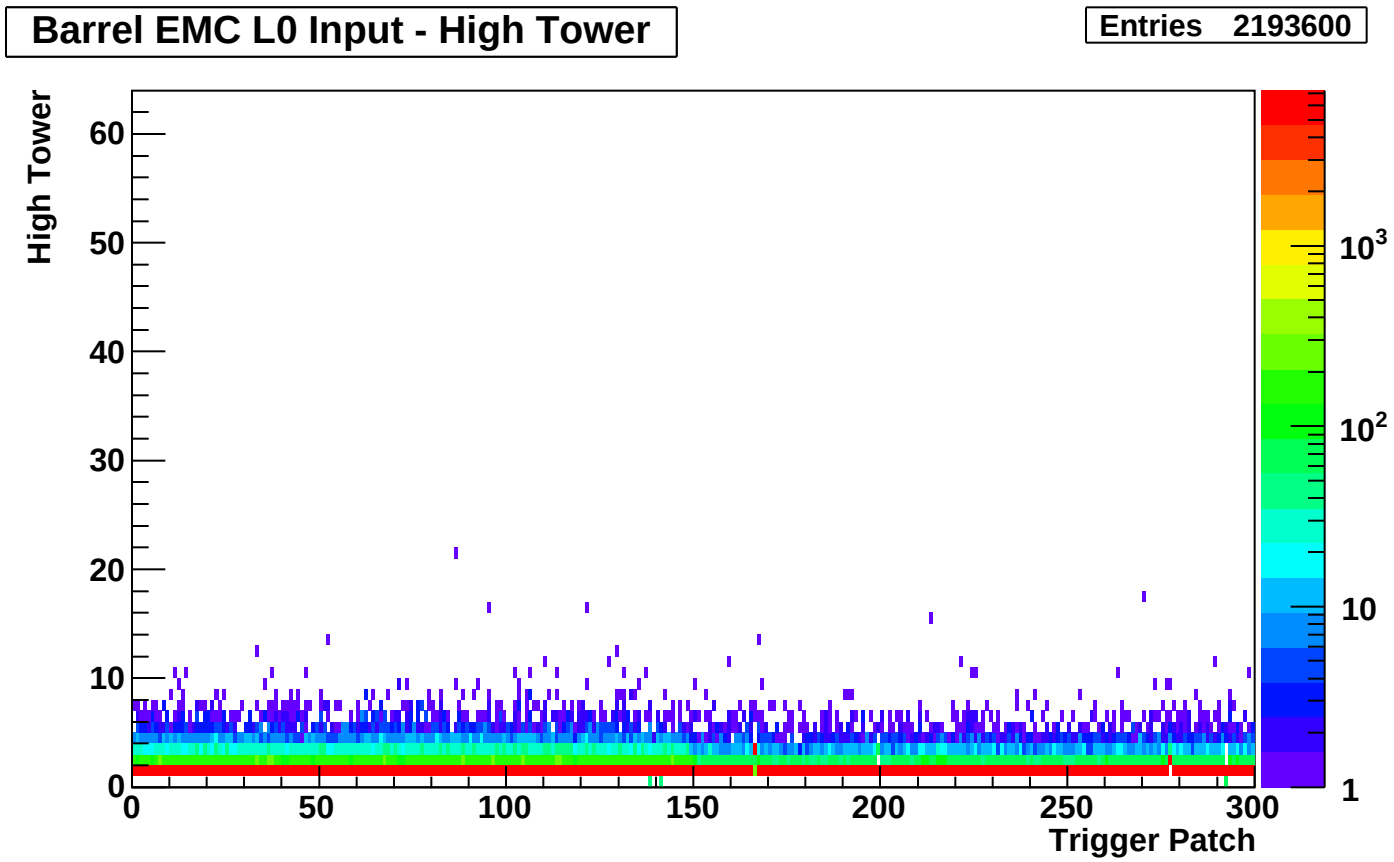
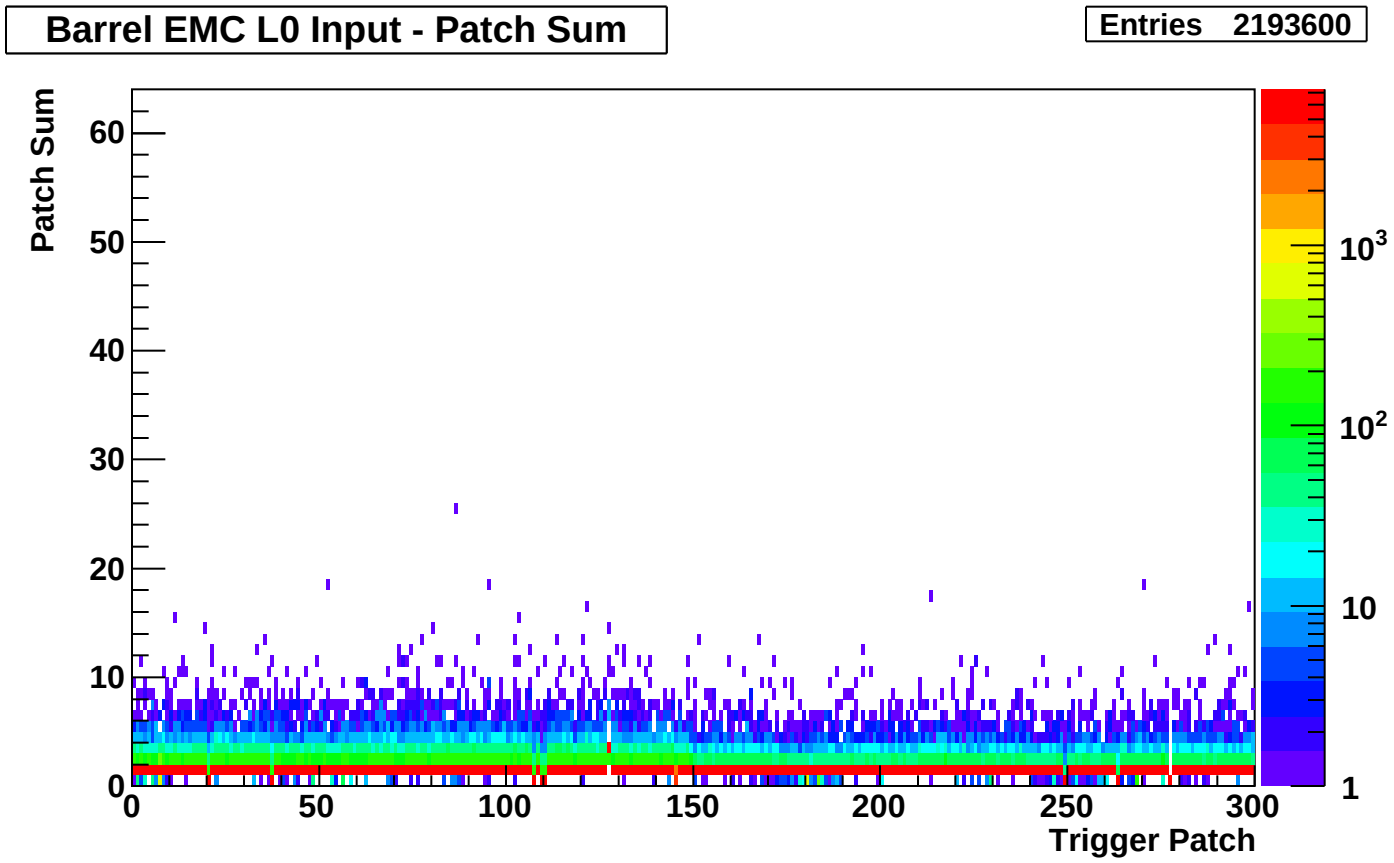
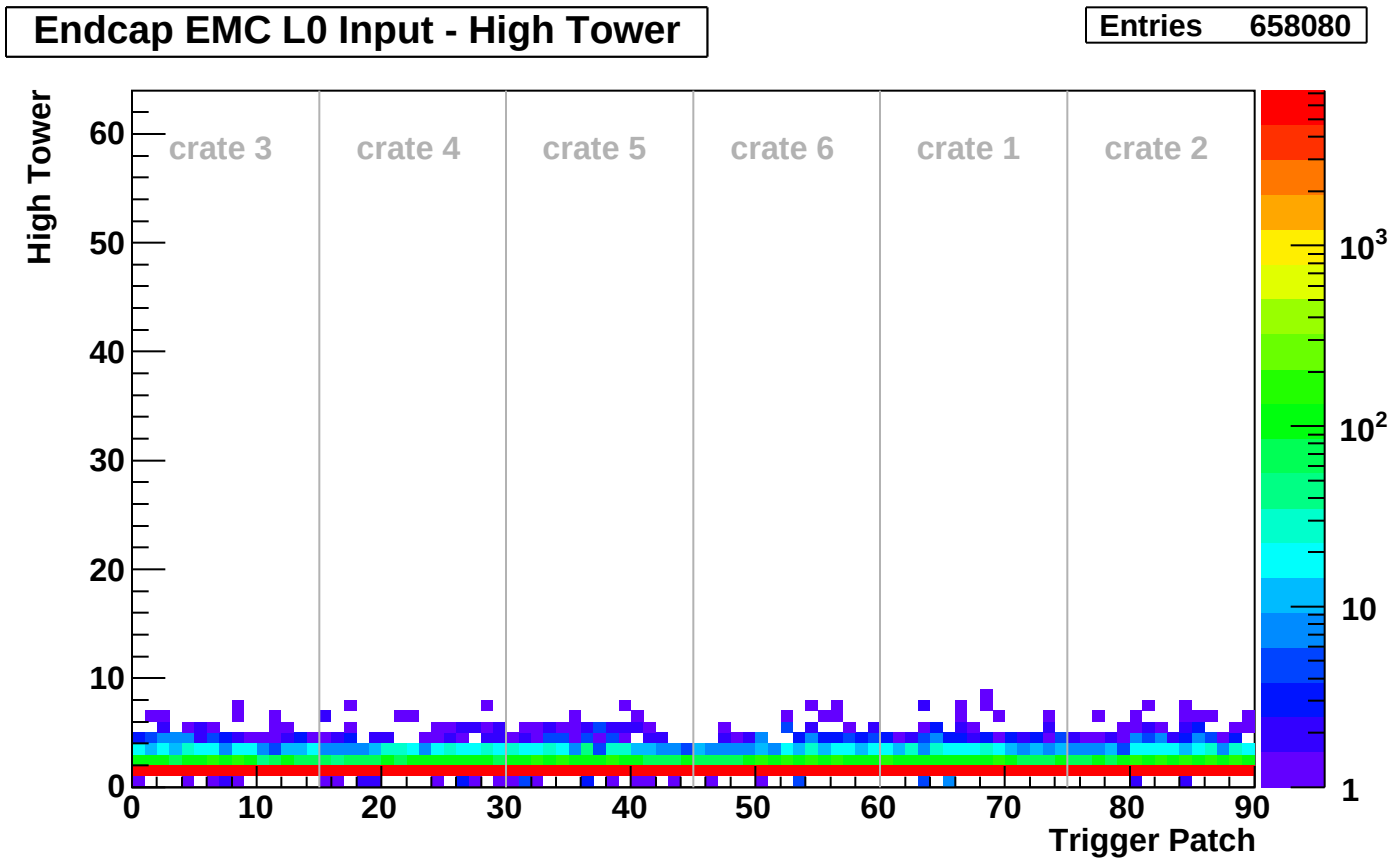
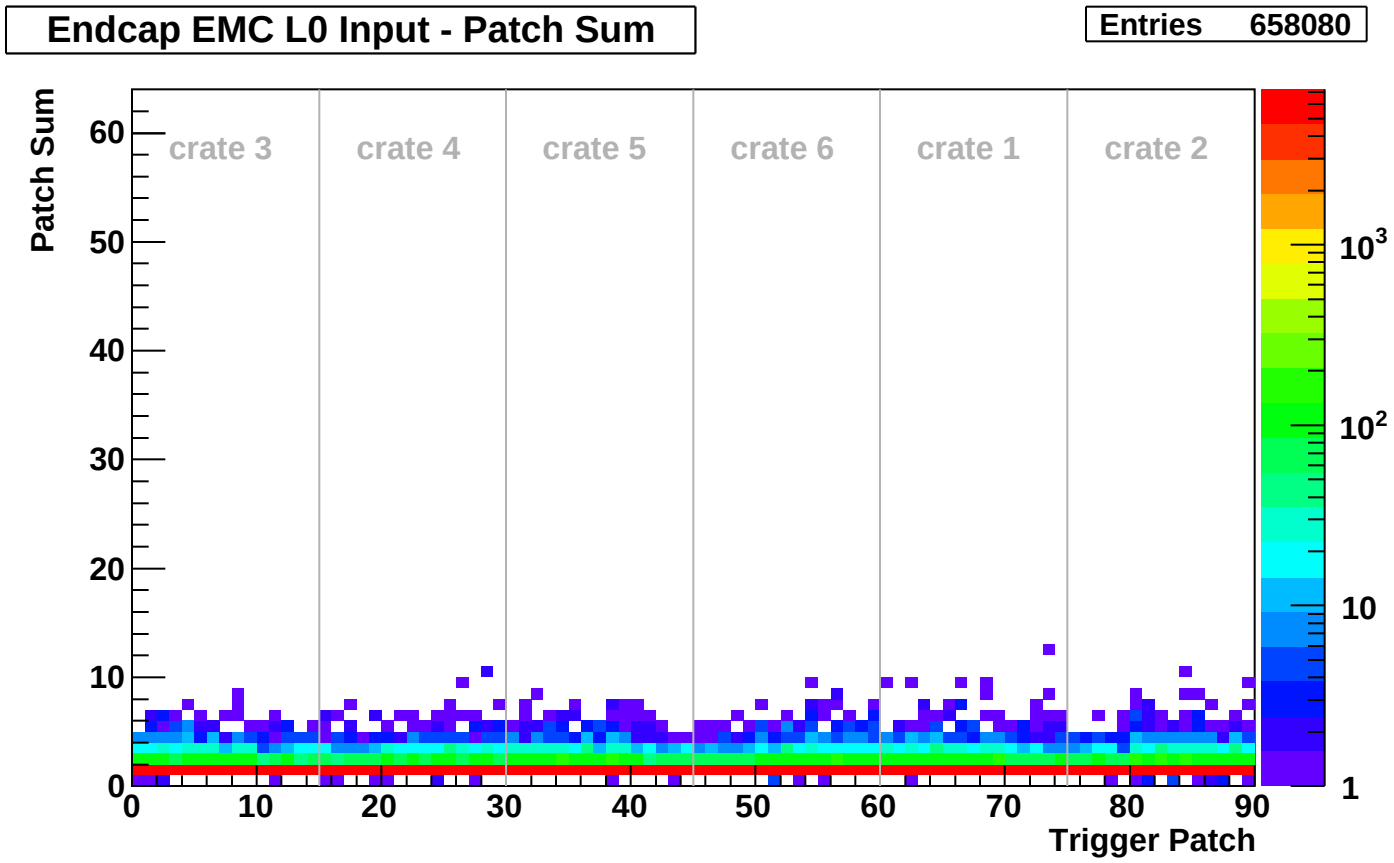
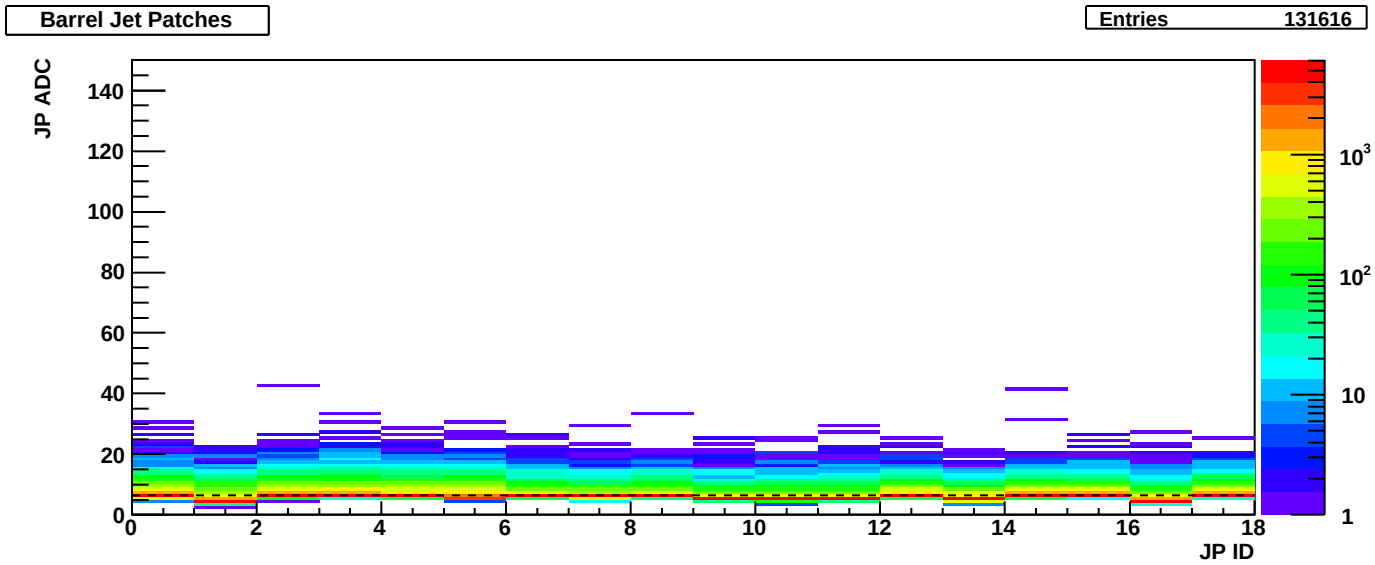
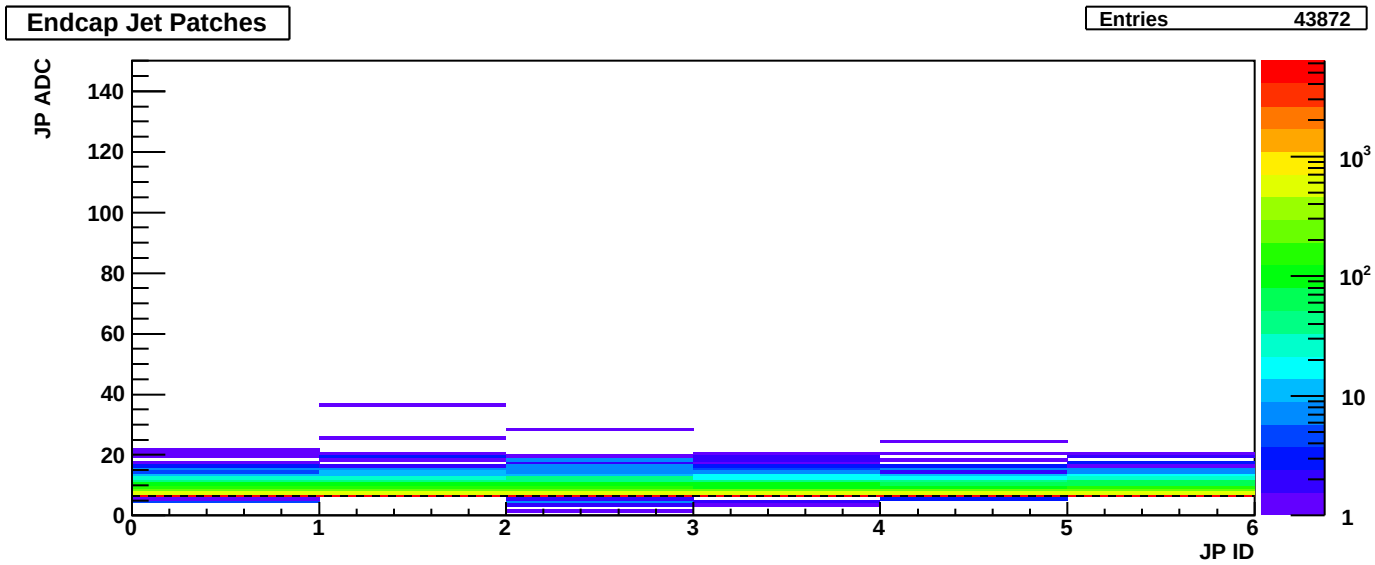

Barrel EMC L0 Input - High Tower
Entries 2193600
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

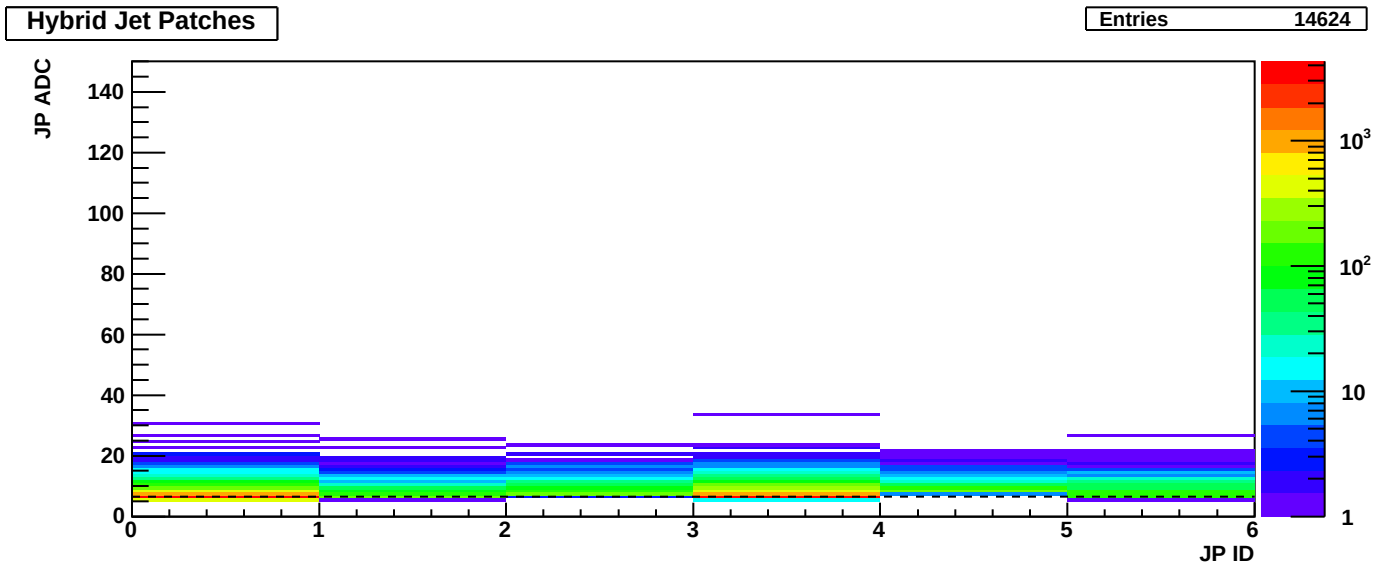

Barrel EMC L0 Input - Patch Sum
Entries 2193600
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

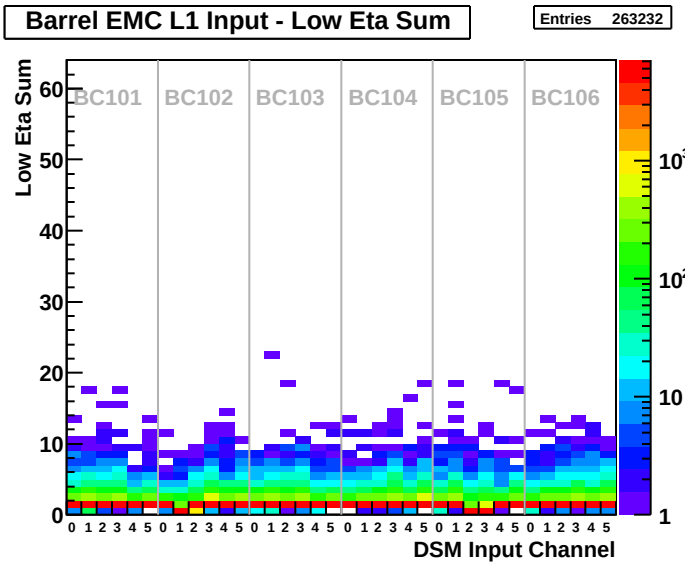

Endcap EMC L0 Input - High Tower
Entries 658080
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

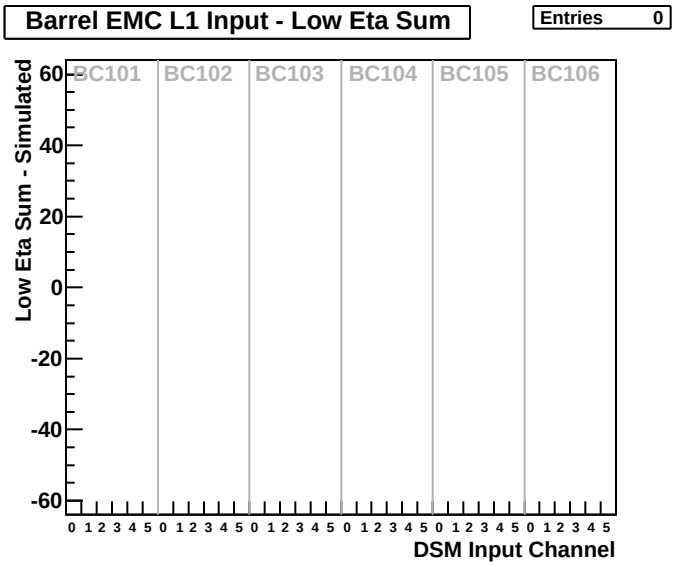

Endcap EMC L0 Input - Patch Sum
Entries 658080
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

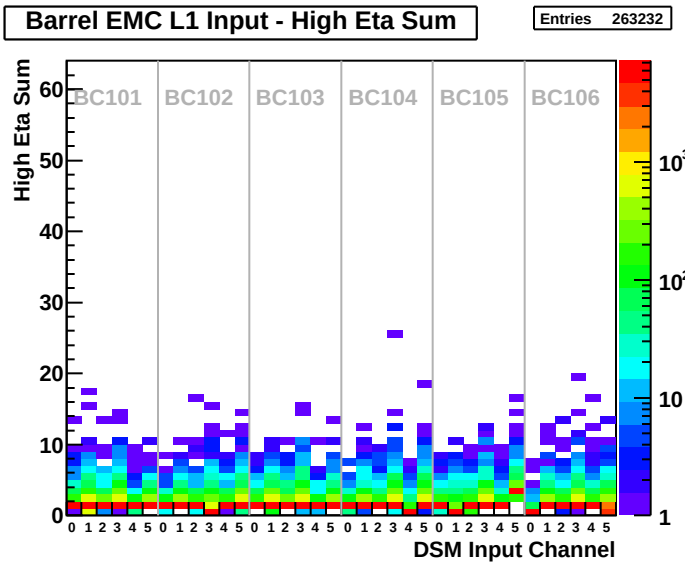

Barrel Jet Patches
Entries 131616
JP ADC
JP ID

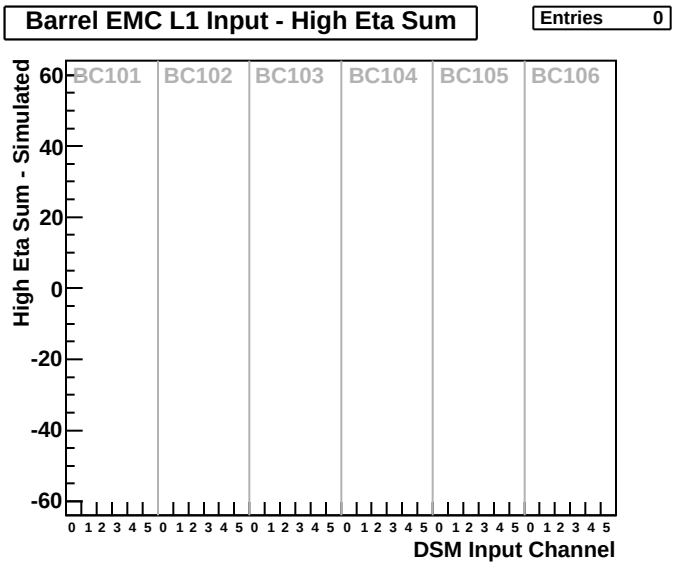

Endcap Jet Patches
Entries 43872
JP ADC
JP ID

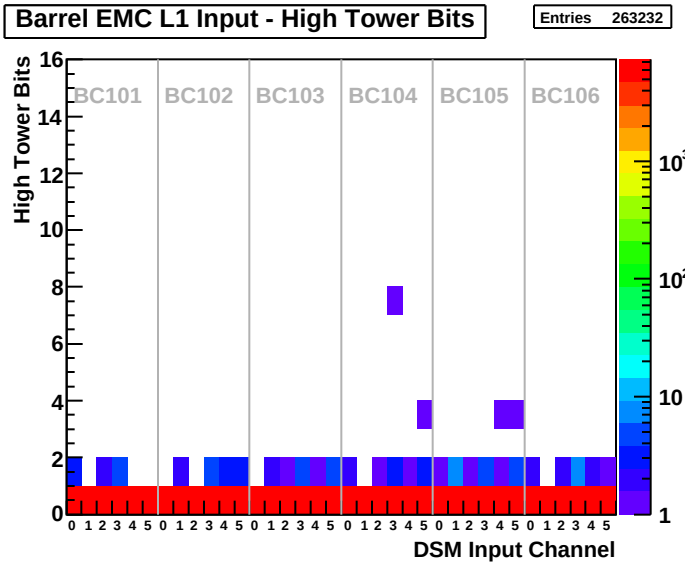

Hybrid Jet Patches
Entries 14624
JP ADC
JP ID

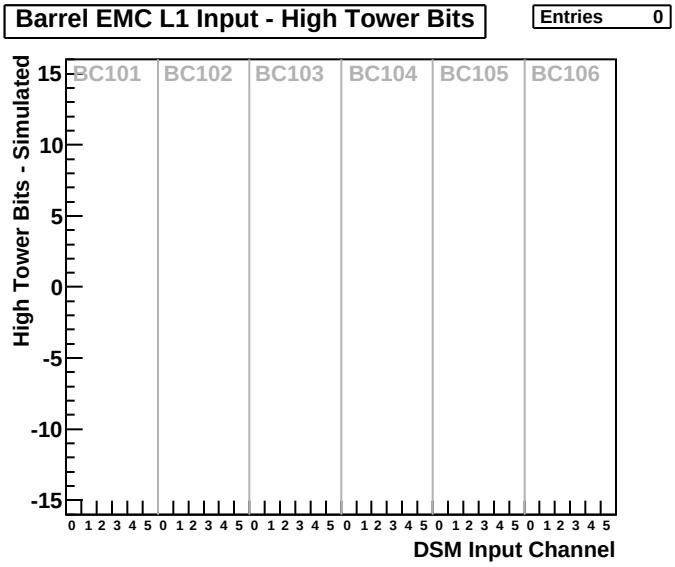

Barrel EMC L1 Input - Low Eta Sum
Entries 263232
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

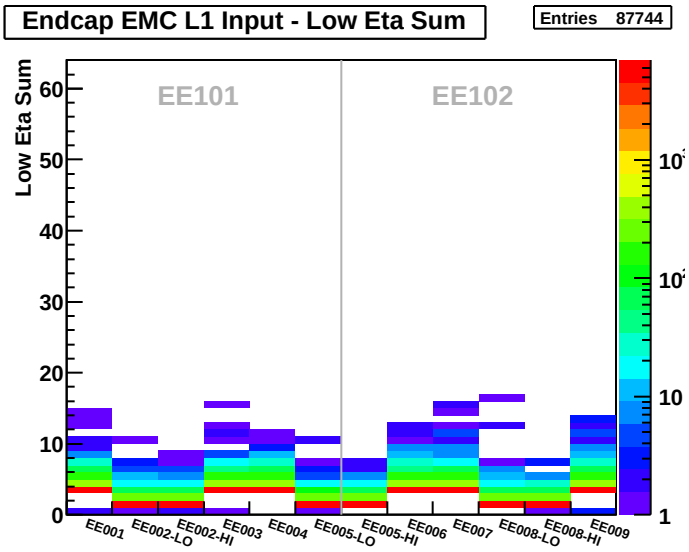

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

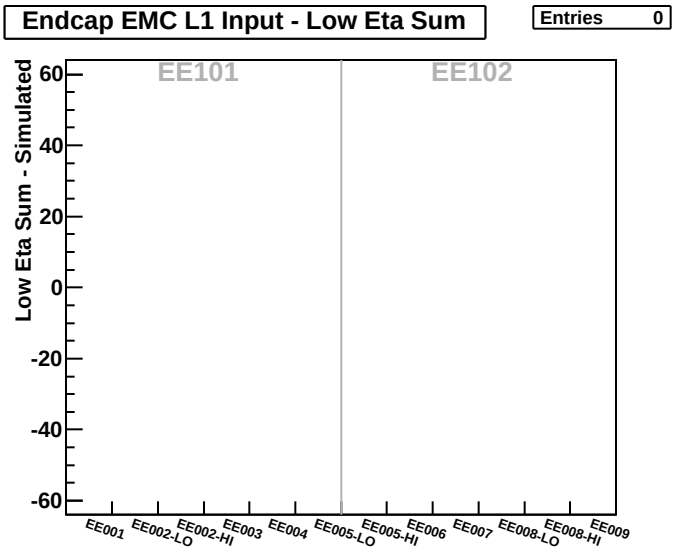

Barrel EMC L1 Input - High Eta Sum
Entries 263232
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

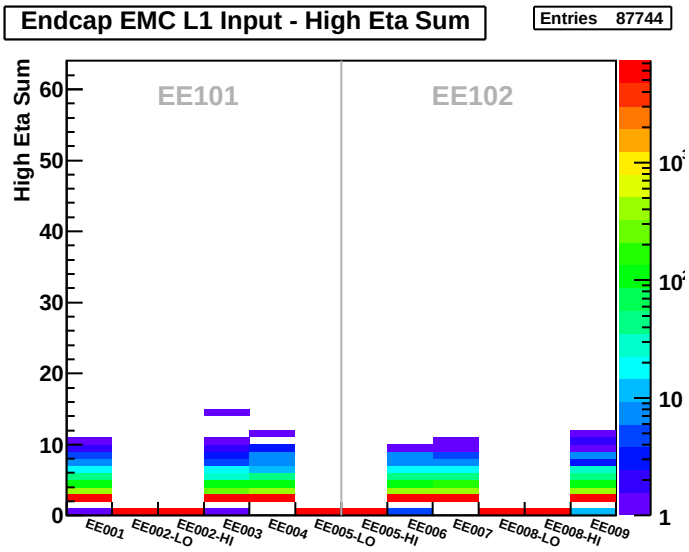

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

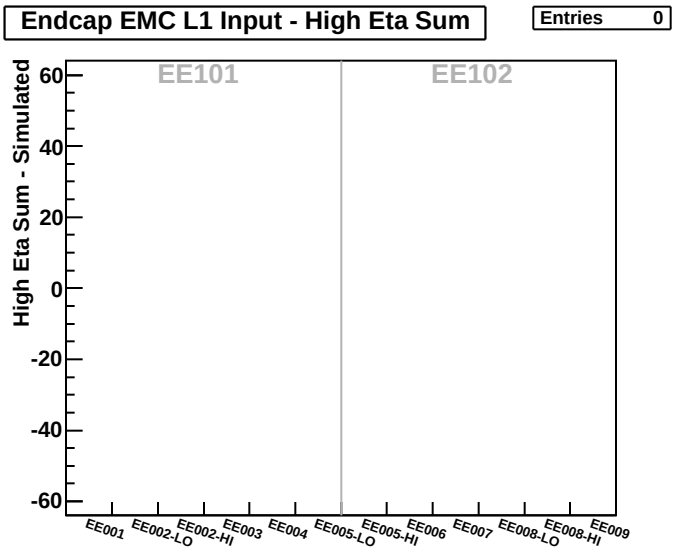

Barrel EMC L1 Input - High Tower Bits
Entries 263232
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

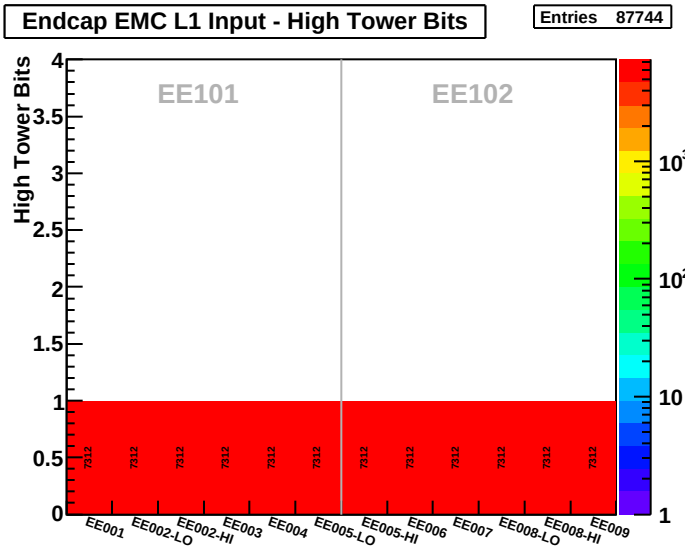

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

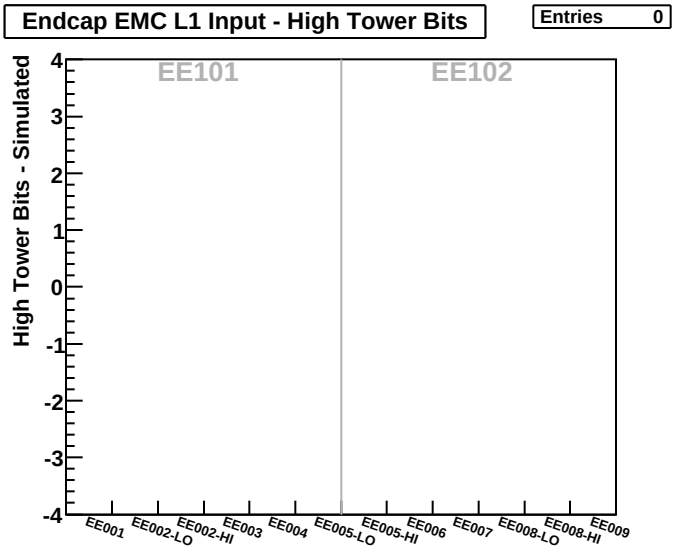

Endcap EMC L1 Input - Low Eta Sum
Entries 87744
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

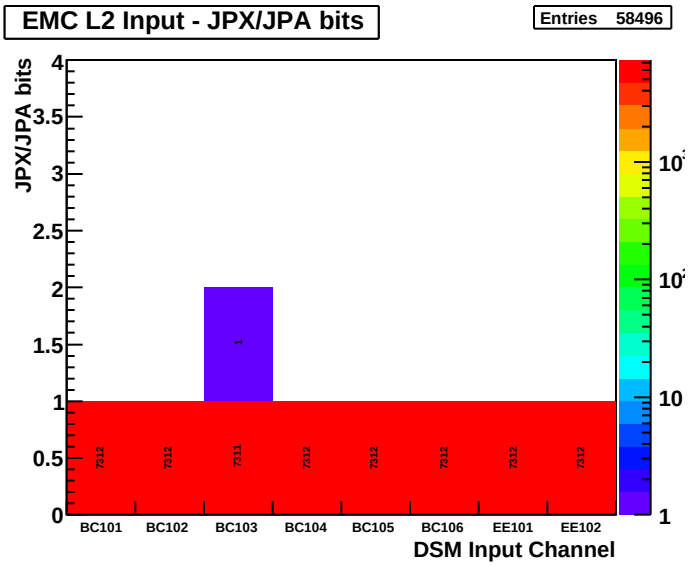

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

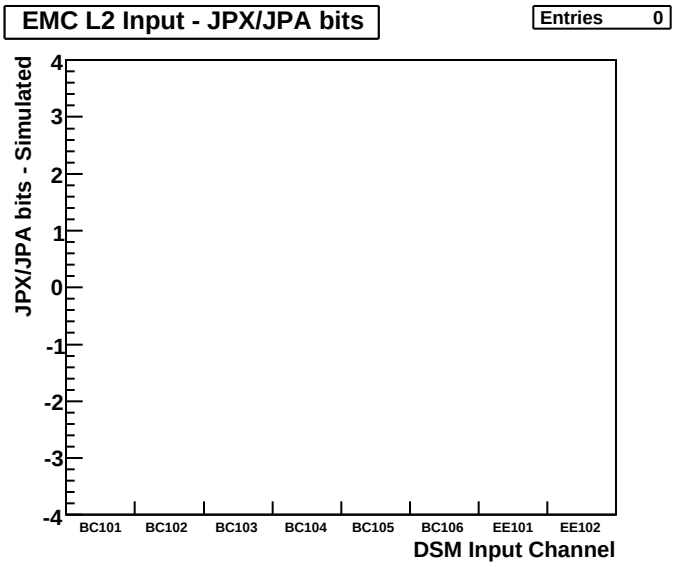

Endcap EMC L1 Input - High Eta Sum
Entries 87744
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

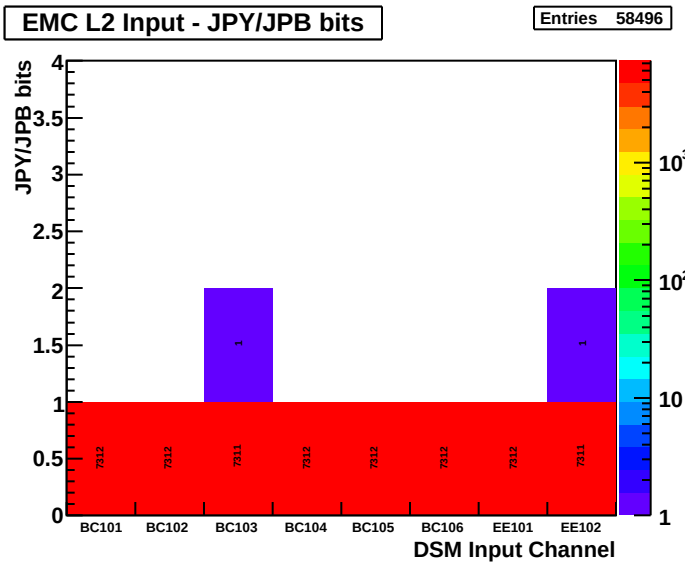

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

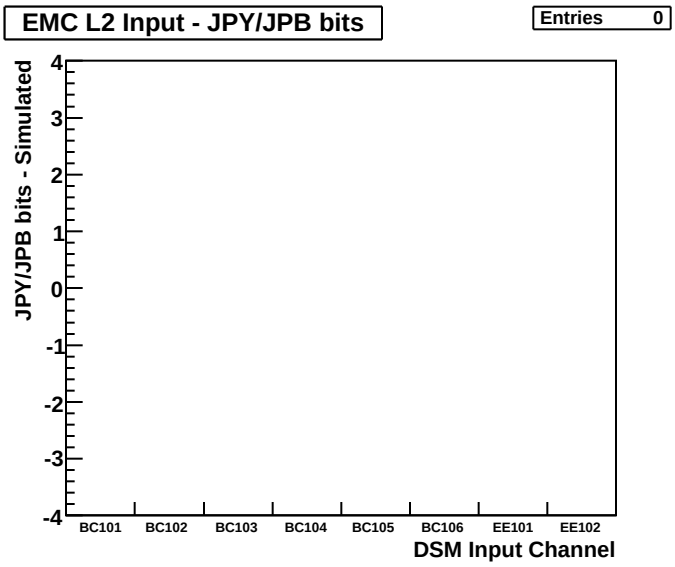

Endcap EMC L1 Input - High Tower Bits
Entries 87744
High Tower Bits
EE101
EE102
7312
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

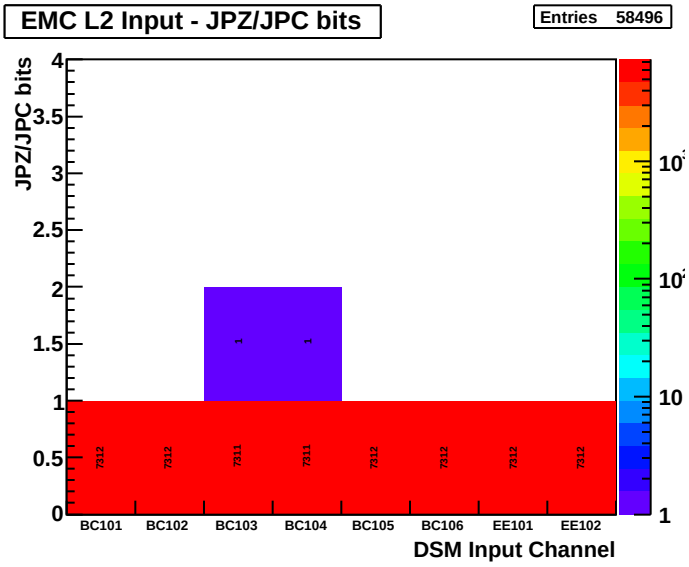

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

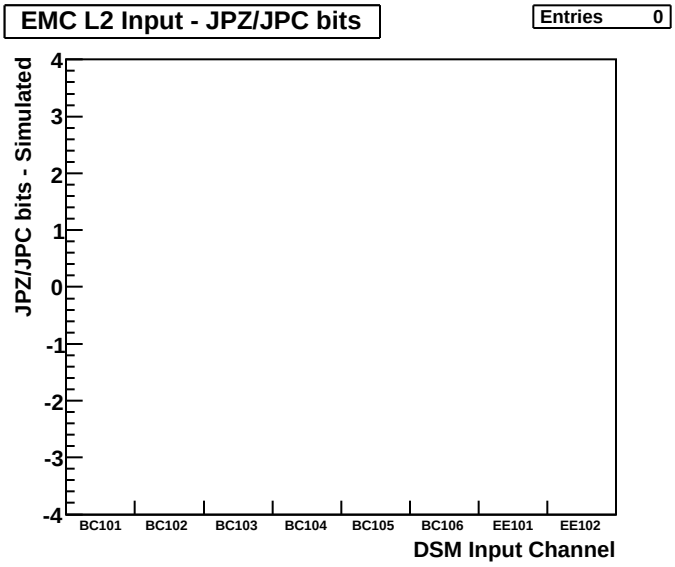

EMC L2 Input - JPX/JPA bits
Entries 58496
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

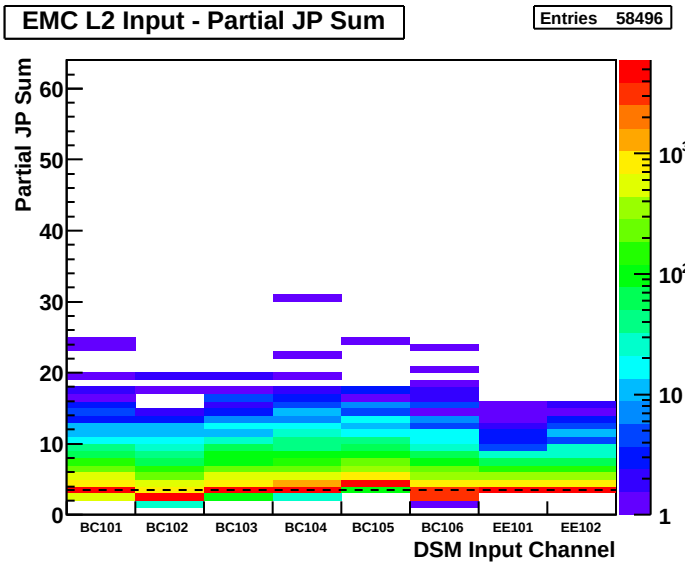

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

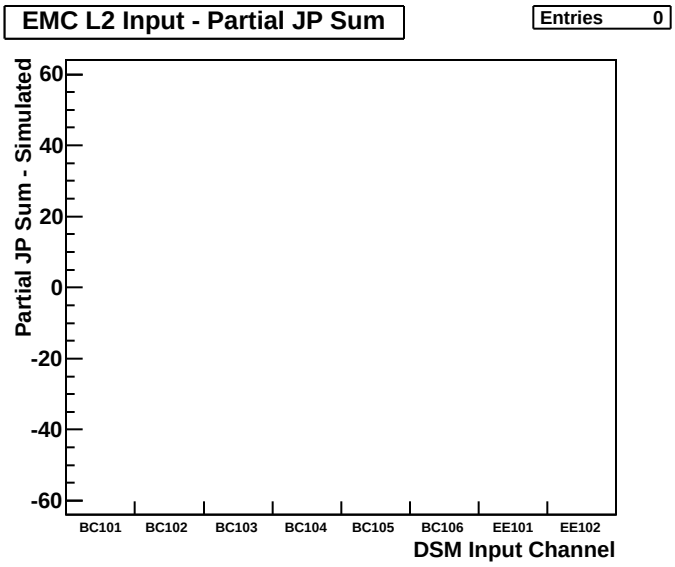

EMC L2 Input - JPY/JPB bits
Entries 58496
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

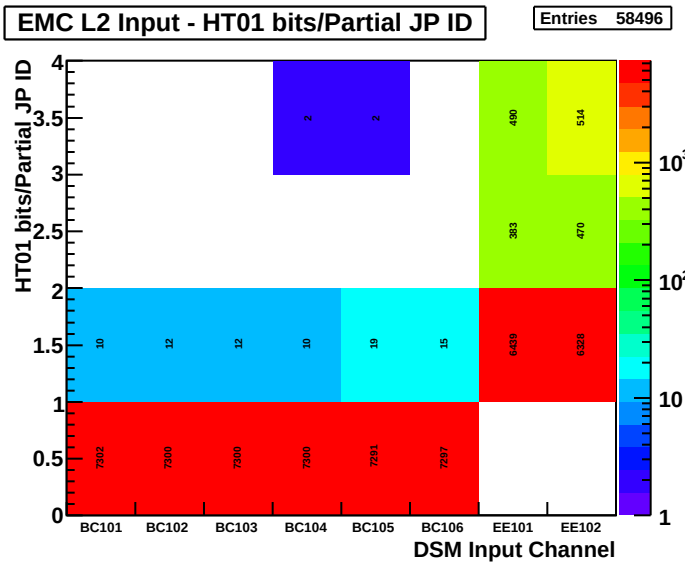

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

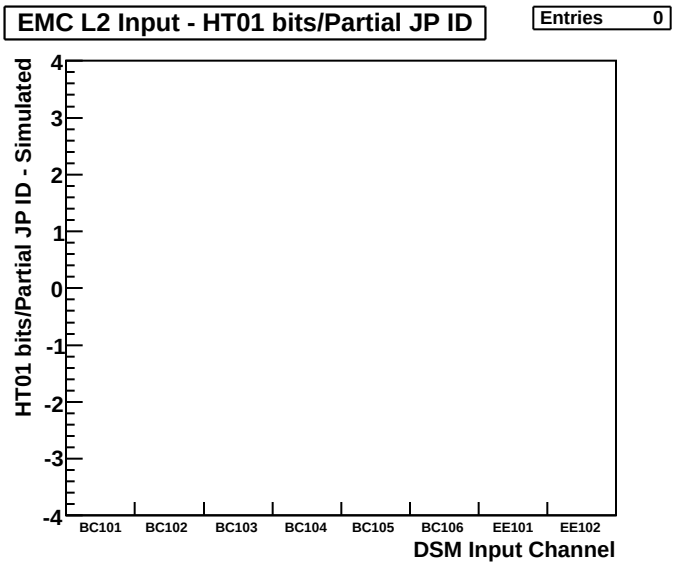

EMC L2 Input - JPZ/JPC bits
Entries 58496
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

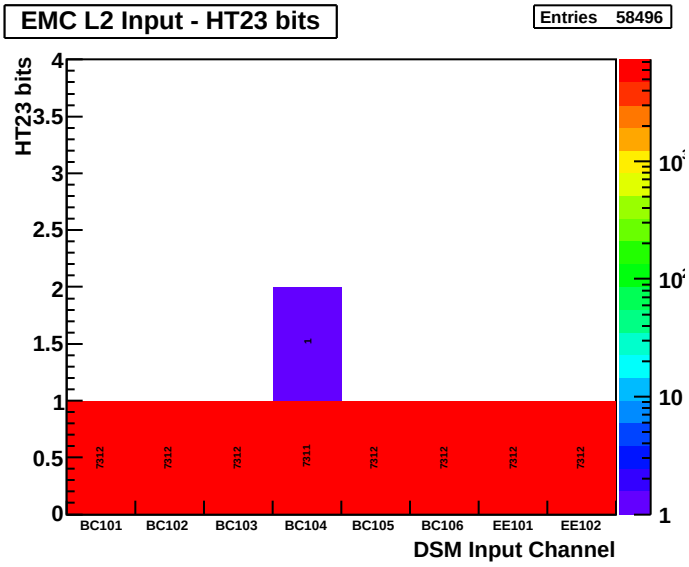

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

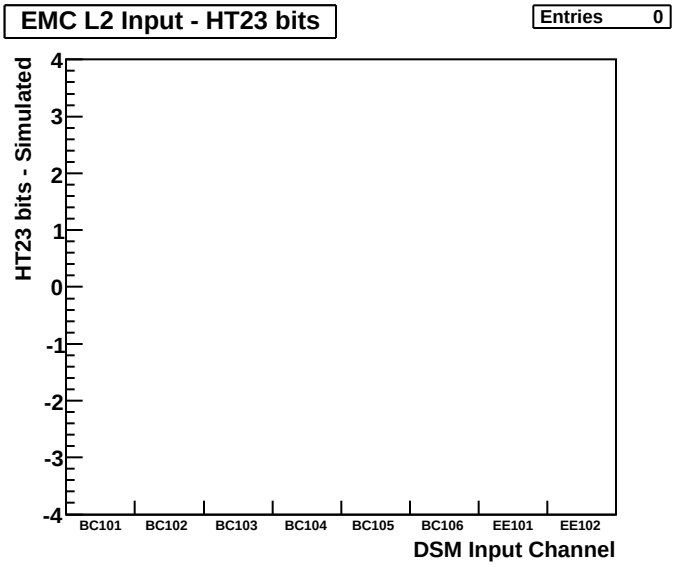

EMC L2 Input - Partial JP Sum
Entries 58496
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

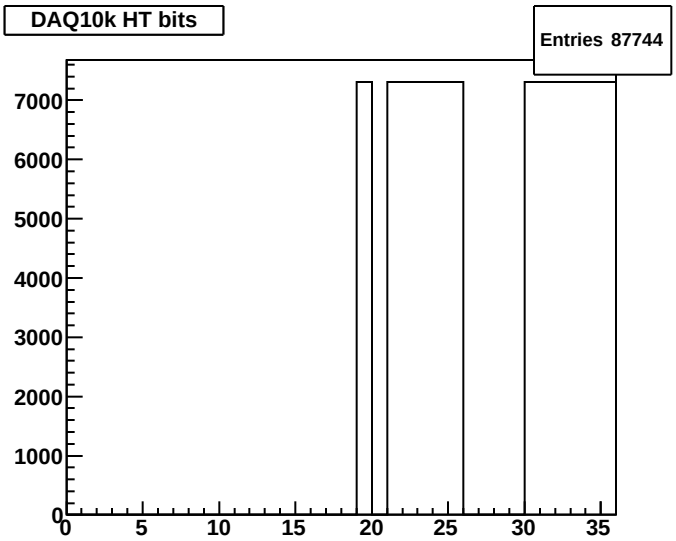

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

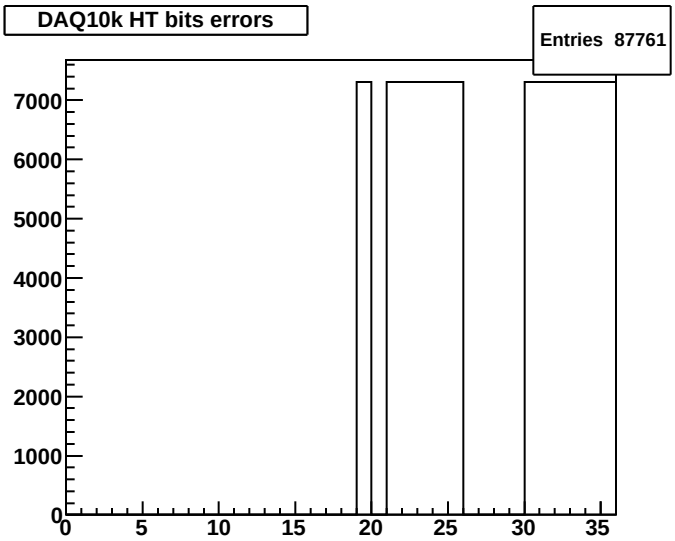

EMC L2 Input - HT01 bits/Partial JP ID
Entries 58496
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

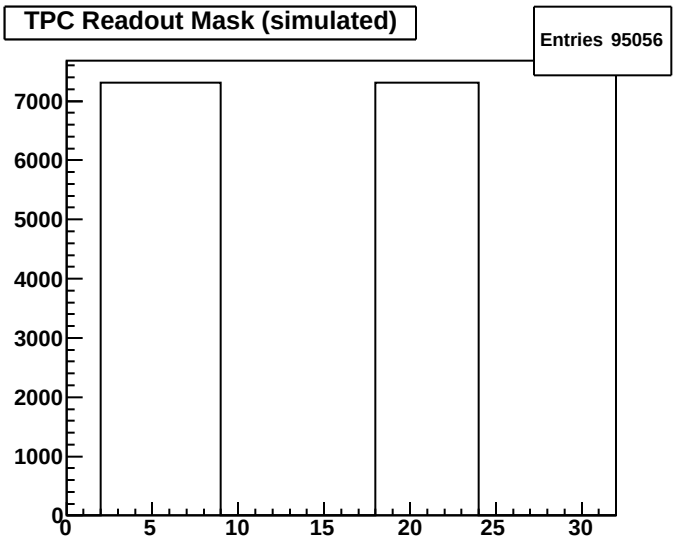

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

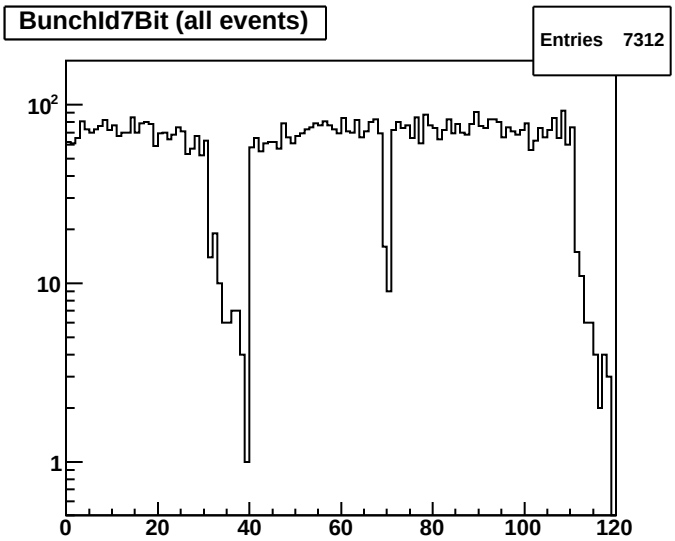

EMC L2 Input - HT23 bits
Entries 58496
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

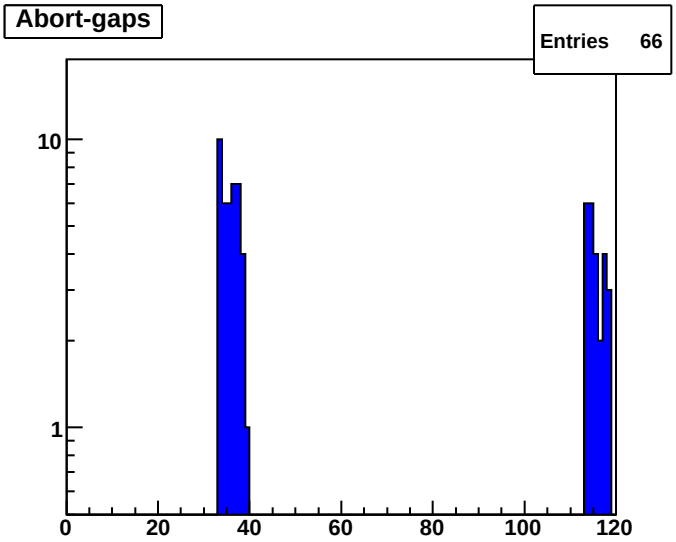

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

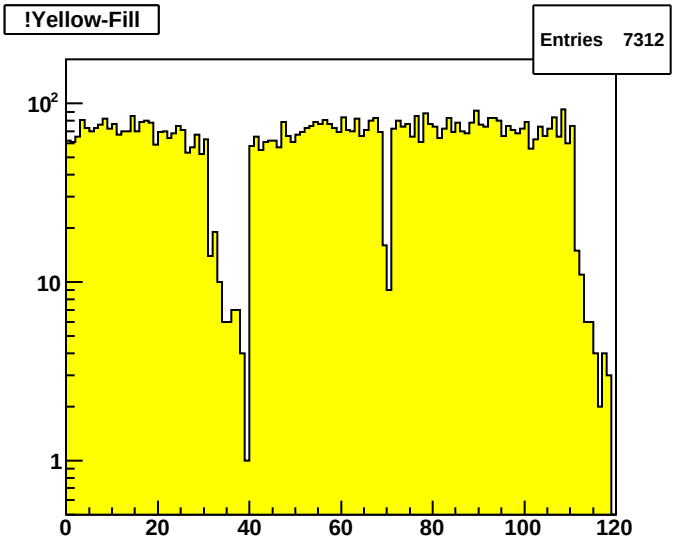

DAQ10k HT bits
Entries 87744
7000
6000
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30 35

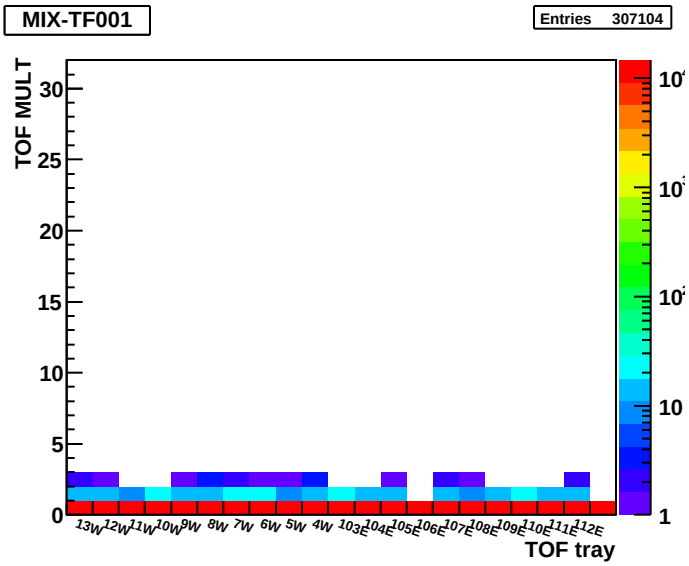

DAQ10k HT bits errors
Entries 87761
7000
6000
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30 35

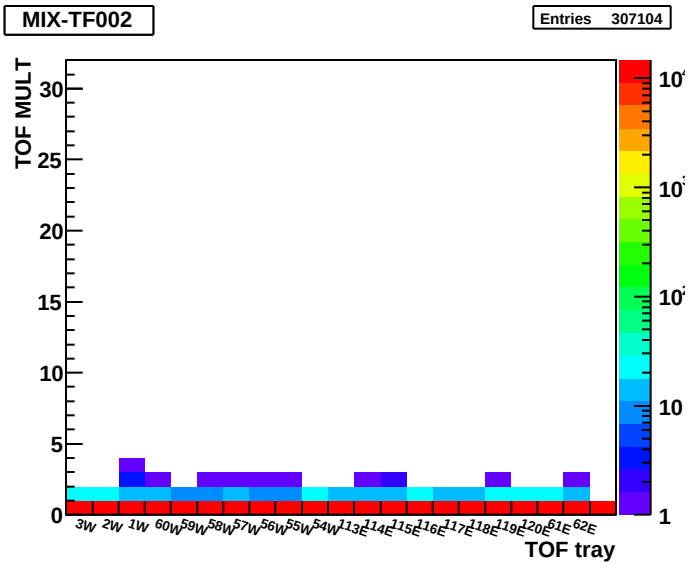

TPC Readout Mask (simulated)
Entries 95056
7000
6000
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30

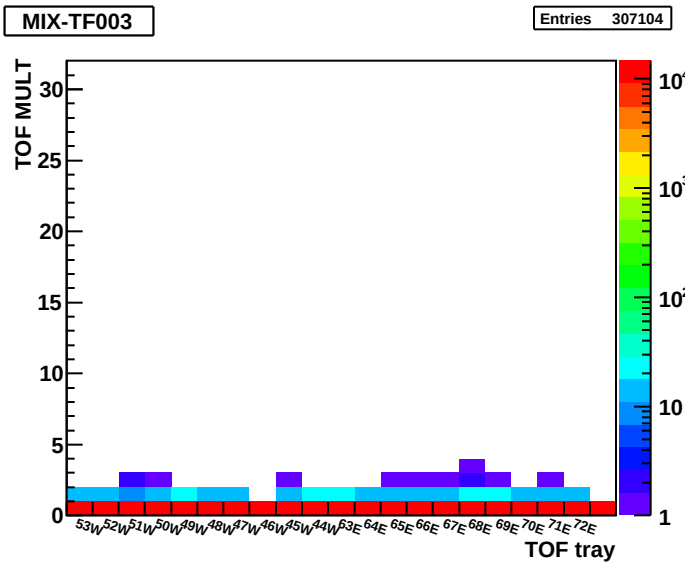

BunchId7Bit (all events)
Entries 7312
10^2
10
1
0 20 40 60 80 100 120

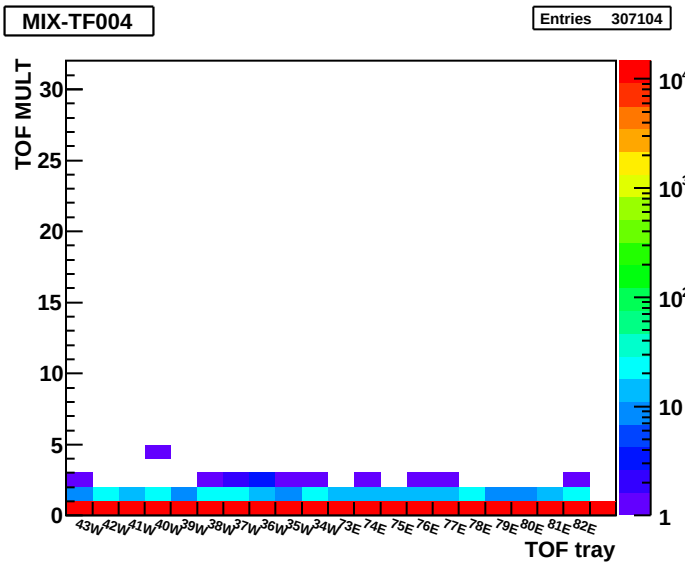

Abort-gaps
Entries 66
10
1
0 20 40 60 80 100 120

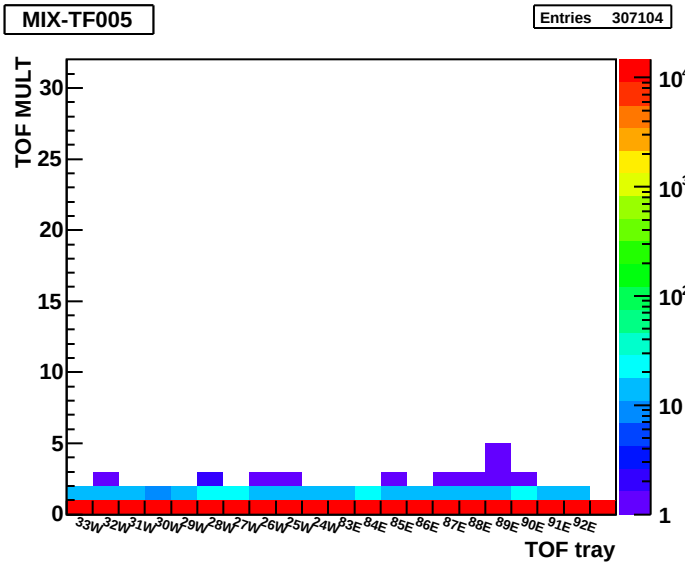

!Yellow-Fill
Entries 7312
10^2
10
1
0 20 40 60 80 100 120

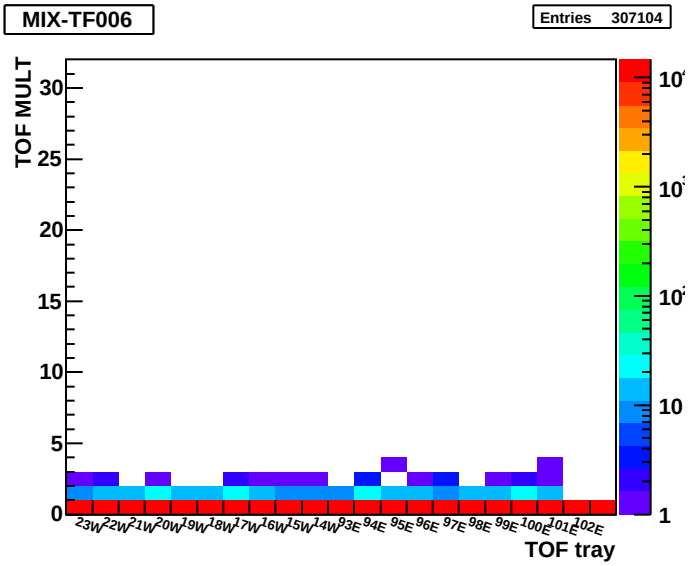

MIX-TF001
Entries 307104
TOF MULT
TOF tray

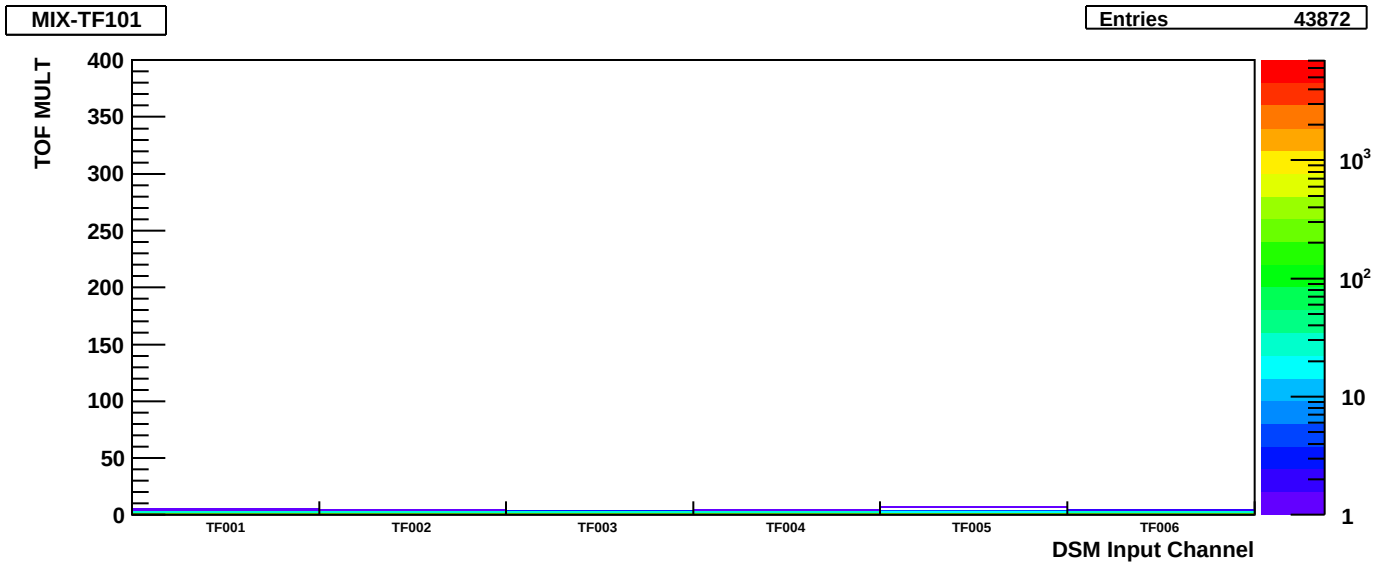

MIX-TF002
Entries 307104
TOF MULT
TOF tray

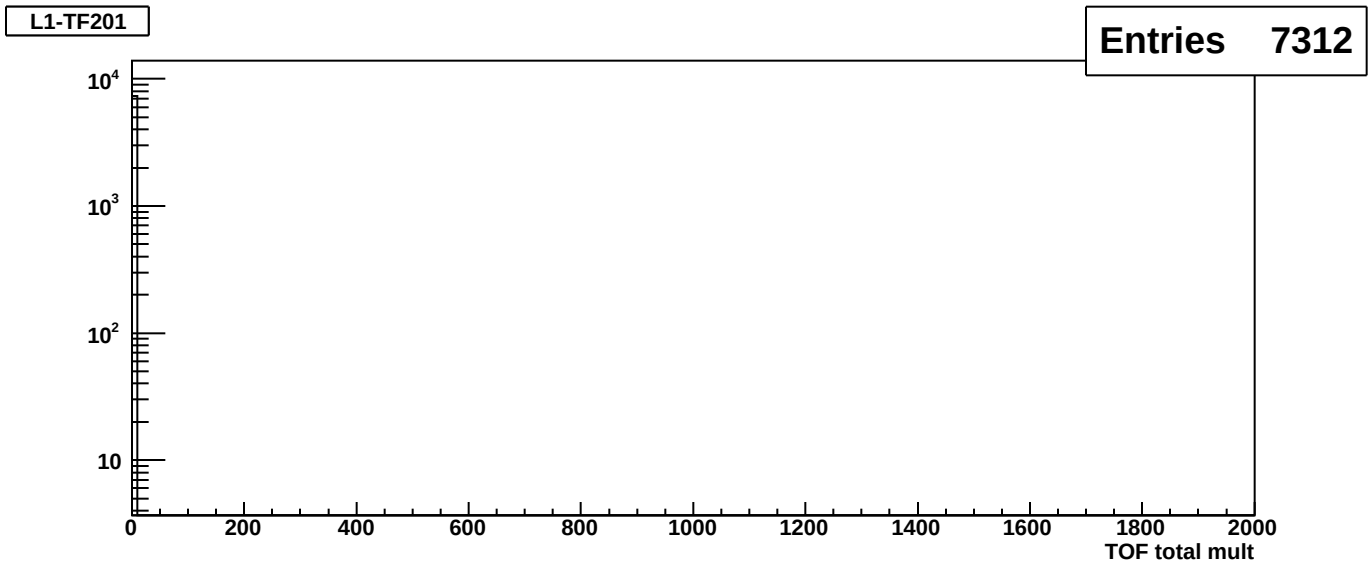

MIX-TF003
Entries 307104
TOF MULT
TOF tray

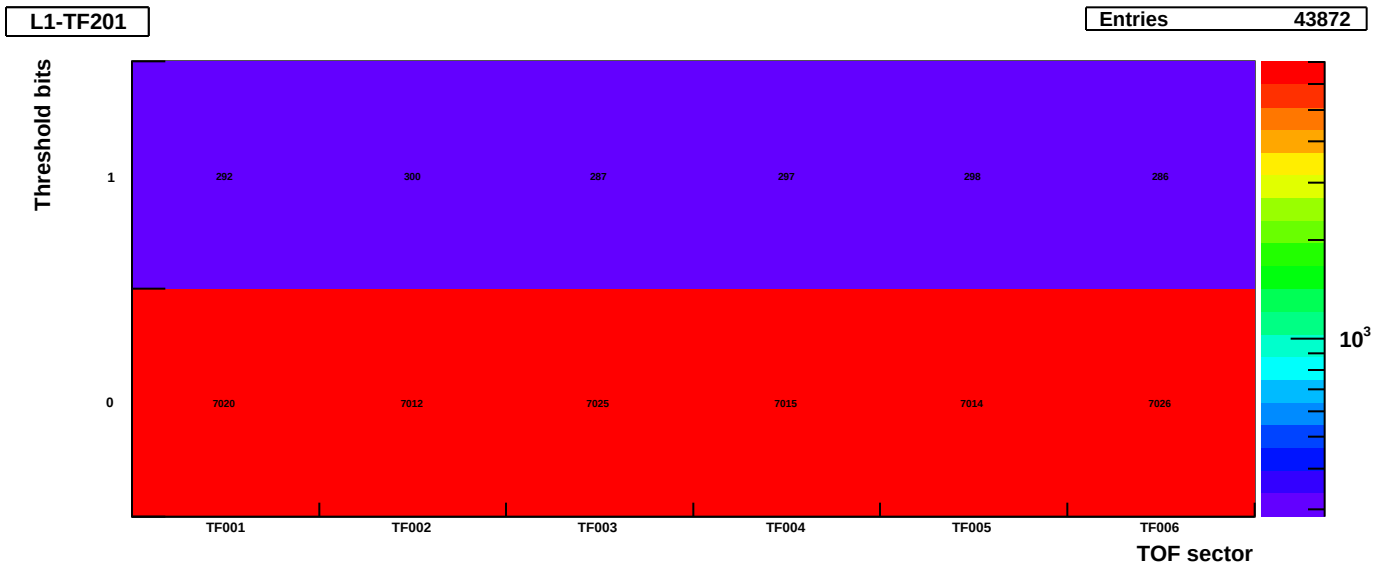

MIX-TF004
Entries 307104
TOF MULT
TOF tray

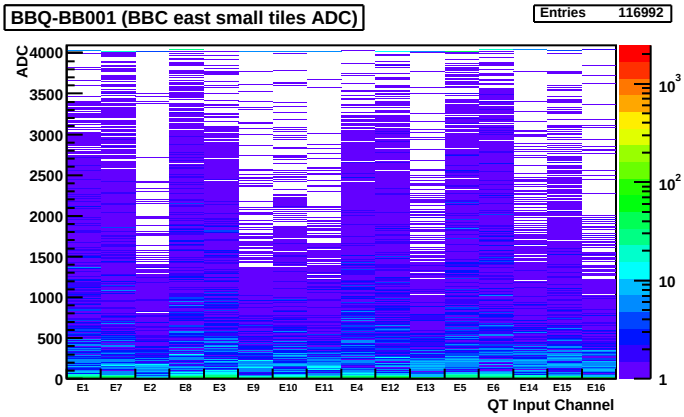

MIX-TF005
Entries 307104
TOF MULT
TOF tray

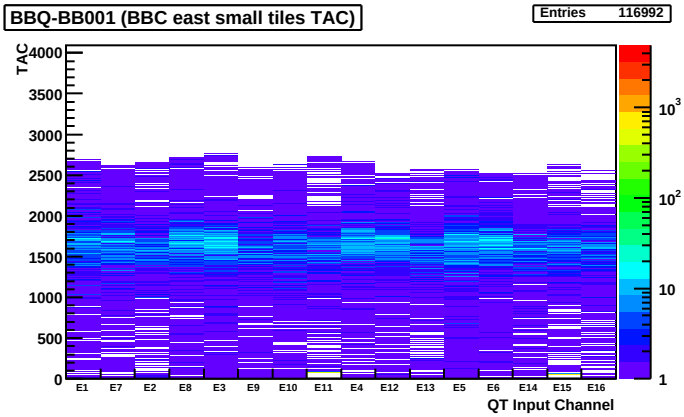

MIX-TF006
Entries 307104
TOF MULT
TOF tray

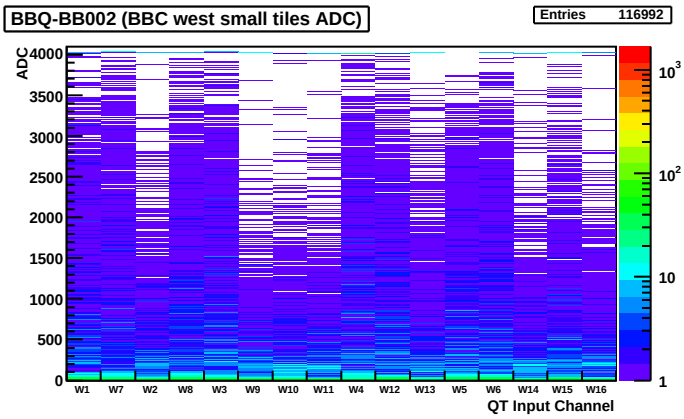

MIX-TF101
Entries 43872
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

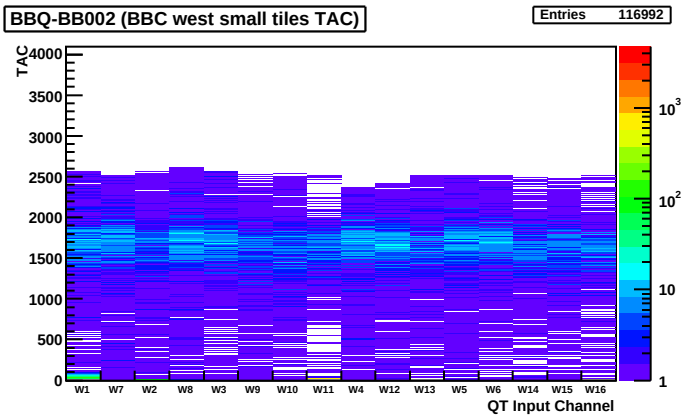

L1-TF201
Entries 7312
10^4
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

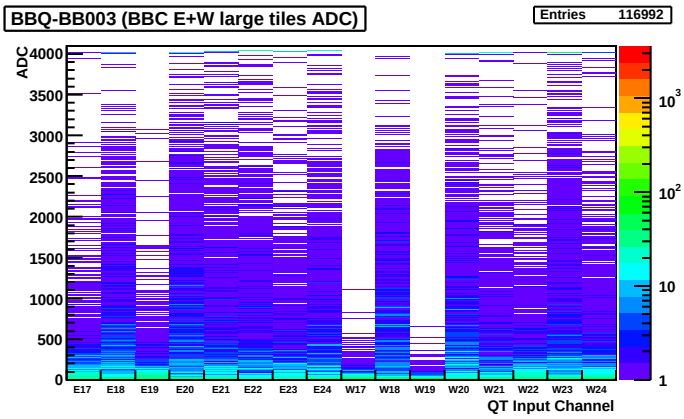

L1-TF201
Entries 43872
Threshold bits
1
0
292
300
287
297
298
286
7020
7012
7025
7015
7014
7026
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^3

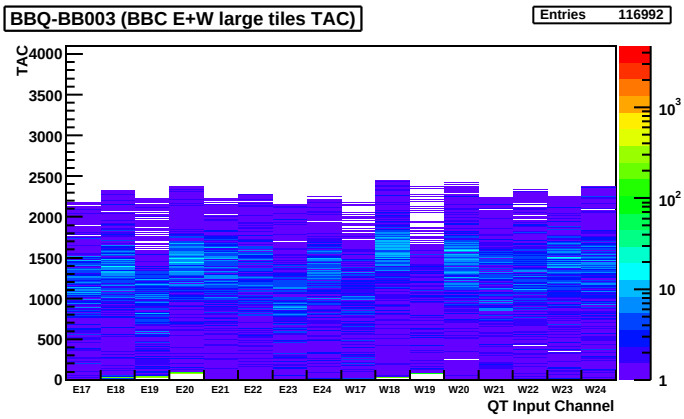

BBQ-BB001 (BBC east small tiles ADC)
Entries 116992
ADC
QT Input Channel

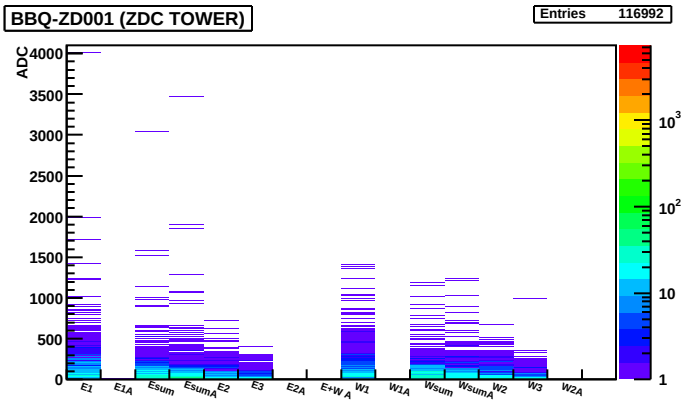

BBQ-BB001 (BBC east small tiles TAC)
Entries 116992
TAC
QT Input Channel

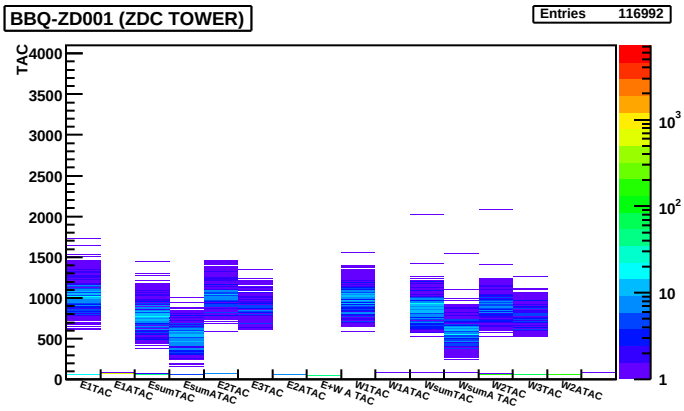

BBQ-BB002 (BBC west small tiles ADC)
Entries 116992
ADC
QT Input Channel

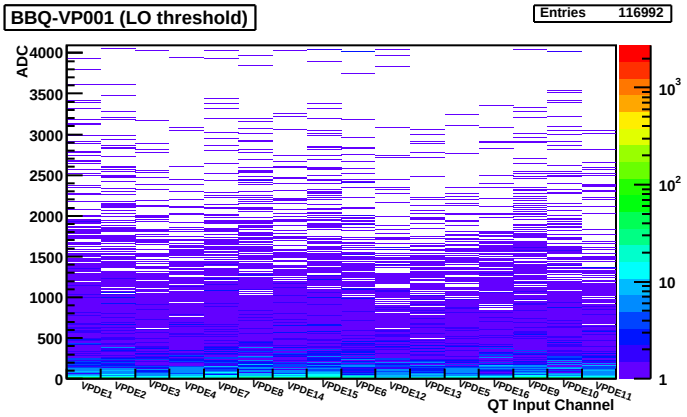

BBQ-BB002 (BBC west small tiles TAC)
Entries 116992
TAC
QT Input Channel

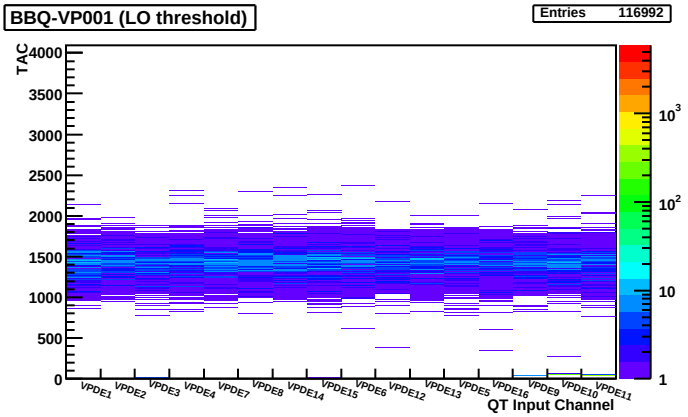

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 116992
ADC
QT Input Channel

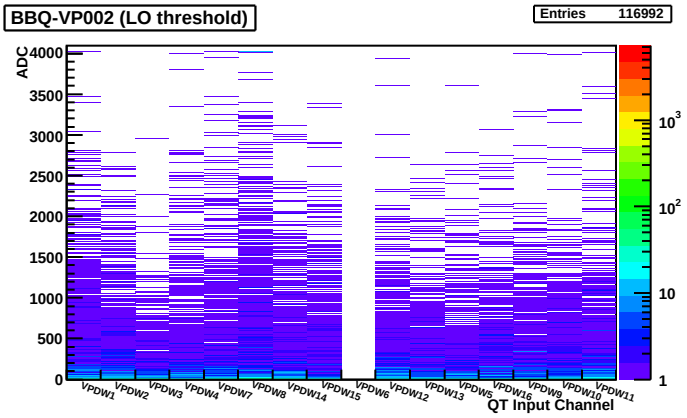

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 116992
TAC
QT Input Channel

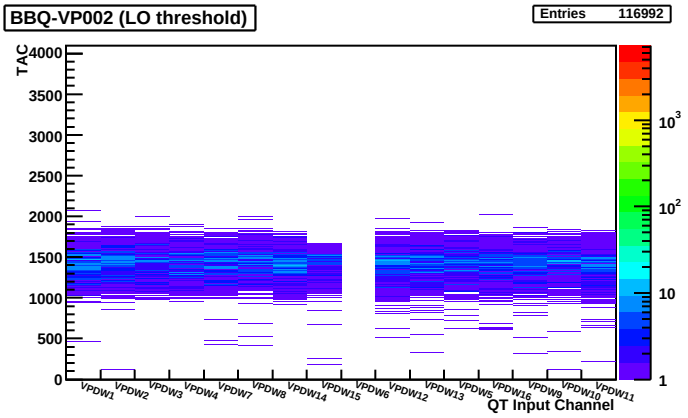

BBQ-ZD001 (ZDC TOWER)
Entries 116992
ADC

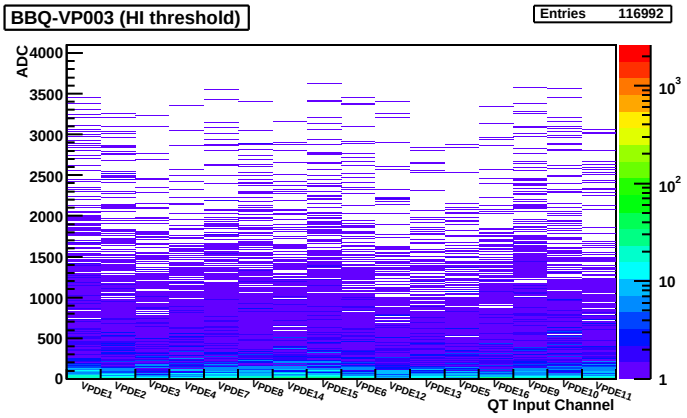

BBQ-ZD001 (ZDC TOWER)
Entries 116992
TAC

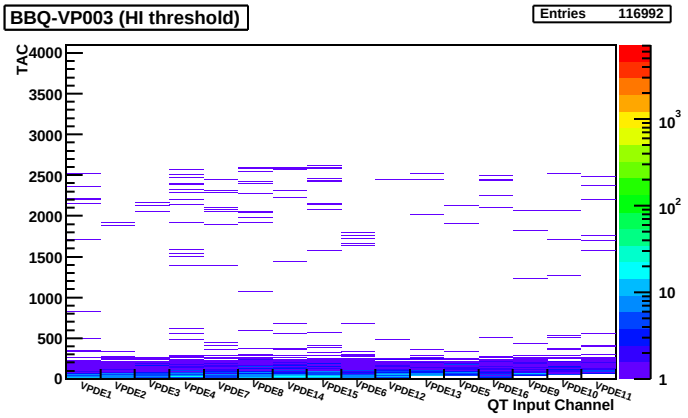

BBQ-VP001 (LO threshold)
Entries 116992
ADC
QT Input Channel

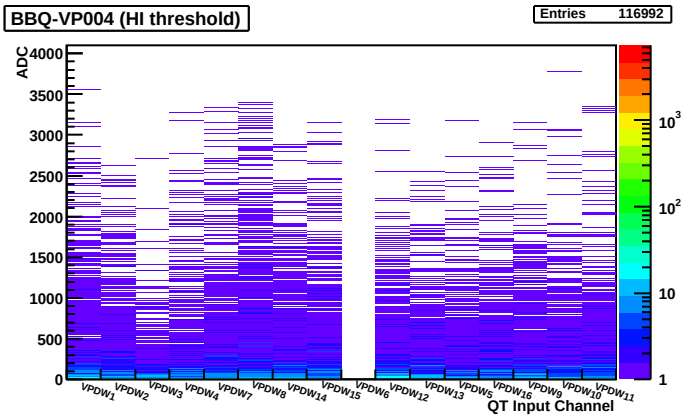

BBQ-VP001 (LO threshold)
Entries 116992
TAC
QT Input Channel

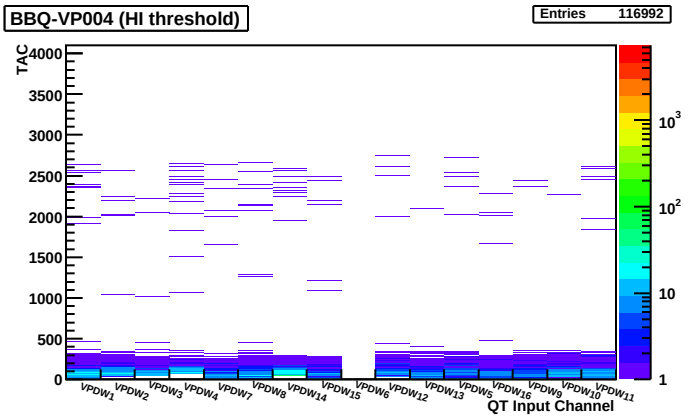

BBQ-VP002 (LO threshold)
Entries 116992
ADC
QT Input Channel

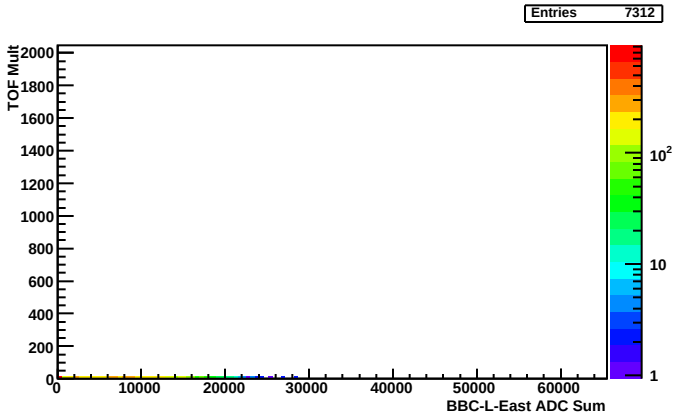

BBQ-VP002 (LO threshold)
Entries 116992
TAC
QT Input Channel

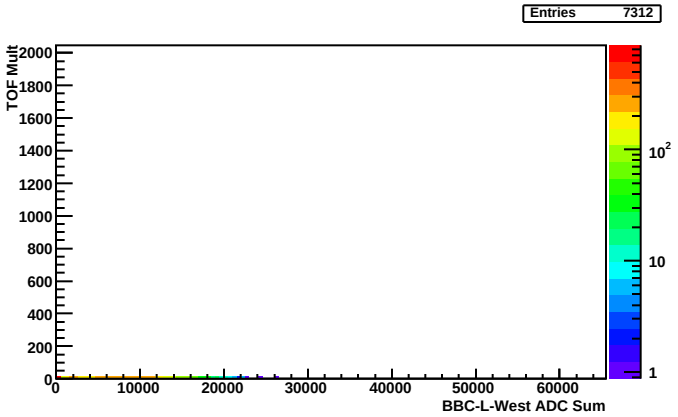

BBQ-VP003 (HI threshold)
Entries 116992
ADC
QT Input Channel

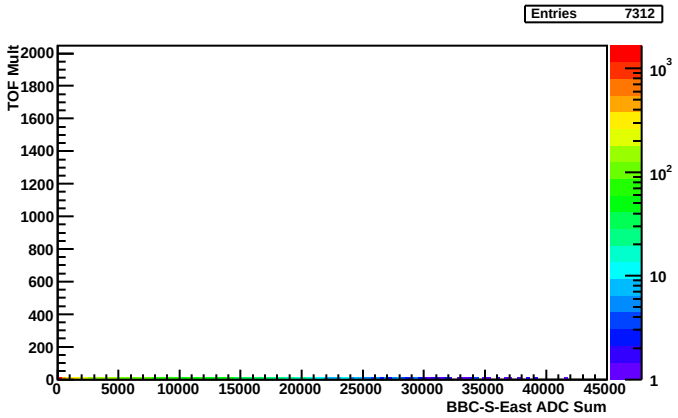

BBQ-VP003 (HI threshold)
Entries 116992
TAC
QT Input Channel

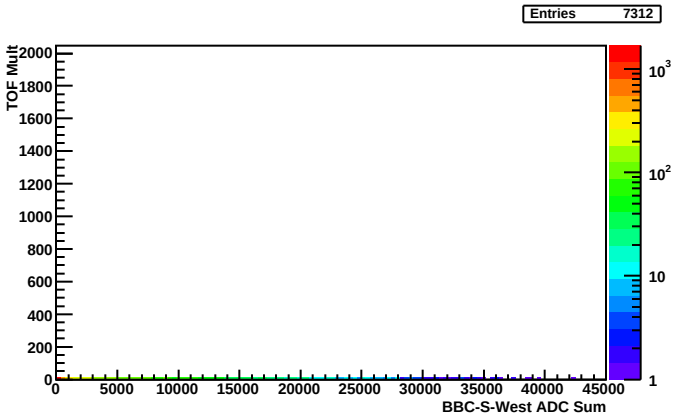

BBQ-VP004 (HI threshold)
Entries 116992
ADC
QT Input Channel

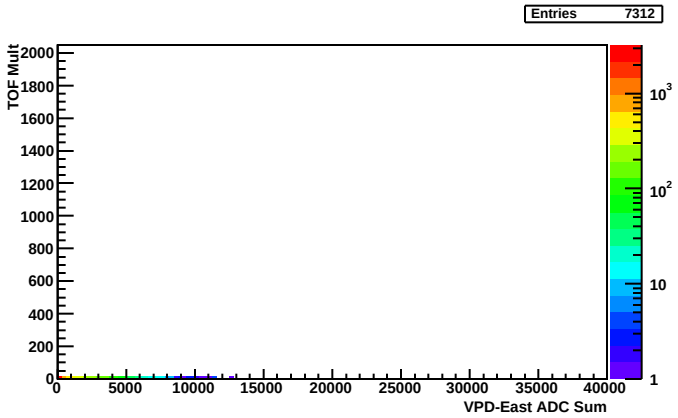

BBQ-VP004 (HI threshold)
Entries 116992
TAC
QT Input Channel

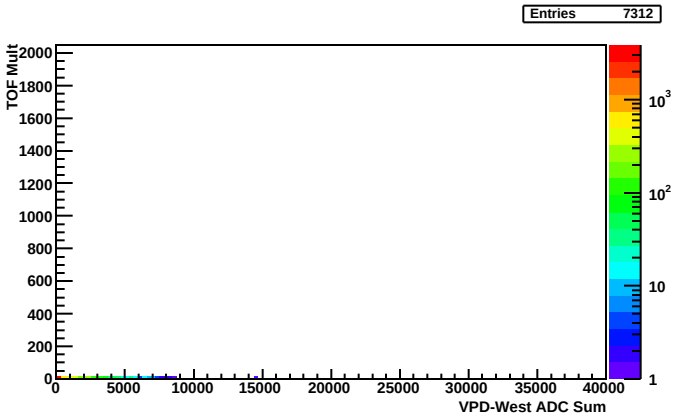

Entries 7312
TOF Mult
BBC-L-East ADC Sum

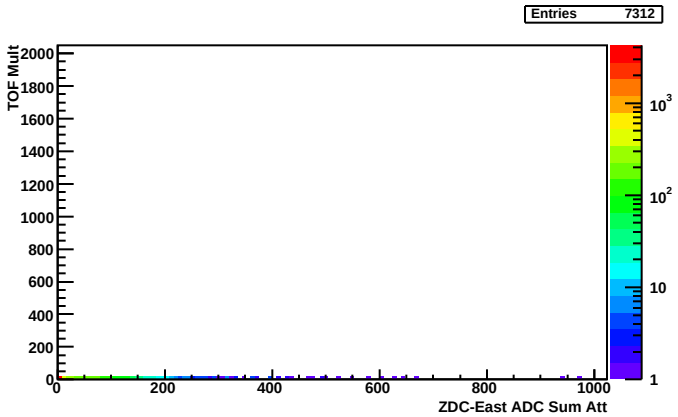

Entries 7312
TOF Mult
BBC-L-West ADC Sum

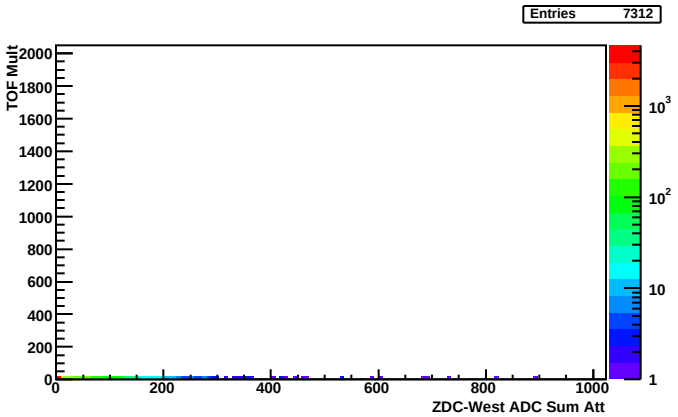

Entries 7312
TOF Mult
BBC-S-East ADC Sum

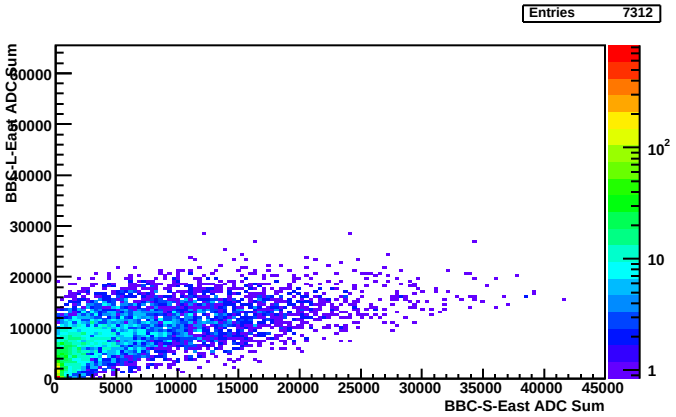

Entries 7312
TOF Mult
BBC-S-West ADC Sum

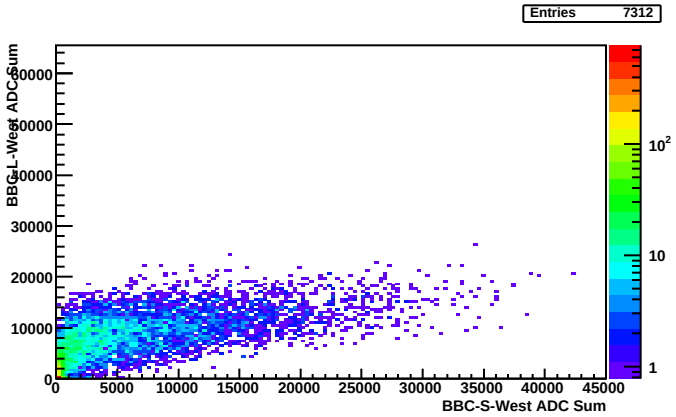

Entries 7312
TOF Mult
VPD-East ADC Sum

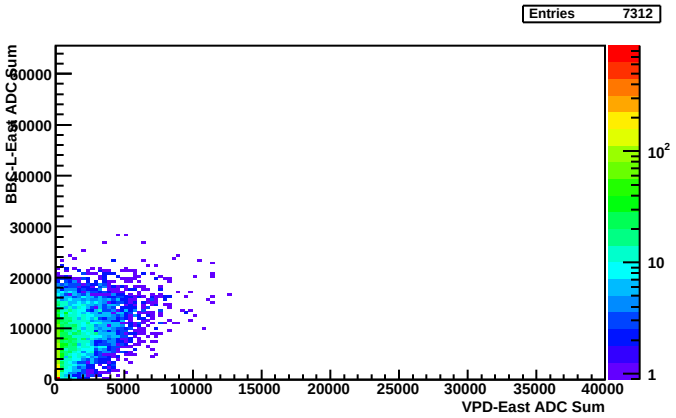

Entries 7312
TOF Mult
VPD-West ADC Sum

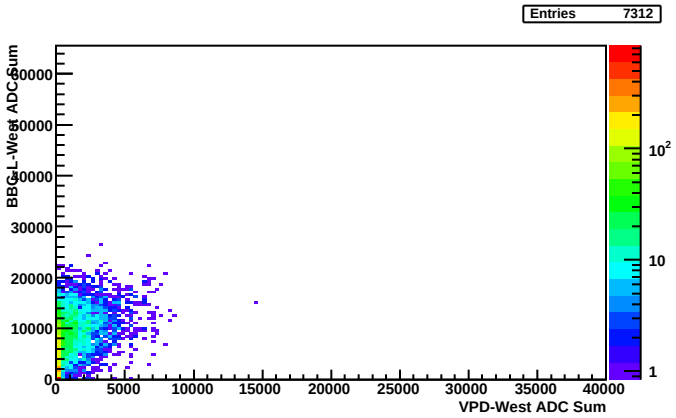

Entries 7312
TOF Mult
ZDC-East ADC Sum Att

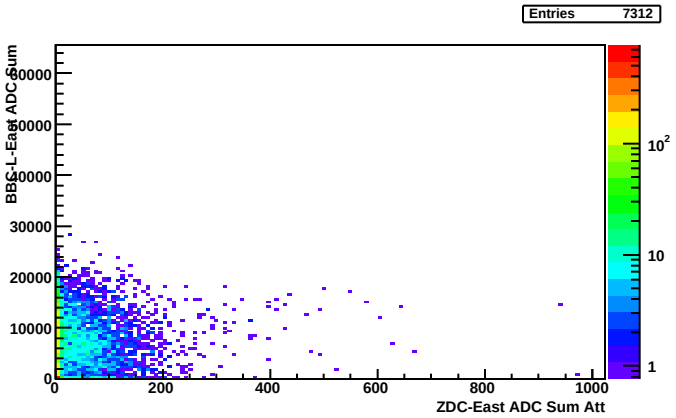

Entries 7312
TOF Mult
ZDC-West ADC Sum Att

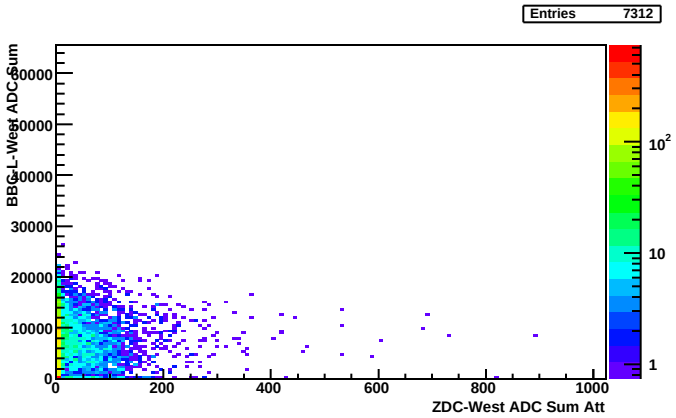

Entries 7312
BBC-L-East ADC Sum
BBC-S-East ADC Sum

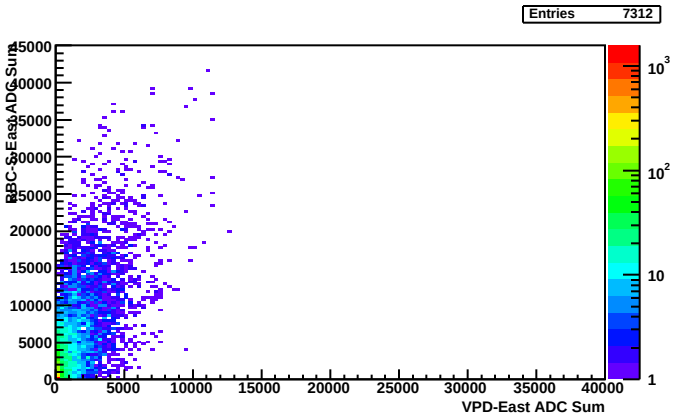

Entries 7312
BBC-L-West ADC Sum
BBC-S-West ADC Sum

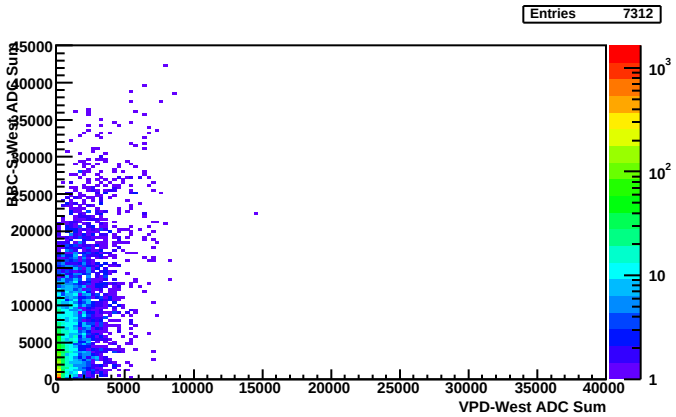

Entries 7312
BBC-L-East ADC Sum
VPD-East ADC Sum

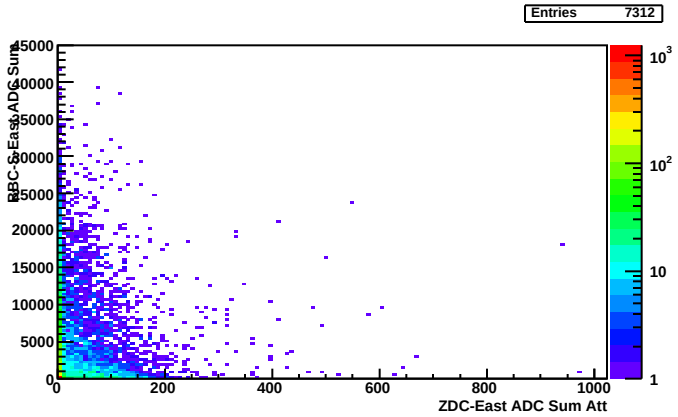

Entries 7312
BBC-L-West ADC Sum
VPD-West ADC Sum

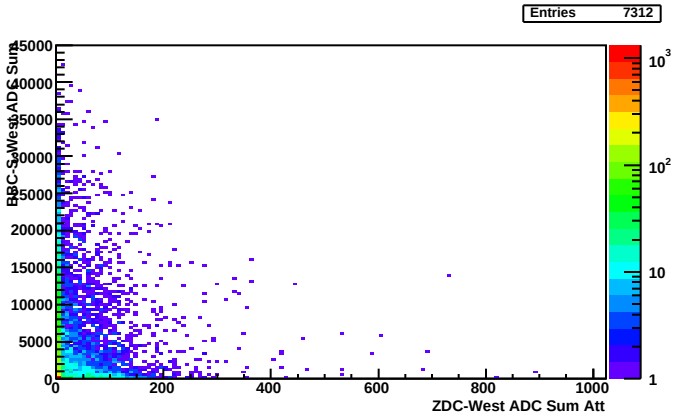

Entries 7312
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

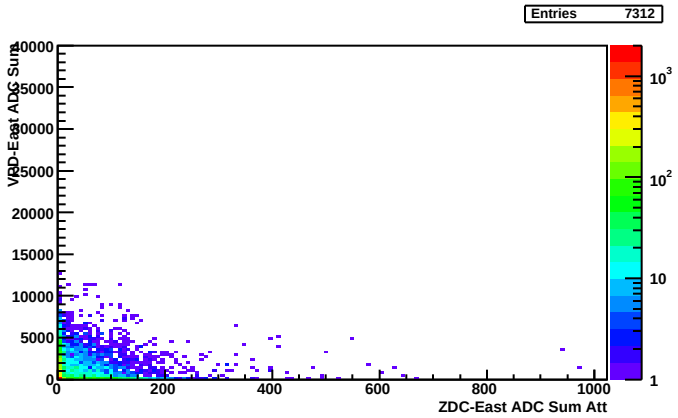

Entries 7312
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

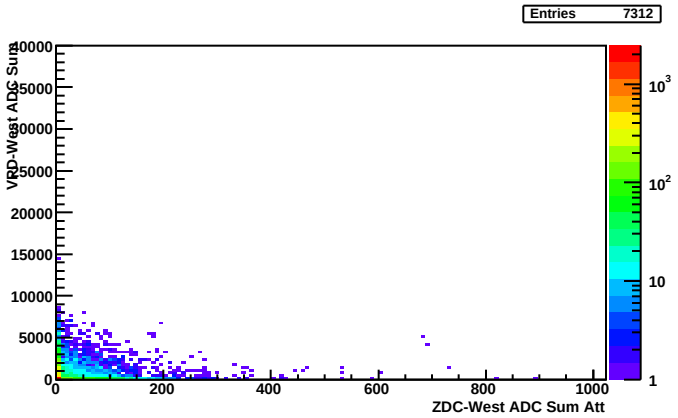

Entries 7312
BBC-S-East ADC Sum
VPD-East ADC Sum

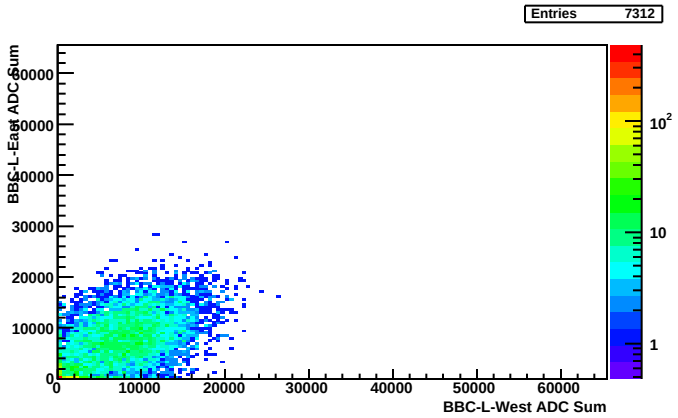

Entries 7312
BBC-S-West ADC Sum
VPD-West ADC Sum

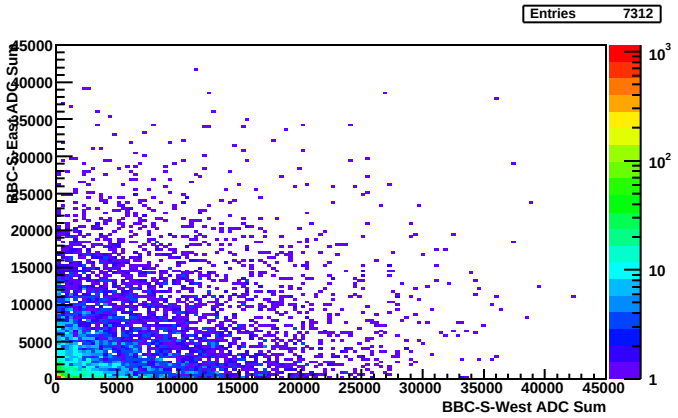

Entries 7312
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

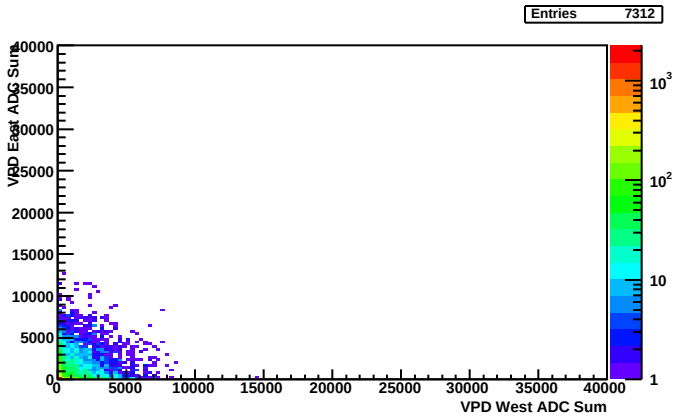

Entries 7312
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

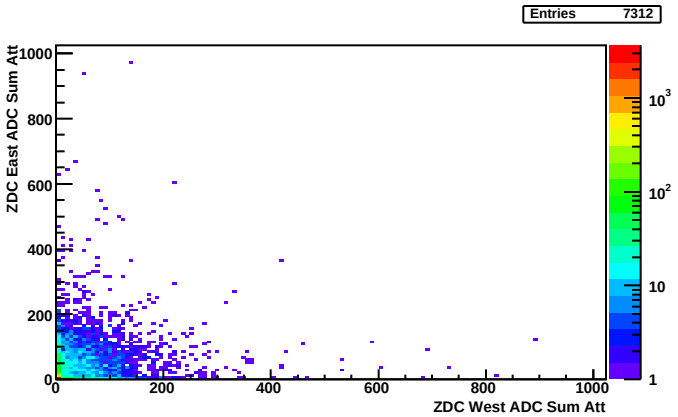

Entries 7312
VPD-East ADC Sum
ZDC-East ADC Sum Att

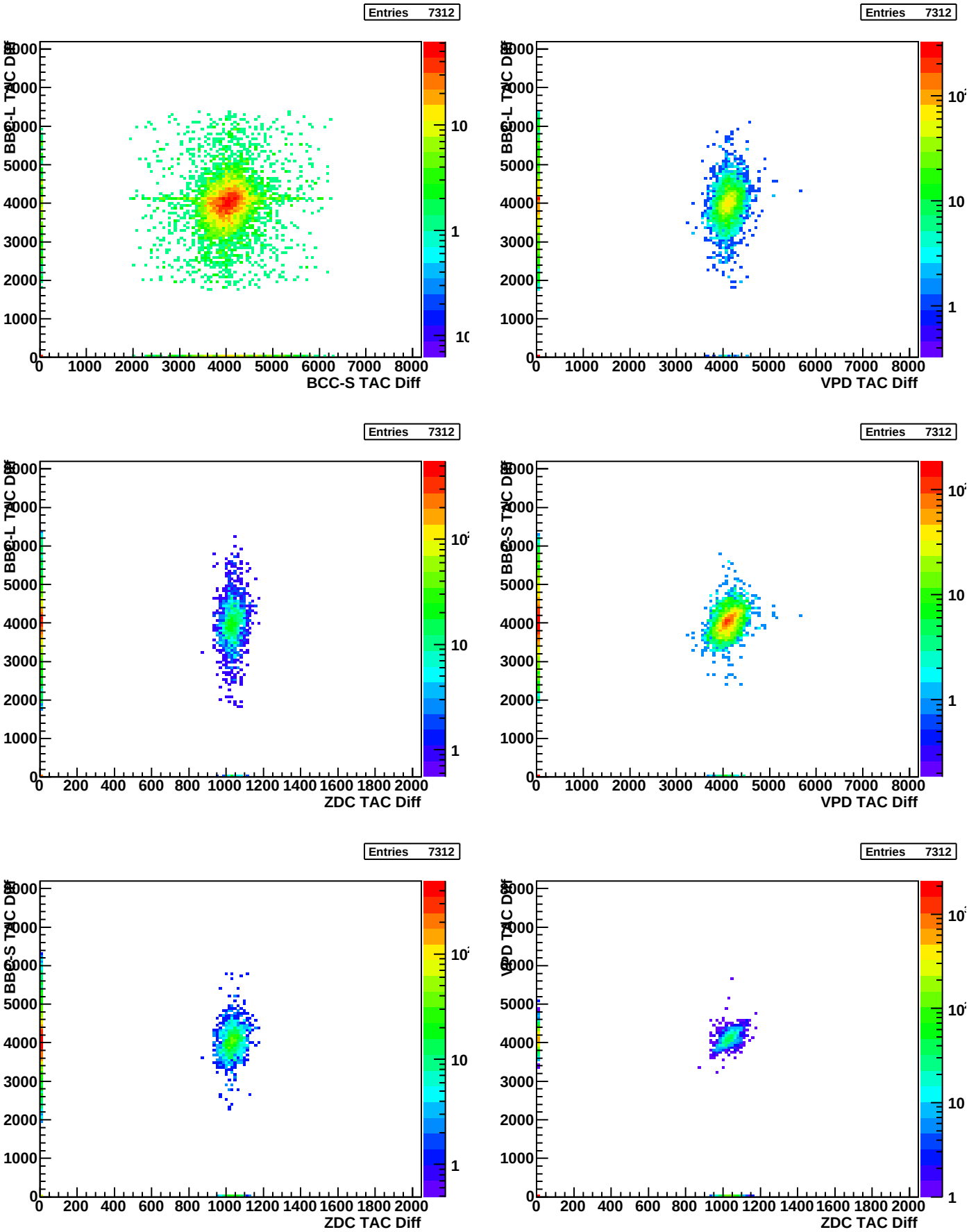

Entries 7312
VPD-West ADC Sum
ZDC-West ADC Sum Att

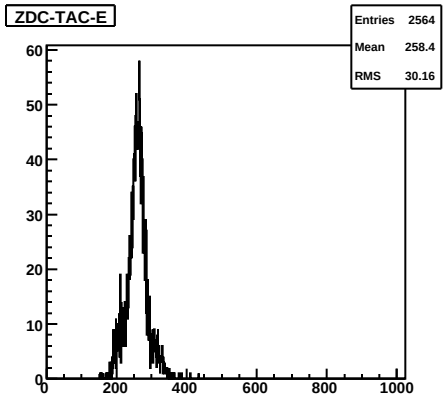

Entries 7312
BBC-L-East ADC Sum
BBC-L-West ADC Sum

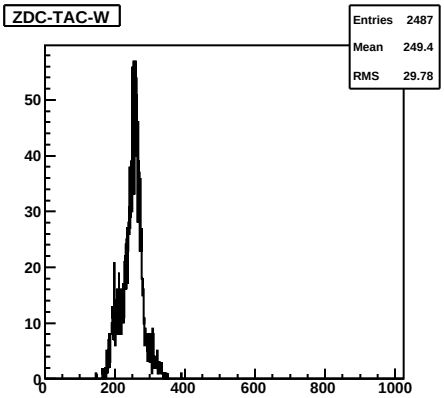

Entries 7312
BBC-S-East ADC Sum
BBC-S-West ADC Sum

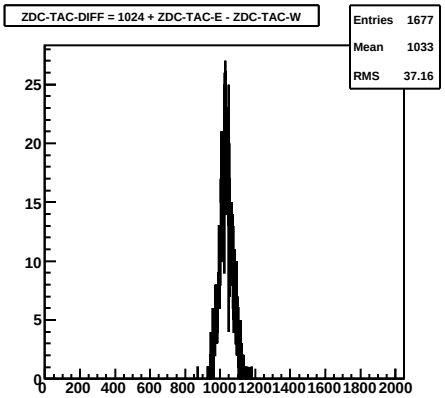

Entries 7312
VPD East ADC Sum
VPD West ADC Sum

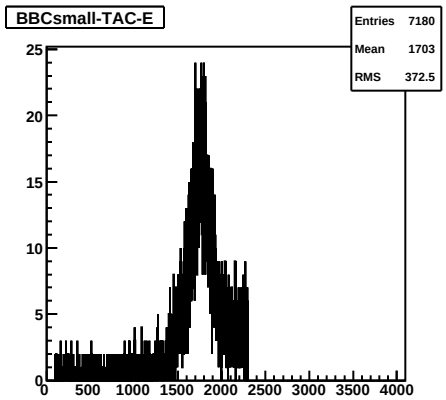

Entries 7312
ZDC East ADC Sum Att
ZDC West ADC Sum Att

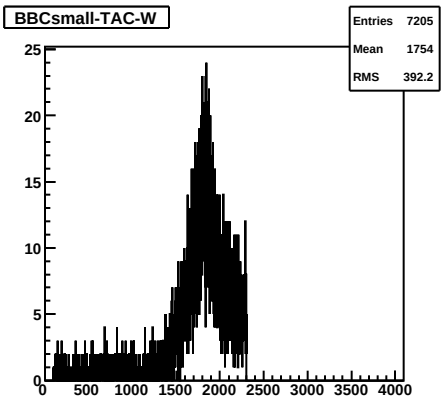

Entries 7312
BBC-L TAC Diff
BCC-S TAC Diff
Entries 7312
BBC-L TAC Diff
VPD TAC Diff
Entries 7312
BBC-L TAC Diff
ZDC TAC Diff
Entries 7312
BBC-S TAC Diff
VPD TAC Diff
Entries 7312
BBC-S TAC Diff
ZDC TAC Diff
Entries 7312
VPD TAC Diff
ZDC TAC Diff

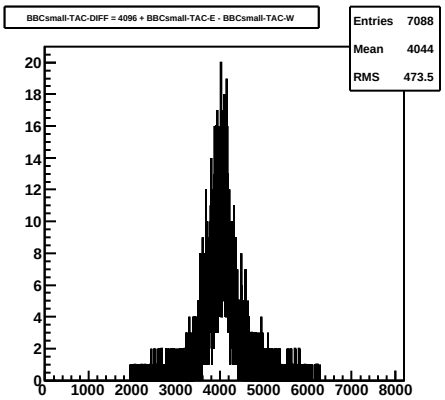

ZDC-TAC-E
Entries 2564
Mean 258.4
RMS 30.16

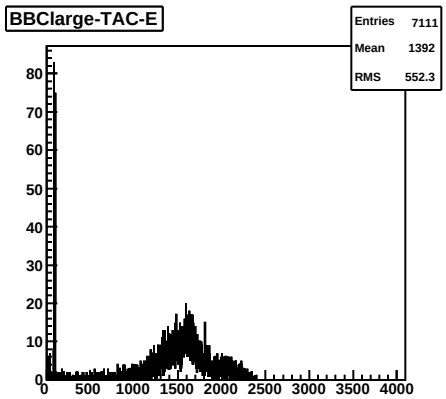

ZDC-TAC-W
Entries 2487
Mean 249.4
RMS 29.78

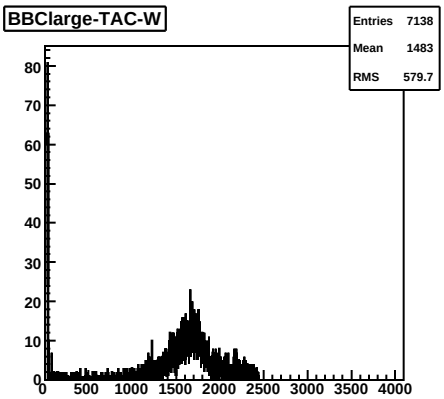

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 1677
Mean 1033
RMS 37.16

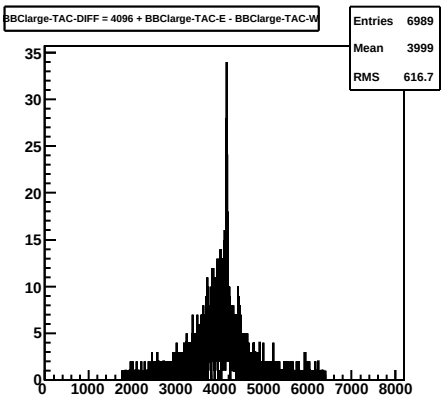

BBCsmall-TAC-E
Entries 7180
Mean 1703
RMS 372.5

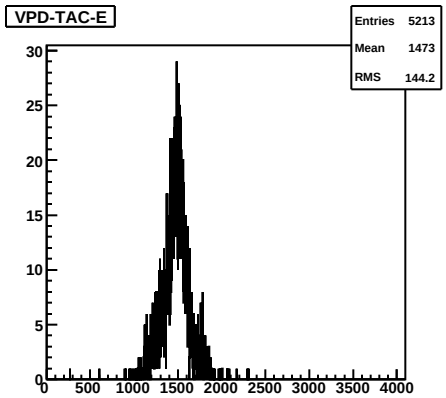

BBCsmall-TAC-W
Entries 7205
Mean 1754
RMS 392.2

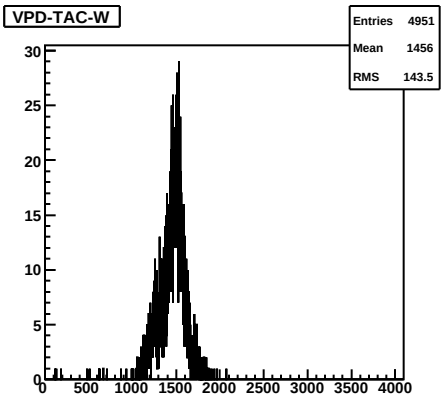

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 7088
Mean 4044
RMS 473.5

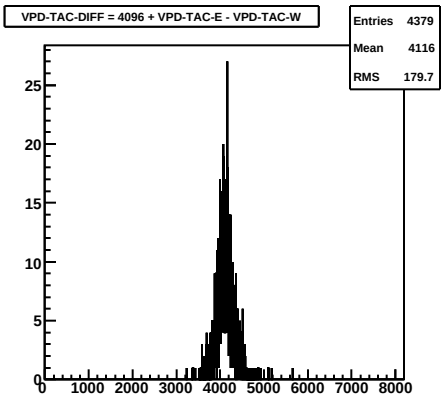

BBClarge-TAC-E
Entries 7111
Mean 1392
RMS 552.3

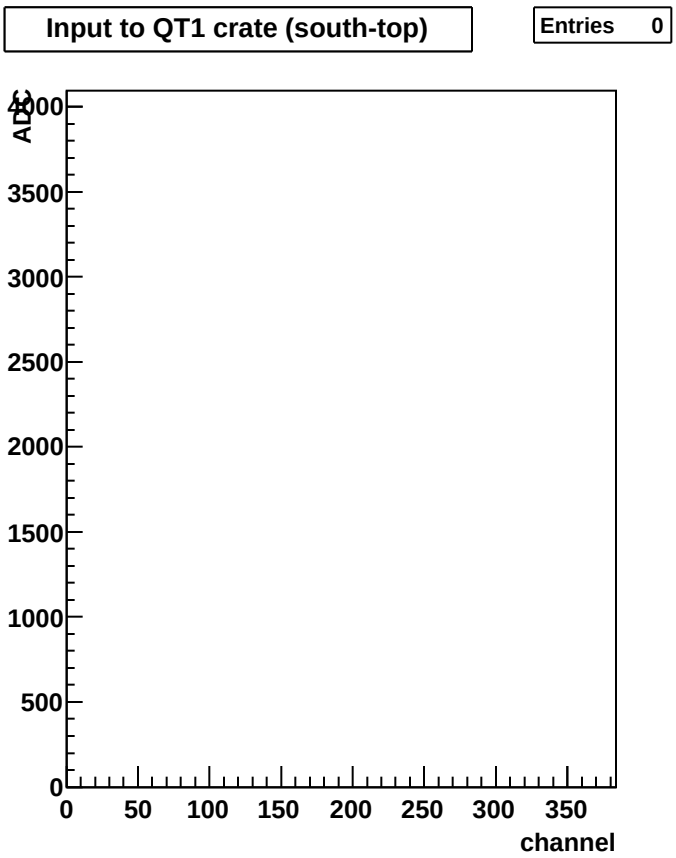

BBClarge-TAC-W
Entries 7138
Mean 1483
RMS 579.7

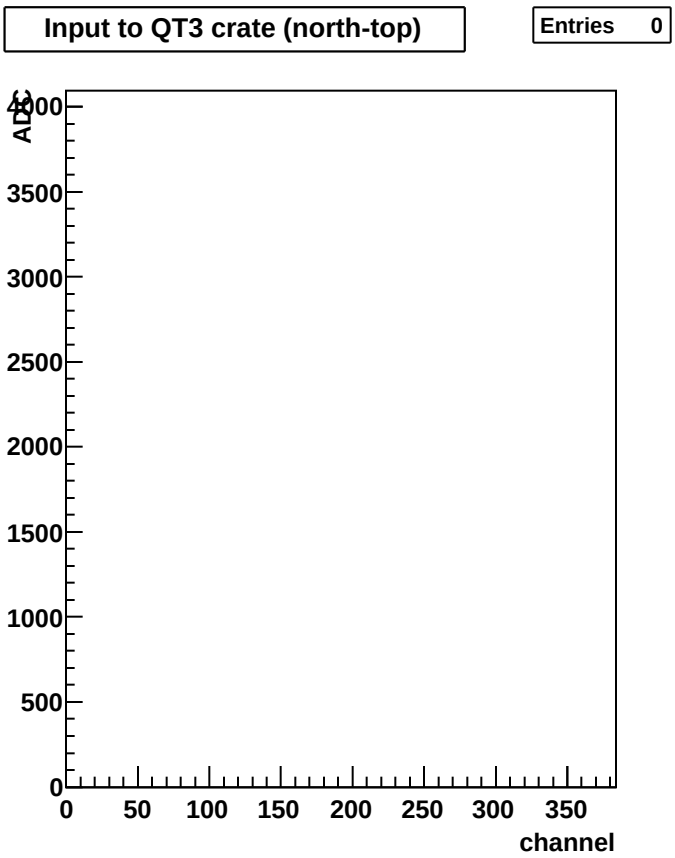

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 6989
Mean 3999
RMS 616.7

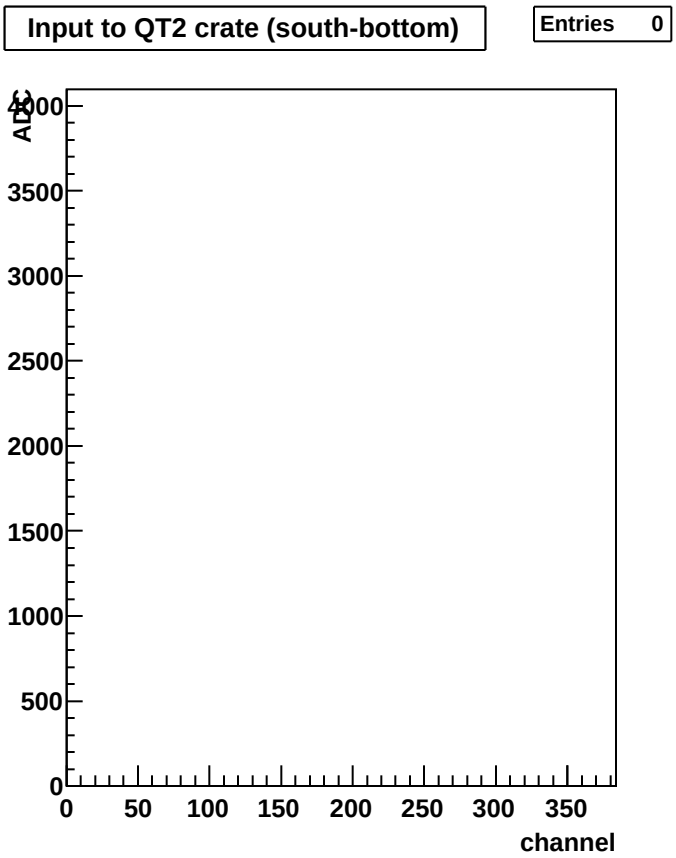

VPD-TAC-E
Entries 5213
Mean 1473
RMS 144.2

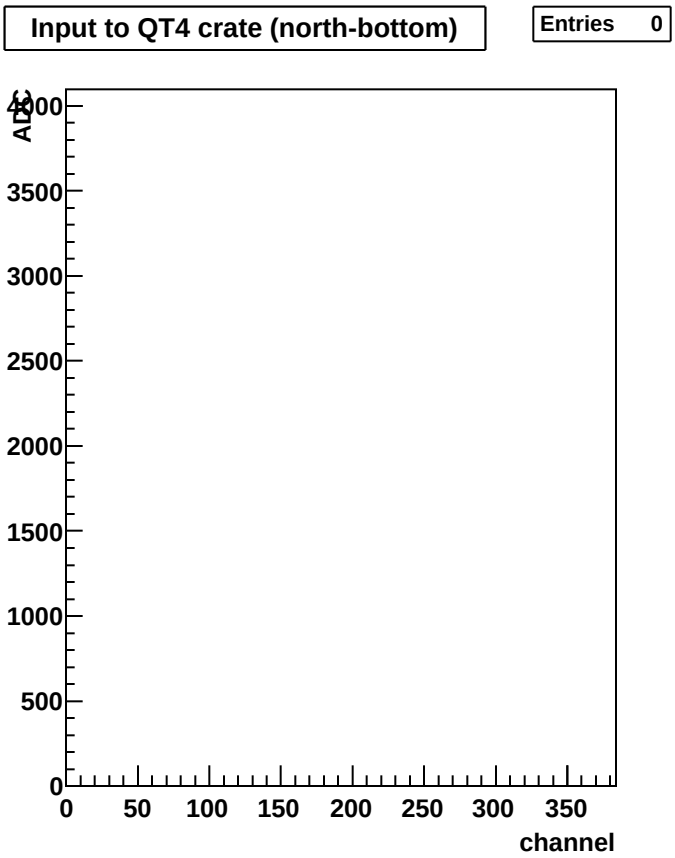

VPD-TAC-W
Entries 4951
Mean 1456
RMS 143.5

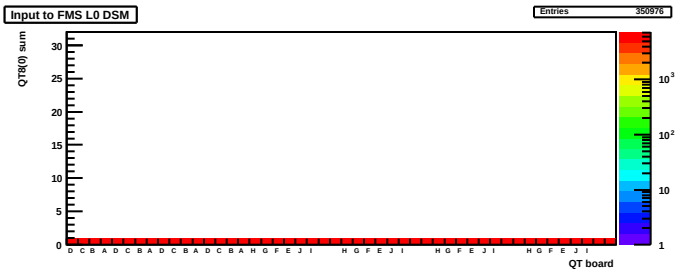

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 4379
Mean 4116
RMS 179.7

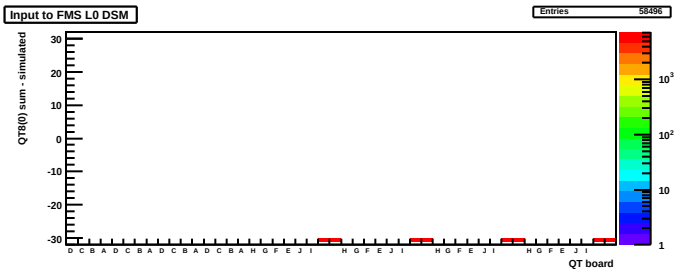

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

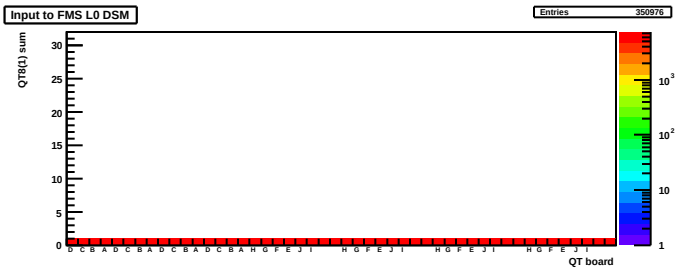

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

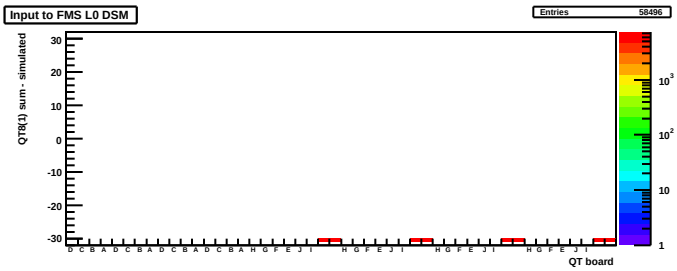

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

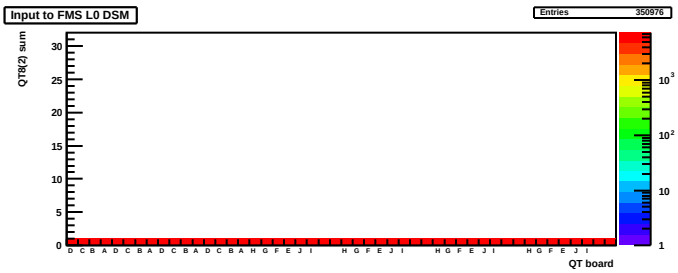

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

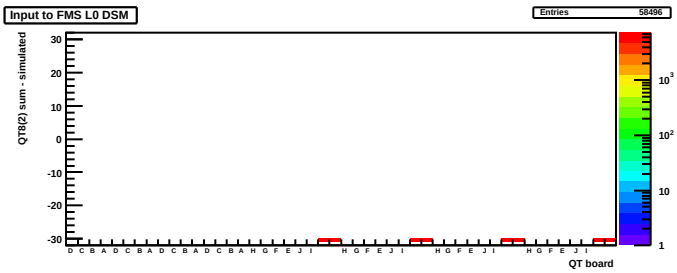

Input to FMS L0 DSM
Entries 350976
QT8(0) sum
QT board

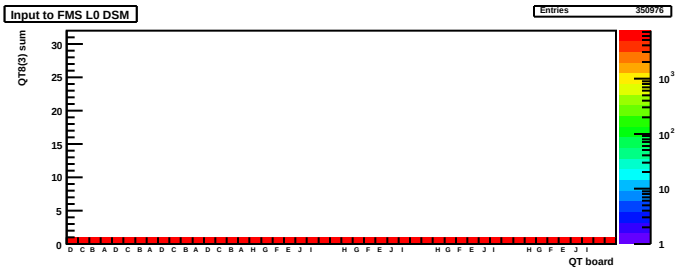

Input to FMS L0 DSM
Entries 58496
QT8(0) sum - simulated
QT board

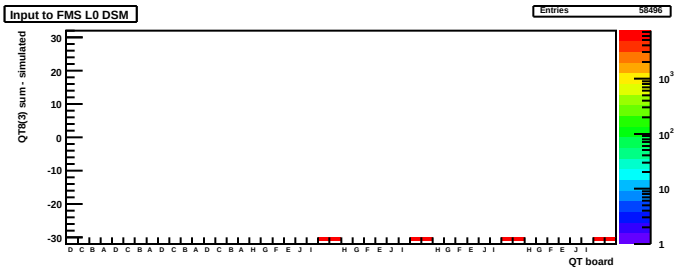

Input to FMS L0 DSM
Entries 350976
QT8(1) sum
QT board

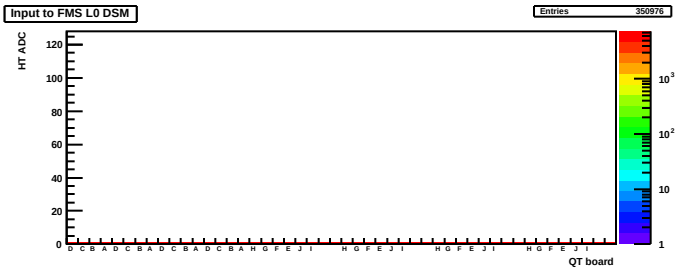

Input to FMS L0 DSM
Entries 58496
QT8(1) sum - simulated
QT board

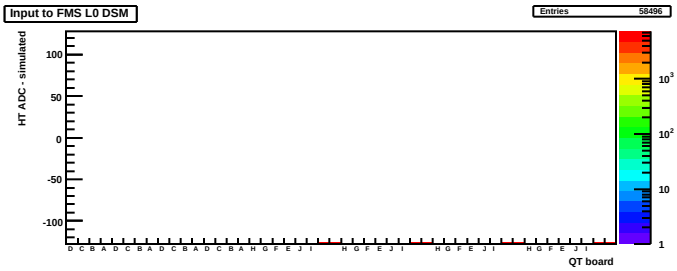

Input to FMS L0 DSM
Entries 350976
QT8(2) sum
QT board

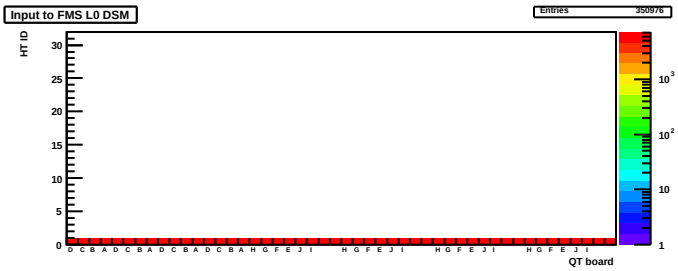

Input to FMS L0 DSM
Entries 58496
QT8(2) sum - simulated
QT board

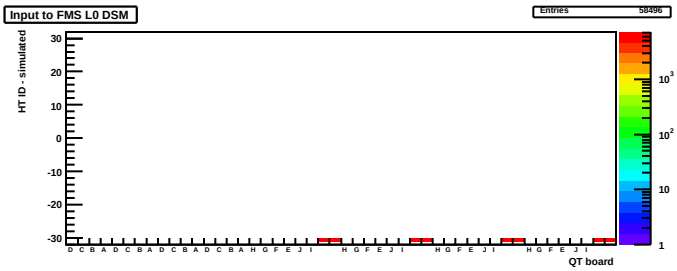

Input to FMS L0 DSM
Entries 350976
QT8(3) sum
QT board

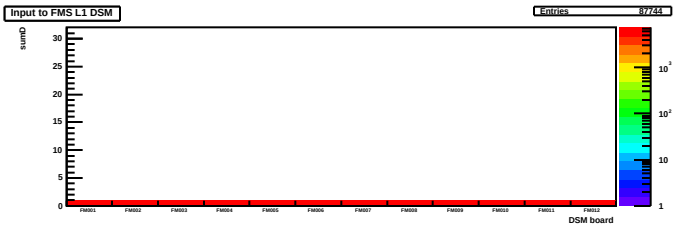

Input to FMS L0 DSM
Entries 58496
QT8(3) sum - simulated
QT board

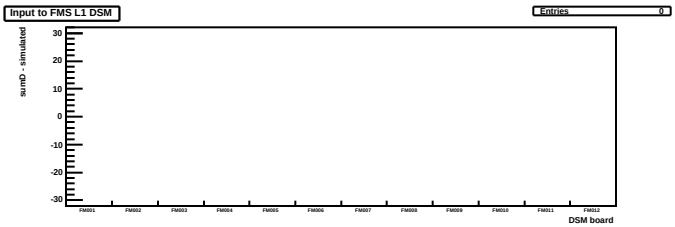

Input to FMS L0 DSM
Entries 350976
HT ADC
QT board

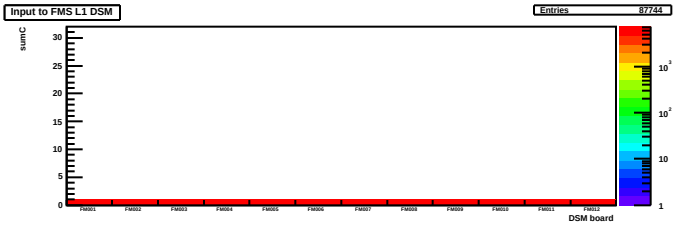

Input to FMS L0 DSM
Entries 58496
HT ADC - simulated
QT board

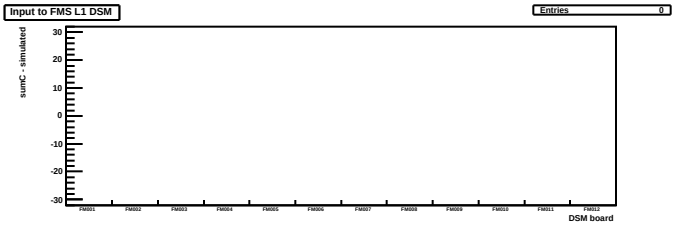

Input to FMS L0 DSM
Entries 350976
HT ID
QT board

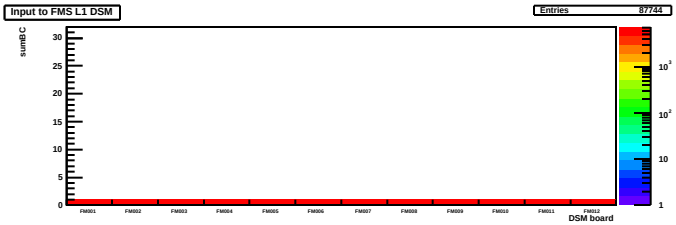

Input to FMS L0 DSM
Entries 58496
HT ID - simulated
QT board

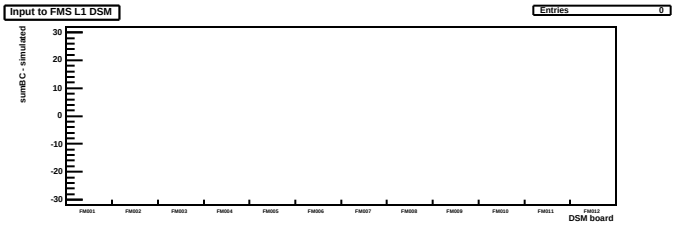

Input to FMS L1 DSM
Entries 87744
sumD
DSM board

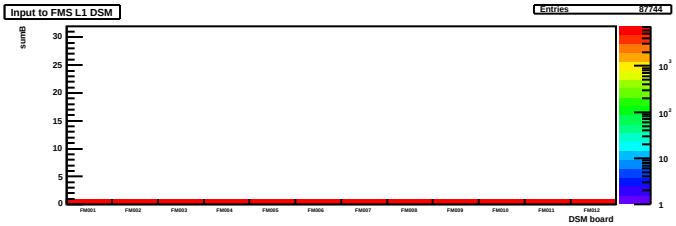

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

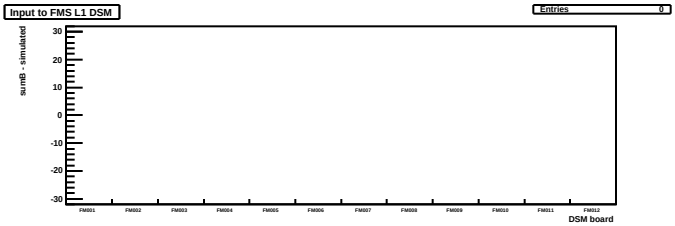

Input to FMS L1 DSM
Entries 87744
sumC
DSM board

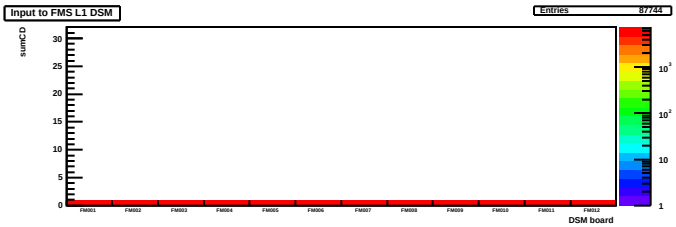

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

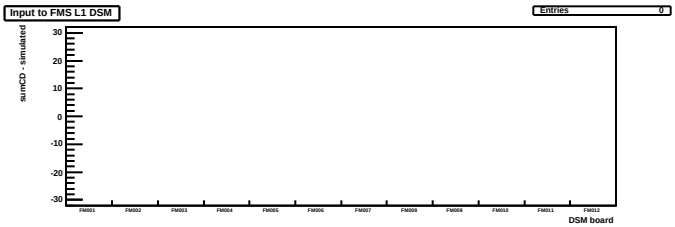

Input to FMS L1 DSM
Entries 87744
sumBC
DSM board

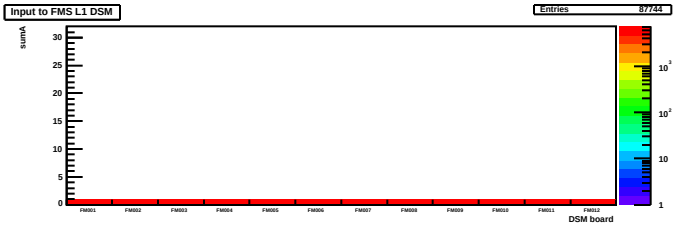

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

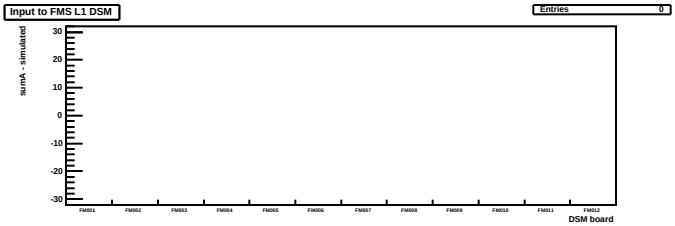

Input to FMS L1 DSM
Entries 87744
sumB
DSM board

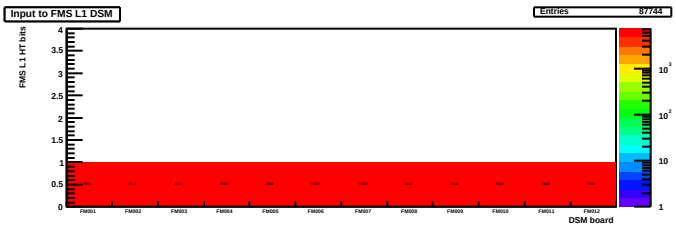

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

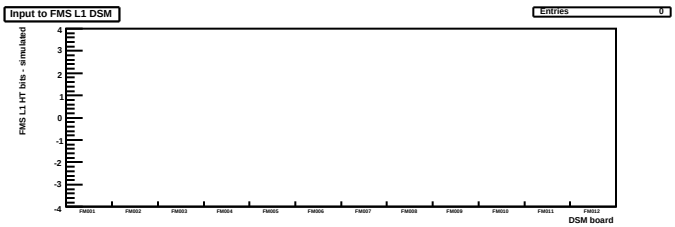

Input to FMS L1 DSM
Entries 87744
sumCD
DSM board

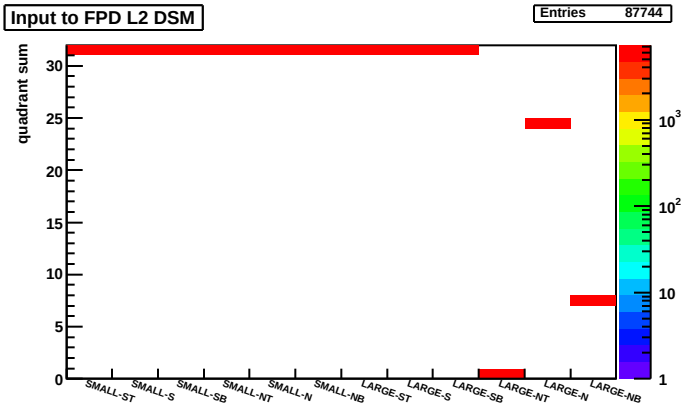

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

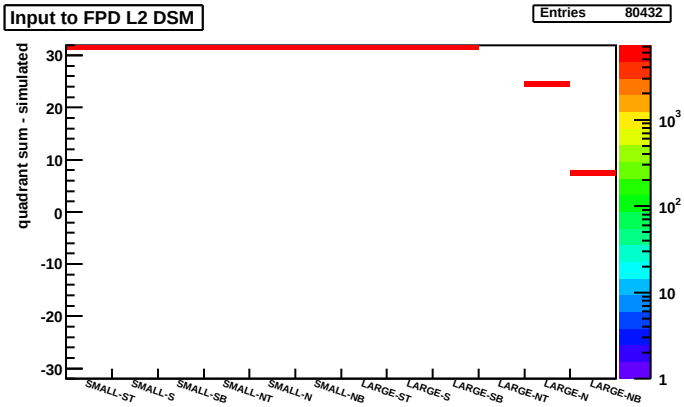

Input to FMS L1 DSM
Entries 87744
sumA
DSM board

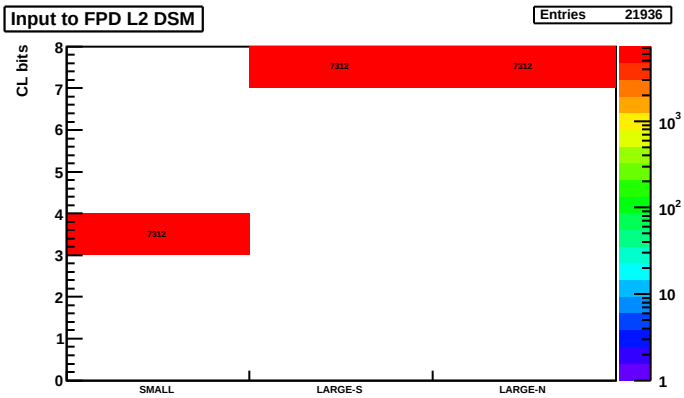

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

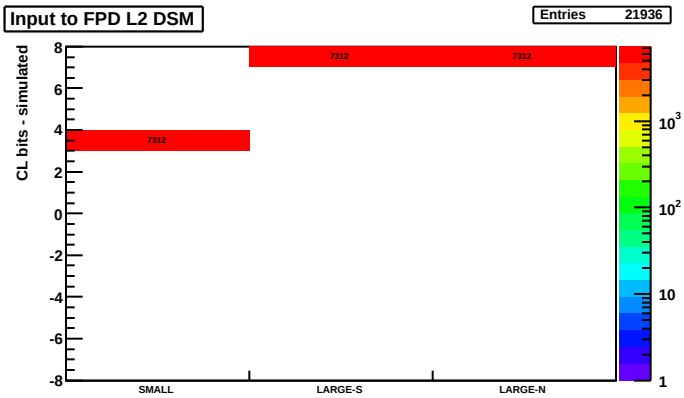

Input to FMS L1 DSM
Entries 87744
FMS L1 HT bits
DSM board

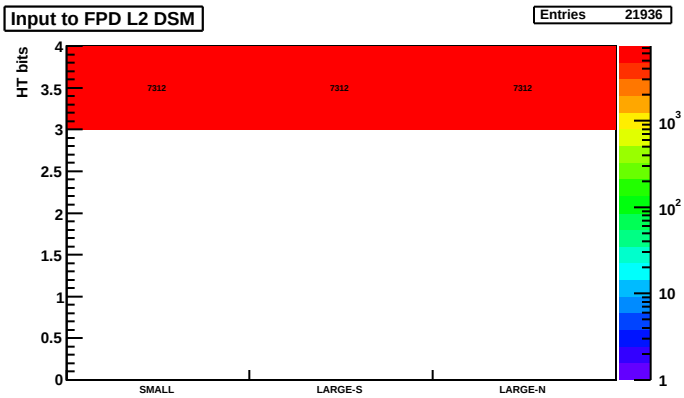

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

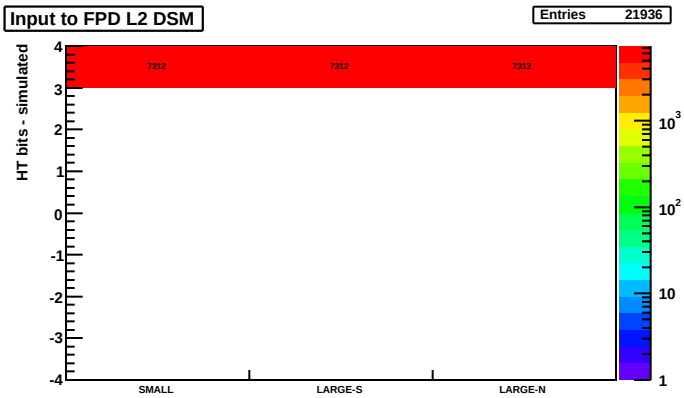

Input to FPD L2 DSM
Entries 87744
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

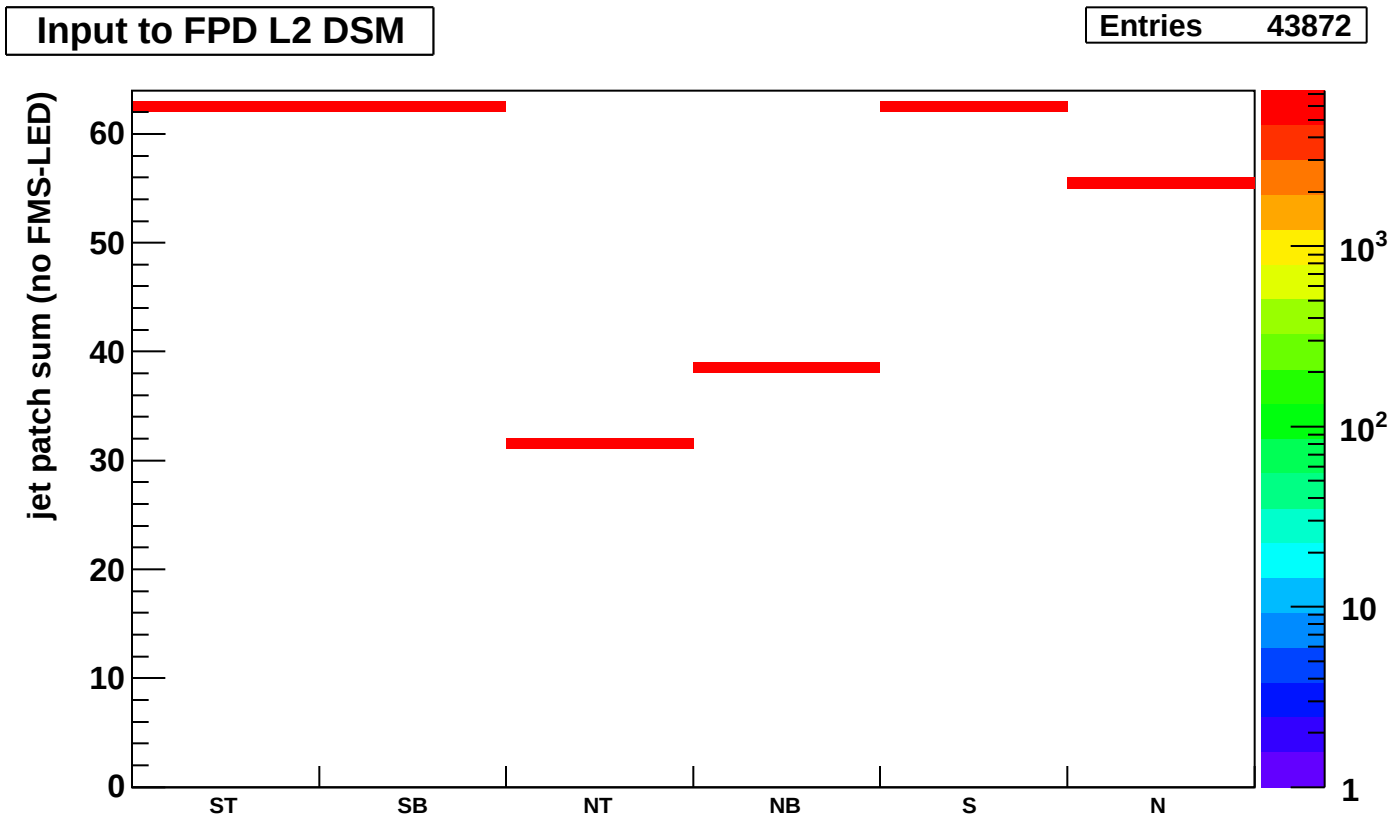

Input to FPD L2 DSM
Entries 80432
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

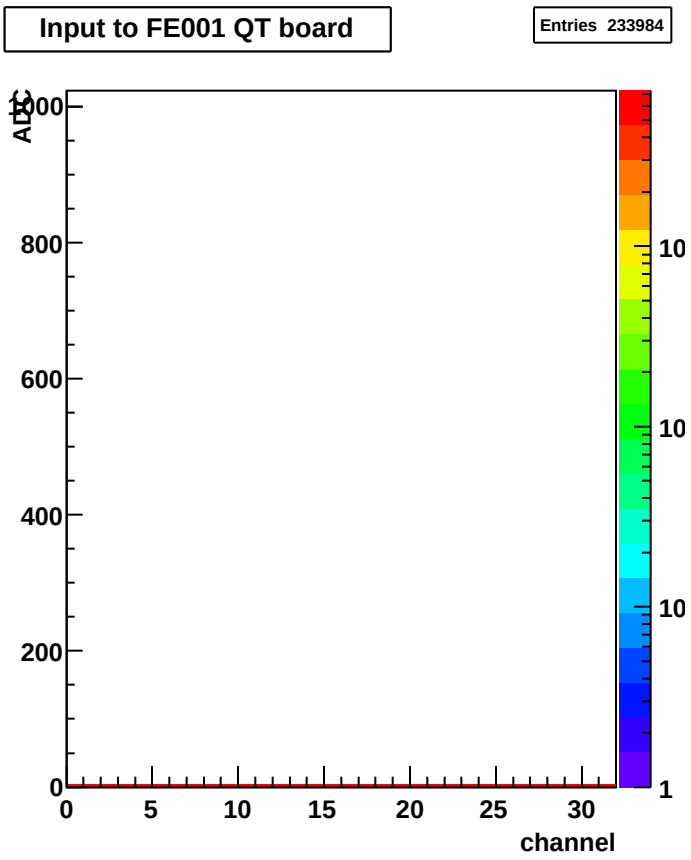

Input to FPD L2 DSM
Entries 21936
CL bits
7312
7312
7312
SMALL
LARGE-S
LARGE-N

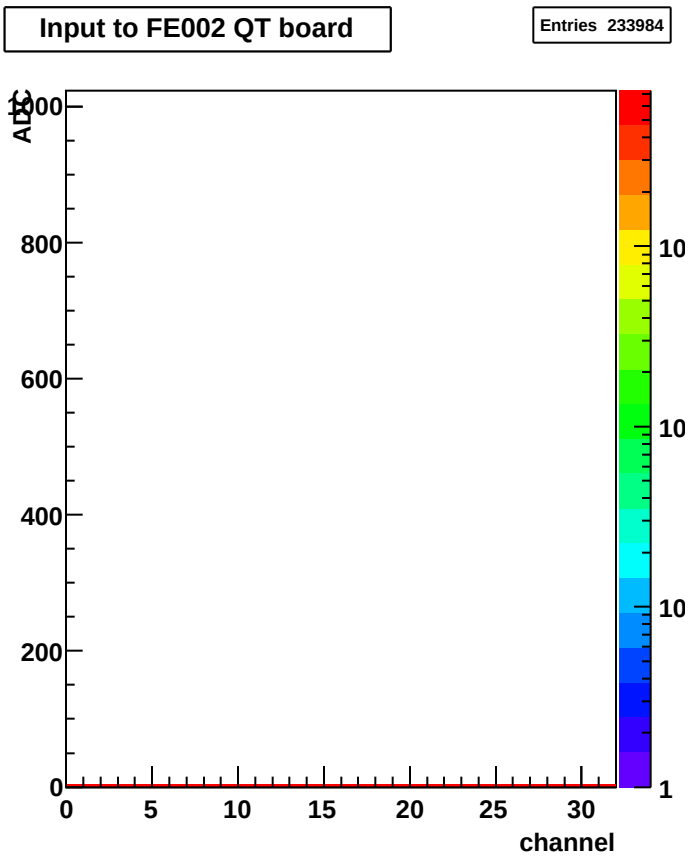

Input to FPD L2 DSM
Entries 21936
CL bits - simulated
7312
7312
7312
SMALL
LARGE-S
LARGE-N

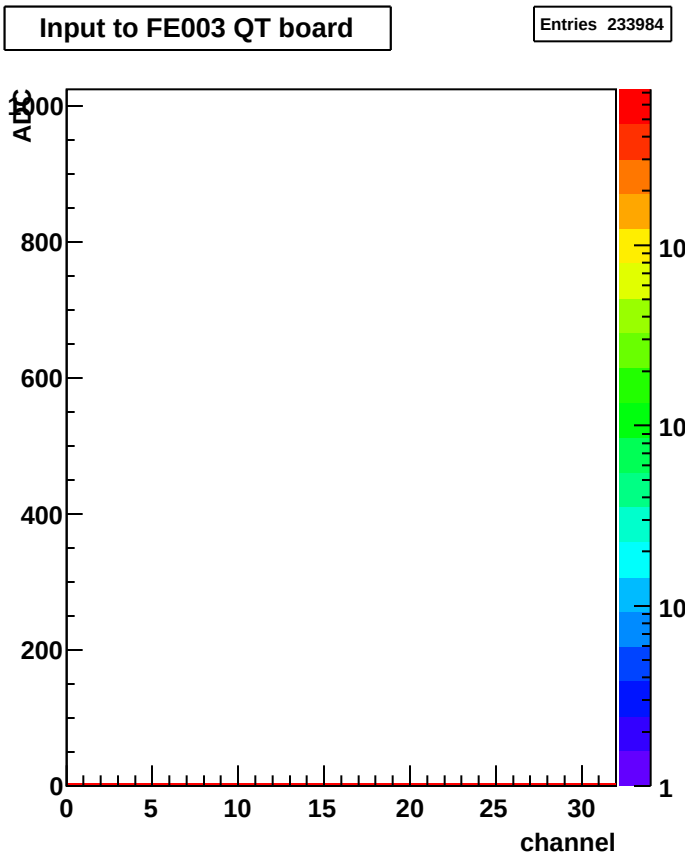

Input to FPD L2 DSM
Entries 21936
HT bits
7312
7312
7312
SMALL
LARGE-S
LARGE-N

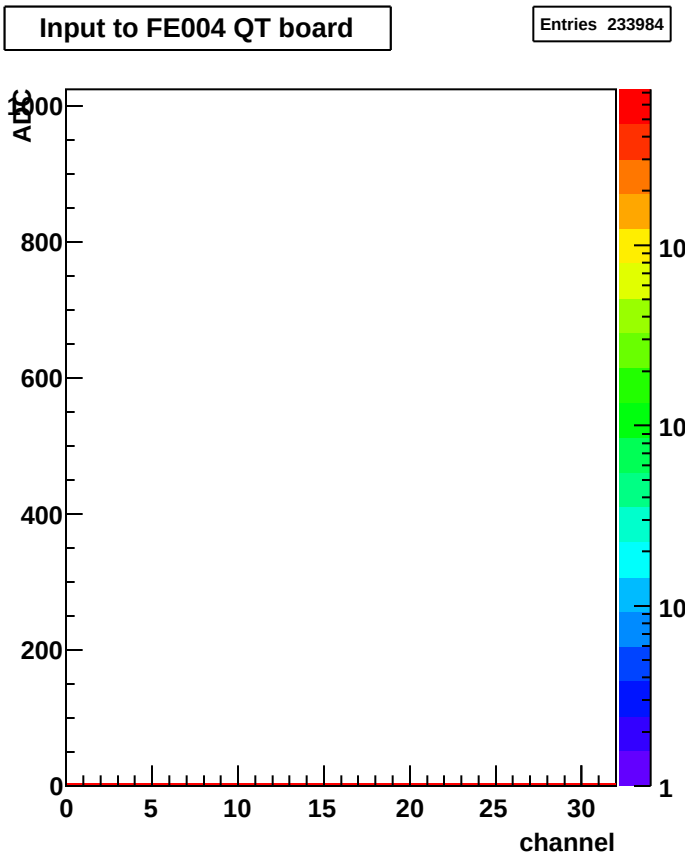

Input to FPD L2 DSM
Entries 21936
HT bits - simulated
7312
7312
7312
SMALL
LARGE-S
LARGE-N

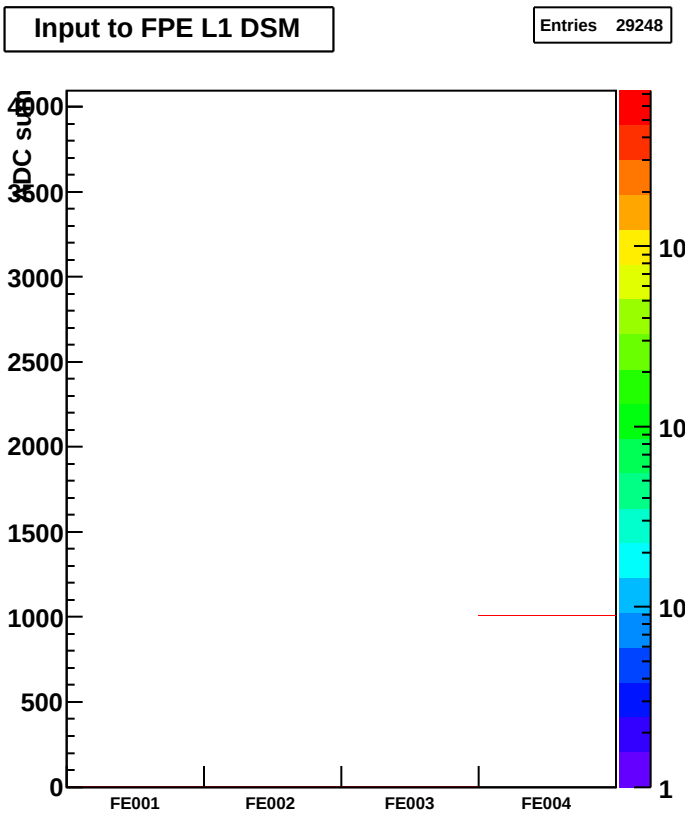

Input to FPD L2 DSM
Entries 43872
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3

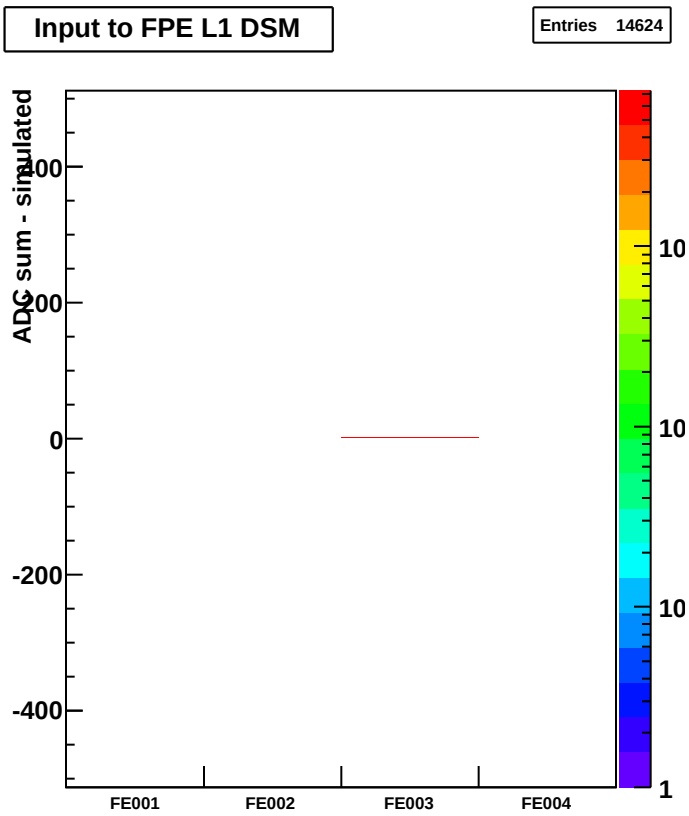

Input to FE001 QT board
Entries 233984
ADC
channel


Input to FE002 QT board
Entries 233984
ADC
channel

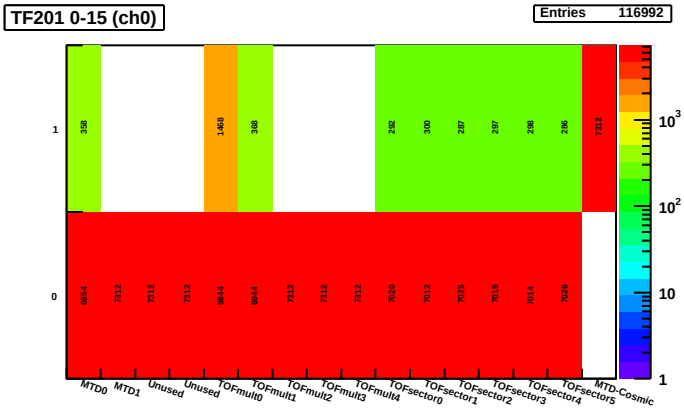

Input to FE003 QT board
Entries 233984
ADC
channel


Input to FE004 QT board
Entries 233984
ADC
channel

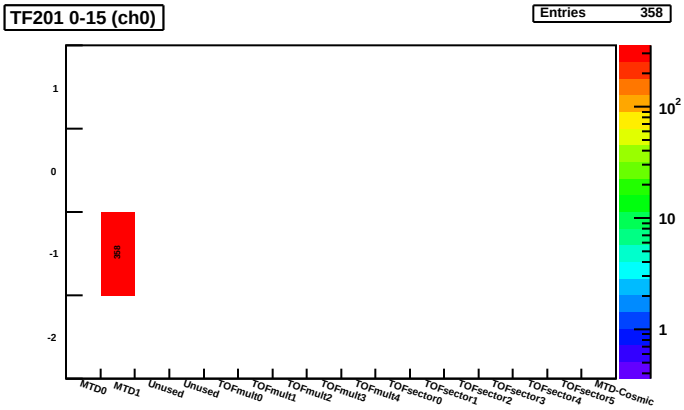

Input to FPE L1 DSM
Entries 29248
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
1


Input to FPE L1 DSM
Entries 14624
ADC sum - simulated
200
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
1

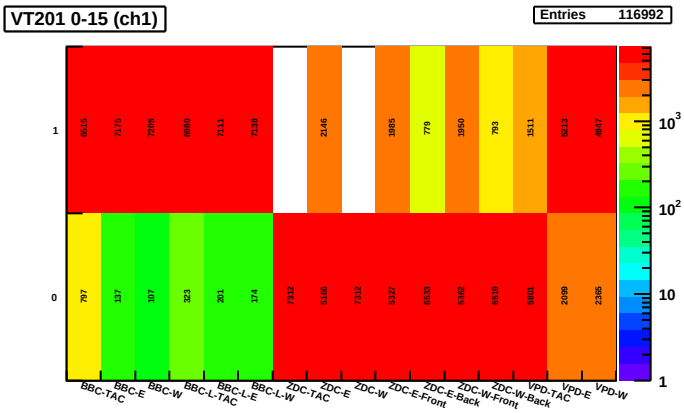
TF201 0-15 (ch0)



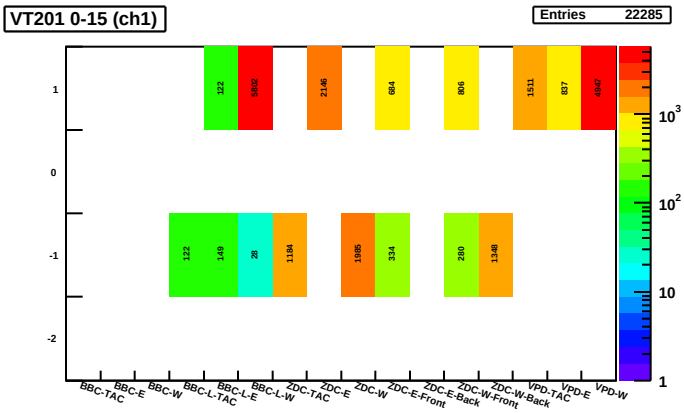
TF201 0-15 (ch0)



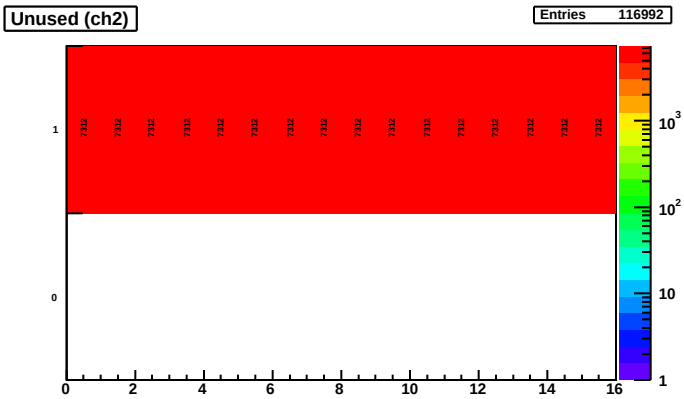
VT201 0-15 (ch1)

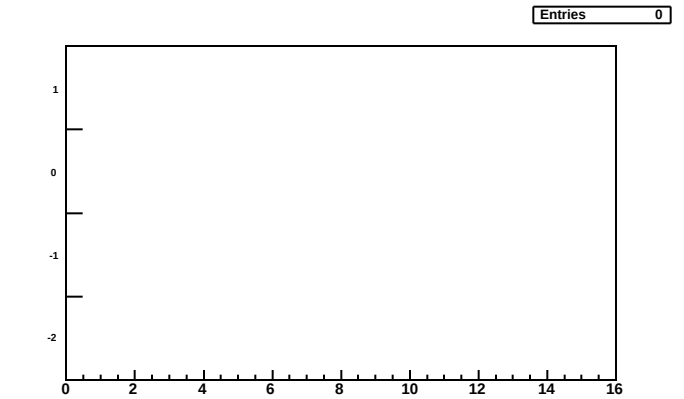


VT201 0-15 (ch1)

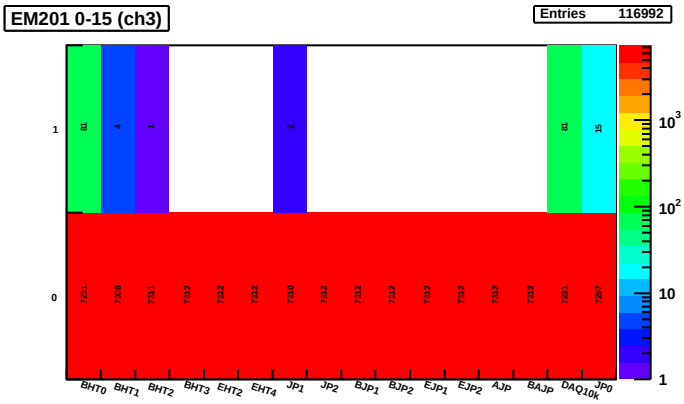


Unused (ch2)

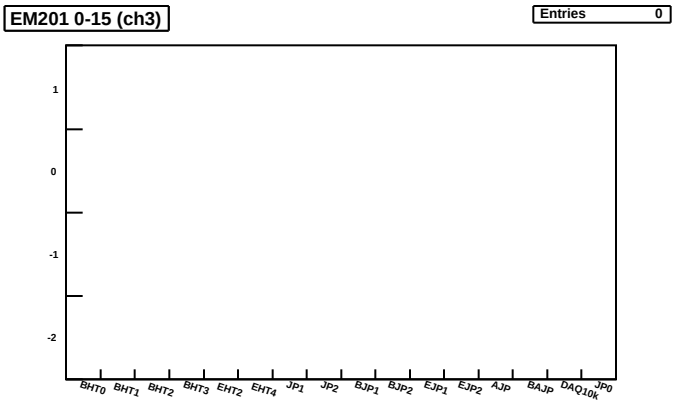


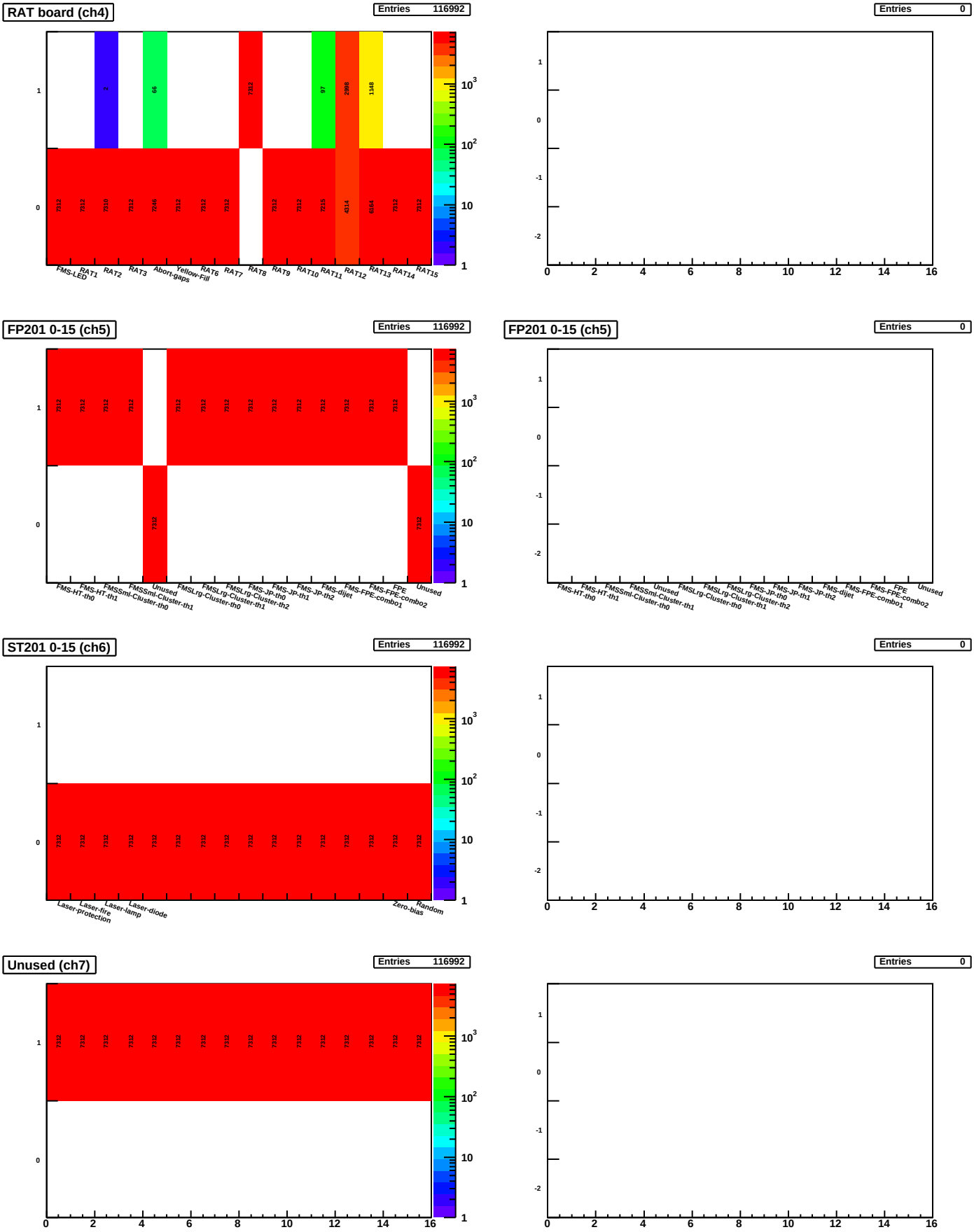


EM201 0-15 (ch3)



EM201 0-15 (ch3)




RAT board (ch4)
Entries 116992
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 116992
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 116992
Entries 0
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random
Unused (ch7)
Entries 116992
Entries 0