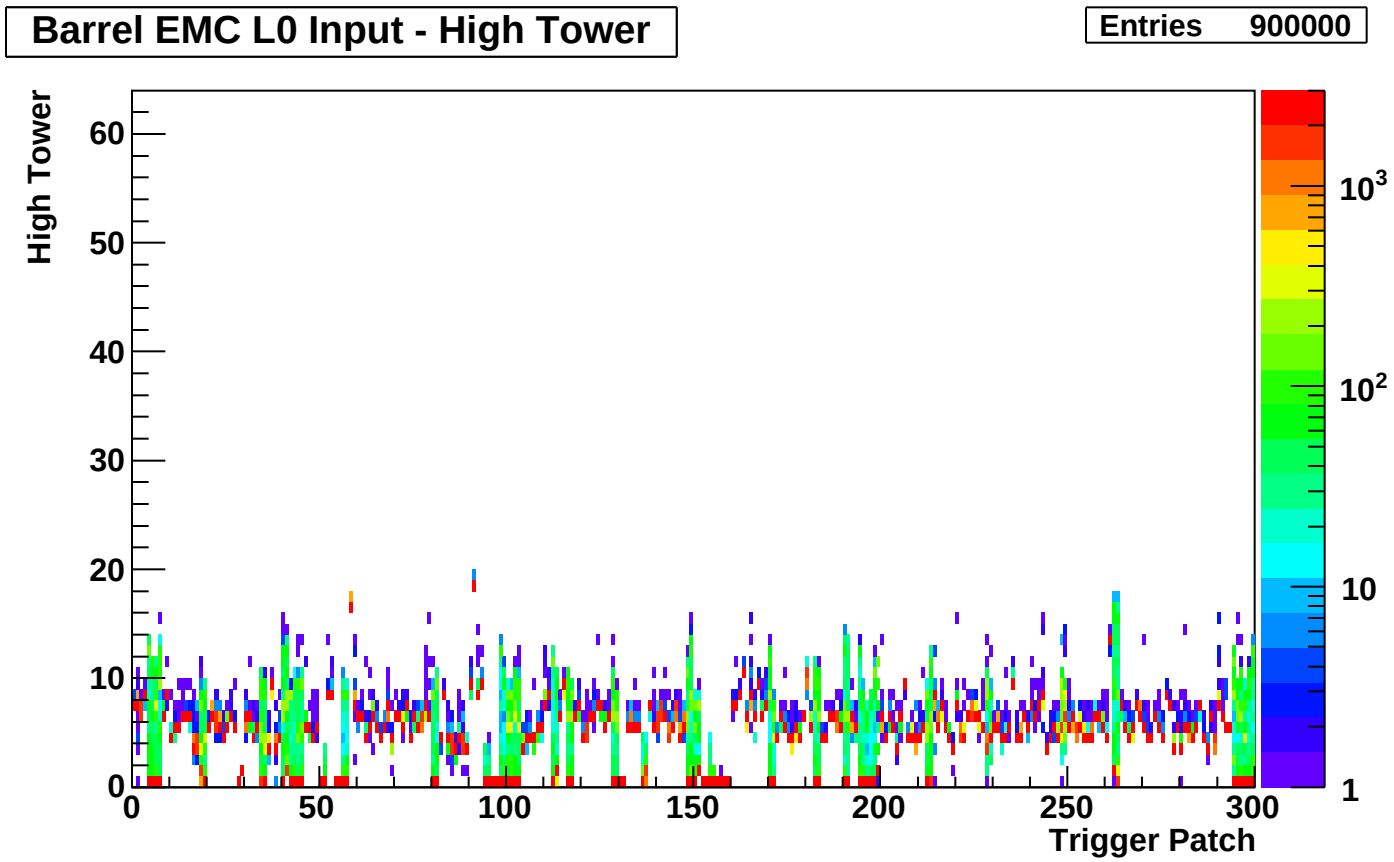
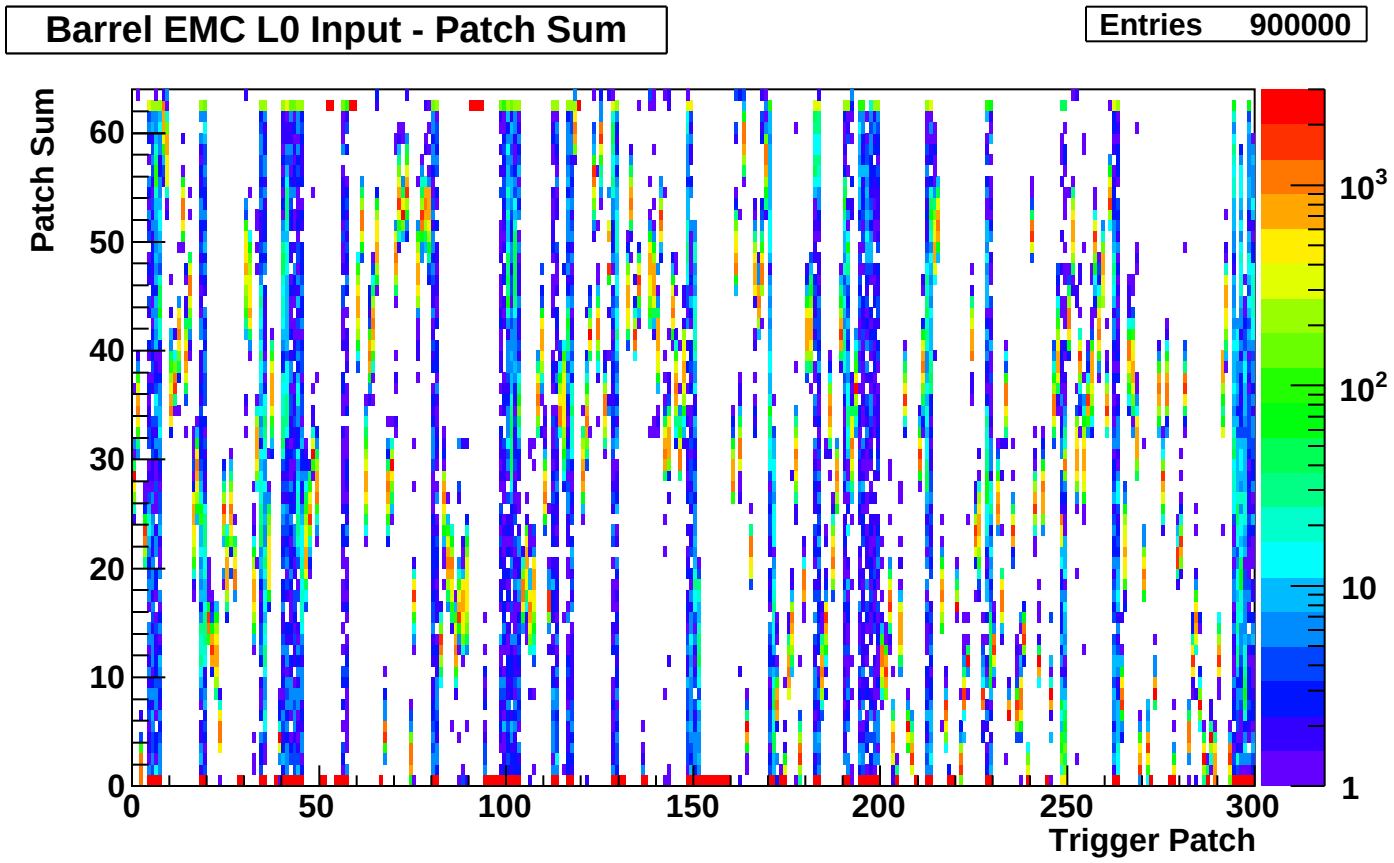
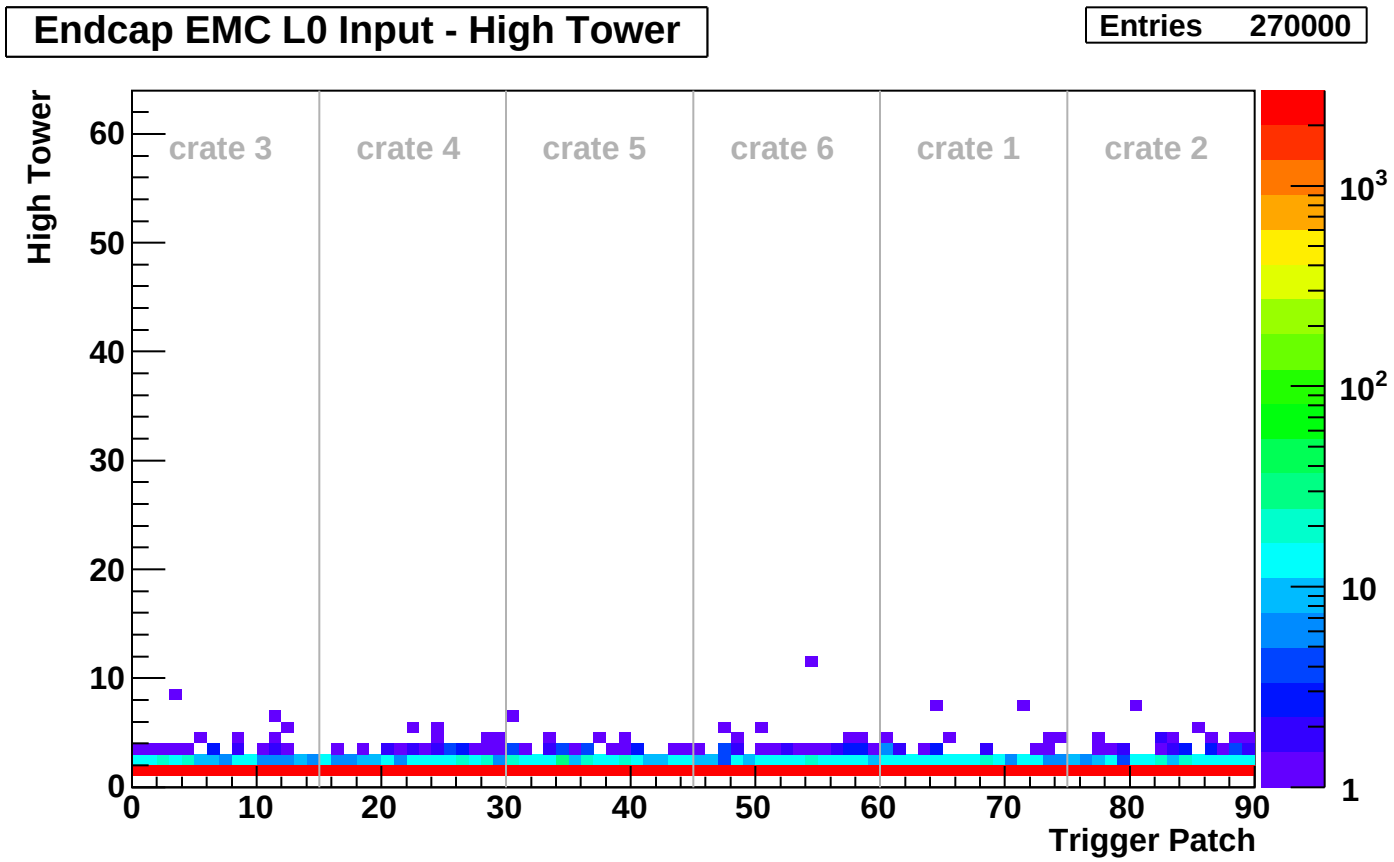
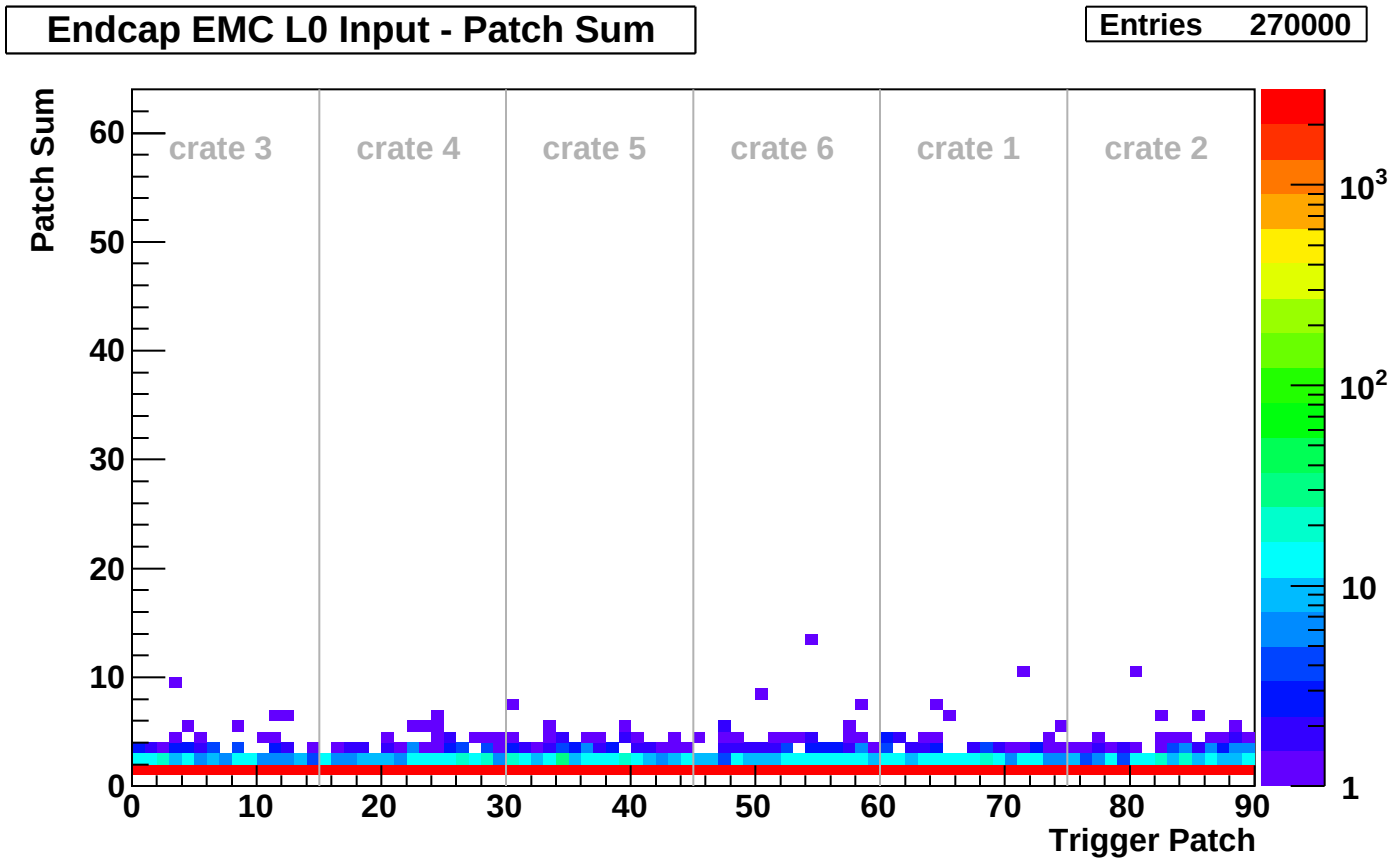
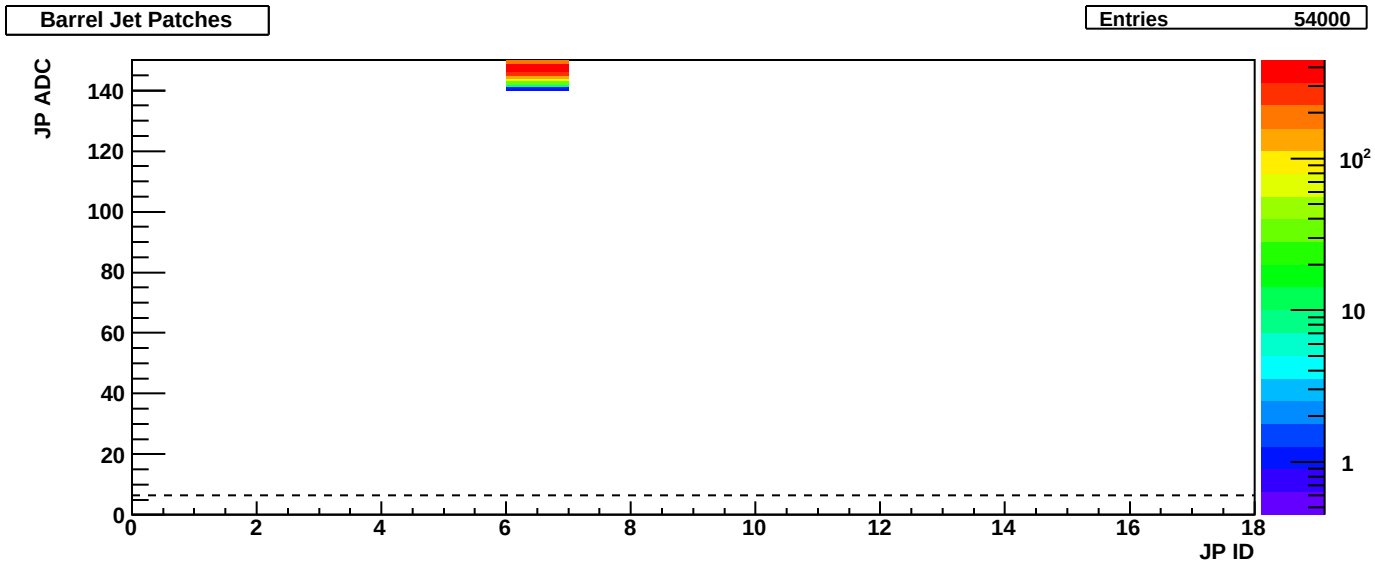
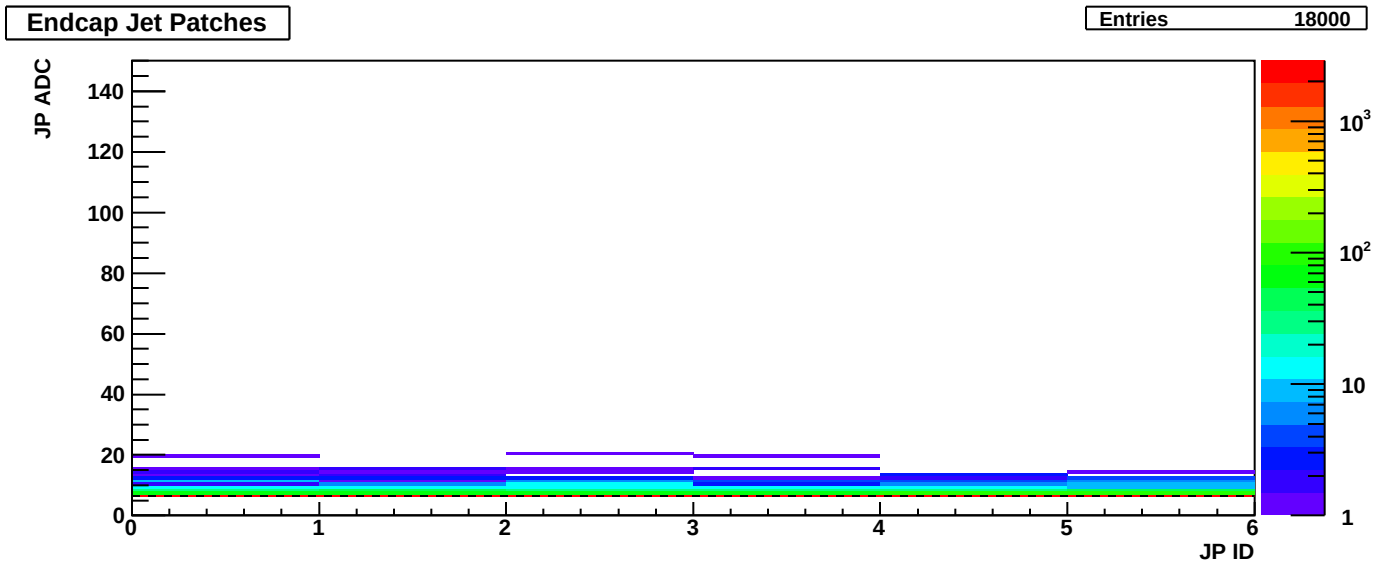

Barrel EMC L0 Input - High Tower
Entries 900000
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

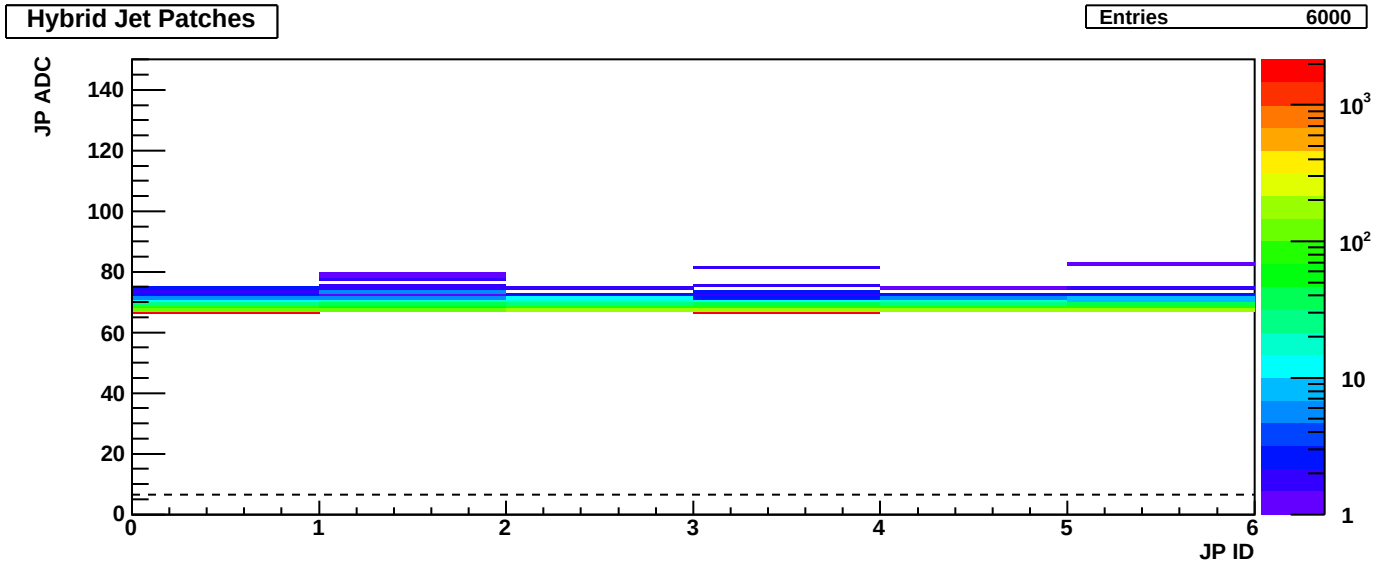

Barrel EMC L0 Input - Patch Sum
Entries 900000
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

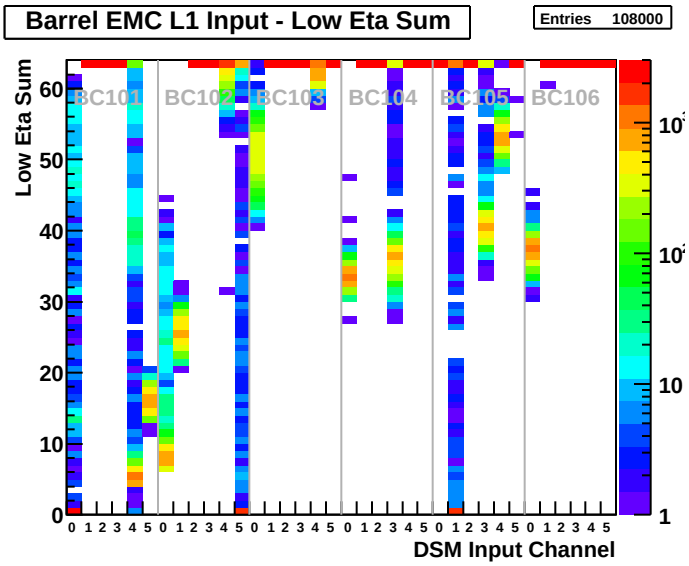

Endcap EMC L0 Input - High Tower
Entries 270000
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

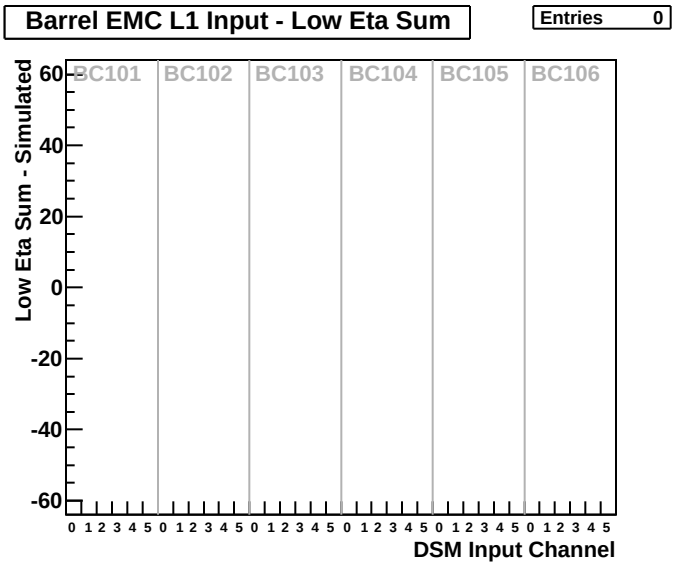

Endcap EMC L0 Input - Patch Sum
Entries 270000
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

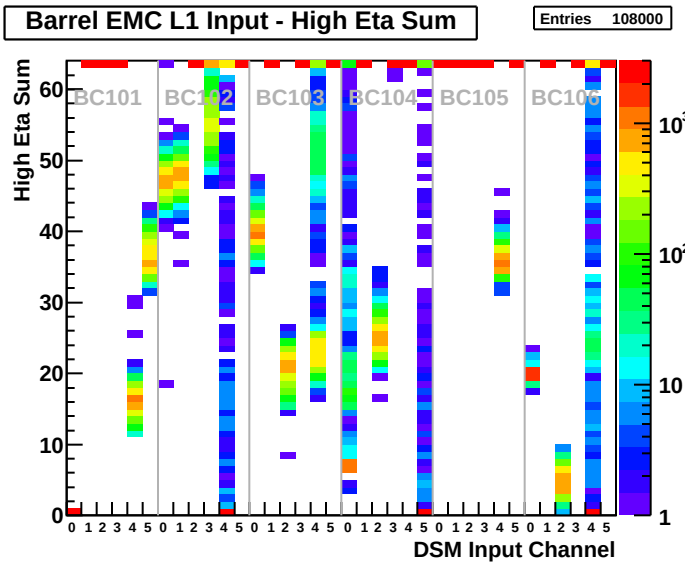

Barrel Jet Patches
Entries 54000
JP ADC
JP ID

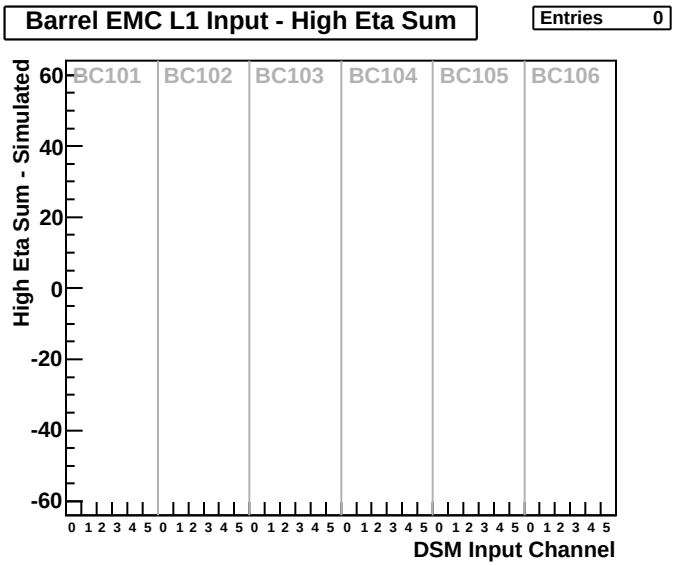

Endcap Jet Patches
Entries 18000
JP ADC
JP ID

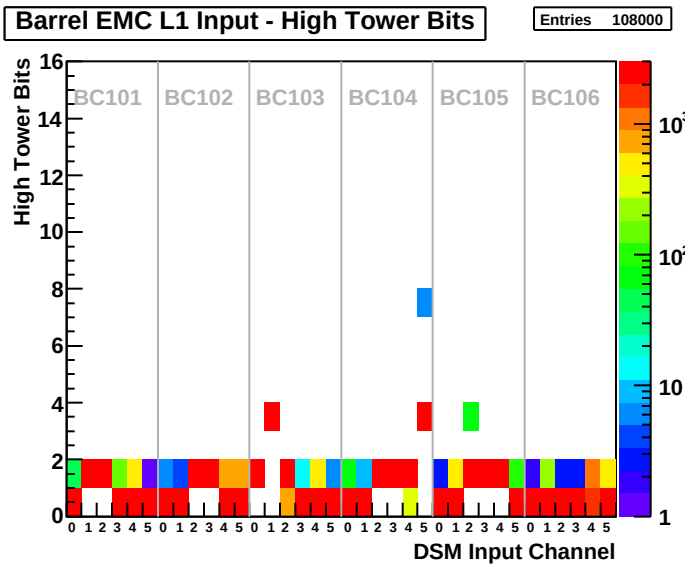

Hybrid Jet Patches
Entries 6000
JP ADC
JP ID

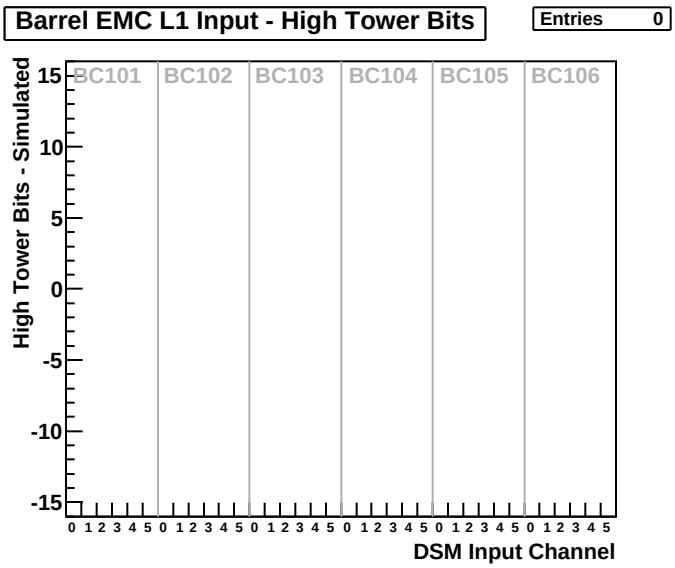

Barrel EMC L1 Input - Low Eta Sum
Entries 108000
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

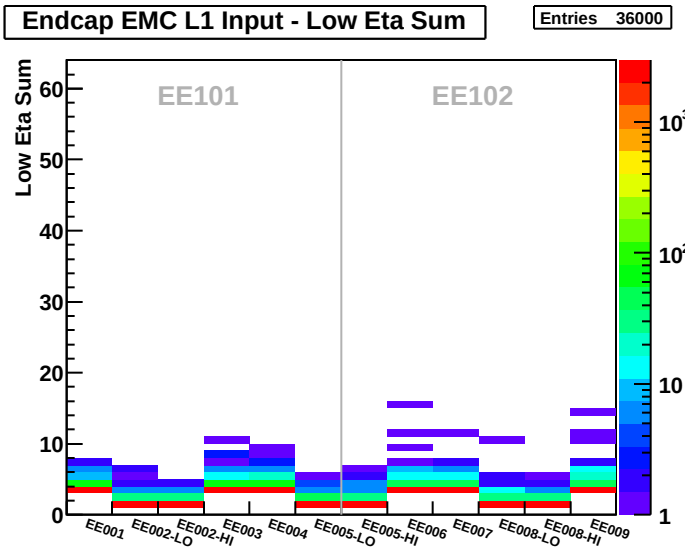

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

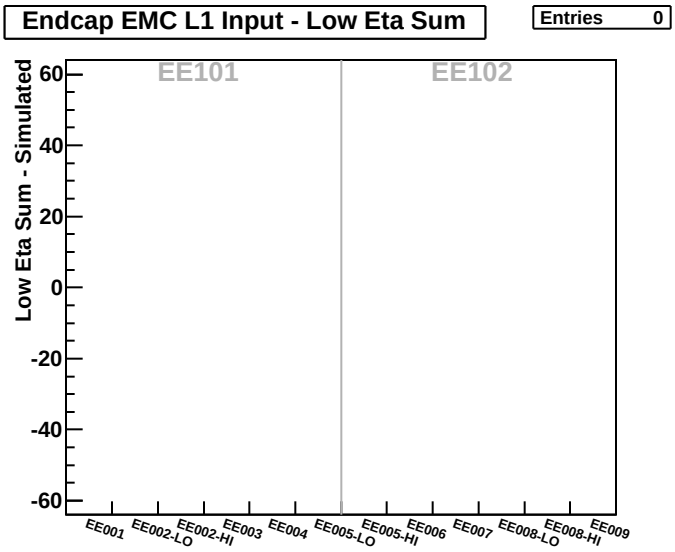

Barrel EMC L1 Input - High Eta Sum
Entries 108000
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

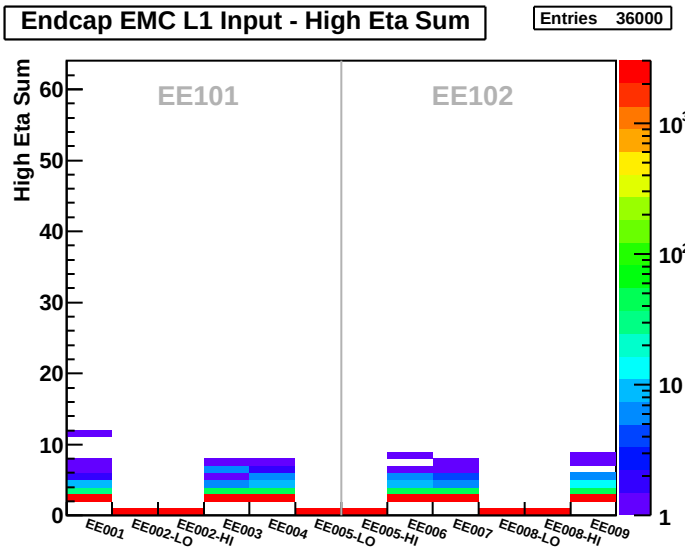

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

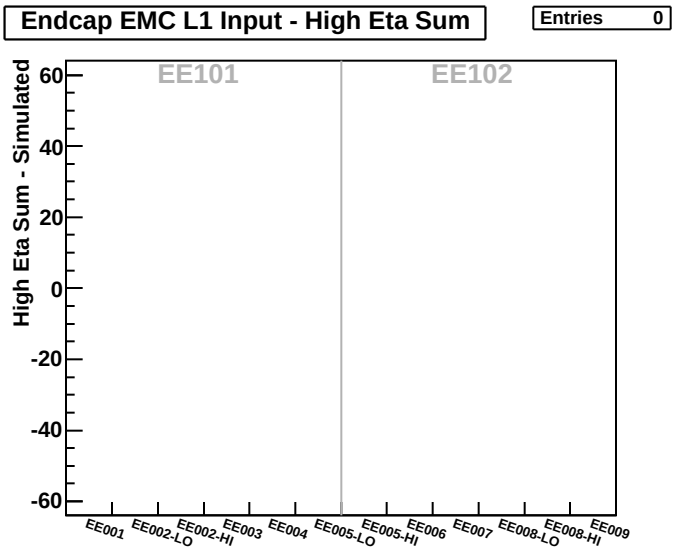

Barrel EMC L1 Input - High Tower Bits
Entries 108000
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

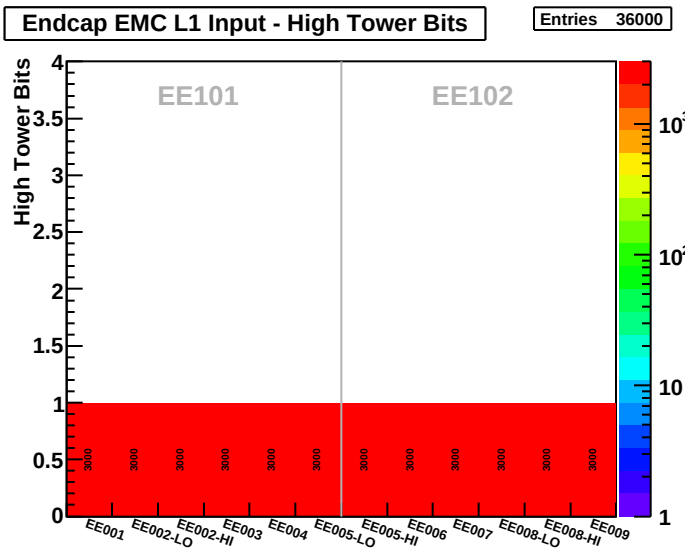

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

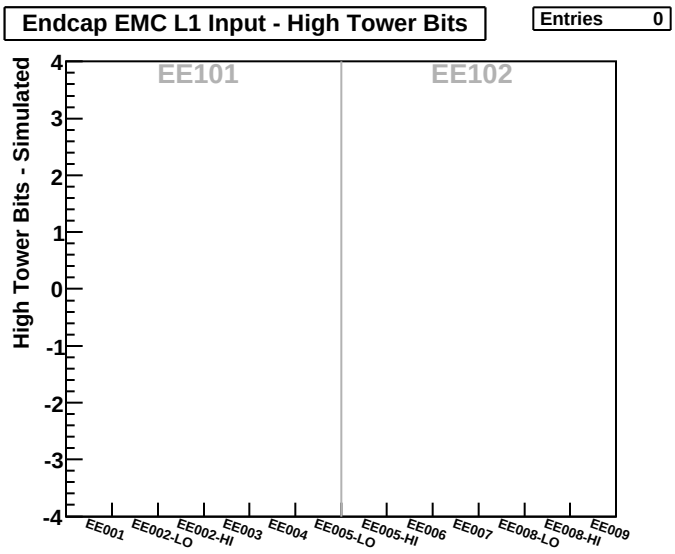

Endcap EMC L1 Input - Low Eta Sum
Entries 36000
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

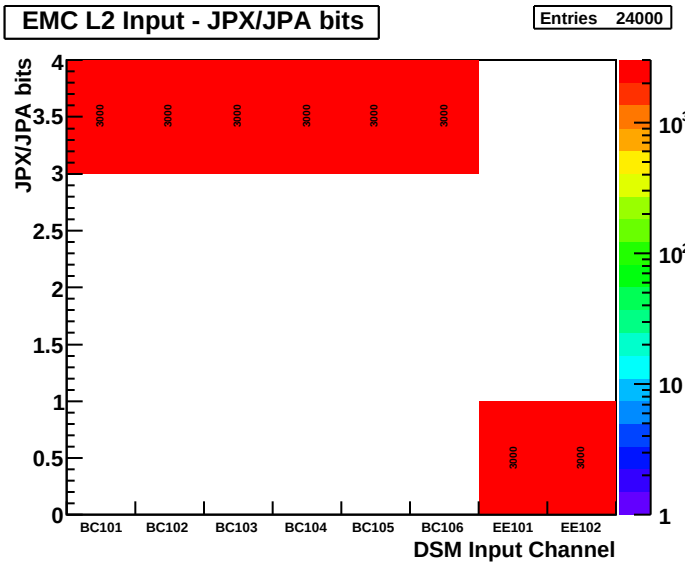

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

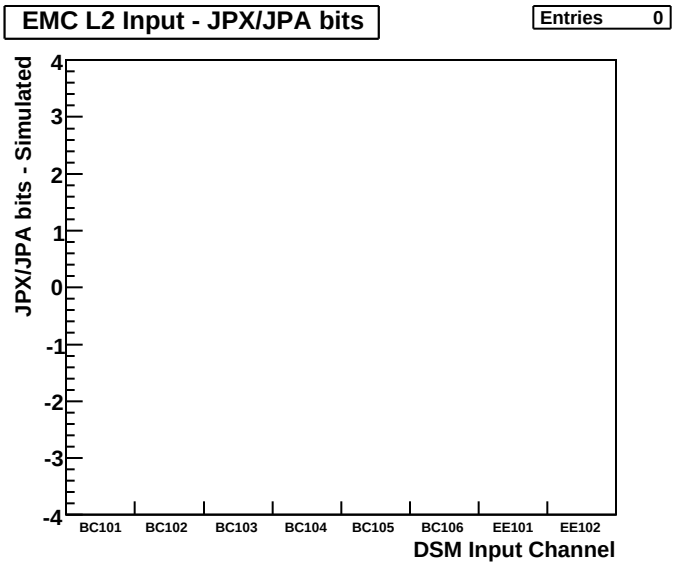

Endcap EMC L1 Input - High Eta Sum
Entries 36000
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

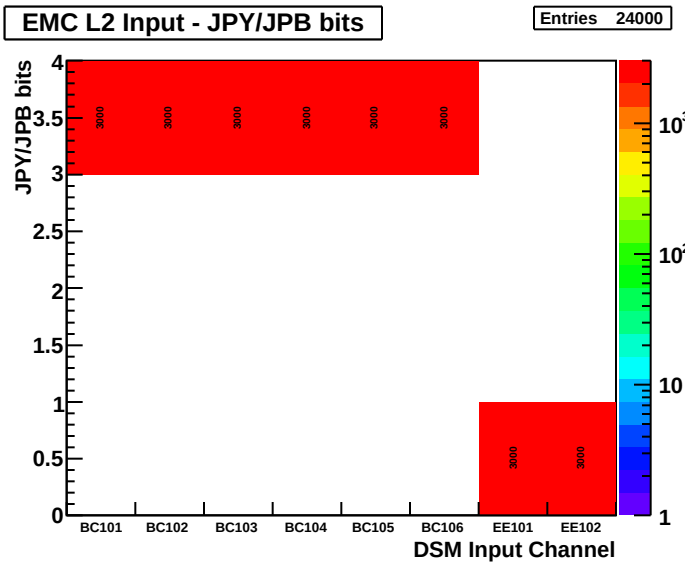

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

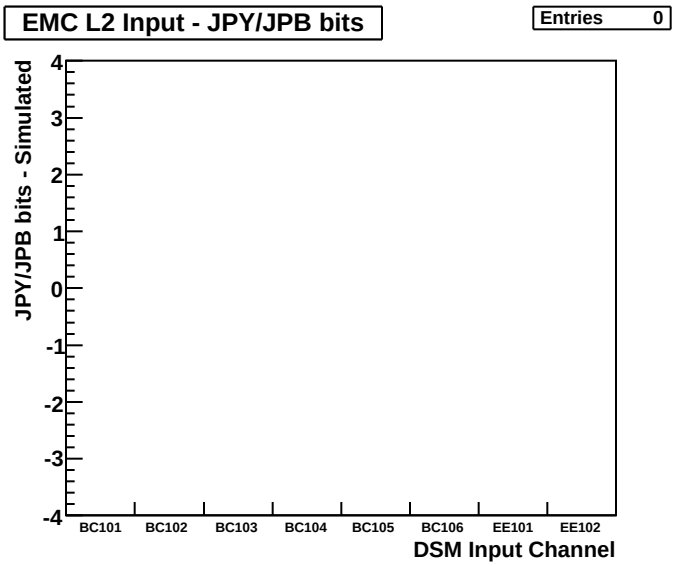

Endcap EMC L1 Input - High Tower Bits
Entries 36000
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

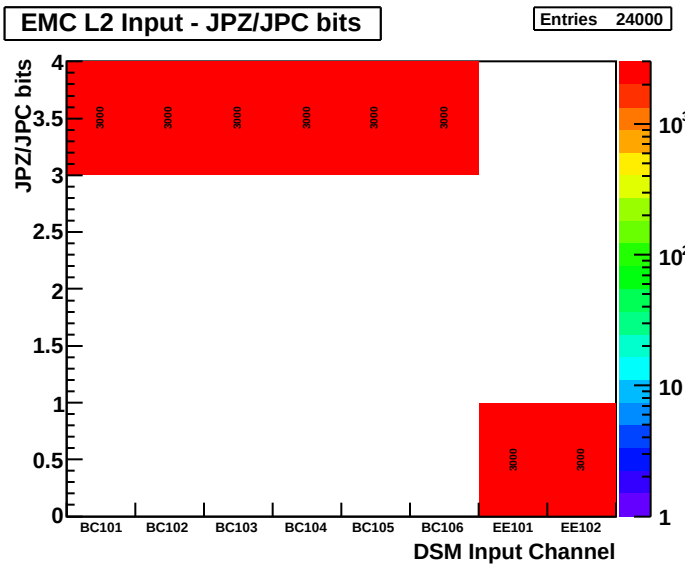

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

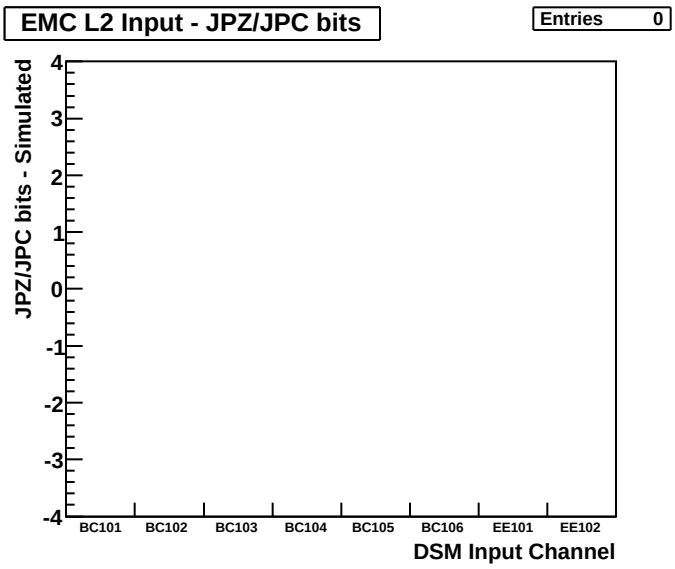

EMC L2 Input - JPX/JPA bits
Entries 24000
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

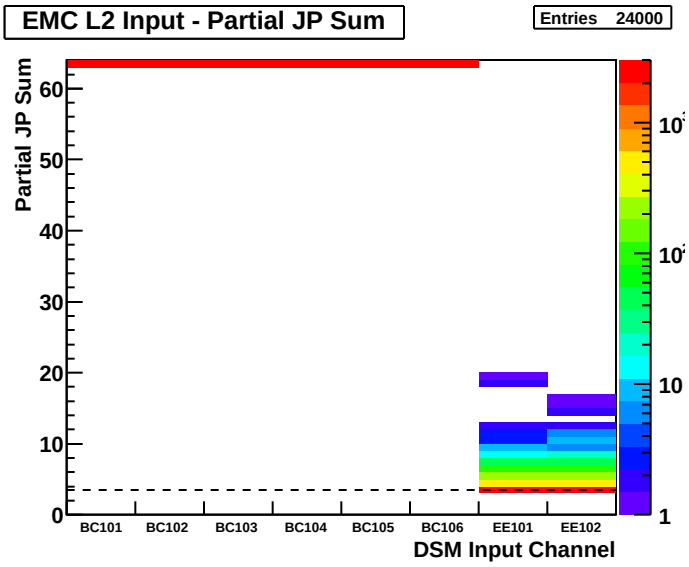

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

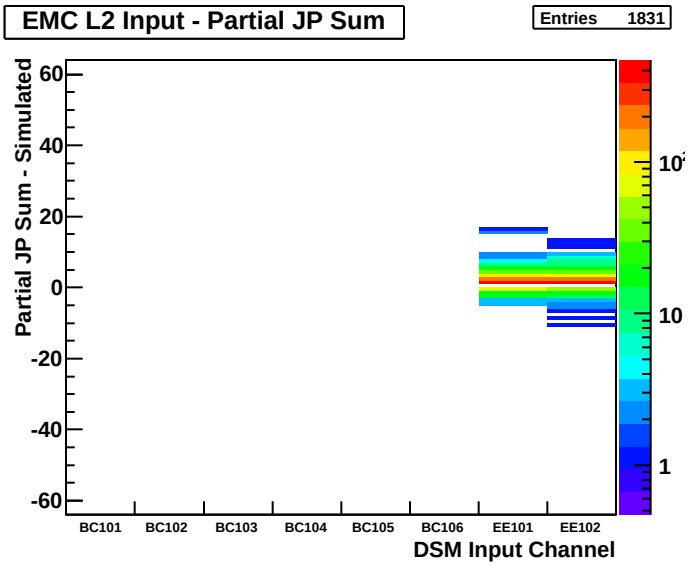

EMC L2 Input - JPY/JPB bits
Entries 24000
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

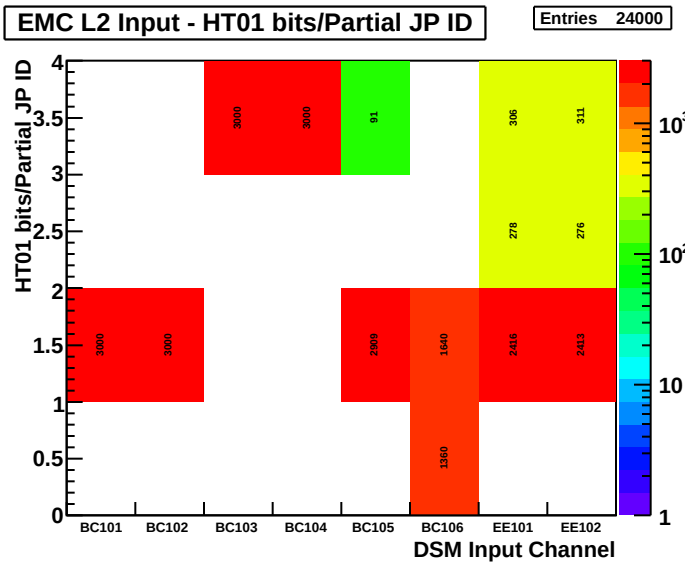

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

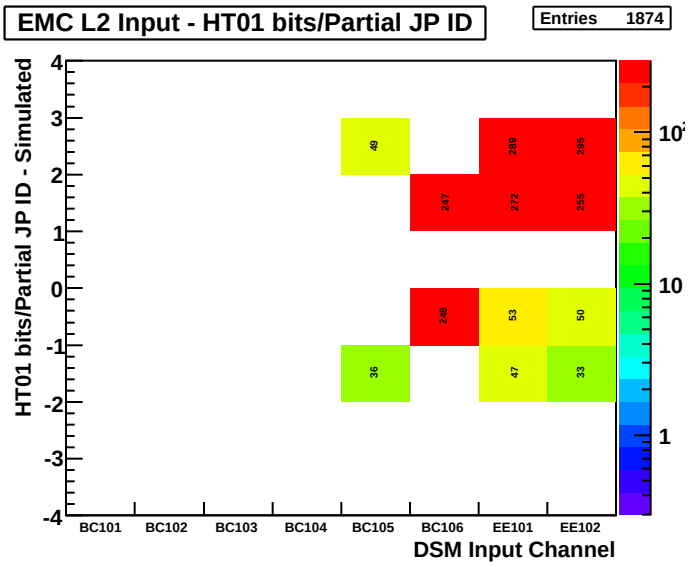

EMC L2 Input - JPZ/JPC bits
Entries 24000
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

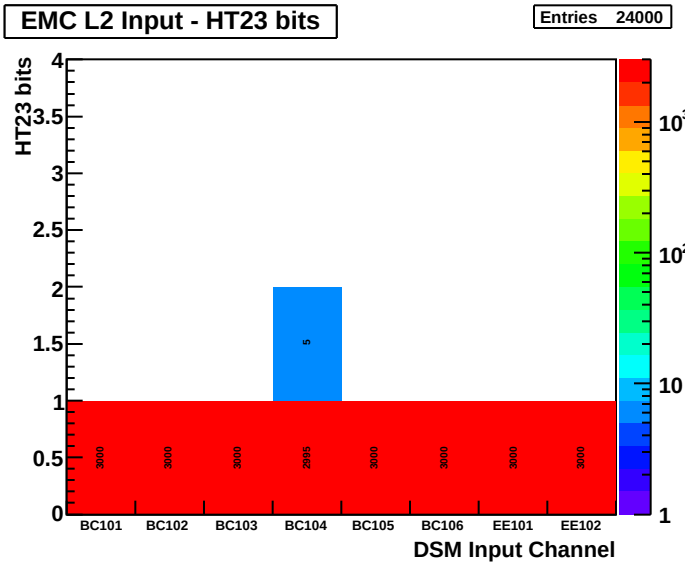

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

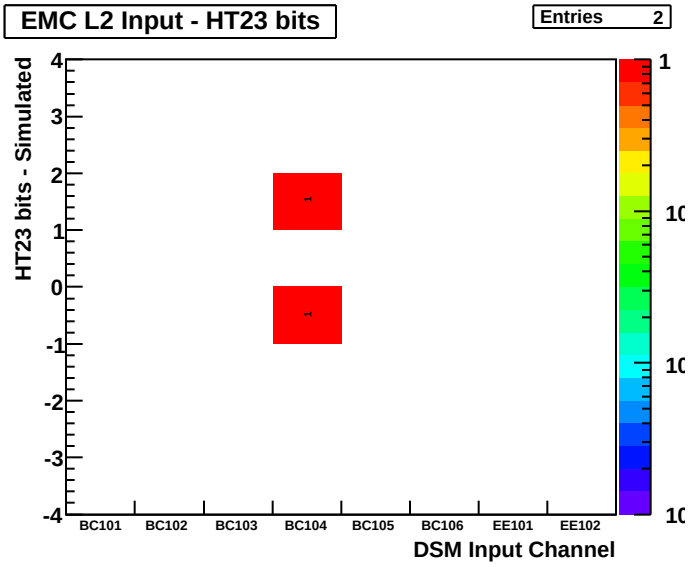

EMC L2 Input - Partial JP Sum
Entries 24000
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

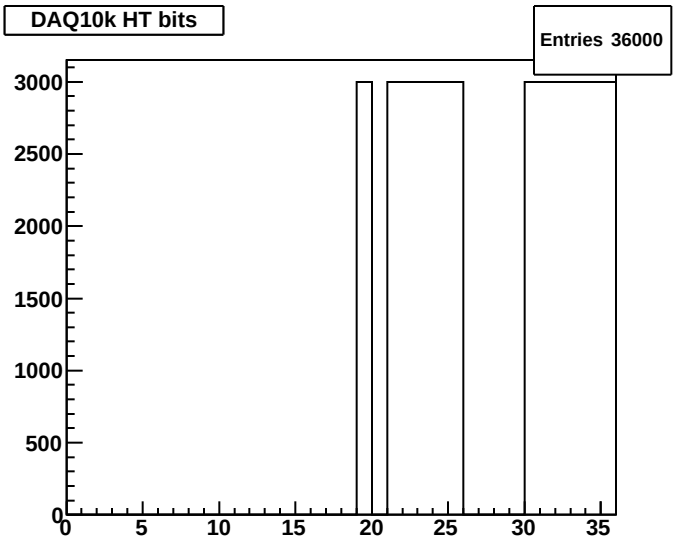

EMC L2 Input - Partial JP Sum
Entries 1831
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

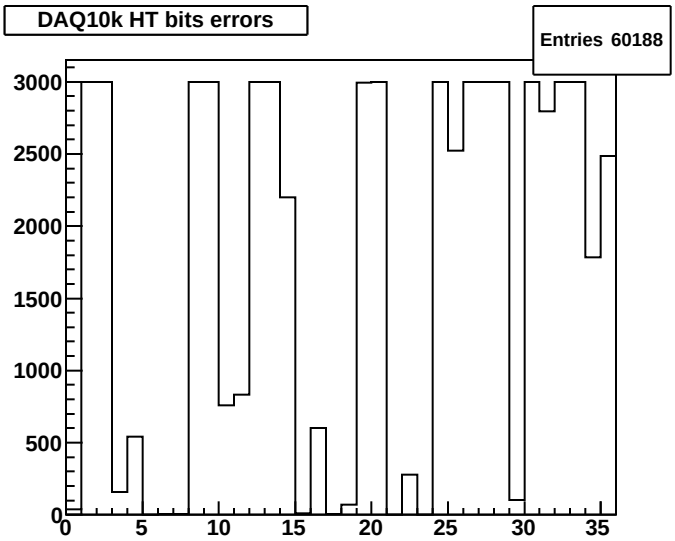

EMC L2 Input - HT01 bits/Partial JP ID
Entries 24000
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

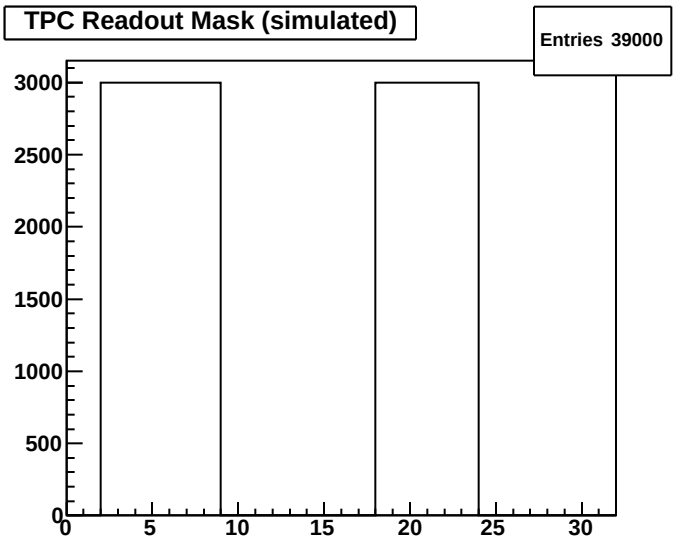

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1874
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

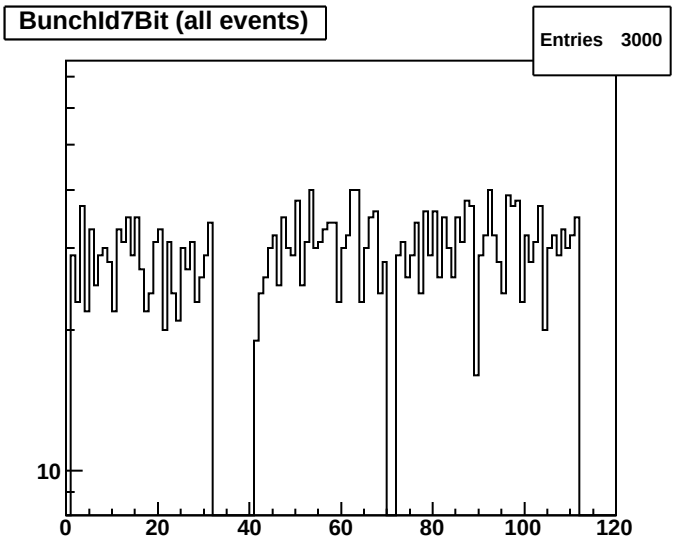

EMC L2 Input - HT23 bits
Entries 24000
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

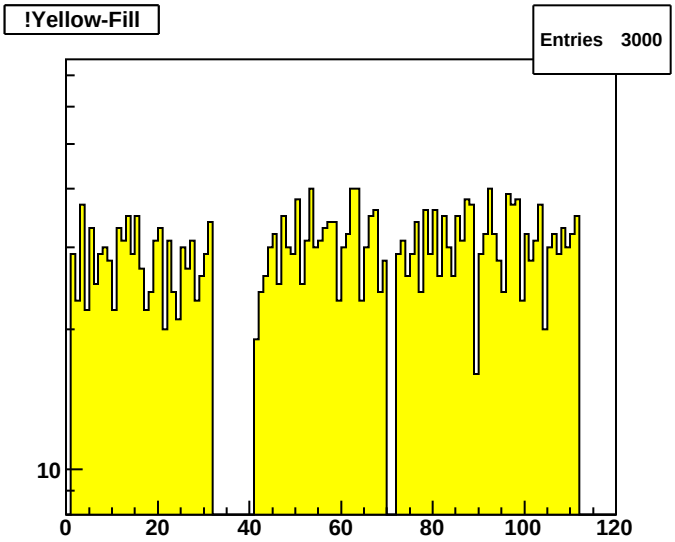

EMC L2 Input - HT23 bits
Entries 2
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

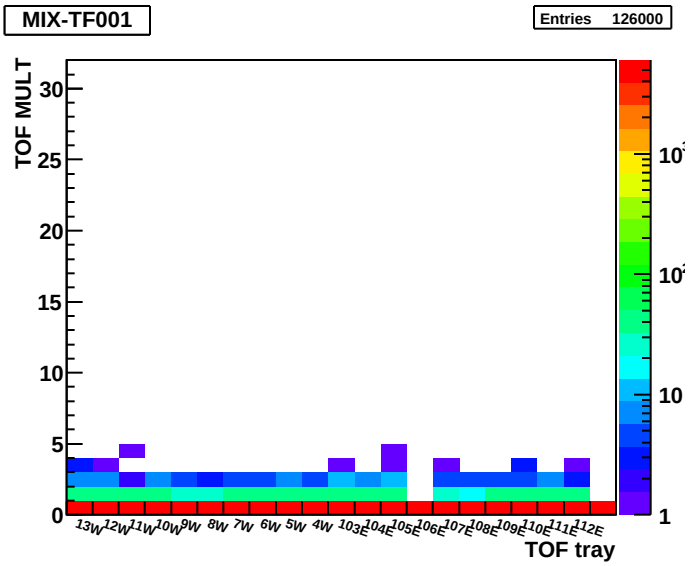

DAQ10k HT bits
Entries 36000
3000
2500
2000
1500
1000
500
0
0 5 10 15 20 25 30 35

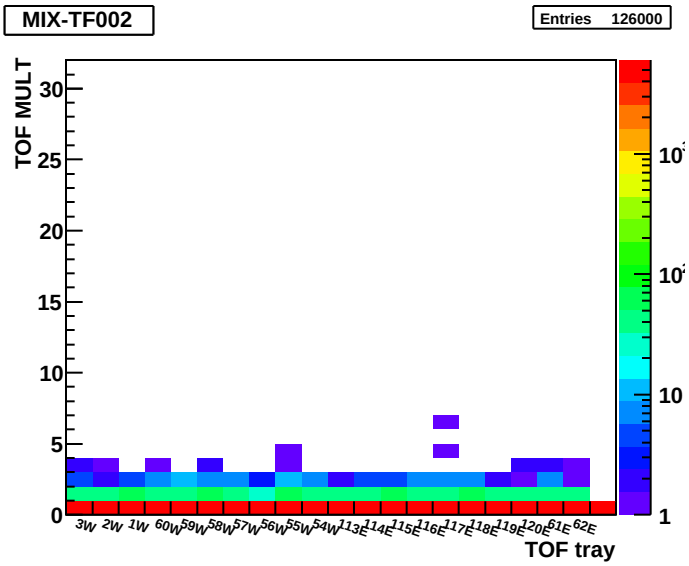

DAQ10k HT bits errors
Entries 60188
3000
2500
2000
1500
1000
500
0
0 5 10 15 20 25 30 35

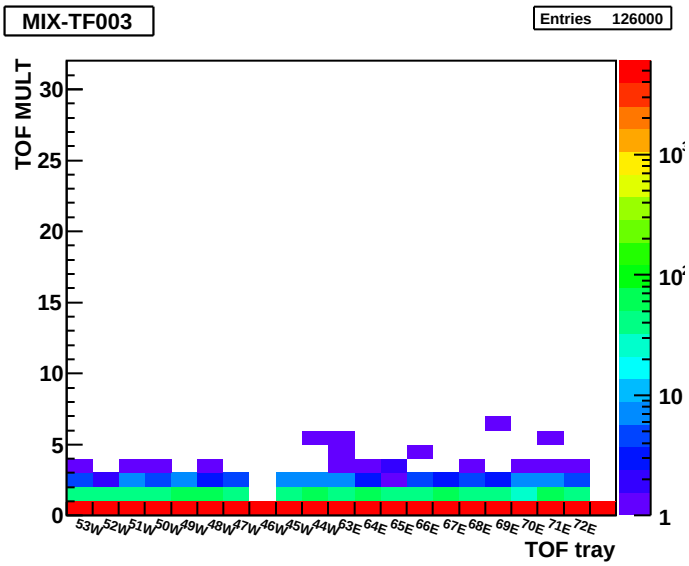

TPC Readout Mask (simulated)
Entries 39000
3000
2500
2000
1500
1000
500
0
0 5 10 15 20 25 30

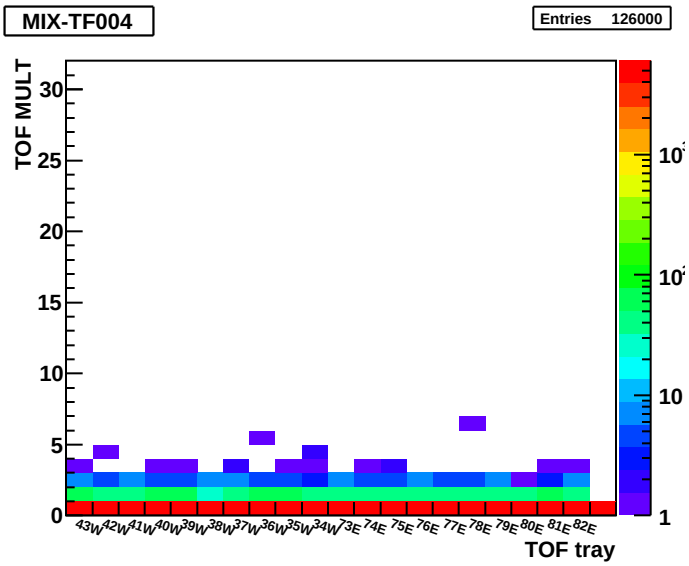

BunchId7Bit (all events)
Entries 3000
10
0 20 40 60 80 100 120

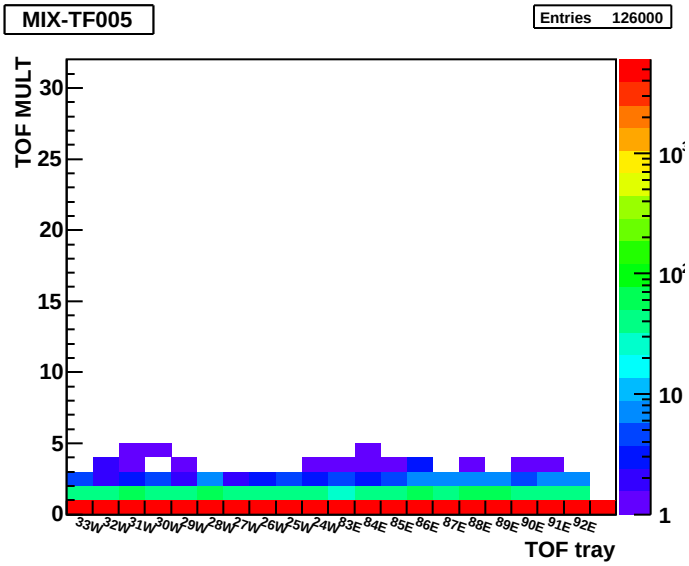

!Yellow-Fill
Entries 3000
10
0 20 40 60 80 100 120

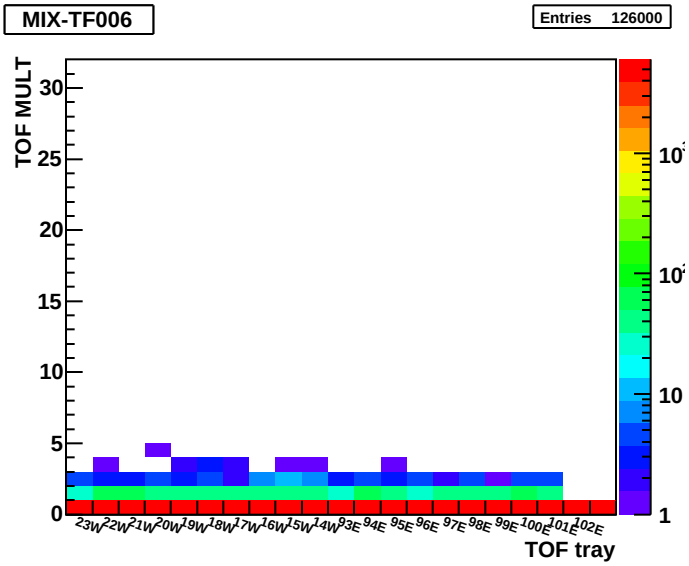

MIX-TF001
Entries 126000
TOF MULT
TOF tray

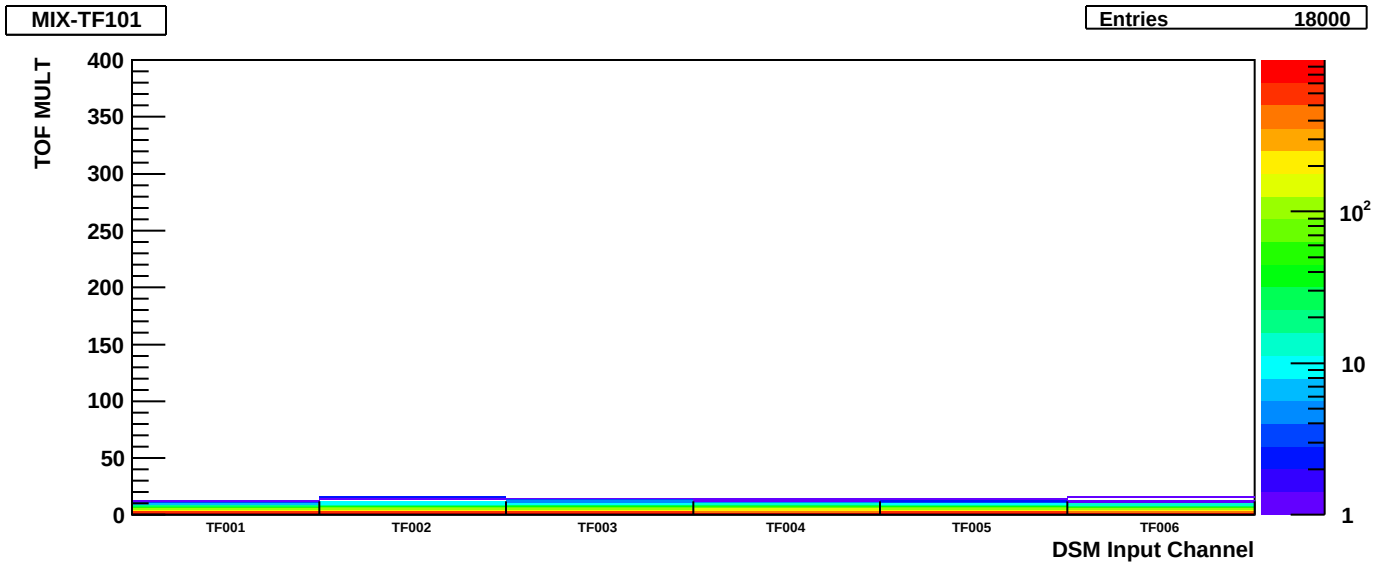

MIX-TF002
Entries 126000
TOF MULT
TOF tray

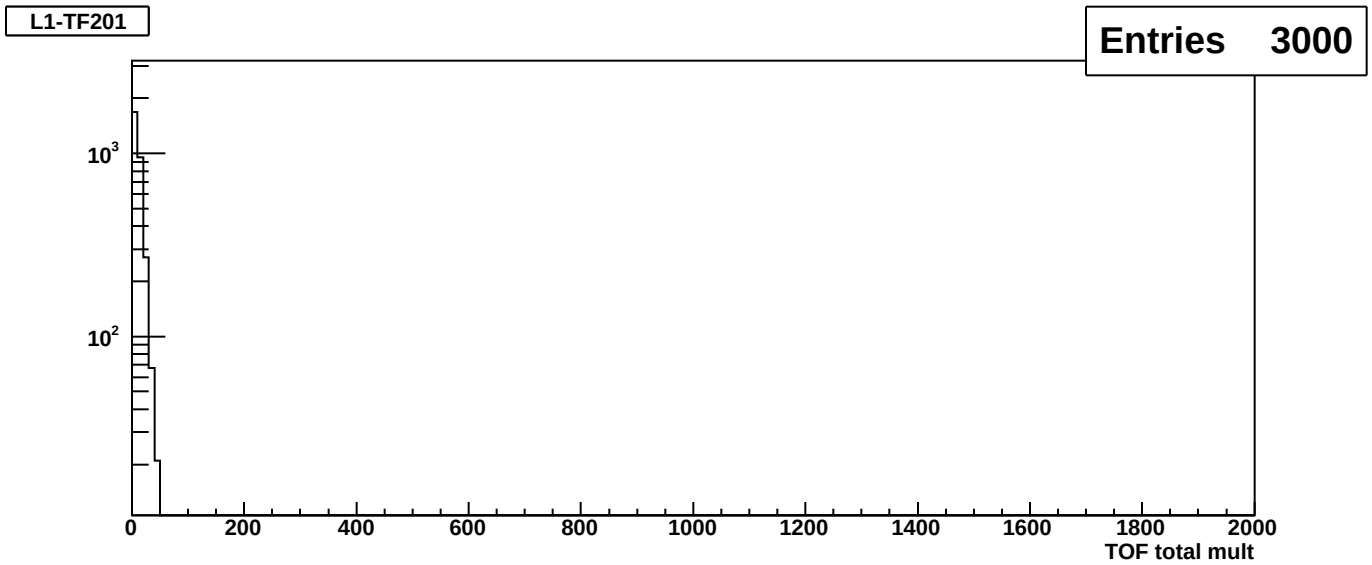

MIX-TF003
Entries 126000
TOF MULT
TOF tray

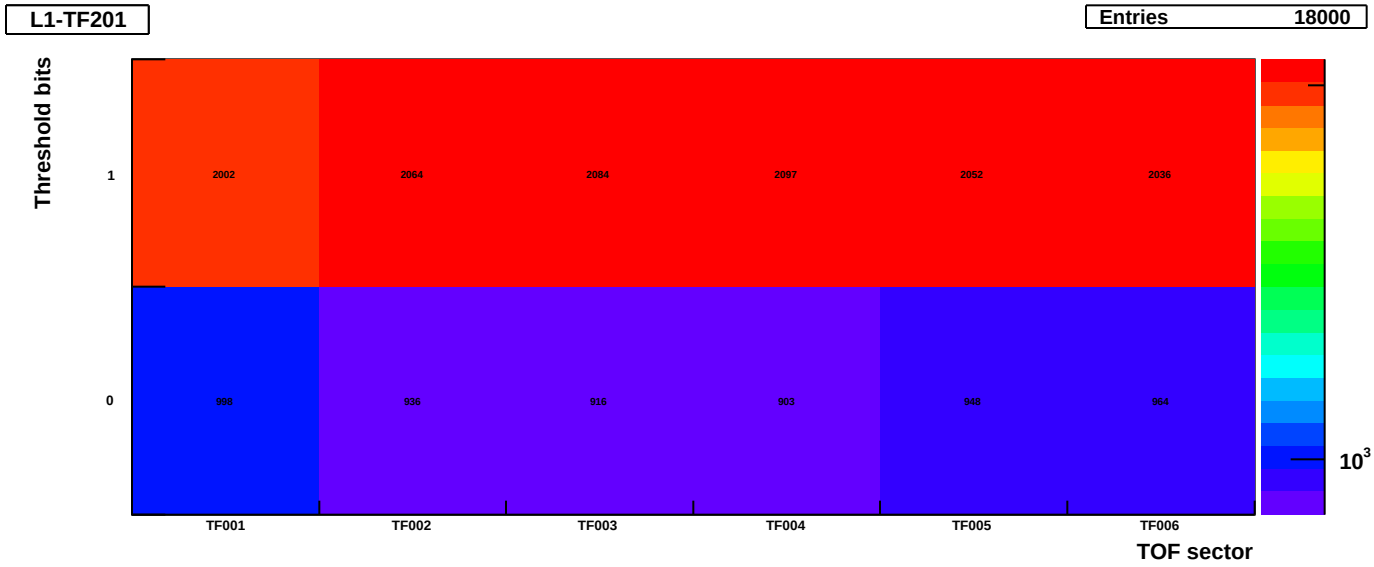

MIX-TF004
Entries 126000
TOF MULT
TOF tray

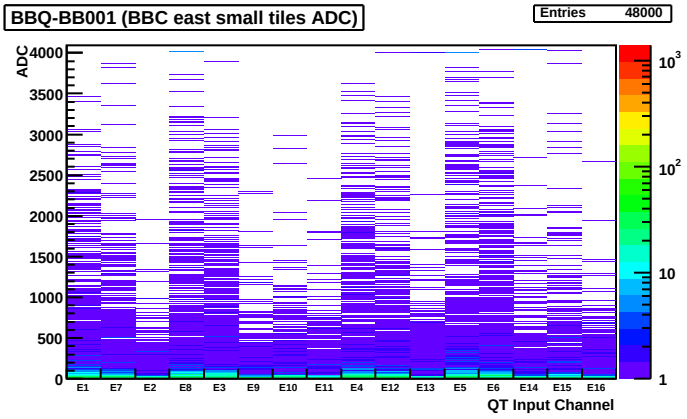

MIX-TF005
Entries 126000
TOF MULT
TOF tray

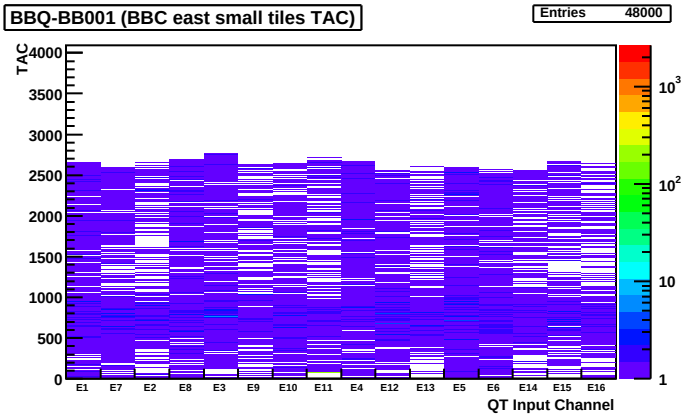

MIX-TF006
Entries 126000
TOF MULT
TOF tray

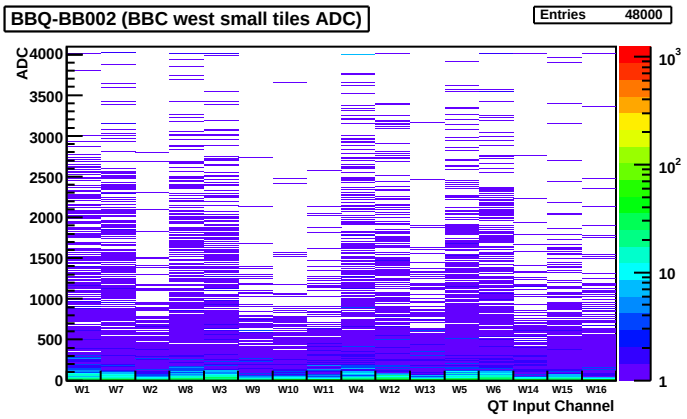

MIX-TF101
Entries 18000
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^2
10
1

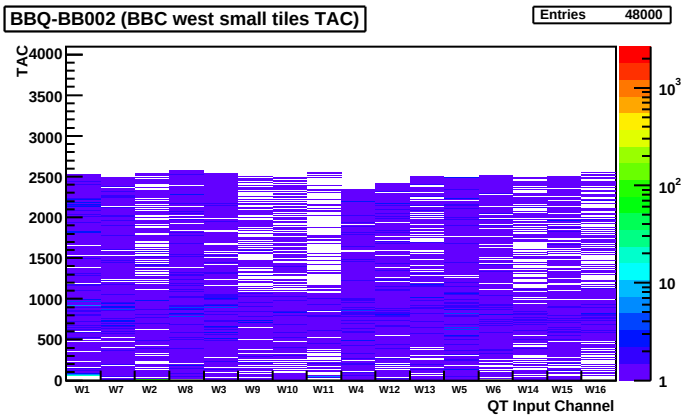

L1-TF201
Entries 3000
10^3
10^2
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

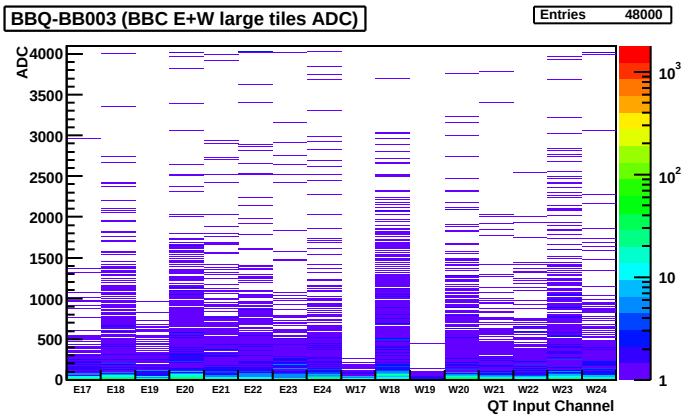

L1-TF201
Entries 18000
Threshold bits
1
0
2002
2064
2084
2097
2052
2036
998
936
916
903
948
964
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^3

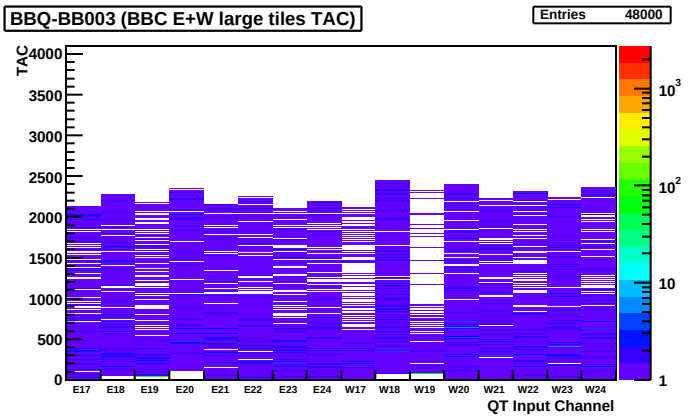

BBQ-BB001 (BBC east small tiles ADC)
Entries 48000
ADC
QT Input Channel

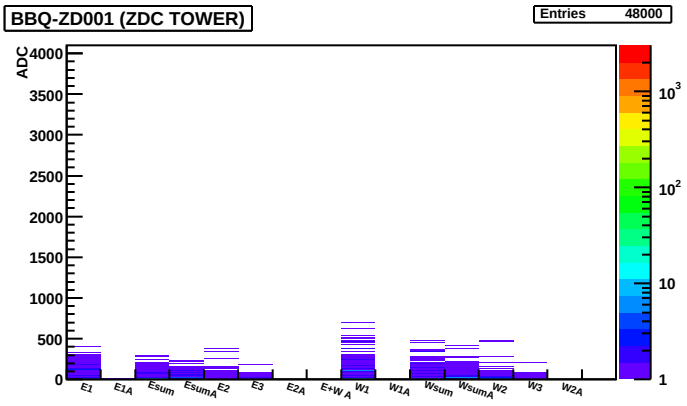

BBQ-BB001 (BBC east small tiles TAC)
Entries 48000
TAC
QT Input Channel

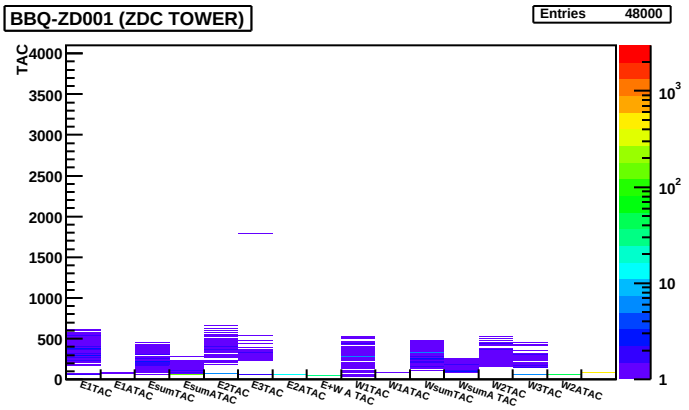

BBQ-BB002 (BBC west small tiles ADC)
Entries 48000
ADC
QT Input Channel

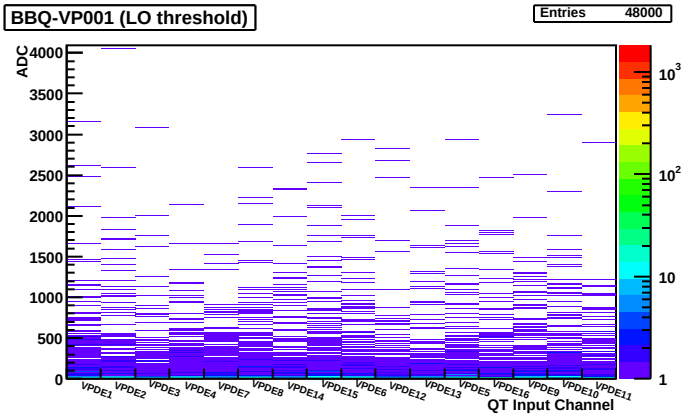

BBQ-BB002 (BBC west small tiles TAC)
Entries 48000
TAC
QT Input Channel

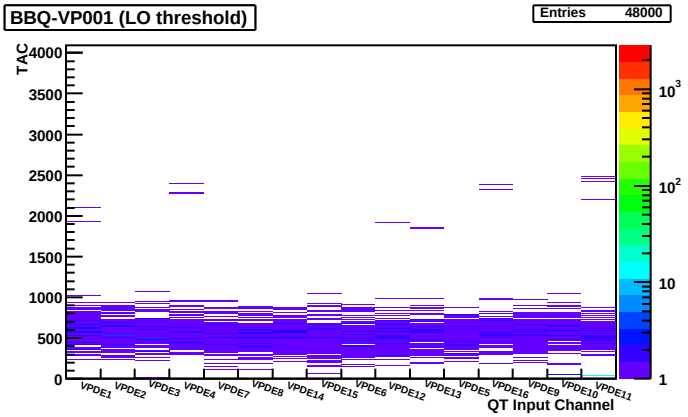

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 48000
ADC
QT Input Channel

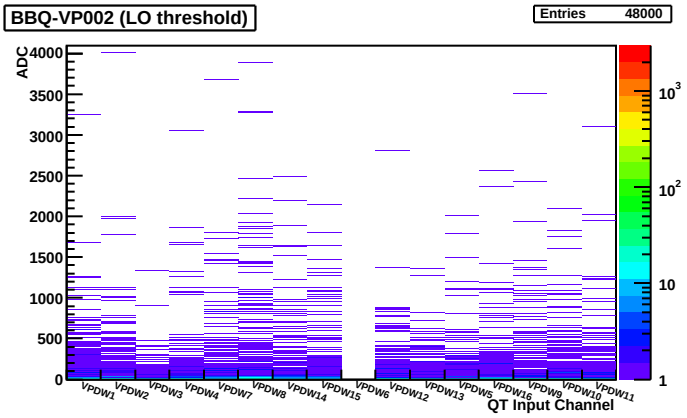

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 48000
TAC
QT Input Channel

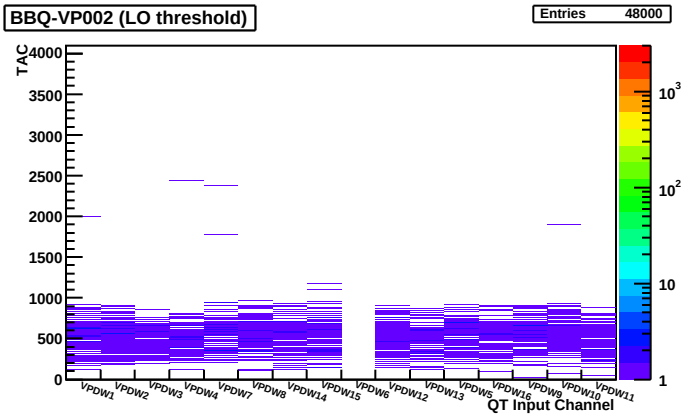

BBQ-ZD001 (ZDC TOWER)
Entries 48000
ADC

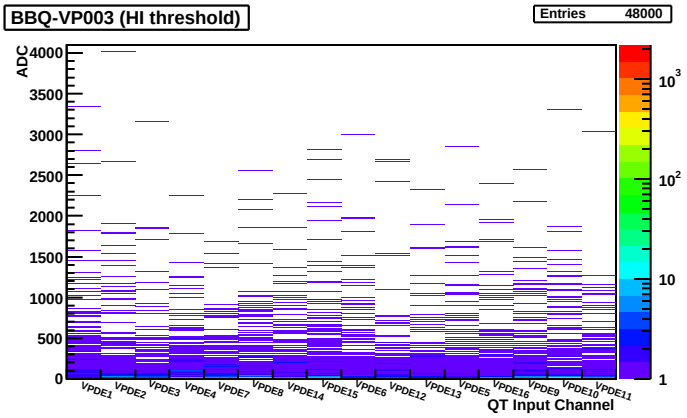

BBQ-ZD001 (ZDC TOWER)
Entries 48000
TAC

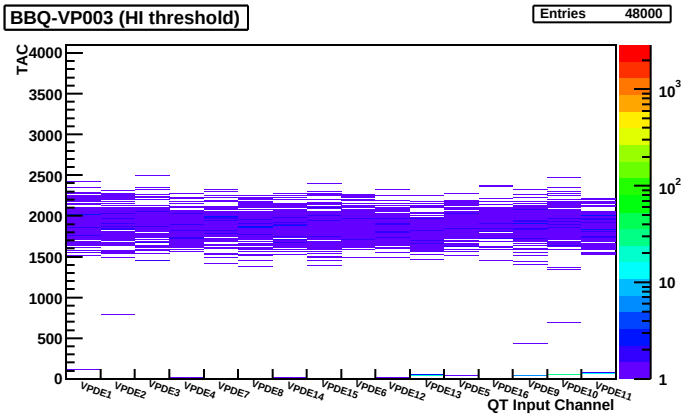

BBQ-VP001 (LO threshold)
Entries 48000
ADC
QT Input Channel

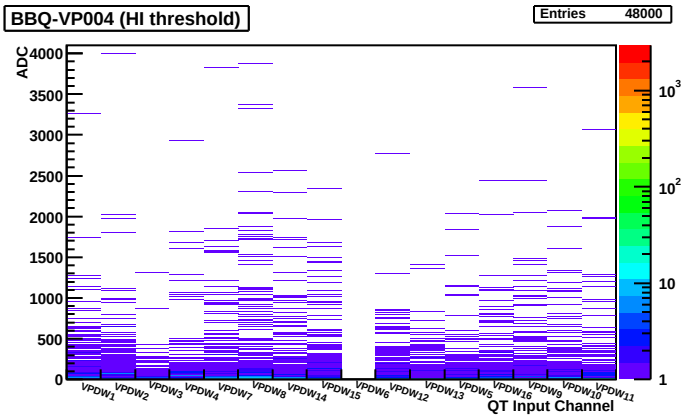

BBQ-VP001 (LO threshold)
Entries 48000
TAC
QT Input Channel

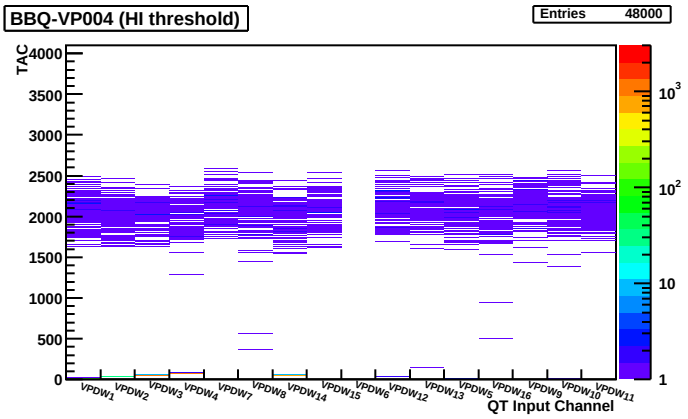

BBQ-VP002 (LO threshold)
Entries 48000
ADC
QT Input Channel

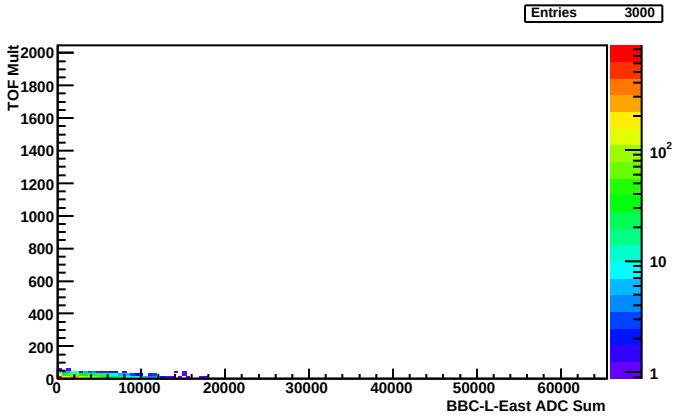

BBQ-VP002 (LO threshold)
Entries 48000
TAC
QT Input Channel

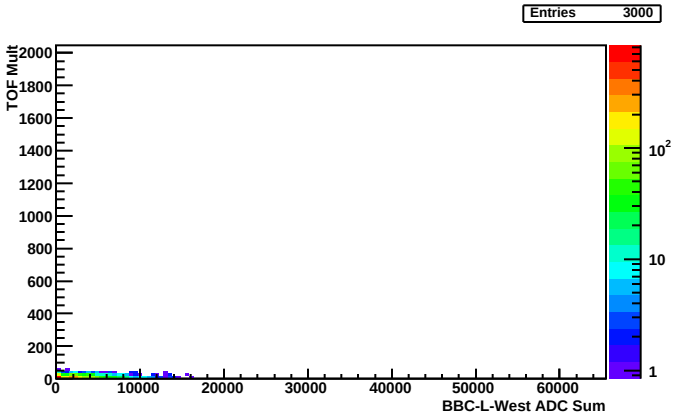

BBQ-VP003 (HI threshold)
Entries 48000
ADC
QT Input Channel

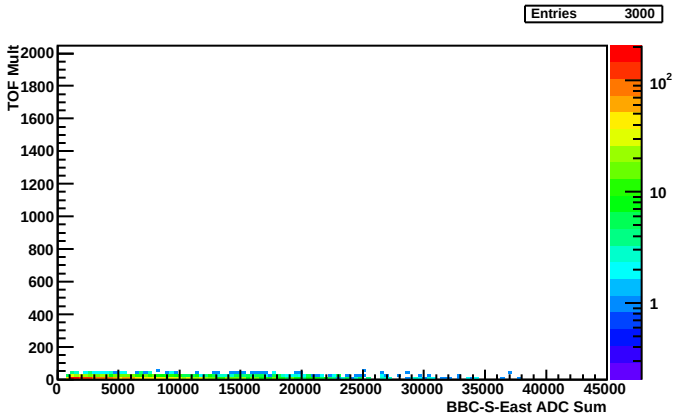

BBQ-VP003 (HI threshold)
Entries 48000
TAC
QT Input Channel

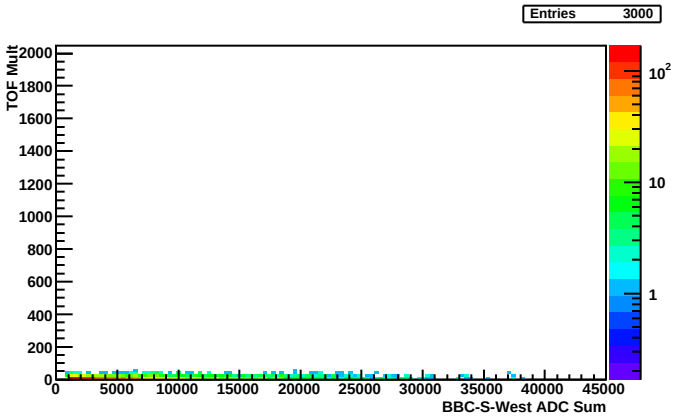

BBQ-VP004 (HI threshold)
Entries 48000
ADC
QT Input Channel

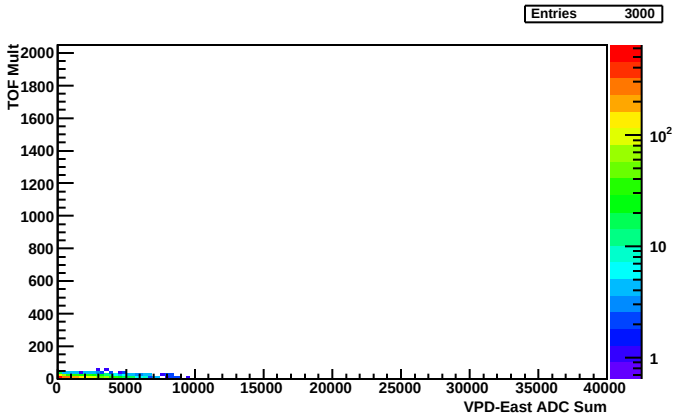

BBQ-VP004 (HI threshold)
Entries 48000
TAC
QT Input Channel

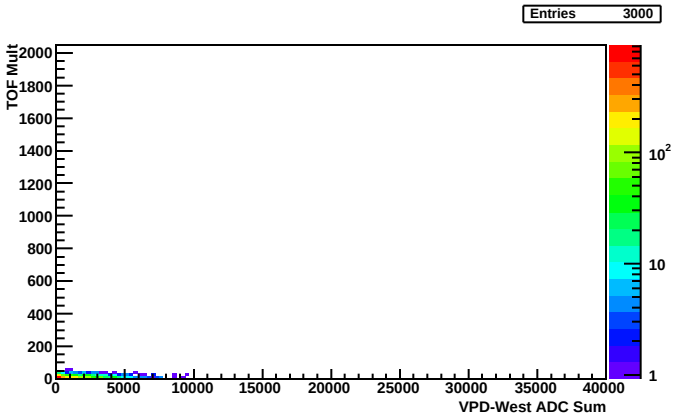

Entries 3000
TOF Mult
BBC-L-East ADC Sum

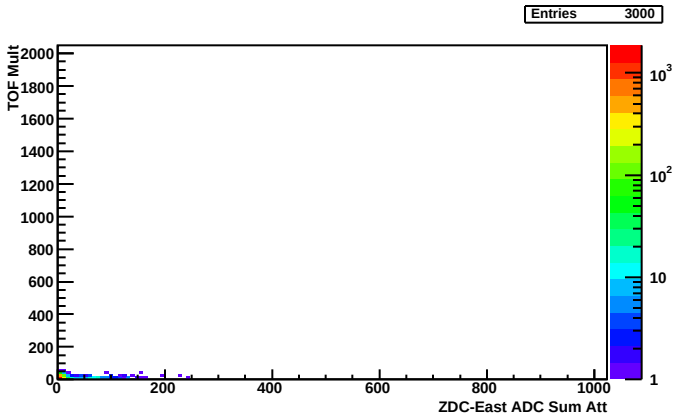

Entries 3000
TOF Mult
BBC-L-West ADC Sum

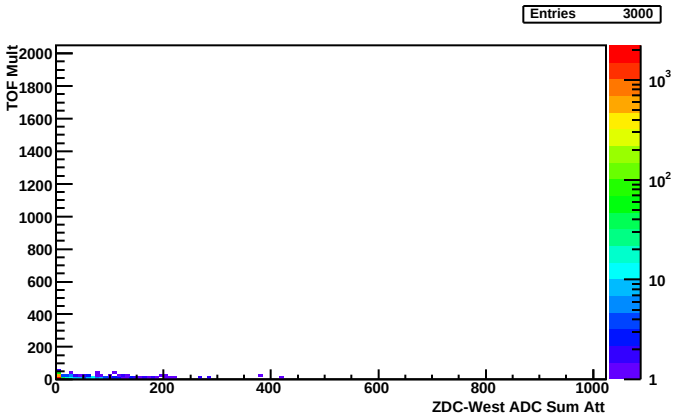

Entries 3000
TOF Mult
BBC-S-East ADC Sum

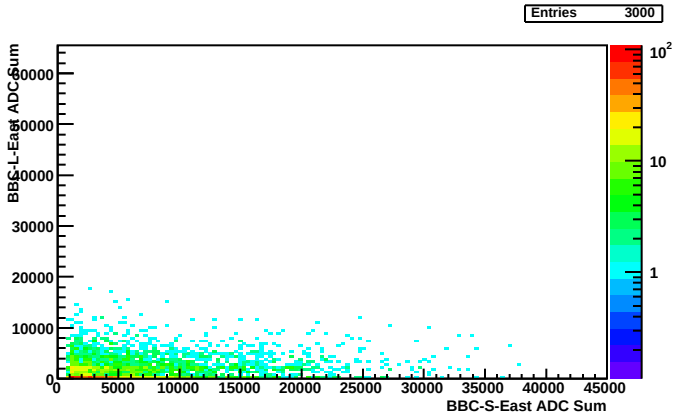

Entries 3000
TOF Mult
BBC-S-West ADC Sum

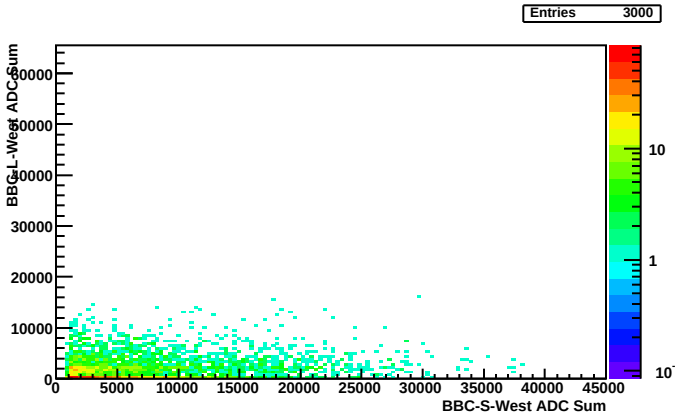

Entries 3000
TOF Mult
VPD-East ADC Sum

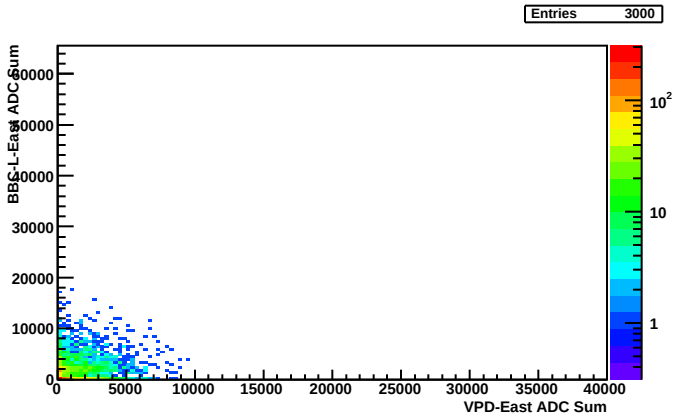

Entries 3000
TOF Mult
VPD-West ADC Sum

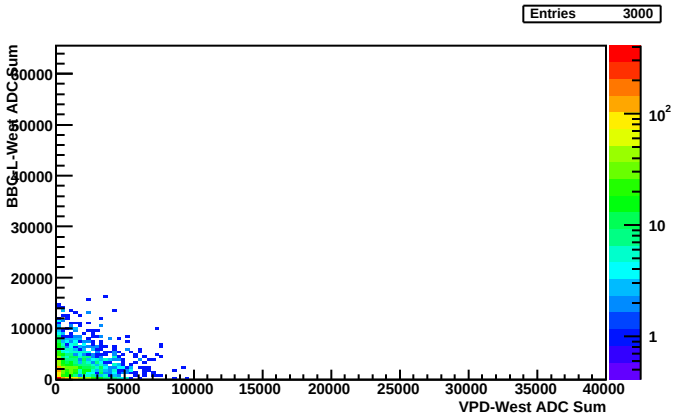

Entries 3000
TOF Mult
ZDC-East ADC Sum Att

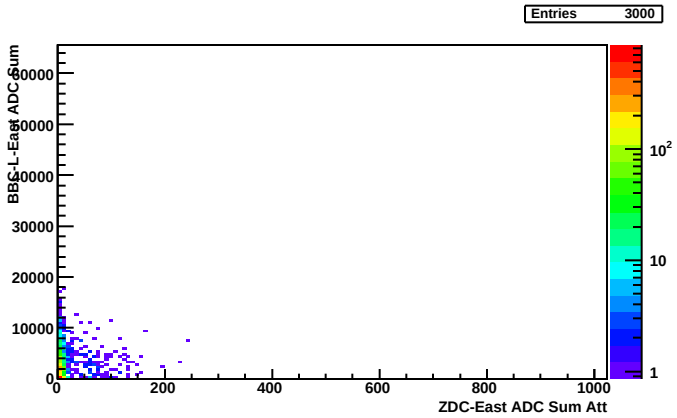

Entries 3000
TOF Mult
ZDC-West ADC Sum Att

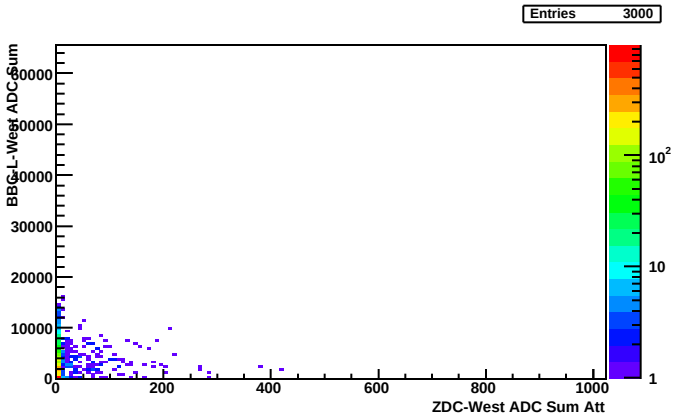

Entries 3000
BBC-L-East ADC Sum
BBC-S-East ADC Sum

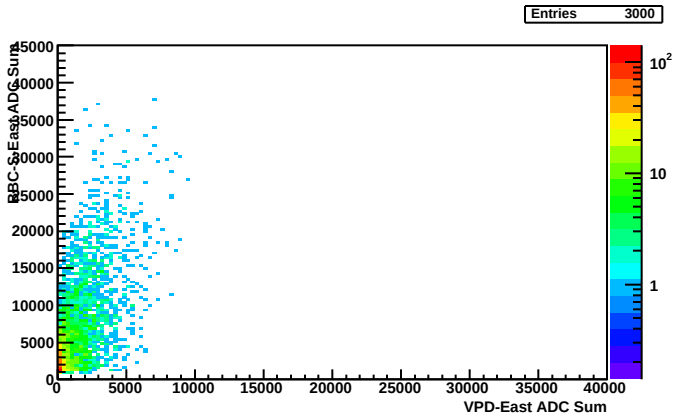

Entries 3000
BBC-L-West ADC Sum
BBC-S-West ADC Sum

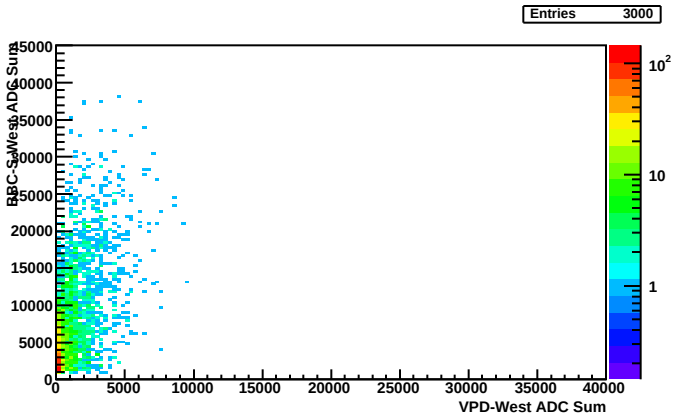

Entries 3000
BBC-L-East ADC Sum
VPD-East ADC Sum

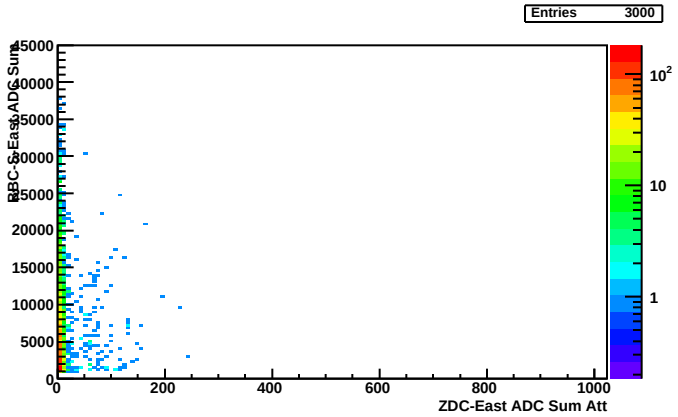

Entries 3000
BBC-L-West ADC Sum
VPD-West ADC Sum

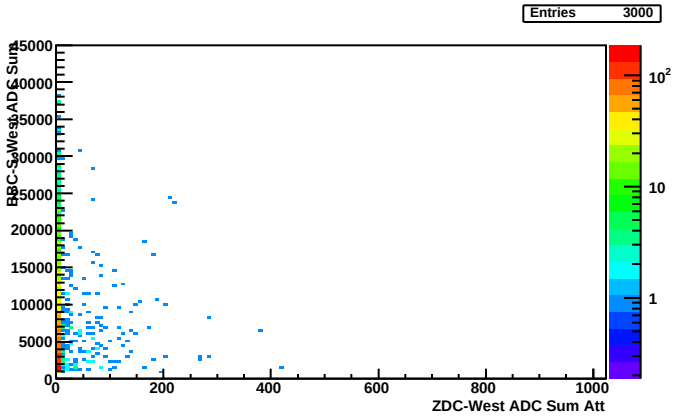

Entries 3000
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

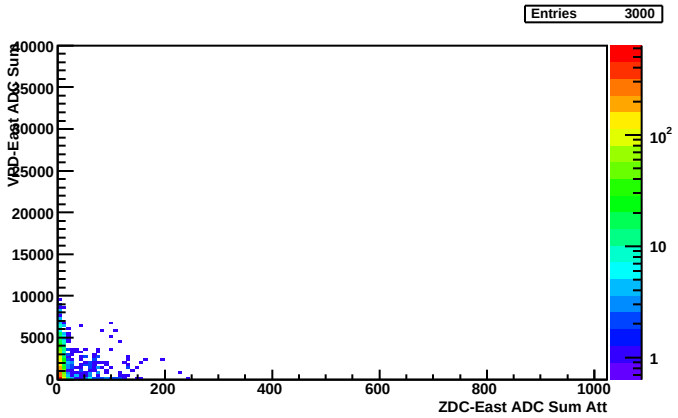

Entries 3000
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

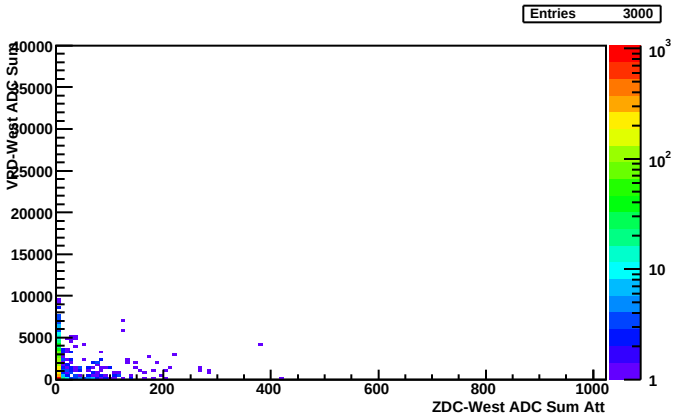

Entries 3000
BBC-S-East ADC Sum
VPD-East ADC Sum

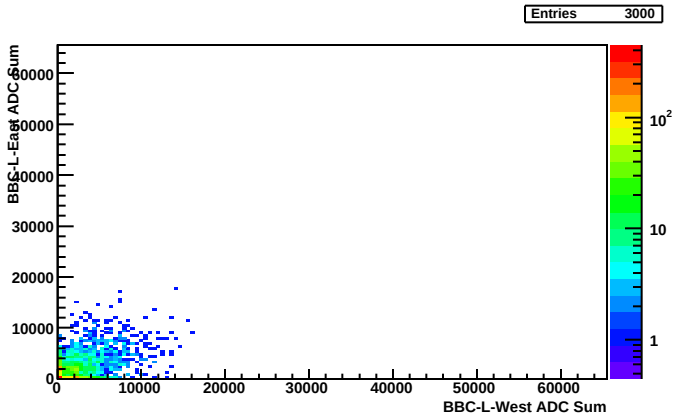

Entries 3000
BBC-S-West ADC Sum
VPD-West ADC Sum

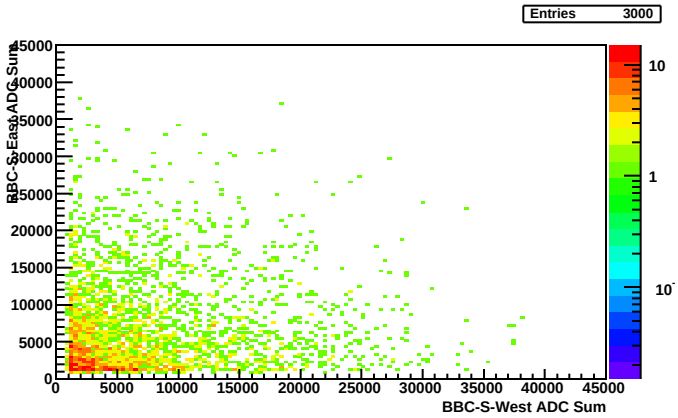

Entries 3000
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

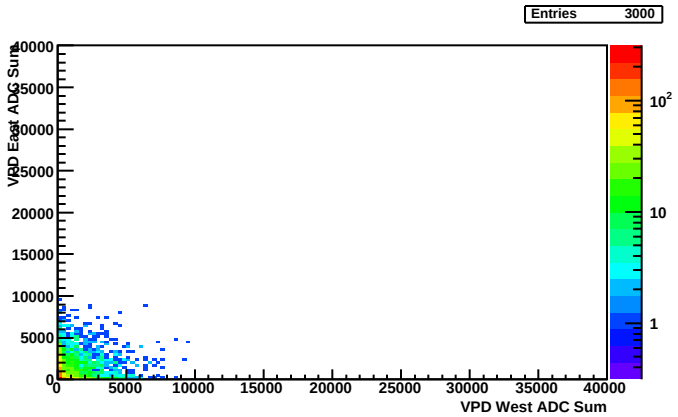

Entries 3000
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

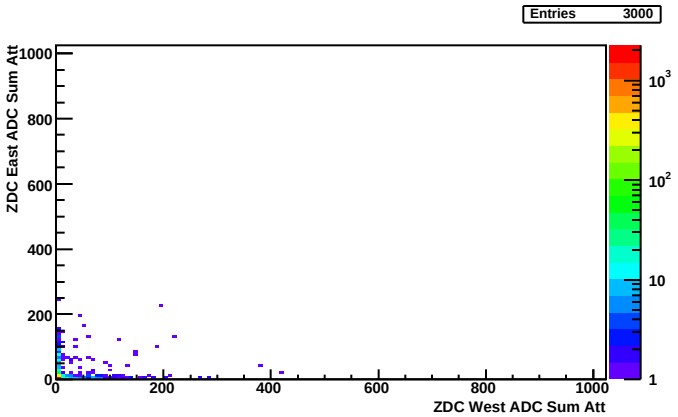

Entries 3000
VPD-East ADC Sum
ZDC-East ADC Sum Att

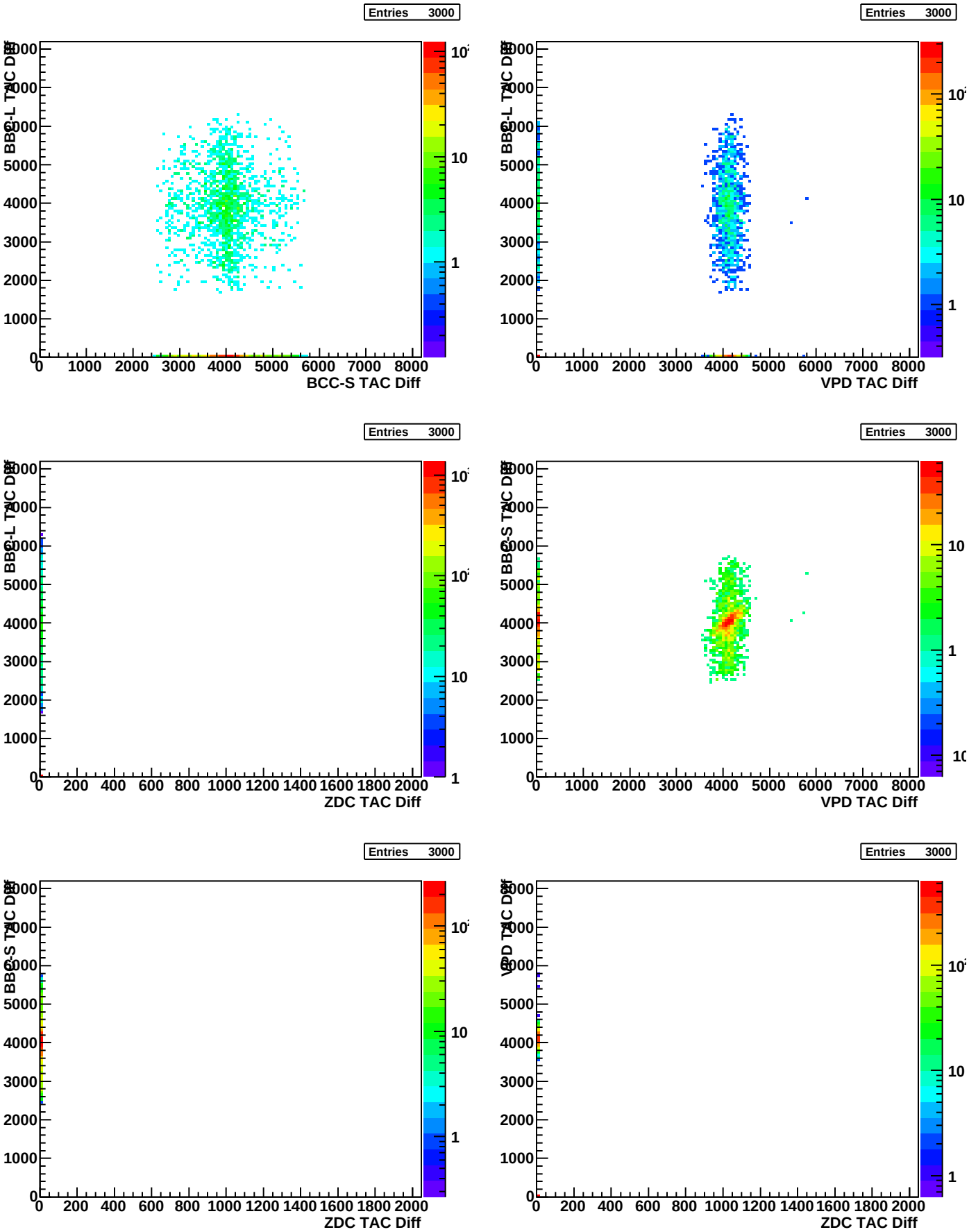

Entries 3000
VPD-West ADC Sum
ZDC-West ADC Sum Att

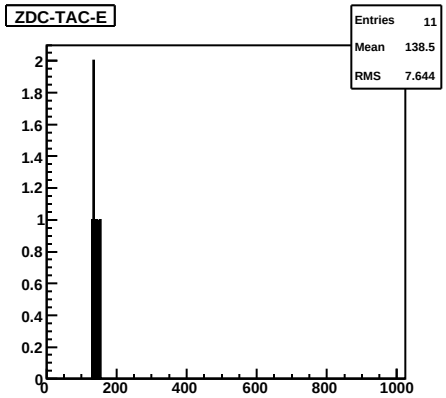

Entries 3000
BBC-L-East ADC Sum
BBC-L-West ADC Sum

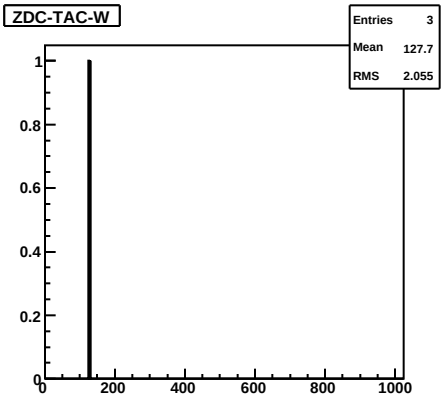

Entries 3000
BBC-S-East ADC Sum
BBC-S-West ADC Sum

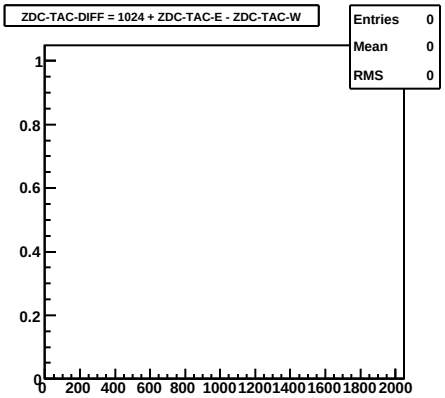

Entries 3000
VPD East ADC Sum
VPD West ADC Sum

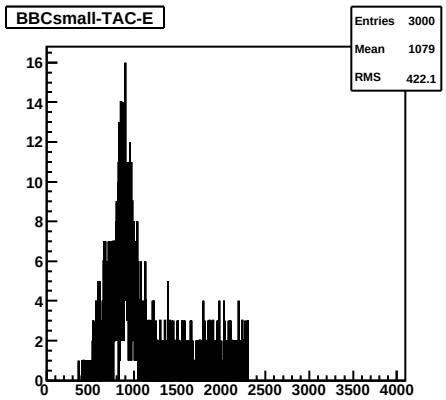

Entries 3000
ZDC East ADC Sum Att
ZDC West ADC Sum Att

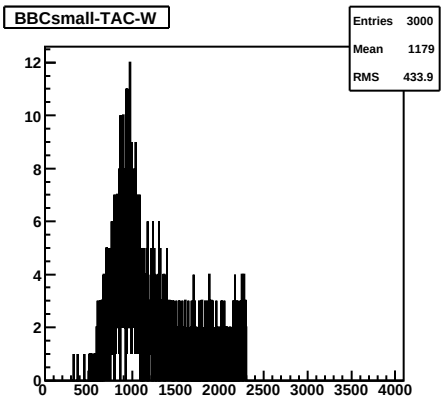

Entries 3000
BBC-L TAC Diff
BCC-S TAC Diff
Entries 3000
BBC-L TAC Diff
VPD TAC Diff
Entries 3000
BBC-L TAC Diff
ZDC TAC Diff
Entries 3000
BBC-S TAC Diff
VPD TAC Diff
Entries 3000
BBC-S TAC Diff
ZDC TAC Diff
Entries 3000
VPD TAC Diff
ZDC TAC Diff

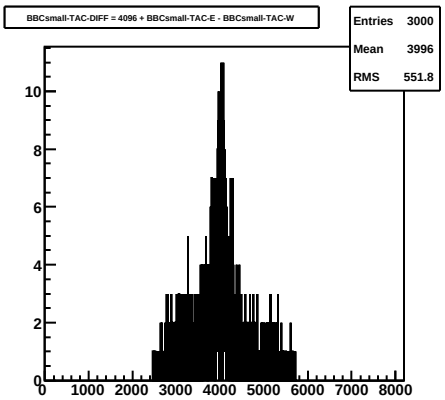

ZDC-TAC-E
Entries 11
Mean 138.5
RMS 7.644

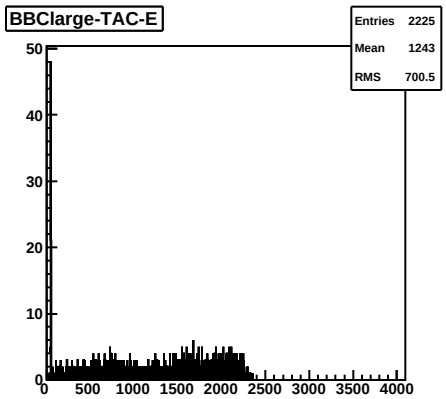

ZDC-TAC-W
Entries 3
Mean 127.7
RMS 2.055

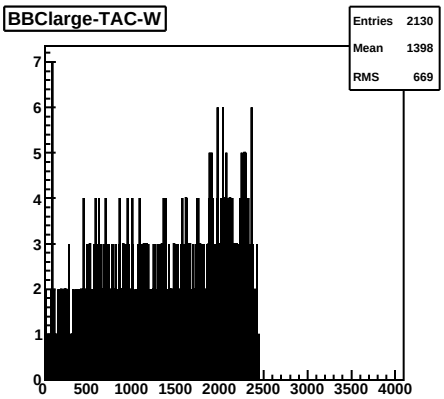

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 0
Mean 0
RMS 0

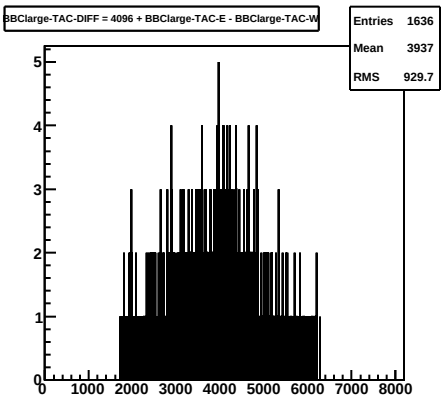

BBCsmall-TAC-E
Entries 3000
Mean 1079
RMS 422.1

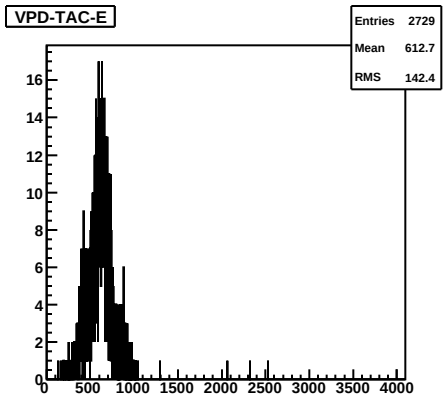

BBCsmall-TAC-W
Entries 3000
Mean 1179
RMS 433.9

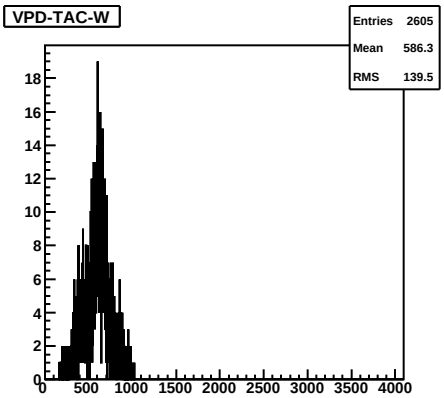

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 3000
Mean 3996
RMS 551.8

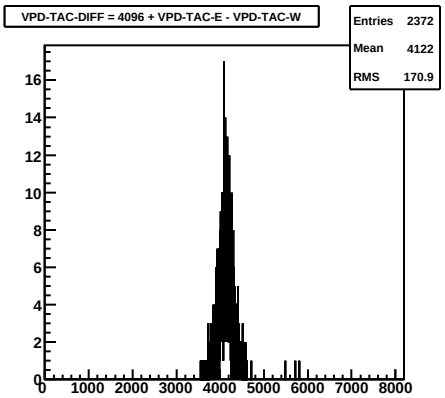

BBClarge-TAC-E
Entries 2225
Mean 1243
RMS 700.5

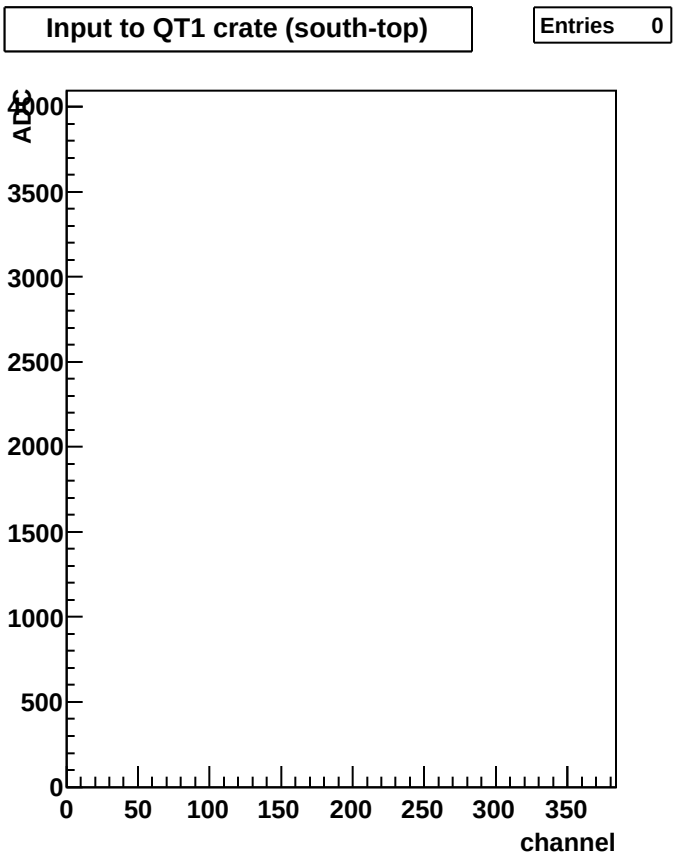

BBClarge-TAC-W
Entries 2130
Mean 1398
RMS 669

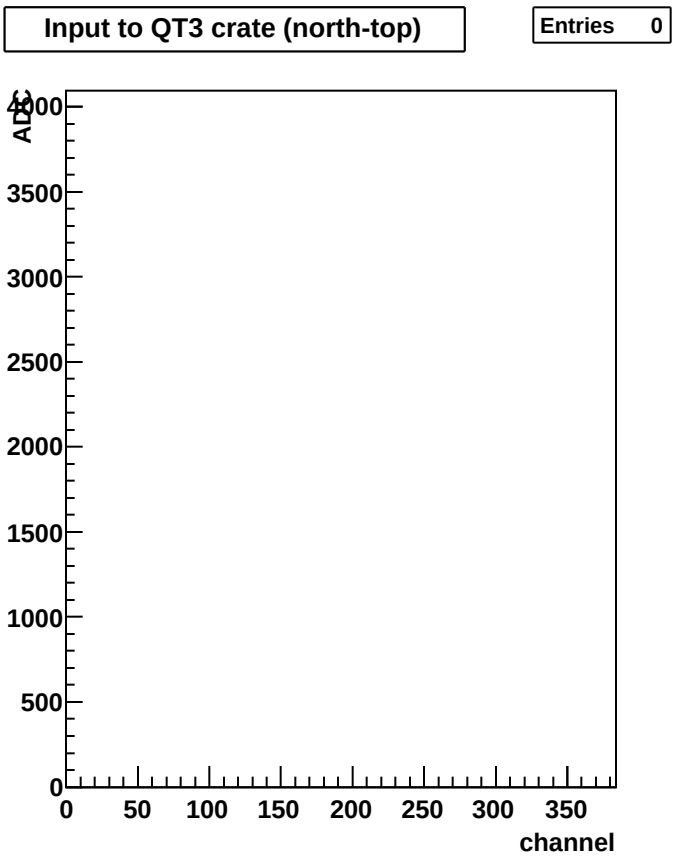

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 1636
Mean 3937
RMS 929.7

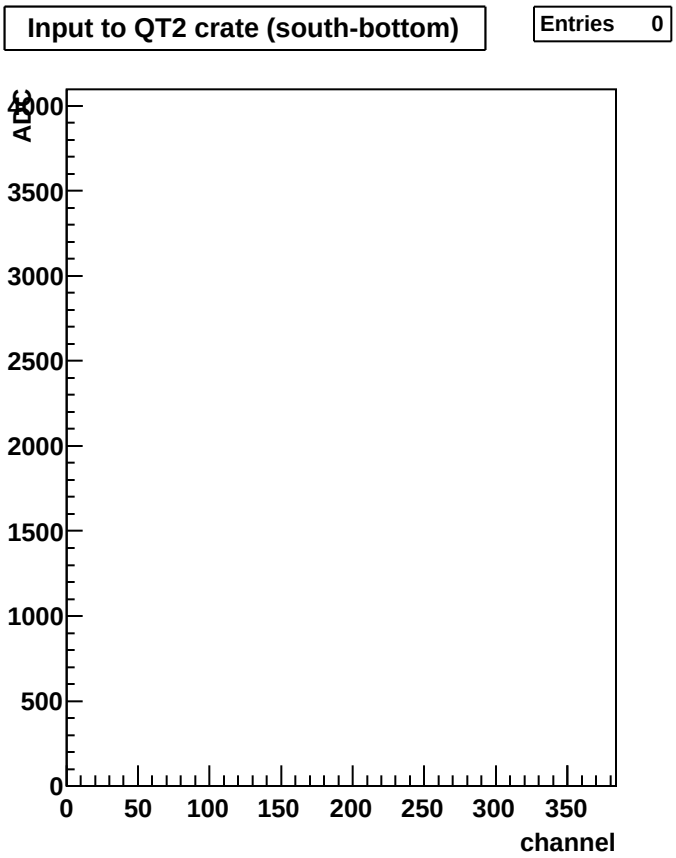

VPD-TAC-E
Entries 2729
Mean 612.7
RMS 142.4

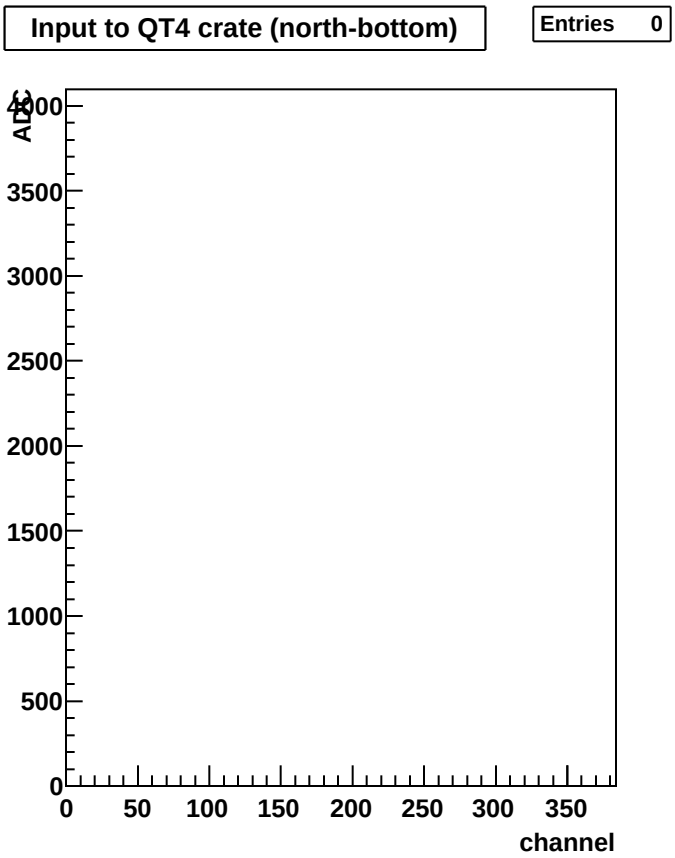

VPD-TAC-W
Entries 2605
Mean 586.3
RMS 139.5

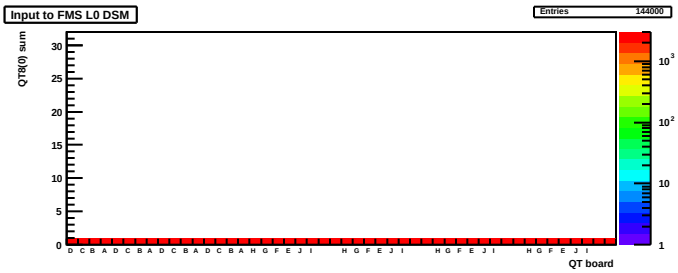

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 2372
Mean 4122
RMS 170.9

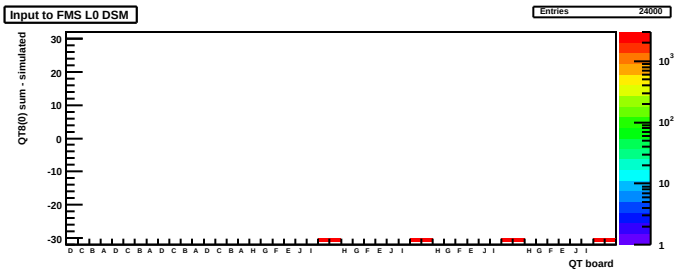

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

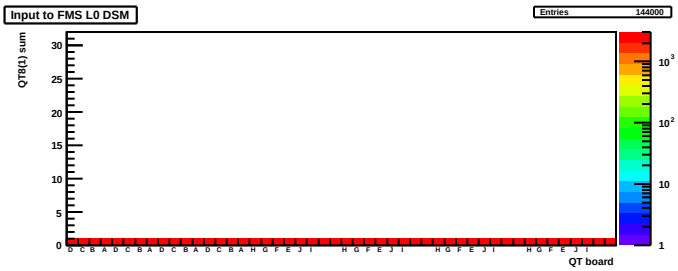

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

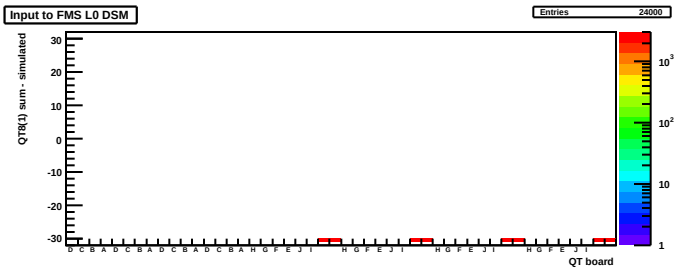

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

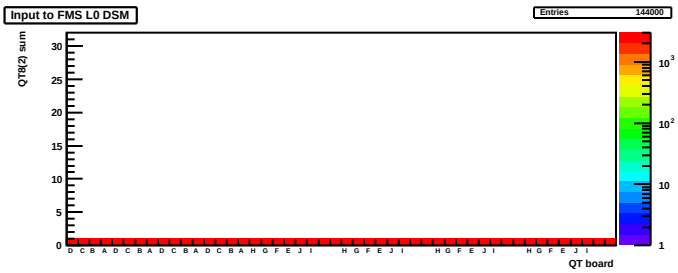

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

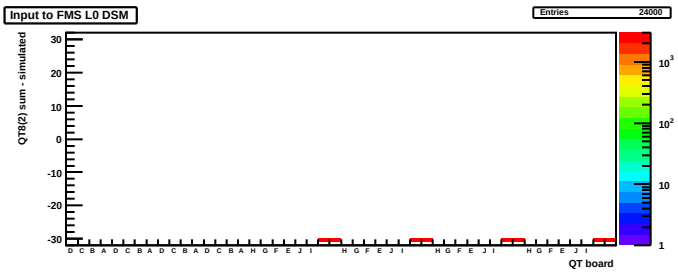

Input to FMS L0 DSM
Entries 144000
QT8(0) sum
QT board

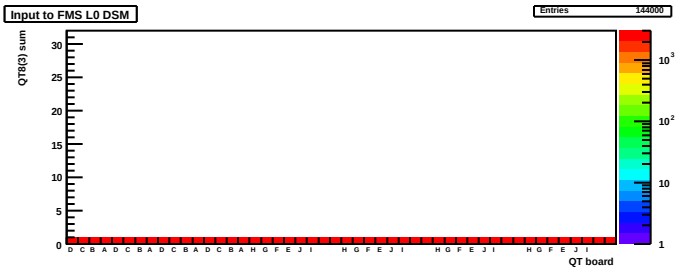

Input to FMS L0 DSM
Entries 24000
QT8(0) sum - simulated
QT board

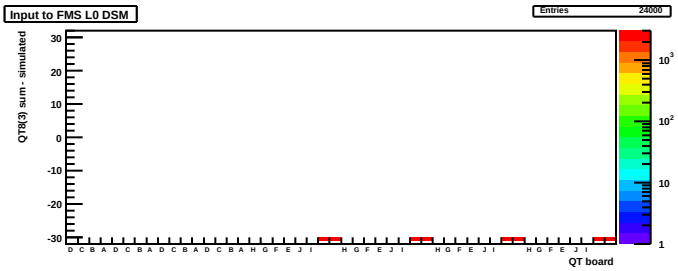

Input to FMS L0 DSM
Entries 144000
QT8(1) sum
QT board

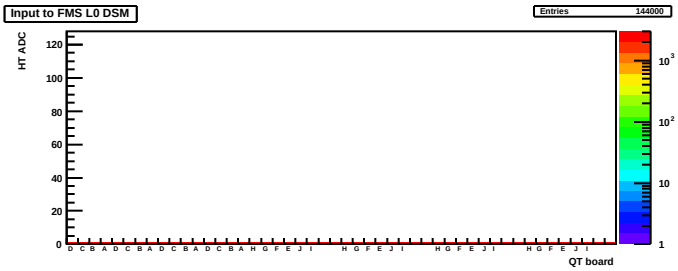

Input to FMS L0 DSM
Entries 24000
QT8(1) sum - simulated
QT board

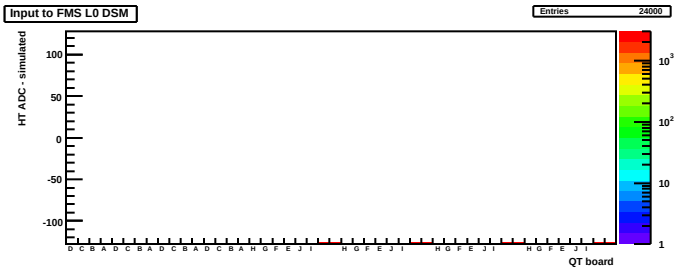

Input to FMS L0 DSM
Entries 144000
QT8(2) sum
QT board

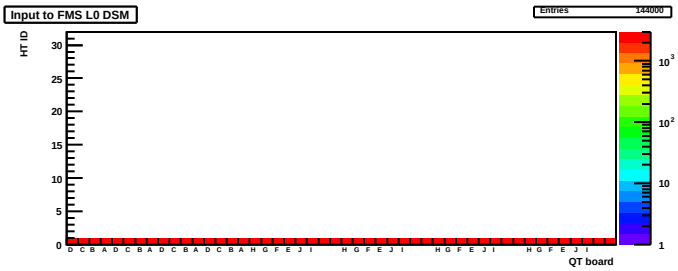

Input to FMS L0 DSM
Entries 24000
QT8(2) sum - simulated
QT board

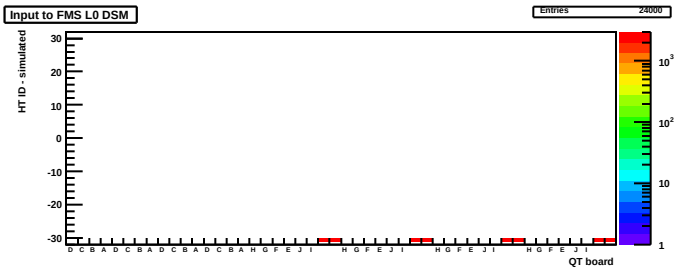

Input to FMS L0 DSM
Entries 144000
QT8(3) sum
QT board

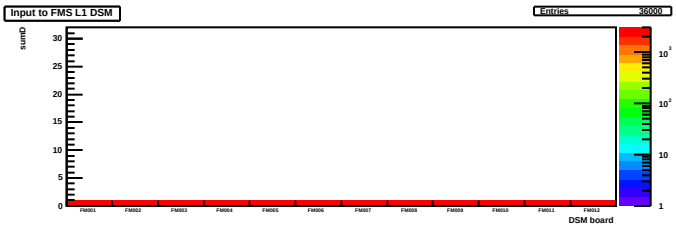

Input to FMS L0 DSM
Entries 24000
QT8(3) sum - simulated
QT board

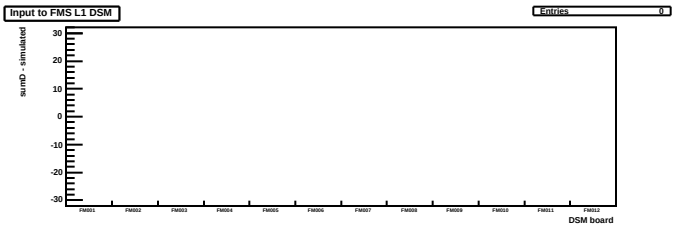

Input to FMS L0 DSM
Entries 144000
HT ADC
QT board

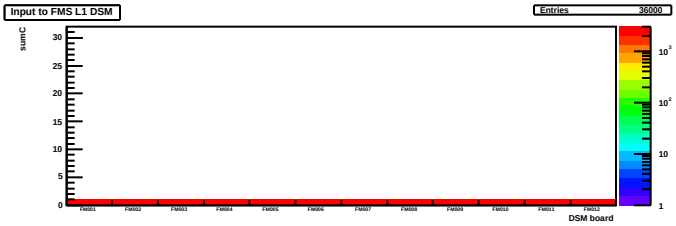

Input to FMS L0 DSM
Entries 24000
HT ADC - simulated
QT board

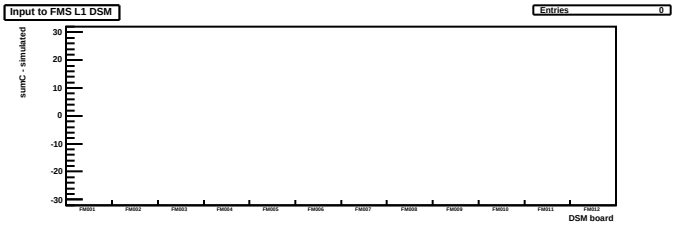

Input to FMS L0 DSM
Entries 144000
HT ID
QT board

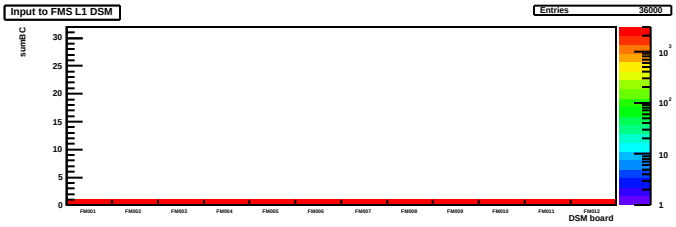

Input to FMS L0 DSM
Entries 24000
HT ID - simulated
QT board

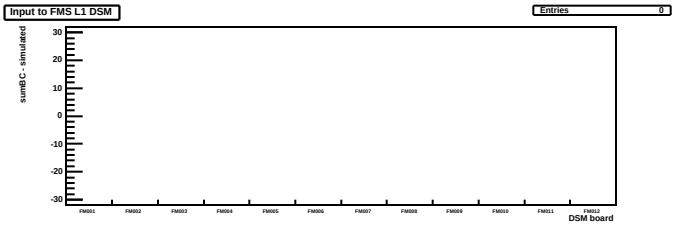

Input to FMS L1 DSM
Entries 36000
sumD
DSM board

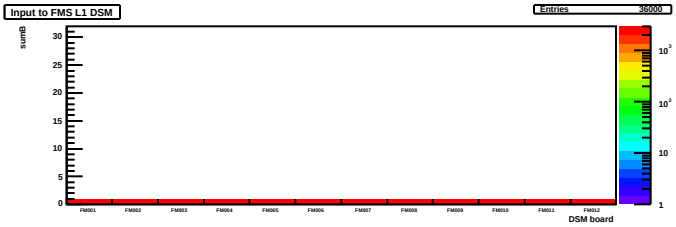

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

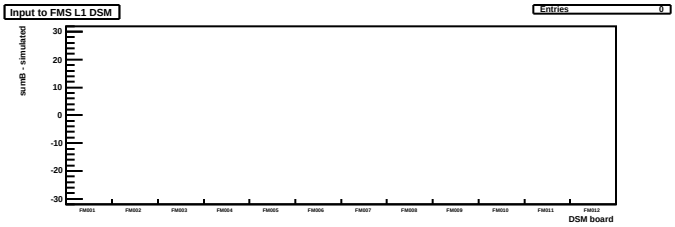

Input to FMS L1 DSM
Entries 36000
sumC
DSM board

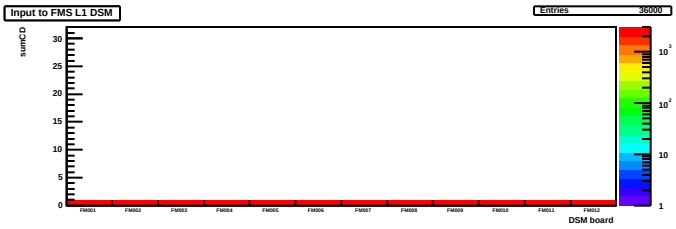

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

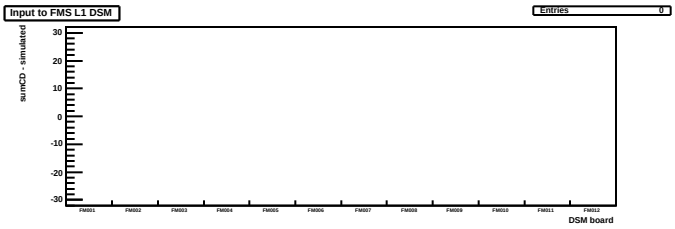

Input to FMS L1 DSM
Entries 36000
sumBC
DSM board

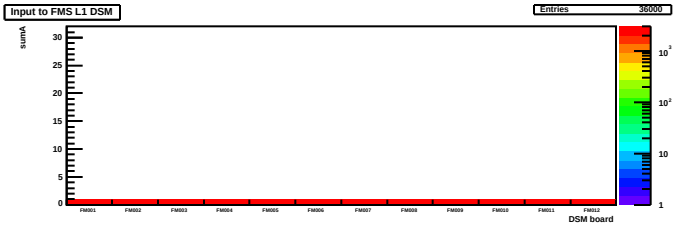

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

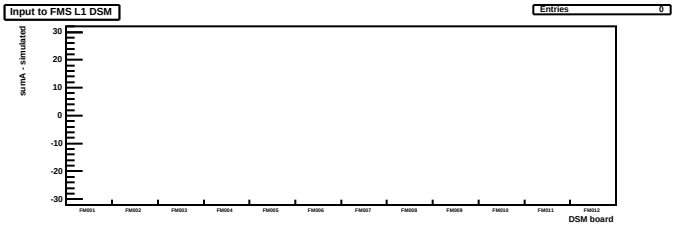

Input to FMS L1 DSM
Entries 36000
sumB
DSM board

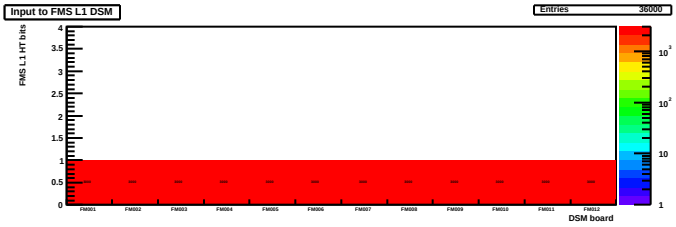

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

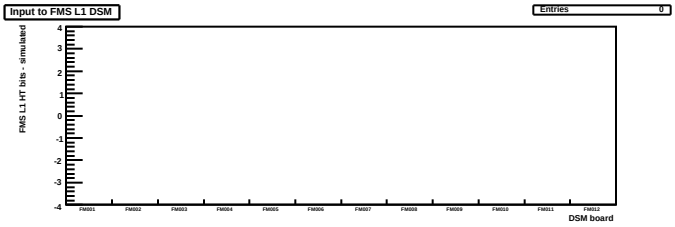

Input to FMS L1 DSM
Entries 36000
sumCD
DSM board

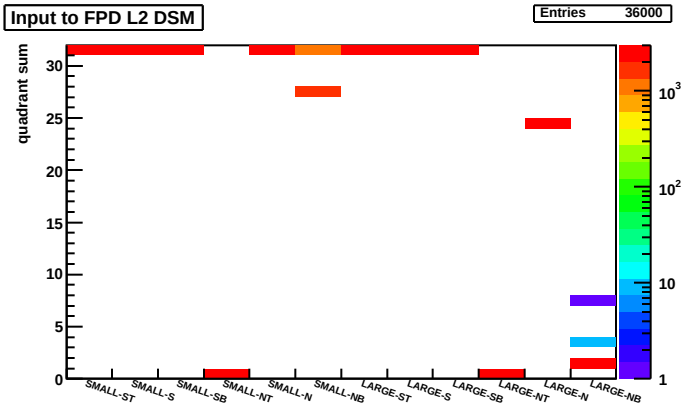

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

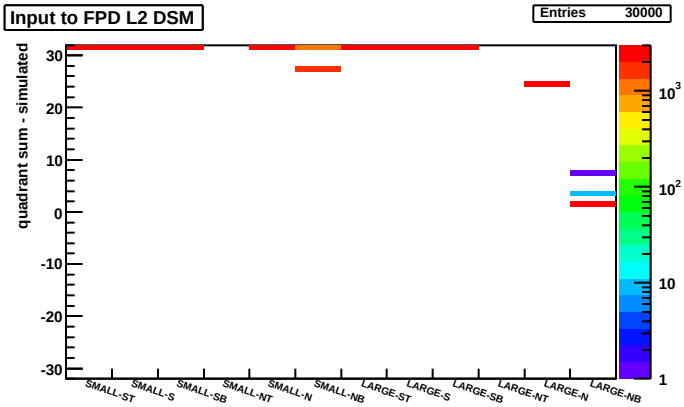

Input to FMS L1 DSM
Entries 36000
sumA
DSM board

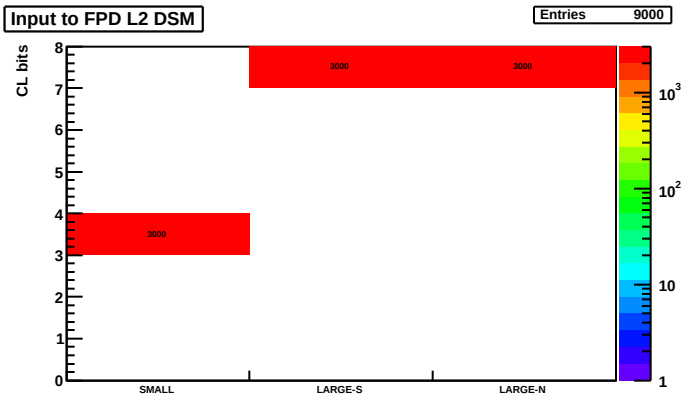

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

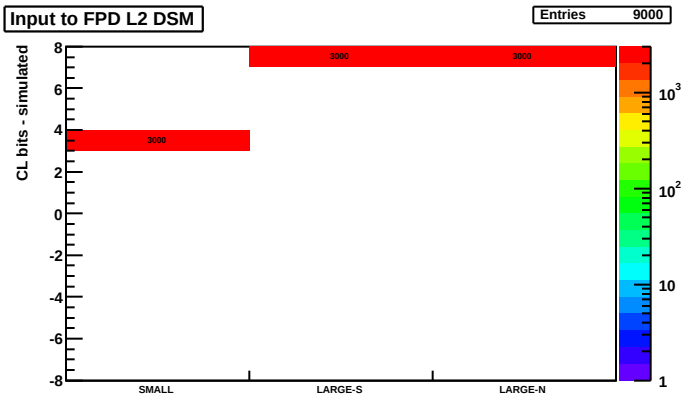

Input to FMS L1 DSM
Entries 36000
FMS L1 HT bits
DSM board

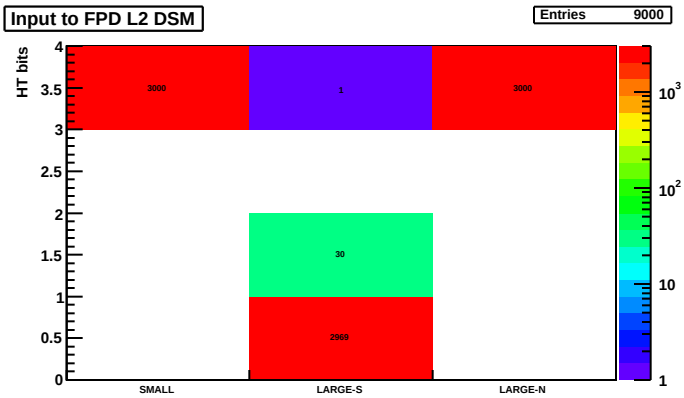

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

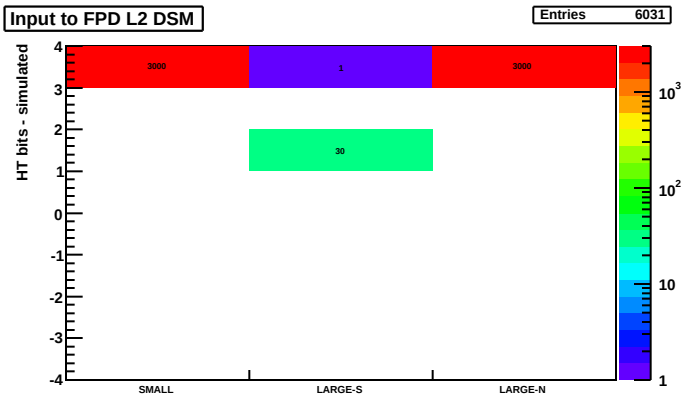

Input to FPD L2 DSM
Entries 36000
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

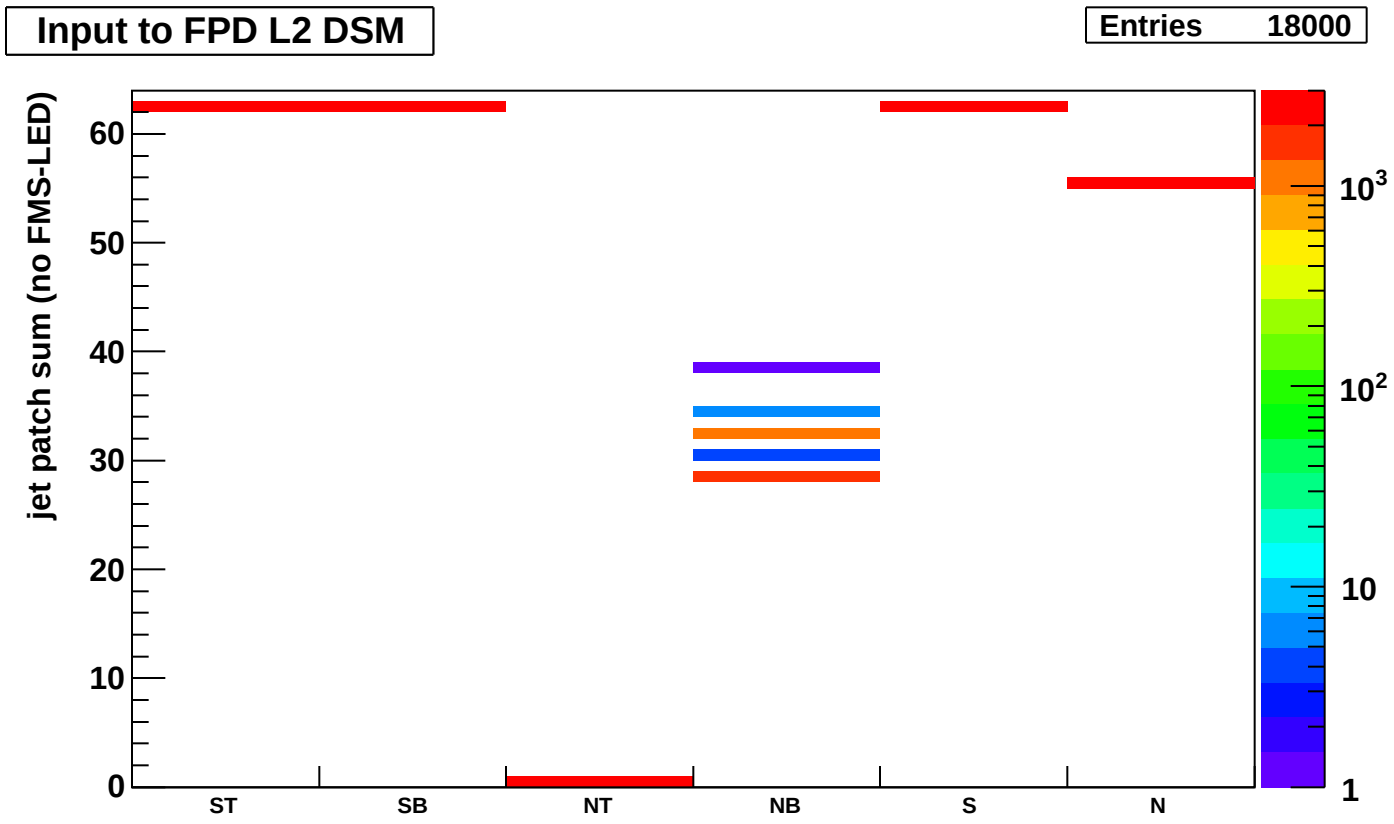

Input to FPD L2 DSM
Entries 30000
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

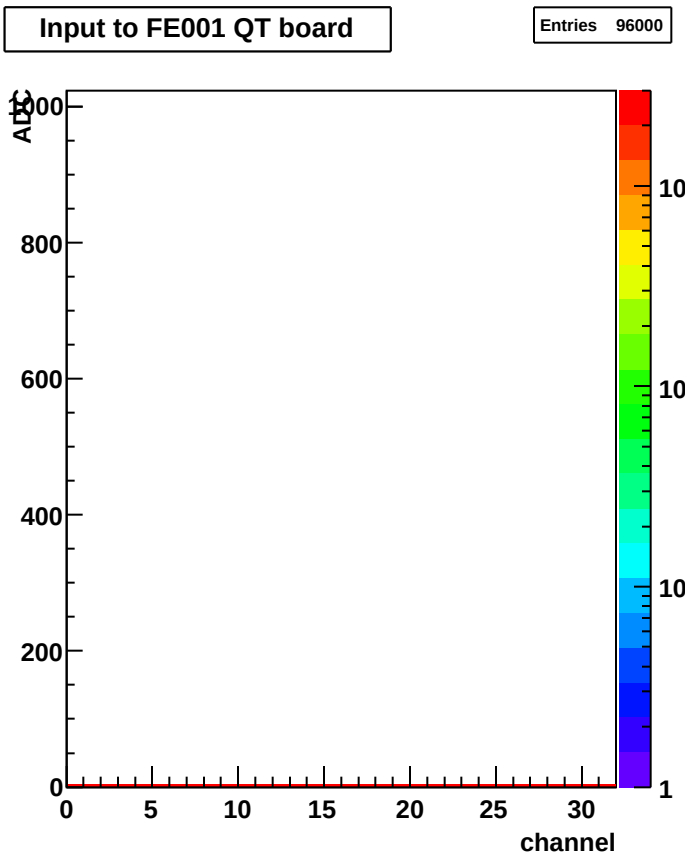

Input to FPD L2 DSM
Entries 9000
CL bits
3000
3000
3000
SMALL
LARGE-S
LARGE-N

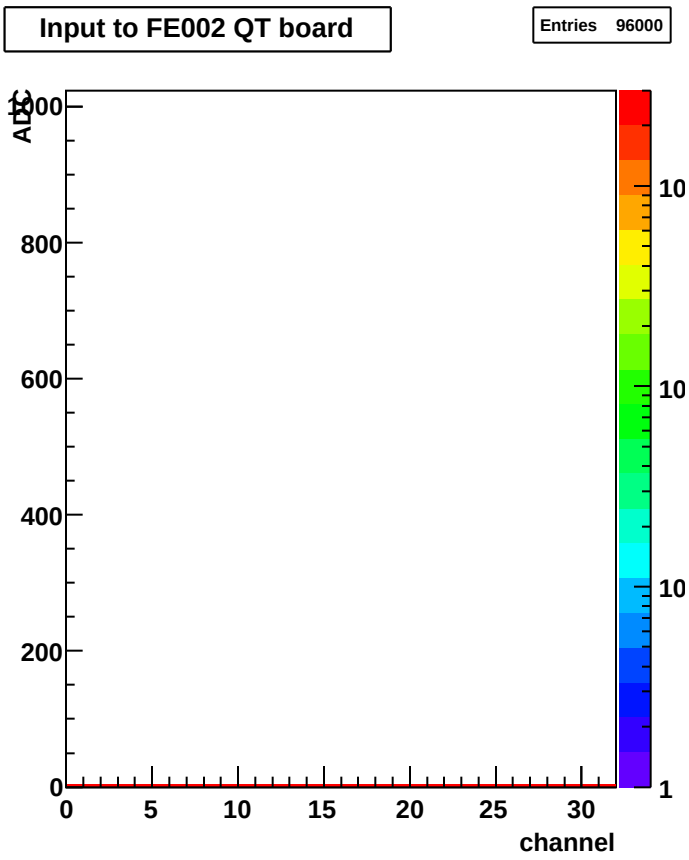

Input to FPD L2 DSM
Entries 9000
CL bits - simulated
3000
3000
3000
SMALL
LARGE-S
LARGE-N

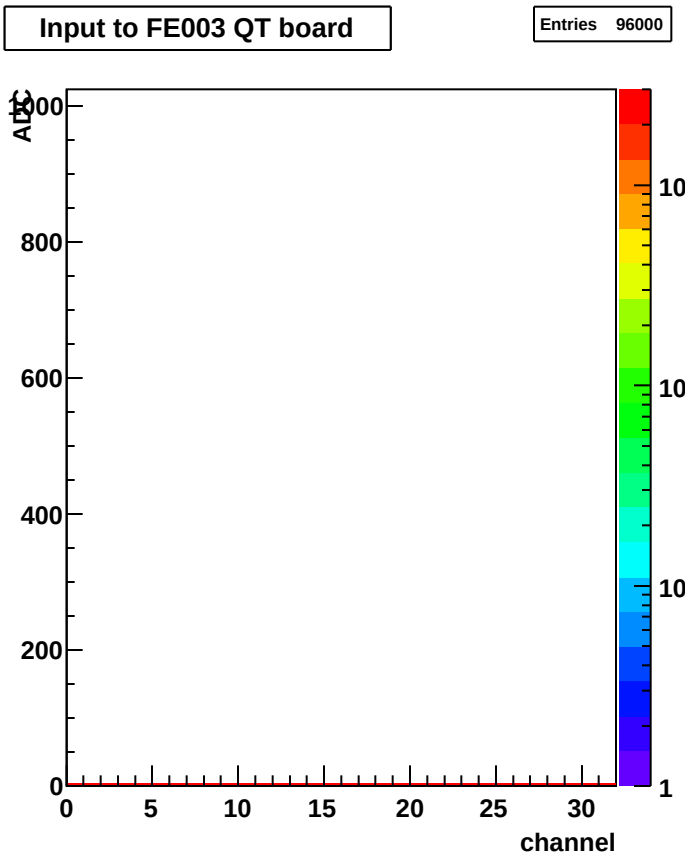

Input to FPD L2 DSM
Entries 9000
HT bits
3000
1
3000
30
2969
SMALL
LARGE-S
LARGE-N

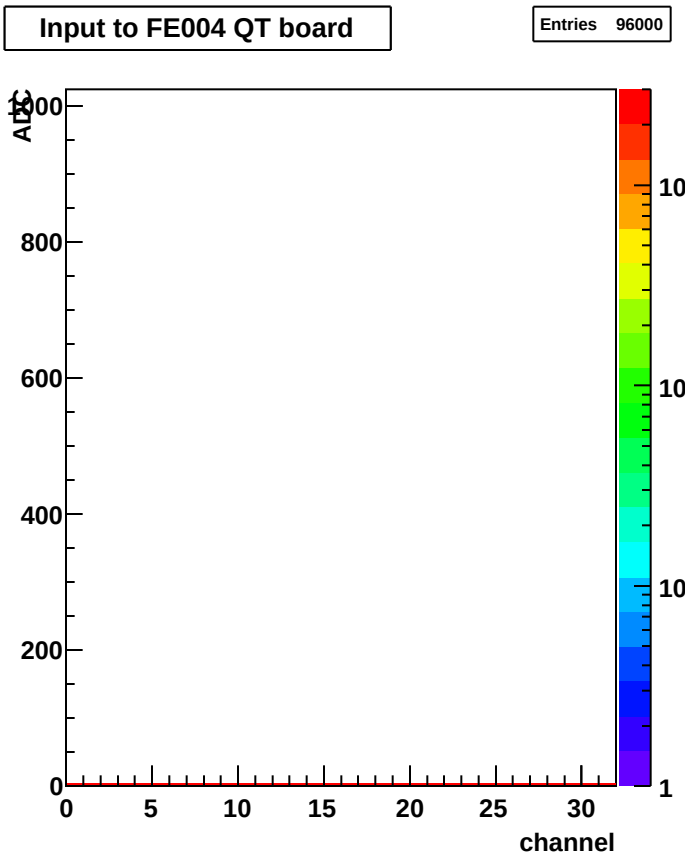

Input to FPD L2 DSM
Entries 6031
HT bits - simulated
3000
1
3000
30
SMALL
LARGE-S
LARGE-N

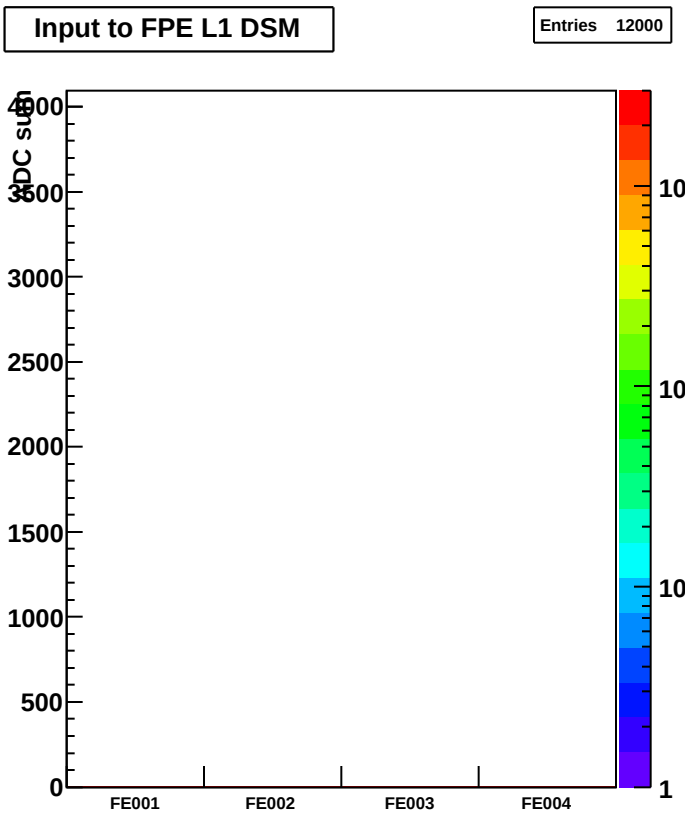

Input to FPD L2 DSM
Entries 18000
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3

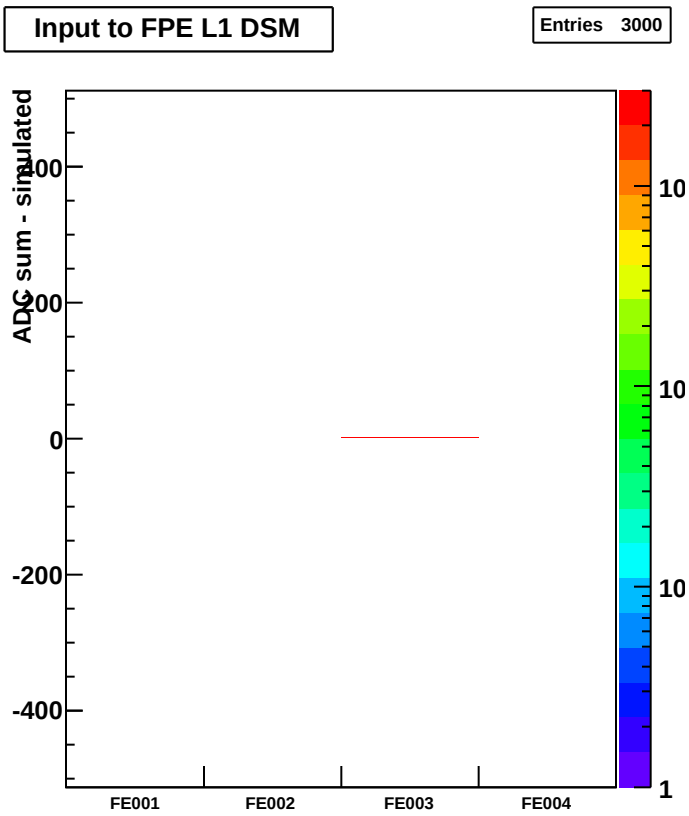

Input to FE001 QT board
Entries 96000
ADC
channel

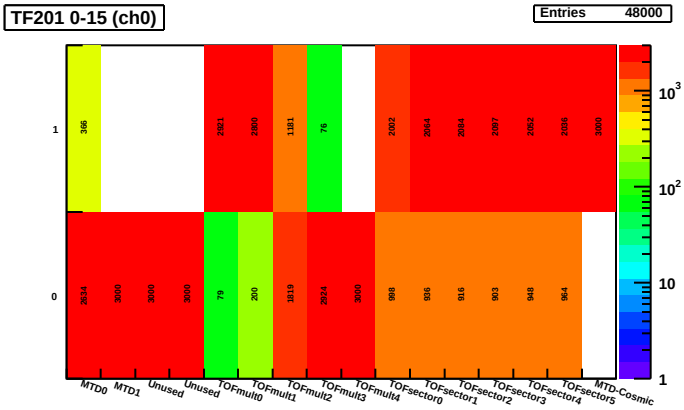

Input to FE002 QT board
Entries 96000
ADC
channel

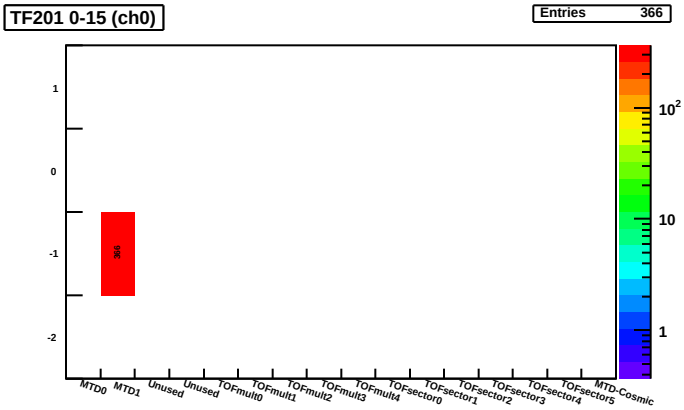

Input to FE003 QT board
Entries 96000
ADC
channel

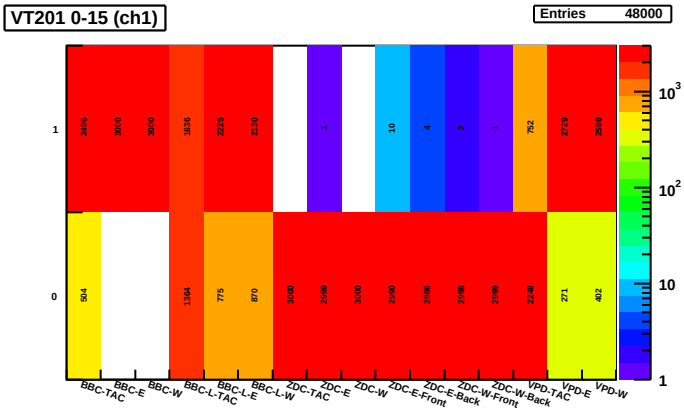

Input to FE004 QT board
Entries 96000
ADC
channel

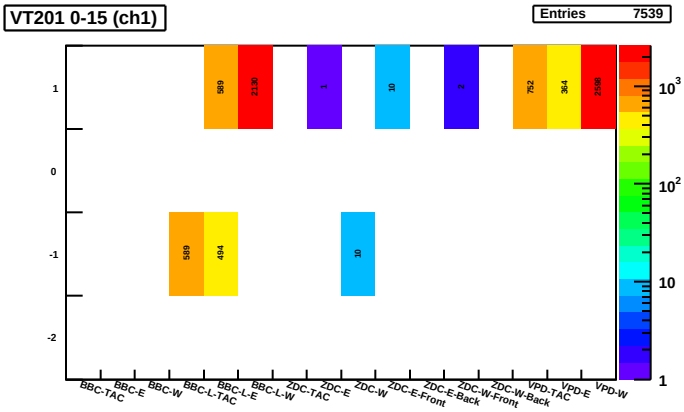

Input to FPE L1 DSM
Entries 12000
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
1

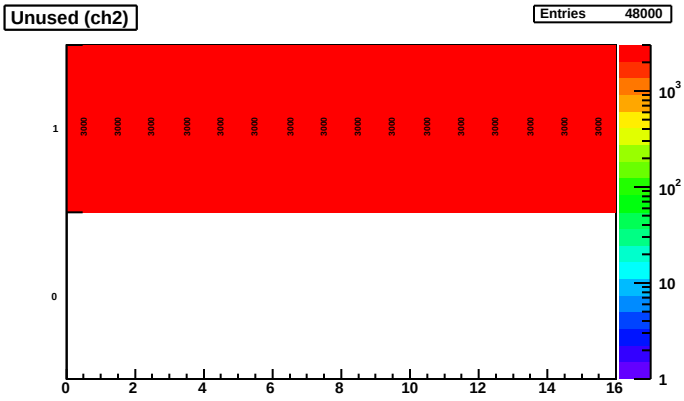

Input to FPE L1 DSM
Entries 3000
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
1

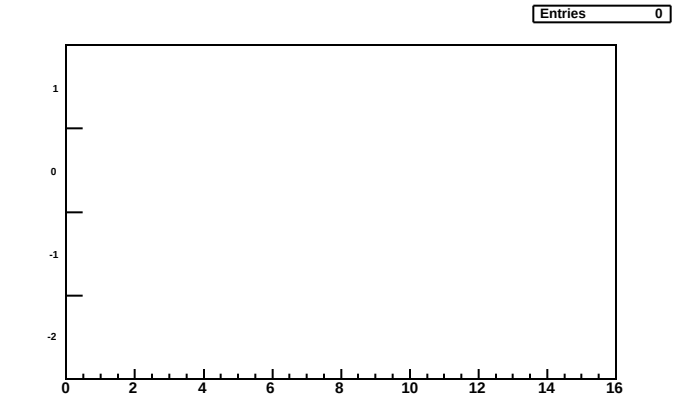

TF201 0-15 (ch0)
Entries 48000
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

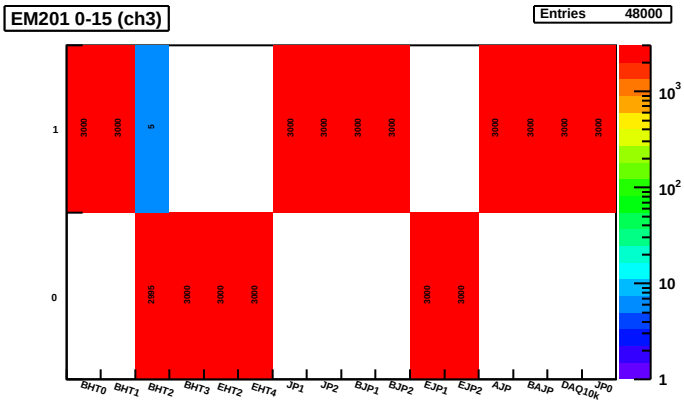

TF201 0-15 (ch0)
Entries 366
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 48000
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 7539
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


Unused (ch2)
Entries 48000


Entries 0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Entries 48000
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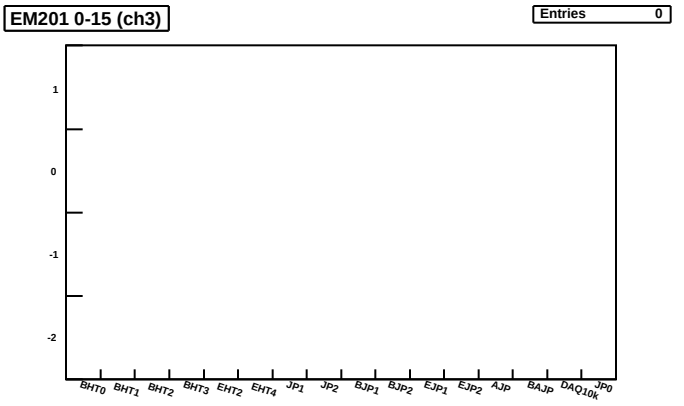
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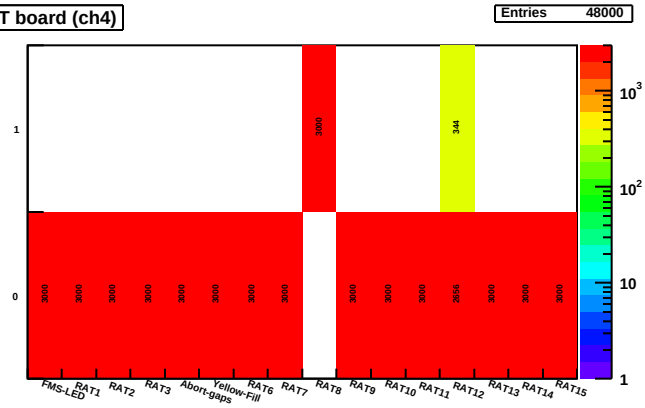
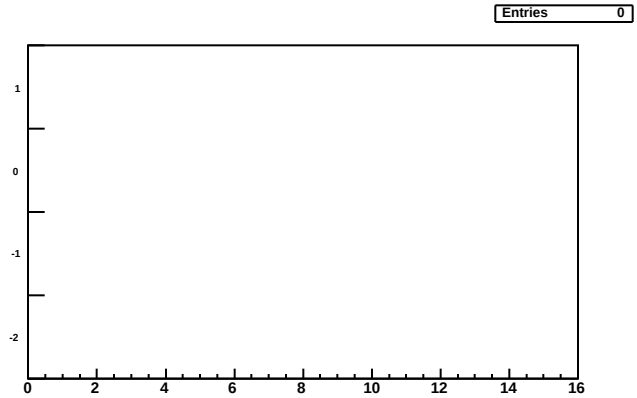
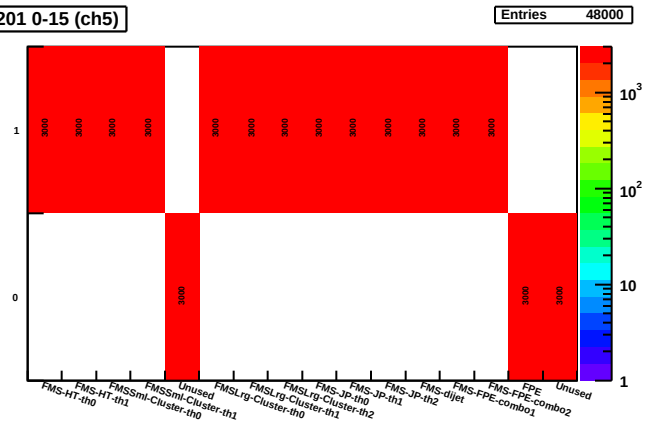
RAT board (ch4)





FP201 0-15 (ch5)



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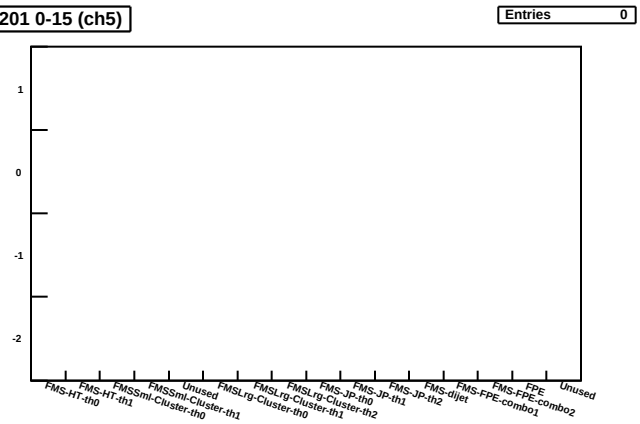
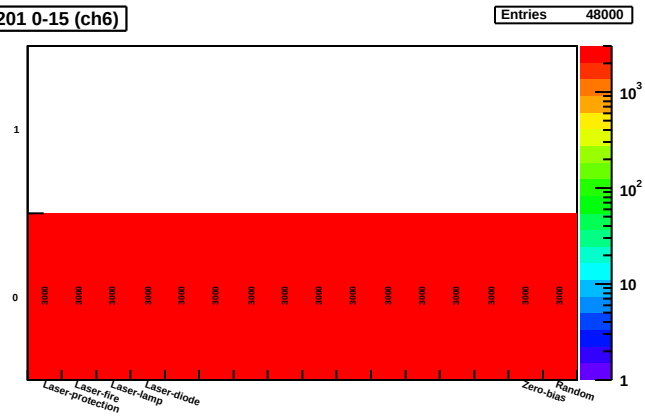
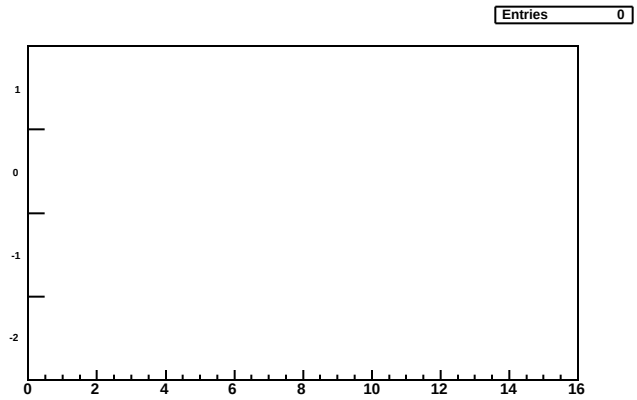
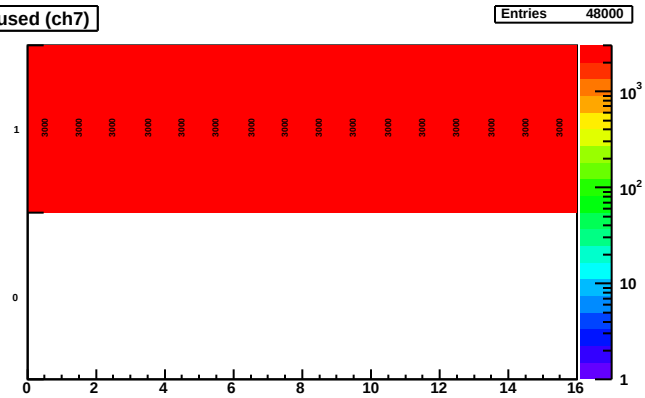
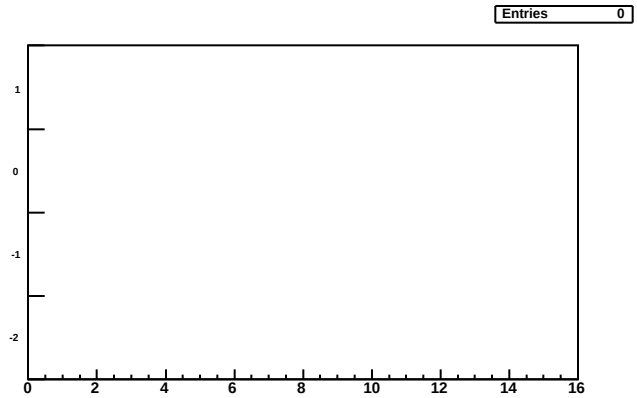


ST201 0-15 (ch6)





Unused (ch7)