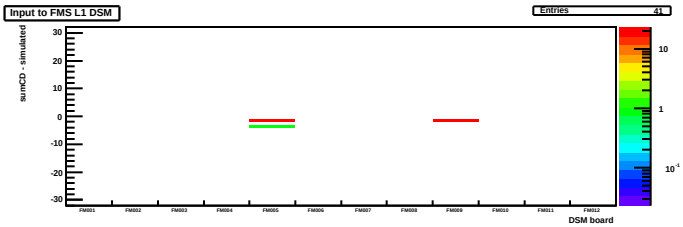

Input to FMS L1 DSM
Entries 1.442383e+07
sumBC
DSM board

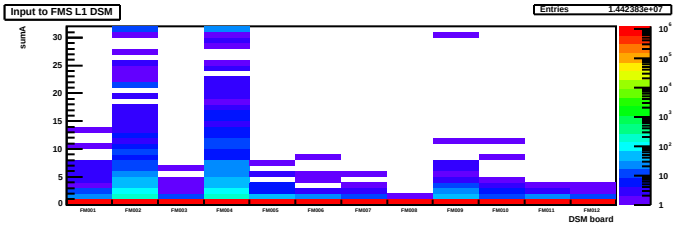

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

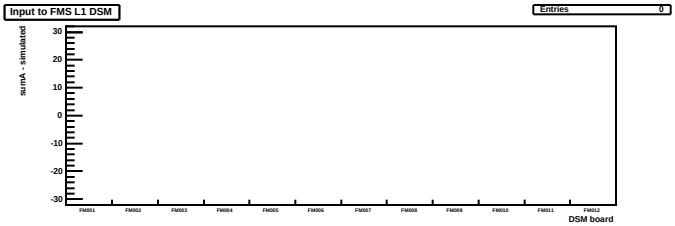

Input to FMS L1 DSM
Entries 1.442383e+07
sumB
DSM board

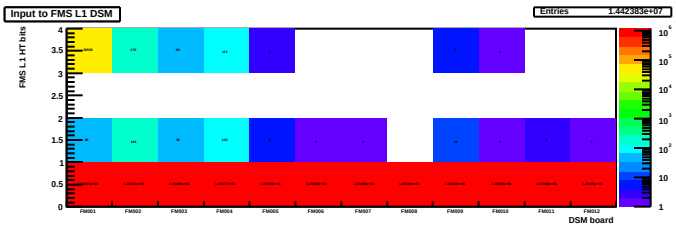

Input to FMS L1 DSM
Entries 1
sumB - simulated
DSM board

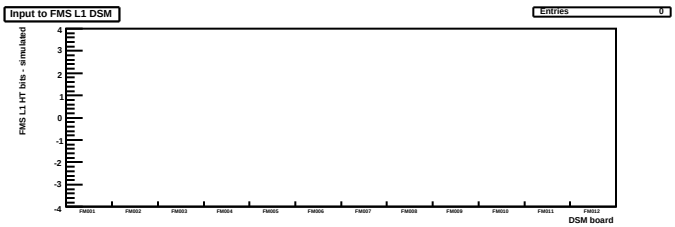

Input to FMS L1 DSM
Entries 1.442383e+07
sumCD
DSM board

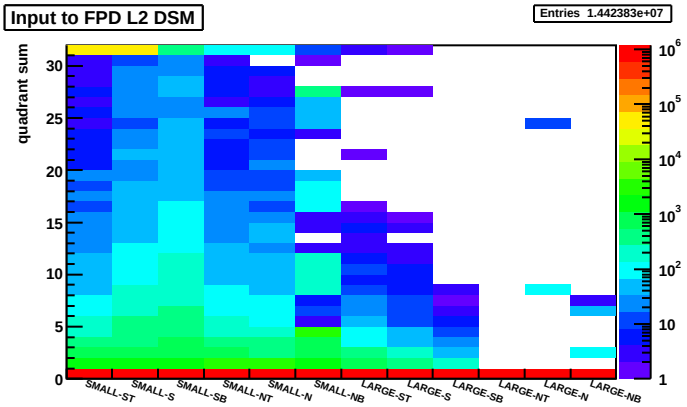

Input to FMS L1 DSM
Entries 41
sumCD - simulated
DSM board

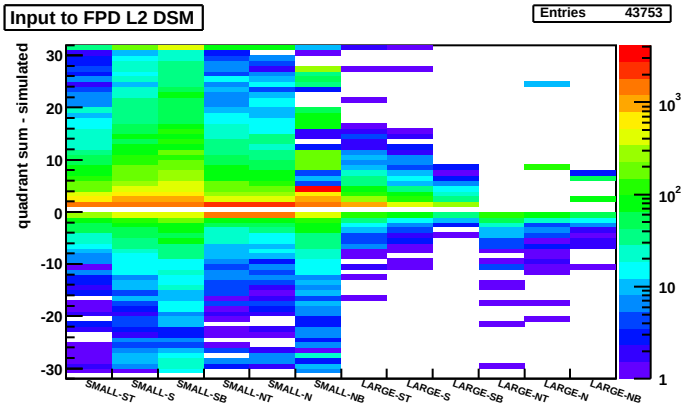

Input to FMS L1 DSM
Entries 1.442383e+07
sumA
DSM board

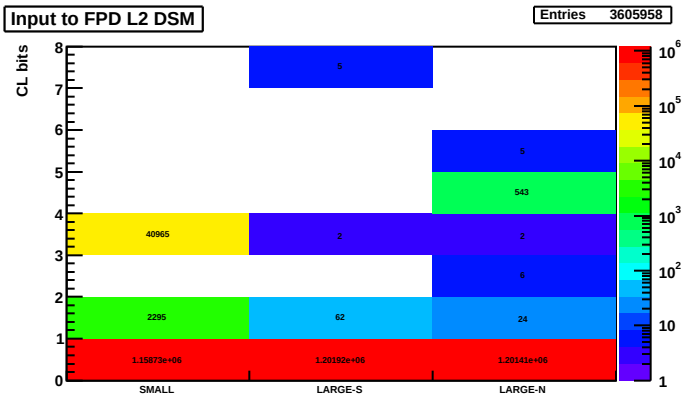

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

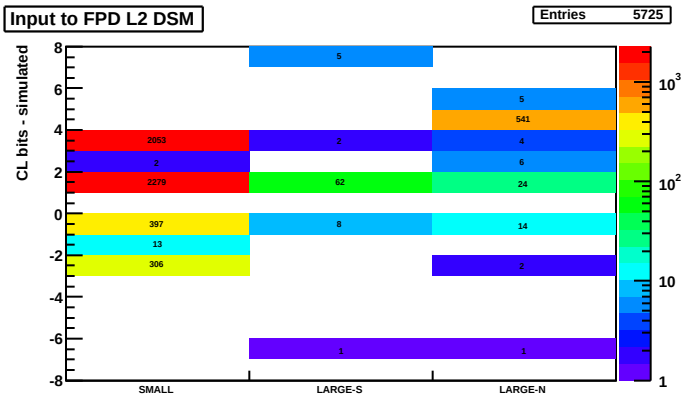

Input to FMS L1 DSM
Entries 1.442383e+07
FMS L1 HT bits
DSM board

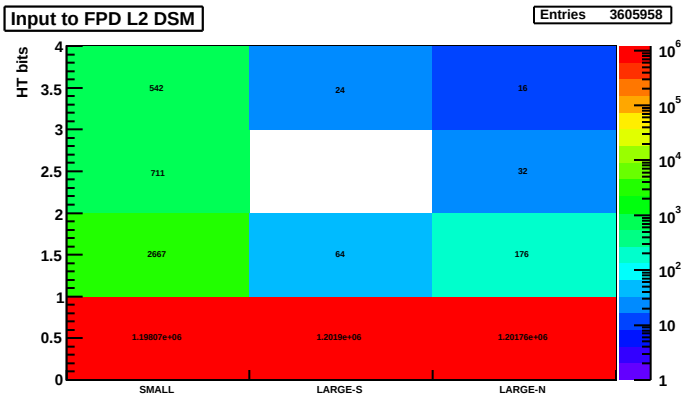

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

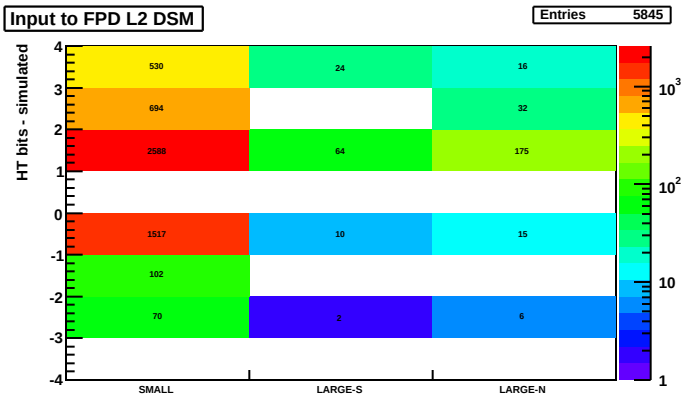

Input to FPD L2 DSM
Entries 1.442383e+07
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

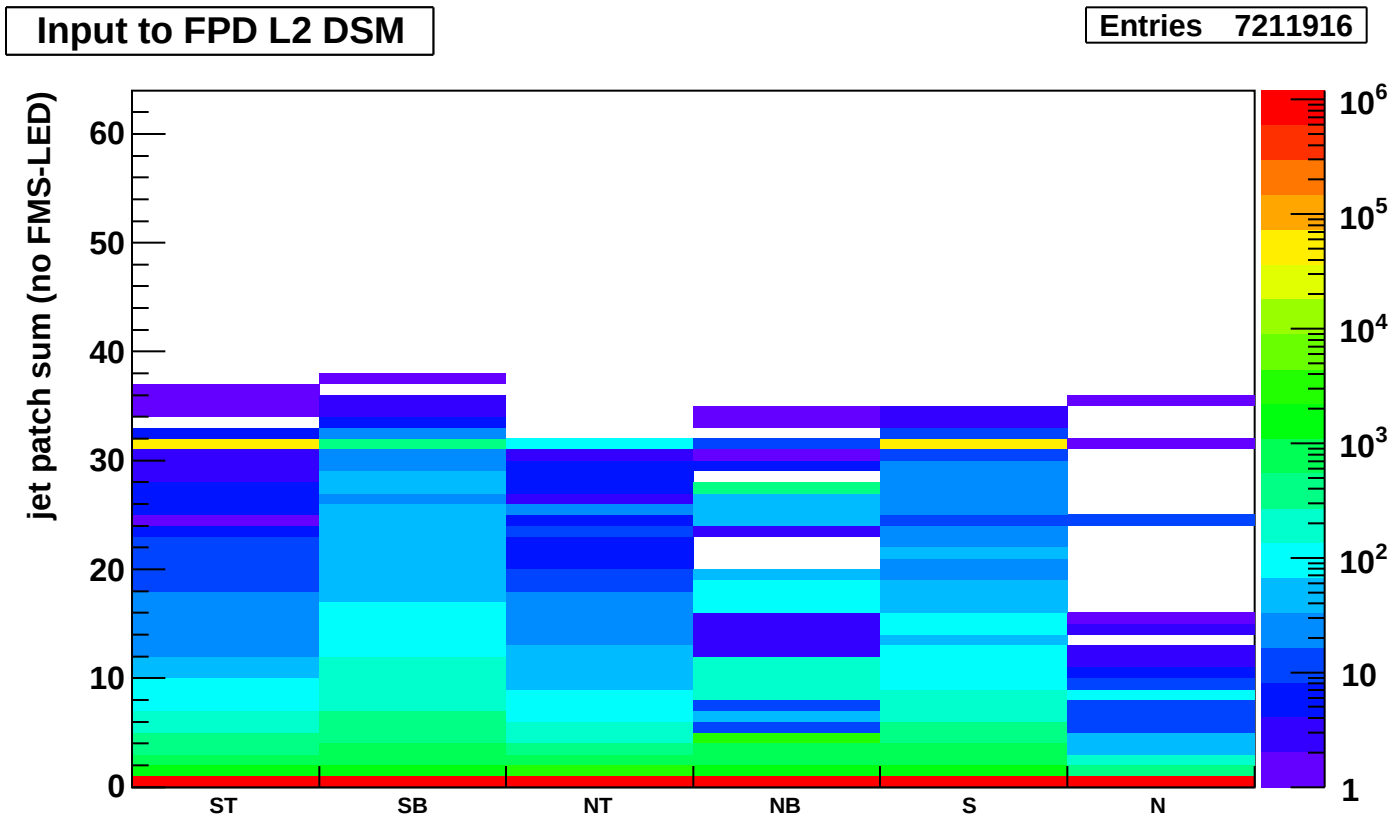

Input to FPD L2 DSM
Entries 43753
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

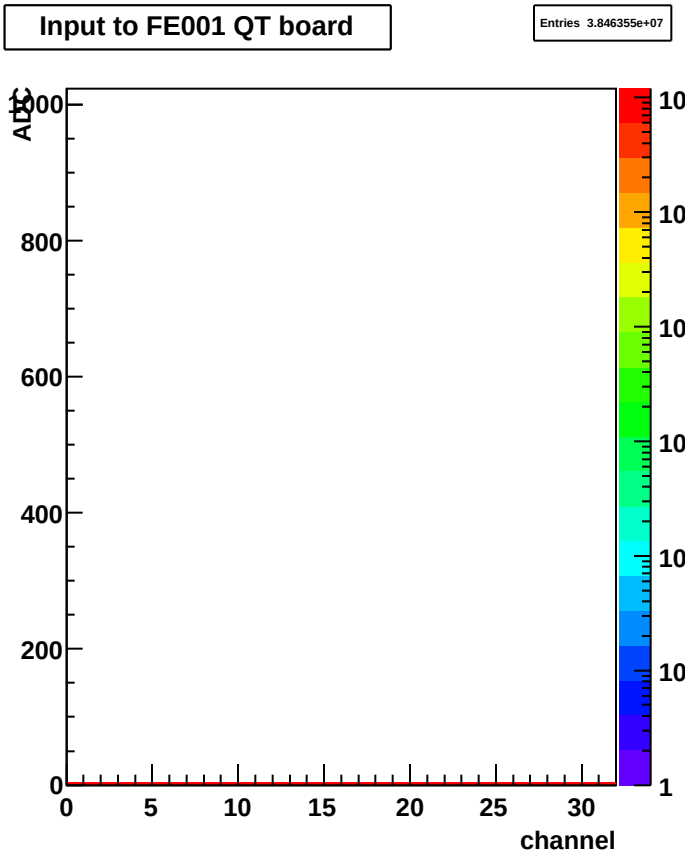

Input to FPD L2 DSM
Entries 3605958
CL bits
40965
5
2
5
543
2
6
2295
62
24
1.15873e+06
1.20192e+06
1.20141e+06
SMALL
LARGE-S
LARGE-N

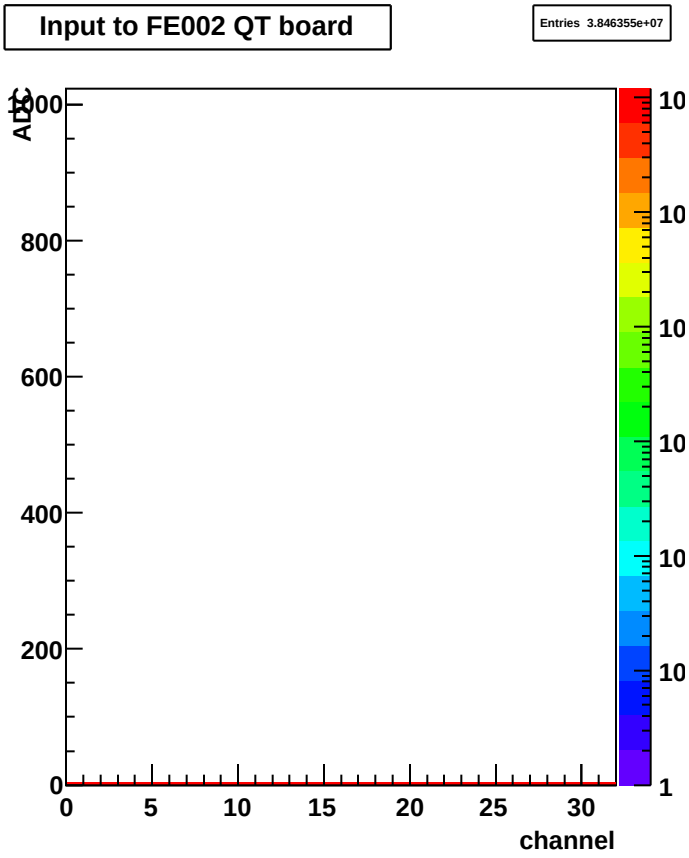

Input to FPD L2 DSM
Entries 5725
CL bits - simulated
5
5
541
2053
2
4
2
6
2279
62
24
397
8
14
13
306
2
1
1
SMALL
LARGE-S
LARGE-N

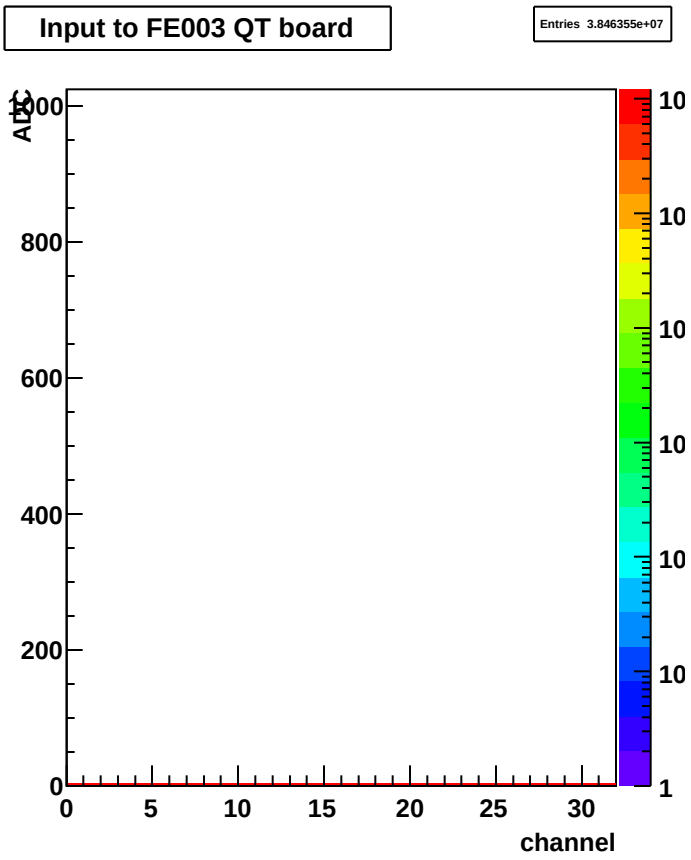

Input to FPD L2 DSM
Entries 3605958
HT bits
542
24
16
711
32
2667
64
176
1.19807e+06
1.2019e+06
1.20176e+06
SMALL
LARGE-S
LARGE-N

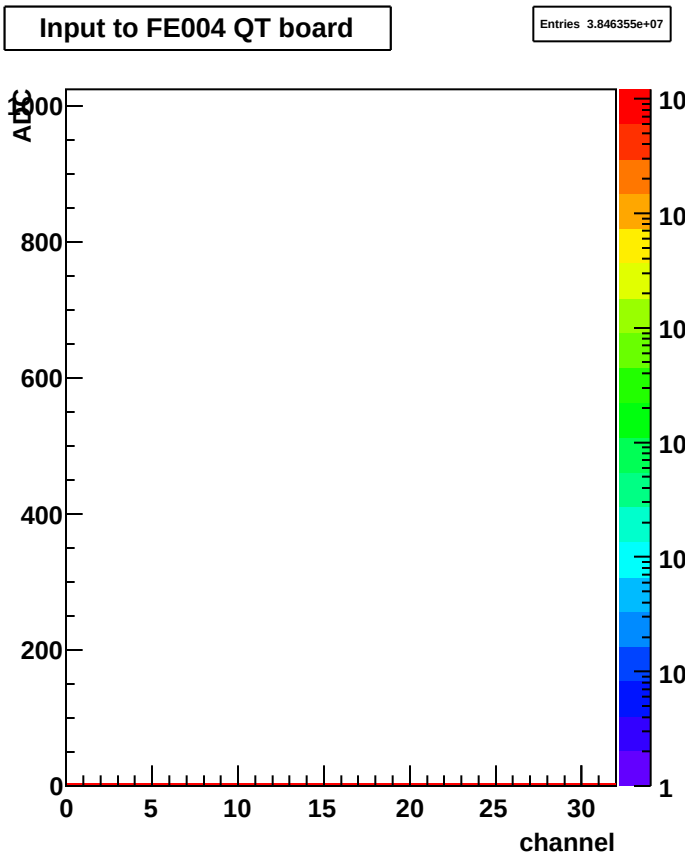

Input to FPD L2 DSM
Entries 5845
HT bits - simulated
530
24
16
694
32
2588
64
175
1517
10
15
102
70
2
6
SMALL
LARGE-S
LARGE-N

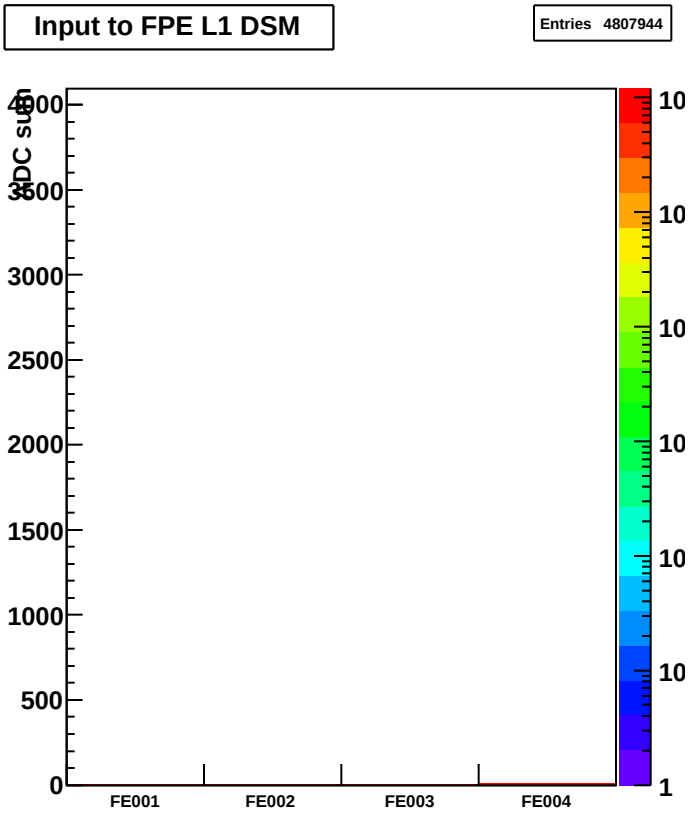

Input to FPD L2 DSM
Entries 7211916
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5
10^6

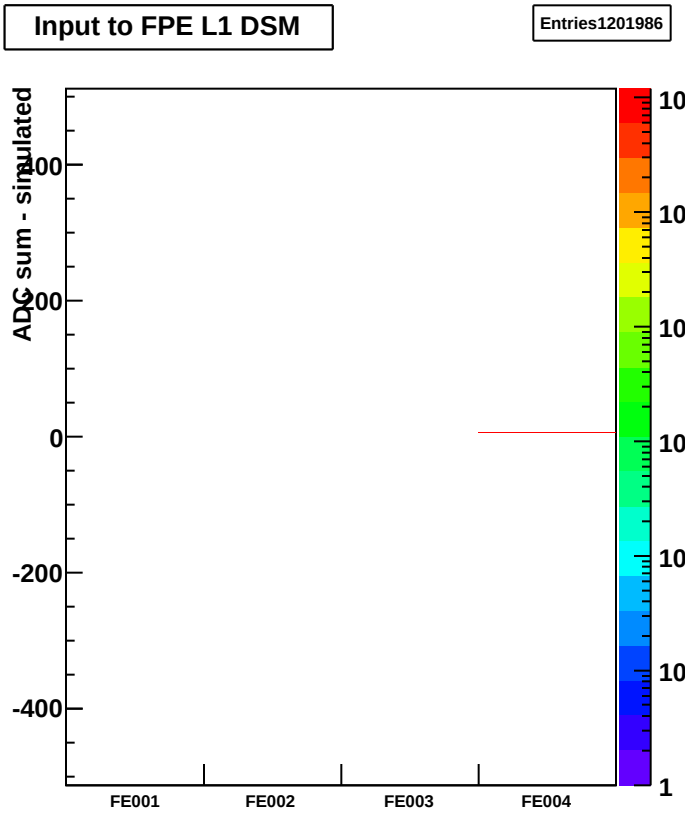

Input to FE001 QT board
Entries 3.846355e+07
ADC
channel

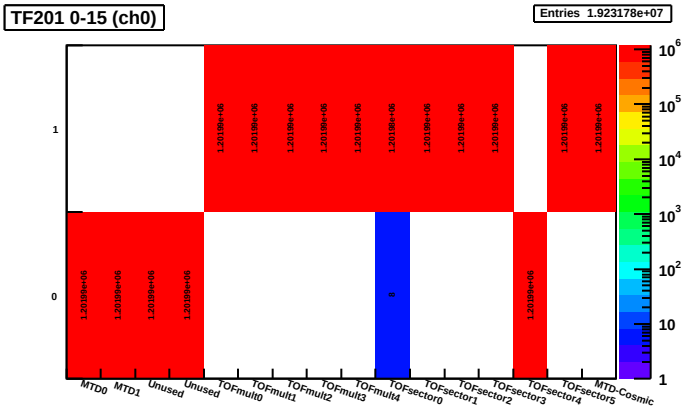

Input to FE002 QT board
Entries 3.846355e+07
ADC
channel

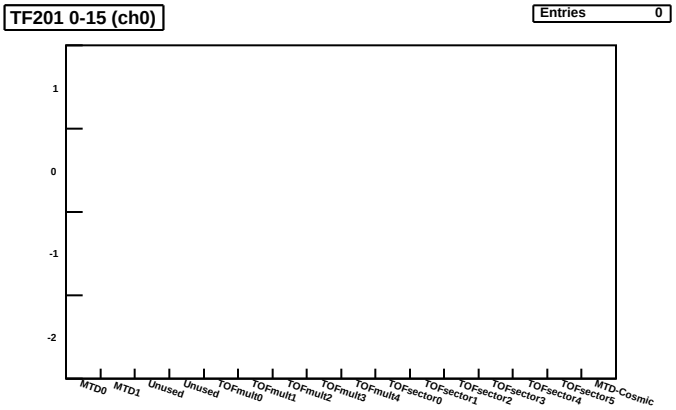

Input to FE003 QT board
Entries 3.846355e+07
ADC
channel

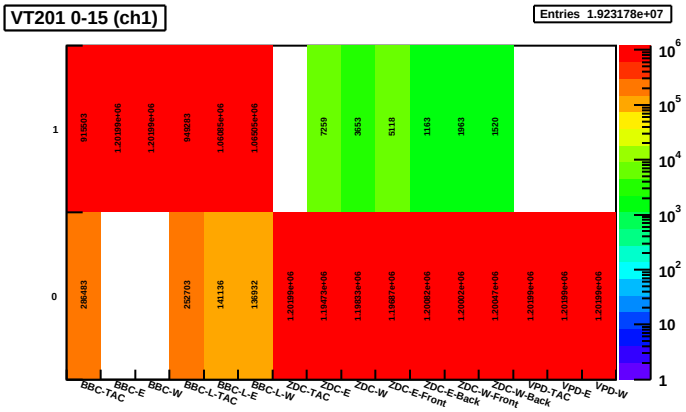

Input to FE004 QT board
Entries 3.846355e+07
ADC
channel

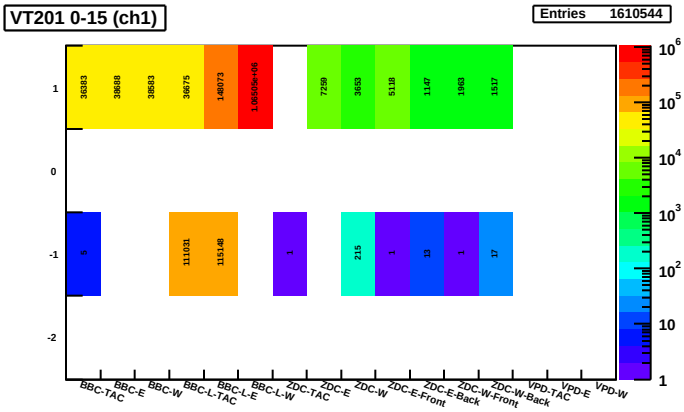

Input to FPE L1 DSM
Entries 4807944
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
10
1

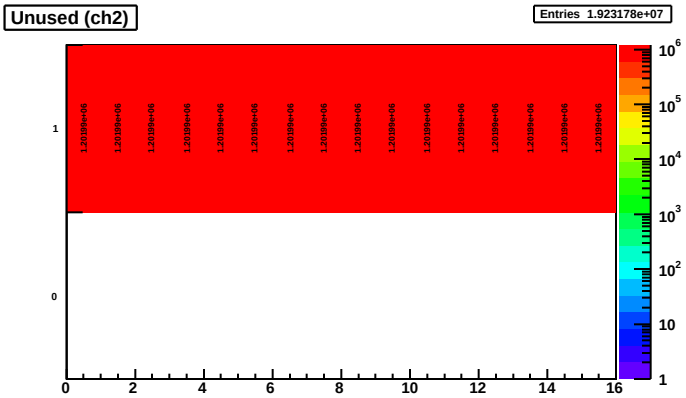

Input to FPE L1 DSM
Entries1201986
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
10
1

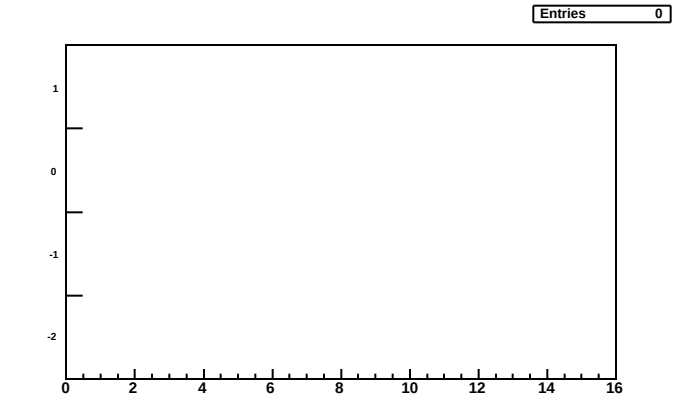

TF201 0-15 (ch0)
Entries 1.923178e+07
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

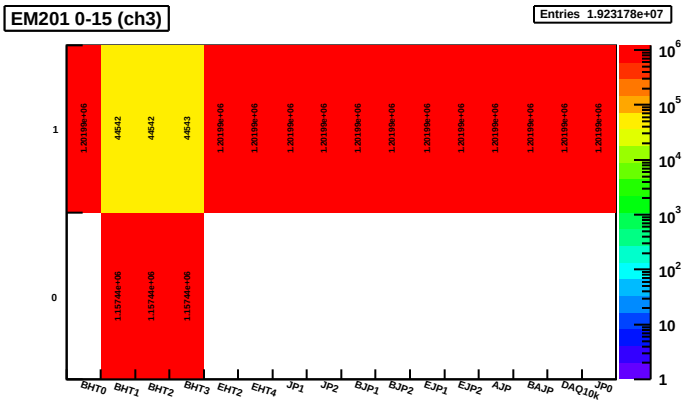

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

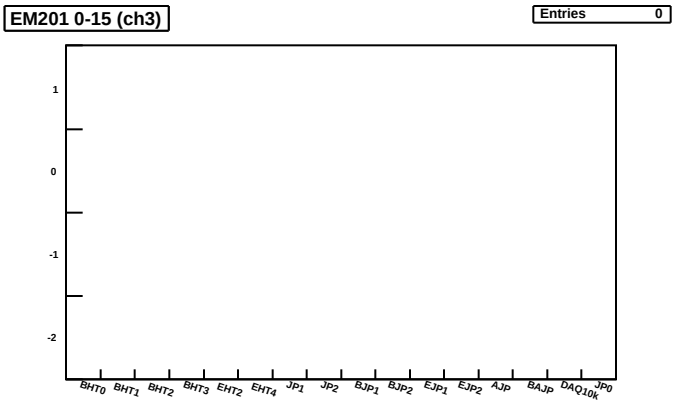

VT201 0-15 (ch1)
Entries 1.923178e+07
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

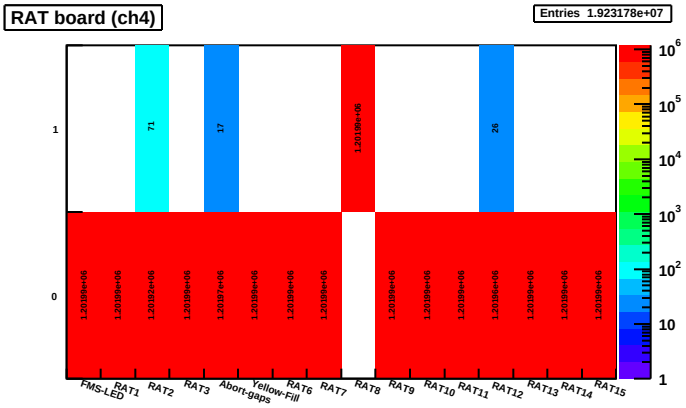

VT201 0-15 (ch1)
Entries 1610544
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

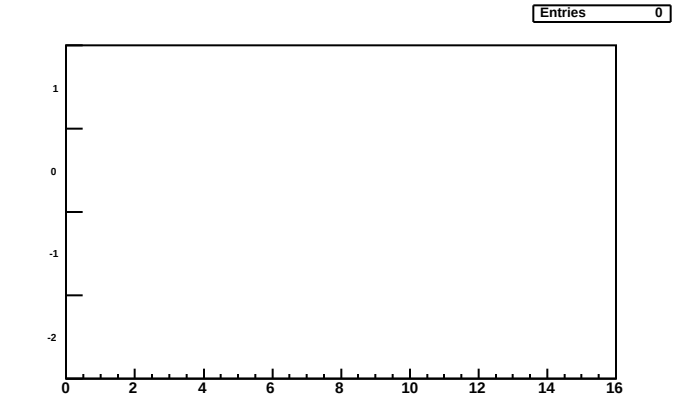

Unused (ch2)
Entries 1.923178e+07

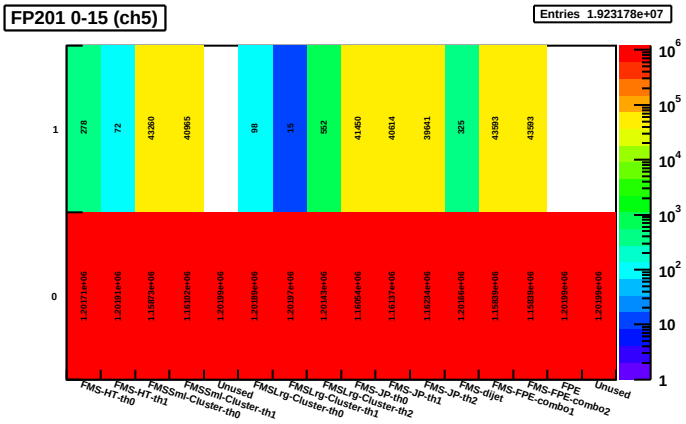

Entries 0

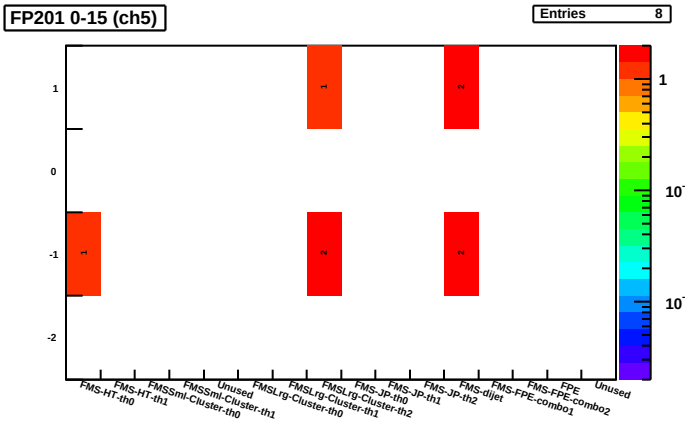

EM201 0-15 (ch3)
Entries 1.923178e+07
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

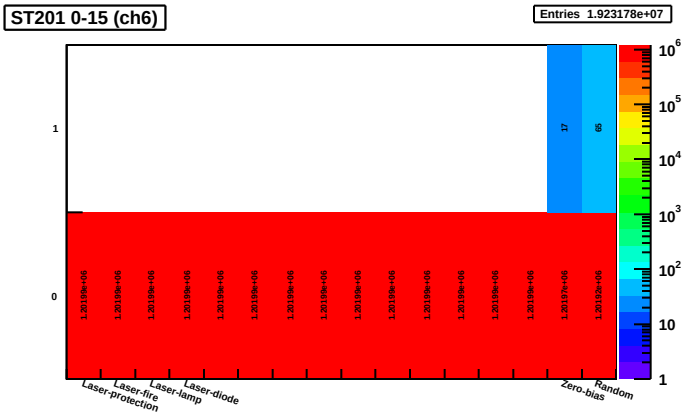

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

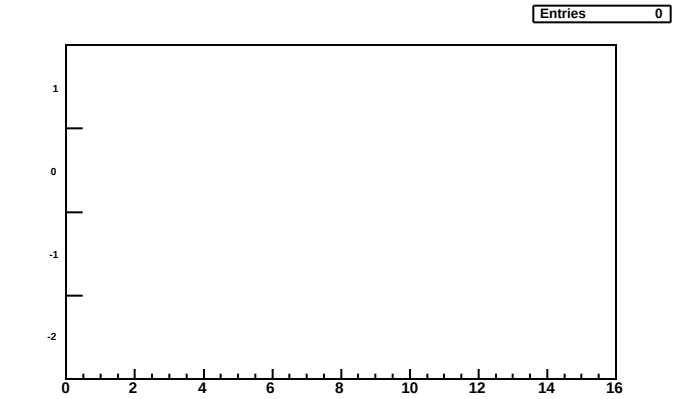

RAT board (ch4)
Entries 1.923178e+07
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15

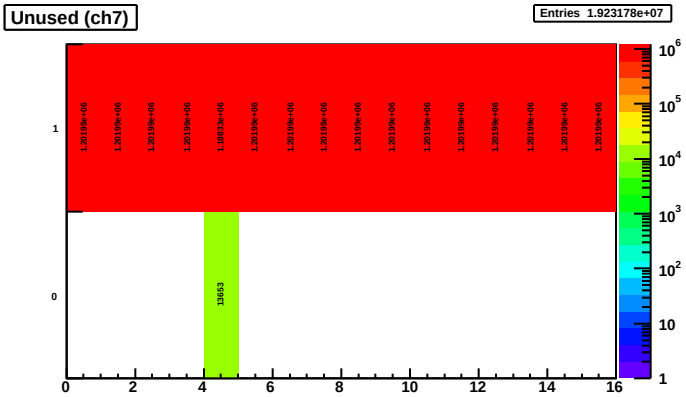

Entries 0

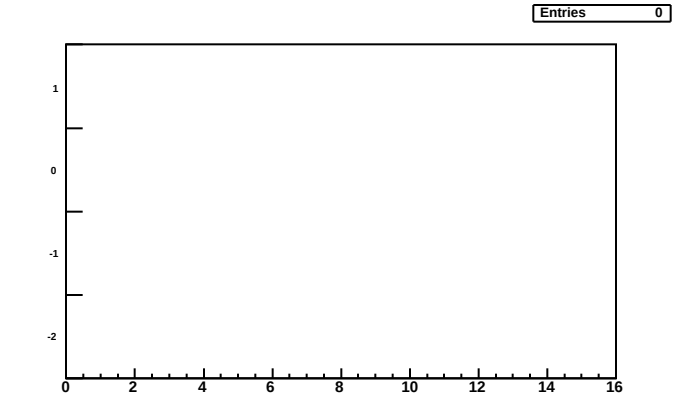

FP201 0-15 (ch5)
Entries 1.923178e+07
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMSLrg-Cluster-th2
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


FP201 0-15 (ch5)
Entries 8
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMSLrg-Cluster-th2
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


ST201 0-15 (ch6)
Entries 1.923178e+07
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random


Entries 0


Unused (ch7)
Entries 1.923178e+07


Entries 0