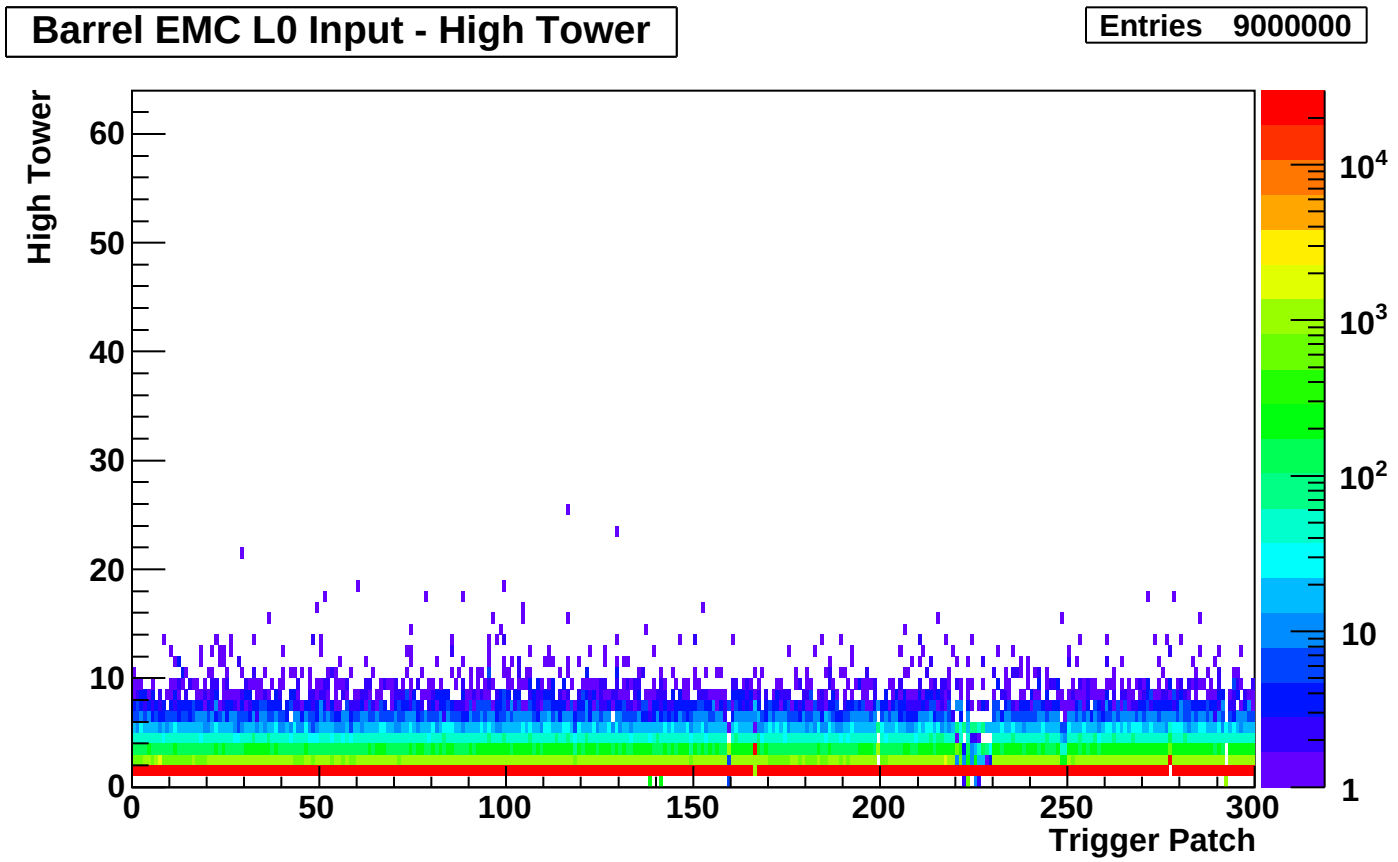
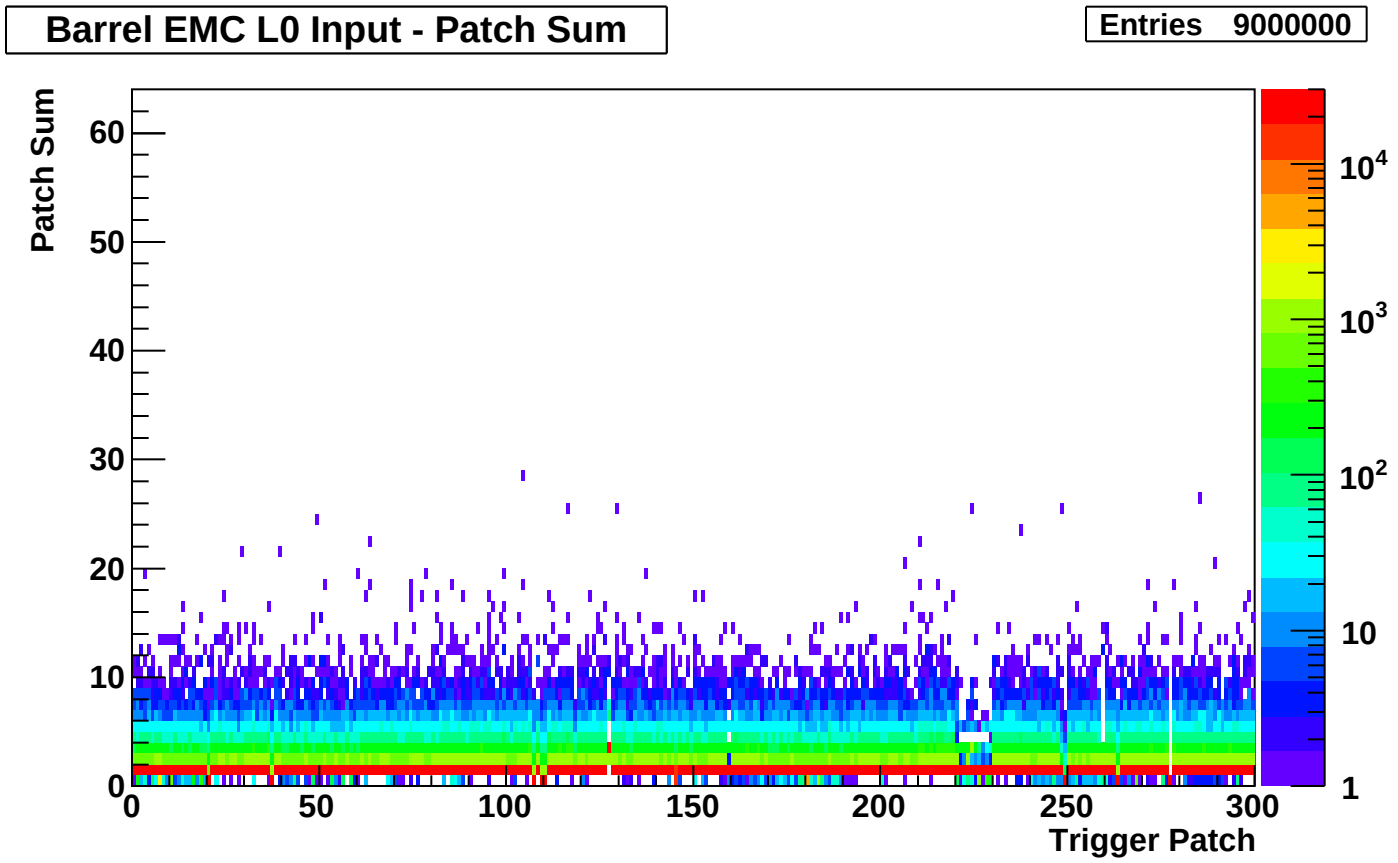
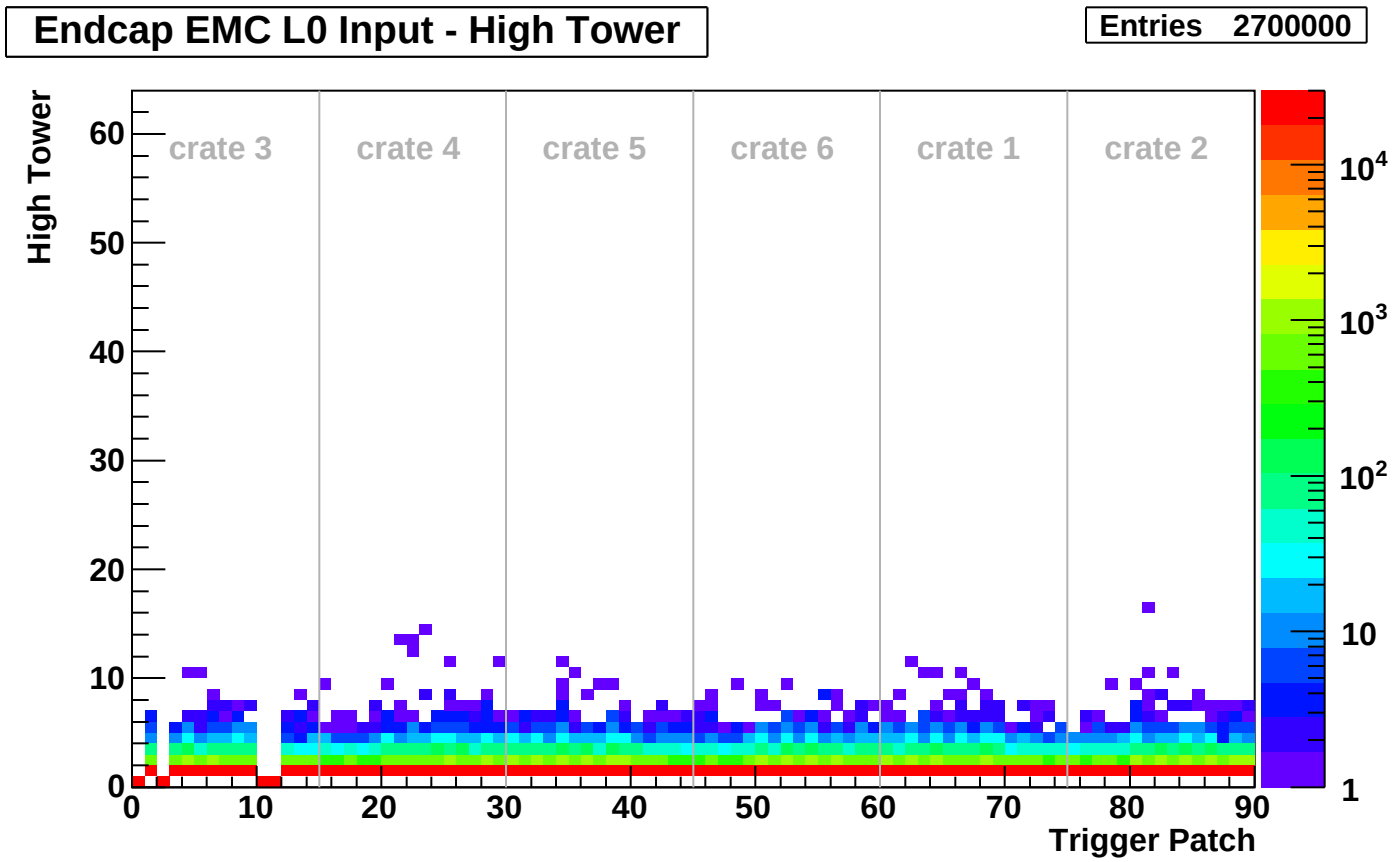
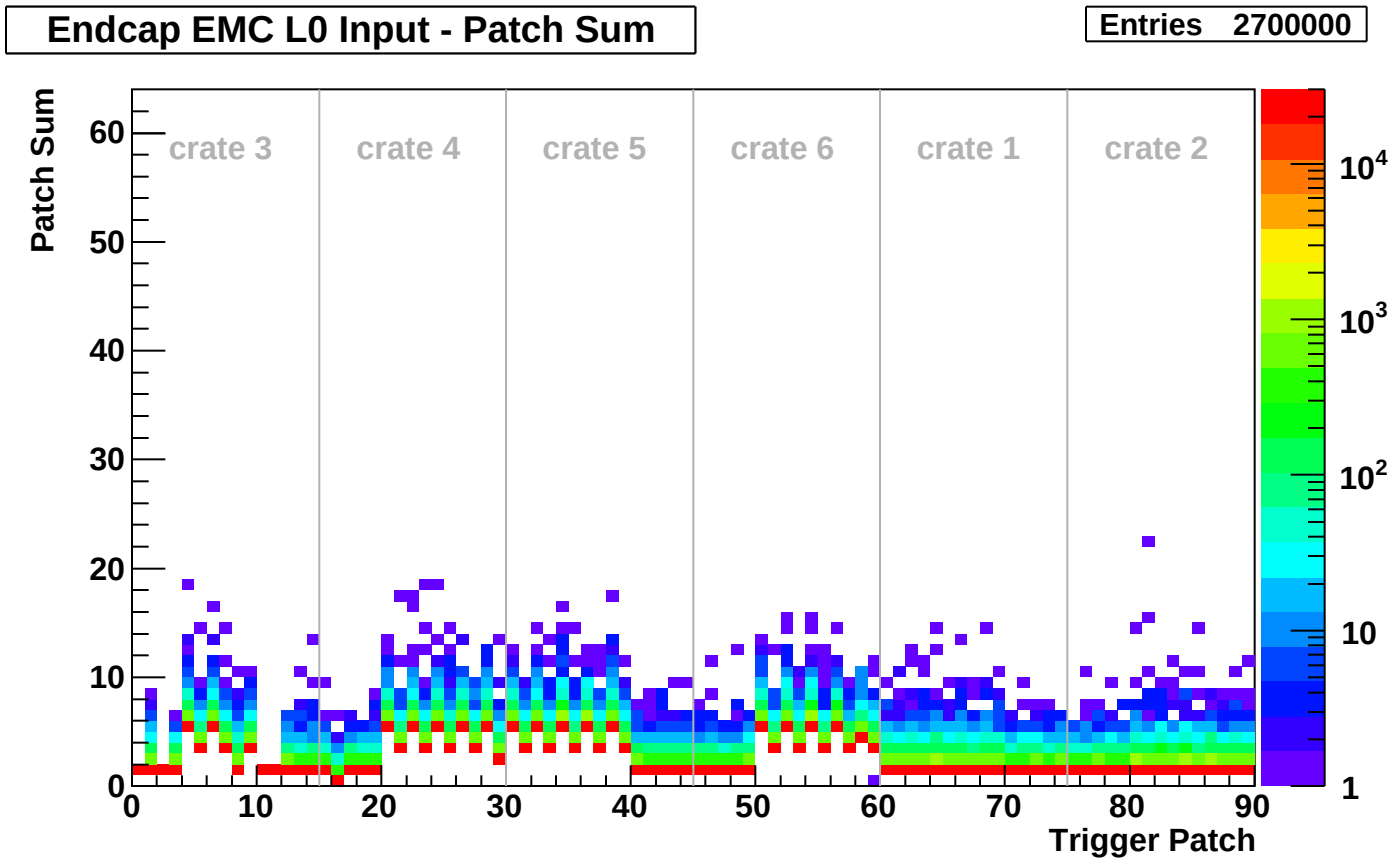
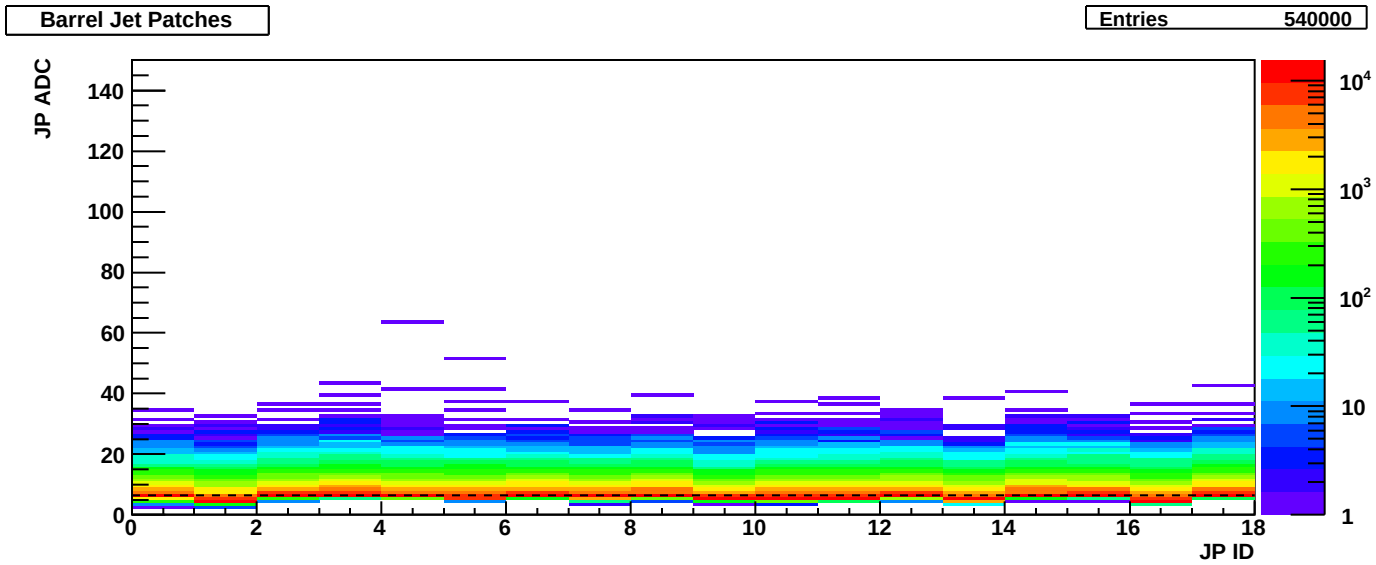
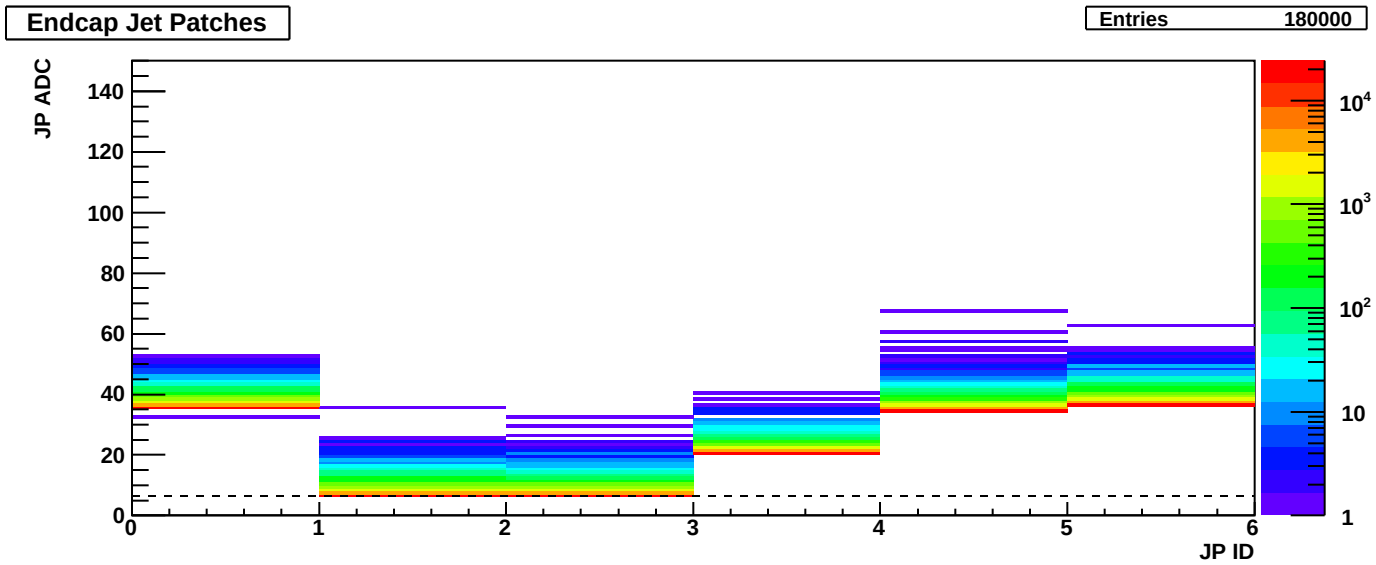

Barrel EMC L0 Input - High Tower
Entries 9000000
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

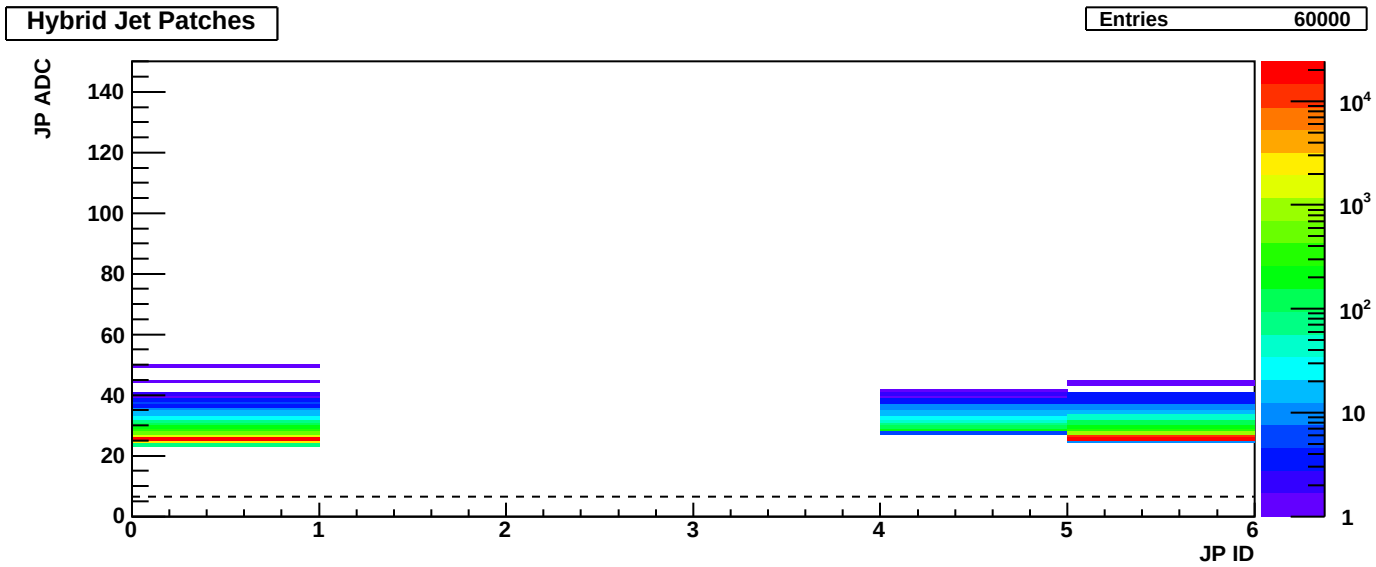

Barrel EMC L0 Input - Patch Sum
Entries 9000000
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

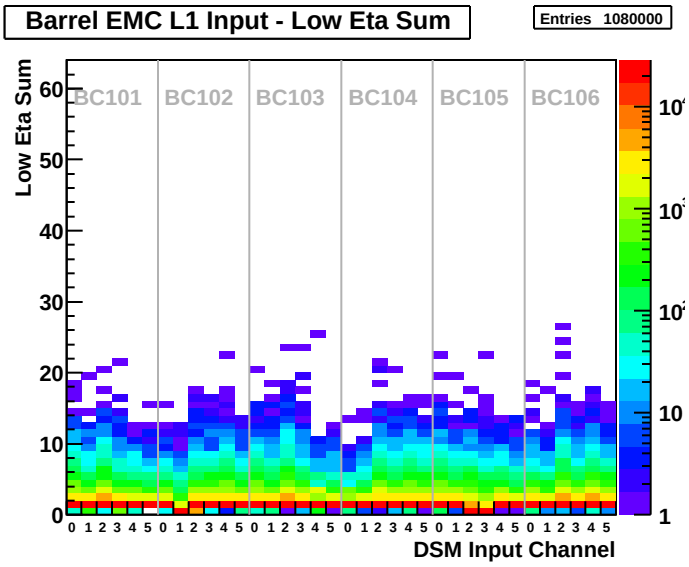

Endcap EMC L0 Input - High Tower
Entries 2700000
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

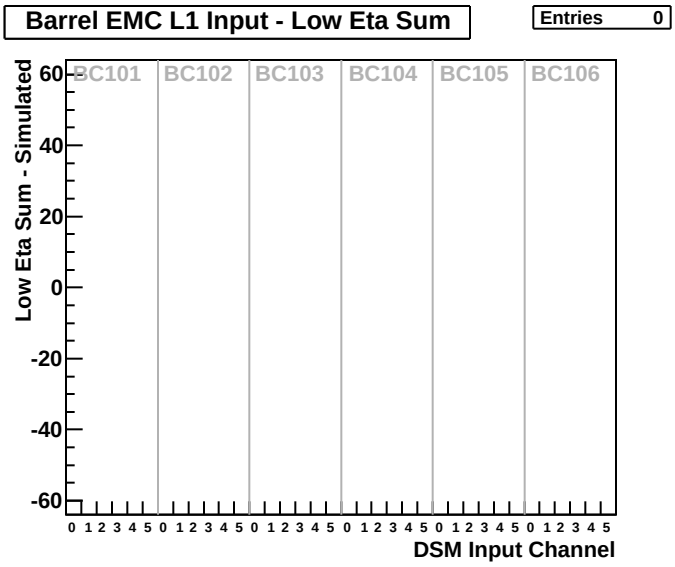

Endcap EMC L0 Input - Patch Sum
Entries 2700000
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

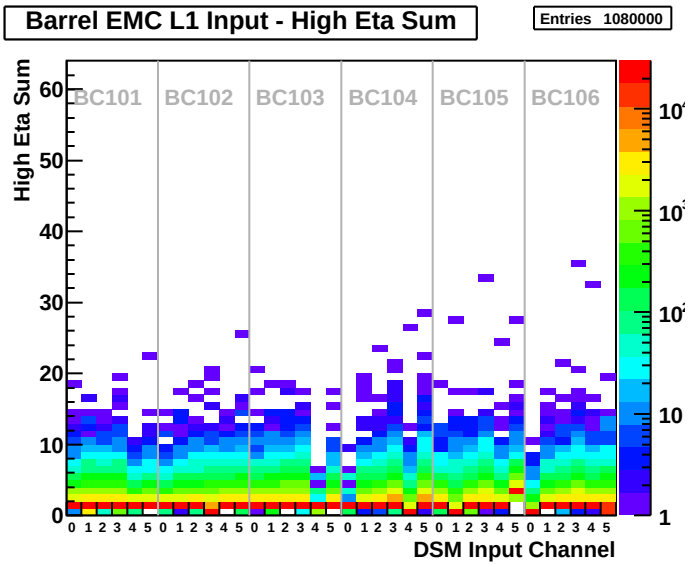

Barrel Jet Patches
Entries 540000
JP ADC
JP ID

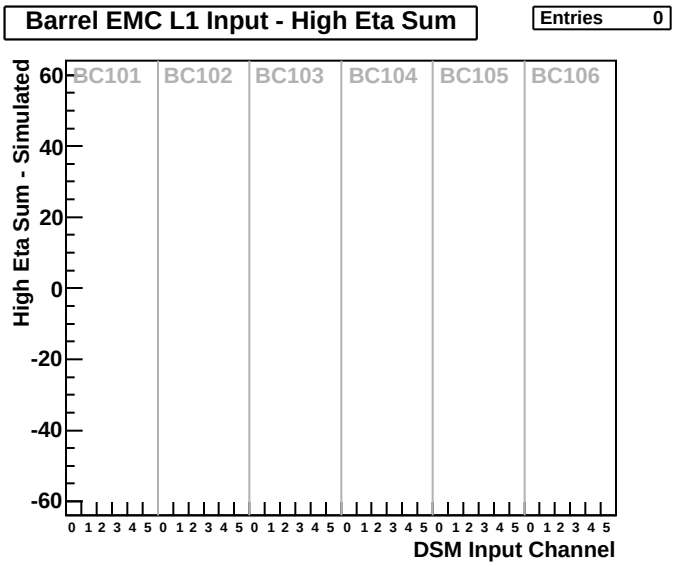

Endcap Jet Patches
Entries 180000
JP ADC
JP ID

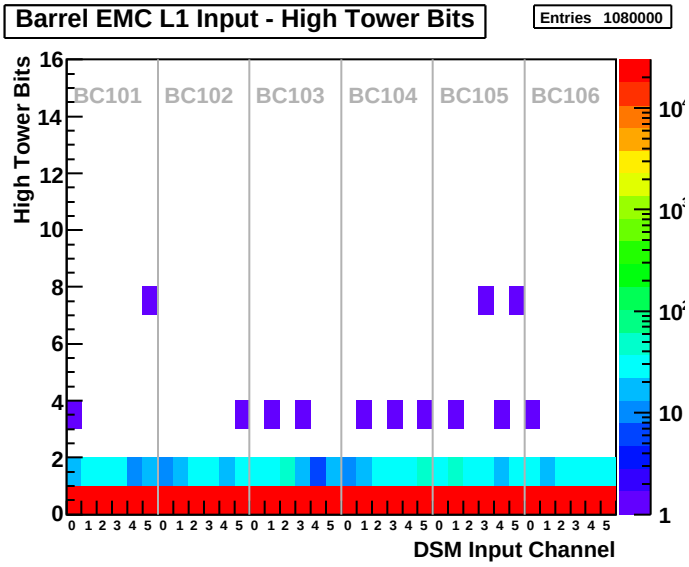

Hybrid Jet Patches
Entries 60000
JP ADC
JP ID

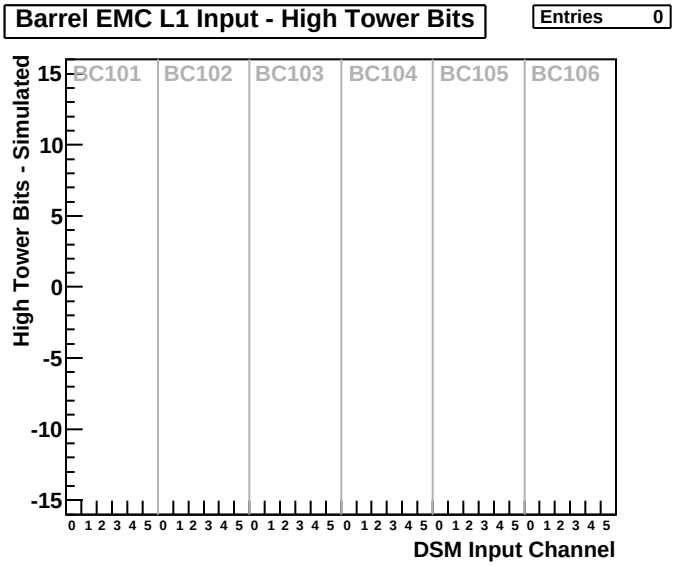

Barrel EMC L1 Input - Low Eta Sum
Entries 1080000
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

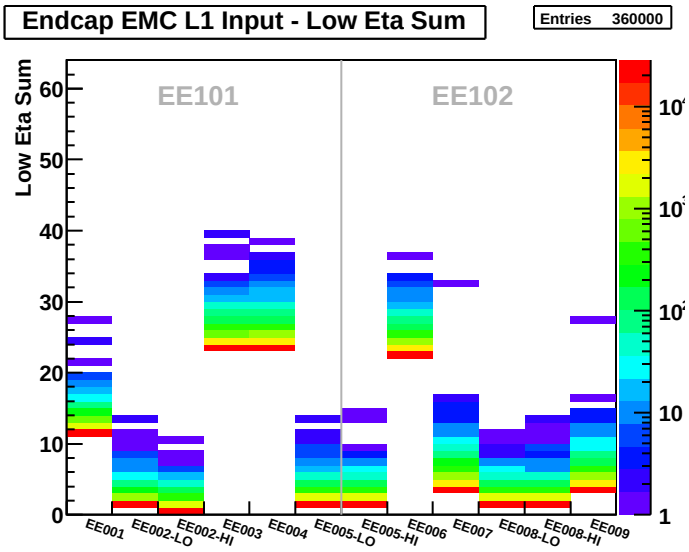

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

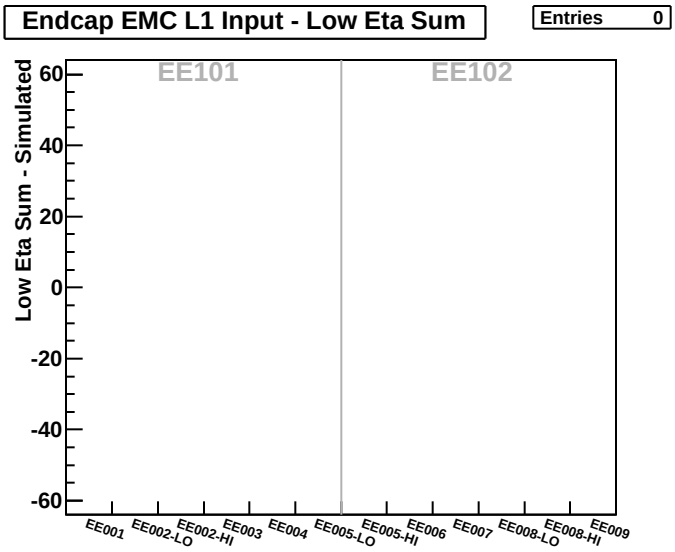

Barrel EMC L1 Input - High Eta Sum
Entries 1080000
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

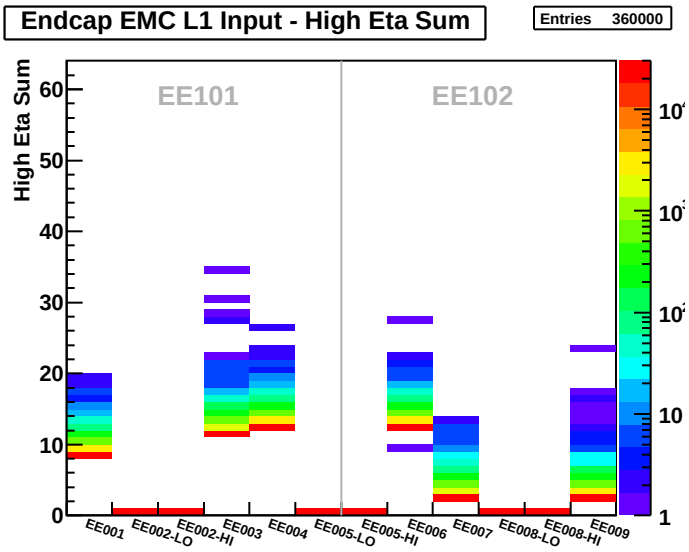

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

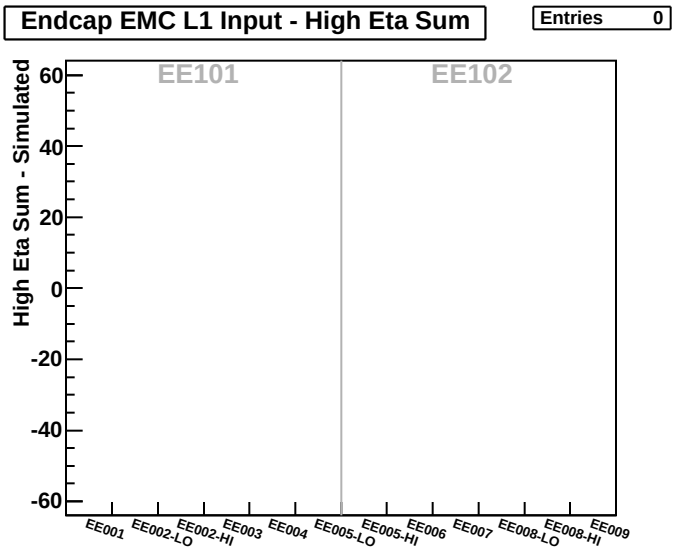

Barrel EMC L1 Input - High Tower Bits
Entries 1080000
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

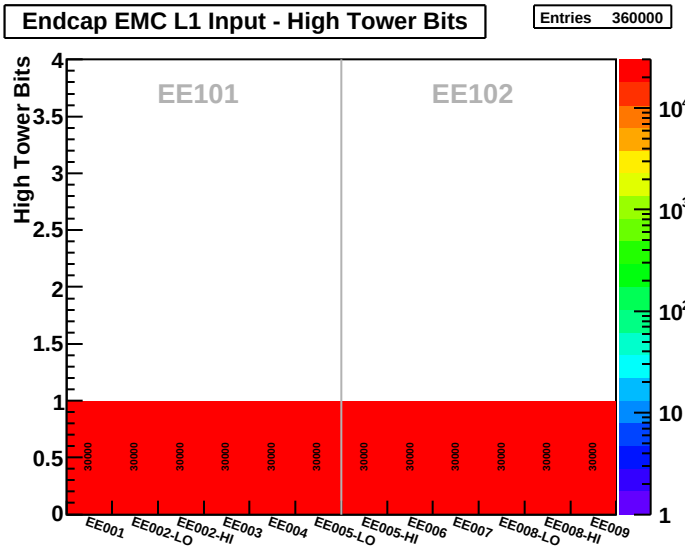

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

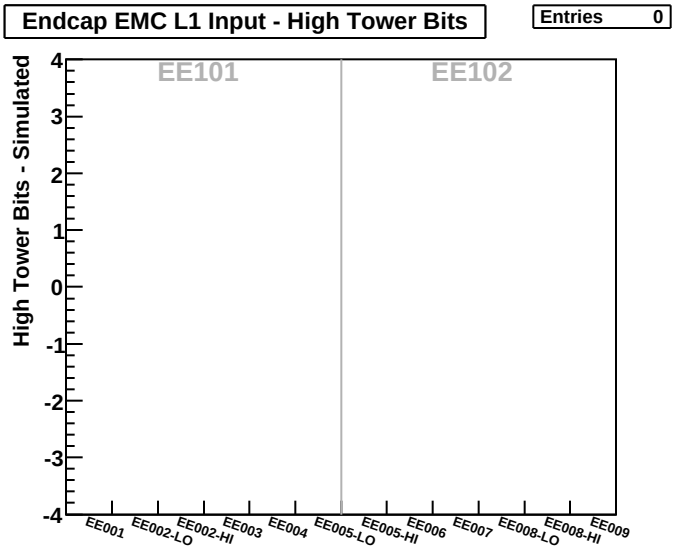

Endcap EMC L1 Input - Low Eta Sum
Entries 360000
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

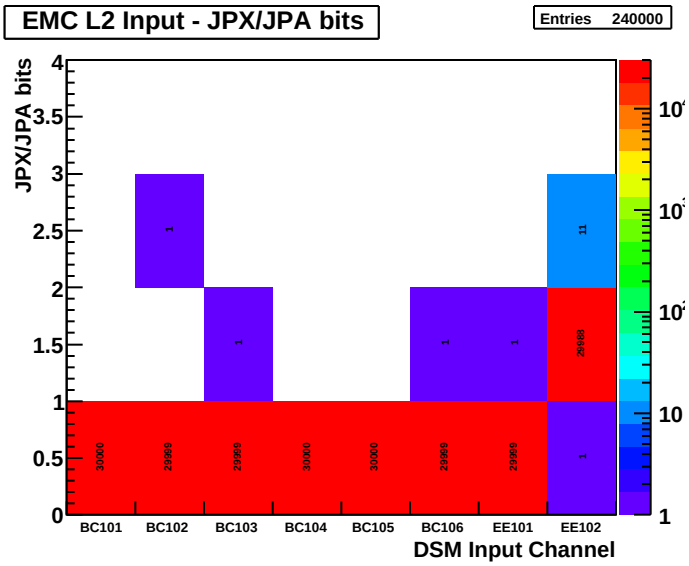

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

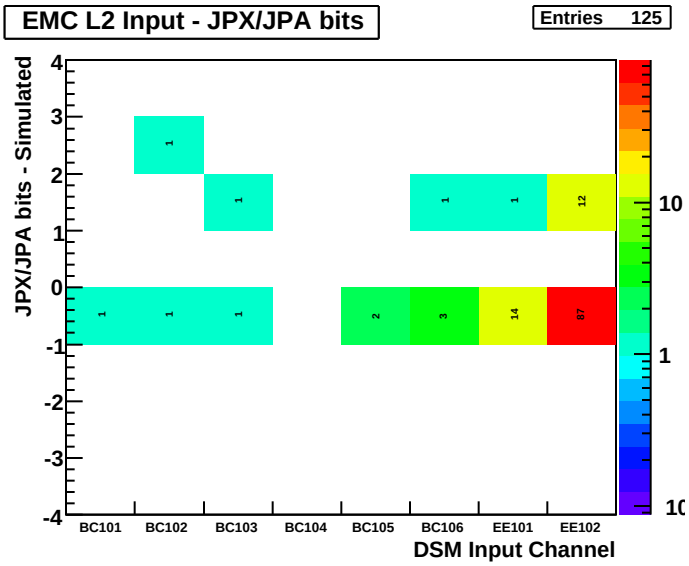

Endcap EMC L1 Input - High Eta Sum
Entries 360000
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

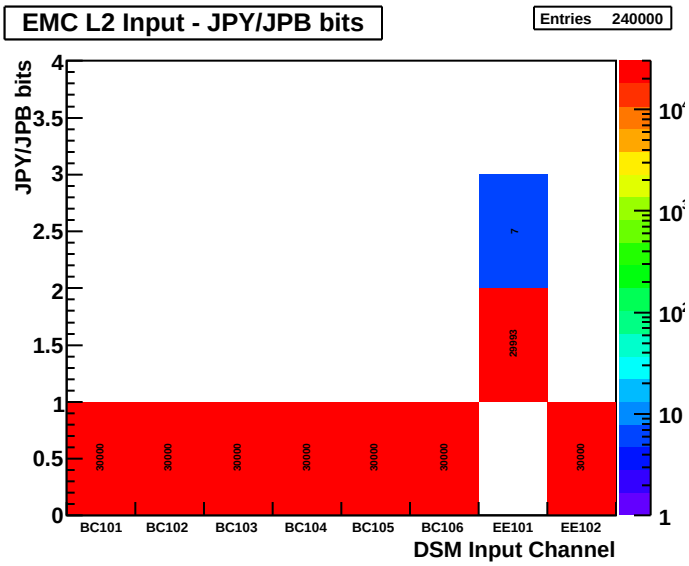

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

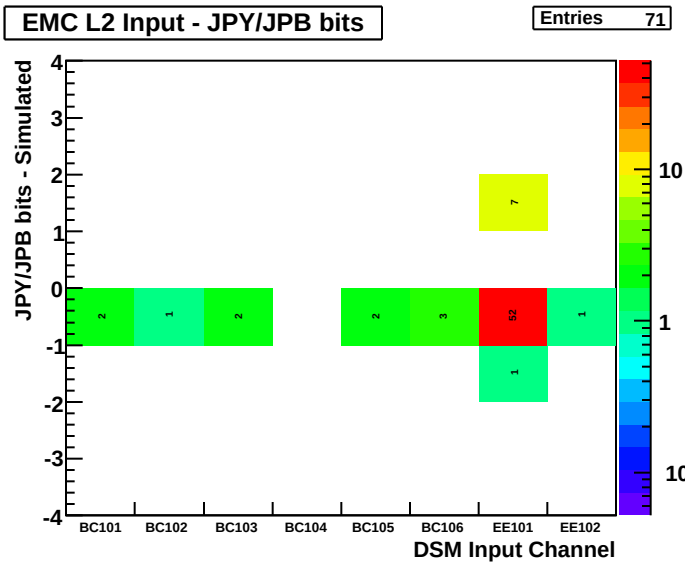

Endcap EMC L1 Input - High Tower Bits
Entries 360000
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

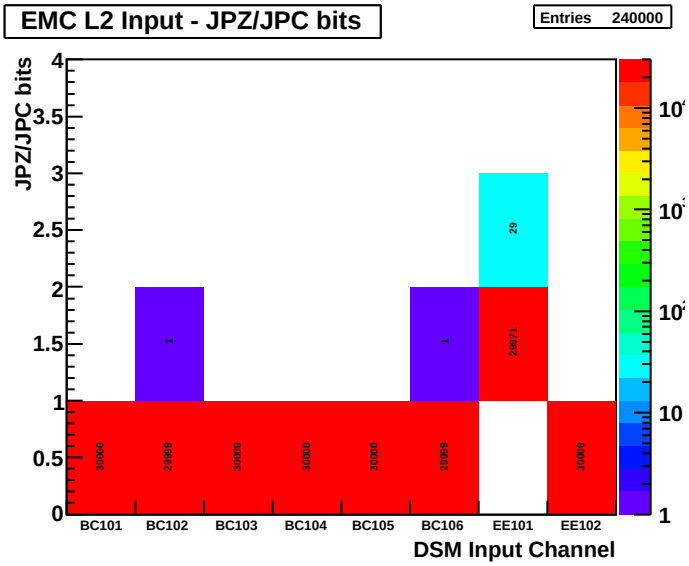

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

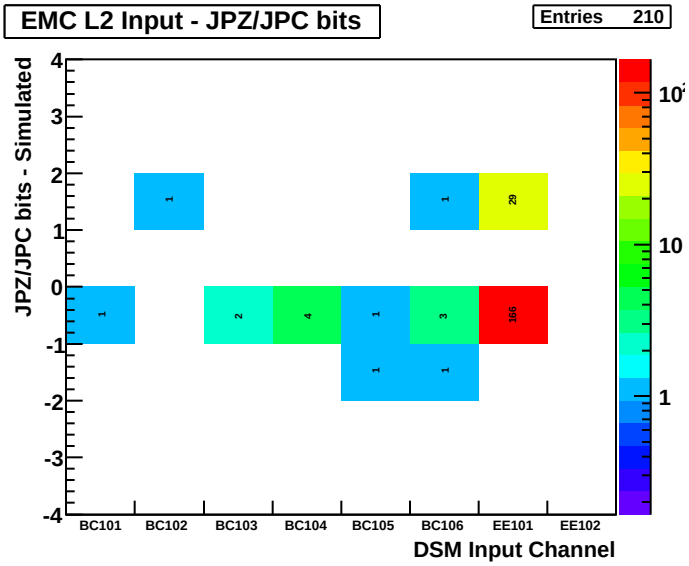

EMC L2 Input - JPX/JPA bits
Entries 240000
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

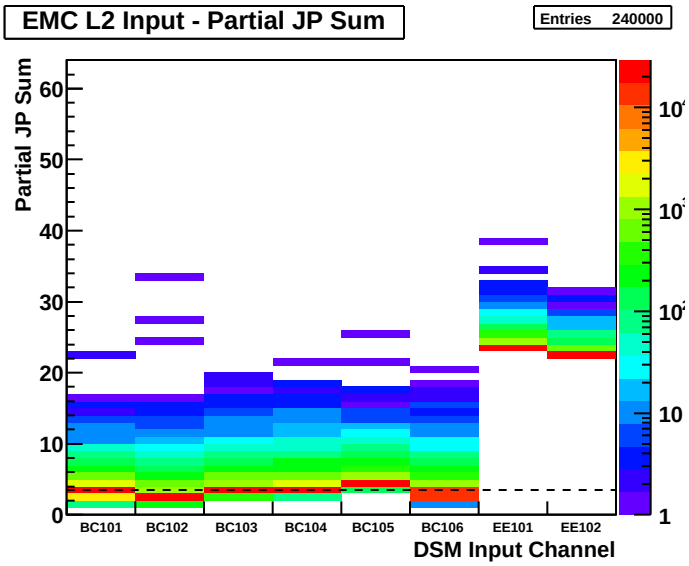

EMC L2 Input - JPX/JPA bits
Entries 125
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

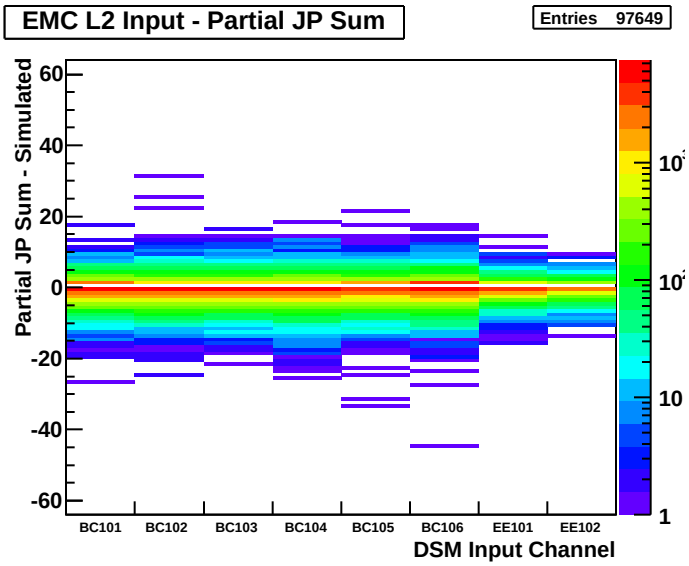

EMC L2 Input - JPY/JPB bits
Entries 240000
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

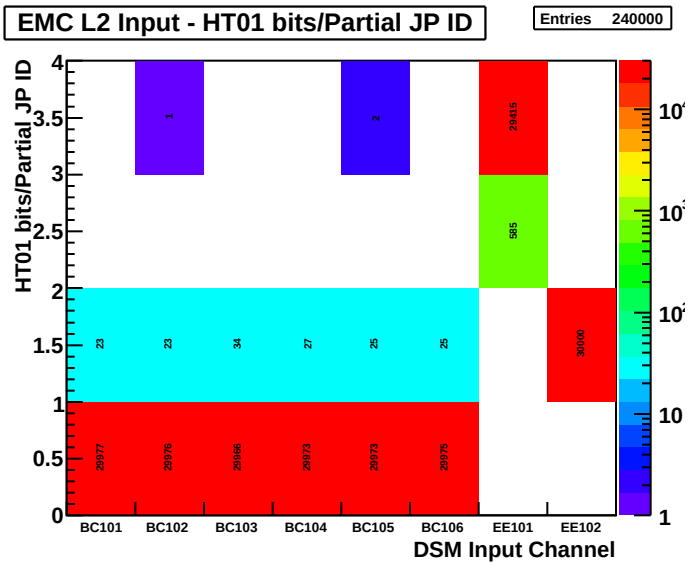

EMC L2 Input - JPY/JPB bits
Entries 71
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

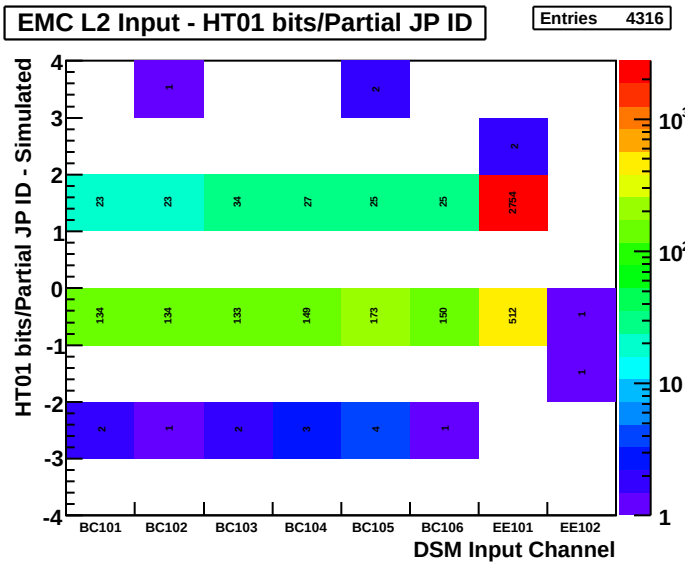

EMC L2 Input - JPZ/JPC bits
Entries 240000
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

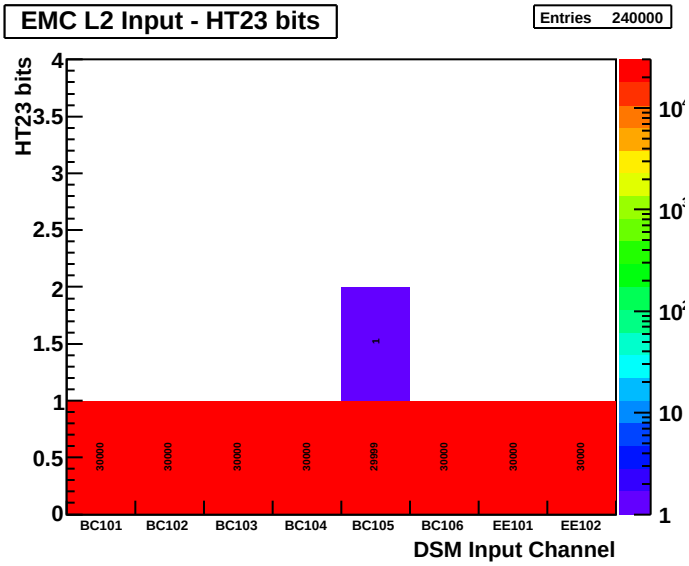

EMC L2 Input - JPZ/JPC bits
Entries 210
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

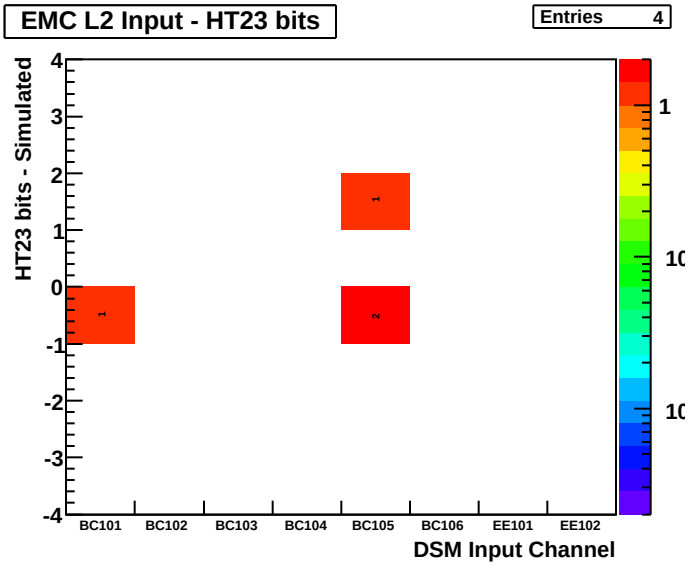

EMC L2 Input - Partial JP Sum
Entries 240000
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

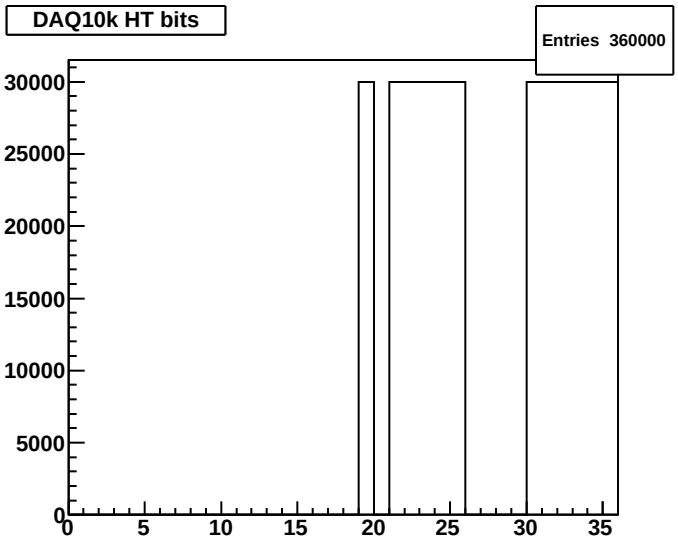

EMC L2 Input - Partial JP Sum
Entries 97649
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

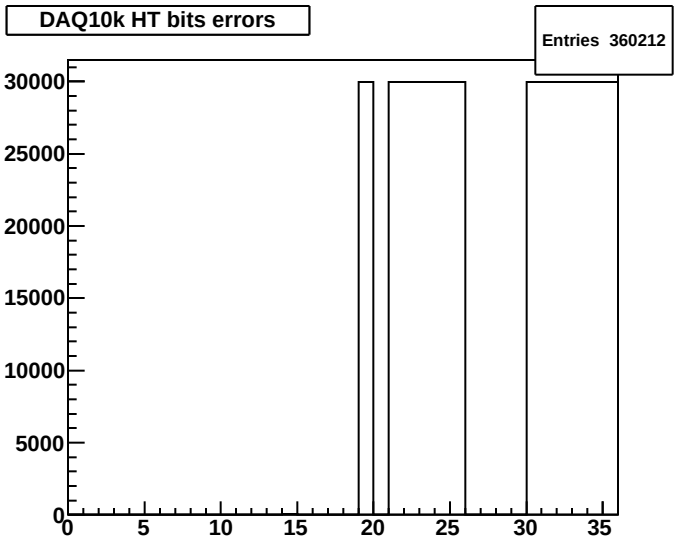

EMC L2 Input - HT01 bits/Partial JP ID
Entries 240000
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

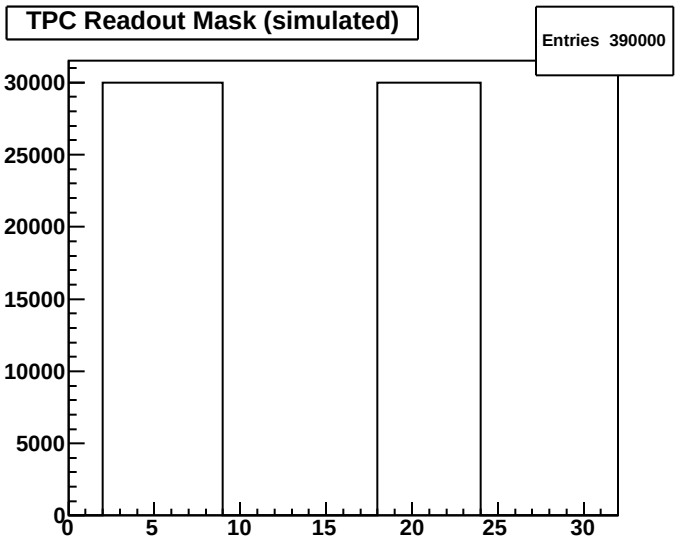

EMC L2 Input - HT01 bits/Partial JP ID
Entries 4316
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

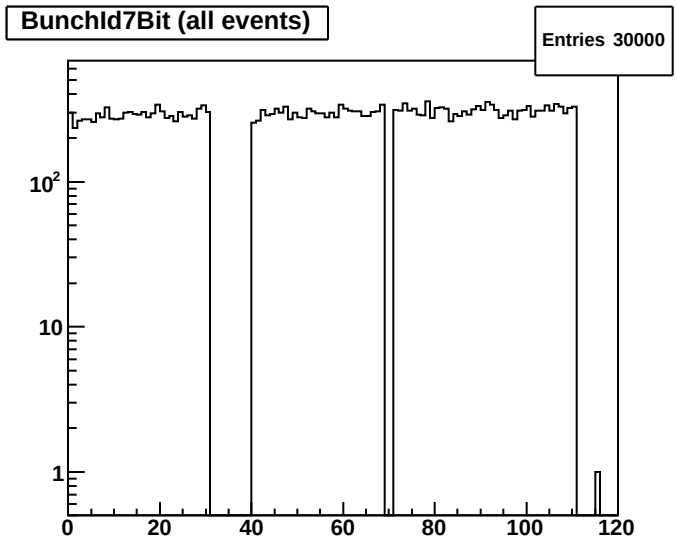

EMC L2 Input - HT23 bits
Entries 240000
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

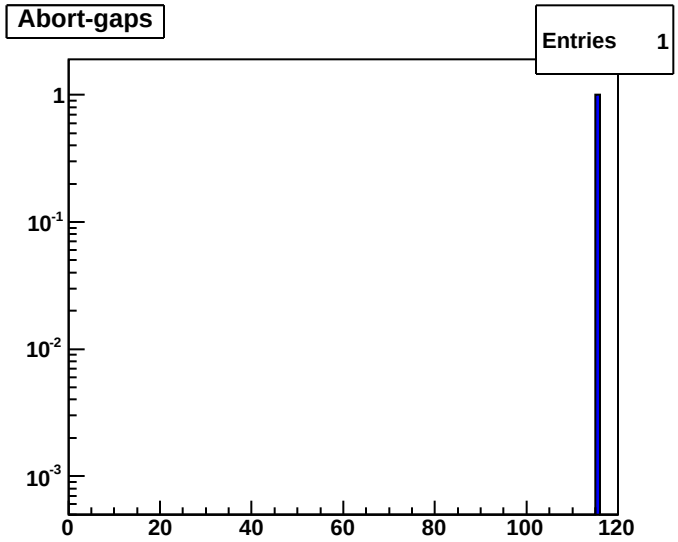

EMC L2 Input - HT23 bits
Entries 4
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

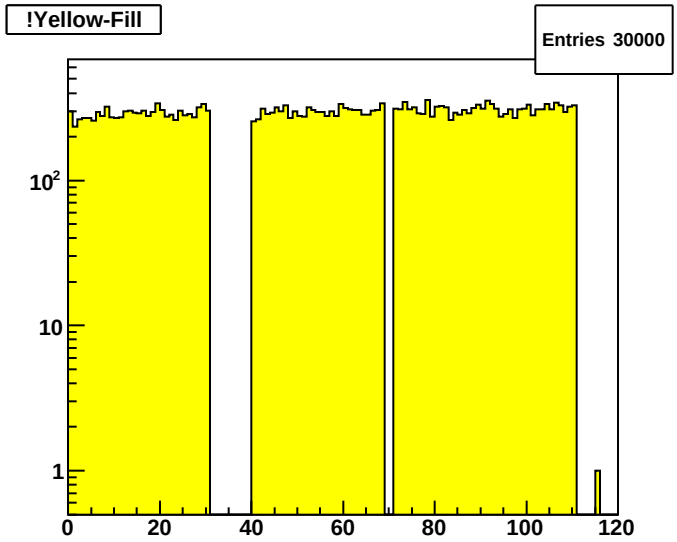

DAQ10k HT bits
Entries 360000
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

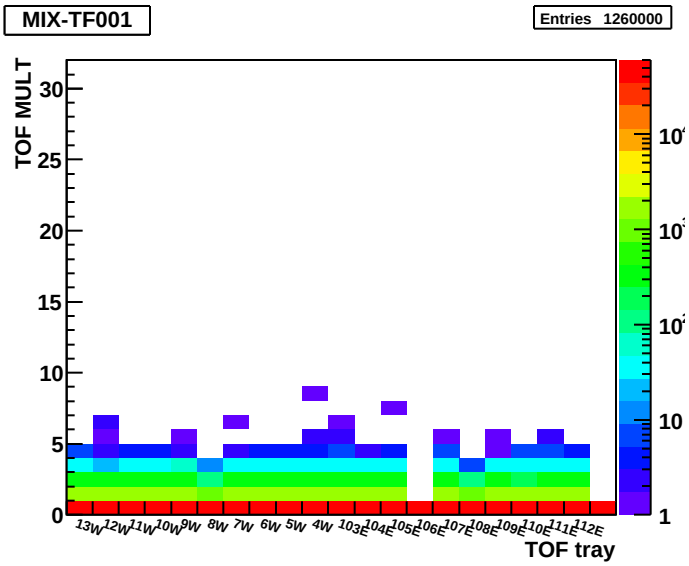

DAQ10k HT bits errors
Entries 360212
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30 35

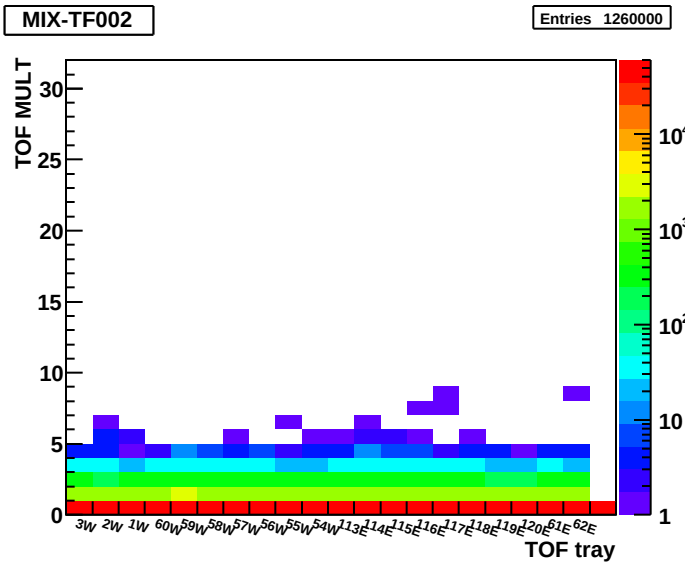

TPC Readout Mask (simulated)
Entries 390000
30000
25000
20000
15000
10000
5000
0
0 5 10 15 20 25 30

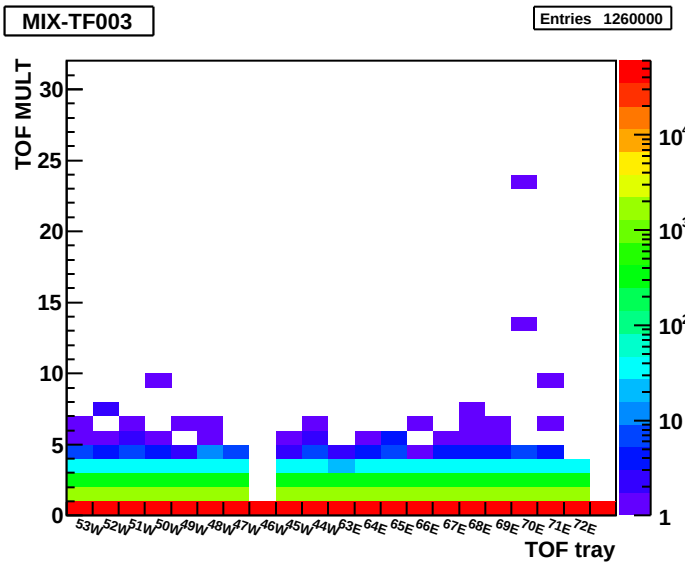

BunchId7Bit (all events)
Entries 30000
10^2
10
1
0 20 40 60 80 100 120

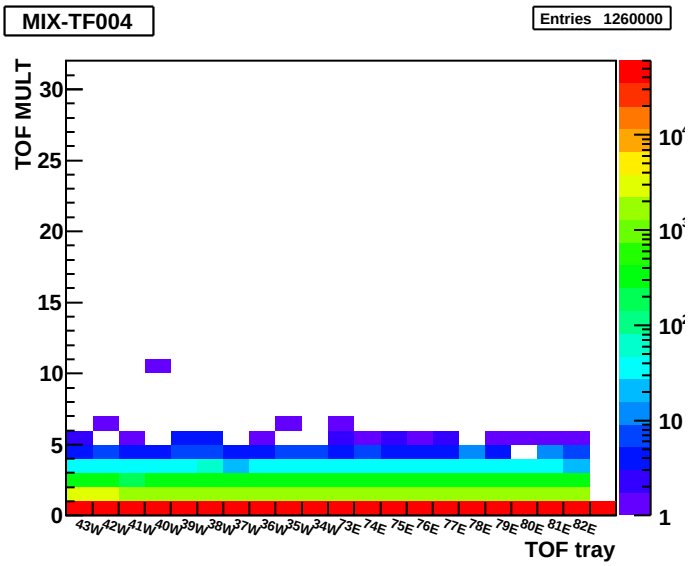

Abort-gaps
Entries 1
1
10^{-1}
10^{-2}
10^{-3}
0 20 40 60 80 100 120

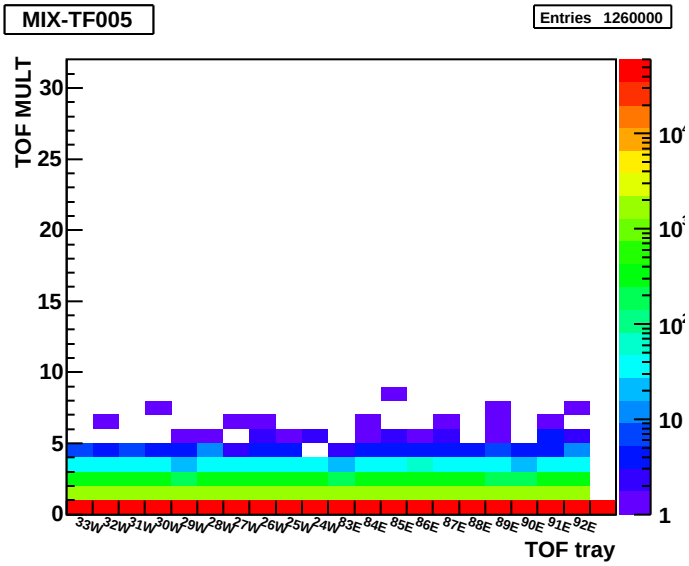

!Yellow-Fill
Entries 30000
10^2
10
1
0 20 40 60 80 100 120

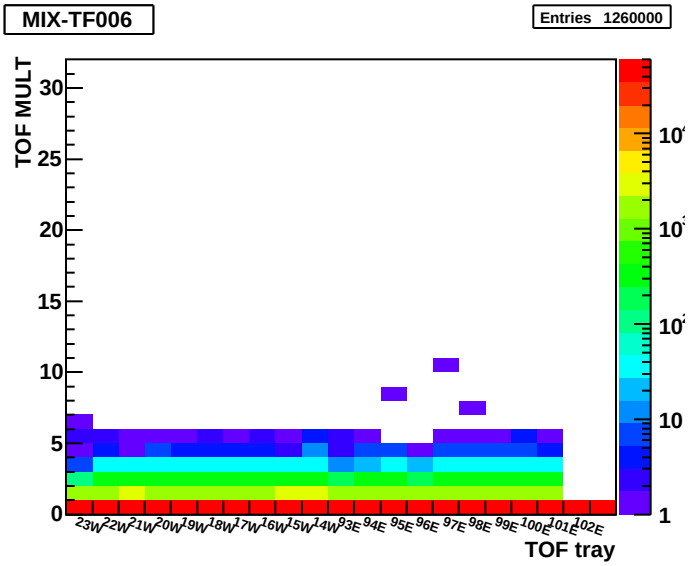

MIX-TF001
Entries 1260000
TOF MULT
TOF tray

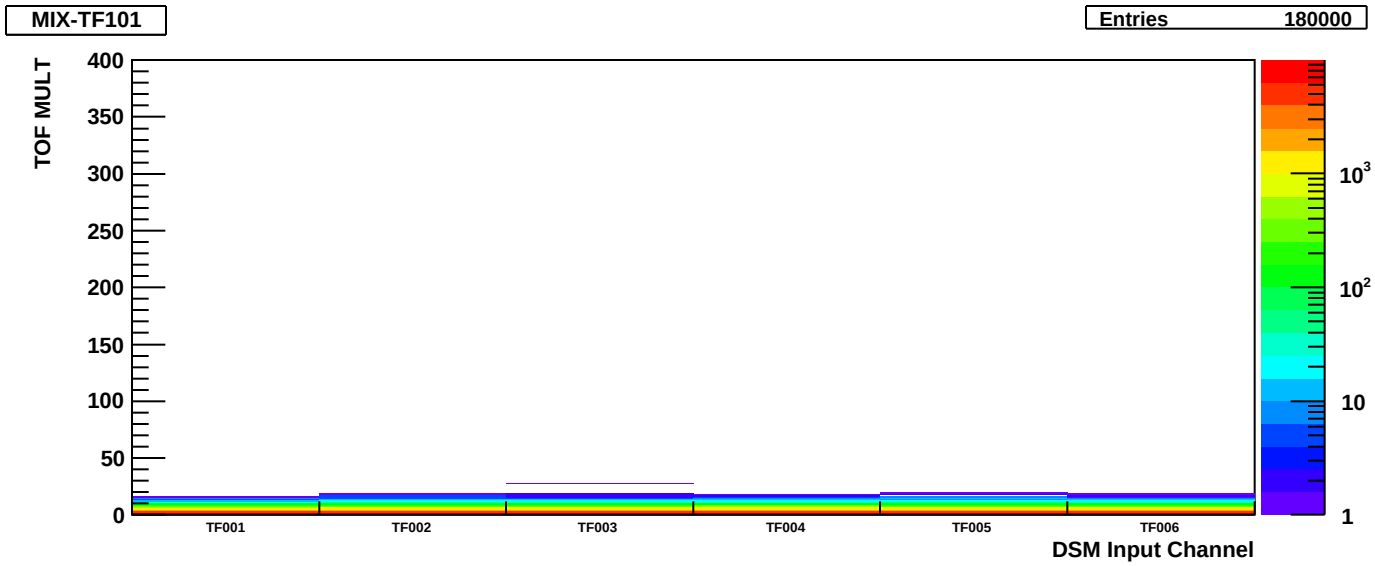

MIX-TF002
Entries 1260000
TOF MULT
TOF tray

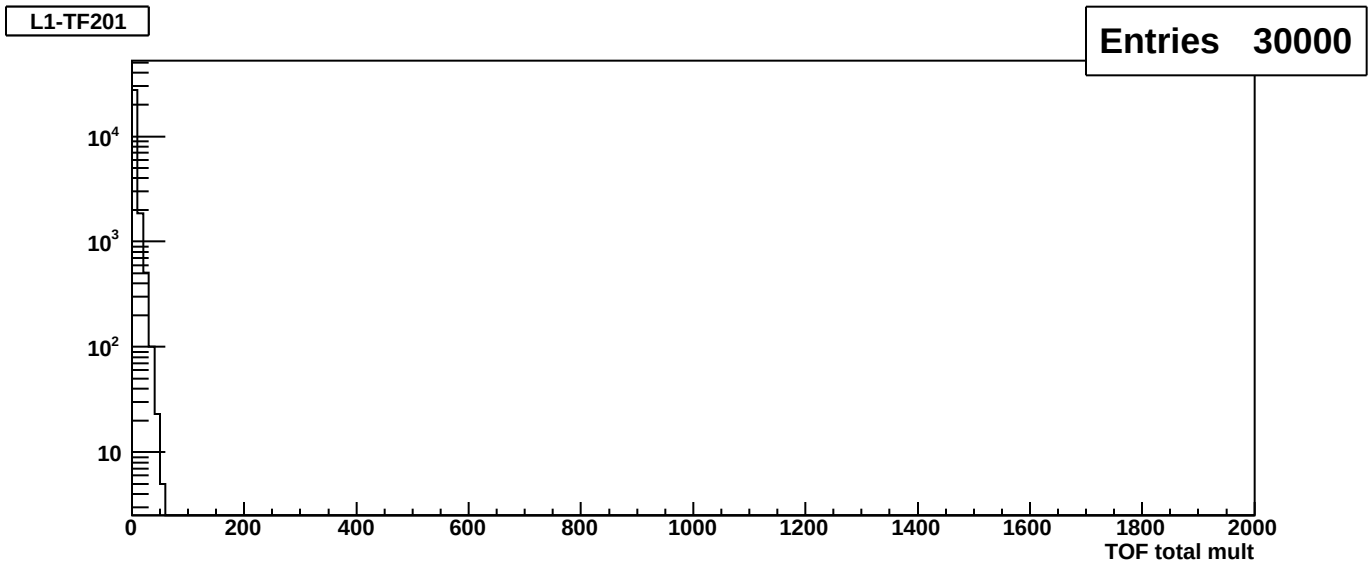

MIX-TF003
Entries 1260000
TOF MULT
TOF tray

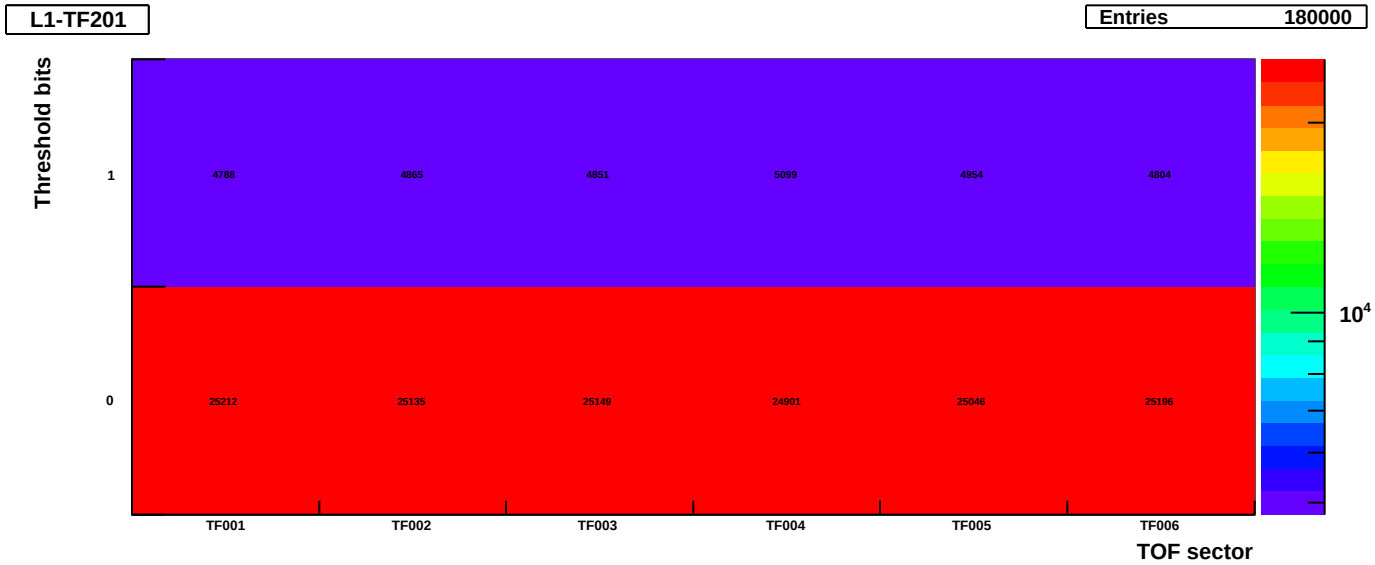

MIX-TF004
Entries 1260000
TOF MULT
TOF tray

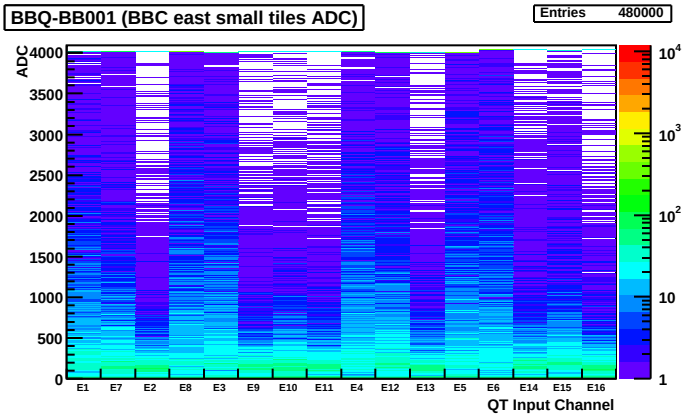

MIX-TF005
Entries 1260000
TOF MULT
TOF tray

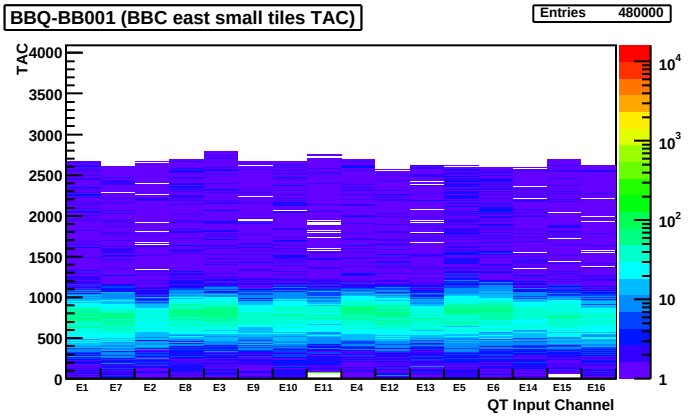

MIX-TF006
Entries 1260000
TOF MULT
TOF tray

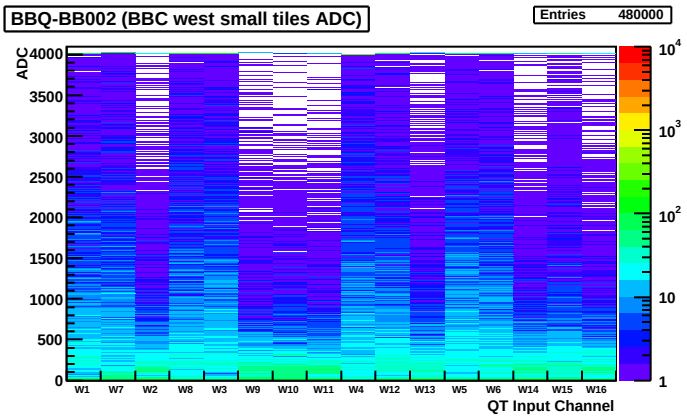

MIX-TF101
Entries 180000
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

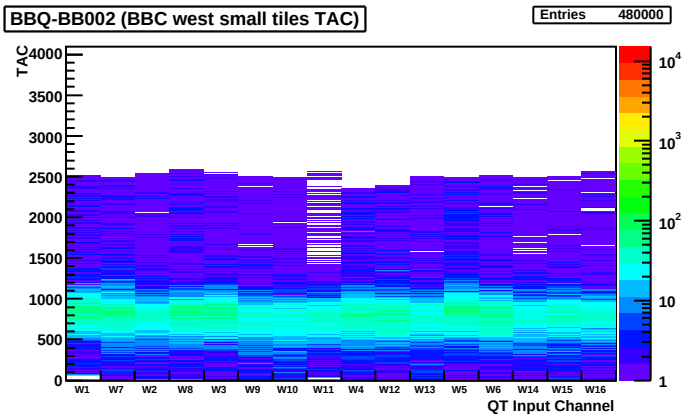

L1-TF201
Entries 30000
10^4
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

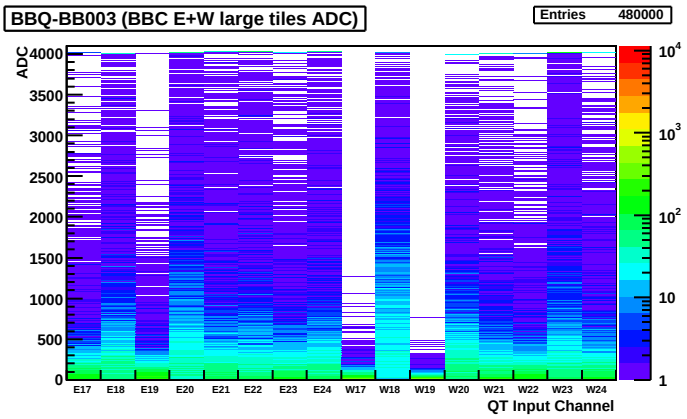

L1-TF201
Entries 180000
Threshold bits
1
0
4788
4865
4851
5099
4954
4804
25212
25135
25149
24901
25046
25196
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4

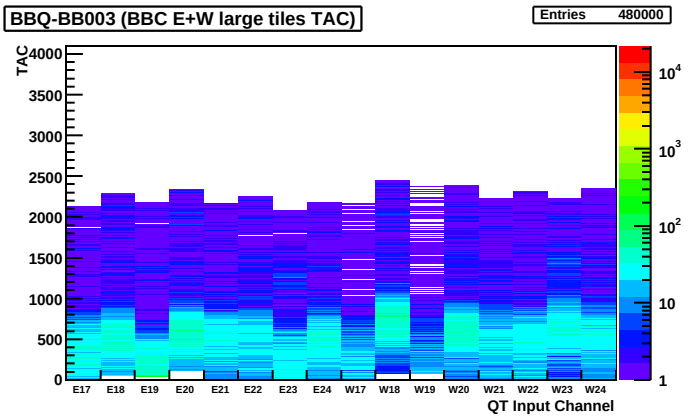

BBQ-BB001 (BBC east small tiles ADC)
Entries 480000
ADC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

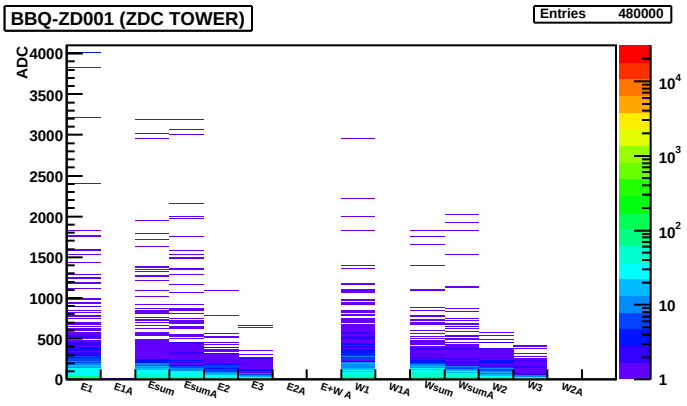

BBQ-BB001 (BBC east small tiles TAC)
Entries 480000
TAC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

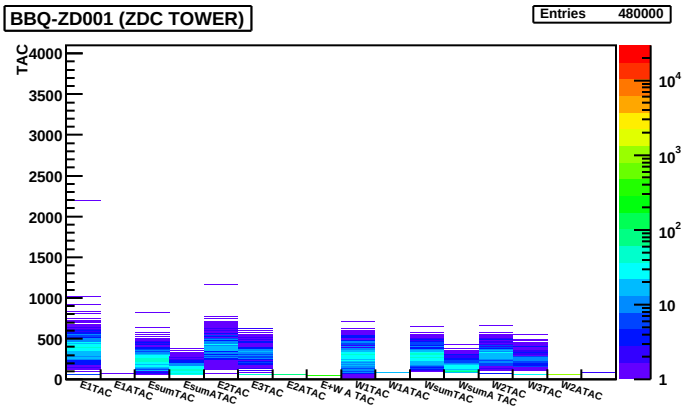

BBQ-BB002 (BBC west small tiles ADC)
Entries 480000
ADC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

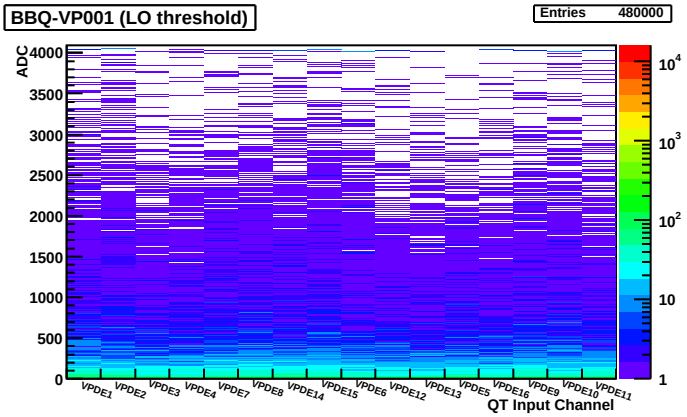

BBQ-BB002 (BBC west small tiles TAC)
Entries 480000
TAC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

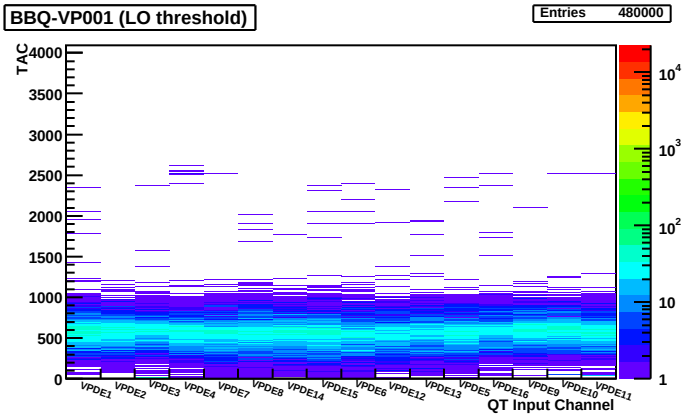

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 480000
ADC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

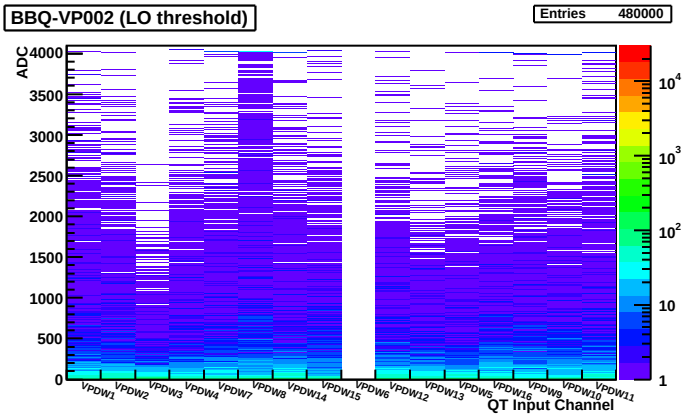

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 480000
TAC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

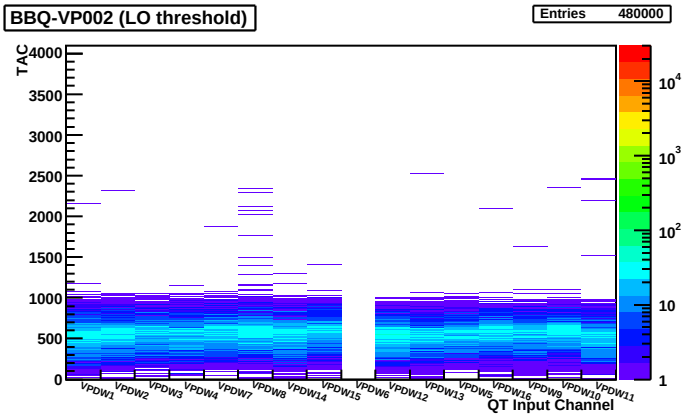

BBQ-ZD001 (ZDC TOWER)
Entries 480000
ADC
E1 E1A Esum EsumA E2 E3 E2A E+W A W1 W1A Wsum WsumA W2 W3 W2A

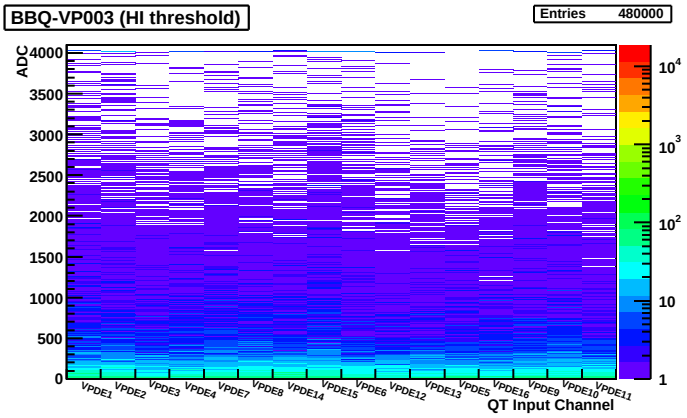

BBQ-ZD001 (ZDC TOWER)
Entries 480000
TAC
E1TAC E1ATAC EsumTAC EsumATAC E2TAC E3TAC E2ATAC E+W A TAC W1TAC W1ATAC WsumTAC WsumA TAC W2TAC W3TAC W2ATAC

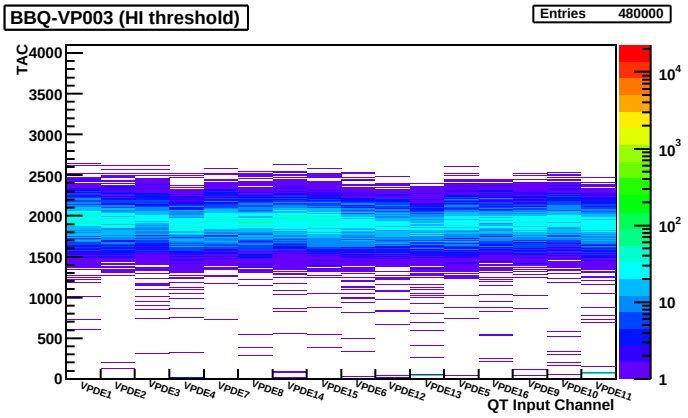

BBQ-VP001 (LO threshold)
Entries 480000
ADC
QT Input Channel

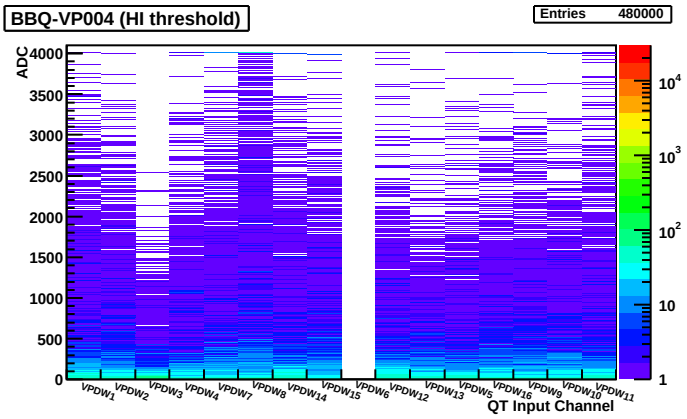

BBQ-VP001 (LO threshold)
Entries 480000
TAC
QT Input Channel

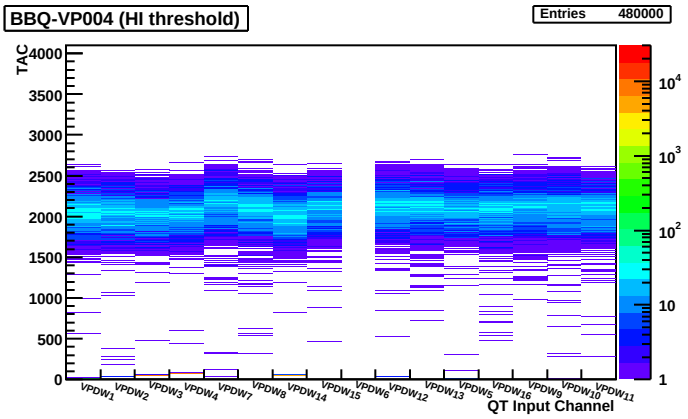

BBQ-VP002 (LO threshold)
Entries 480000
ADC
QT Input Channel

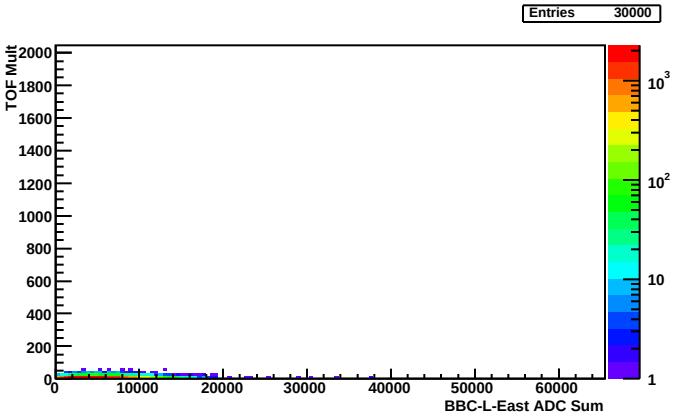

BBQ-VP002 (LO threshold)
Entries 480000
TAC
QT Input Channel

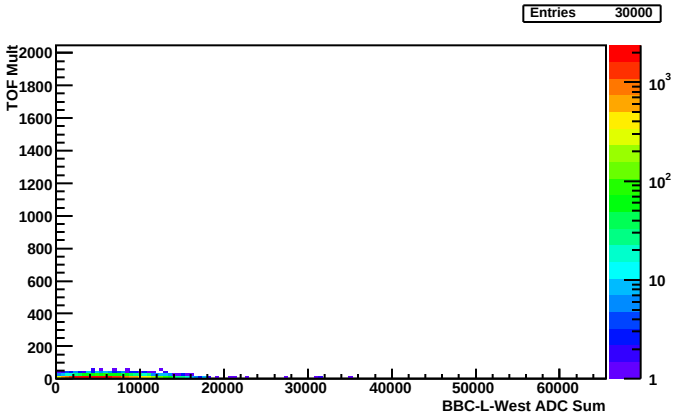

BBQ-VP003 (HI threshold)
Entries 480000
ADC
QT Input Channel

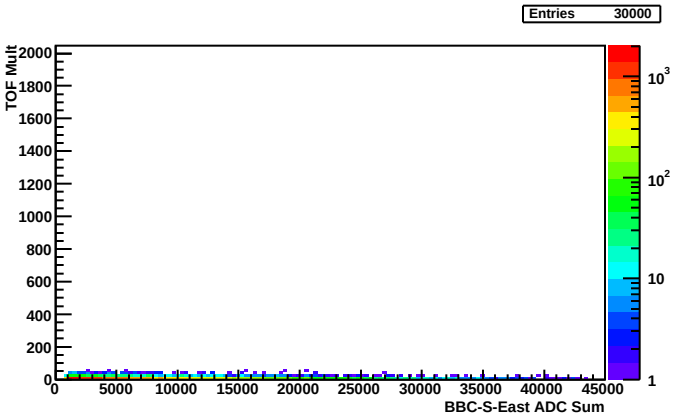

BBQ-VP003 (HI threshold)
Entries 480000
TAC
QT Input Channel

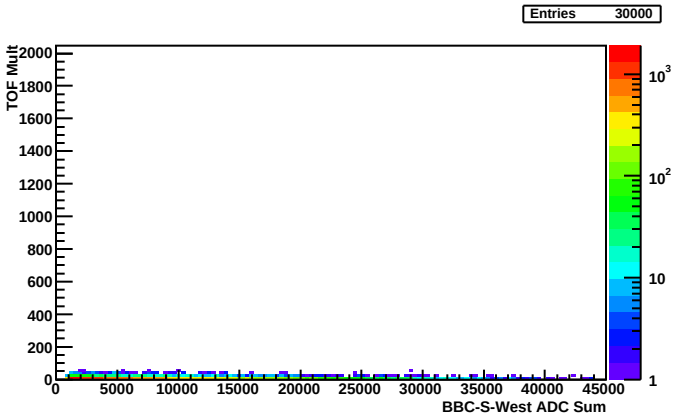

BBQ-VP004 (HI threshold)
Entries 480000
ADC
QT Input Channel

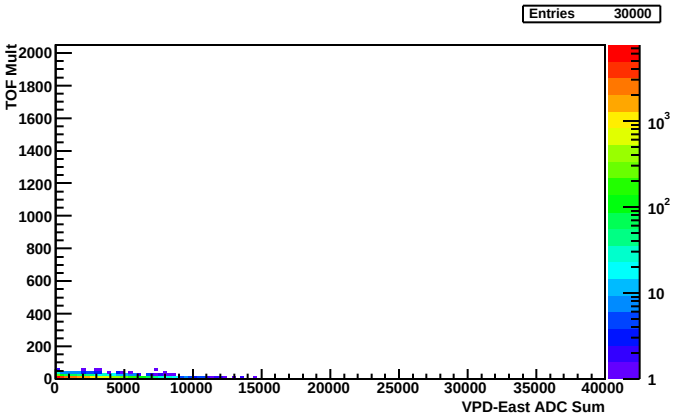

BBQ-VP004 (HI threshold)
Entries 480000
TAC
QT Input Channel

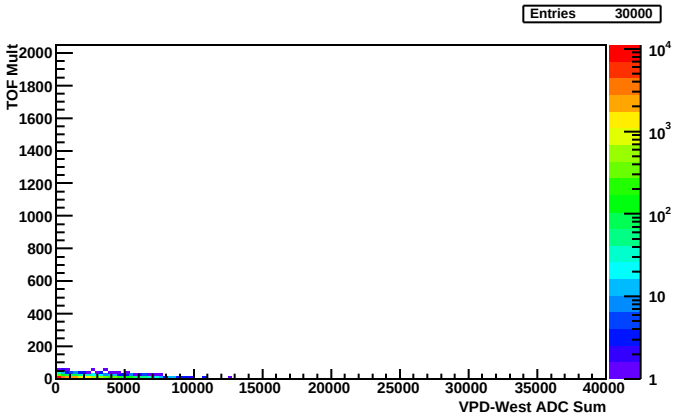

Entries 30000
TOF Mult
BBC-L-East ADC Sum

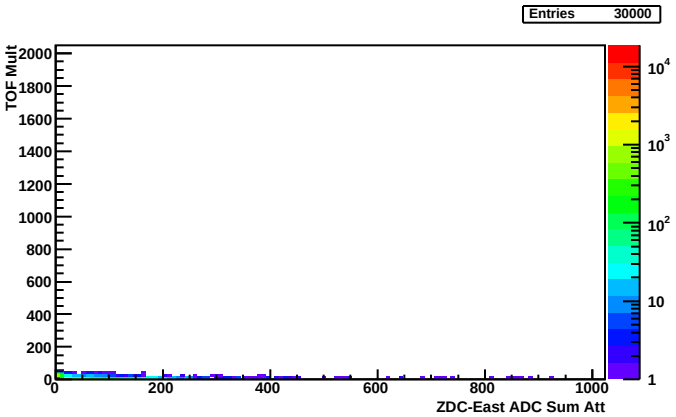

Entries 30000
TOF Mult
BBC-L-West ADC Sum

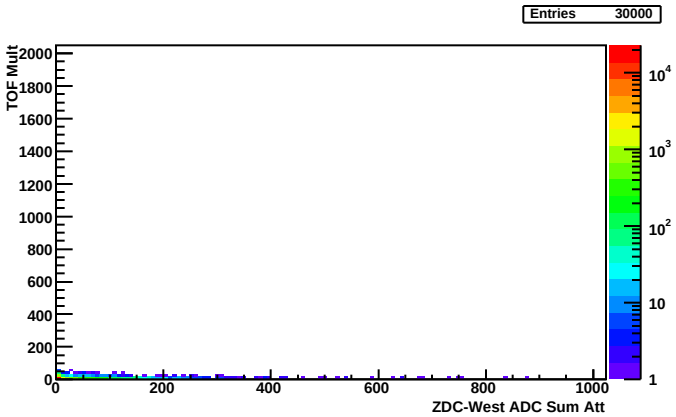

Entries 30000
TOF Mult
BBC-S-East ADC Sum

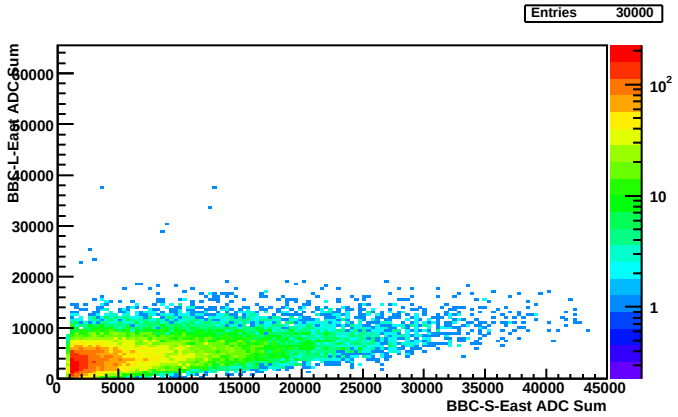

Entries 30000
TOF Mult
BBC-S-West ADC Sum

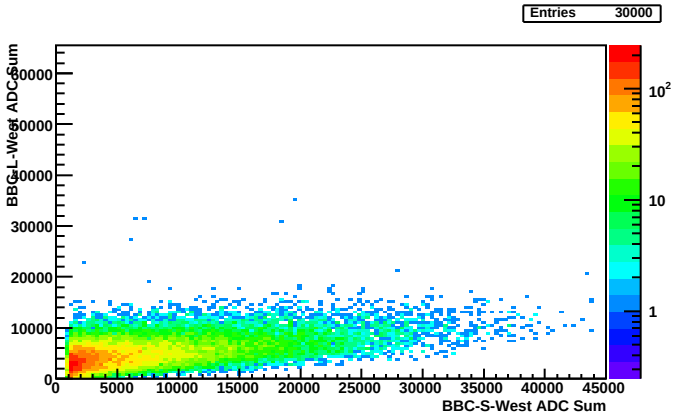

Entries 30000
TOF Mult
VPD-East ADC Sum

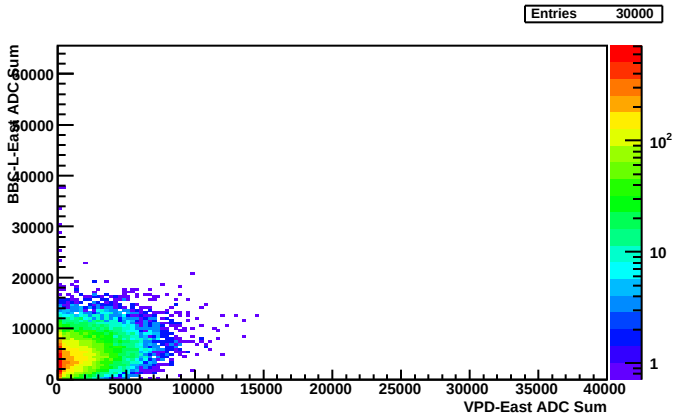

Entries 30000
TOF Mult
VPD-West ADC Sum

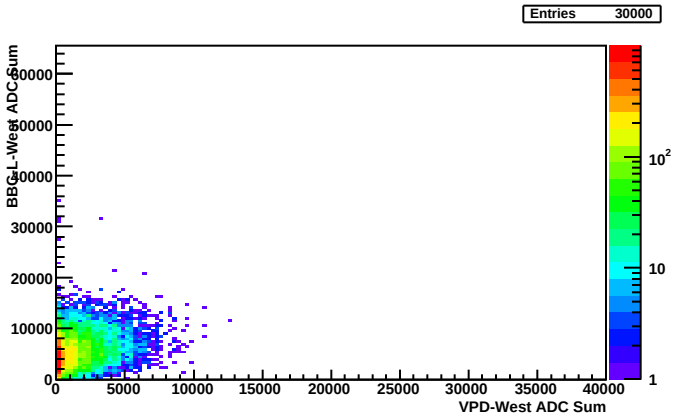

Entries 30000
TOF Mult
ZDC-East ADC Sum Att

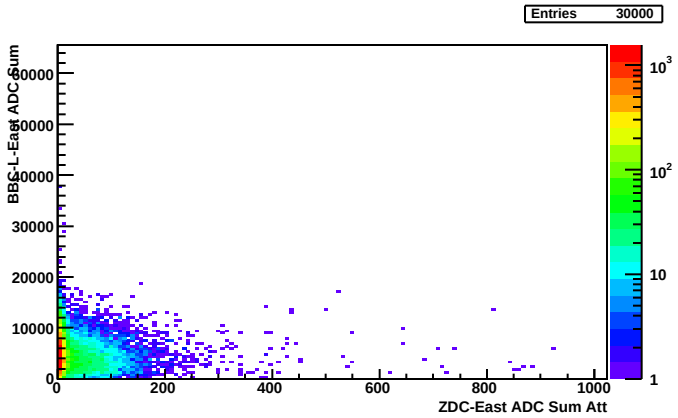

Entries 30000
TOF Mult
ZDC-West ADC Sum Att

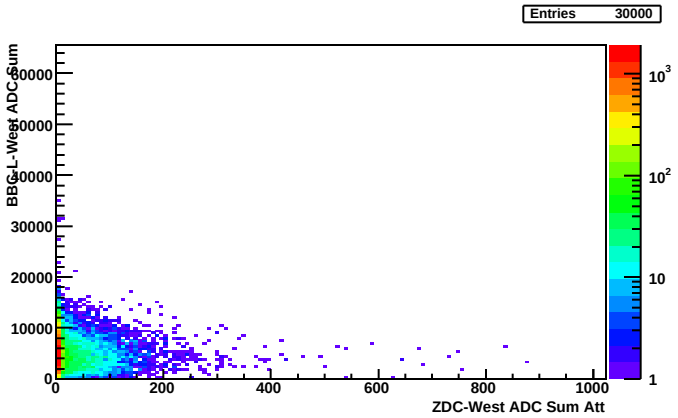

Entries 30000
BBC-L-East ADC Sum
BBC-S-East ADC Sum

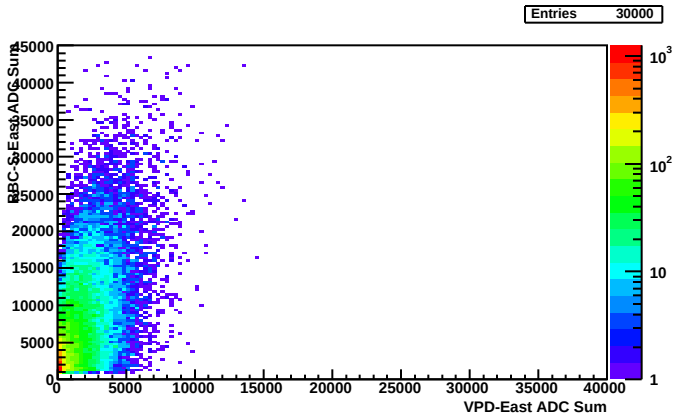

Entries 30000
BBC-L-West ADC Sum
BBC-S-West ADC Sum

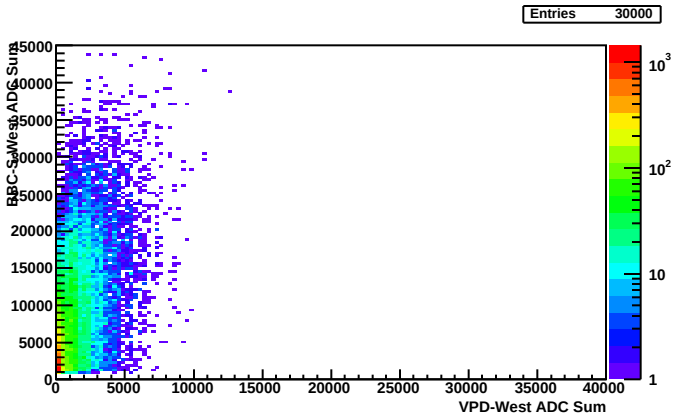

Entries 30000
BBC-L-East ADC Sum
VPD-East ADC Sum

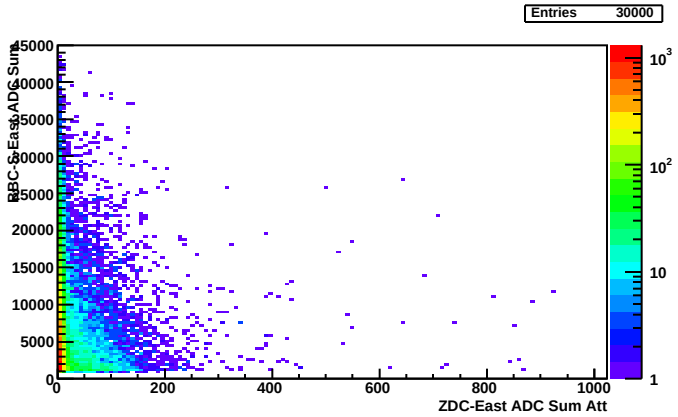

Entries 30000
BBC-L-West ADC Sum
VPD-West ADC Sum

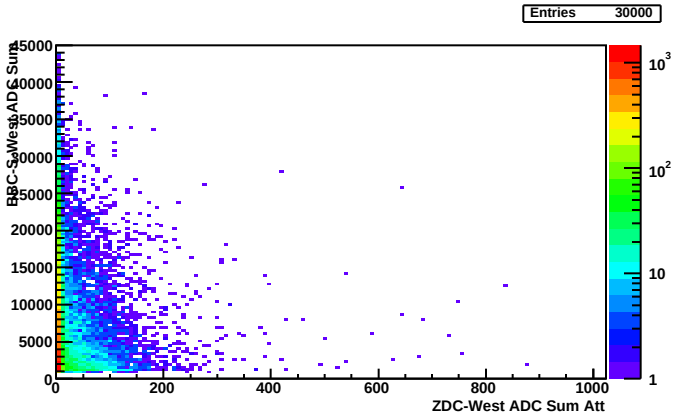

Entries 30000
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

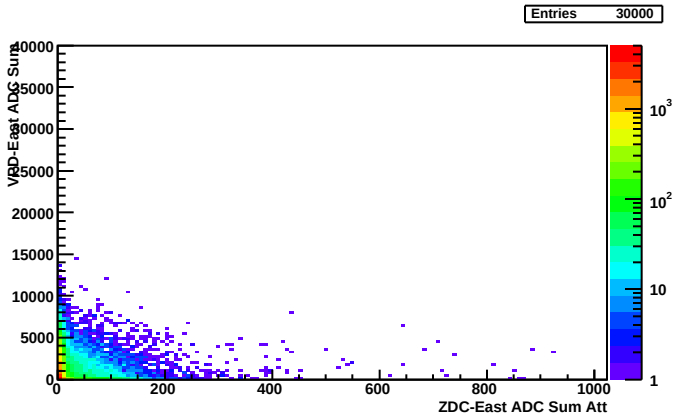

Entries 30000
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

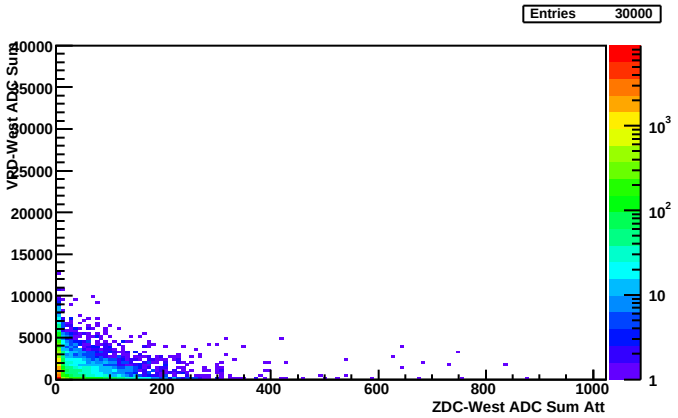

Entries 30000
BBC-S-East ADC Sum
VPD-East ADC Sum

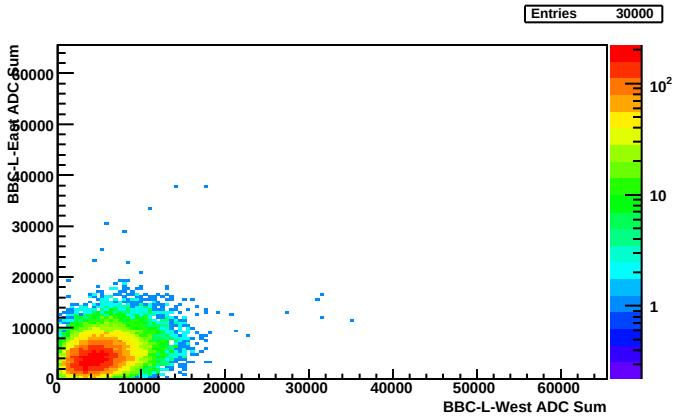

Entries 30000
BBC-S-West ADC Sum
VPD-West ADC Sum

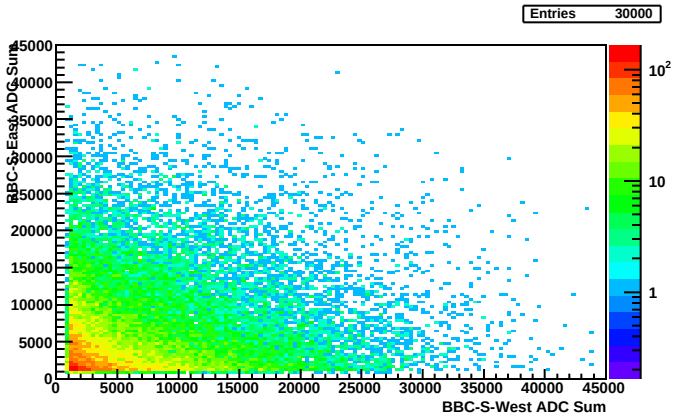

Entries 30000
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

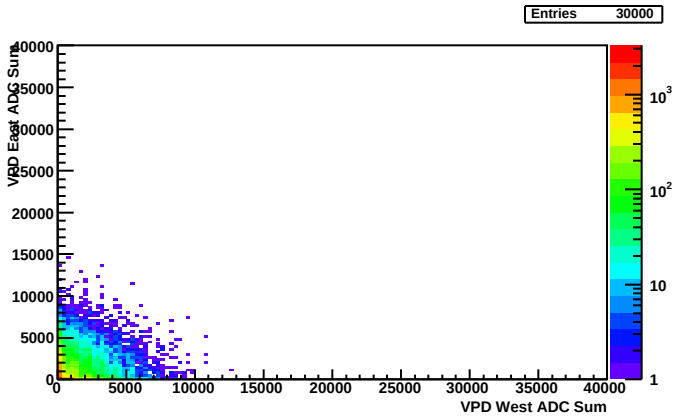

Entries 30000
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

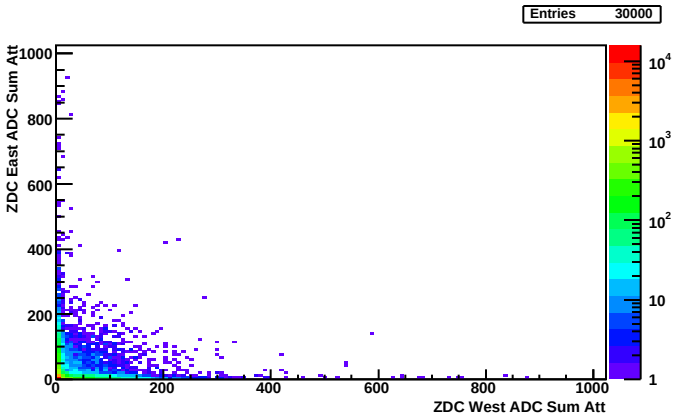

Entries 30000
VPD-East ADC Sum
ZDC-East ADC Sum Att

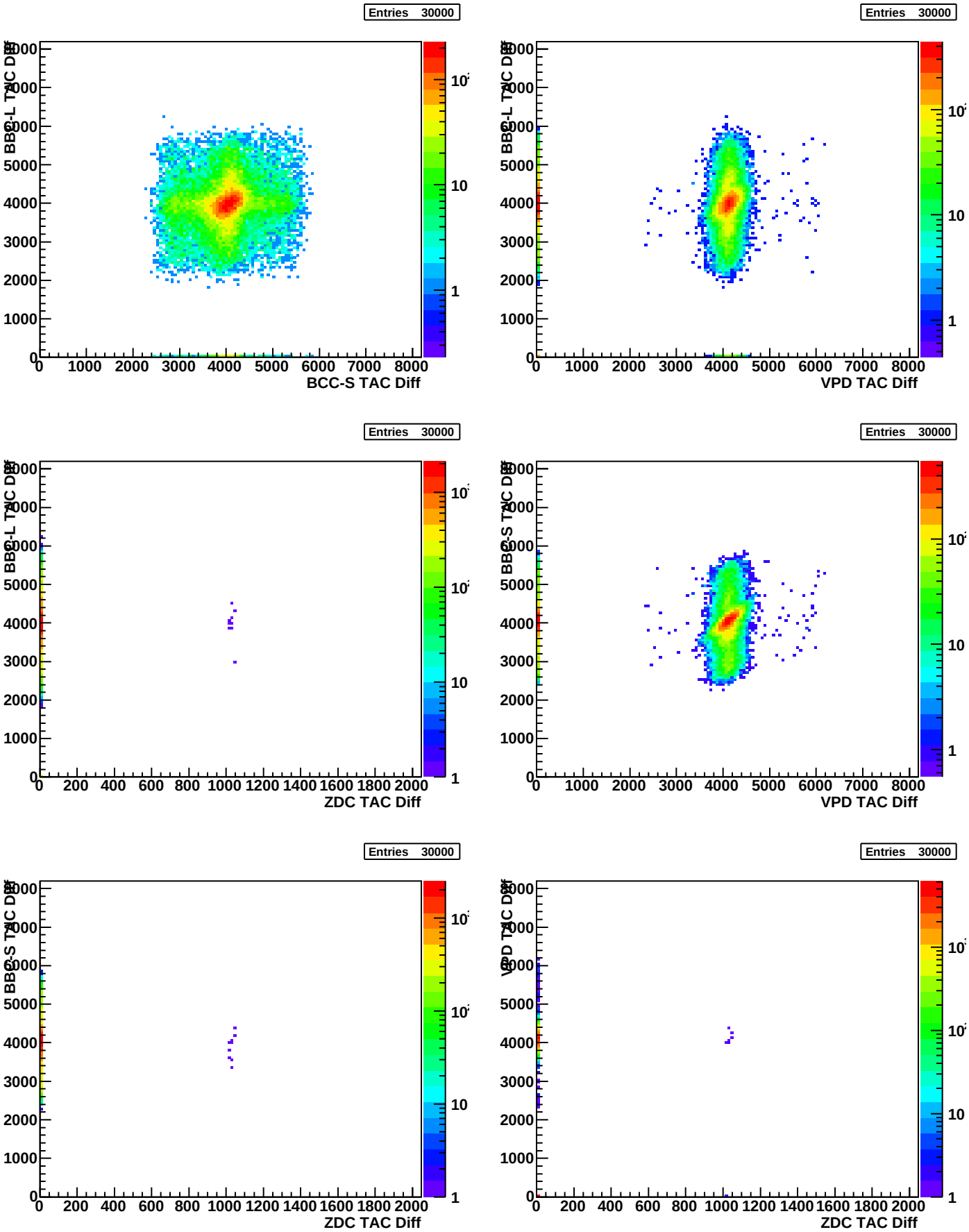

Entries 30000
VPD-West ADC Sum
ZDC-West ADC Sum Att

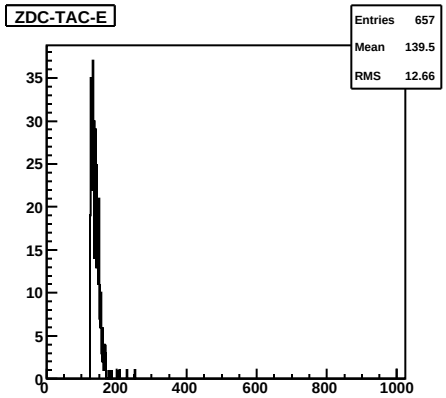

Entries 30000
BBC-L-East ADC Sum
BBC-L-West ADC Sum

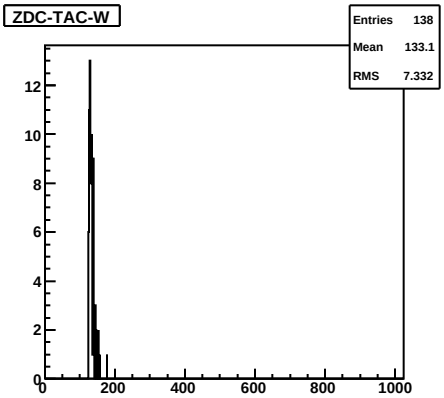

Entries 30000
BBC-S-East ADC Sum
BBC-S-West ADC Sum

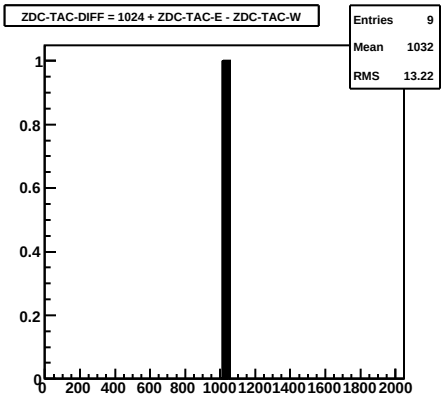

Entries 30000
VPD East ADC Sum
VPD West ADC Sum

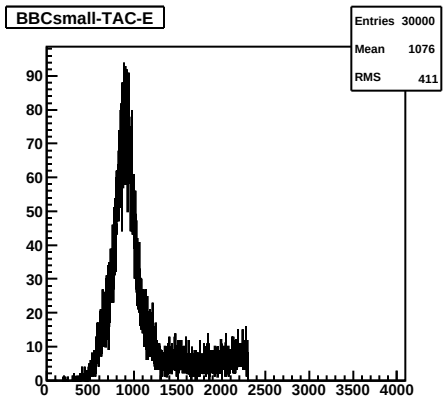

Entries 30000
ZDC East ADC Sum Att
ZDC West ADC Sum Att

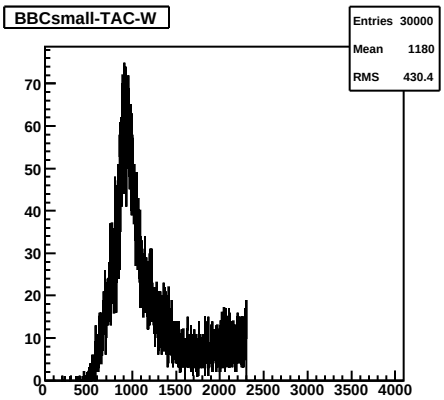

Entries 30000
BBC-L TAC Diff
BCC-S TAC Diff
Entries 30000
BBC-L TAC Diff
VPD TAC Diff
Entries 30000
BBC-L TAC Diff
ZDC TAC Diff
Entries 30000
BBC-S TAC Diff
VPD TAC Diff
Entries 30000
BBC-S TAC Diff
ZDC TAC Diff
Entries 30000
VPD TAC Diff
ZDC TAC Diff

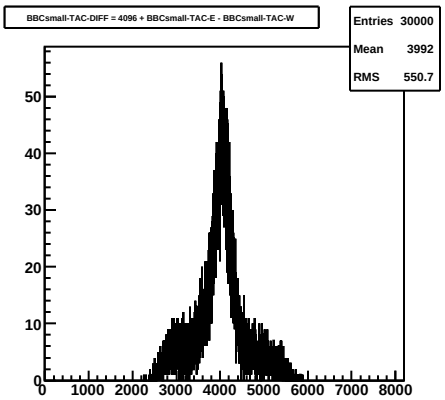

ZDC-TAC-E
Entries 657
Mean 139.5
RMS 12.66

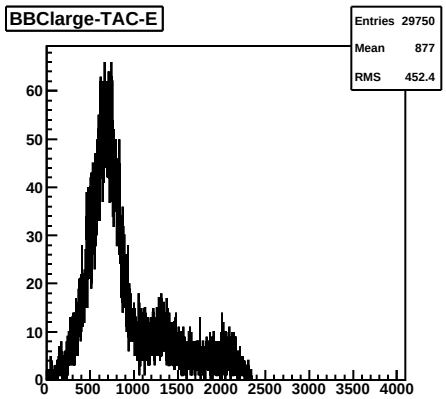

ZDC-TAC-W
Entries 138
Mean 133.1
RMS 7.332

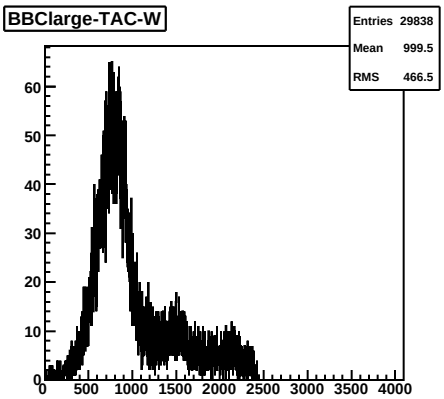

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 9
Mean 1032
RMS 13.22

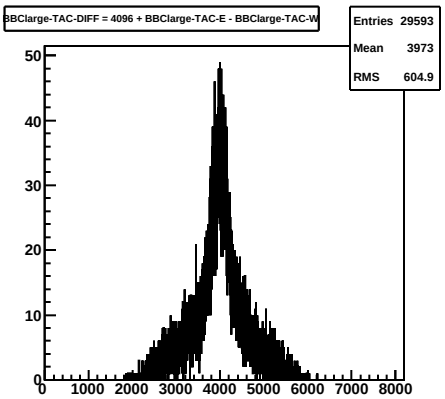

BBCsmall-TAC-E
Entries 30000
Mean 1076
RMS 411

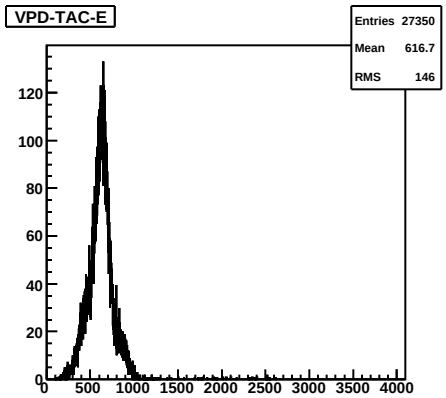

BBCsmall-TAC-W
Entries 30000
Mean 1180
RMS 430.4

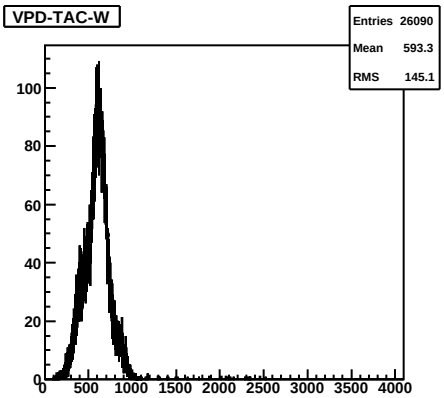

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 30000
Mean 3992
RMS 550.7

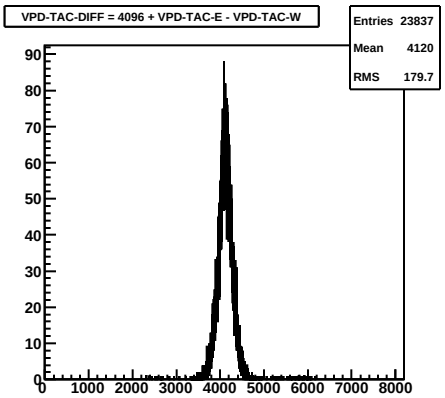

BBClarge-TAC-E
Entries 29750
Mean 877
RMS 452.4

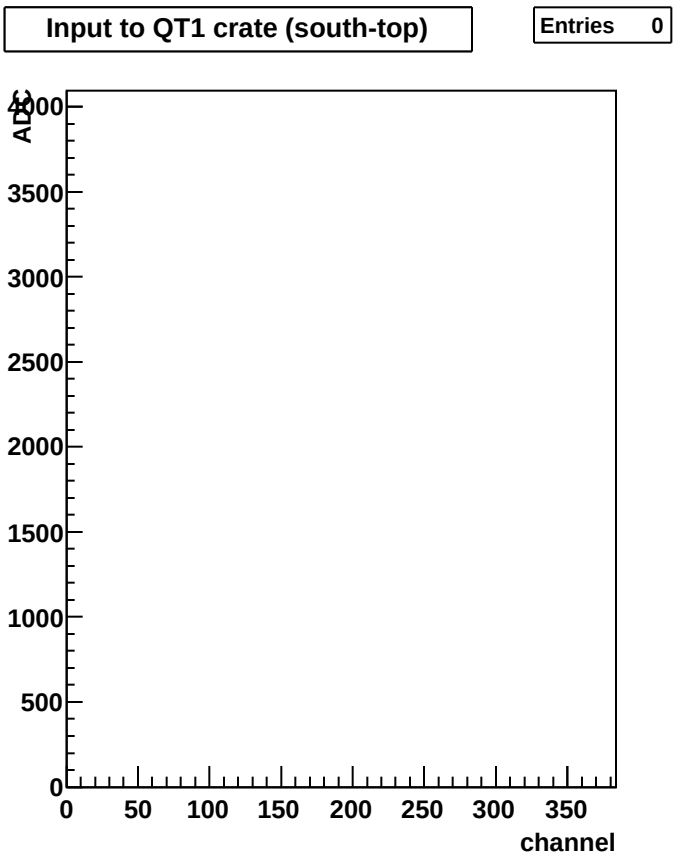

BBClarge-TAC-W
Entries 29838
Mean 999.5
RMS 466.5

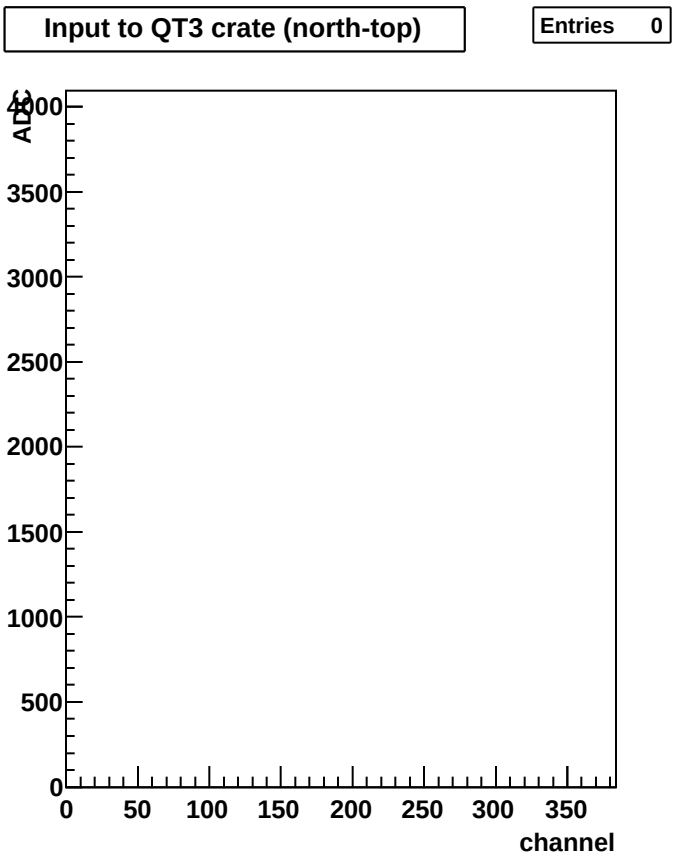

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 29593
Mean 3973
RMS 604.9

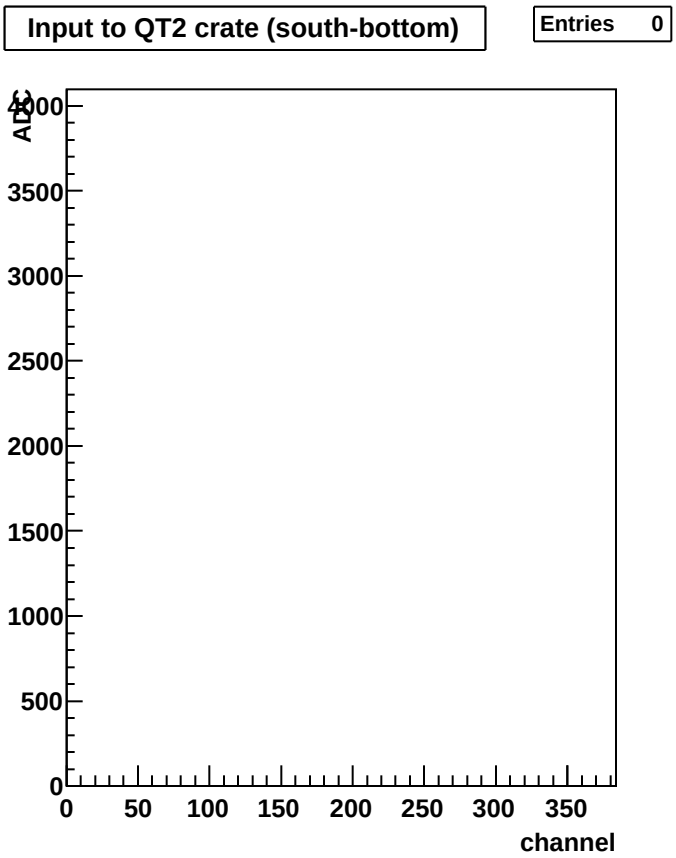

VPD-TAC-E
Entries 27350
Mean 616.7
RMS 146

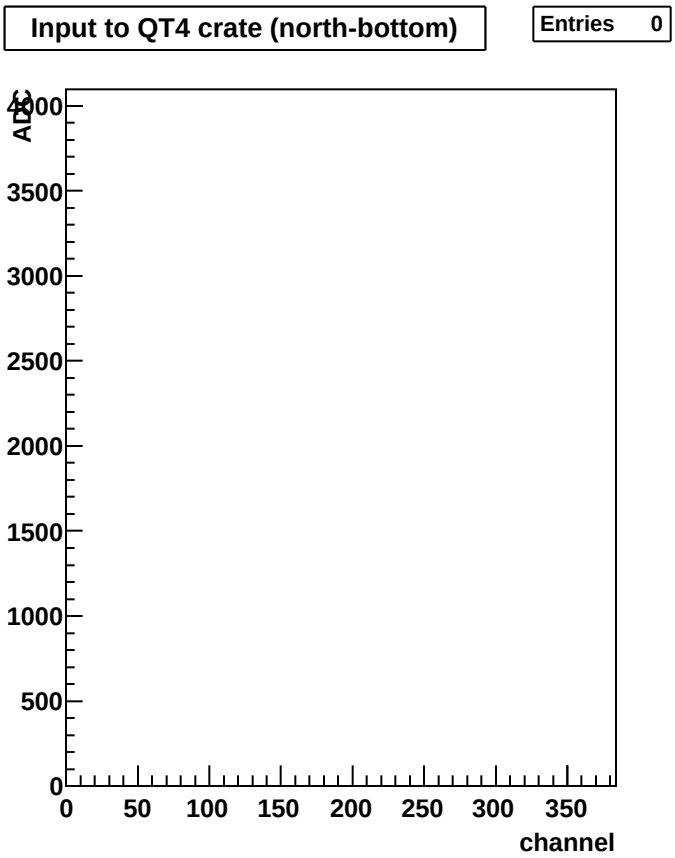

VPD-TAC-W
Entries 26090
Mean 593.3
RMS 145.1

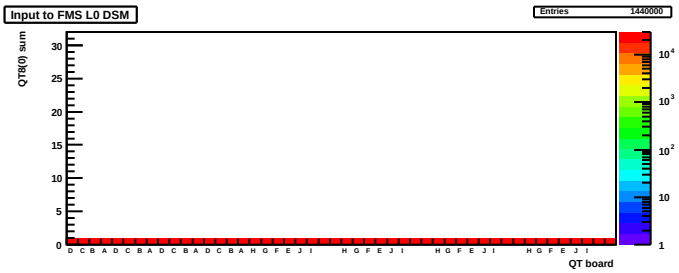

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 23837
Mean 4120
RMS 179.7

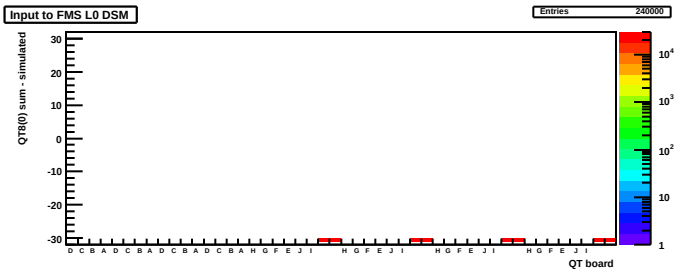

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

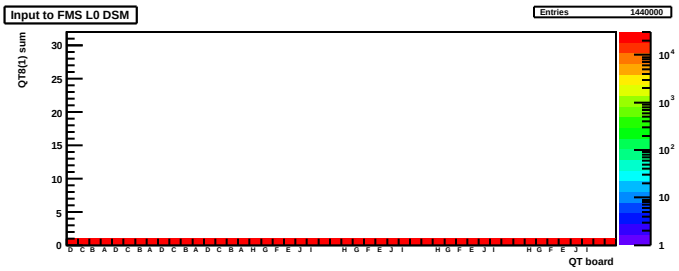

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

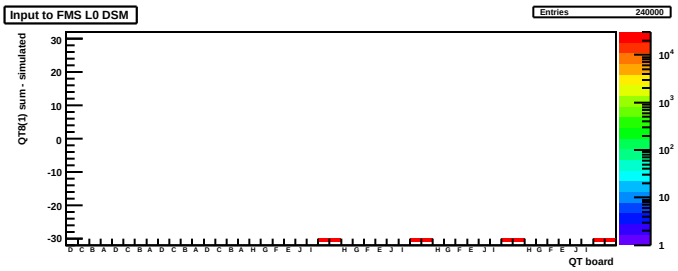

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

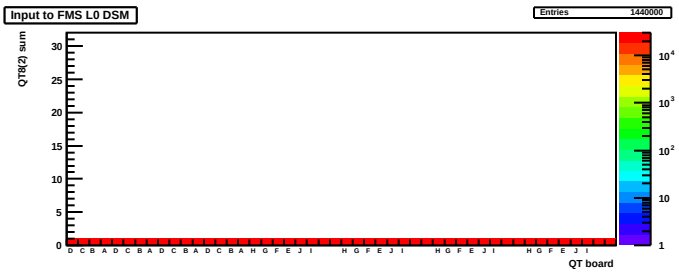

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

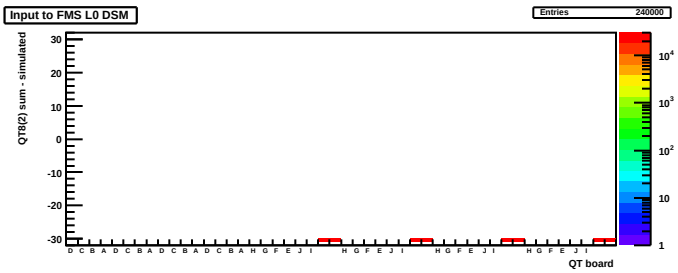

Input to FMS L0 DSM
Entries 1440000
QT8(0) sum
QT board

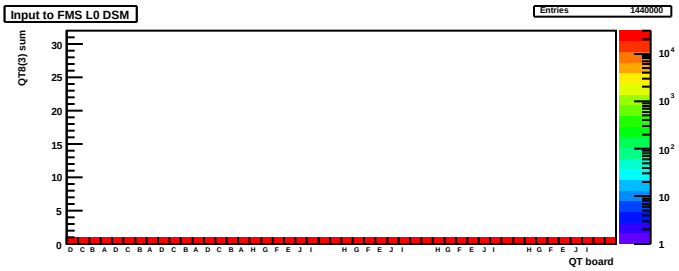

Input to FMS L0 DSM
Entries 240000
QT8(0) sum - simulated
QT board

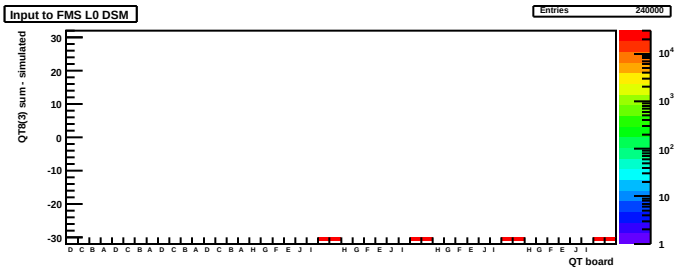

Input to FMS L0 DSM
Entries 1440000
QT8(1) sum
QT board

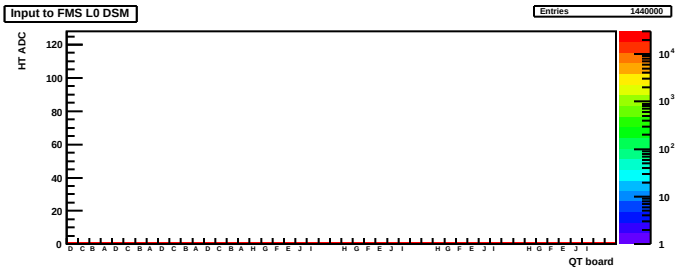

Input to FMS L0 DSM
Entries 240000
QT8(1) sum - simulated
QT board

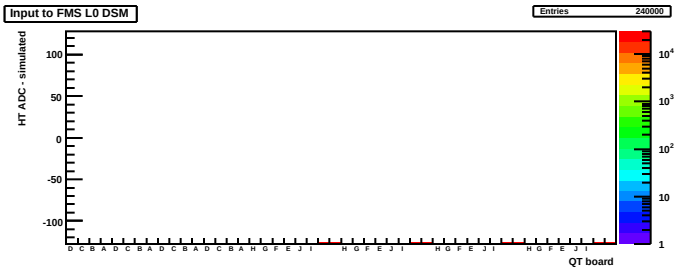

Input to FMS L0 DSM
Entries 1440000
QT8(2) sum
QT board

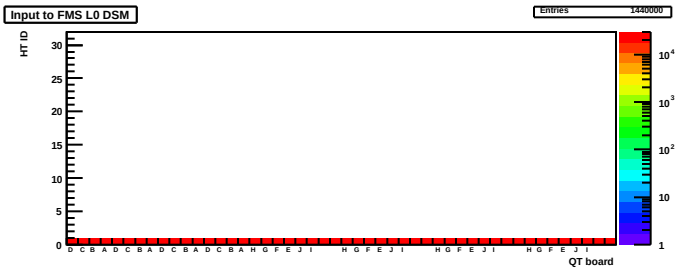

Input to FMS L0 DSM
Entries 240000
QT8(2) sum - simulated
QT board

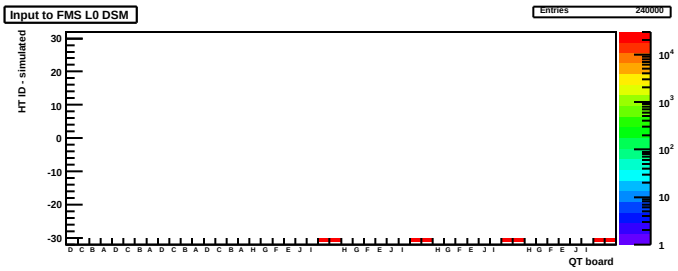

Input to FMS L0 DSM
Entries 1440000
QT8(3) sum
QT board

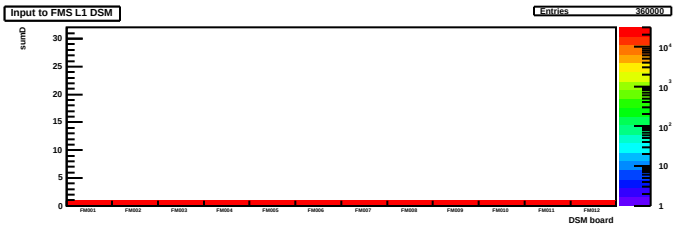

Input to FMS L0 DSM
Entries 240000
QT8(3) sum - simulated
QT board

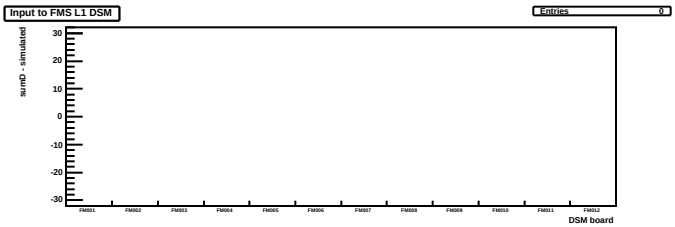

Input to FMS L0 DSM
Entries 1440000
HT ADC
QT board

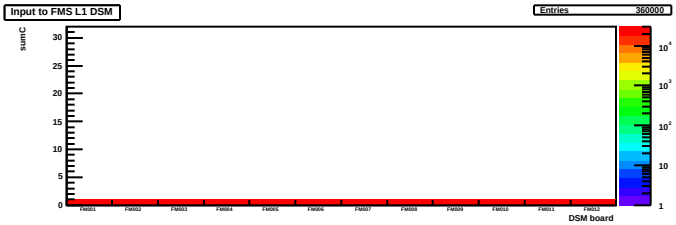

Input to FMS L0 DSM
Entries 240000
HT ADC - simulated
QT board

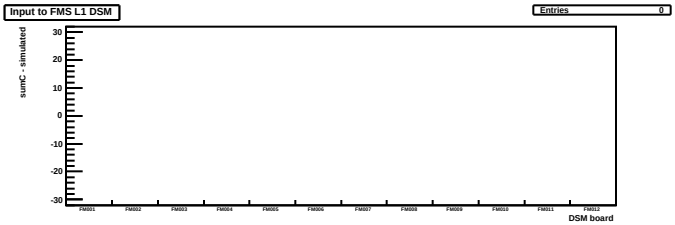

Input to FMS L0 DSM
Entries 1440000
HT ID
QT board

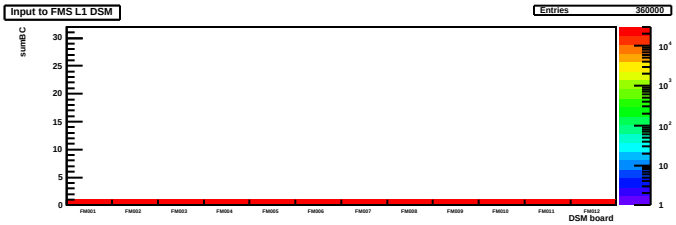

Input to FMS L0 DSM
Entries 240000
HT ID - simulated
QT board

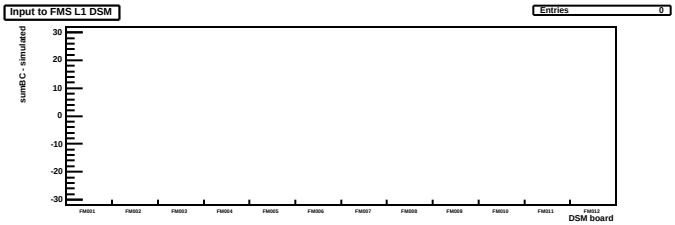

Input to FMS L1 DSM
Entries 360000
sumD
DSM board

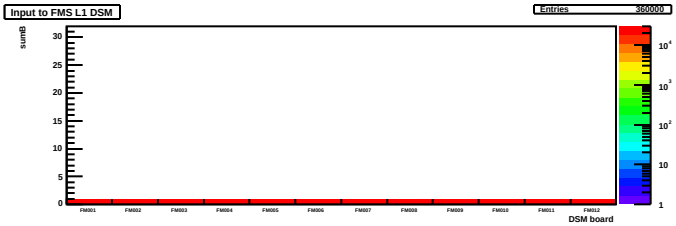

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

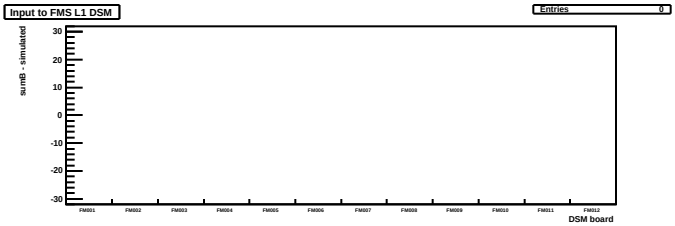

Input to FMS L1 DSM
Entries 360000
sumC
DSM board

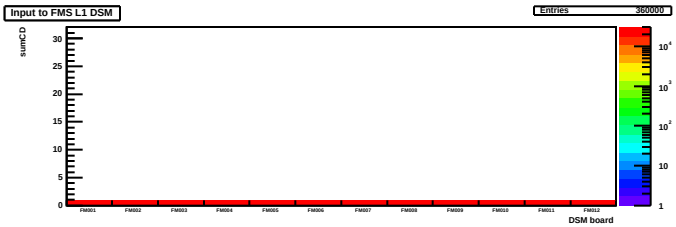

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

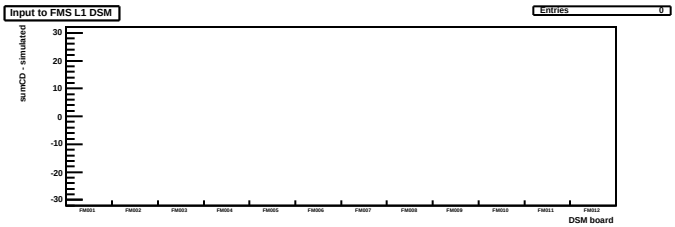

Input to FMS L1 DSM
Entries 360000
sumBC
DSM board

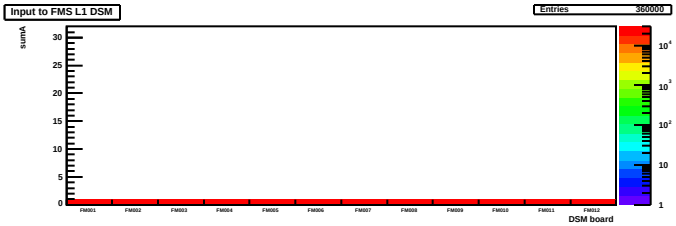

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

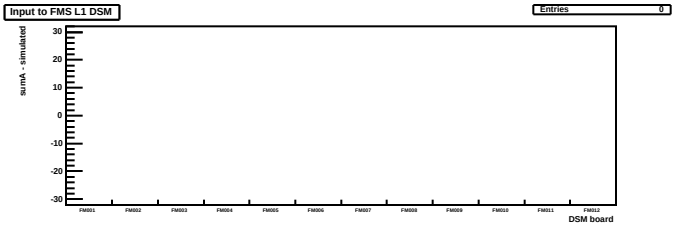

Input to FMS L1 DSM
Entries 360000
sumB
DSM board

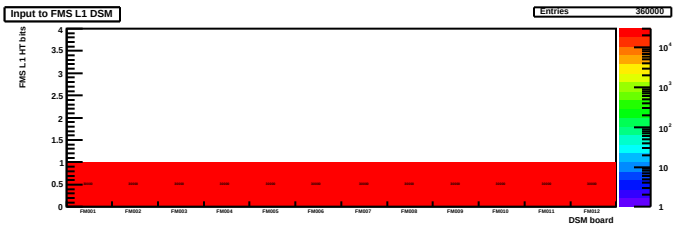

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

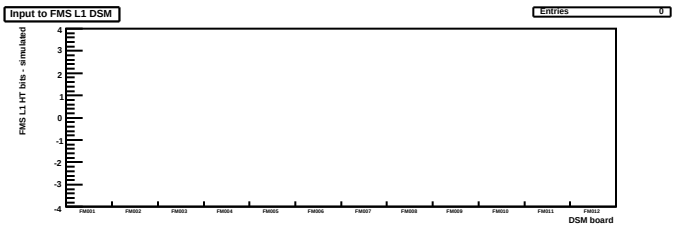

Input to FMS L1 DSM
Entries 360000
sumCD
DSM board

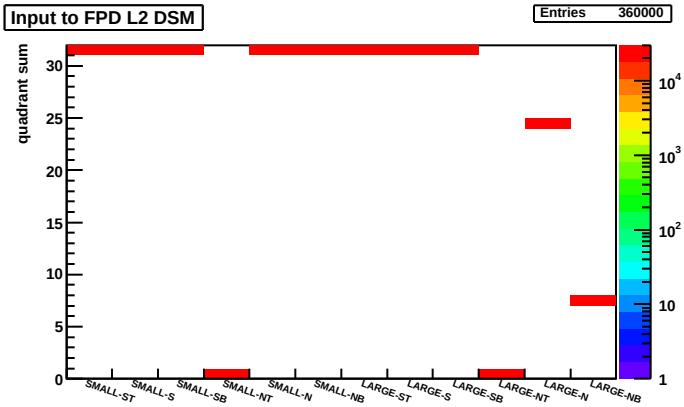

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

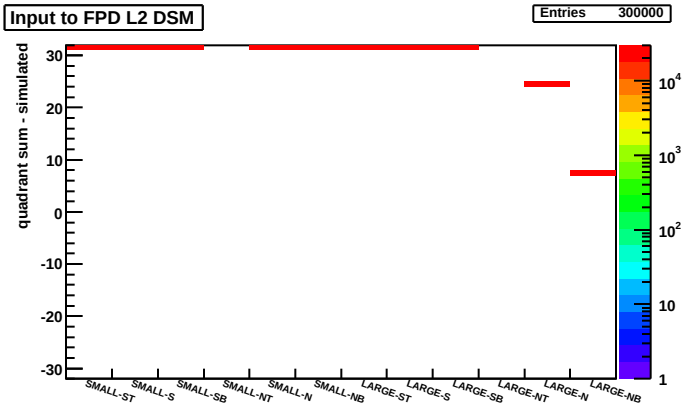

Input to FMS L1 DSM
Entries 360000
sumA
DSM board

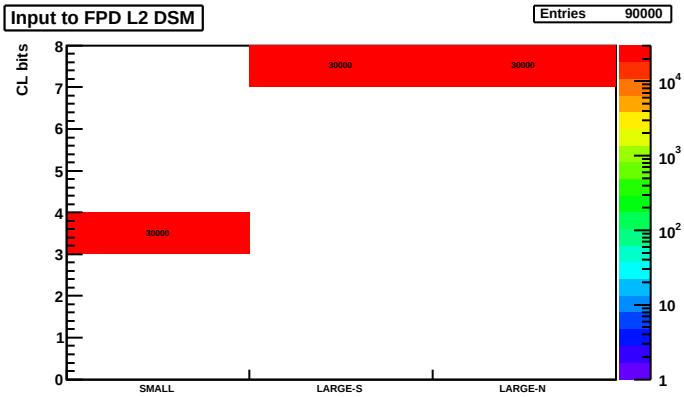

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

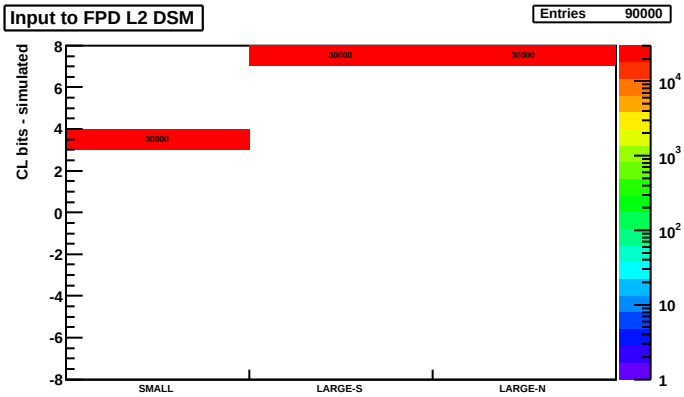

Input to FMS L1 DSM
Entries 360000
FMS L1 HT bits
DSM board

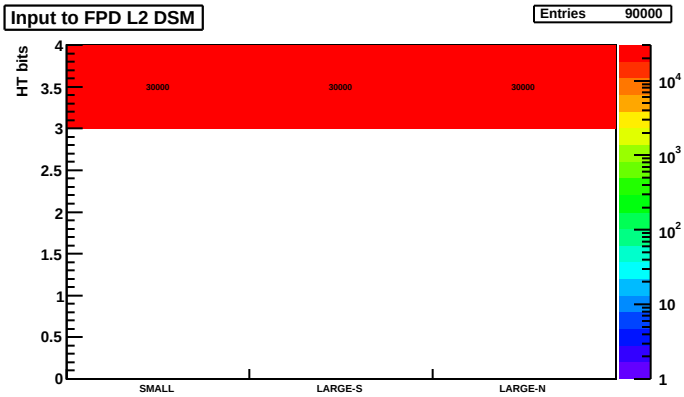

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

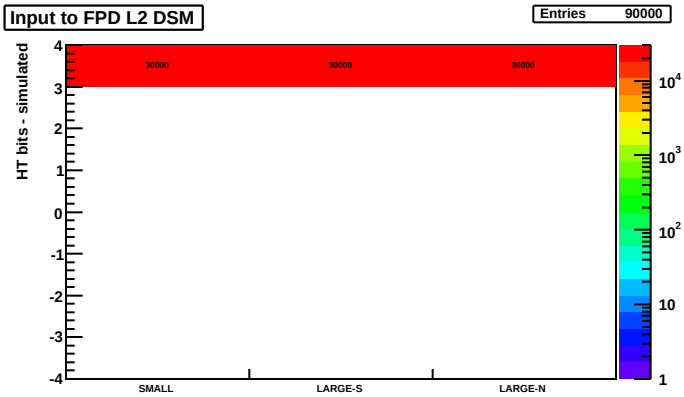

Input to FPD L2 DSM
Entries 360000
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

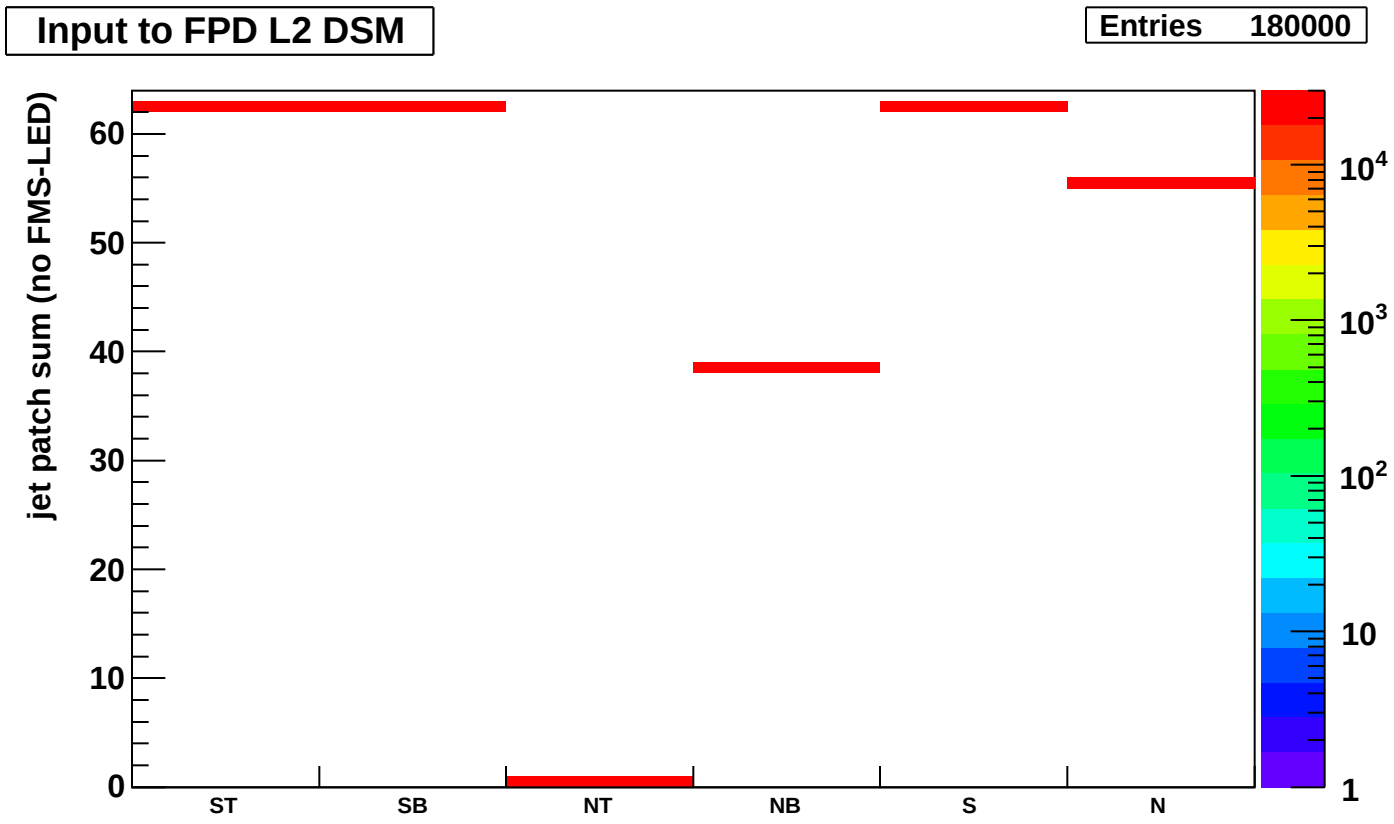

Input to FPD L2 DSM
Entries 300000
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

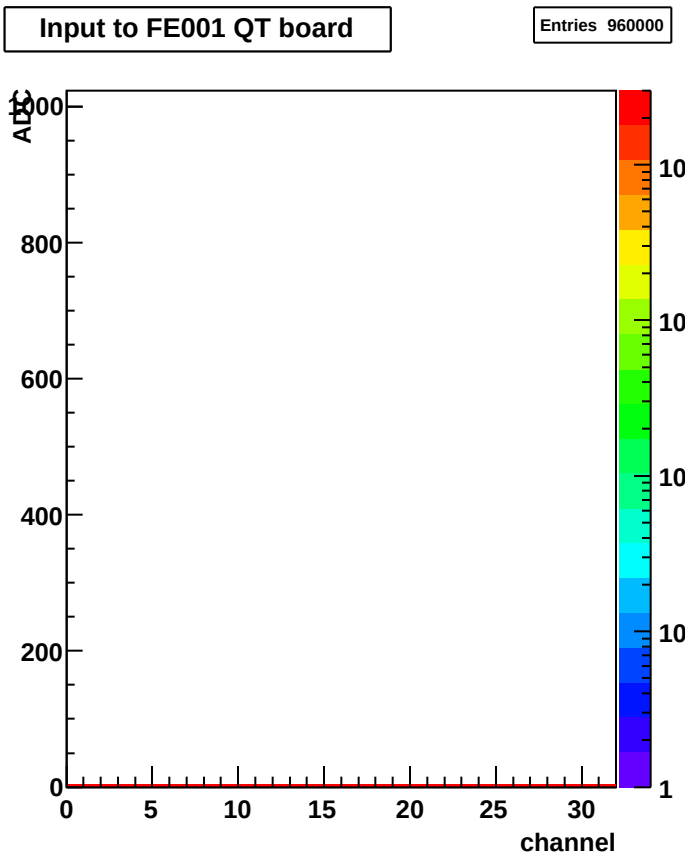

Input to FPD L2 DSM
Entries 90000
CL bits
30000
30000
30000
SMALL
LARGE-S
LARGE-N

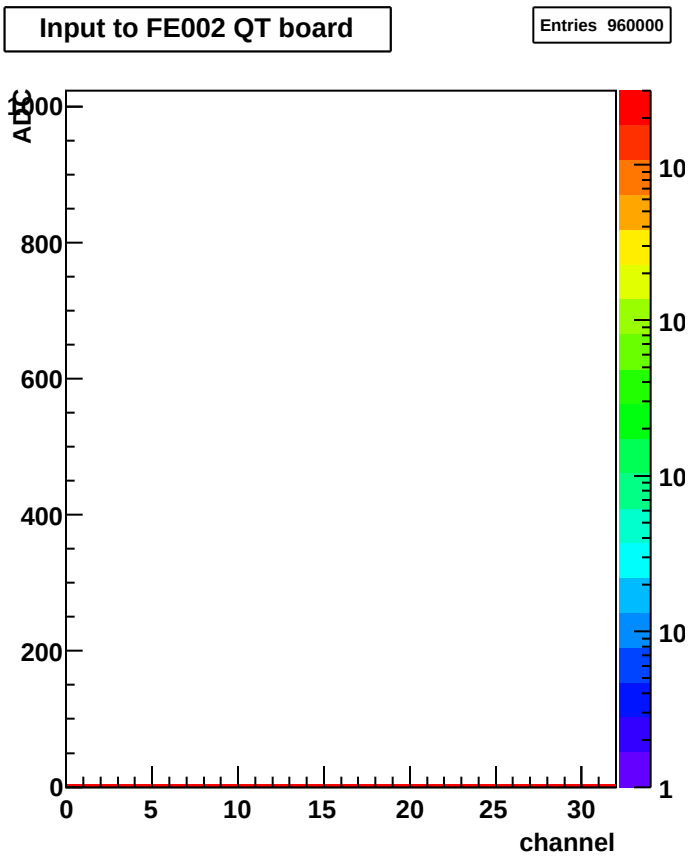

Input to FPD L2 DSM
Entries 90000
CL bits - simulated
30000
30000
30000
SMALL
LARGE-S
LARGE-N

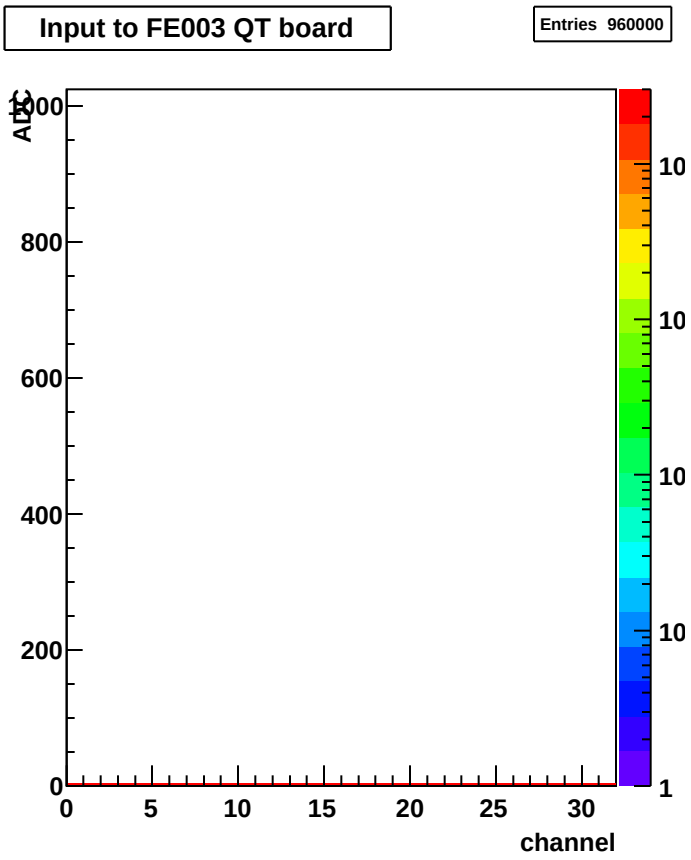

Input to FPD L2 DSM
Entries 90000
HT bits
30000
30000
30000
SMALL
LARGE-S
LARGE-N

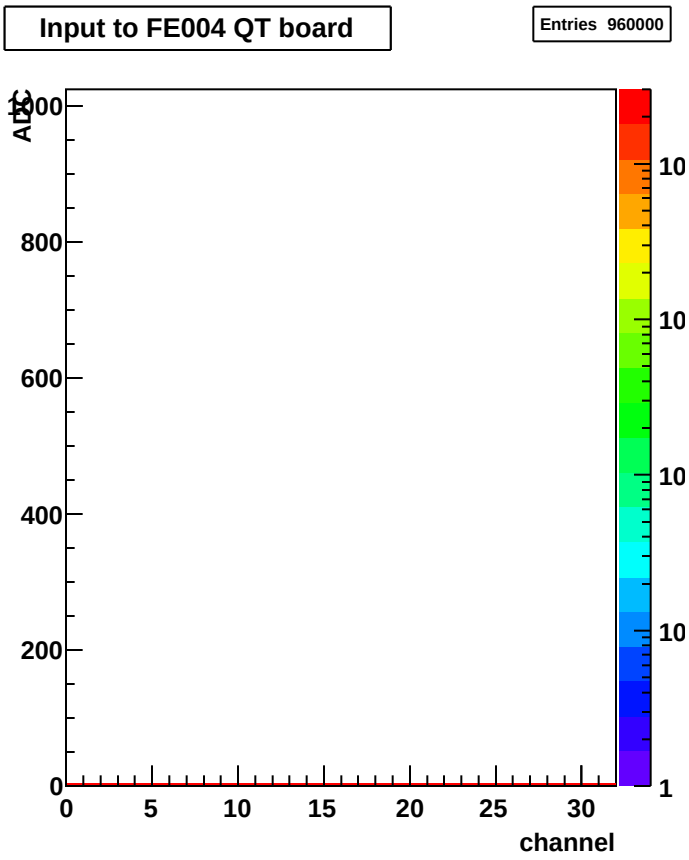

Input to FPD L2 DSM
Entries 90000
HT bits - simulated
30000
30000
30000
SMALL
LARGE-S
LARGE-N

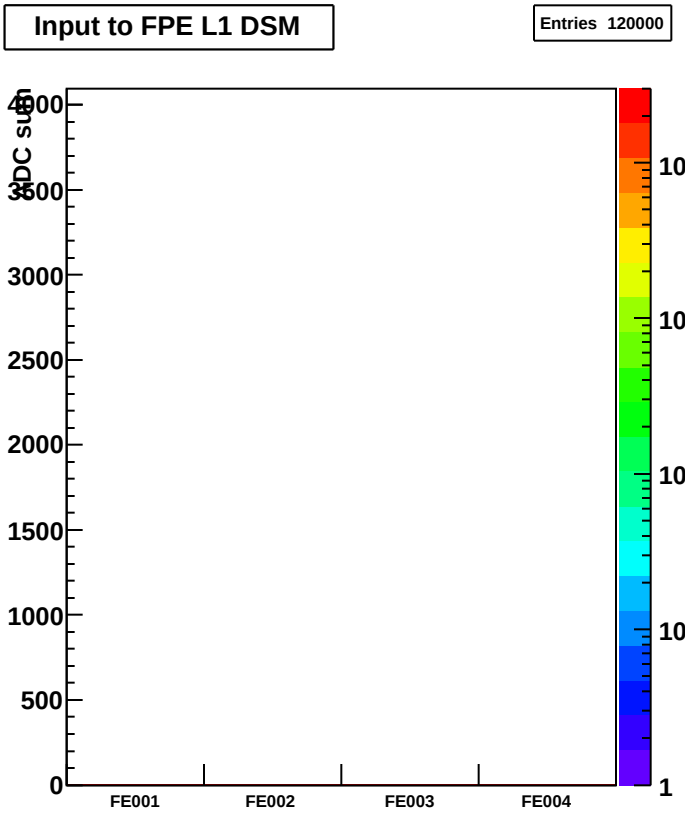

Input to FPD L2 DSM
Entries 180000
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

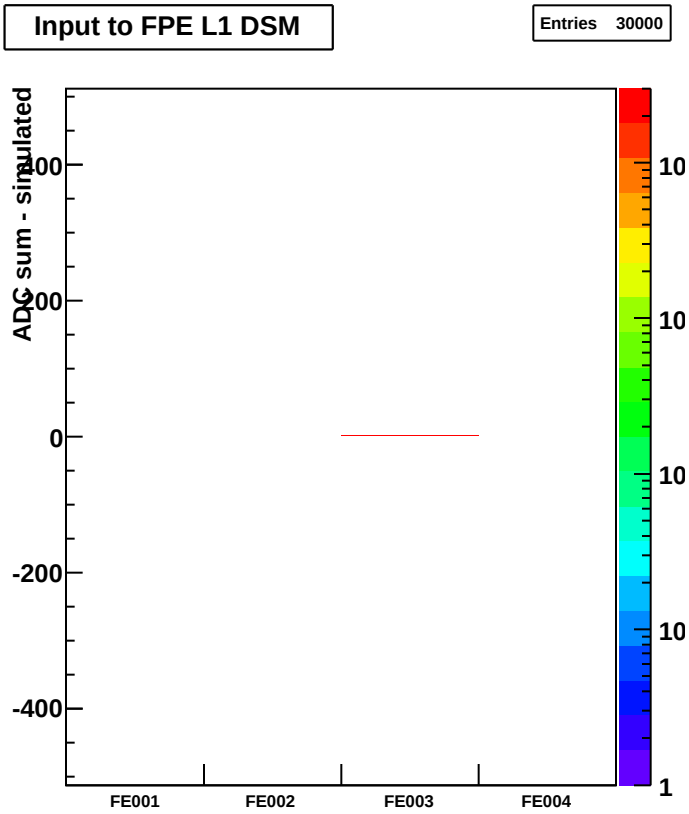

Input to FE001 QT board
Entries 960000
ADC
channel

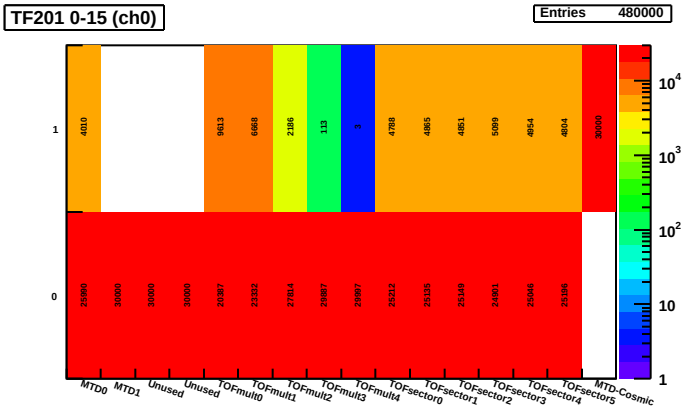

Input to FE002 QT board
Entries 960000
ADC
channel

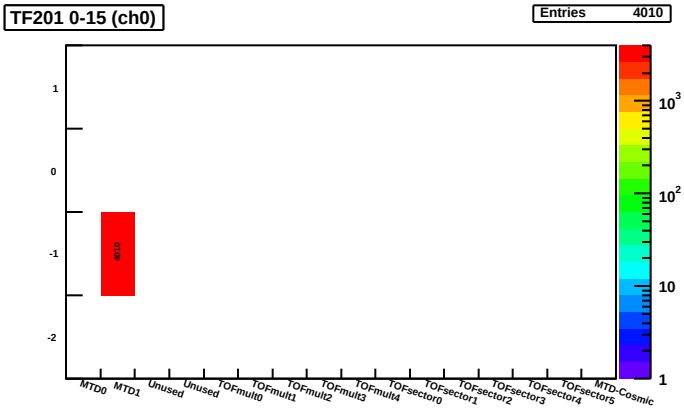

Input to FE003 QT board
Entries 960000
ADC
channel

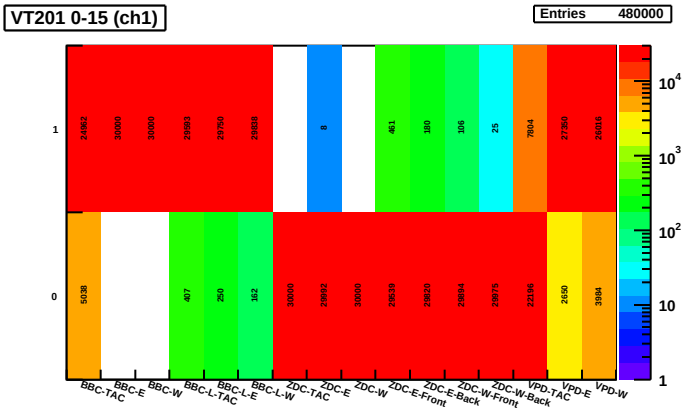

Input to FE004 QT board
Entries 960000
ADC
channel

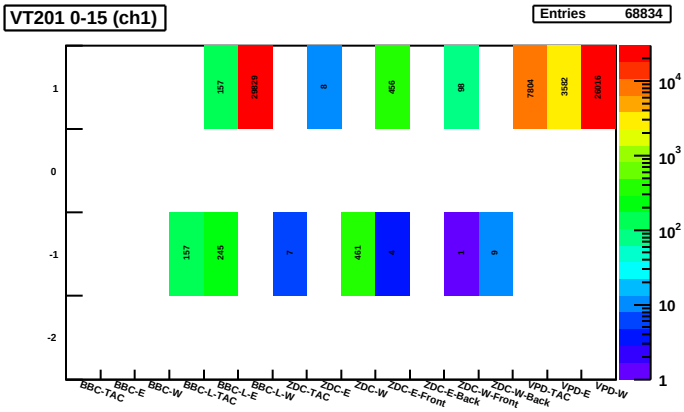

Input to FPE L1 DSM
Entries 120000
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1


Input to FPE L1 DSM
Entries 30000
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1


TF201 0-15 (ch0)
Entries 480000
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 4010
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 480000
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 68834
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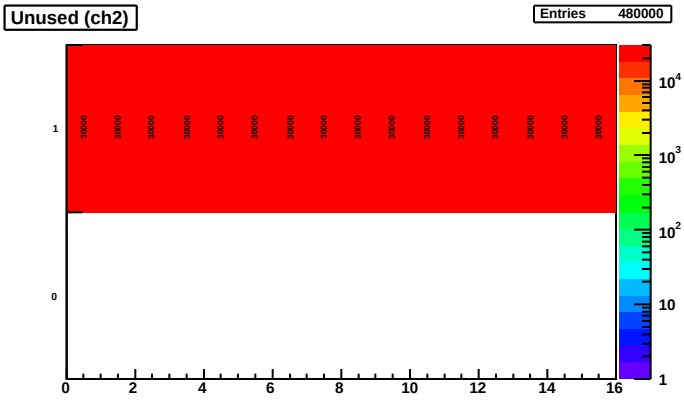
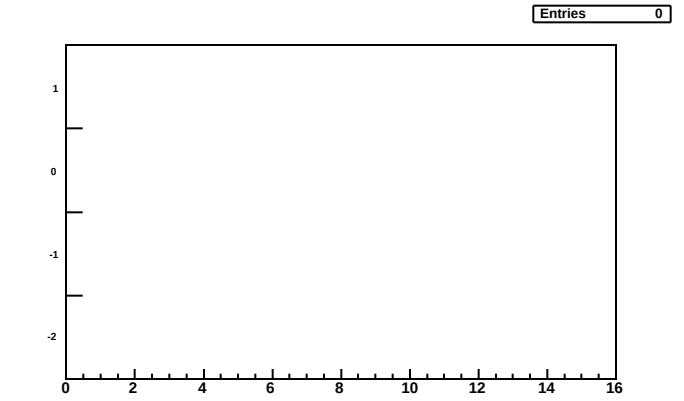

Unused (ch2)
Entries 480000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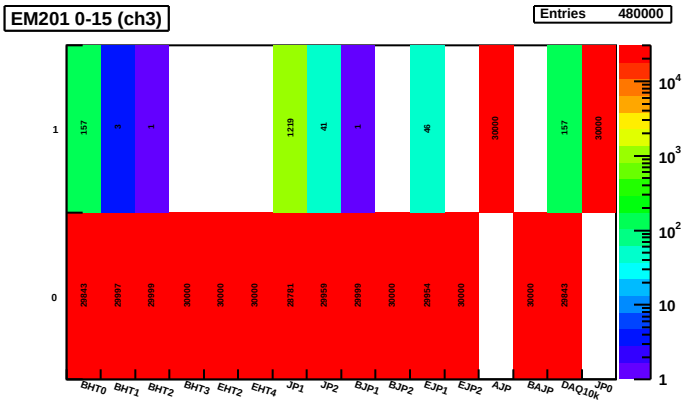
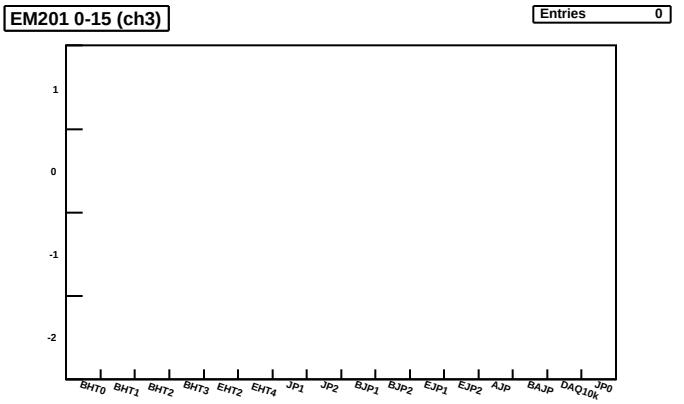

EM201 0-15 (ch3)
Entries 480000
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0


EM201 0-15 (ch3)
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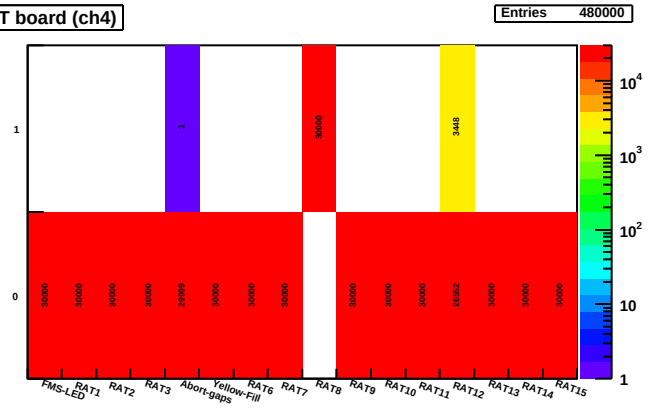
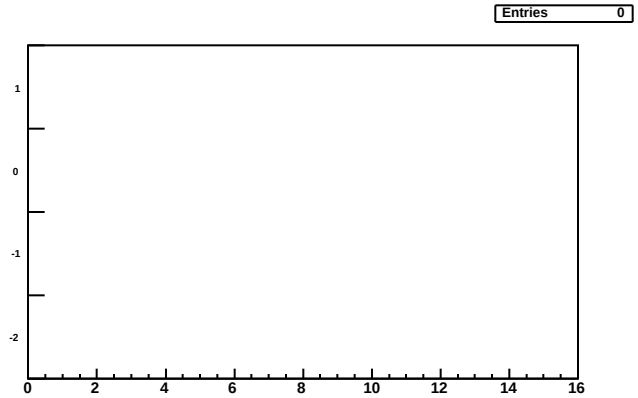
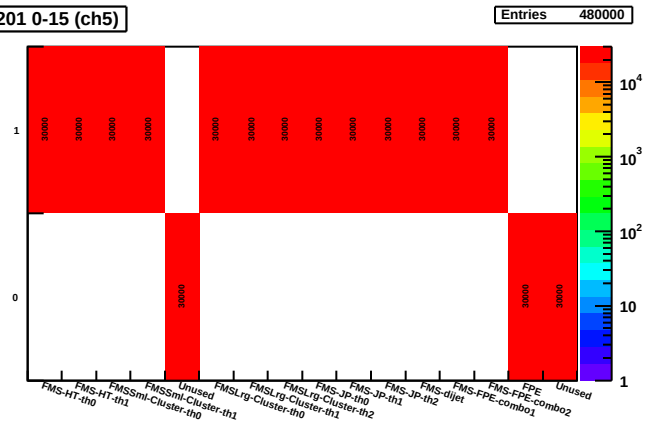
RAT board (ch4)





FP201 0-15 (ch5)



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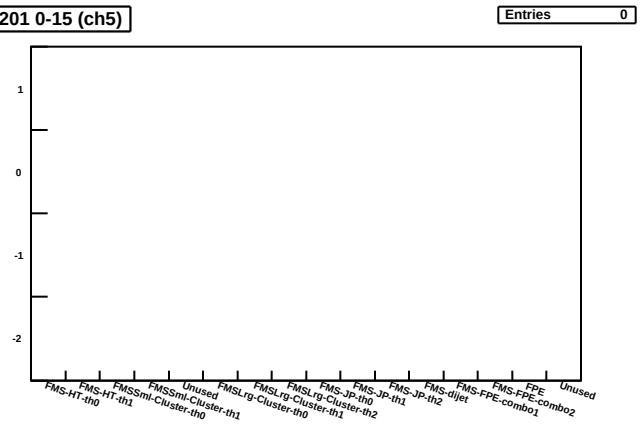
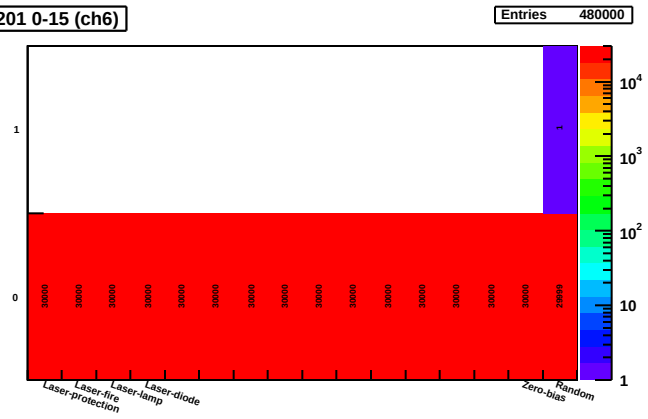
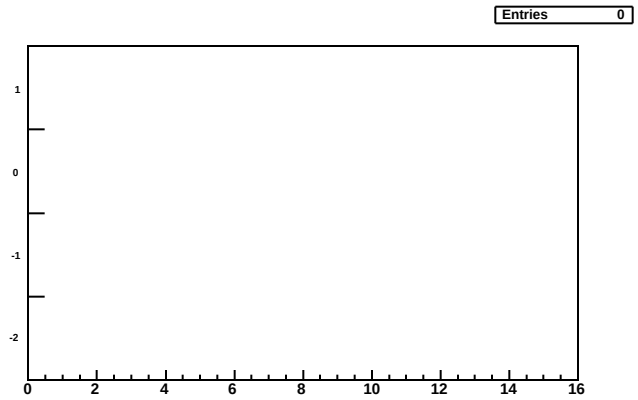
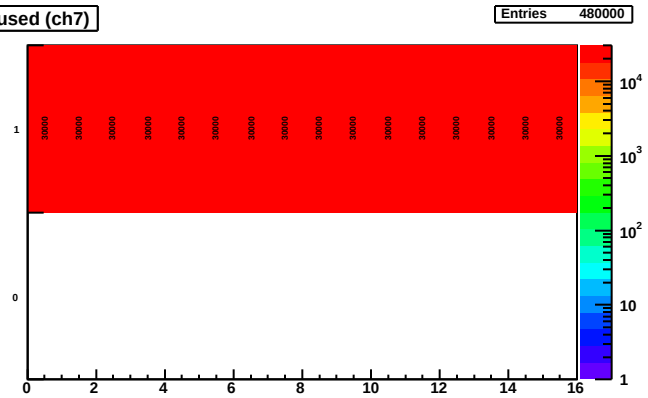
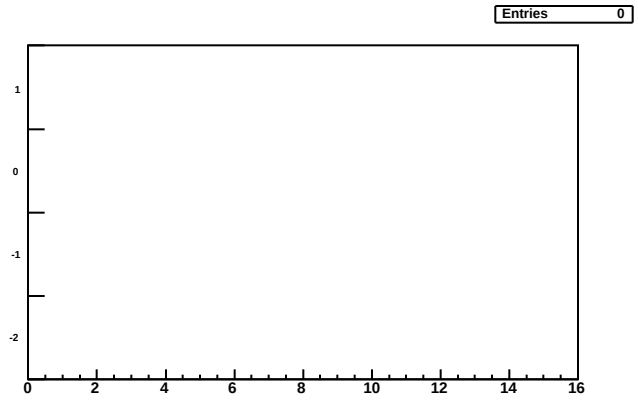


ST201 0-15 (ch6)





Unused (ch7)