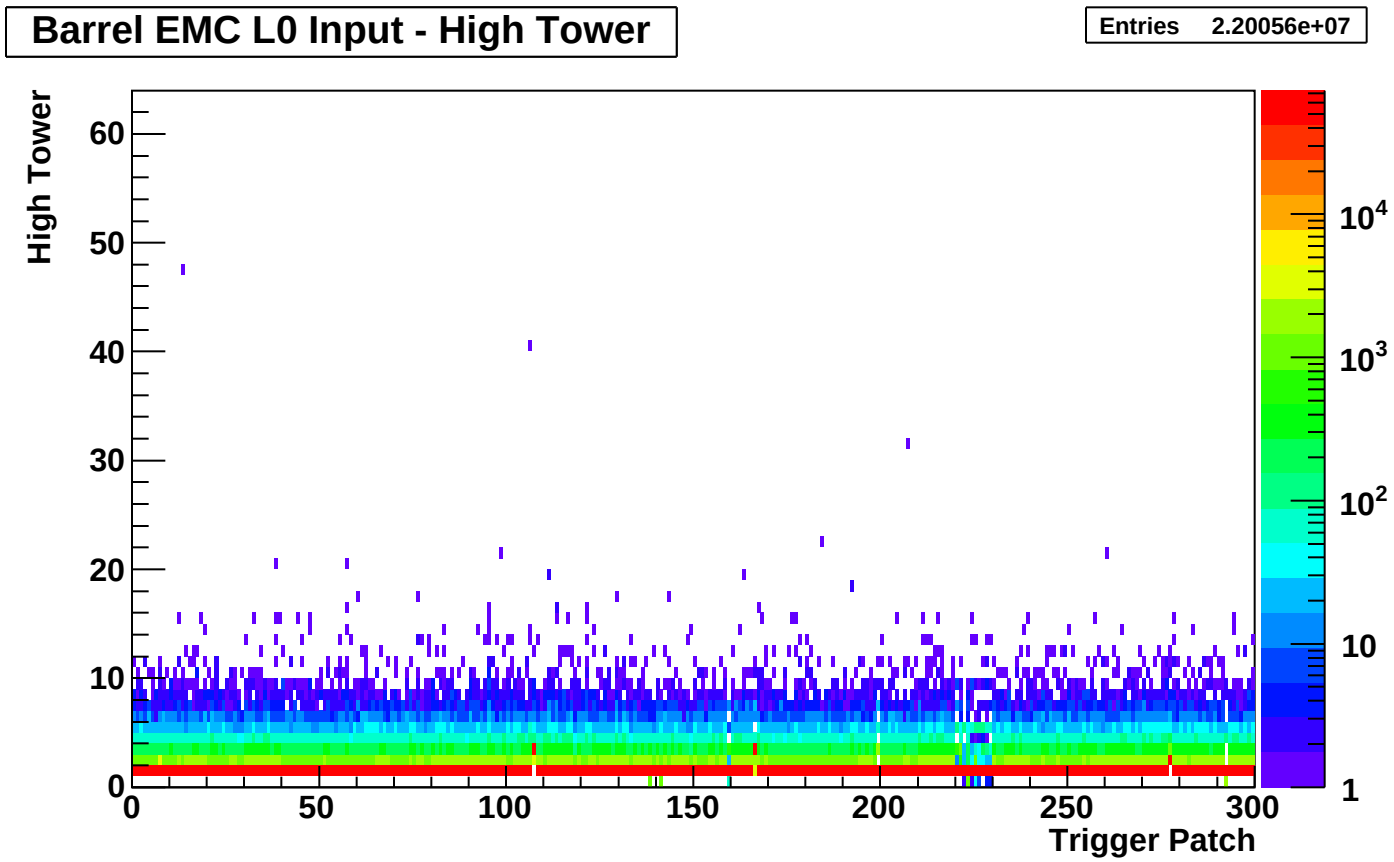
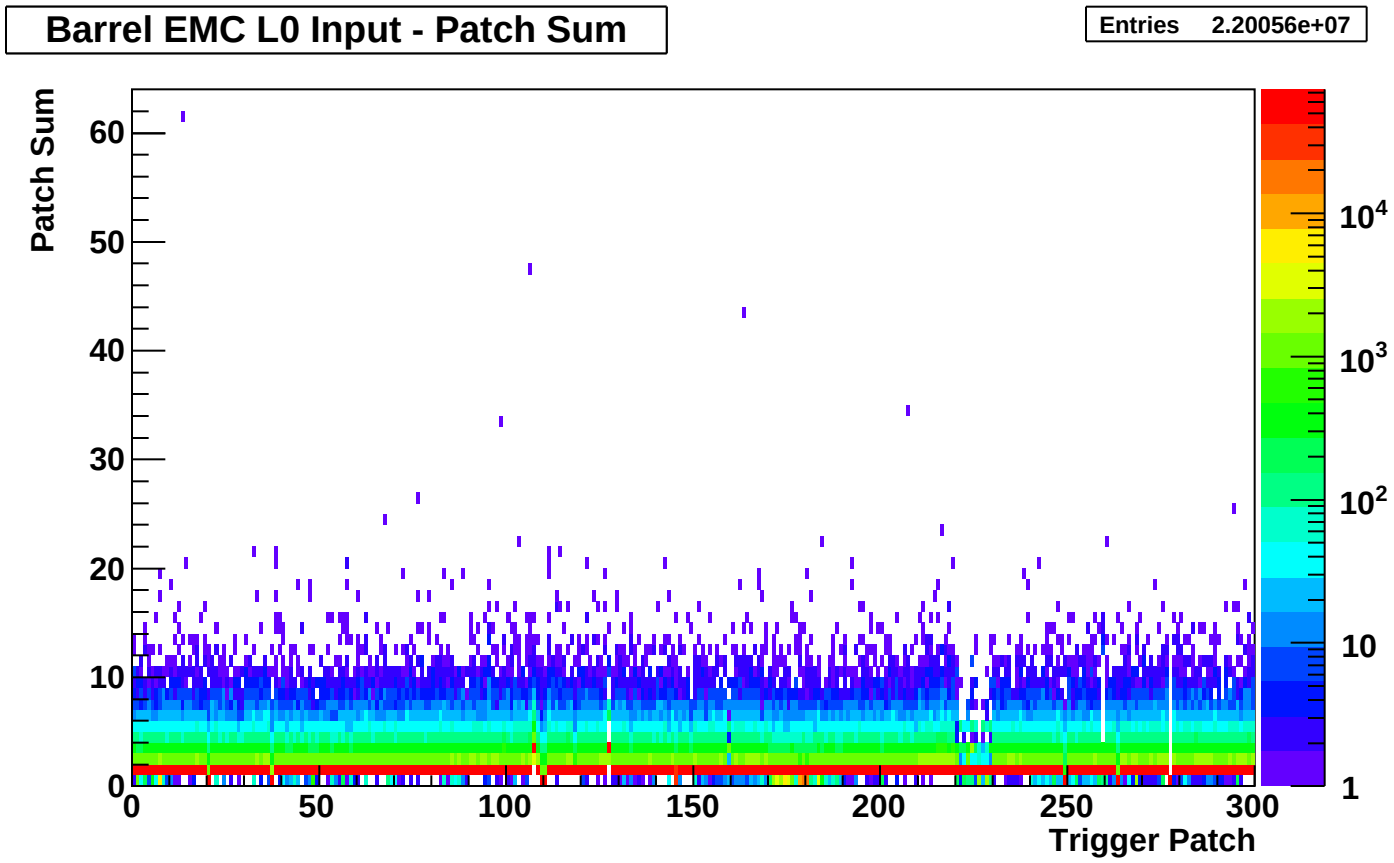
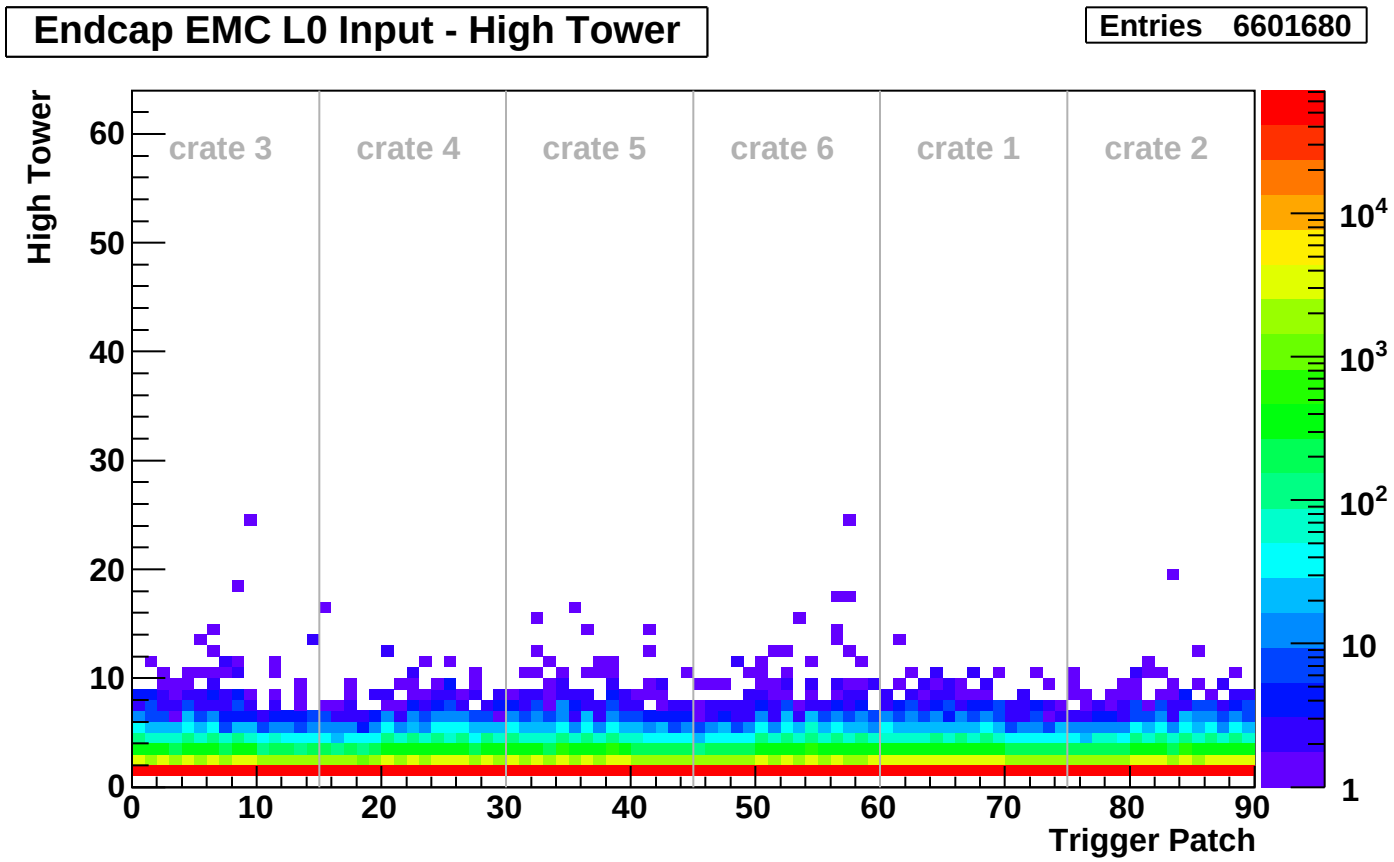
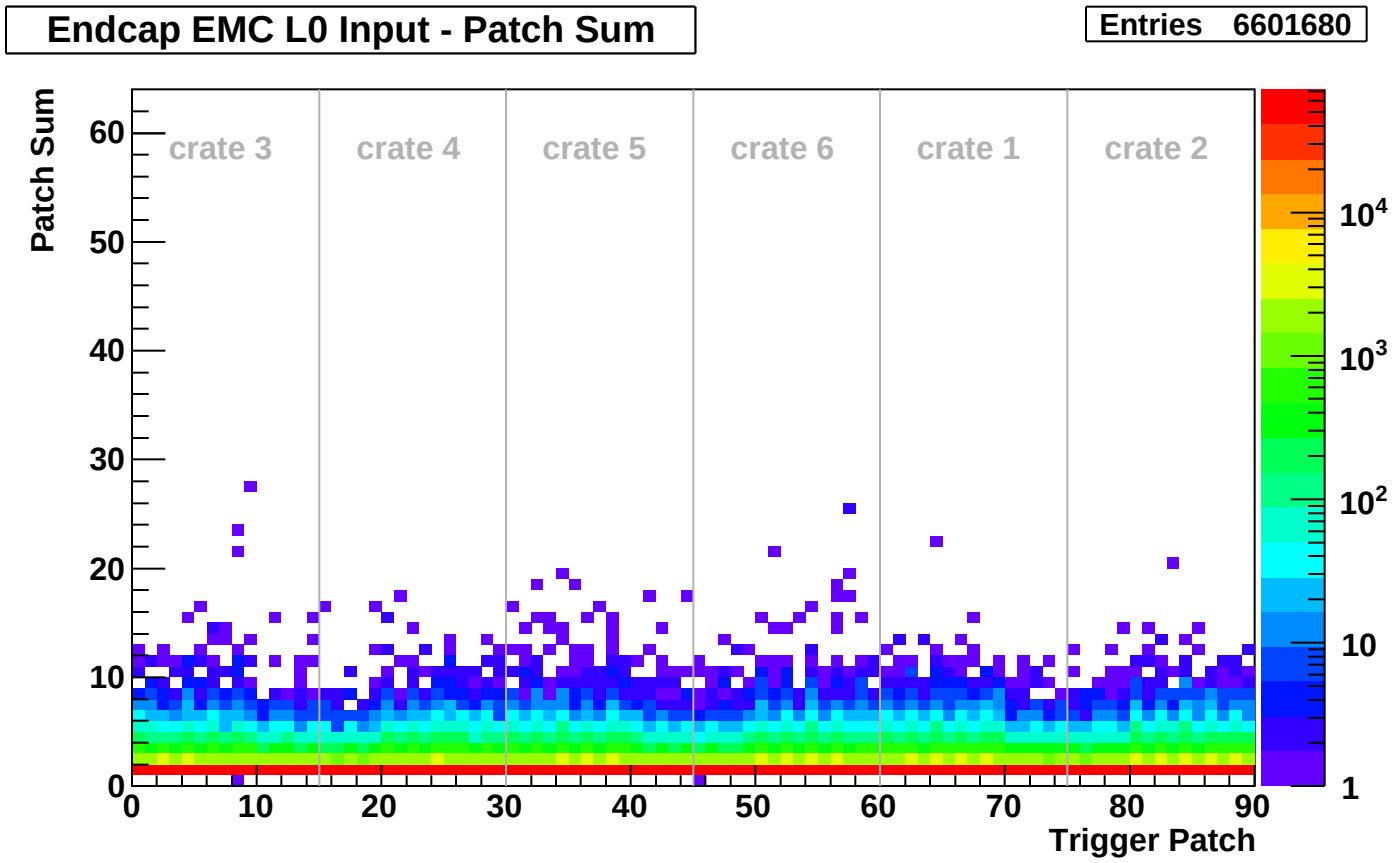
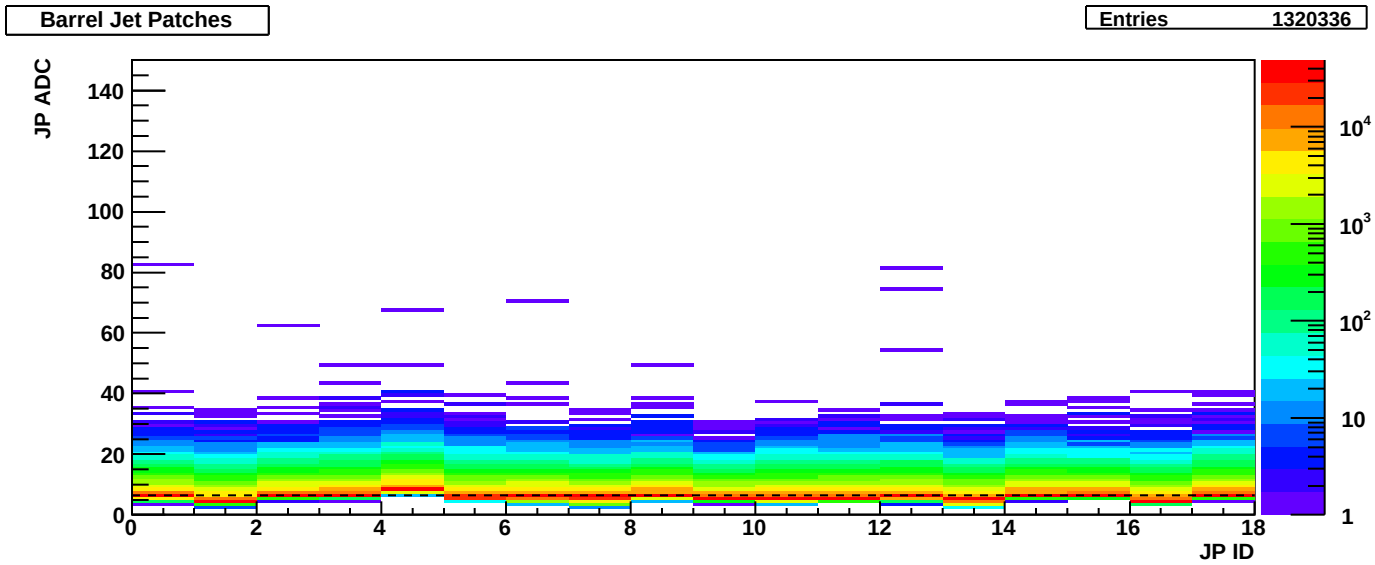
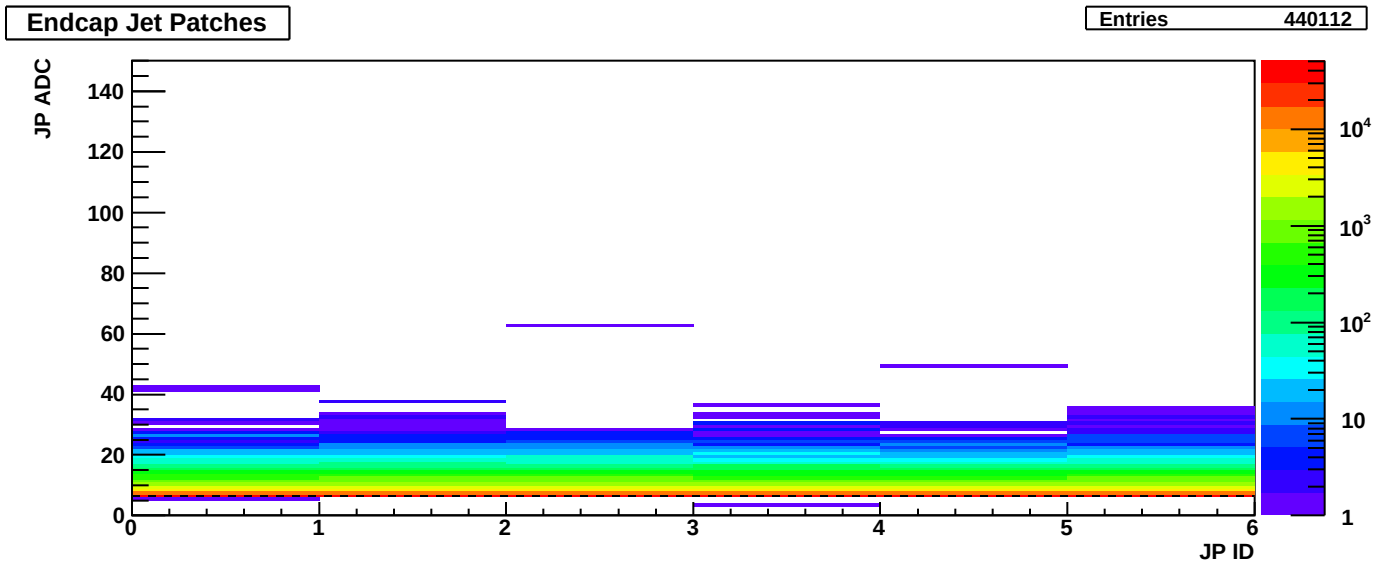

Barrel EMC L0 Input - High Tower
Entries 2.20056e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

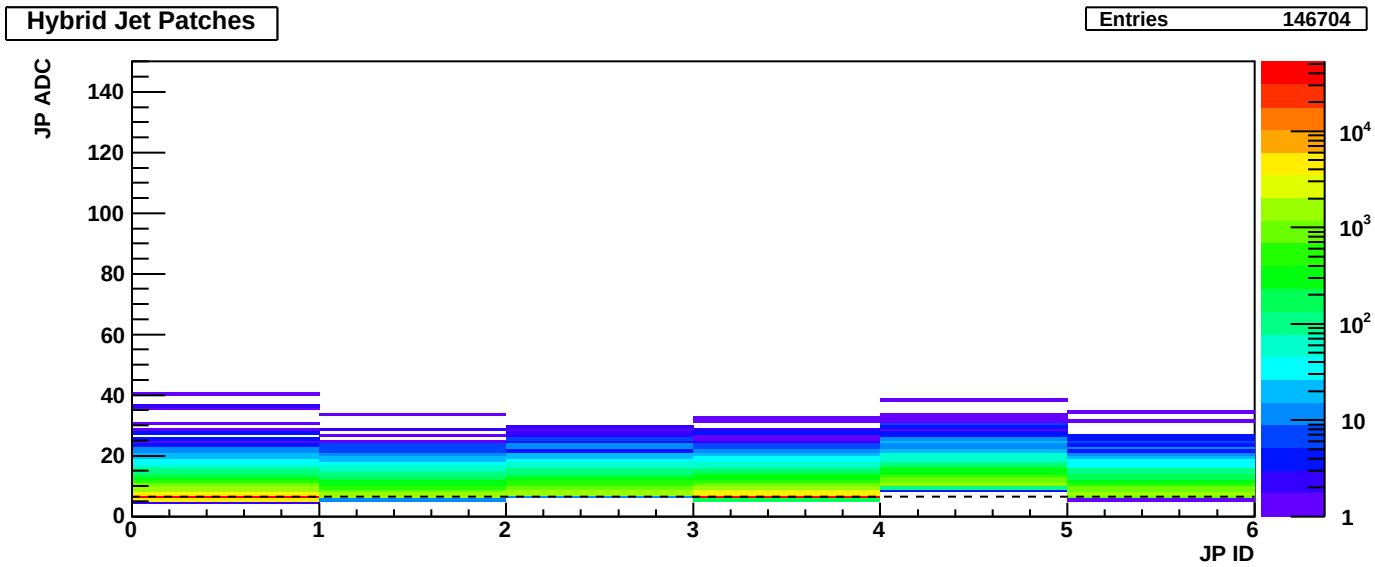

Barrel EMC L0 Input - Patch Sum
Entries 2.20056e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

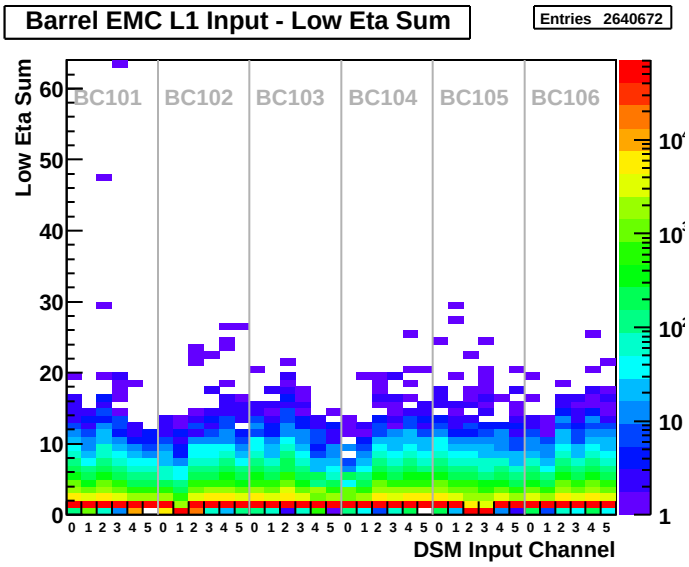

Endcap EMC L0 Input - High Tower
Entries 6601680
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

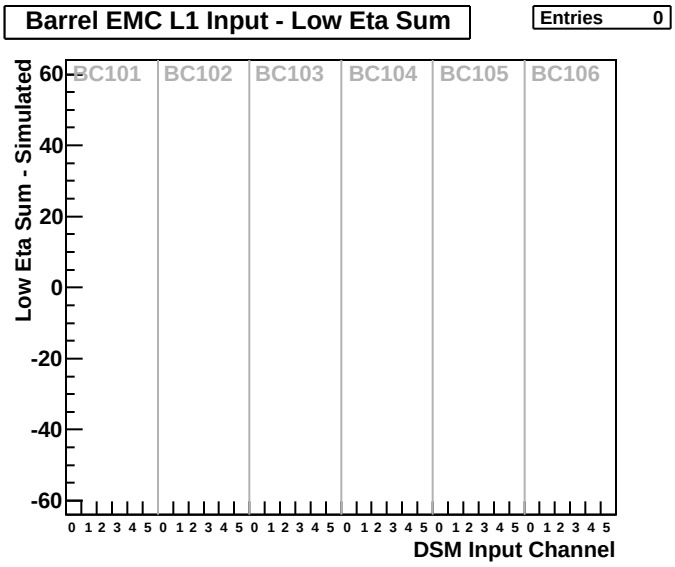

Endcap EMC L0 Input - Patch Sum
Entries 6601680
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

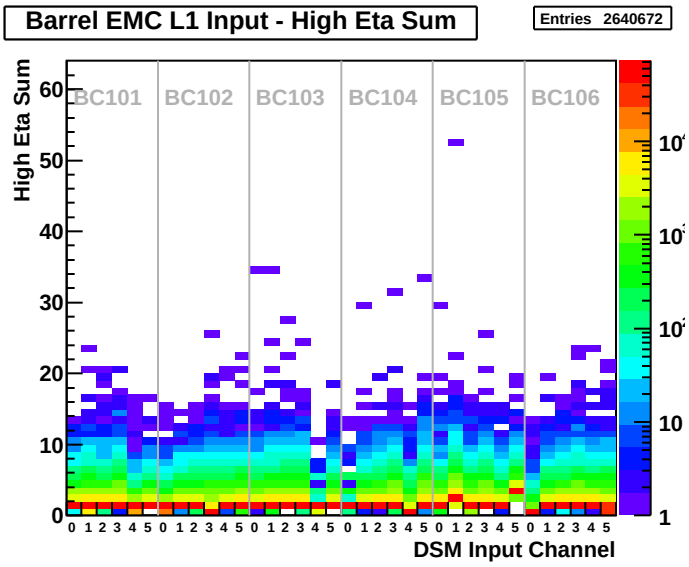

Barrel Jet Patches
Entries 1320336
JP ADC
JP ID

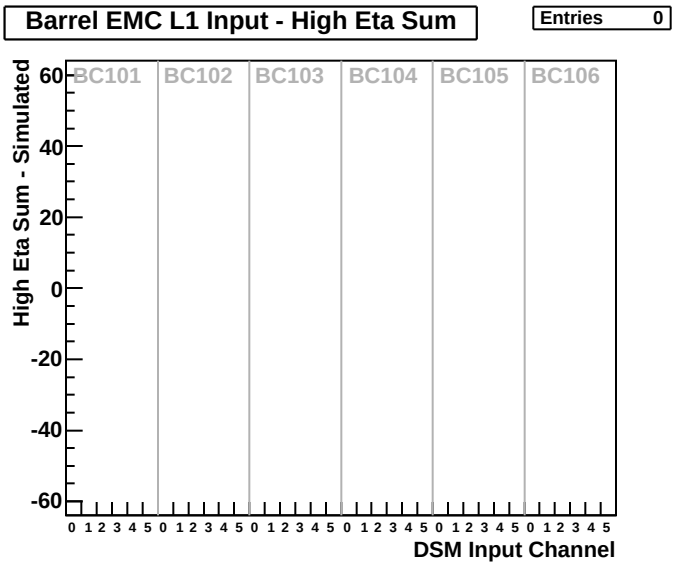

Endcap Jet Patches
Entries 440112
JP ADC
JP ID

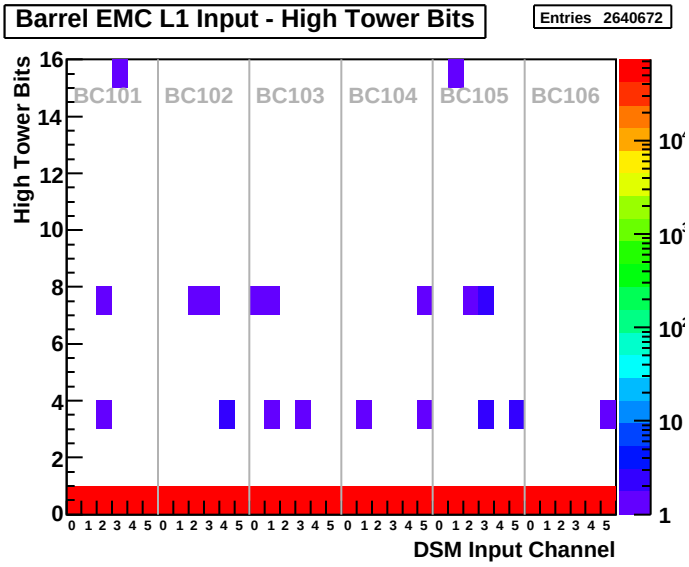

Hybrid Jet Patches
Entries 146704
JP ADC
JP ID

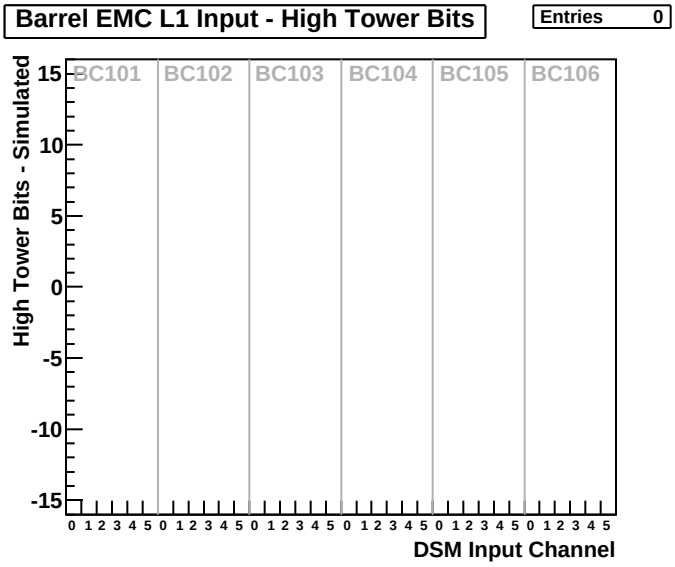

Barrel EMC L1 Input - Low Eta Sum
Entries 2640672
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

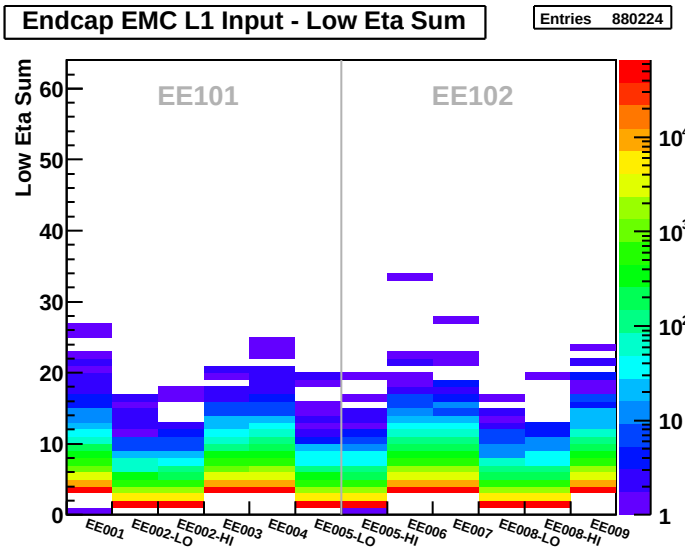

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

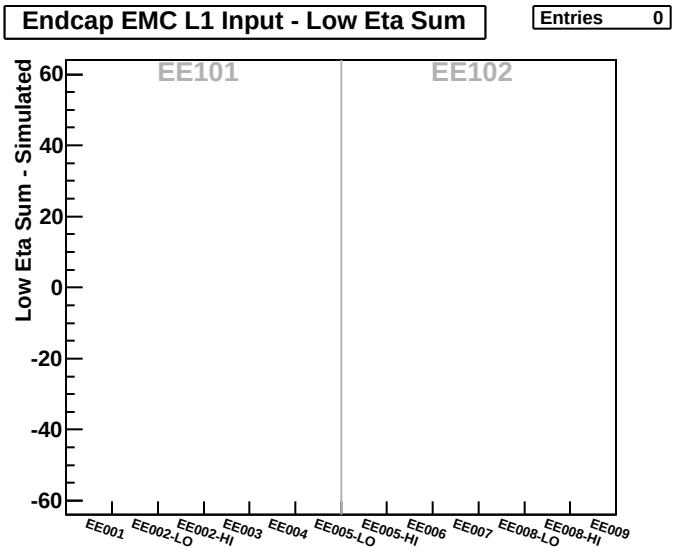

Barrel EMC L1 Input - High Eta Sum
Entries 2640672
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

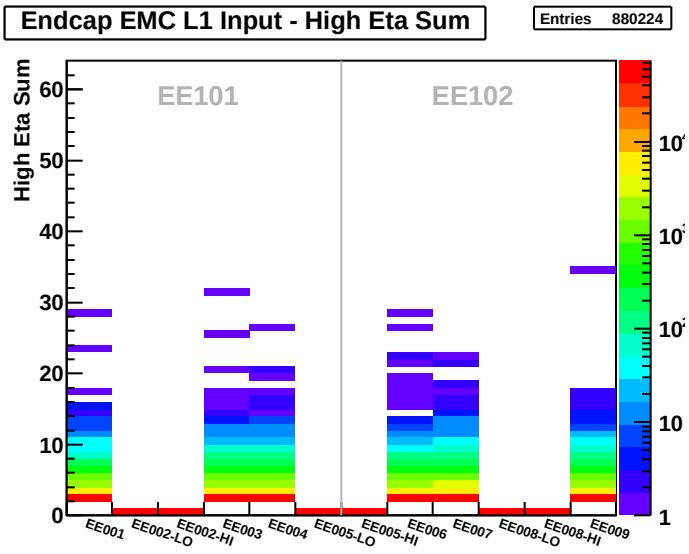

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

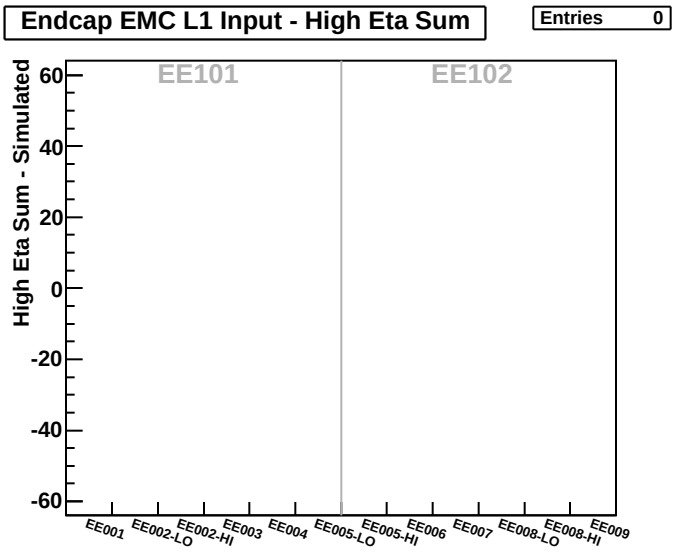

Barrel EMC L1 Input - High Tower Bits
Entries 2640672
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

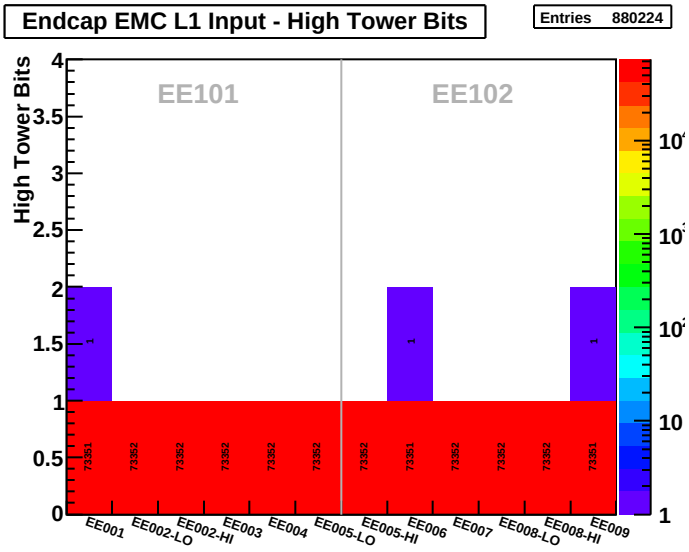

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

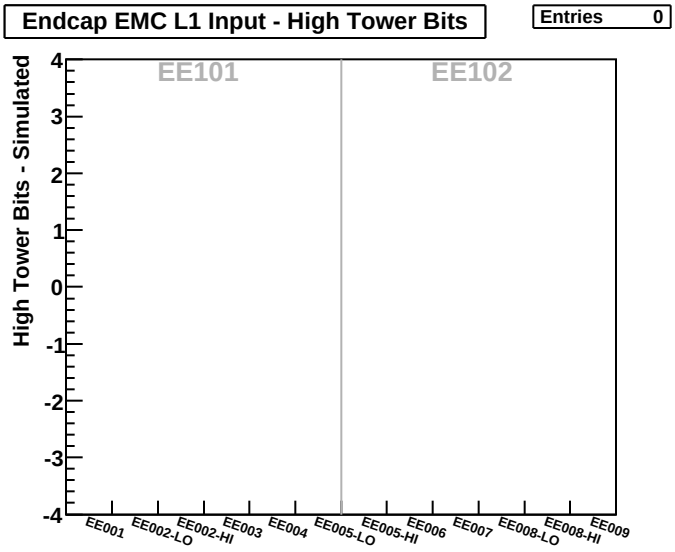

Endcap EMC L1 Input - Low Eta Sum
Entries 880224
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

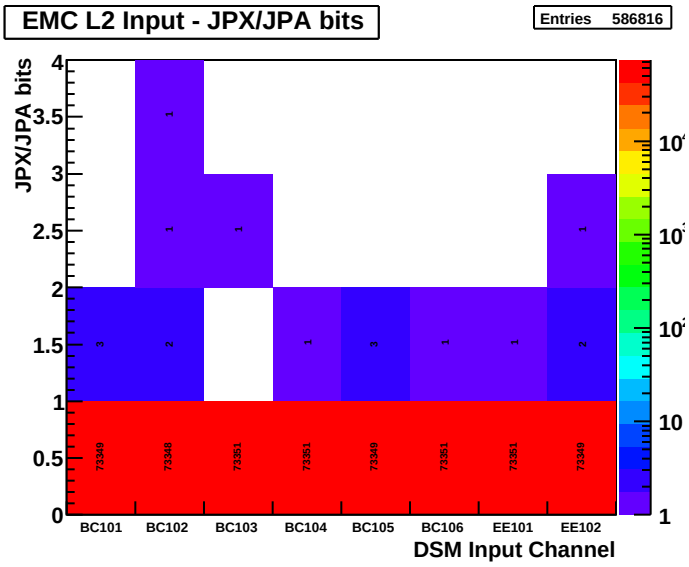

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

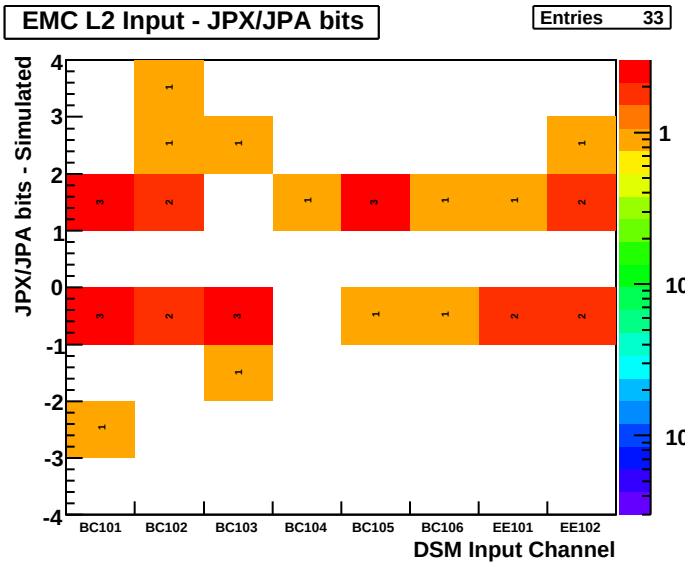

Endcap EMC L1 Input - High Eta Sum
Entries 880224
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

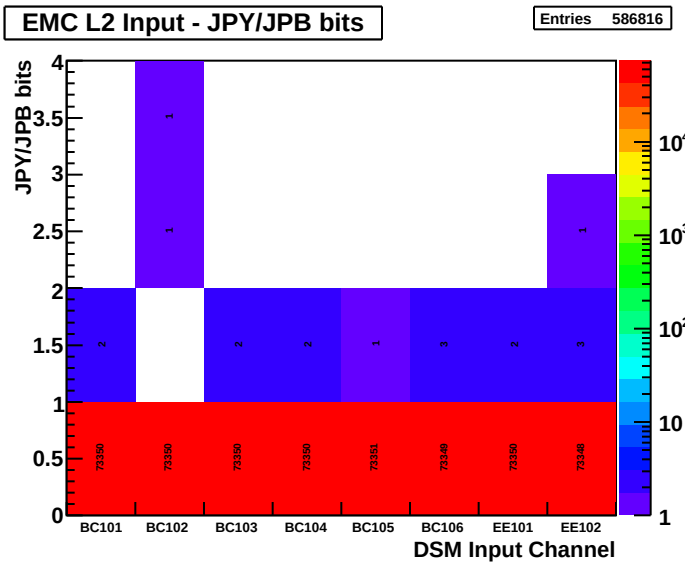

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

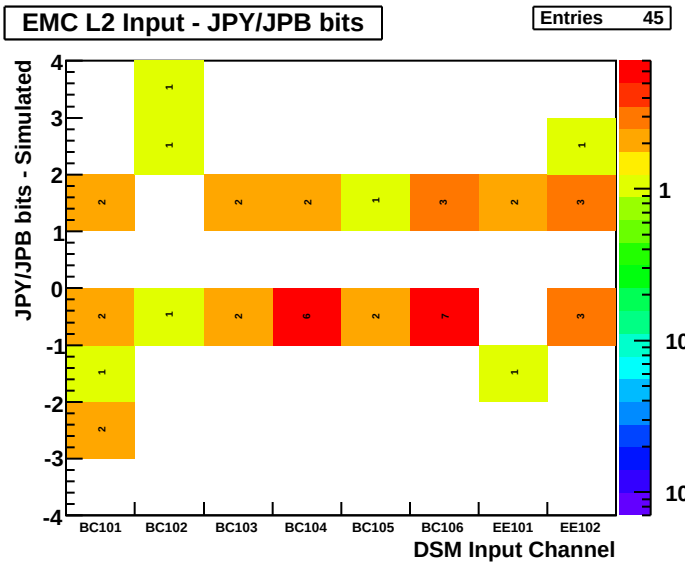

Endcap EMC L1 Input - High Tower Bits
Entries 880224
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

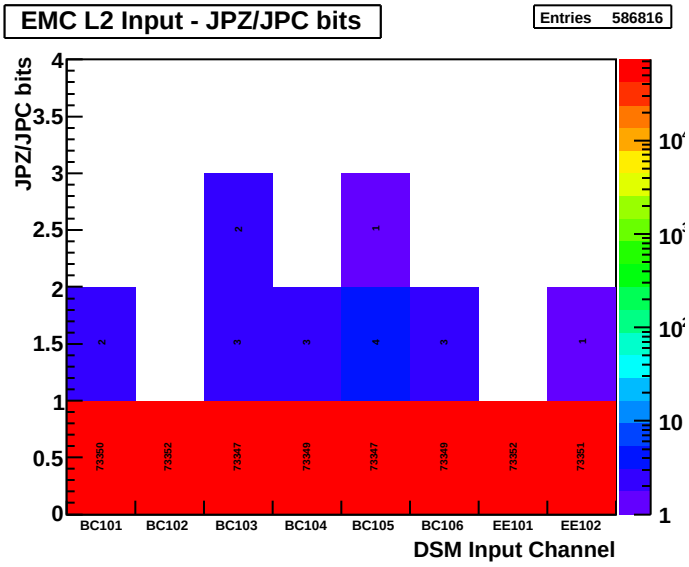

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

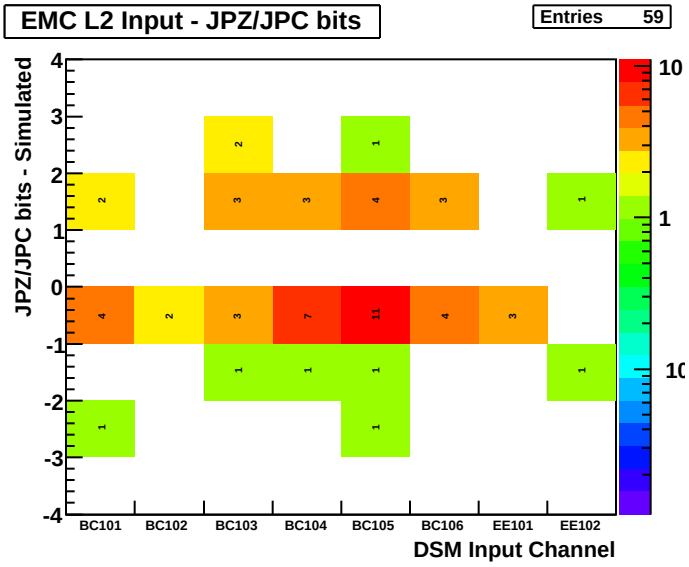

EMC L2 Input - JPX/JPA bits
Entries 586816
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

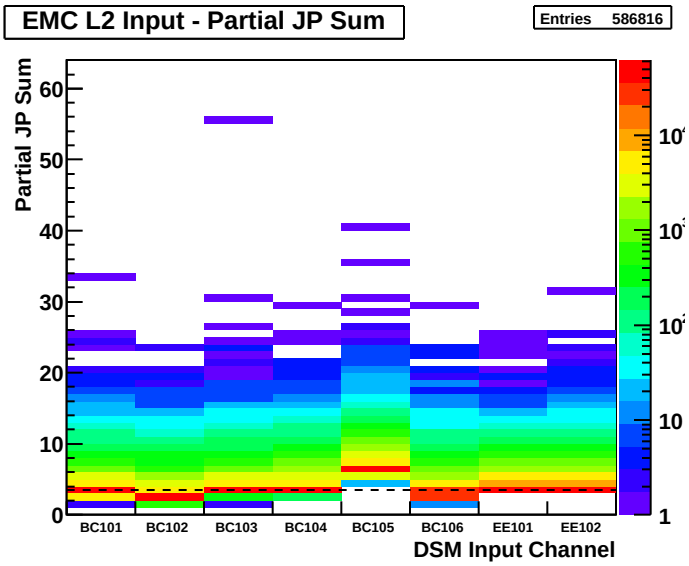

EMC L2 Input - JPX/JPA bits
Entries 33
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

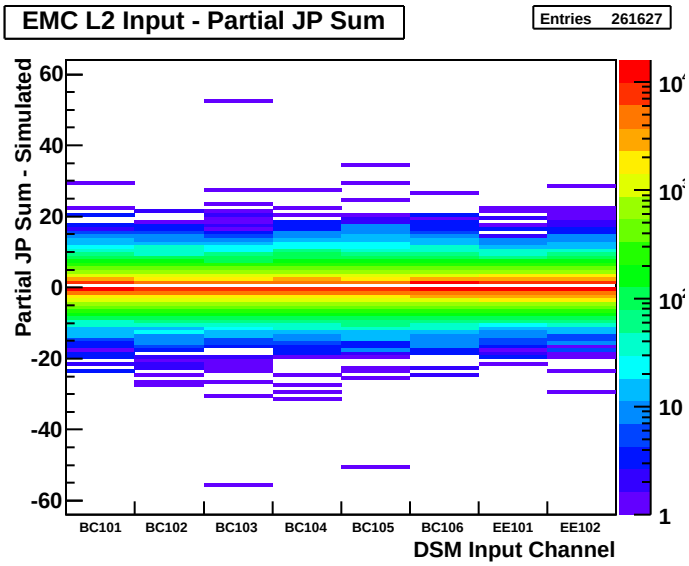

EMC L2 Input - JPY/JPB bits
Entries 586816
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

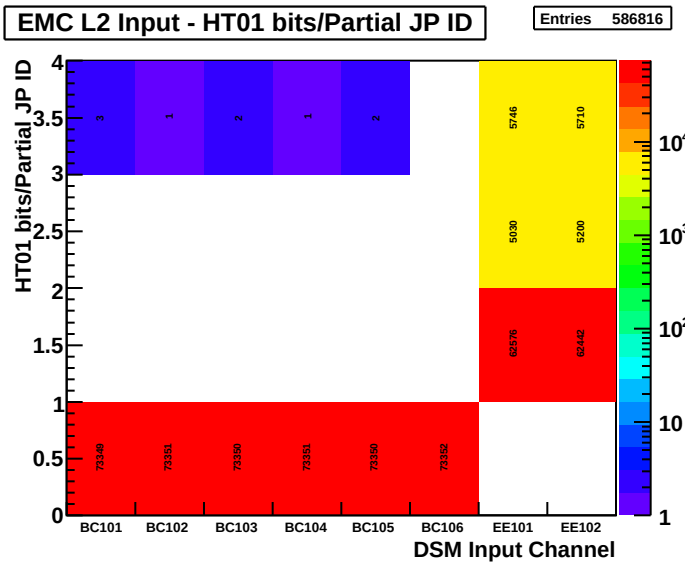

EMC L2 Input - JPY/JPB bits
Entries 45
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

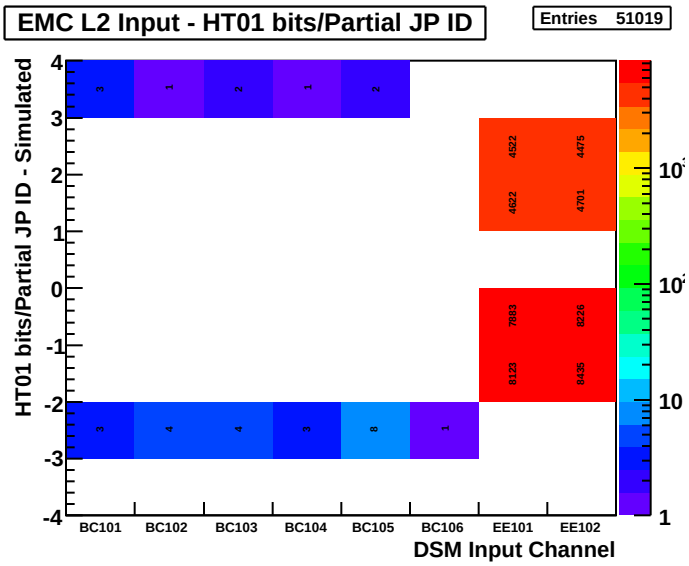

EMC L2 Input - JPZ/JPC bits
Entries 586816
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

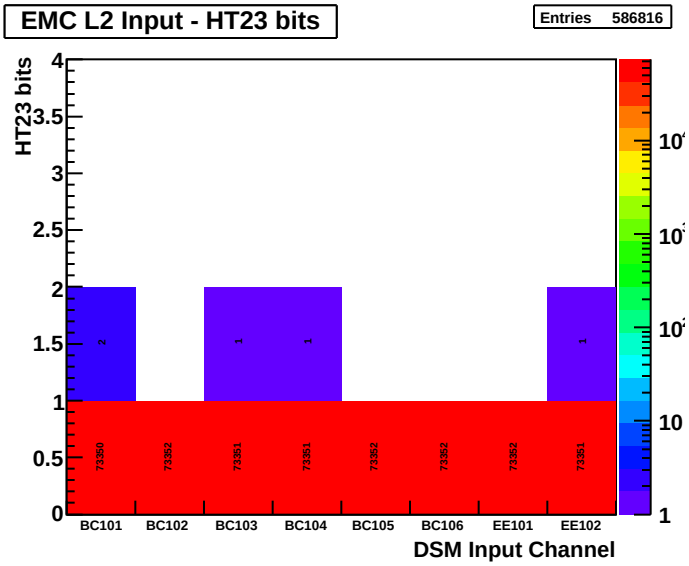

EMC L2 Input - JPZ/JPC bits
Entries 59
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

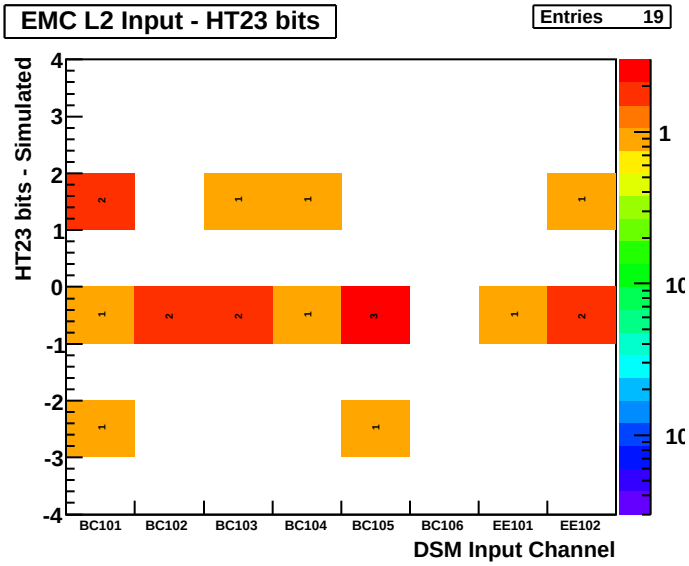

EMC L2 Input - Partial JP Sum
Entries 586816
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

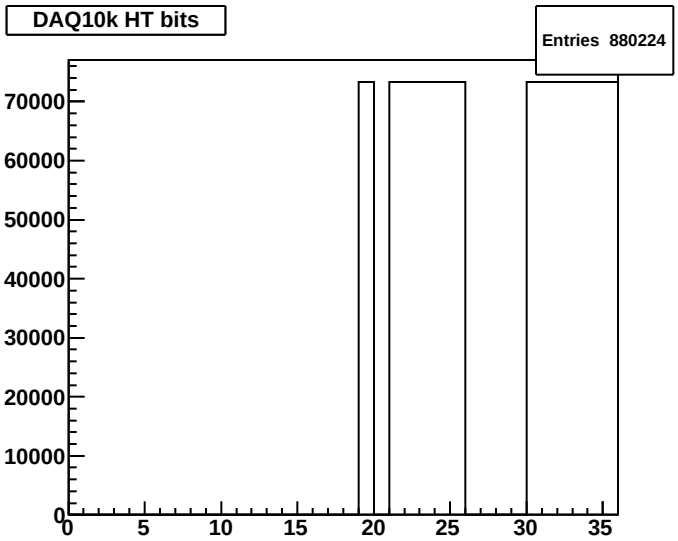

EMC L2 Input - Partial JP Sum
Entries 261627
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

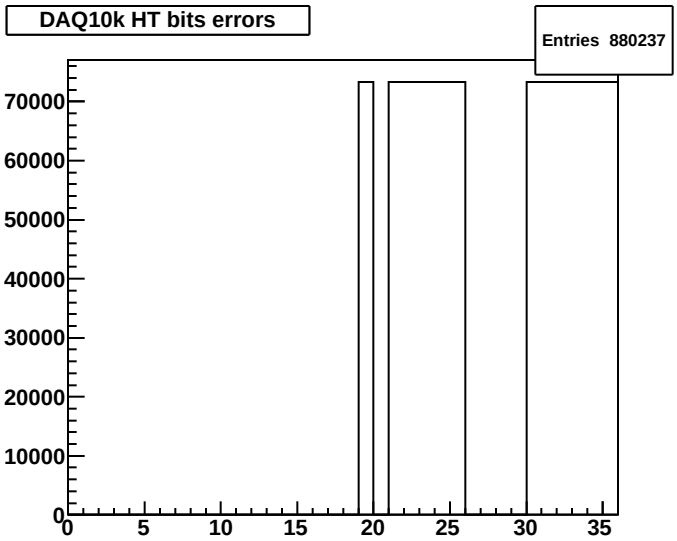

EMC L2 Input - HT01 bits/Partial JP ID
Entries 586816
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

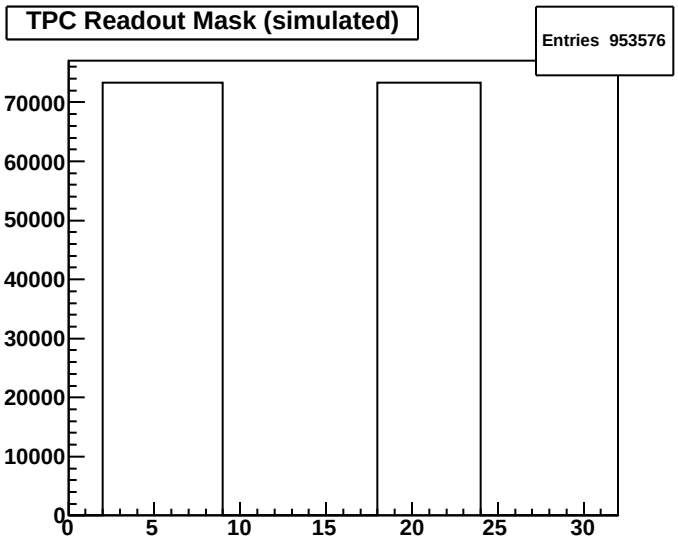

EMC L2 Input - HT01 bits/Partial JP ID
Entries 51019
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

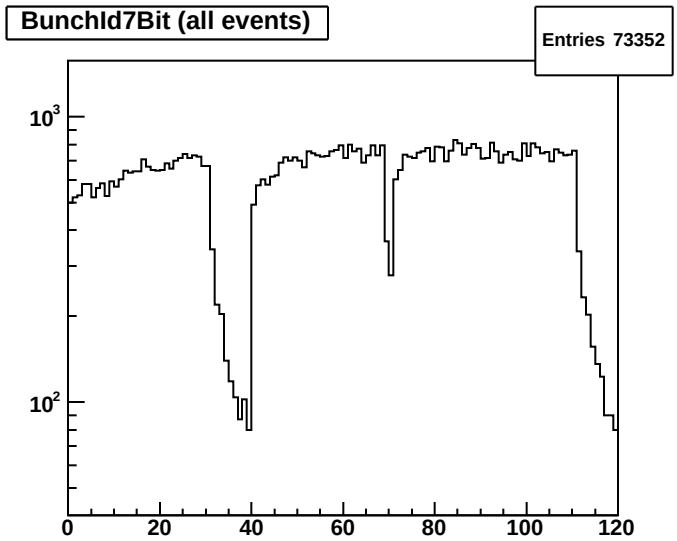

EMC L2 Input - HT23 bits
Entries 586816
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

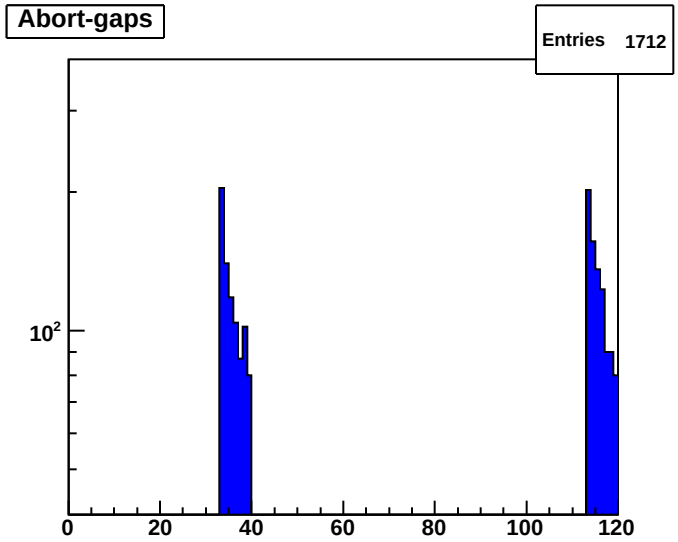

EMC L2 Input - HT23 bits
Entries 19
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

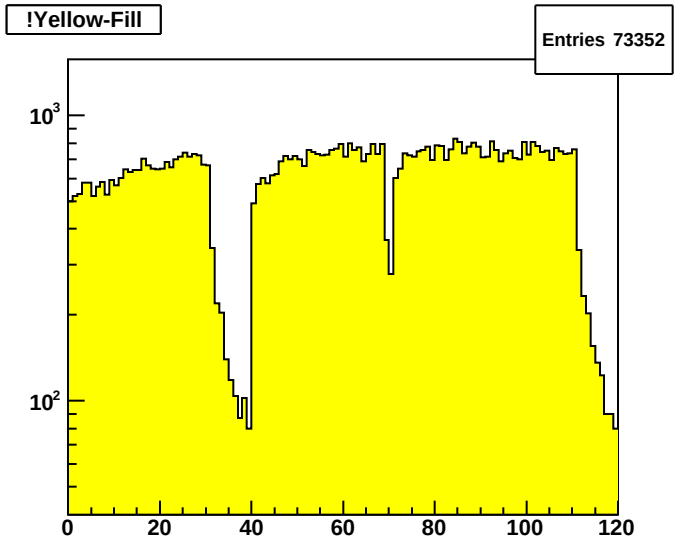

DAQ10k HT bits
Entries 880224
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

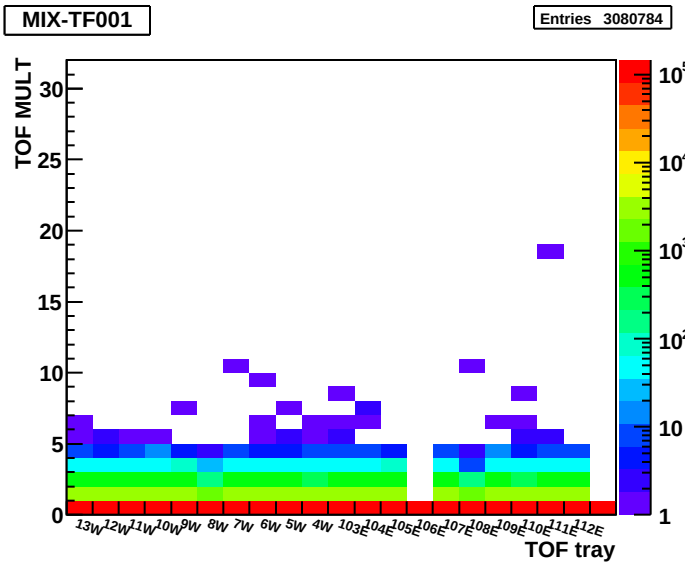

DAQ10k HT bits errors
Entries 880237
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

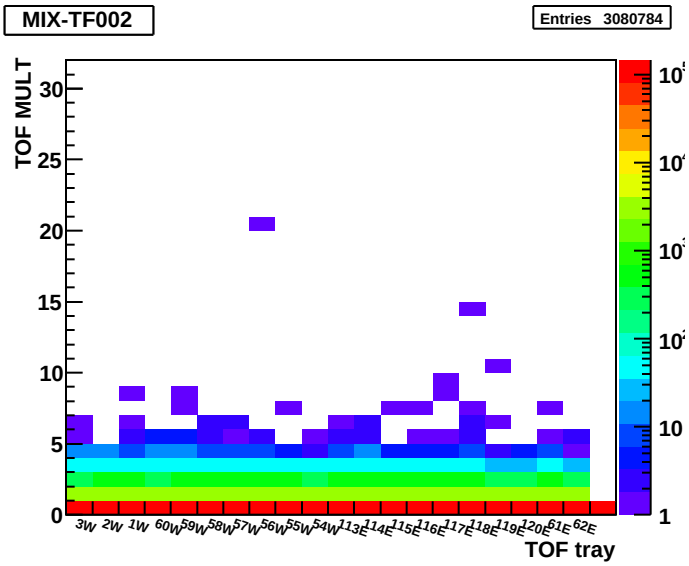

TPC Readout Mask (simulated)
Entries 953576
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30

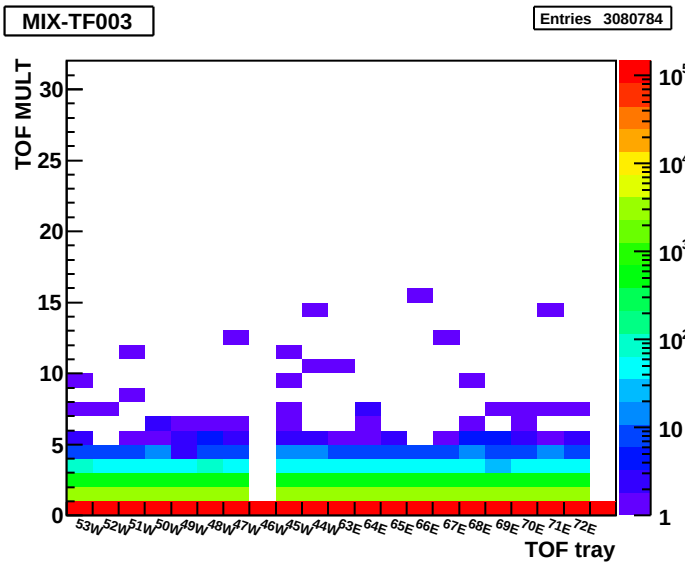

BunchId7Bit (all events)
Entries 73352
10^3
10^2
0 20 40 60 80 100 120

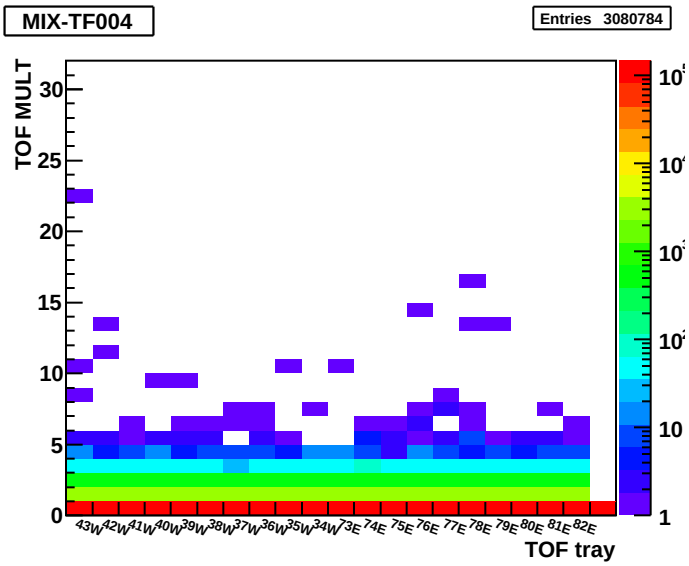

Abort-gaps
Entries 1712
10^2
0 20 40 60 80 100 120

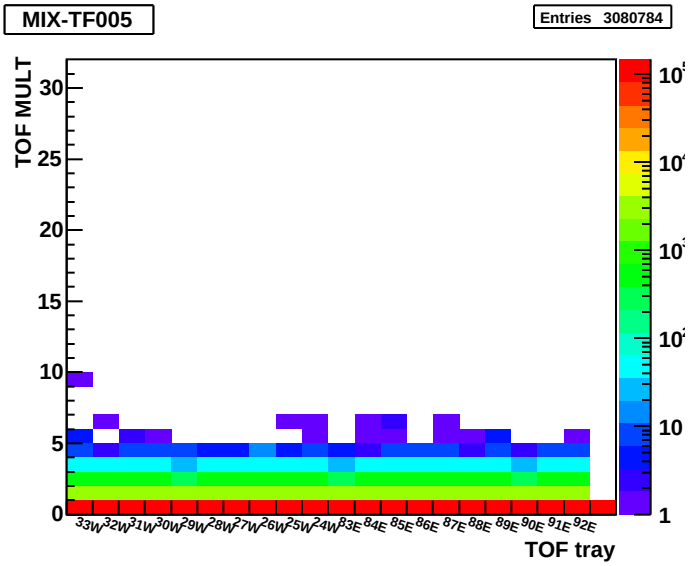

!Yellow-Fill
Entries 73352
10^3
10^2
0 20 40 60 80 100 120

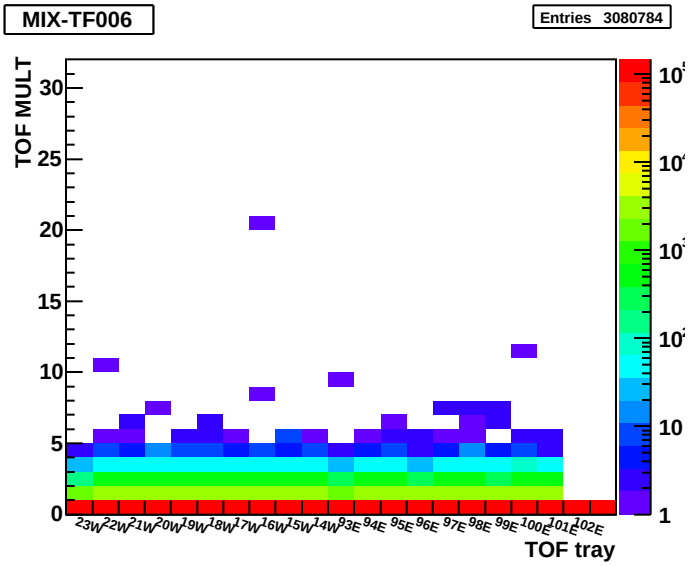

MIX-TF001
Entries 3080784
TOF MULT
TOF tray

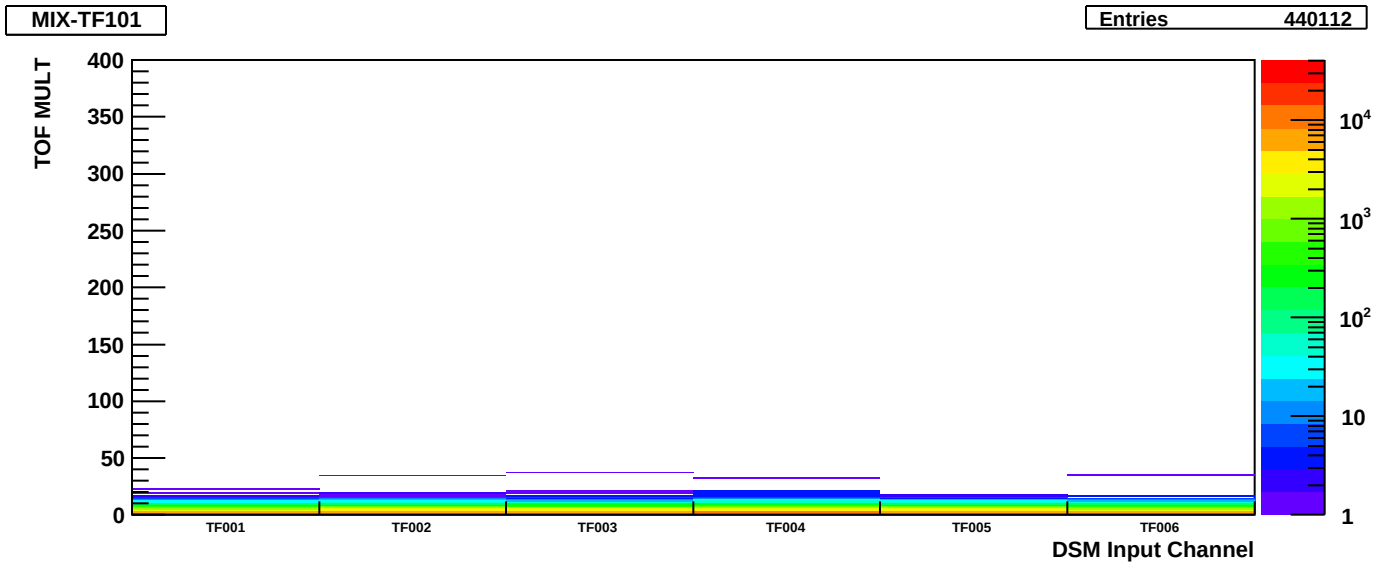

MIX-TF002
Entries 3080784
TOF MULT
TOF tray

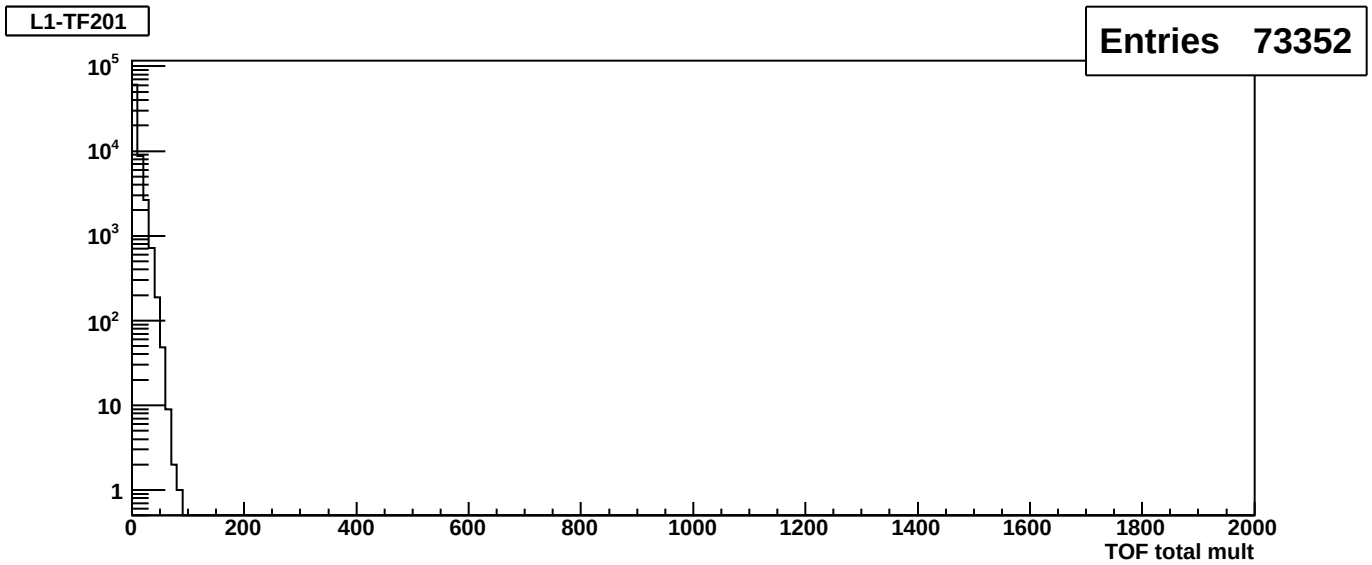

MIX-TF003
Entries 3080784
TOF MULT
TOF tray

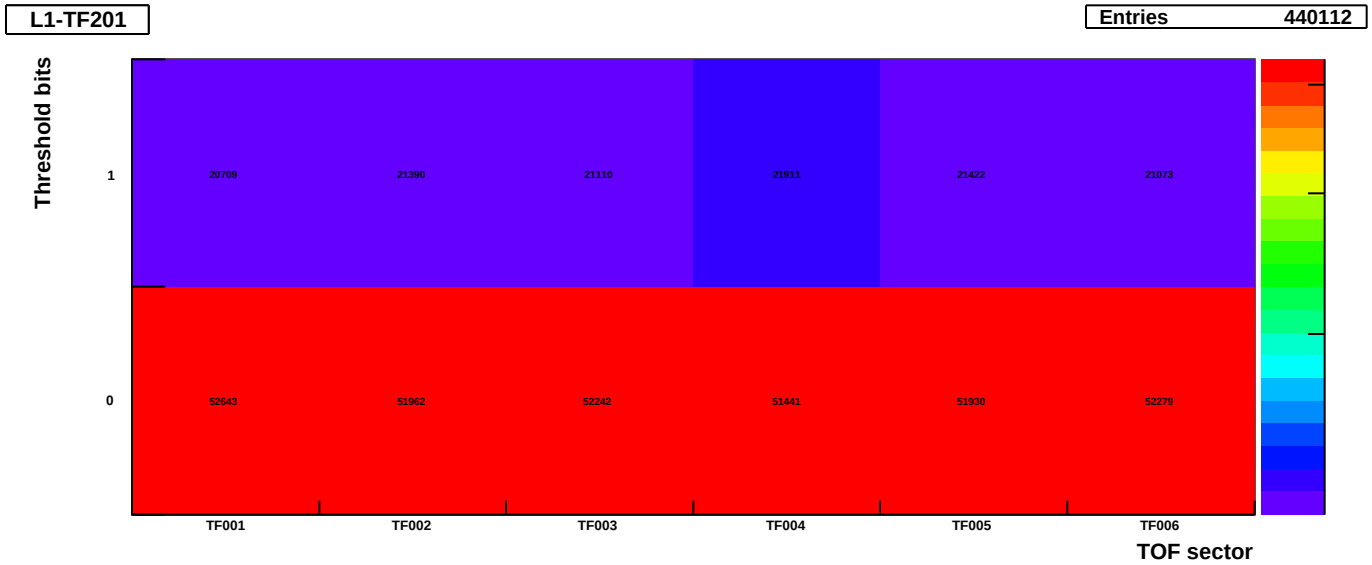

MIX-TF004
Entries 3080784
TOF MULT
TOF tray

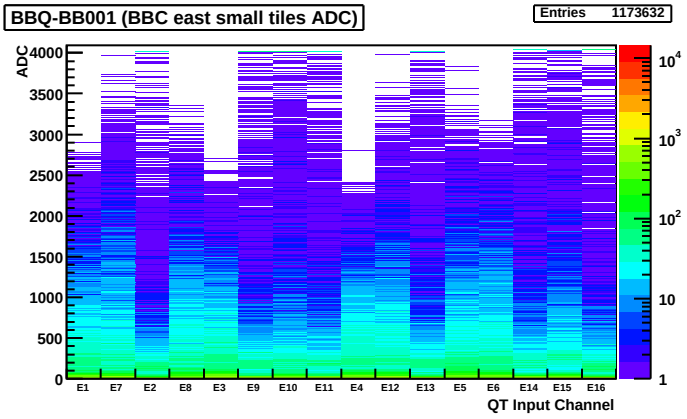

MIX-TF005
Entries 3080784
TOF MULT
TOF tray

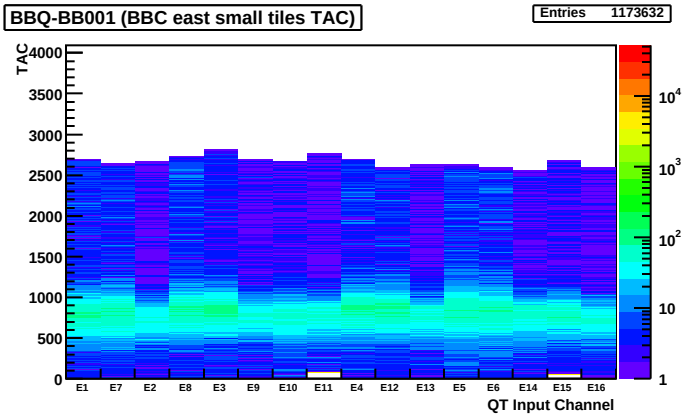

MIX-TF006
Entries 3080784
TOF MULT
TOF tray

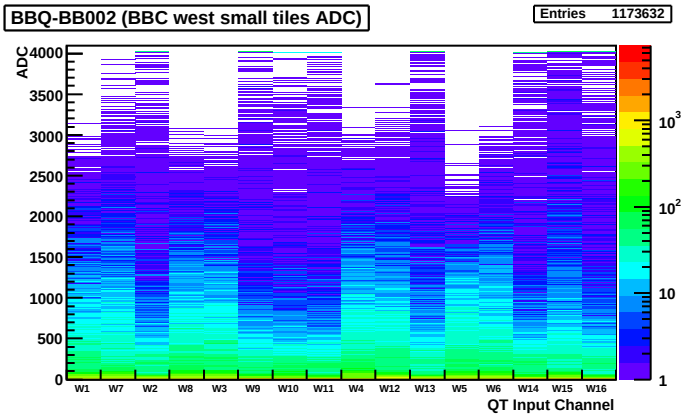

MIX-TF101
Entries 440112
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

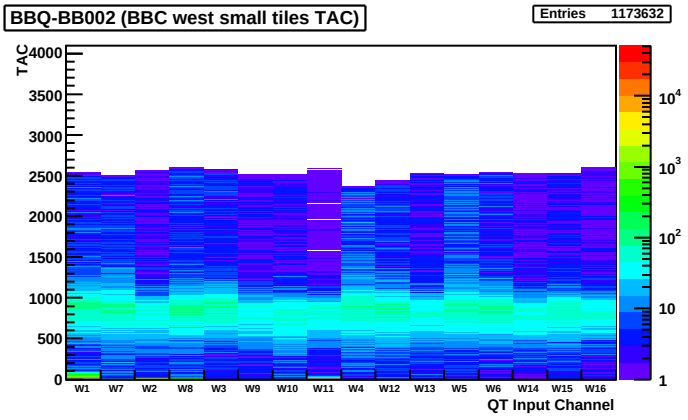

L1-TF201
Entries 73352
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

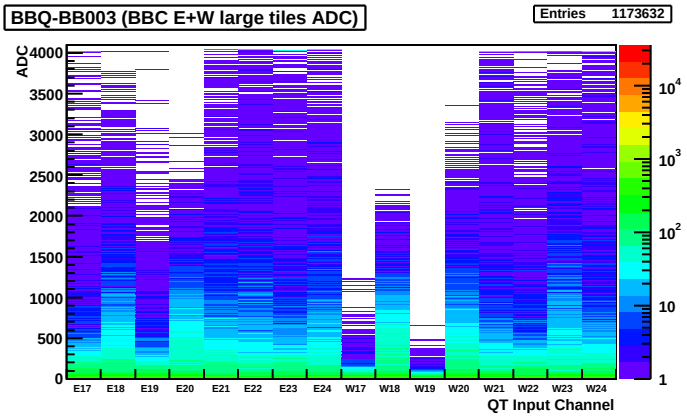

L1-TF201
Entries 440112
Threshold bits
1
0
20709
21390
21110
21911
21422
21073
52643
51962
52242
51441
51930
52279
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

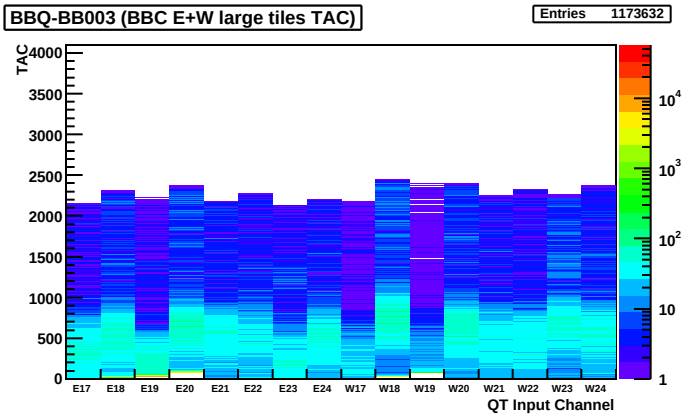

BBQ-BB001 (BBC east small tiles ADC)
Entries 1173632
ADC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

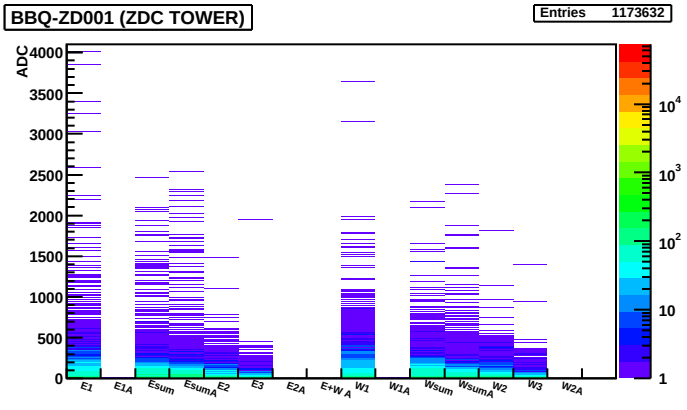

BBQ-BB001 (BBC east small tiles TAC)
Entries 1173632
TAC
QT Input Channel
E1 E7 E2 E8 E3 E9 E10 E11 E4 E12 E13 E5 E6 E14 E15 E16

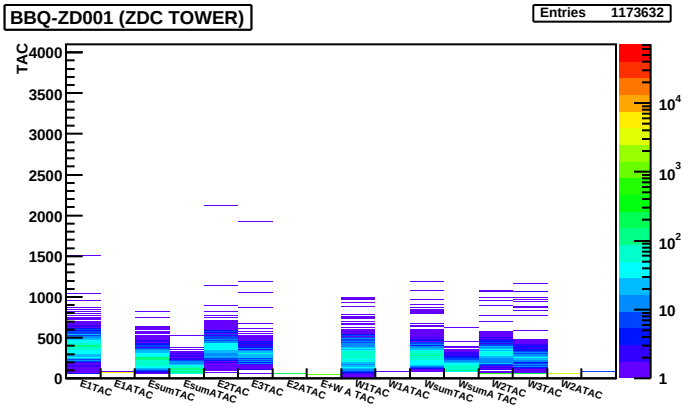

BBQ-BB002 (BBC west small tiles ADC)
Entries 1173632
ADC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

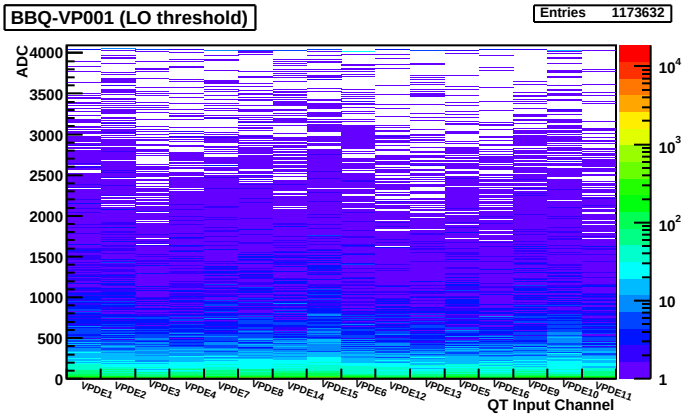

BBQ-BB002 (BBC west small tiles TAC)
Entries 1173632
TAC
QT Input Channel
W1 W7 W2 W8 W3 W9 W10 W11 W4 W12 W13 W5 W6 W14 W15 W16

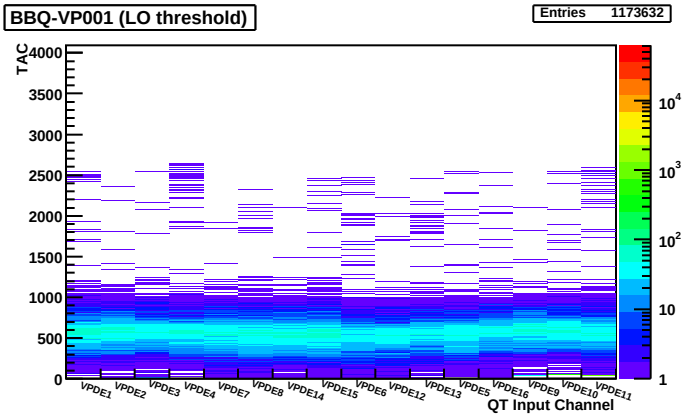

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1173632
ADC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

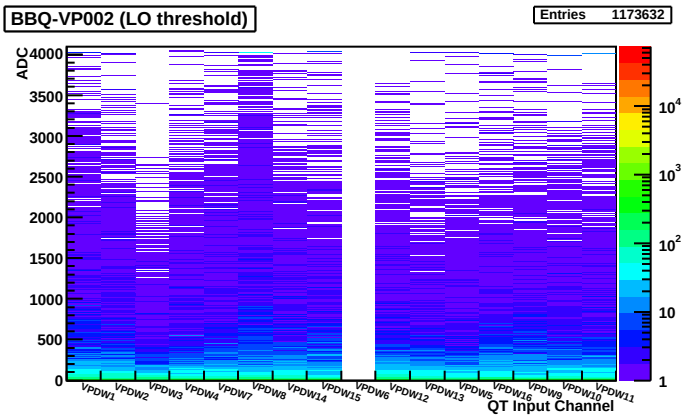

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1173632
TAC
QT Input Channel
E17 E18 E19 E20 E21 E22 E23 E24 W17 W18 W19 W20 W21 W22 W23 W24

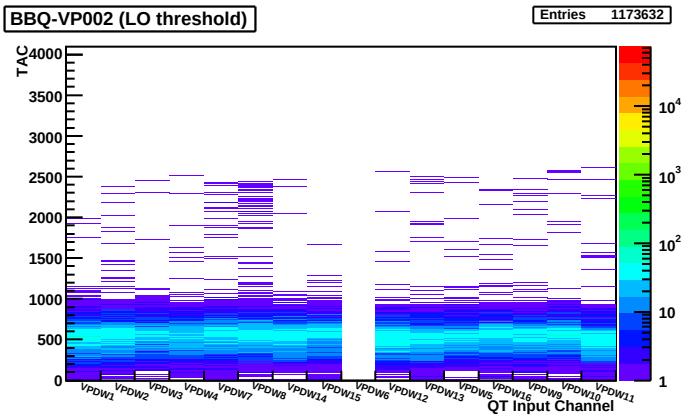

BBQ-ZD001 (ZDC TOWER)
Entries 1173632
ADC
E1 E1A Esum EsumA E2 E3 E2A E+W A W1 W1A Wsum WsumA W2 W3 W2A

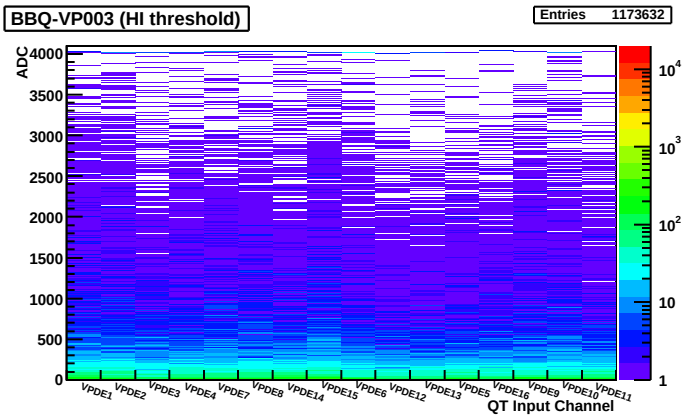

BBQ-ZD001 (ZDC TOWER)
Entries 1173632
TAC
E1TAC E1ATAC EsumTAC EsumATAC E2TAC E3TAC E2ATAC E+W A TAC W1TAC W1ATAC WsumTAC WsumA TAC W2TAC W3TAC W2ATAC

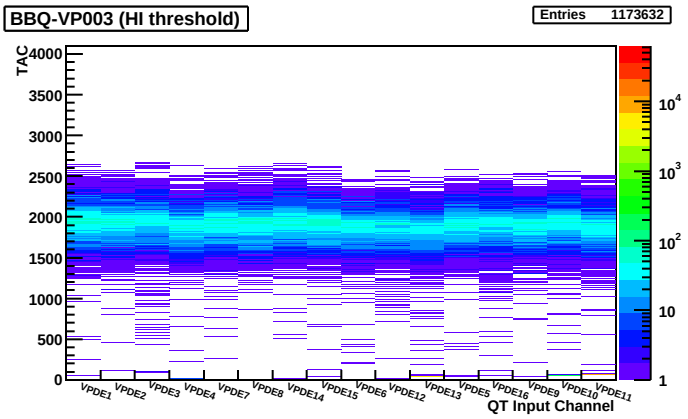

BBQ-VP001 (LO threshold)
Entries 1173632
ADC
QT Input Channel

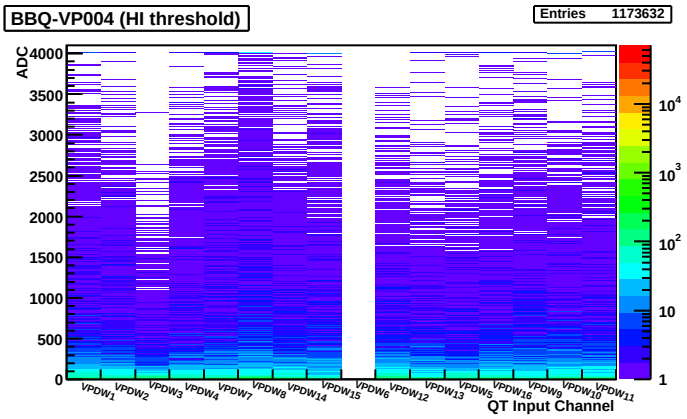

BBQ-VP001 (LO threshold)
Entries 1173632
TAC
QT Input Channel

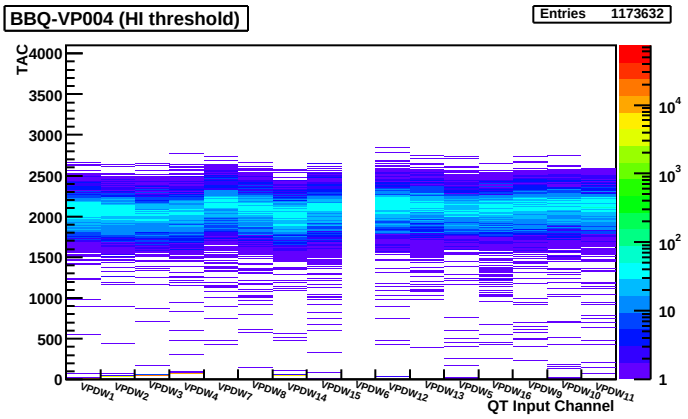

BBQ-VP002 (LO threshold)
Entries 1173632
ADC
QT Input Channel

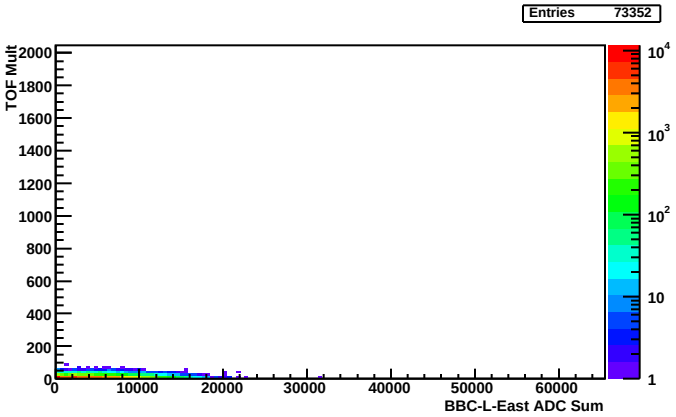

BBQ-VP002 (LO threshold)
Entries 1173632
TAC
QT Input Channel

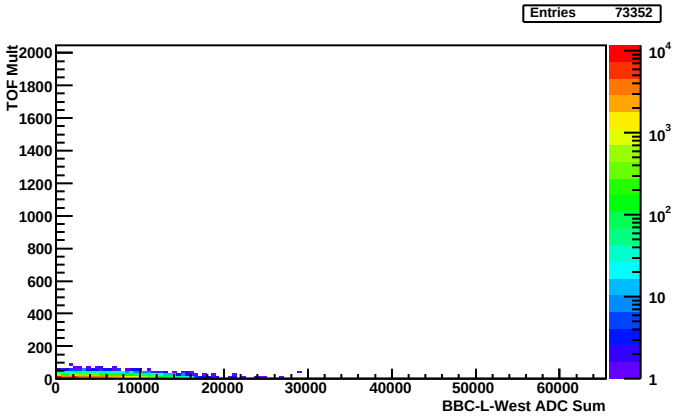

BBQ-VP003 (HI threshold)
Entries 1173632
ADC
QT Input Channel

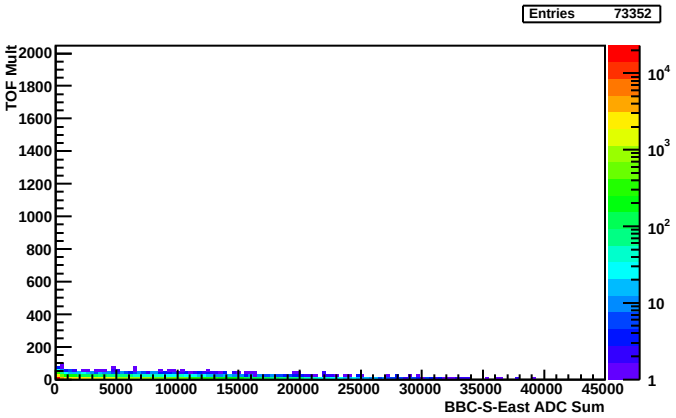

BBQ-VP003 (HI threshold)
Entries 1173632
TAC
QT Input Channel

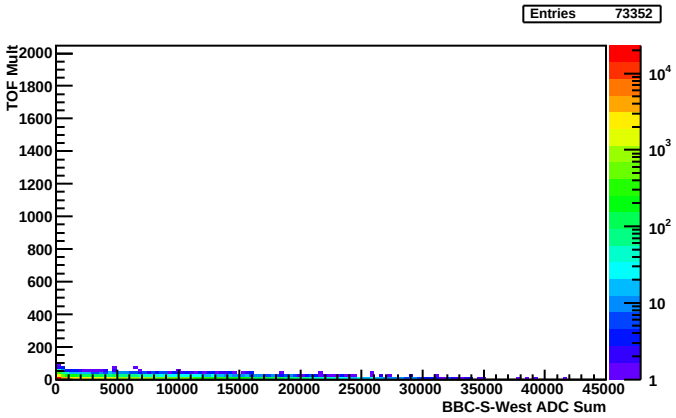

BBQ-VP004 (HI threshold)
Entries 1173632
ADC
QT Input Channel

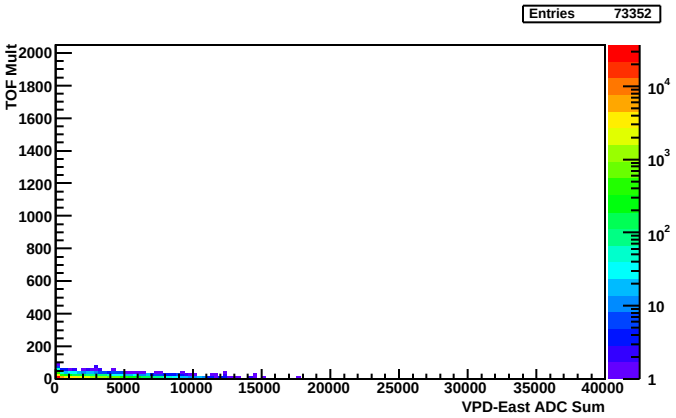

BBQ-VP004 (HI threshold)
Entries 1173632
TAC
QT Input Channel

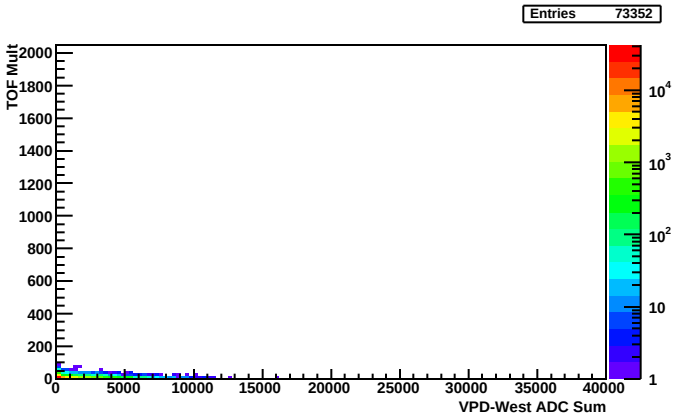

Entries 73352
TOF Mult
BBC-L-East ADC Sum

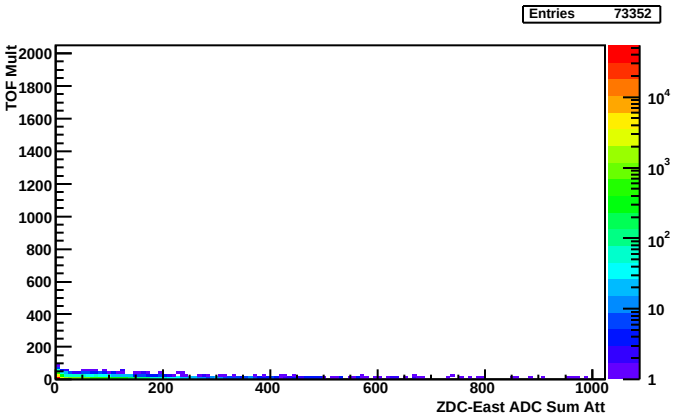

Entries 73352
TOF Mult
BBC-L-West ADC Sum

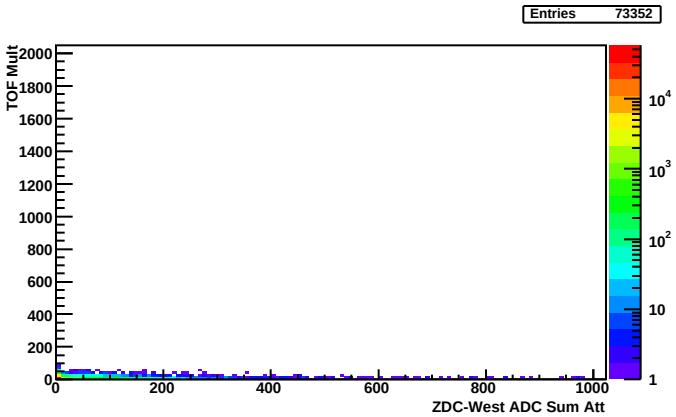

Entries 73352
TOF Mult
BBC-S-East ADC Sum

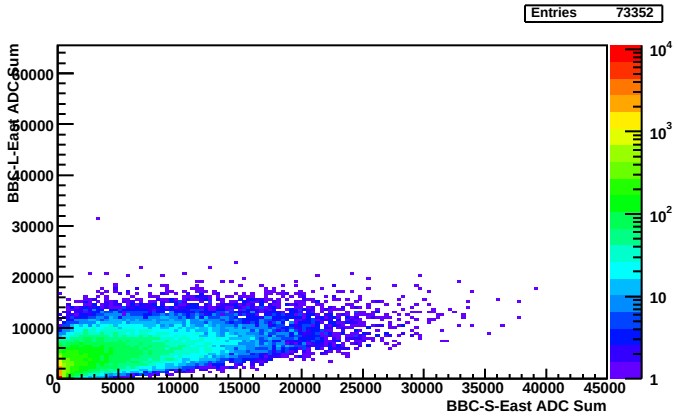

Entries 73352
TOF Mult
BBC-S-West ADC Sum

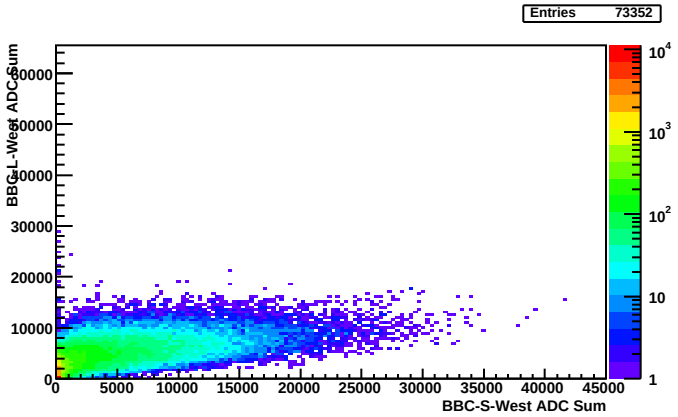

Entries 73352
TOF Mult
VPD-East ADC Sum

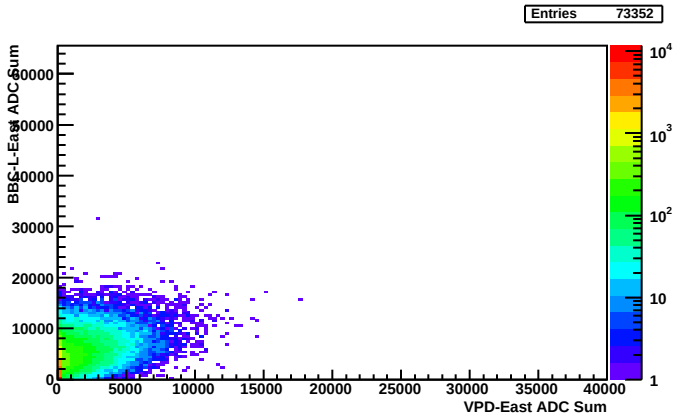

Entries 73352
TOF Mult
VPD-West ADC Sum

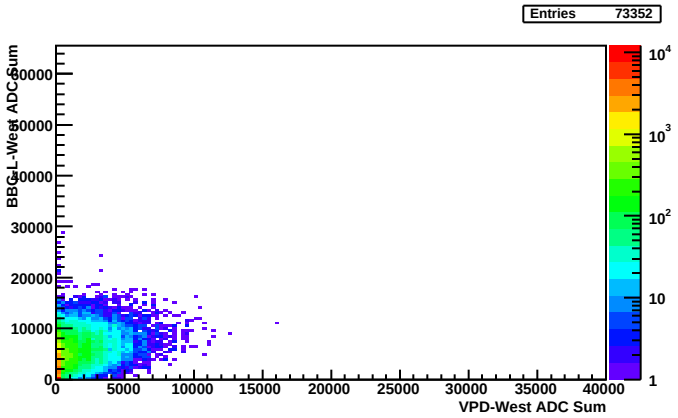

Entries 73352
TOF Mult
ZDC-East ADC Sum Att

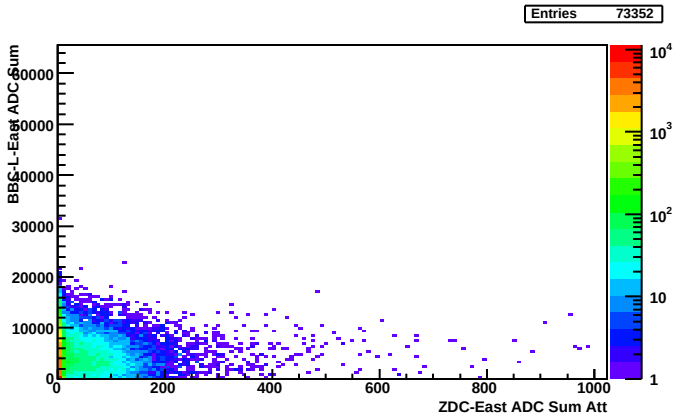

Entries 73352
TOF Mult
ZDC-West ADC Sum Att

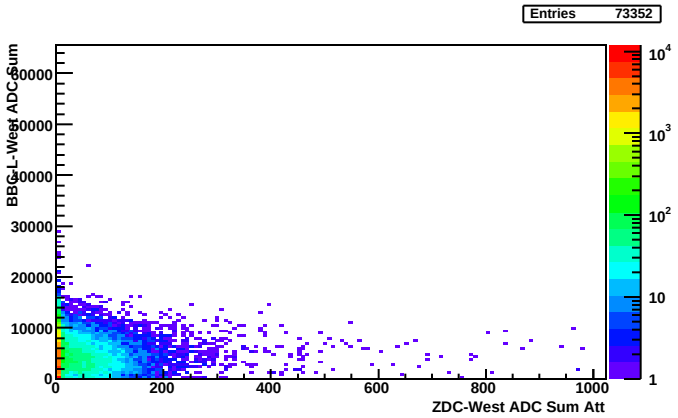

Entries 73352
BBC-L-East ADC Sum
BBC-S-East ADC Sum

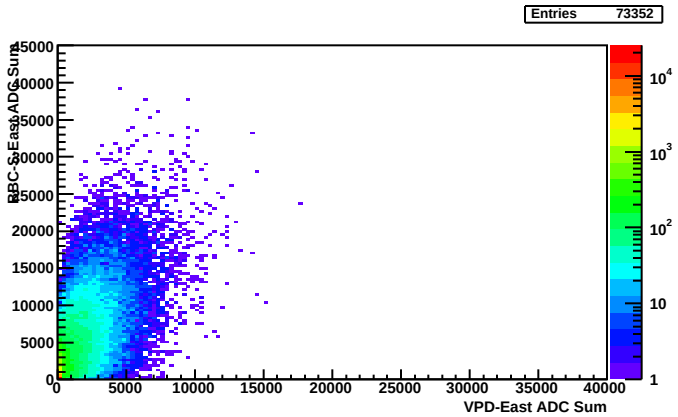

Entries 73352
BBC-L-West ADC Sum
BBC-S-West ADC Sum

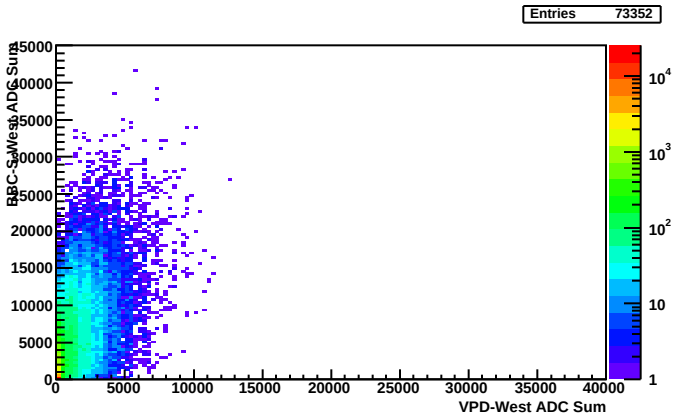

Entries 73352
BBC-L-East ADC Sum
VPD-East ADC Sum

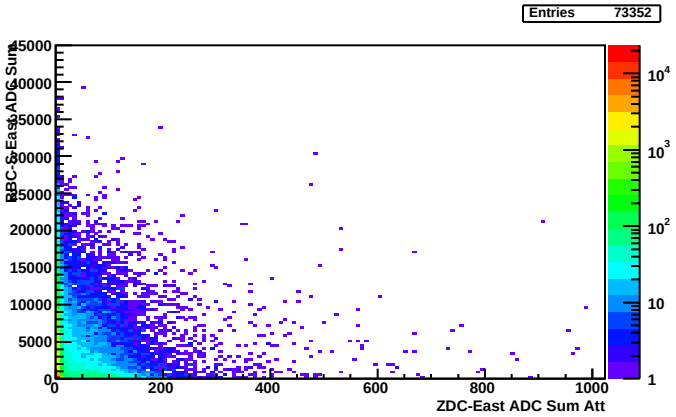

Entries 73352
BBC-L-West ADC Sum
VPD-West ADC Sum

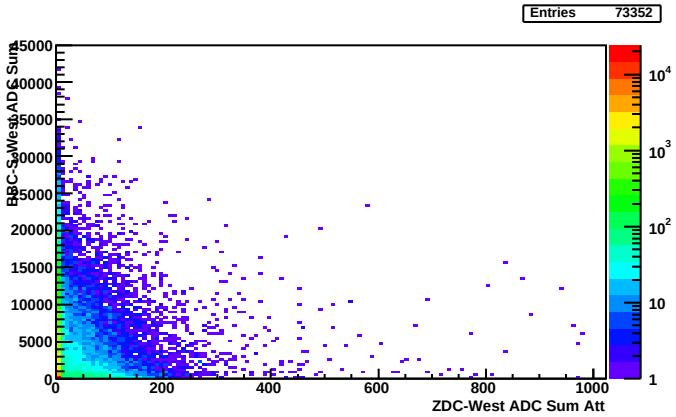

Entries 73352
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

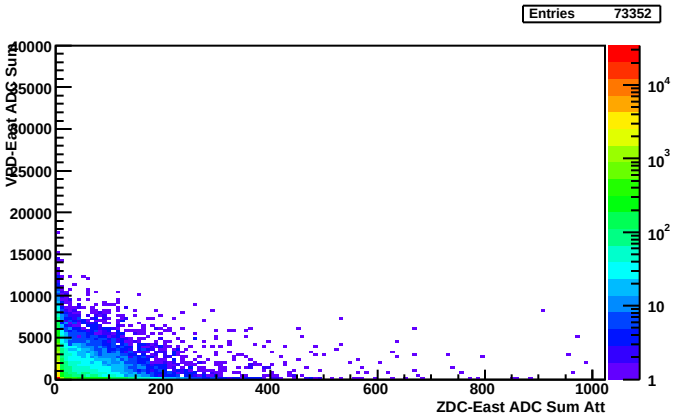

Entries 73352
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

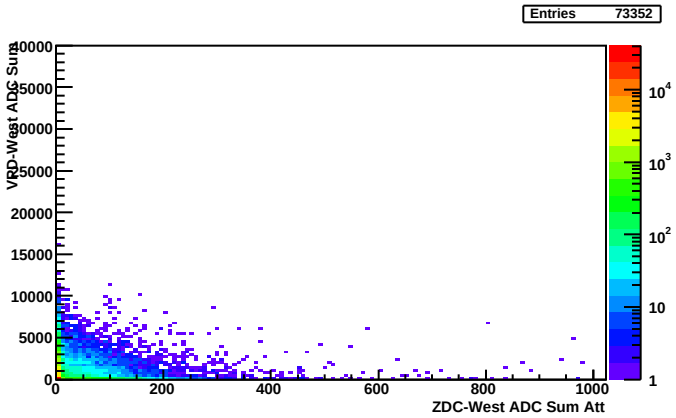

Entries 73352
BBC-S-East ADC Sum
VPD-East ADC Sum

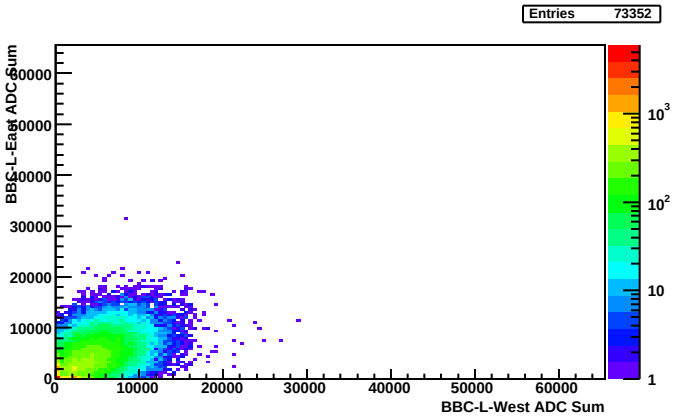

Entries 73352
BBC-S-West ADC Sum
VPD-West ADC Sum

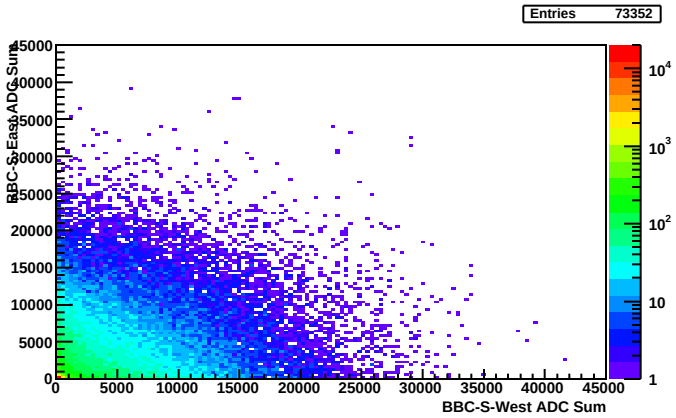

Entries 73352
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

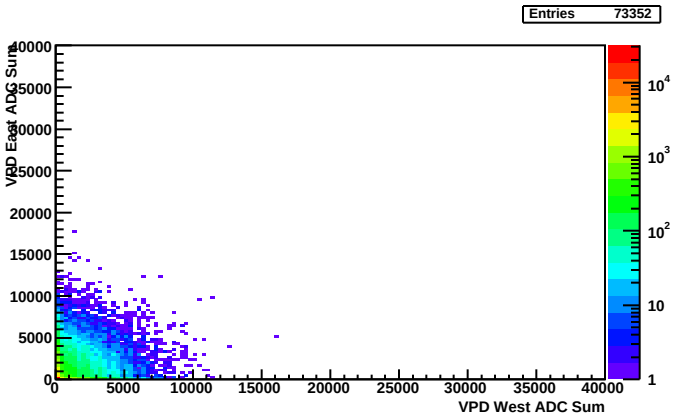

Entries 73352
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

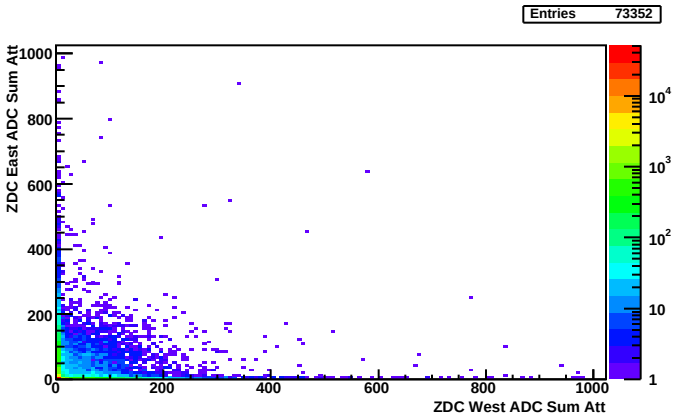

Entries 73352
VPD-East ADC Sum
ZDC-East ADC Sum Att

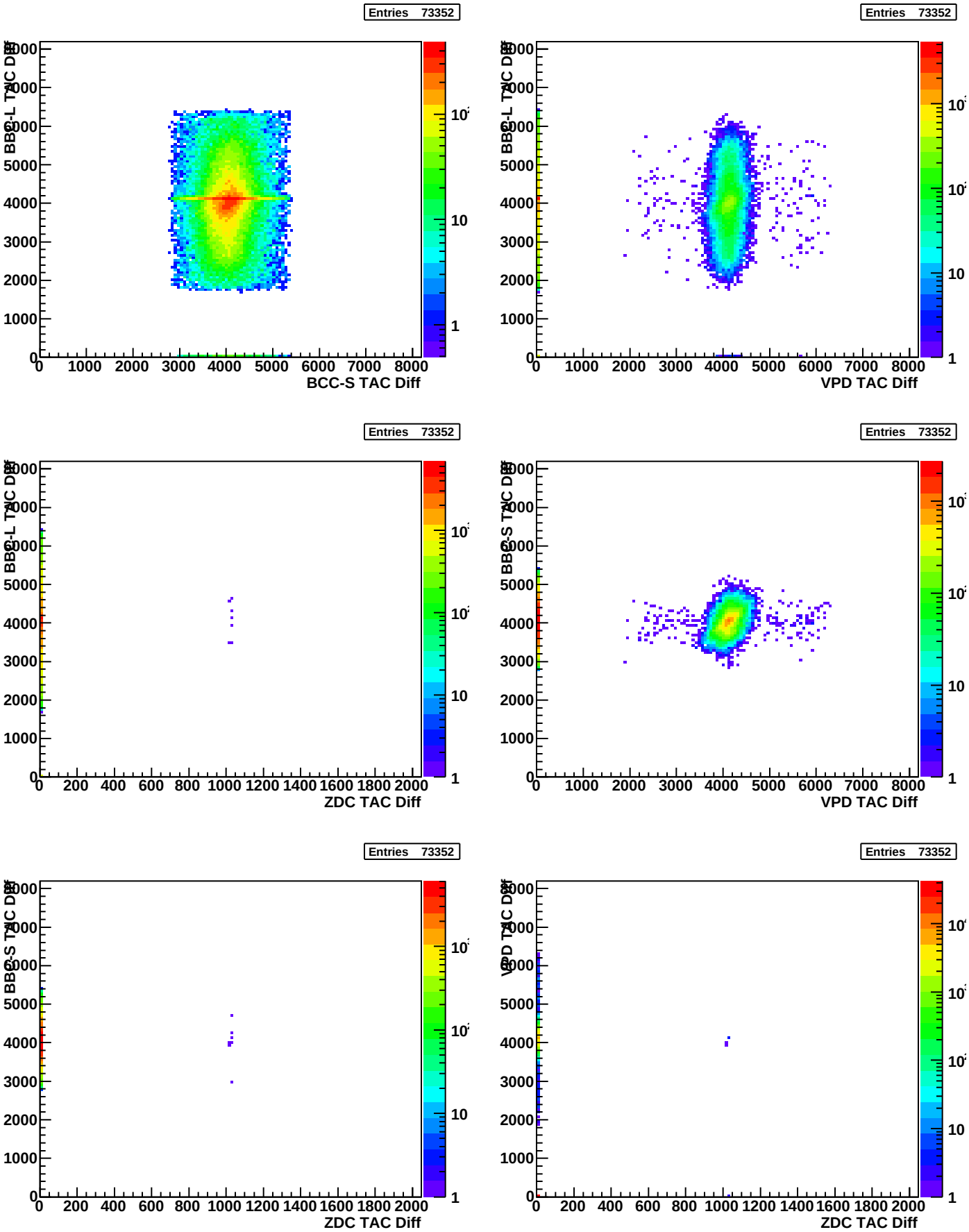

Entries 73352
VPD-West ADC Sum
ZDC-West ADC Sum Att

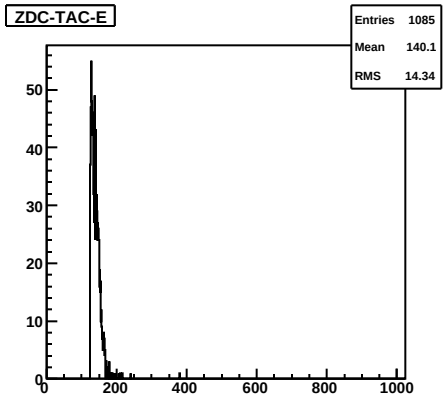

Entries 73352
BBC-L-East ADC Sum
BBC-L-West ADC Sum

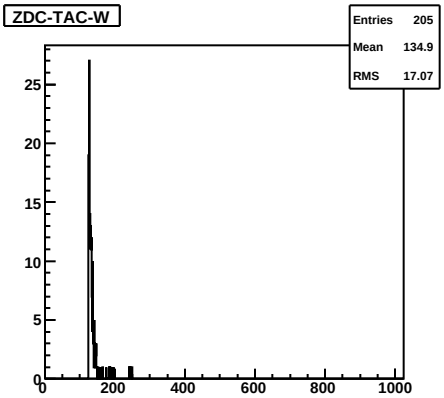

Entries 73352
BBC-S-East ADC Sum
BBC-S-West ADC Sum

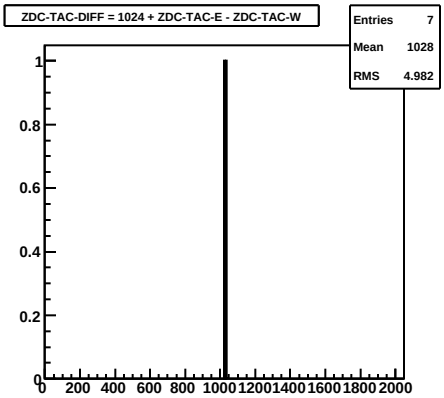

Entries 73352
VPD East ADC Sum
VPD West ADC Sum

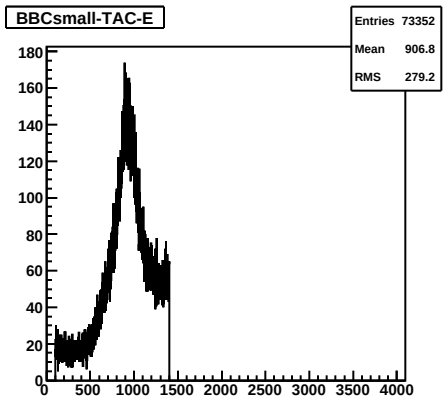

Entries 73352
ZDC East ADC Sum Att
ZDC West ADC Sum Att

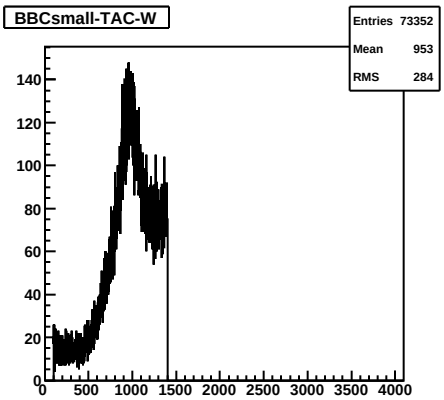

Entries 73352
BBC-L TAC Diff
BCC-S TAC Diff
Entries 73352
BBC-L TAC Diff
VPD TAC Diff
Entries 73352
BBC-L TAC Diff
ZDC TAC Diff
Entries 73352
BBC-S TAC Diff
VPD TAC Diff
Entries 73352
BBC-S TAC Diff
ZDC TAC Diff
Entries 73352
VPD TAC Diff
ZDC TAC Diff

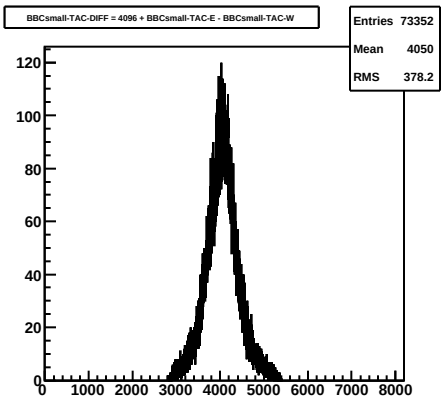

ZDC-TAC-E
Entries 1085
Mean 140.1
RMS 14.34

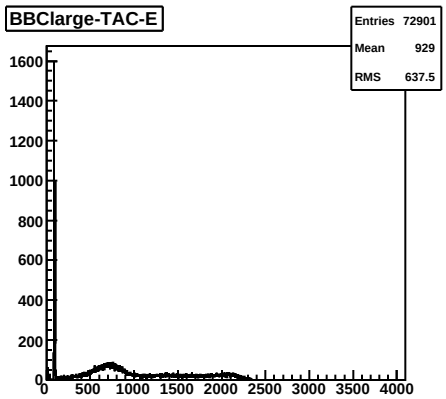

ZDC-TAC-W
Entries 205
Mean 134.9
RMS 17.07

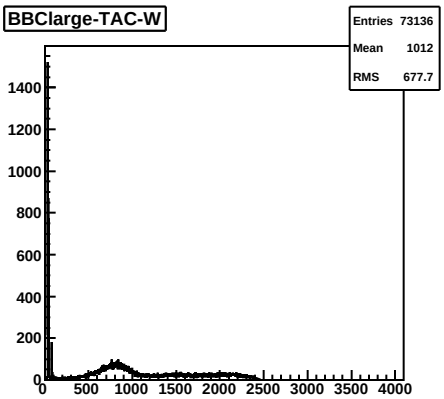

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 7
Mean 1028
RMS 4.982

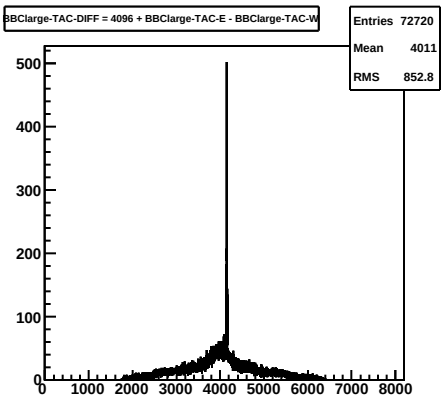

BBCsmall-TAC-E
Entries 73352
Mean 906.8
RMS 279.2

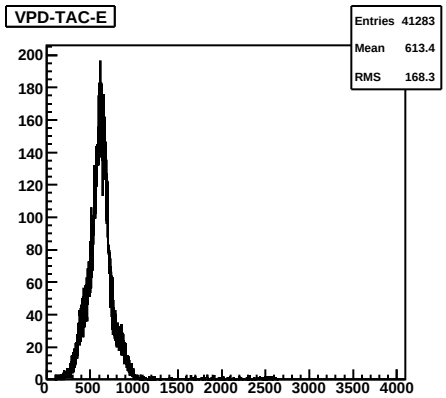

BBCsmall-TAC-W
Entries 73352
Mean 953
RMS 284

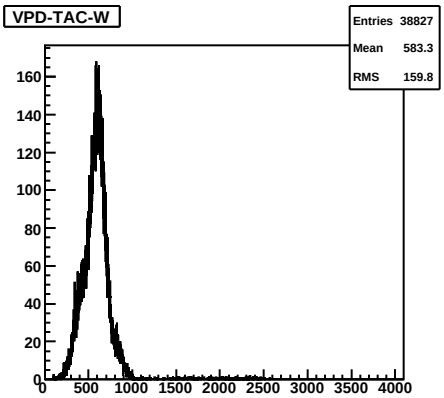

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 73352
Mean 4050
RMS 378.2

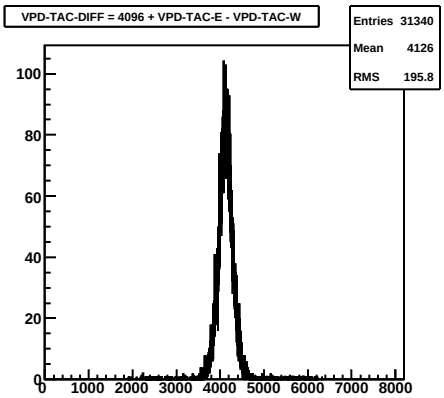

BBClarge-TAC-E
Entries 72901
Mean 929
RMS 637.5

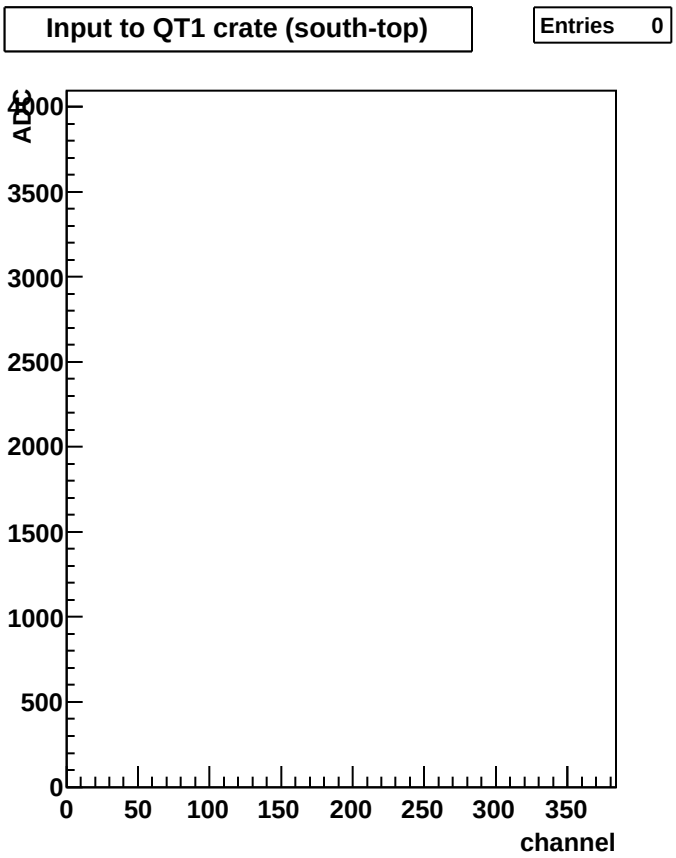

BBClarge-TAC-W
Entries 73136
Mean 1012
RMS 677.7

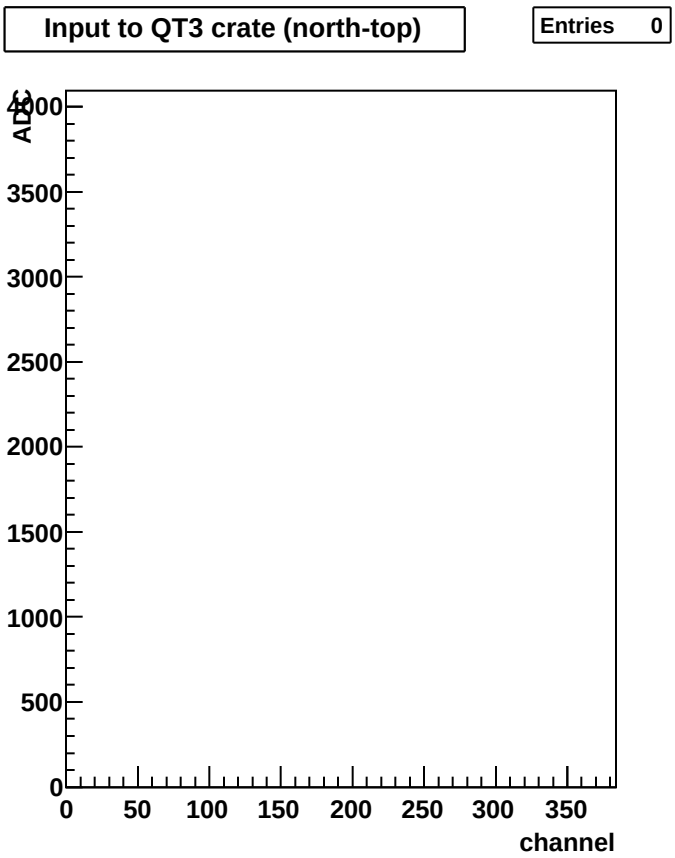

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 72720
Mean 4011
RMS 852.8

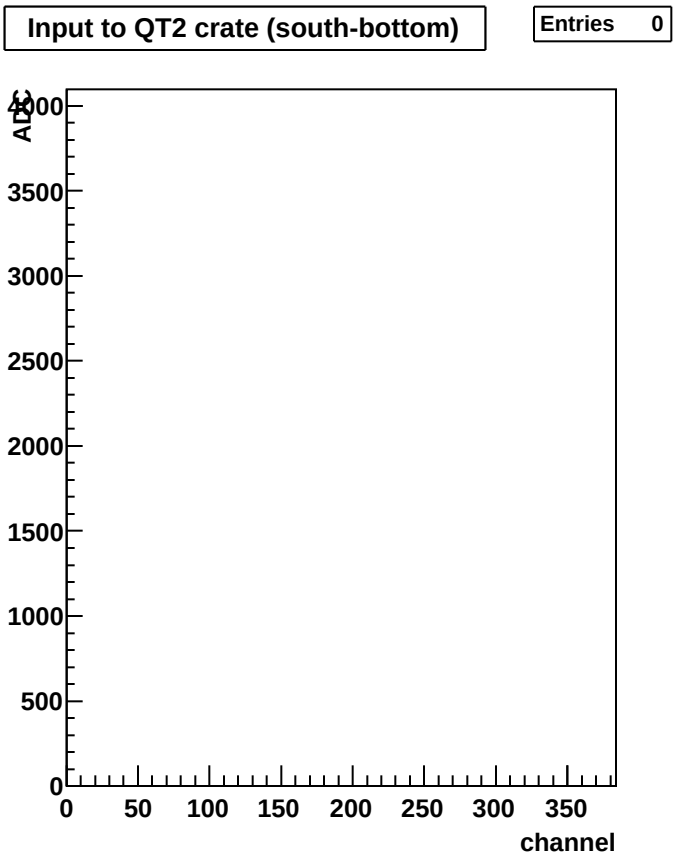

VPD-TAC-E
Entries 41283
Mean 613.4
RMS 168.3

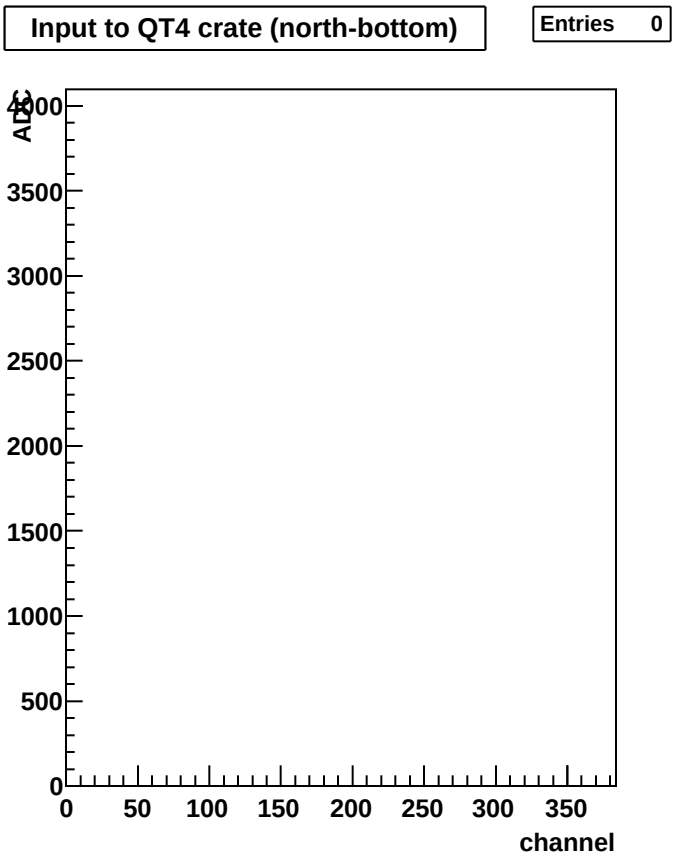

VPD-TAC-W
Entries 38827
Mean 583.3
RMS 159.8

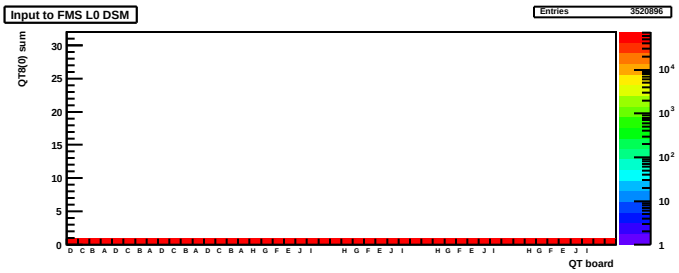

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 31340
Mean 4126
RMS 195.8

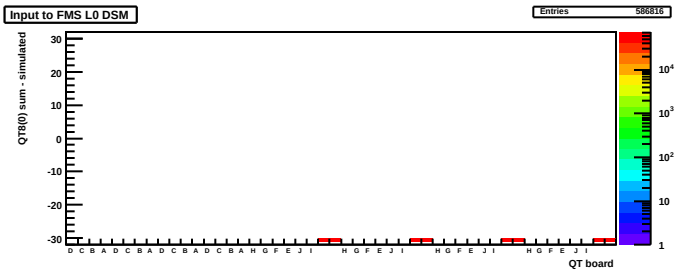

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

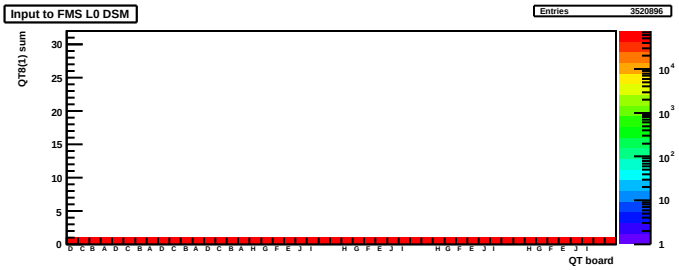

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

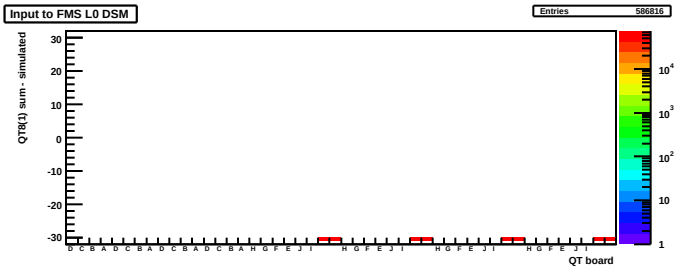

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

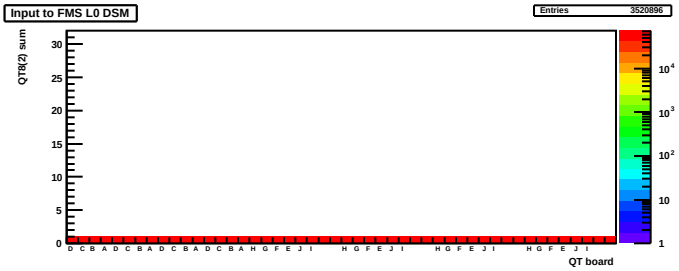

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

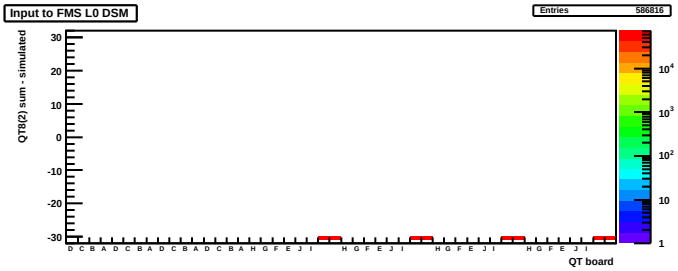

Input to FMS L0 DSM
Entries 3520896
QT8(0) sum
QT board

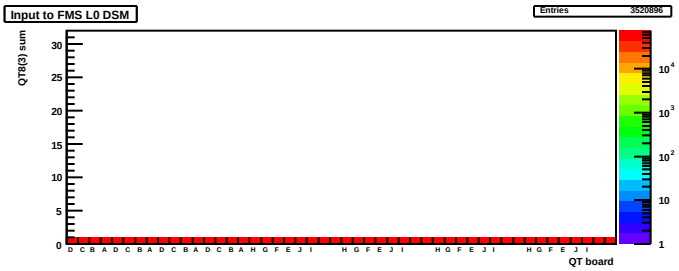

Input to FMS L0 DSM
Entries 586816
QT8(0) sum - simulated
QT board

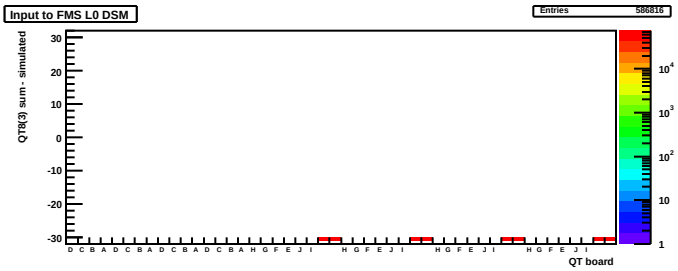

Input to FMS L0 DSM
Entries 3520896
QT8(1) sum
QT board

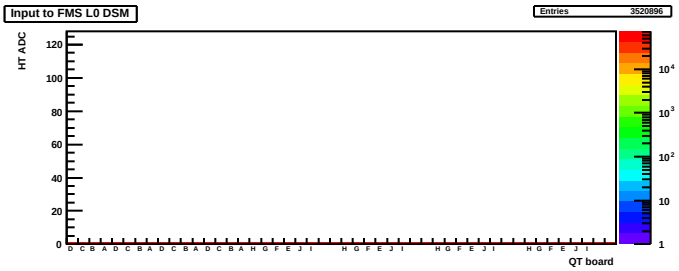

Input to FMS L0 DSM
Entries 586816
QT8(1) sum - simulated
QT board

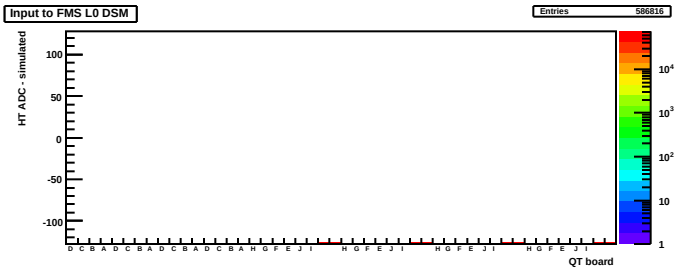

Input to FMS L0 DSM
Entries 3520896
QT8(2) sum
QT board

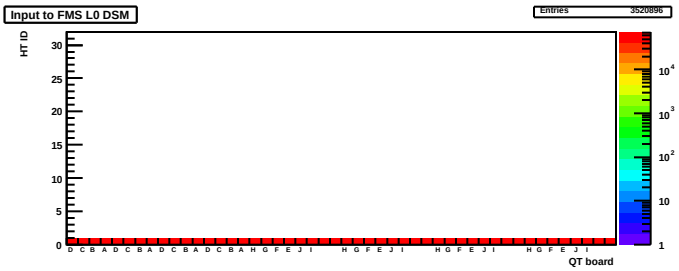

Input to FMS L0 DSM
Entries 586816
QT8(2) sum - simulated
QT board

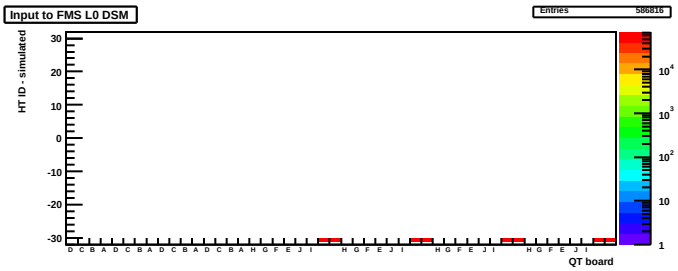

Input to FMS L0 DSM
Entries 3520896
QT8(3) sum
QT board

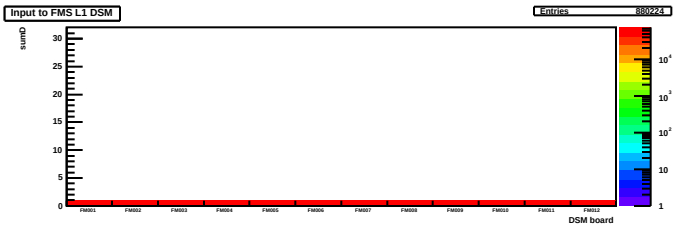

Input to FMS L0 DSM
Entries 586816
QT8(3) sum - simulated
QT board

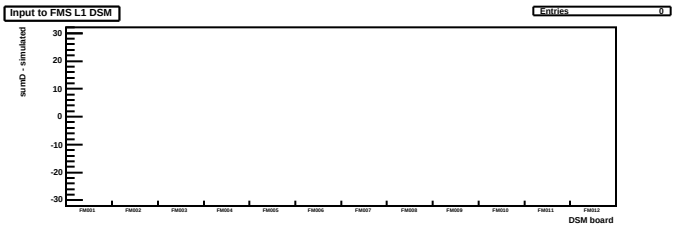

Input to FMS L0 DSM
Entries 3520896
HT ADC
QT board

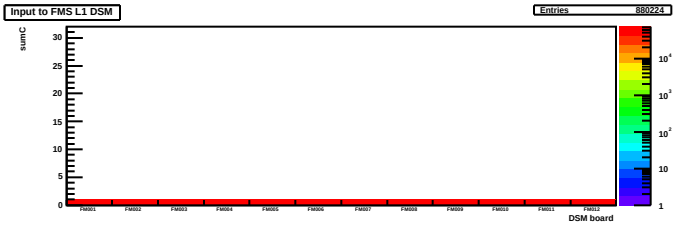

Input to FMS L0 DSM
Entries 586816
HT ADC - simulated
QT board

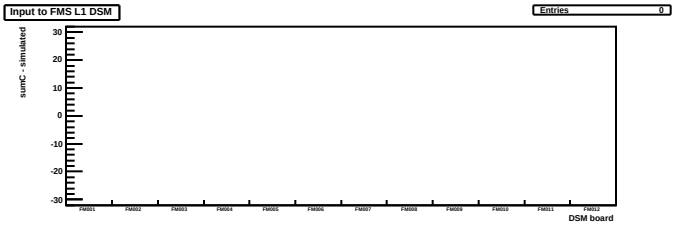

Input to FMS L0 DSM
Entries 3520896
HT ID
QT board

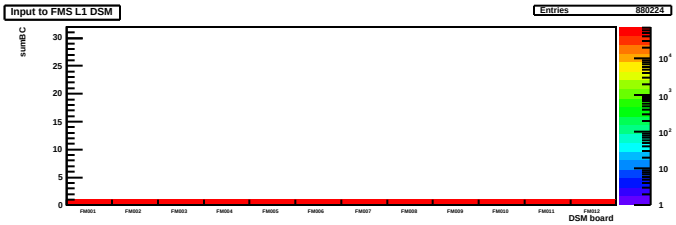

Input to FMS L0 DSM
Entries 586816
HT ID - simulated
QT board

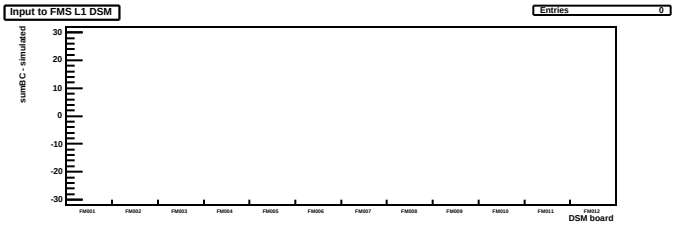

Input to FMS L1 DSM
Entries 880224
sumD
DSM board

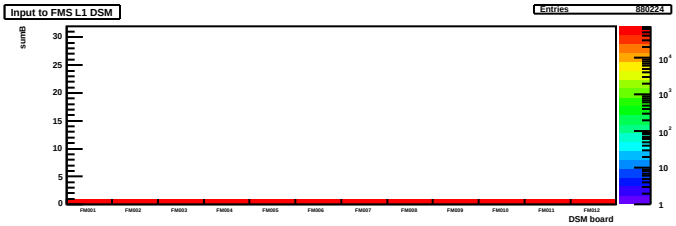

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

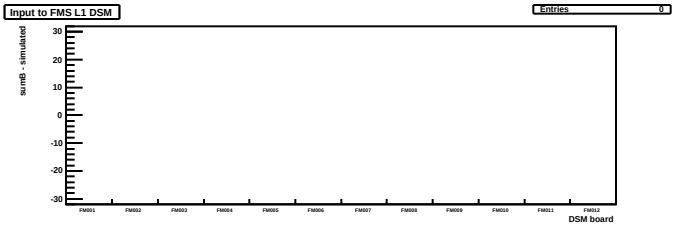

Input to FMS L1 DSM
Entries 880224
sumC
DSM board

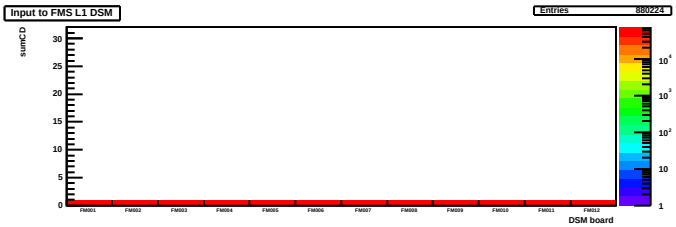

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

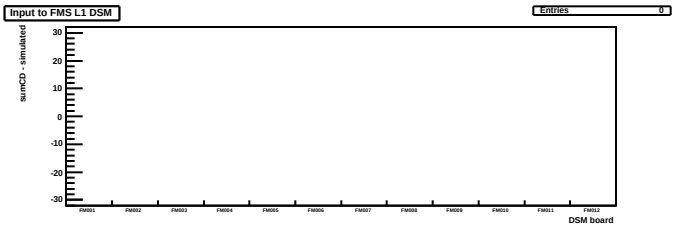

Input to FMS L1 DSM
Entries 880224
sumBC
DSM board

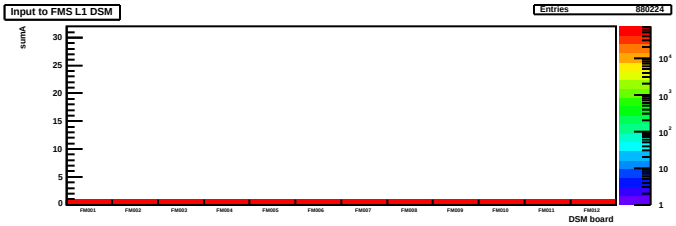

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

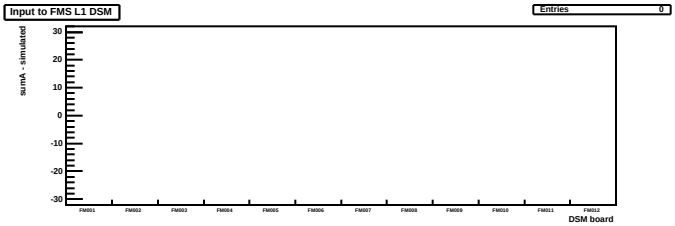

Input to FMS L1 DSM
Entries 880224
sumB
DSM board

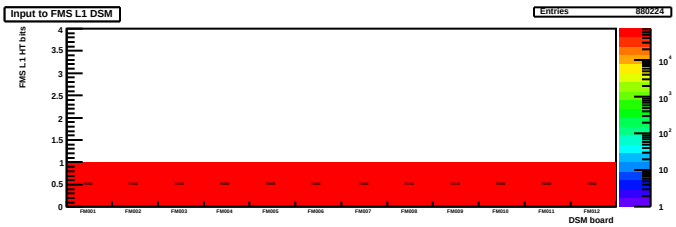

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

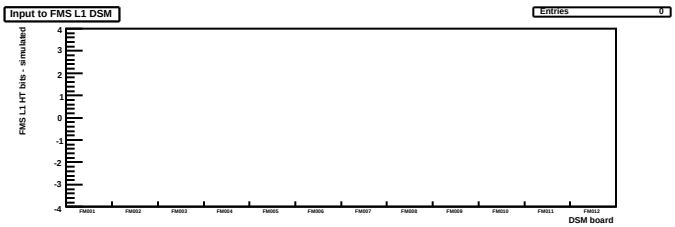

Input to FMS L1 DSM
Entries 880224
sumCD
DSM board

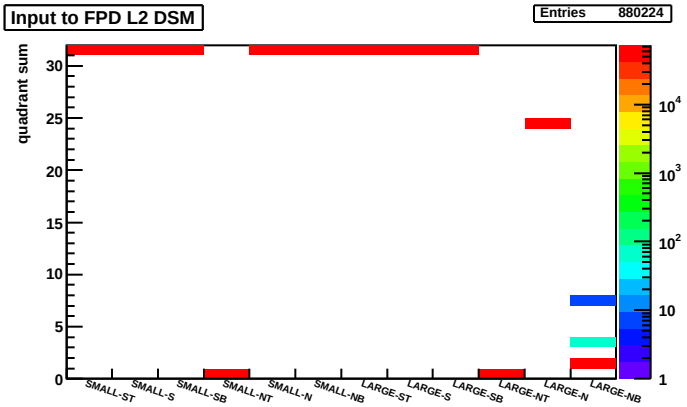

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

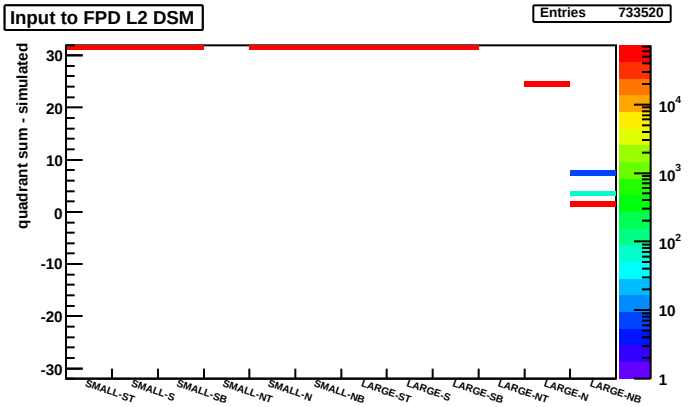

Input to FMS L1 DSM
Entries 880224
sumA
DSM board

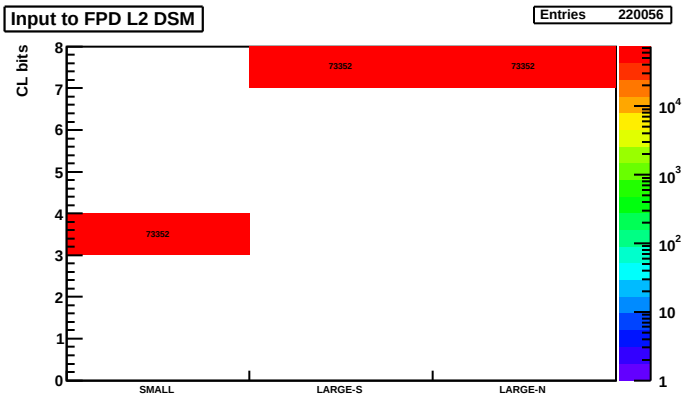

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

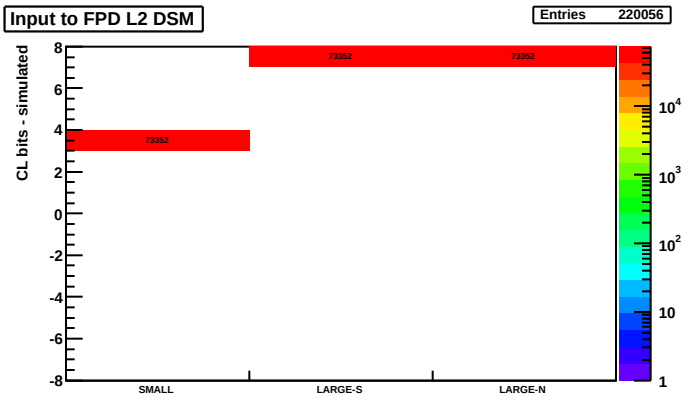

Input to FMS L1 DSM
Entries 880224
FMS L1 HT bits
DSM board

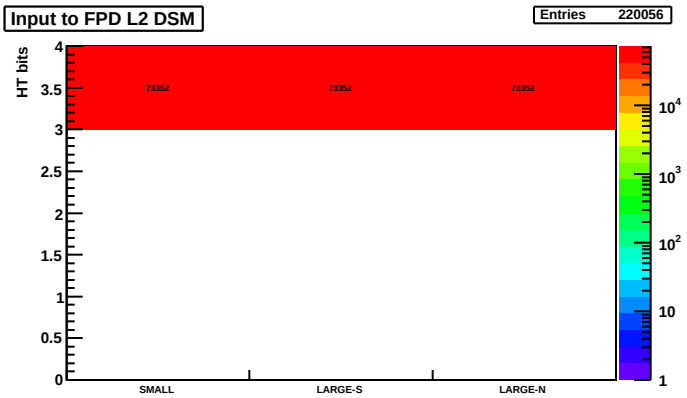

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

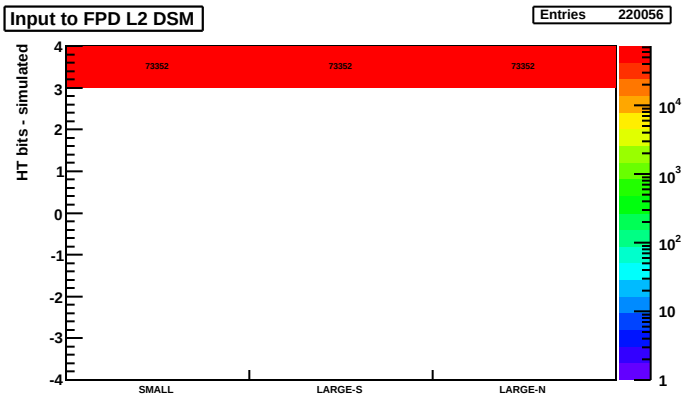

Input to FPD L2 DSM
Entries 880224
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

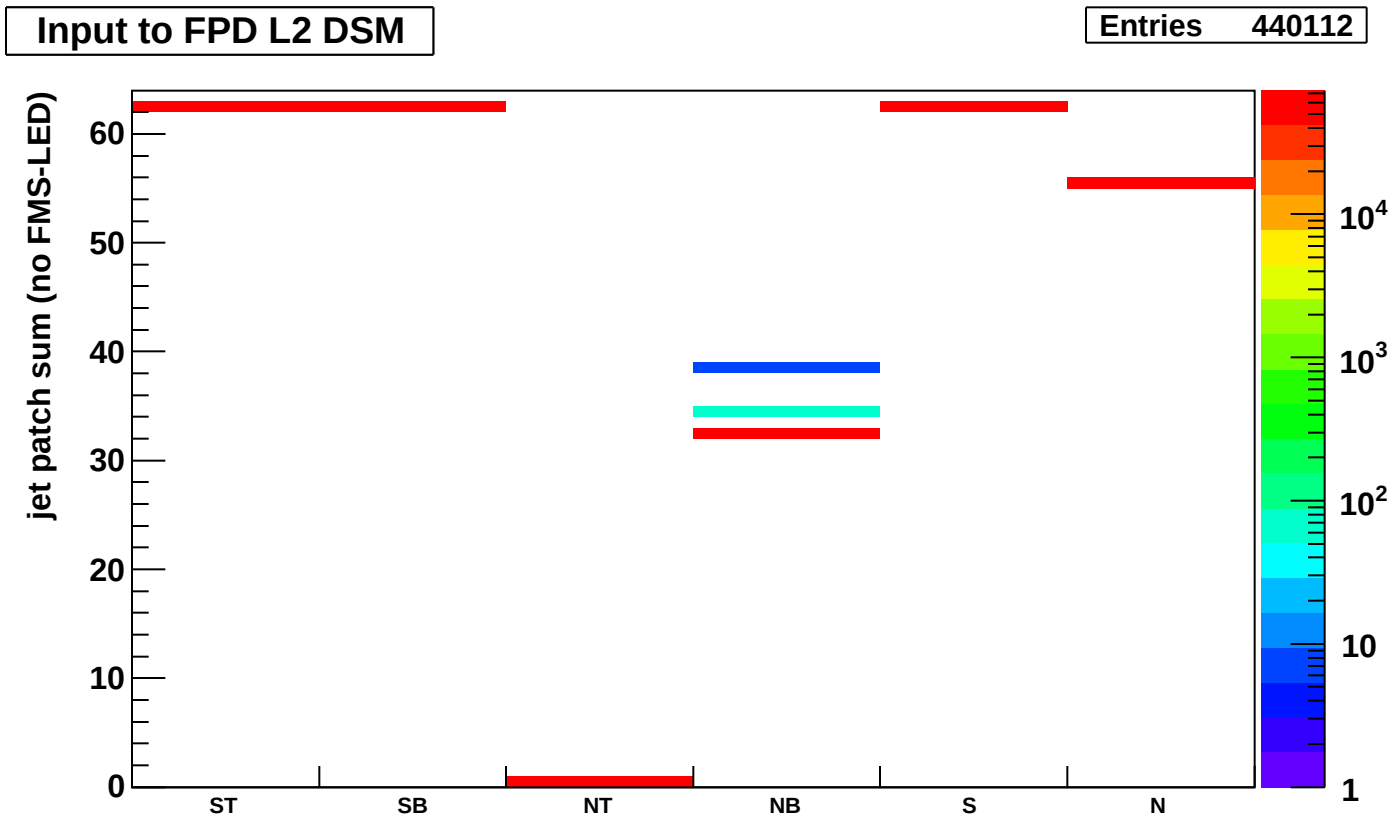

Input to FPD L2 DSM
Entries 733520
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

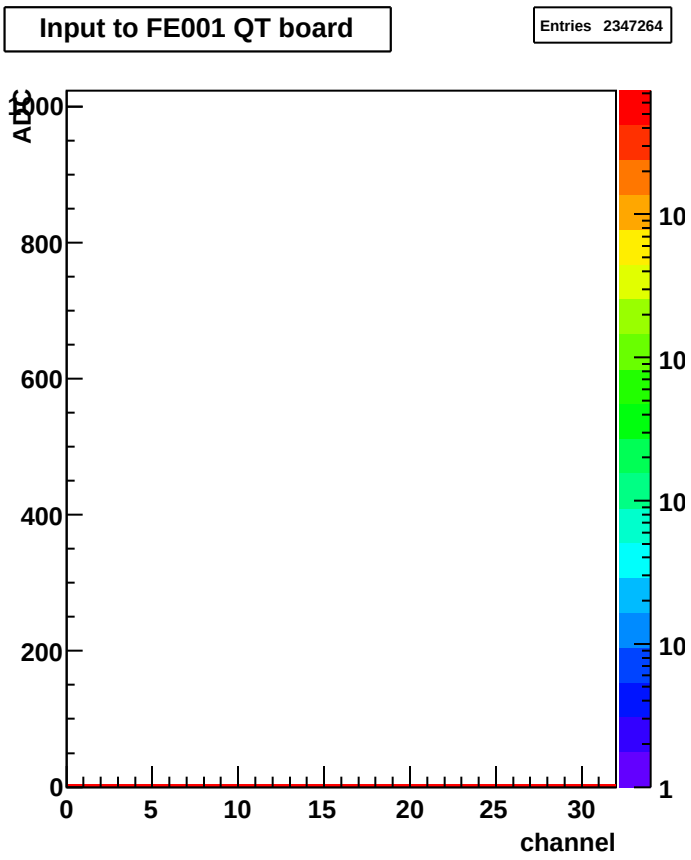

Input to FPD L2 DSM
Entries 220056
CL bits
73352
73352
73352
SMALL
LARGE-S
LARGE-N

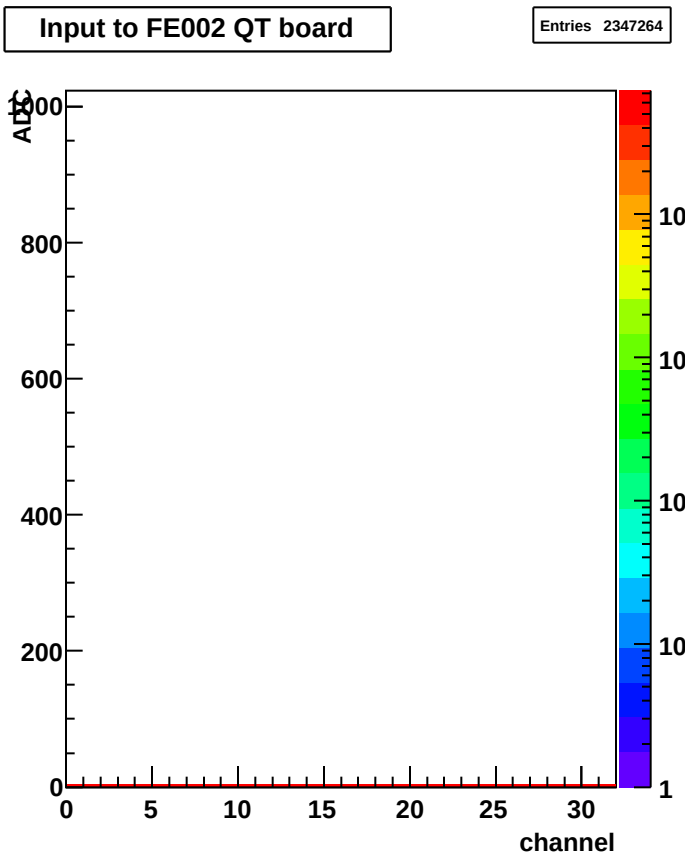

Input to FPD L2 DSM
Entries 220056
CL bits - simulated
73352
73352
73352
SMALL
LARGE-S
LARGE-N

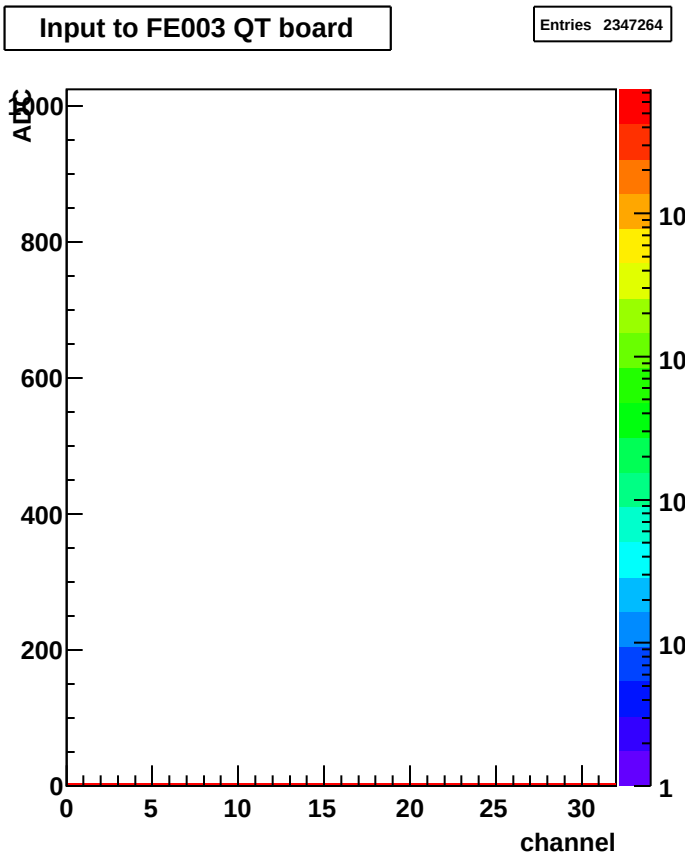

Input to FPD L2 DSM
Entries 220056
HT bits
73352
73352
73352
SMALL
LARGE-S
LARGE-N

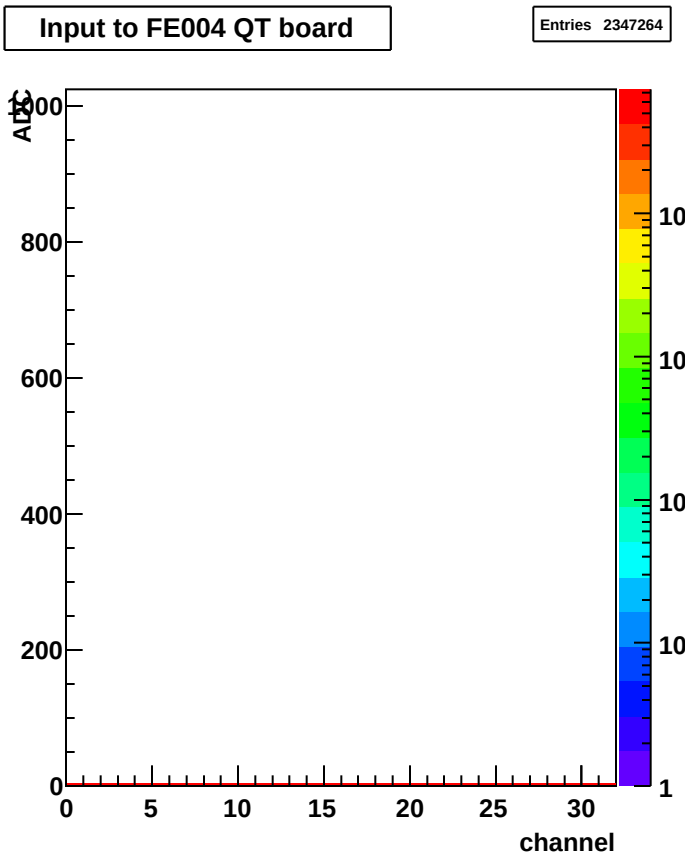

Input to FPD L2 DSM
Entries 220056
HT bits - simulated
73352
73352
73352
SMALL
LARGE-S
LARGE-N

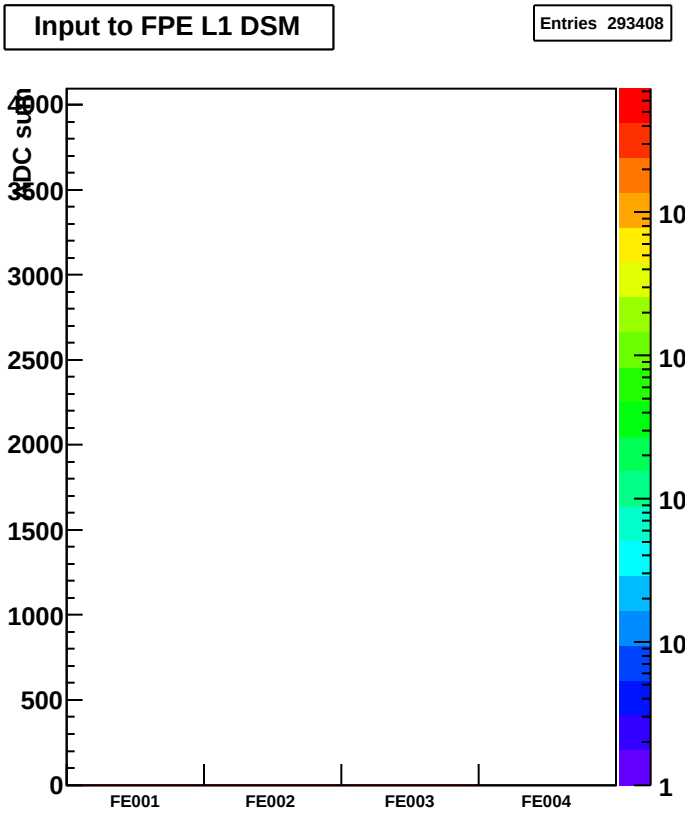

Input to FPD L2 DSM
Entries 440112
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

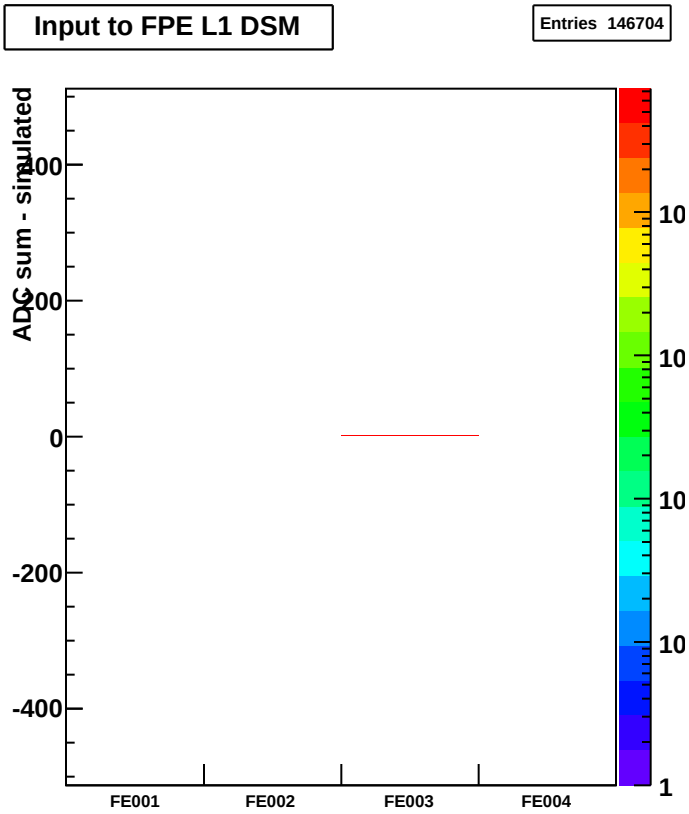

Input to FE001 QT board
Entries 2347264
ADC
channel


Input to FE002 QT board
Entries 2347264
ADC
channel

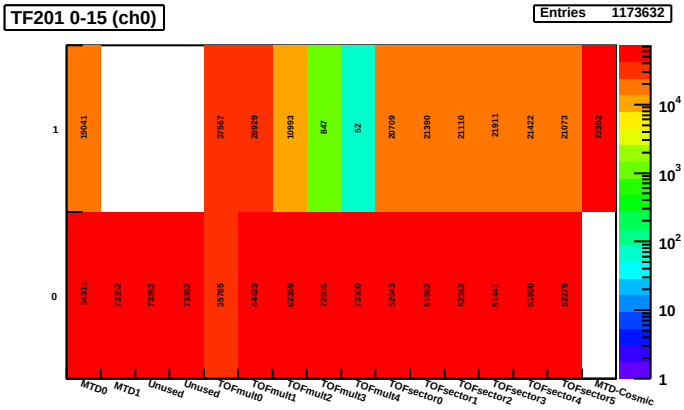

Input to FE003 QT board
Entries 2347264
ADC
channel


Input to FE004 QT board
Entries 2347264
ADC
channel

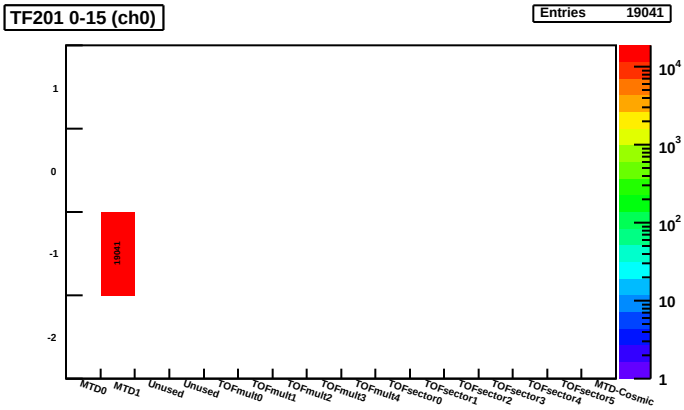

Input to FPE L1 DSM
Entries 293408
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1


Input to FPE L1 DSM
Entries 146704
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1

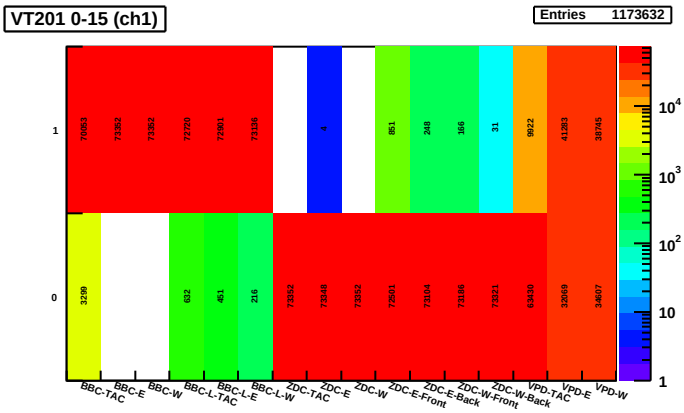
TF201 0-15 (ch0)



TF201 0-15 (ch0)



VT201 0-15 (ch1)



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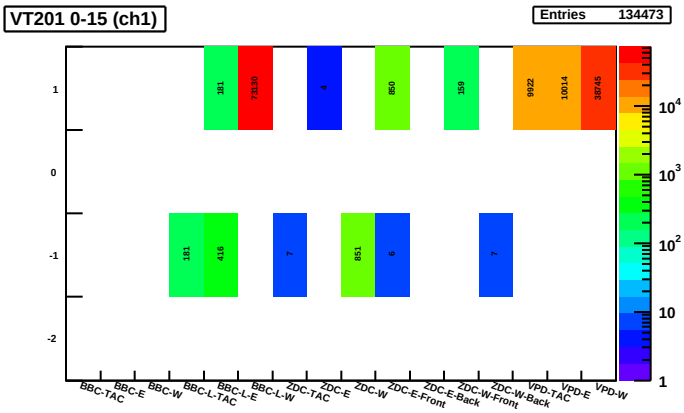

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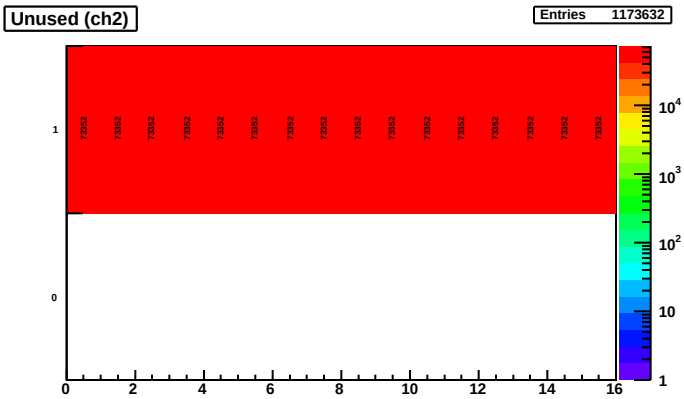

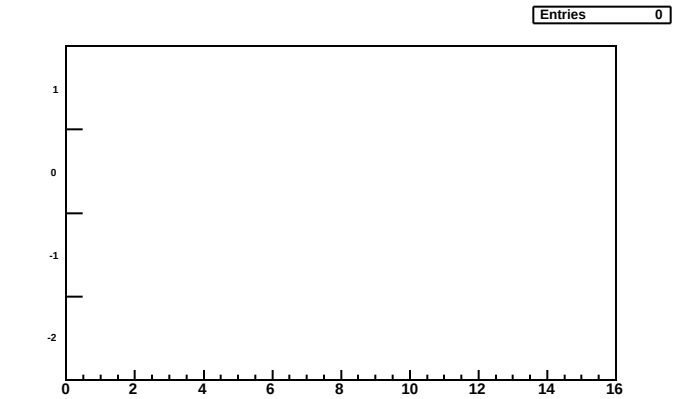

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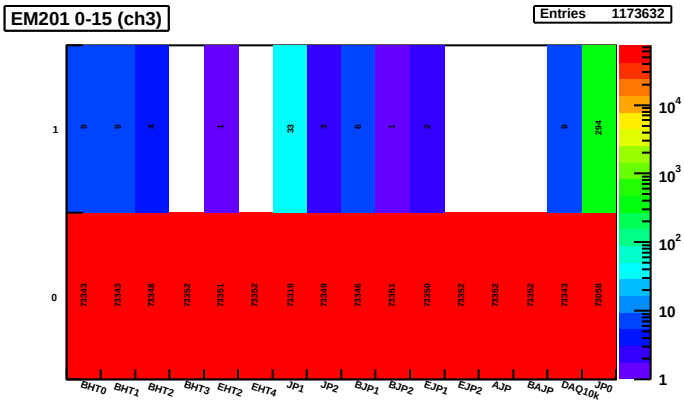

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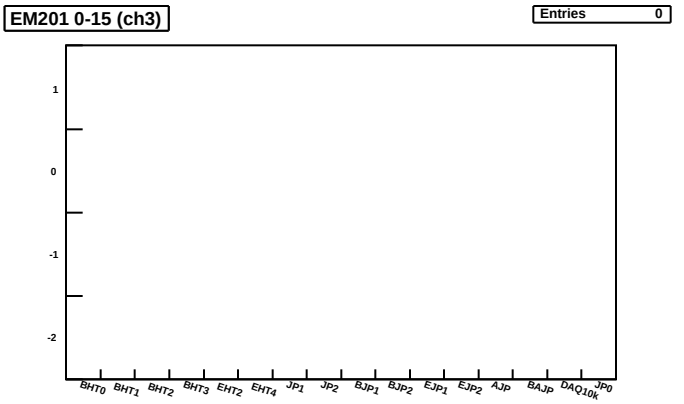
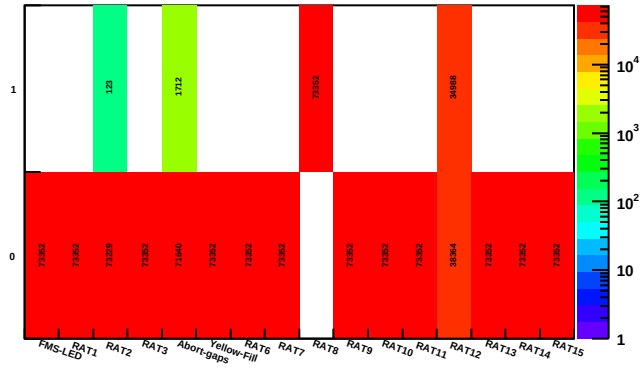
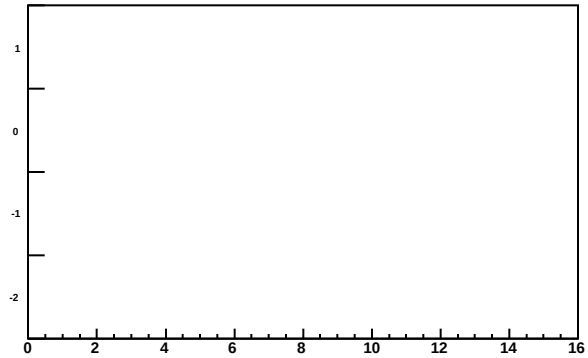


RAT board (ch4)





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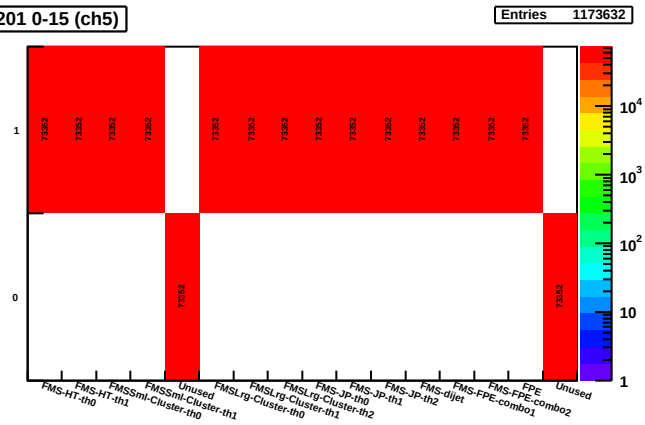

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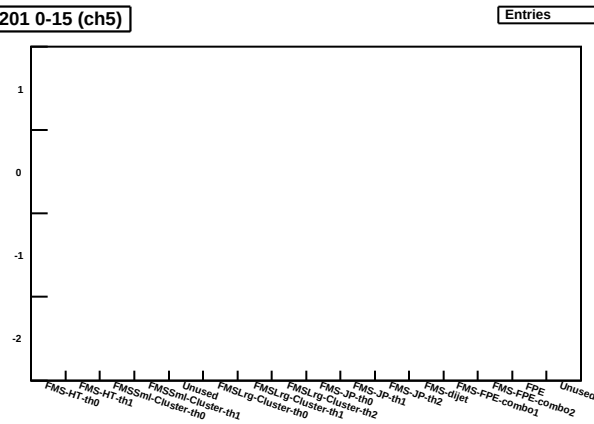
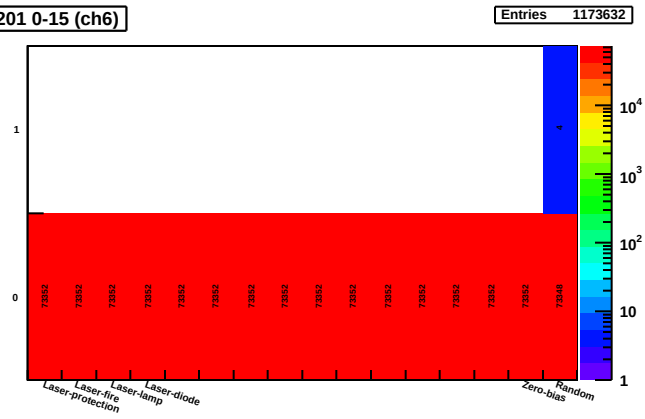
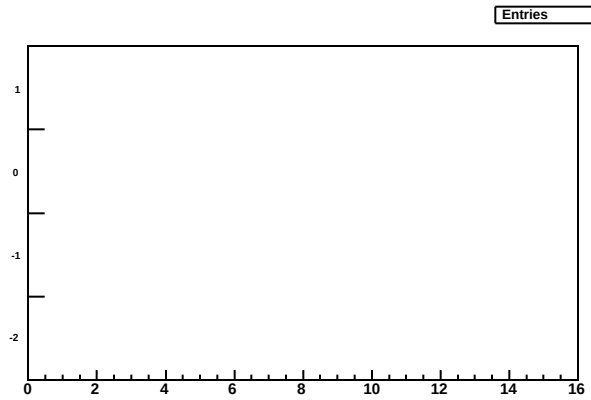
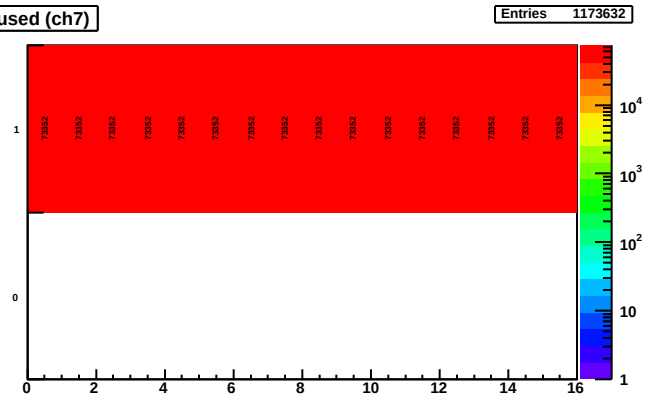
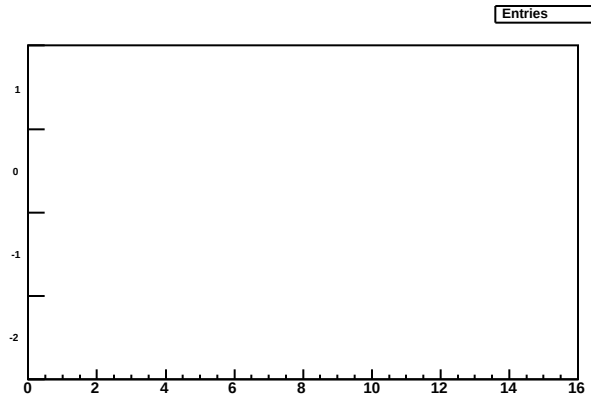


ST201 0-15 (ch6)





Unused (ch7)