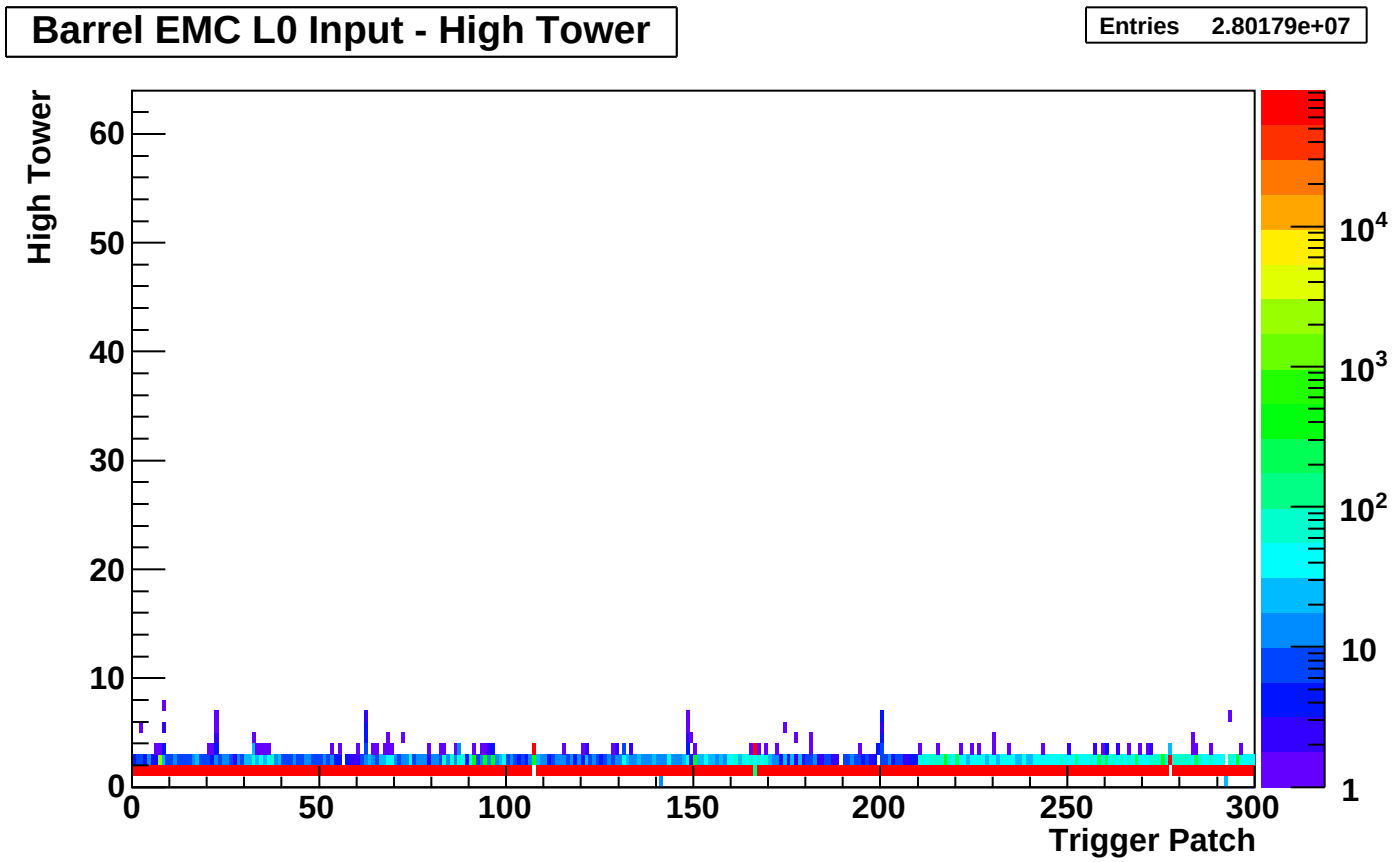
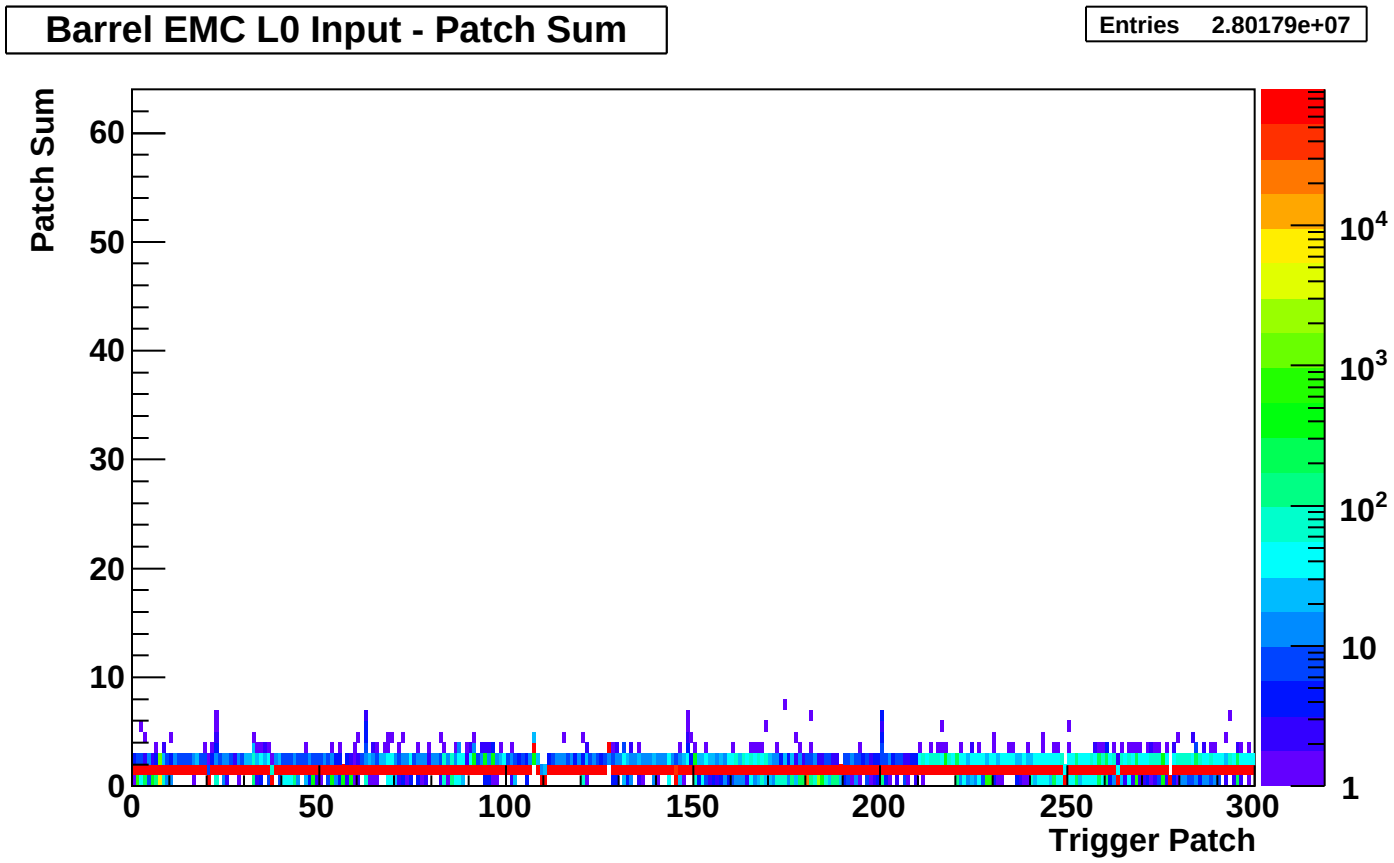
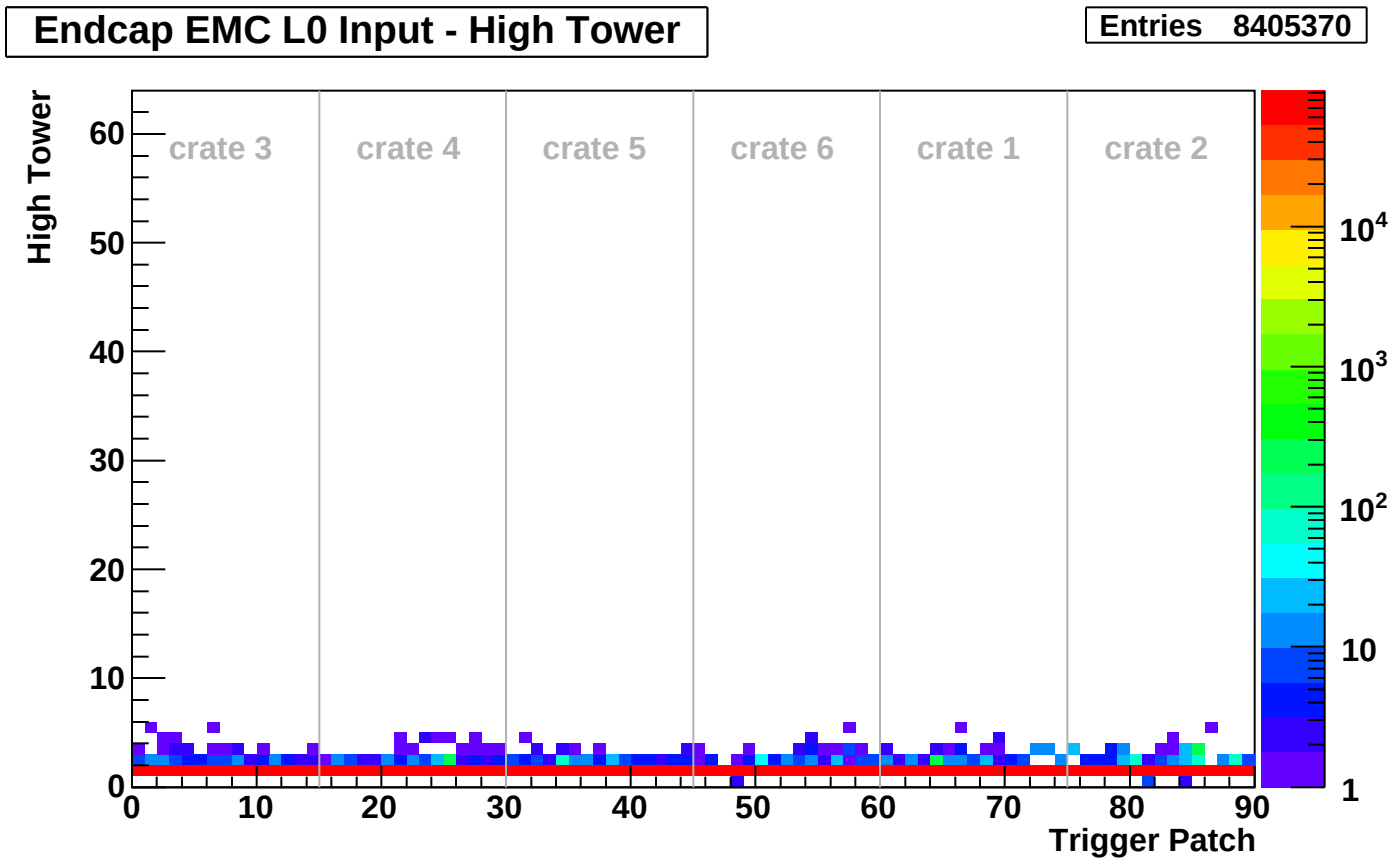
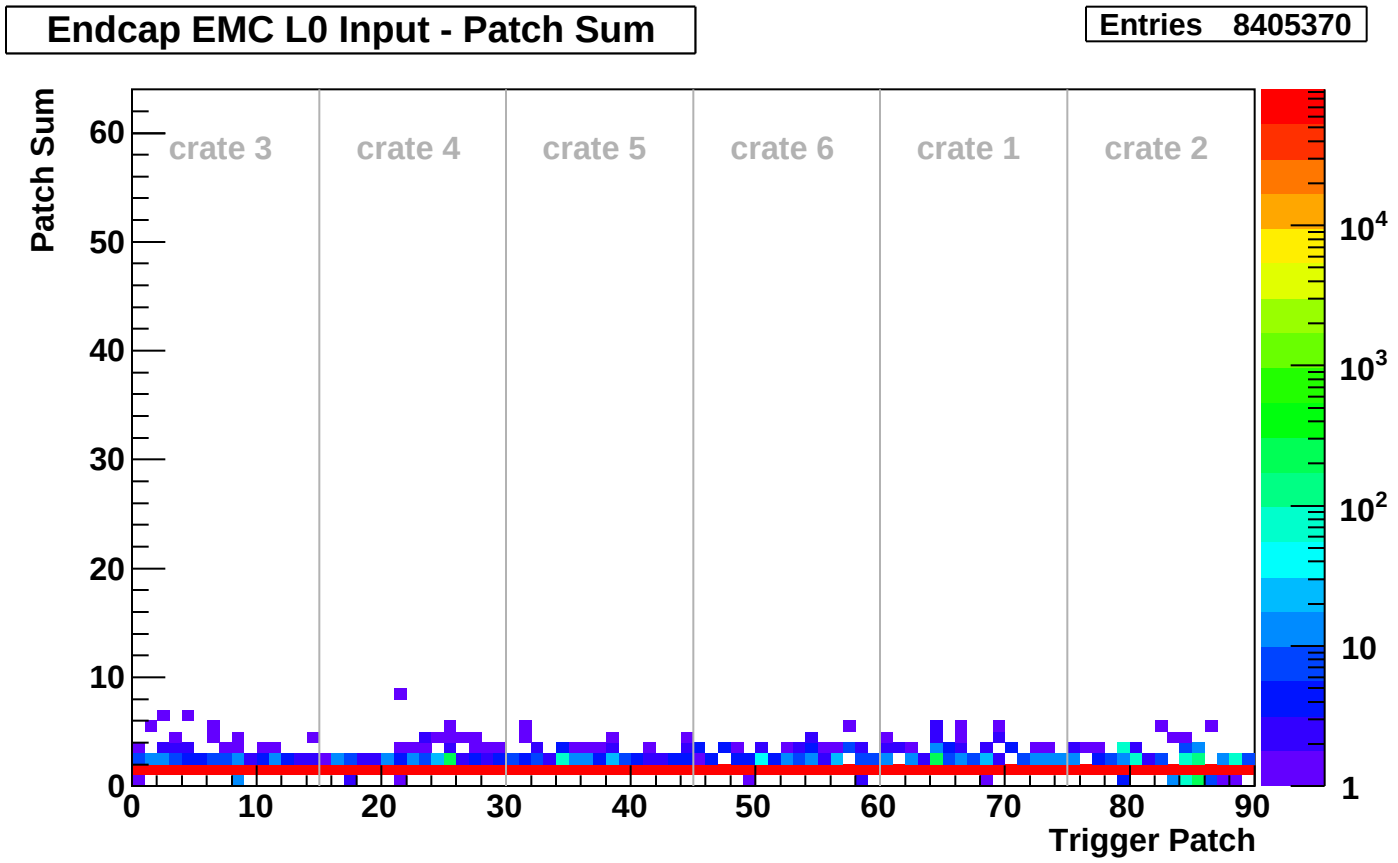
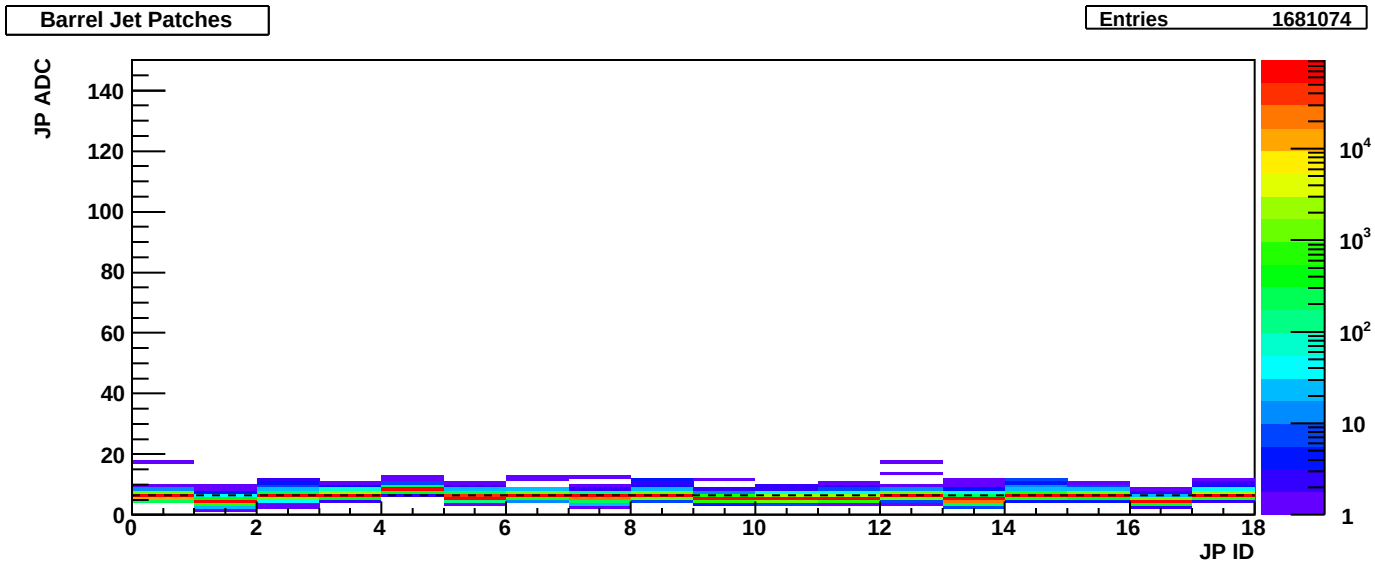
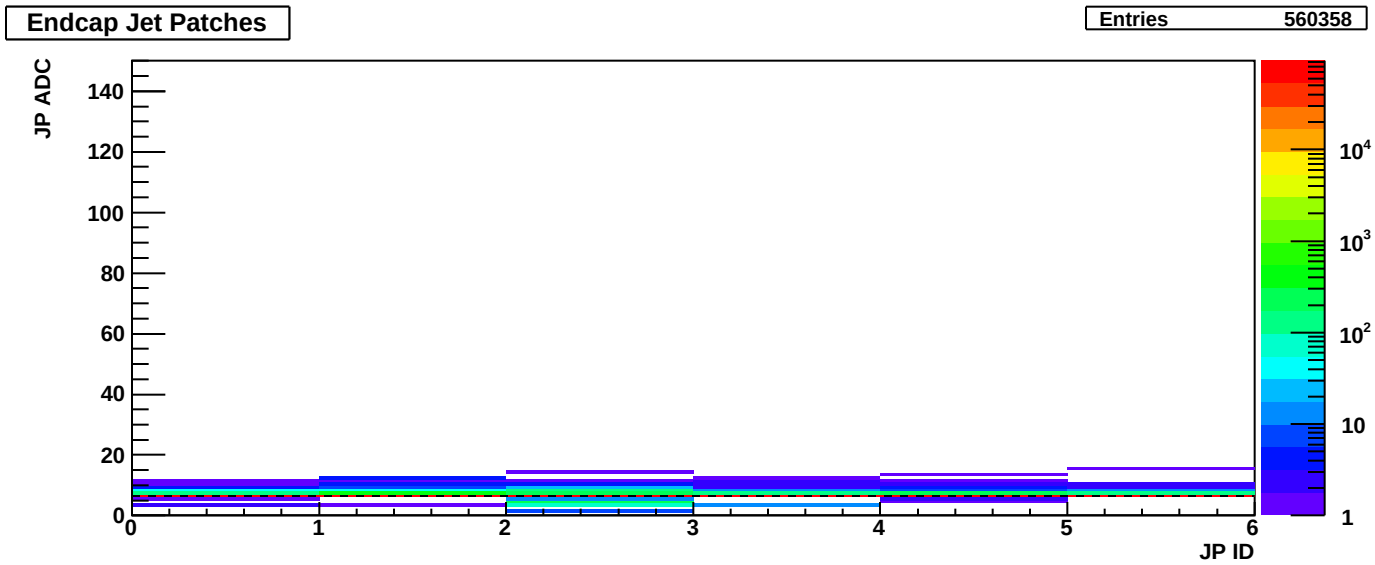

Barrel EMC L0 Input - High Tower
Entries 2.80179e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

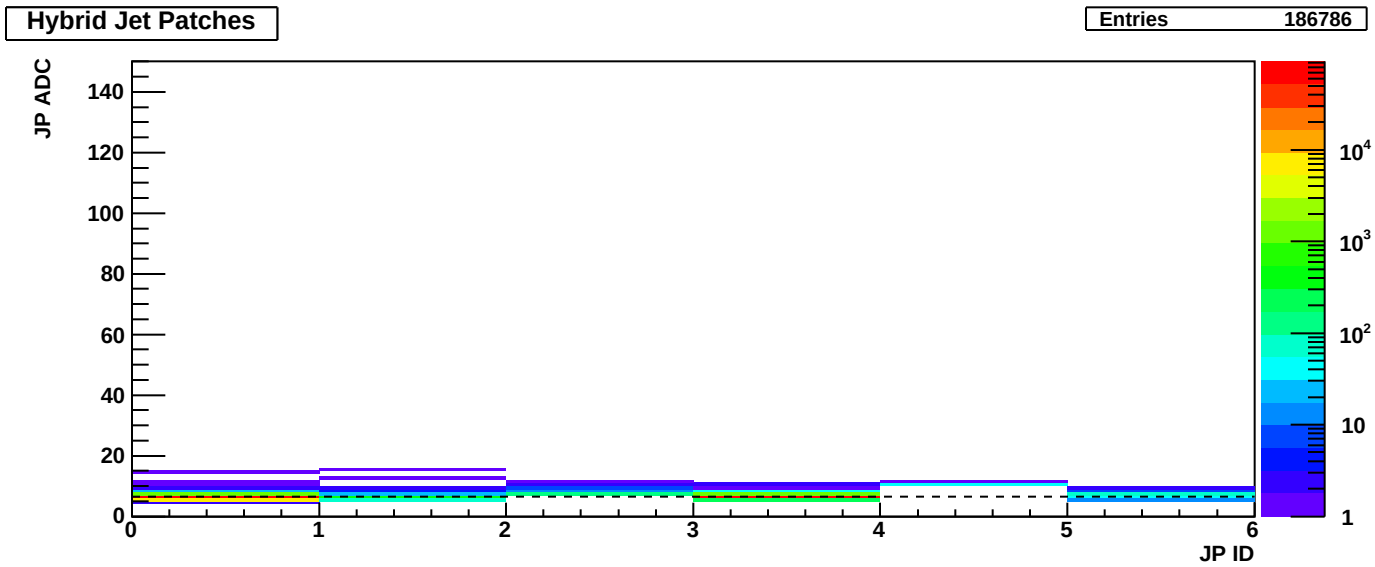

Barrel EMC L0 Input - Patch Sum
Entries 2.80179e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

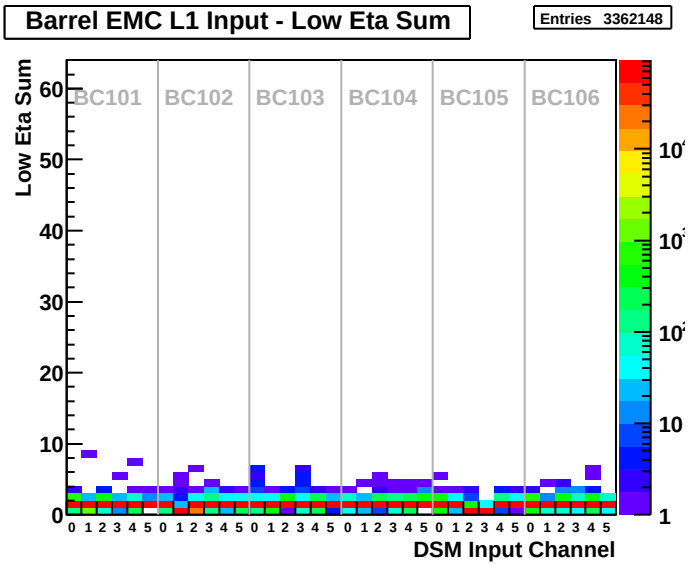

Endcap EMC L0 Input - High Tower
Entries 8405370
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

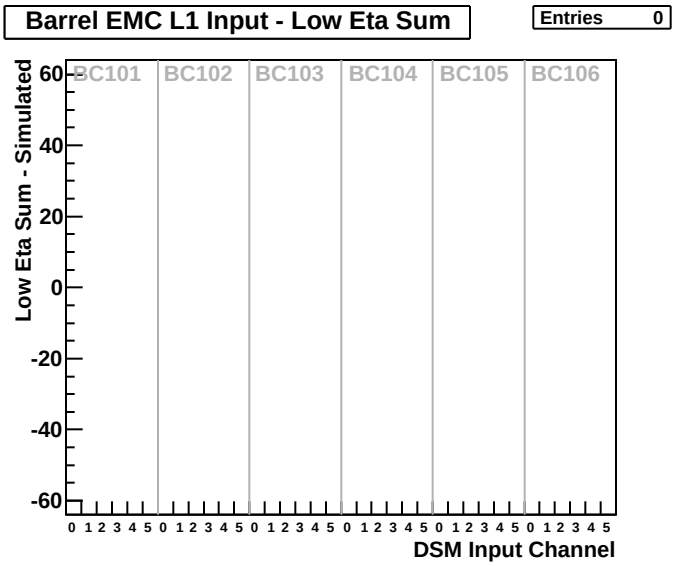

Endcap EMC L0 Input - Patch Sum
Entries 8405370
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

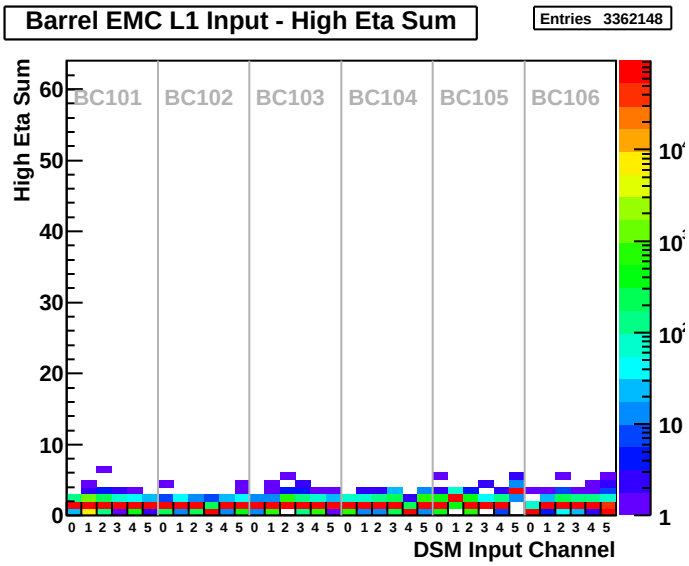

Barrel Jet Patches
Entries 1681074
JP ADC
JP ID

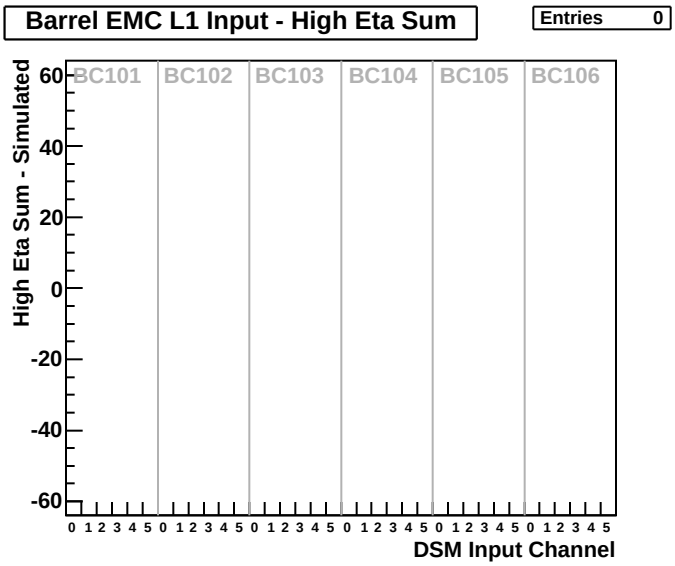

Endcap Jet Patches
Entries 560358
JP ADC
JP ID

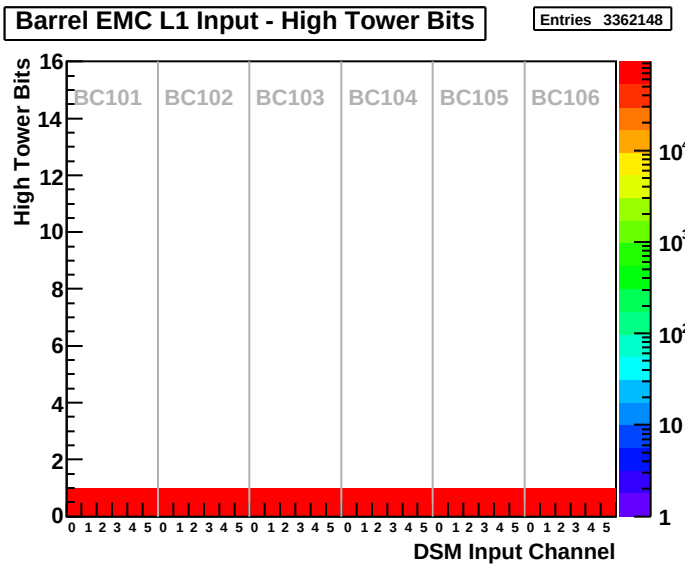

Hybrid Jet Patches
Entries 186786
JP ADC
JP ID

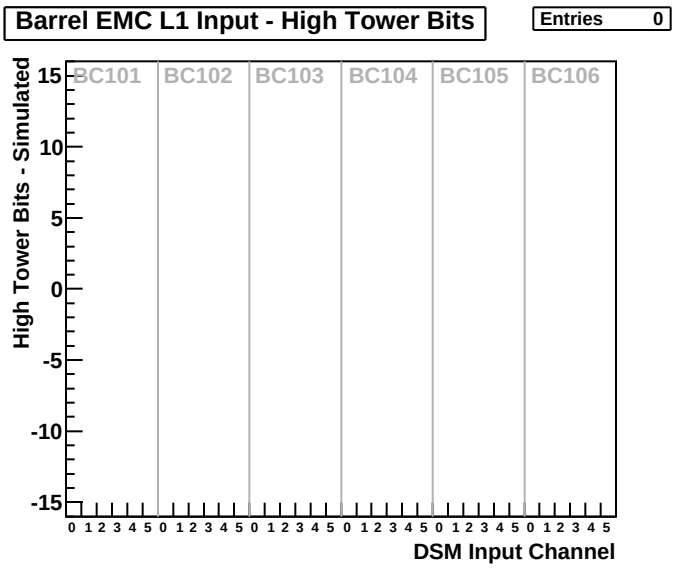

Barrel EMC L1 Input - Low Eta Sum
Entries 3362148
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

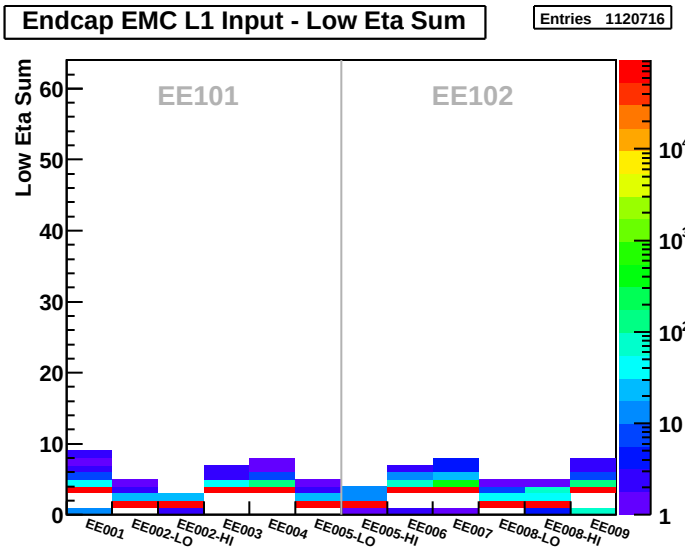

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

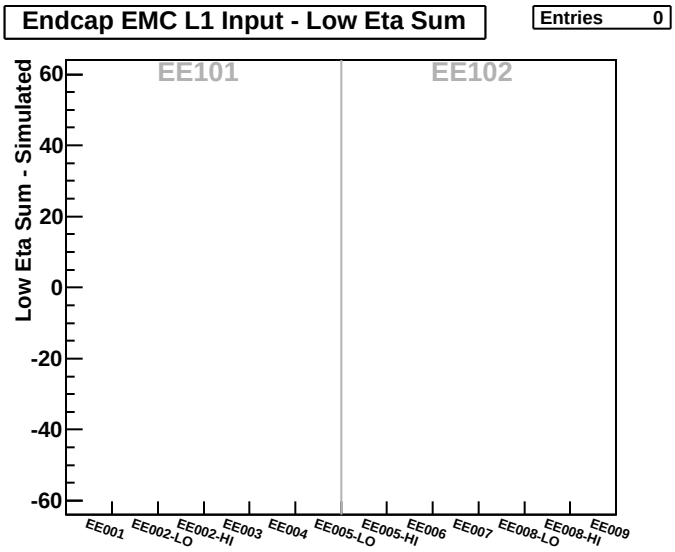

Barrel EMC L1 Input - High Eta Sum
Entries 3362148
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

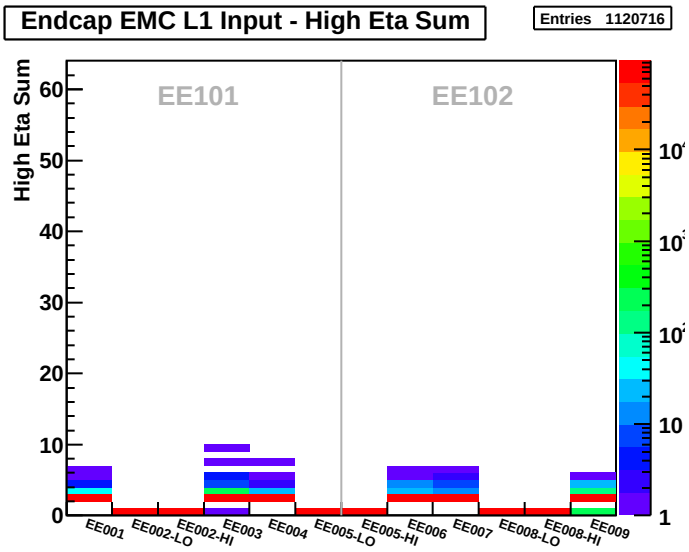

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

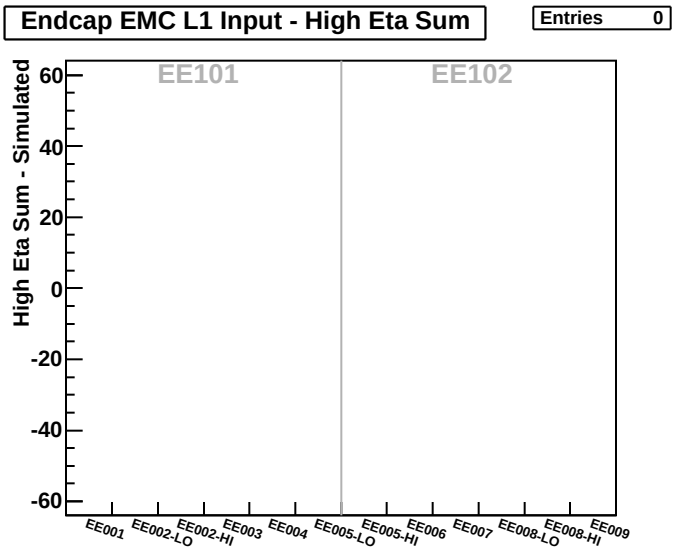

Barrel EMC L1 Input - High Tower Bits
Entries 3362148
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

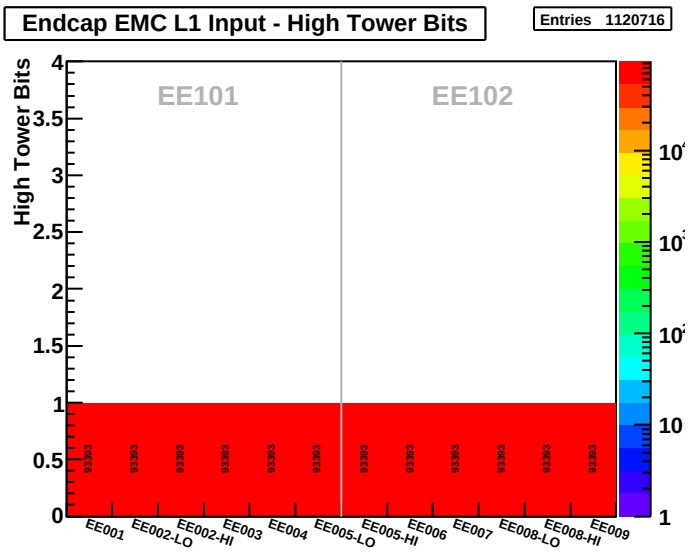

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

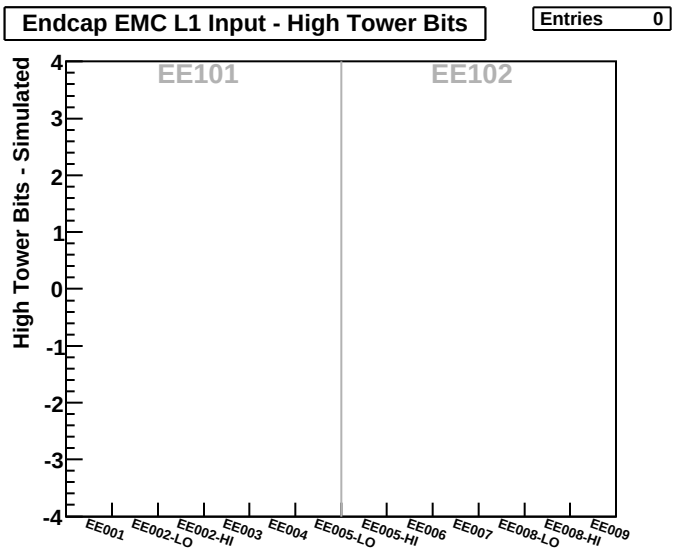

Endcap EMC L1 Input - Low Eta Sum
Entries 1120716
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

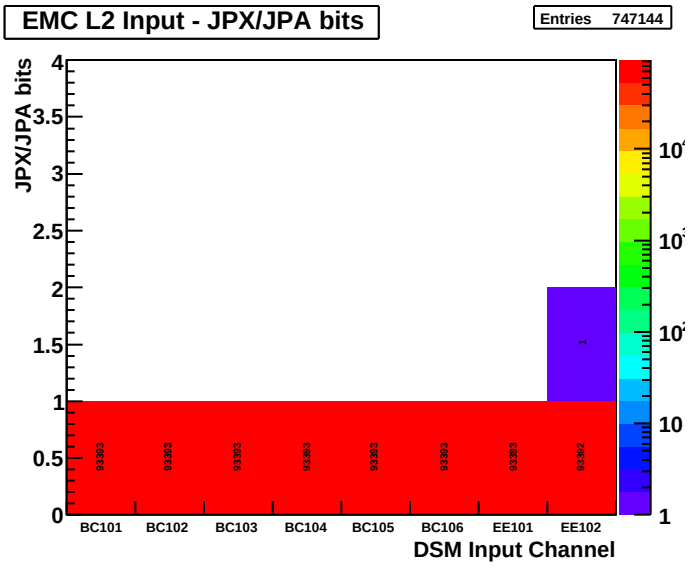

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

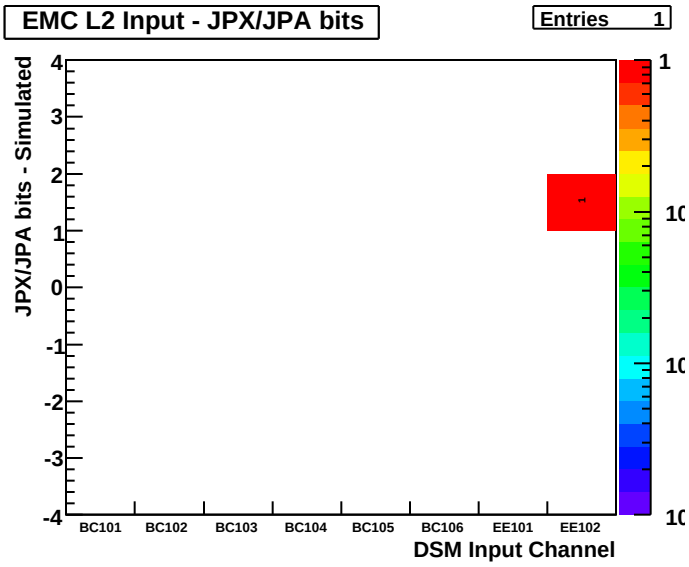

Endcap EMC L1 Input - High Eta Sum
Entries 1120716
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

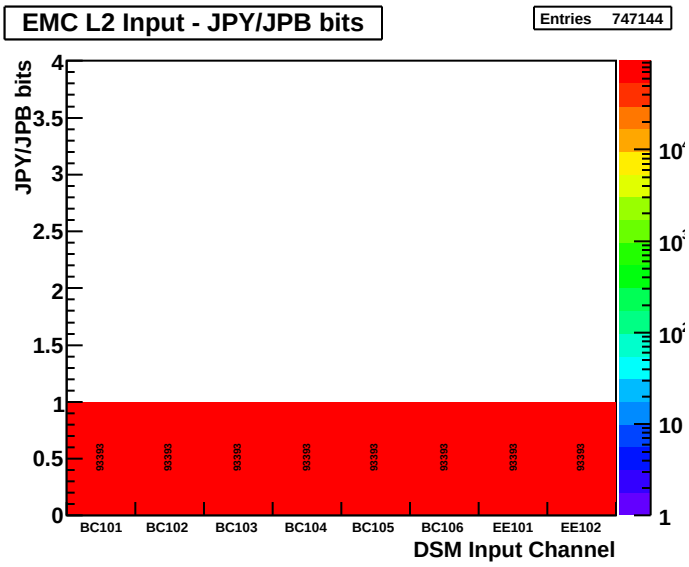

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

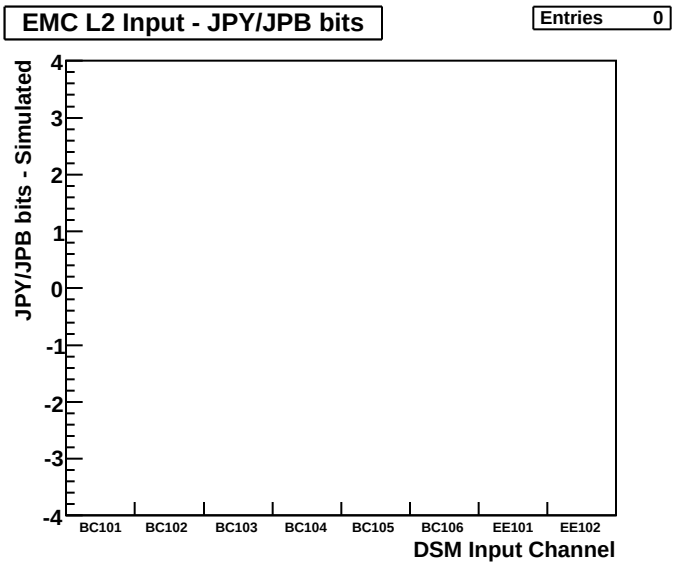

Endcap EMC L1 Input - High Tower Bits
Entries 1120716
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

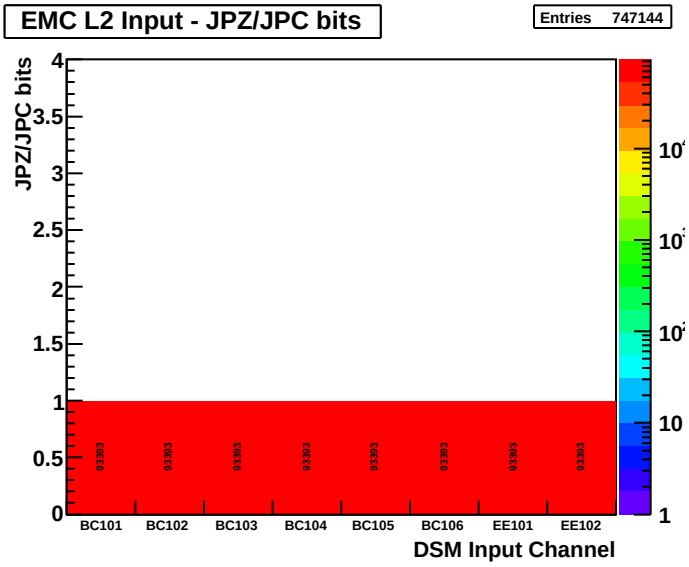

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

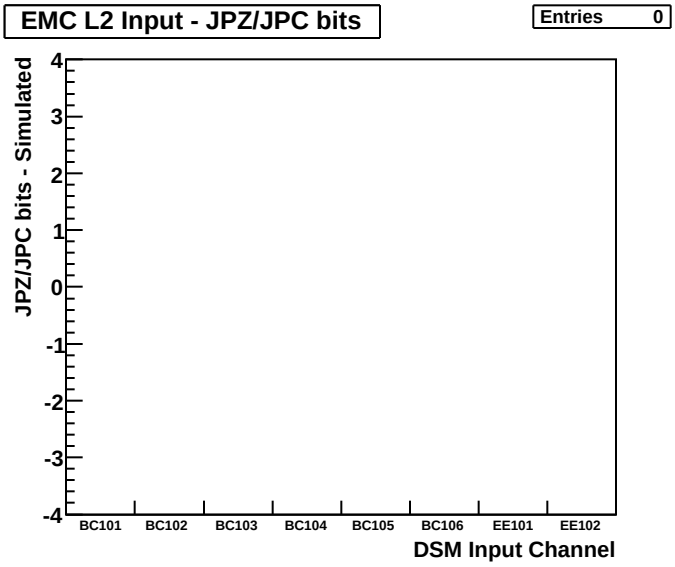

EMC L2 Input - JPX/JPA bits
Entries 747144
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

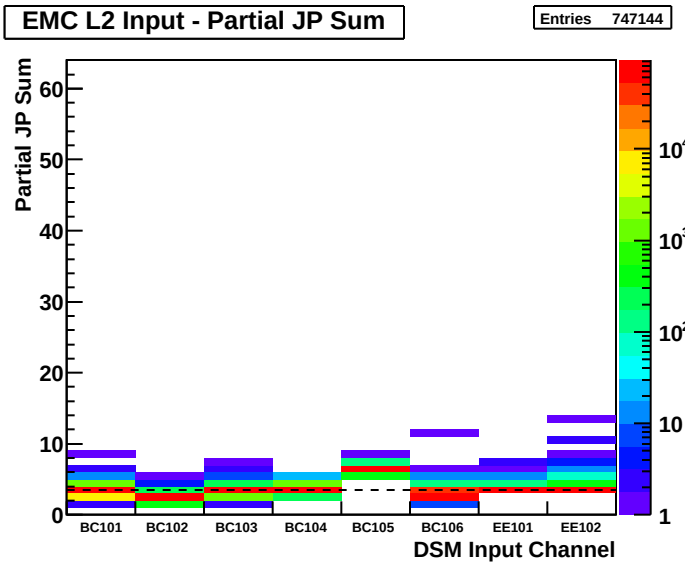

EMC L2 Input - JPX/JPA bits
Entries 1
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

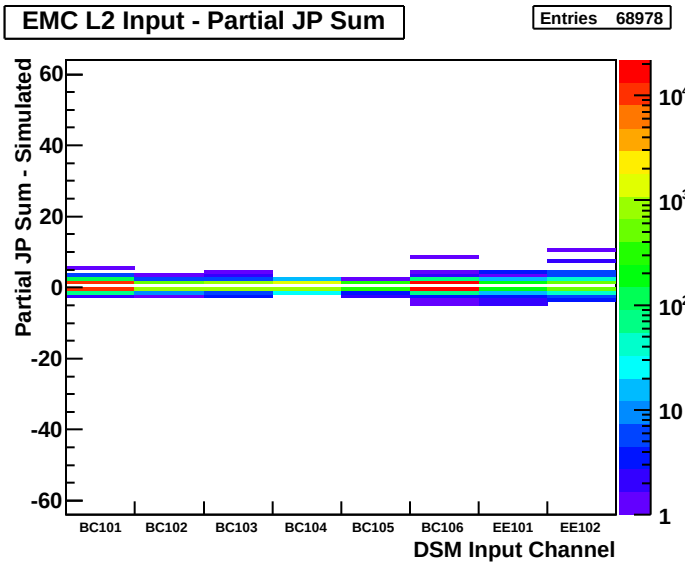

EMC L2 Input - JPY/JPB bits
Entries 747144
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

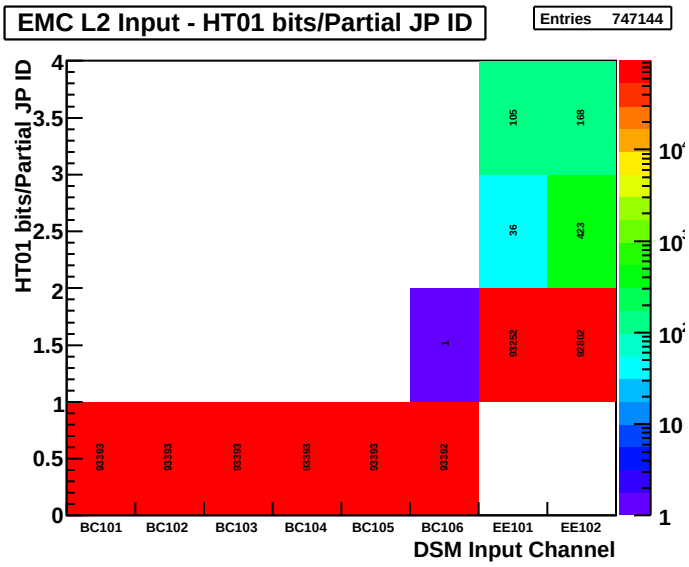

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

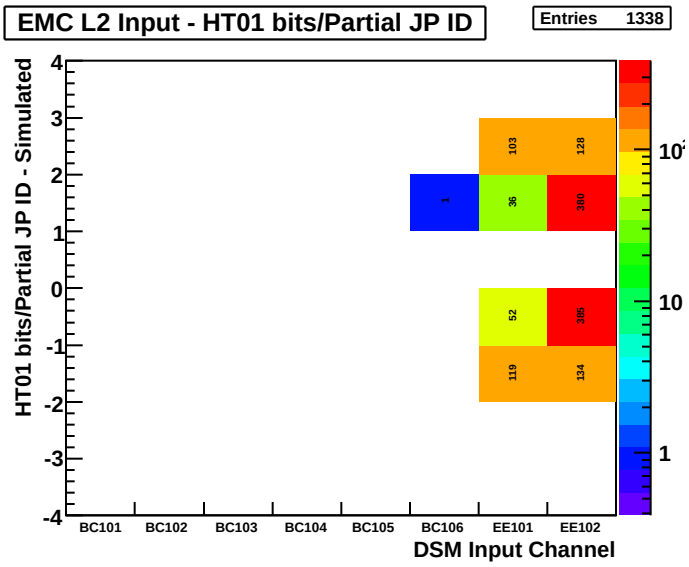

EMC L2 Input - JPZ/JPC bits
Entries 747144
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

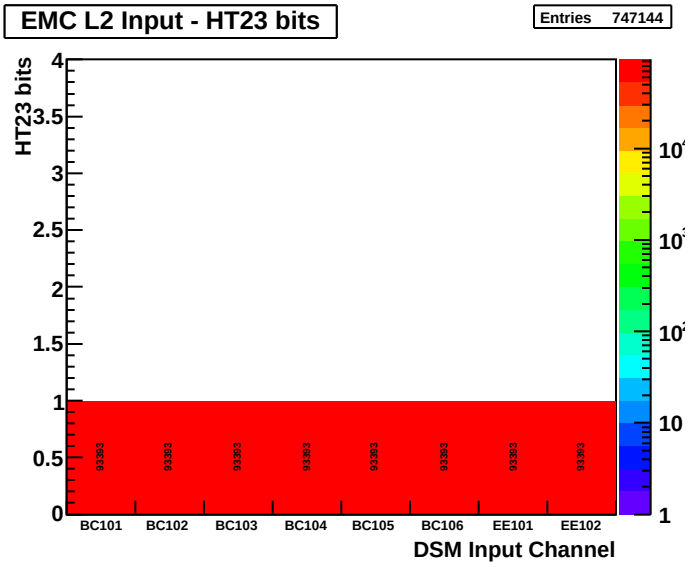

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

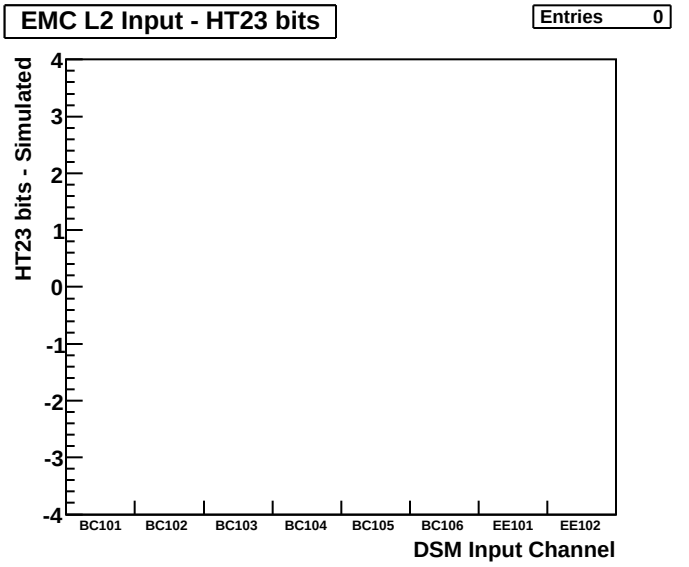

EMC L2 Input - Partial JP Sum
Entries 747144
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

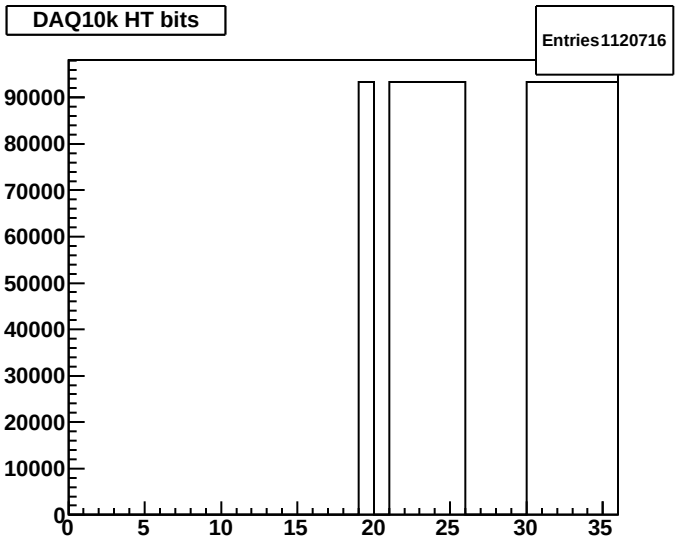

EMC L2 Input - Partial JP Sum
Entries 68978
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

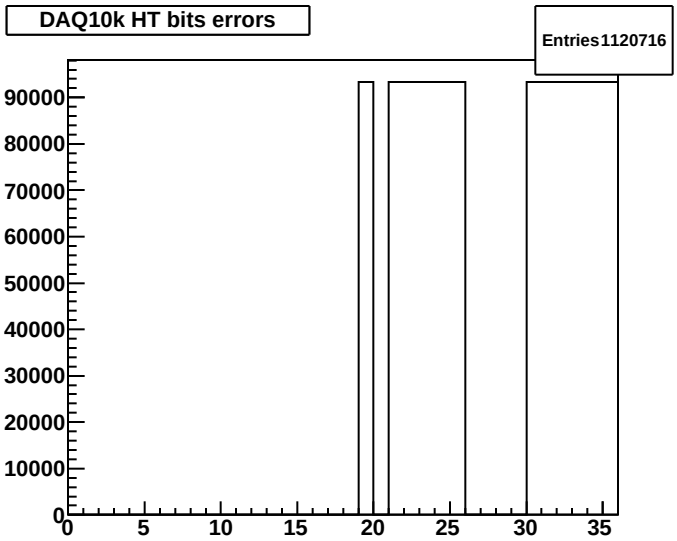

EMC L2 Input - HT01 bits/Partial JP ID
Entries 747144
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

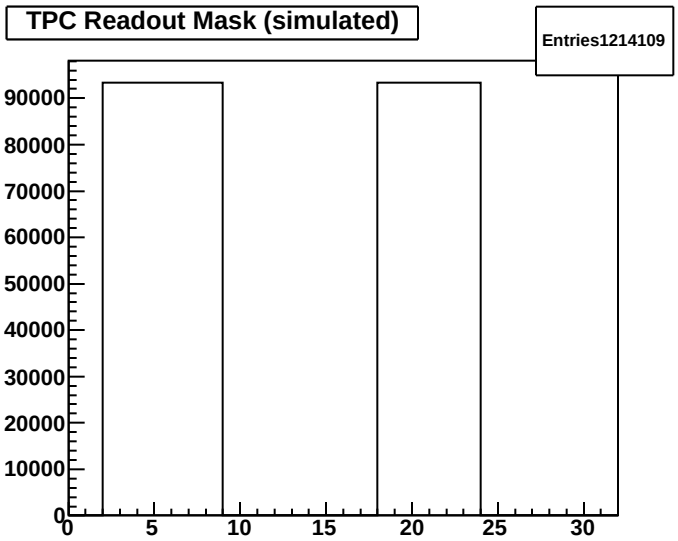

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1338
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

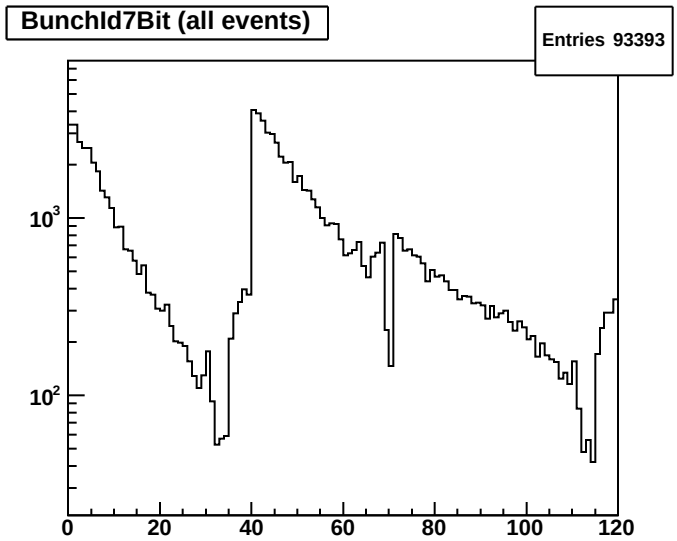

EMC L2 Input - HT23 bits
Entries 747144
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

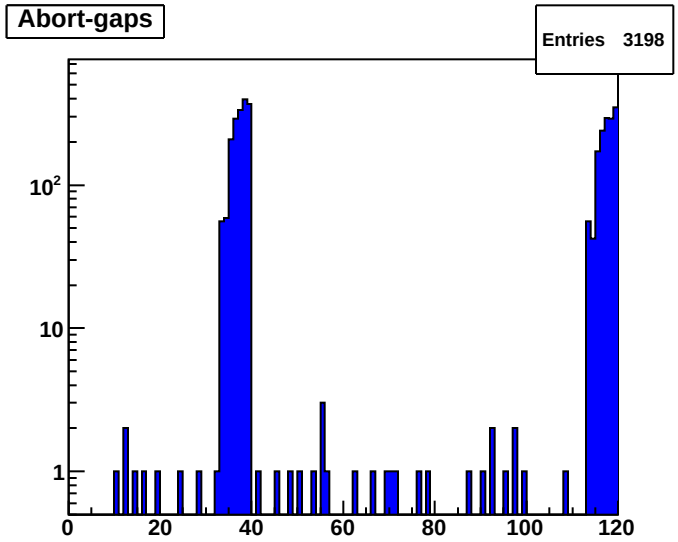

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102


DAQ10k HT bits
Entries1120716
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

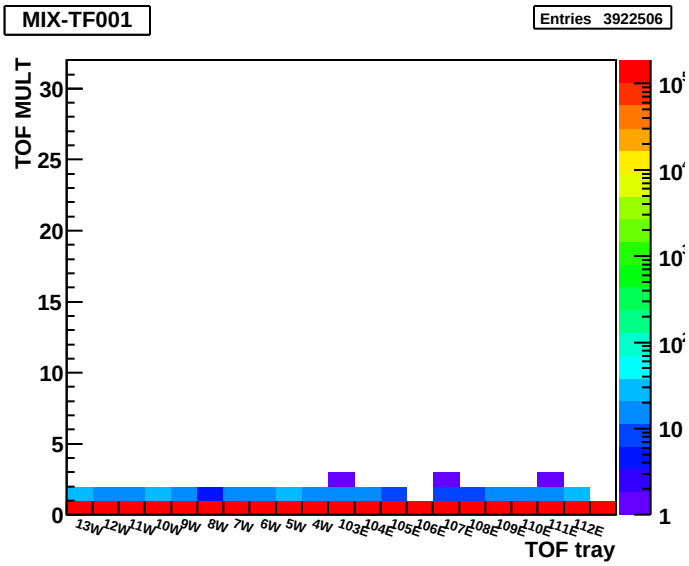

DAQ10k HT bits errors
Entries1120716
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

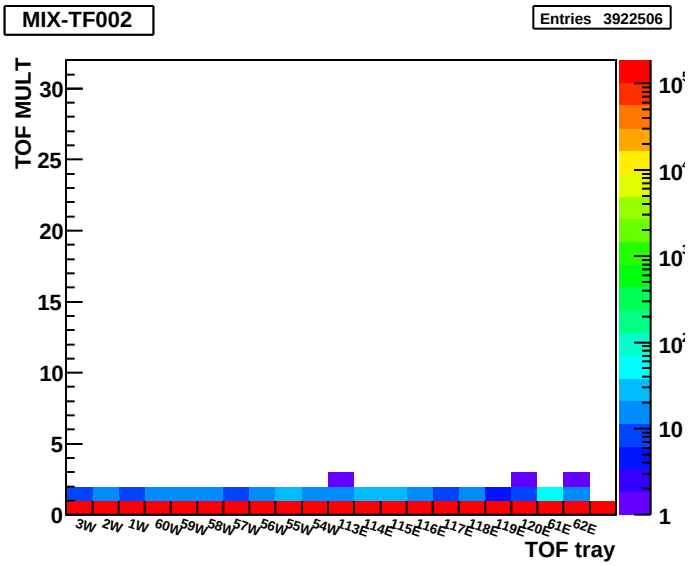

TPC Readout Mask (simulated)
Entries1214109
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30

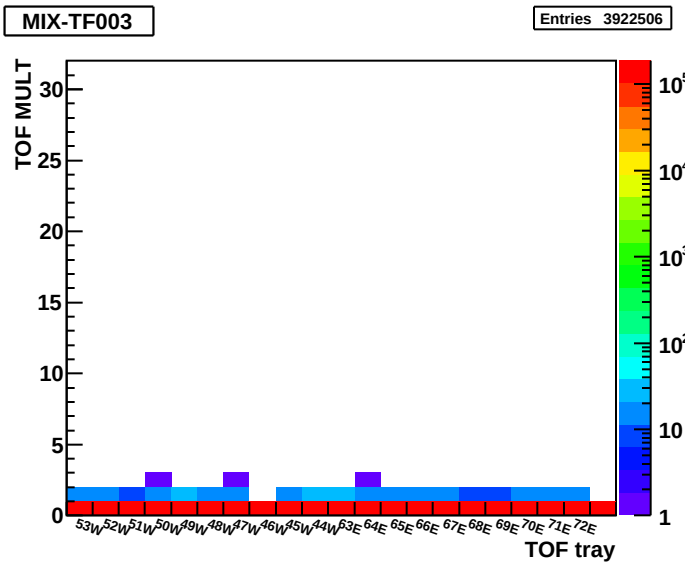

BunchId7Bit (all events)
Entries 93393
10^3
10^2
0 20 40 60 80 100 120

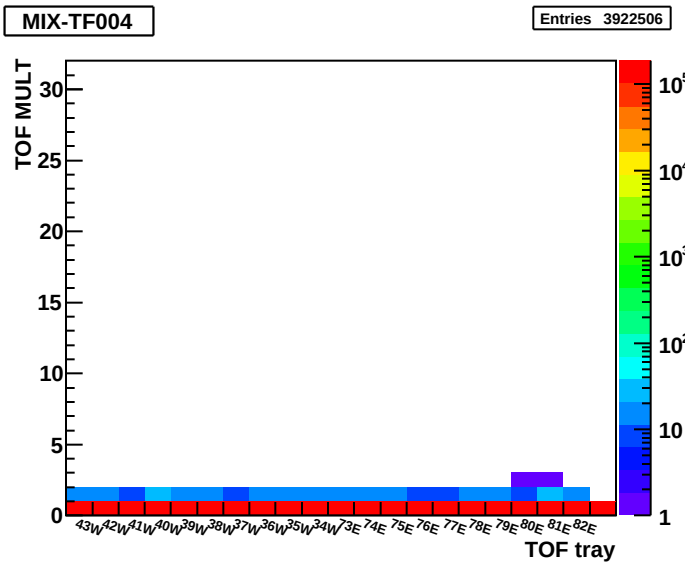

Abort-gaps
Entries 3198
10^2
10
1
0 20 40 60 80 100 120

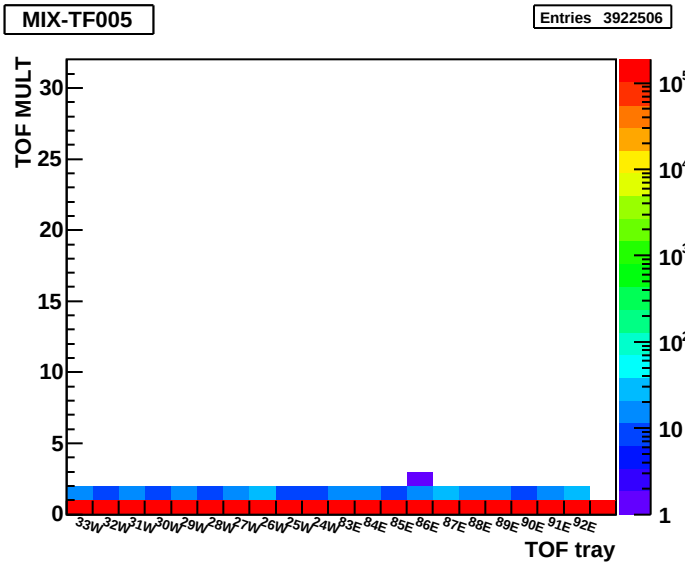
!Yellow-Fill
Entries 93393
10^3
10^2
0 20 40 60 80 100 120

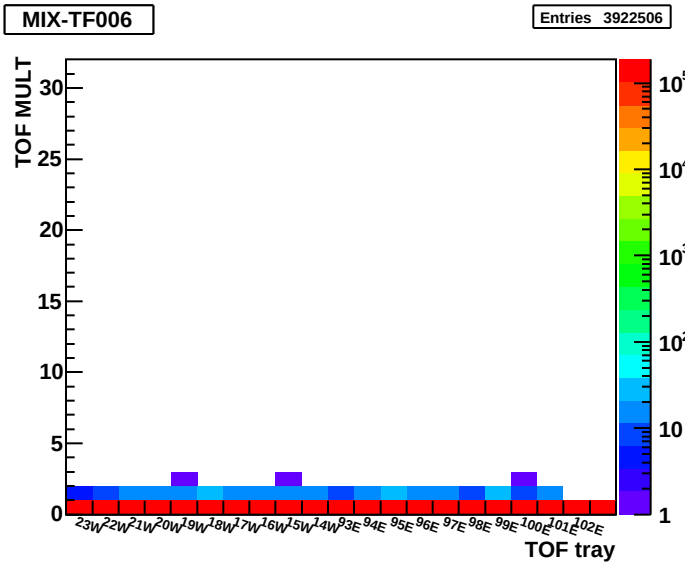

MIX-TF001
Entries 3922506
TOF MULT
TOF tray

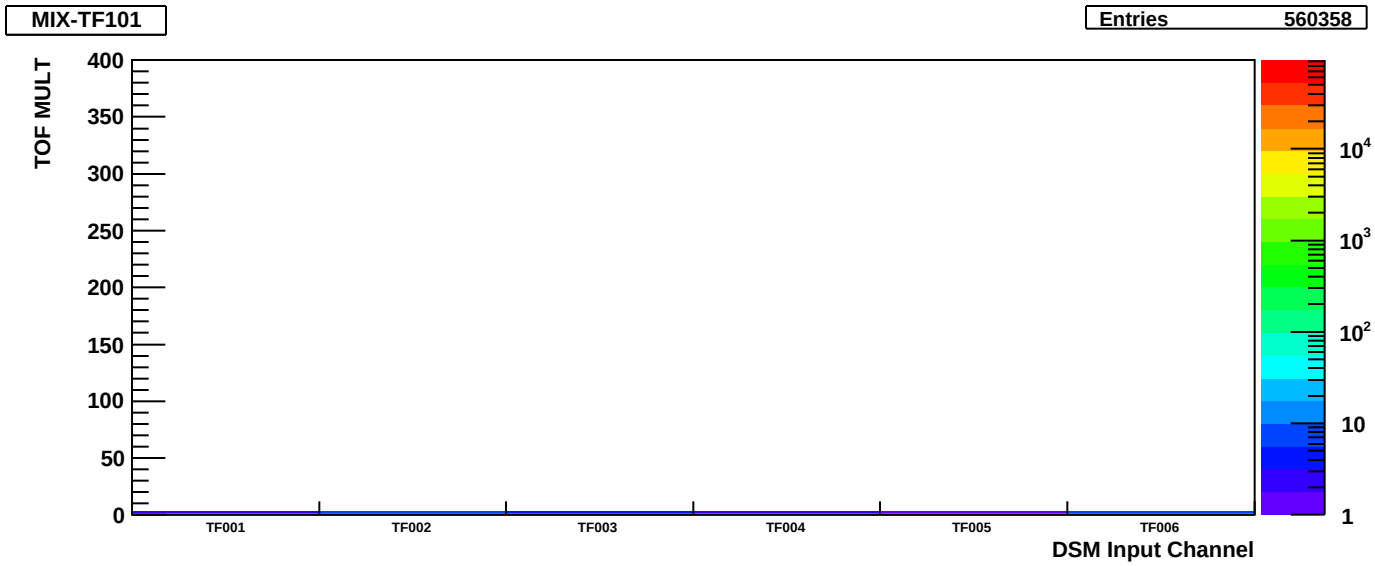

MIX-TF002
Entries 3922506
TOF MULT
TOF tray

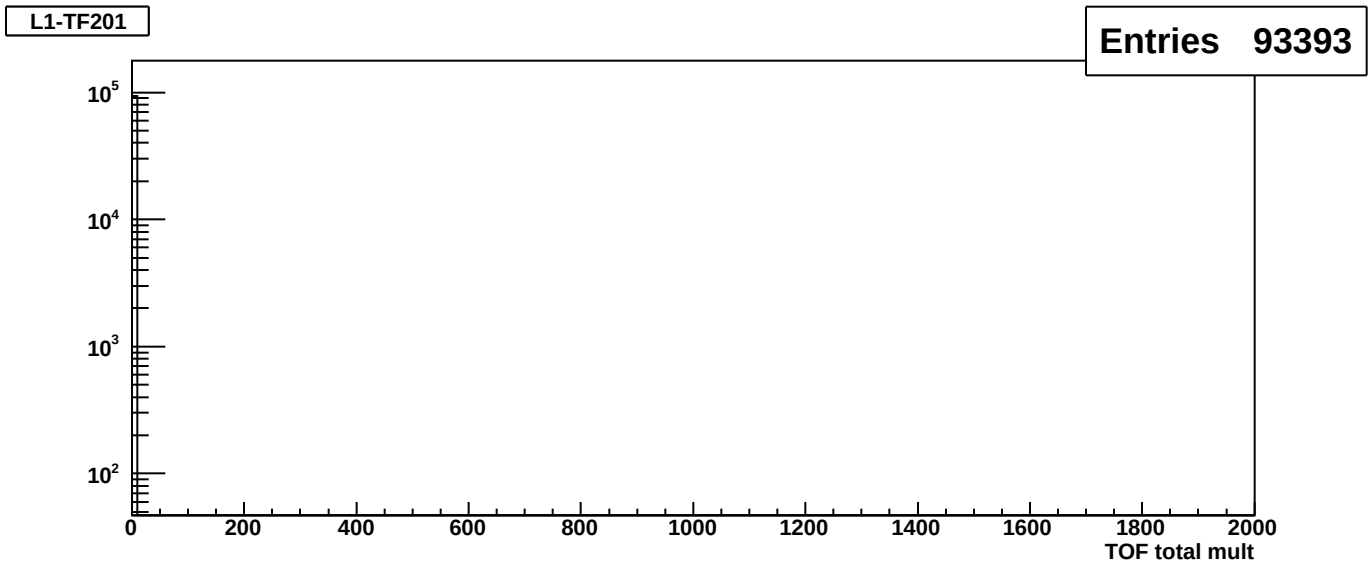

MIX-TF003
Entries 3922506
TOF MULT
TOF tray

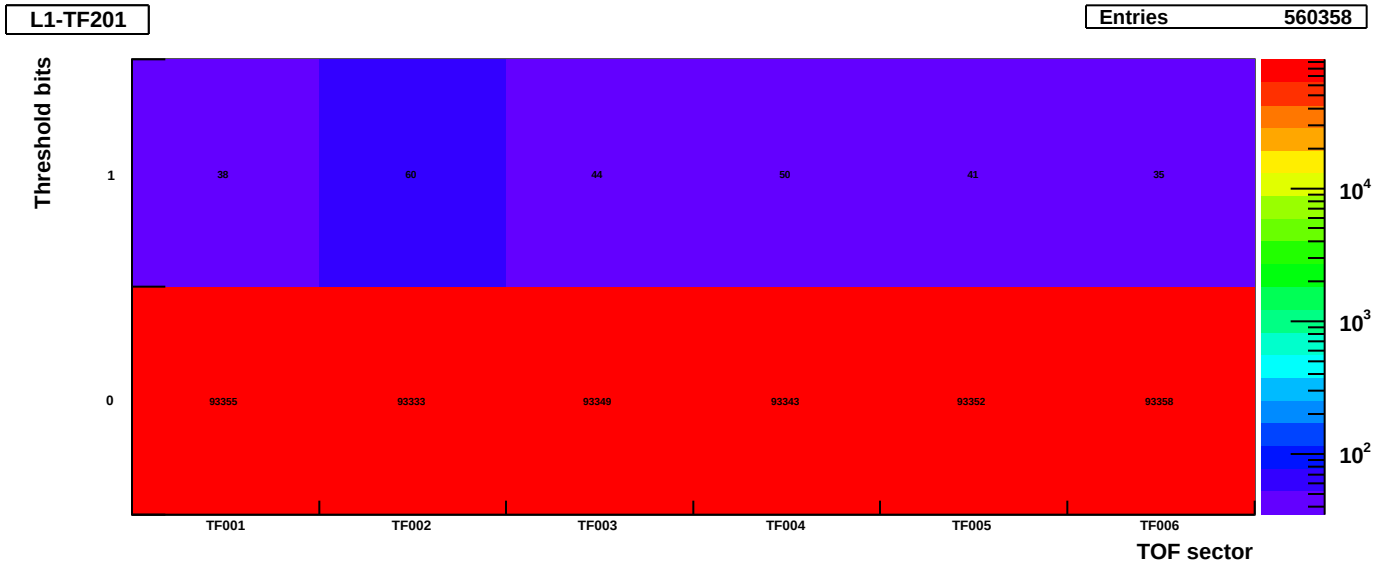

MIX-TF004
Entries 3922506
TOF MULT
TOF tray

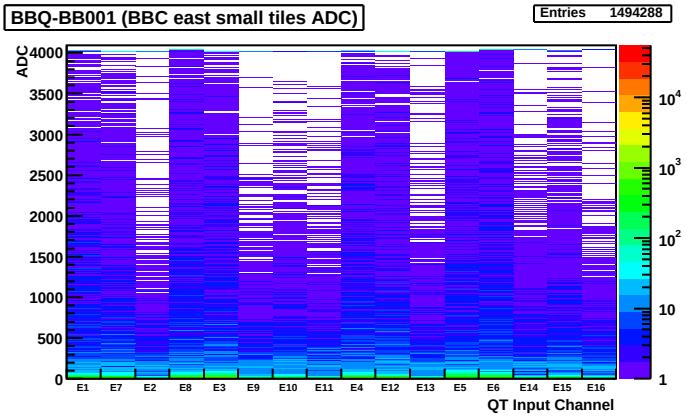

MIX-TF005
Entries 3922506
TOF MULT
TOF tray

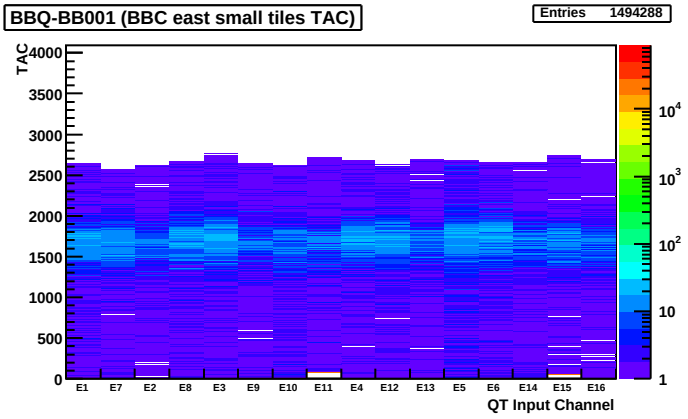

MIX-TF006
Entries 3922506
TOF MULT
TOF tray

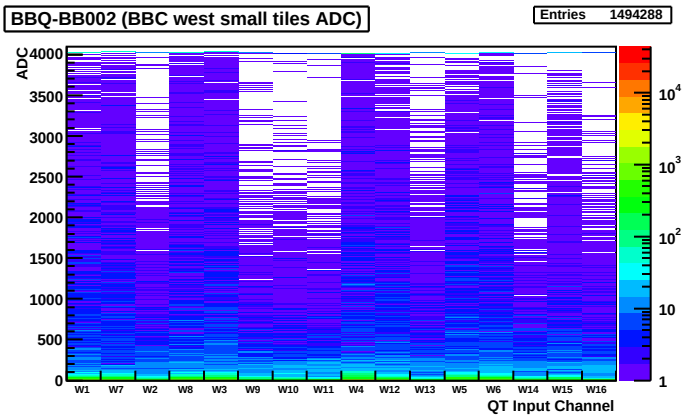

MIX-TF101
Entries 560358
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

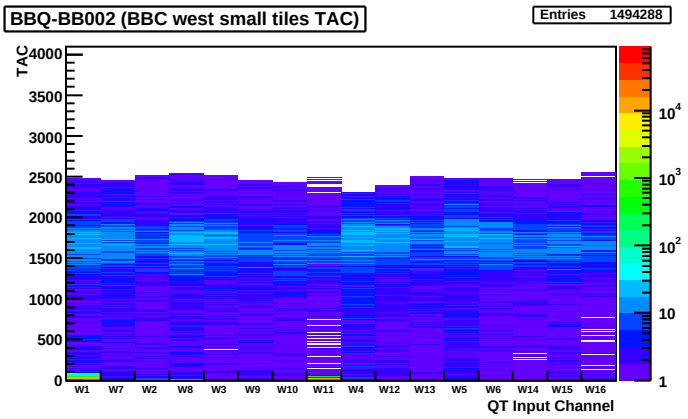

L1-TF201
Entries 93393
10^5
10^4
10^3
10^2
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

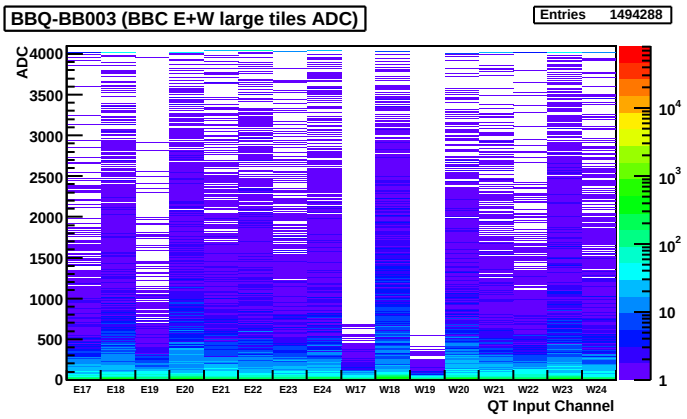

L1-TF201
Entries 560358
Threshold bits
1
0
38
60
44
50
41
35
93355
93333
93349
93343
93352
93358
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4
10^3
10^2

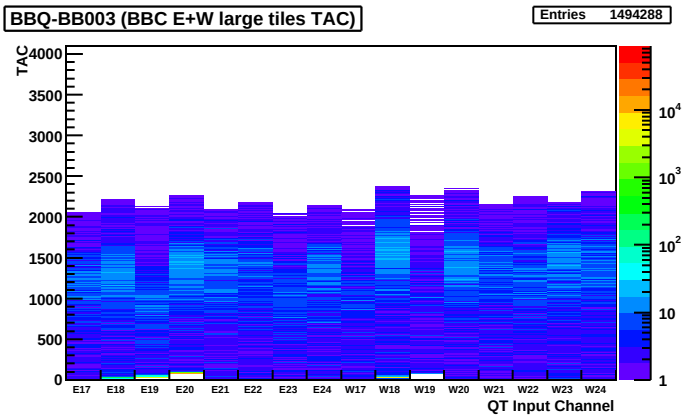

BBQ-BB001 (BBC east small tiles ADC)
Entries 1494288
ADC
QT Input Channel

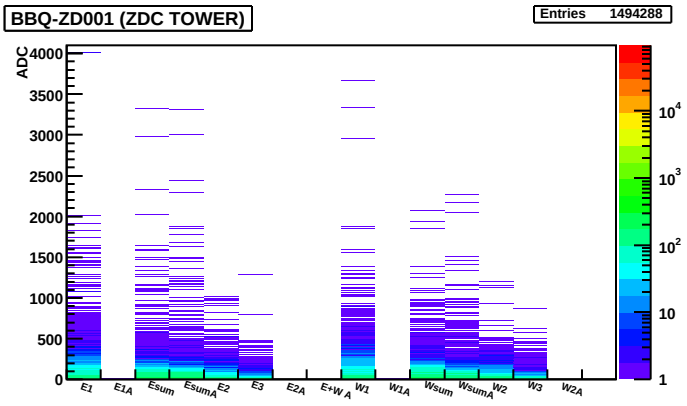

BBQ-BB001 (BBC east small tiles TAC)
Entries 1494288
TAC
QT Input Channel

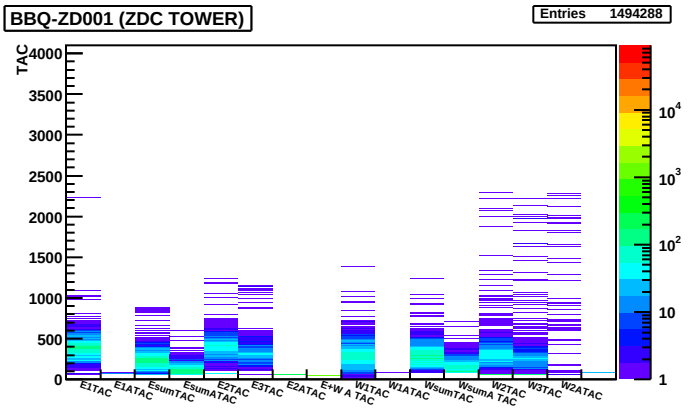

BBQ-BB002 (BBC west small tiles ADC)
Entries 1494288
ADC
QT Input Channel

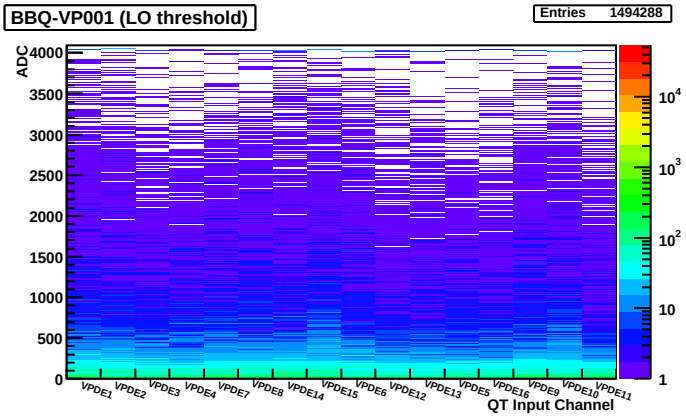

BBQ-BB002 (BBC west small tiles TAC)
Entries 1494288
TAC
QT Input Channel

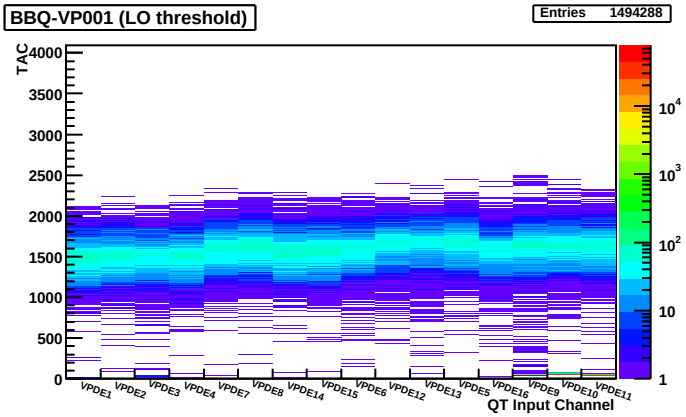

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1494288
ADC
QT Input Channel

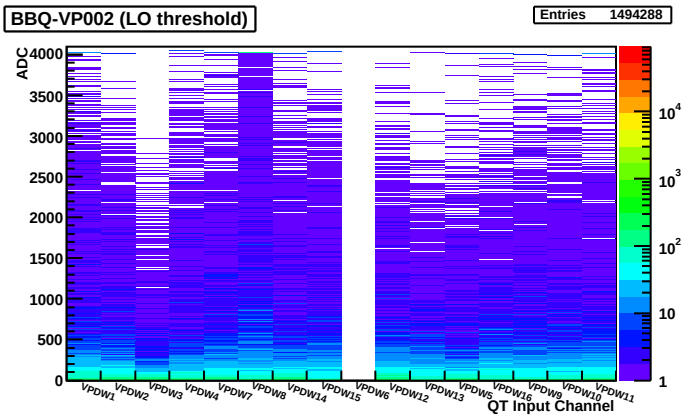

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1494288
TAC
QT Input Channel

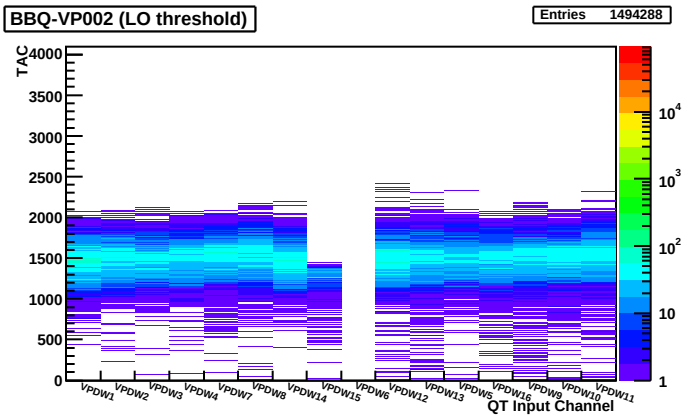

BBQ-ZD001 (ZDC TOWER)
Entries 1494288
ADC

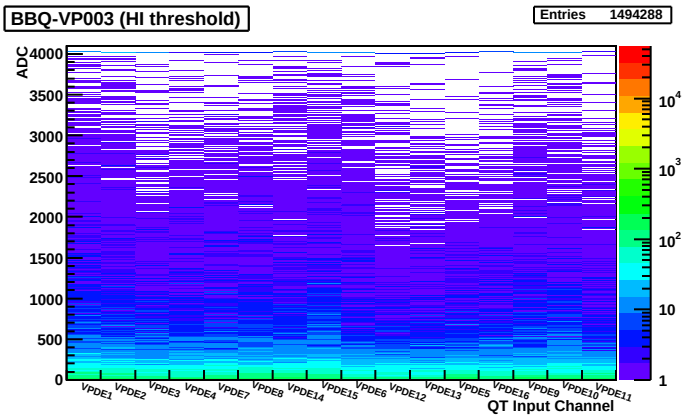

BBQ-ZD001 (ZDC TOWER)
Entries 1494288
TAC

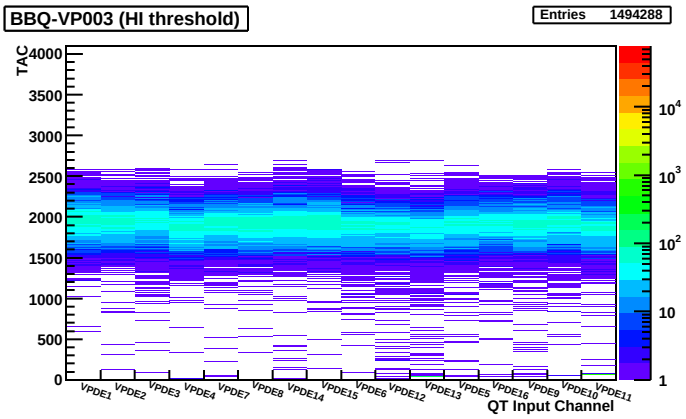

BBQ-VP001 (LO threshold)
Entries 1494288
ADC
QT Input Channel

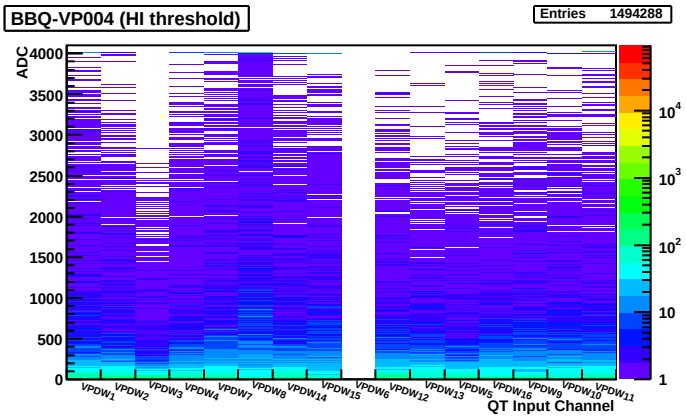

BBQ-VP001 (LO threshold)
Entries 1494288
TAC
QT Input Channel

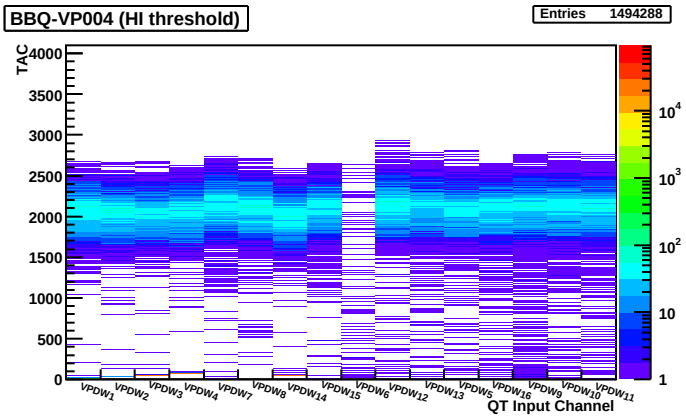

BBQ-VP002 (LO threshold)
Entries 1494288
ADC
QT Input Channel

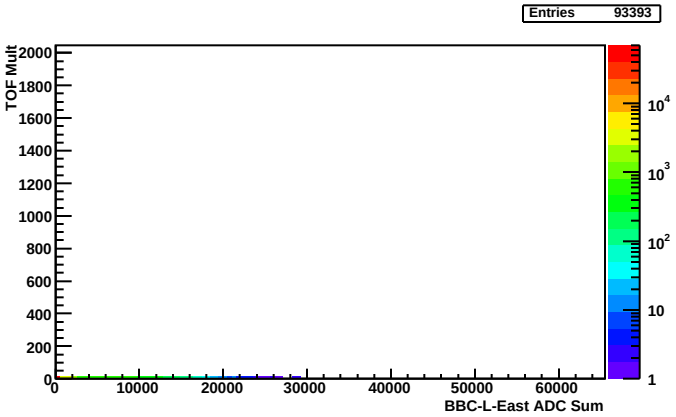

BBQ-VP002 (LO threshold)
Entries 1494288
TAC
QT Input Channel

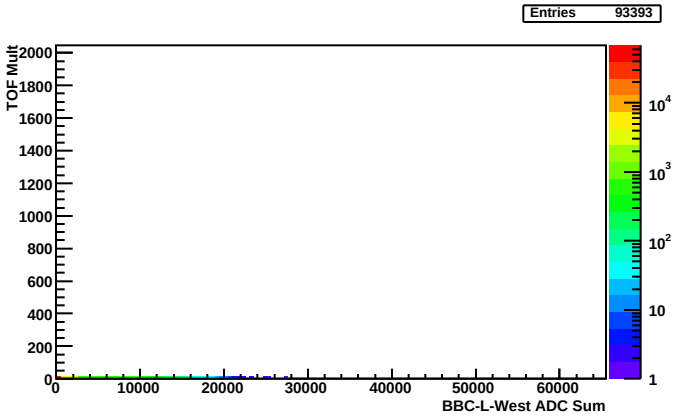

BBQ-VP003 (HI threshold)
Entries 1494288
ADC
QT Input Channel

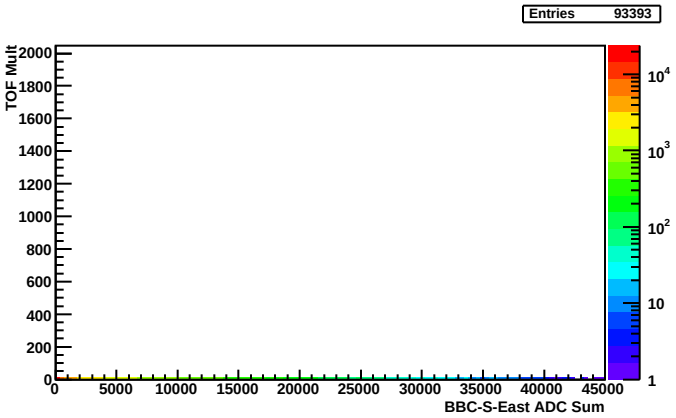

BBQ-VP003 (HI threshold)
Entries 1494288
TAC
QT Input Channel

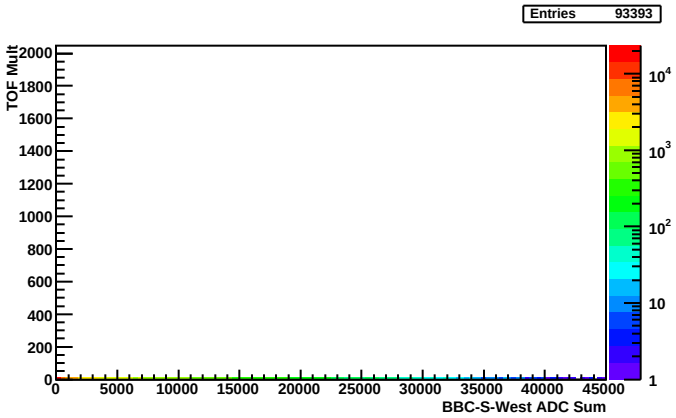

BBQ-VP004 (HI threshold)
Entries 1494288
ADC
QT Input Channel

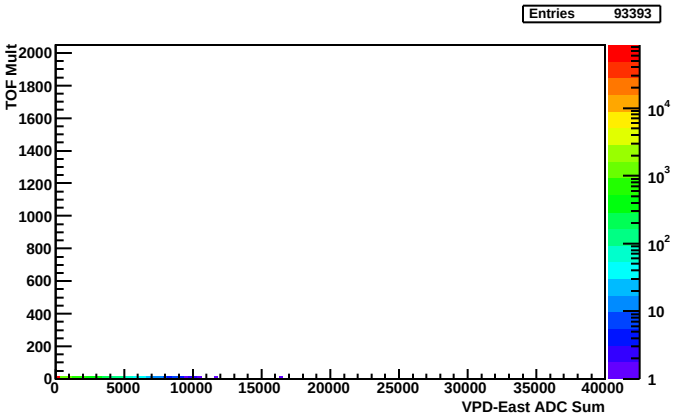

BBQ-VP004 (HI threshold)
Entries 1494288
TAC
QT Input Channel

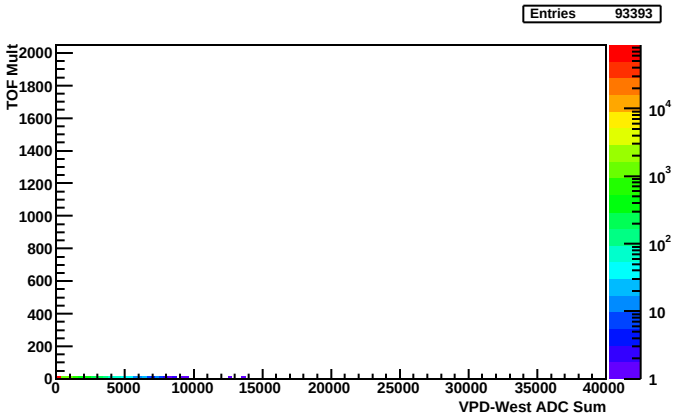

Entries 93393
TOF Mult
BBC-L-East ADC Sum

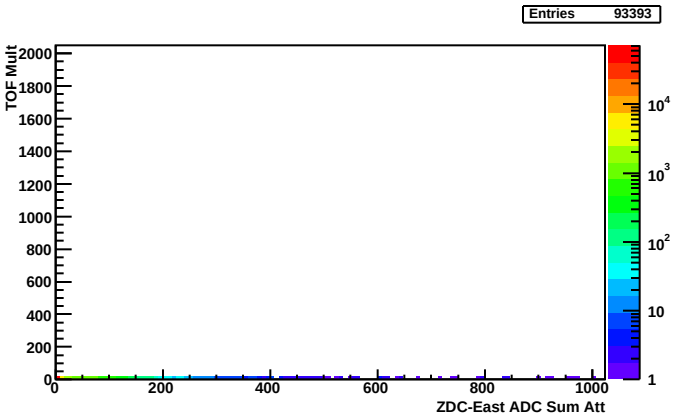

Entries 93393
TOF Mult
BBC-L-West ADC Sum

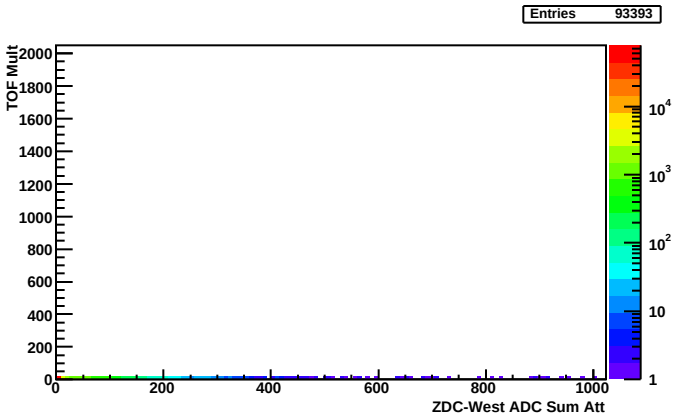

Entries 93393
TOF Mult
BBC-S-East ADC Sum

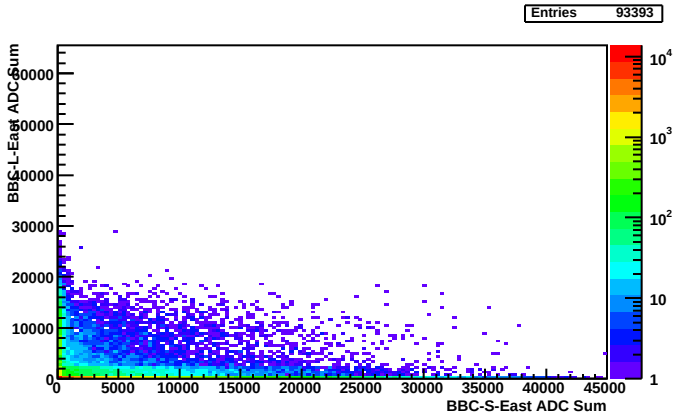

Entries 93393
TOF Mult
BBC-S-West ADC Sum

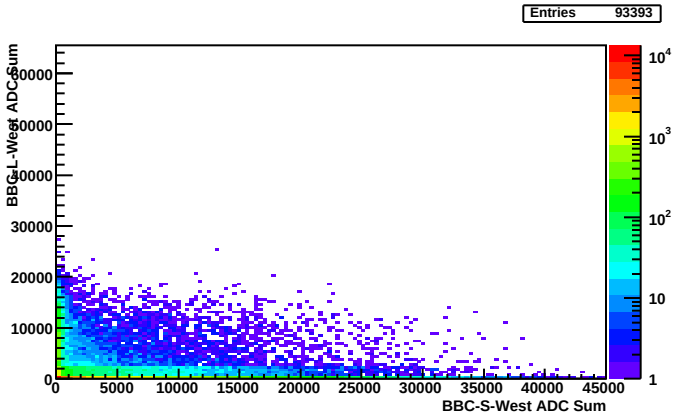

Entries 93393
TOF Mult
VPD-East ADC Sum

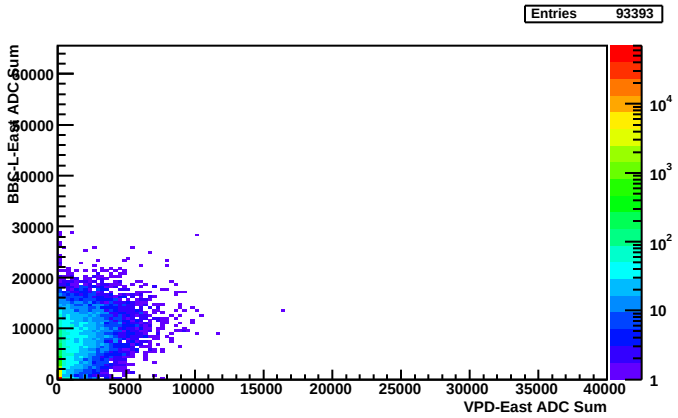

Entries 93393
TOF Mult
VPD-West ADC Sum

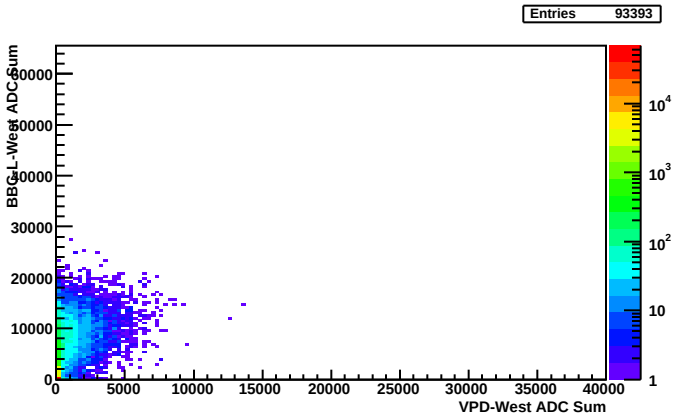

Entries 93393
TOF Mult
ZDC-East ADC Sum Att

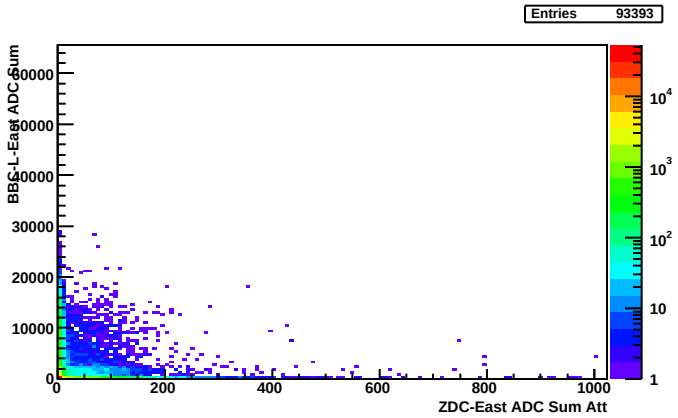

Entries 93393
TOF Mult
ZDC-West ADC Sum Att


Entries 93393
BBC-L-East ADC Sum
BBC-S-East ADC Sum


Entries 93393
BBC-L-West ADC Sum
BBC-S-West ADC Sum


Entries 93393
BBC-L-East ADC Sum
VPD-East ADC Sum


Entries 93393
BBC-L-West ADC Sum
VPD-West ADC Sum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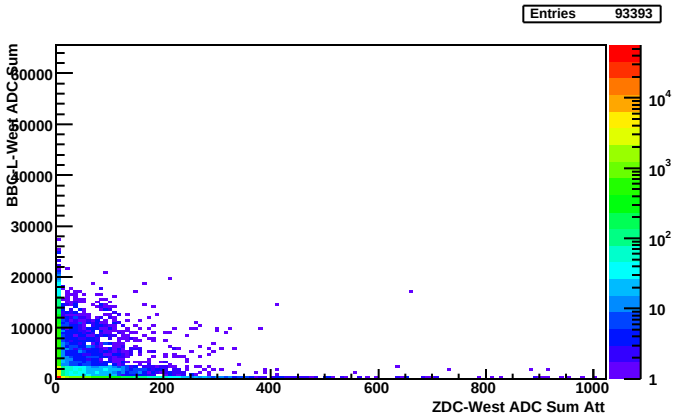
BBC-L-East ADC Sum
ZDC-East ADC Sum Att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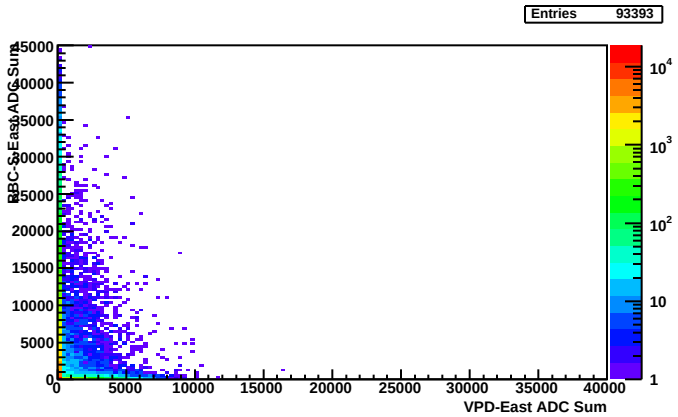
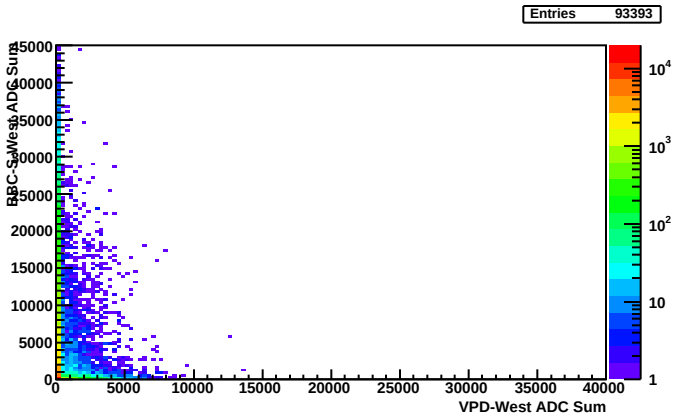
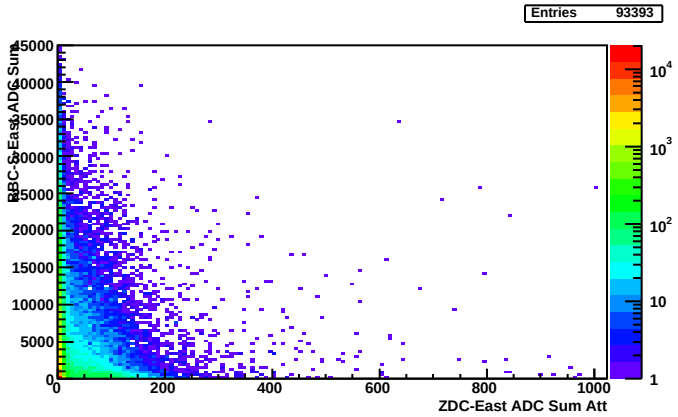
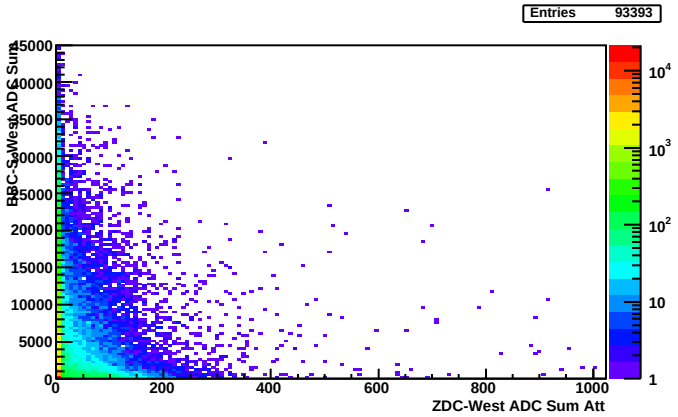
BBC-L-West ADC Sum
ZDC-West ADC Sum Att


Entries 93393
BBC-S-East ADC Sum
VPD-East ADC Sum


Entries 93393
BBC-S-West ADC Sum
VPD-West ADC Sum


Entries 93393
BBC-S-East ADC Sum
ZDC-East ADC Sum Att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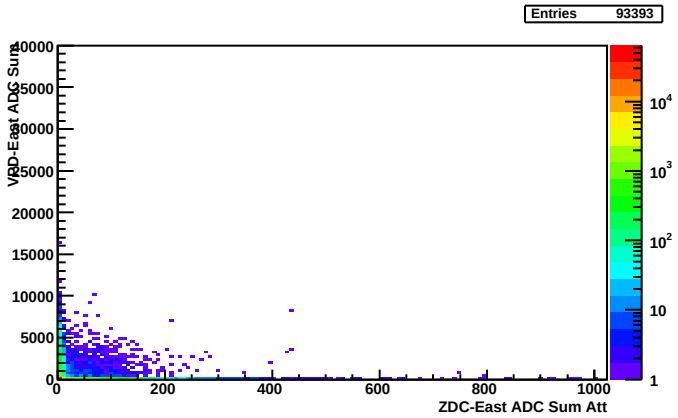
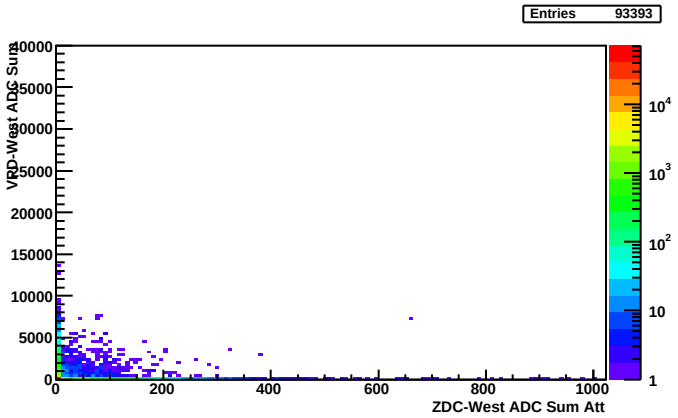
BBC-S-West ADC Sum
ZDC-West ADC Sum Att


Entries 93393
VPD-East ADC Sum
ZDC-East ADC Sum Att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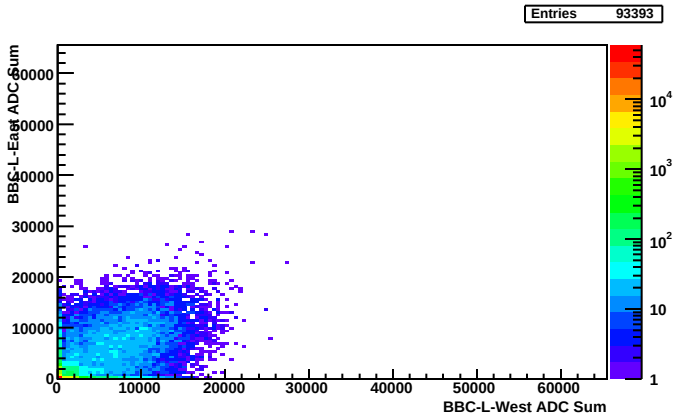
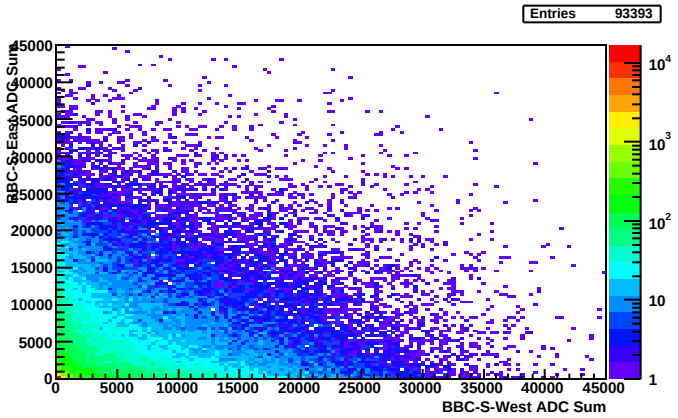
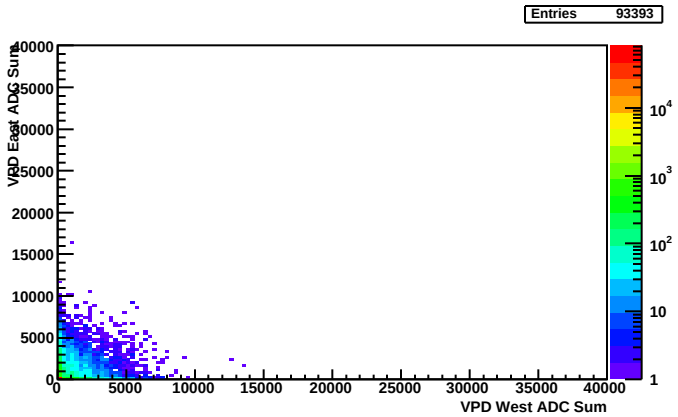
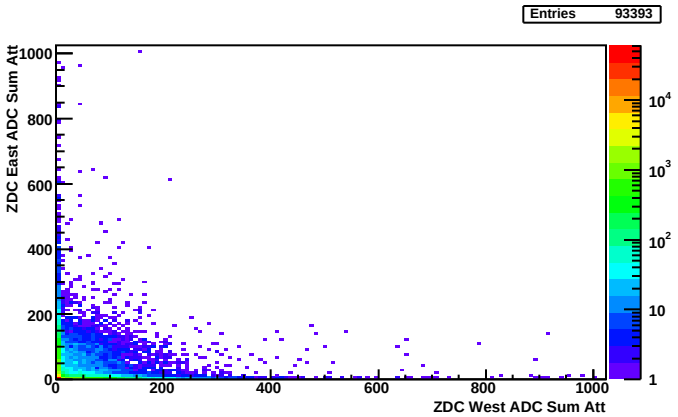
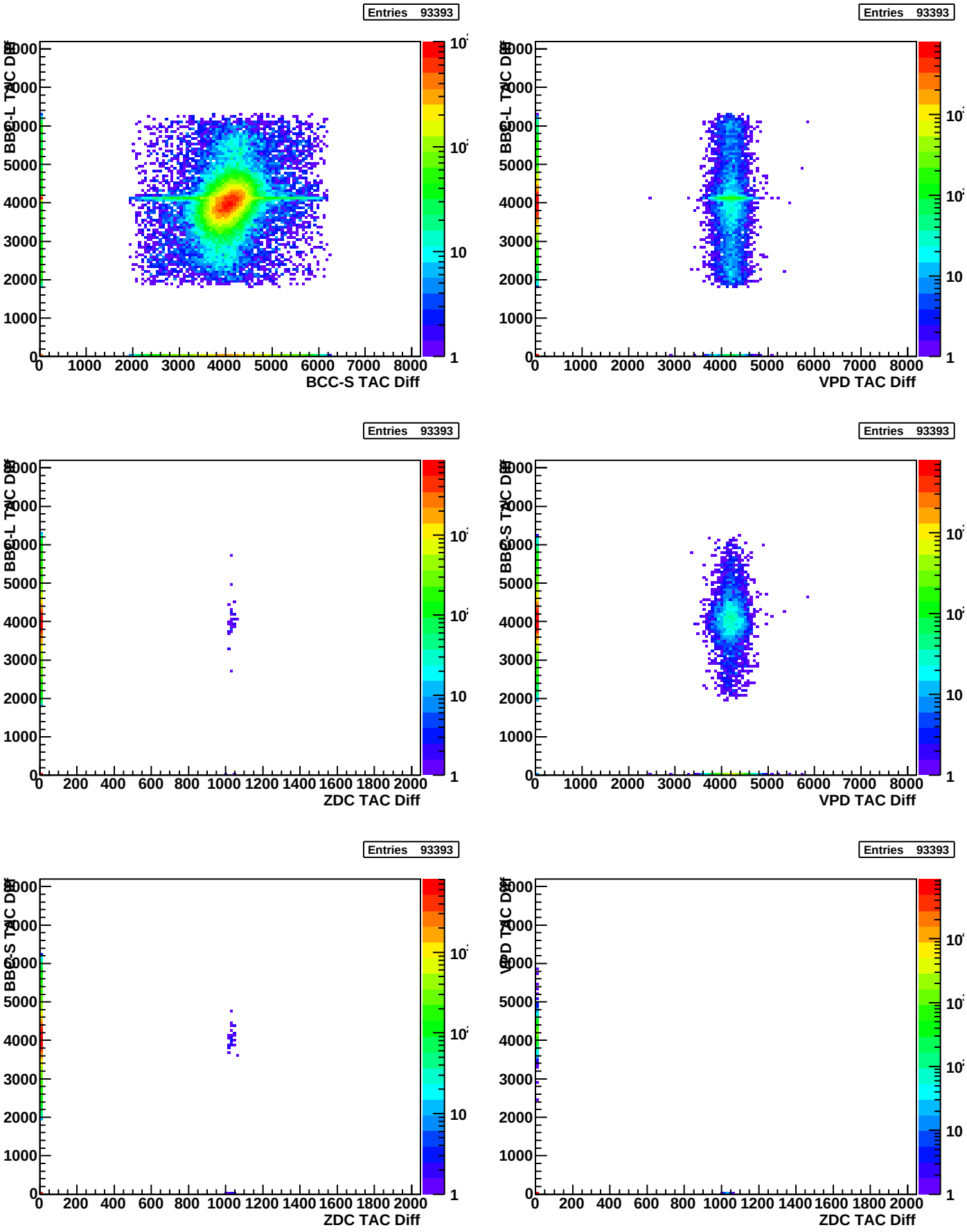
VPD-West ADC Sum
ZDC-West ADC Sum Att

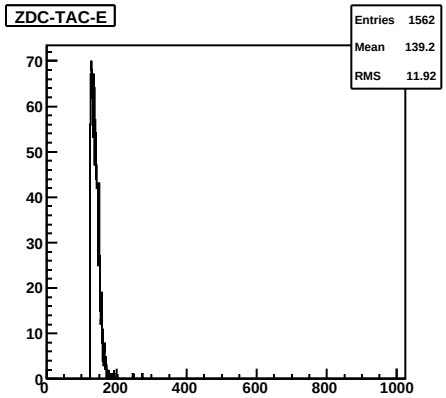

Entries 93393
BBC-L-East ADC Sum
BBC-L-West ADC Sum

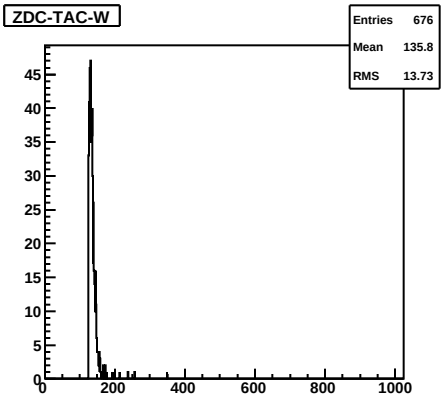

Entries 93393
BBC-S-East ADC Sum
BBC-S-West ADC Sum

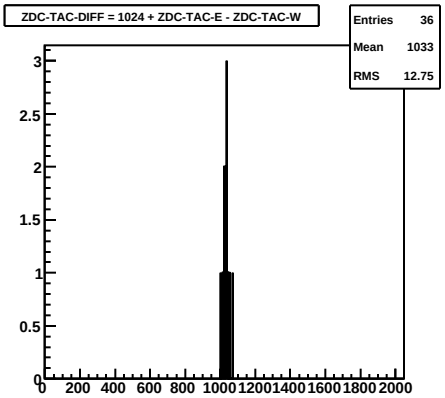

Entries 93393
VPD East ADC Sum
VPD West ADC Sum

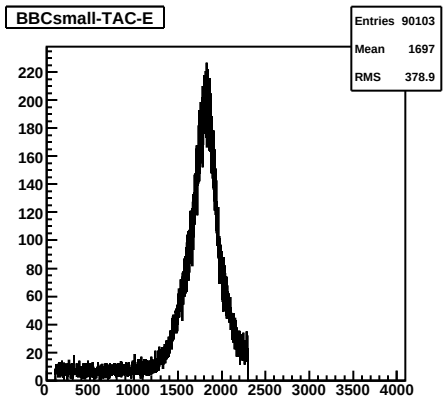

Entries 93393
ZDC East ADC Sum Att
ZDC West ADC Sum Att

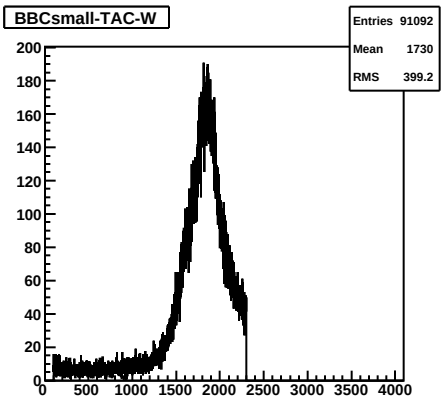

Entries 93393
BBC-L TAC Diff
BCC-S TAC Diff
Entries 93393
BBC-L TAC Diff
VPD TAC Diff
Entries 93393
BBC-L TAC Diff
ZDC TAC Diff
Entries 93393
BBC-S TAC Diff
VPD TAC Diff
Entries 93393
BBC-S TAC Diff
ZDC TAC Diff
Entries 93393
VPD TAC Diff
ZDC TAC Diff

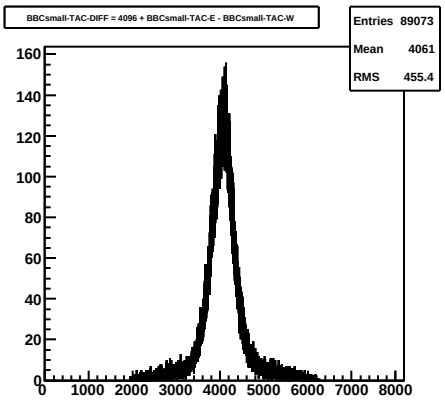

ZDC-TAC-E
Entries 1562
Mean 139.2
RMS 11.92

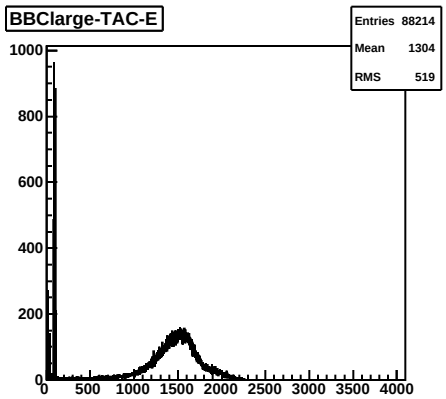

ZDC-TAC-W
Entries 676
Mean 135.8
RMS 13.73

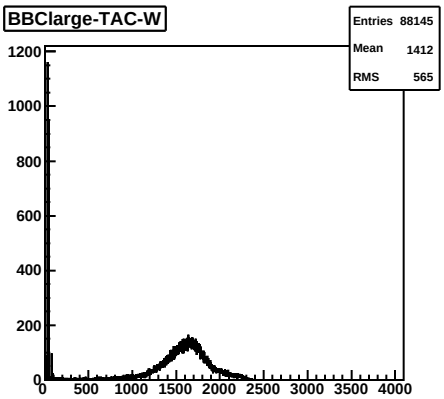

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 36
Mean 1033
RMS 12.75

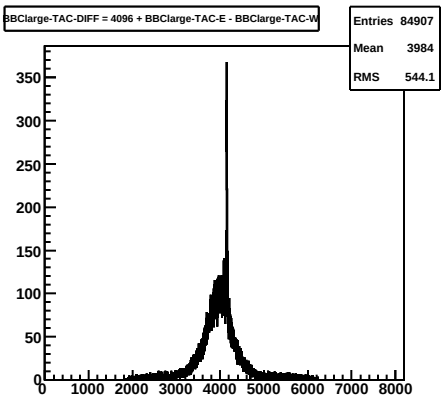

BBCsmall-TAC-E
Entries 90103
Mean 1697
RMS 378.9

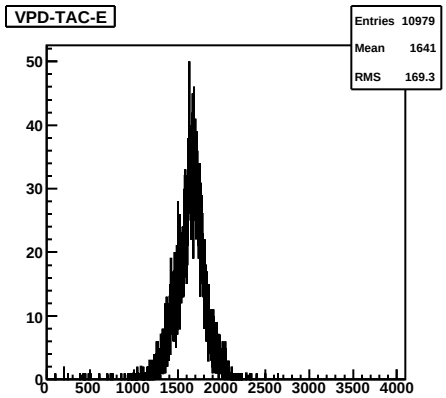

BBCsmall-TAC-W
Entries 91092
Mean 1730
RMS 399.2

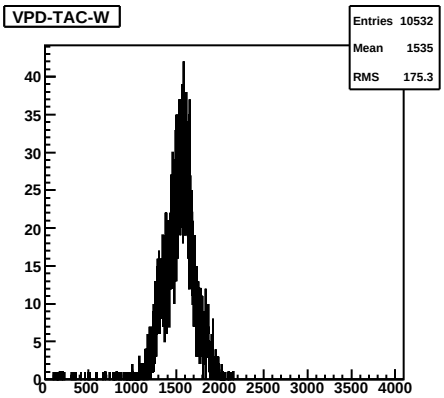

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 89073
Mean 4061
RMS 455.4

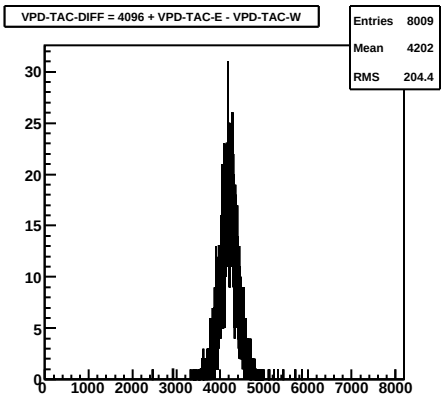

BBClarge-TAC-E
Entries 88214
Mean 1304
RMS 519

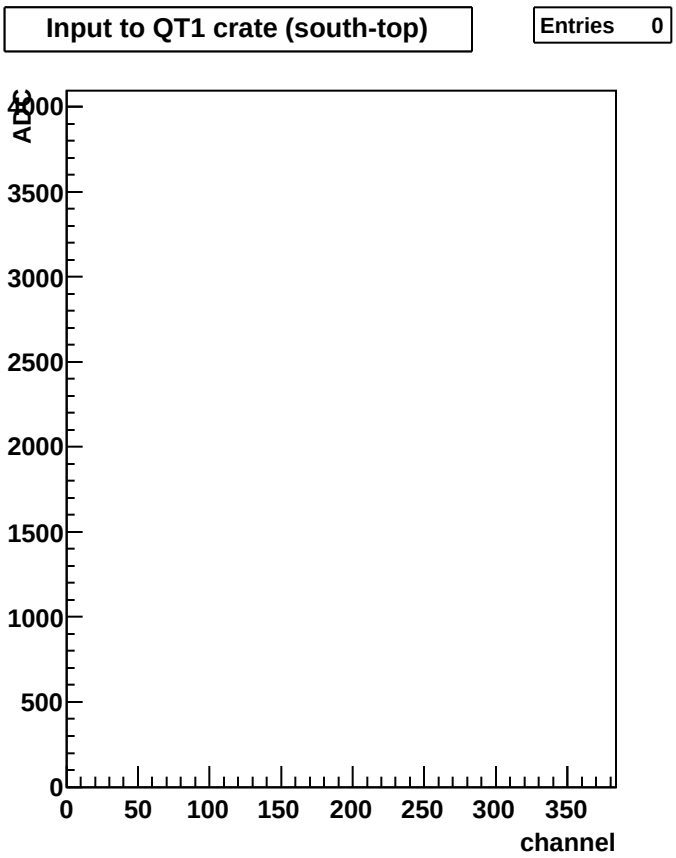

BBClarge-TAC-W
Entries 88145
Mean 1412
RMS 565

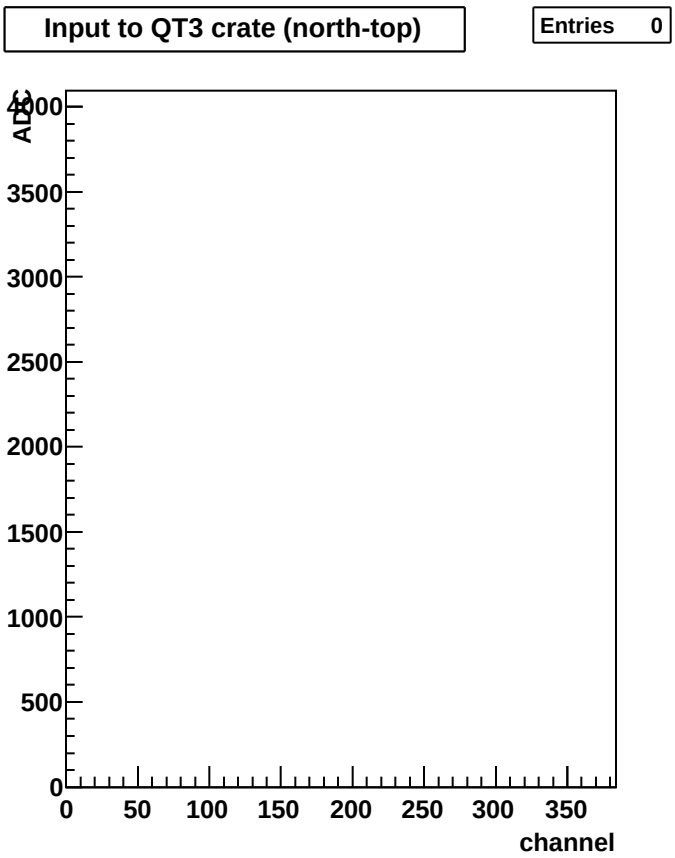

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 84907
Mean 3984
RMS 544.1

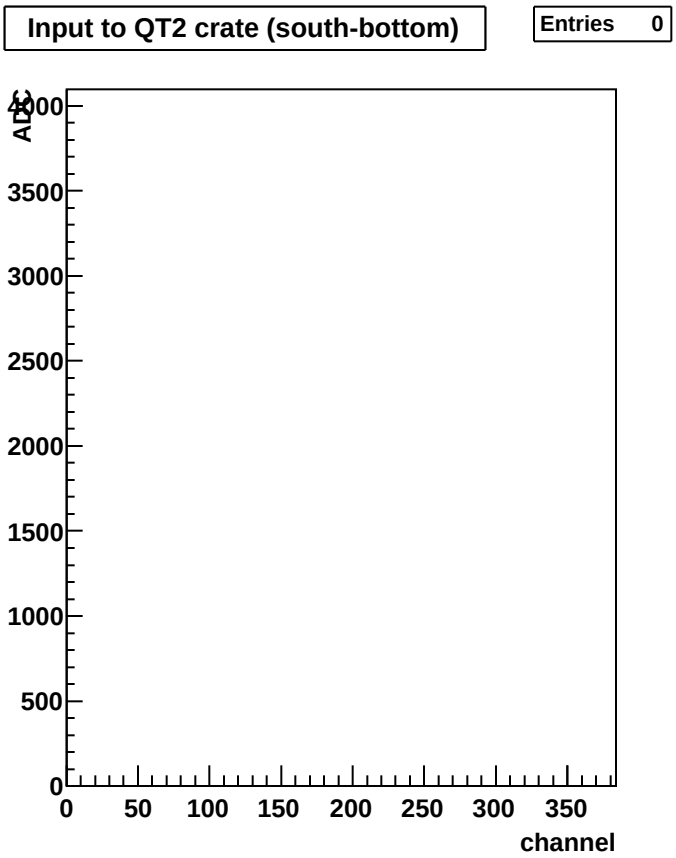

VPD-TAC-E
Entries 10979
Mean 1641
RMS 169.3

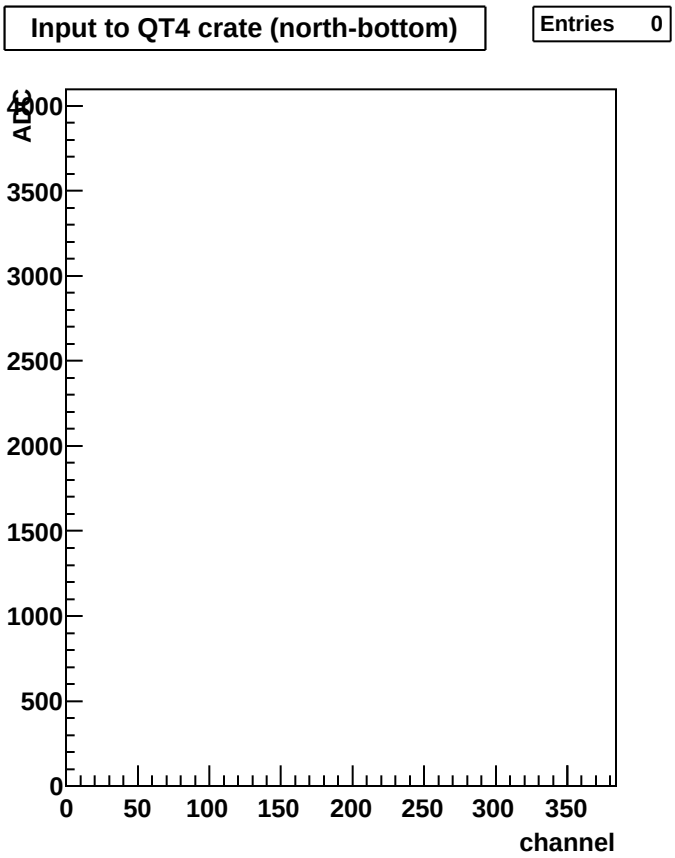

VPD-TAC-W
Entries 10532
Mean 1535
RMS 175.3

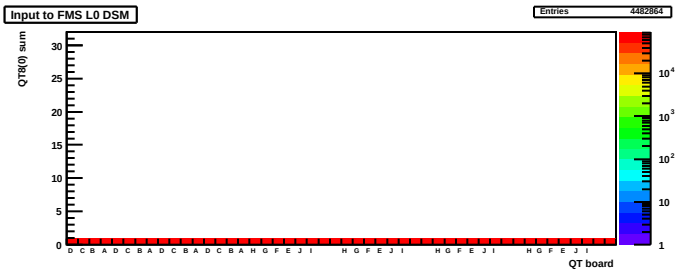

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 8009
Mean 4202
RMS 204.4

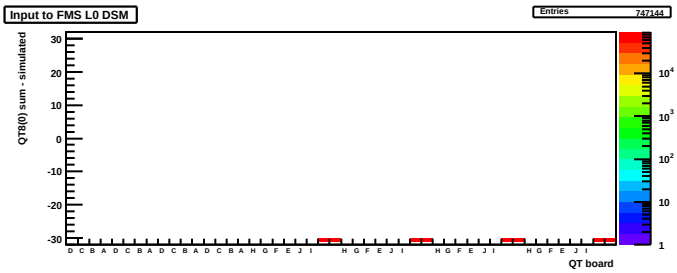

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

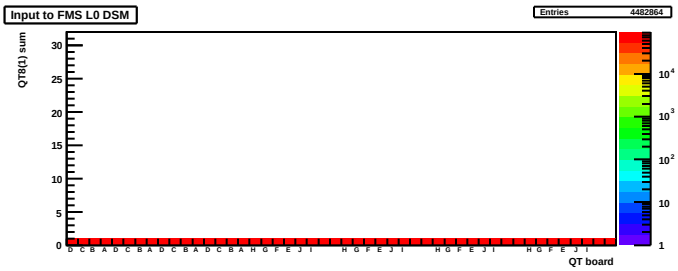

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

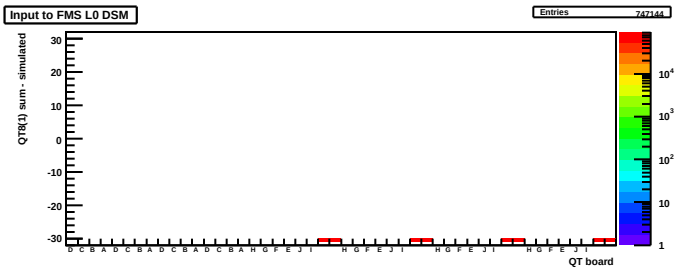

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

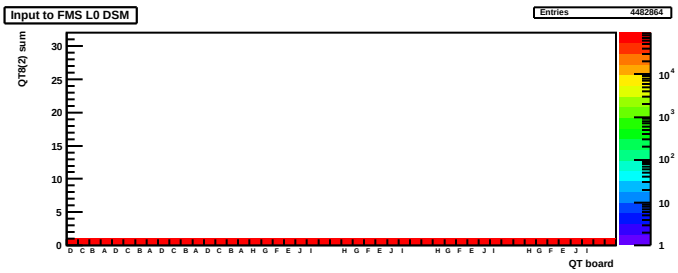

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

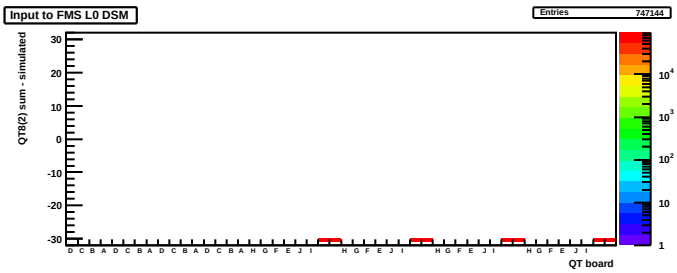

Input to FMS L0 DSM
Entries 4482864
QT8(0) sum
QT board

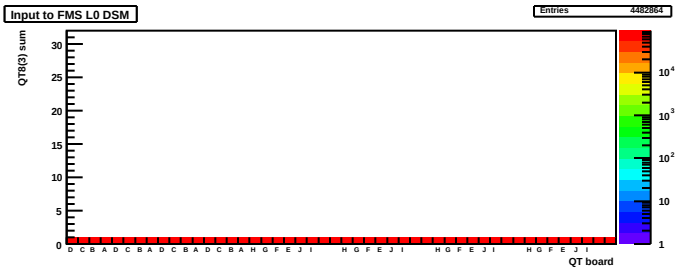

Input to FMS L0 DSM
Entries 747144
QT8(0) sum - simulated
QT board

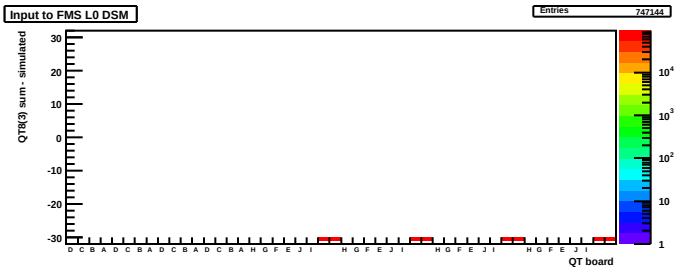

Input to FMS L0 DSM
Entries 4482864
QT8(1) sum
QT board

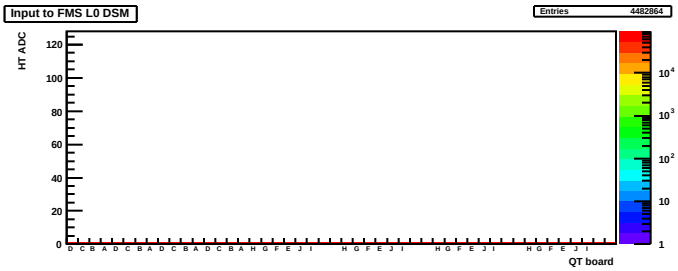

Input to FMS L0 DSM
Entries 747144
QT8(1) sum - simulated
QT board

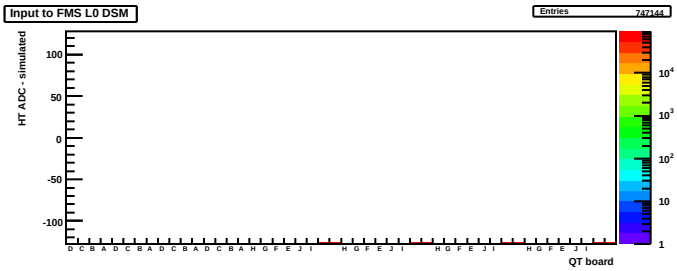

Input to FMS L0 DSM
Entries 4482864
QT8(2) sum
QT board

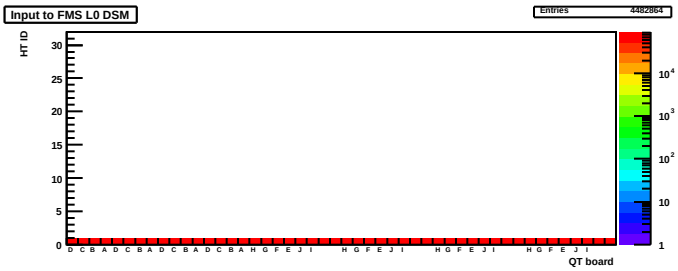

Input to FMS L0 DSM
Entries 747144
QT8(2) sum - simulated
QT board

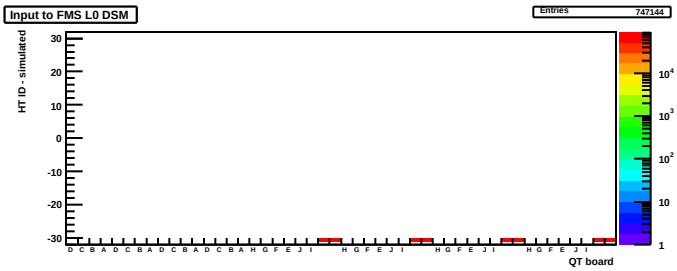

Input to FMS L0 DSM
Entries 4482864
QT8(3) sum
QT board

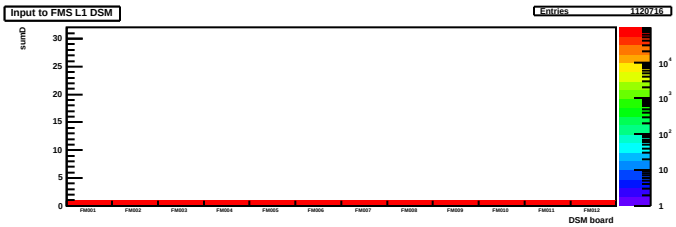

Input to FMS L0 DSM
Entries 747144
QT8(3) sum - simulated
QT board

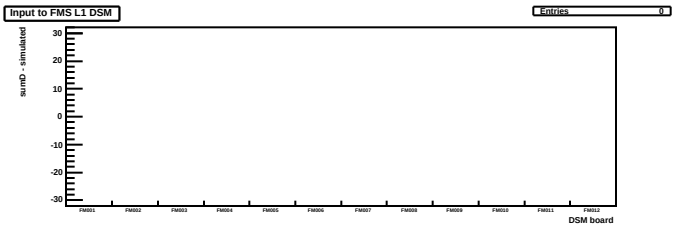

Input to FMS L0 DSM
Entries 4482864
HT ADC
QT board

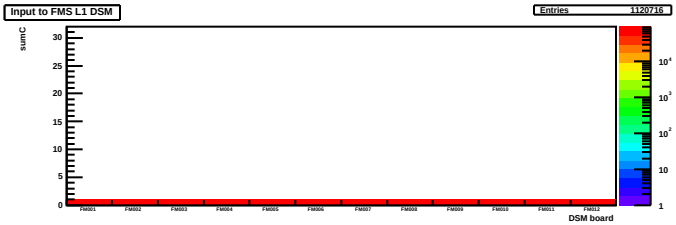

Input to FMS L0 DSM
Entries 747144
HT ADC - simulated
QT board

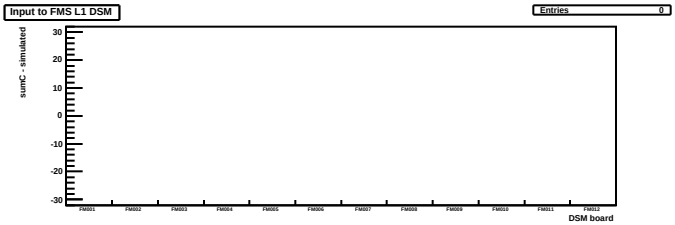

Input to FMS L0 DSM
Entries 4482864
HT ID
QT board

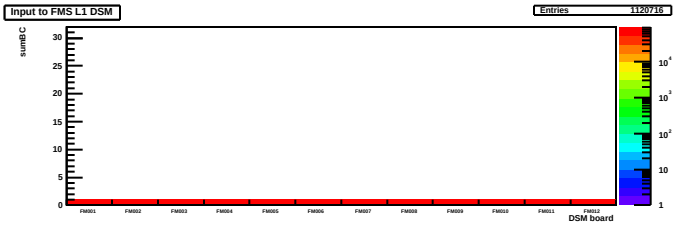

Input to FMS L0 DSM
Entries 747144
HT ID - simulated
QT board

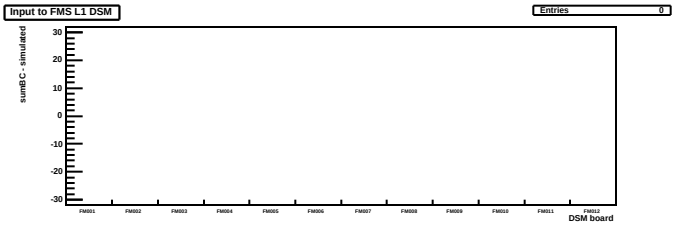

Input to FMS L1 DSM
Entries 1120716
sumD
DSM board

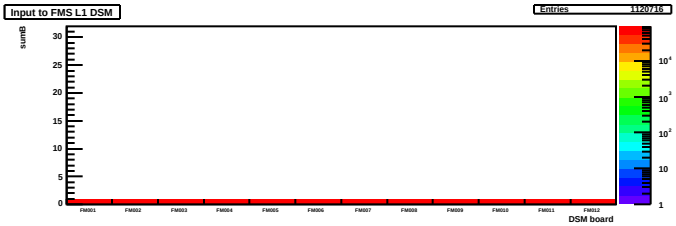

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

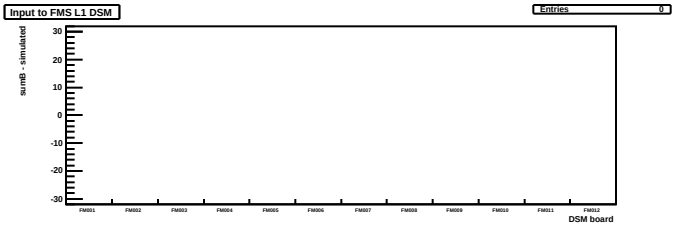

Input to FMS L1 DSM
Entries 1120716
sumC
DSM board

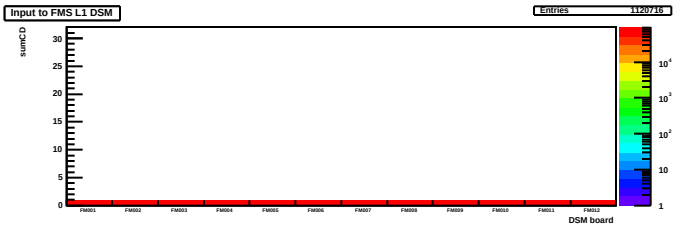

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

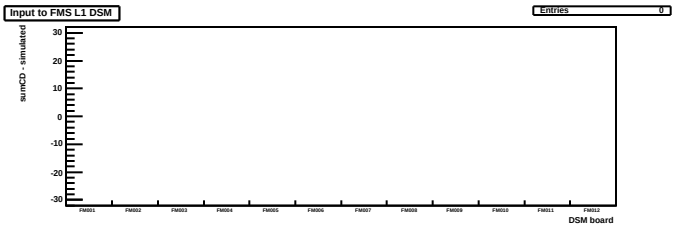

Input to FMS L1 DSM
Entries 1120716
sumBC
DSM board

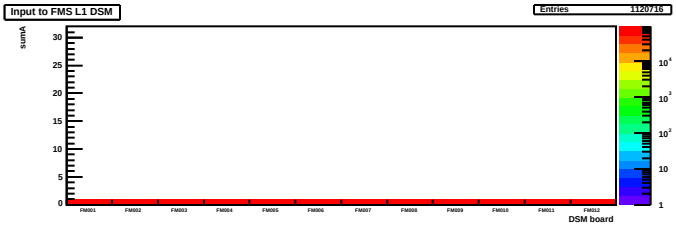

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

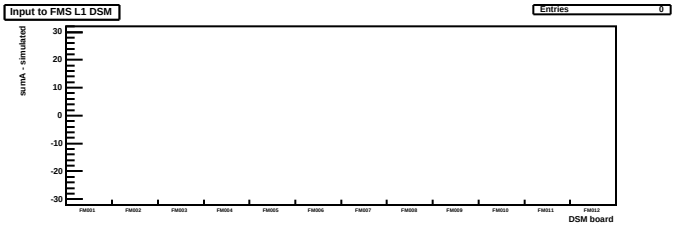

Input to FMS L1 DSM
Entries 1120716
sumB
DSM board

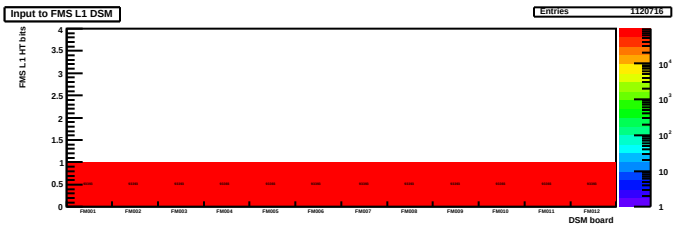

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

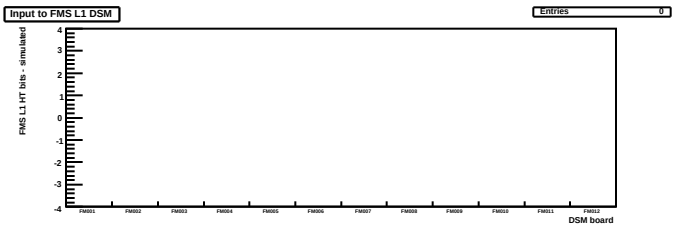

Input to FMS L1 DSM
Entries 1120716
sumCD
DSM board

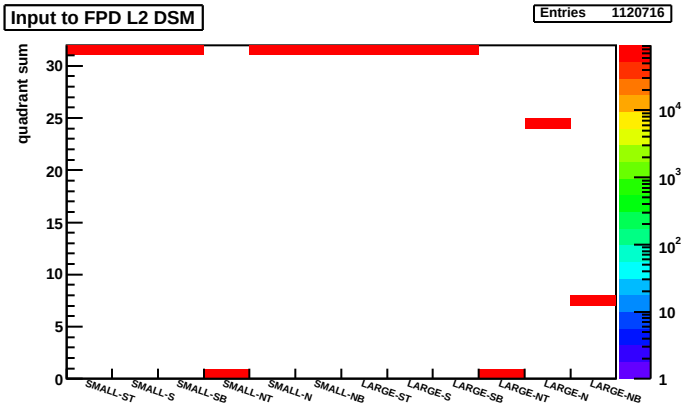

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

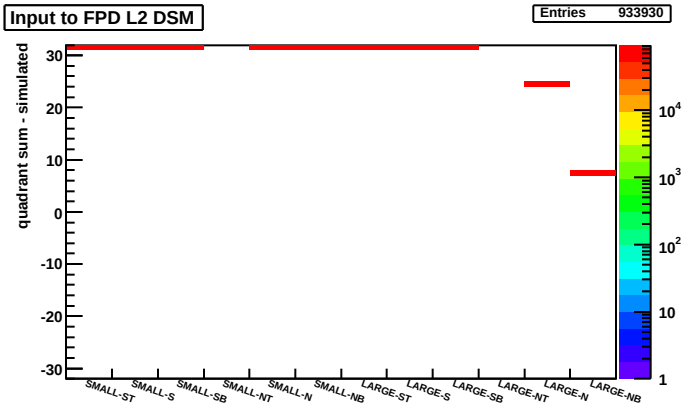

Input to FMS L1 DSM
Entries 1120716
sumA
DSM board

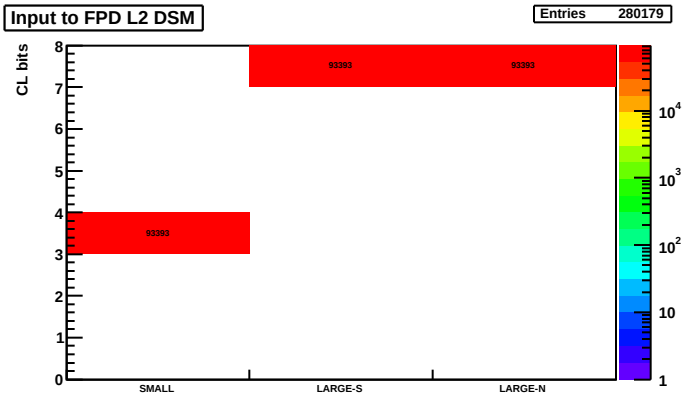

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

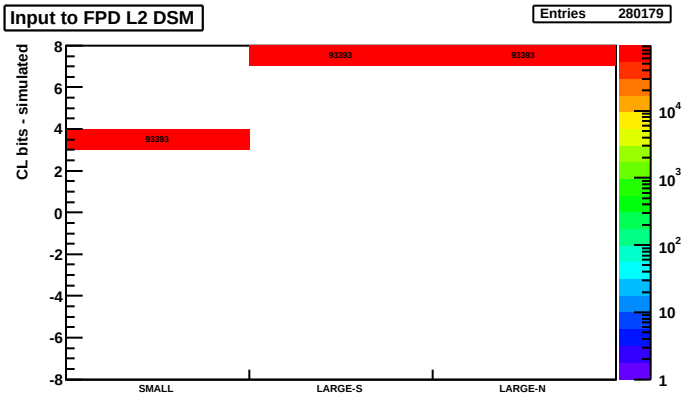

Input to FMS L1 DSM
Entries 1120716
FMS L1 HT bits
DSM board

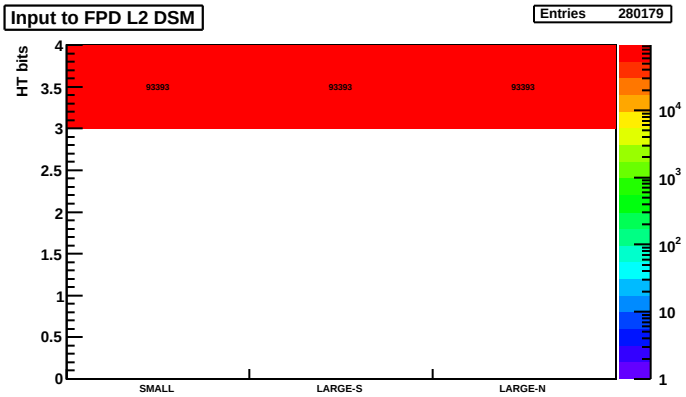

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

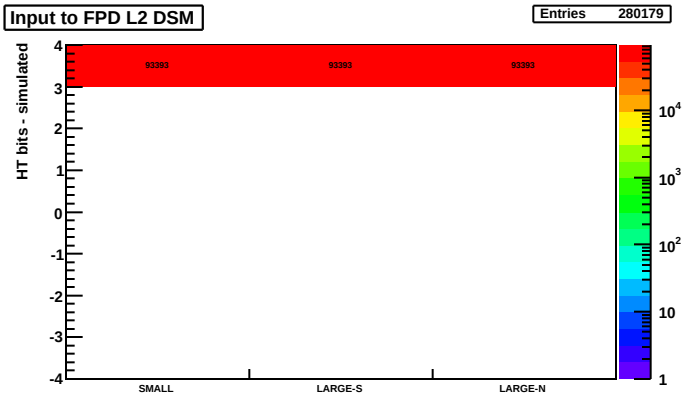

Input to FPD L2 DSM
Entries 1120716
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

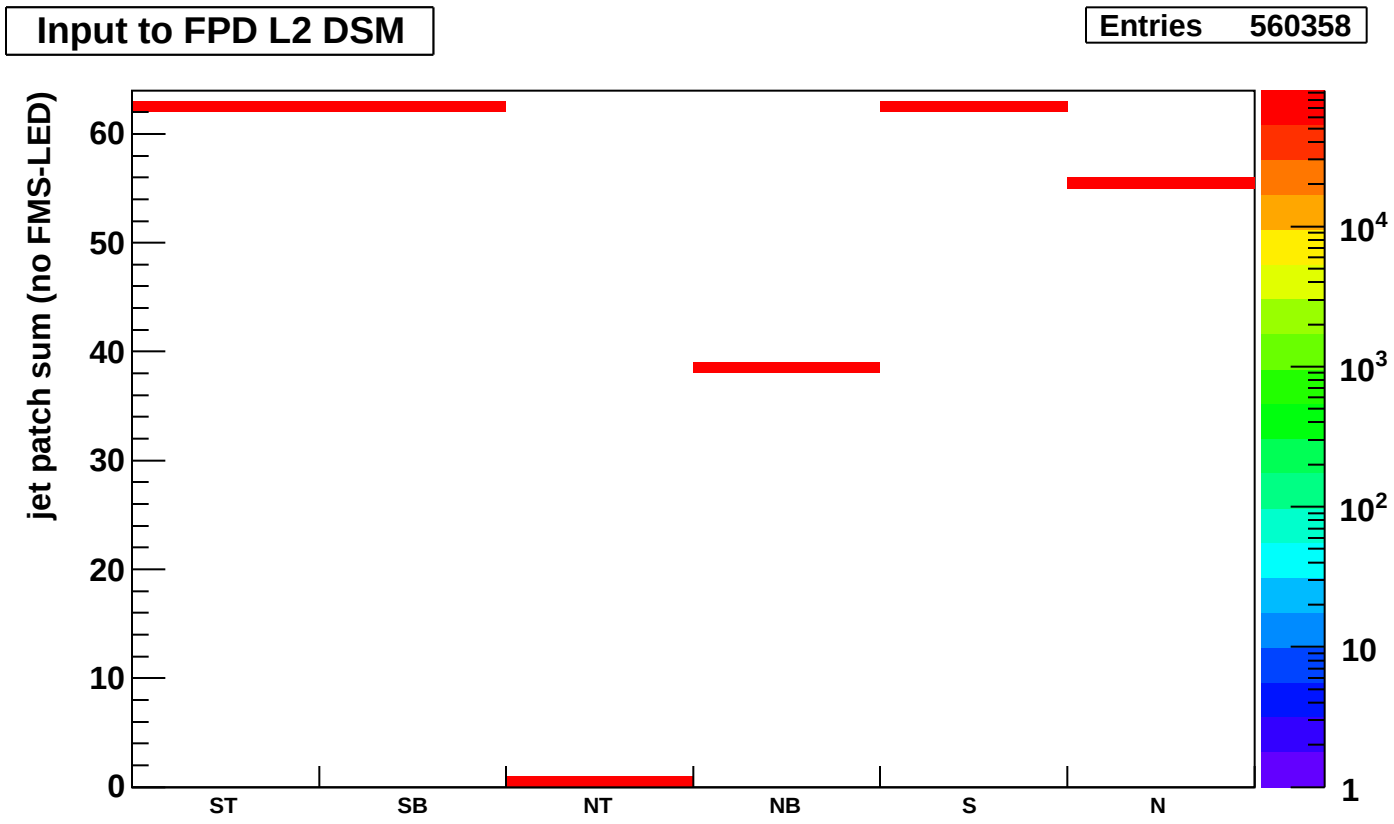

Input to FPD L2 DSM
Entries 933930
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

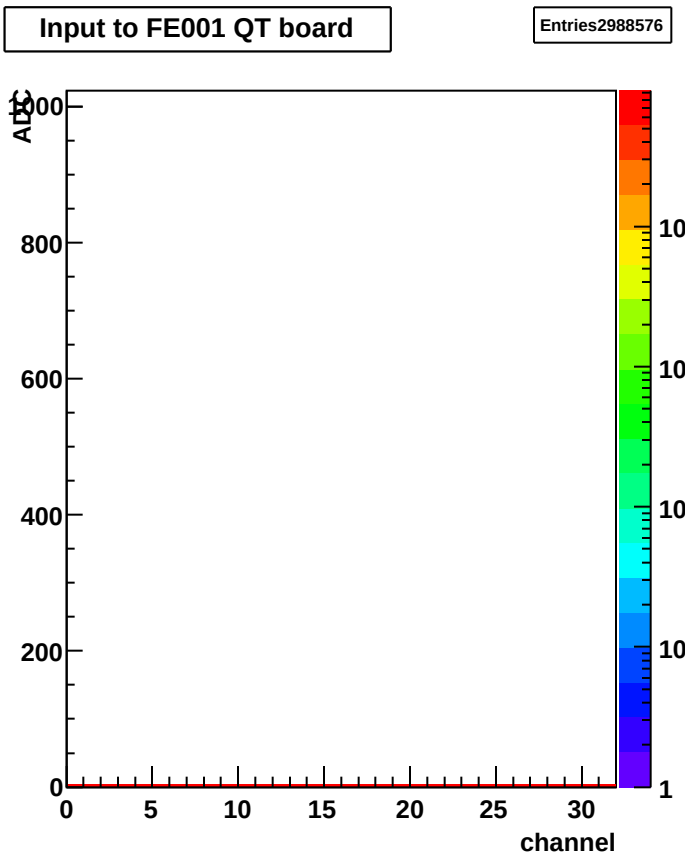

Input to FPD L2 DSM
Entries 280179
CL bits
93393
93393
93393
SMALL
LARGE-S
LARGE-N

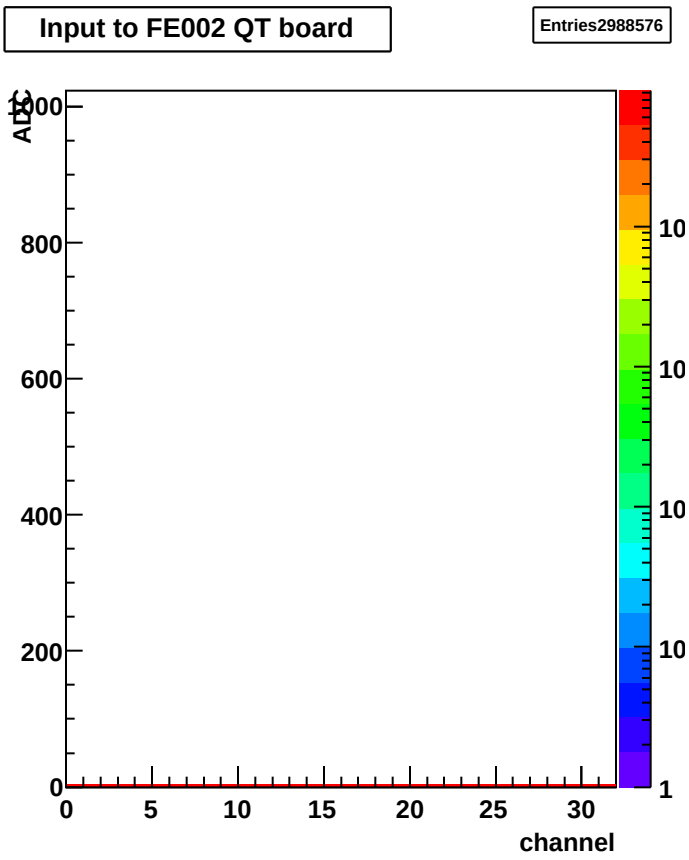

Input to FPD L2 DSM
Entries 280179
CL bits - simulated
93393
93393
93393
SMALL
LARGE-S
LARGE-N

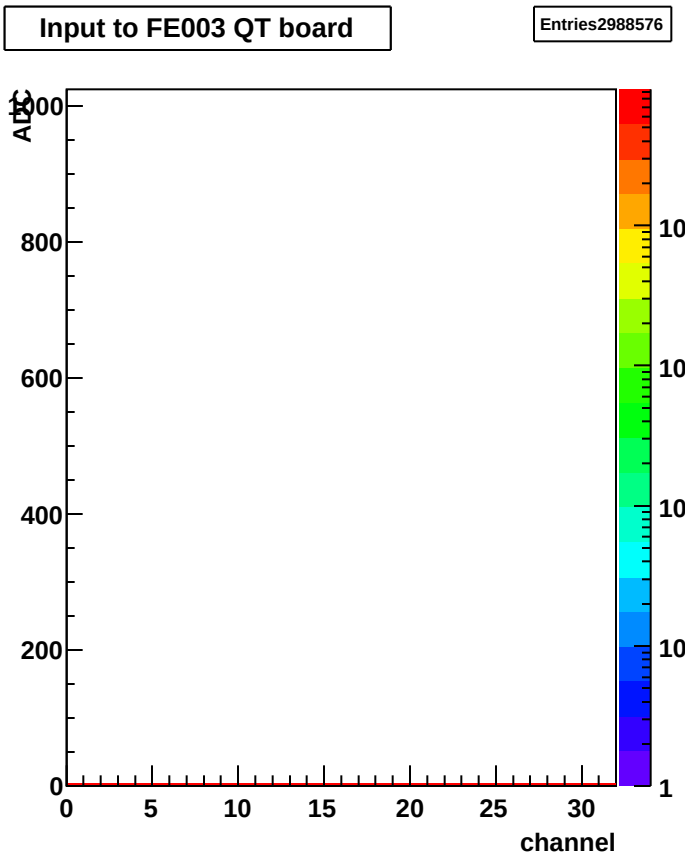

Input to FPD L2 DSM
Entries 280179
HT bits
93393
93393
93393
SMALL
LARGE-S
LARGE-N

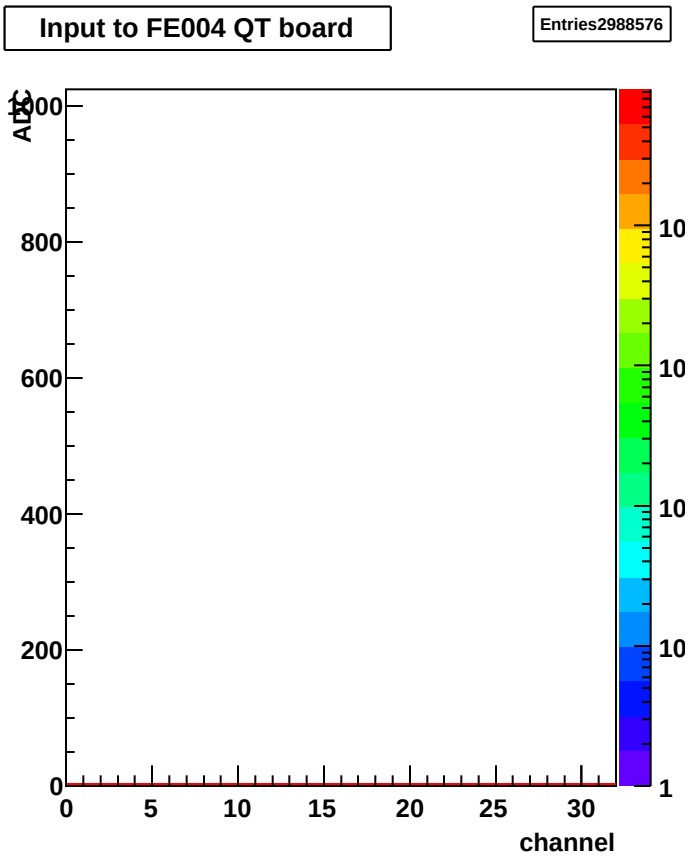

Input to FPD L2 DSM
Entries 280179
HT bits - simulated
93393
93393
93393
SMALL
LARGE-S
LARGE-N

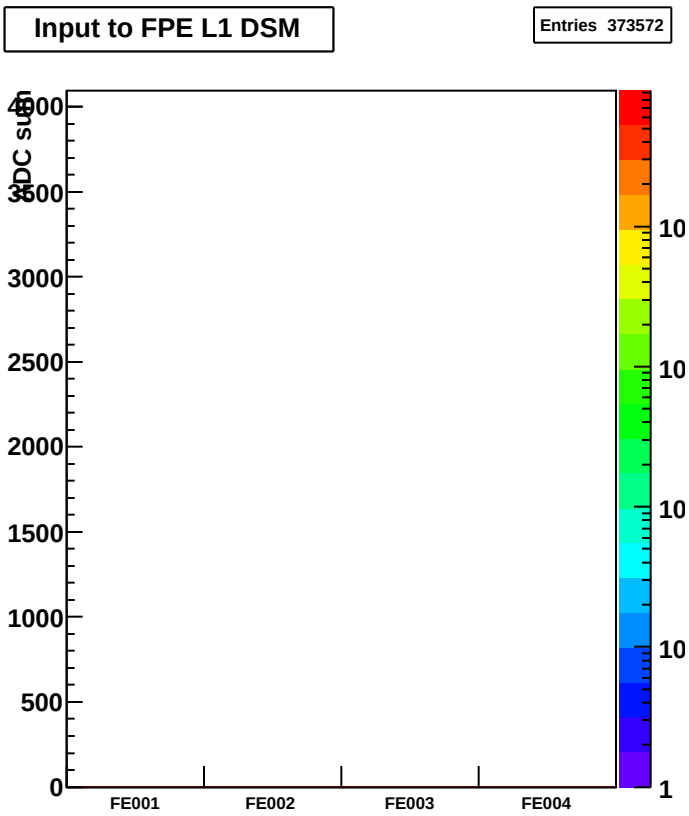

Input to FPD L2 DSM
Entries 560358
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

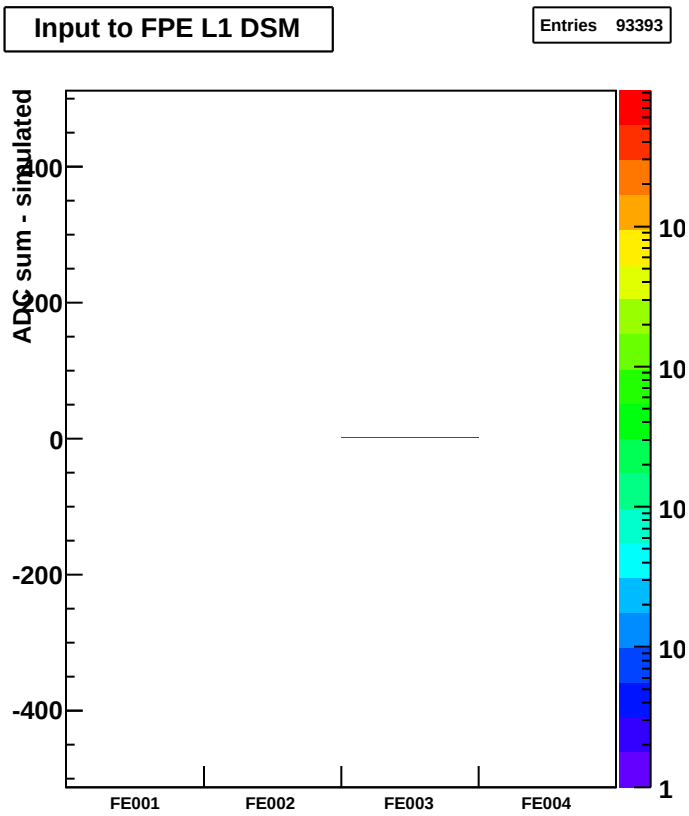

Input to FE001 QT board
Entries2988576
ADC
channel

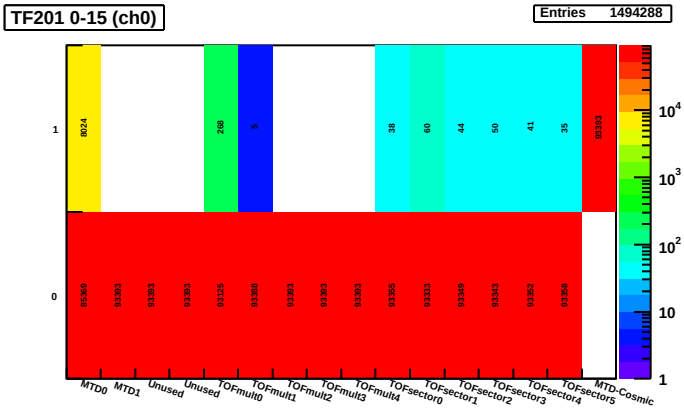

Input to FE002 QT board
Entries2988576
ADC
channel

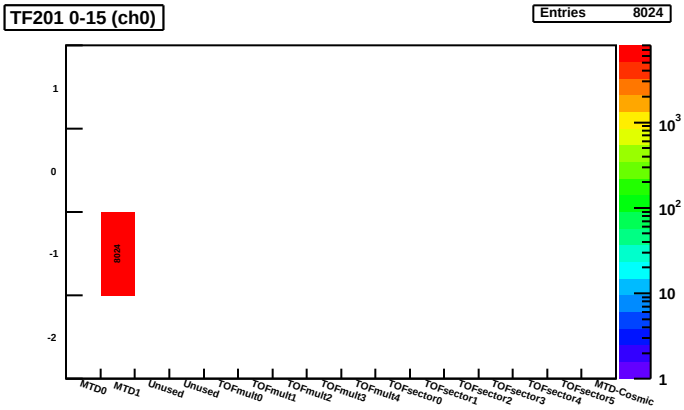

Input to FE003 QT board
Entries2988576
ADC
channel

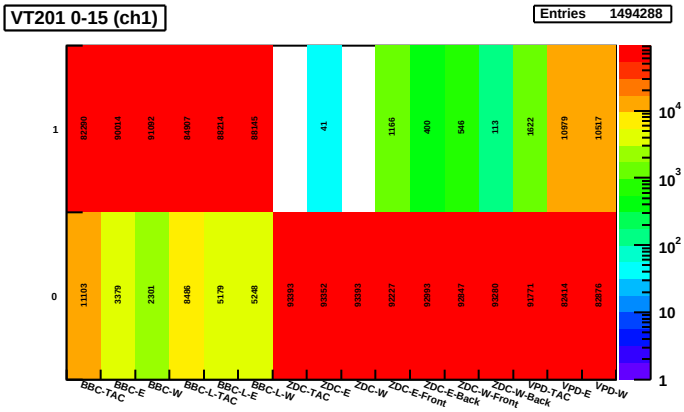

Input to FE004 QT board
Entries2988576
ADC
channel

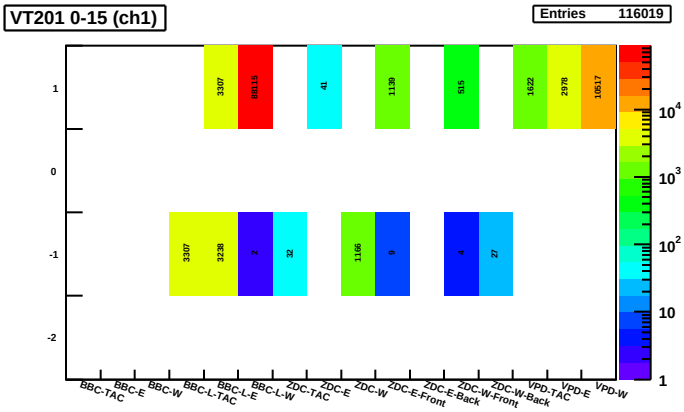

Input to FPE L1 DSM
Entries 373572
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1

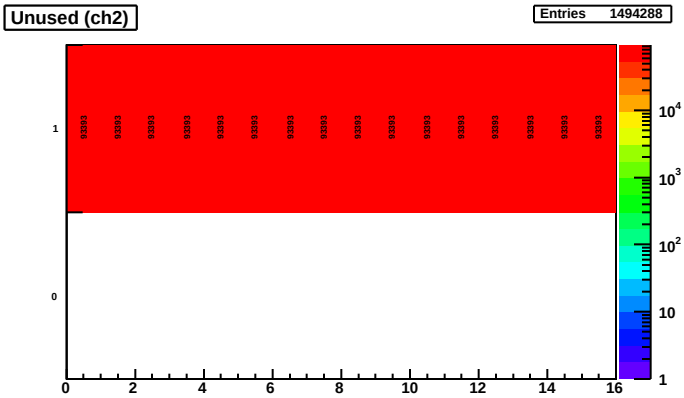

Input to FPE L1 DSM
Entries 93393
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1

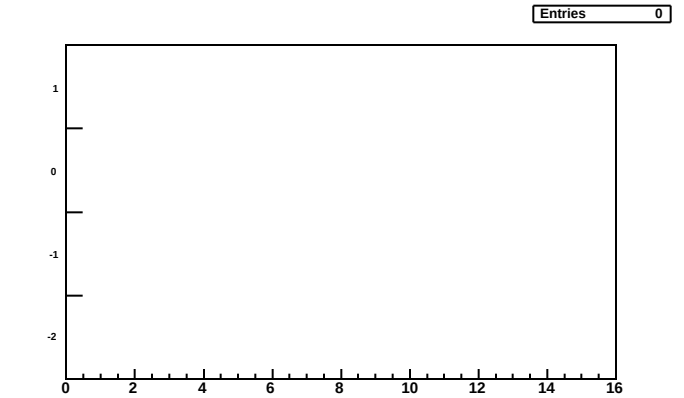

TF201 0-15 (ch0)
Entries 1494288
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

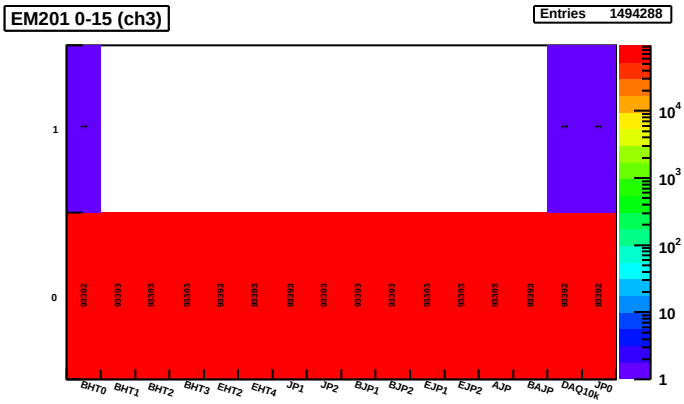

TF201 0-15 (ch0)
Entries 8024
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

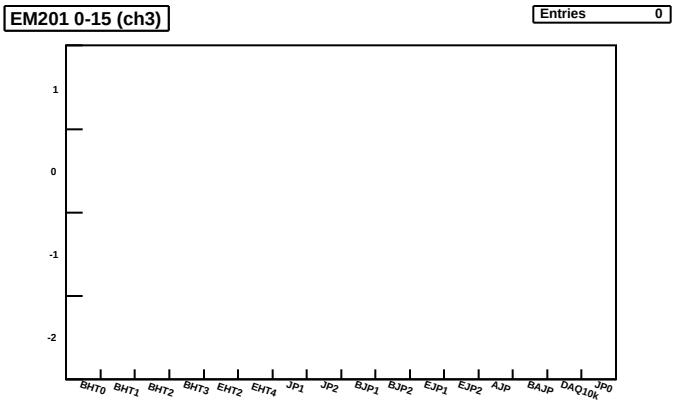

VT201 0-15 (ch1)
Entries 1494288
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 116019
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


Unused (ch2)
Entries 1494288


Entries 0


EM201 0-15 (ch3)
Entries 1494288
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0


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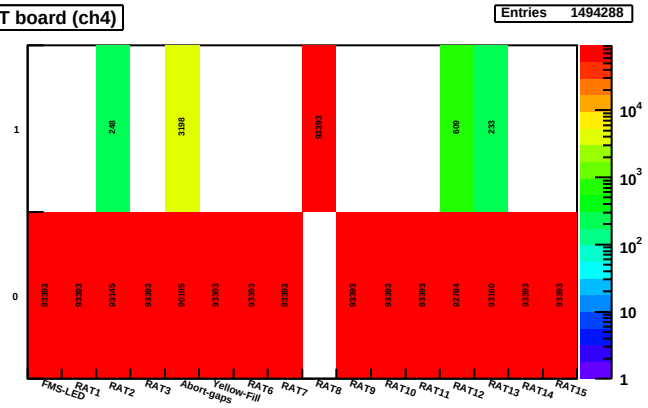
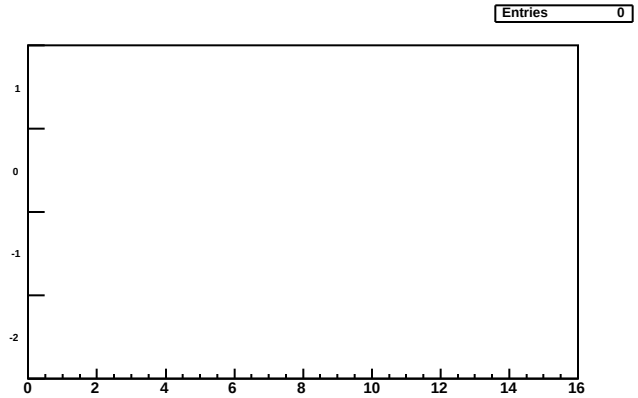
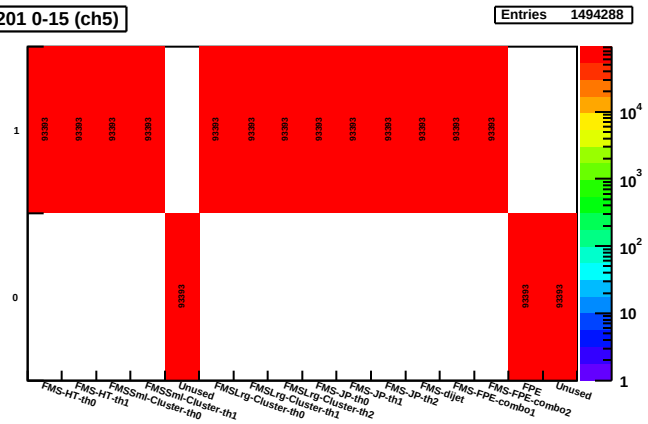
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

RAT board (ch4)

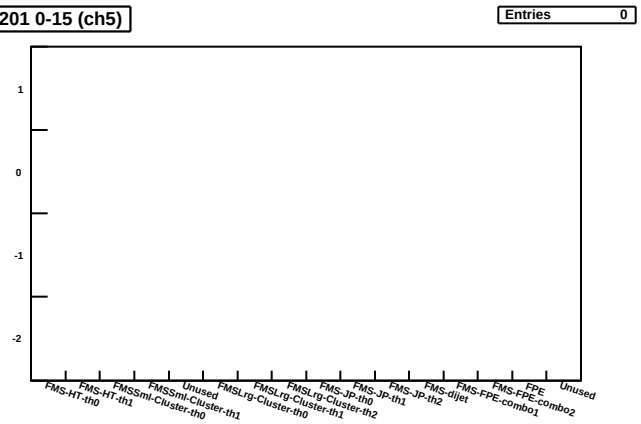




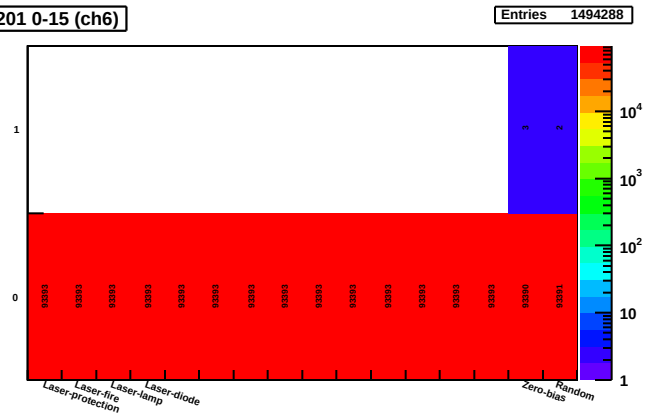
FP201 0-15 (ch5)

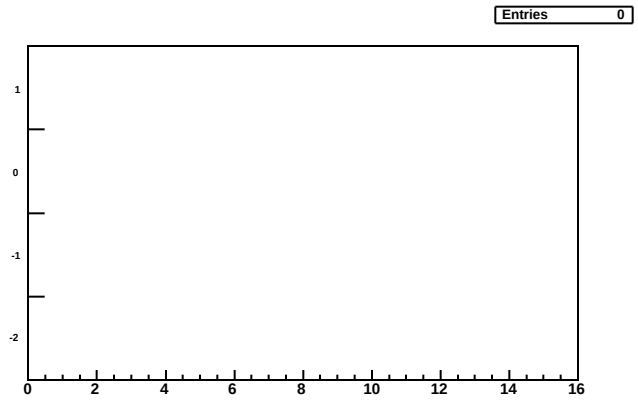
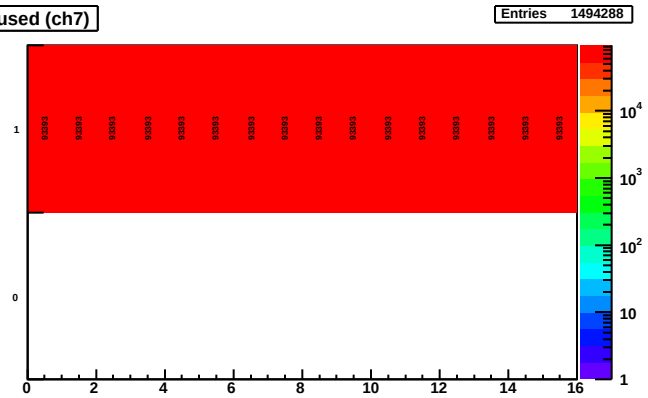
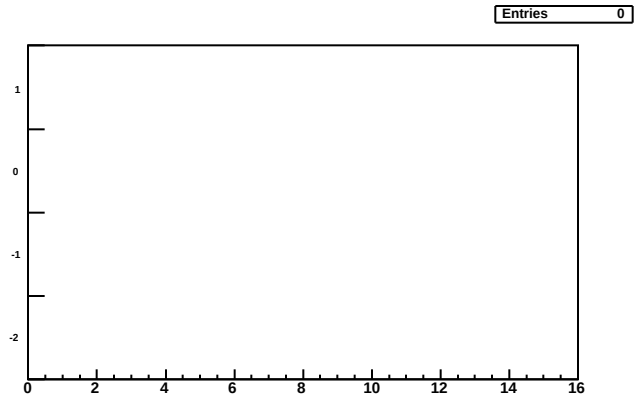


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)