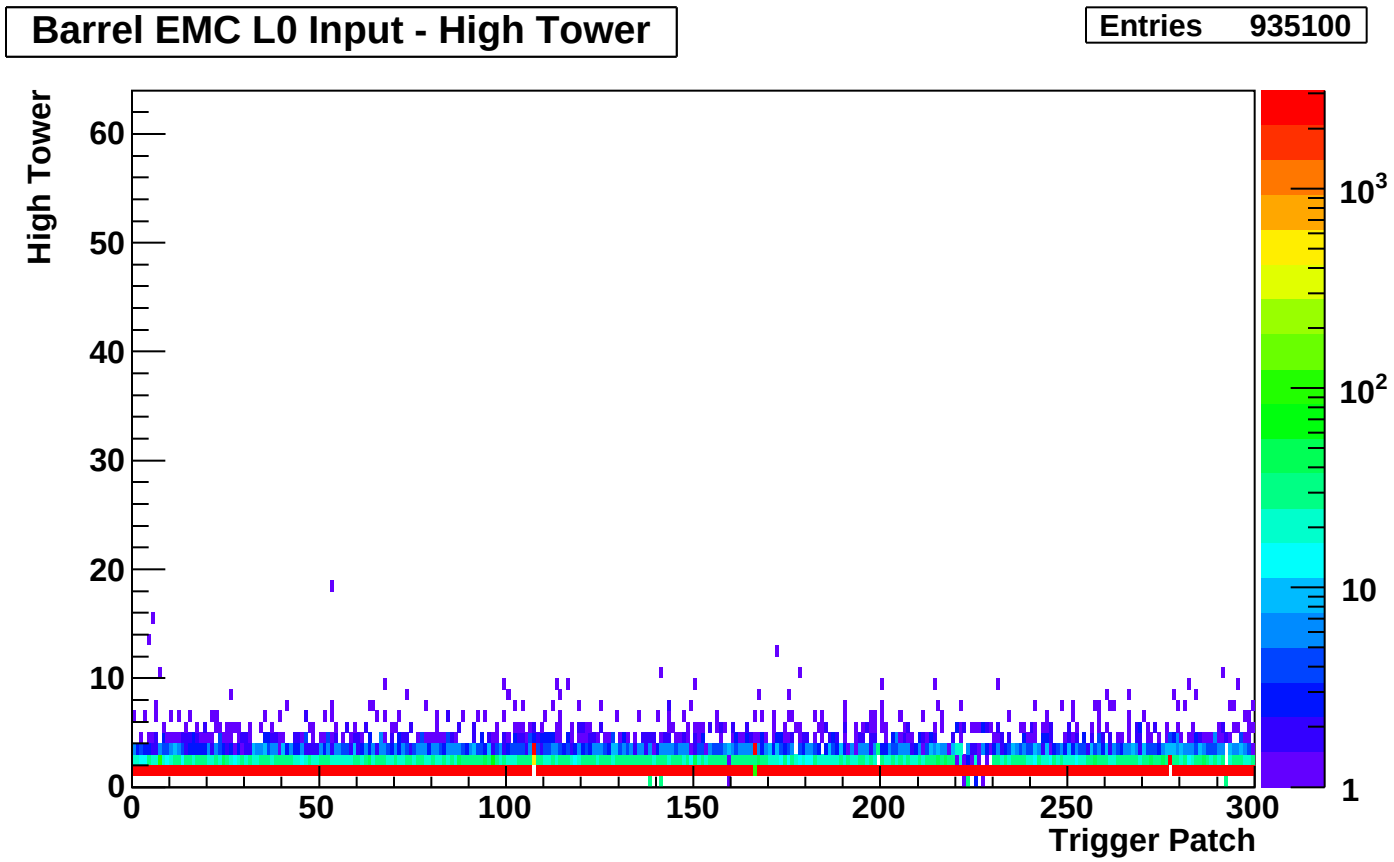
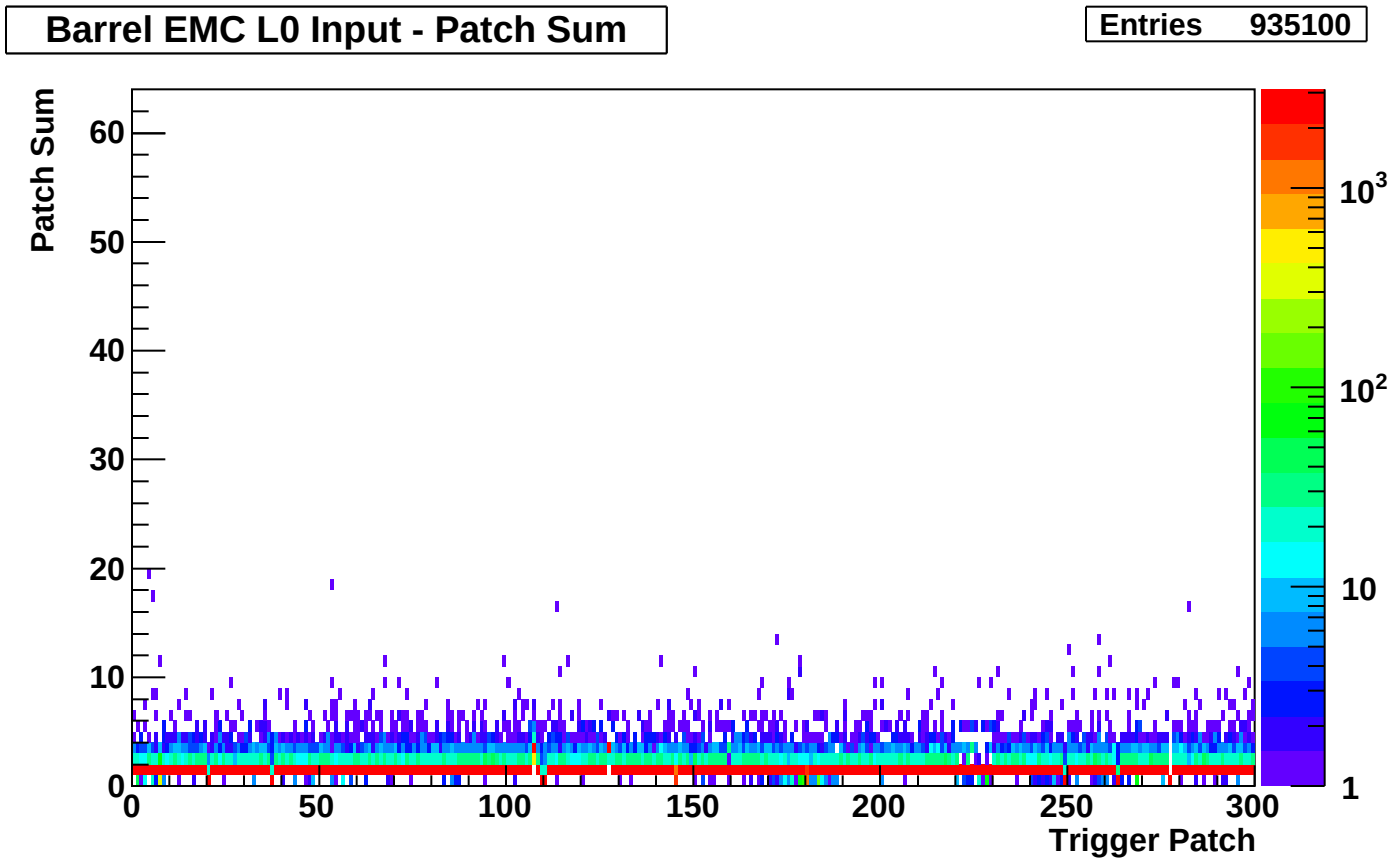
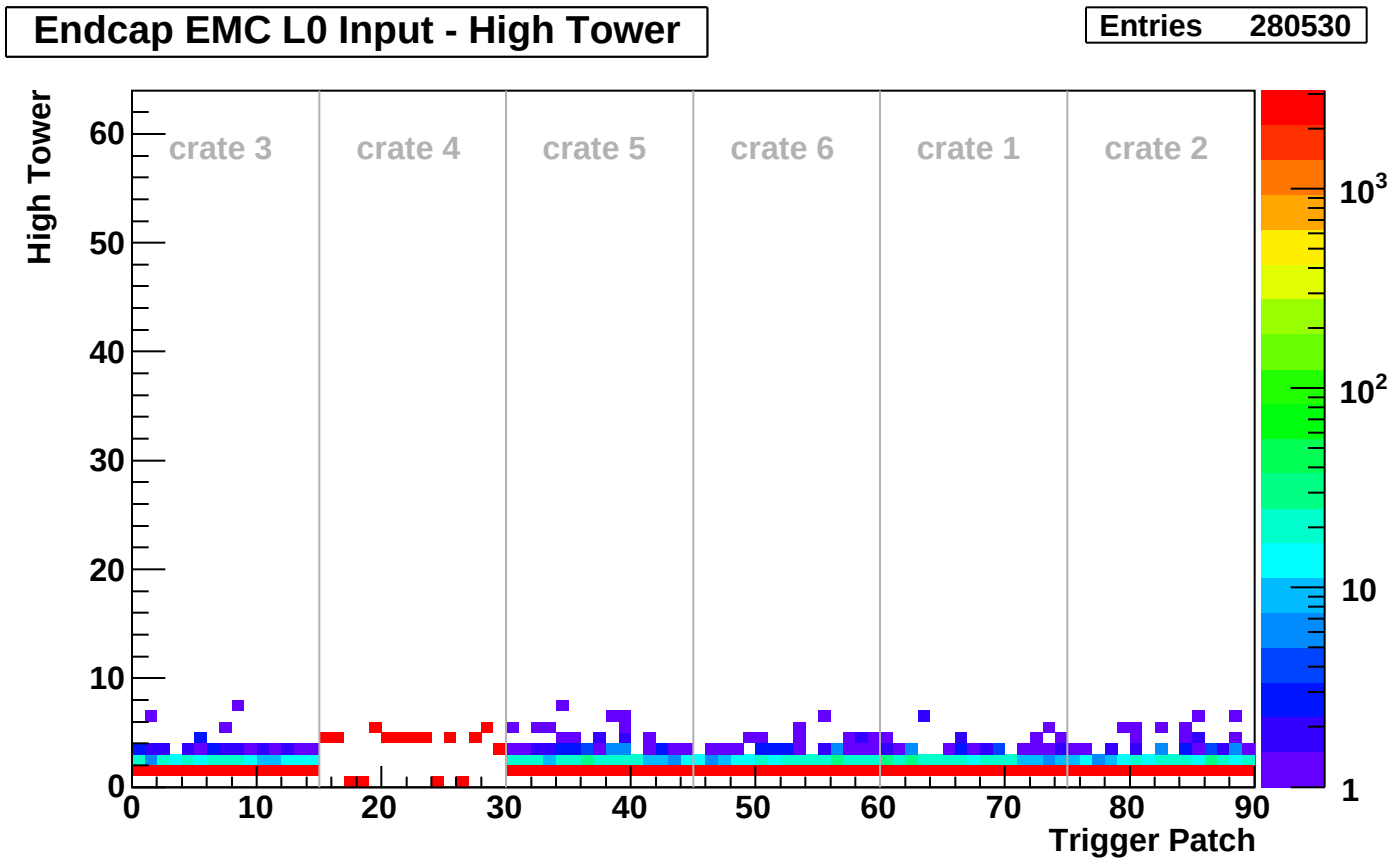
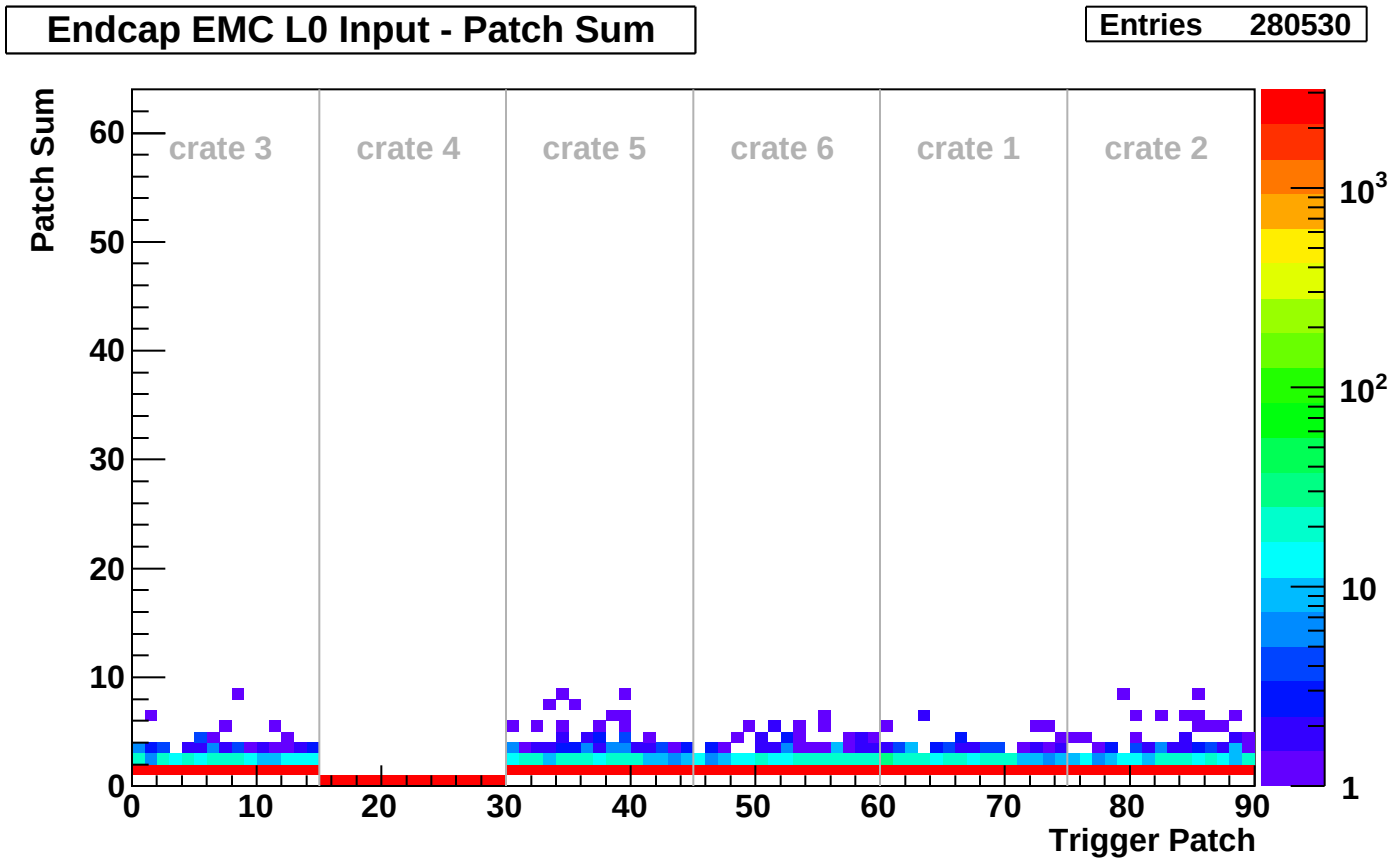
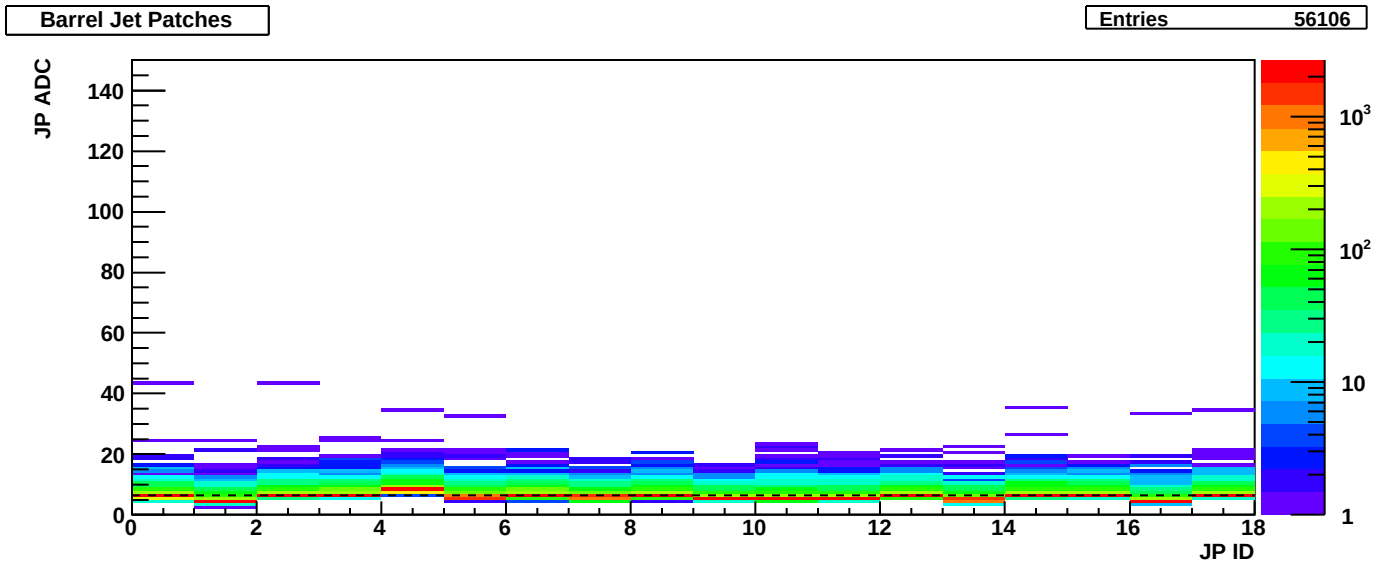
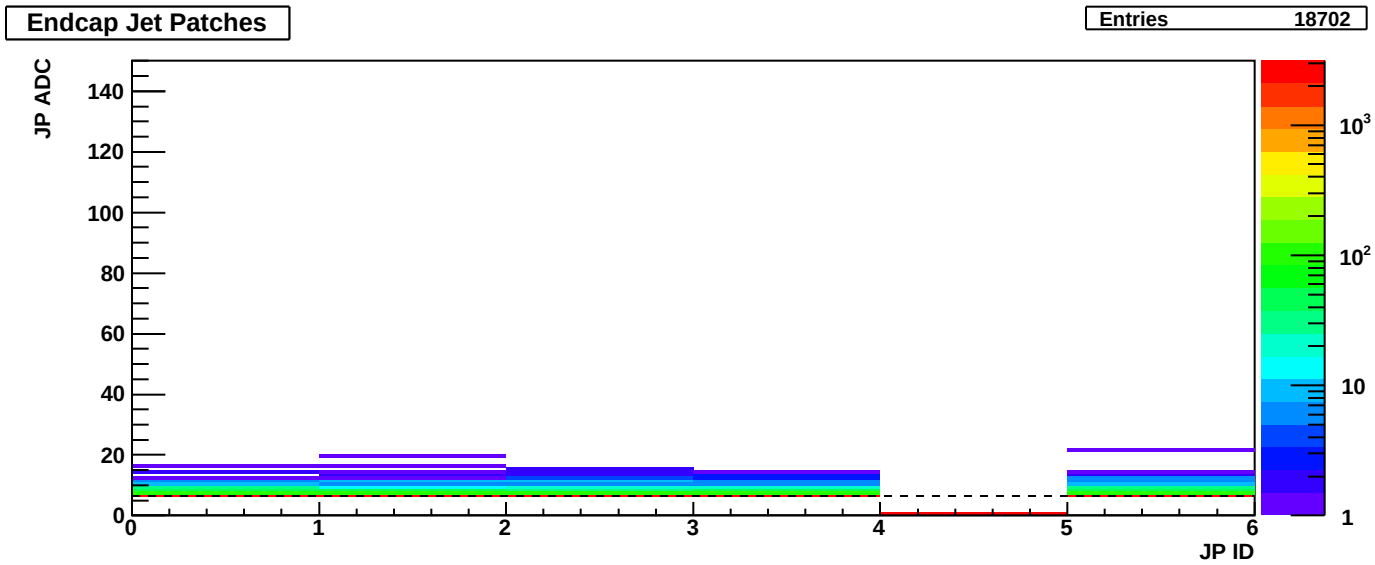

Barrel EMC L0 Input - High Tower
Entries 935100
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

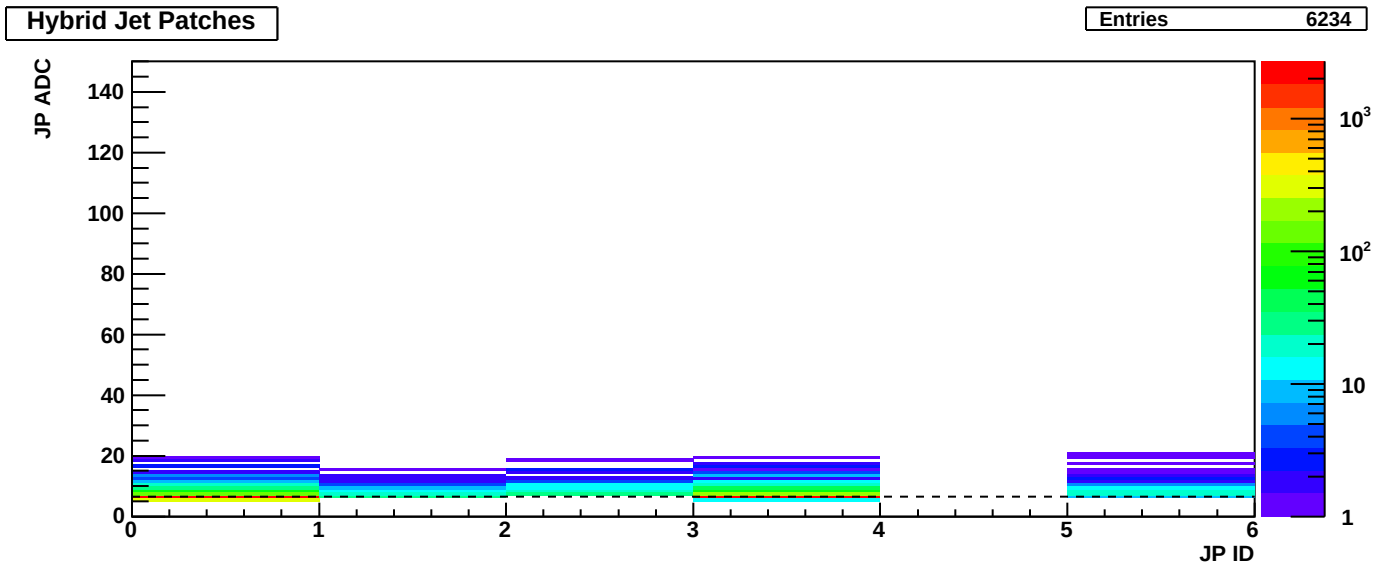

Barrel EMC L0 Input - Patch Sum
Entries 935100
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

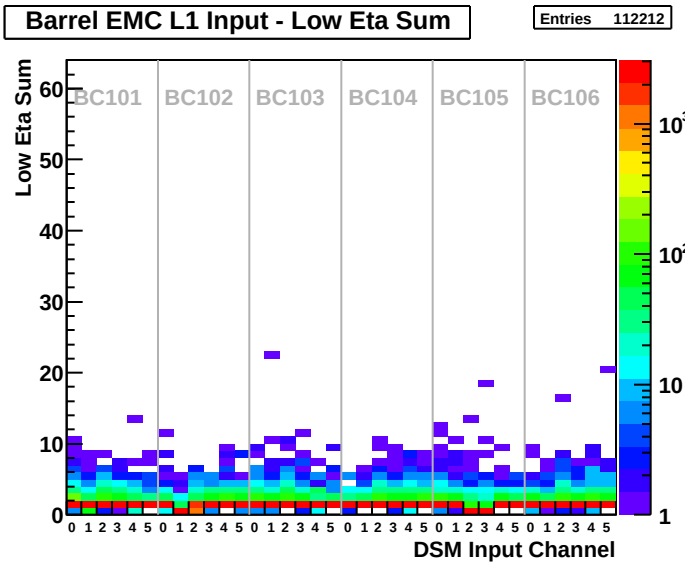

Endcap EMC L0 Input - High Tower
Entries 280530
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

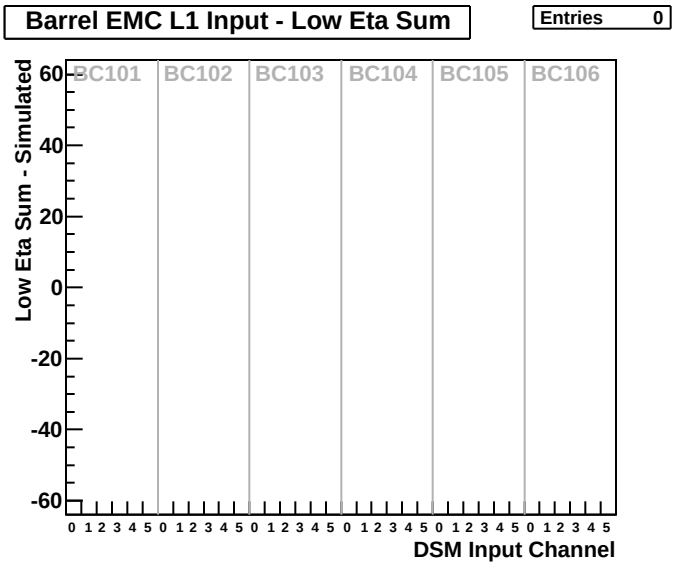

Endcap EMC L0 Input - Patch Sum
Entries 280530
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

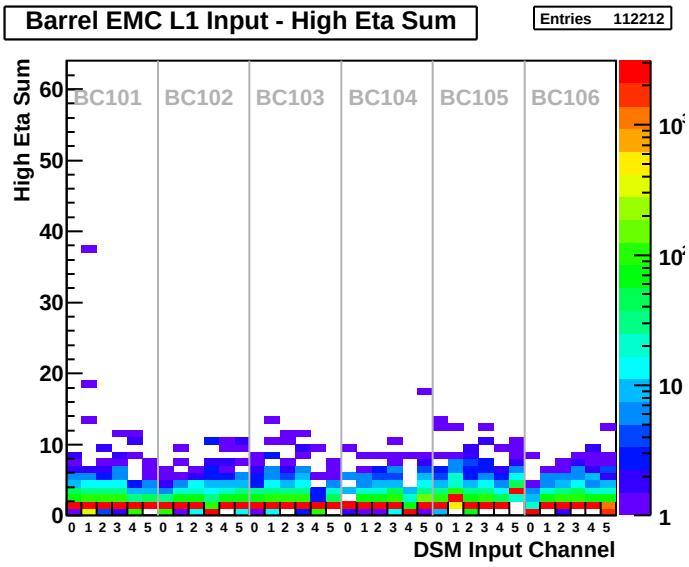

Barrel Jet Patches
Entries 56106
JP ADC
JP ID

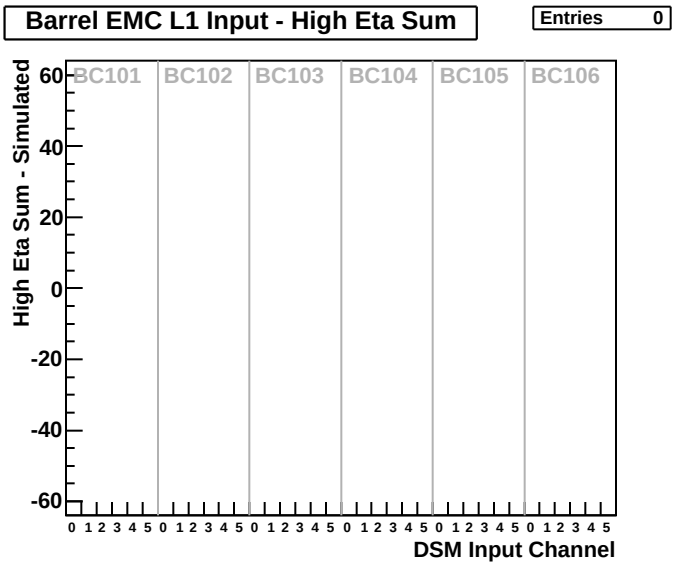

Endcap Jet Patches
Entries 18702
JP ADC
JP ID

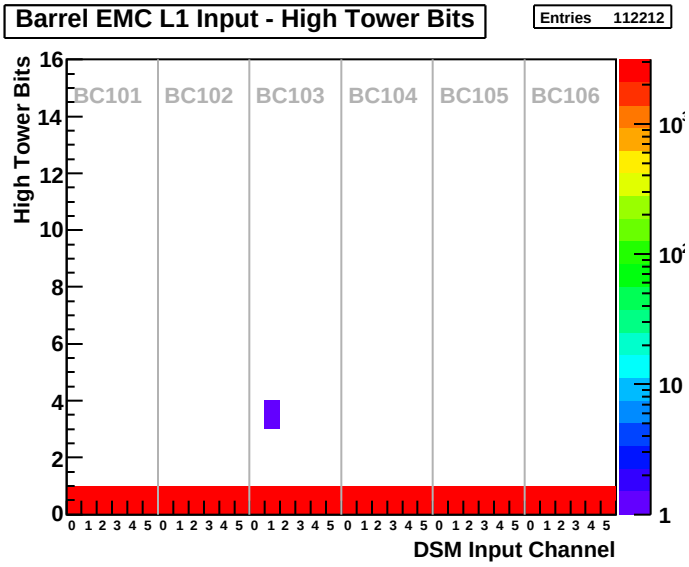

Hybrid Jet Patches
Entries 6234
JP ADC
JP ID

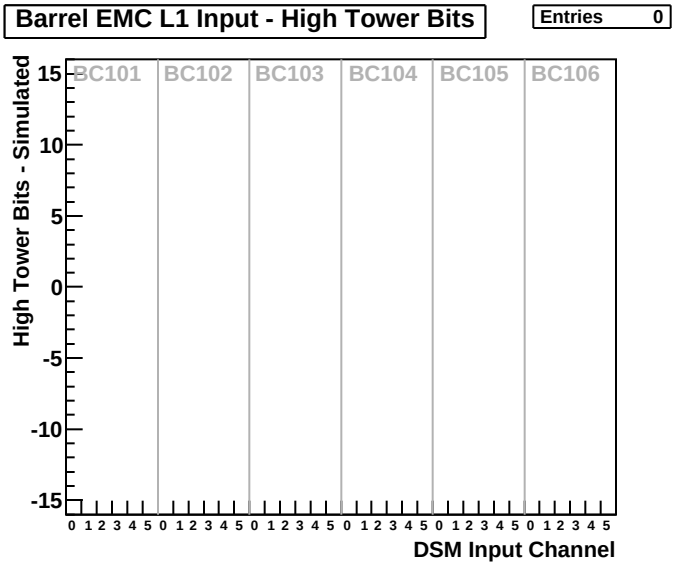

Barrel EMC L1 Input - Low Eta Sum
Entries 112212
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

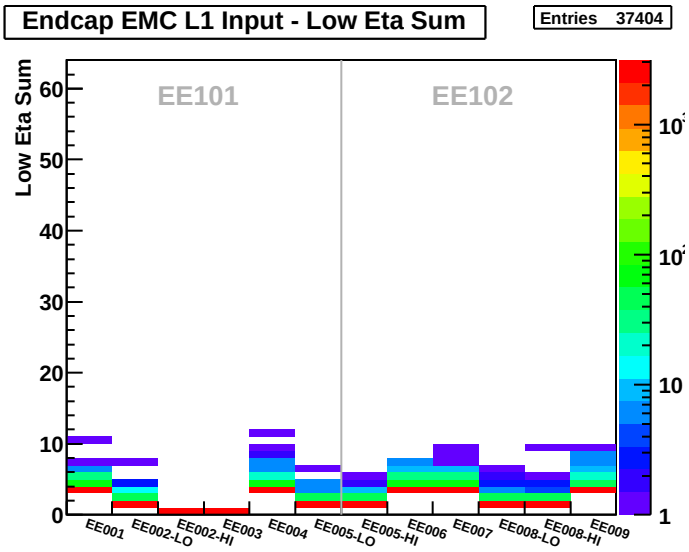

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

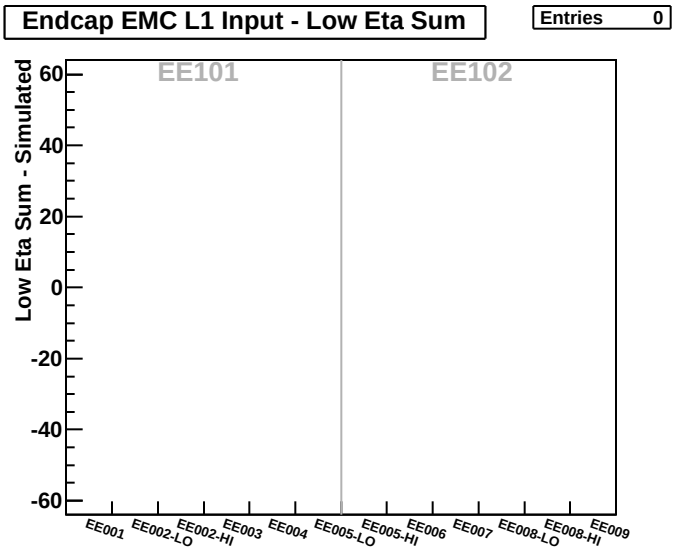

Barrel EMC L1 Input - High Eta Sum
Entries 112212
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

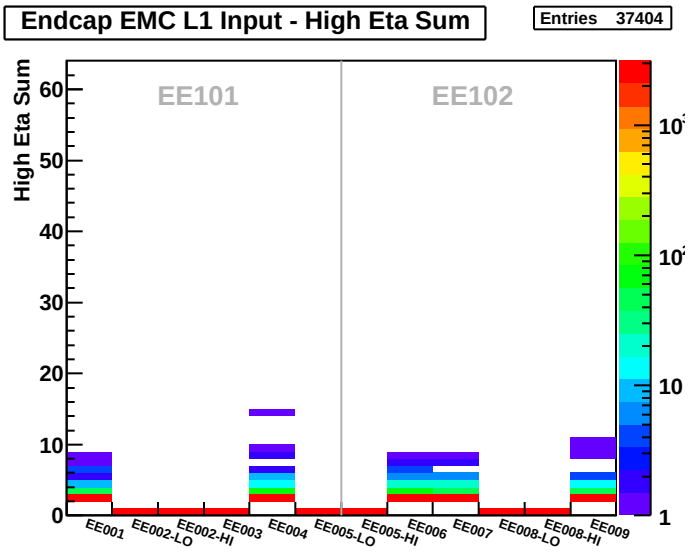

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

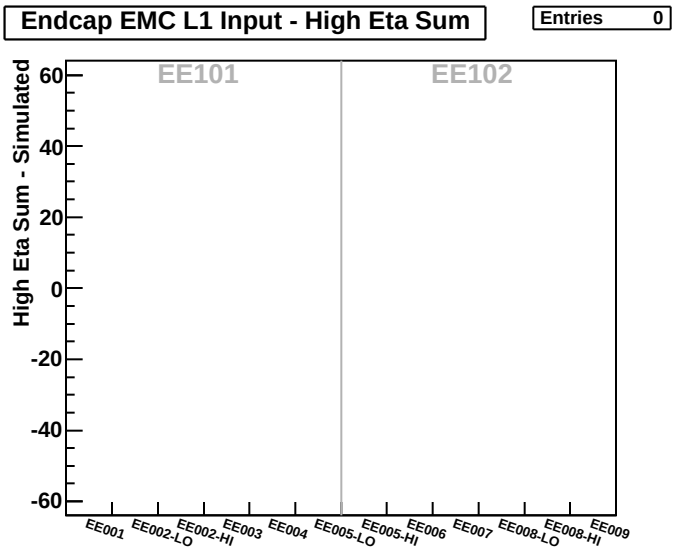

Barrel EMC L1 Input - High Tower Bits
Entries 112212
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

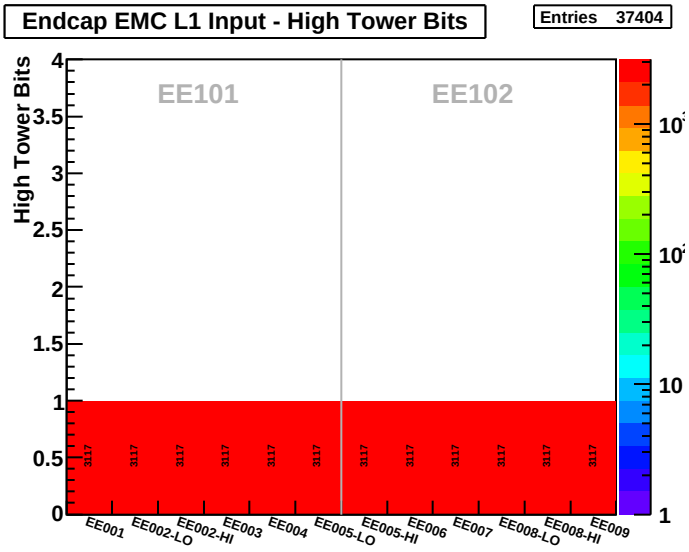

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

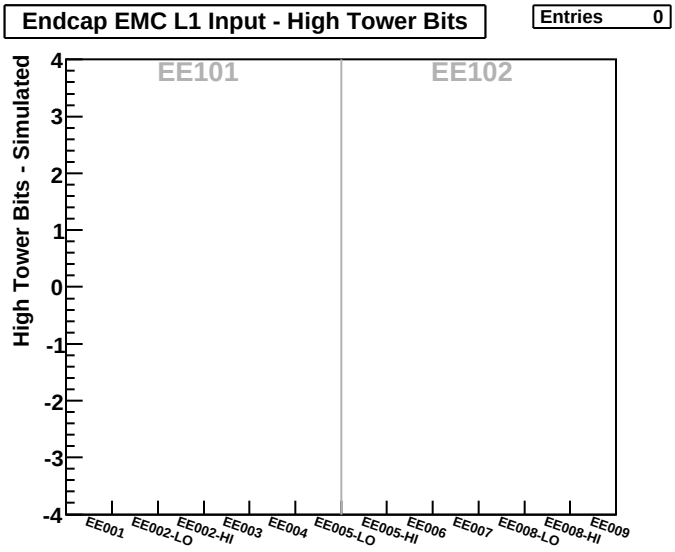

Endcap EMC L1 Input - Low Eta Sum
Entries 37404
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

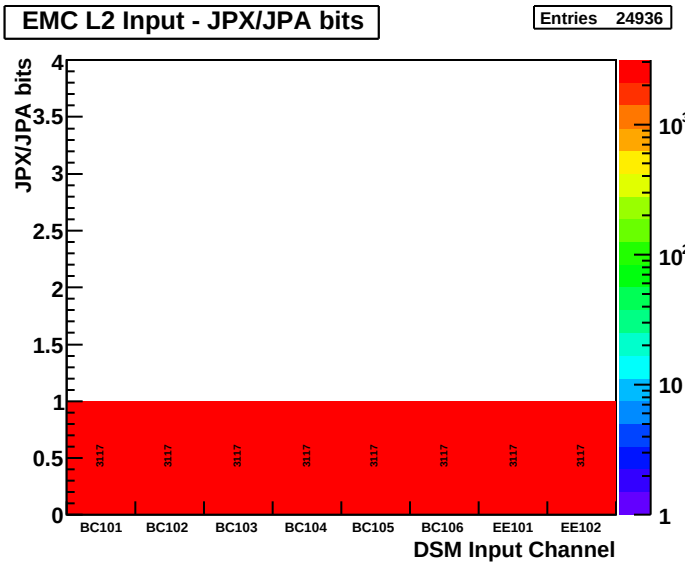

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

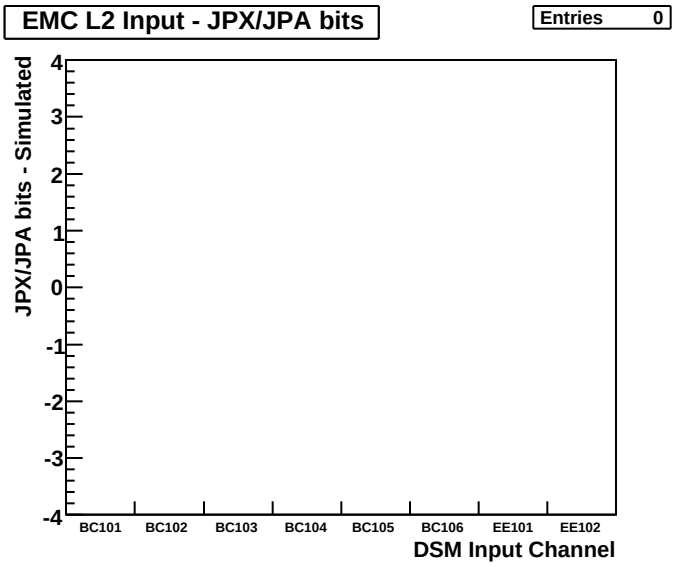

Endcap EMC L1 Input - High Eta Sum
Entries 37404
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

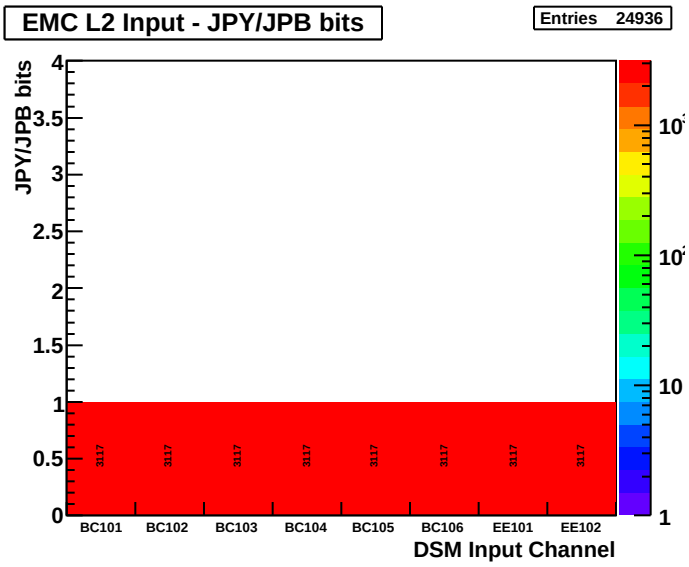

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

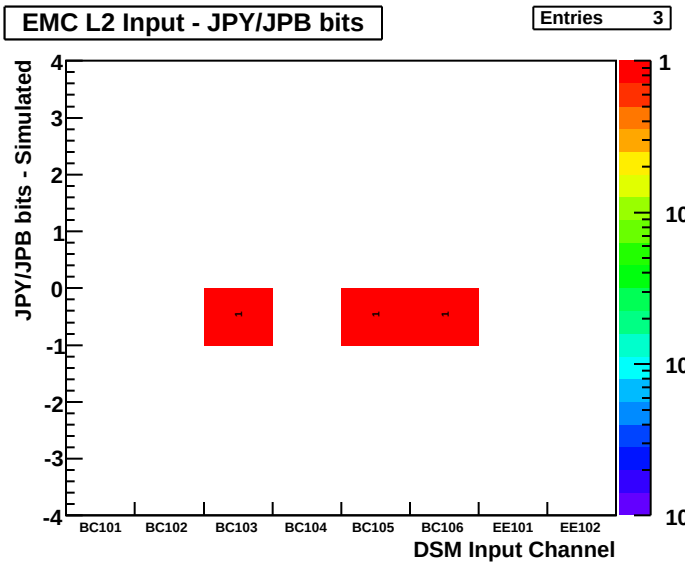

Endcap EMC L1 Input - High Tower Bits
Entries 37404
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

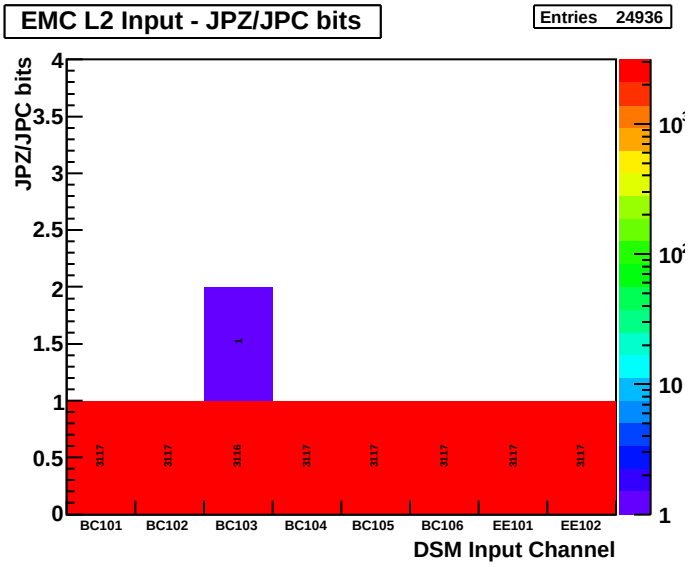

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

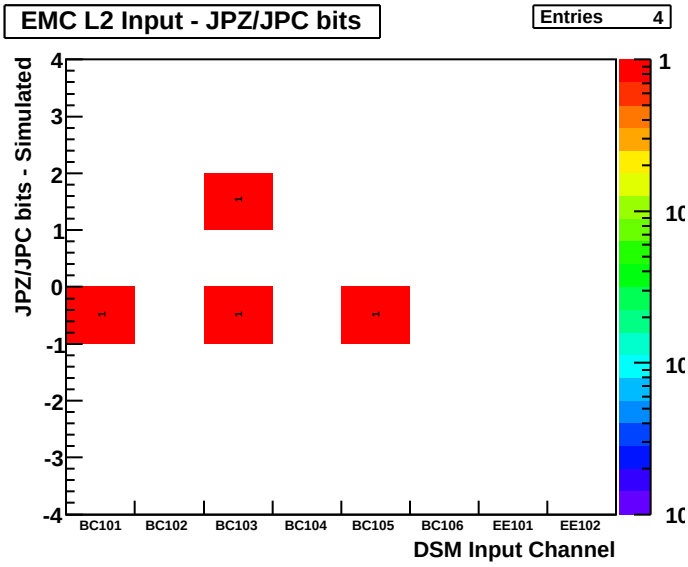

EMC L2 Input - JPX/JPA bits
Entries 24936
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

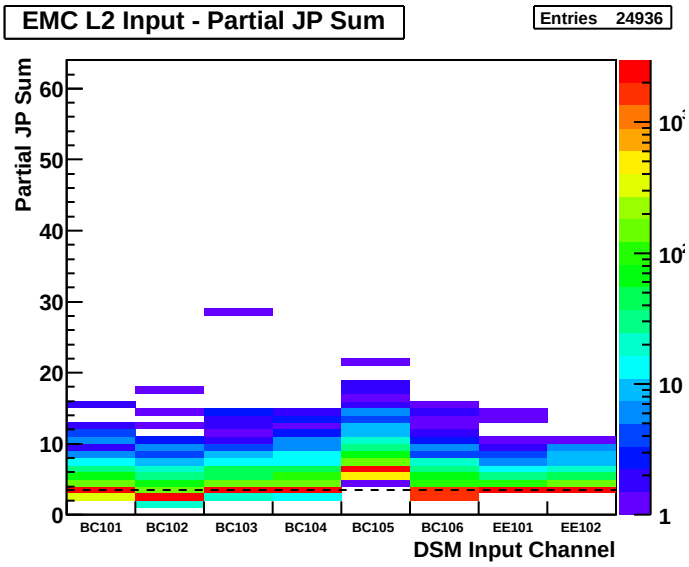

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

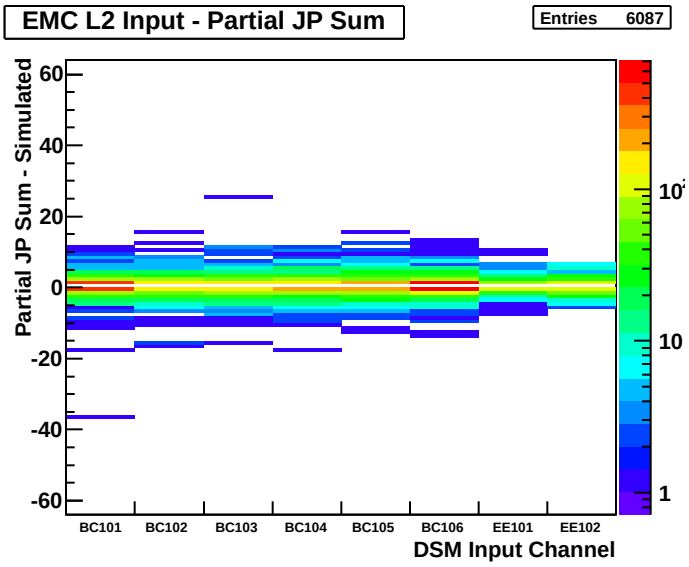

EMC L2 Input - JPY/JPB bits
Entries 24936
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

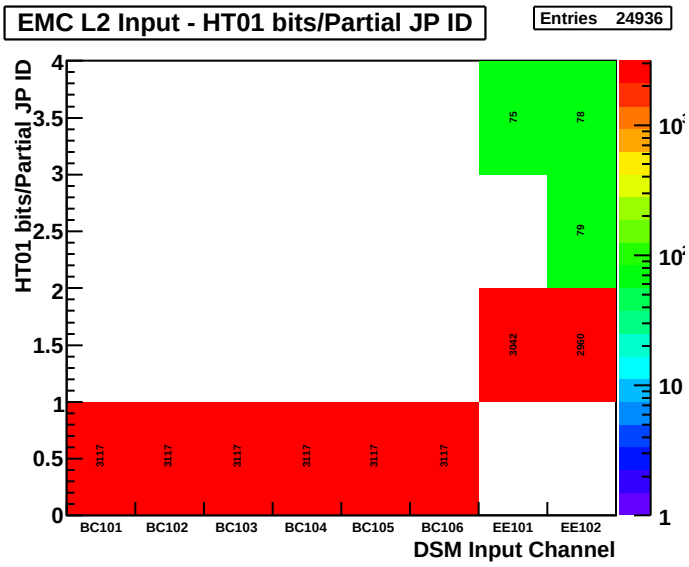

EMC L2 Input - JPY/JPB bits
Entries 3
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

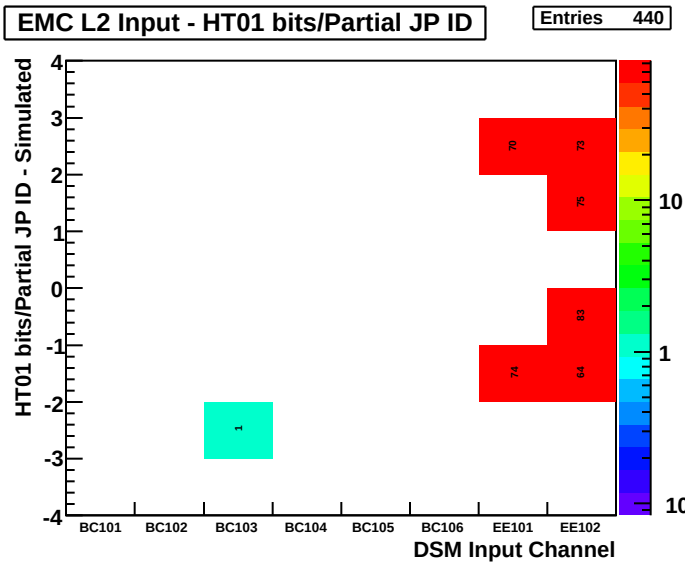

EMC L2 Input - JPZ/JPC bits
Entries 24936
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

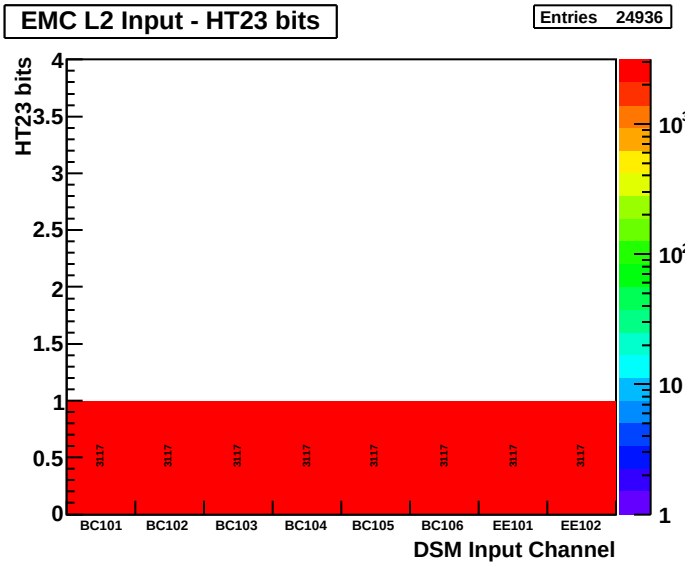

EMC L2 Input - JPZ/JPC bits
Entries 4
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

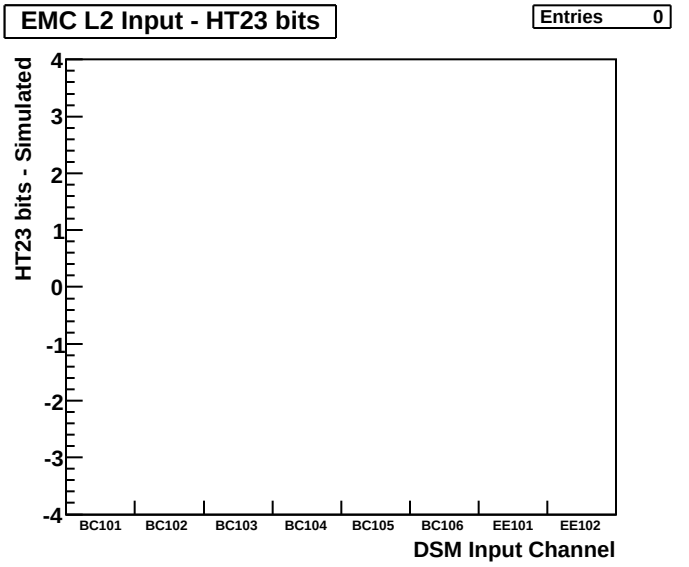

EMC L2 Input - Partial JP Sum
Entries 24936
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

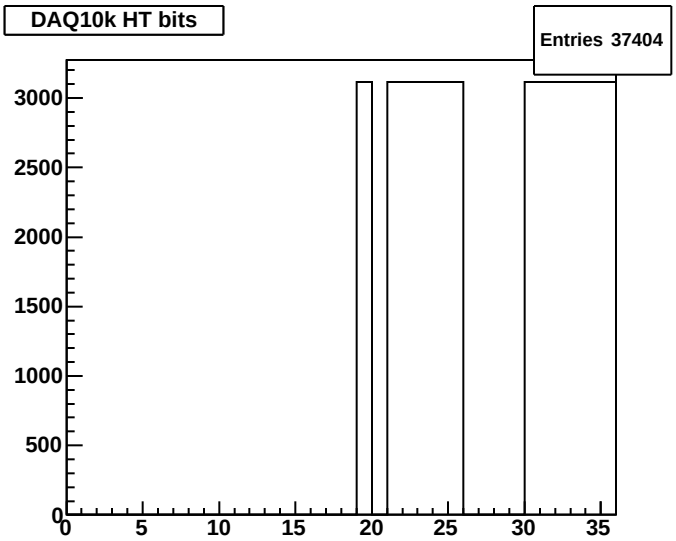

EMC L2 Input - Partial JP Sum
Entries 6087
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

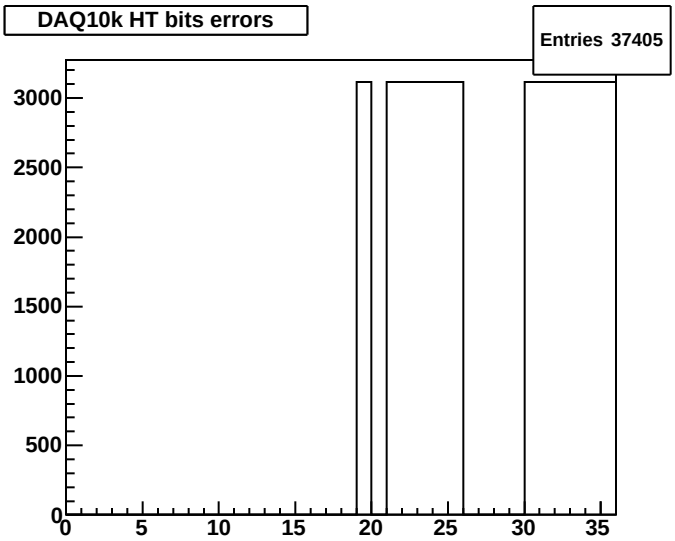

EMC L2 Input - HT01 bits/Partial JP ID
Entries 24936
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

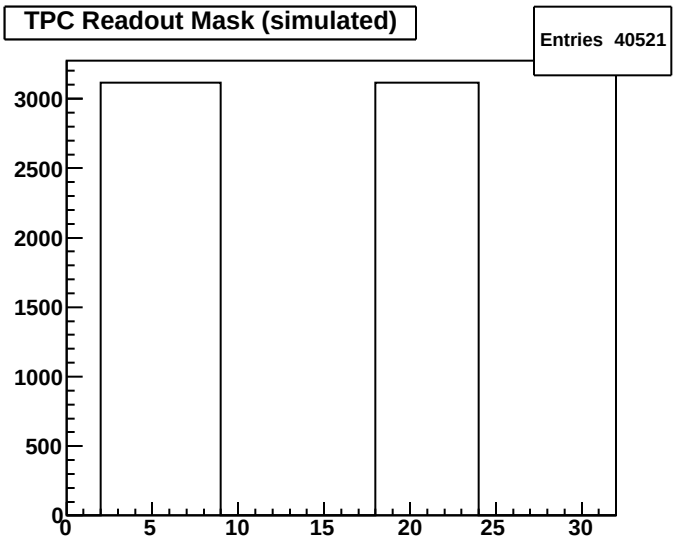

EMC L2 Input - HT01 bits/Partial JP ID
Entries 440
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

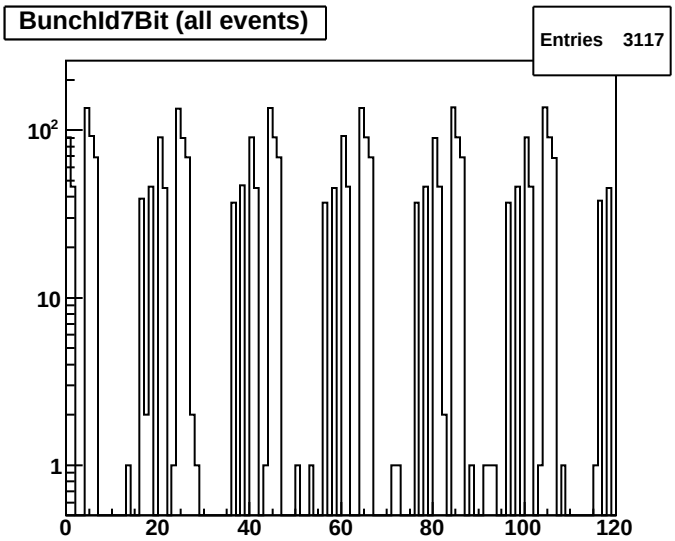

EMC L2 Input - HT23 bits
Entries 24936
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

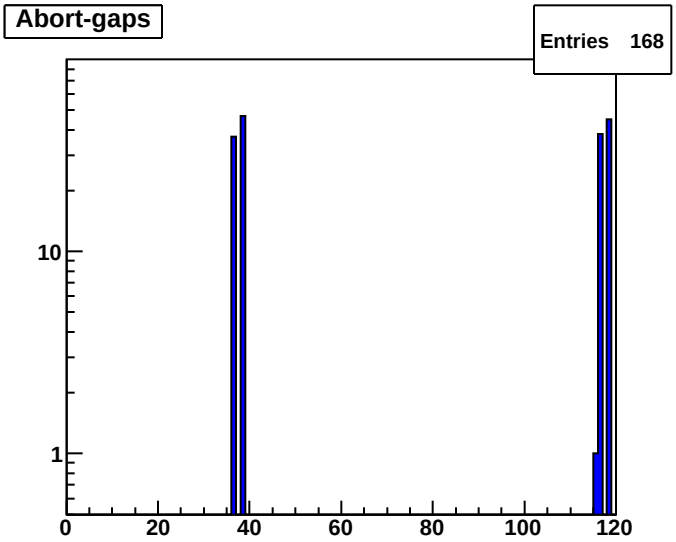

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

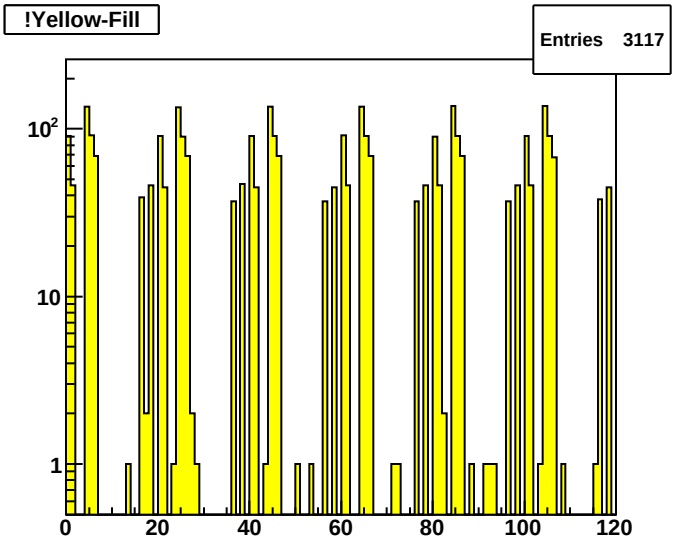

DAQ10k HT bits
Entries 37404
3000
2500
2000
1500
1000
500
0
0 5 10 15 20 25 30 35

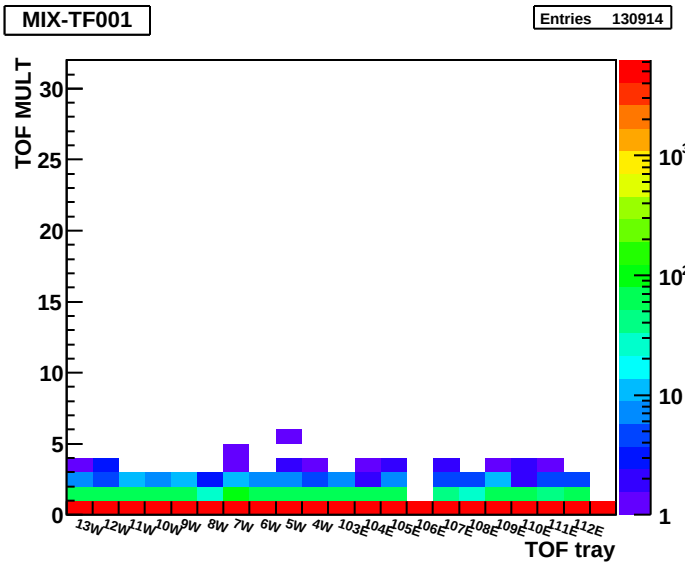

DAQ10k HT bits errors
Entries 37405
3000
2500
2000
1500
1000
500
0
0 5 10 15 20 25 30 35

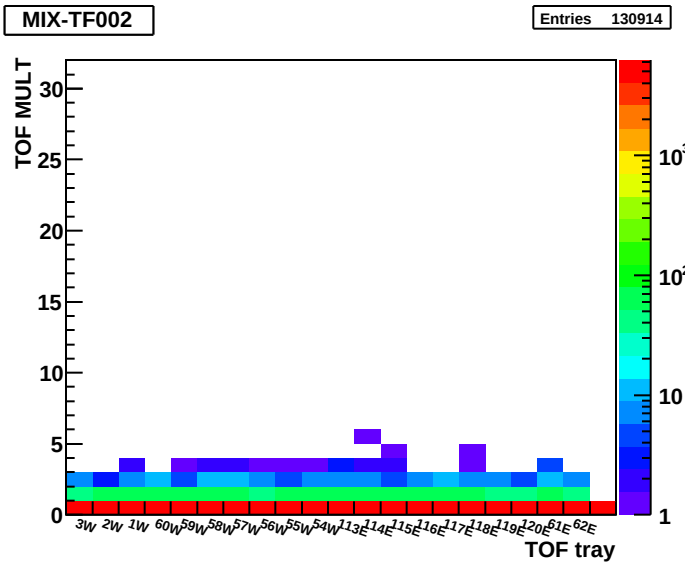

TPC Readout Mask (simulated)
Entries 40521
3000
2500
2000
1500
1000
500
0
0 5 10 15 20 25 30

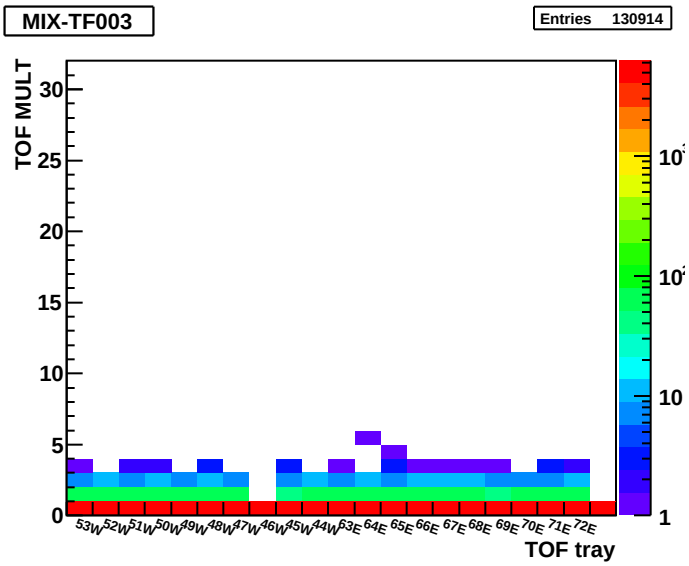

BunchId7Bit (all events)
Entries 3117
10^2
10
1
0 20 40 60 80 100 120

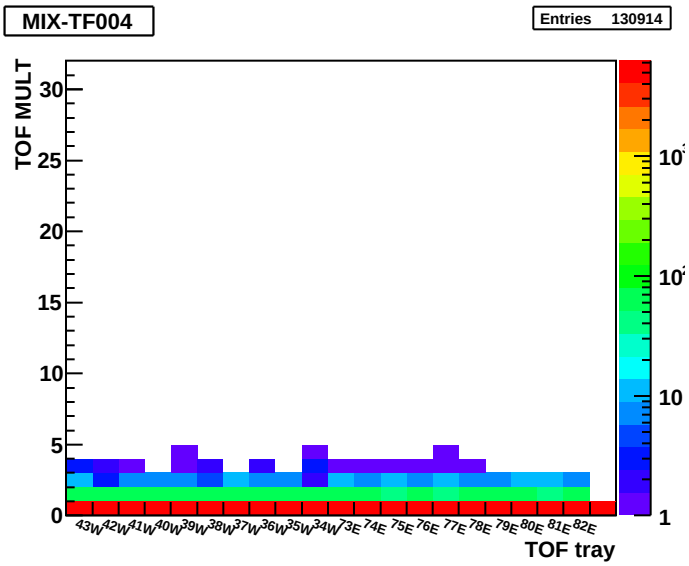

Abort-gaps
Entries 168
10
1
0 20 40 60 80 100 120

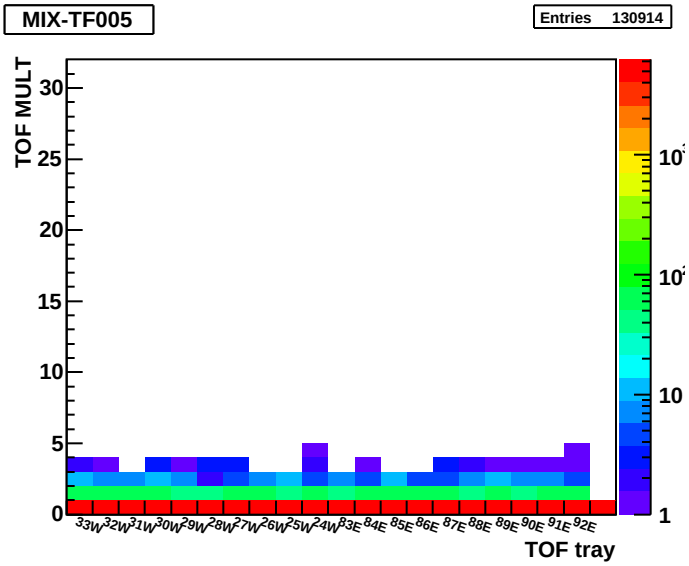

!Yellow-Fill
Entries 3117
10^2
10
1
0 20 40 60 80 100 120

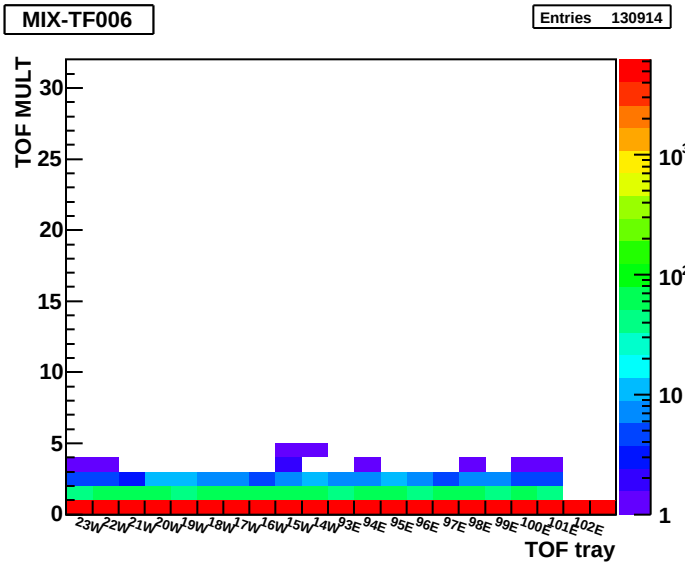

MIX-TF001
Entries 130914
TOF MULT
TOF tray

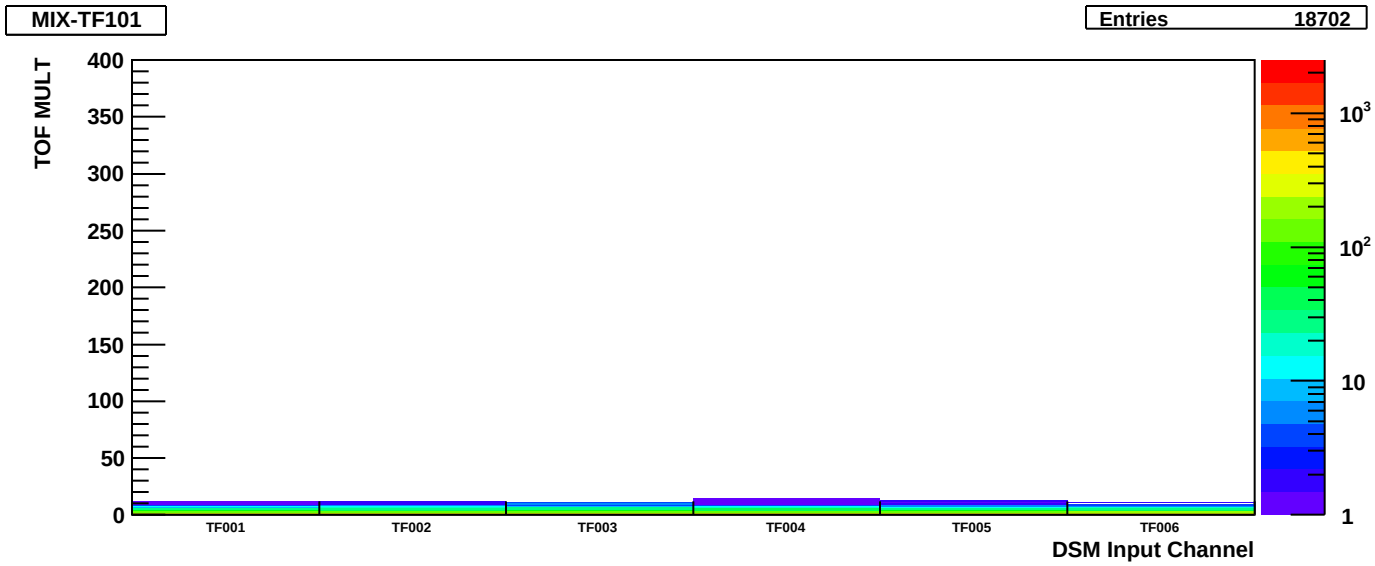

MIX-TF002
Entries 130914
TOF MULT
TOF tray

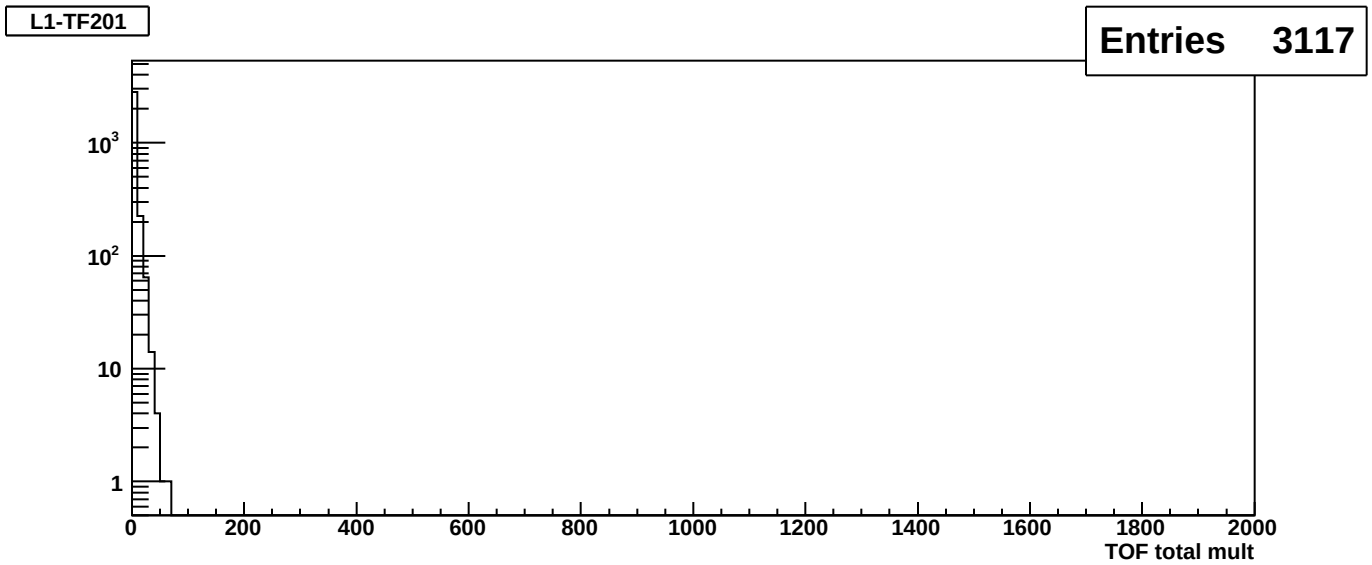

MIX-TF003
Entries 130914
TOF MULT
TOF tray

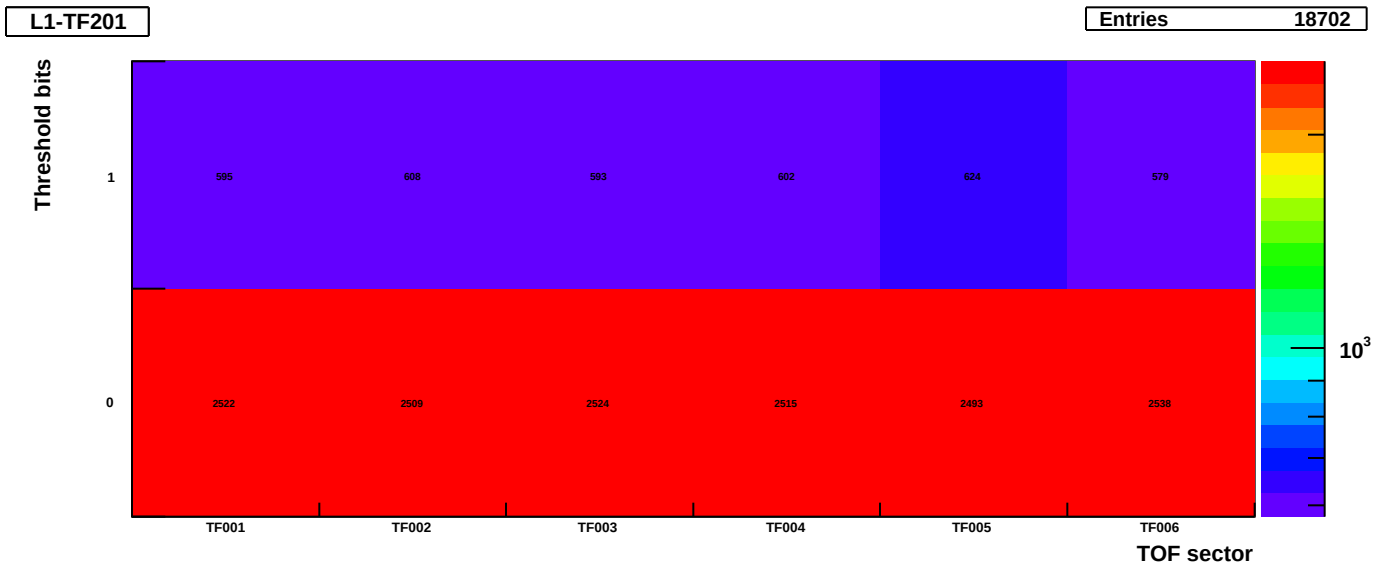

MIX-TF004
Entries 130914
TOF MULT
TOF tray

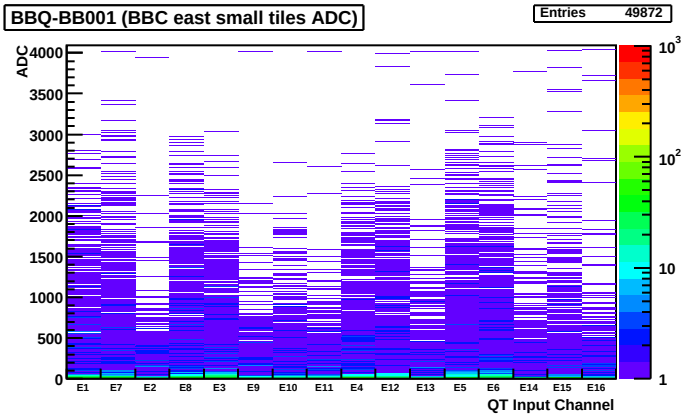

MIX-TF005
Entries 130914
TOF MULT
TOF tray

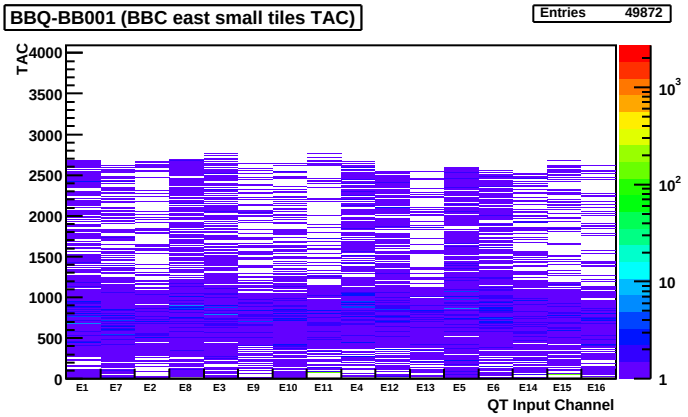

MIX-TF006
Entries 130914
TOF MULT
TOF tray

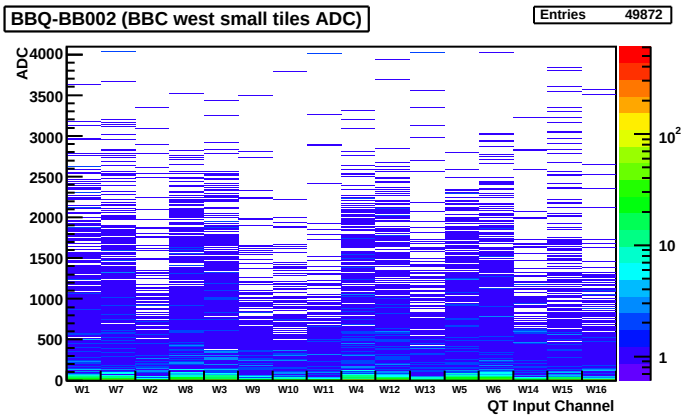

MIX-TF101
Entries 18702
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

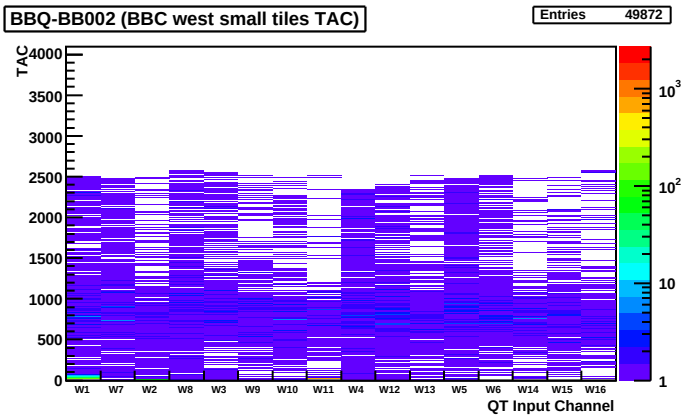

L1-TF201
Entries 3117
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

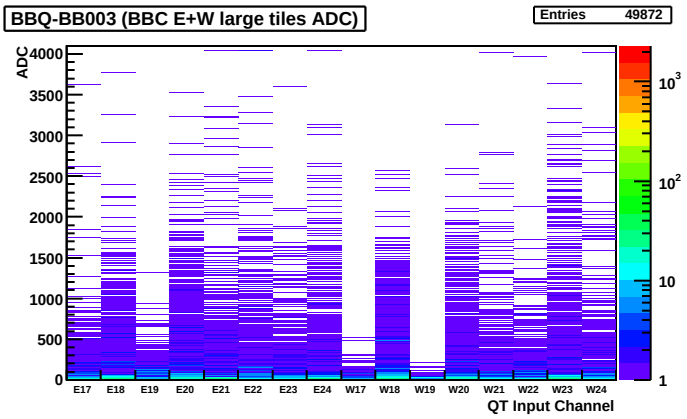

L1-TF201
Entries 18702
Threshold bits
1
0
595
608
593
602
624
579
2522
2509
2524
2515
2493
2538
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^3

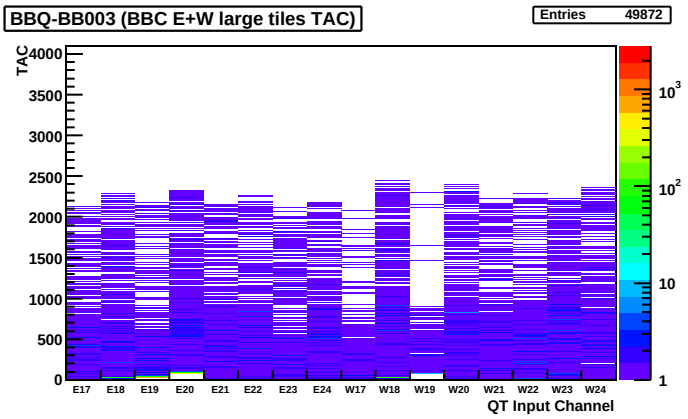

BBQ-BB001 (BBC east small tiles ADC)
Entries 49872
ADC
QT Input Channel

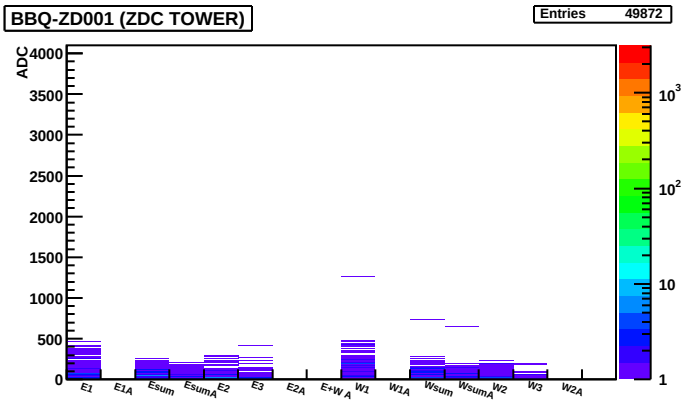

BBQ-BB001 (BBC east small tiles TAC)
Entries 49872
TAC
QT Input Channel

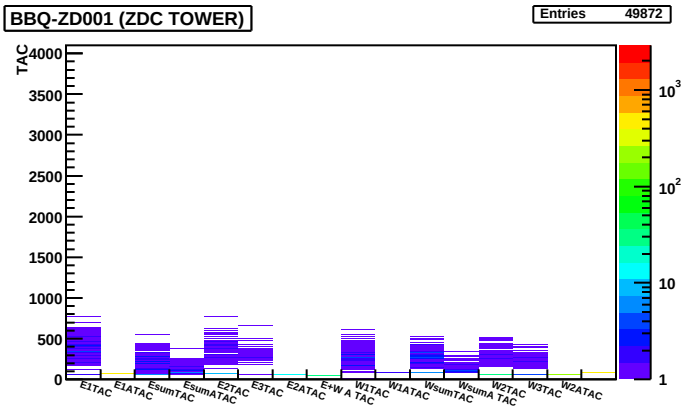

BBQ-BB002 (BBC west small tiles ADC)
Entries 49872
ADC
QT Input Channel

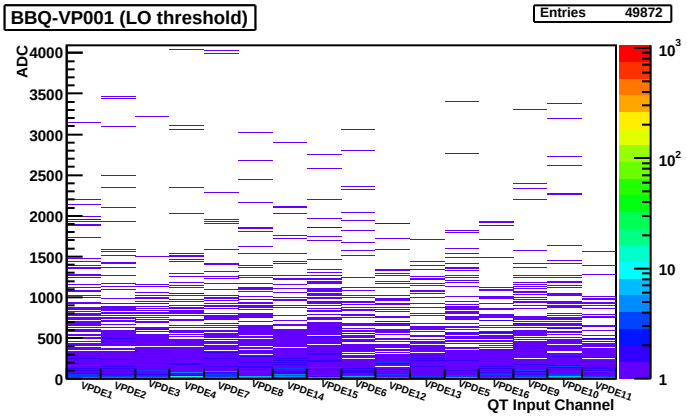

BBQ-BB002 (BBC west small tiles TAC)
Entries 49872
TAC
QT Input Channel

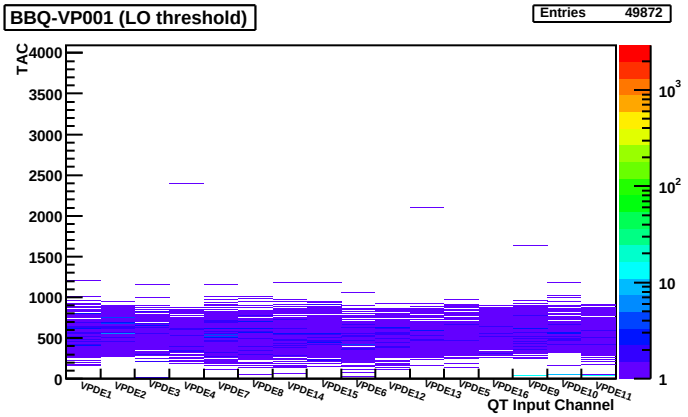

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 49872
ADC
QT Input Channel

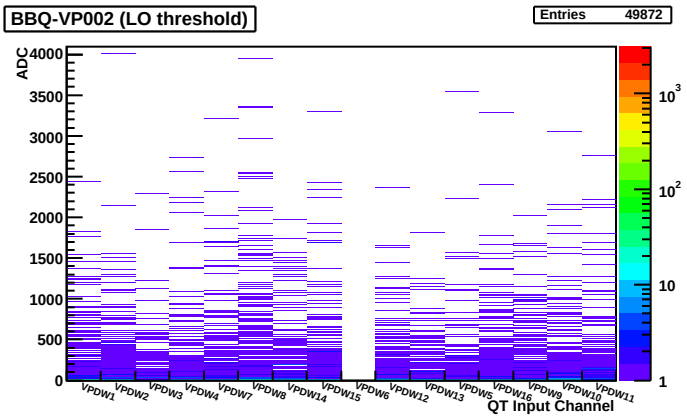

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 49872
TAC
QT Input Channel

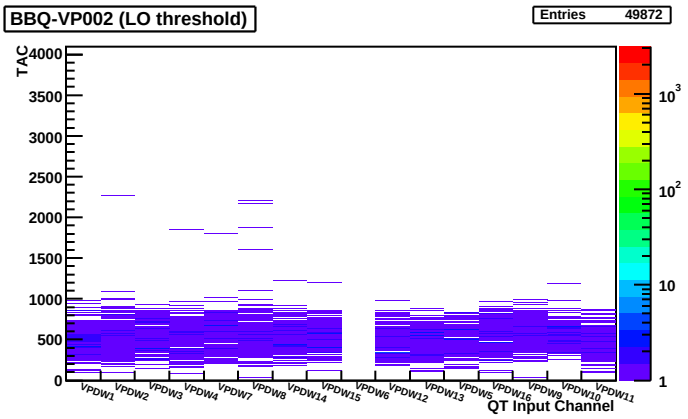

BBQ-ZD001 (ZDC TOWER)
Entries 49872
ADC

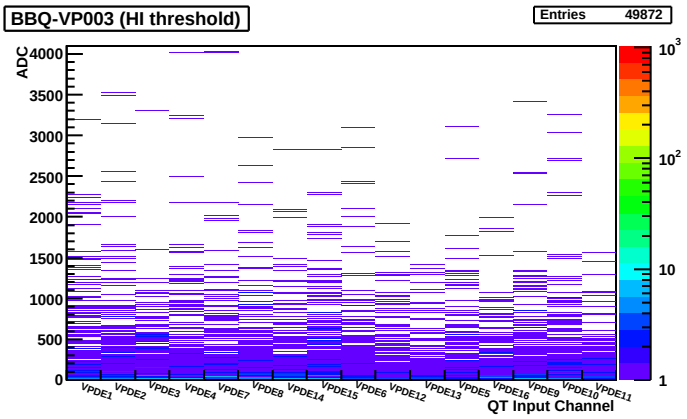

BBQ-ZD001 (ZDC TOWER)
Entries 49872
TAC

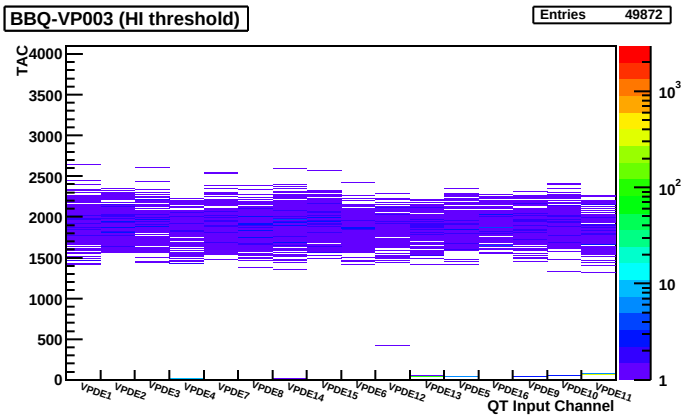

BBQ-VP001 (LO threshold)
Entries 49872
ADC
QT Input Channel

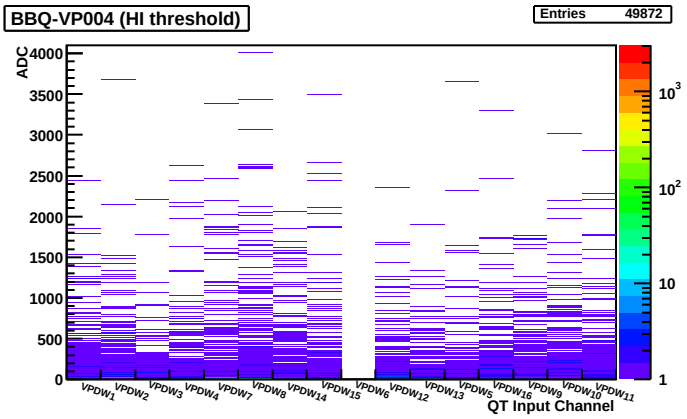

BBQ-VP001 (LO threshold)
Entries 49872
TAC
QT Input Channel

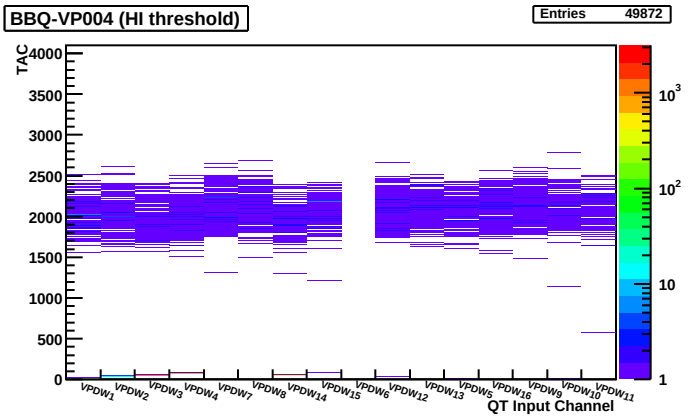

BBQ-VP002 (LO threshold)
Entries 49872
ADC
QT Input Channel

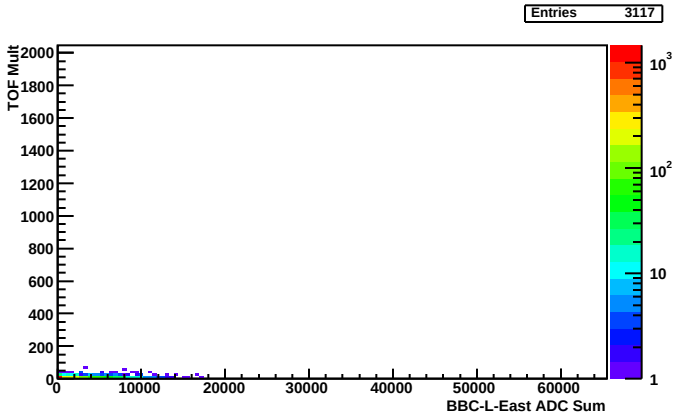

BBQ-VP002 (LO threshold)
Entries 49872
TAC
QT Input Channel

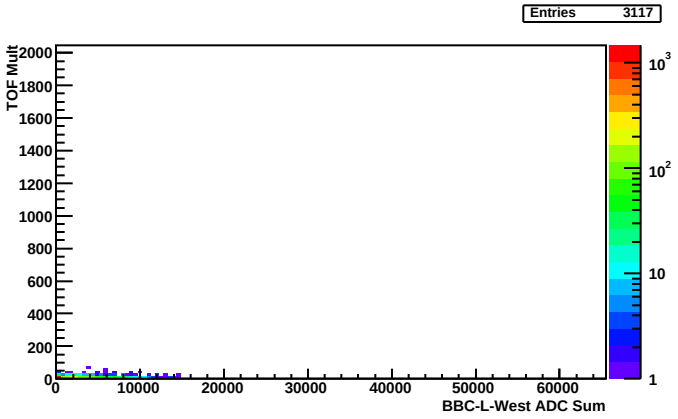

BBQ-VP003 (HI threshold)
Entries 49872
ADC
QT Input Channel

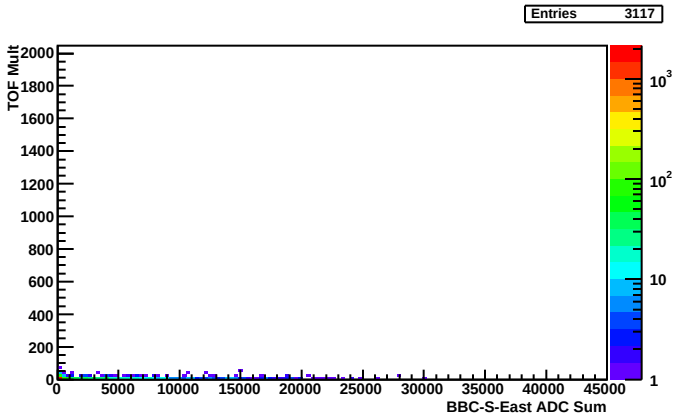

BBQ-VP003 (HI threshold)
Entries 49872
TAC
QT Input Channel

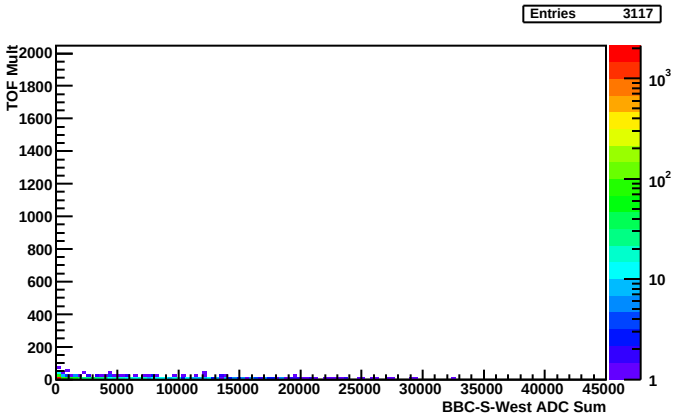

BBQ-VP004 (HI threshold)
Entries 49872
ADC
QT Input Channel

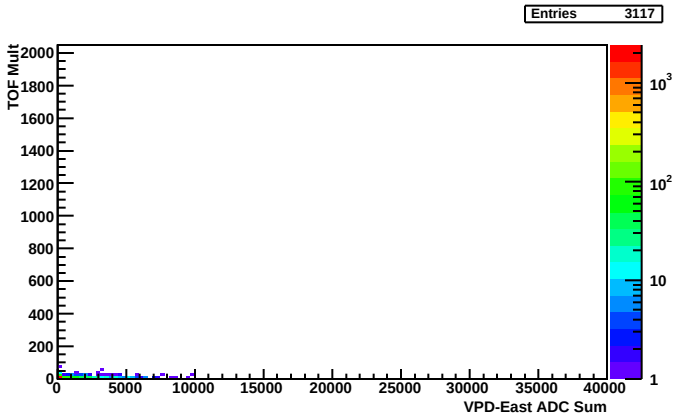

BBQ-VP004 (HI threshold)
Entries 49872
TAC
QT Input Channel

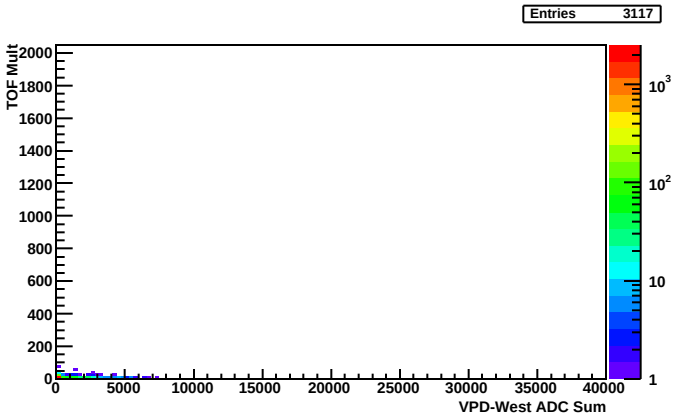

Entries 3117
TOF Mult
BBC-L-East ADC Sum

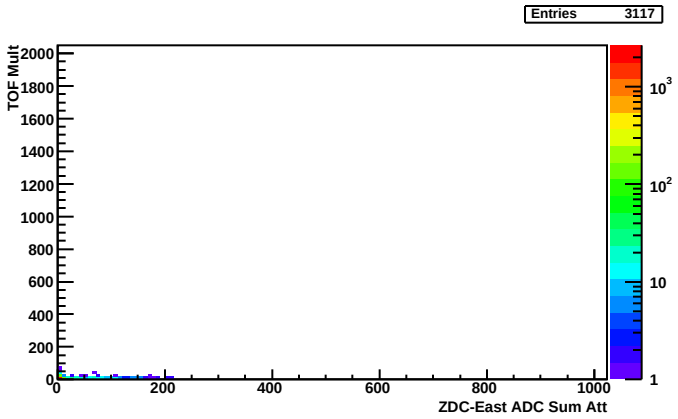

Entries 3117
TOF Mult
BBC-L-West ADC Sum

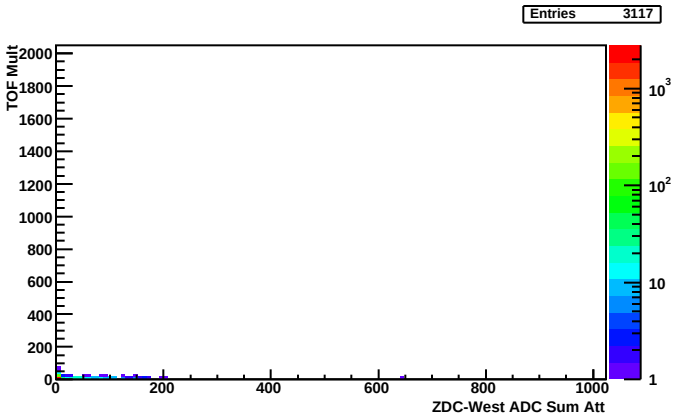

Entries 3117
TOF Mult
BBC-S-East ADC Sum

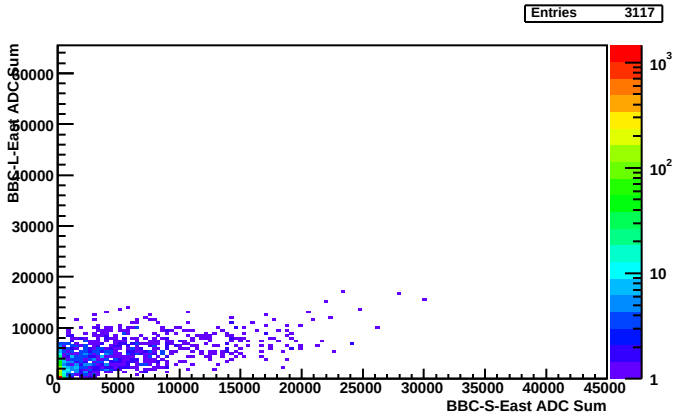

Entries 3117
TOF Mult
BBC-S-West ADC Sum

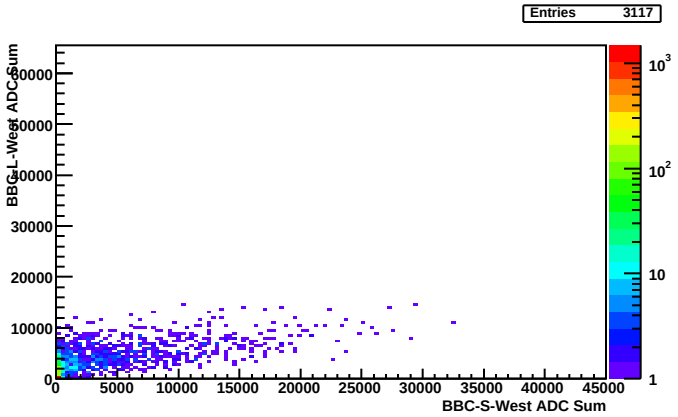

Entries 3117
TOF Mult
VPD-East ADC Sum

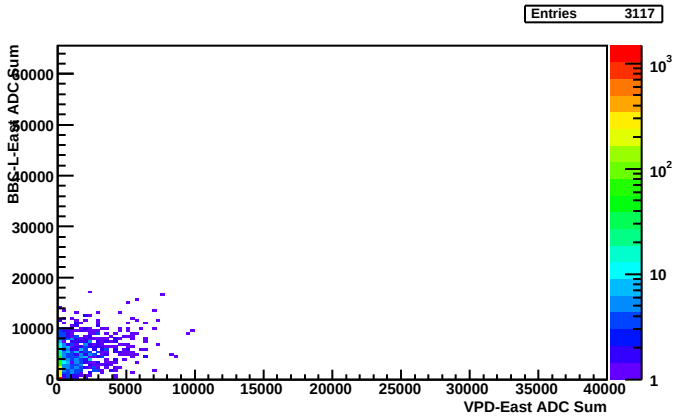

Entries 3117
TOF Mult
VPD-West ADC Sum

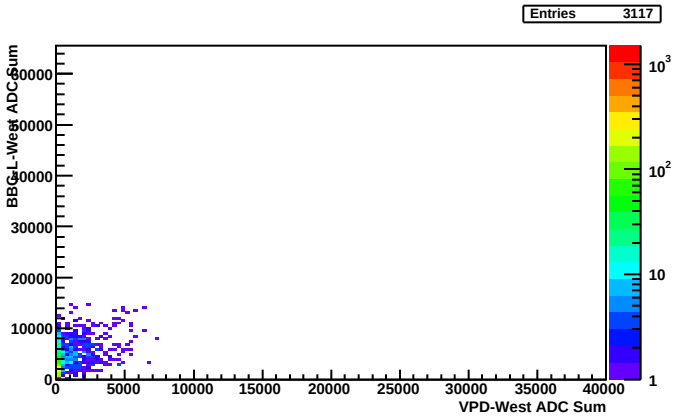

Entries 3117
TOF Mult
ZDC-East ADC Sum Att

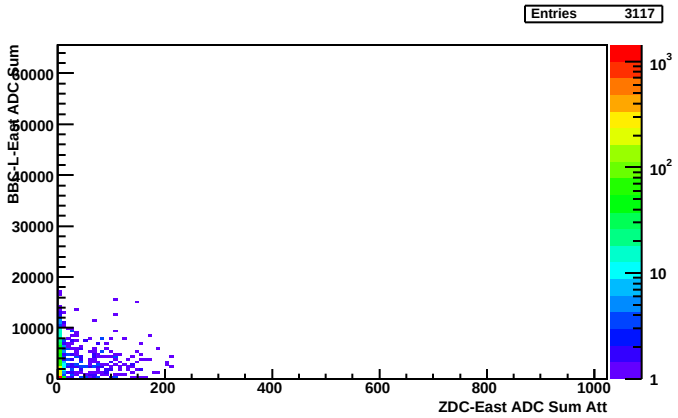

Entries 3117
TOF Mult
ZDC-West ADC Sum Att

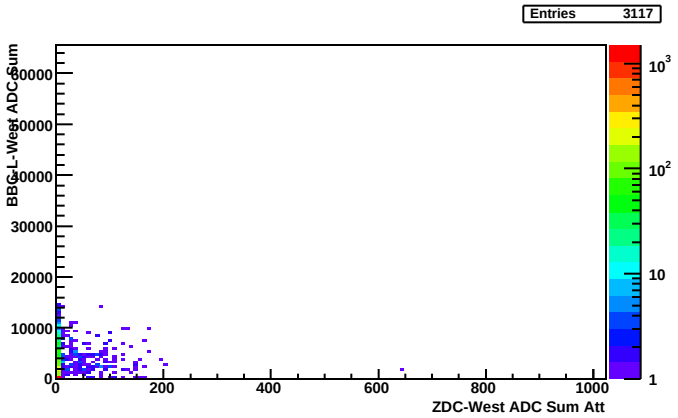

Entries 3117
BBC-L-East ADC Sum
BBC-S-East ADC Sum

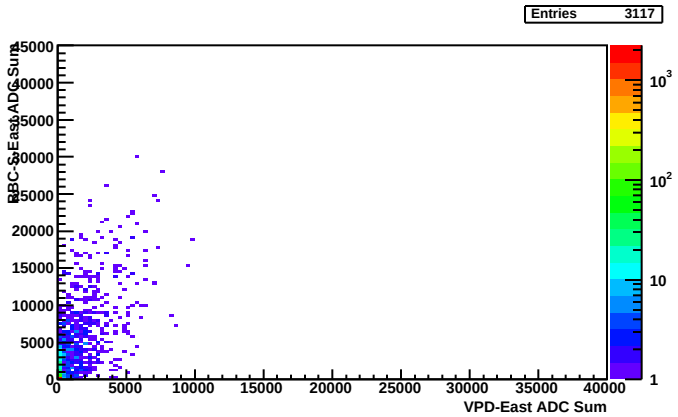

Entries 3117
BBC-L-West ADC Sum
BBC-S-West ADC Sum

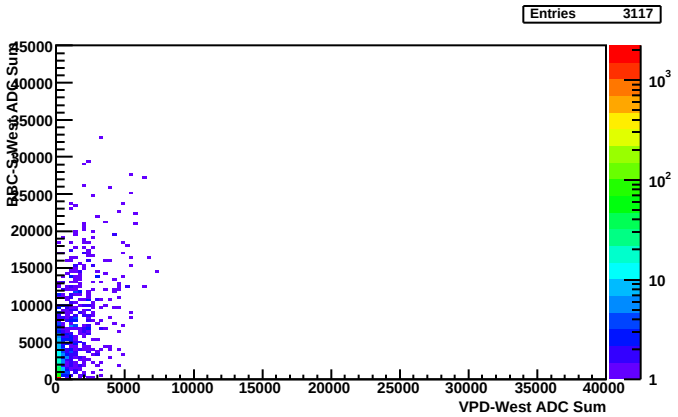

Entries 3117
BBC-L-East ADC Sum
VPD-East ADC Sum

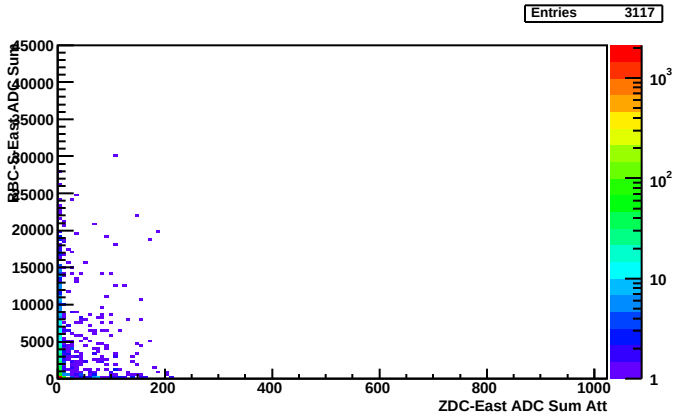

Entries 3117
BBC-L-West ADC Sum
VPD-West ADC Sum

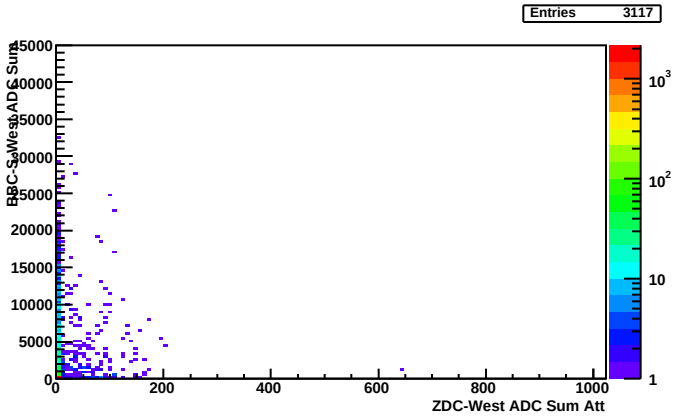

Entries 3117
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

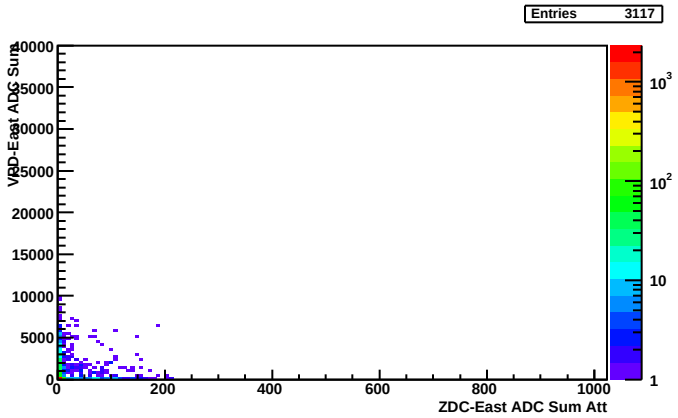

Entries 3117
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

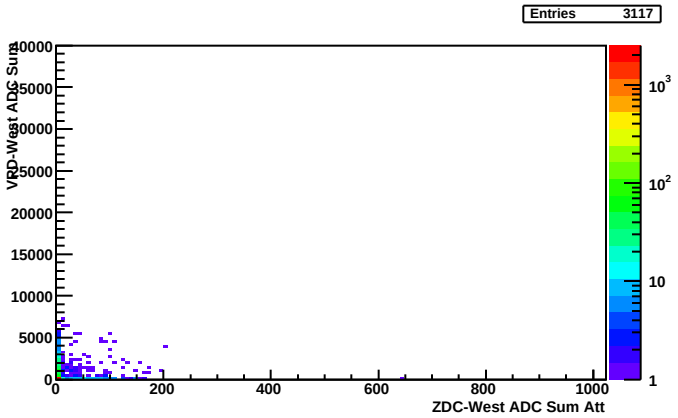

Entries 3117
BBC-S-East ADC Sum
VPD-East ADC Sum

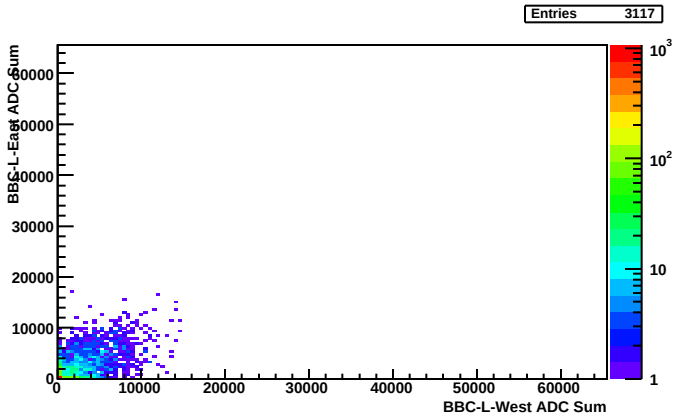

Entries 3117
BBC-S-West ADC Sum
VPD-West ADC Sum

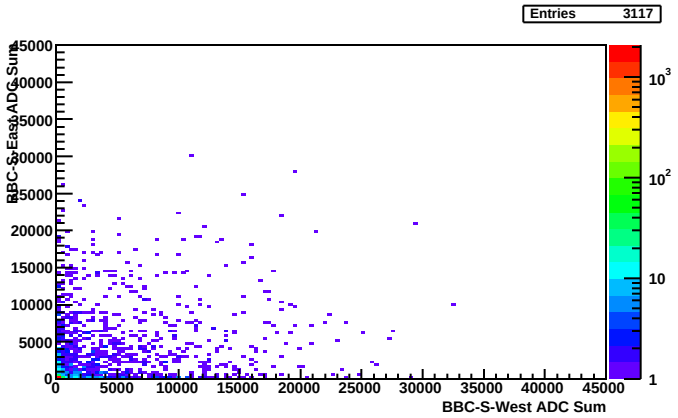

Entries 3117
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

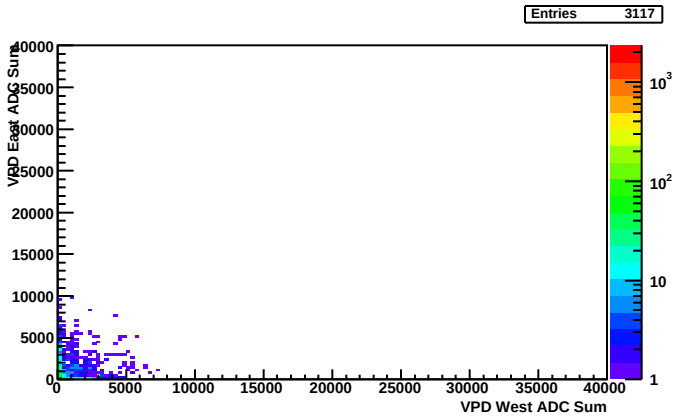

Entries 3117
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

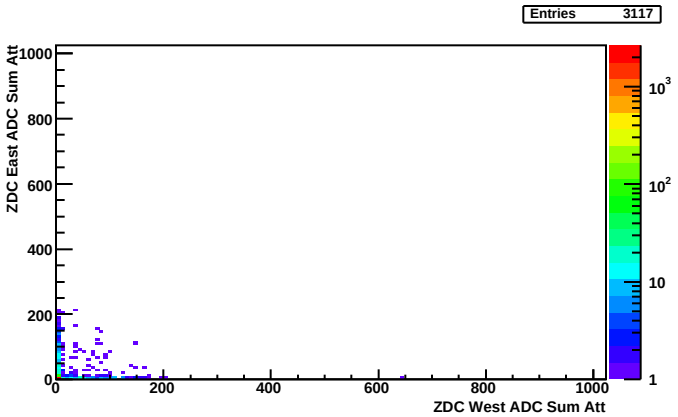

Entries 3117
VPD-East ADC Sum
ZDC-East ADC Sum Att

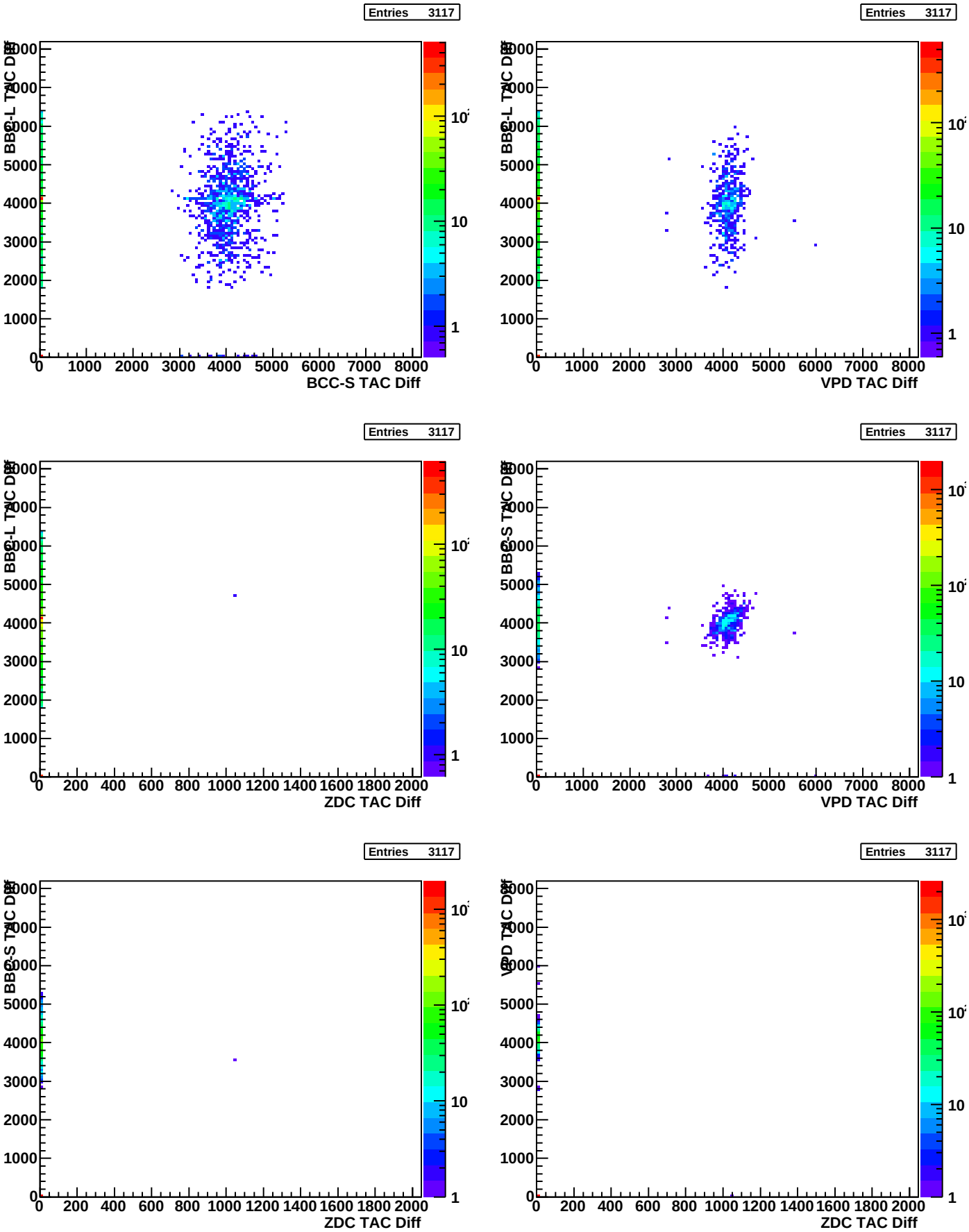

Entries 3117
VPD-West ADC Sum
ZDC-West ADC Sum Att

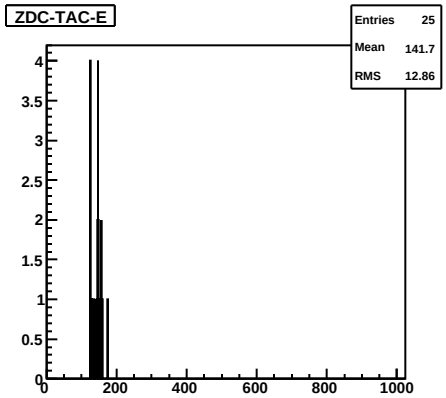

Entries 3117
BBC-L-East ADC Sum
BBC-L-West ADC Sum

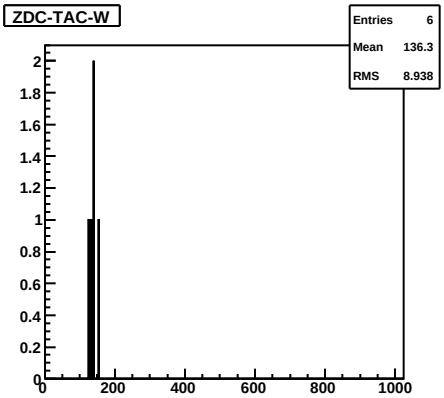

Entries 3117
BBC-S-East ADC Sum
BBC-S-West ADC Sum

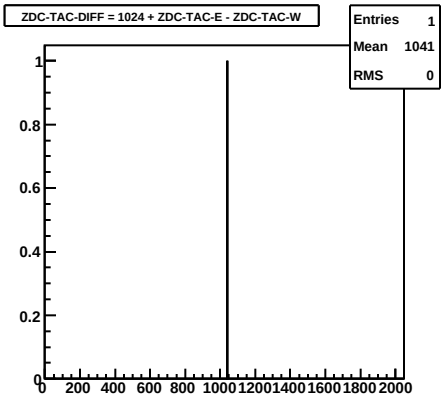

Entries 3117
VPD East ADC Sum
VPD West ADC Sum

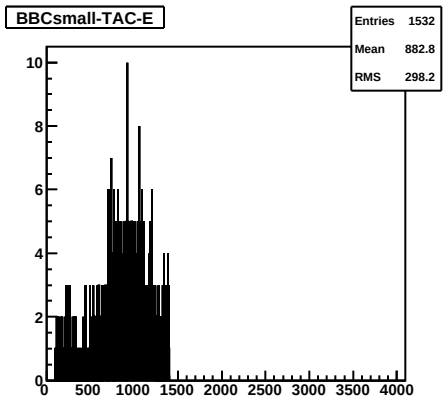

Entries 3117
ZDC East ADC Sum Att
ZDC West ADC Sum Att

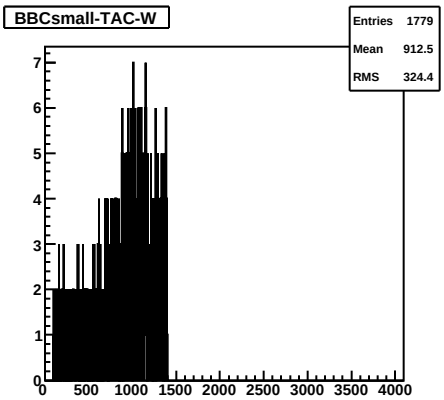

Entries 3117
BBC-L TAC Diff
BCC-S TAC Diff
Entries 3117
BBC-L TAC Diff
VPD TAC Diff
Entries 3117
BBC-L TAC Diff
ZDC TAC Diff
Entries 3117
BBC-S TAC Diff
VPD TAC Diff
Entries 3117
BBC-S TAC Diff
ZDC TAC Diff
Entries 3117
VPD TAC Diff
ZDC TAC Diff

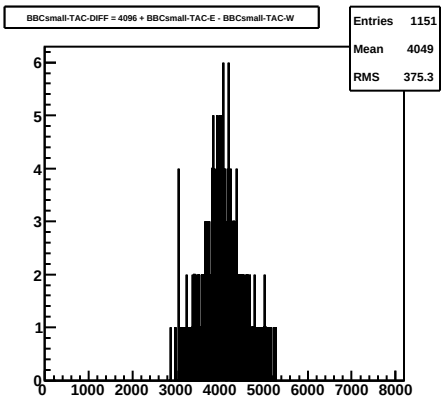

ZDC-TAC-E
Entries 25
Mean 141.7
RMS 12.86

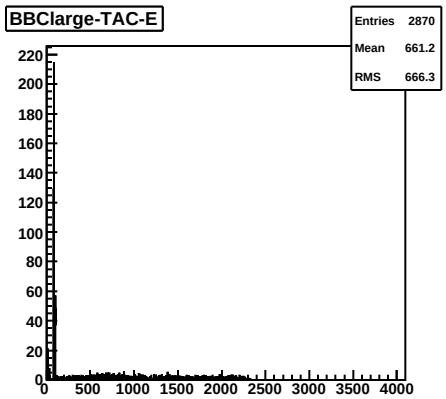

ZDC-TAC-W
Entries 6
Mean 136.3
RMS 8.938

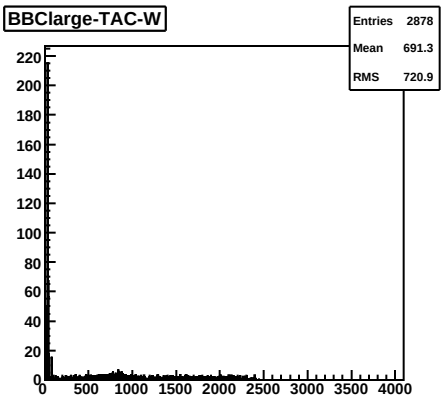

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 1
Mean 1041
RMS 0

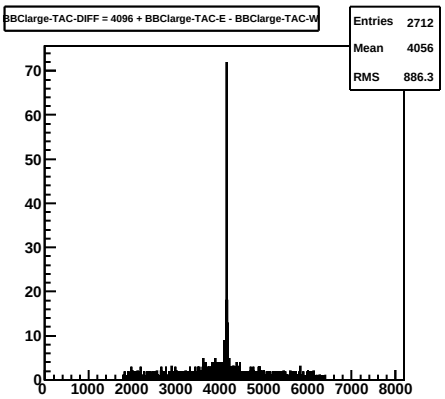

BBCsmall-TAC-E
Entries 1532
Mean 882.8
RMS 298.2

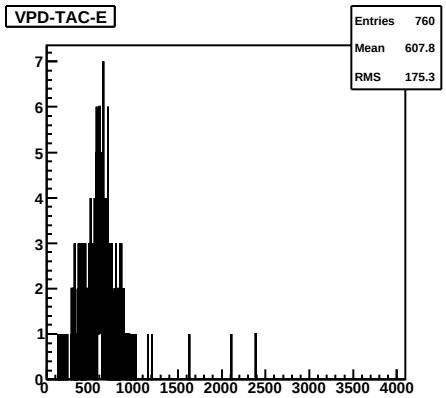

BBCsmall-TAC-W
Entries 1779
Mean 912.5
RMS 324.4

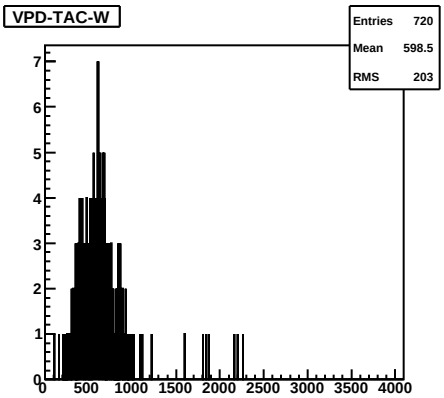

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 1151
Mean 4049
RMS 375.3

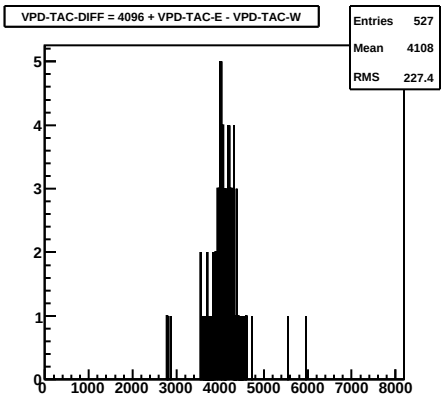

BBClarge-TAC-E
Entries 2870
Mean 661.2
RMS 666.3

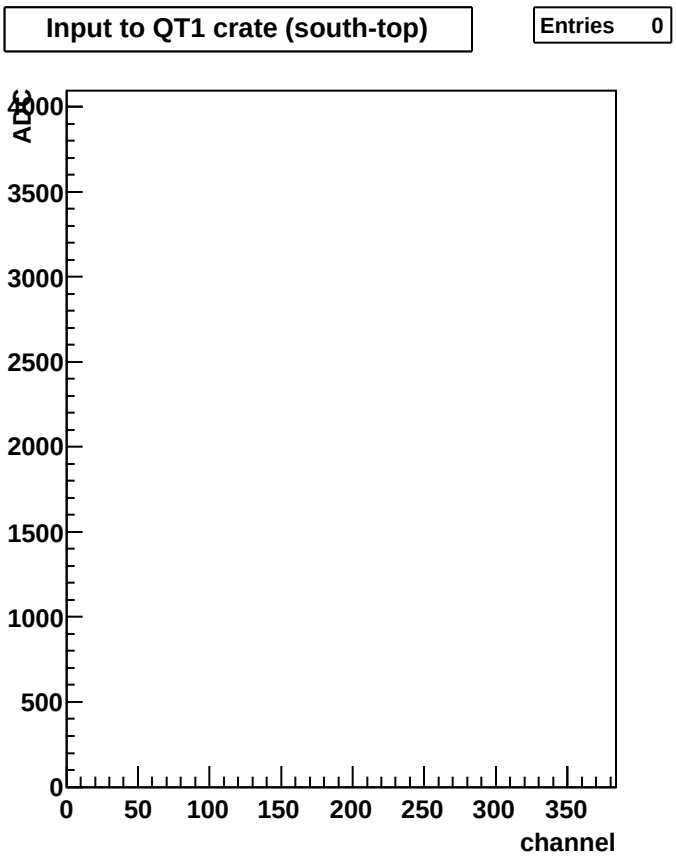

BBClarge-TAC-W
Entries 2878
Mean 691.3
RMS 720.9

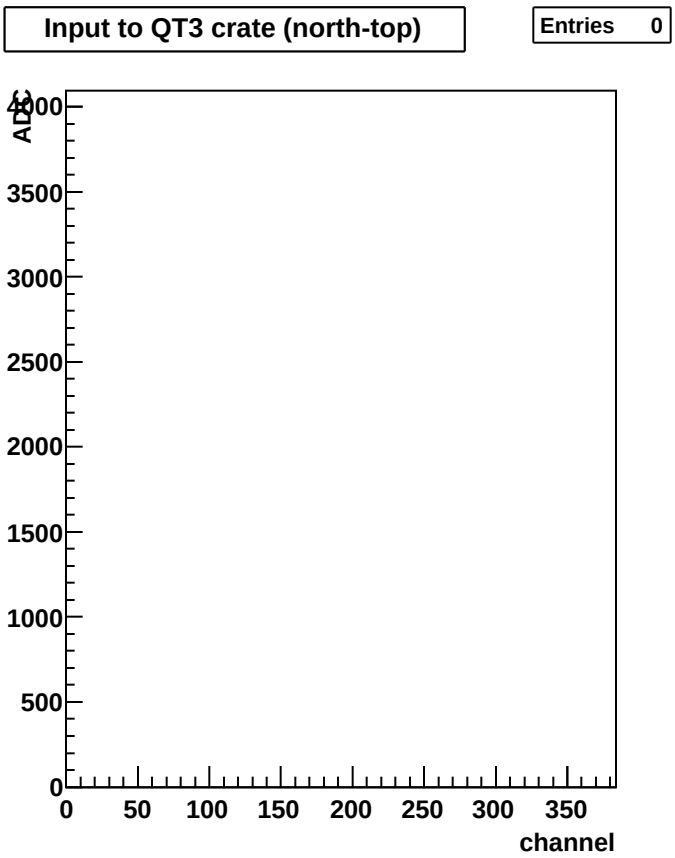

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 2712
Mean 4056
RMS 886.3

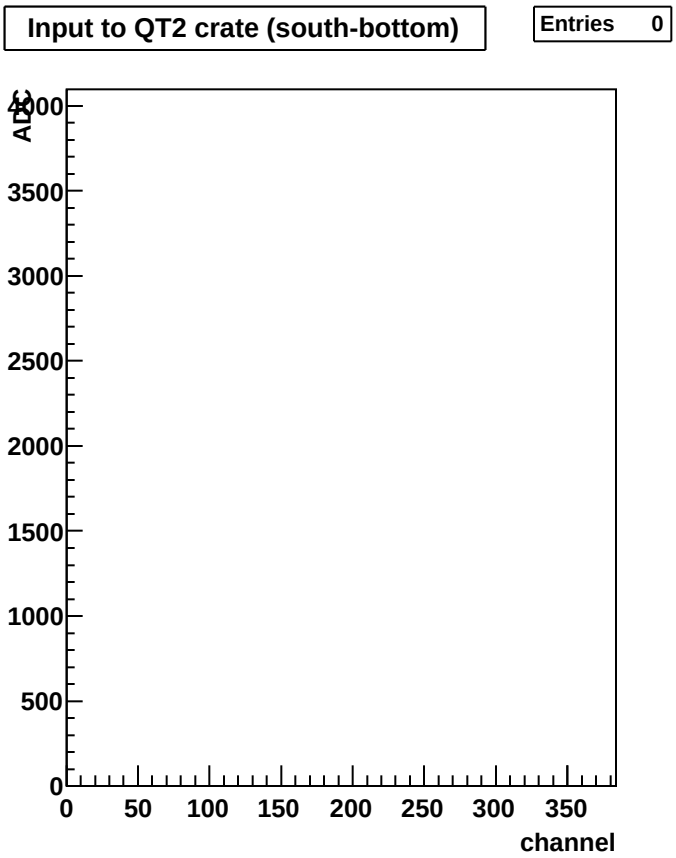

VPD-TAC-E
Entries 760
Mean 607.8
RMS 175.3

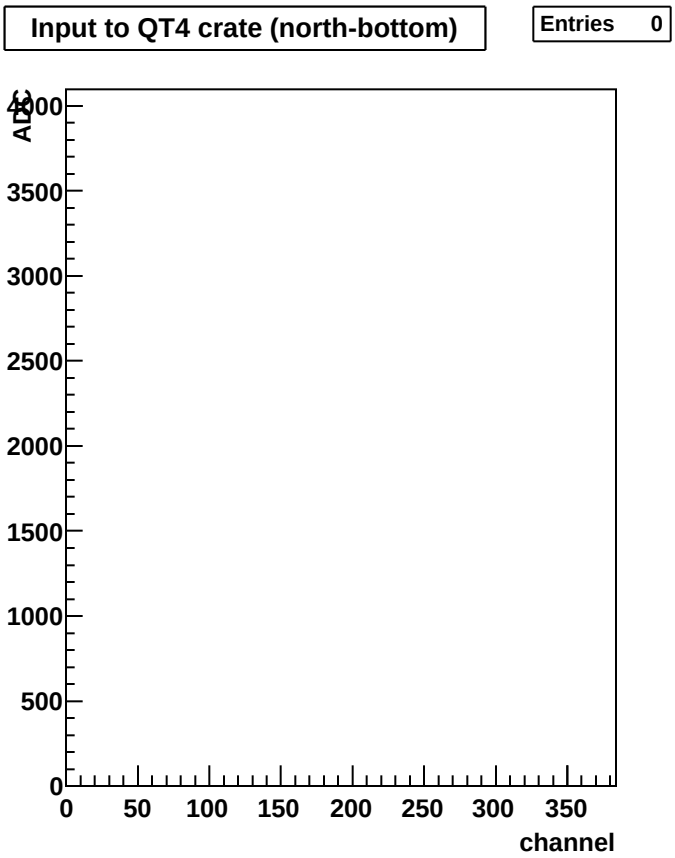

VPD-TAC-W
Entries 720
Mean 598.5
RMS 203

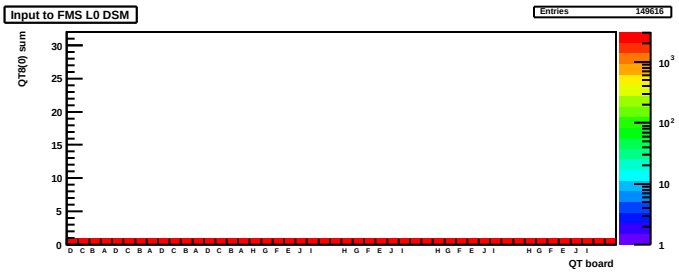

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 527
Mean 4108
RMS 227.4

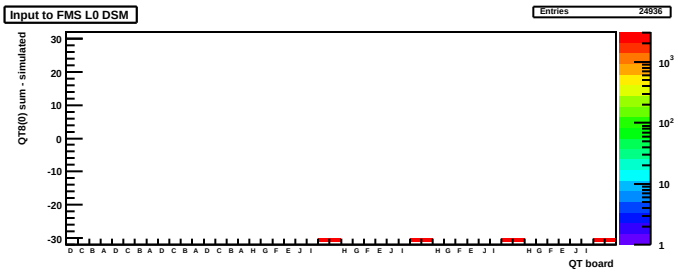

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

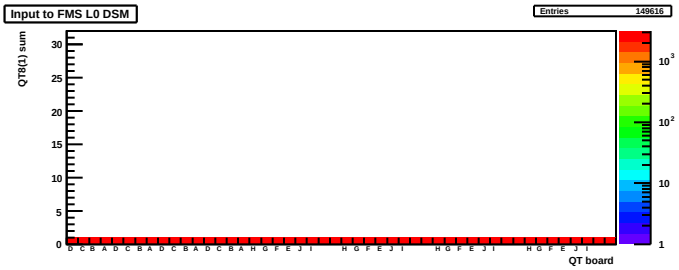

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

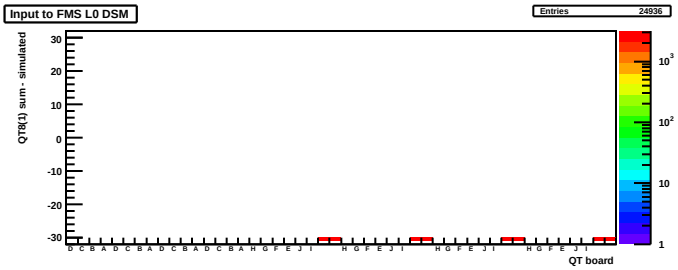

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

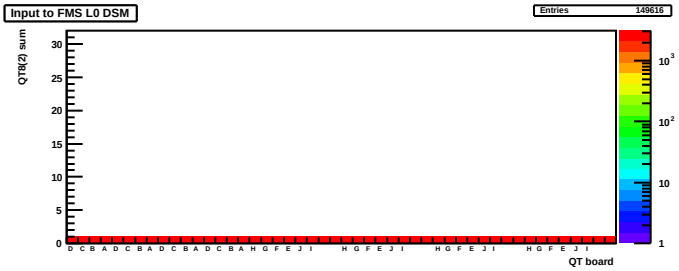

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

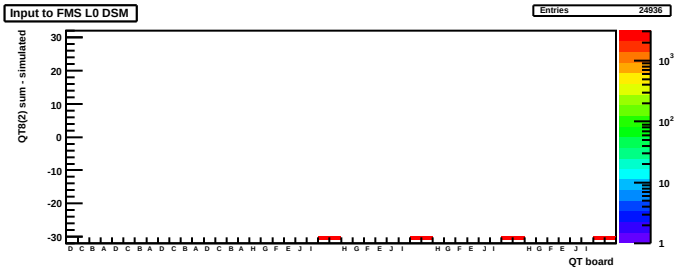

Input to FMS L0 DSM
Entries 149616
QT8(0) sum
QT board

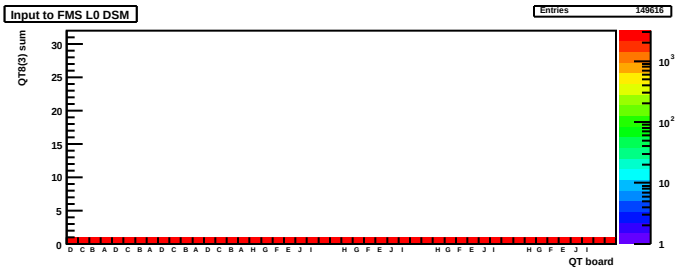

Input to FMS L0 DSM
Entries 24936
QT8(0) sum - simulated
QT board

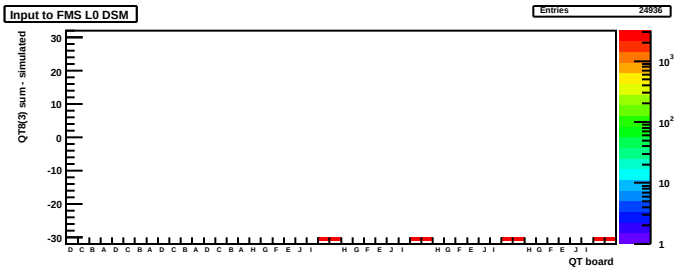

Input to FMS L0 DSM
Entries 149616
QT8(1) sum
QT board

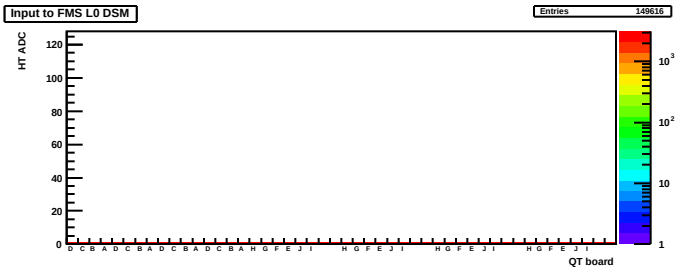

Input to FMS L0 DSM
Entries 24936
QT8(1) sum - simulated
QT board

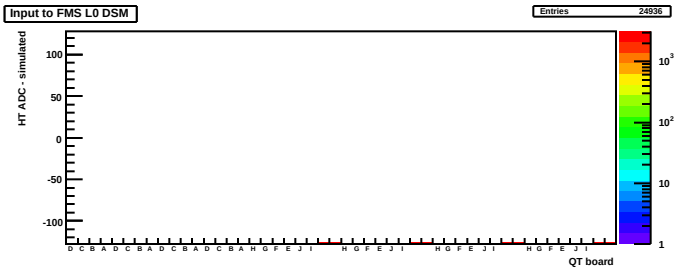

Input to FMS L0 DSM
Entries 149616
QT8(2) sum
QT board

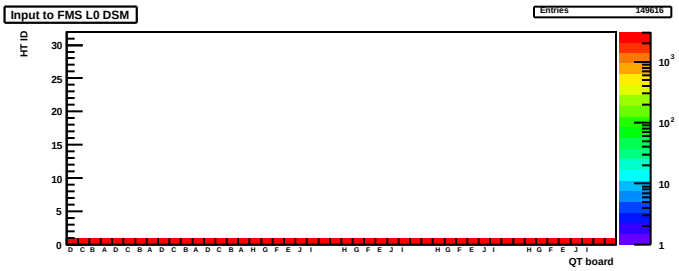

Input to FMS L0 DSM
Entries 24936
QT8(2) sum - simulated
QT board

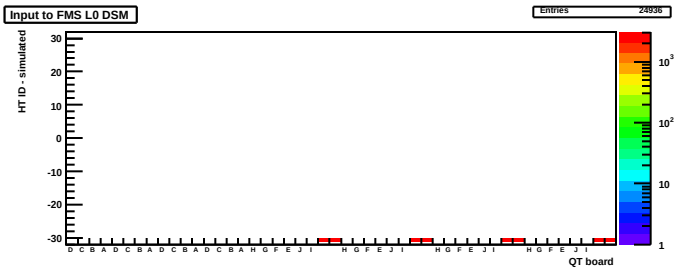

Input to FMS L0 DSM
Entries 149616
QT8(3) sum
QT board

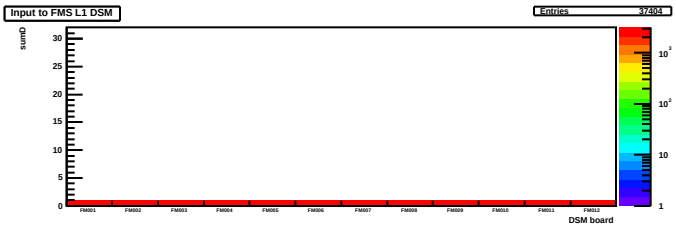

Input to FMS L0 DSM
Entries 24936
QT8(3) sum - simulated
QT board

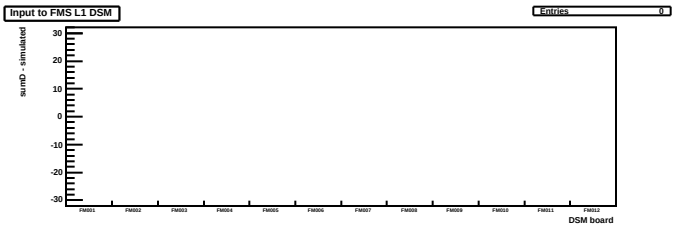

Input to FMS L0 DSM
Entries 149616
HT ADC
QT board

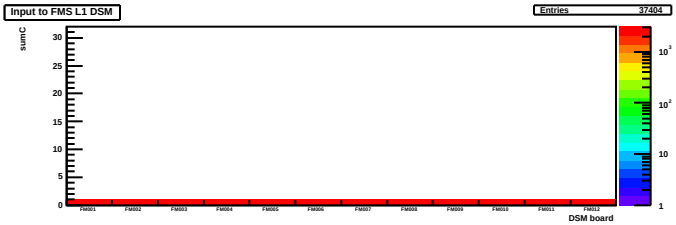

Input to FMS L0 DSM
Entries 24936
HT ADC - simulated
QT board

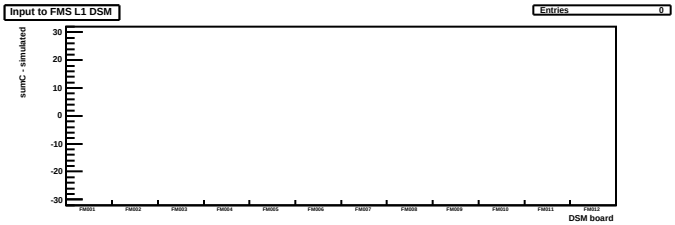

Input to FMS L0 DSM
Entries 149616
HT ID
QT board

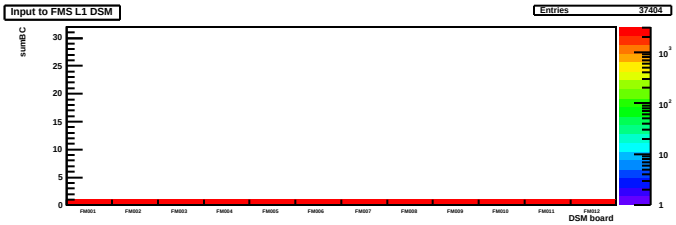

Input to FMS L0 DSM
Entries 24936
HT ID - simulated
QT board

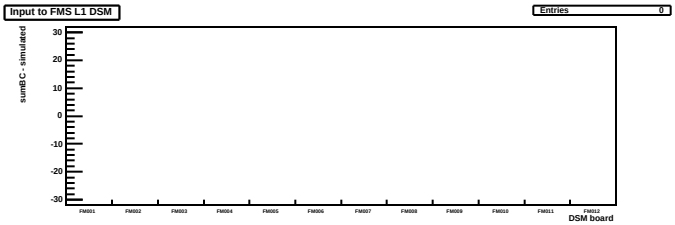

Input to FMS L1 DSM
Entries 37404
sumD
DSM board

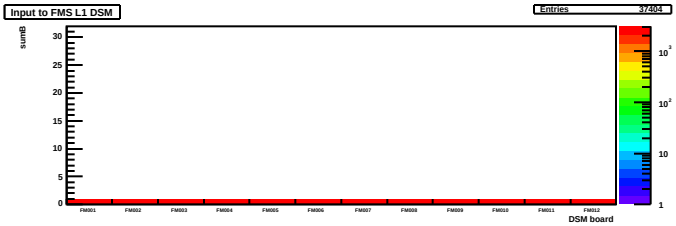

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

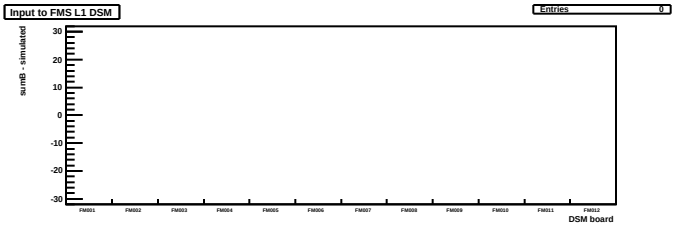

Input to FMS L1 DSM
Entries 37404
sumC
DSM board

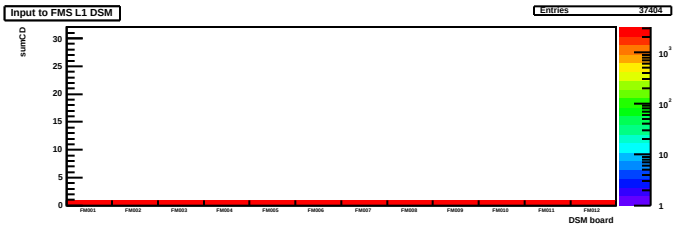

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

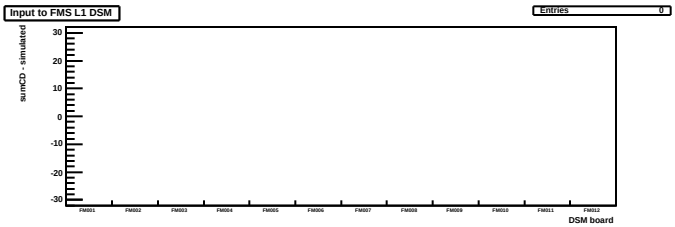

Input to FMS L1 DSM
Entries 37404
sumBC
DSM board

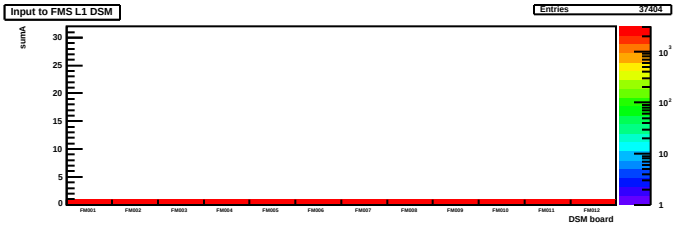

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

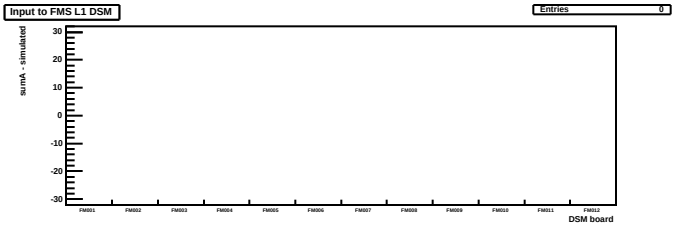

Input to FMS L1 DSM
Entries 37404
sumB
DSM board

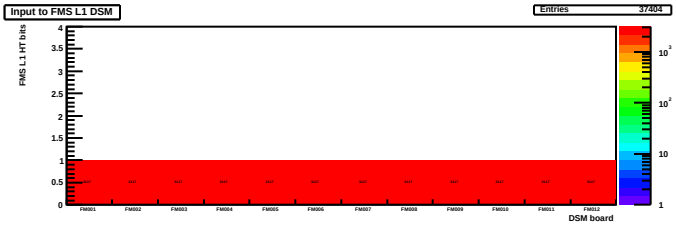

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

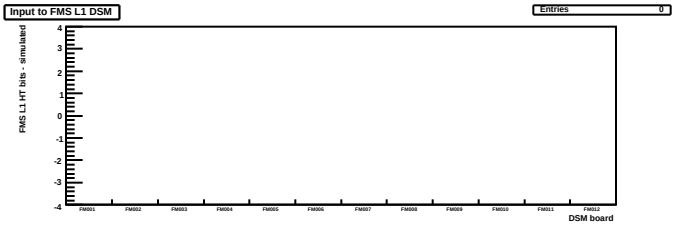

Input to FMS L1 DSM
Entries 37404
sumCD
DSM board

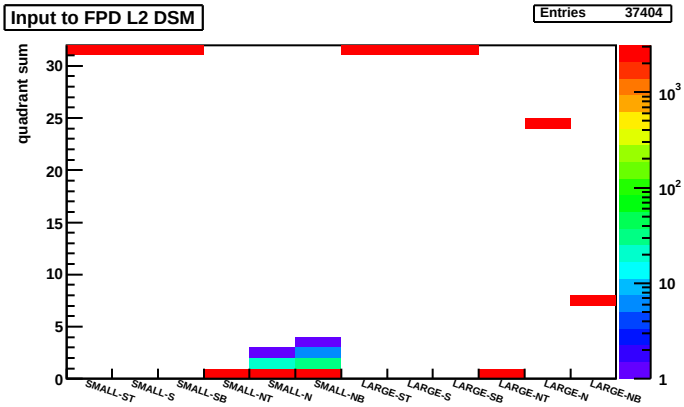

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

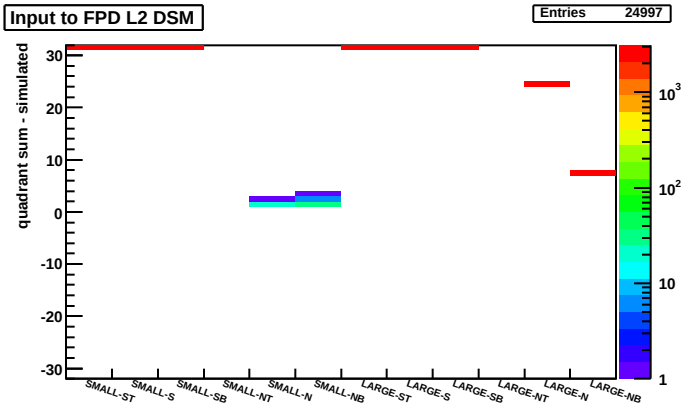

Input to FMS L1 DSM
Entries 37404
sumA
DSM board

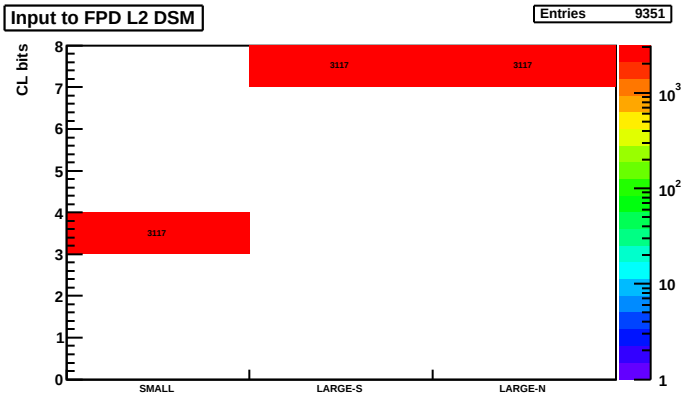

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

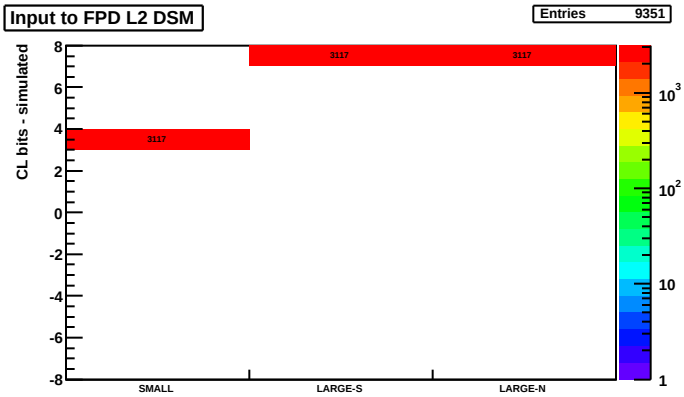

Input to FMS L1 DSM
Entries 37404
FMS L1 HT bits
DSM board

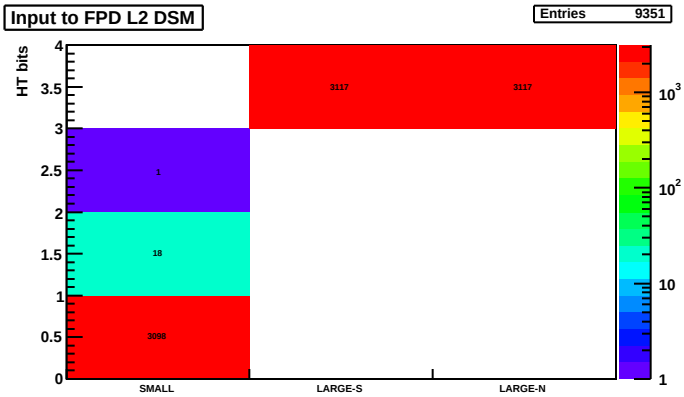

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

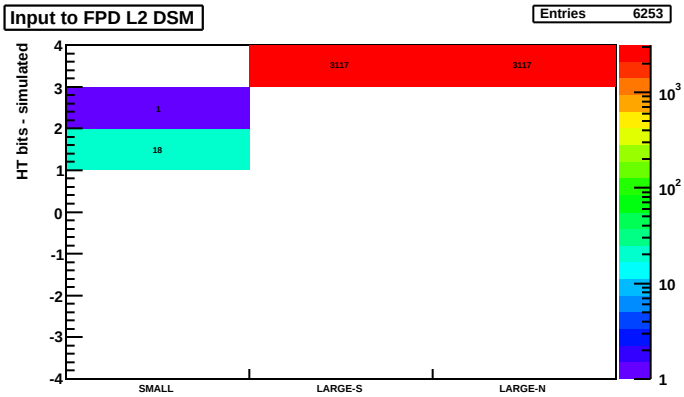

Input to FPD L2 DSM
Entries 37404
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

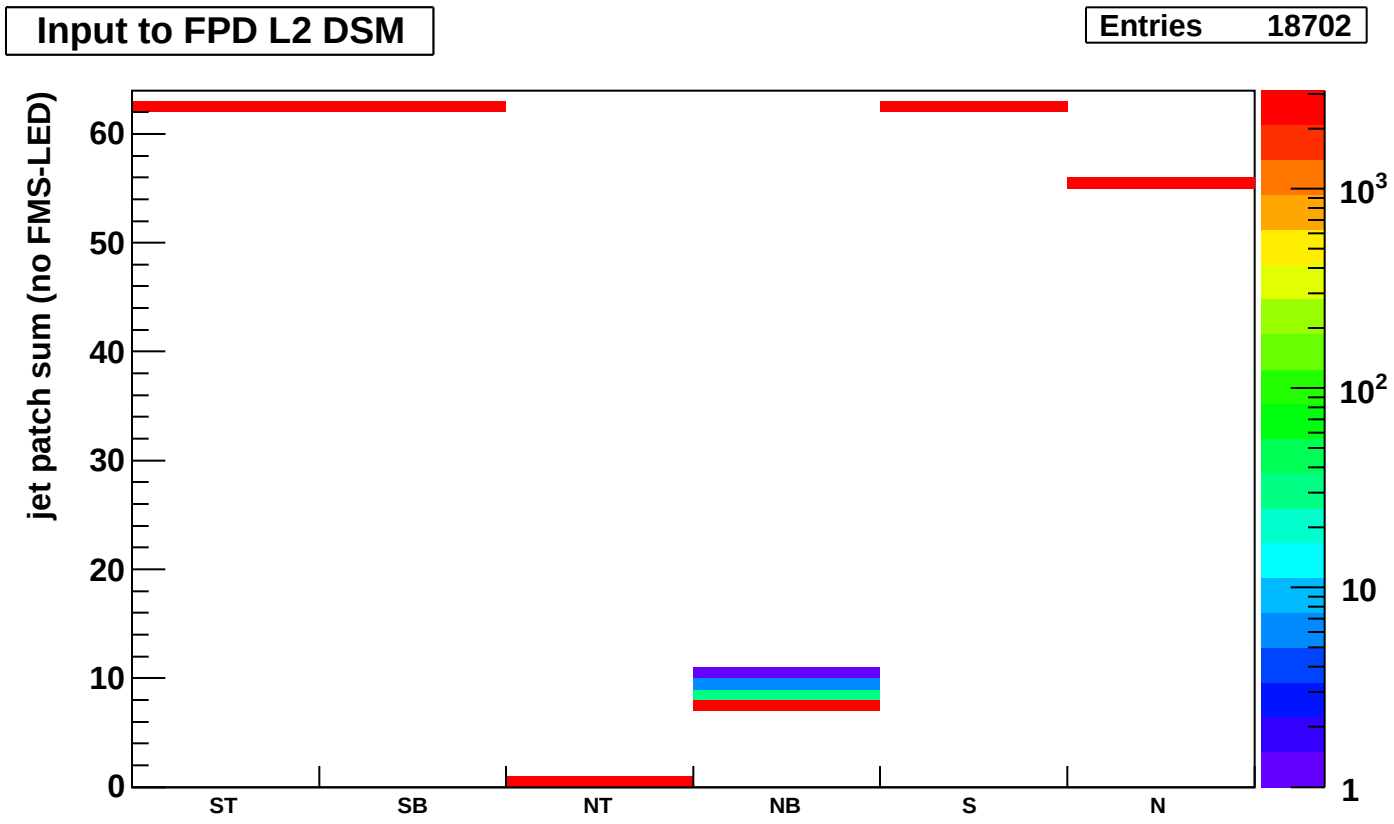

Input to FPD L2 DSM
Entries 24997
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

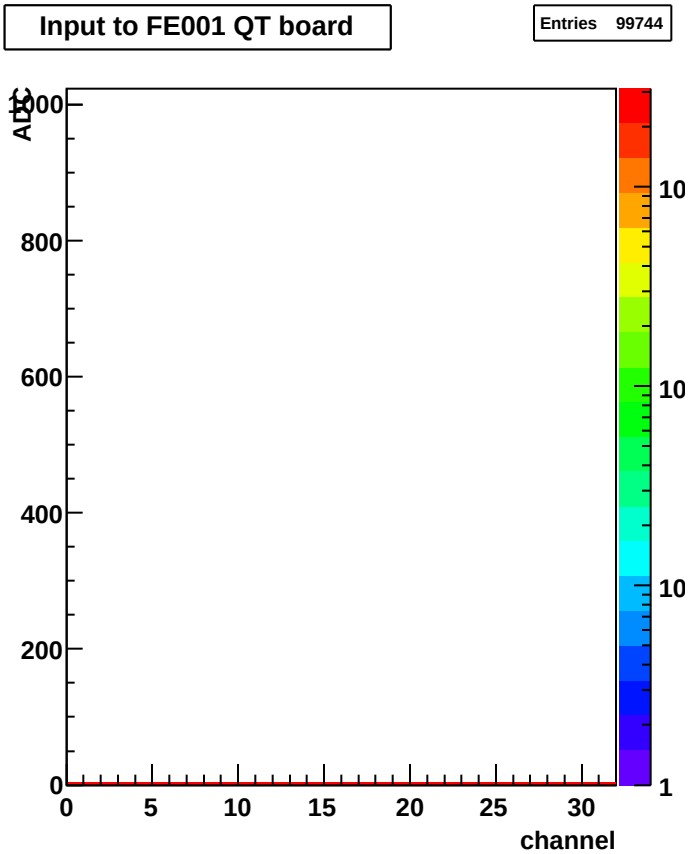

Input to FPD L2 DSM
Entries 9351
CL bits
3117
3117
3117
SMALL
LARGE-S
LARGE-N

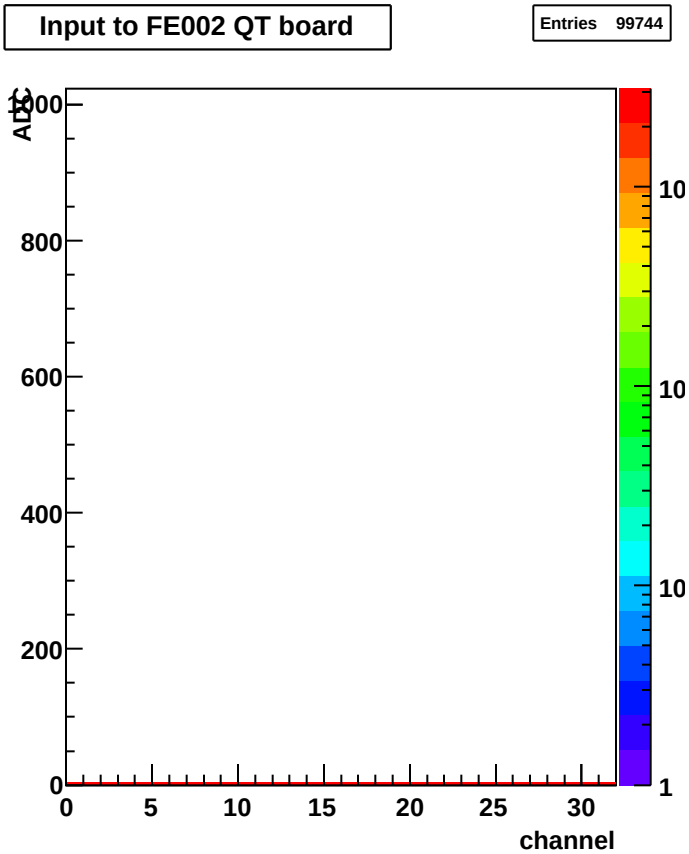

Input to FPD L2 DSM
Entries 9351
CL bits - simulated
3117
3117
3117
SMALL
LARGE-S
LARGE-N

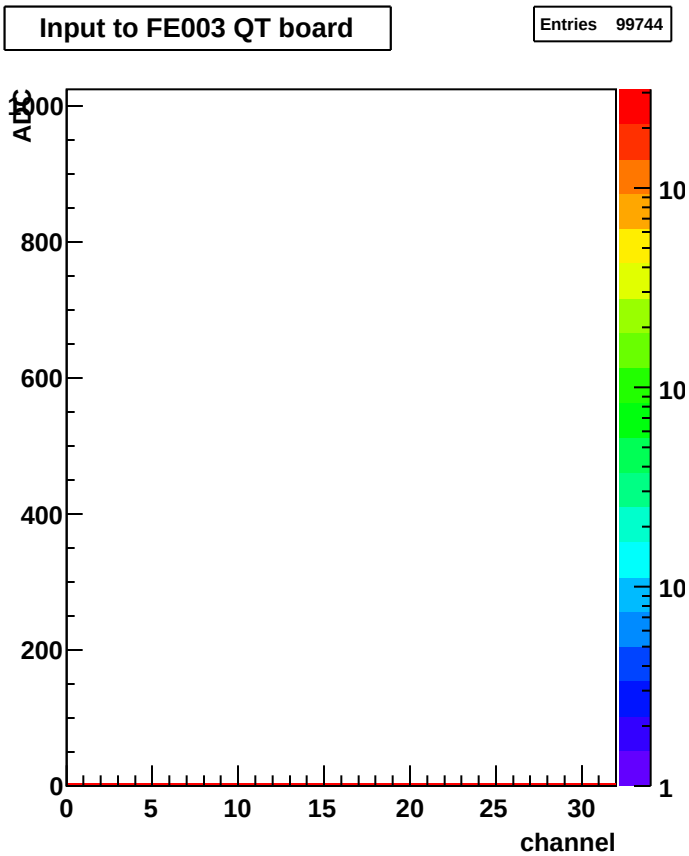

Input to FPD L2 DSM
Entries 9351
HT bits
3117
3117
1
18
3098
SMALL
LARGE-S
LARGE-N

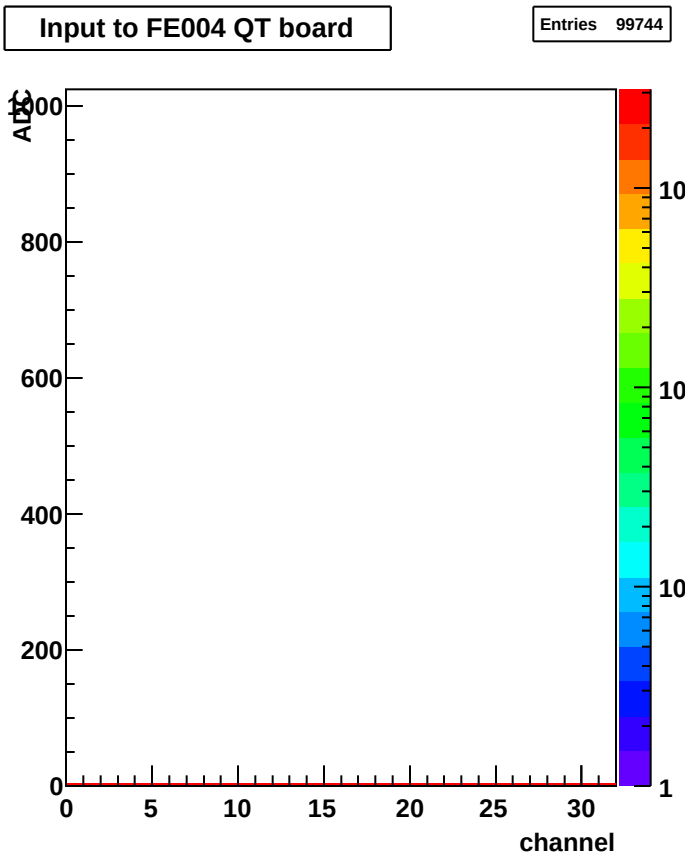

Input to FPD L2 DSM
Entries 6253
HT bits - simulated
3117
3117
1
18
SMALL
LARGE-S
LARGE-N

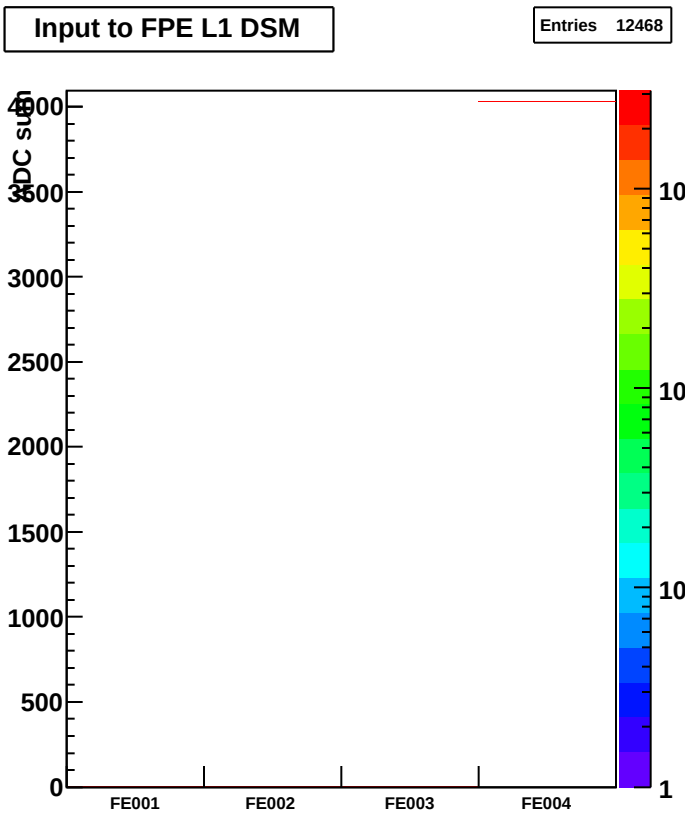

Input to FPD L2 DSM
Entries 18702
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3

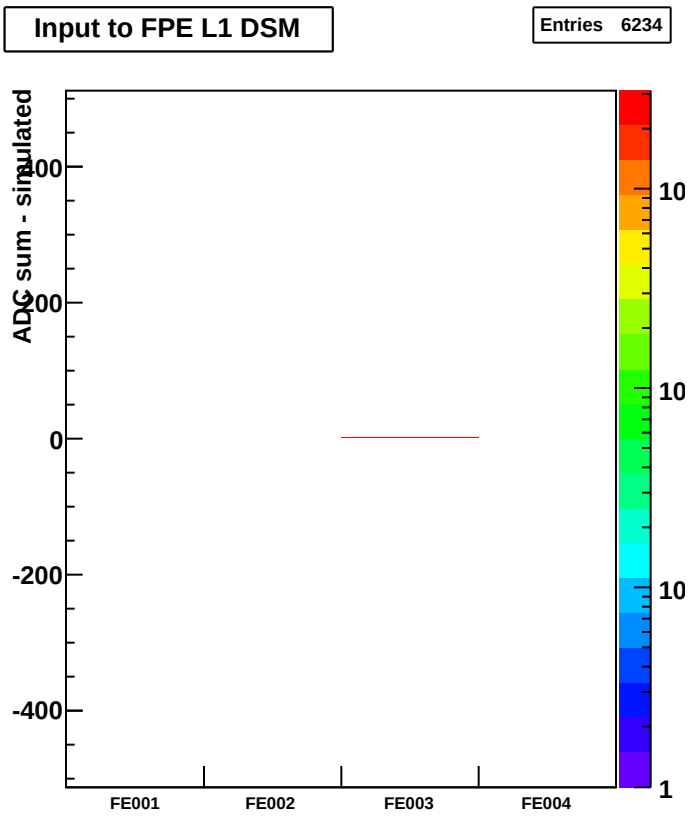

Input to FE001 QT board
Entries 99744
ADC
channel

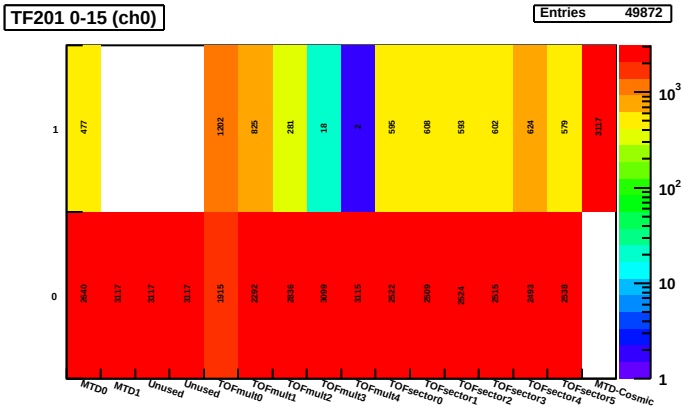

Input to FE002 QT board
Entries 99744
ADC
channel

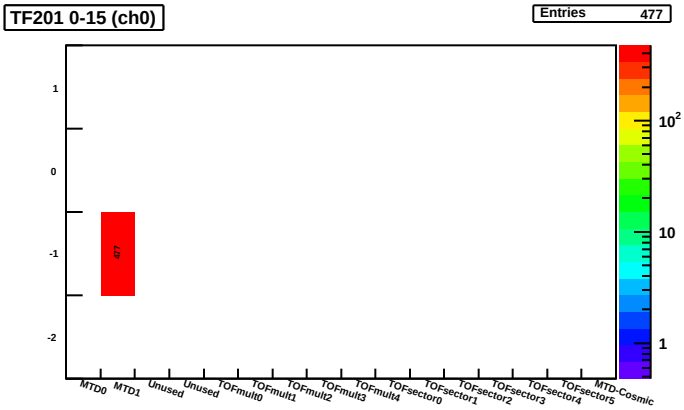

Input to FE003 QT board
Entries 99744
ADC
channel

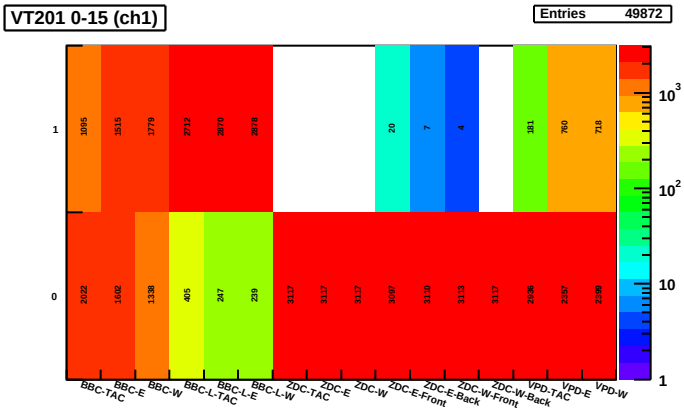

Input to FE004 QT board
Entries 99744
ADC
channel

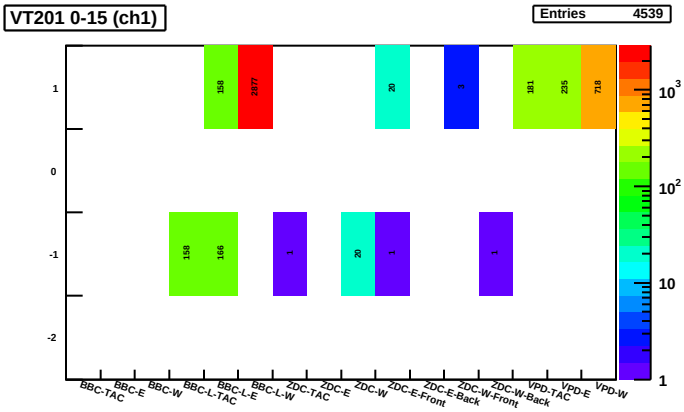

Input to FPE L1 DSM
Entries 12468
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
1

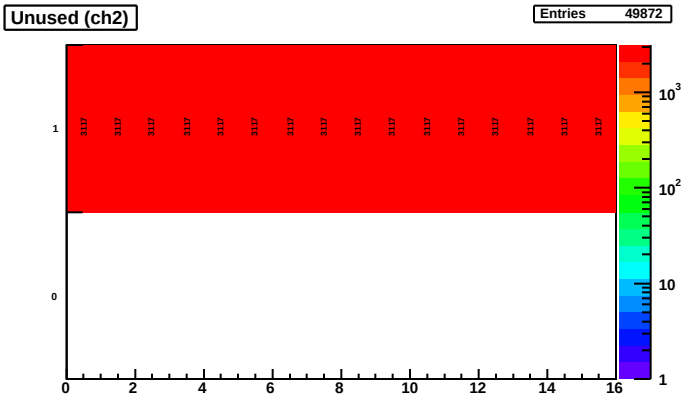

Input to FPE L1 DSM
Entries 6234
ADC sum - simulated
200
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
1

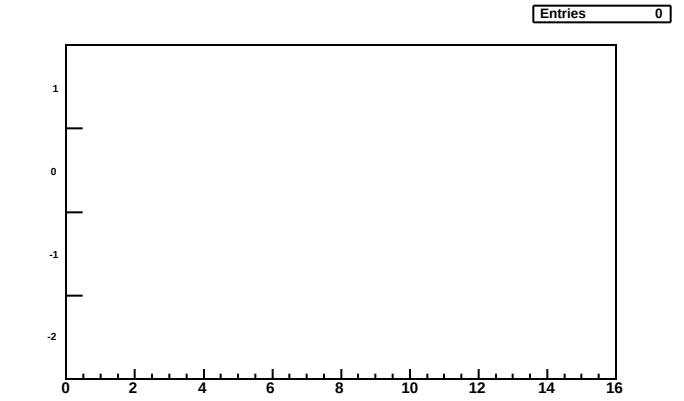

TF201 0-15 (ch0)
Entries 49872
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

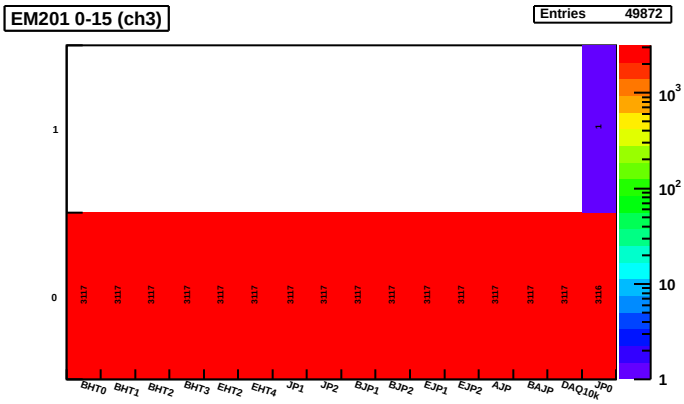

TF201 0-15 (ch0)
Entries 477
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

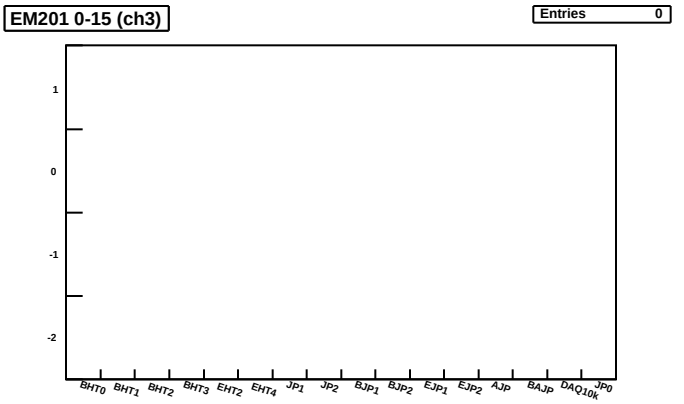

VT201 0-15 (ch1)
Entries 49872
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

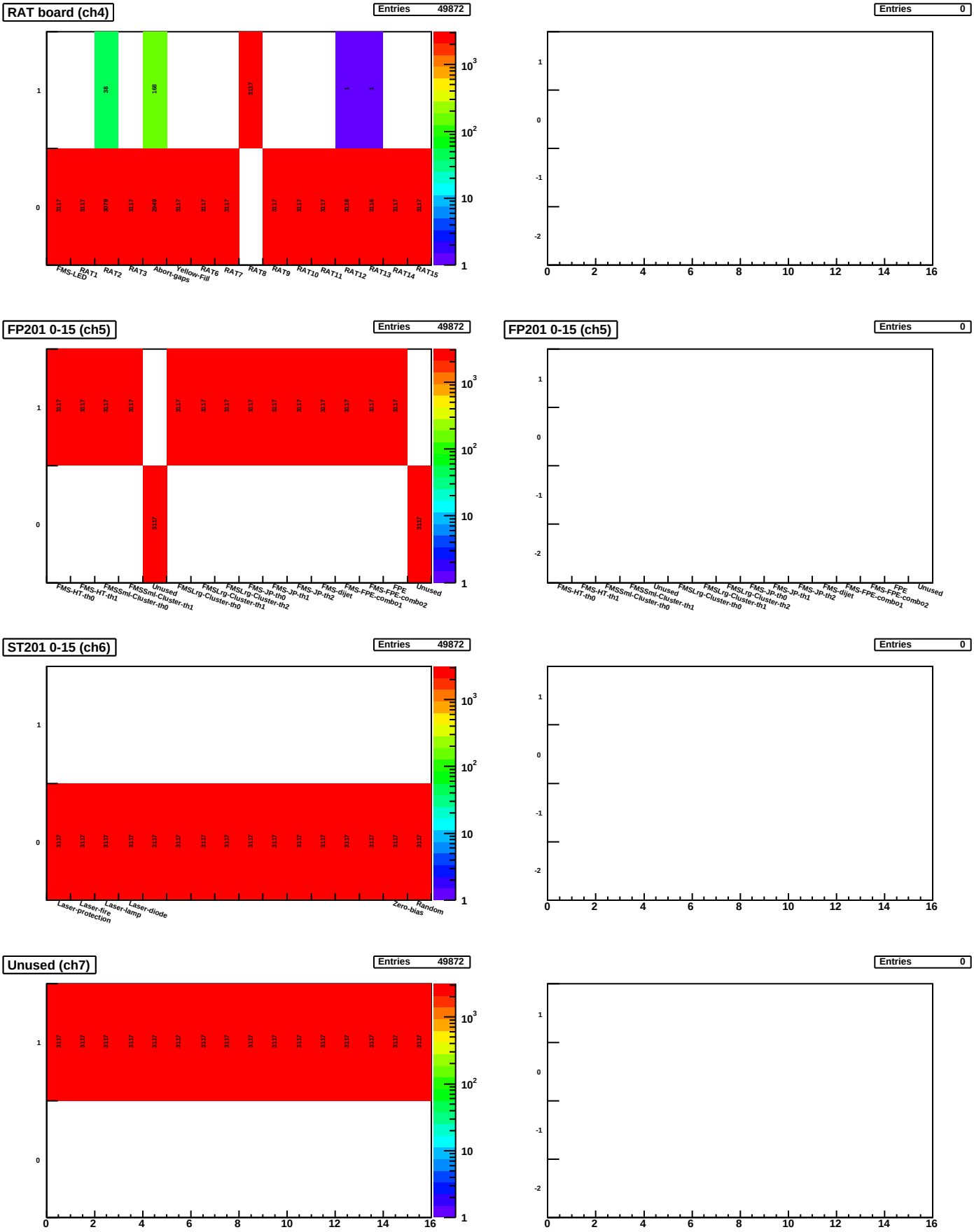

VT201 0-15 (ch1)
Entries 4539
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


Unused (ch2)
Entries 49872


Entries 0


EM201 0-15 (ch3)
Entries 49872
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 49872
Entries 0
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15
FP201 0-15 (ch5)
Entries 49872
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 49872
Entries 0
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random
Unused (ch7)
Entries 49872
Entries 0