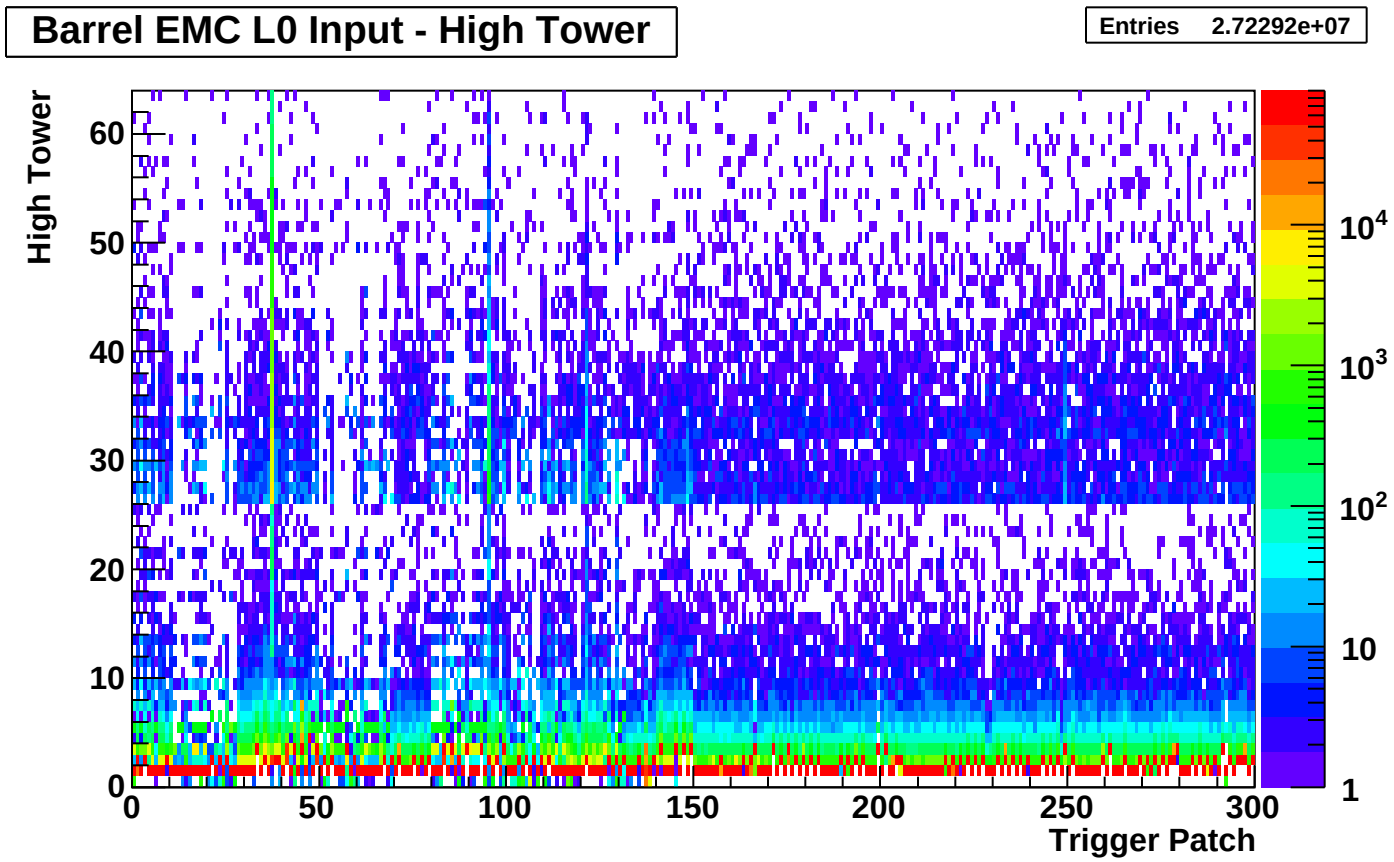
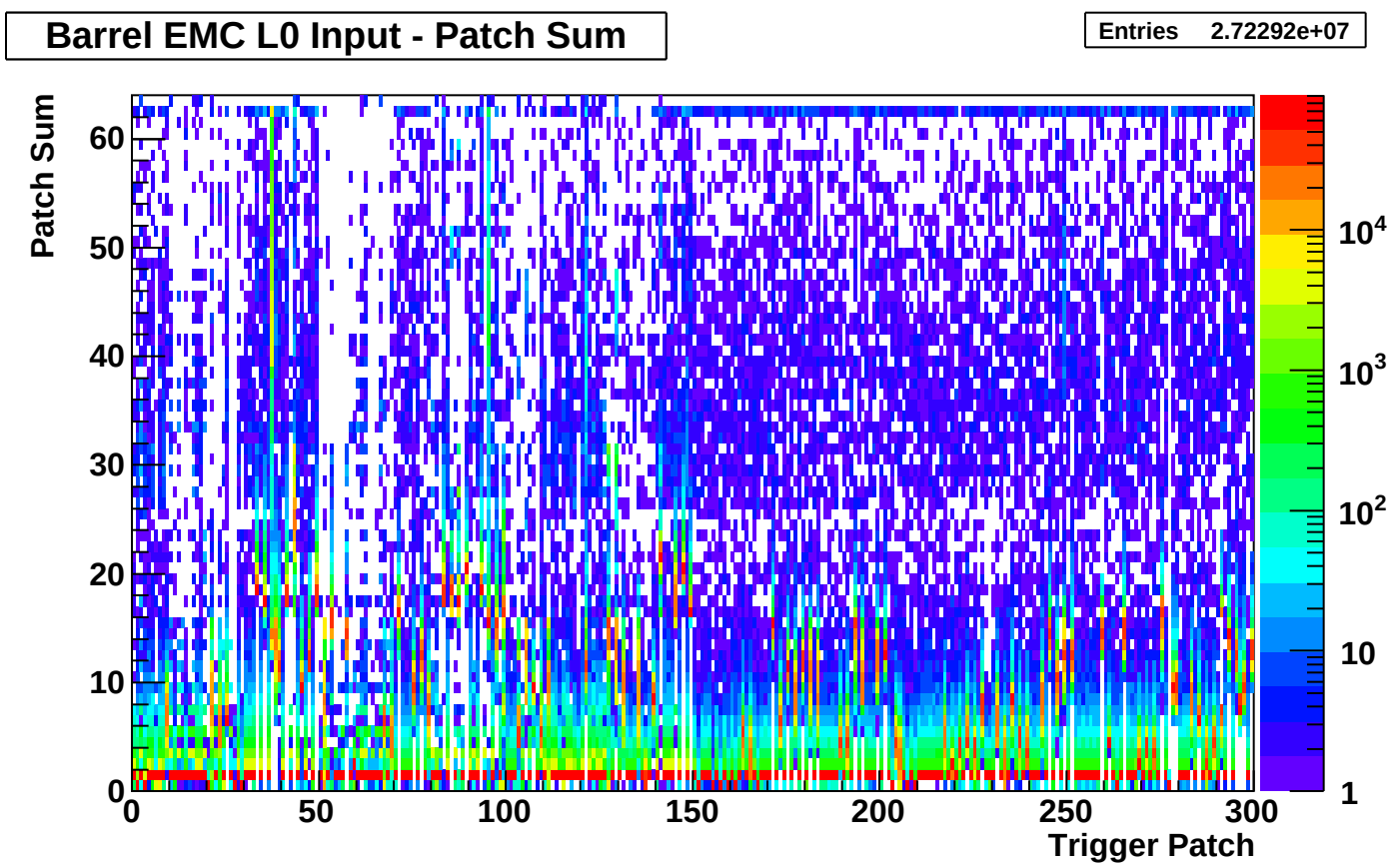
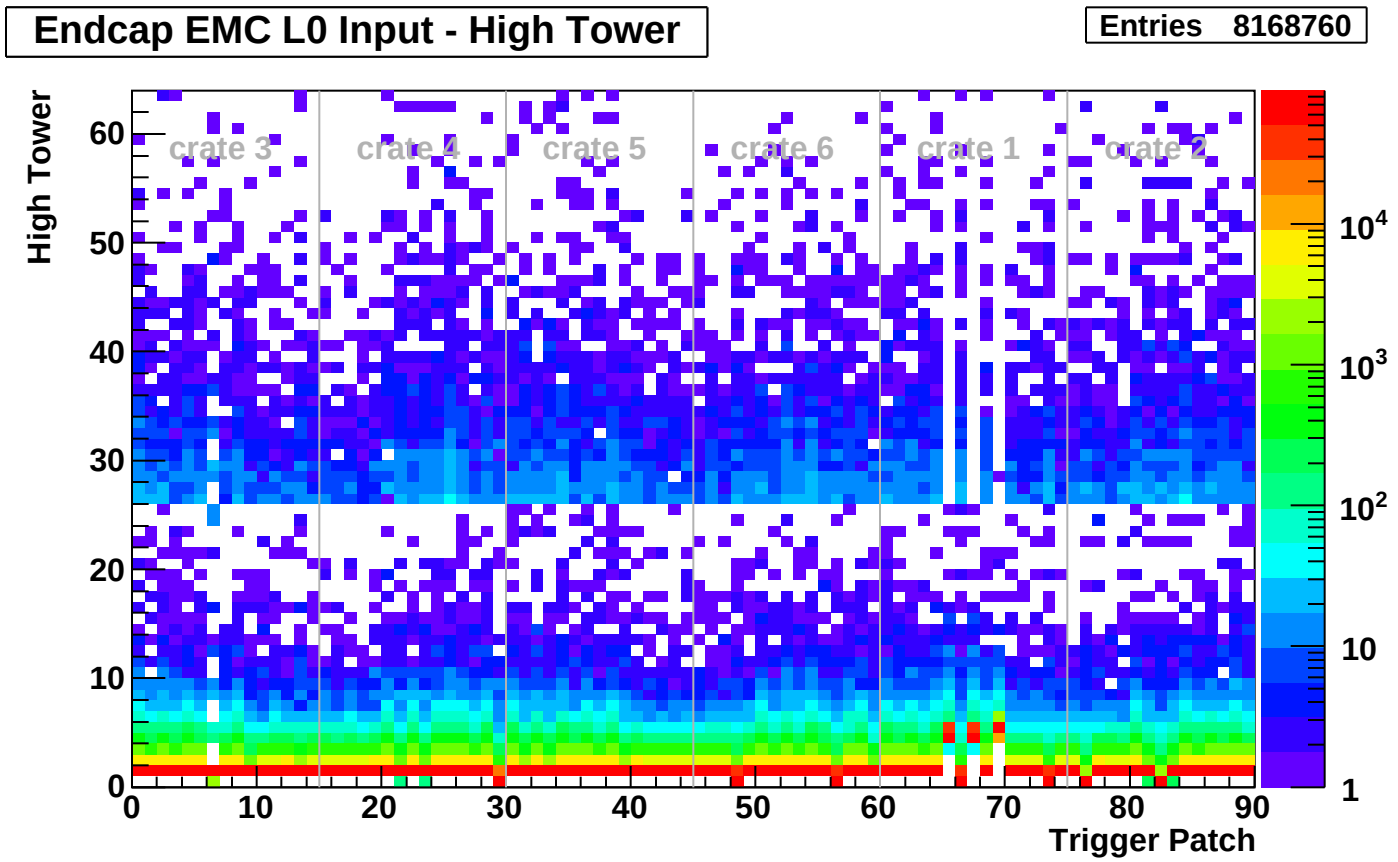
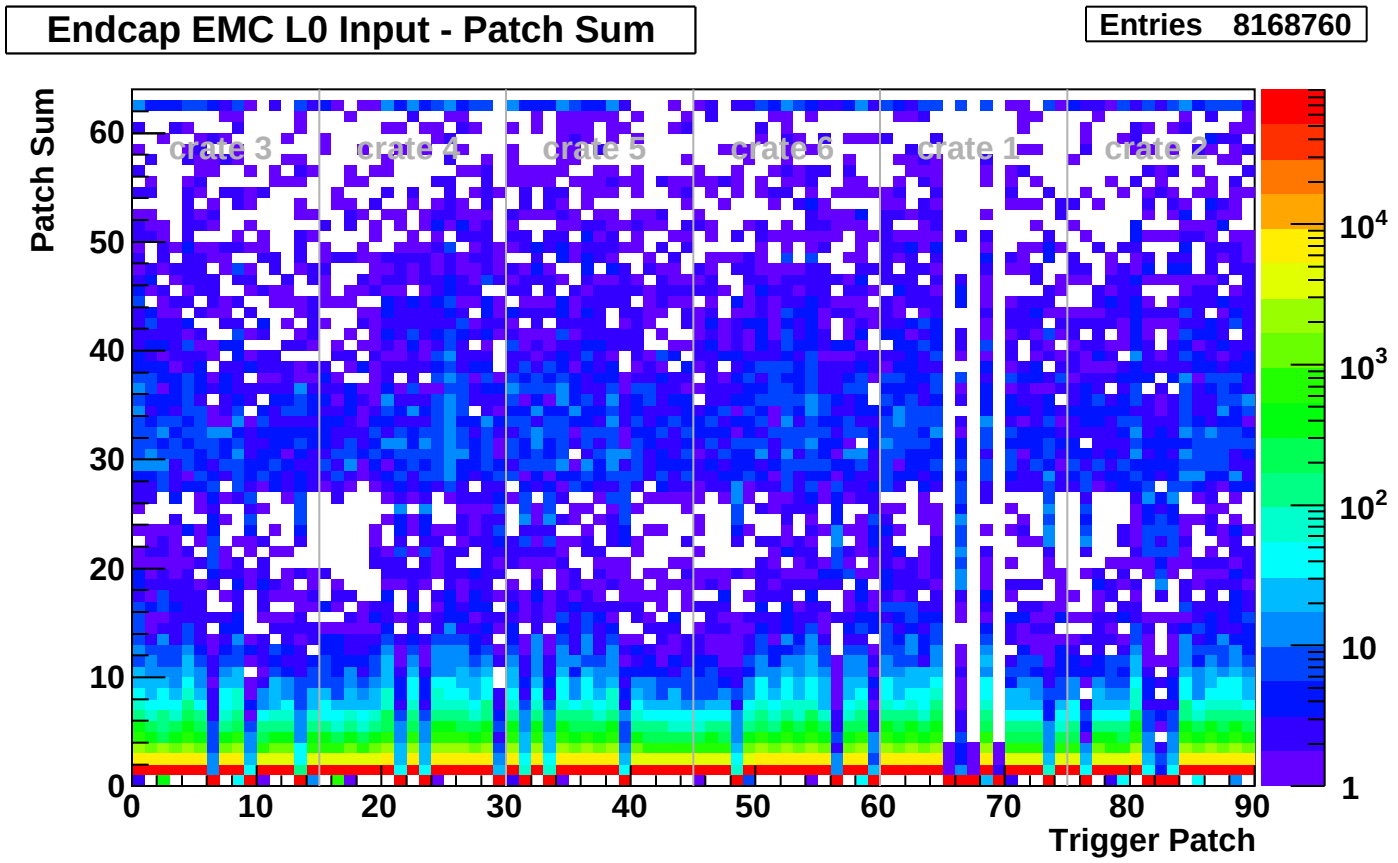
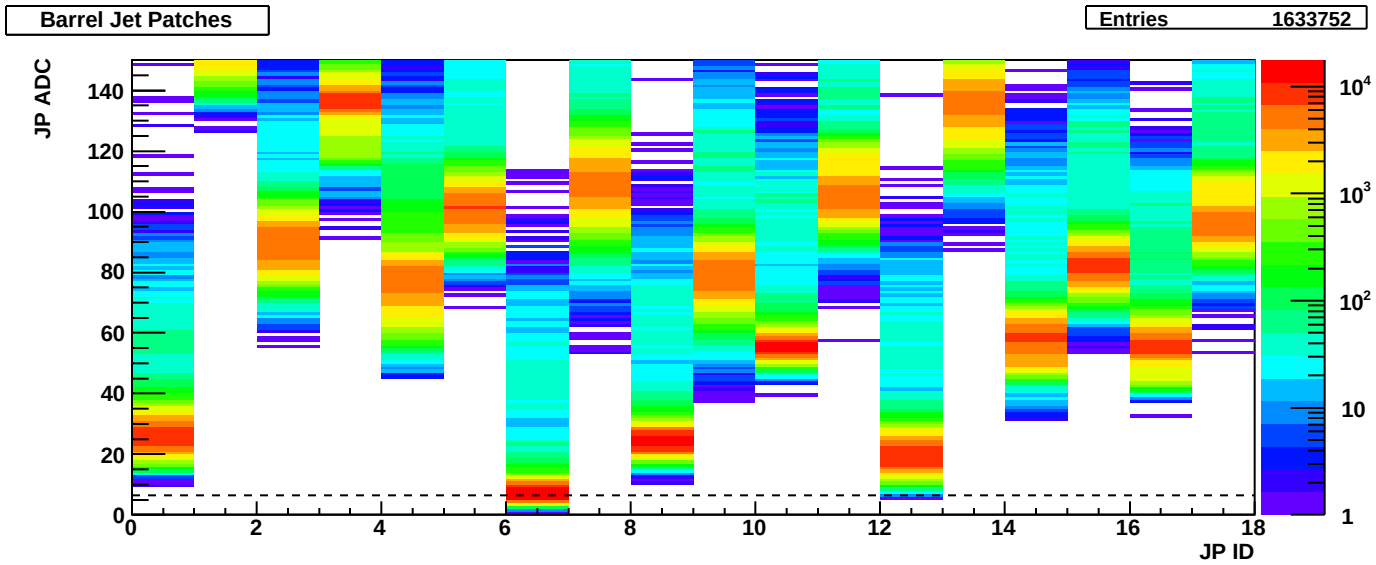
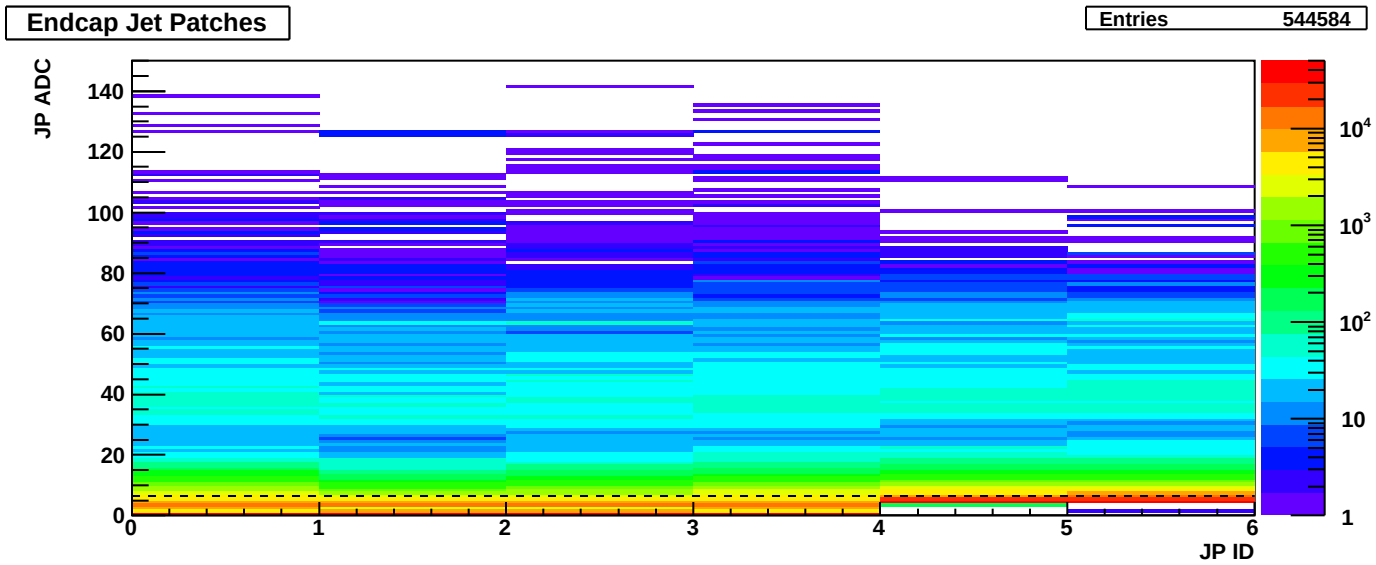

Barrel EMC L0 Input - High Tower
Entries 2.72292e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

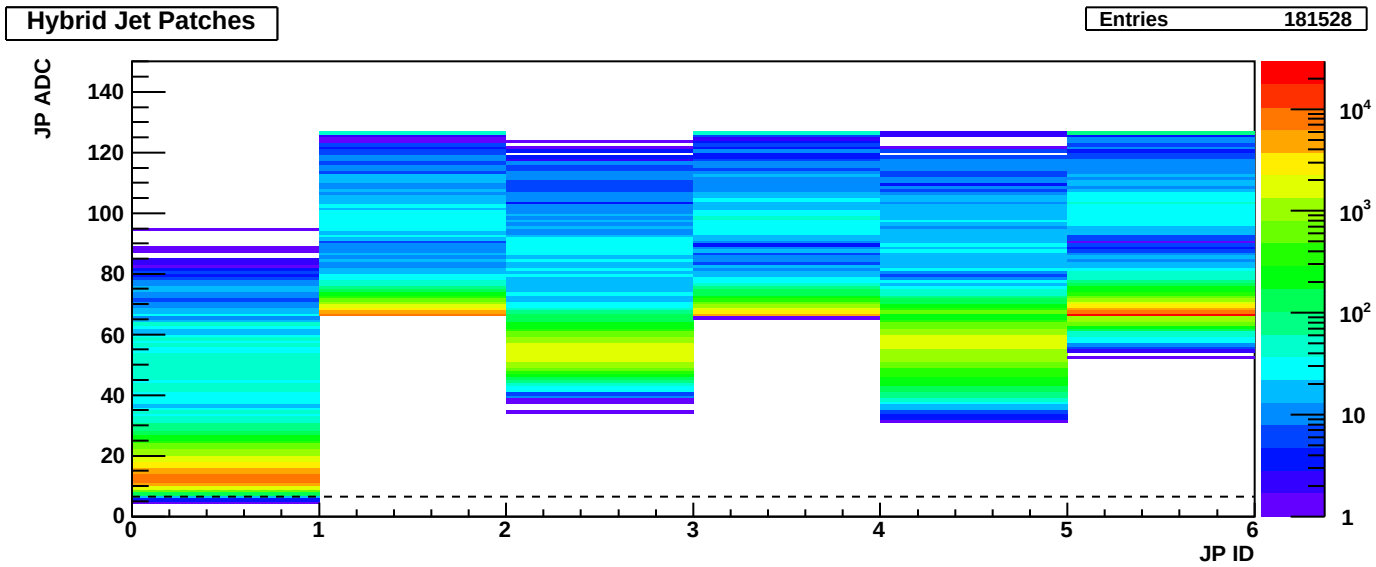

Barrel EMC L0 Input - Patch Sum
Entries 2.72292e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

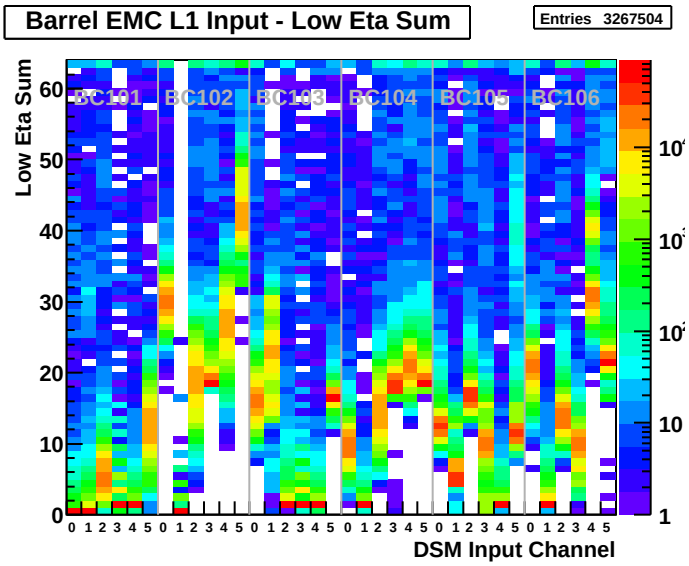

Endcap EMC L0 Input - High Tower
Entries 8168760
High Tower
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

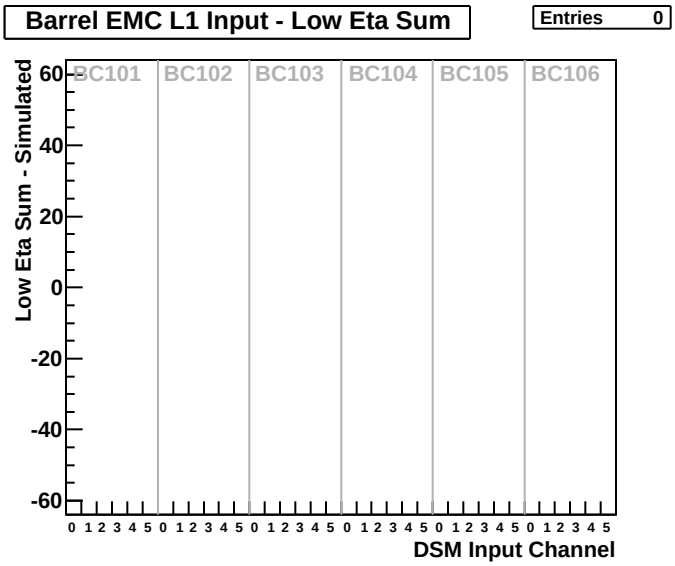

Endcap EMC L0 Input - Patch Sum
Entries 8168760
Patch Sum
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

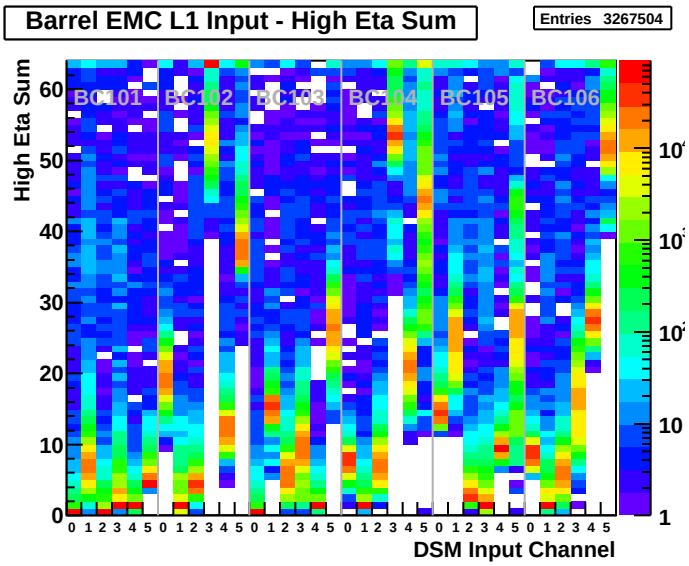

Barrel Jet Patches
Entries 1633752
JP ADC
JP ID

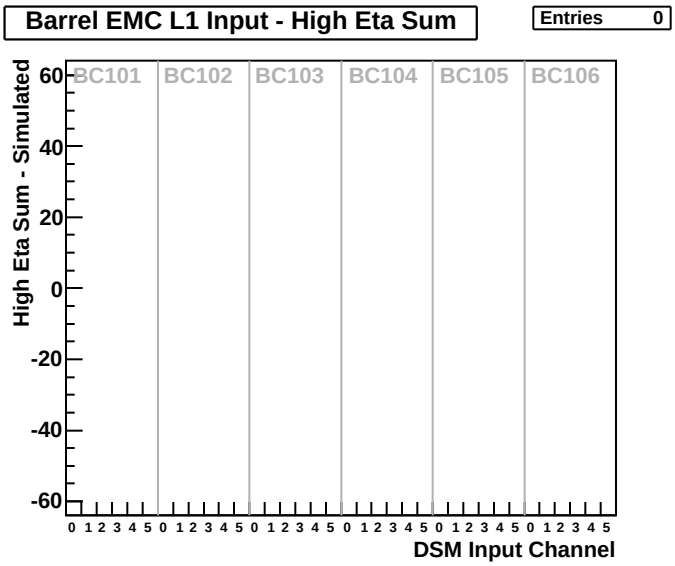

Endcap Jet Patches
Entries 544584
JP ADC
JP ID

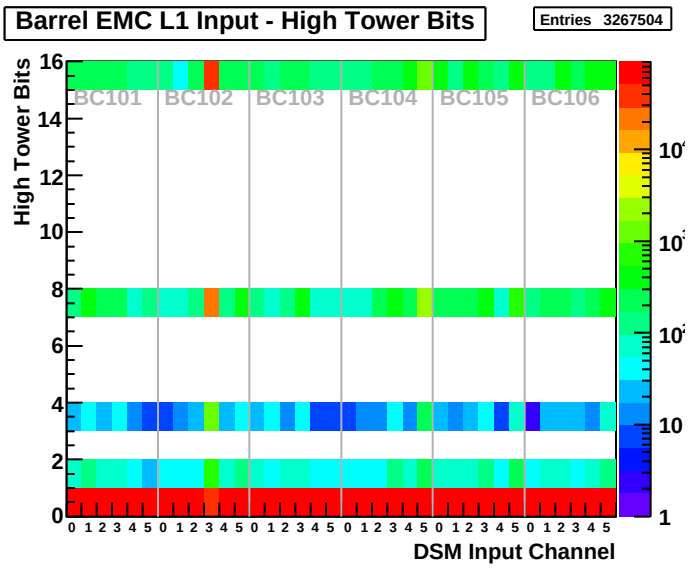

Hybrid Jet Patches
Entries 181528
JP ADC
JP ID

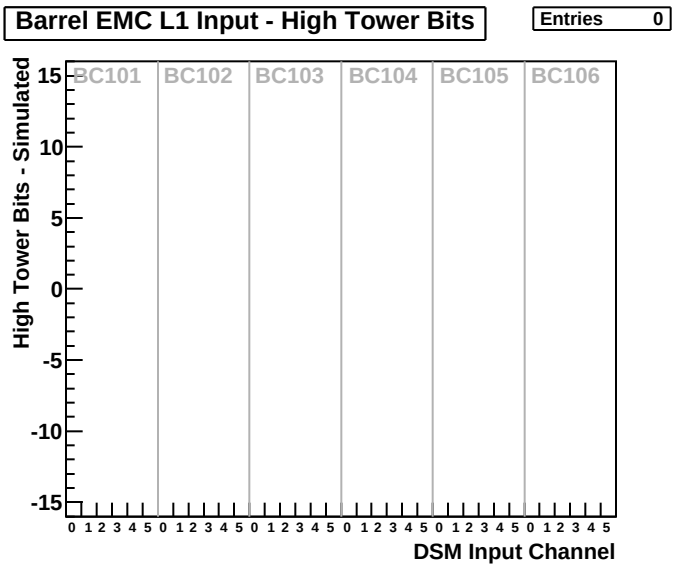

Barrel EMC L1 Input - Low Eta Sum
Entries 3267504
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

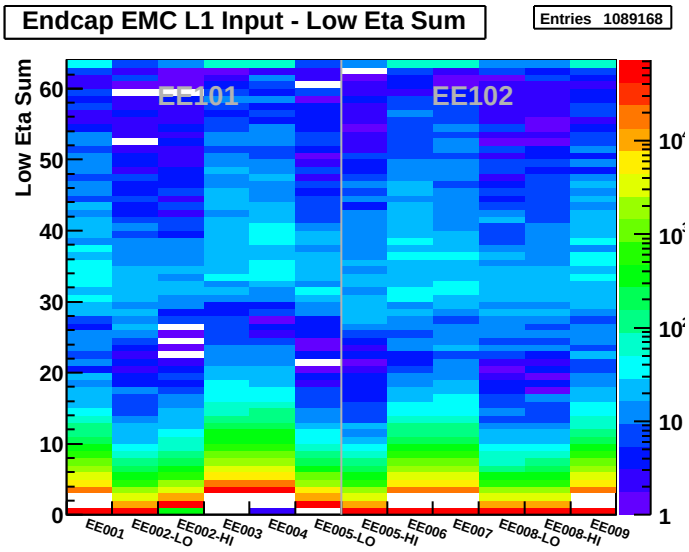

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

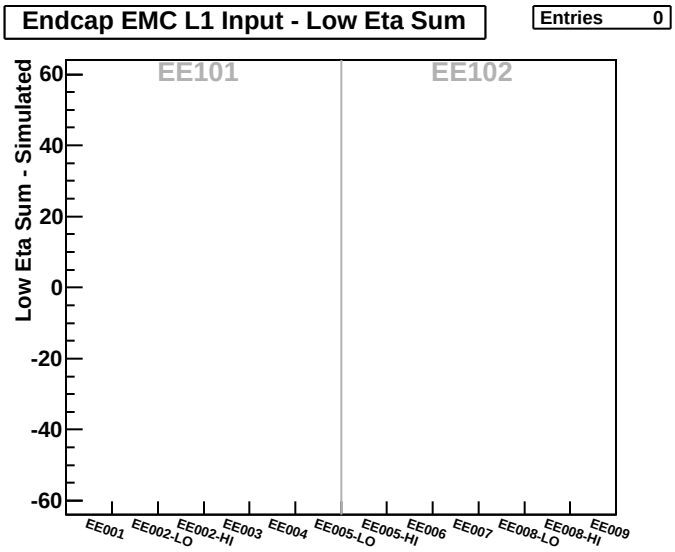

Barrel EMC L1 Input - High Eta Sum
Entries 3267504
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

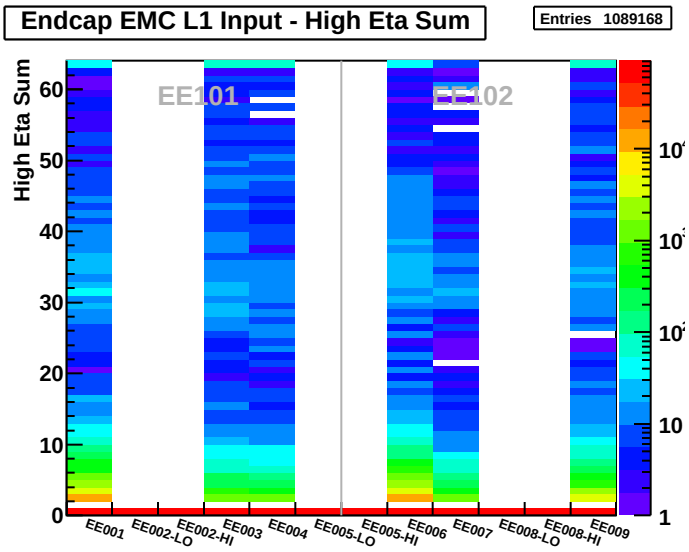

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

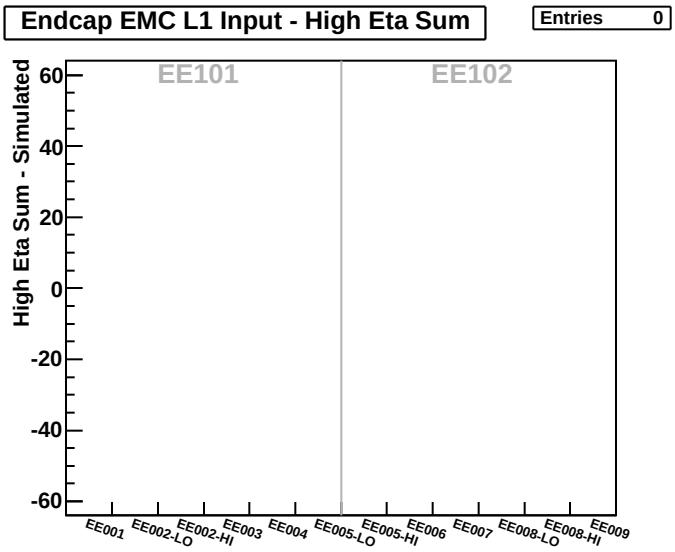

Barrel EMC L1 Input - High Tower Bits
Entries 3267504
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

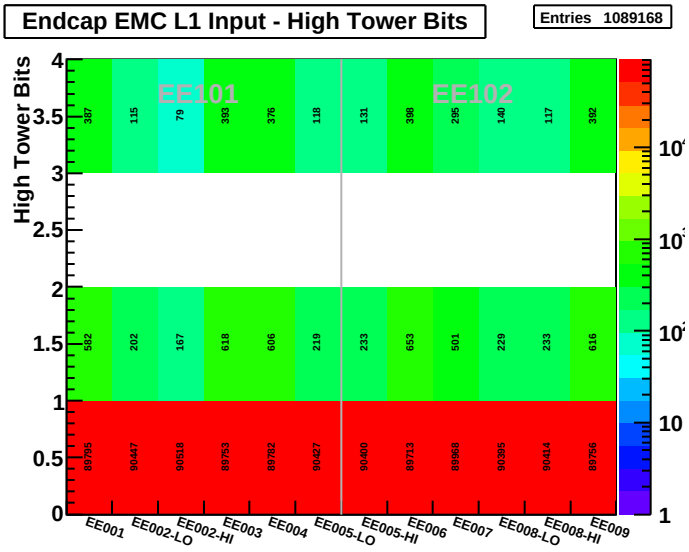

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

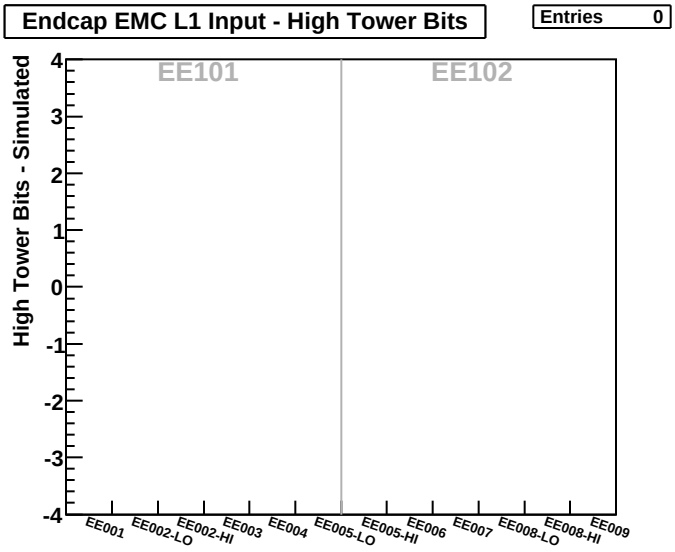

Endcap EMC L1 Input - Low Eta Sum
Entries 1089168
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

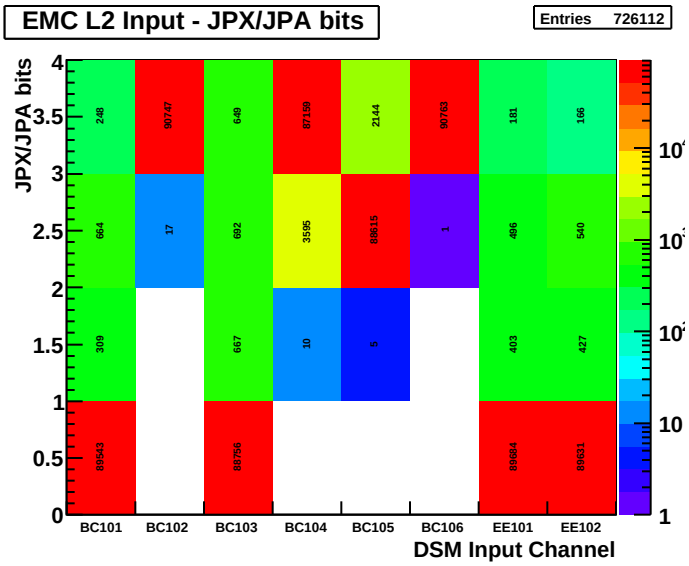

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

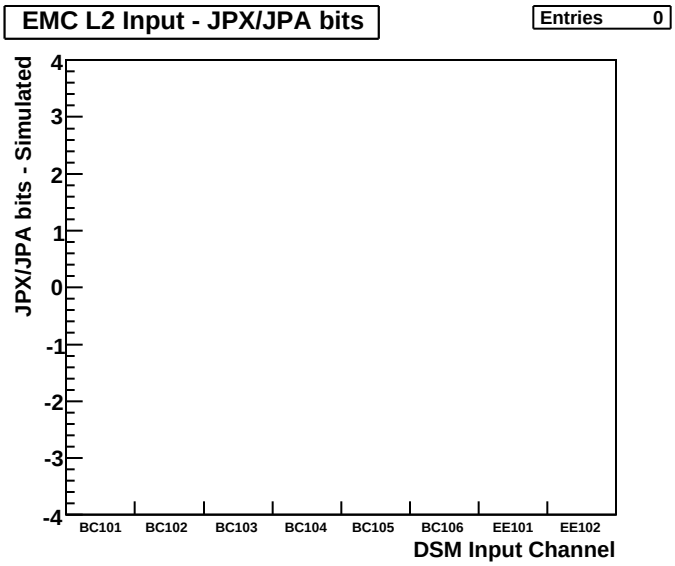

Endcap EMC L1 Input - High Eta Sum
Entries 1089168
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

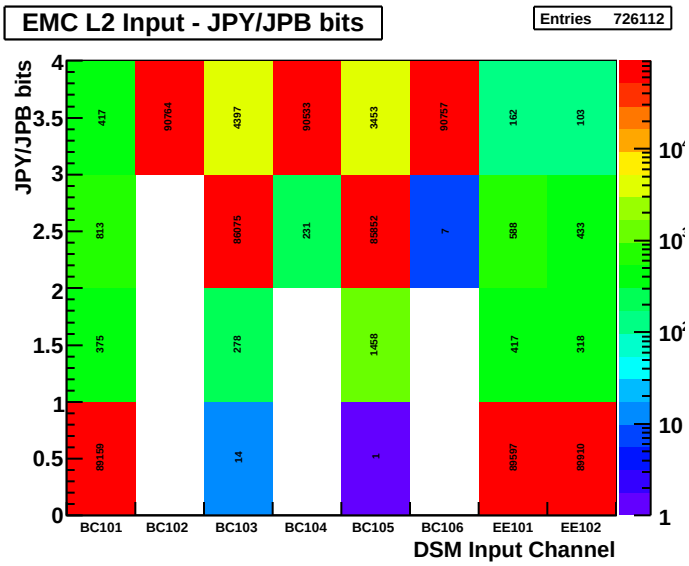

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

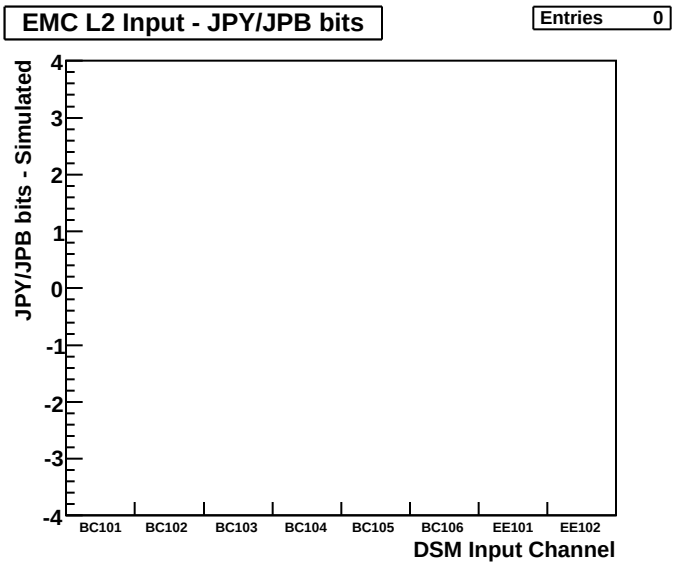

Endcap EMC L1 Input - High Tower Bits
Entries 1089168
High Tower Bits
EE101
EE102
387 115 79 393 376 118 131 398 295 140 117 392
582 202 167 618 606 219 233 653 501 229 233 616
89795 90447 90518 89753 89782 90427 90400 89713 89968 90395 90414 89756
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

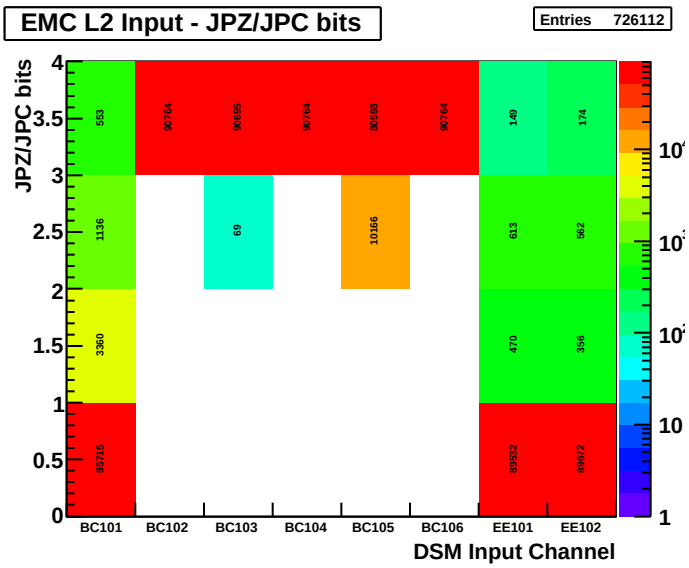

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

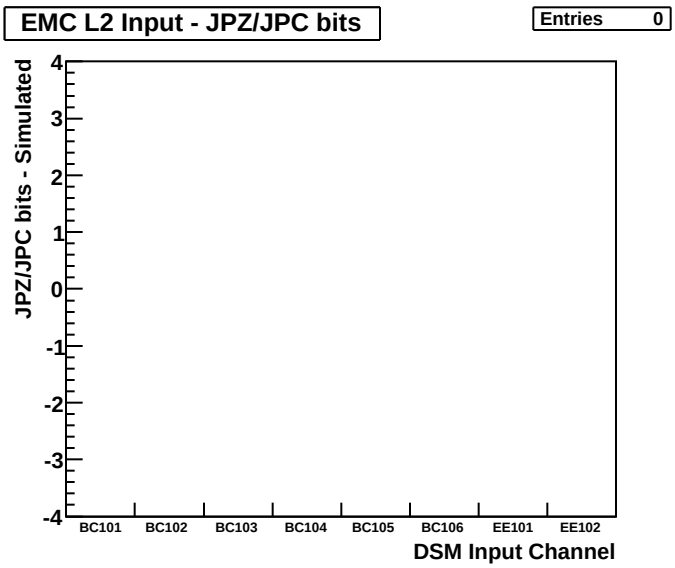

EMC L2 Input - JPX/JPA bits
Entries 726112
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

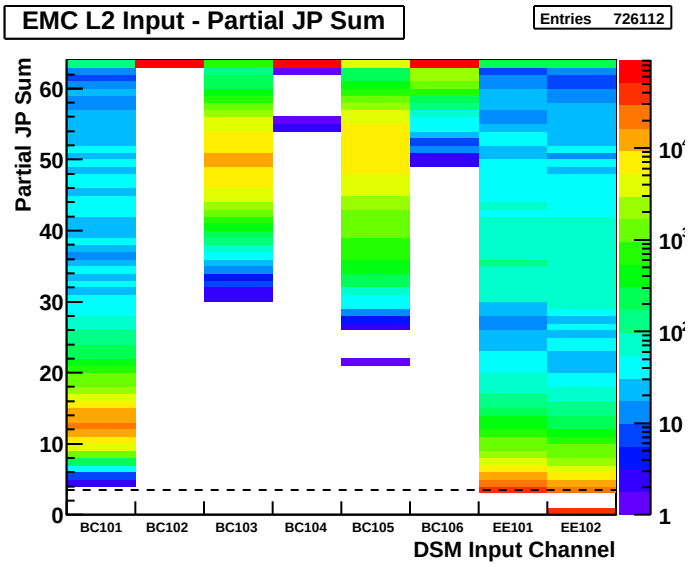

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

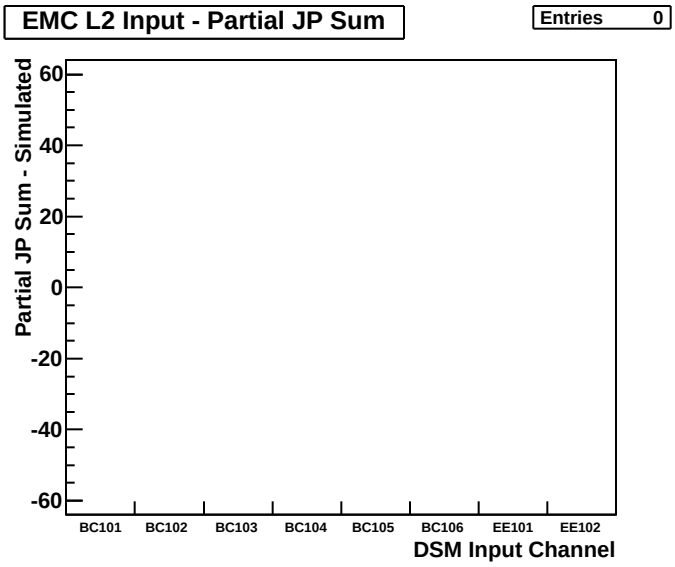

EMC L2 Input - JPY/JPB bits
Entries 726112
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

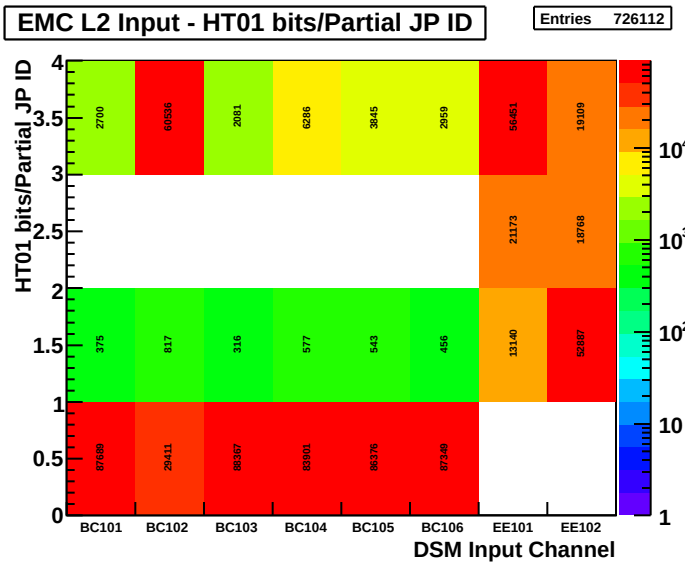

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

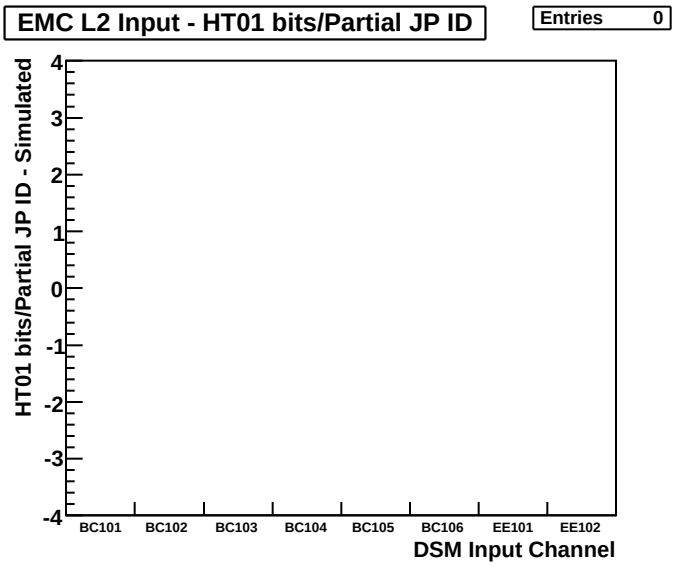

EMC L2 Input - JPZ/JPC bits
Entries 726112
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

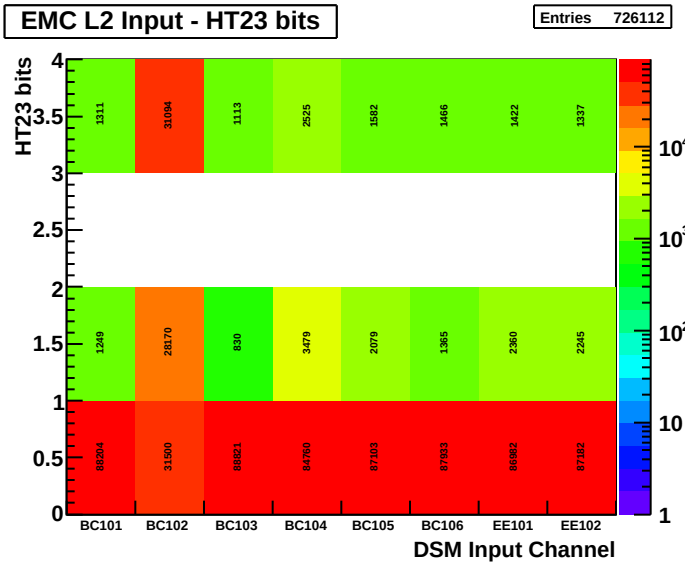

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

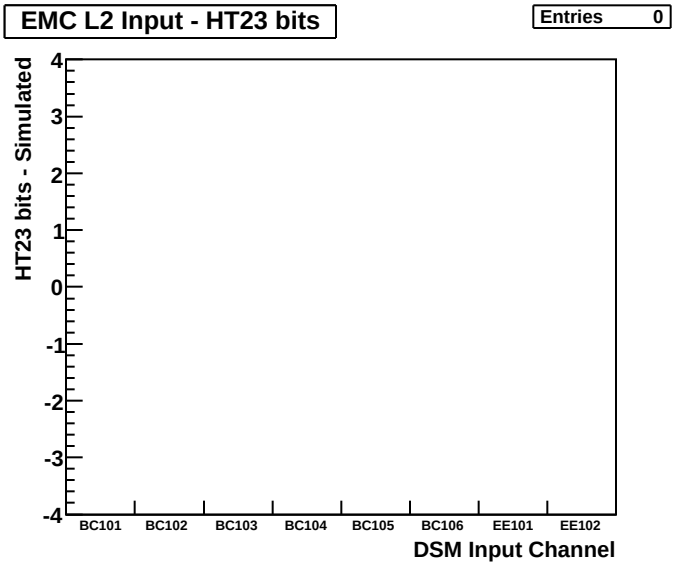

EMC L2 Input - Partial JP Sum
Entries 726112
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

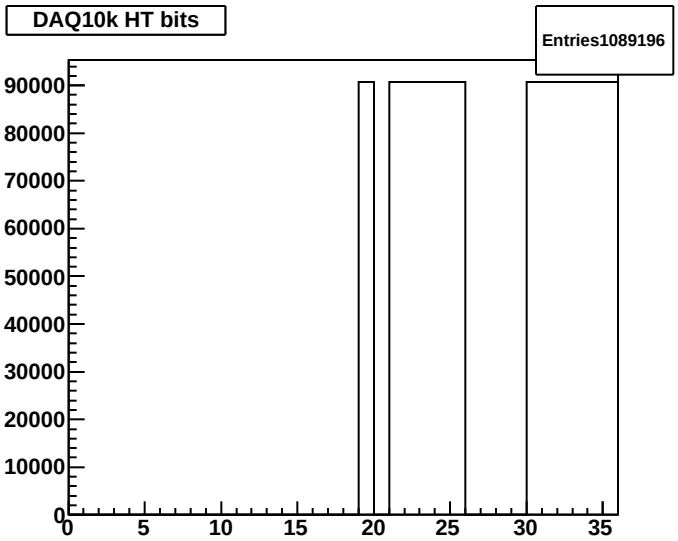

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

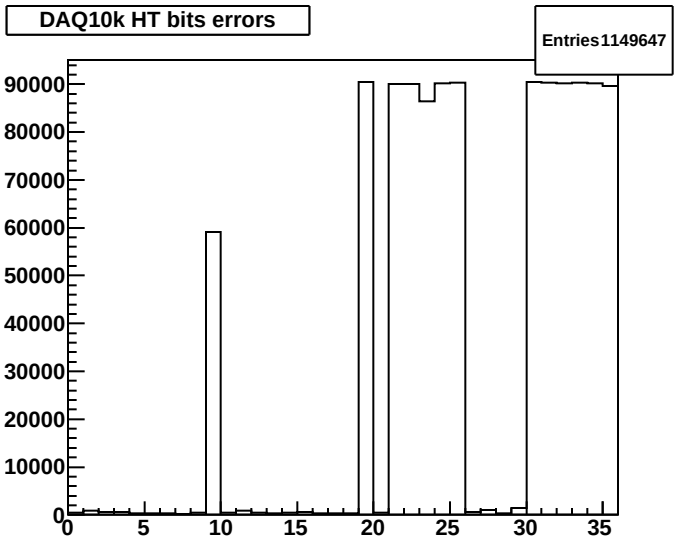

EMC L2 Input - HT01 bits/Partial JP ID
Entries 726112
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

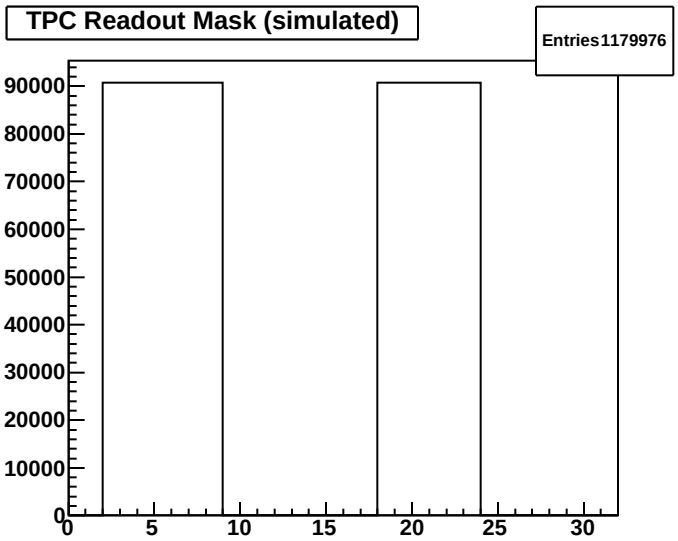

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

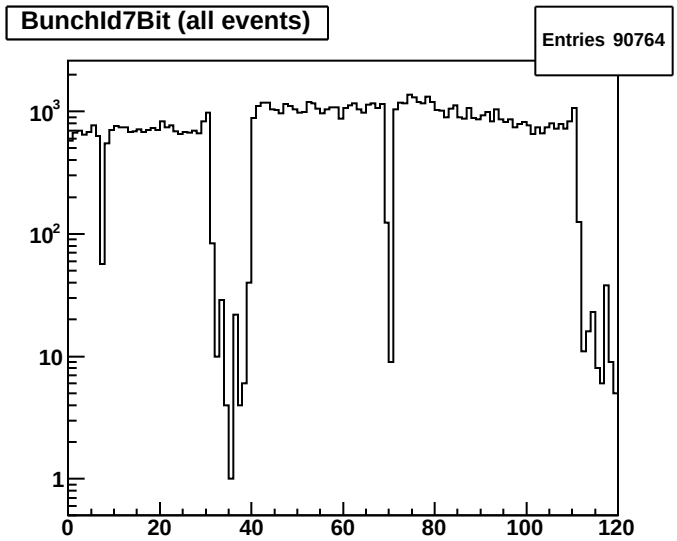

EMC L2 Input - HT23 bits
Entries 726112
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

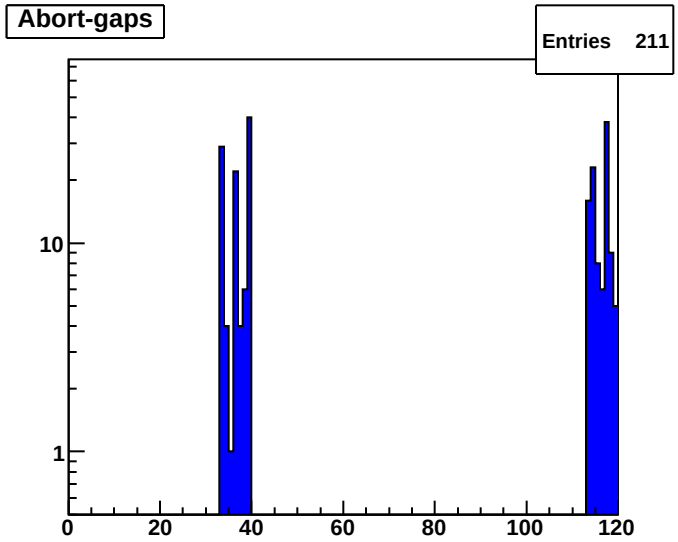

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

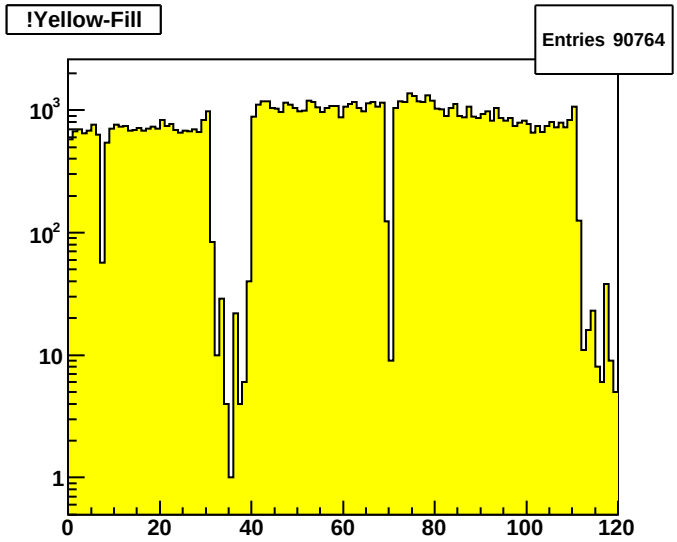

DAQ10k HT bits
Entries1089196
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

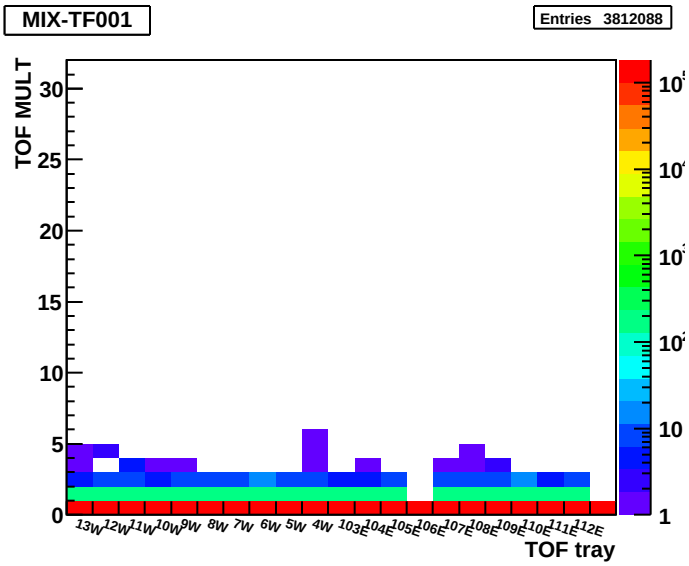

DAQ10k HT bits errors
Entries1149647
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

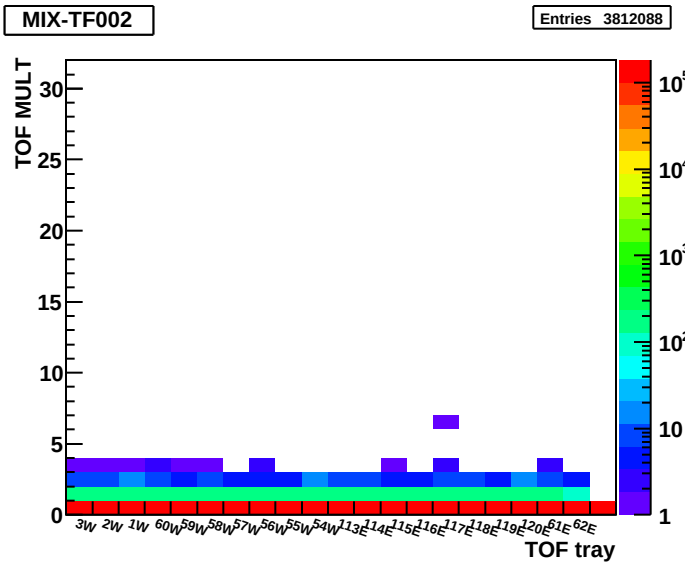

TPC Readout Mask (simulated)
Entries1179976
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30

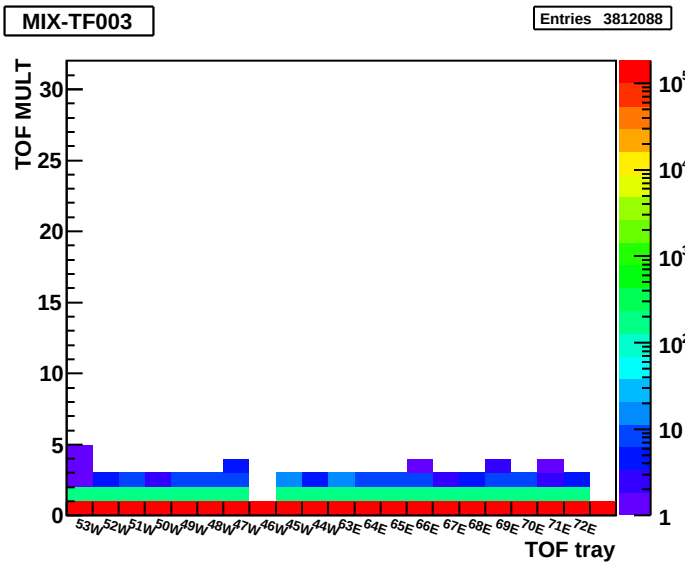

BunchId7Bit (all events)
Entries 90764
10^3
10^2
10
1
0 20 40 60 80 100 120

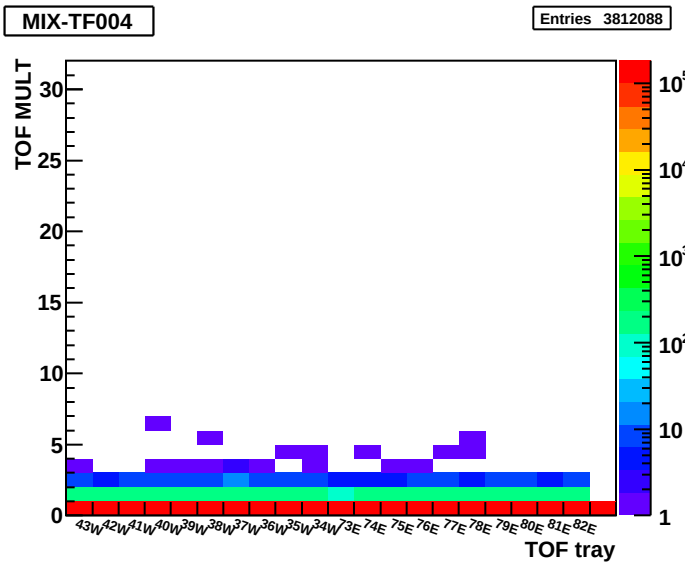

Abort-gaps
Entries 211
10
1
0 20 40 60 80 100 120

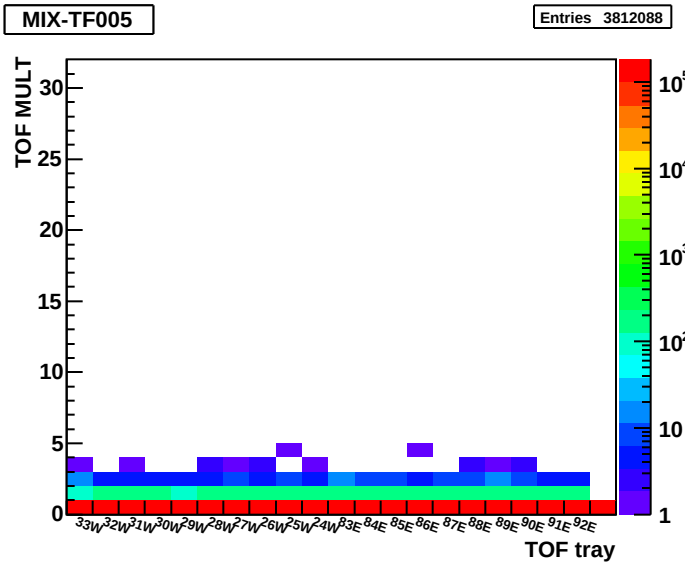

!Yellow-Fill
Entries 90764
10^3
10^2
10
1
0 20 40 60 80 100 120

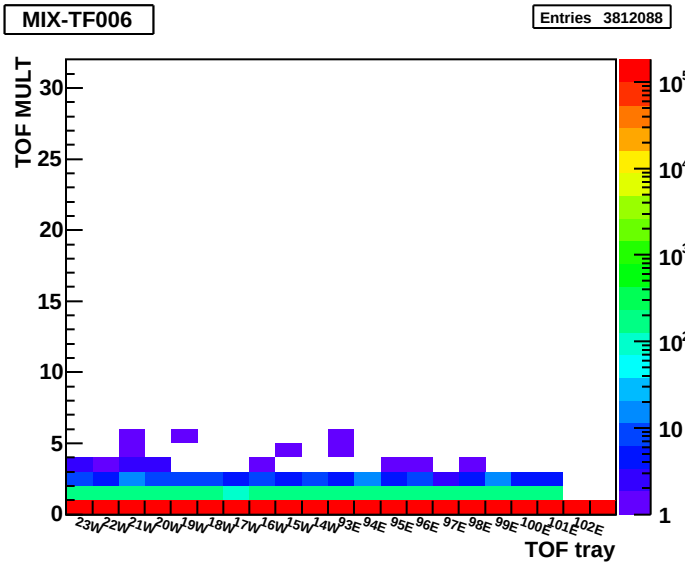

MIX-TF001
Entries 3812088
TOF MULT
TOF tray

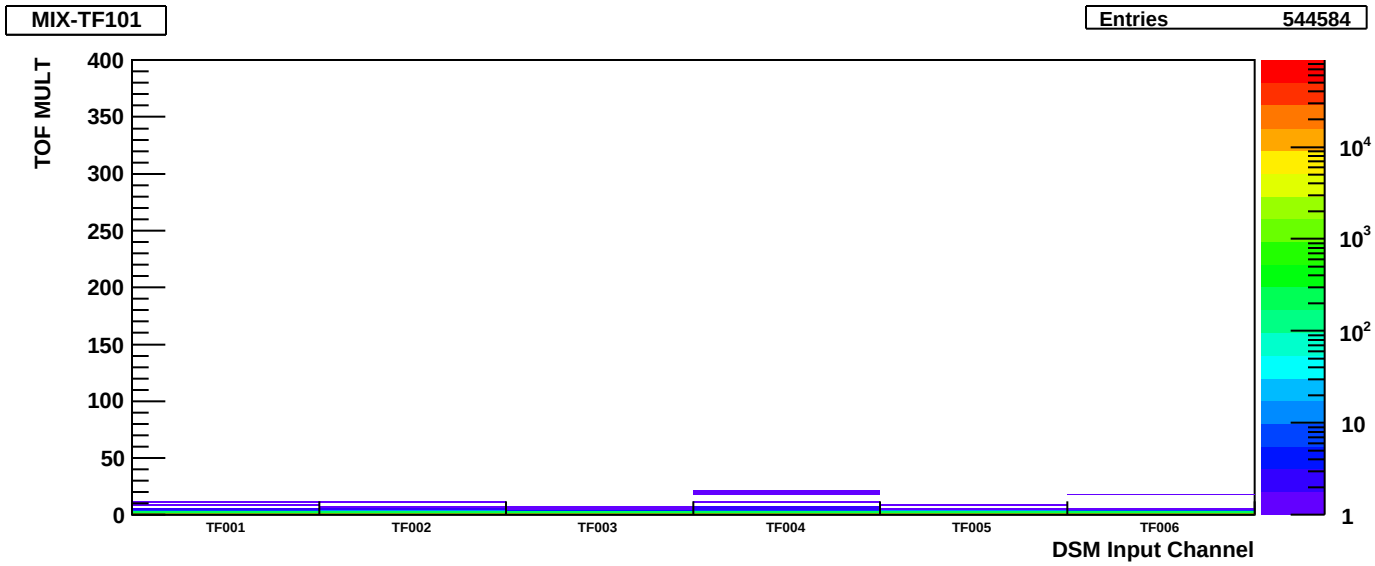

MIX-TF002
Entries 3812088
TOF MULT
TOF tray

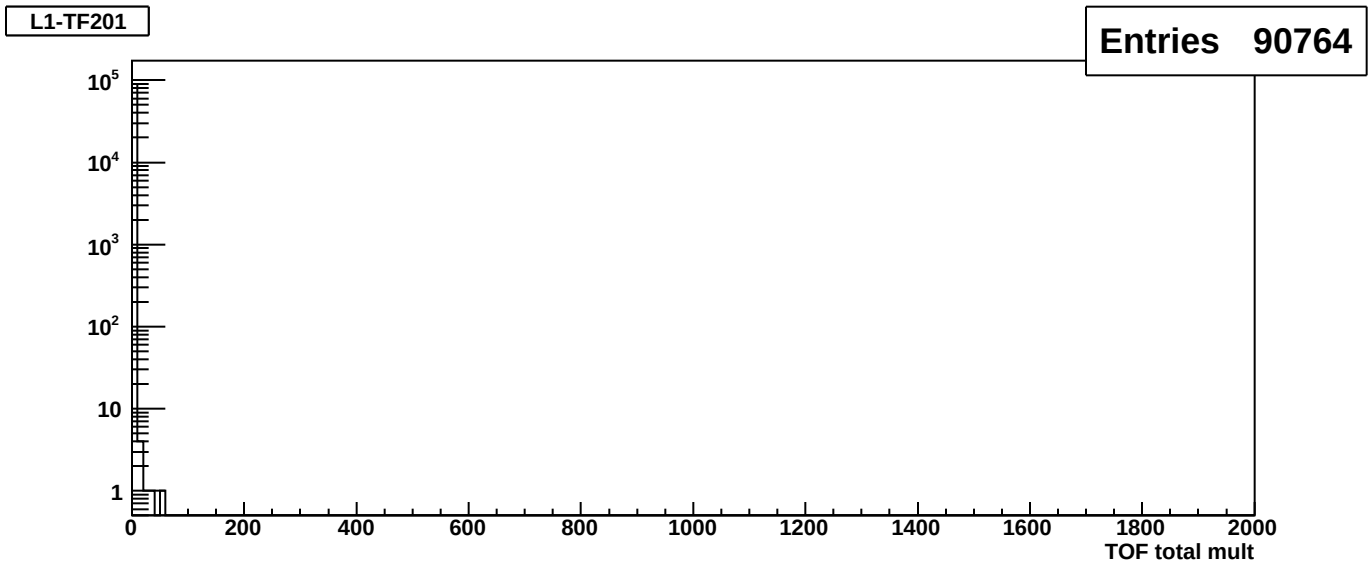

MIX-TF003
Entries 3812088
TOF MULT
TOF tray

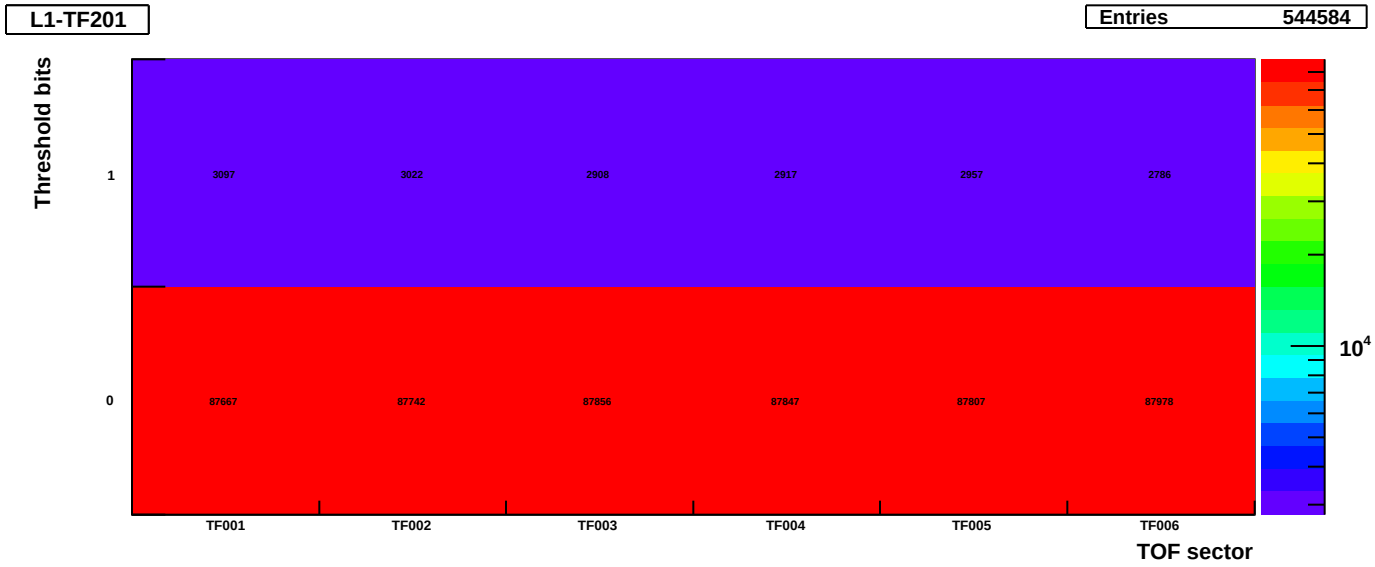

MIX-TF004
Entries 3812088
TOF MULT
TOF tray

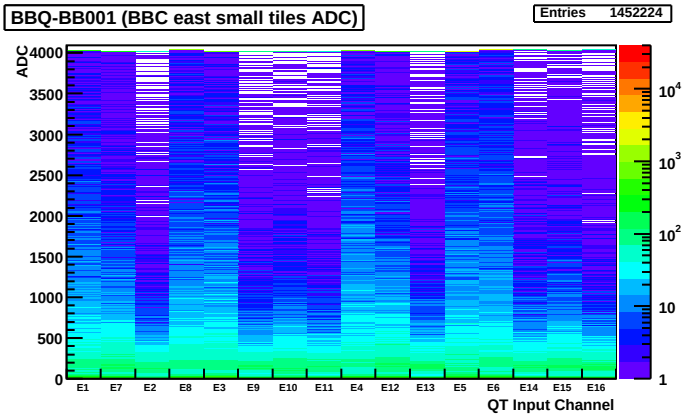

MIX-TF005
Entries 3812088
TOF MULT
TOF tray

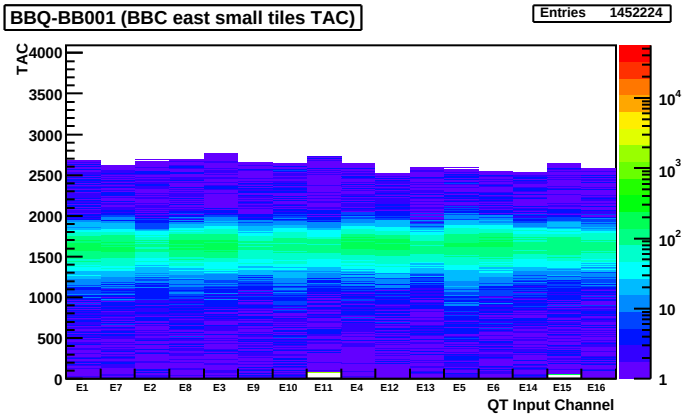

MIX-TF006
Entries 3812088
TOF MULT
TOF tray

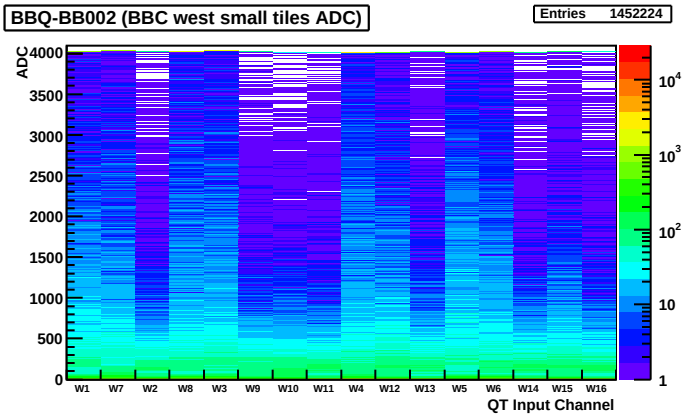

MIX-TF101
Entries 544584
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

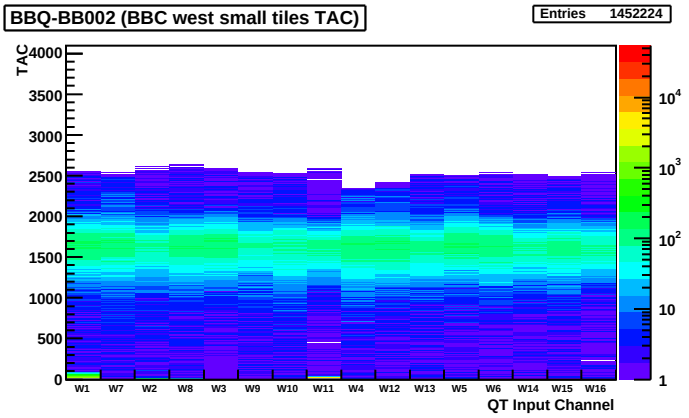

L1-TF201
Entries 90764
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

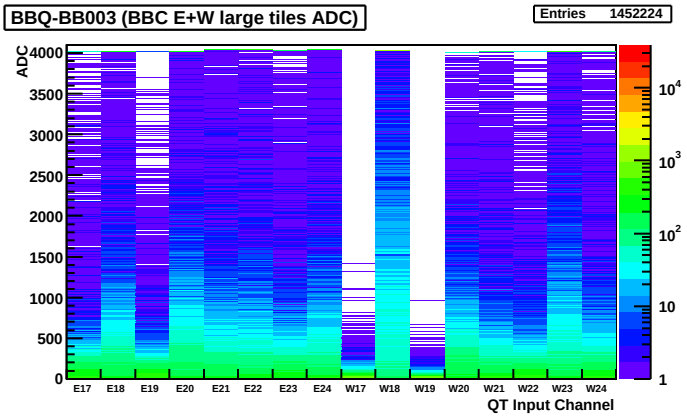

L1-TF201
Entries 544584
Threshold bits
1
0
3097
3022
2908
2917
2957
2786
87667
87742
87856
87847
87807
87978
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4

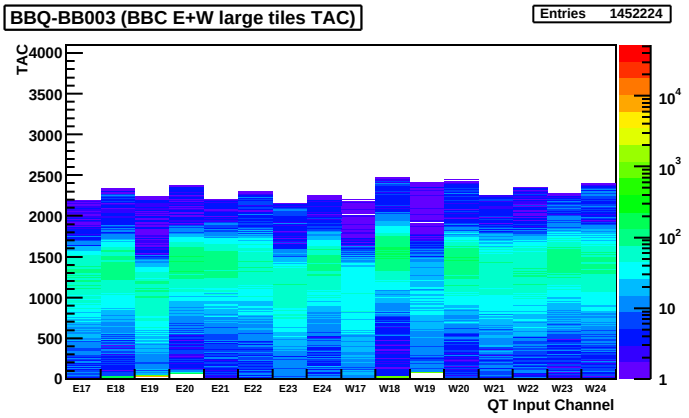

BBQ-BB001 (BBC east small tiles ADC)
Entries 1452224
ADC
QT Input Channel

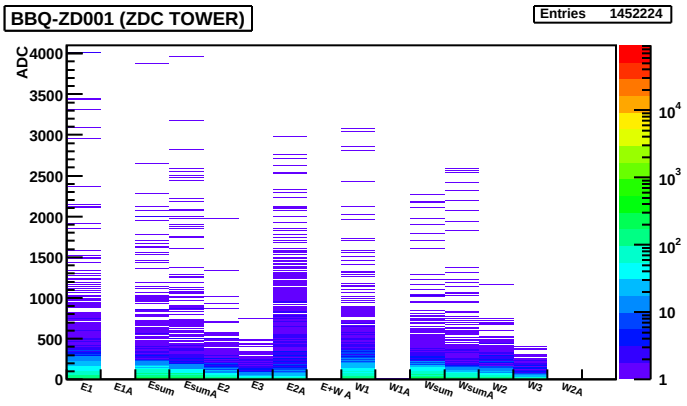

BBQ-BB001 (BBC east small tiles TAC)
Entries 1452224
TAC
QT Input Channel

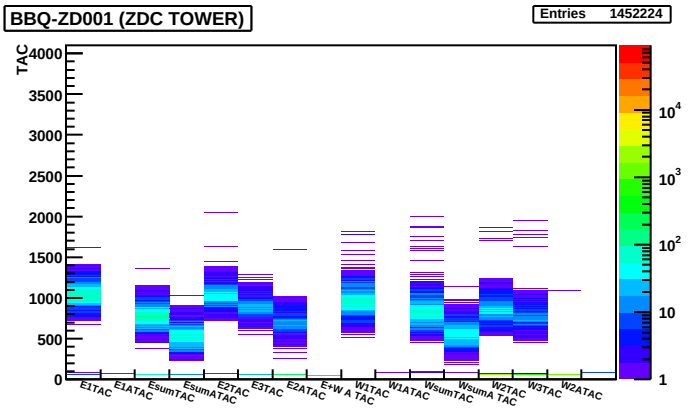

BBQ-BB002 (BBC west small tiles ADC)
Entries 1452224
ADC
QT Input Channel

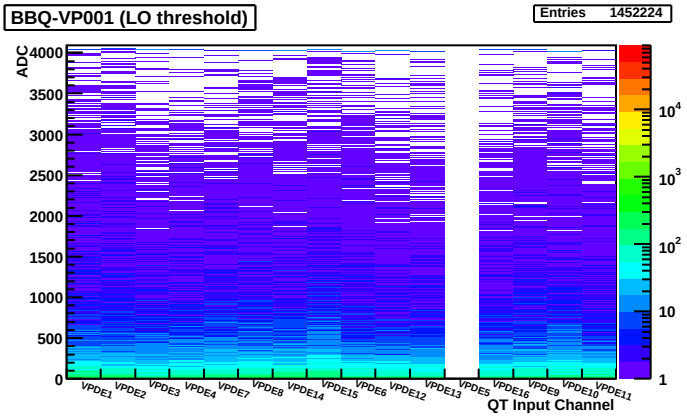

BBQ-BB002 (BBC west small tiles TAC)
Entries 1452224
TAC
QT Input Channel

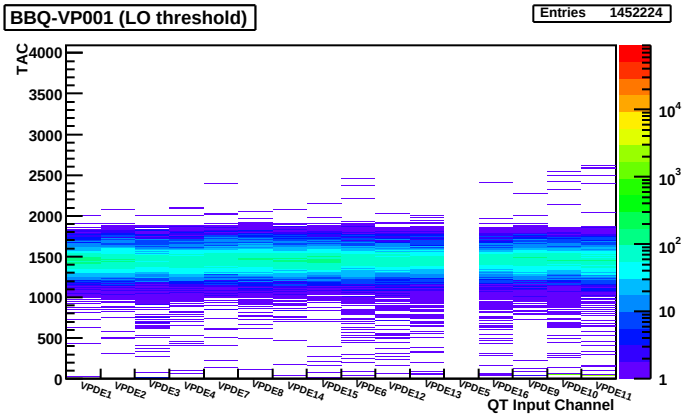

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1452224
ADC
QT Input Channel

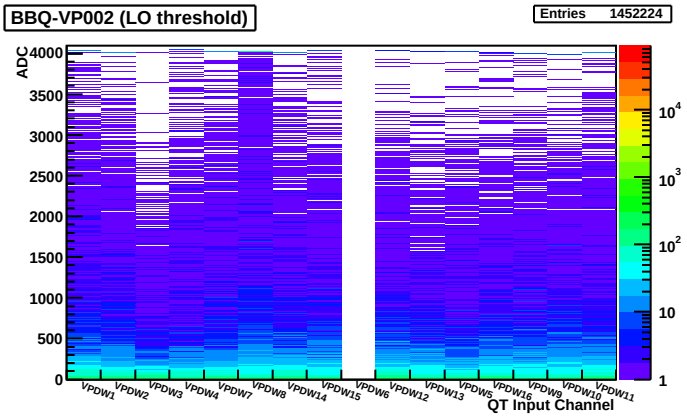

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1452224
TAC
QT Input Channel

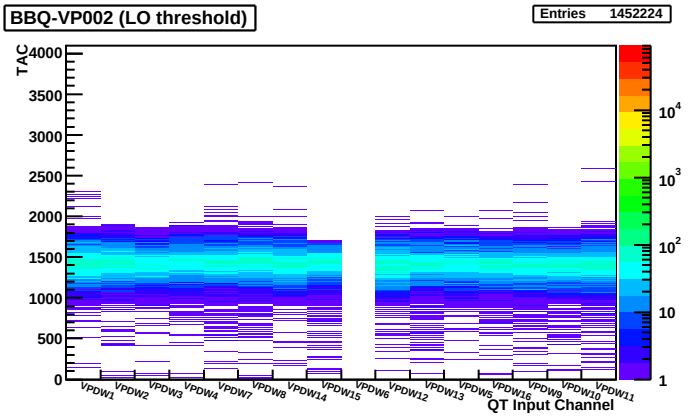

BBQ-ZD001 (ZDC TOWER)
Entries 1452224
ADC

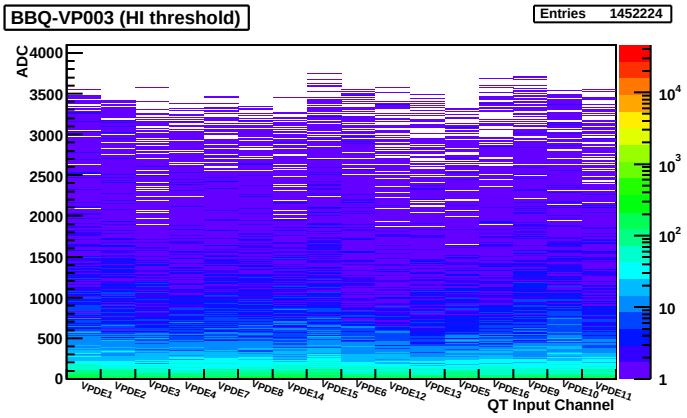

BBQ-ZD001 (ZDC TOWER)
Entries 1452224
TAC

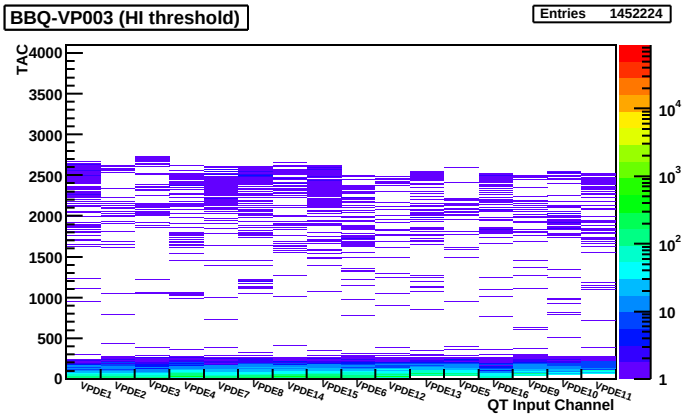

BBQ-VP001 (LO threshold)
Entries 1452224
ADC
QT Input Channel

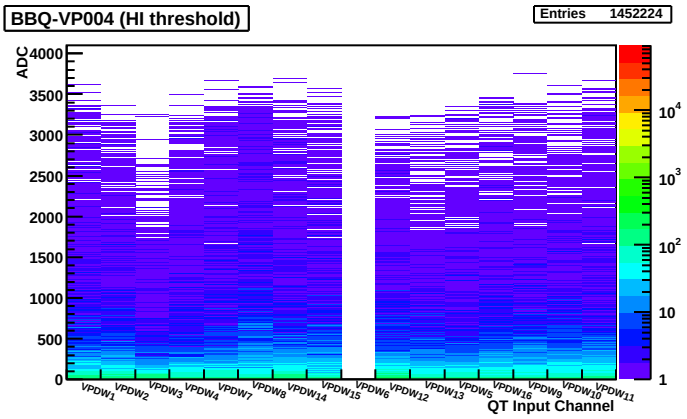

BBQ-VP001 (LO threshold)
Entries 1452224
TAC
QT Input Channel

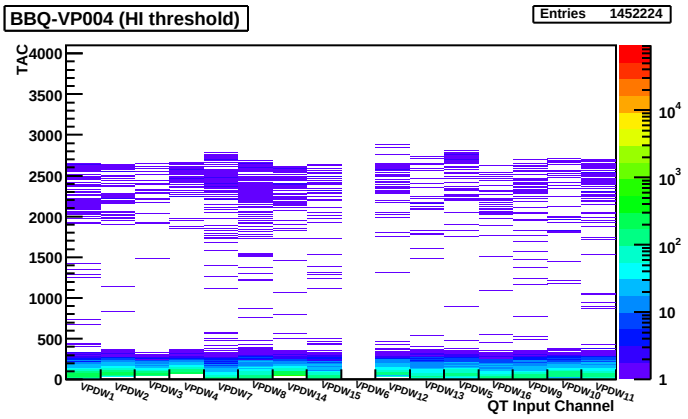

BBQ-VP002 (LO threshold)
Entries 1452224
ADC
QT Input Channel

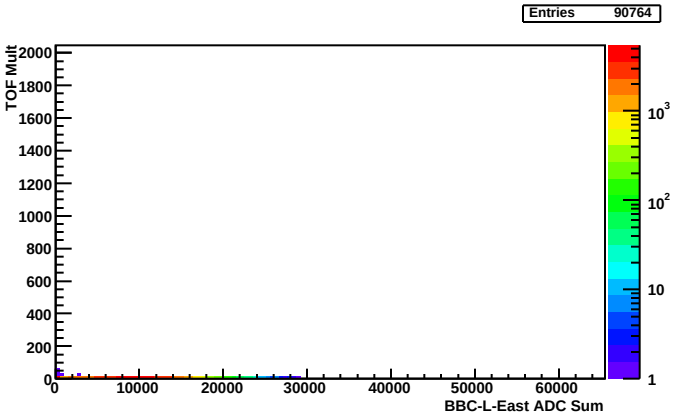

BBQ-VP002 (LO threshold)
Entries 1452224
TAC
QT Input Channel

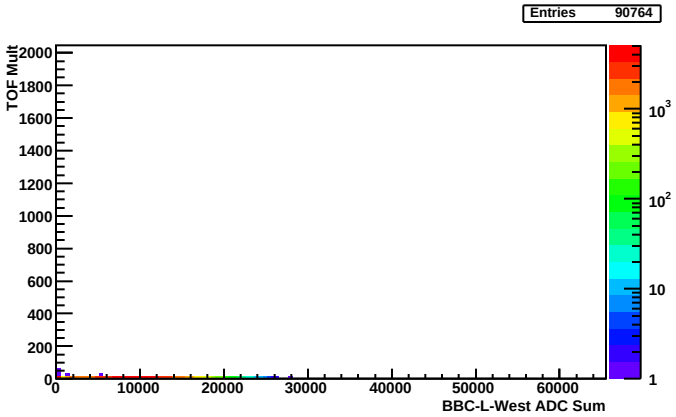

BBQ-VP003 (HI threshold)
Entries 1452224
ADC
QT Input Channel

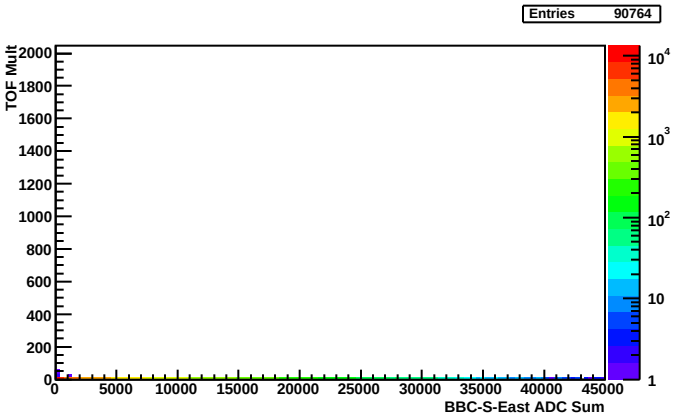

BBQ-VP003 (HI threshold)
Entries 1452224
TAC
QT Input Channel

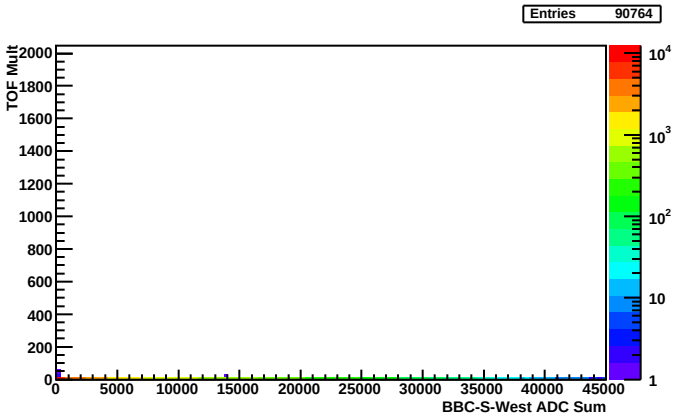

BBQ-VP004 (HI threshold)
Entries 1452224
ADC
QT Input Channel

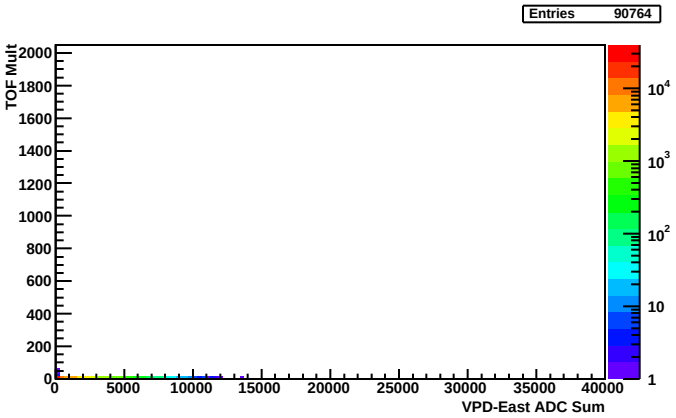

BBQ-VP004 (HI threshold)
Entries 1452224
TAC
QT Input Channel

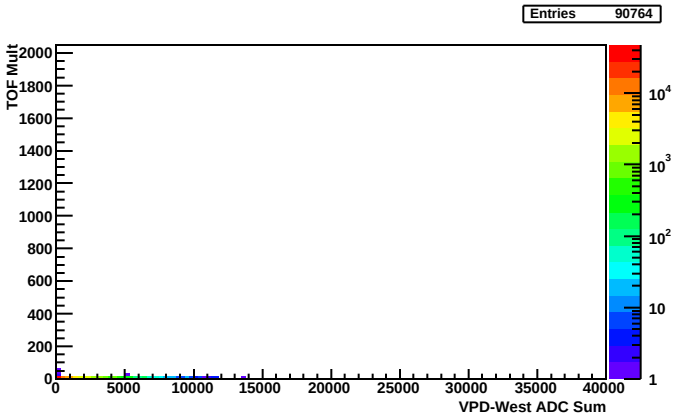

Entries 90764
TOF Mult
BBC-L-East ADC Sum

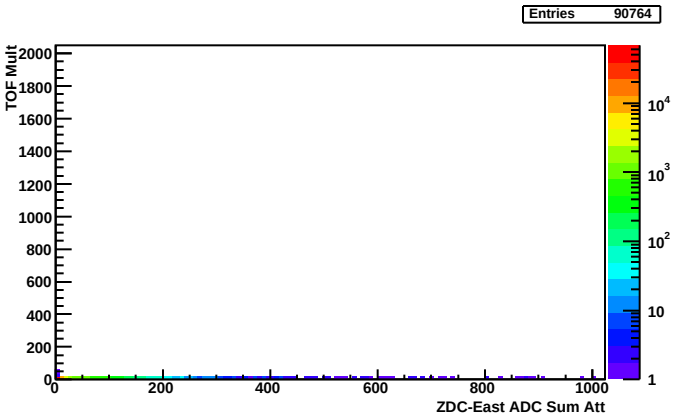

Entries 90764
TOF Mult
BBC-L-West ADC Sum

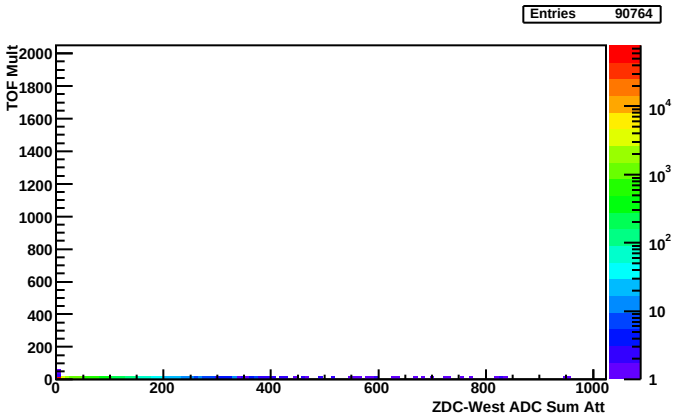

Entries 90764
TOF Mult
BBC-S-East ADC Sum

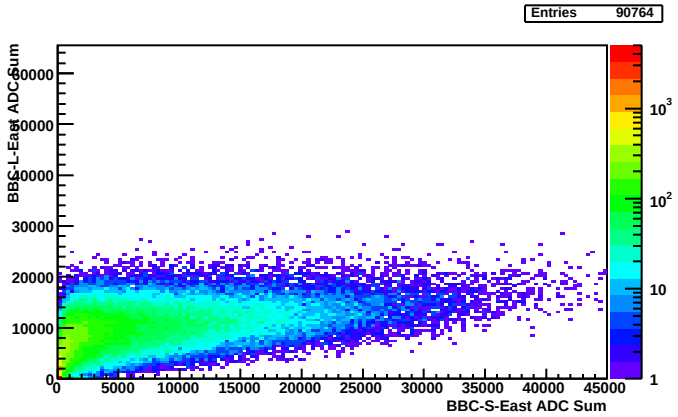

Entries 90764
TOF Mult
BBC-S-West ADC Sum

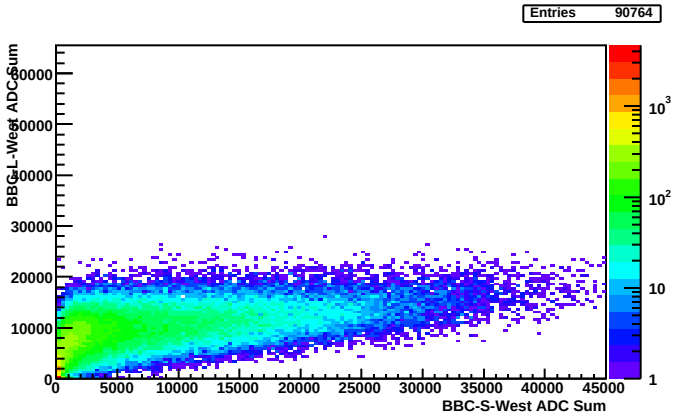

Entries 90764
TOF Mult
VPD-East ADC Sum

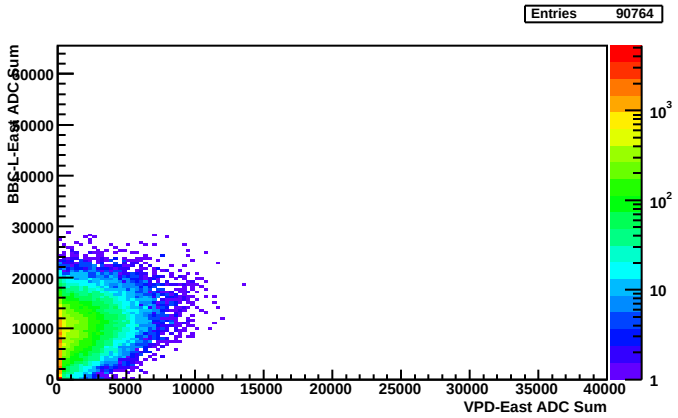

Entries 90764
TOF Mult
VPD-West ADC Sum

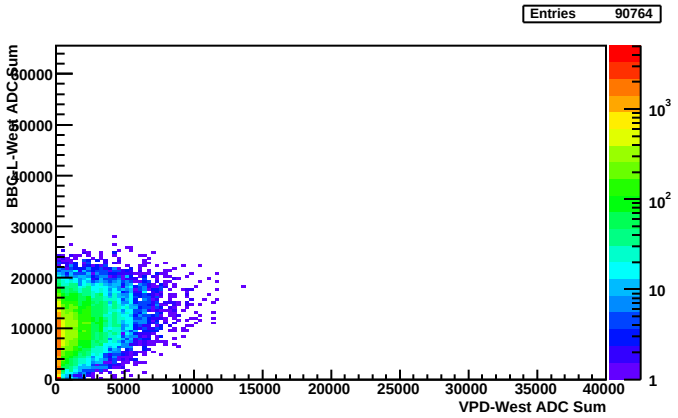

Entries 90764
TOF Mult
ZDC-East ADC Sum Att

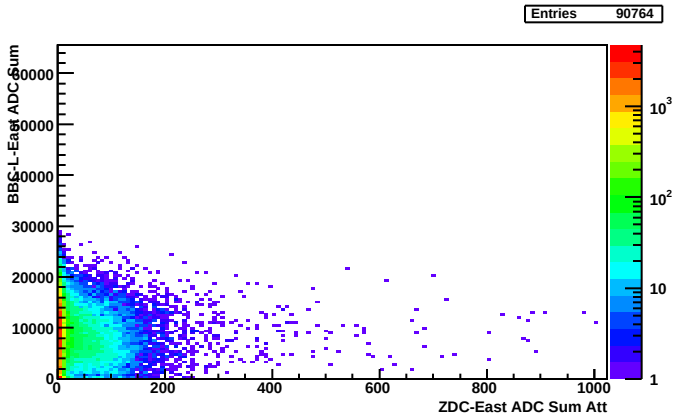

Entries 90764
TOF Mult
ZDC-West ADC Sum Att

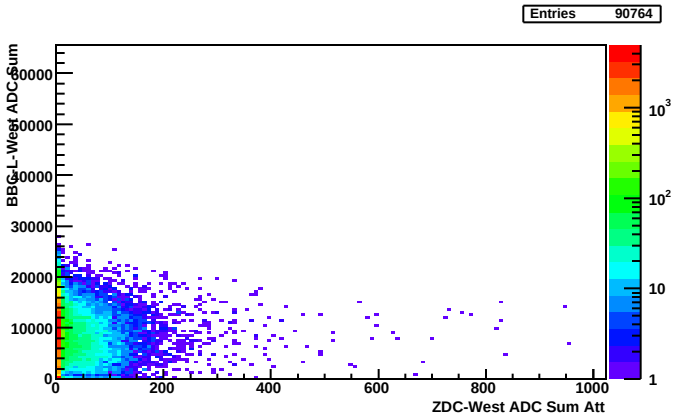

Entries 90764
BBC-L-East ADC Sum
BBC-S-East ADC Sum


Entries 90764
BBC-L-West ADC Sum
BBC-S-West ADC Sum


Entries 90764
BBC-L-East ADC Sum
VPD-East ADC Sum


Entries 90764
BBC-L-West ADC Sum
VPD-West ADC Sum


Entries 90764
BBC-L-East ADC Sum
ZDC-East ADC Sum Att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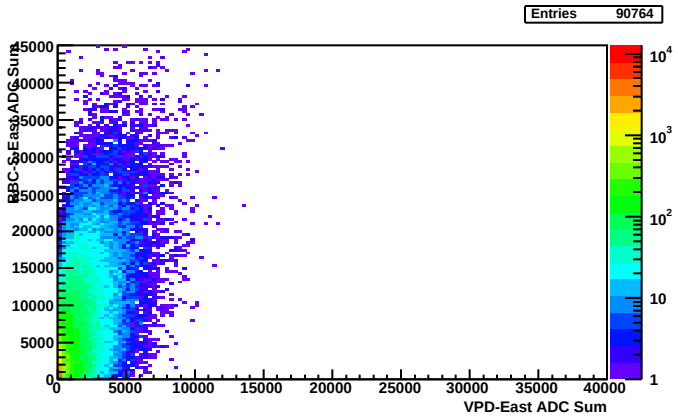
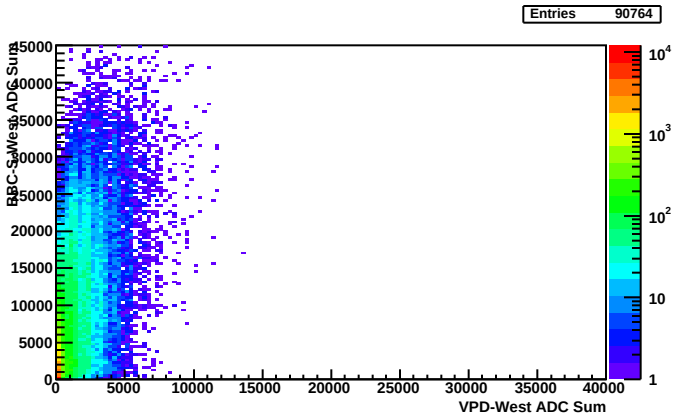
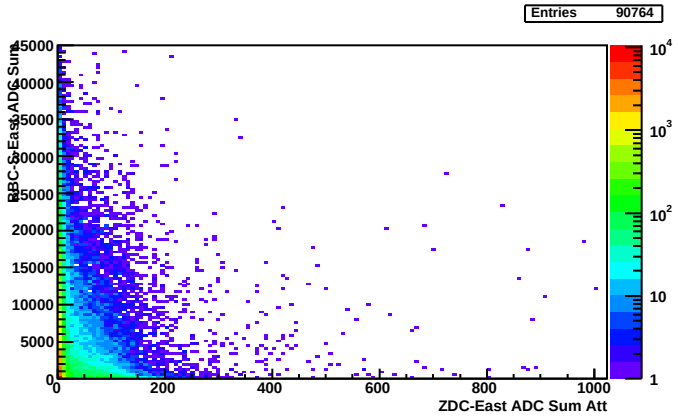
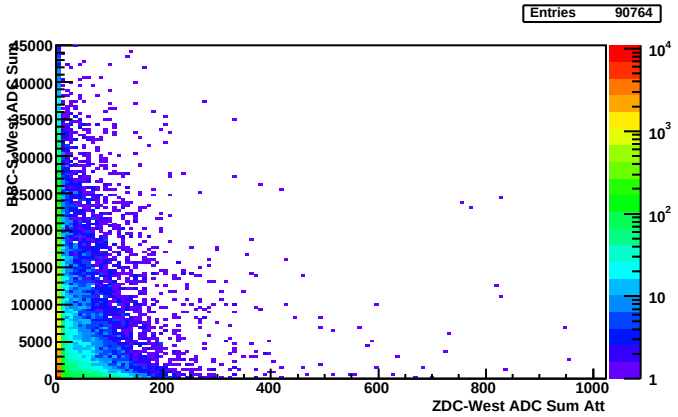
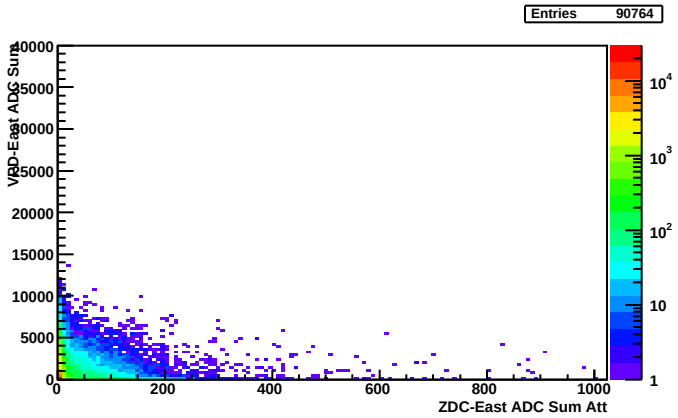
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

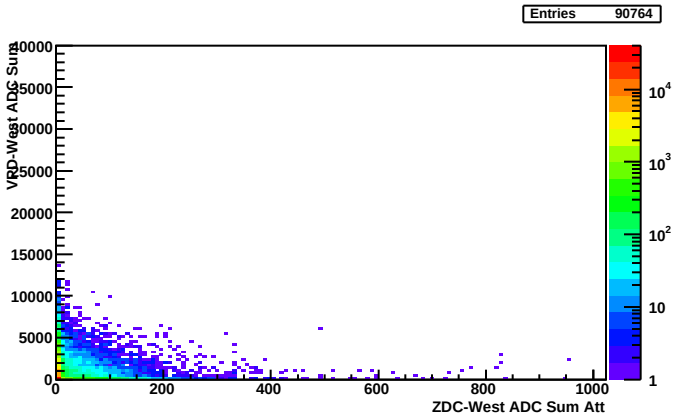

Entries 90764
BBC-S-East ADC Sum
VPD-East ADC Sum

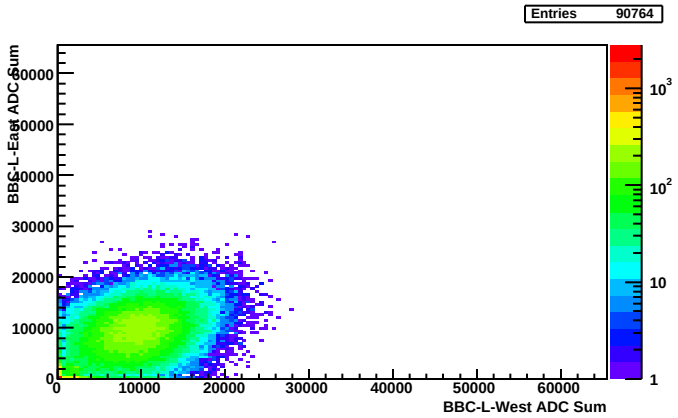

Entries 90764
BBC-S-West ADC Sum
VPD-West ADC Sum

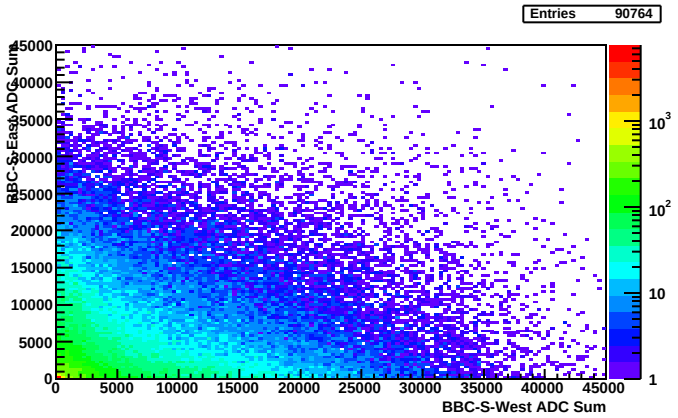

Entries 90764
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

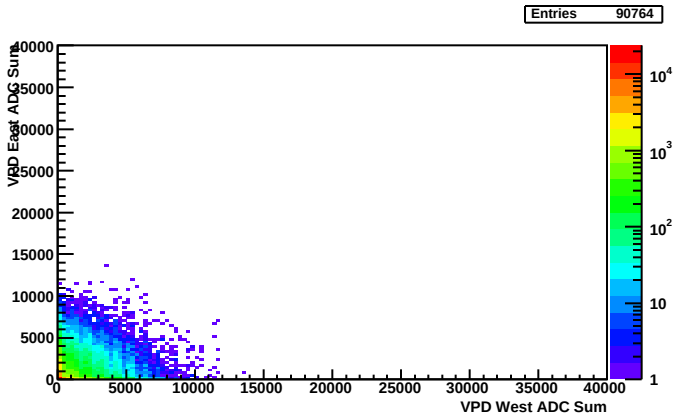

Entries 90764
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

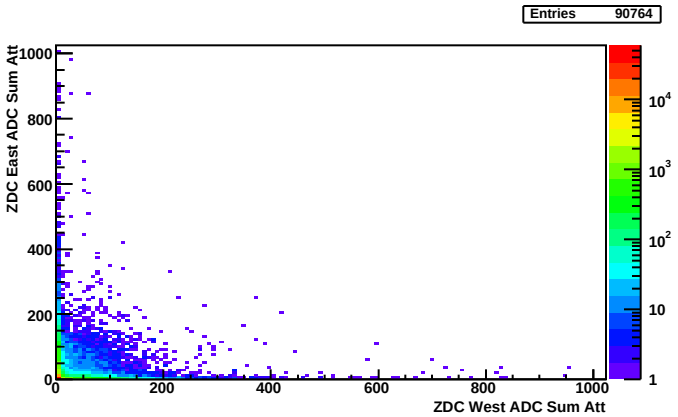

Entries 90764
VPD-East ADC Sum
ZDC-East ADC Sum Att

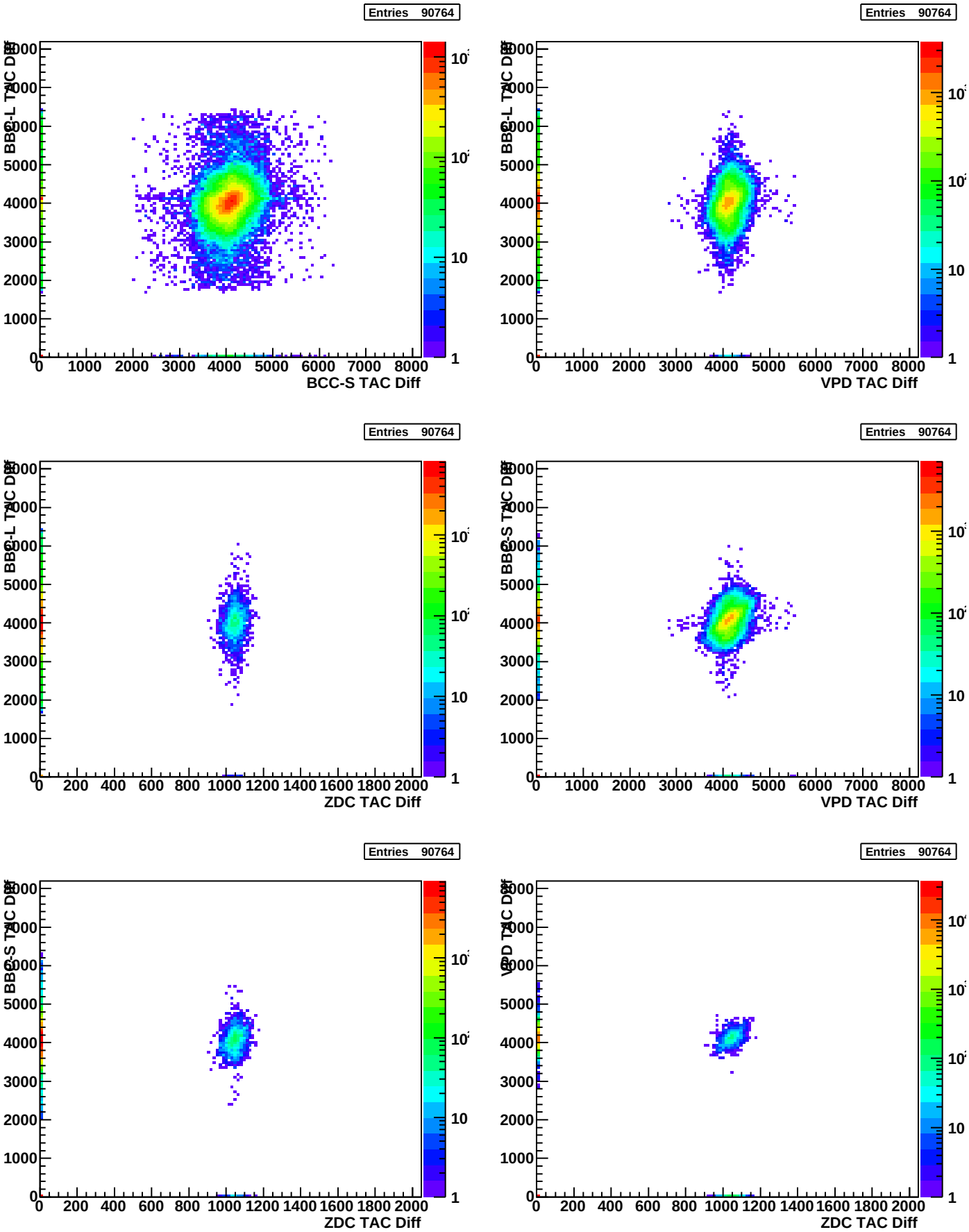

Entries 90764
VPD-West ADC Sum
ZDC-West ADC Sum Att

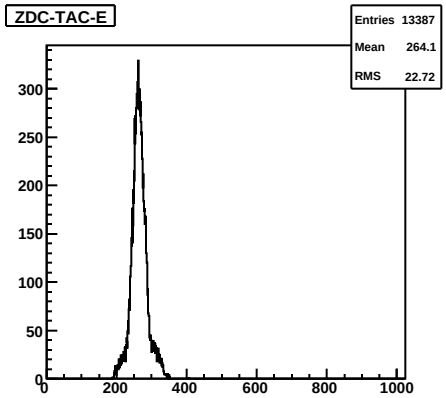

Entries 90764
BBC-L-East ADC Sum
BBC-L-West ADC Sum

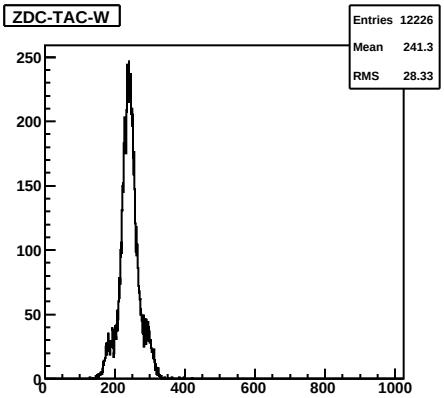

Entries 90764
BBC-S-East ADC Sum
BBC-S-West ADC Sum

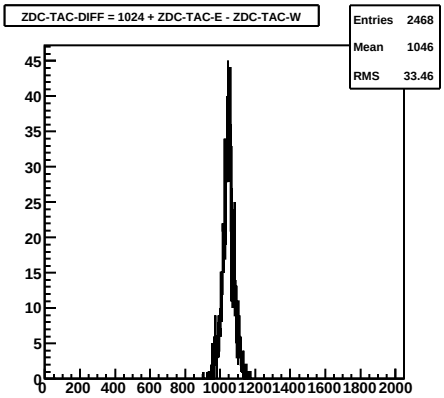

Entries 90764
VPD East ADC Sum
VPD West ADC Sum

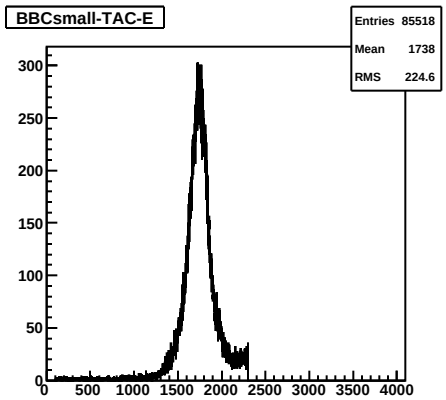

Entries 90764
ZDC East ADC Sum Att
ZDC West ADC Sum Att

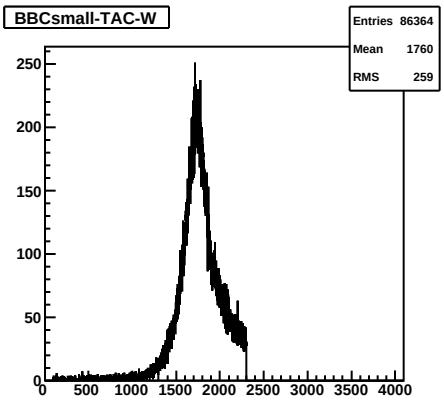

Entries 90764
BBC-L TAC Diff
BCC-S TAC Diff
Entries 90764
BBC-L TAC Diff
VPD TAC Diff
Entries 90764
BBC-L TAC Diff
ZDC TAC Diff
Entries 90764
BBC-S TAC Diff
VPD TAC Diff
Entries 90764
BBC-S TAC Diff
ZDC TAC Diff
Entries 90764
VPD TAC Diff
ZDC TAC Diff

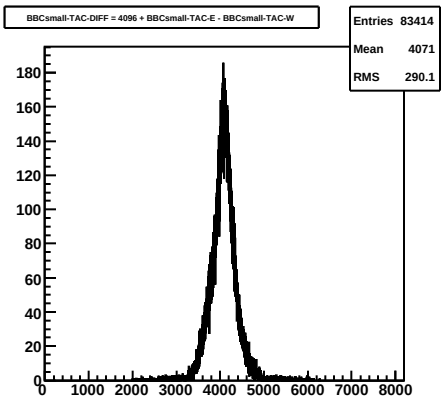

ZDC-TAC-E
Entries 13387
Mean 264.1
RMS 22.72

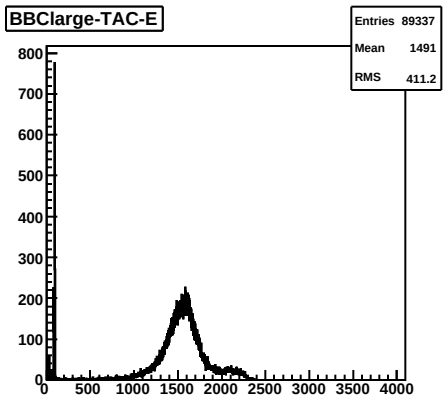

ZDC-TAC-W
Entries 12226
Mean 241.3
RMS 28.33

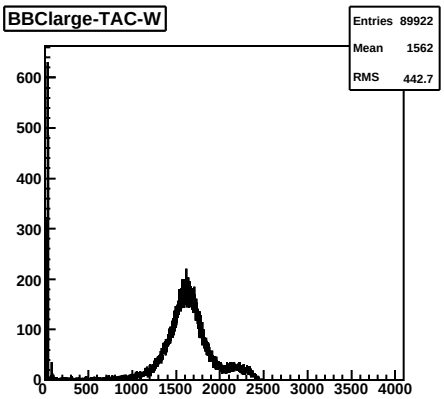

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 2468
Mean 1046
RMS 33.46

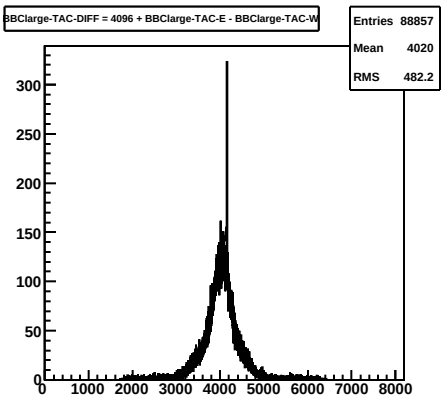

BBCsmall-TAC-E
Entries 85518
Mean 1738
RMS 224.6

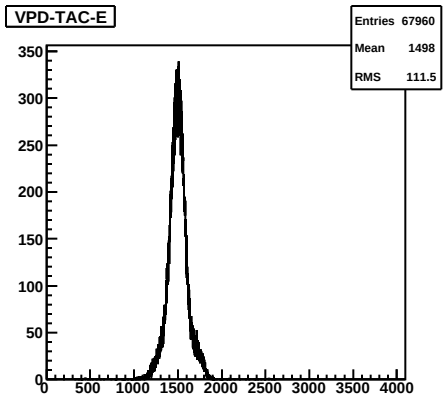

BBCsmall-TAC-W
Entries 86364
Mean 1760
RMS 259

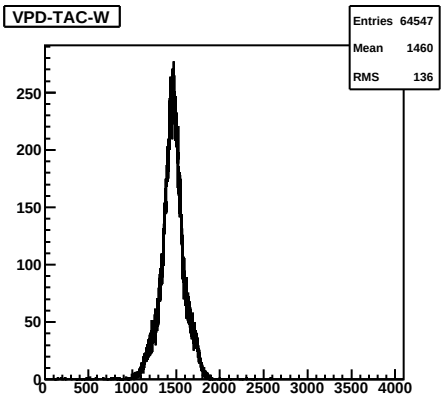

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 83414
Mean 4071
RMS 290.1

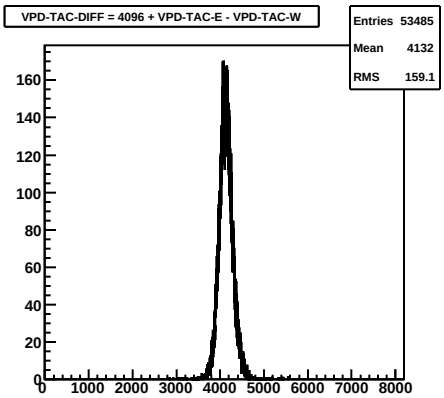

BBClarge-TAC-E
Entries 89337
Mean 1491
RMS 411.2

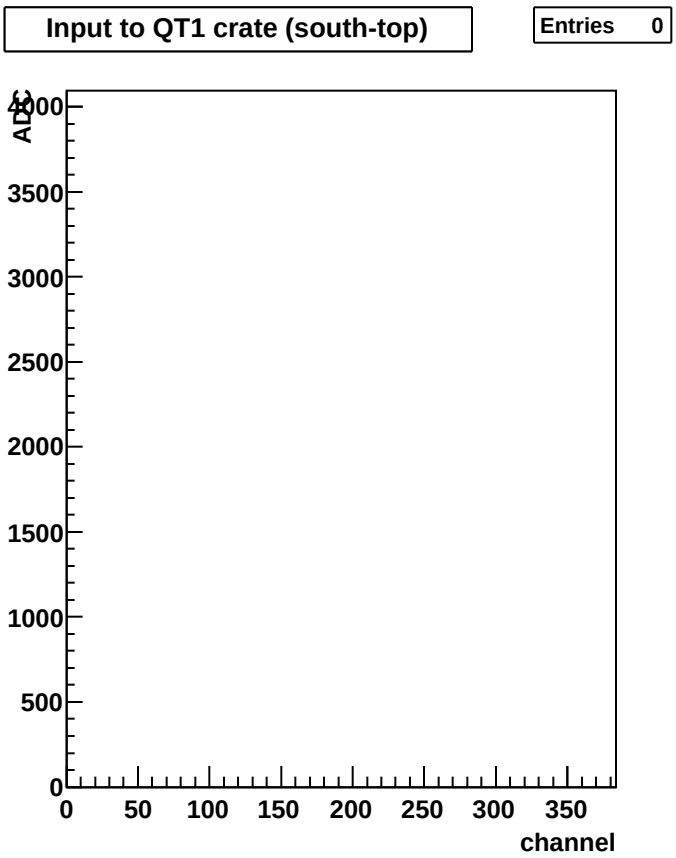

BBClarge-TAC-W
Entries 89922
Mean 1562
RMS 442.7

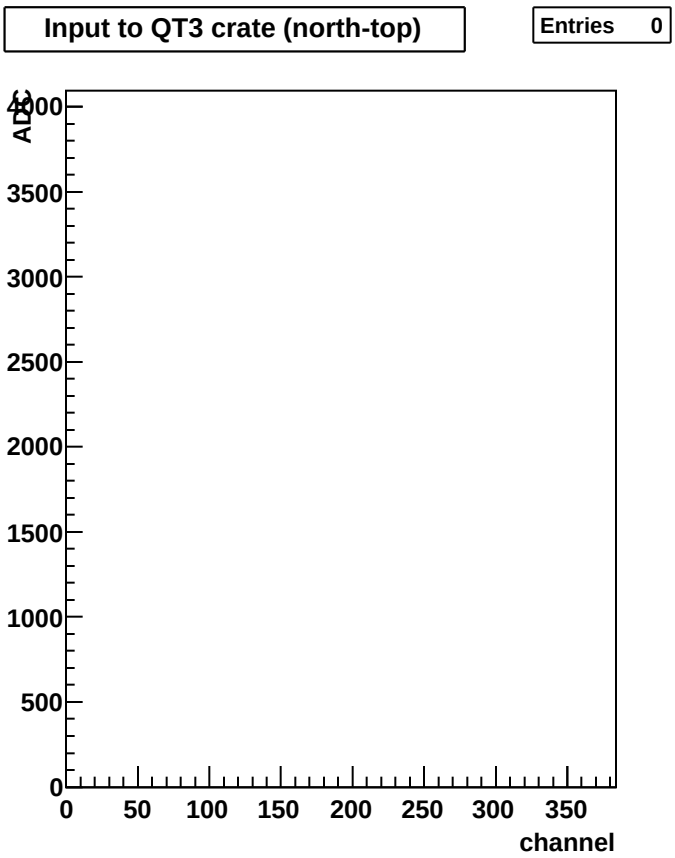

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 88857
Mean 4020
RMS 482.2

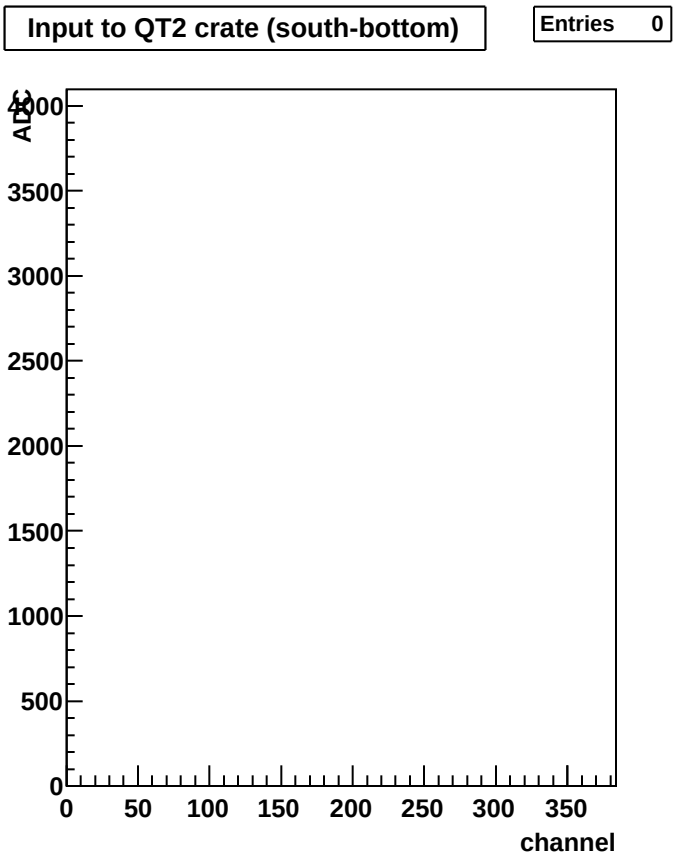

VPD-TAC-E
Entries 67960
Mean 1498
RMS 111.5

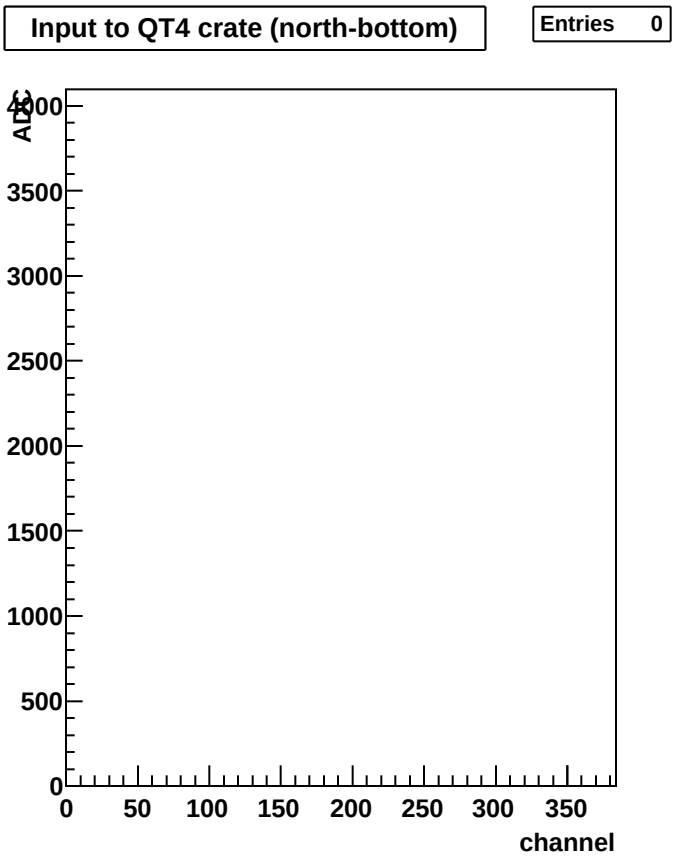

VPD-TAC-W
Entries 64547
Mean 1460
RMS 136

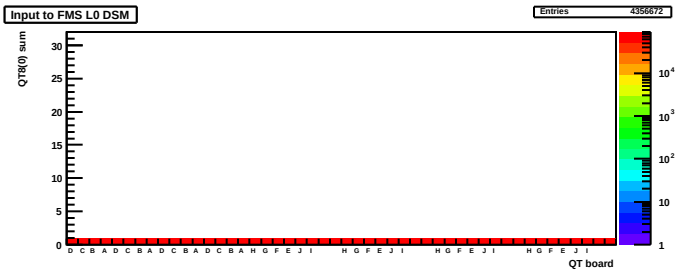

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 53485
Mean 4132
RMS 159.1

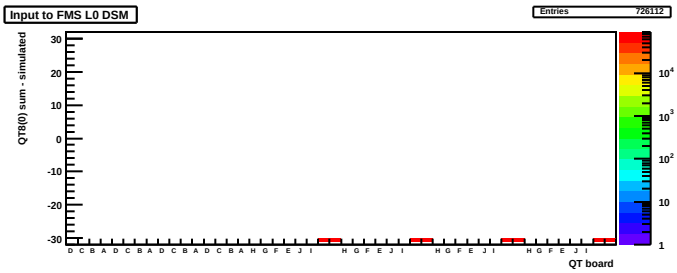

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

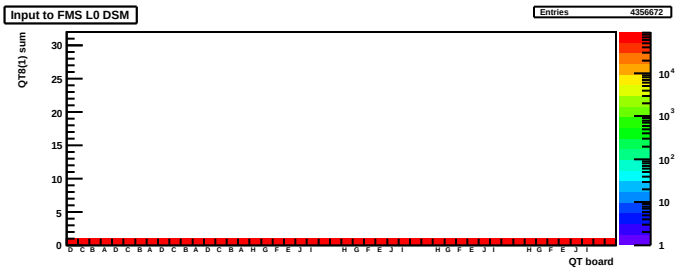

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

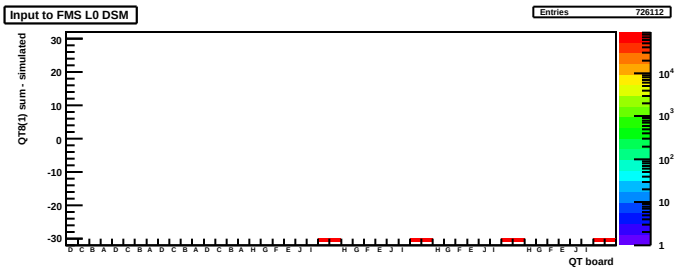

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

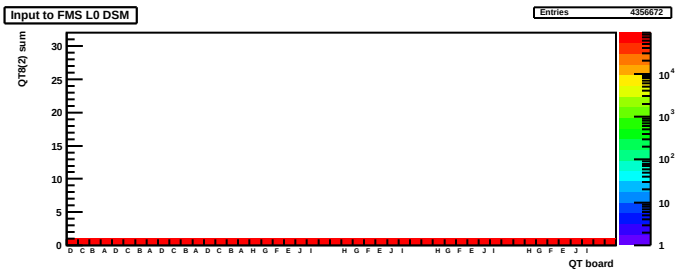

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

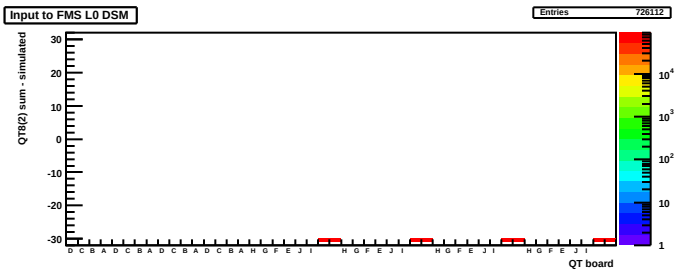

Input to FMS L0 DSM
Entries 4356672
QT8(0) sum
QT board

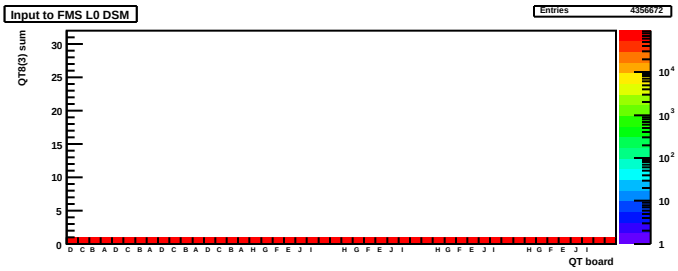

Input to FMS L0 DSM
Entries 726112
QT8(0) sum - simulated
QT board

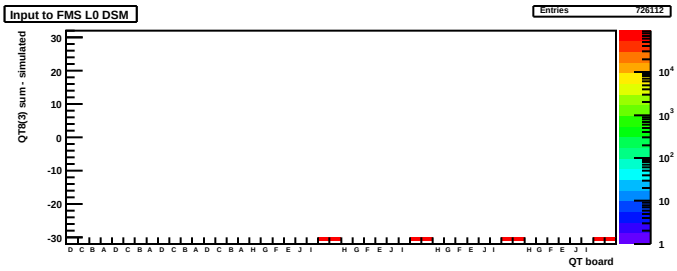

Input to FMS L0 DSM
Entries 4356672
QT8(1) sum
QT board

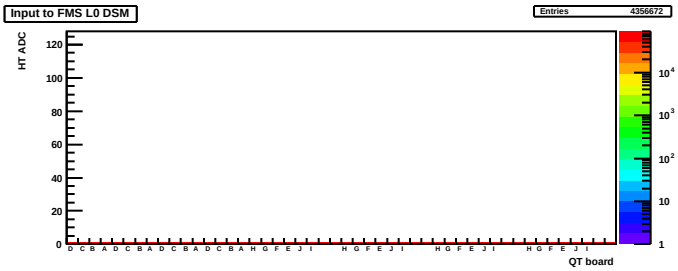

Input to FMS L0 DSM
Entries 726112
QT8(1) sum - simulated
QT board

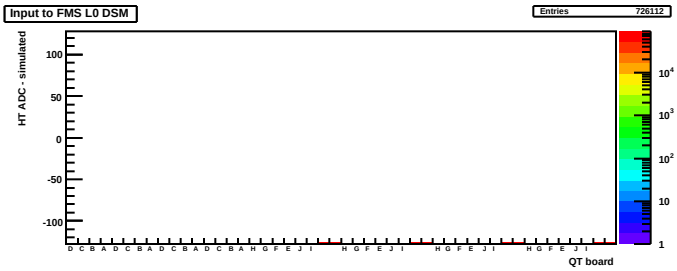

Input to FMS L0 DSM
Entries 4356672
QT8(2) sum
QT board

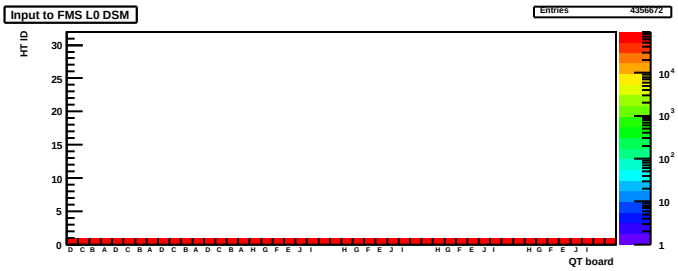

Input to FMS L0 DSM
Entries 726112
QT8(2) sum - simulated
QT board

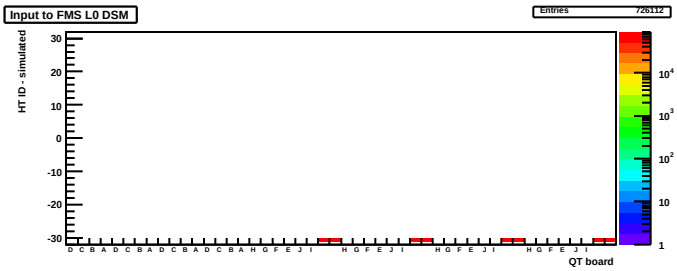

Input to FMS L0 DSM
Entries 4356672
QT8(3) sum
QT board

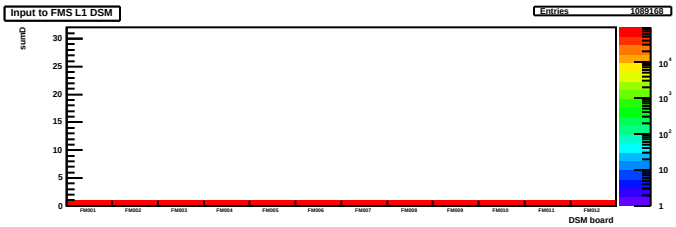

Input to FMS L0 DSM
Entries 726112
QT8(3) sum - simulated
QT board

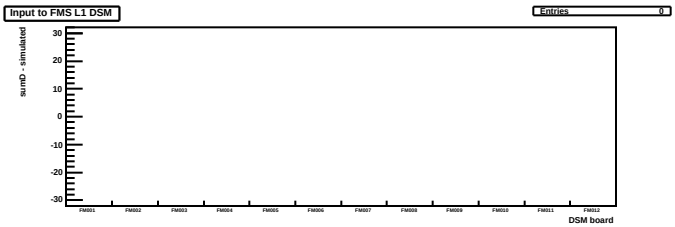

Input to FMS L0 DSM
Entries 4356672
HT ADC
QT board

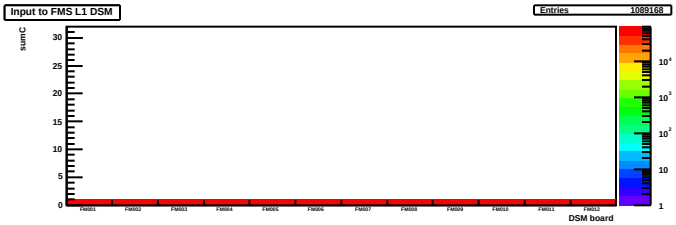

Input to FMS L0 DSM
Entries 726112
HT ADC - simulated
QT board

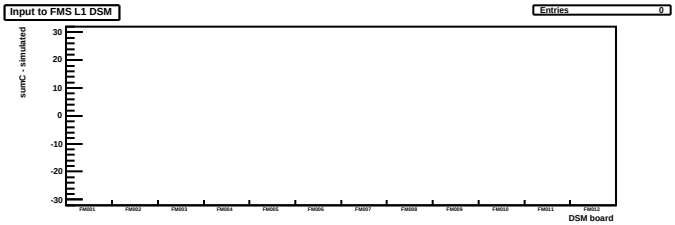

Input to FMS L0 DSM
Entries 4356672
HT ID
QT board

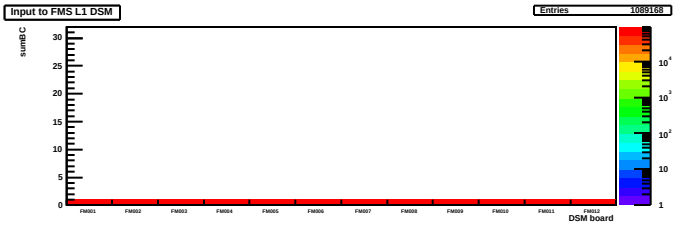

Input to FMS L0 DSM
Entries 726112
HT ID - simulated
QT board

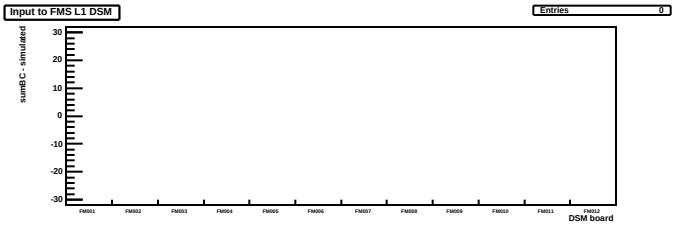

Input to FMS L1 DSM
Entries 1089168
sumD
DSM board

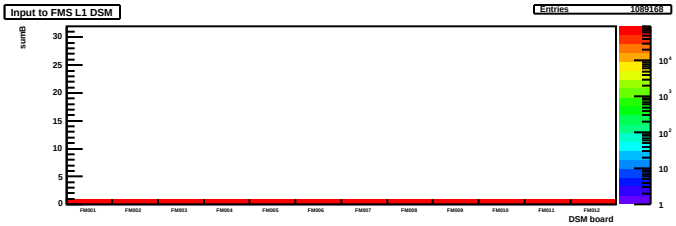

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

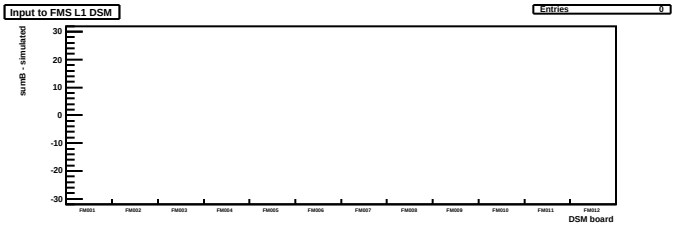

Input to FMS L1 DSM
Entries 1089168
sumC
DSM board

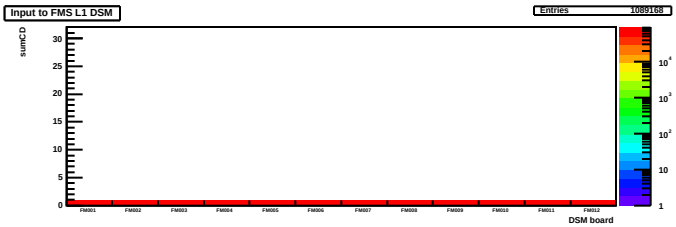

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

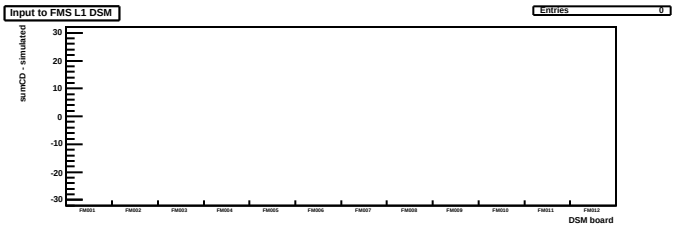

Input to FMS L1 DSM
Entries 1089168
sumBC
DSM board

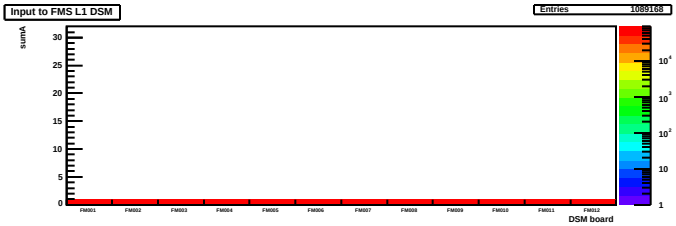

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

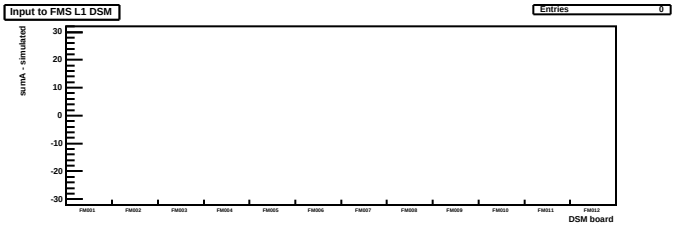

Input to FMS L1 DSM
Entries 1089168
sumB
DSM board

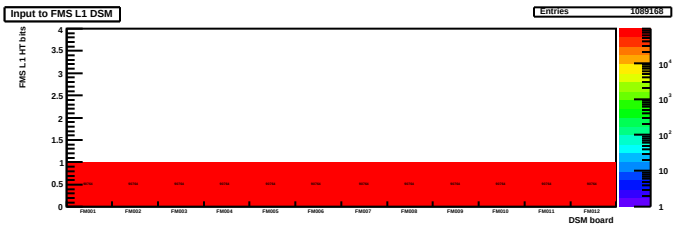

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

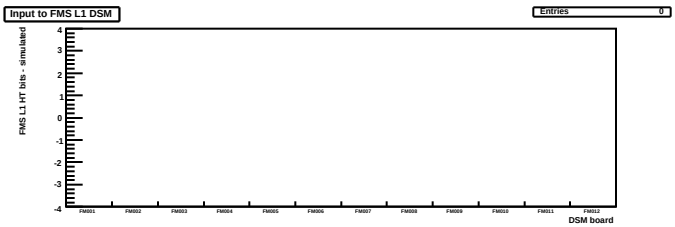

Input to FMS L1 DSM
Entries 1089168
sumCD
DSM board

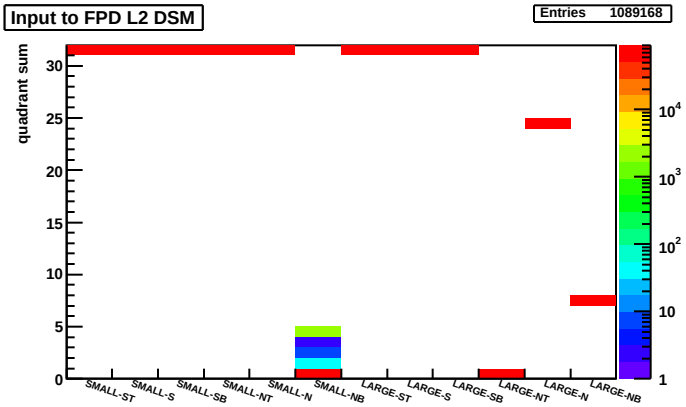

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

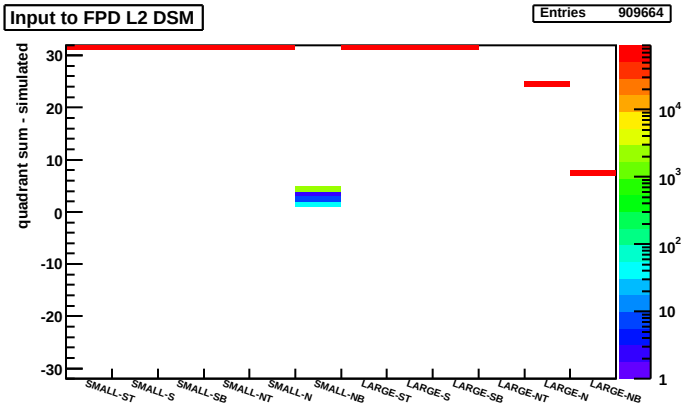

Input to FMS L1 DSM
Entries 1089168
sumA
DSM board

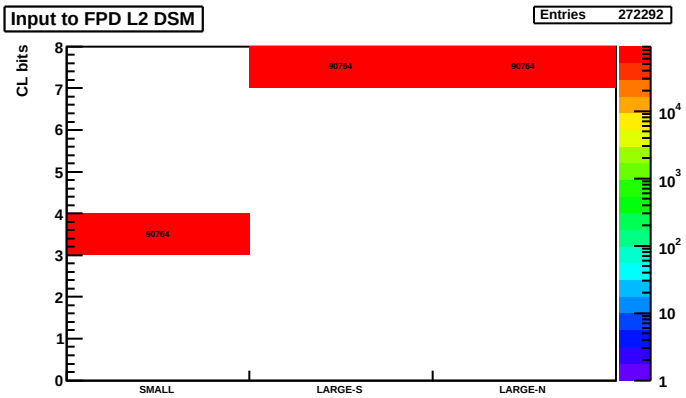

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

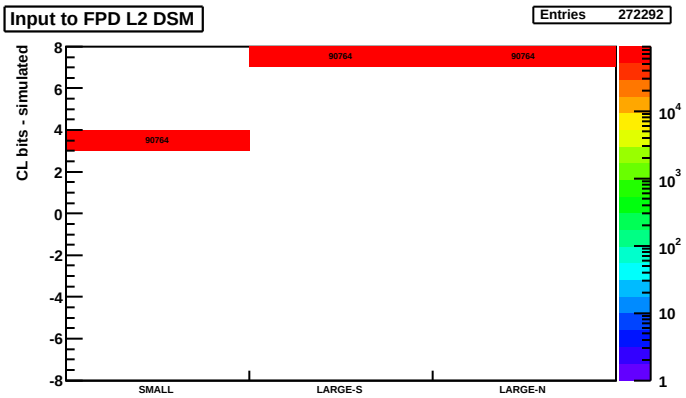

Input to FMS L1 DSM
Entries 1089168
FMS L1 HT bits
DSM board

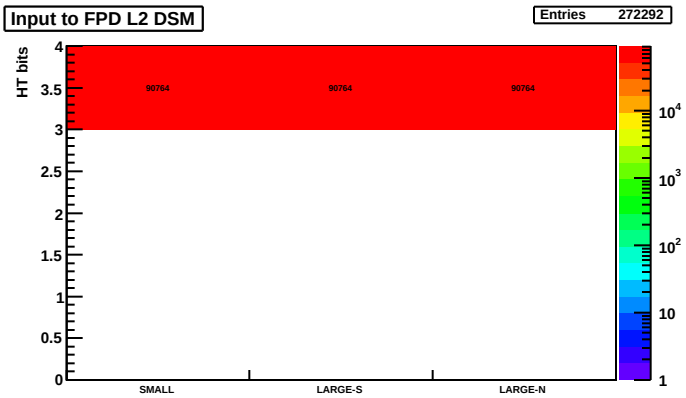

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

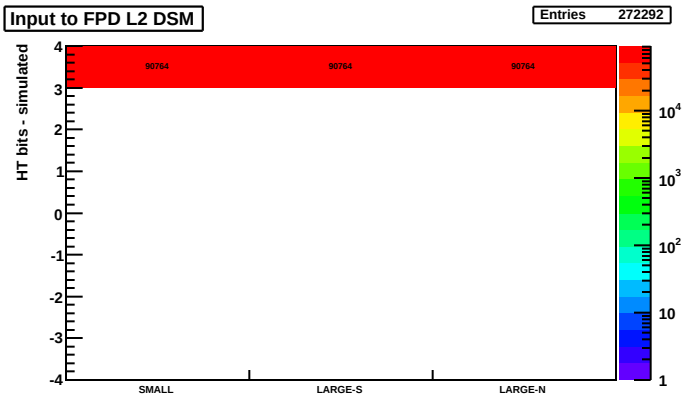

Input to FPD L2 DSM
Entries 1089168
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

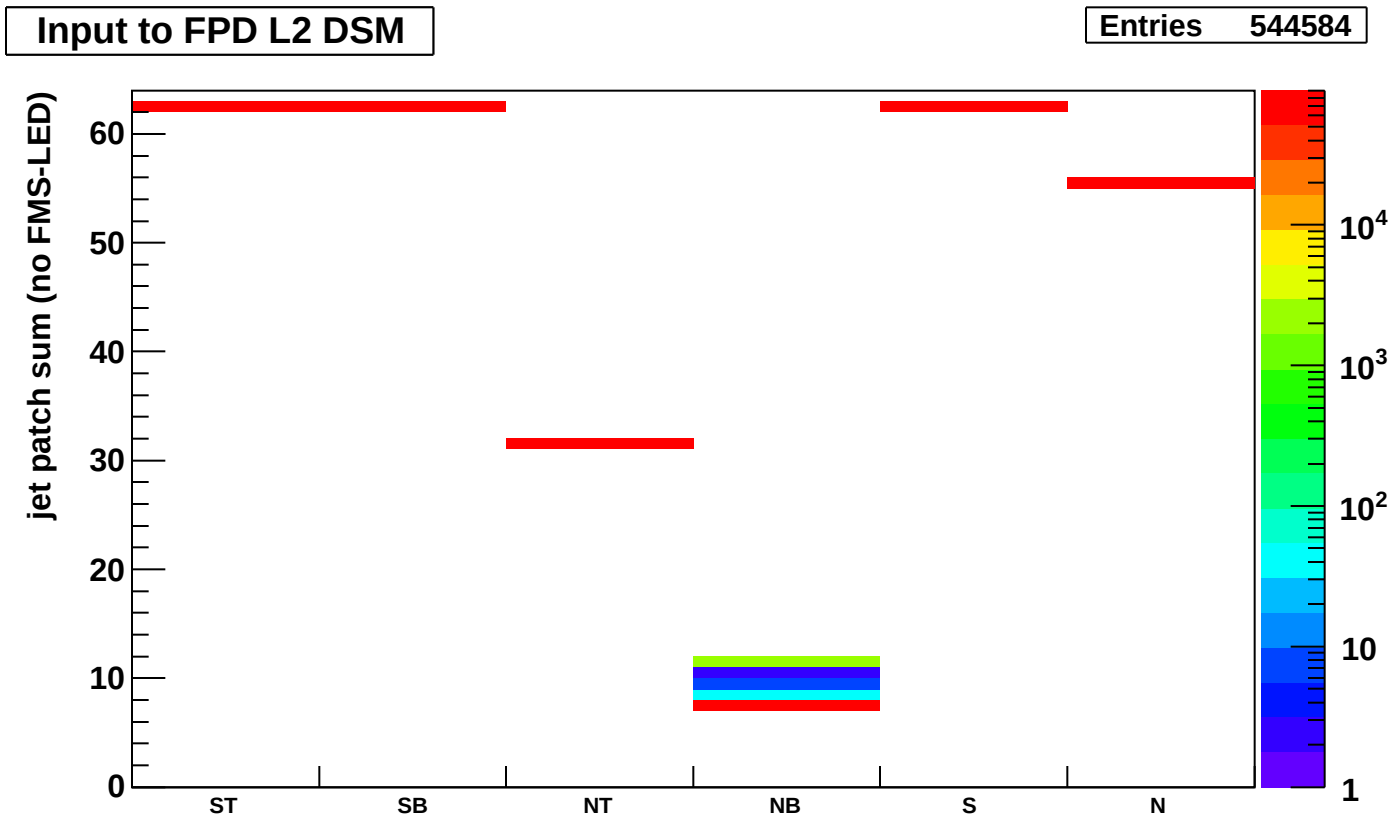

Input to FPD L2 DSM
Entries 909664
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

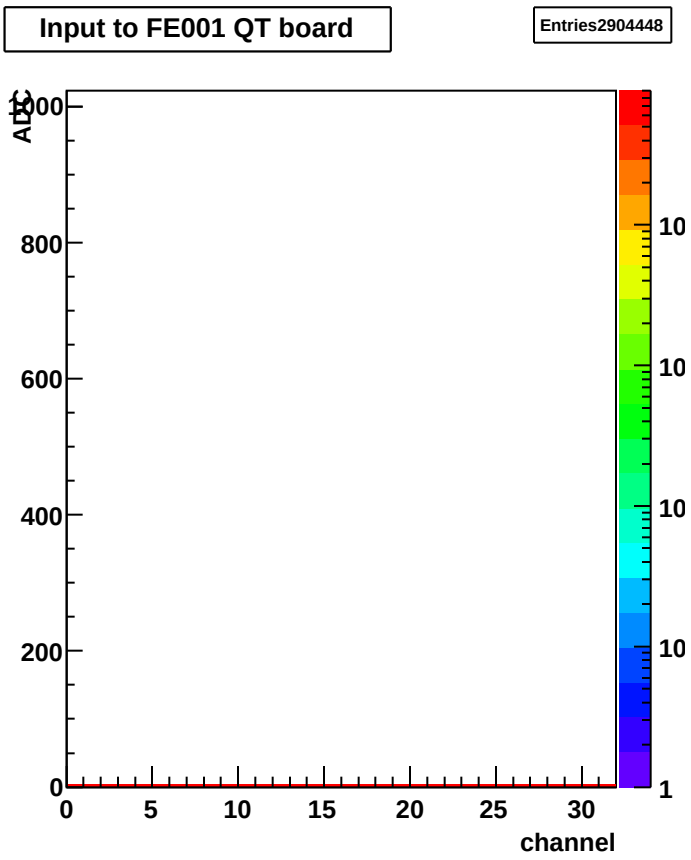

Input to FPD L2 DSM
Entries 272292
CL bits
90764
90764
90764
SMALL
LARGE-S
LARGE-N

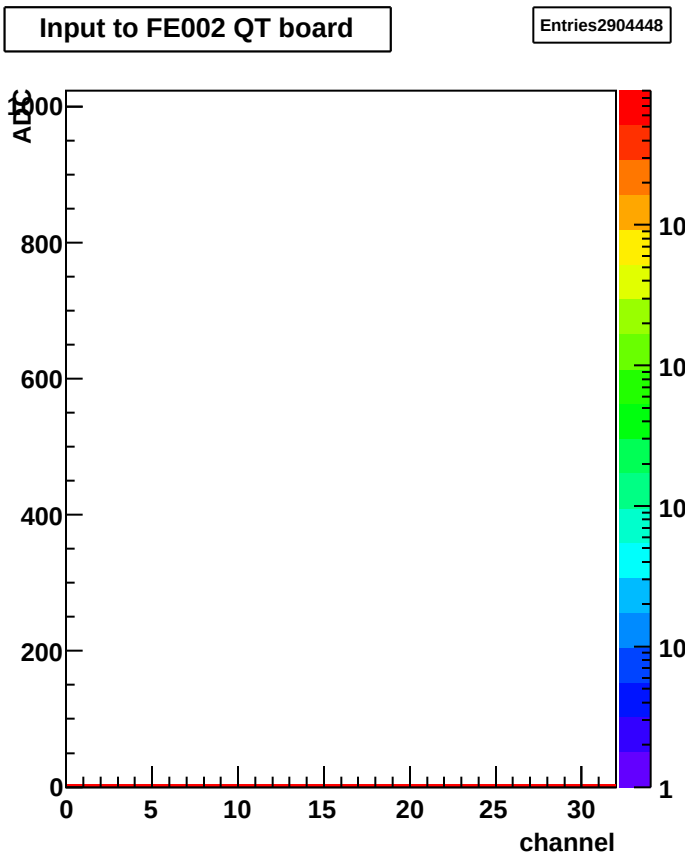

Input to FPD L2 DSM
Entries 272292
CL bits - simulated
90764
90764
90764
SMALL
LARGE-S
LARGE-N

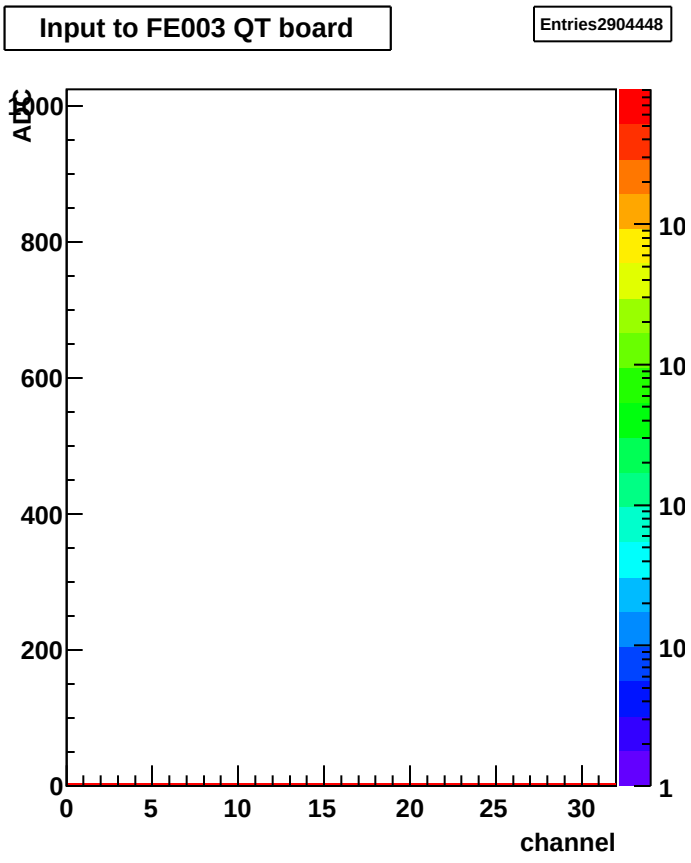

Input to FPD L2 DSM
Entries 272292
HT bits
90764
90764
90764
SMALL
LARGE-S
LARGE-N

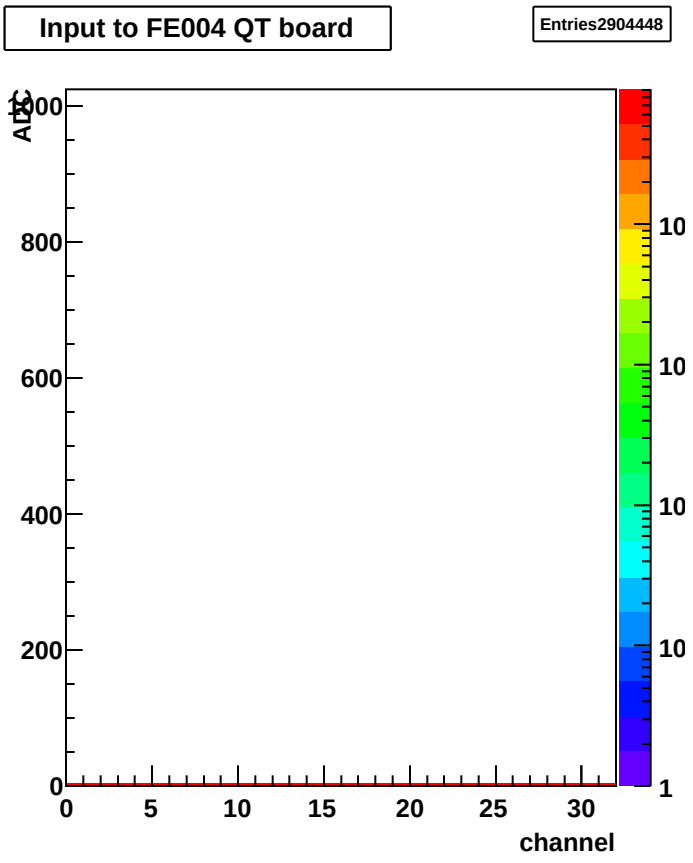

Input to FPD L2 DSM
Entries 272292
HT bits - simulated
90764
90764
90764
SMALL
LARGE-S
LARGE-N

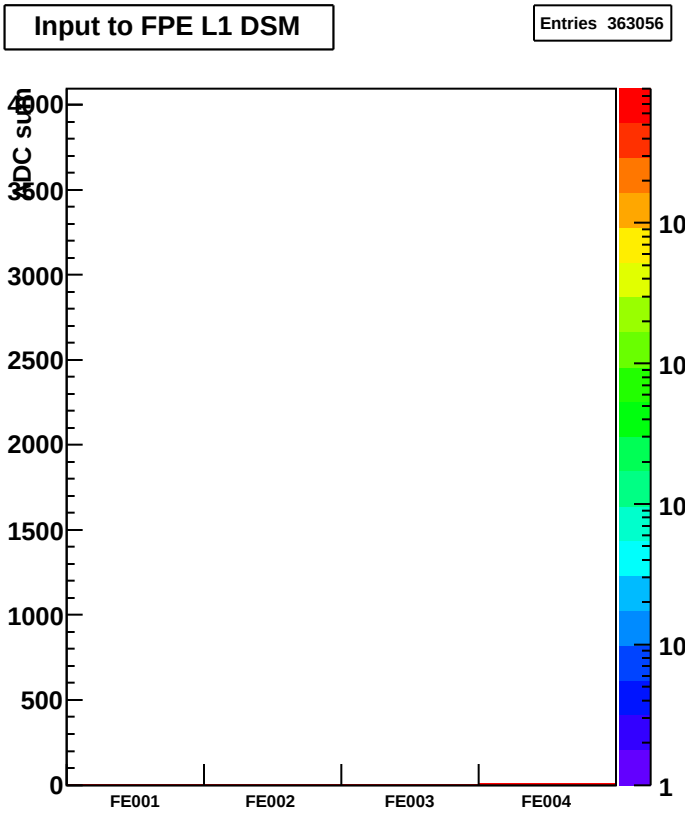

Input to FPD L2 DSM
Entries 544584
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

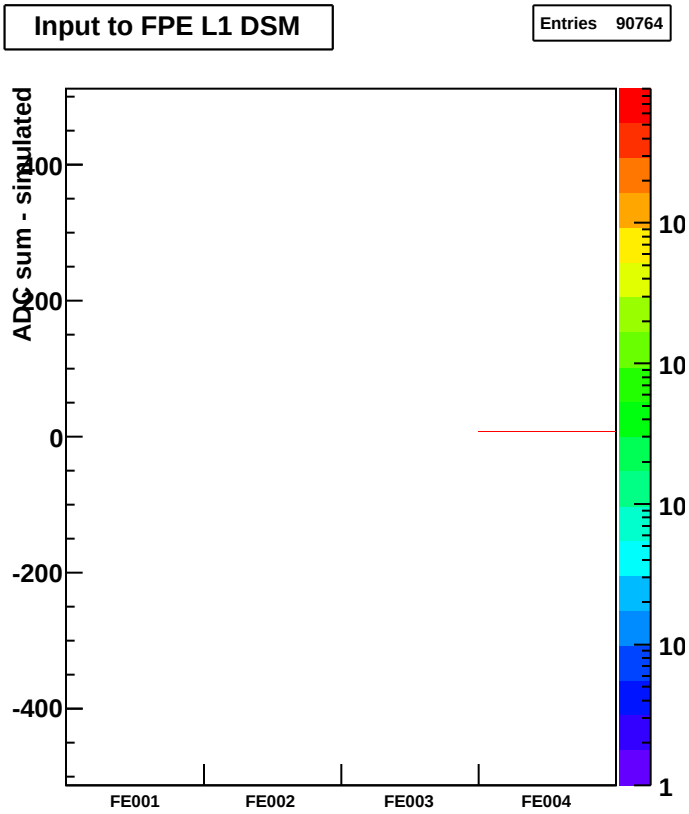

Input to FE001 QT board
Entries2904448
ADC
channel

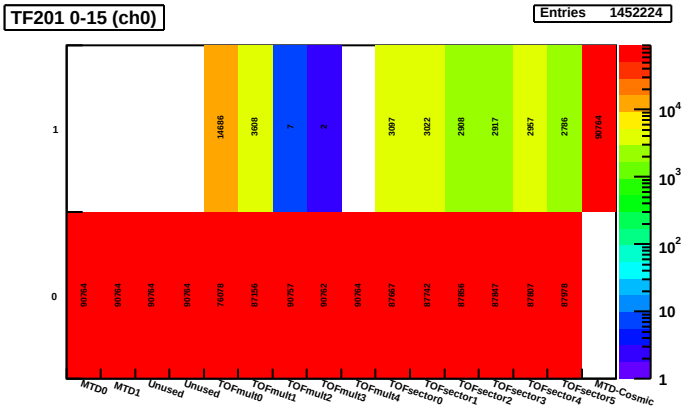

Input to FE002 QT board
Entries2904448
ADC
channel

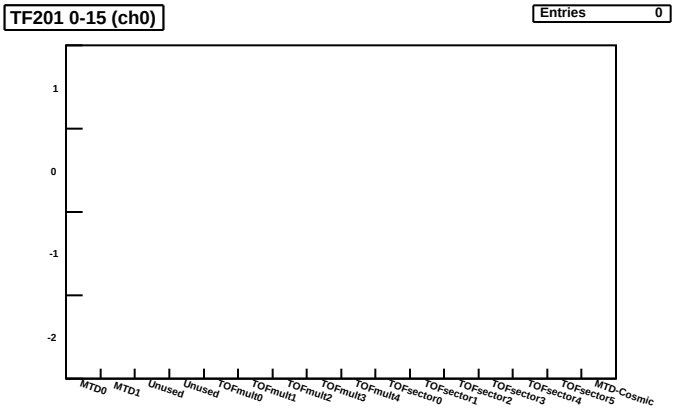

Input to FE003 QT board
Entries2904448
ADC
channel

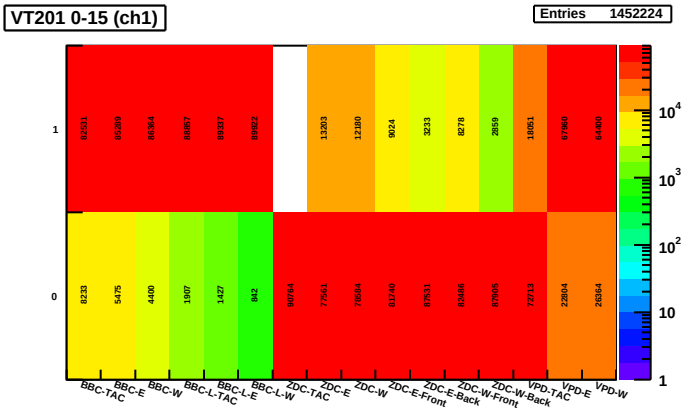

Input to FE004 QT board
Entries2904448
ADC
channel


Input to FPE L1 DSM
Entries 363056
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 90764
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1


TF201 0-15 (ch0)
Entries 1452224
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic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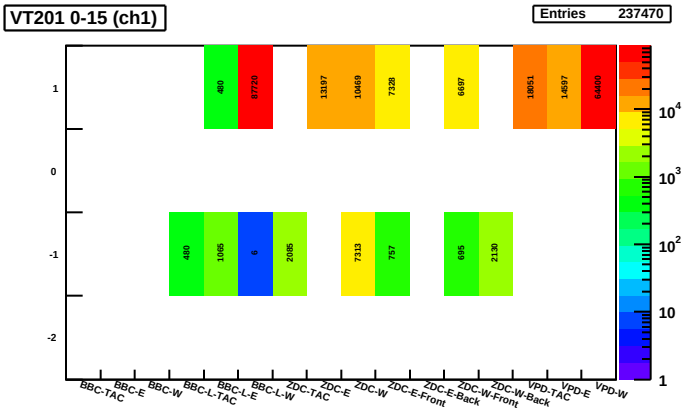
Entries 1452224
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W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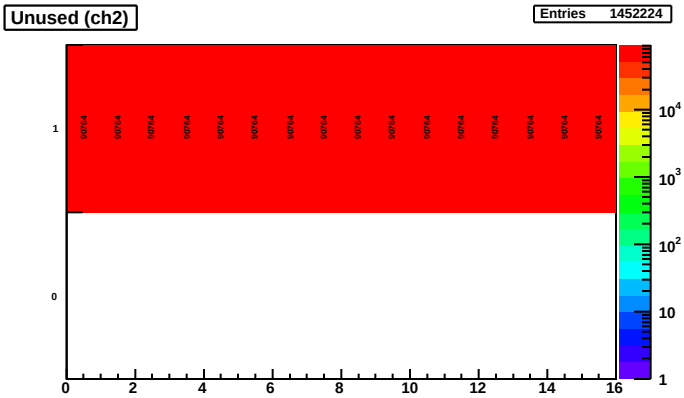
Unused (ch2)
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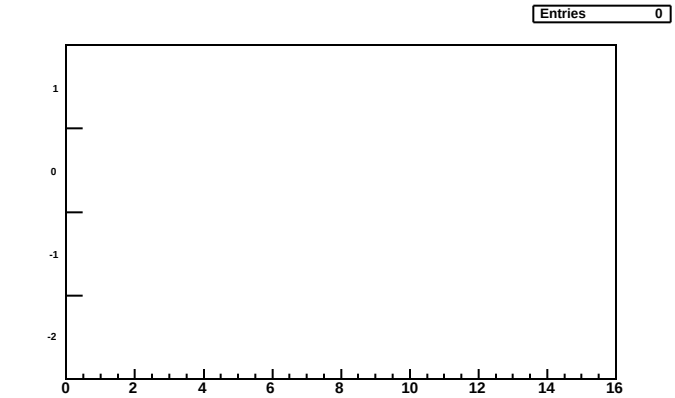
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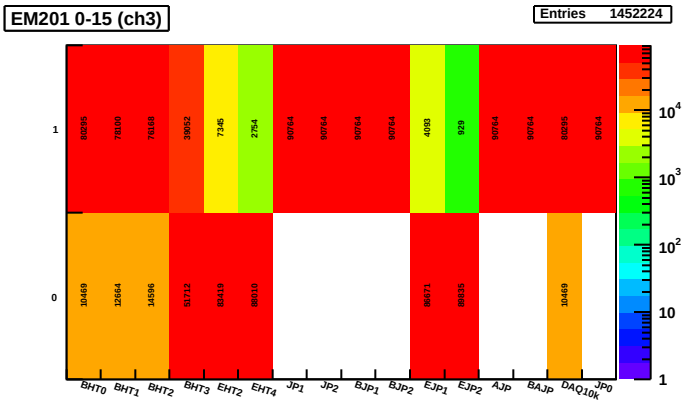
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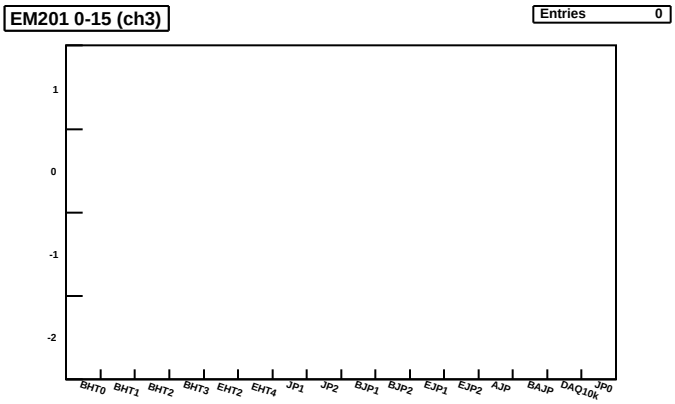
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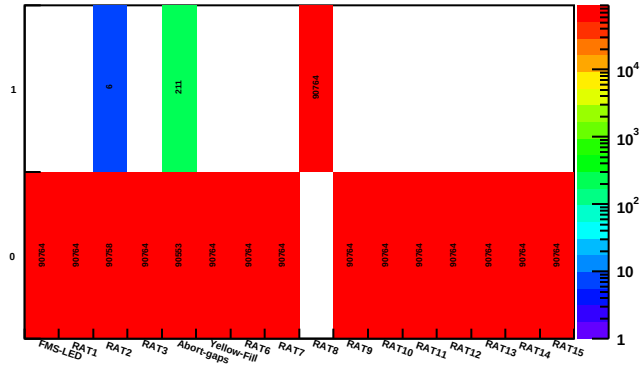
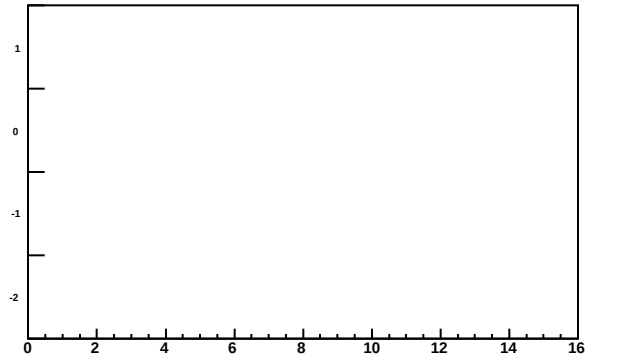
RAT board (ch4)





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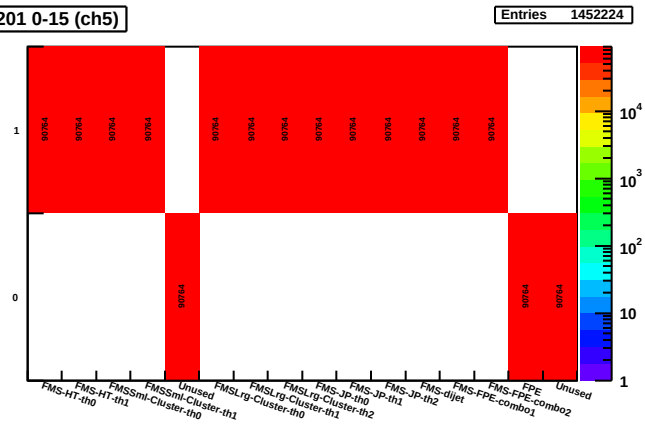

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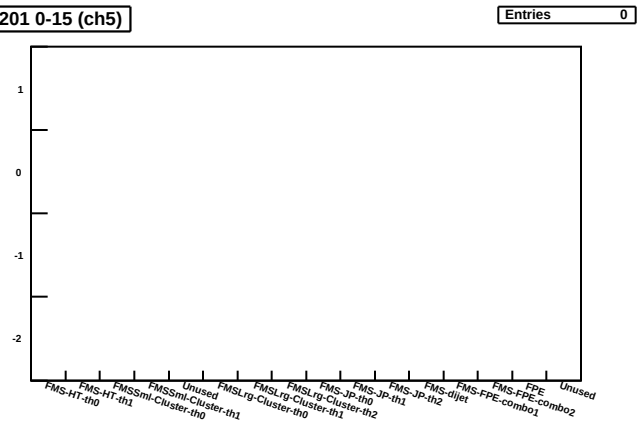
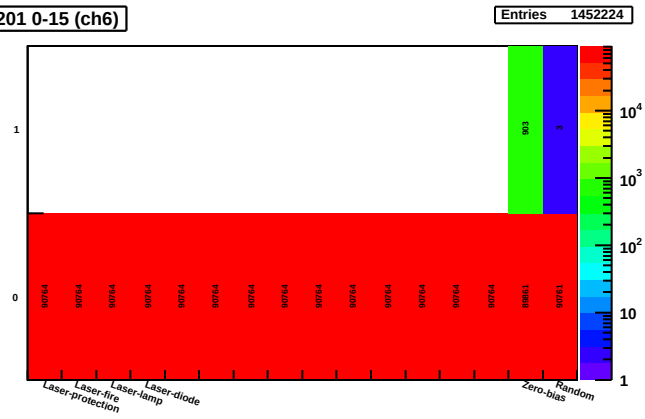
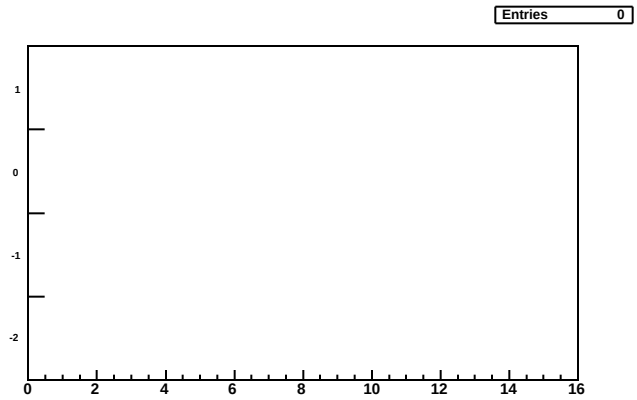
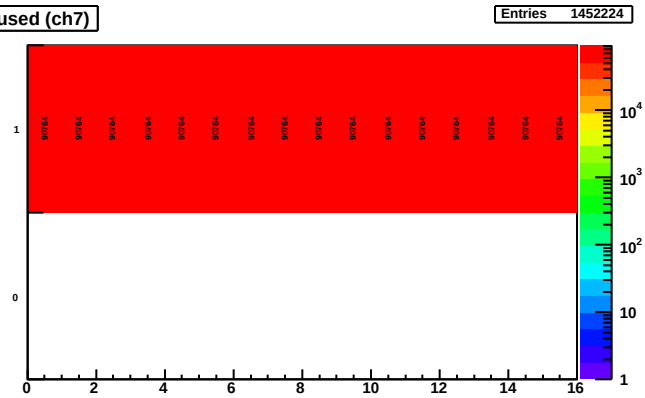
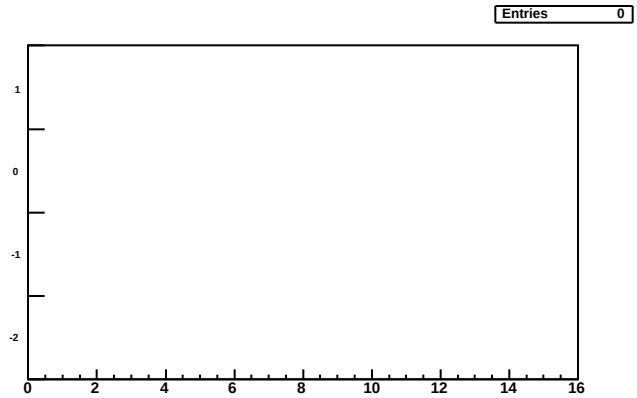


ST201 0-15 (ch6)





Unused (ch7)