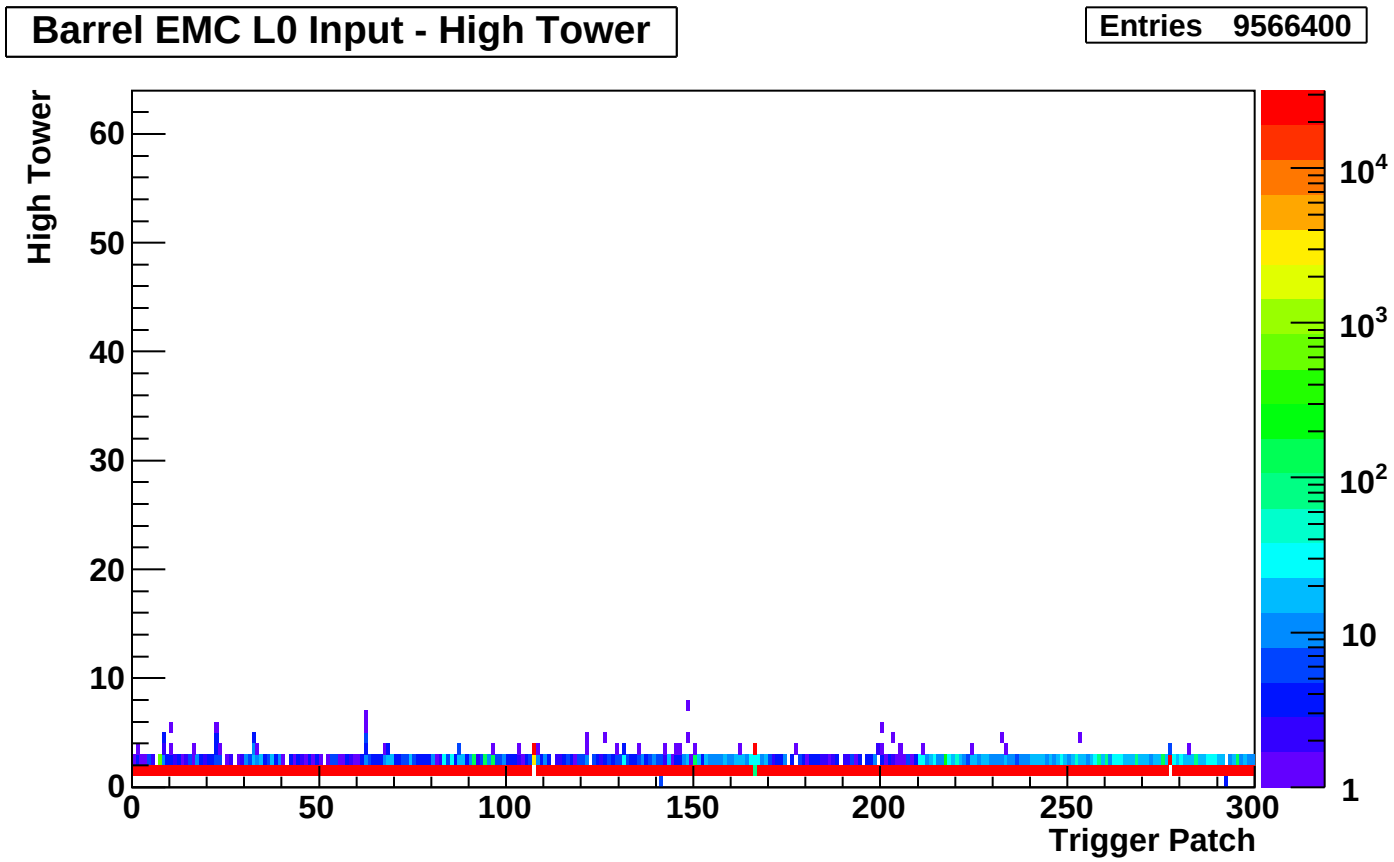
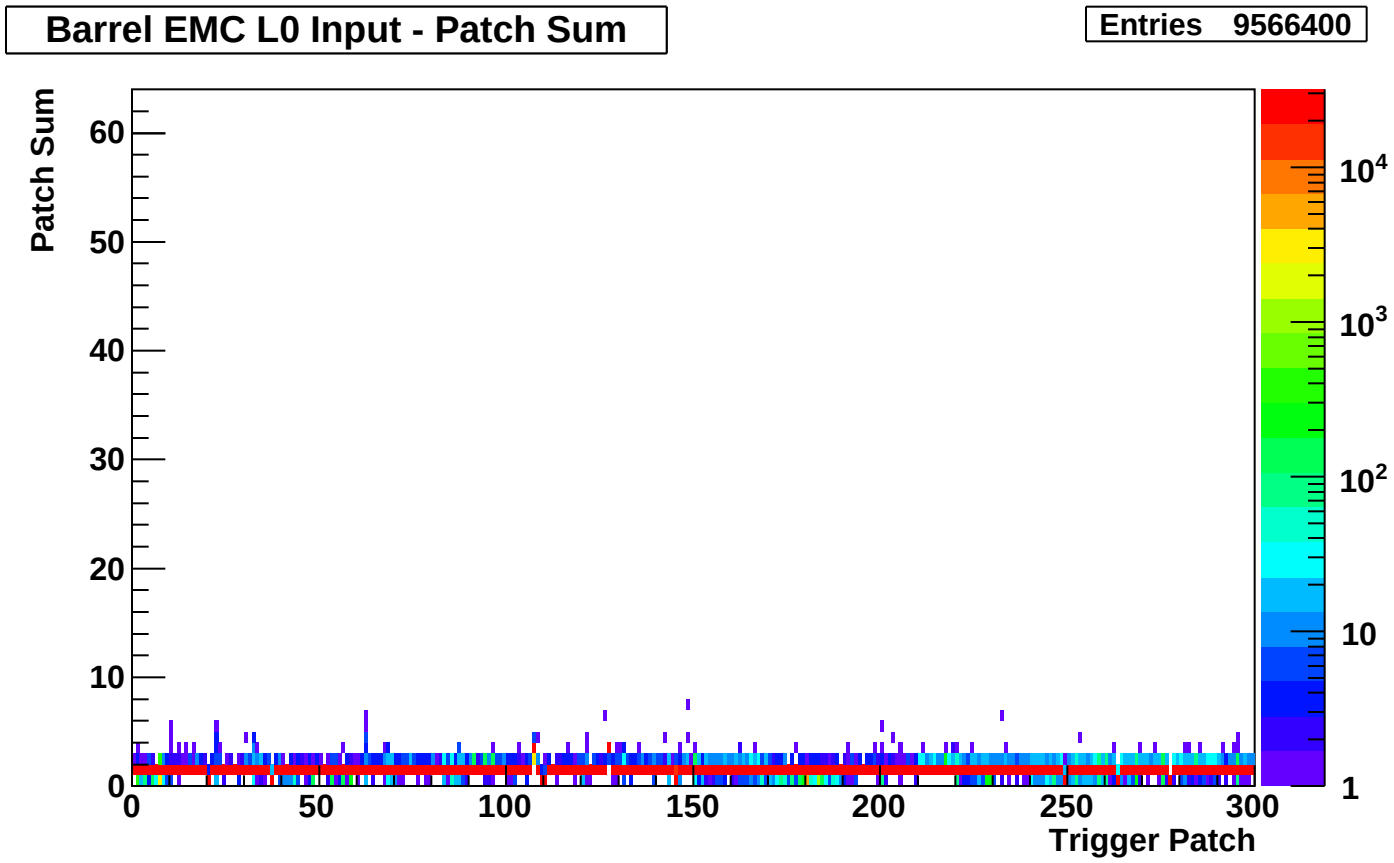
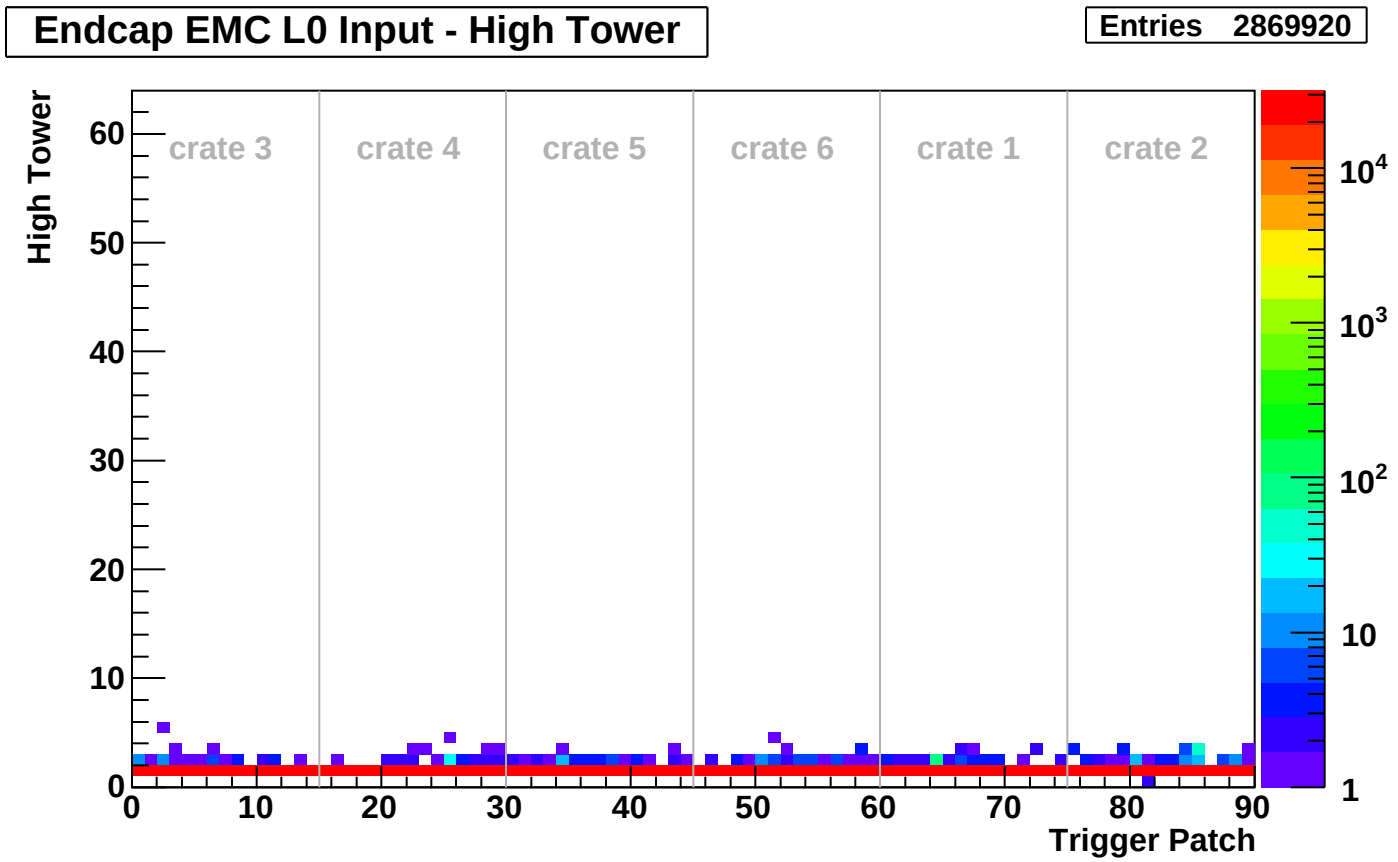
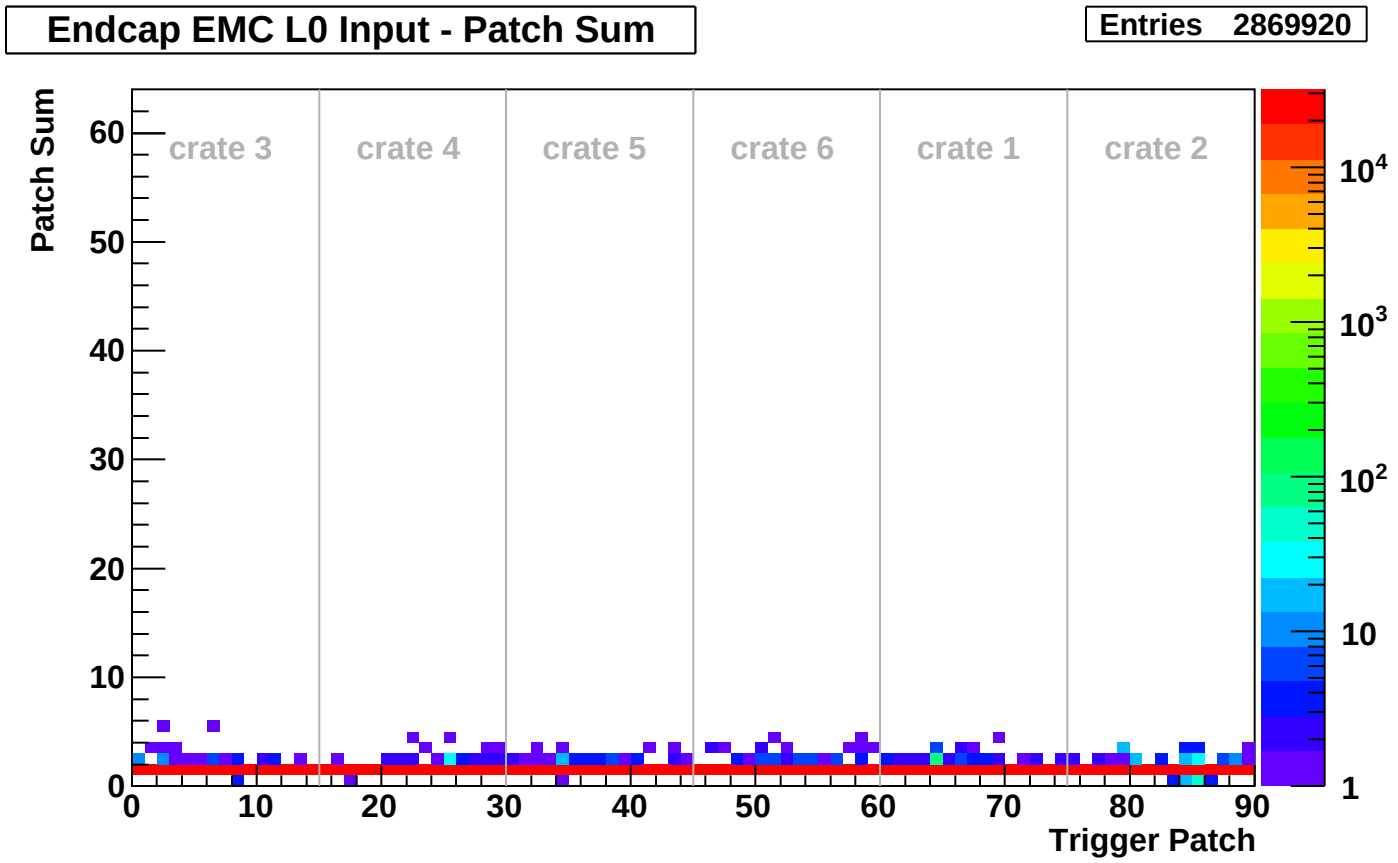
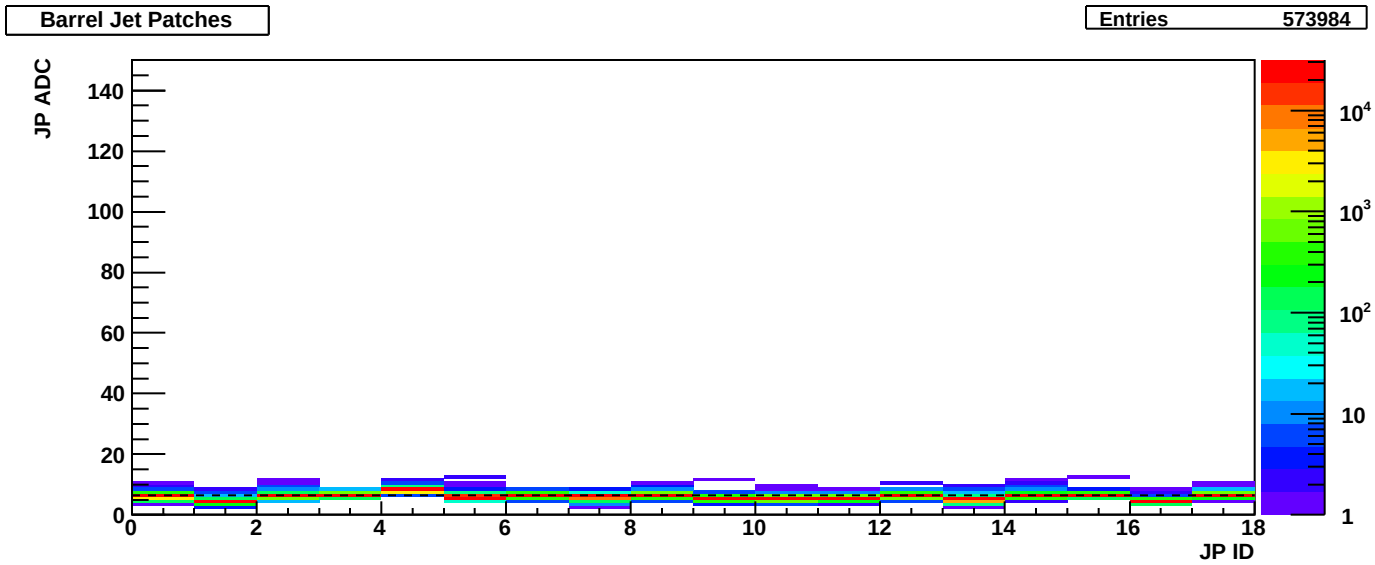
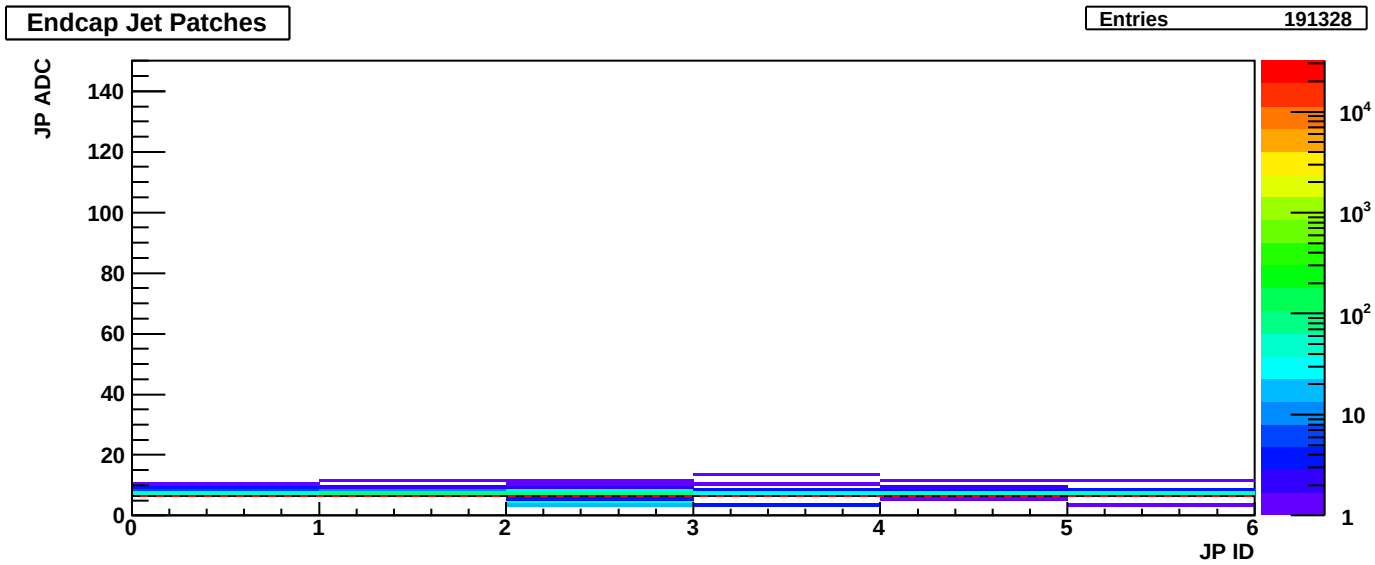

Barrel EMC L0 Input - High Tower
Entries 9566400
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

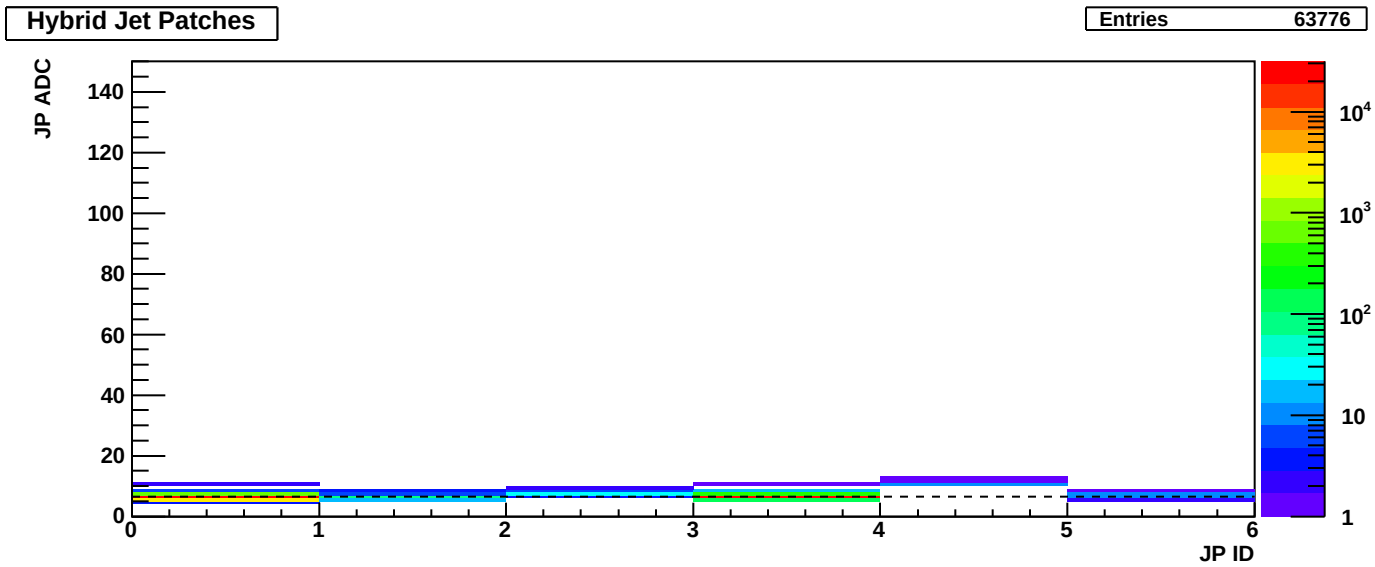

Barrel EMC L0 Input - Patch Sum
Entries 9566400
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

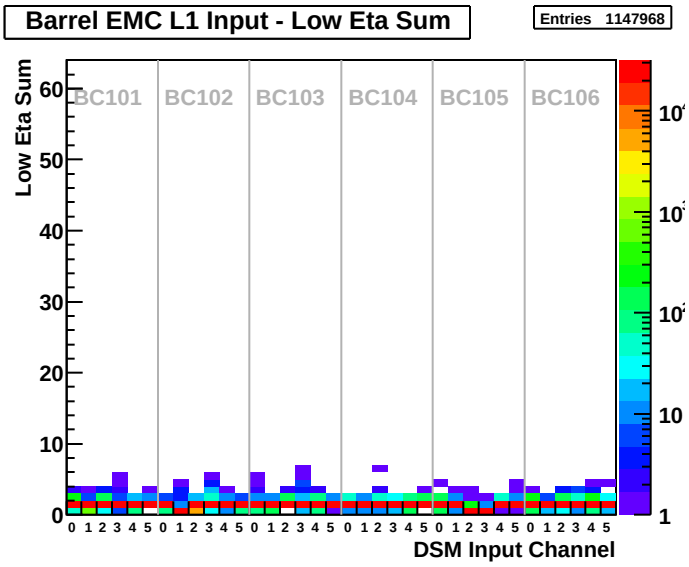

Endcap EMC L0 Input - High Tower
Entries 2869920
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2
10^3
10^4

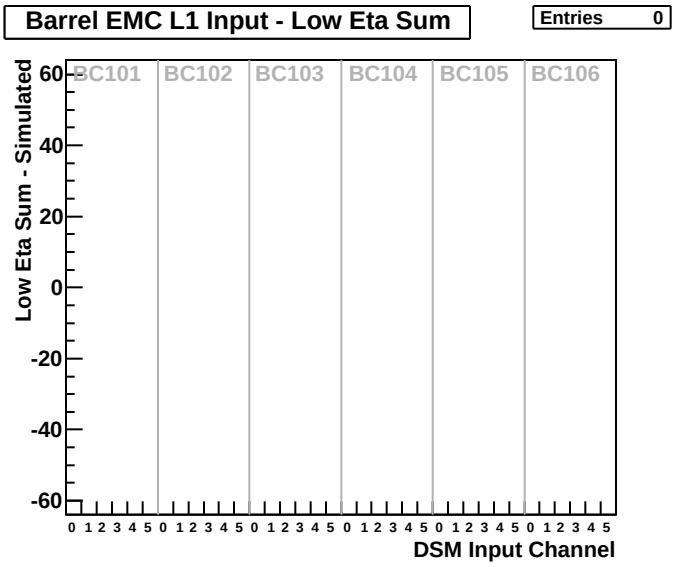

Endcap EMC L0 Input - Patch Sum
Entries 2869920
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch
0
10
20
30
40
50
60
70
80
90
1
10
10^2
10^3
10^4

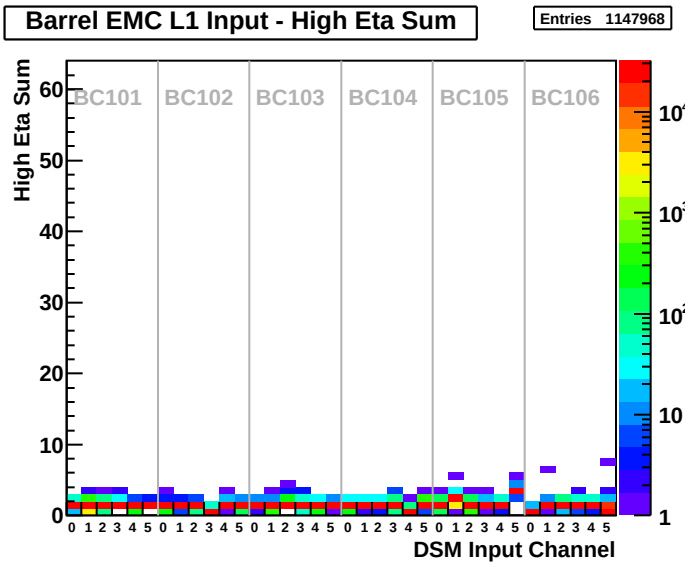

Barrel Jet Patches
Entries 573984
JP ADC
JP ID

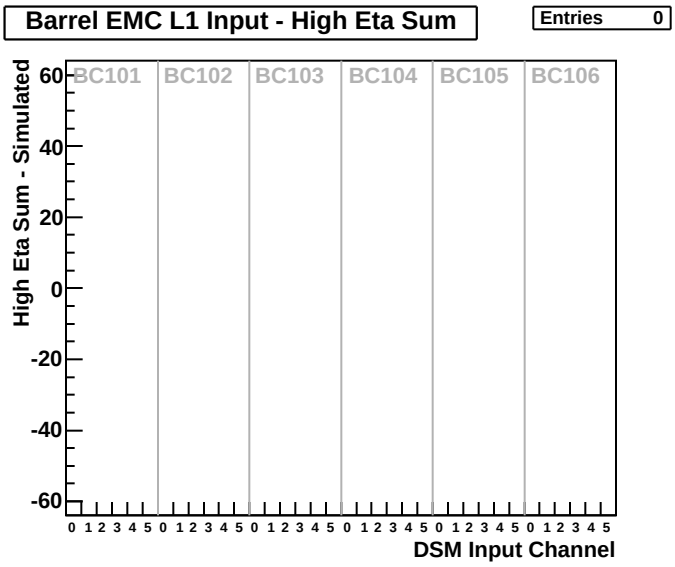

Endcap Jet Patches
Entries 191328
JP ADC
JP ID

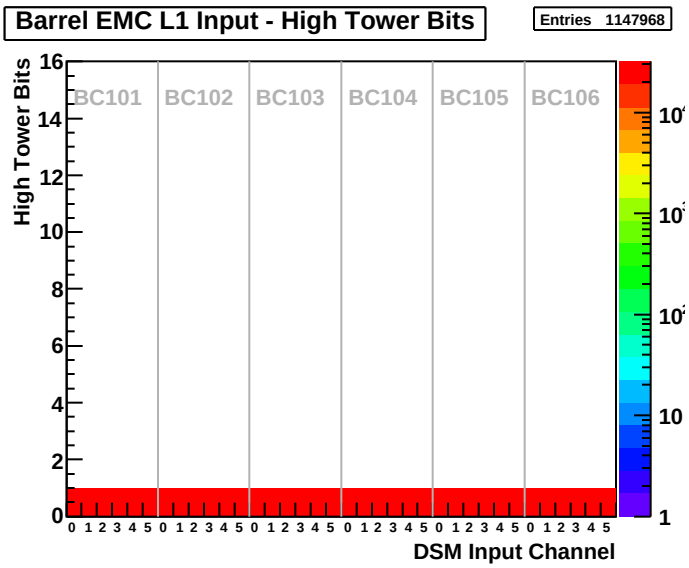

Hybrid Jet Patches
Entries 63776
JP ADC
JP ID

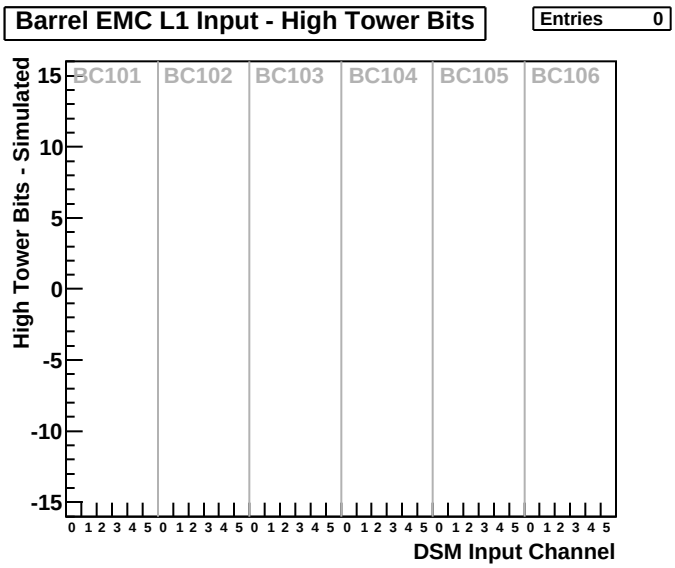

Barrel EMC L1 Input - Low Eta Sum
Entries 1147968
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

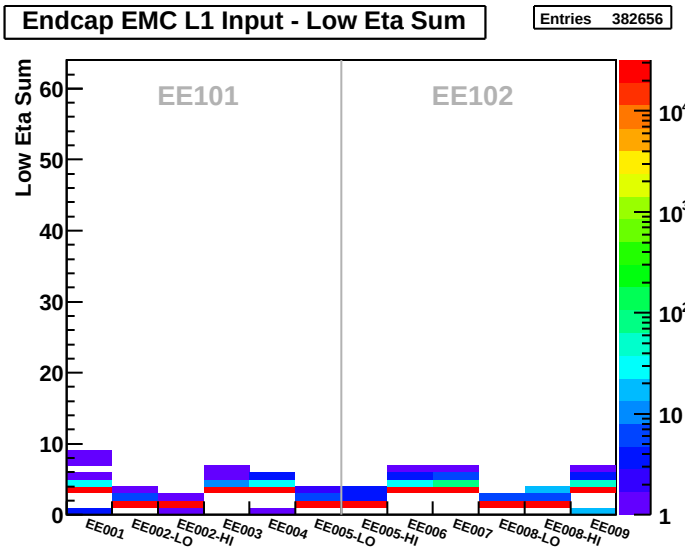

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

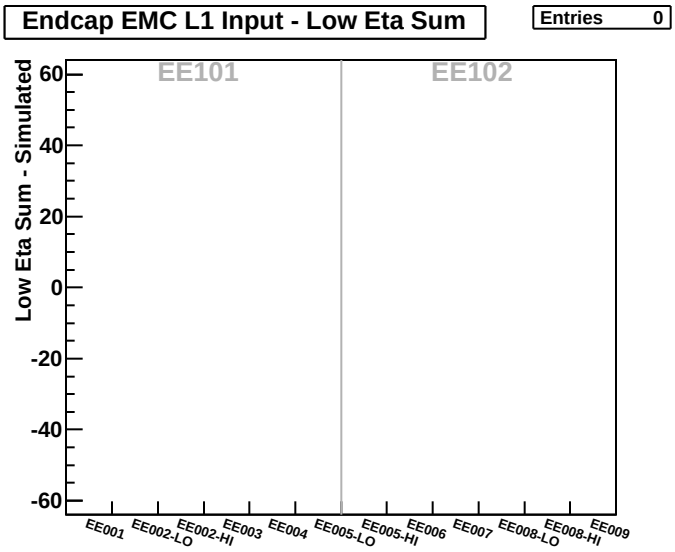

Barrel EMC L1 Input - High Eta Sum
Entries 1147968
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

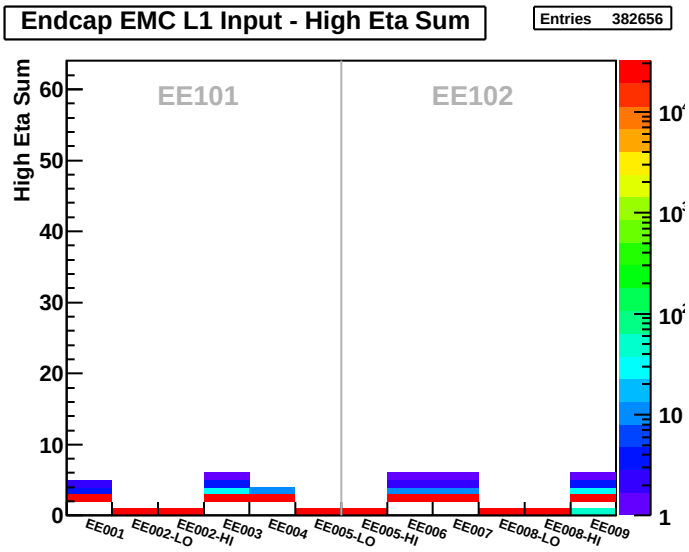

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

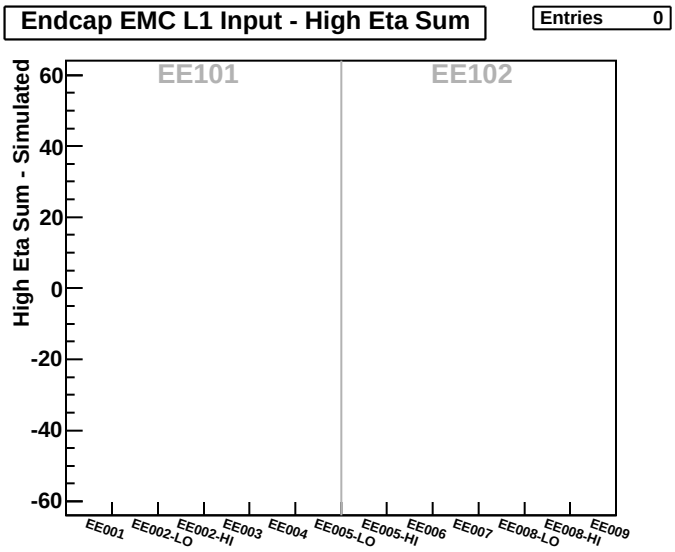

Barrel EMC L1 Input - High Tower Bits
Entries 1147968
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

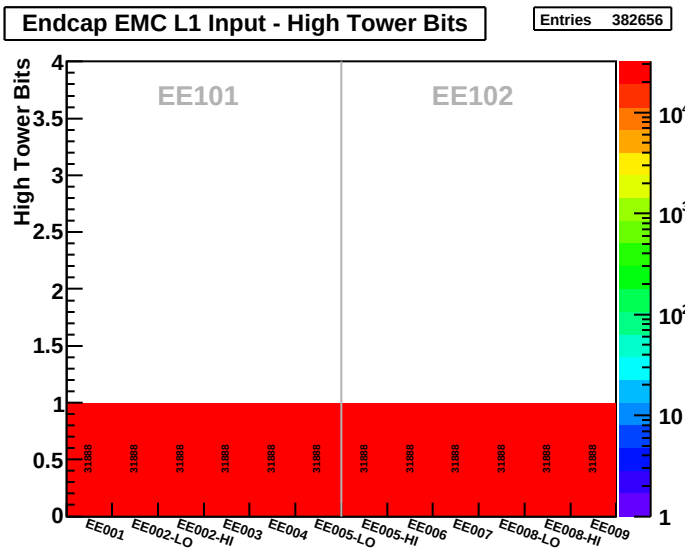

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

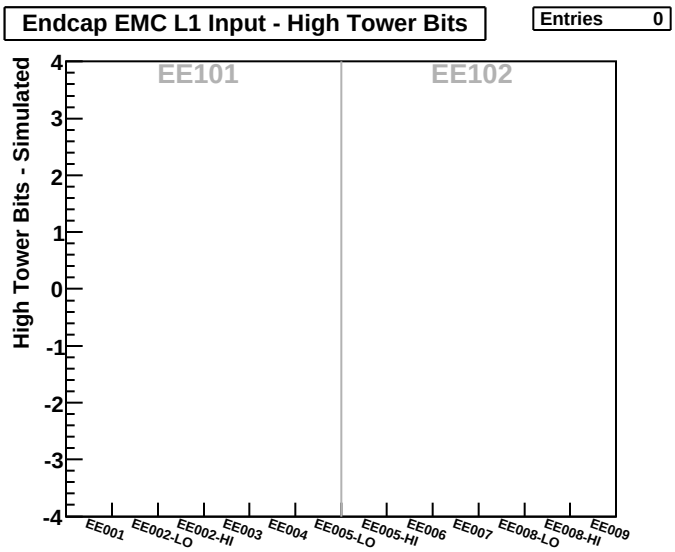

Endcap EMC L1 Input - Low Eta Sum
Entries 382656
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

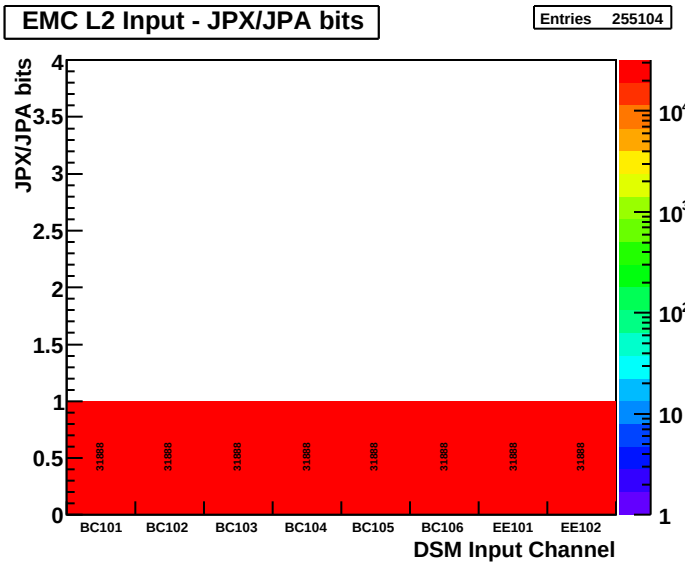

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

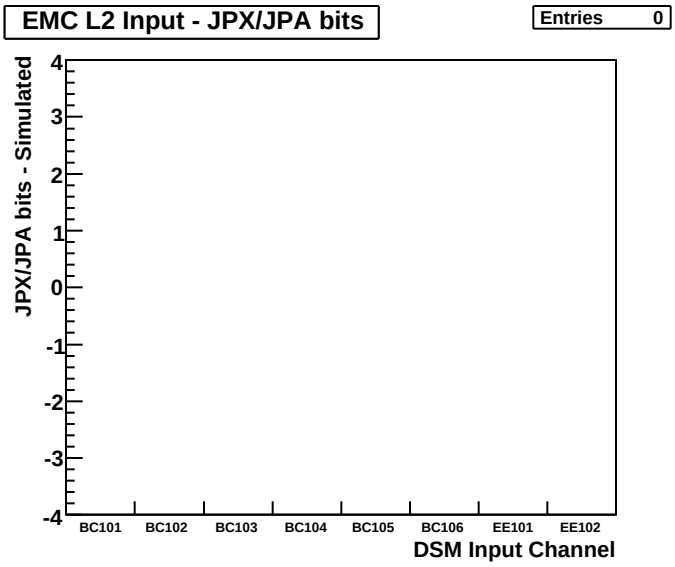

Endcap EMC L1 Input - High Eta Sum
Entries 382656
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

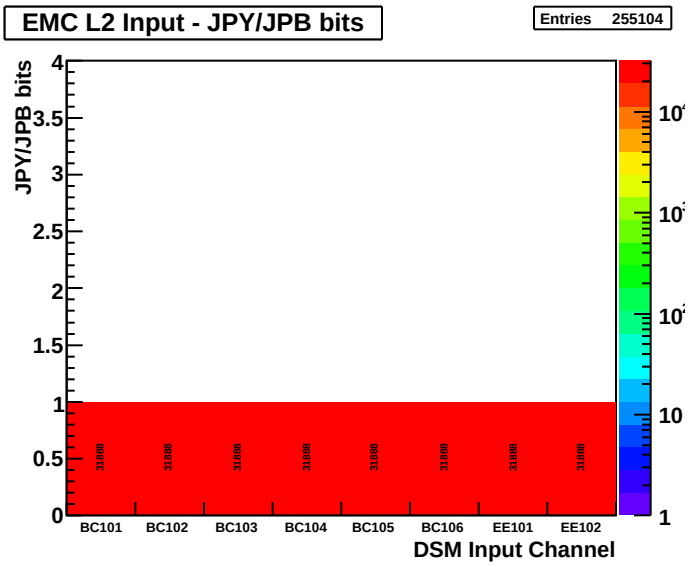

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

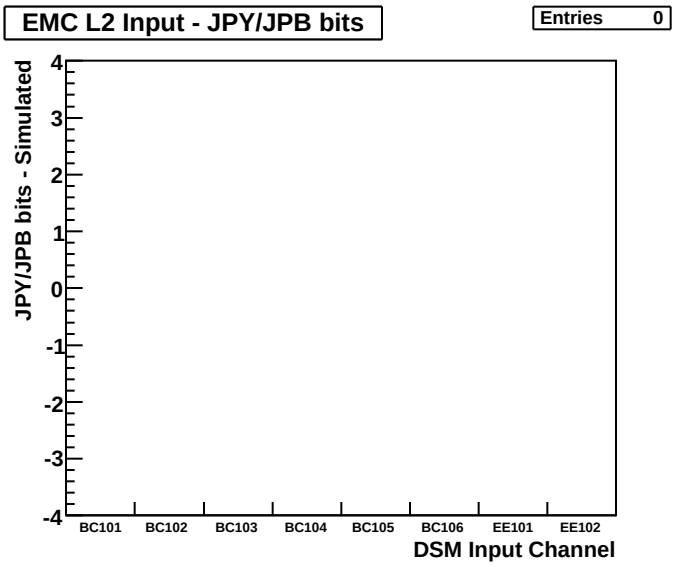

Endcap EMC L1 Input - High Tower Bits
Entries 382656
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

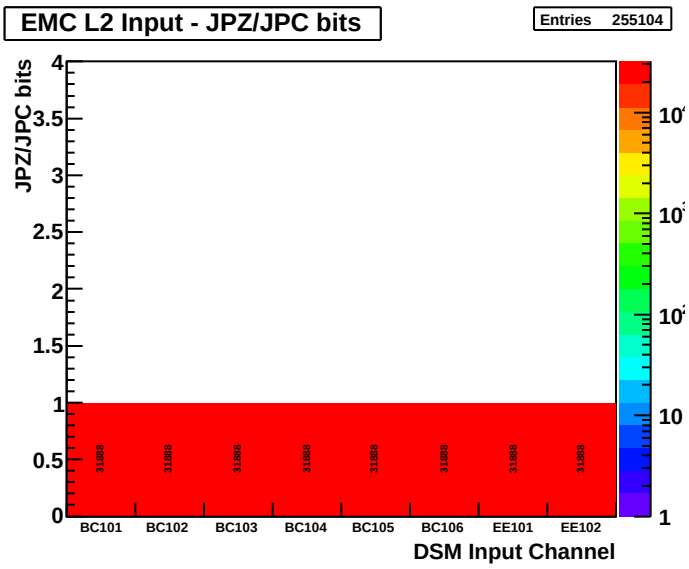

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

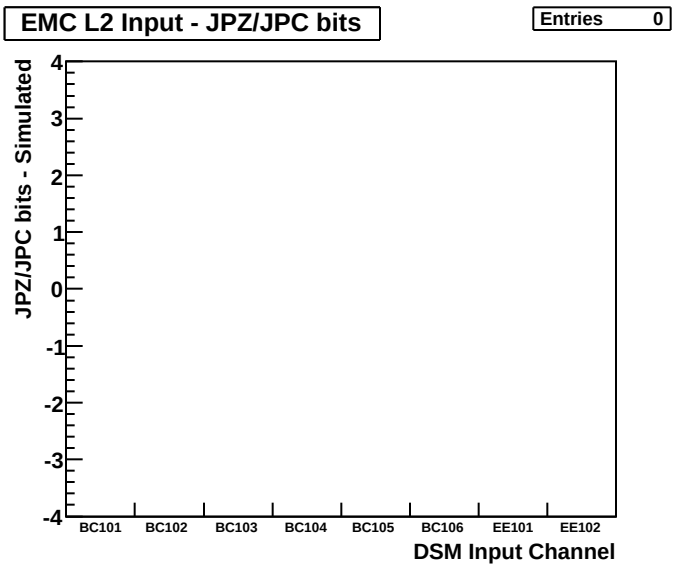

EMC L2 Input - JPX/JPA bits
Entries 255104
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

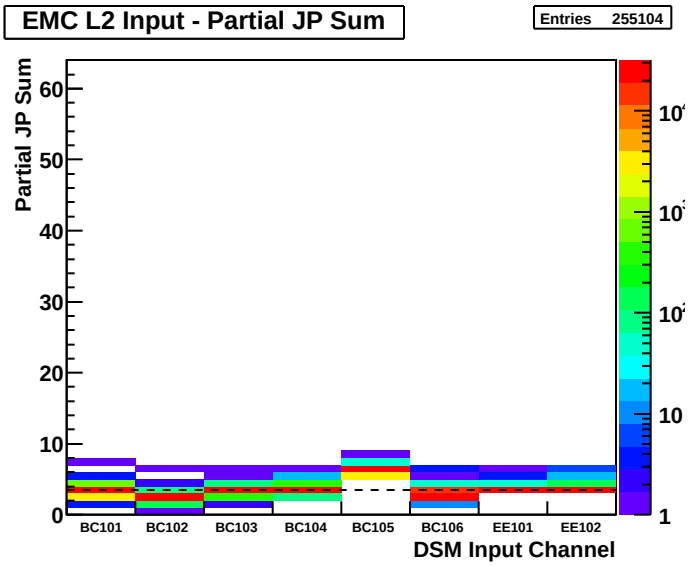

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

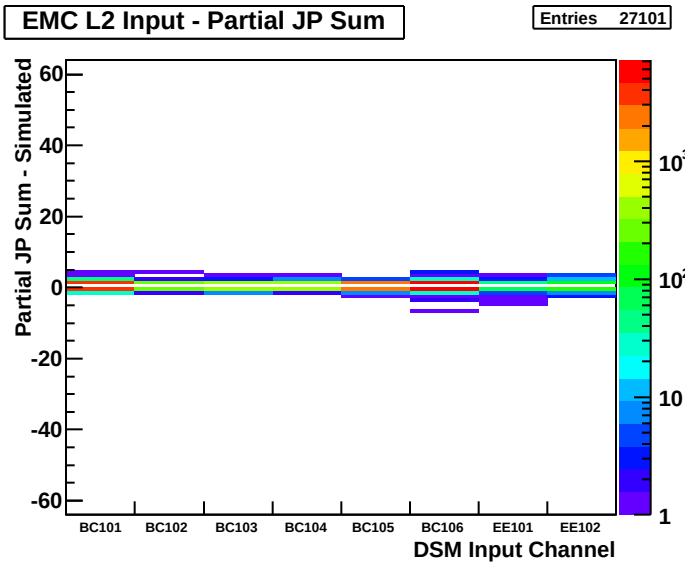

EMC L2 Input - JPY/JPB bits
Entries 255104
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

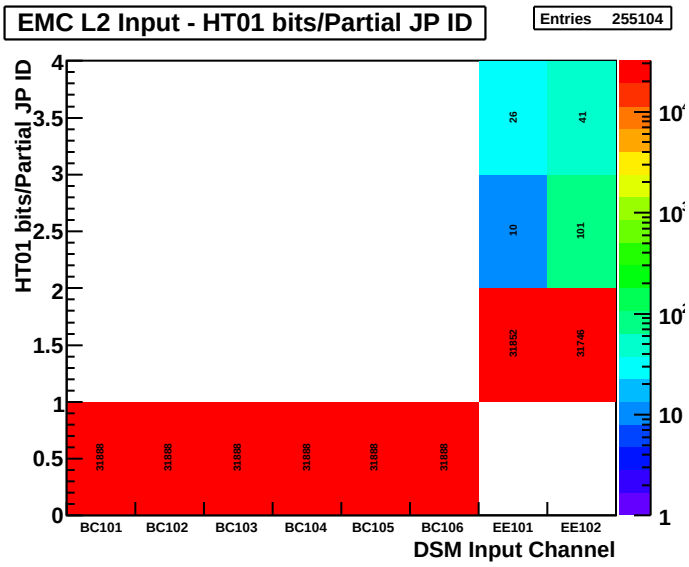

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

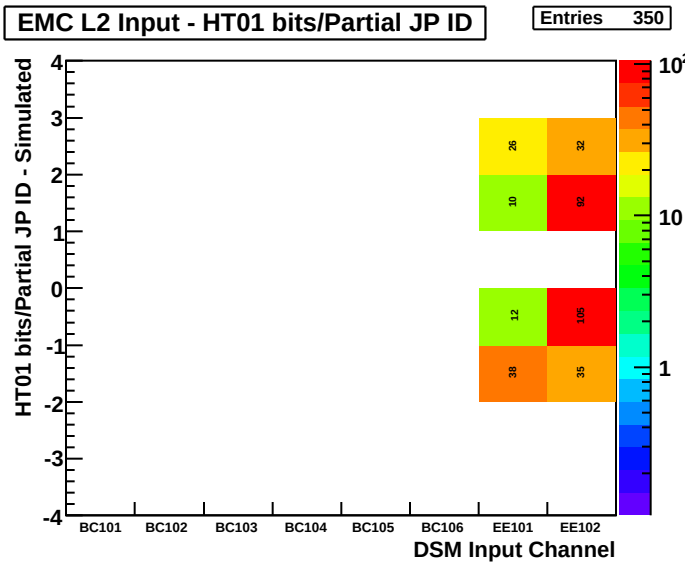

EMC L2 Input - JPZ/JPC bits
Entries 255104
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

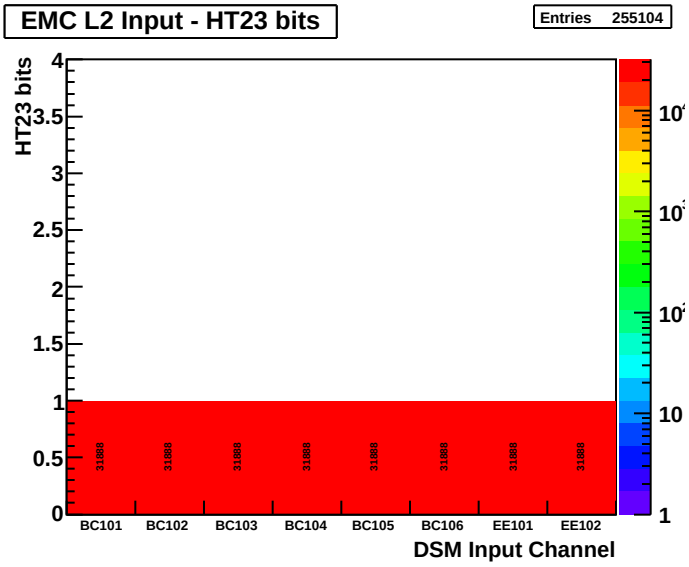

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

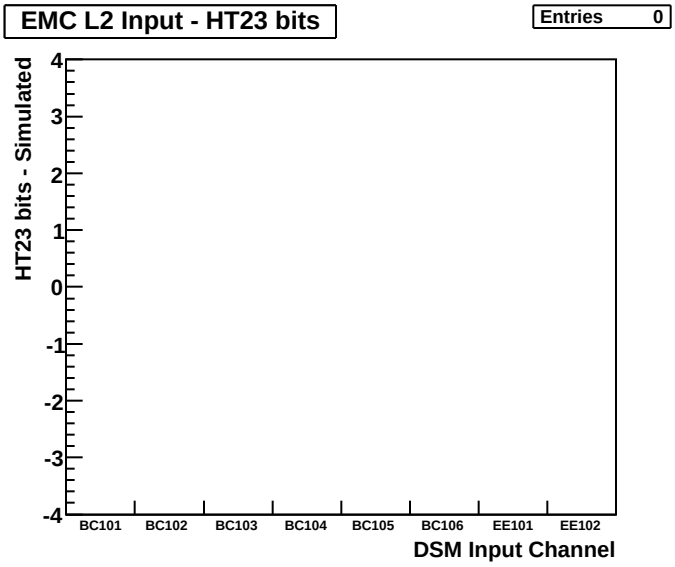

EMC L2 Input - Partial JP Sum
Entries 255104
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

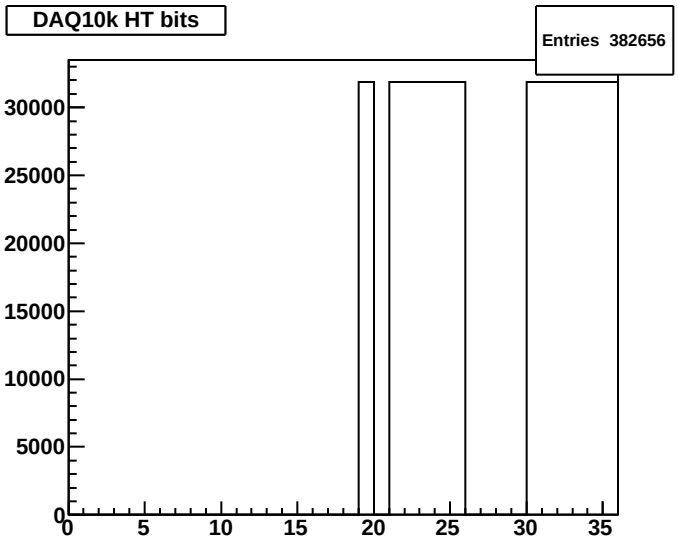

EMC L2 Input - Partial JP Sum
Entries 27101
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

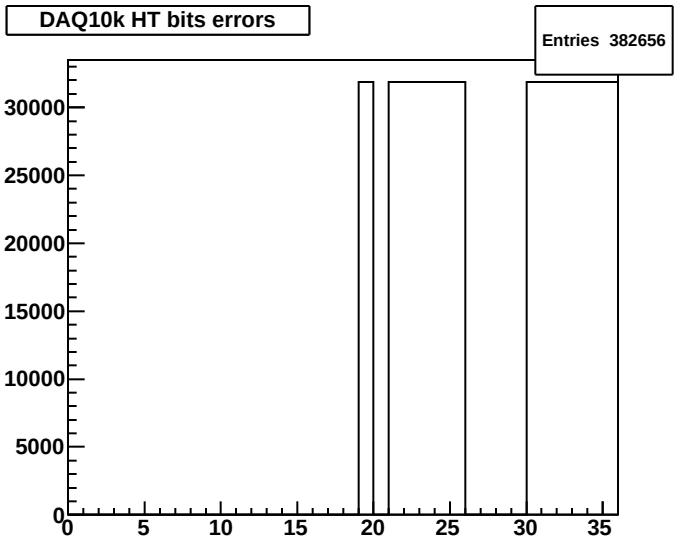

EMC L2 Input - HT01 bits/Partial JP ID
Entries 255104
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

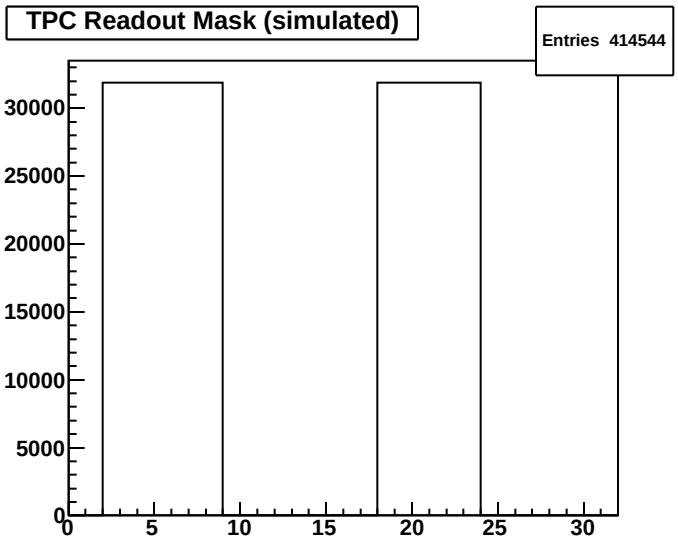

EMC L2 Input - HT01 bits/Partial JP ID
Entries 350
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

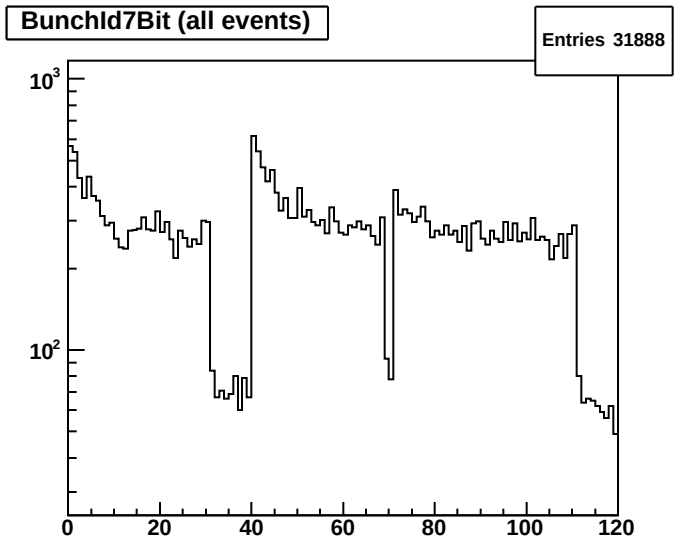

EMC L2 Input - HT23 bits
Entries 255104
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

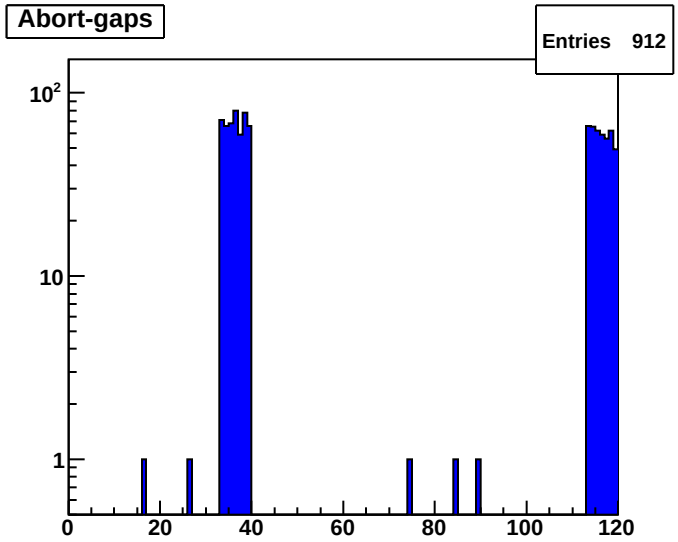

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

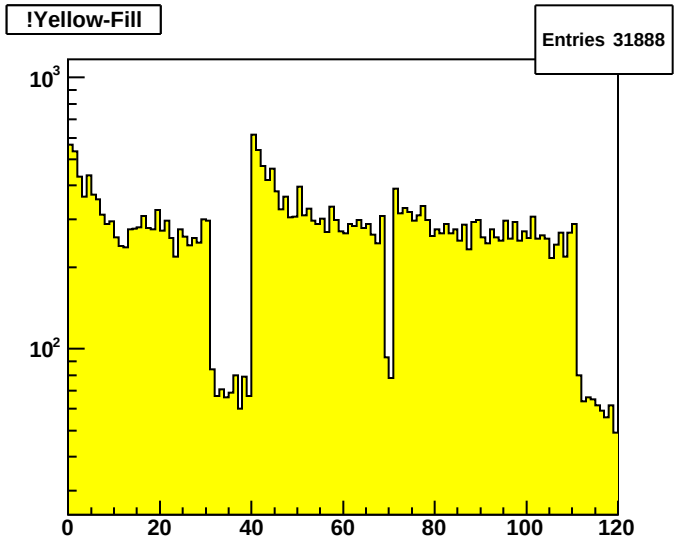

DAQ10k HT bits
Entries 382656
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

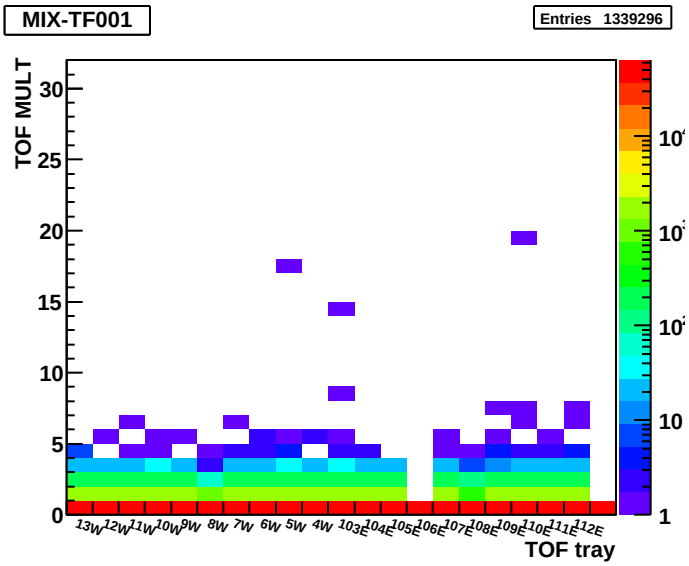

DAQ10k HT bits errors
Entries 382656
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

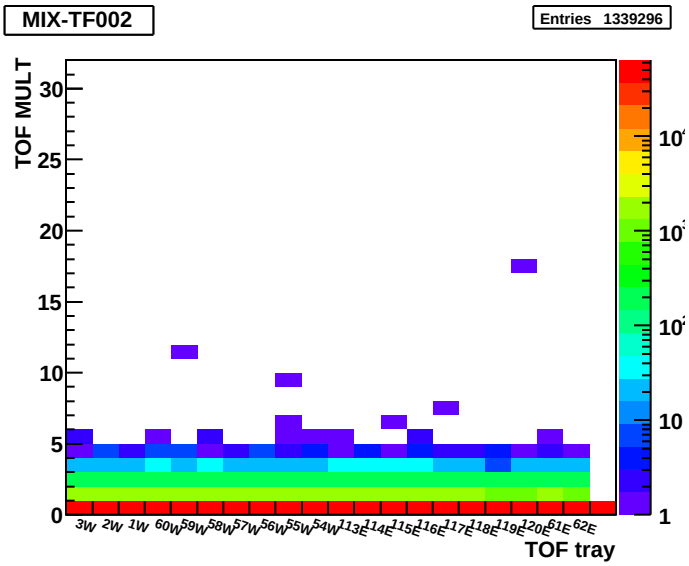

TPC Readout Mask (simulated)
Entries 414544
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30

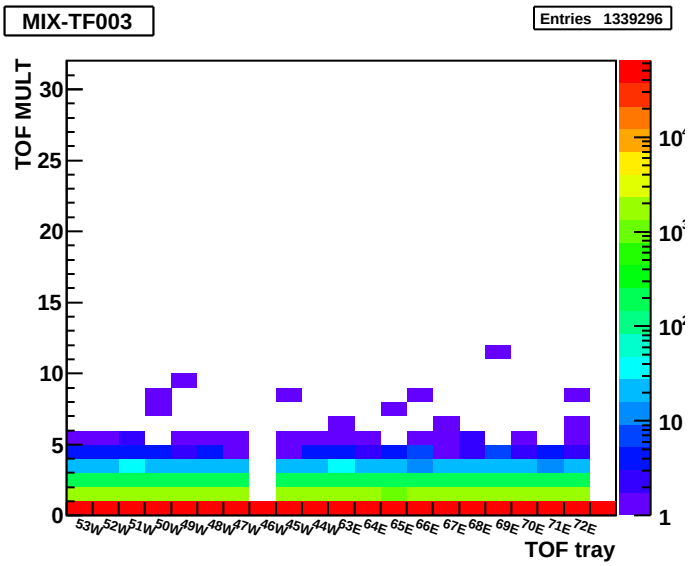

BunchId7Bit (all events)
Entries 31888
10^3
10^2
0 20 40 60 80 100 120

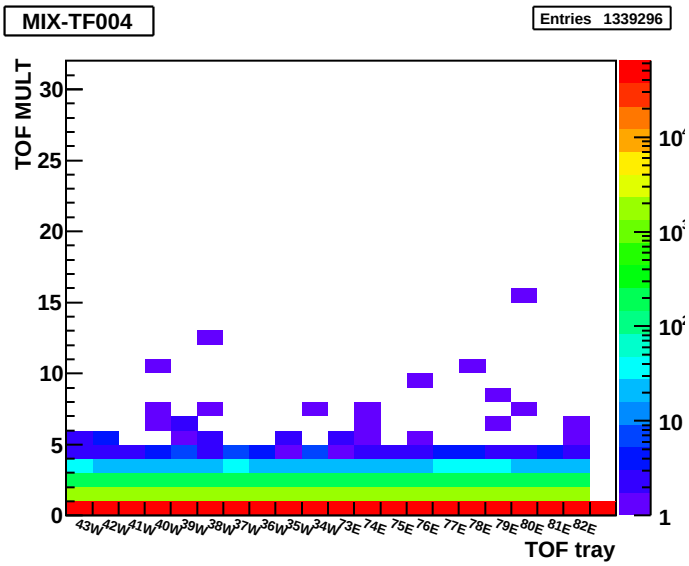

Abort-gaps
Entries 912
10^2
10
1
0 20 40 60 80 100 120

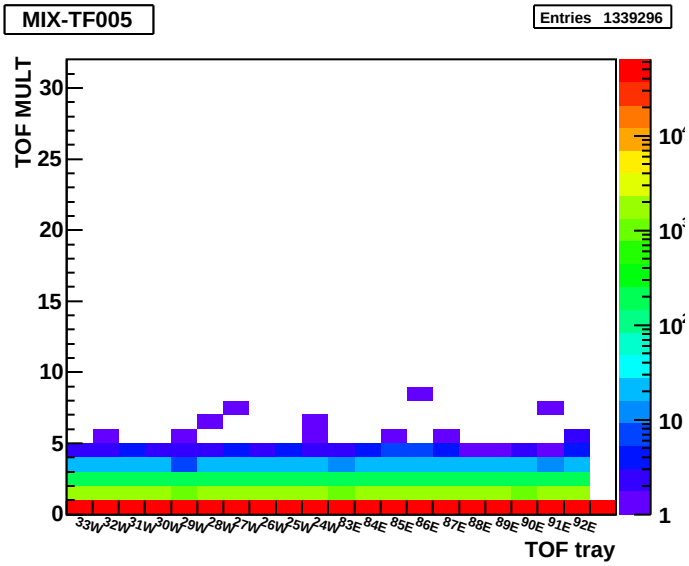

!Yellow-Fill
Entries 31888
10^3
10^2
0 20 40 60 80 100 120

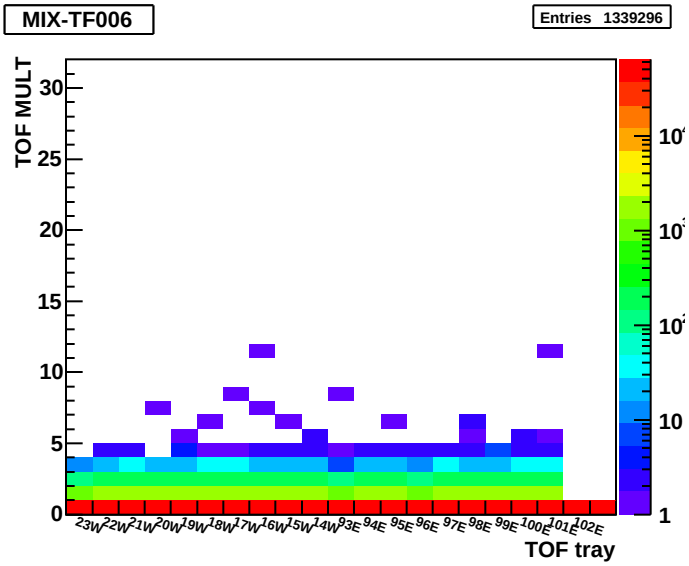

MIX-TF001
Entries 1339296
TOF MULT
TOF tray

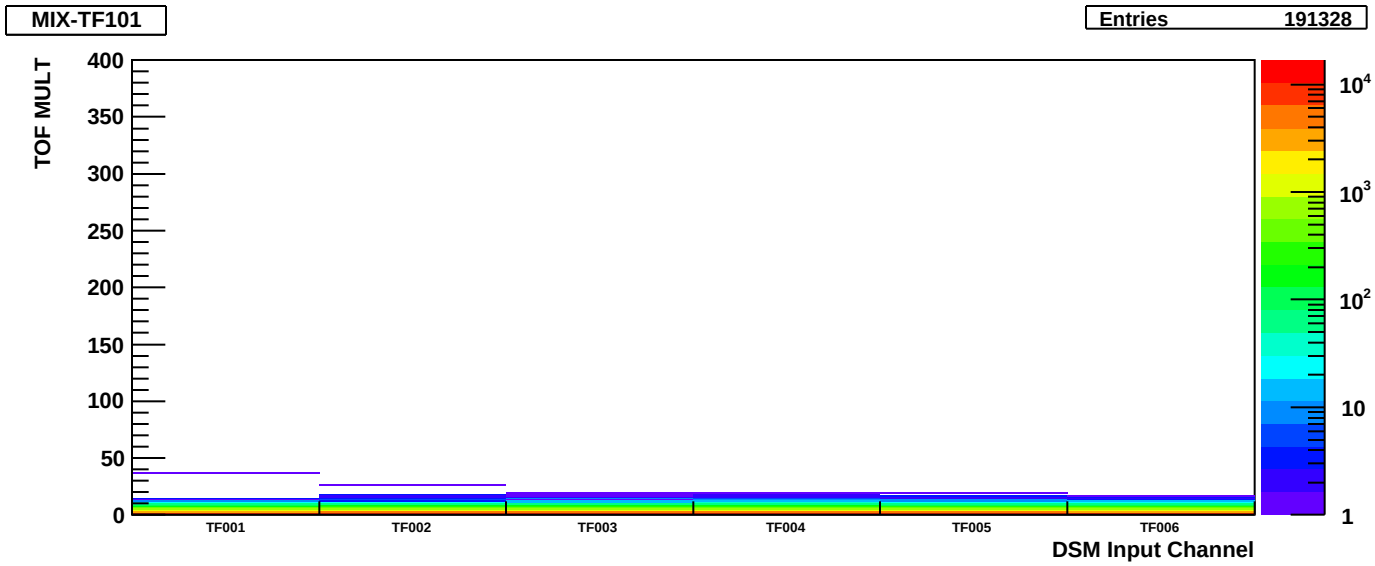

MIX-TF002
Entries 1339296
TOF MULT
TOF tray

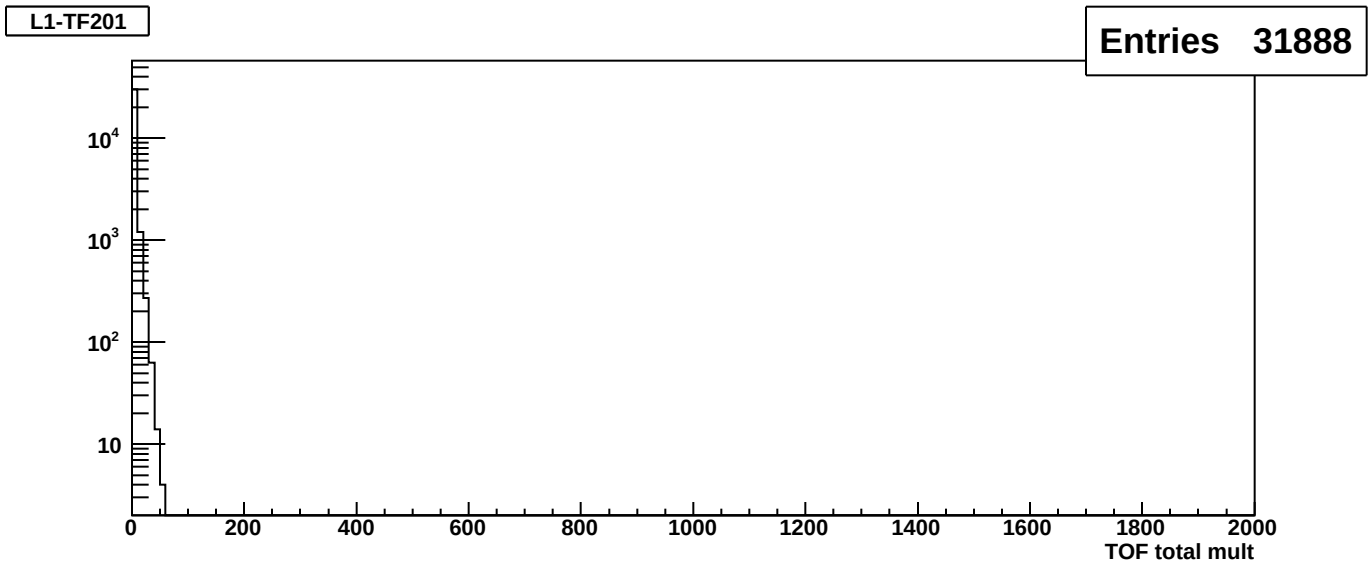

MIX-TF003
Entries 1339296
TOF MULT
TOF tray

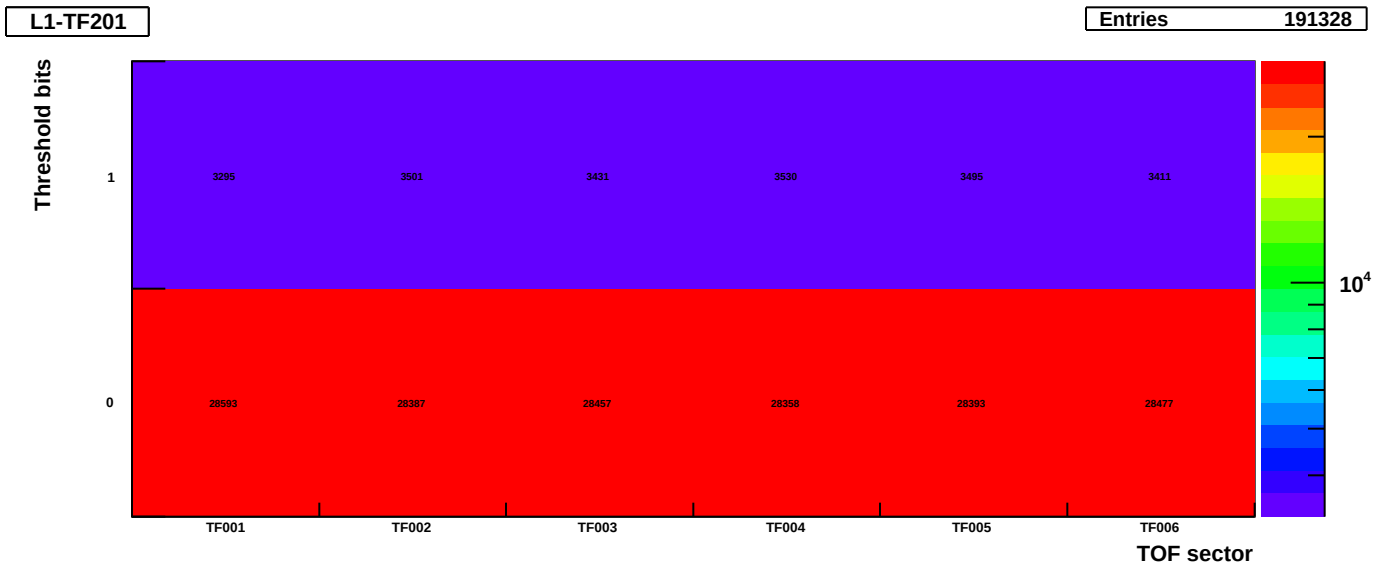

MIX-TF004
Entries 1339296
TOF MULT
TOF tray

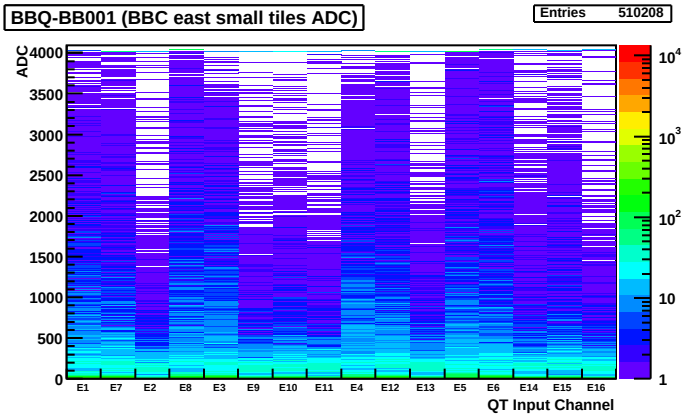

MIX-TF005
Entries 1339296
TOF MULT
TOF tray

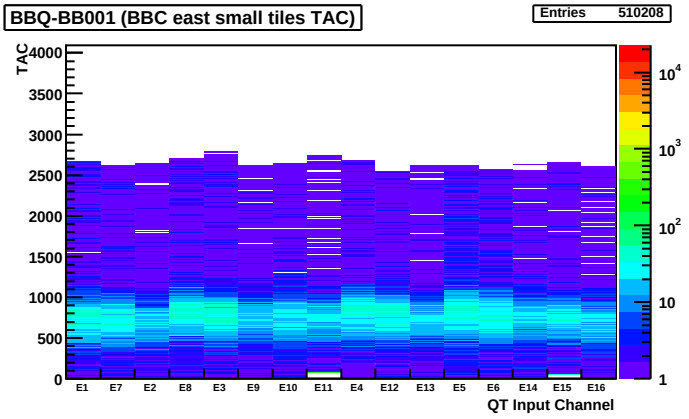

MIX-TF006
Entries 1339296
TOF MULT
TOF tray

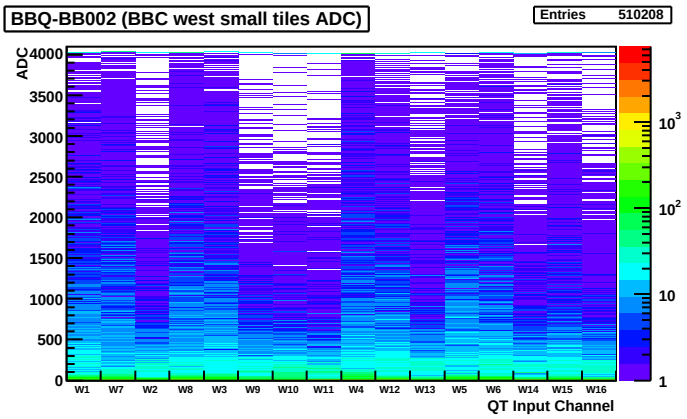

MIX-TF101
Entries 191328
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

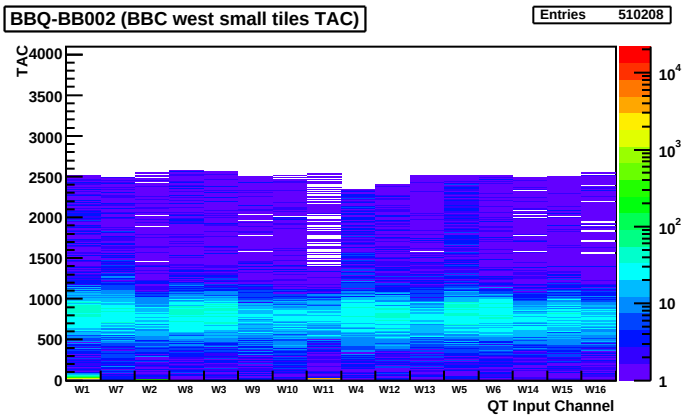

L1-TF201
Entries 31888
10^4
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

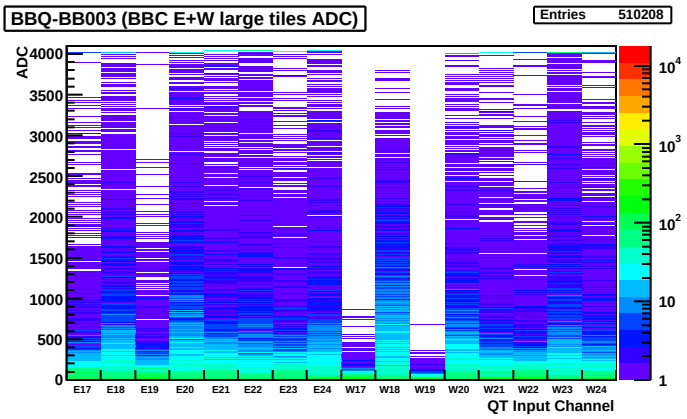

L1-TF201
Entries 191328
Threshold bits
1
0
3295
3501
3431
3530
3495
3411
28593
28387
28457
28358
28393
28477
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4

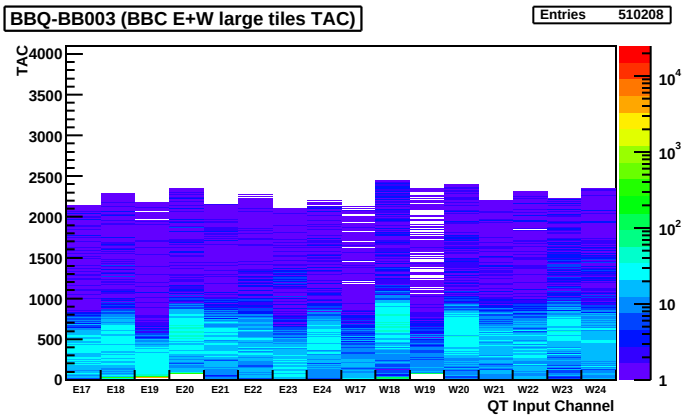

BBQ-BB001 (BBC east small tiles ADC)
Entries 510208
ADC
QT Input Channel

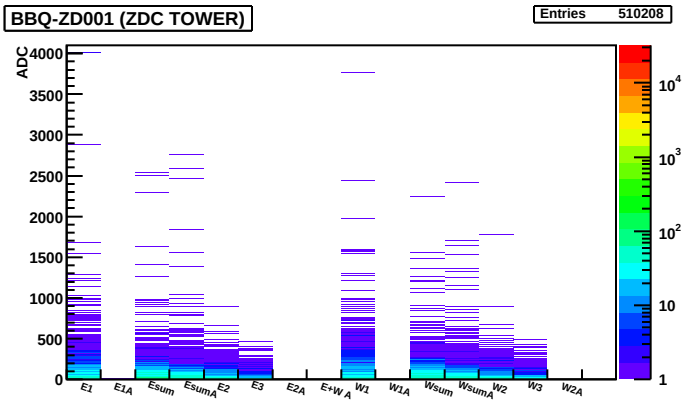

BBQ-BB001 (BBC east small tiles TAC)
Entries 510208
TAC
QT Input Channel

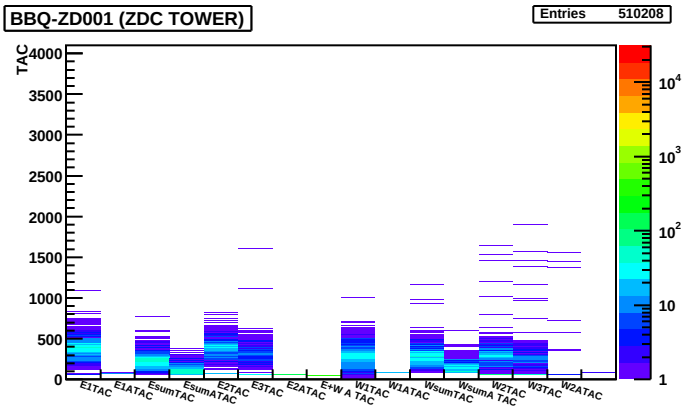

BBQ-BB002 (BBC west small tiles ADC)
Entries 510208
ADC
QT Input Channel

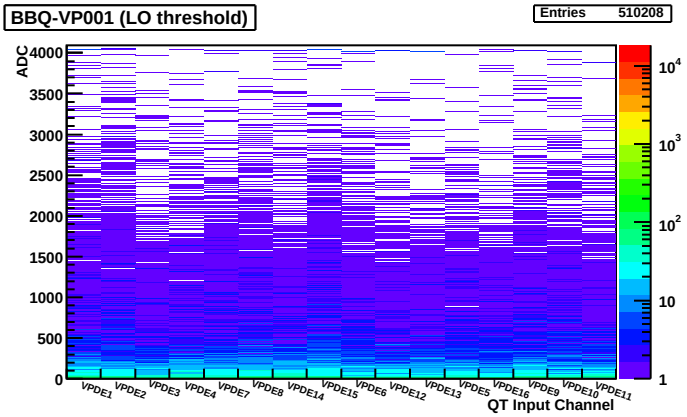

BBQ-BB002 (BBC west small tiles TAC)
Entries 510208
TAC
QT Input Channel

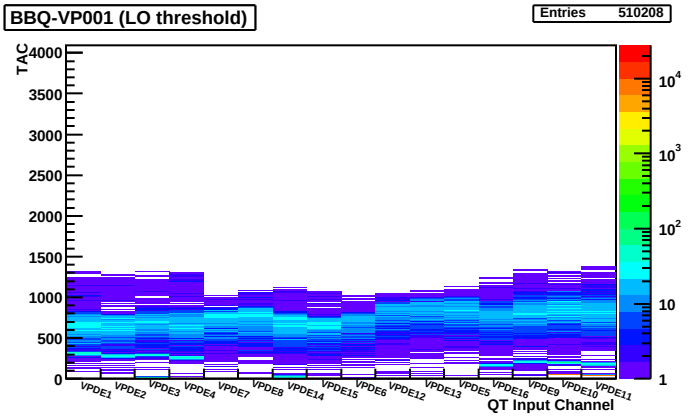

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 510208
ADC
QT Input Channel

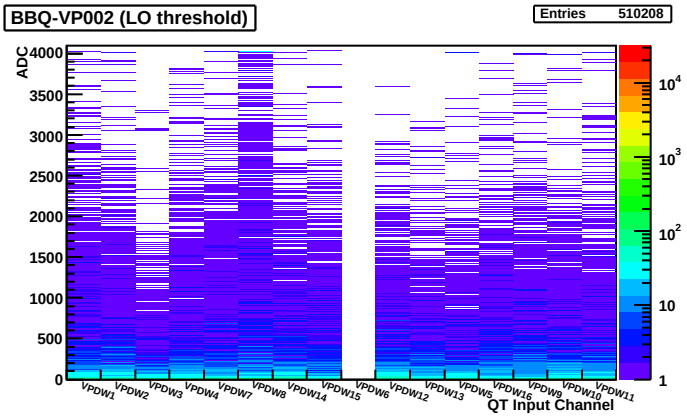

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 510208
TAC
QT Input Channel

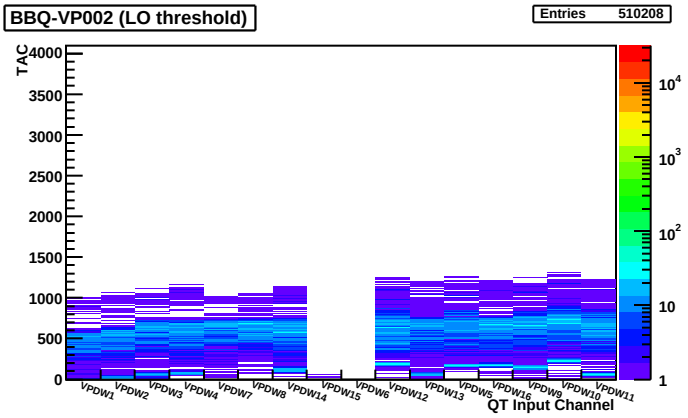

BBQ-ZD001 (ZDC TOWER)
Entries 510208
ADC

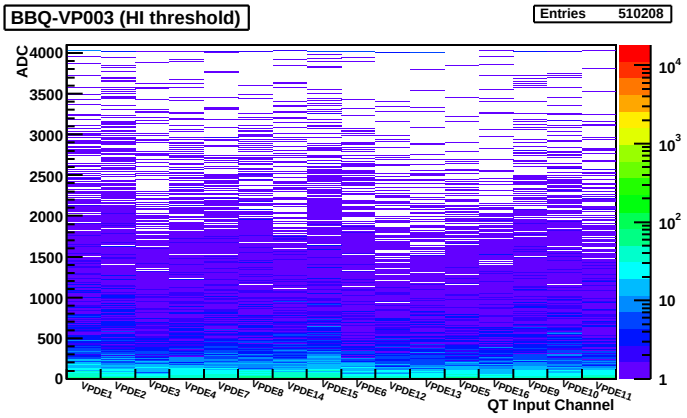

BBQ-ZD001 (ZDC TOWER)
Entries 510208
TAC

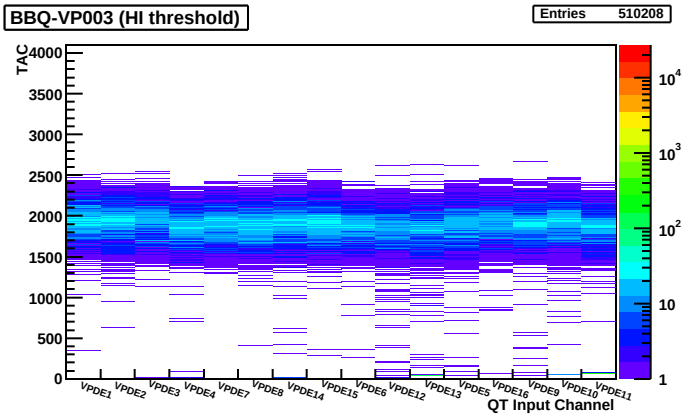

BBQ-VP001 (LO threshold)
Entries 510208
ADC
QT Input Channel

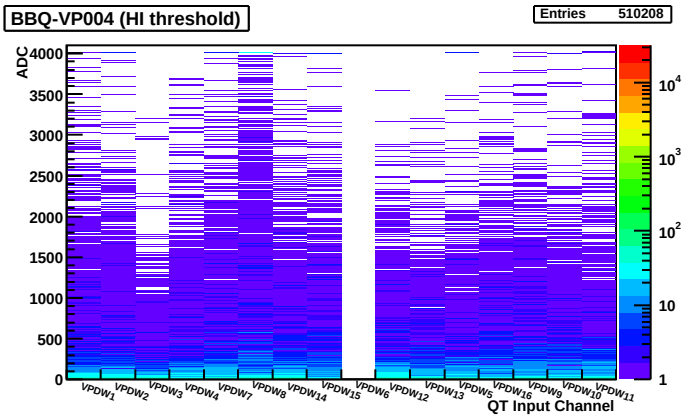

BBQ-VP001 (LO threshold)
Entries 510208
TAC
QT Input Channel

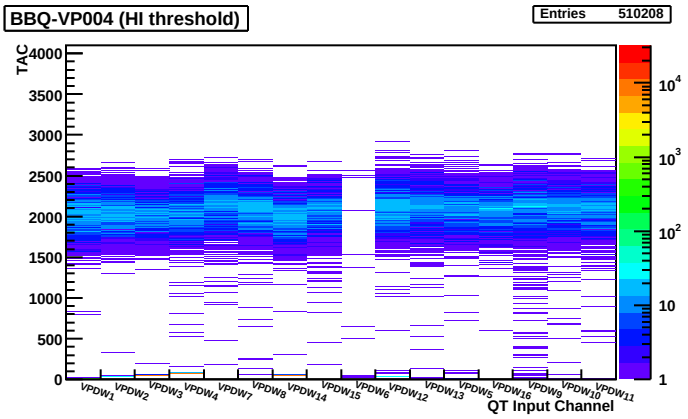

BBQ-VP002 (LO threshold)
Entries 510208
ADC
QT Input Channel

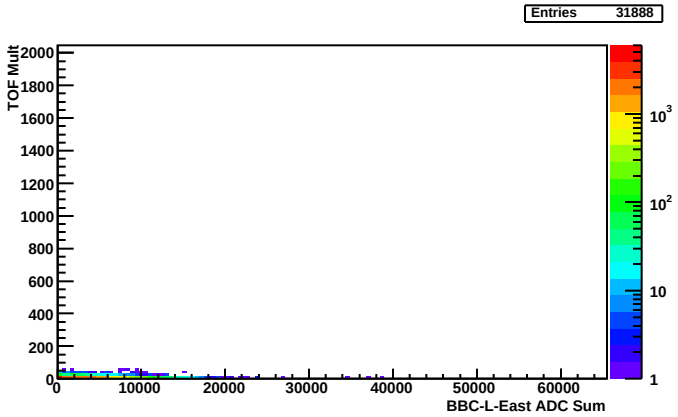

BBQ-VP002 (LO threshold)
Entries 510208
TAC
QT Input Channel

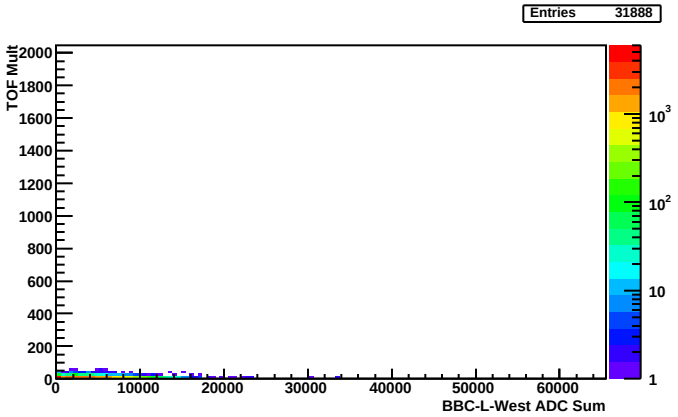

BBQ-VP003 (HI threshold)
Entries 510208
ADC
QT Input Channel

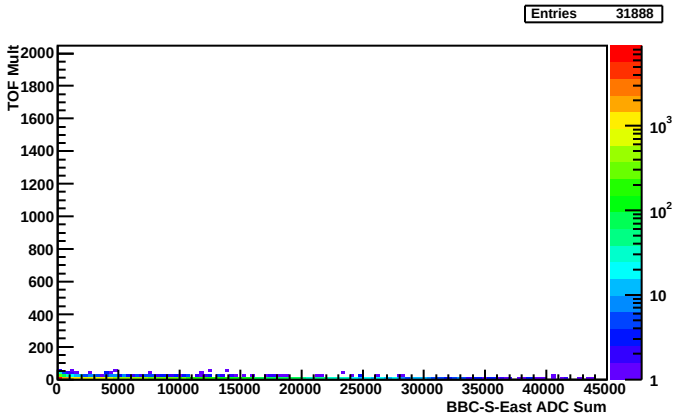

BBQ-VP003 (HI threshold)
Entries 510208
TAC
QT Input Channel

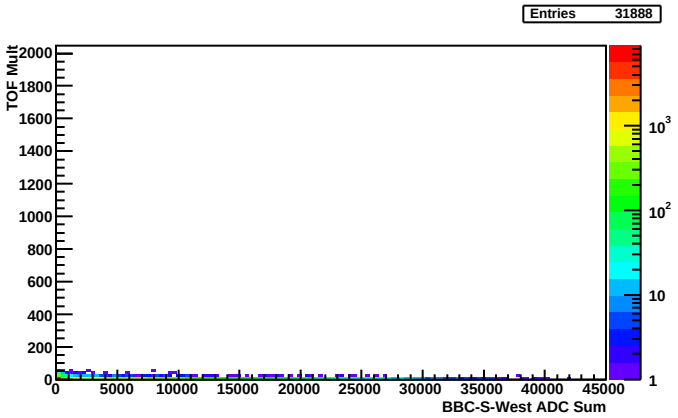

BBQ-VP004 (HI threshold)
Entries 510208
ADC
QT Input Channel

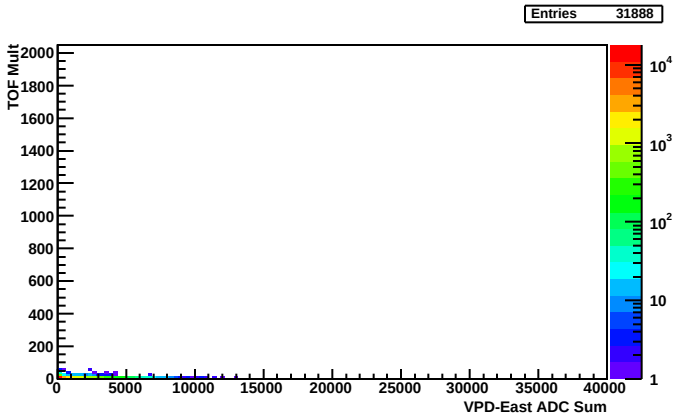

BBQ-VP004 (HI threshold)
Entries 510208
TAC
QT Input Channel

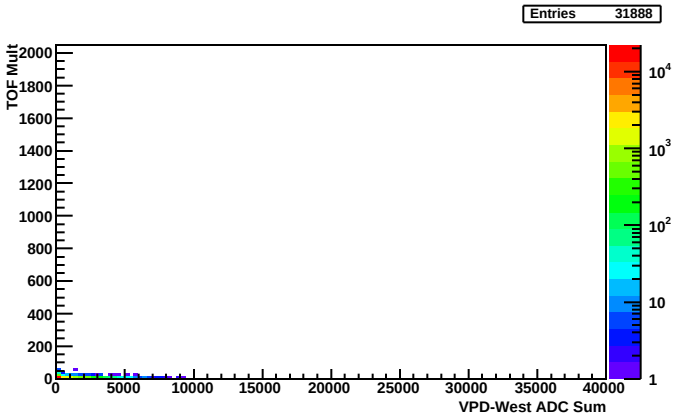

Entries 31888
TOF Mult
BBC-L-East ADC Sum

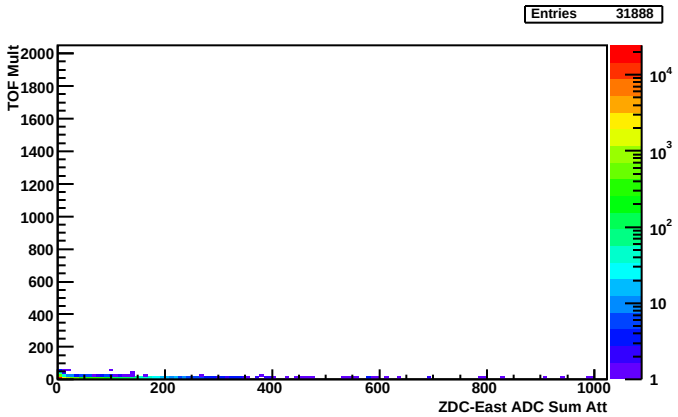

Entries 31888
TOF Mult
BBC-L-West ADC Sum

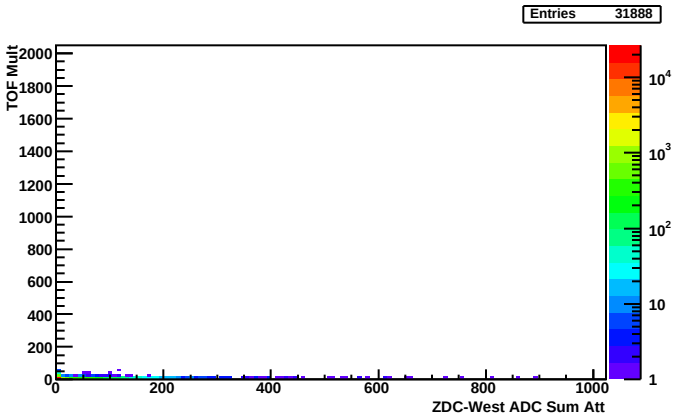

Entries 31888
TOF Mult
BBC-S-East ADC Sum

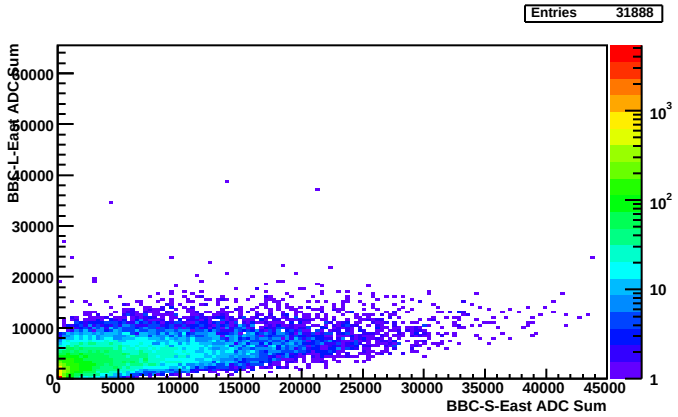

Entries 31888
TOF Mult
BBC-S-West ADC Sum

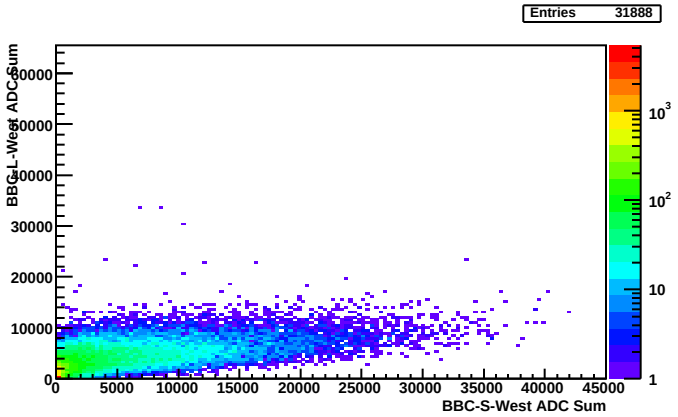

Entries 31888
TOF Mult
VPD-East ADC Sum

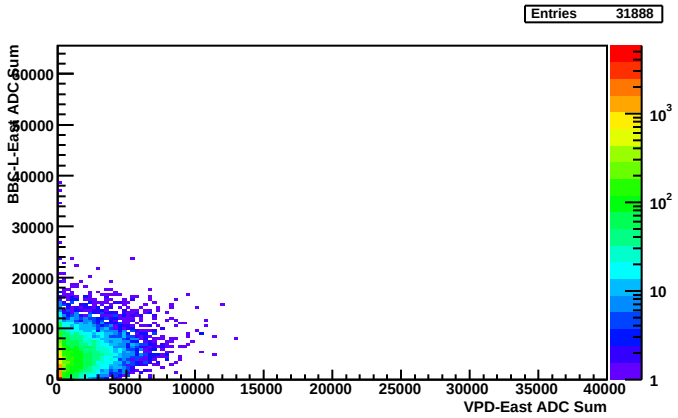

Entries 31888
TOF Mult
VPD-West ADC Sum

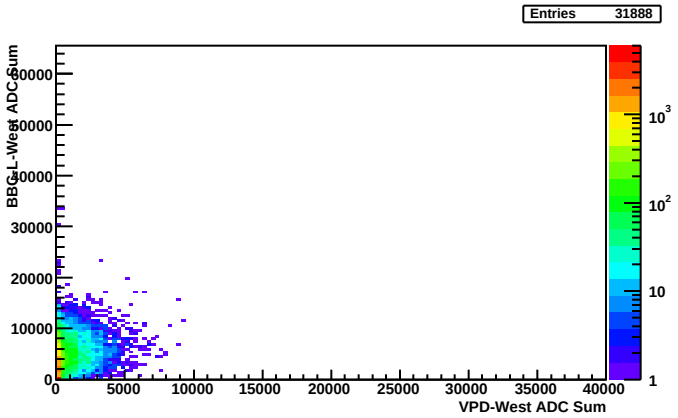

Entries 31888
TOF Mult
ZDC-East ADC Sum Att

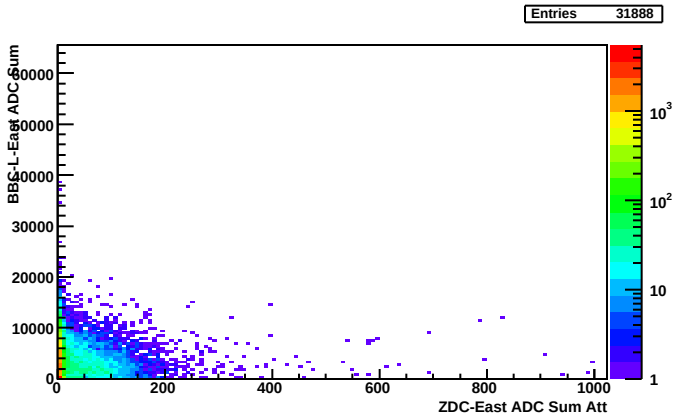

Entries 31888
TOF Mult
ZDC-West ADC Sum Att

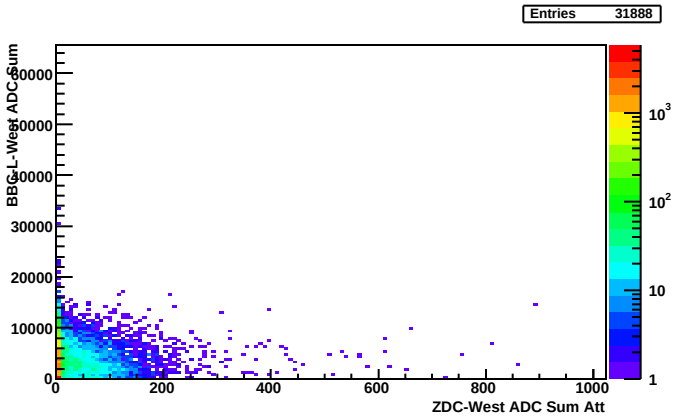

Entries 31888
BBC-L-East ADC Sum
BBC-S-East ADC Sum

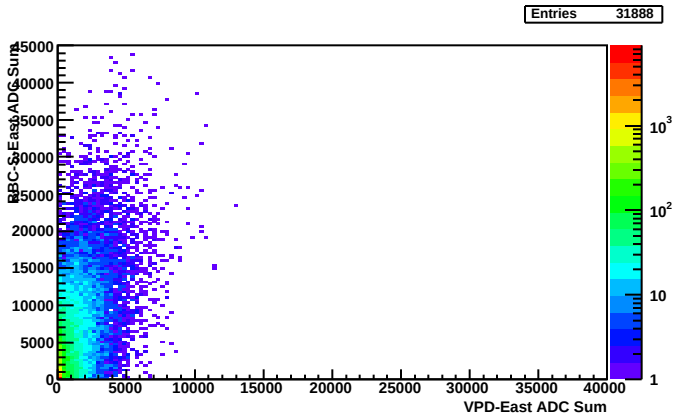

Entries 31888
BBC-L-West ADC Sum
BBC-S-West ADC Sum

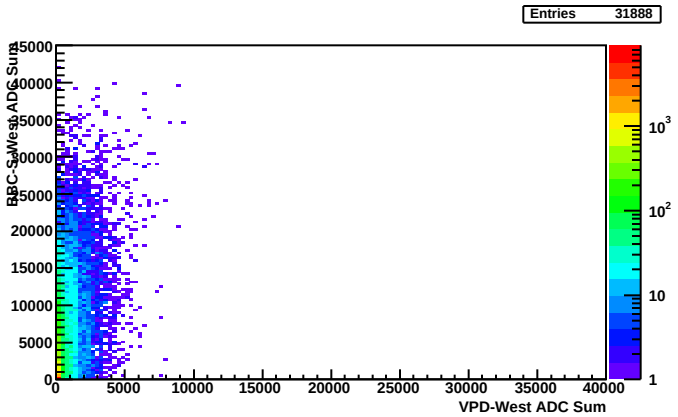

Entries 31888
BBC-L-East ADC Sum
VPD-East ADC Sum

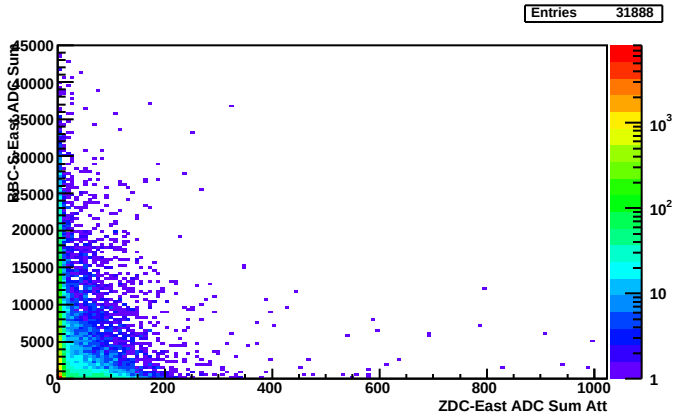

Entries 31888
BBC-L-West ADC Sum
VPD-West ADC Sum

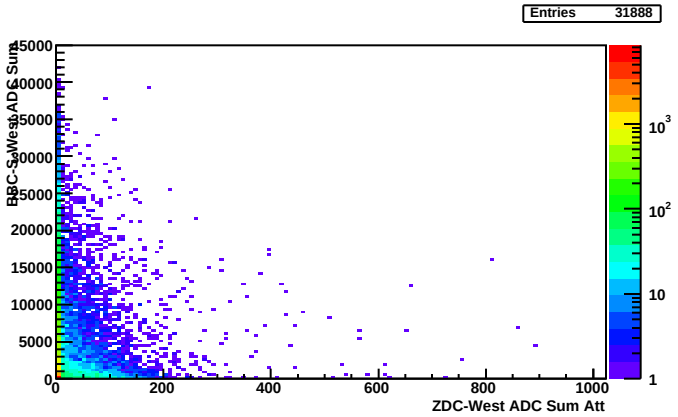

Entries 31888
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

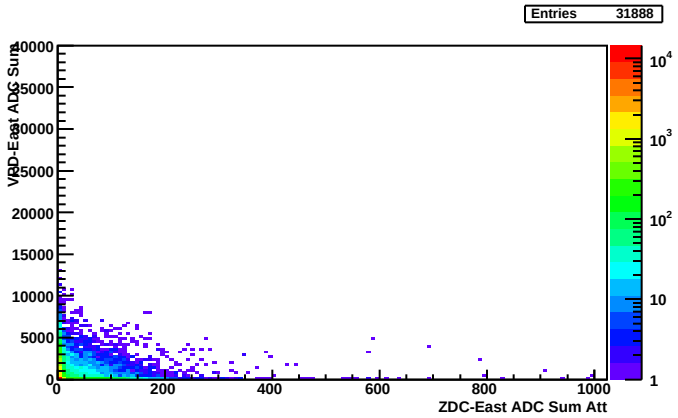

Entries 31888
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

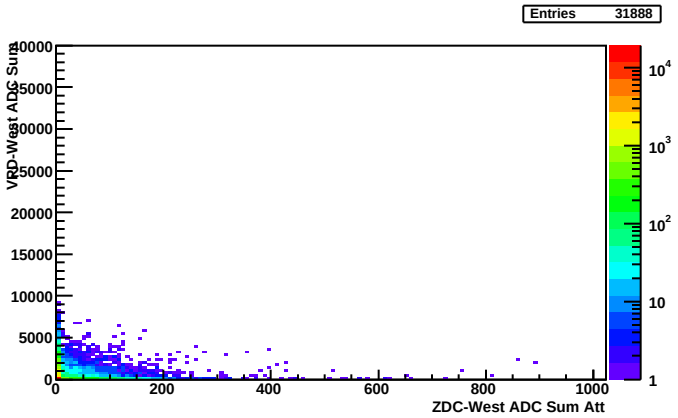

Entries 31888
BBC-S-East ADC Sum
VPD-East ADC Sum

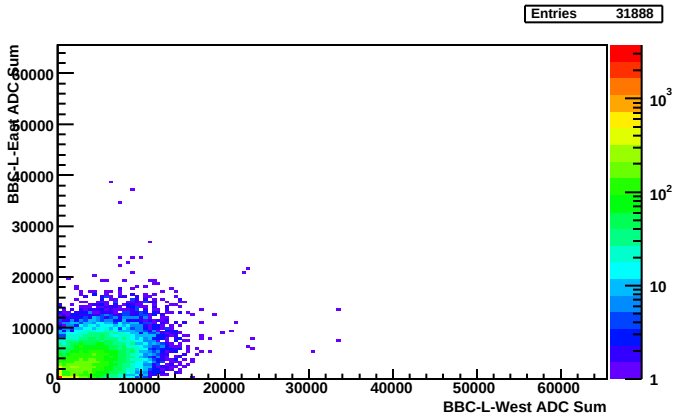

Entries 31888
BBC-S-West ADC Sum
VPD-West ADC Sum

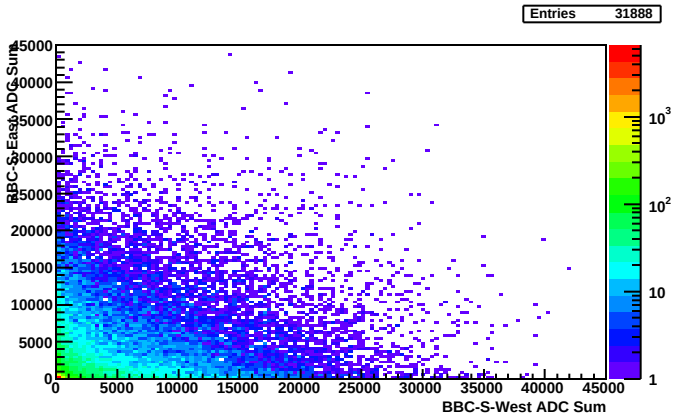

Entries 31888
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

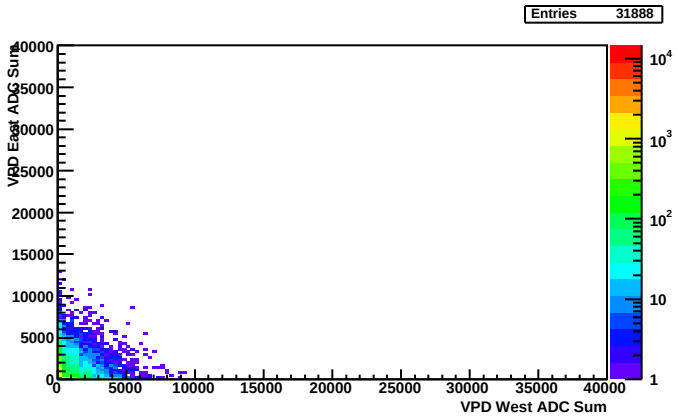

Entries 31888
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

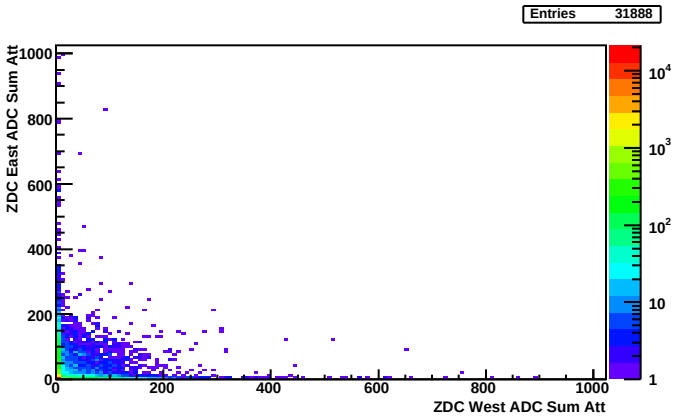

Entries 31888
VPD-East ADC Sum
ZDC-East ADC Sum Att

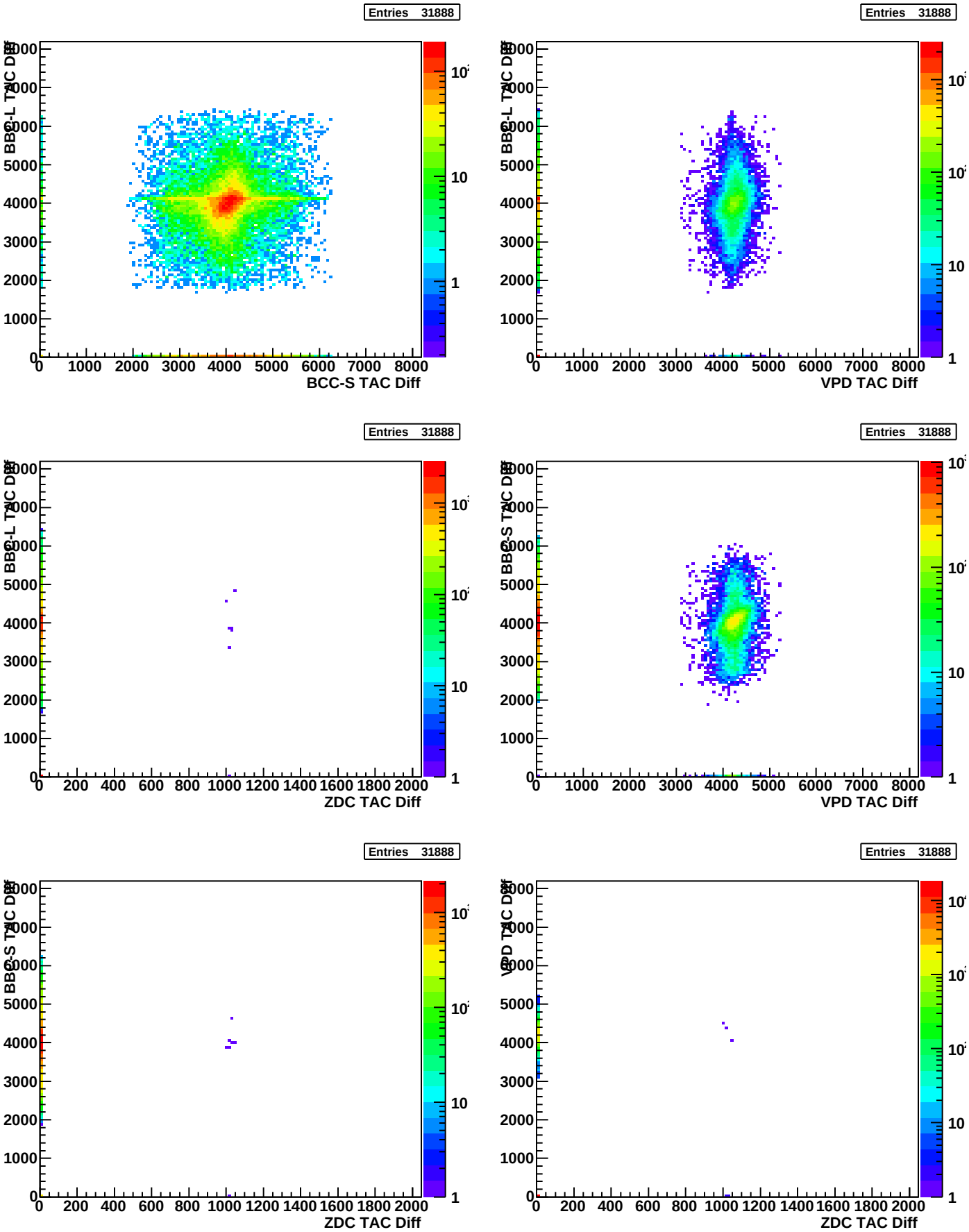

Entries 31888
VPD-West ADC Sum
ZDC-West ADC Sum Att

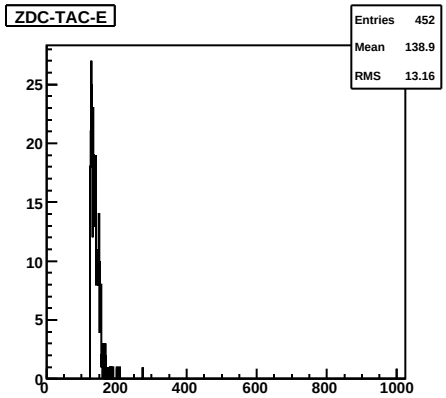

Entries 31888
BBC-L-East ADC Sum
BBC-L-West ADC Sum

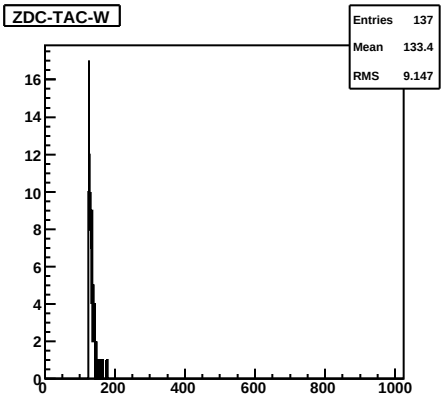

Entries 31888
BBC-S-East ADC Sum
BBC-S-West ADC Sum

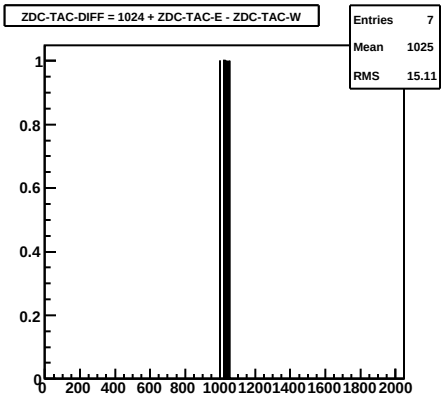

Entries 31888
VPD East ADC Sum
VPD West ADC Sum

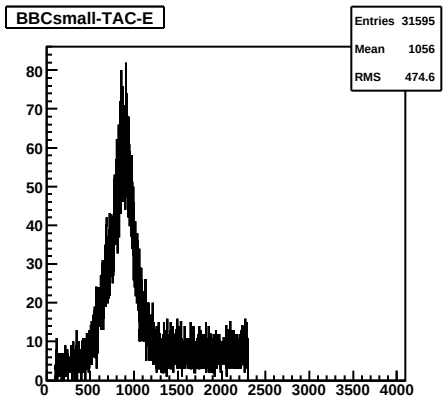

Entries 31888
ZDC East ADC Sum Att
ZDC West ADC Sum Att

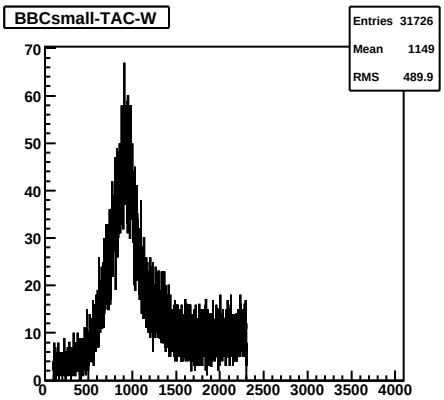

Entries 31888
BBC-L TAC Diff
BCC-S TAC Diff
Entries 31888
BBC-L TAC Diff
VPD TAC Diff
Entries 31888
BBC-L TAC Diff
ZDC TAC Diff
Entries 31888
BBC-S TAC Diff
VPD TAC Diff
Entries 31888
BBC-S TAC Diff
ZDC TAC Diff
Entries 31888
VPD TAC Diff
ZDC TAC Diff

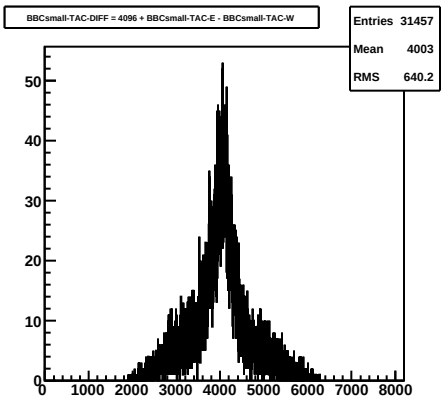

ZDC-TAC-E
Entries 452
Mean 138.9
RMS 13.16

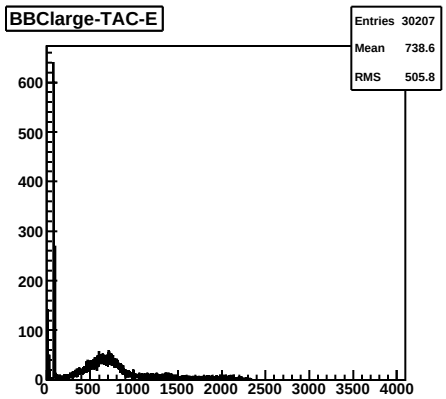

ZDC-TAC-W
Entries 137
Mean 133.4
RMS 9.147

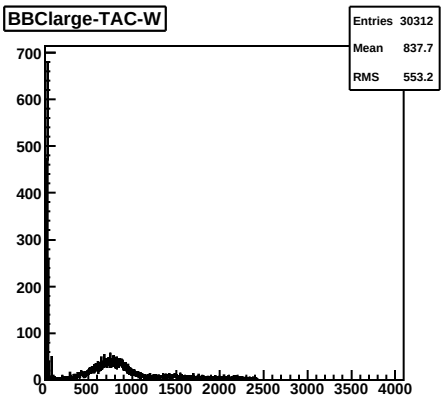

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 7
Mean 1025
RMS 15.11

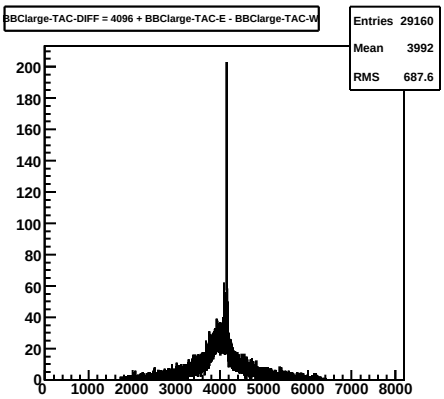

BBCsmall-TAC-E
Entries 31595
Mean 1056
RMS 474.6

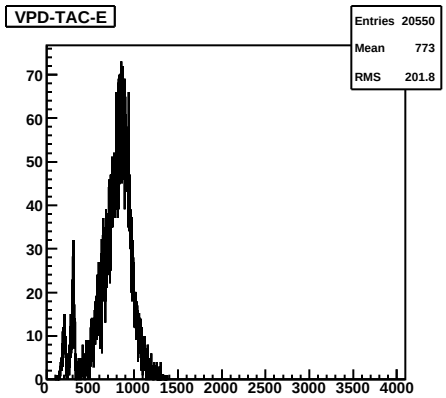

BBCsmall-TAC-W
Entries 31726
Mean 1149
RMS 489.9

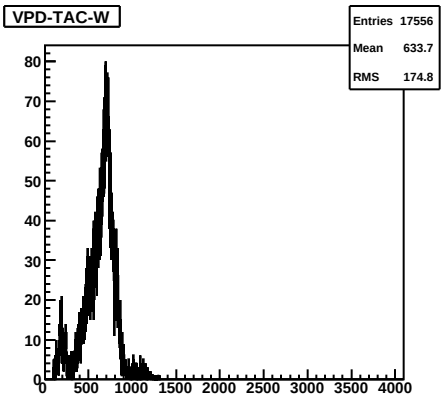

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 31457
Mean 4003
RMS 640.2

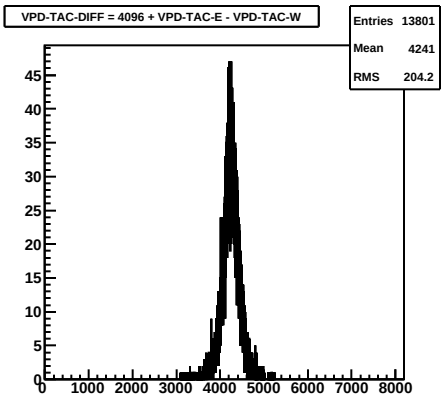

BBClarge-TAC-E
Entries 30207
Mean 738.6
RMS 505.8

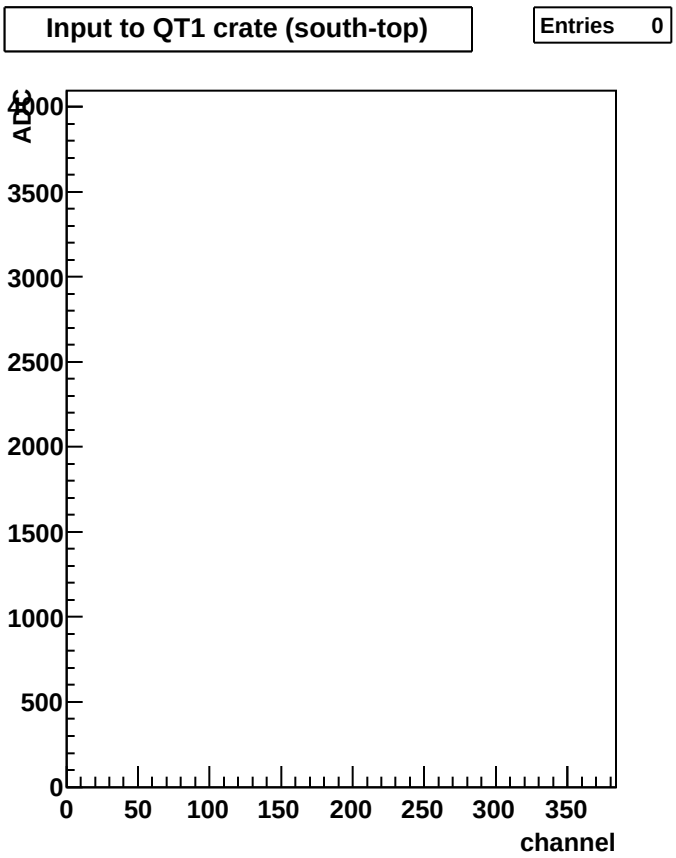

BBClarge-TAC-W
Entries 30312
Mean 837.7
RMS 553.2

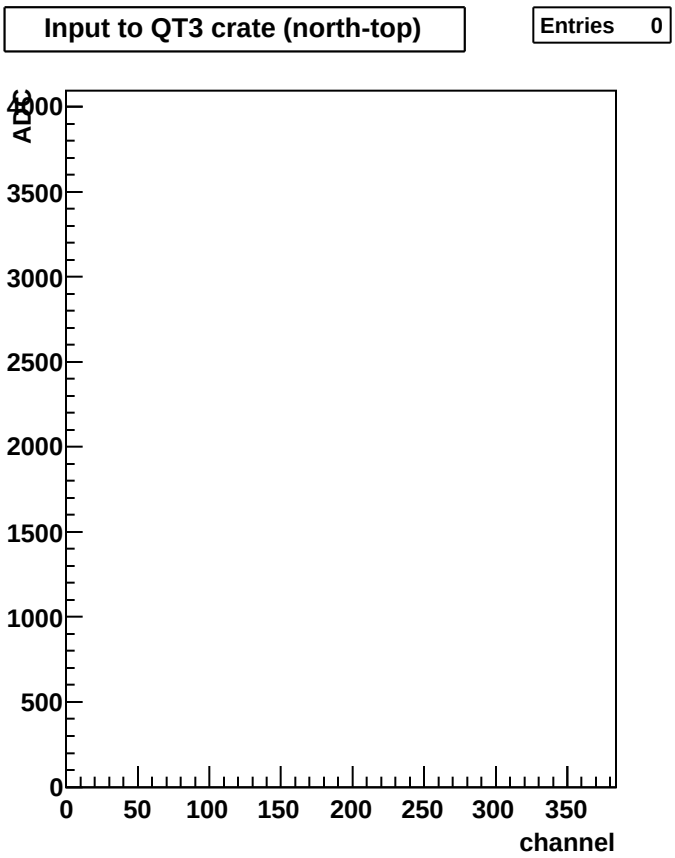

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 29160
Mean 3992
RMS 687.6

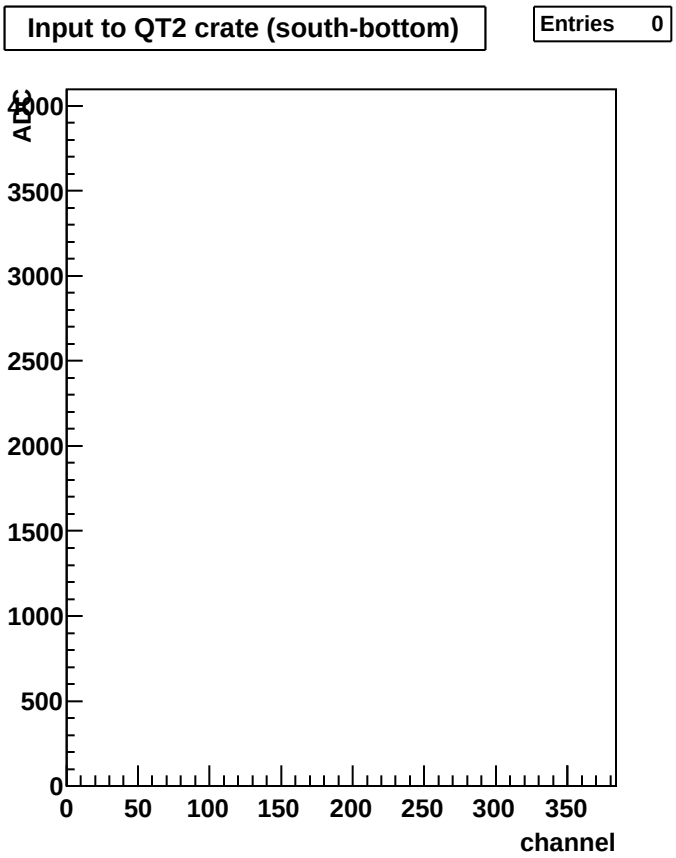

VPD-TAC-E
Entries 20550
Mean 773
RMS 201.8

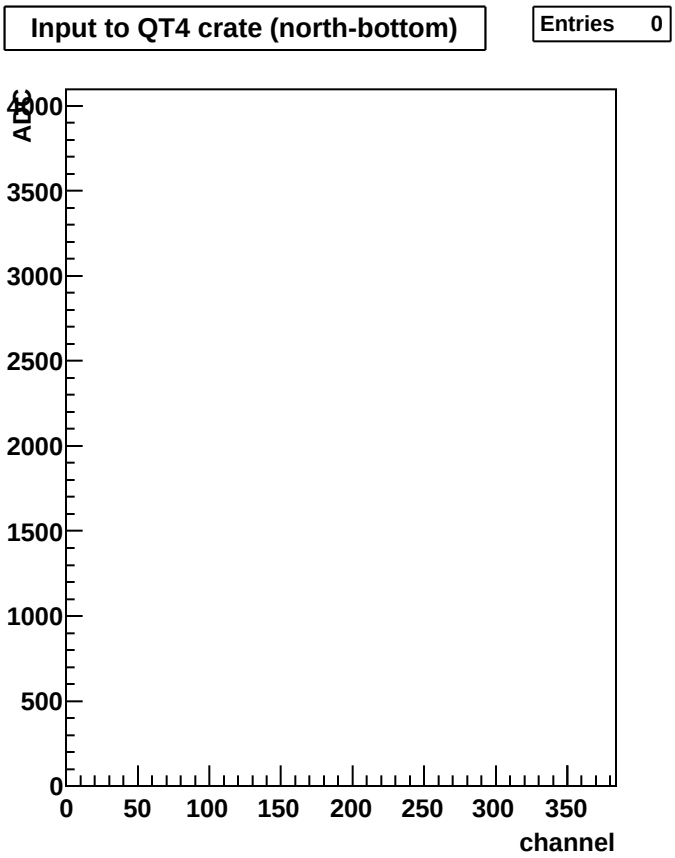

VPD-TAC-W
Entries 17556
Mean 633.7
RMS 174.8

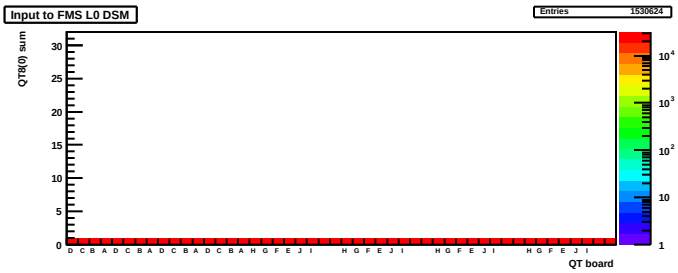

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 13801
Mean 4241
RMS 204.2

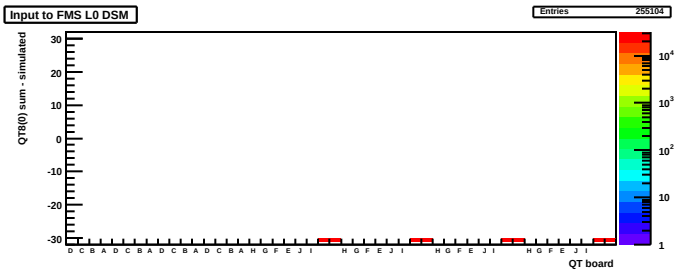

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

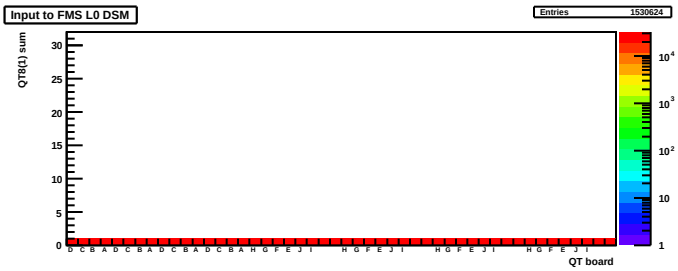

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

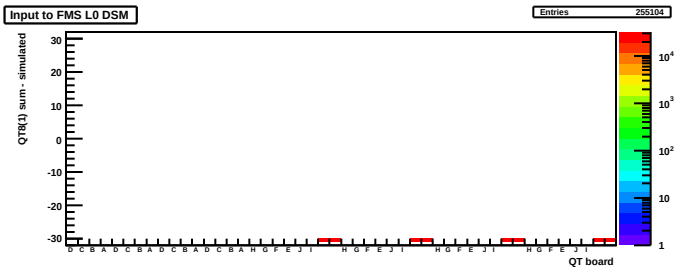

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

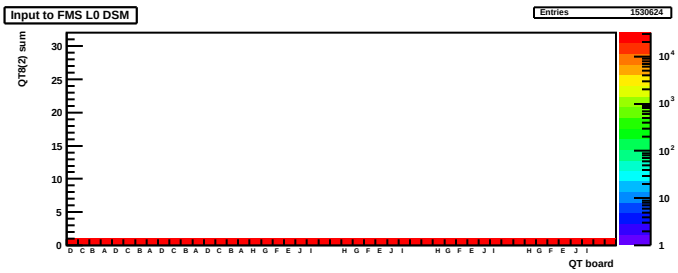

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

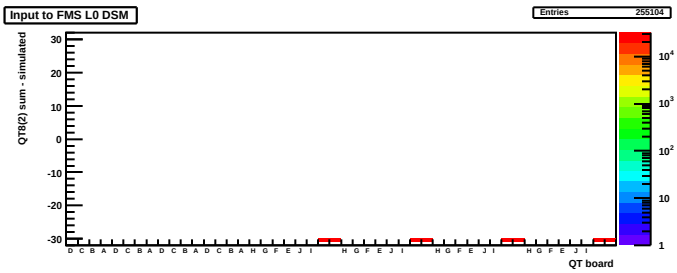

Input to FMS L0 DSM
Entries 1530624
QT8(0) sum
QT board

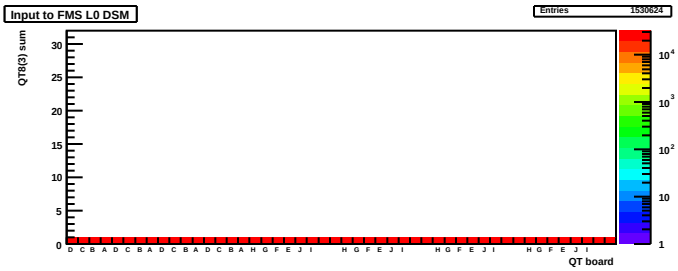

Input to FMS L0 DSM
Entries 255104
QT8(0) sum - simulated
QT board

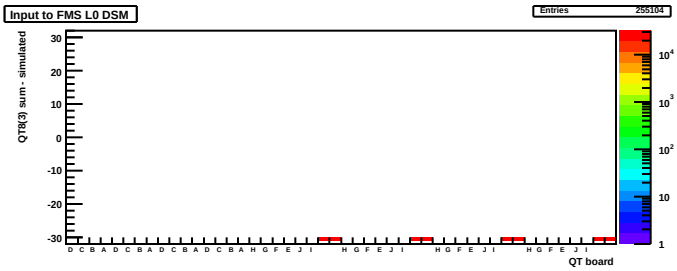

Input to FMS L0 DSM
Entries 1530624
QT8(1) sum
QT board

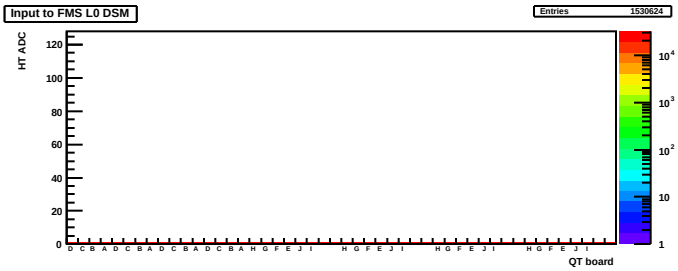

Input to FMS L0 DSM
Entries 255104
QT8(1) sum - simulated
QT board

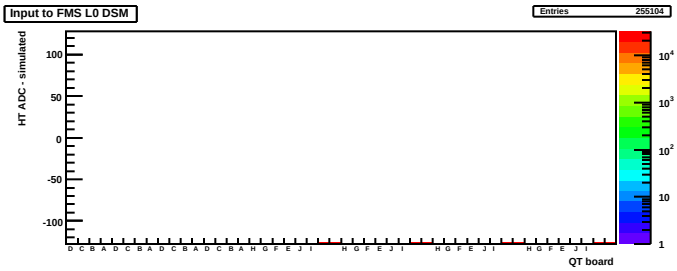

Input to FMS L0 DSM
Entries 1530624
QT8(2) sum
QT board

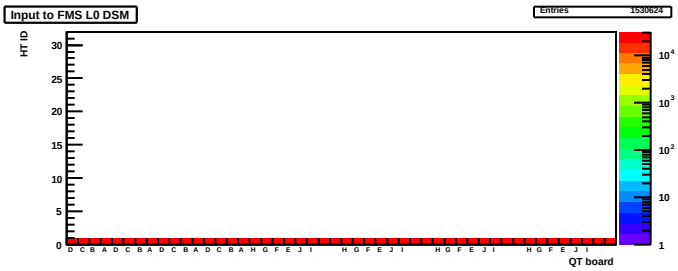

Input to FMS L0 DSM
Entries 255104
QT8(2) sum - simulated
QT board

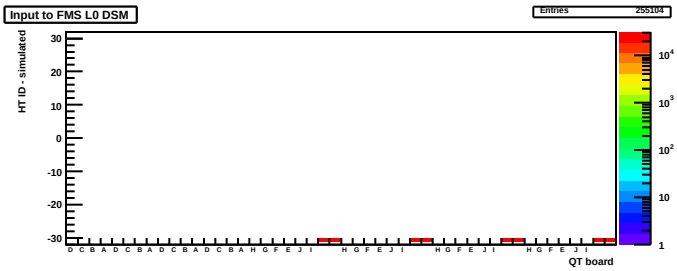

Input to FMS L0 DSM
Entries 1530624
QT8(3) sum
QT board

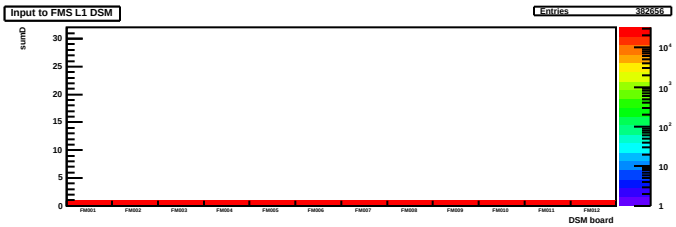

Input to FMS L0 DSM
Entries 255104
QT8(3) sum - simulated
QT board

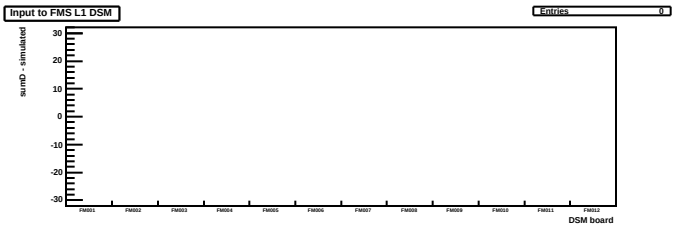

Input to FMS L0 DSM
Entries 1530624
HT ADC
QT board

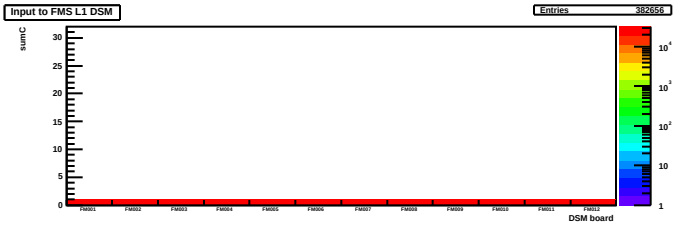

Input to FMS L0 DSM
Entries 255104
HT ADC - simulated
QT board

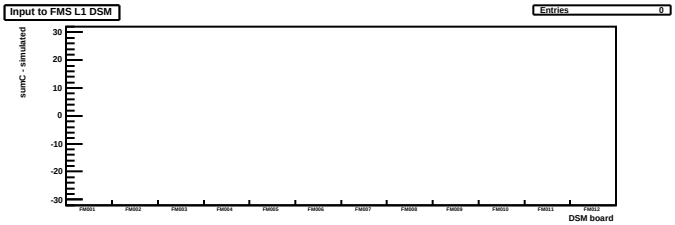

Input to FMS L0 DSM
Entries 1530624
HT ID
QT board

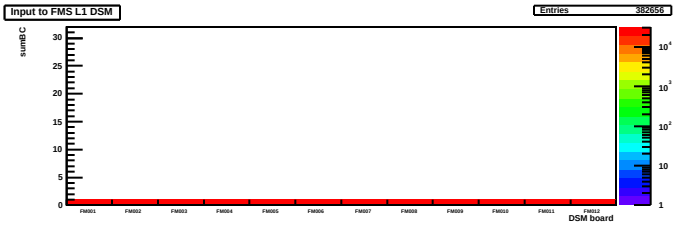

Input to FMS L0 DSM
Entries 255104
HT ID - simulated
QT board

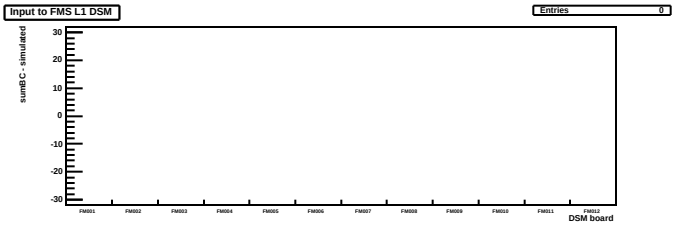

Input to FMS L1 DSM
Entries 382656
sumD
DSM board

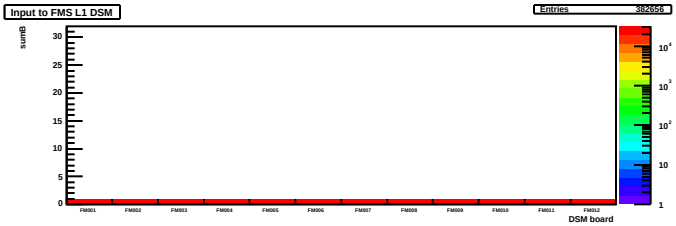

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

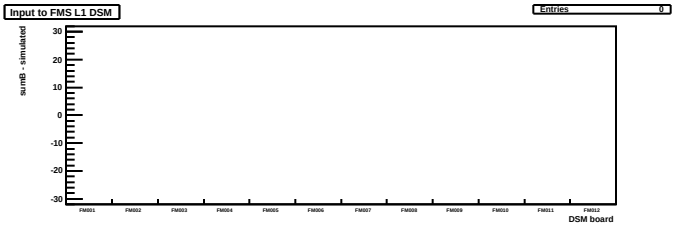

Input to FMS L1 DSM
Entries 382656
sumC
DSM board

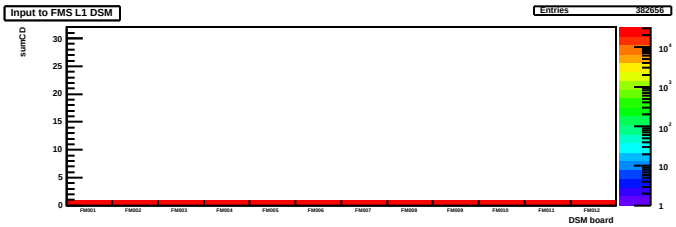

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

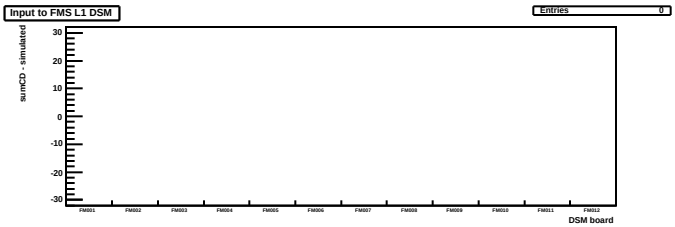

Input to FMS L1 DSM
Entries 382656
sumBC
DSM board

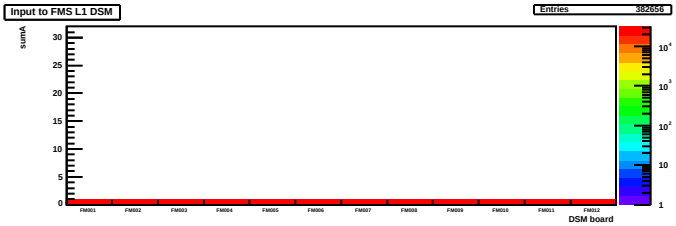

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

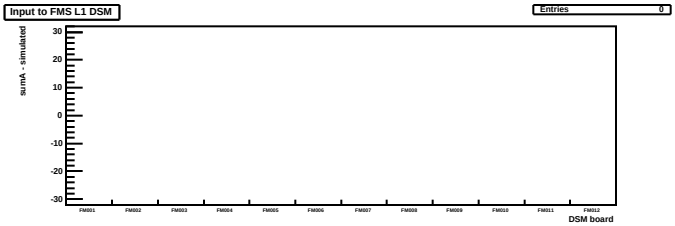

Input to FMS L1 DSM
Entries 382656
sumB
DSM board

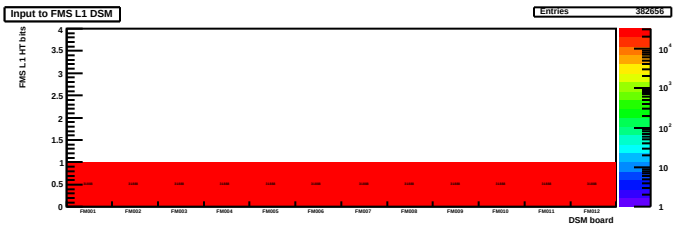

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

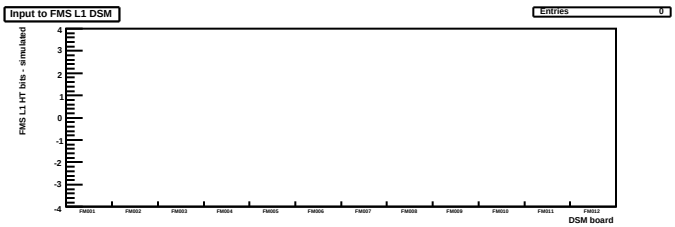

Input to FMS L1 DSM
Entries 382656
sumCD
DSM board

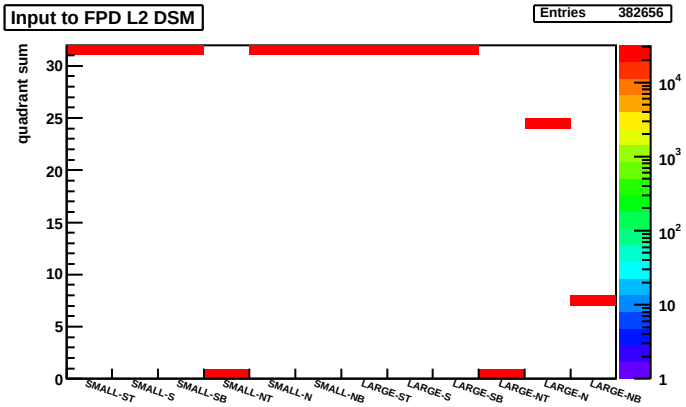

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

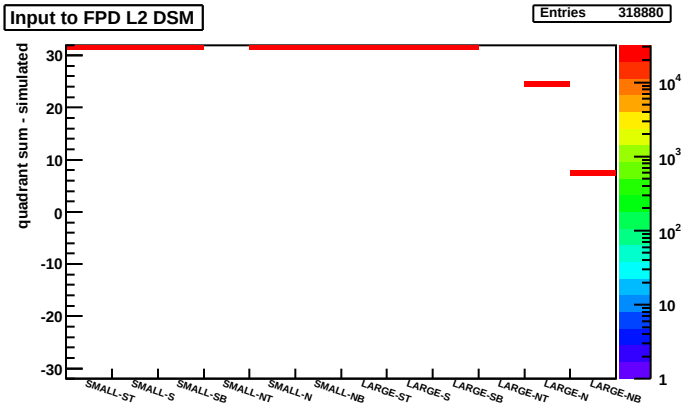

Input to FMS L1 DSM
Entries 382656
sumA
DSM board

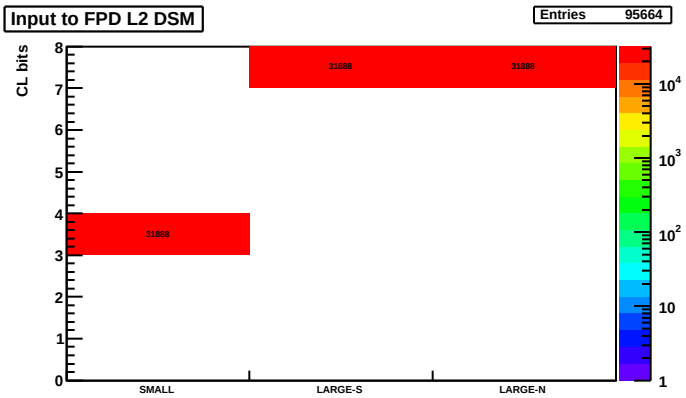

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

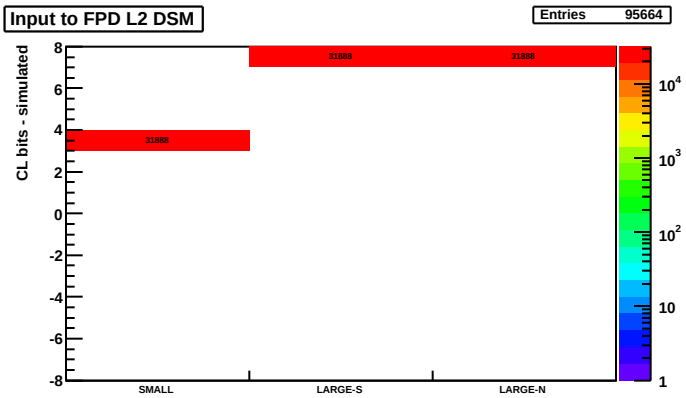

Input to FMS L1 DSM
Entries 382656
FMS L1 HT bits
DSM board

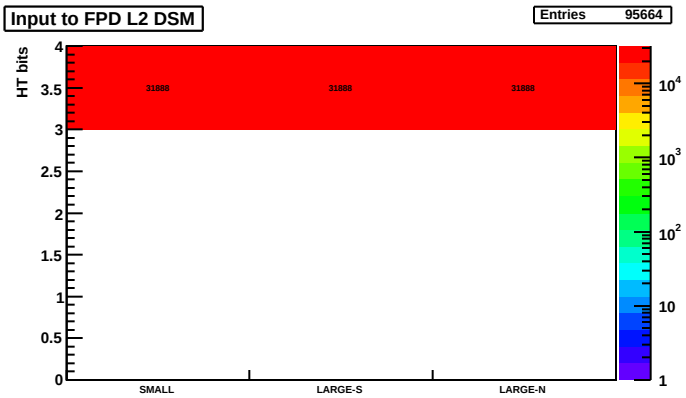

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

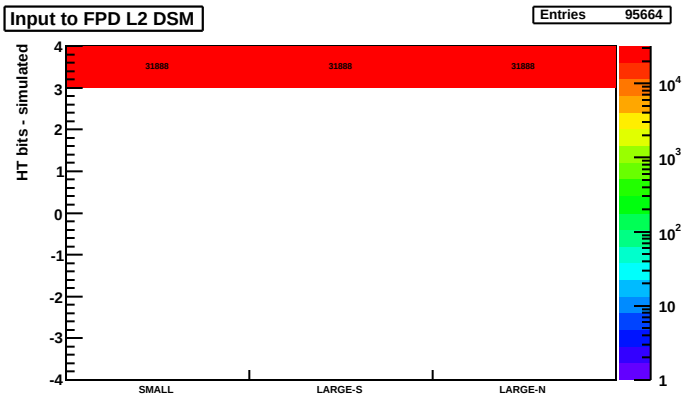

Input to FPD L2 DSM
Entries 382656
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

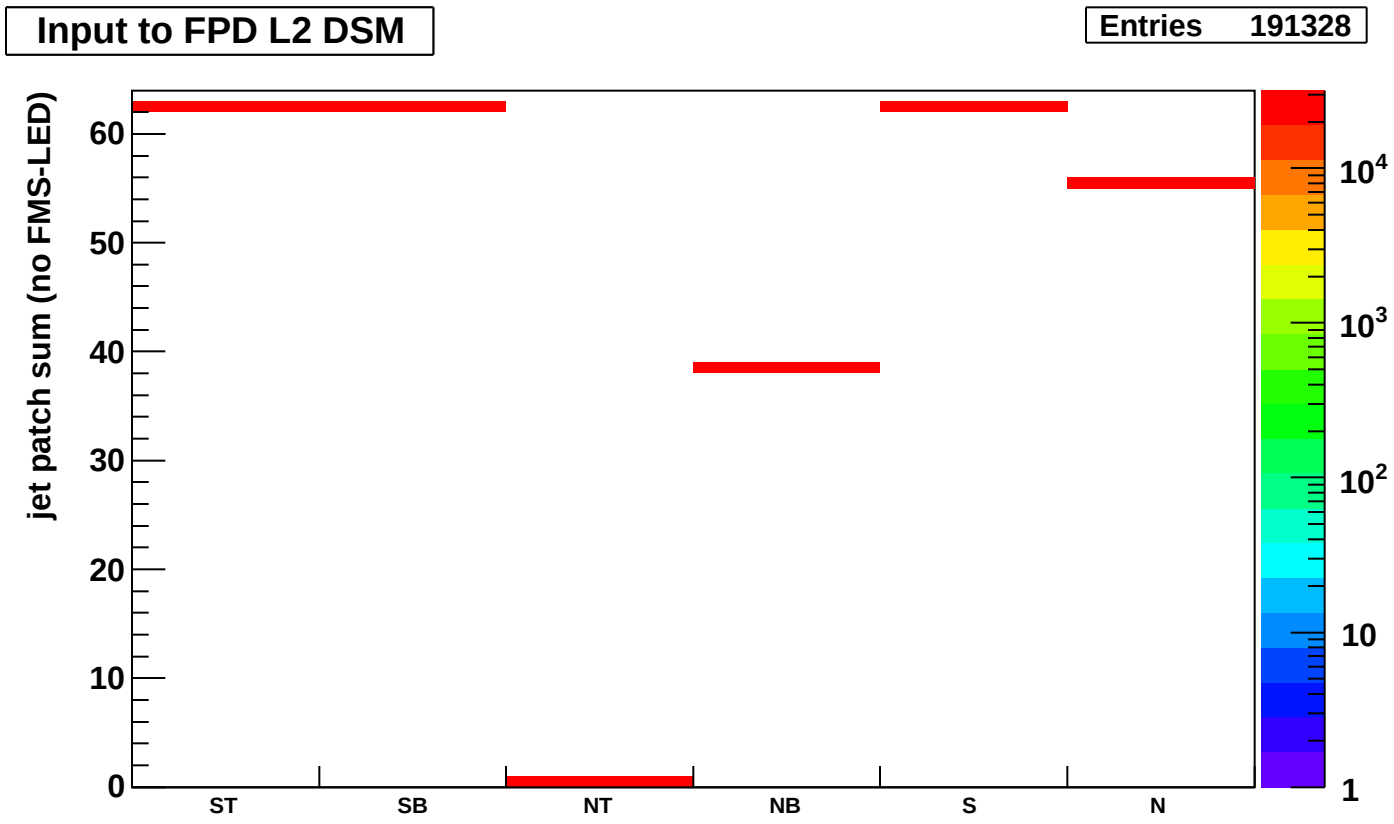

Input to FPD L2 DSM
Entries 318880
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

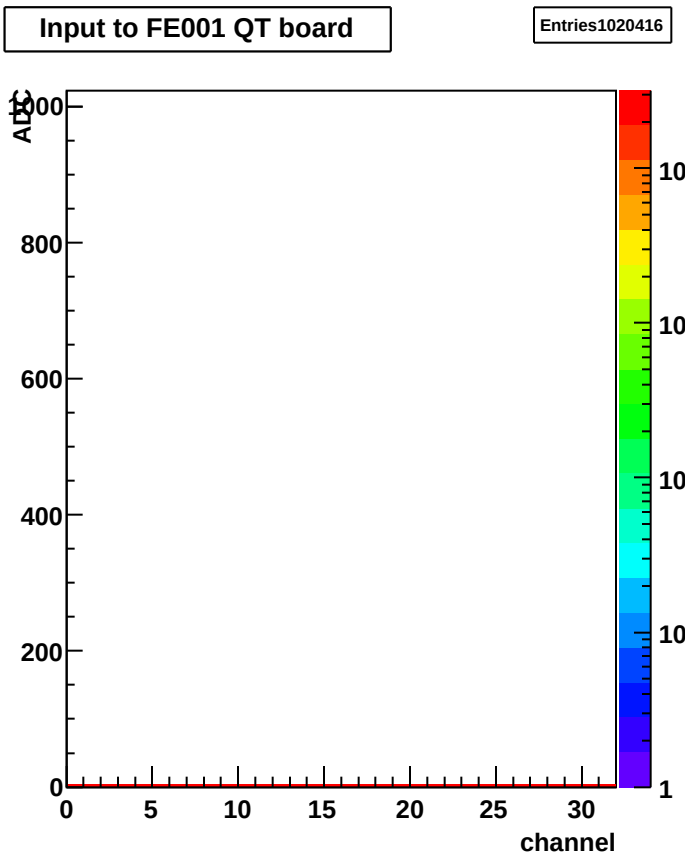

Input to FPD L2 DSM
Entries 95664
CL bits
31888
31888
31888
SMALL
LARGE-S
LARGE-N

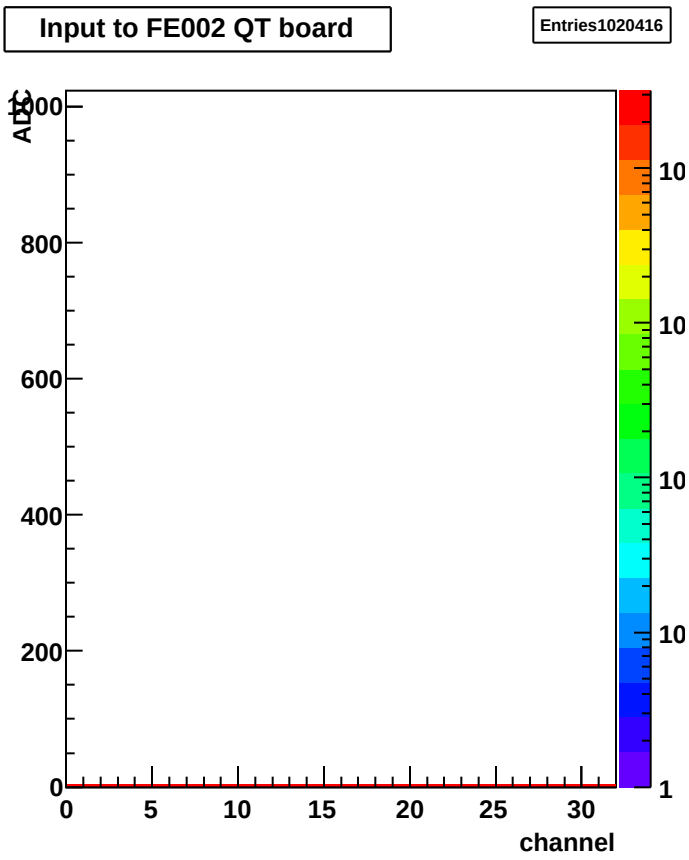

Input to FPD L2 DSM
Entries 95664
CL bits - simulated
31888
31888
31888
SMALL
LARGE-S
LARGE-N

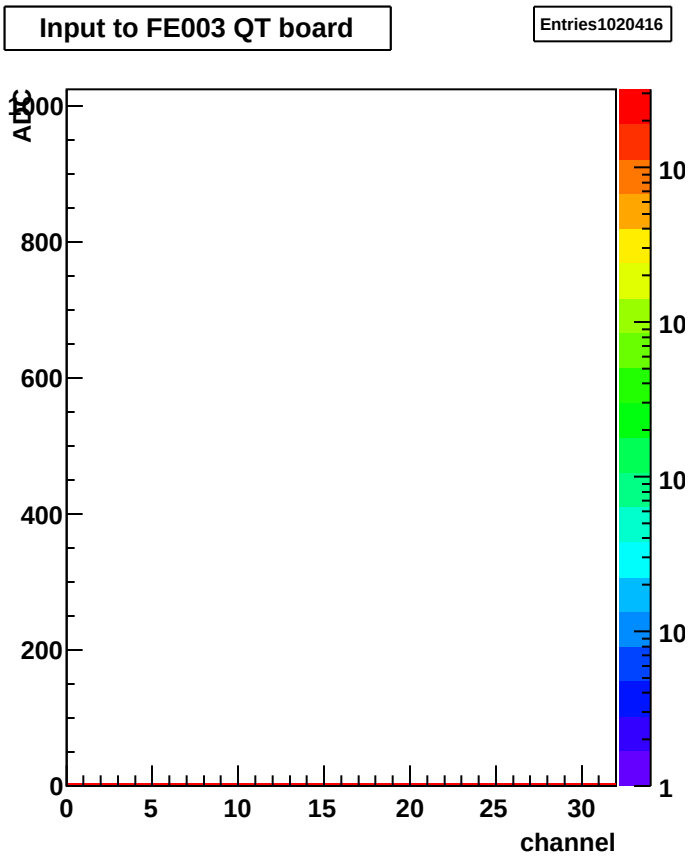

Input to FPD L2 DSM
Entries 95664
HT bits
31888
31888
31888
SMALL
LARGE-S
LARGE-N

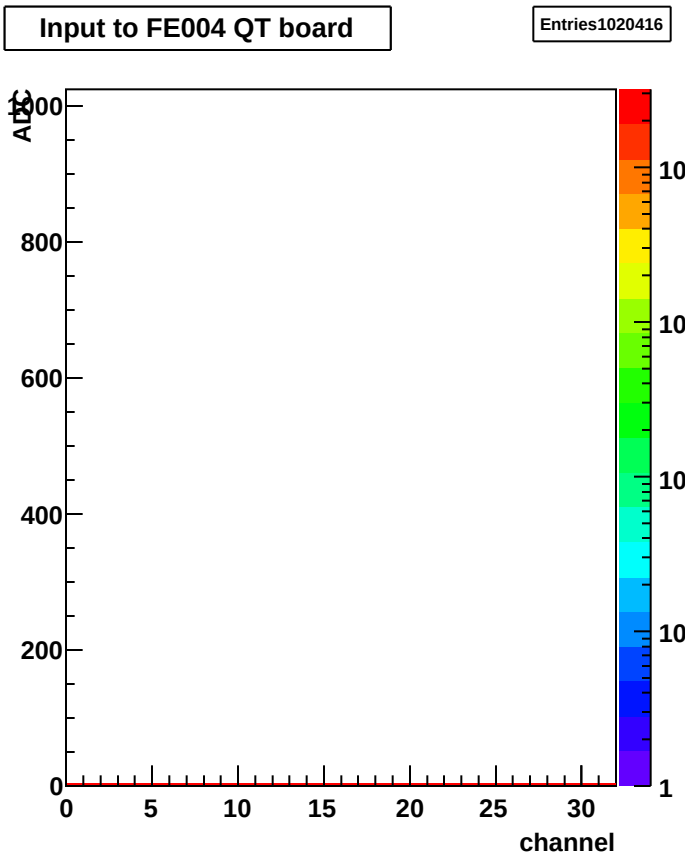

Input to FPD L2 DSM
Entries 95664
HT bits - simulated
31888
31888
31888
SMALL
LARGE-S
LARGE-N

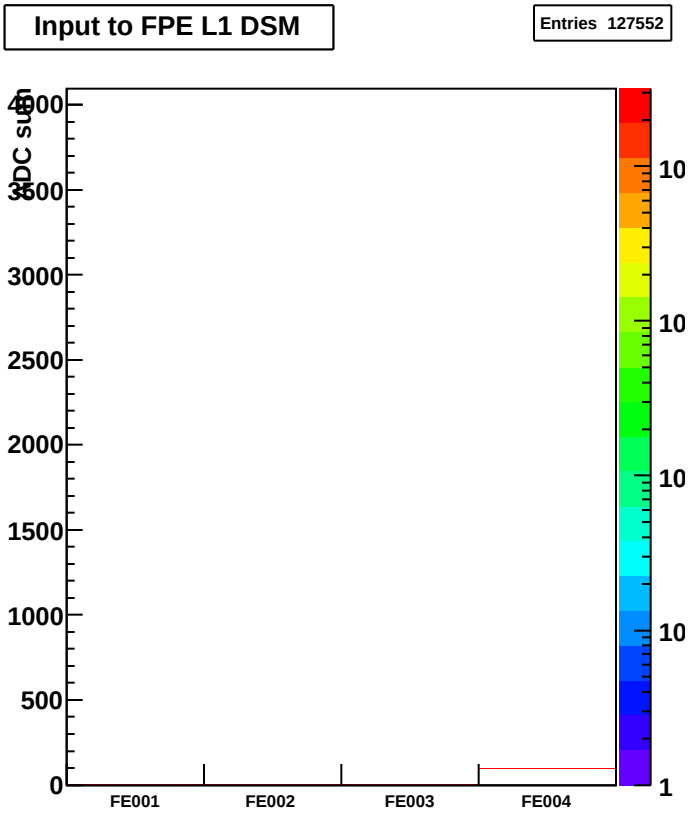

Input to FPD L2 DSM
Entries 191328
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

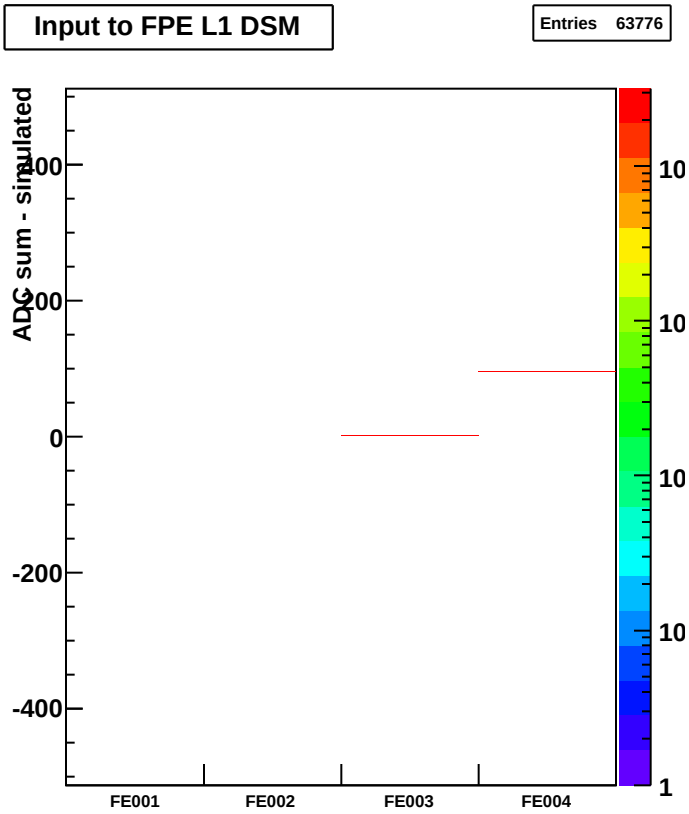

Input to FE001 QT board
Entries1020416
ADC
channel

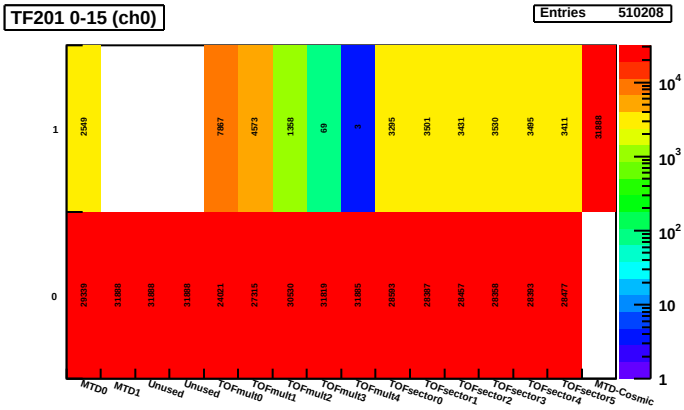

Input to FE002 QT board
Entries1020416
ADC
channel

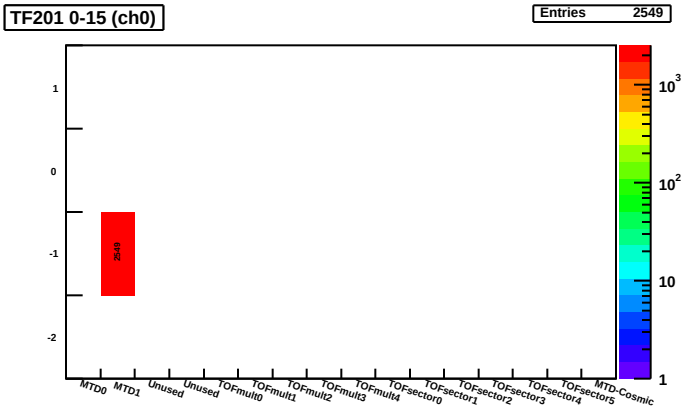

Input to FE003 QT board
Entries1020416
ADC
channel

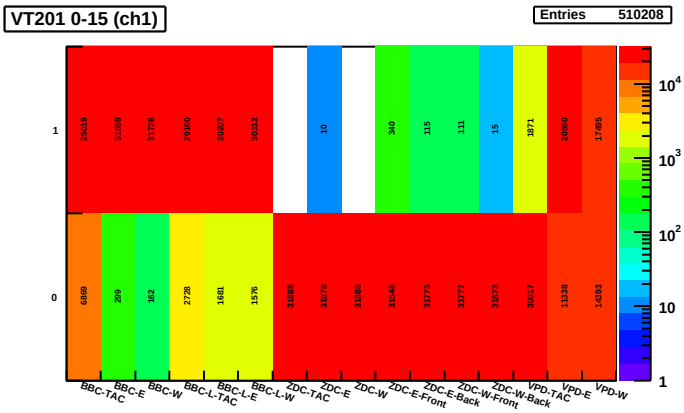

Input to FE004 QT board
Entries1020416
ADC
channel

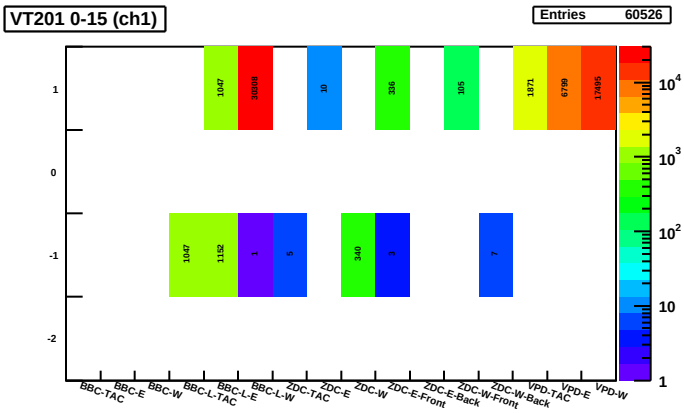

Input to FPE L1 DSM
Entries 127552
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1

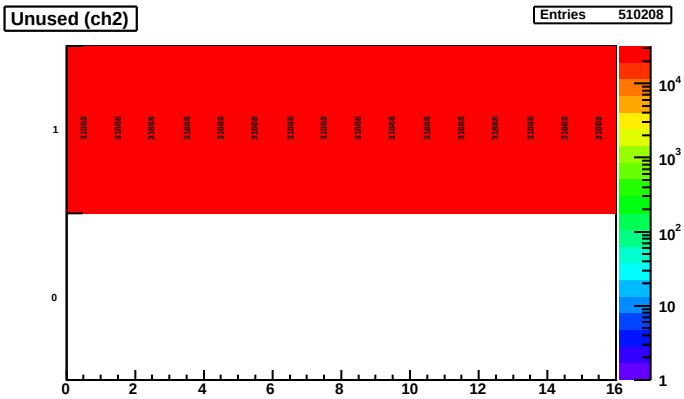

Input to FPE L1 DSM
Entries 63776
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1

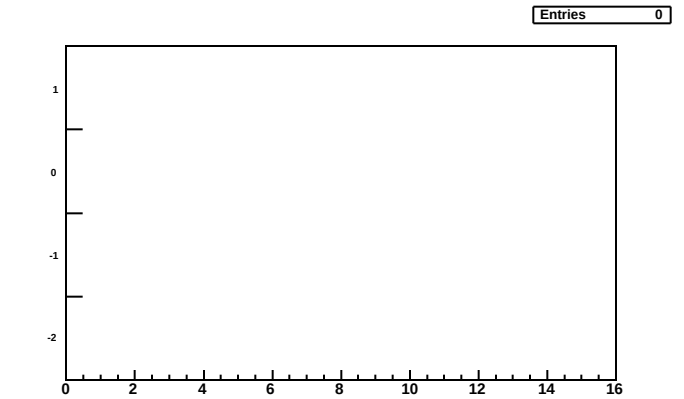

TF201 0-15 (ch0)
Entries 510208
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

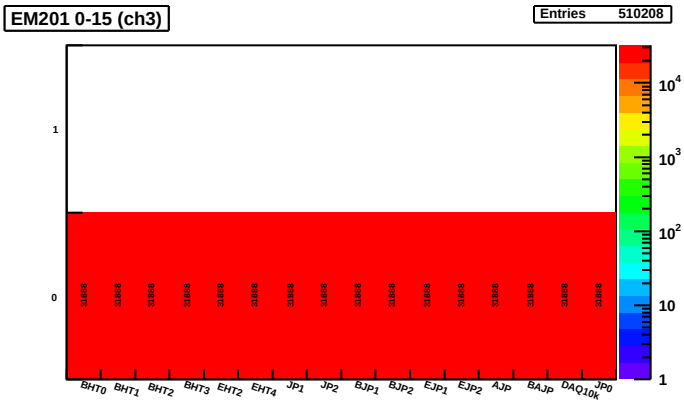

TF201 0-15 (ch0)
Entries 2549
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

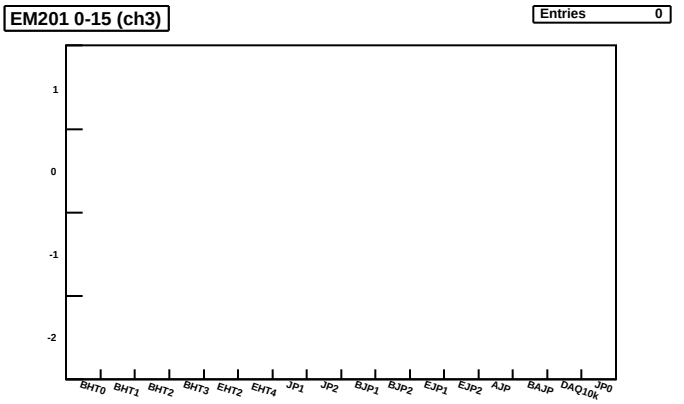

VT201 0-15 (ch1)
Entries 510208
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

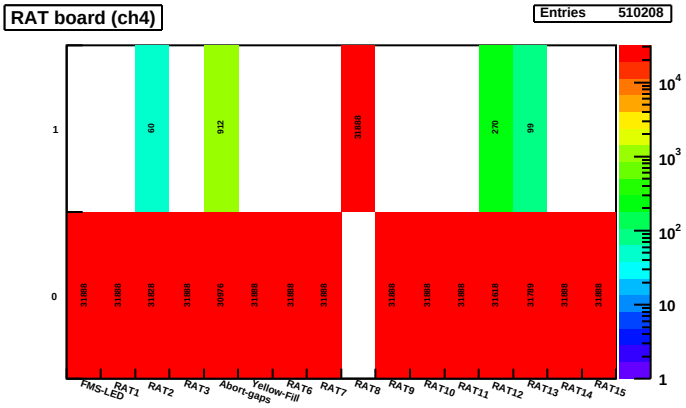

VT201 0-15 (ch1)
Entries 60526
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

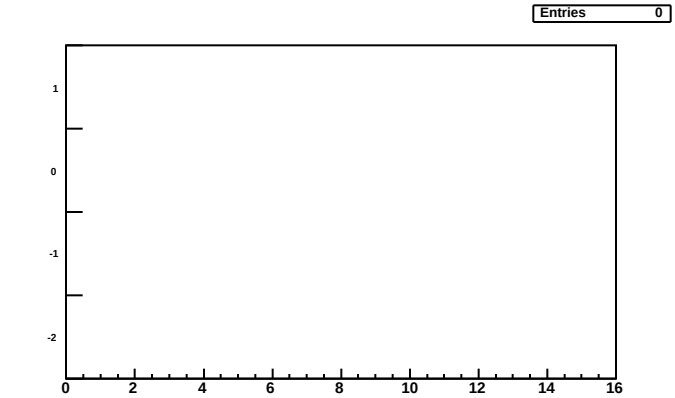

Unused (ch2)
Entries 510208

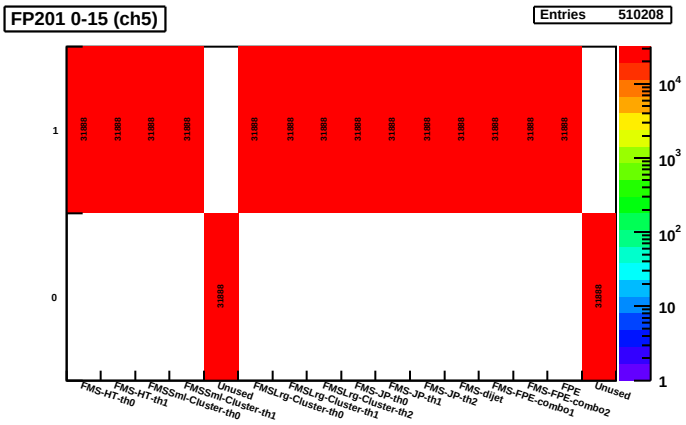

Entries 0

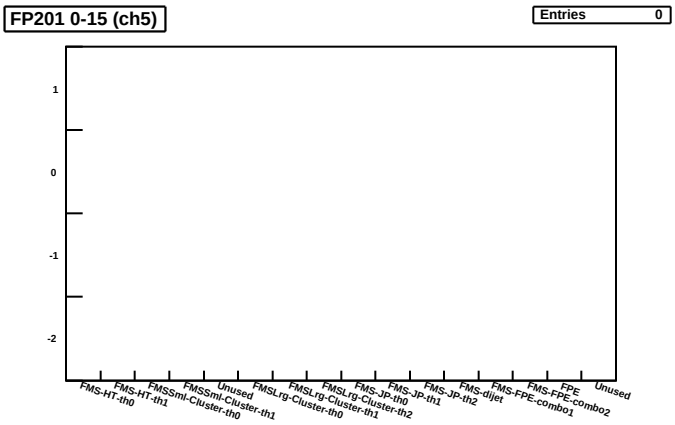

EM201 0-15 (ch3)
Entries 510208
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

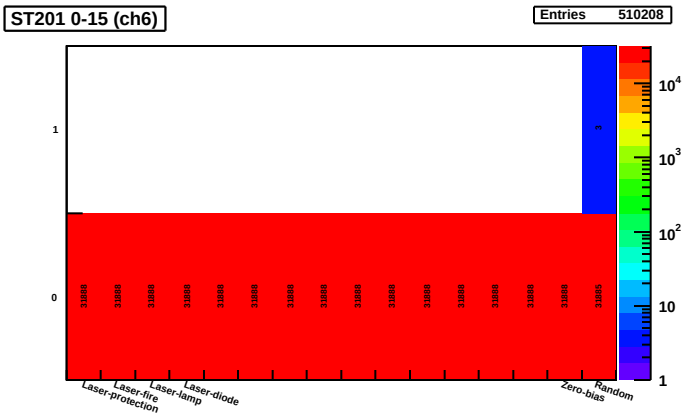

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

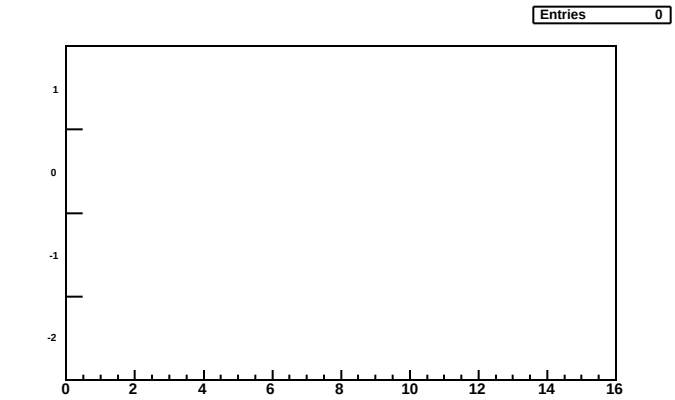

RAT board (ch4)
Entries 510208
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15

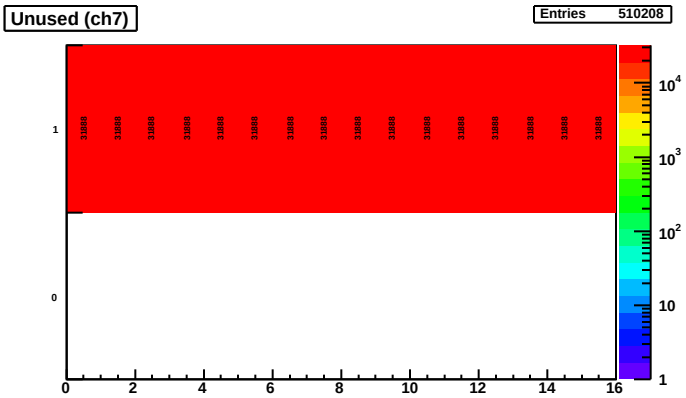

Entries 0

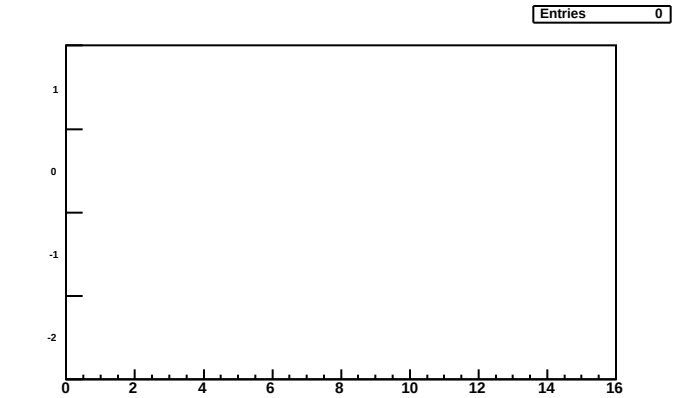

FP201 0-15 (ch5)
Entries 510208
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


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 510208
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random


Entries 0


Unused (ch7)
Entries 510208


Entries 0