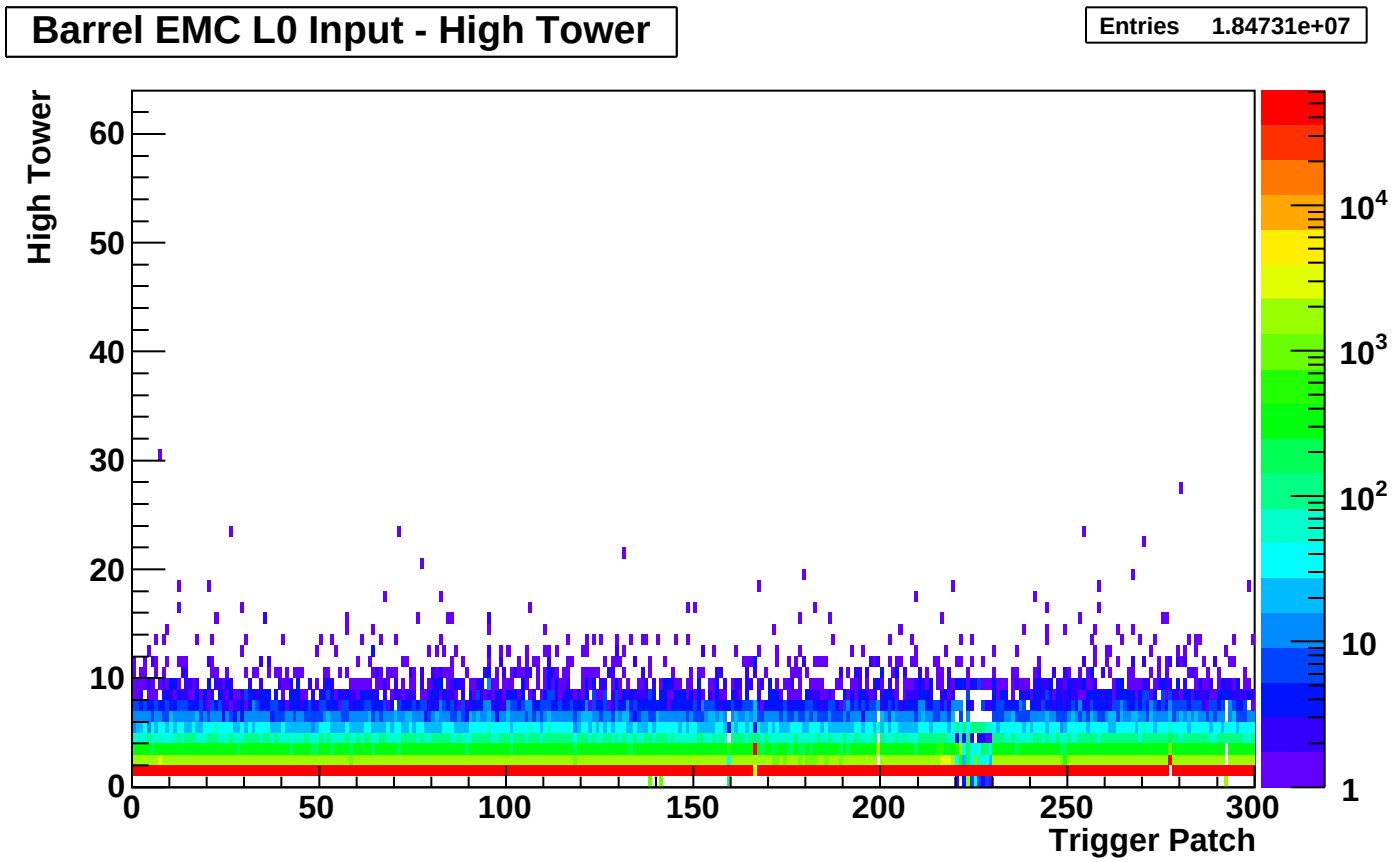
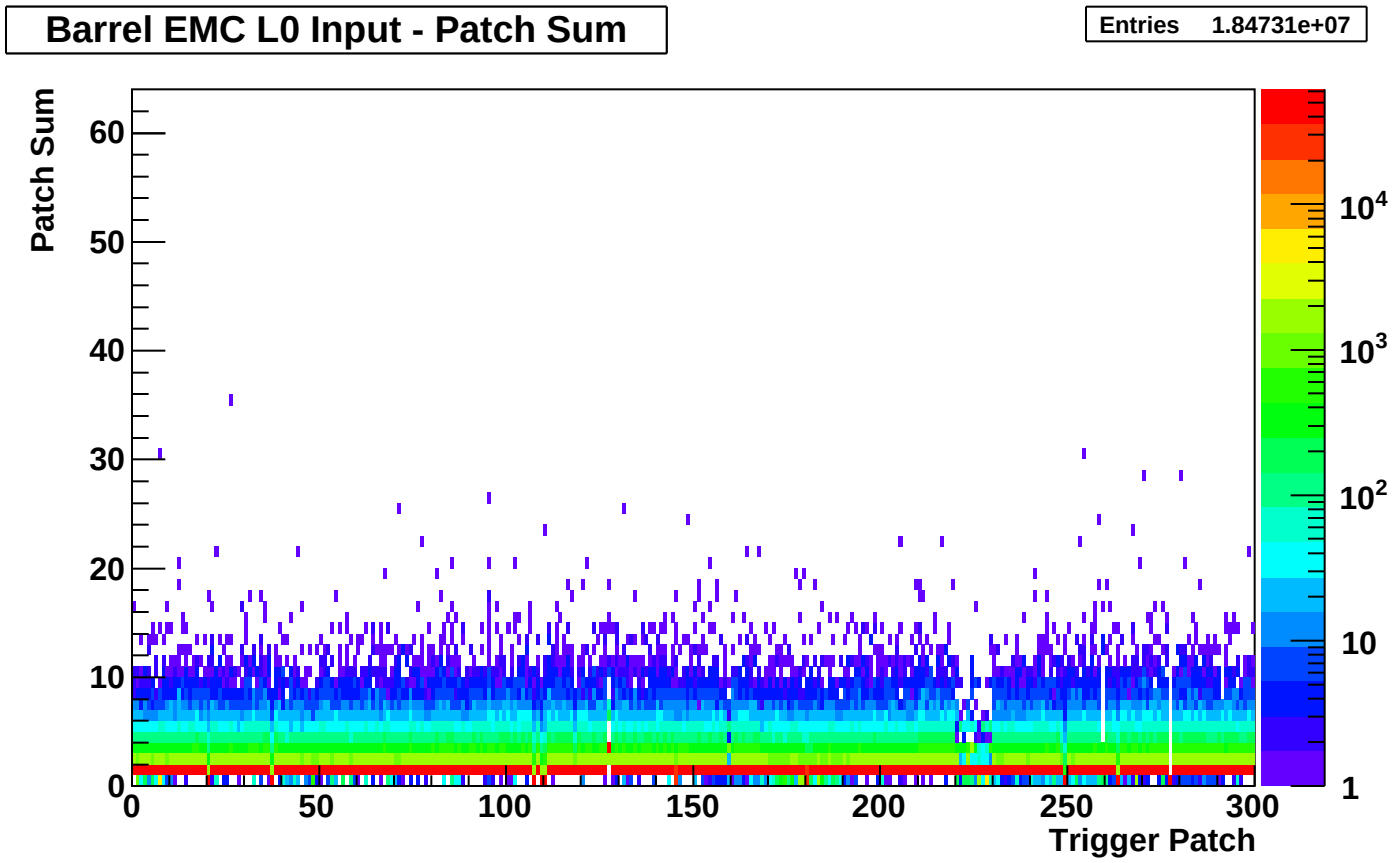
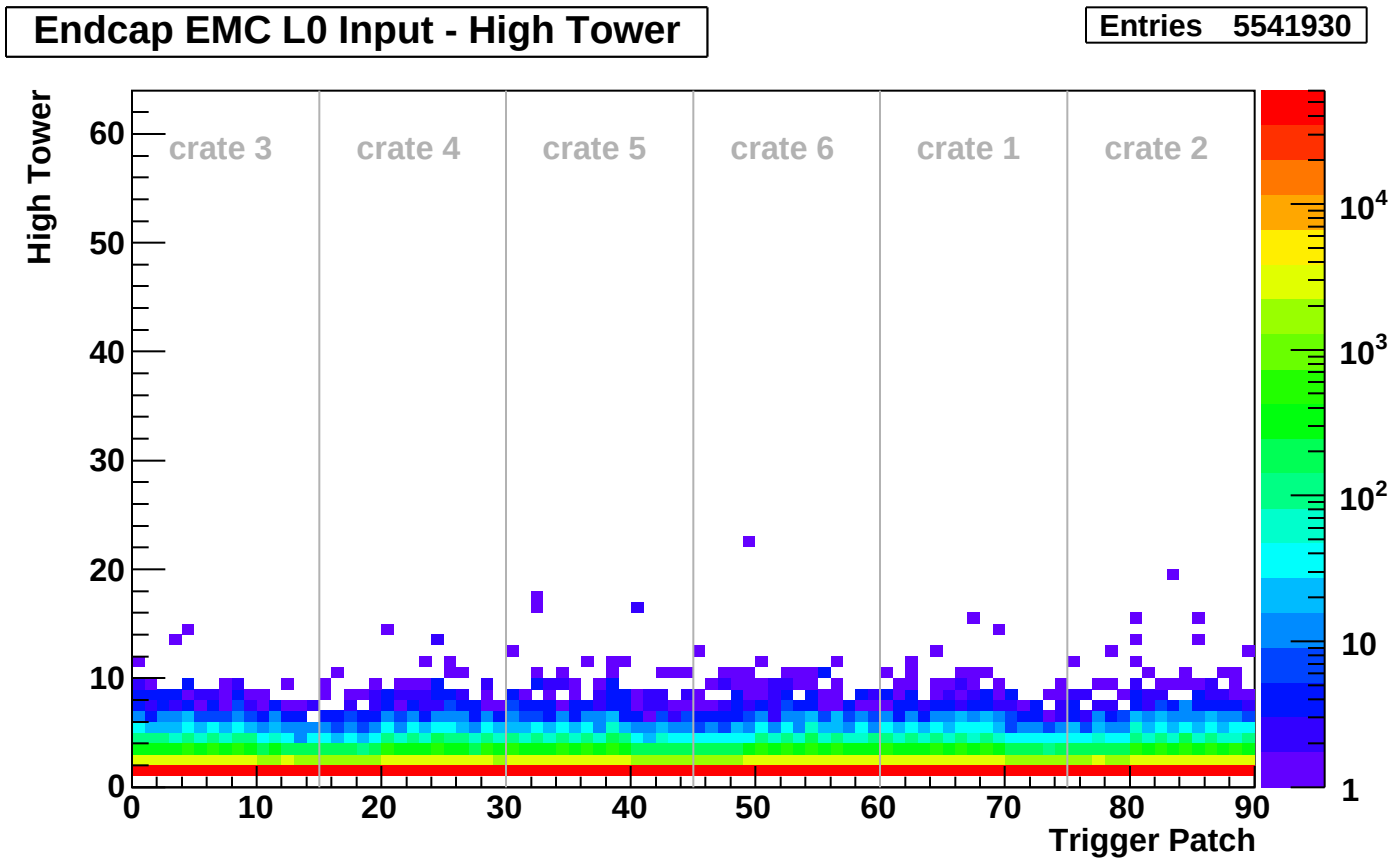
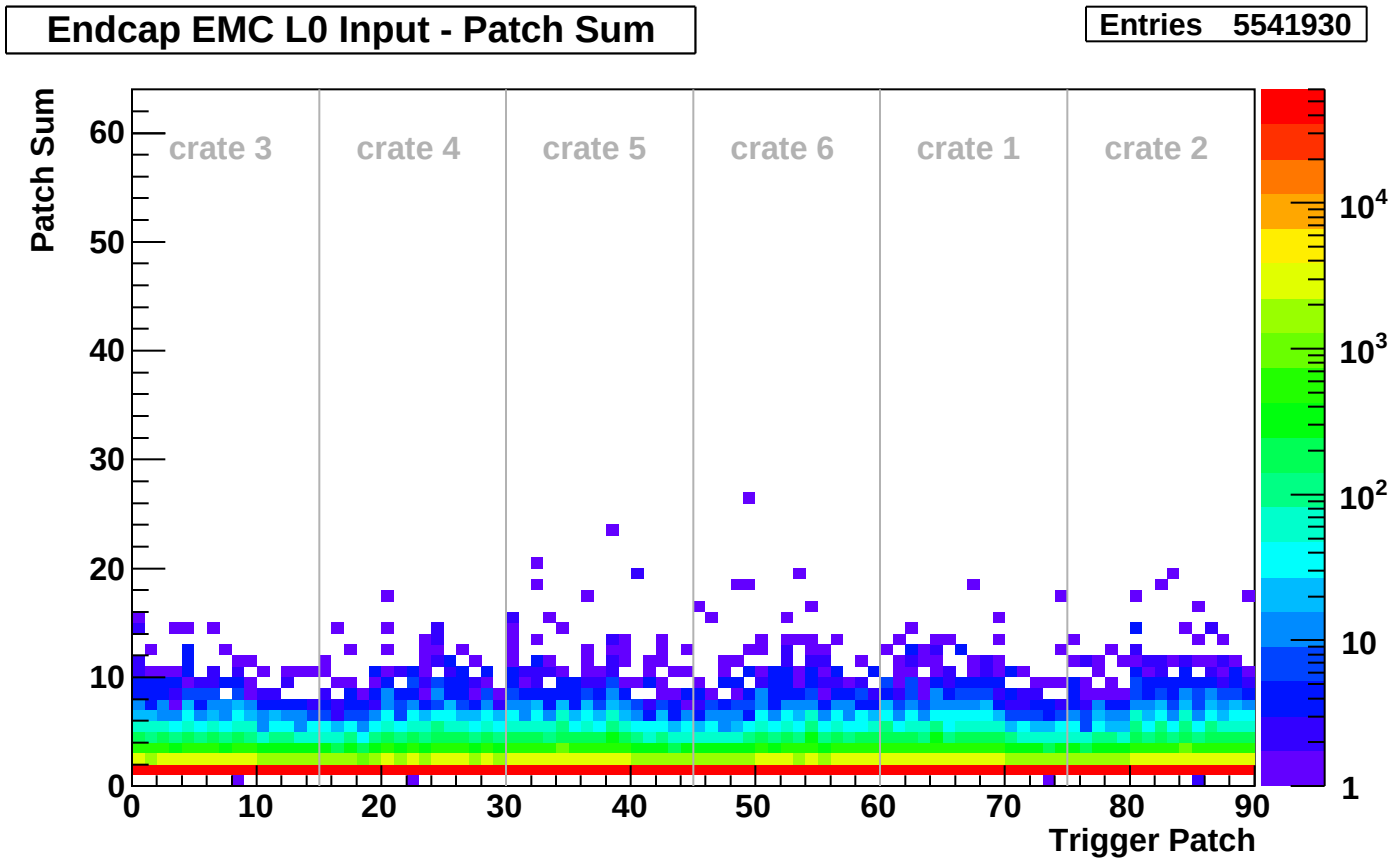
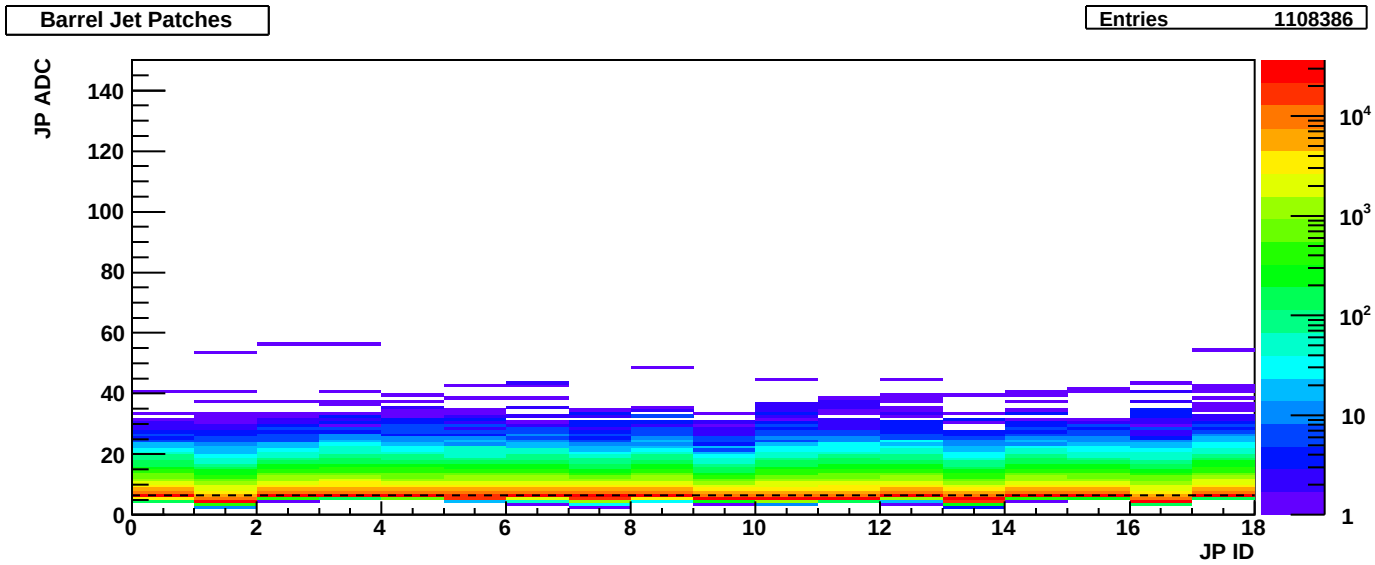
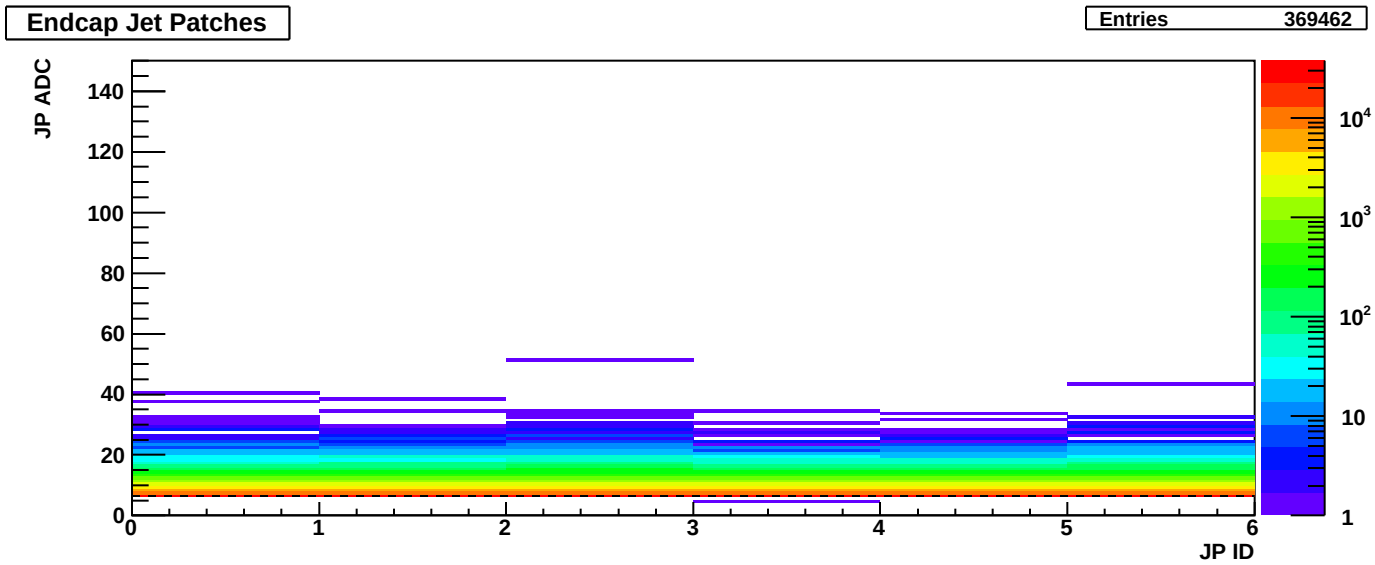

Barrel EMC L0 Input - High Tower
Entries 1.84731e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$

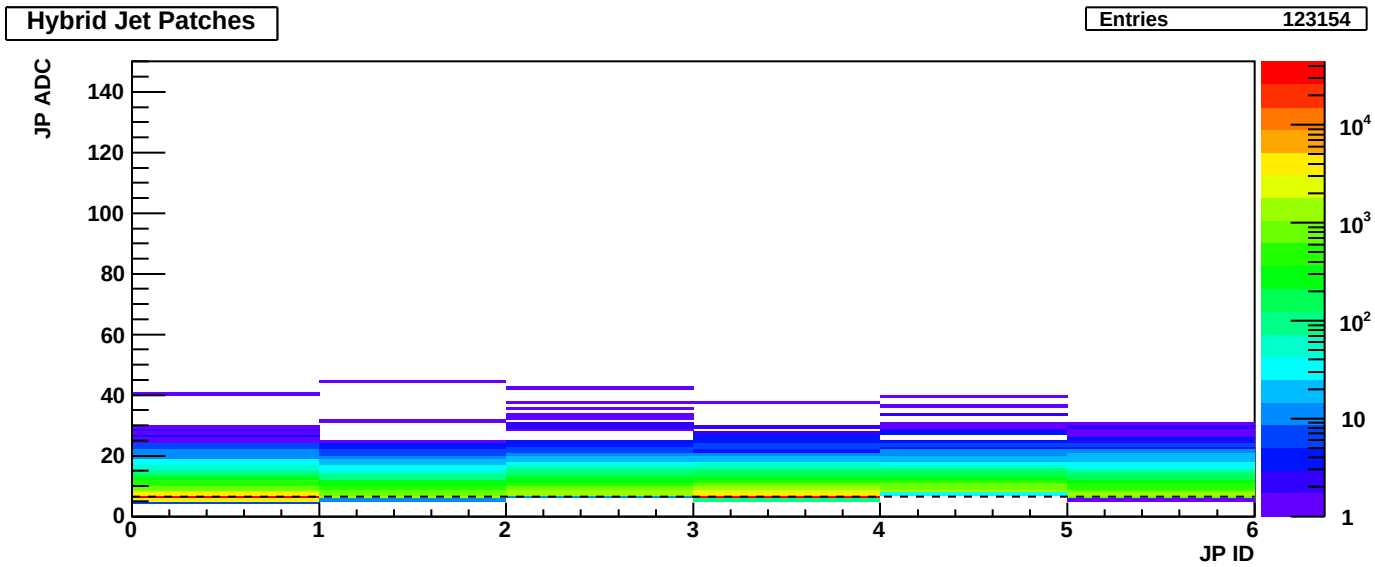

Barrel EMC L0 Input - Patch Sum
Entries 1.84731e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$

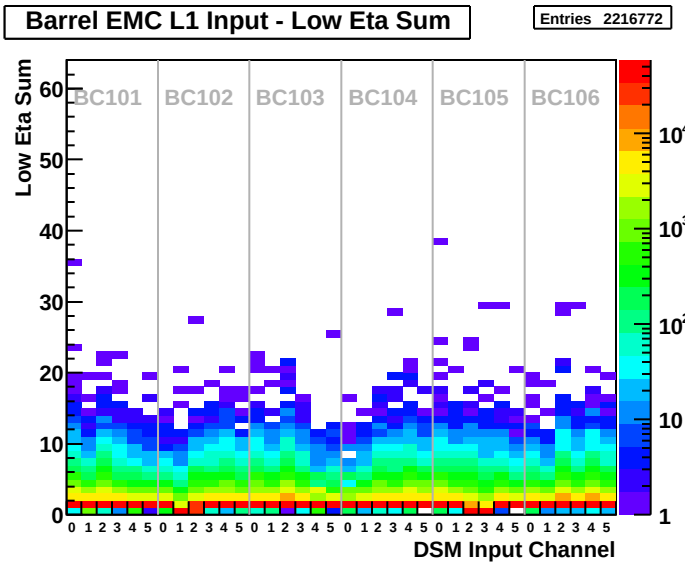

Endcap EMC L0 Input - High Tower
Entries 5541930
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

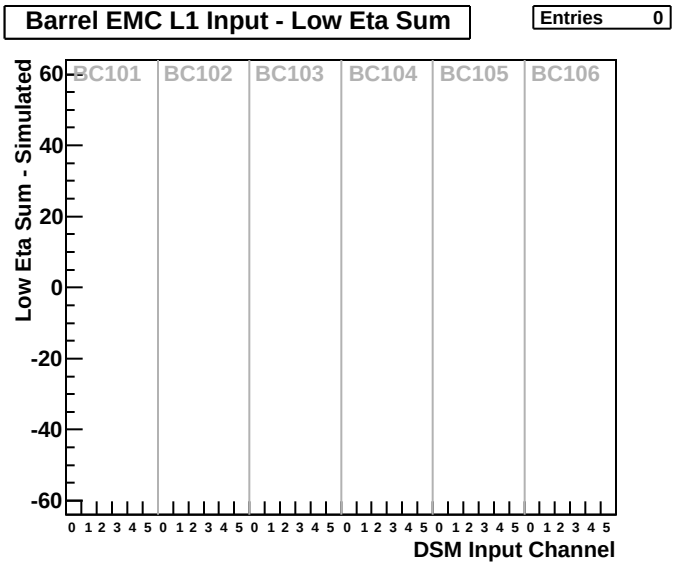

Endcap EMC L0 Input - Patch Sum
Entries 5541930
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

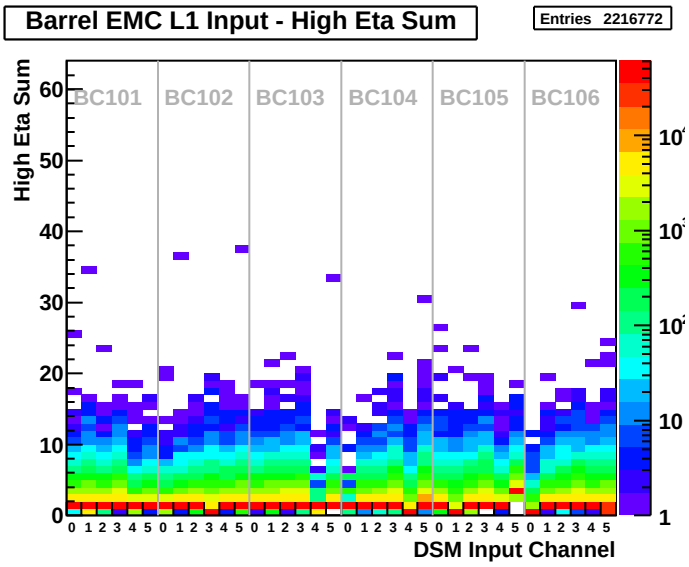

Barrel Jet Patches
Entries 1108386
JP ADC
JP ID

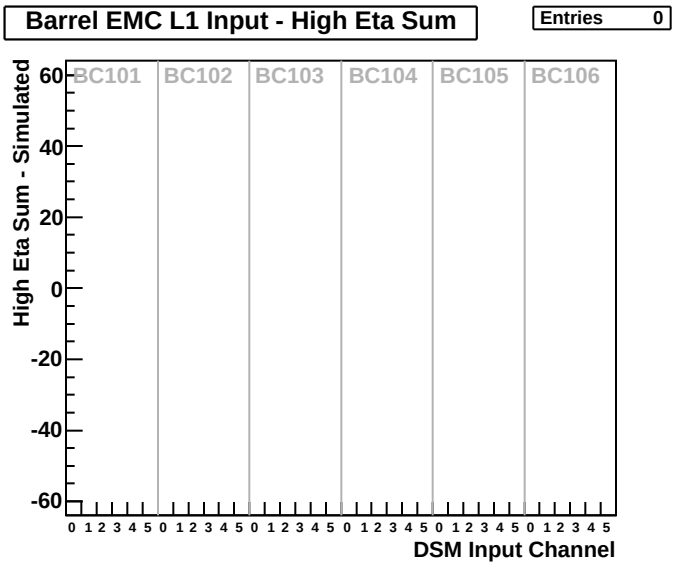

Endcap Jet Patches
Entries 369462
JP ADC
JP ID

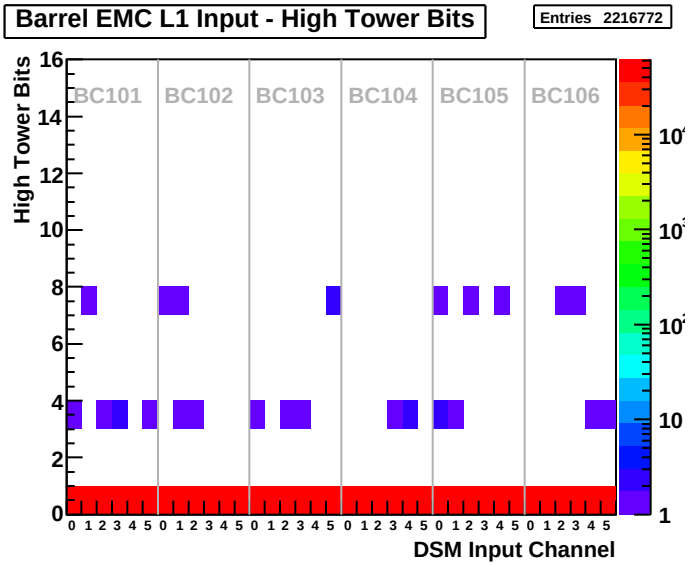

Hybrid Jet Patches
Entries 123154
JP ADC
JP ID

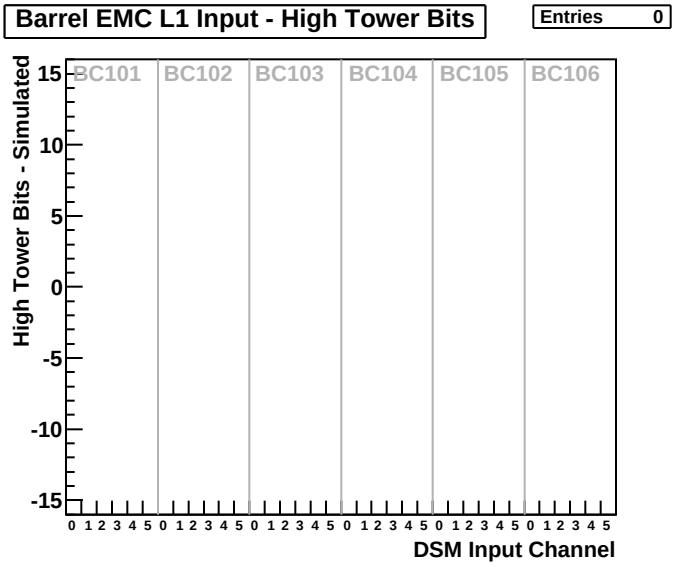

Barrel EMC L1 Input - Low Eta Sum
Entries 2216772
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

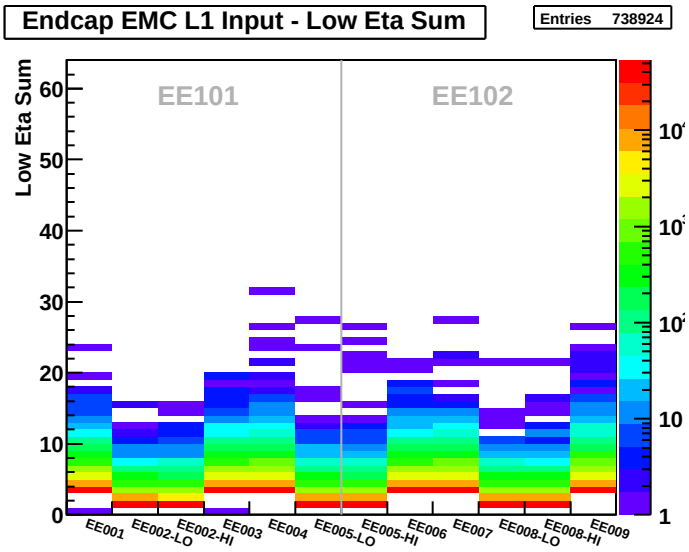

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

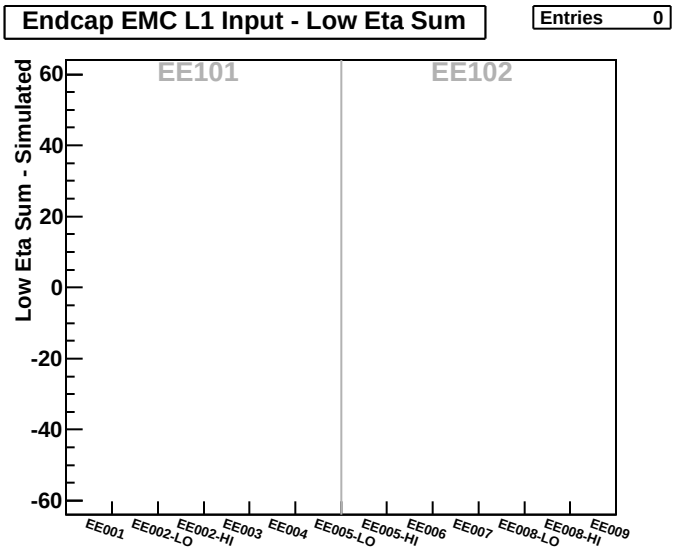

Barrel EMC L1 Input - High Eta Sum
Entries 2216772
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

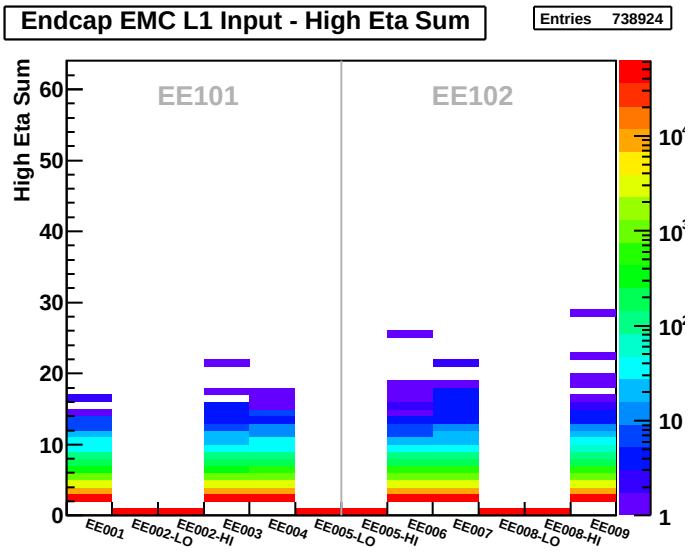

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

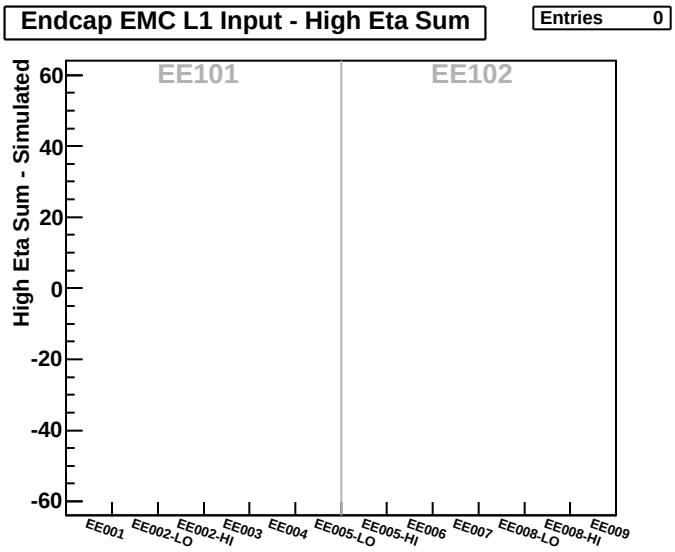

Barrel EMC L1 Input - High Tower Bits
Entries 2216772
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

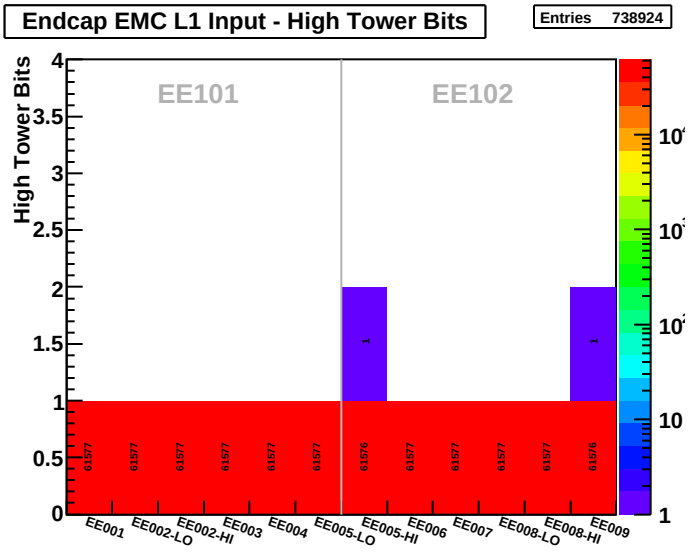

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

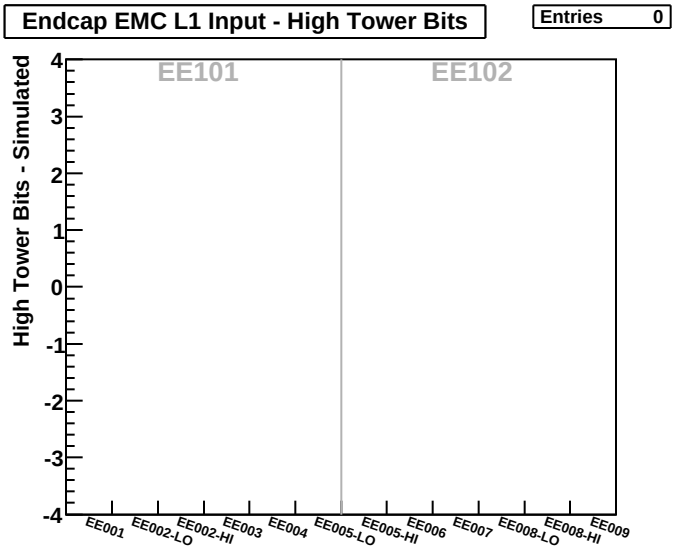

Endcap EMC L1 Input - Low Eta Sum
Entries 738924
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

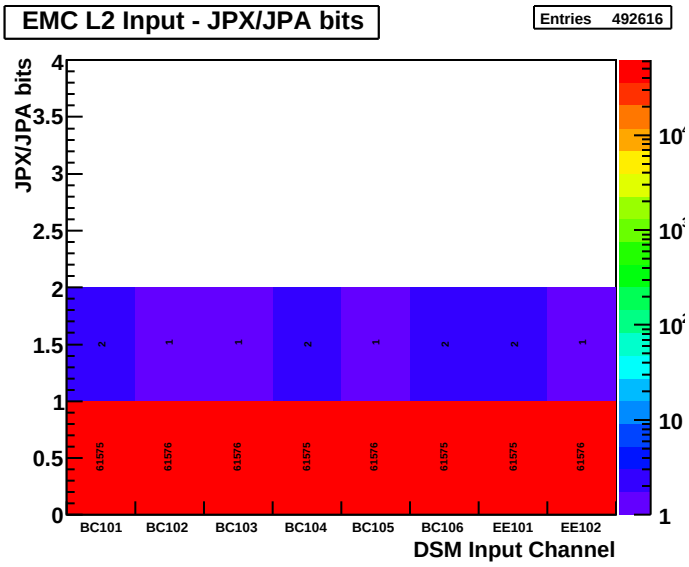

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

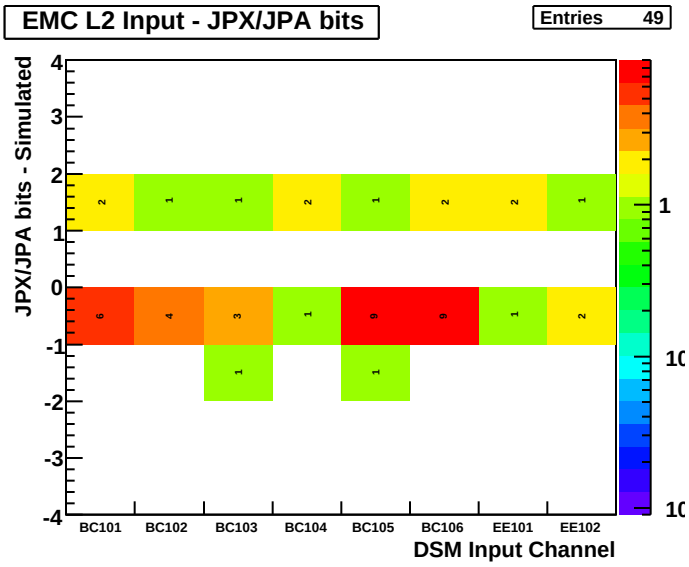

Endcap EMC L1 Input - High Eta Sum
Entries 738924
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

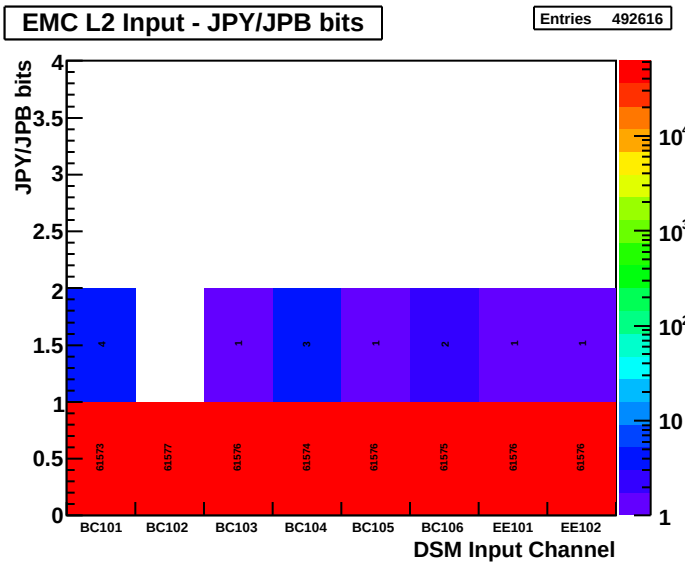

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

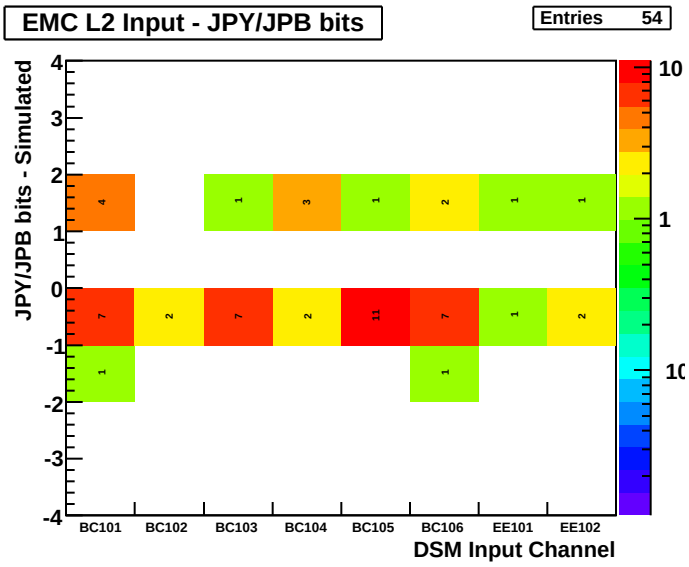

Endcap EMC L1 Input - High Tower Bits
Entries 738924
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

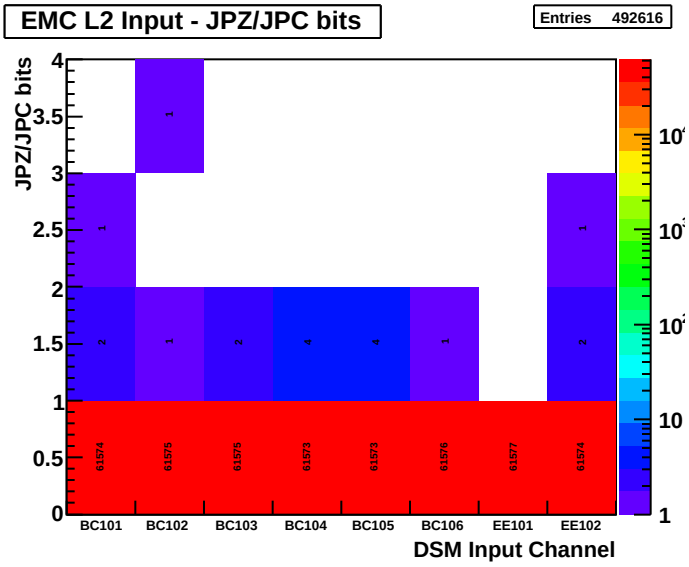

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

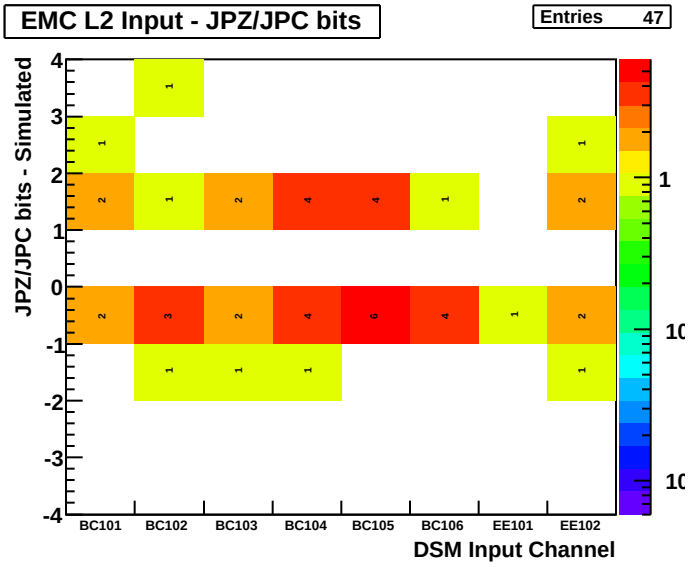

EMC L2 Input - JPX/JPA bits
Entries 492616
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

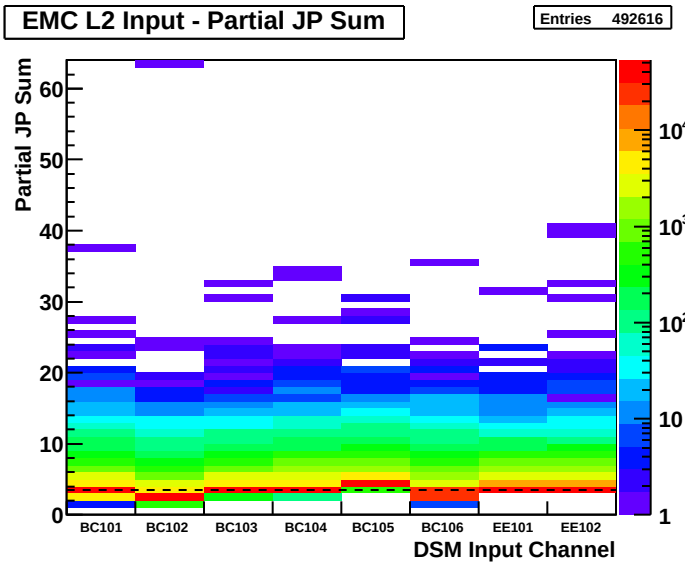

EMC L2 Input - JPX/JPA bits
Entries 49
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

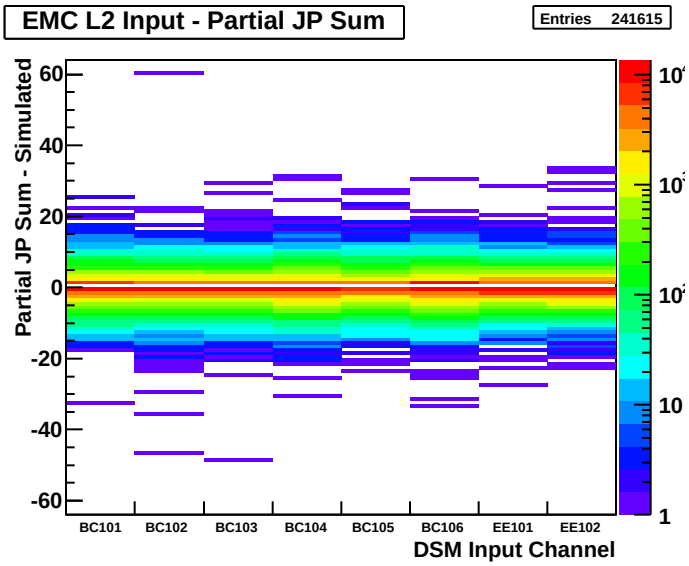

EMC L2 Input - JPY/JPB bits
Entries 492616
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

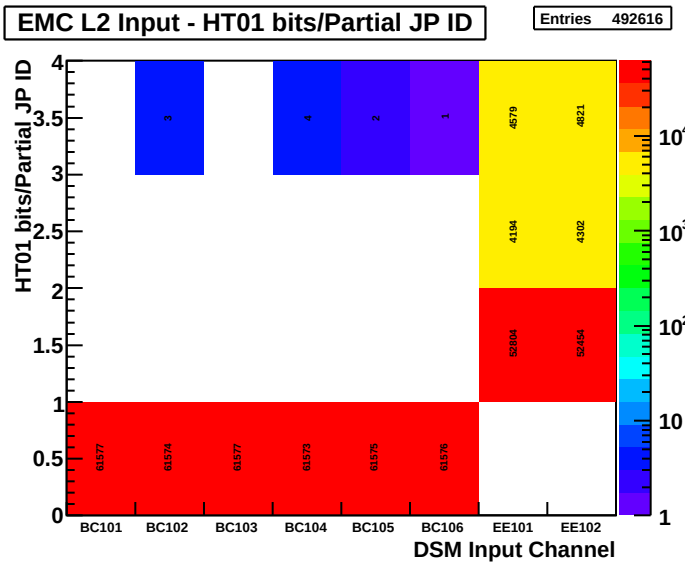

EMC L2 Input - JPY/JPB bits
Entries 54
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

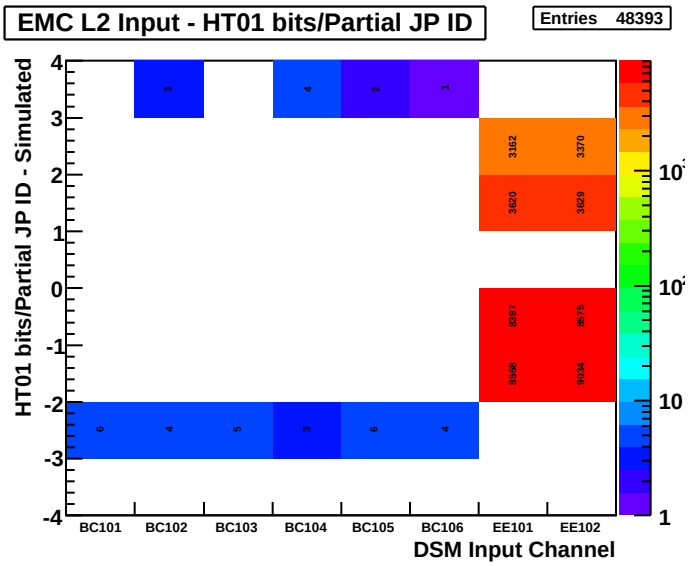

EMC L2 Input - JPZ/JPC bits
Entries 492616
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

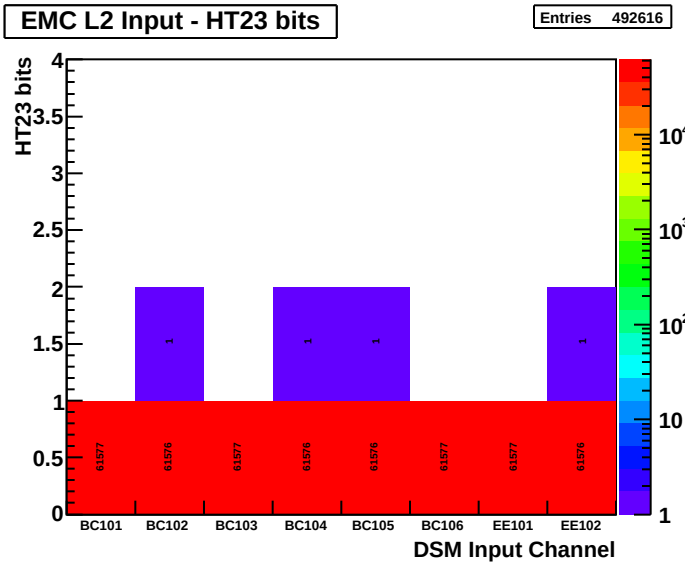

EMC L2 Input - JPZ/JPC bits
Entries 47
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

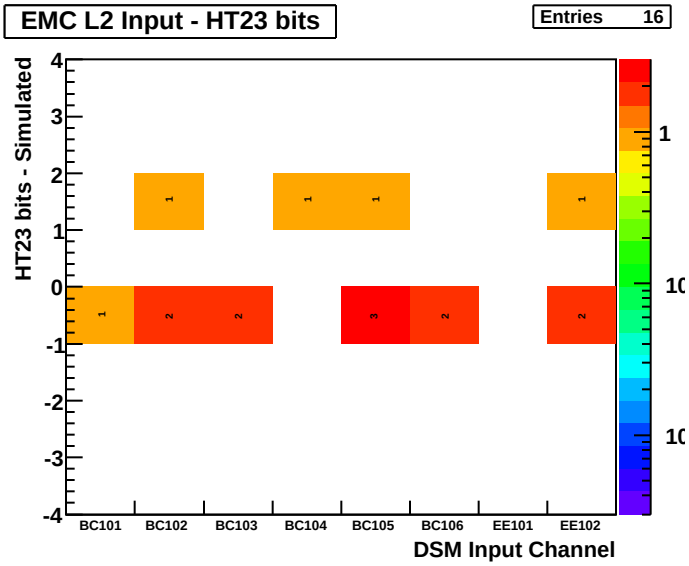

EMC L2 Input - Partial JP Sum
Entries 492616
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

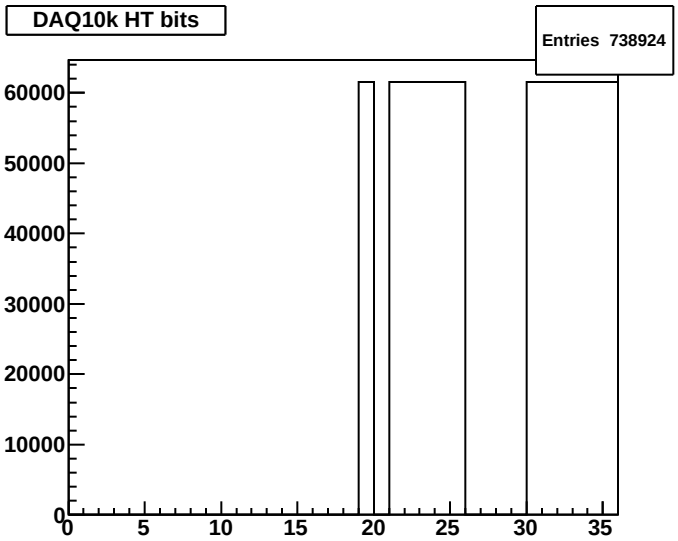

EMC L2 Input - Partial JP Sum
Entries 241615
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

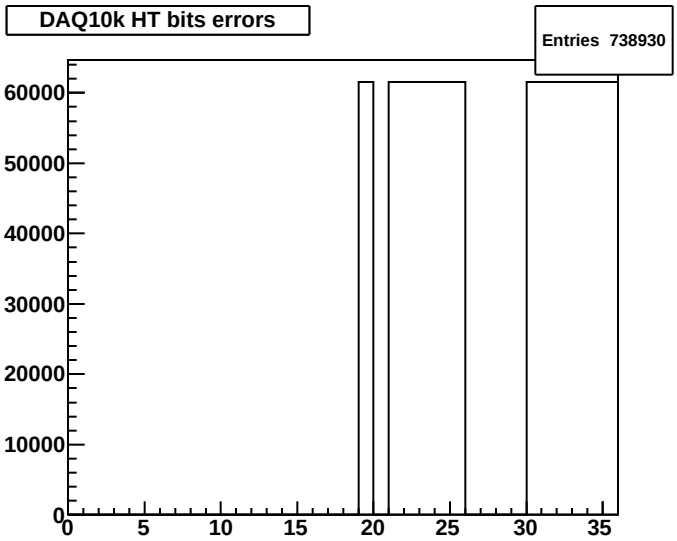

EMC L2 Input - HT01 bits/Partial JP ID
Entries 492616
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

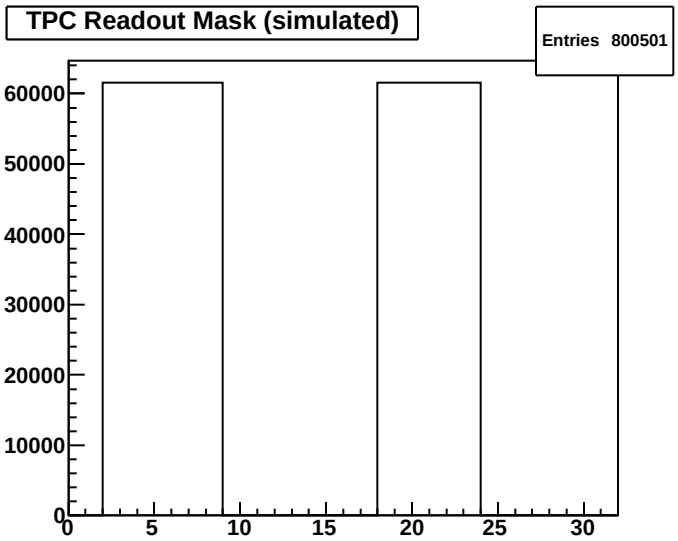

EMC L2 Input - HT01 bits/Partial JP ID
Entries 48393
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

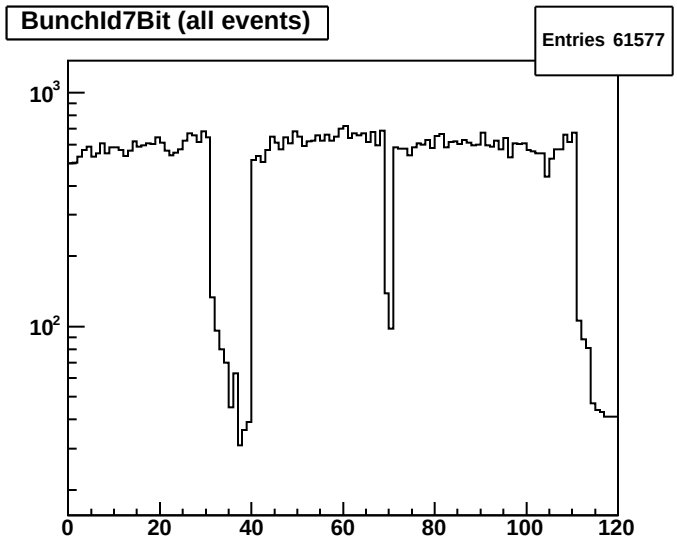

EMC L2 Input - HT23 bits
Entries 492616
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

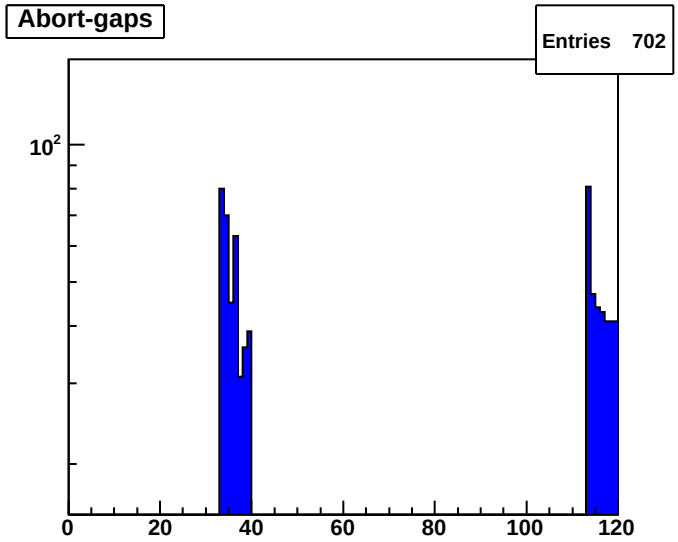

EMC L2 Input - HT23 bits
Entries 16
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

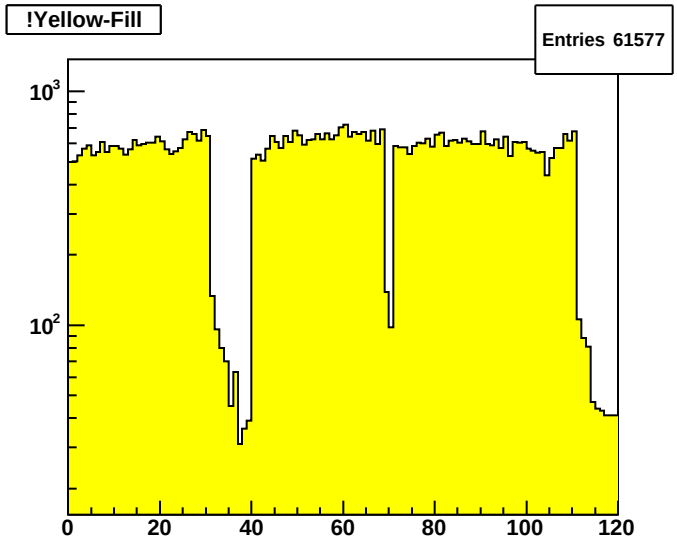

DAQ10k HT bits
Entries 738924
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

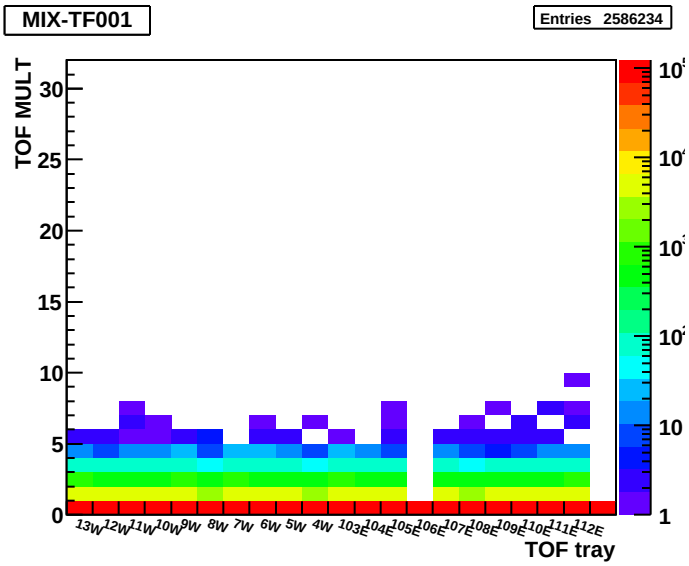

DAQ10k HT bits errors
Entries 738930
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

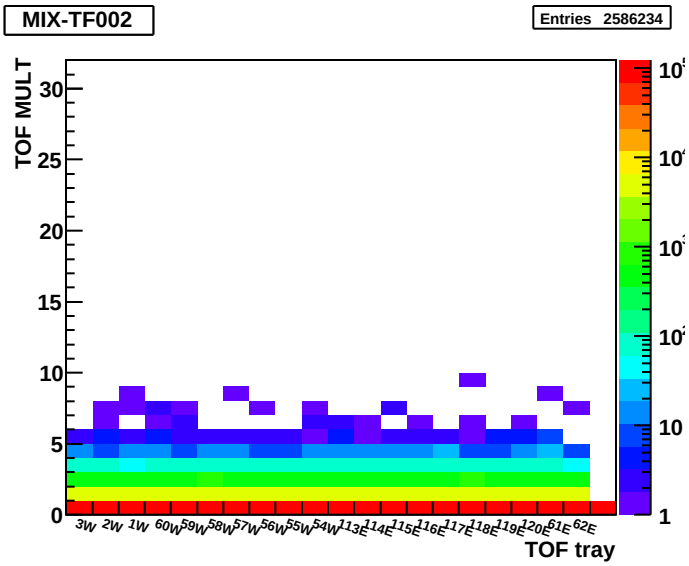

TPC Readout Mask (simulated)
Entries 800501
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30

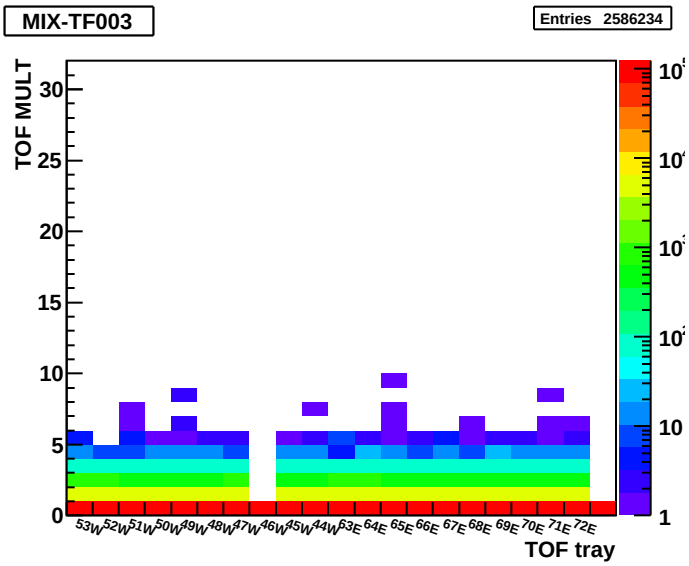

BunchId7Bit (all events)
Entries 61577
$10^3$
$10^2$
0 20 40 60 80 100 120

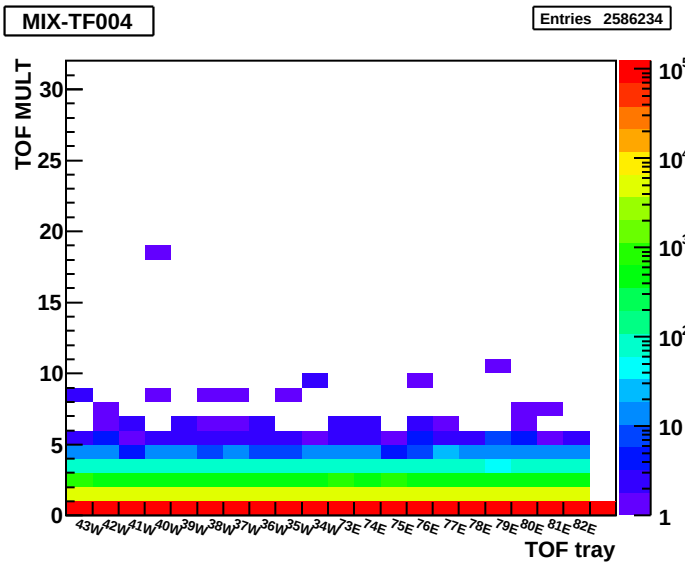

Abort-gaps
Entries 702
$10^2$
0 20 40 60 80 100 120

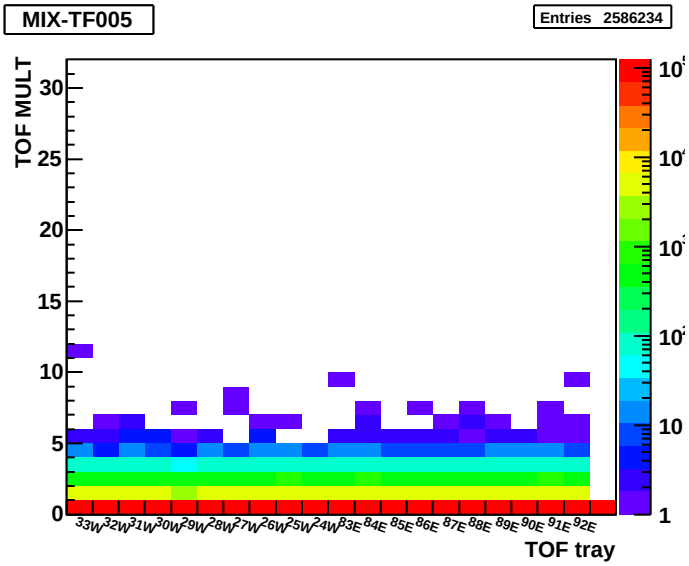

!Yellow-Fill
Entries 61577
$10^3$
$10^2$
0 20 40 60 80 100 120

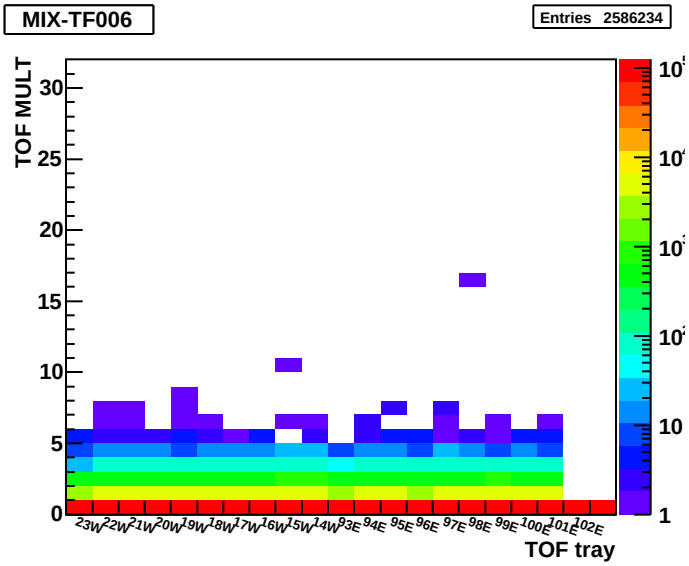

MIX-TF001
Entries 2586234
TOF MULT
TOF tray

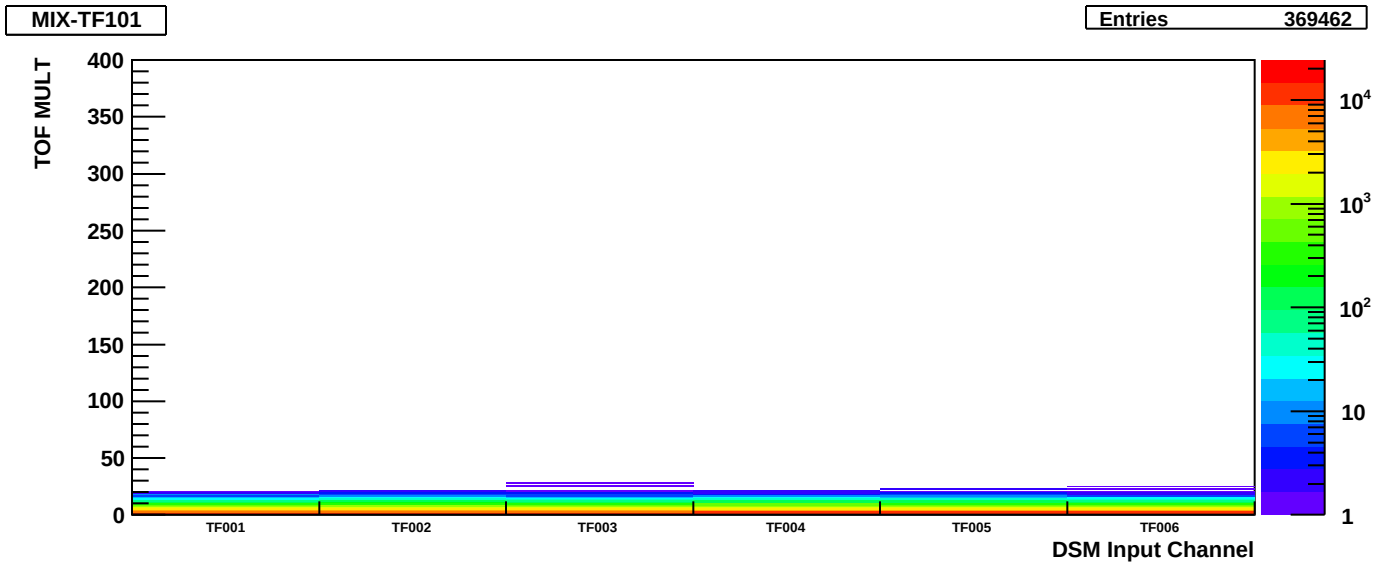

MIX-TF002
Entries 2586234
TOF MULT
TOF tray

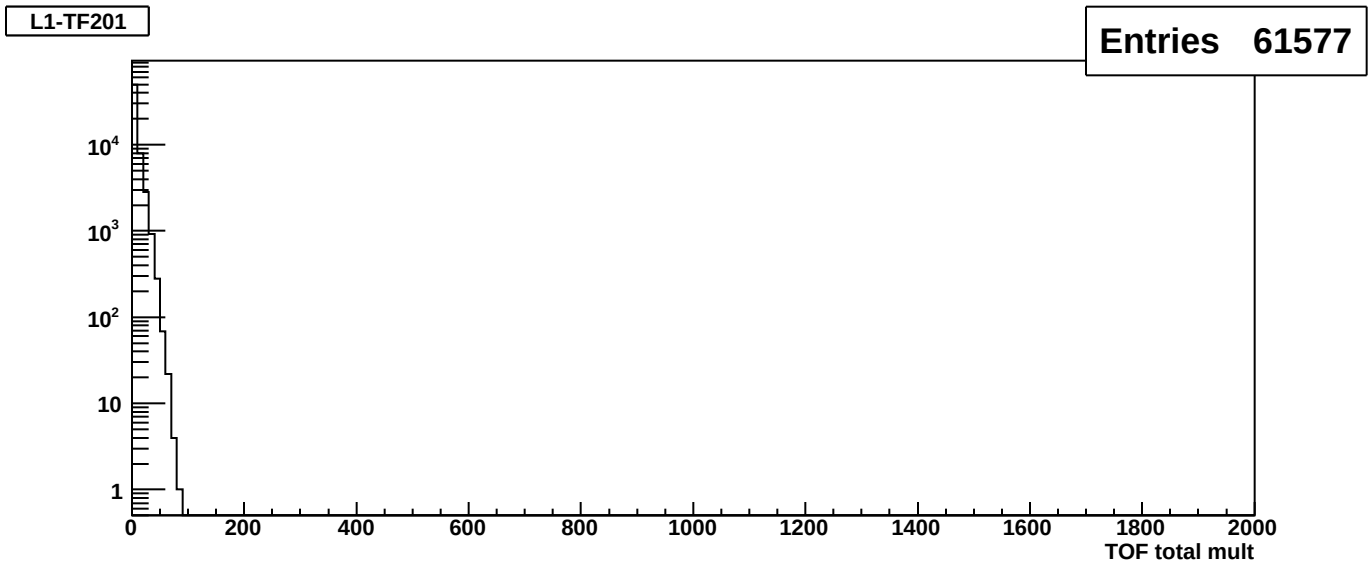

MIX-TF003
Entries 2586234
TOF MULT
TOF tray

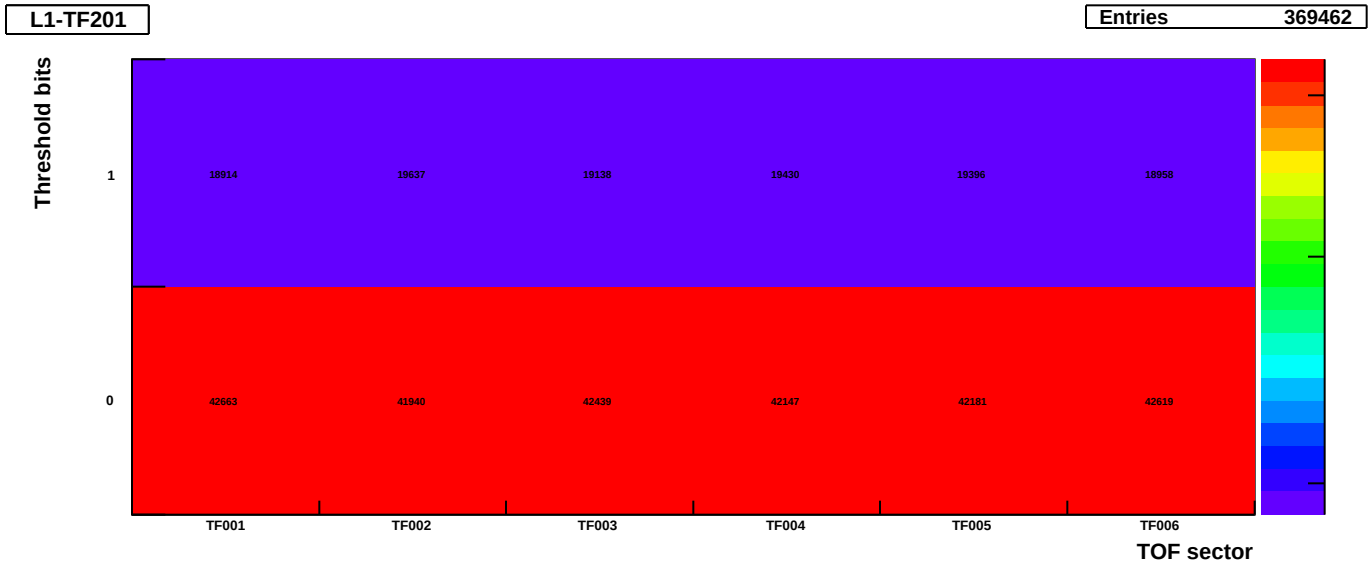

MIX-TF004
Entries 2586234
TOF MULT
TOF tray

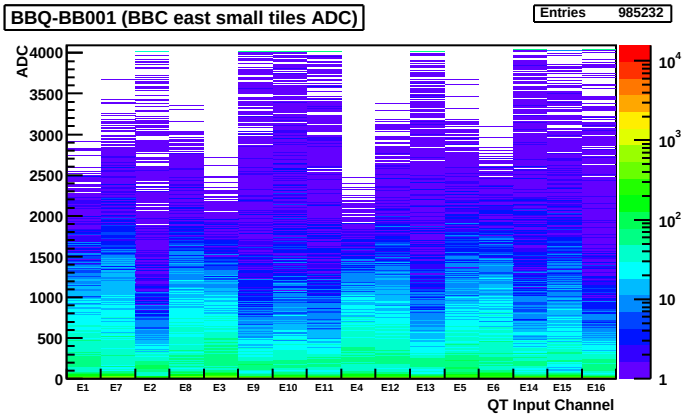

MIX-TF005
Entries 2586234
TOF MULT
TOF tray

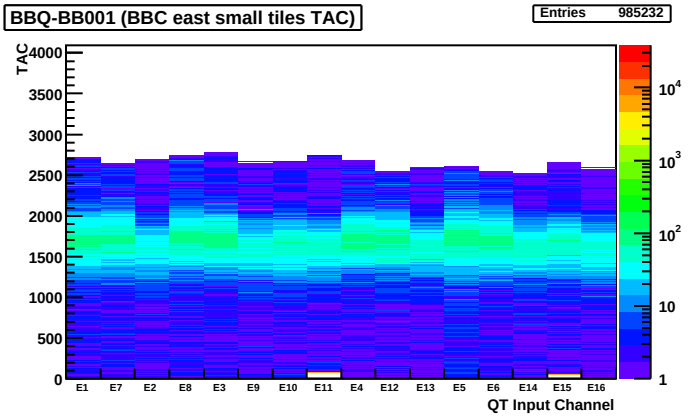

MIX-TF006
Entries 2586234
TOF MULT
TOF tray

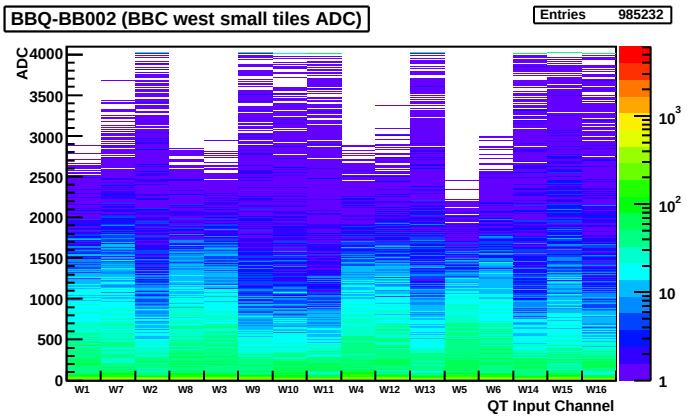

MIX-TF101
Entries 369462
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
$10^4$
$10^3$
$10^2$
10
1

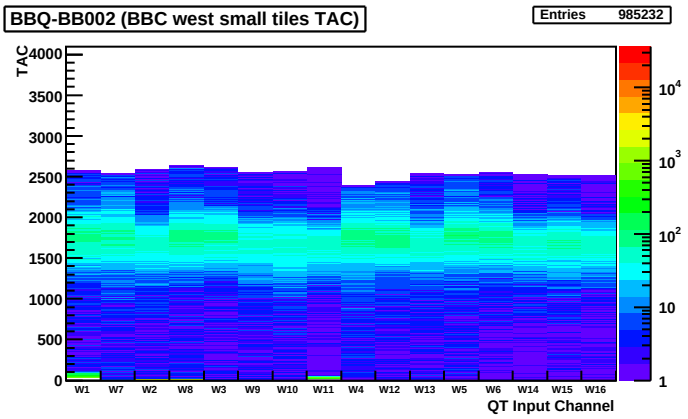

L1-TF201
Entries 61577
$10^4$
$10^3$
$10^2$
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

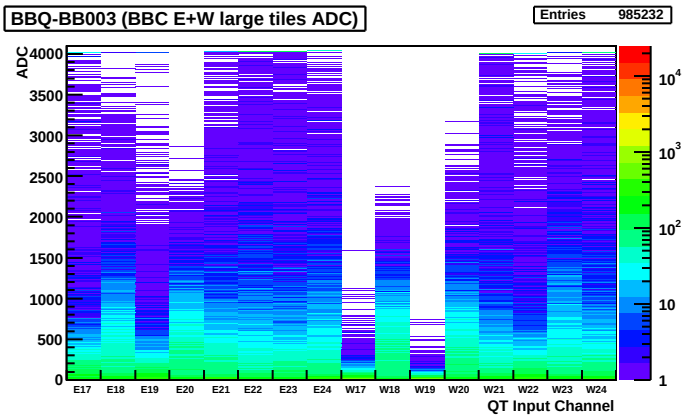

L1-TF201
Entries 369462
Threshold bits
1
0
18914
19637
19138
19430
19396
18958
42663
41940
42439
42147
42181
42619
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

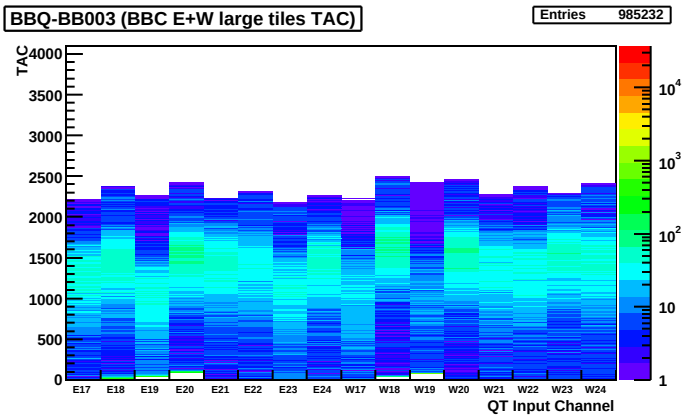

BBQ-BB001 (BBC east small tiles ADC)
Entries 985232
ADC
QT Input Channel

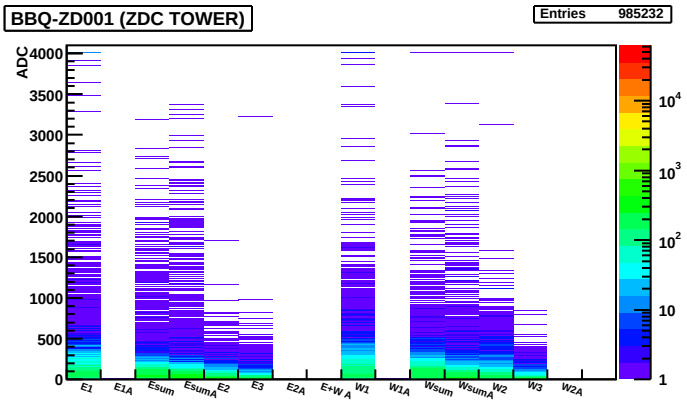

BBQ-BB001 (BBC east small tiles TAC)
Entries 985232
TAC
QT Input Channel

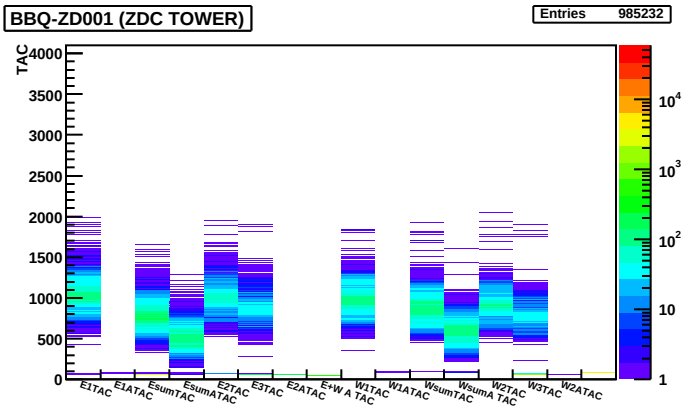

BBQ-BB002 (BBC west small tiles ADC)
Entries 985232
ADC
QT Input Channel

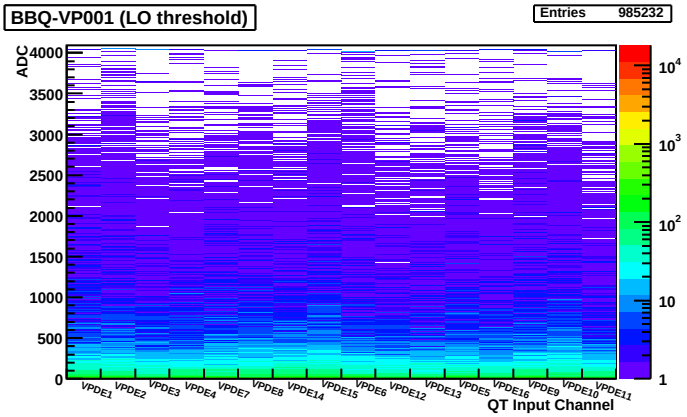

BBQ-BB002 (BBC west small tiles TAC)
Entries 985232
TAC
QT Input Channel

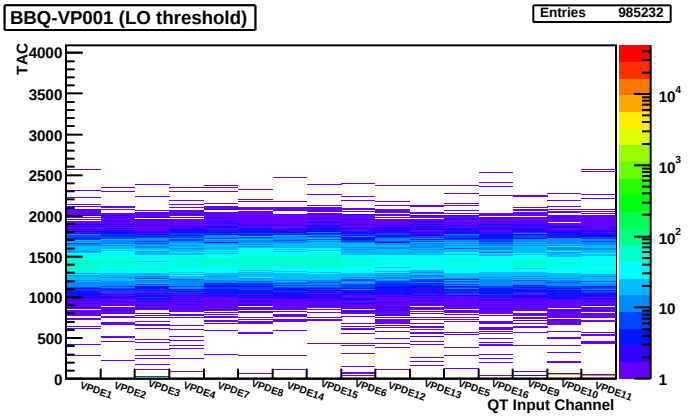

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 985232
ADC
QT Input Channel

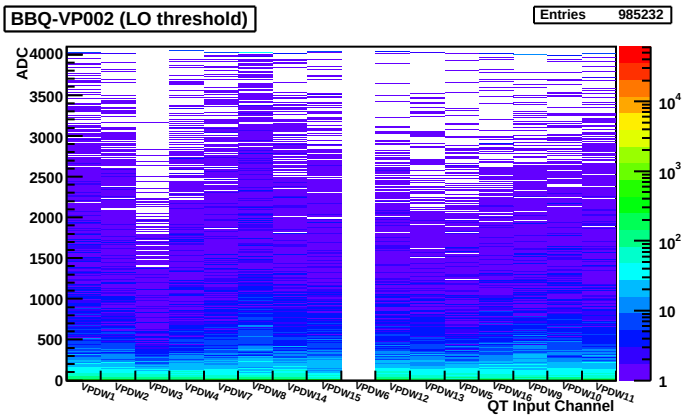

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 985232
TAC
QT Input Channel

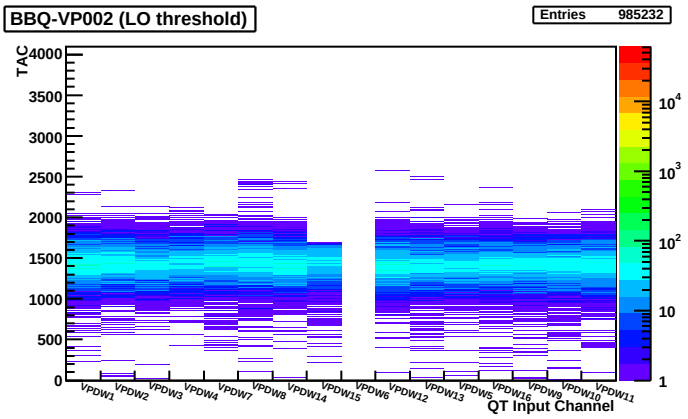

BBQ-ZD001 (ZDC TOWER)
Entries 985232
ADC

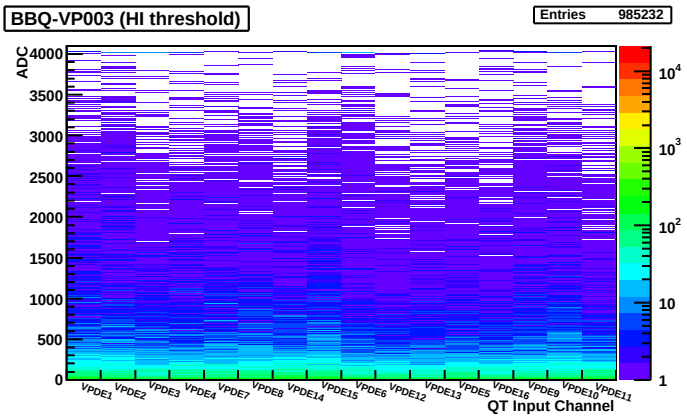

BBQ-ZD001 (ZDC TOWER)
Entries 985232
TAC

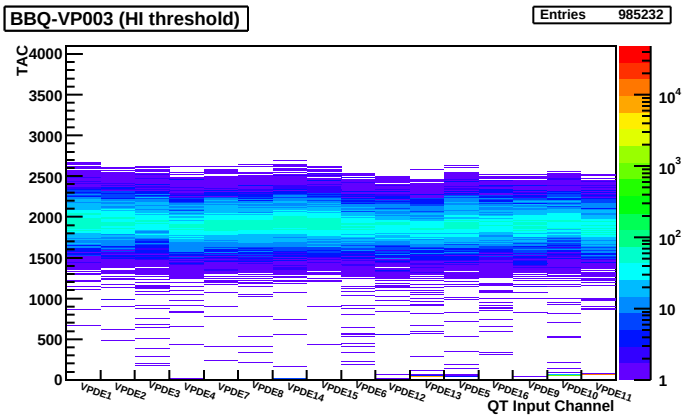

BBQ-VP001 (LO threshold)
Entries 985232
ADC
QT Input Channel

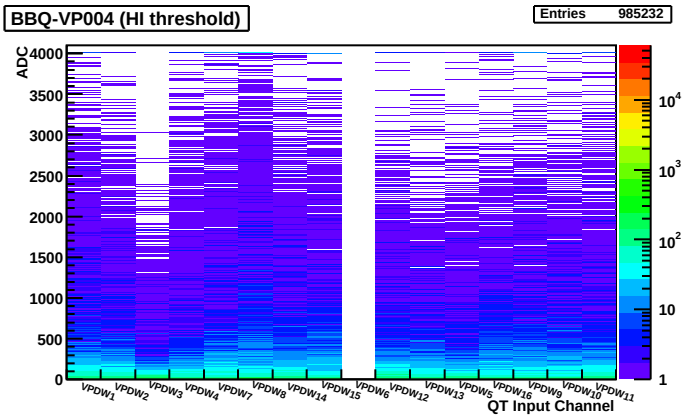

BBQ-VP001 (LO threshold)
Entries 985232
TAC
QT Input Channel

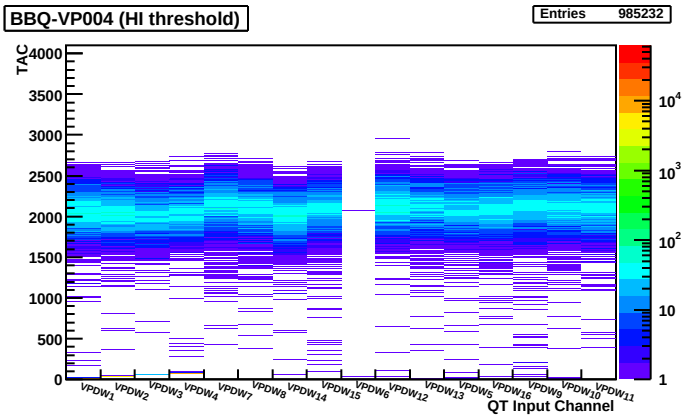

BBQ-VP002 (LO threshold)
Entries 985232
ADC
QT Input Channel

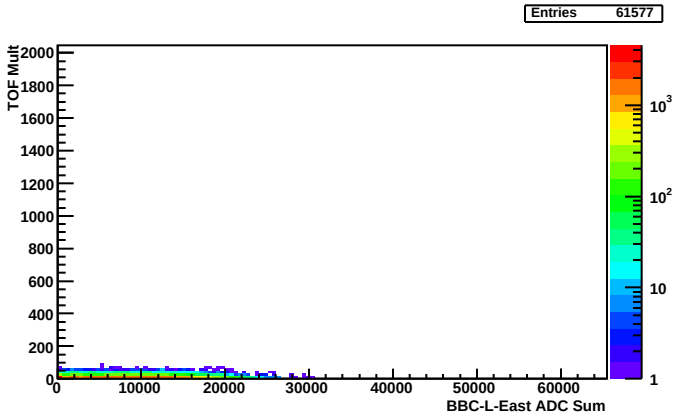

BBQ-VP002 (LO threshold)
Entries 985232
TAC
QT Input Channel

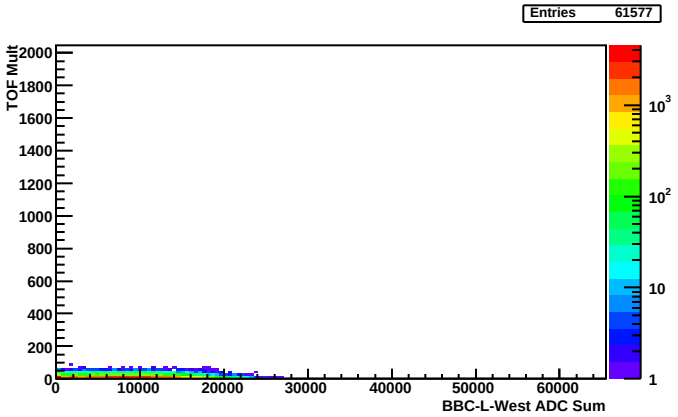

BBQ-VP003 (HI threshold)
Entries 985232
ADC
QT Input Channel

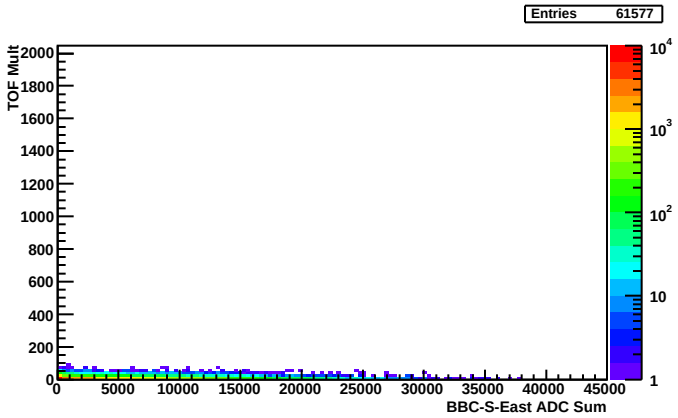

BBQ-VP003 (HI threshold)
Entries 985232
TAC
QT Input Channel

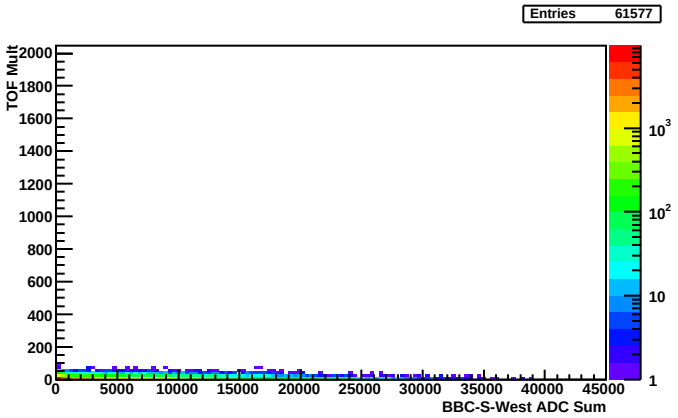

BBQ-VP004 (HI threshold)
Entries 985232
ADC
QT Input Channel

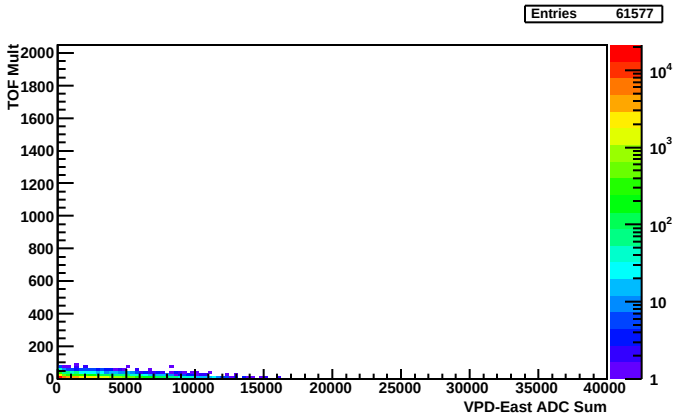

BBQ-VP004 (HI threshold)
Entries 985232
TAC
QT Input Channel

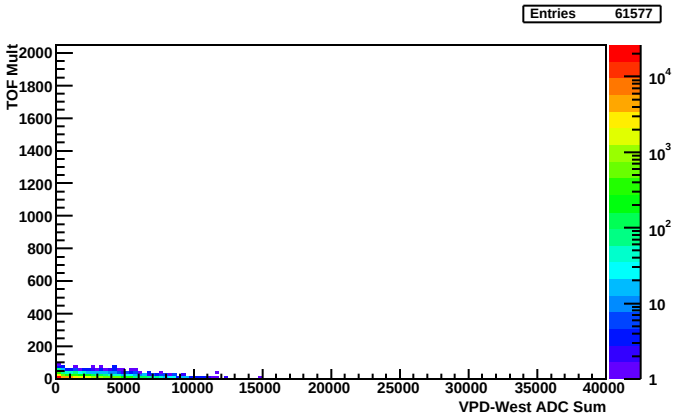

Entries 61577
TOF Mult
BBC-L-East ADC Sum

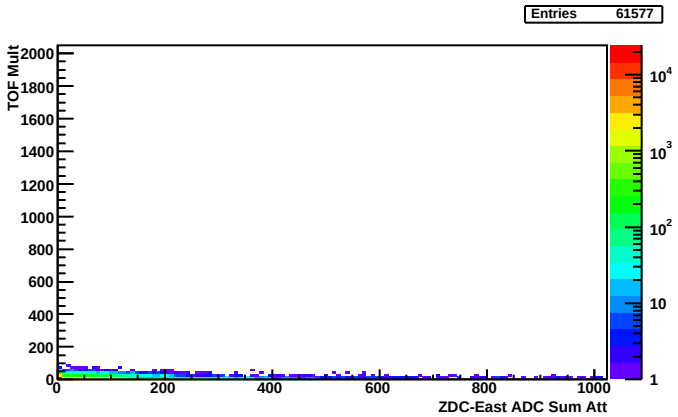

Entries 61577
TOF Mult
BBC-L-West ADC Sum

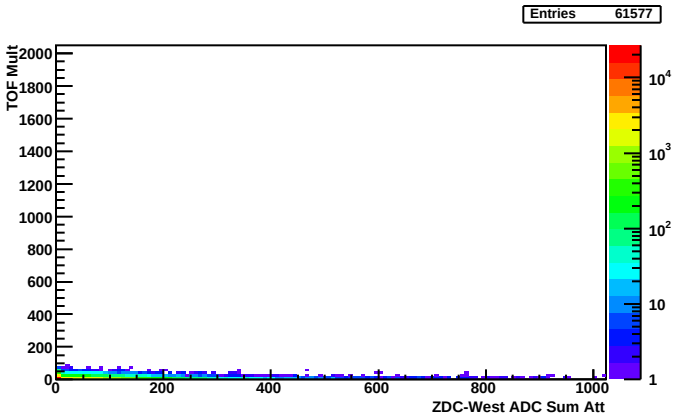

Entries 61577
TOF Mult
BBC-S-East ADC Sum

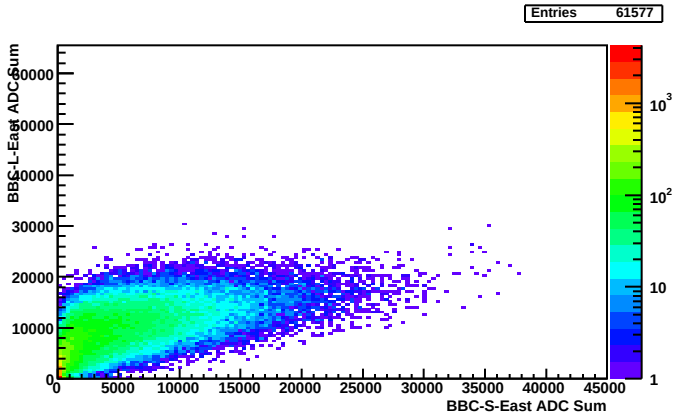

Entries 61577
TOF Mult
BBC-S-West ADC Sum

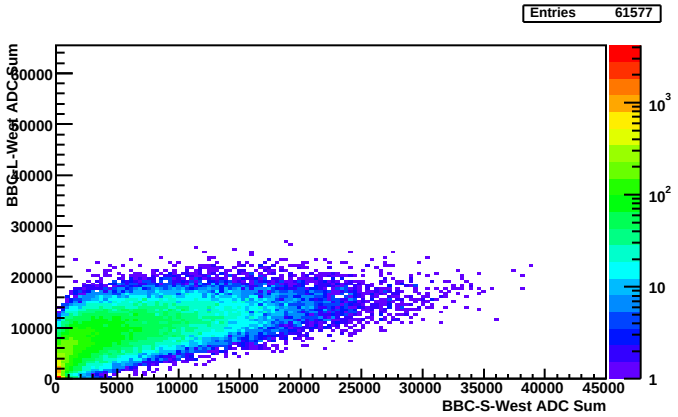

Entries 61577
TOF Mult
VPD-East ADC Sum

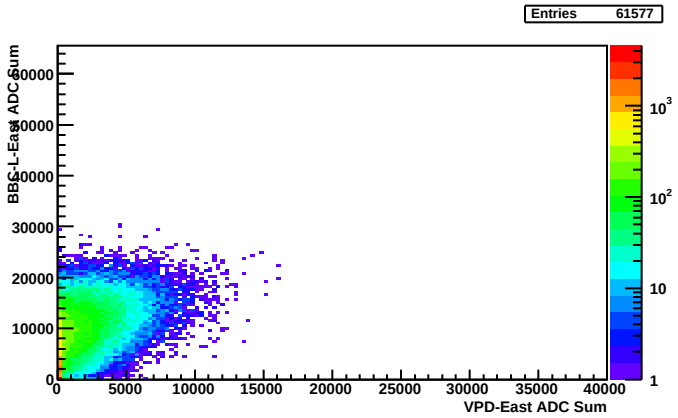

Entries 61577
TOF Mult
VPD-West ADC Sum

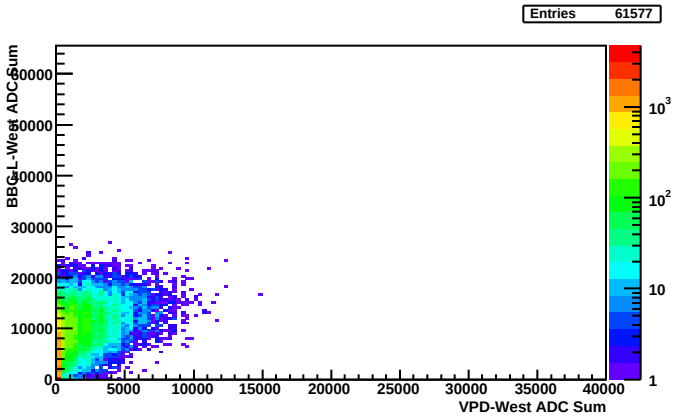

Entries 61577
TOF Mult
ZDC-East ADC Sum Att

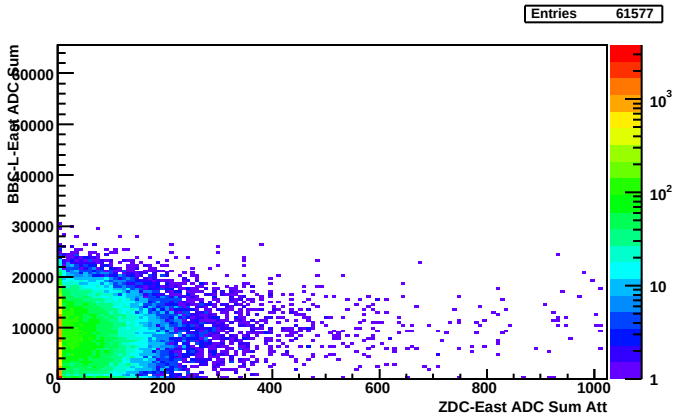

Entries 61577
TOF Mult
ZDC-West ADC Sum Att

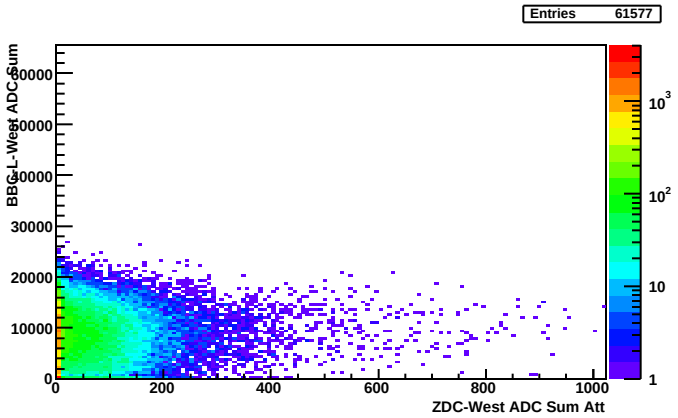

Entries 61577
BBC-L-East ADC Sum
BBC-S-East ADC Sum

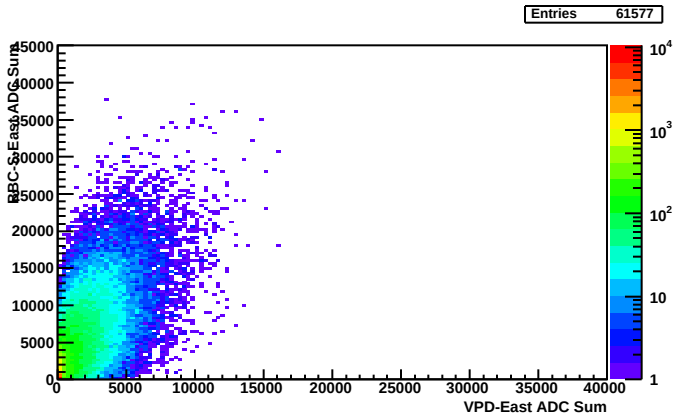

Entries 61577
BBC-L-West ADC Sum
BBC-S-West ADC Sum

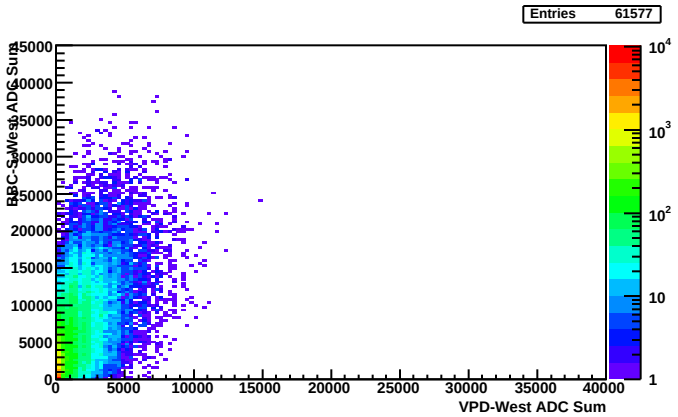

Entries 61577
BBC-L-East ADC Sum
VPD-East ADC Sum

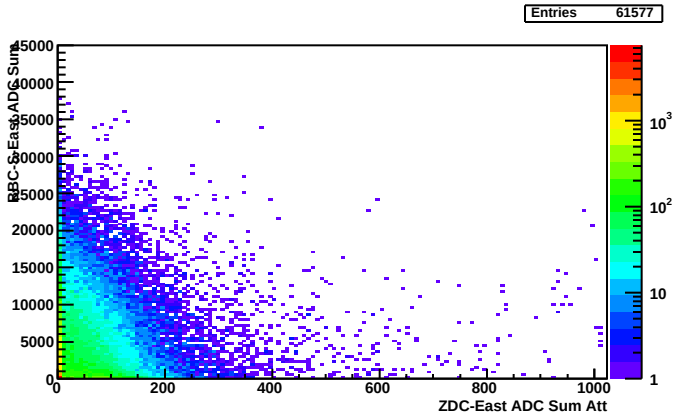

Entries 61577
BBC-L-West ADC Sum
VPD-West ADC Sum

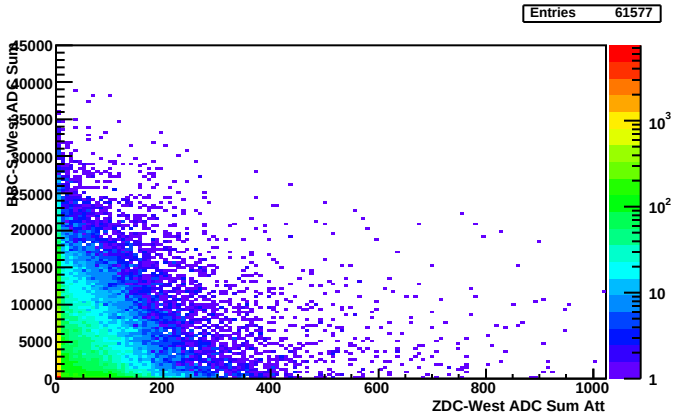

Entries 61577
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

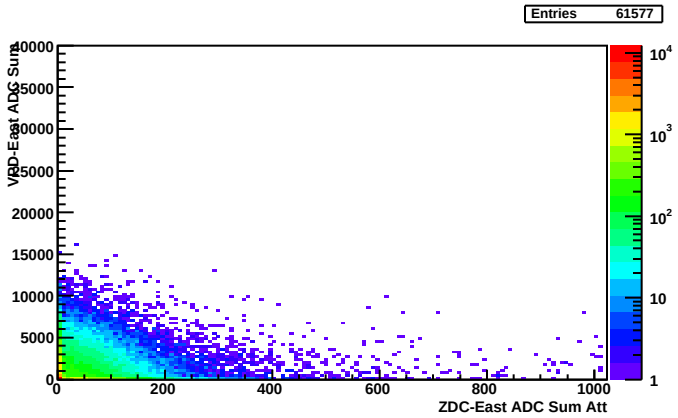

Entries 61577
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

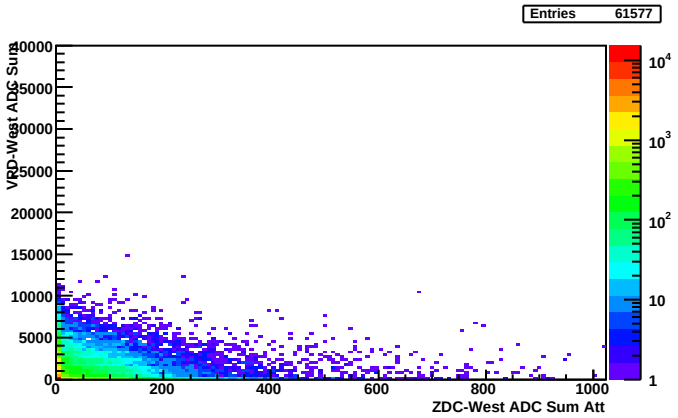

Entries 61577
BBC-S-East ADC Sum
VPD-East ADC Sum

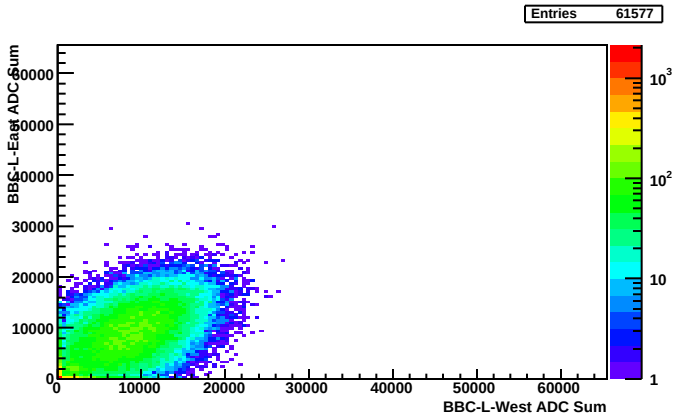

Entries 61577
BBC-S-West ADC Sum
VPD-West ADC Sum

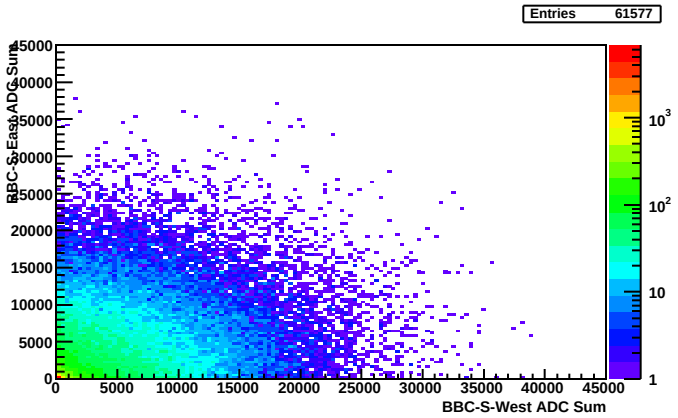

Entries 61577
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

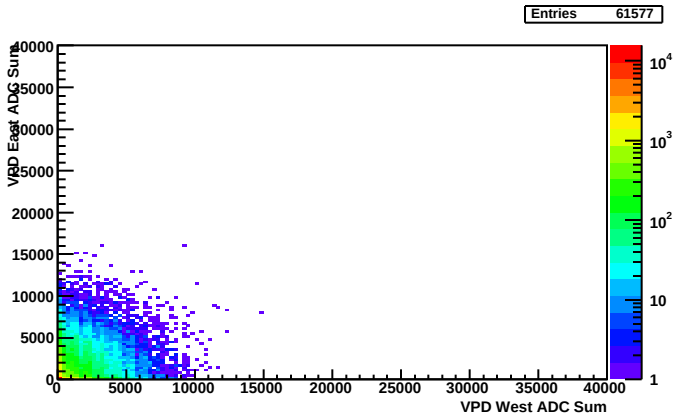

Entries 61577
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

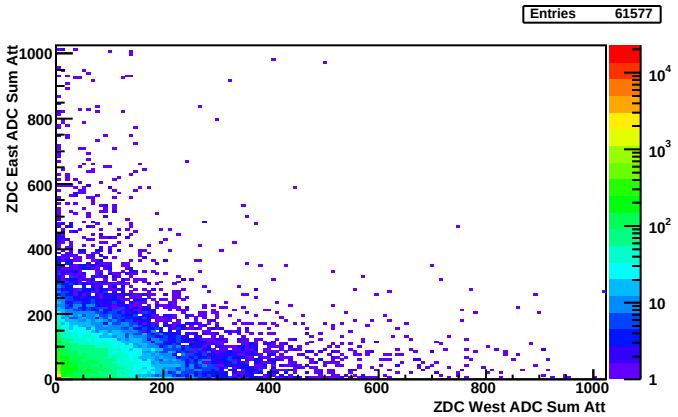

Entries 61577
VPD-East ADC Sum
ZDC-East ADC Sum Att

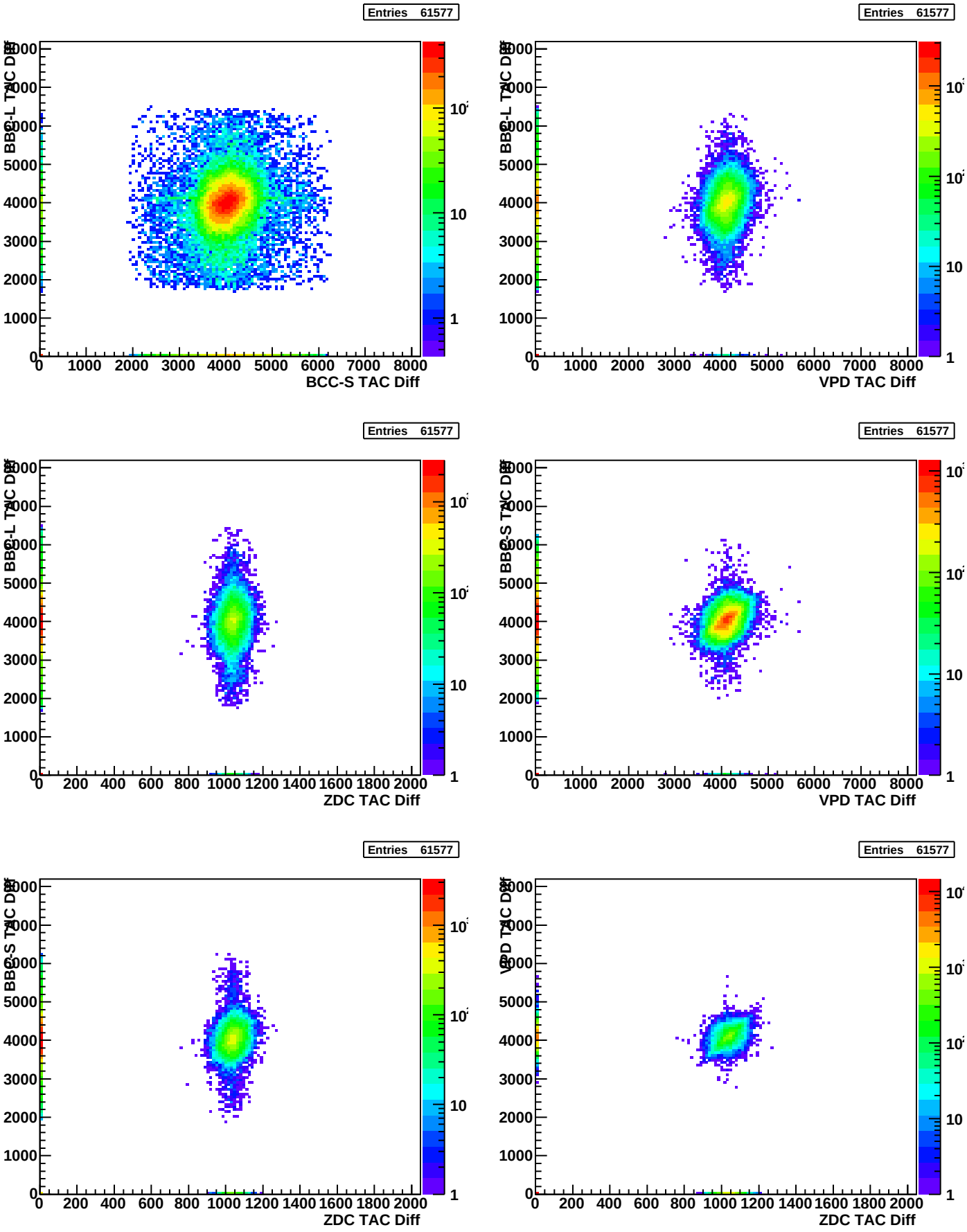

Entries 61577
VPD-West ADC Sum
ZDC-West ADC Sum Att

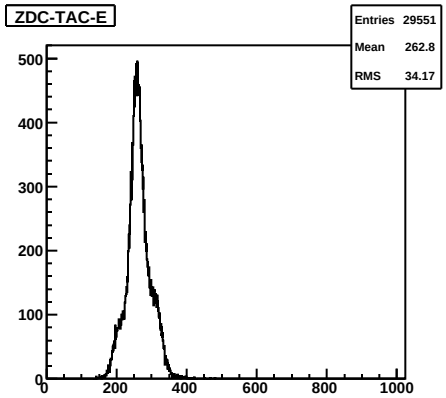

Entries 61577
BBC-L-East ADC Sum
BBC-L-West ADC Sum

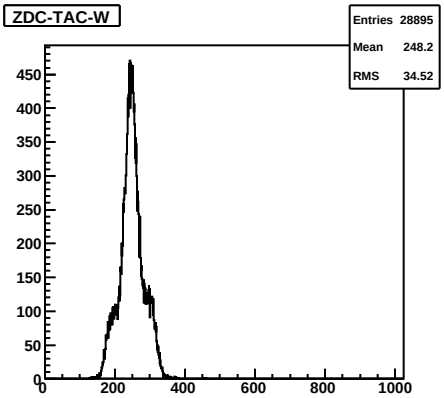

Entries 61577
BBC-S-East ADC Sum
BBC-S-West ADC Sum

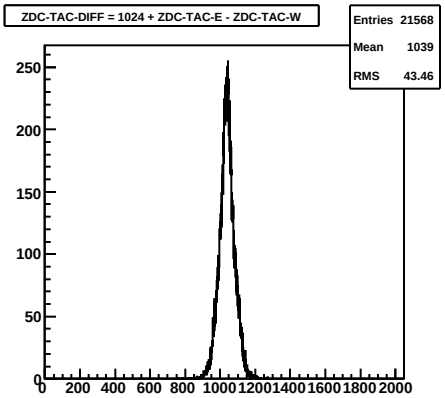

Entries 61577
VPD East ADC Sum
VPD West ADC Sum

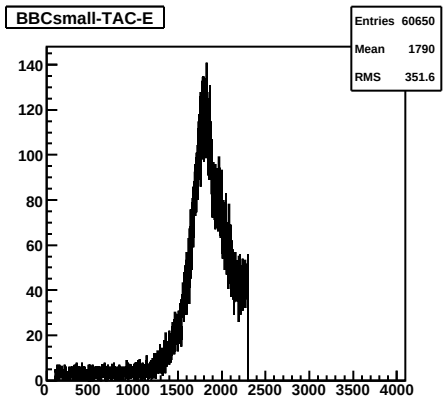

Entries 61577
ZDC East ADC Sum Att
ZDC West ADC Sum Att

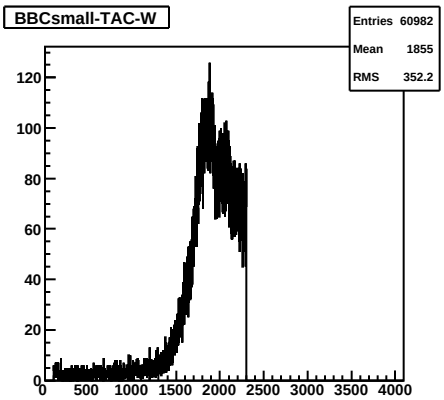

Entries 61577
BBC-L TAC Diff
BCC-S TAC Diff
Entries 61577
BBC-L TAC Diff
VPD TAC Diff
Entries 61577
BBC-L TAC Diff
ZDC TAC Diff
Entries 61577
BBC-S TAC Diff
VPD TAC Diff
Entries 61577
BBC-S TAC Diff
ZDC TAC Diff
Entries 61577
VPD TAC Diff
ZDC TAC Diff

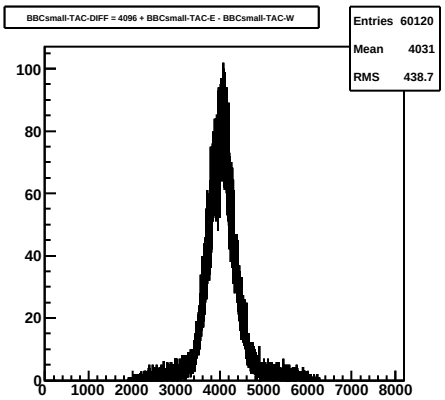

ZDC-TAC-E
Entries 29551
Mean 262.8
RMS 34.17

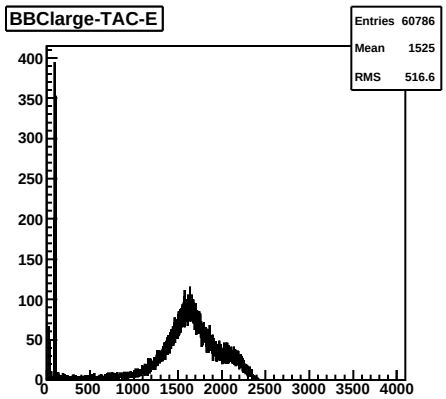

ZDC-TAC-W
Entries 28895
Mean 248.2
RMS 34.52

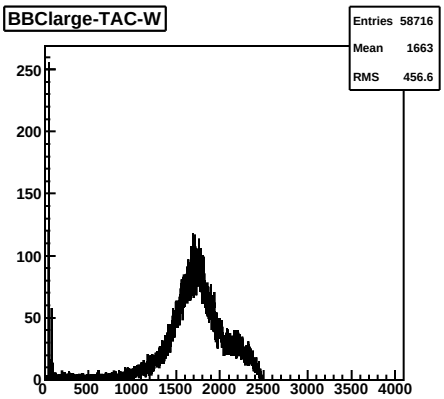

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 21568
Mean 1039
RMS 43.46

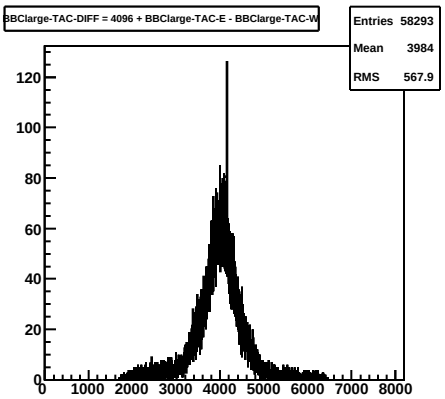

BBCsmall-TAC-E
Entries 60650
Mean 1790
RMS 351.6

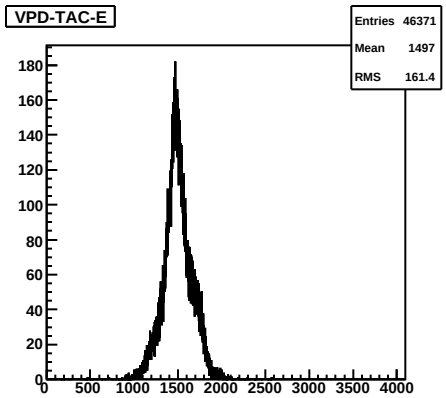

BBCsmall-TAC-W
Entries 60982
Mean 1855
RMS 352.2

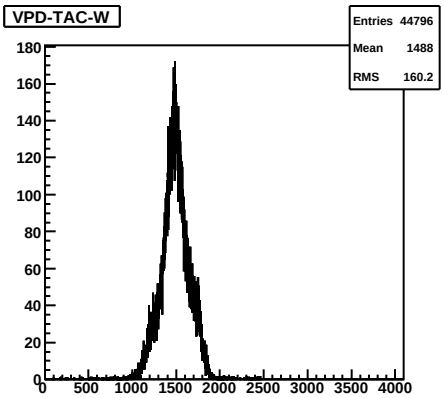

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 60120
Mean 4031
RMS 438.7

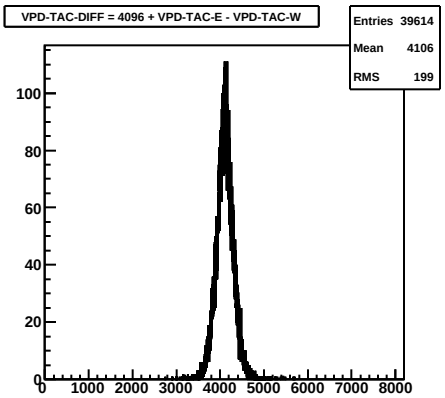

BBClarge-TAC-E
Entries 60786
Mean 1525
RMS 516.6

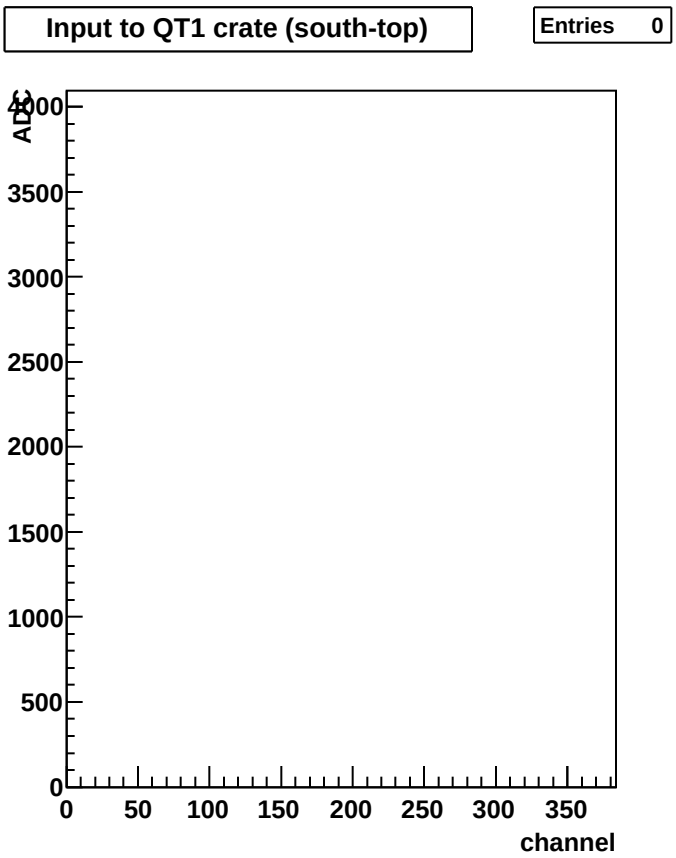

BBClarge-TAC-W
Entries 58716
Mean 1663
RMS 456.6

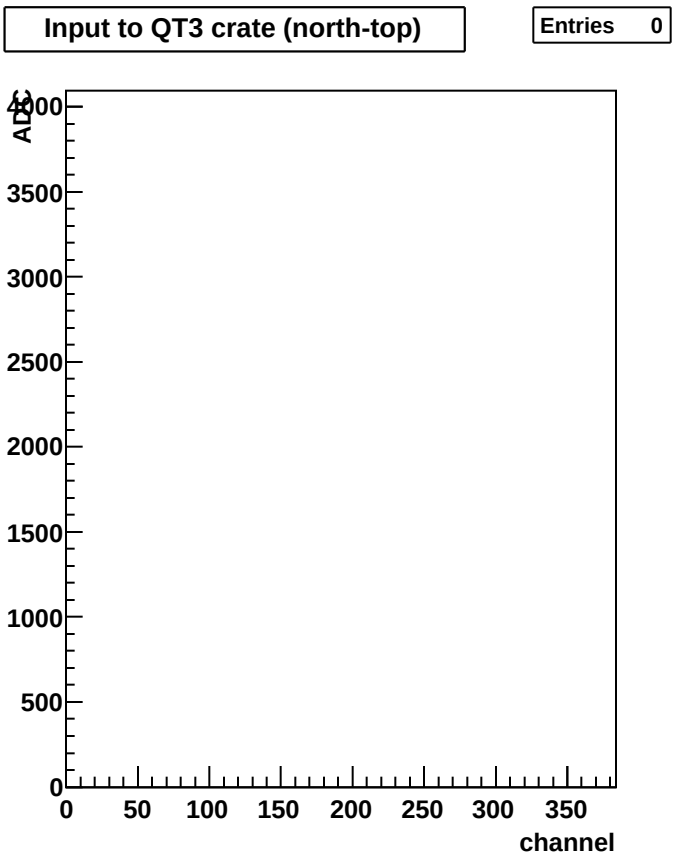

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 58293
Mean 3984
RMS 567.9

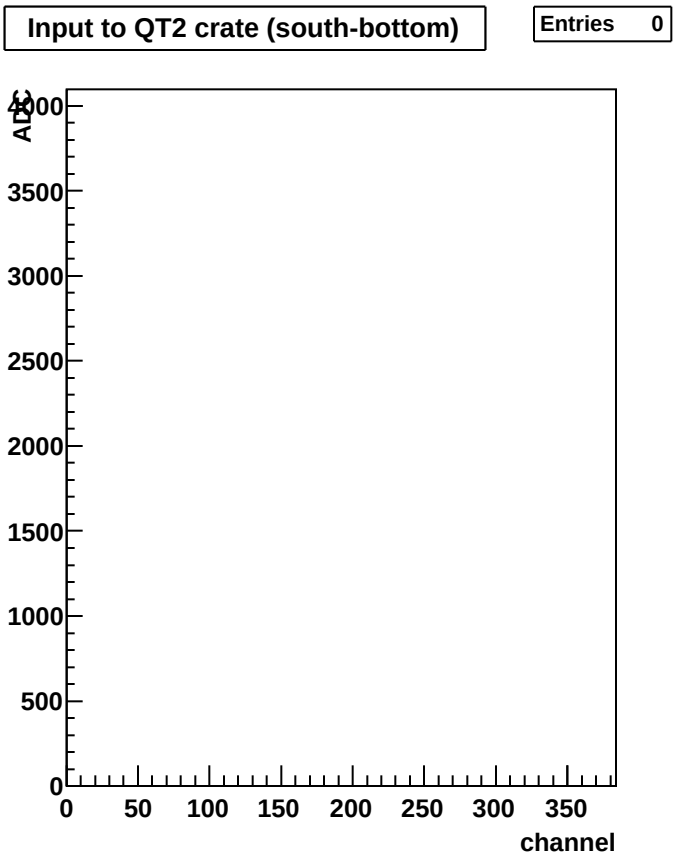

VPD-TAC-E
Entries 46371
Mean 1497
RMS 161.4

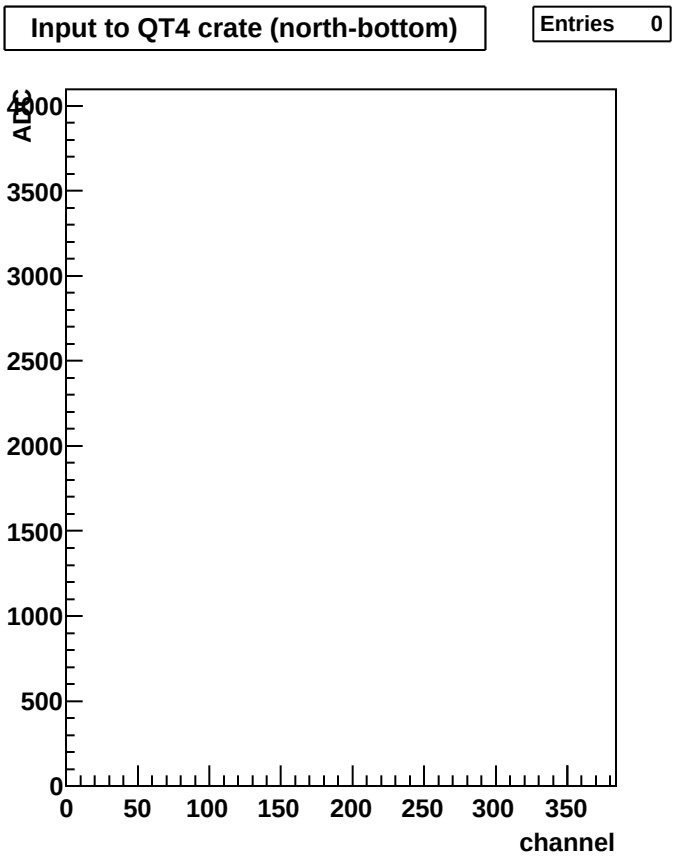

VPD-TAC-W
Entries 44796
Mean 1488
RMS 160.2

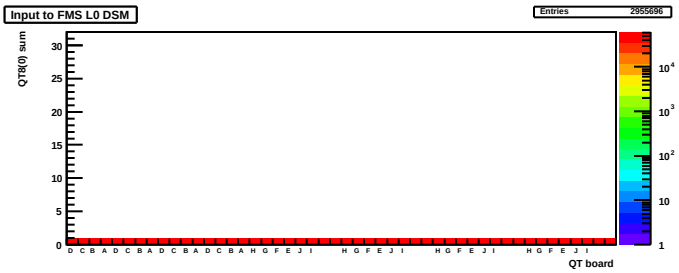

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 39614
Mean 4106
RMS 199

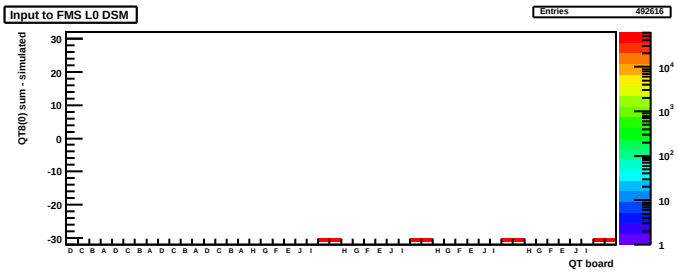

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

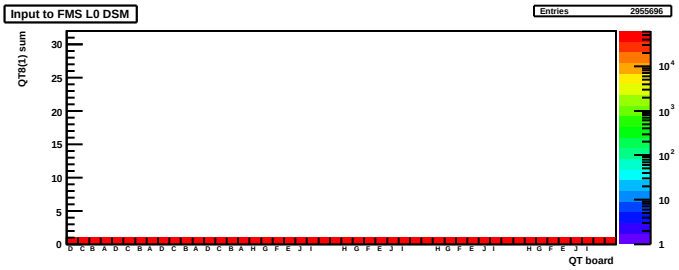

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

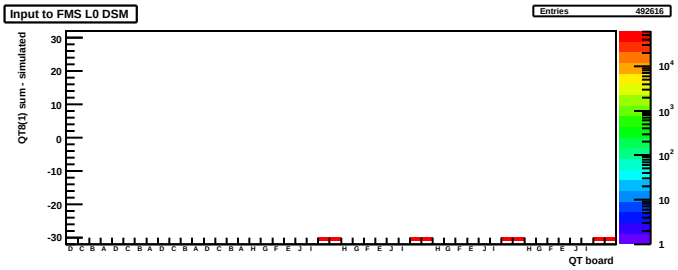

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

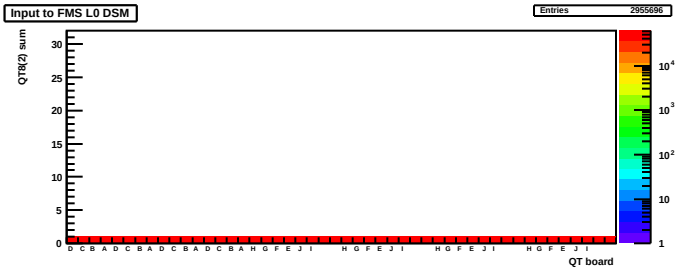

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

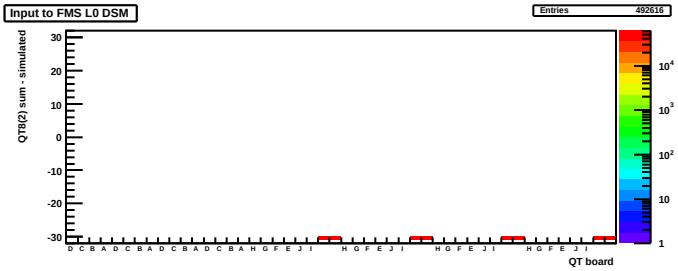

Input to FMS L0 DSM
Entries 2955696
QT8(0) sum
QT board

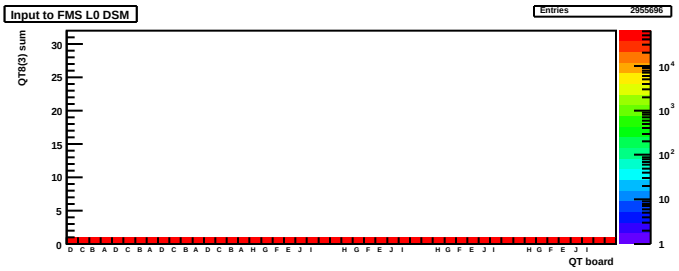

Input to FMS L0 DSM
Entries 492616
QT8(0) sum - simulated
QT board

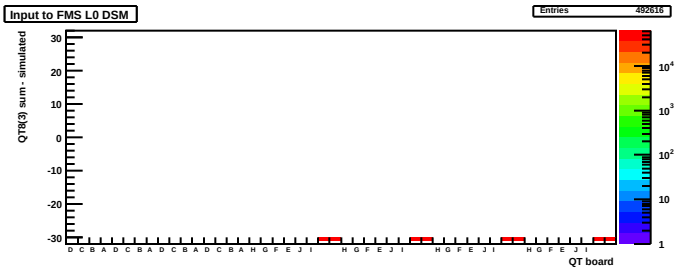

Input to FMS L0 DSM
Entries 2955696
QT8(1) sum
QT board

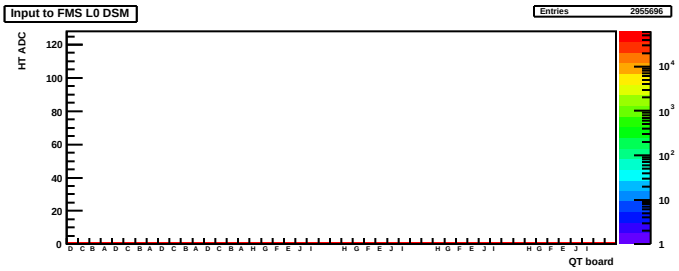

Input to FMS L0 DSM
Entries 492616
QT8(1) sum - simulated
QT board

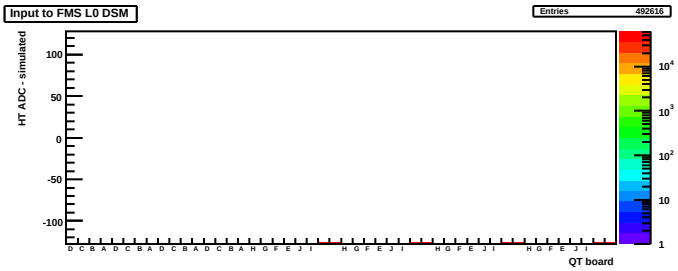

Input to FMS L0 DSM
Entries 2955696
QT8(2) sum
QT board

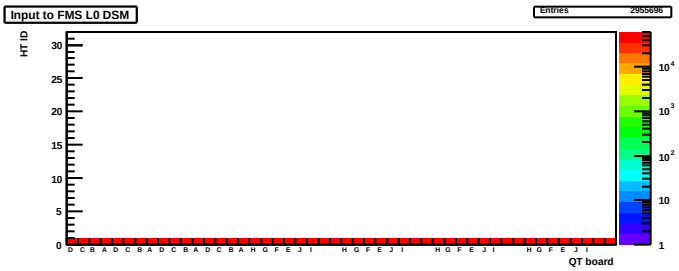

Input to FMS L0 DSM
Entries 492616
QT8(2) sum - simulated
QT board

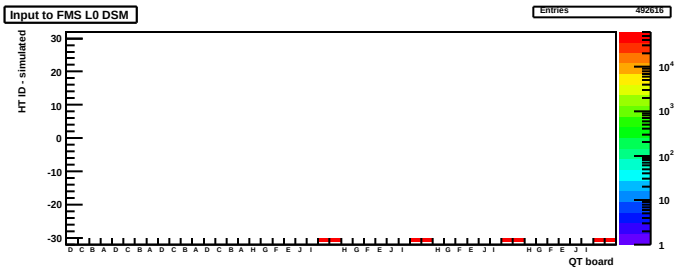

Input to FMS L0 DSM
Entries 2955696
QT8(3) sum
QT board

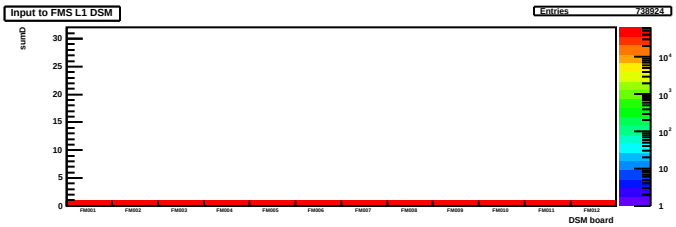

Input to FMS L0 DSM
Entries 492616
QT8(3) sum - simulated
QT board

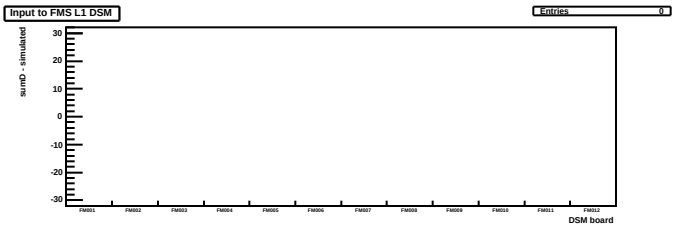

Input to FMS L0 DSM
Entries 2955696
HT ADC
QT board

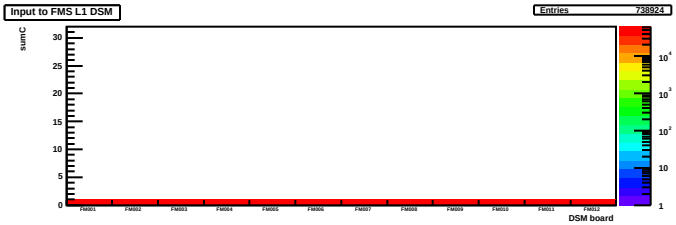

Input to FMS L0 DSM
Entries 492616
HT ADC - simulated
QT board

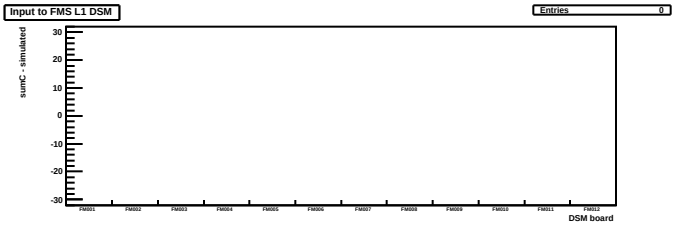

Input to FMS L0 DSM
Entries 2955696
HT ID
QT board

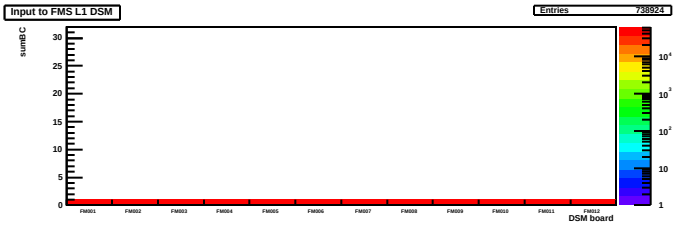

Input to FMS L0 DSM
Entries 492616
HT ID - simulated
QT board

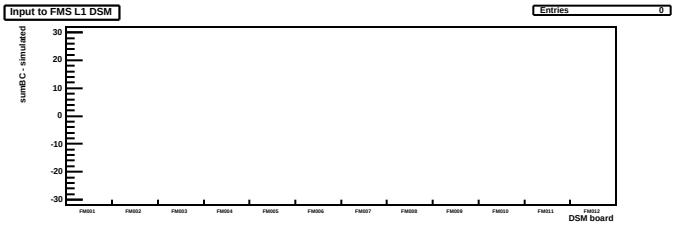

Input to FMS L1 DSM
Entries 738924
sumD
DSM board

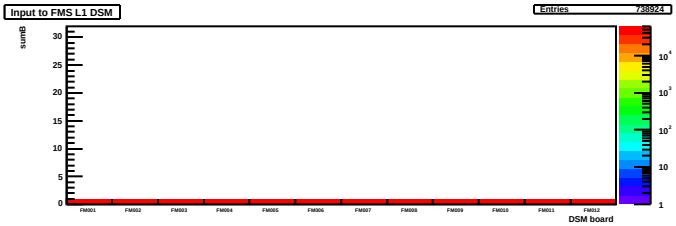

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

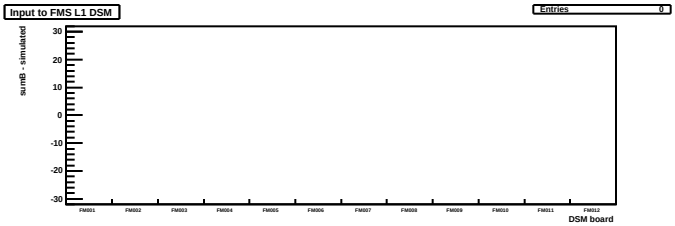

Input to FMS L1 DSM
Entries 738924
sumC
DSM board

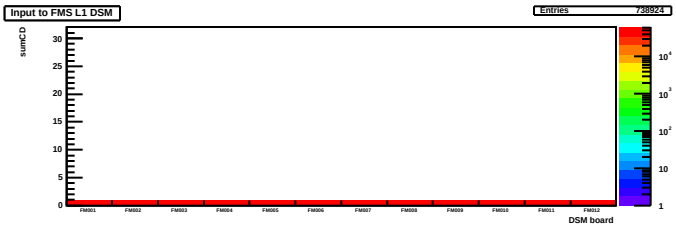

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

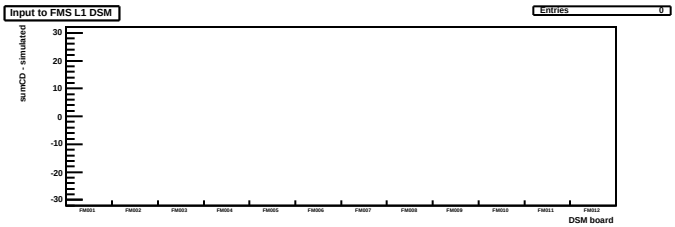

Input to FMS L1 DSM
Entries 738924
sumBC
DSM board

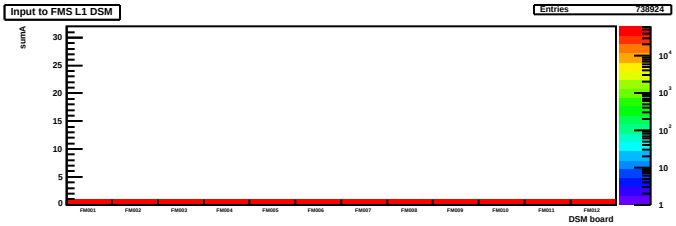

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

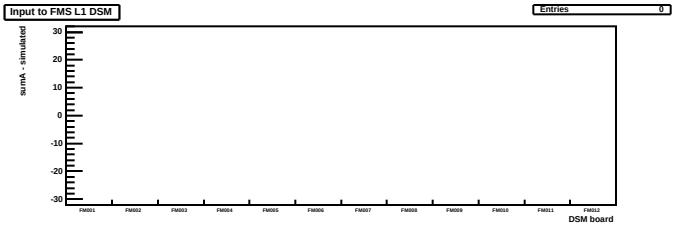

Input to FMS L1 DSM
Entries 738924
sumB
DSM board

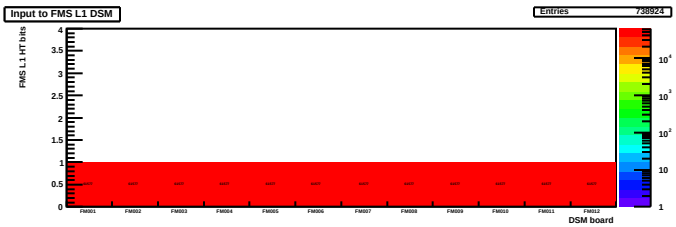

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

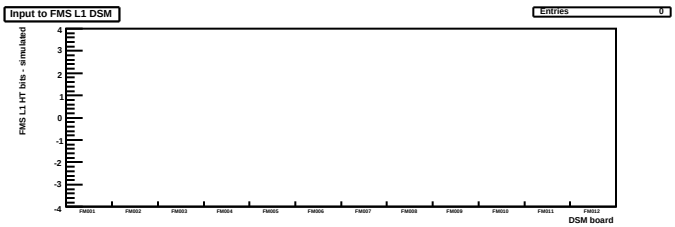

Input to FMS L1 DSM
Entries 738924
sumCD
DSM board

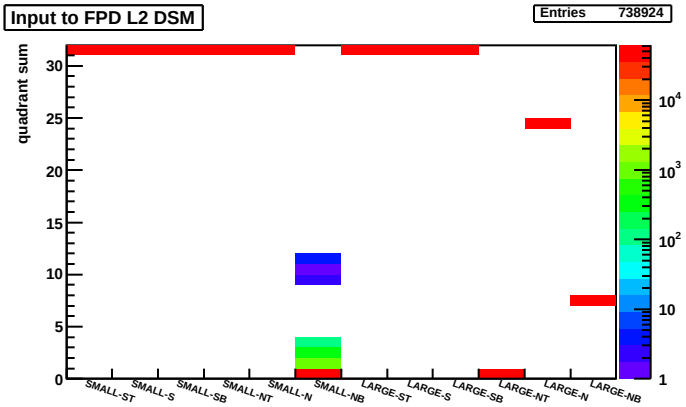

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

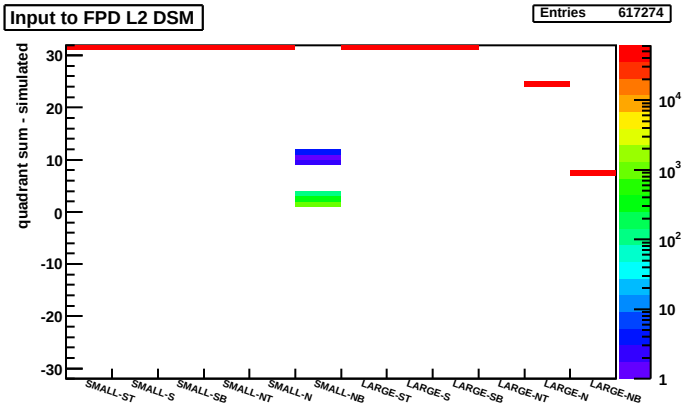

Input to FMS L1 DSM
Entries 738924
sumA
DSM board

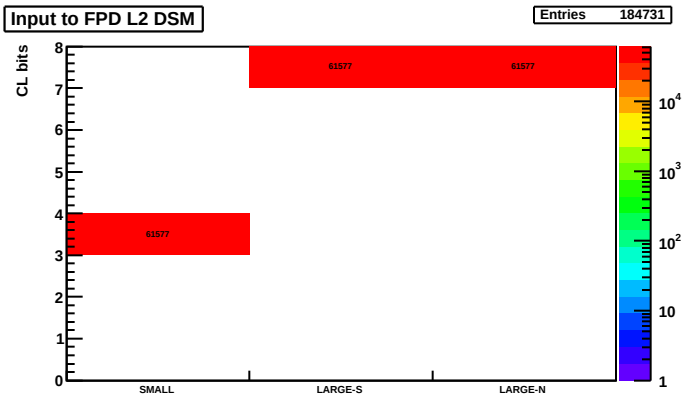

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

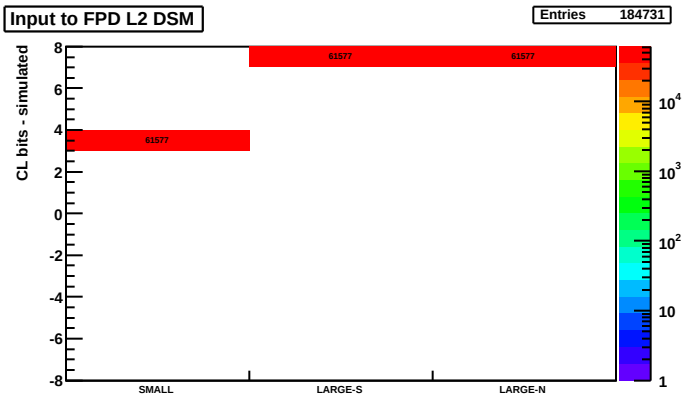

Input to FMS L1 DSM
Entries 738924
FMS L1 HT bits
DSM board

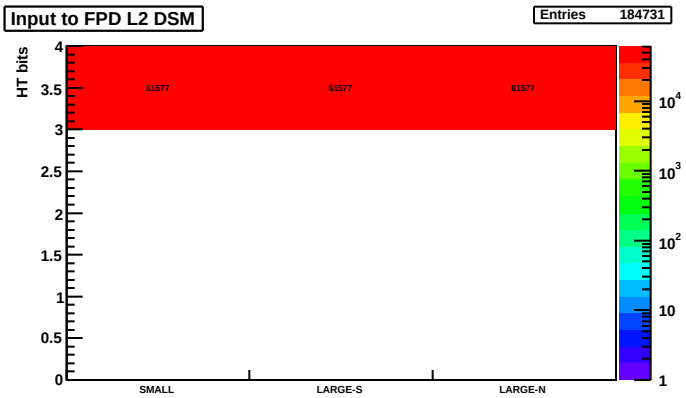

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

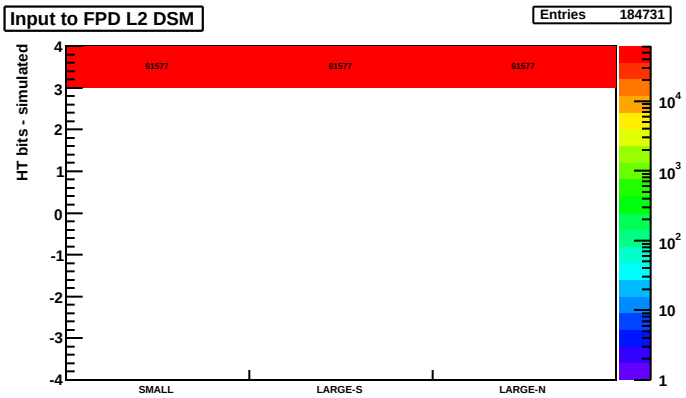

Input to FPD L2 DSM
Entries 738924
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

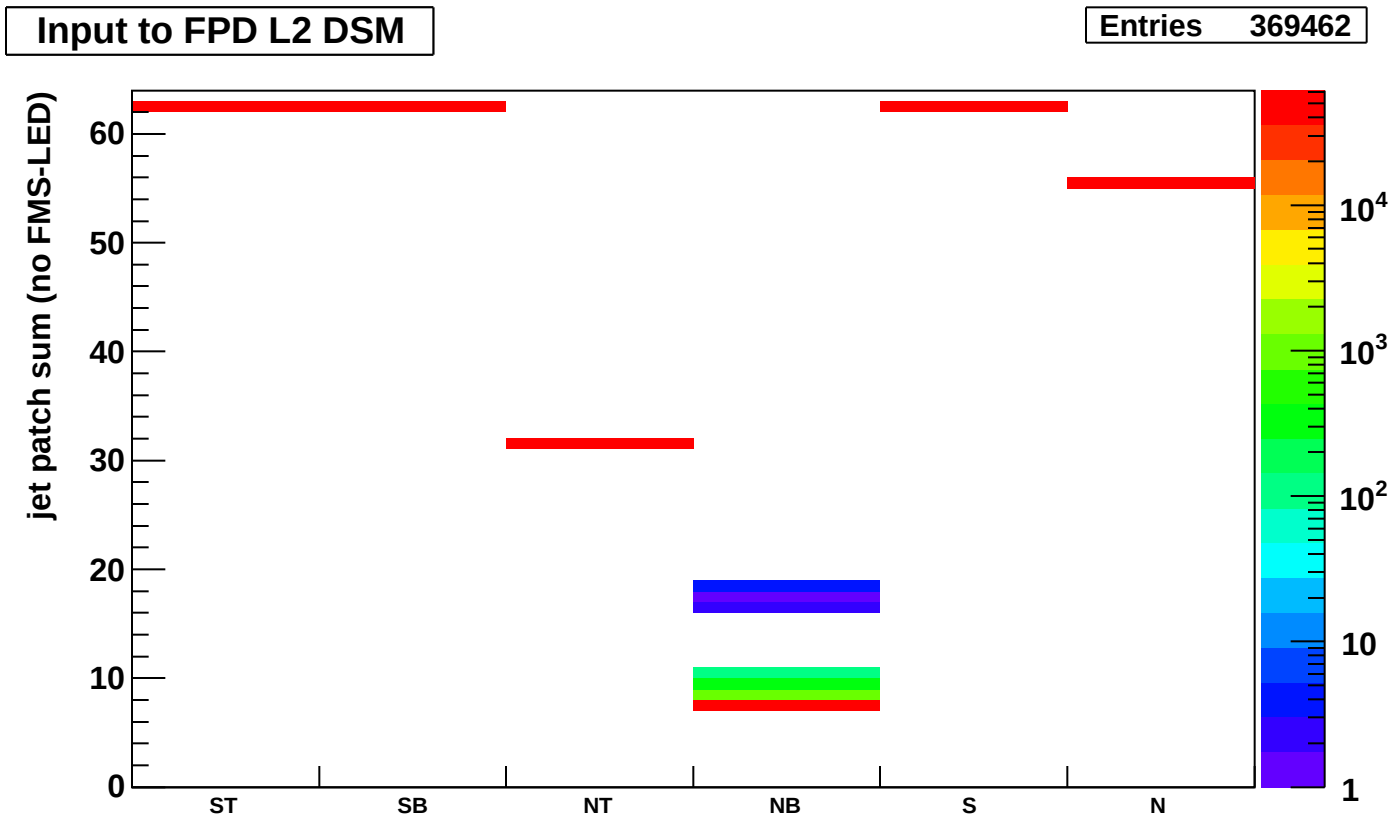

Input to FPD L2 DSM
Entries 617274
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

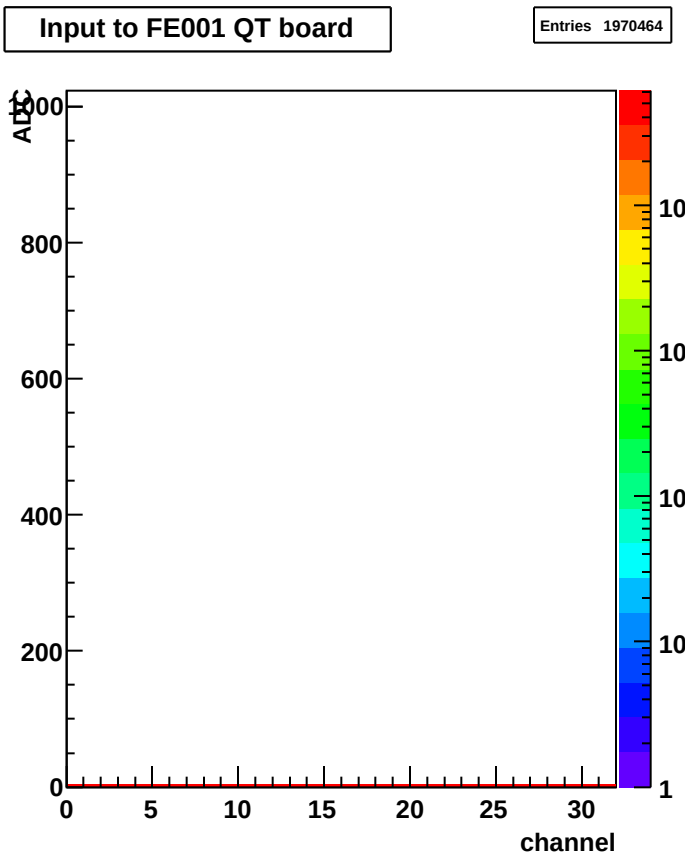

Input to FPD L2 DSM
Entries 184731
CL bits
61577
61577
61577
SMALL
LARGE-S
LARGE-N

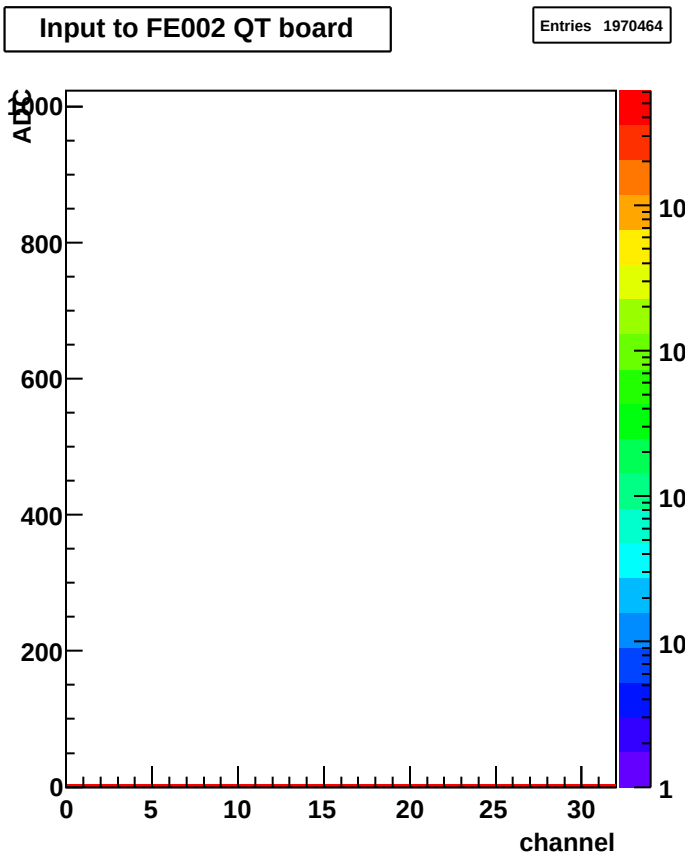

Input to FPD L2 DSM
Entries 184731
CL bits - simulated
61577
61577
61577
SMALL
LARGE-S
LARGE-N

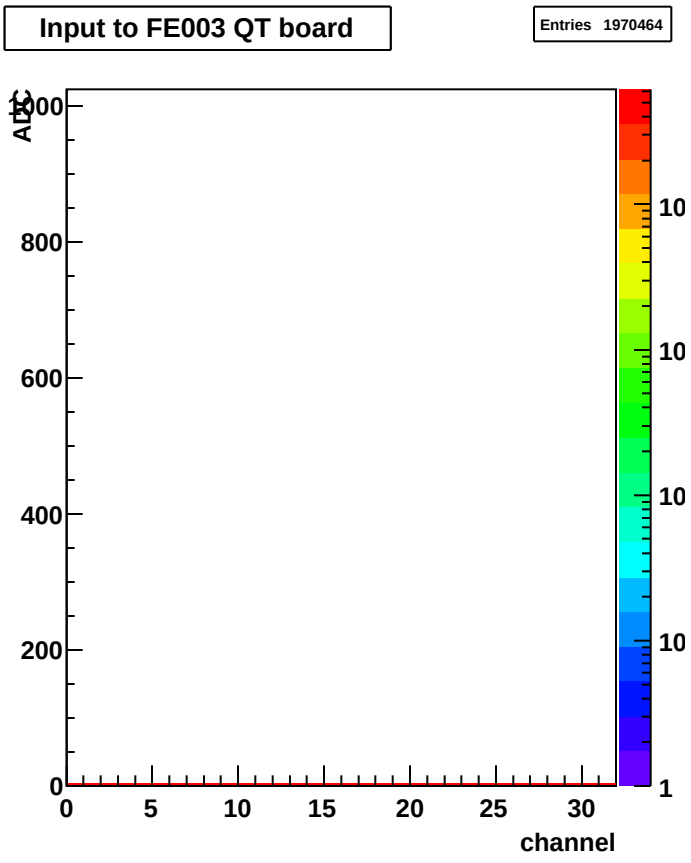

Input to FPD L2 DSM
Entries 184731
HT bits
61577
61577
61577
SMALL
LARGE-S
LARGE-N

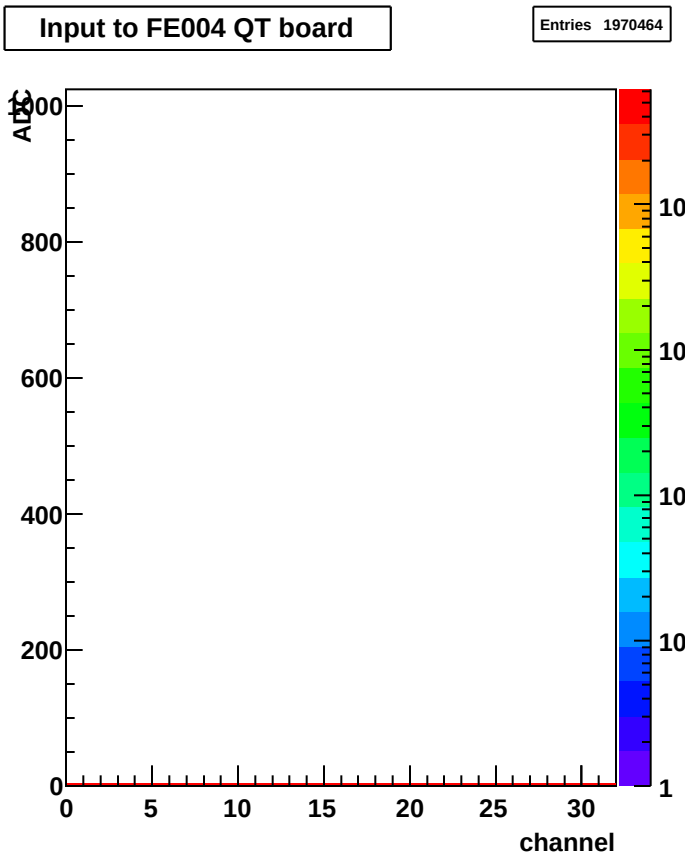

Input to FPD L2 DSM
Entries 184731
HT bits - simulated
61577
61577
61577
SMALL
LARGE-S
LARGE-N

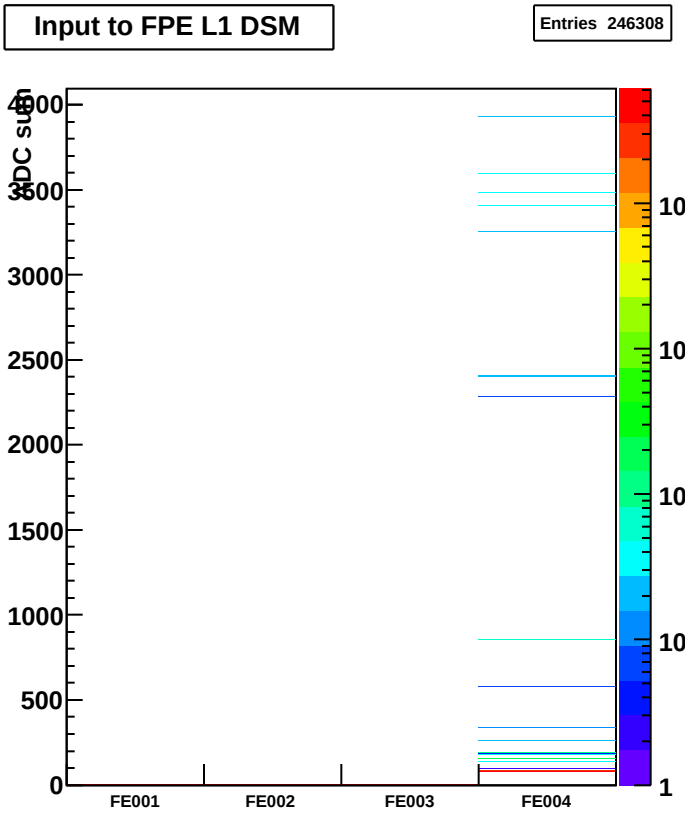

Input to FPD L2 DSM
Entries 369462
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
$10^2$
$10^3$
$10^4$

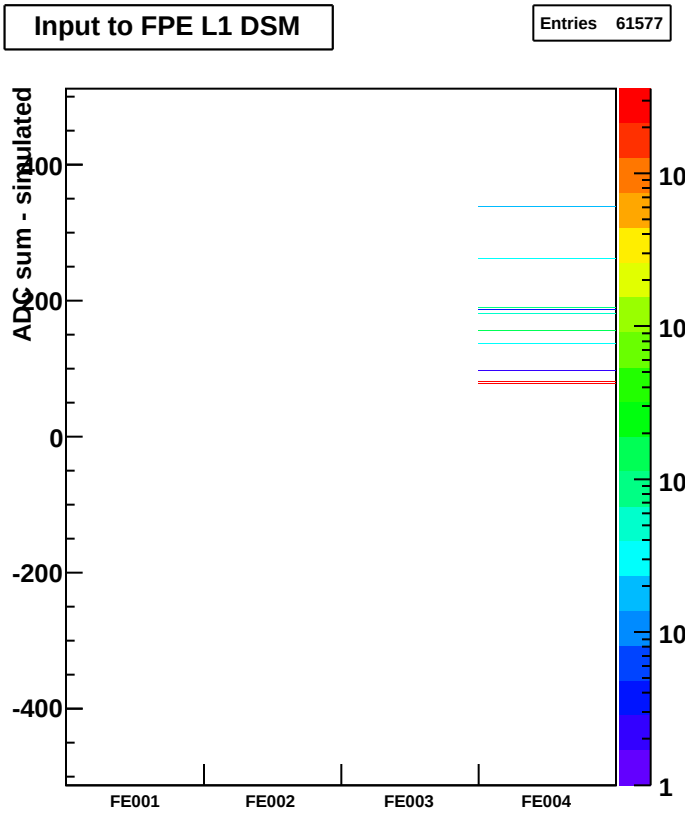

Input to FE001 QT board
Entries 1970464
ADC
channel


Input to FE002 QT board
Entries 1970464
ADC
channel

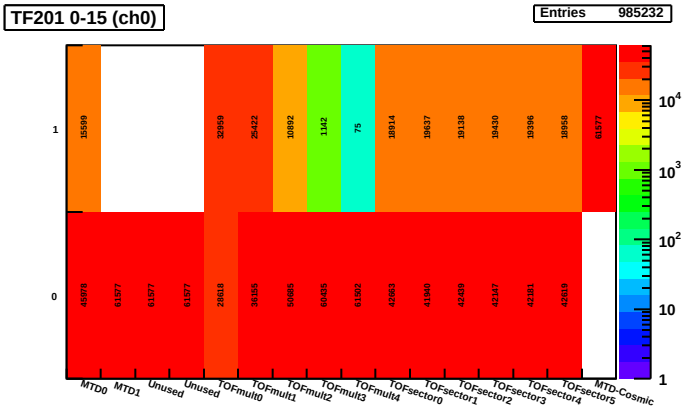

Input to FE003 QT board
Entries 1970464
ADC
channel


Input to FE004 QT board
Entries 1970464
ADC
channel

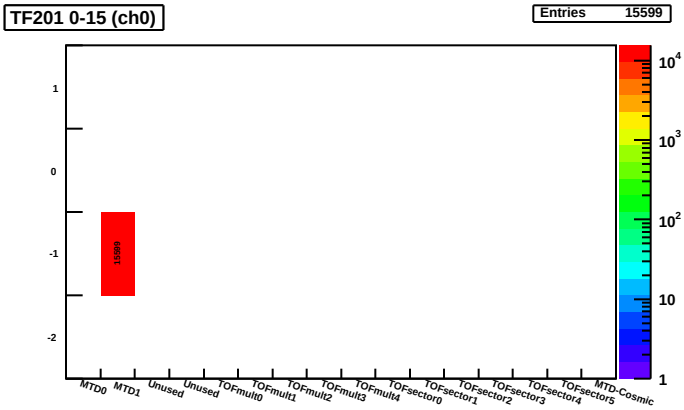

Input to FPE L1 DSM
Entries 246308
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1


Input to FPE L1 DSM
Entries 61577
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1

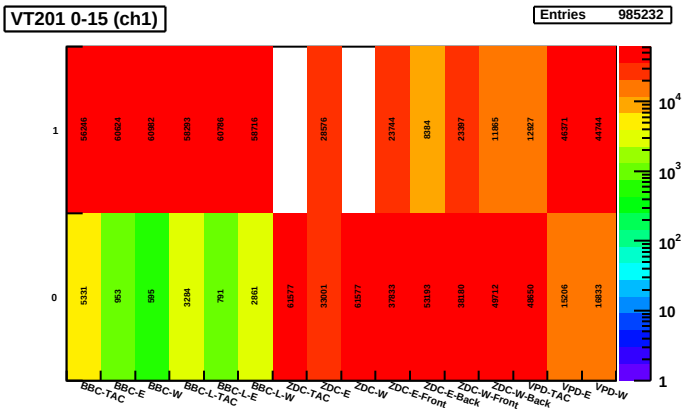
TF201 0-15 (ch0)



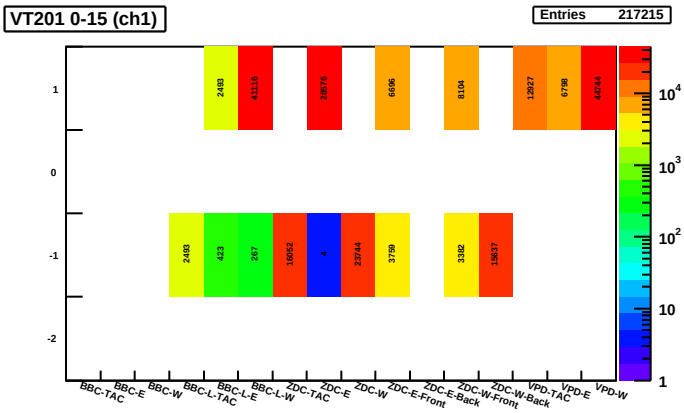

TF201 0-15 (ch0)



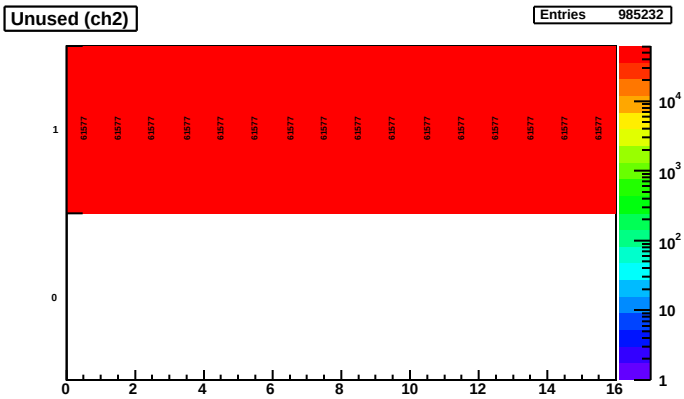

VT201 0-15 (ch1)

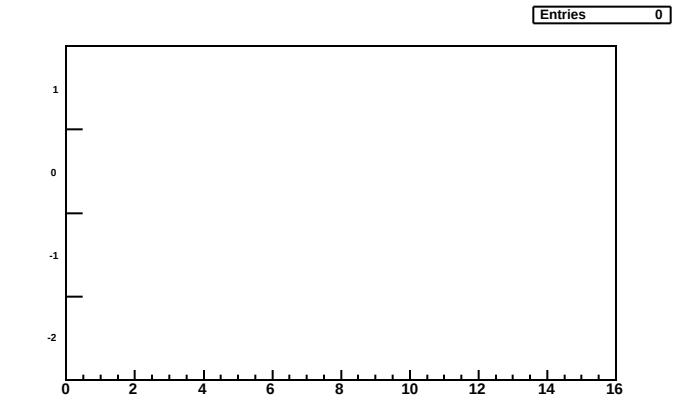



VT201 0-15 (ch1)

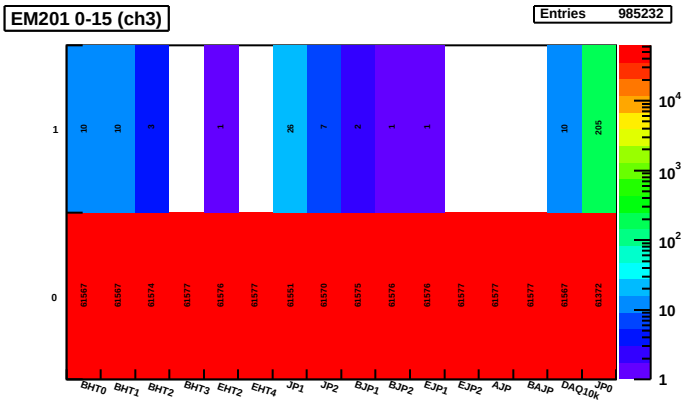



Unused (ch2)

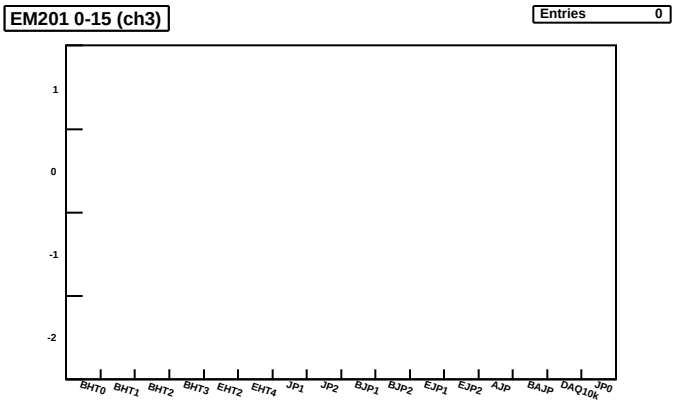


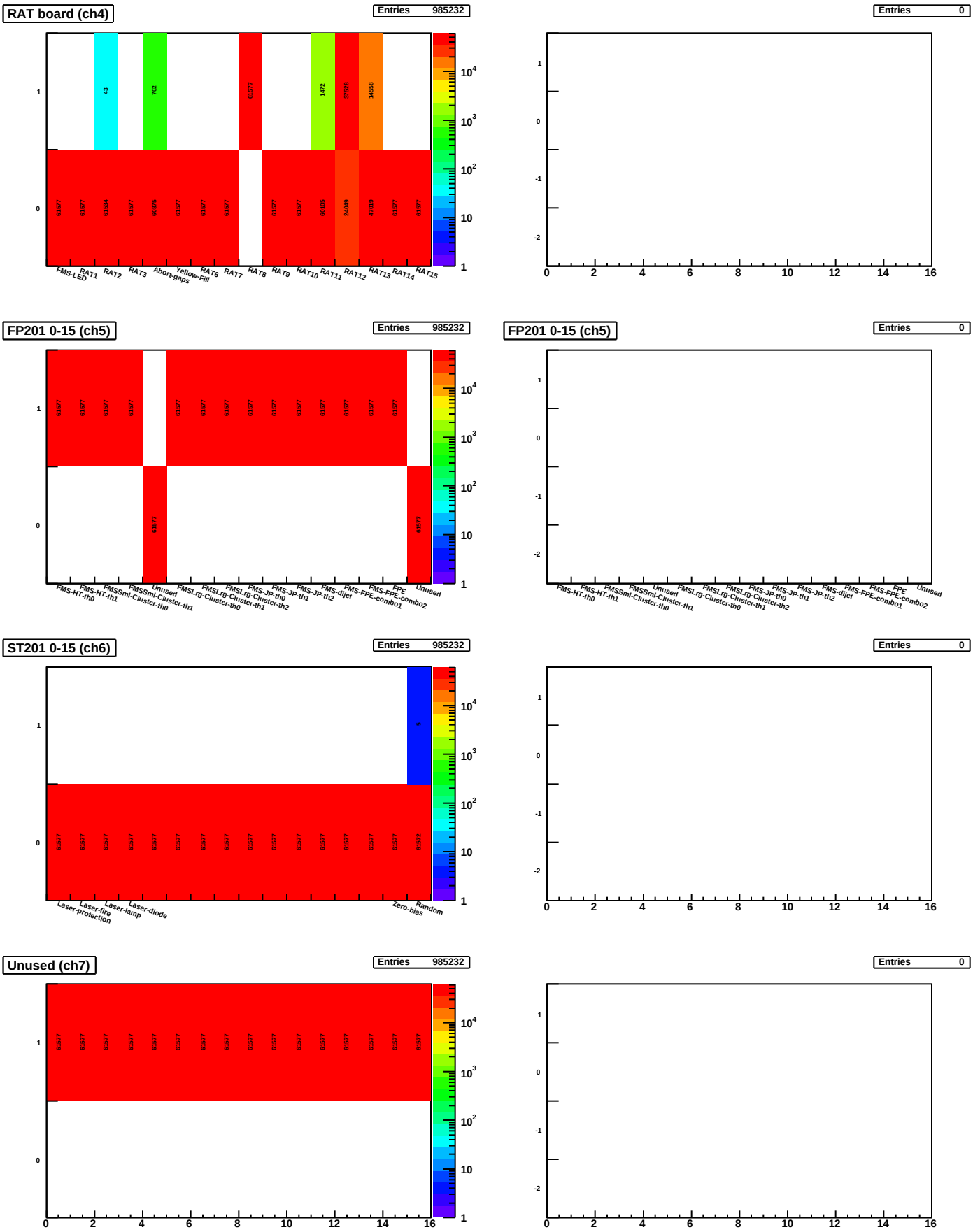




EM201 0-15 (ch3)




EM201 0-15 (ch3)




RAT board (ch4)
Entries 985232
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 985232
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 985232
Entries 0
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random
Unused (ch7)
Entries 985232
Entries 0