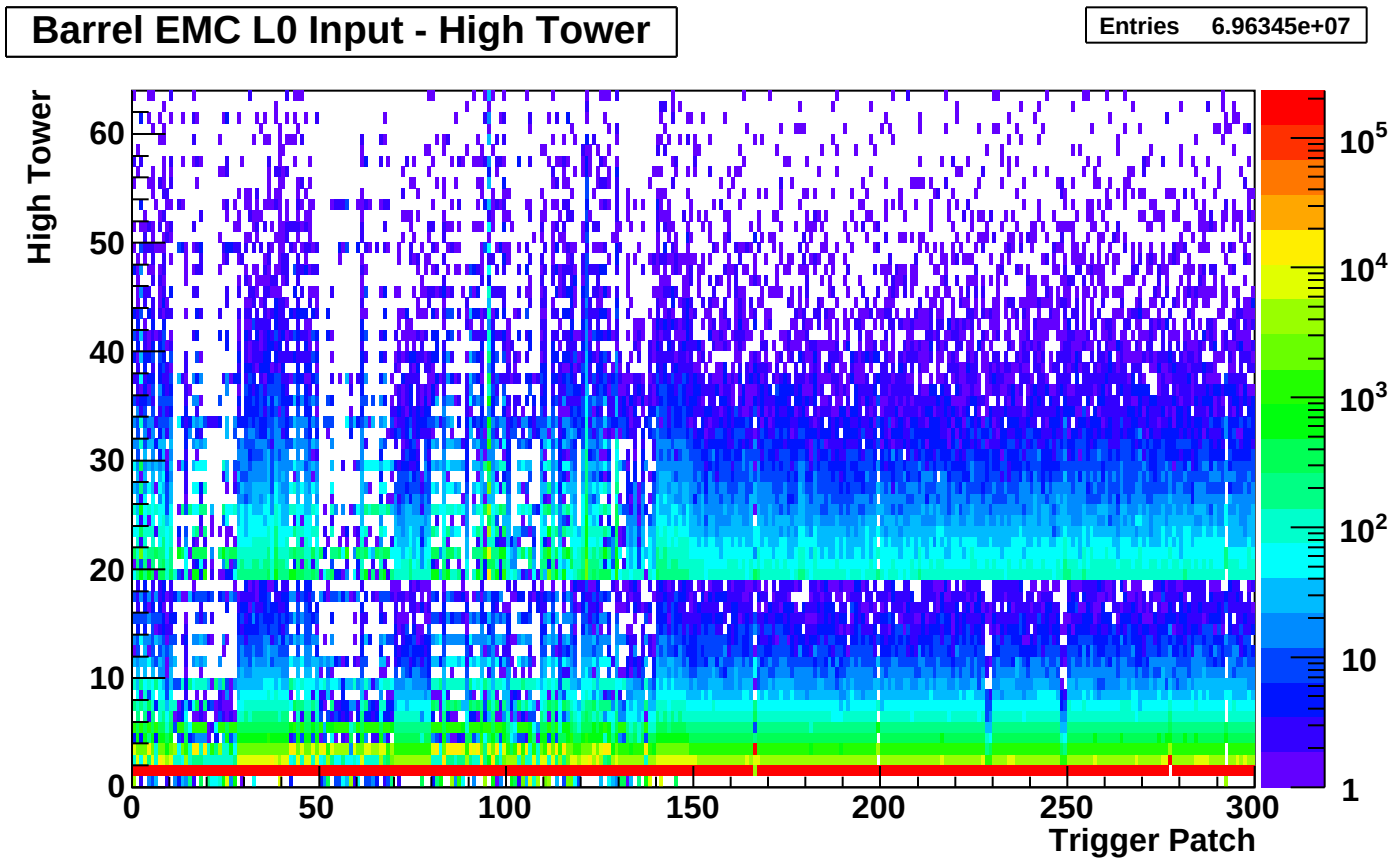
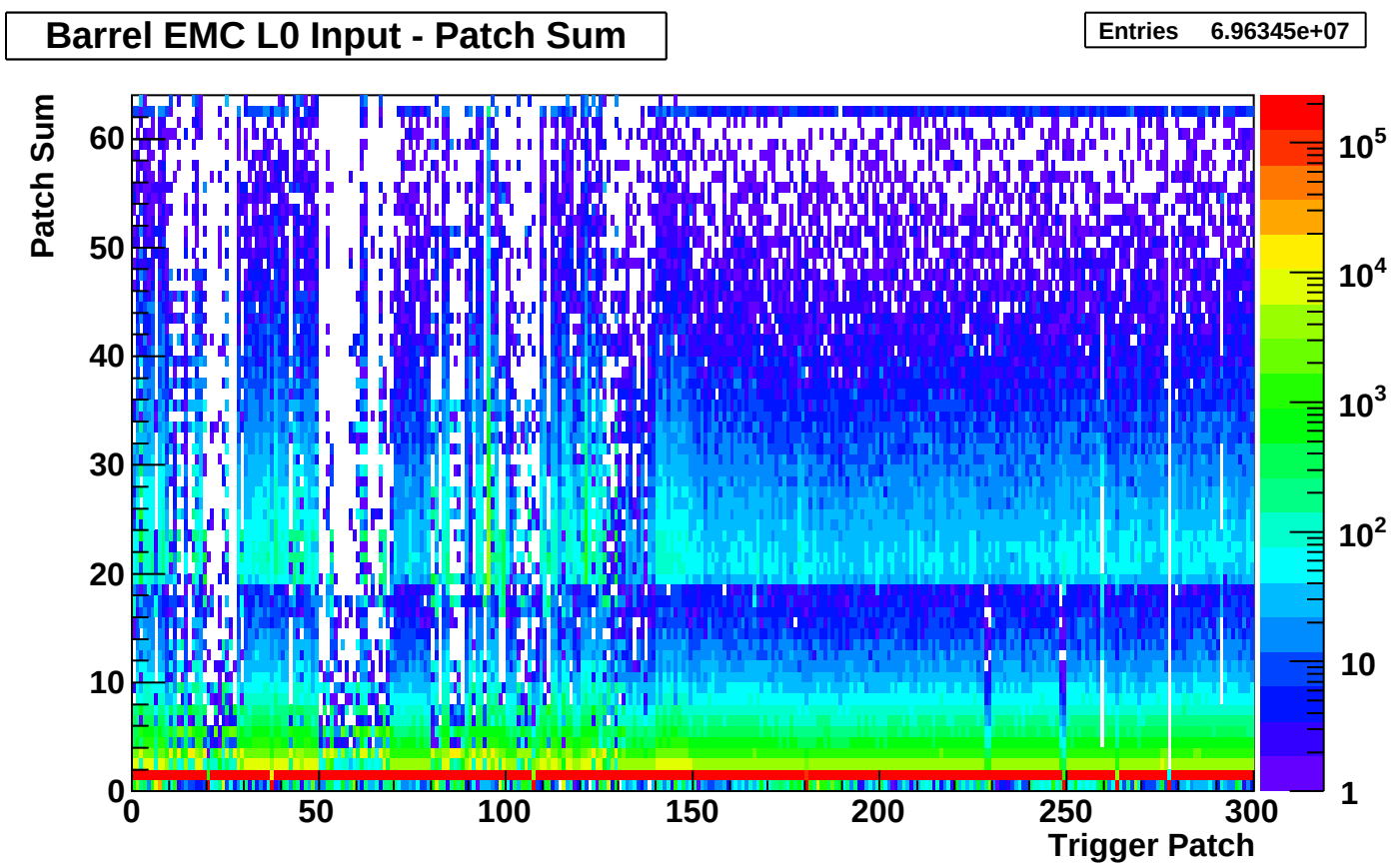
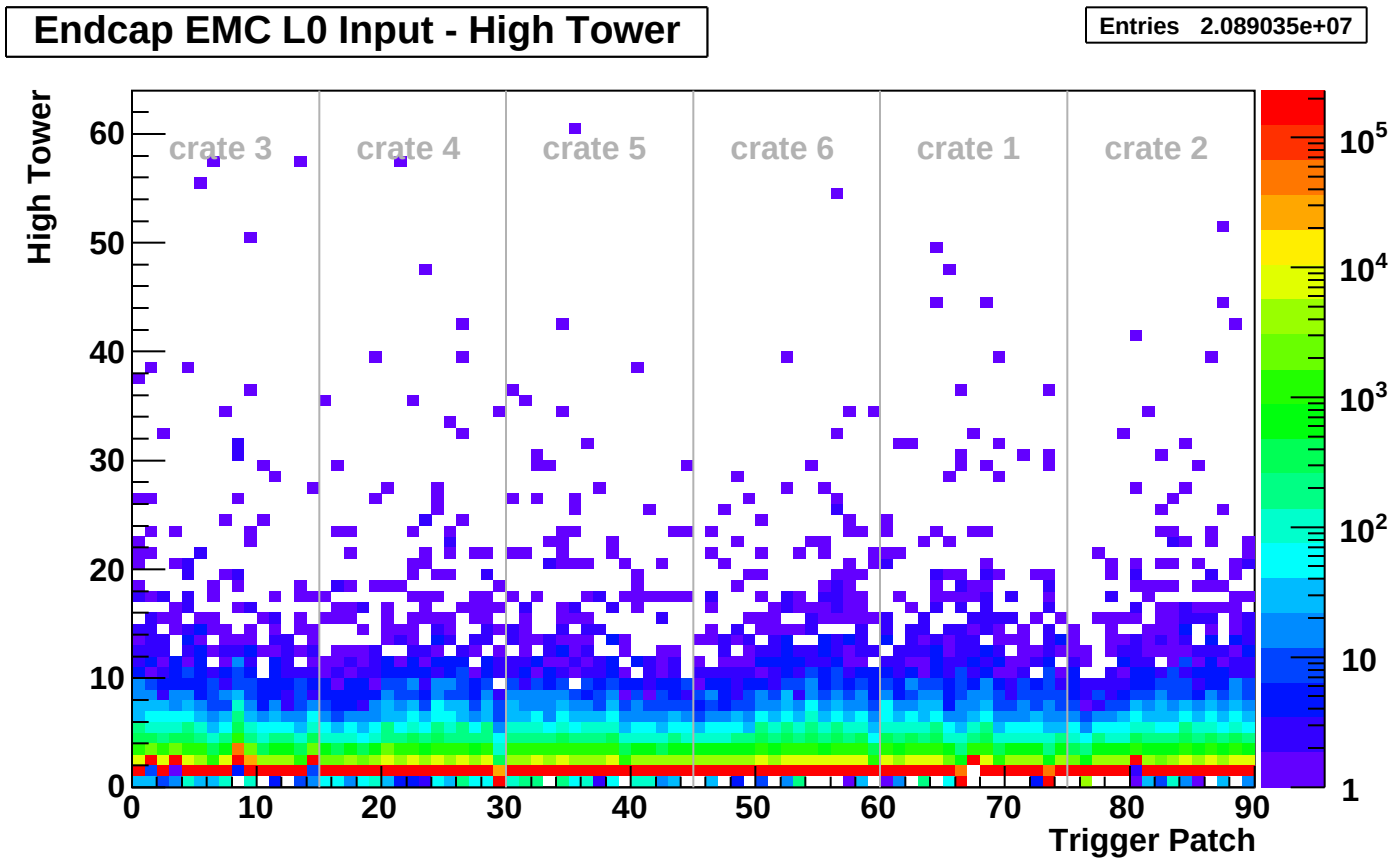
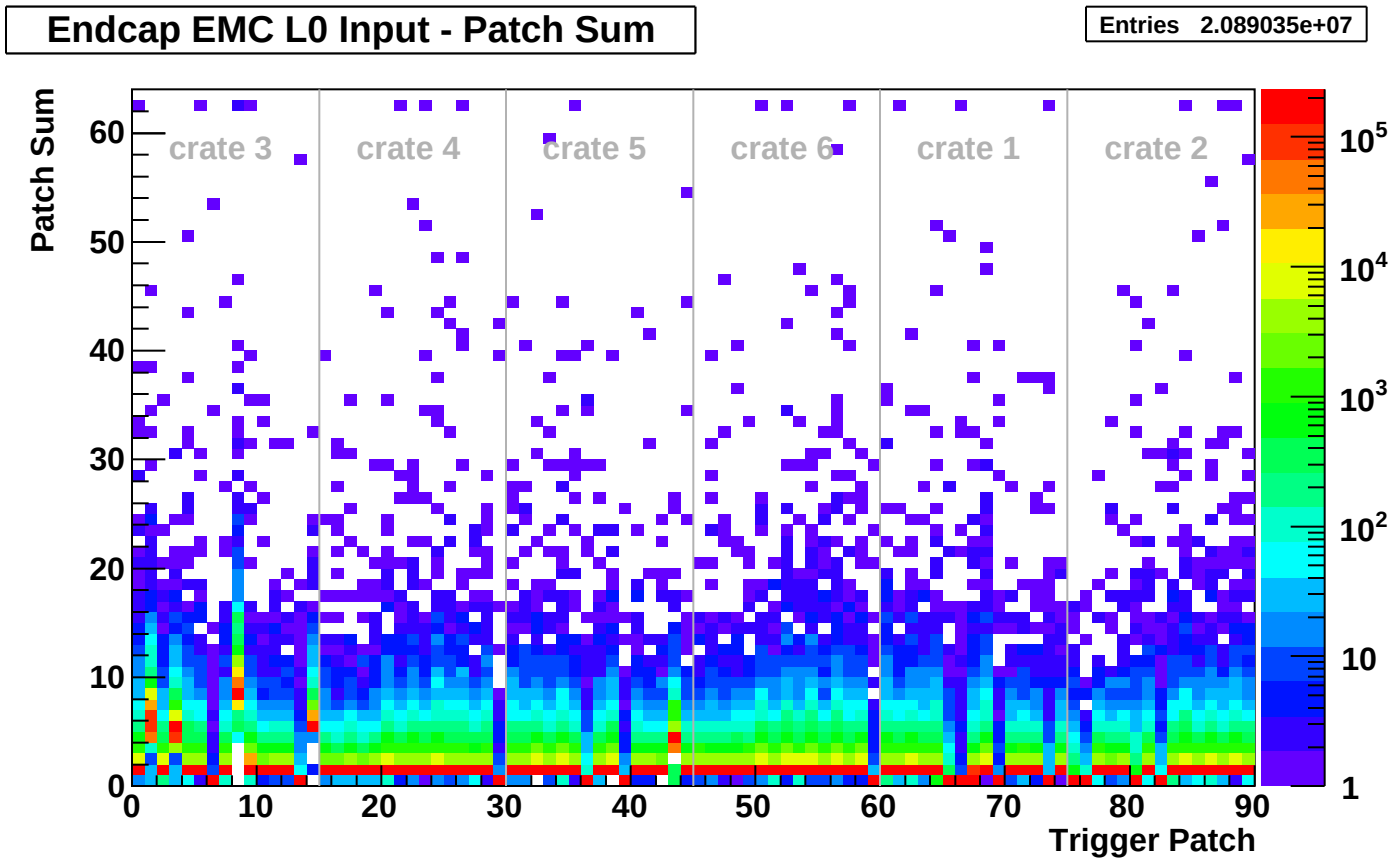
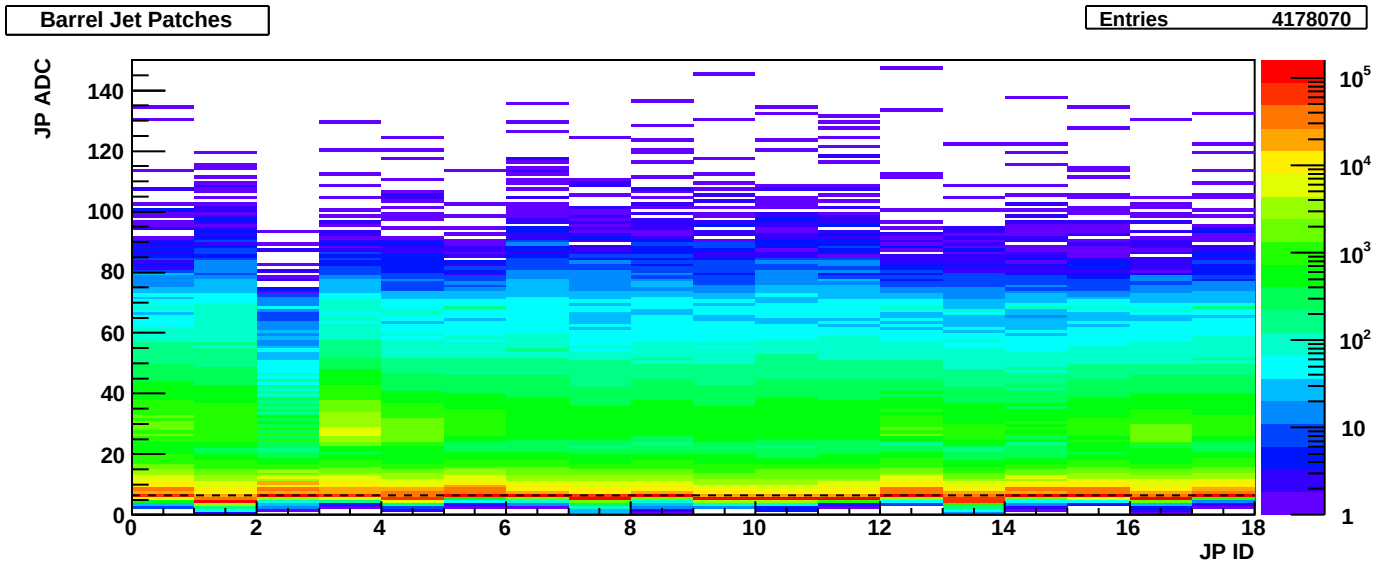
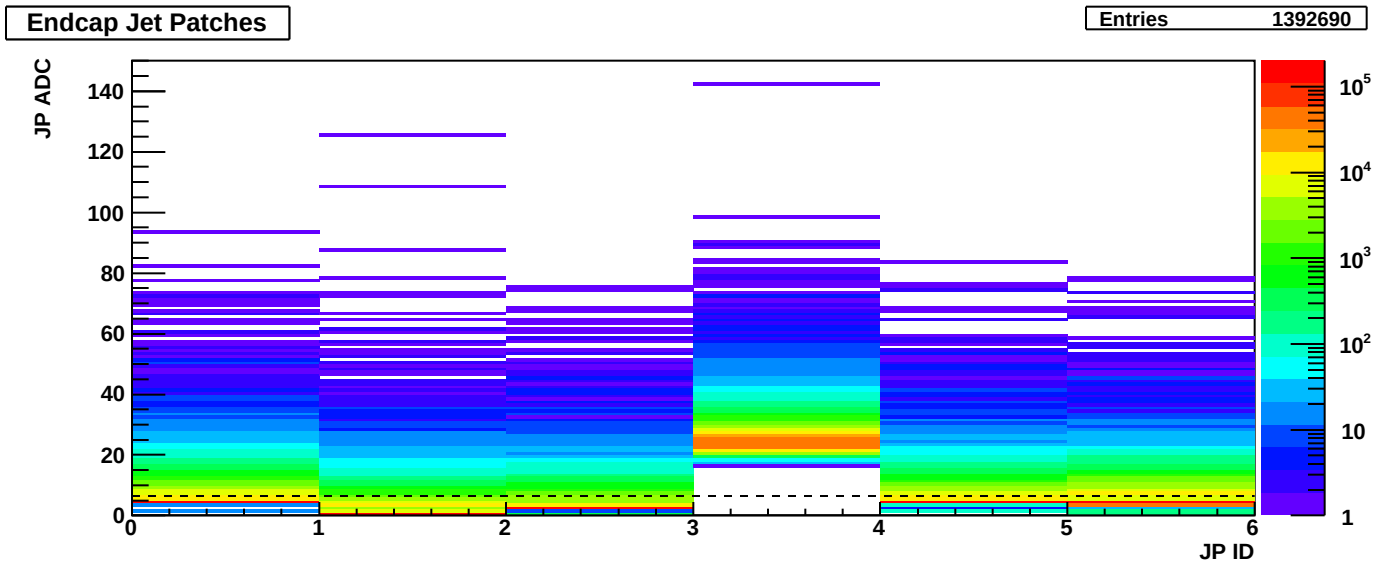

Barrel EMC L0 Input - High Tower
Entries 6.96345e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

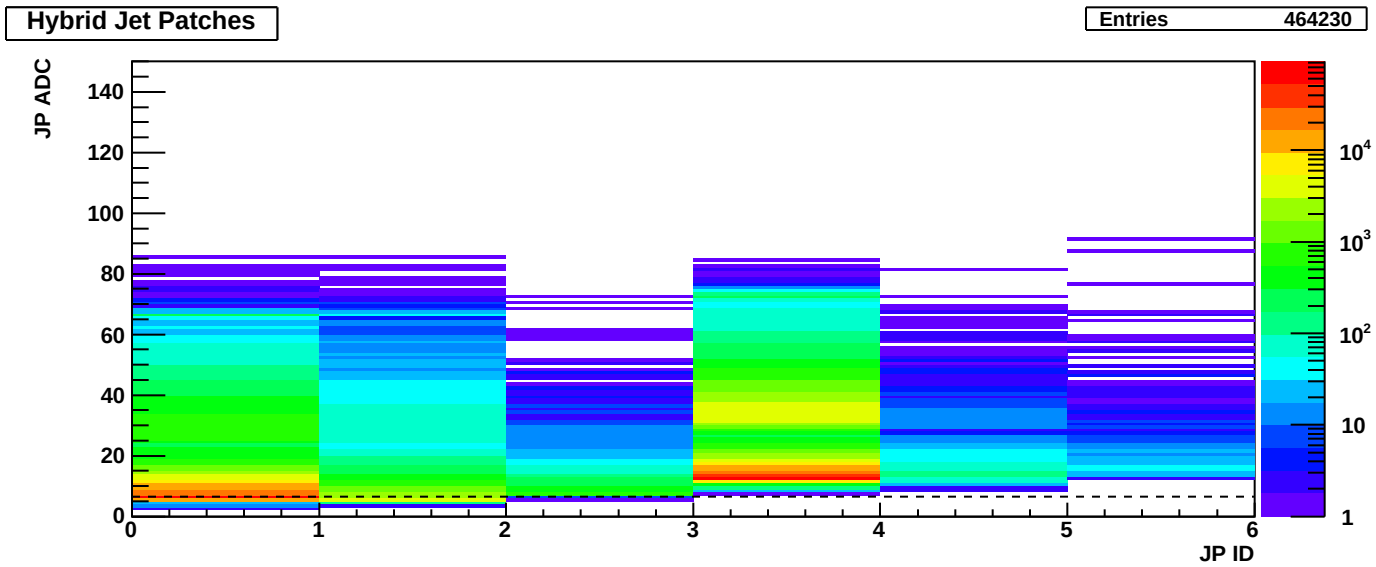

Barrel EMC L0 Input - Patch Sum
Entries 6.96345e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

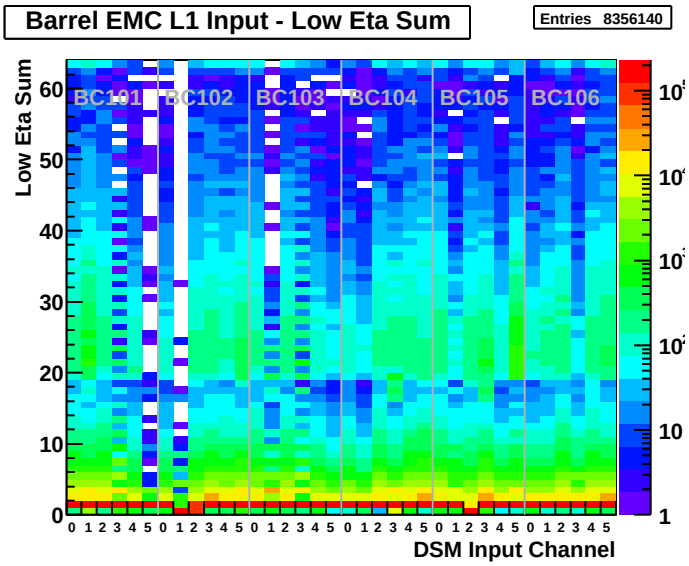

Endcap EMC L0 Input - High Tower
Entries 2.089035e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

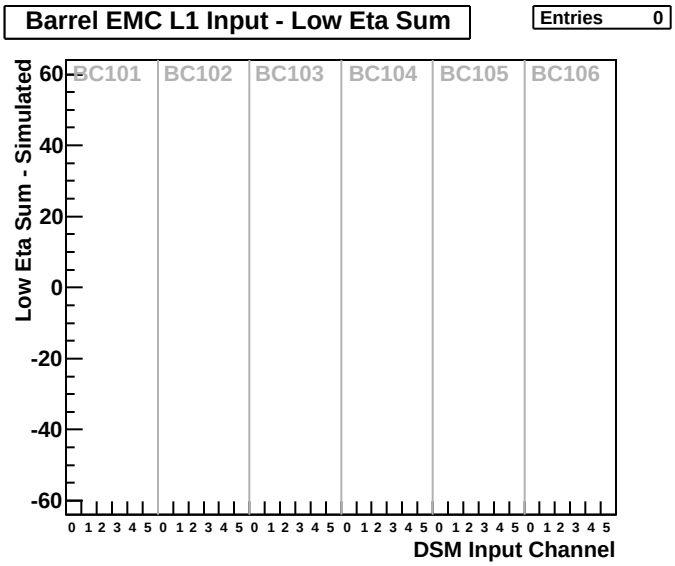

Endcap EMC L0 Input - Patch Sum
Entries 2.089035e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

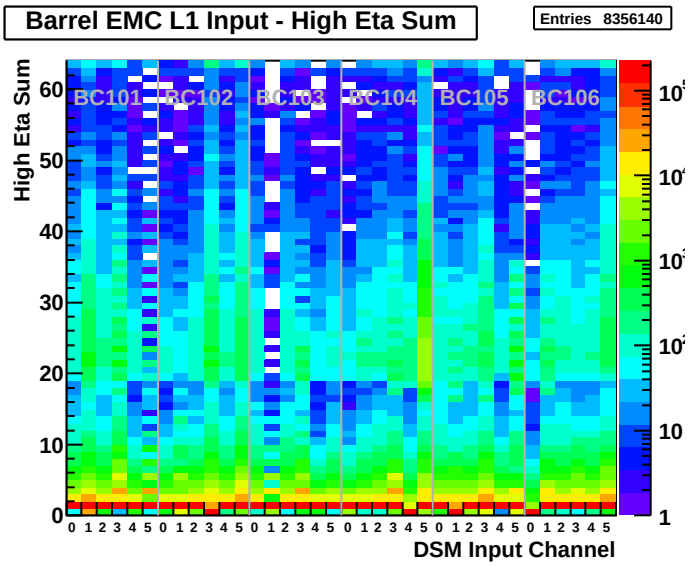

Barrel Jet Patches
Entries 4178070
JP ADC
JP ID

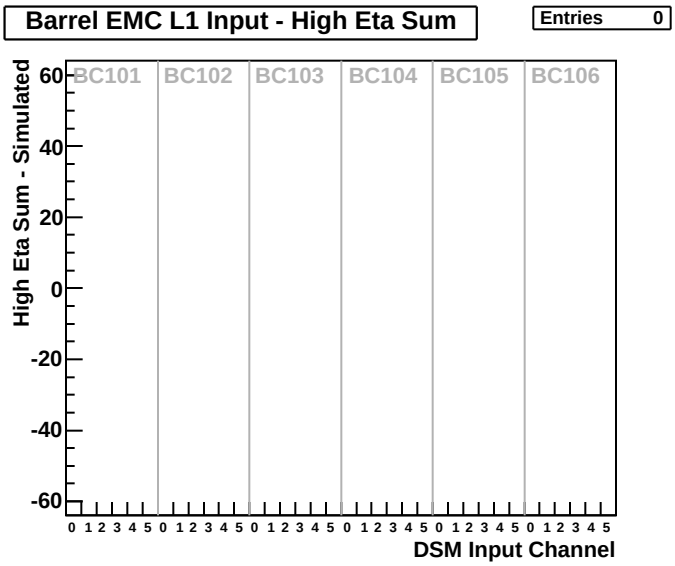

Endcap Jet Patches
Entries 1392690
JP ADC
JP ID

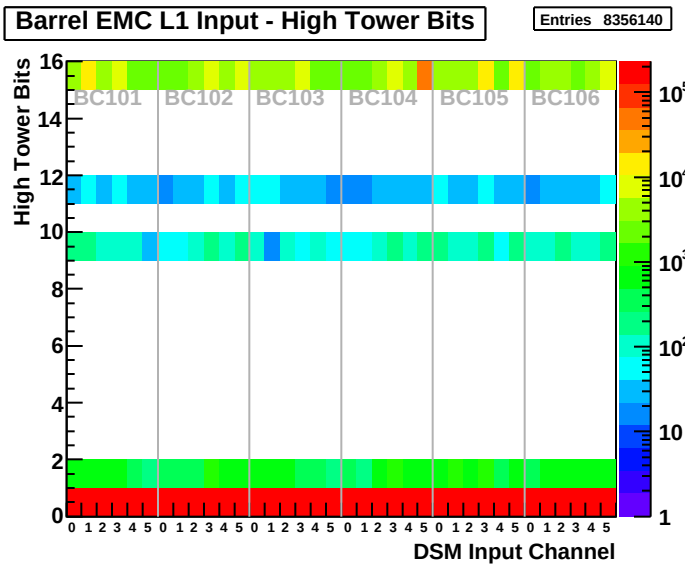

Hybrid Jet Patches
Entries 464230
JP ADC
JP ID

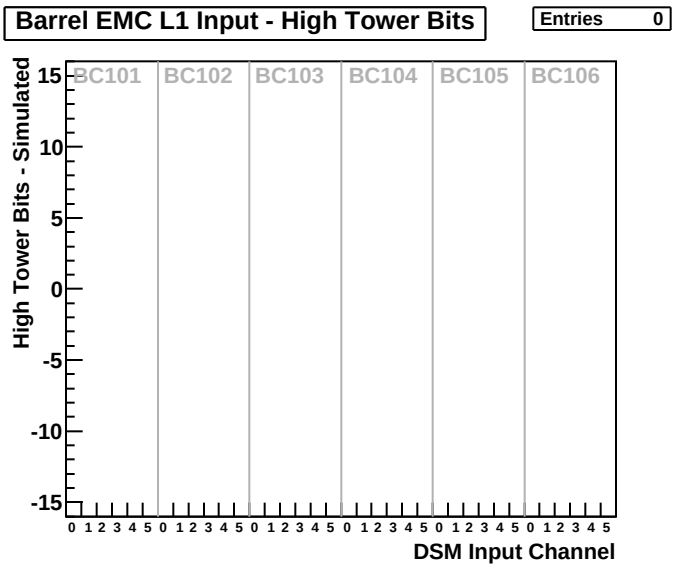

Barrel EMC L1 Input - Low Eta Sum
Entries 8356140
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

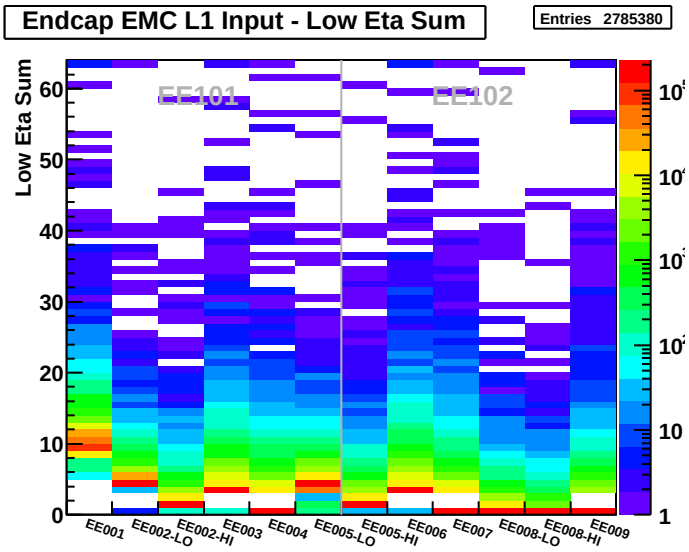

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

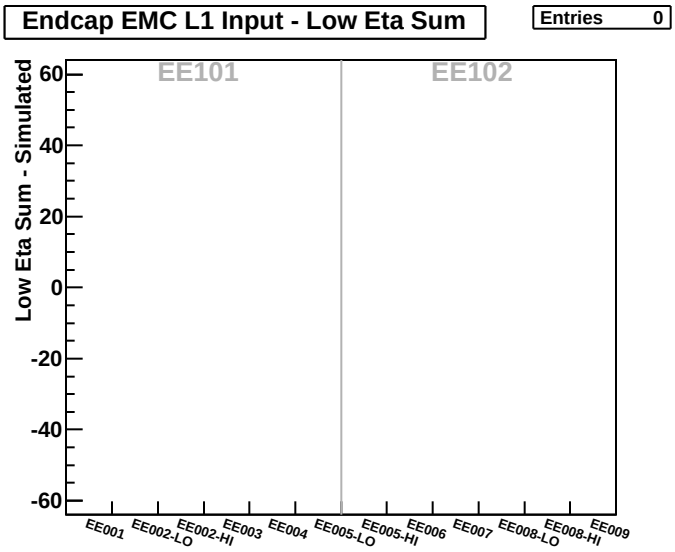

Barrel EMC L1 Input - High Eta Sum
Entries 8356140
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

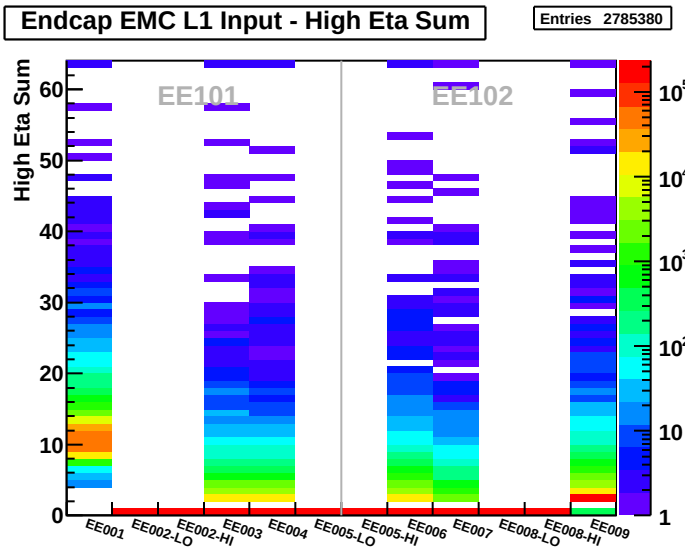

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

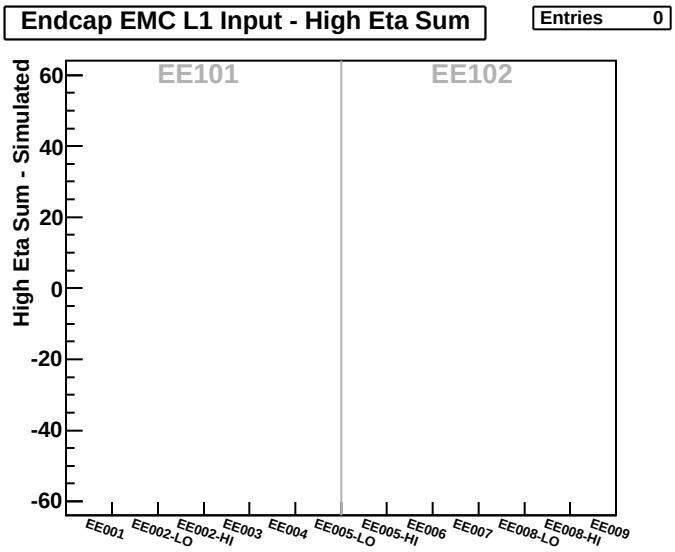

Barrel EMC L1 Input - High Tower Bits
Entries 8356140
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

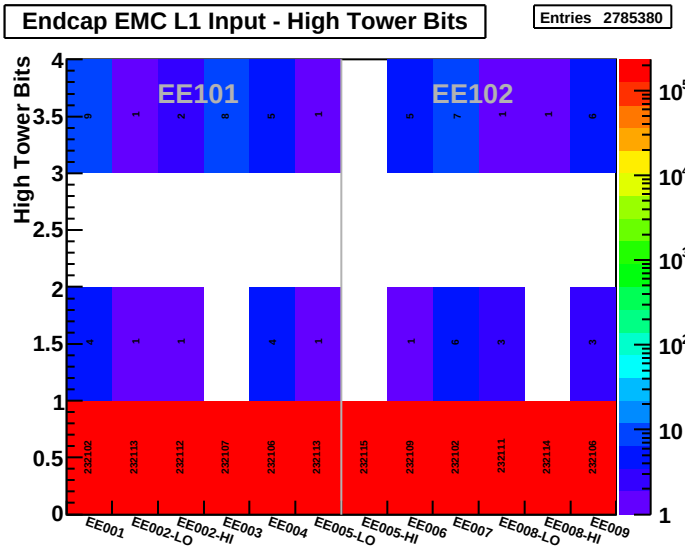

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

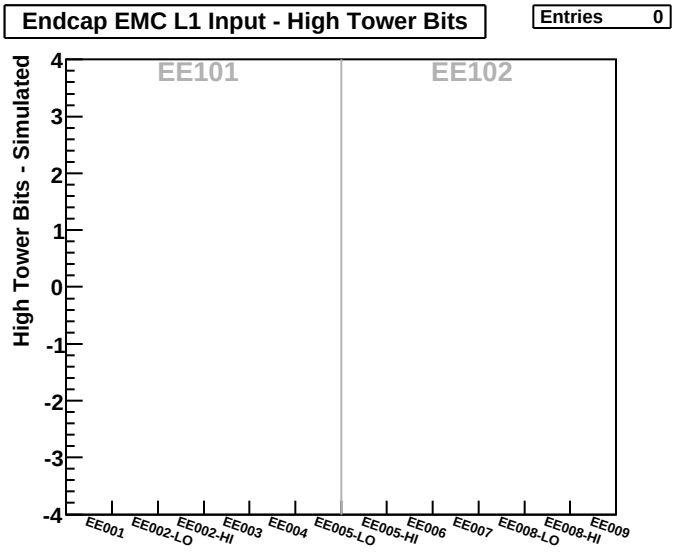

Endcap EMC L1 Input - Low Eta Sum
Entries 2785380
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

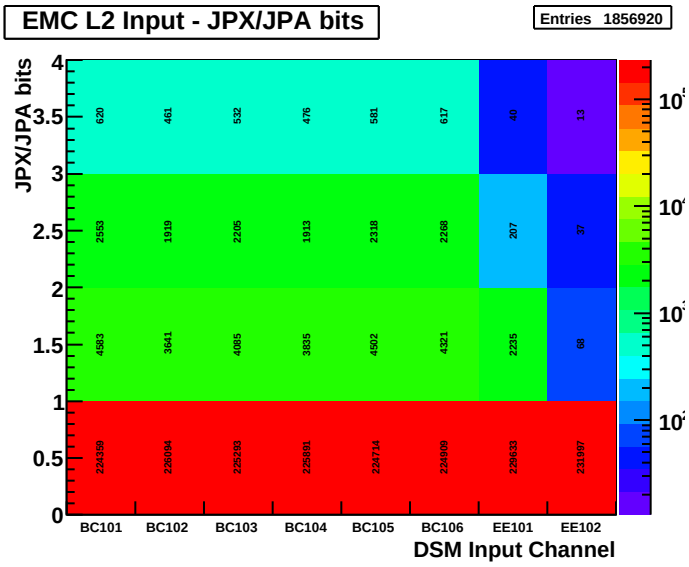

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

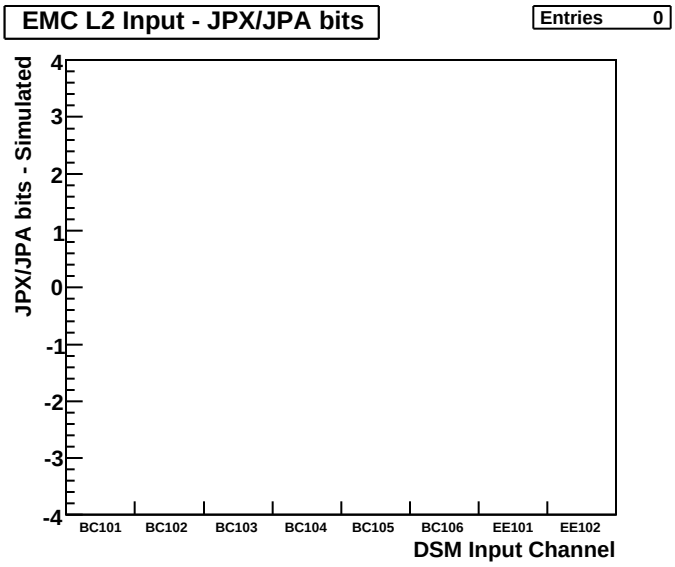

Endcap EMC L1 Input - High Eta Sum
Entries 2785380
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

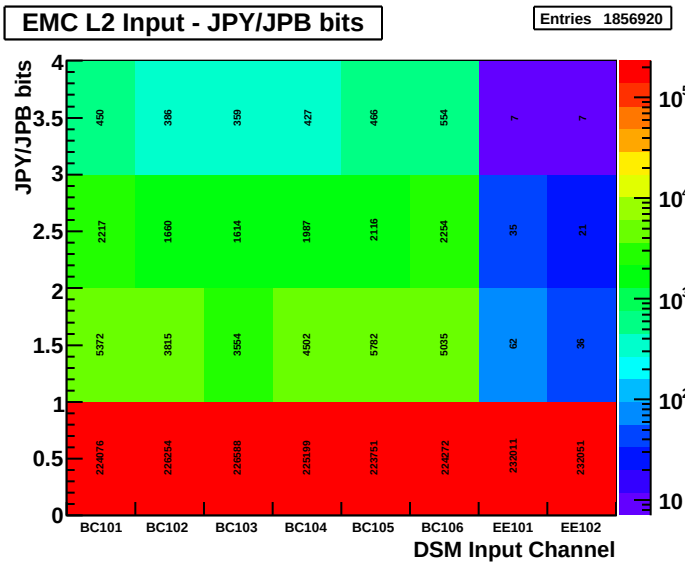

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

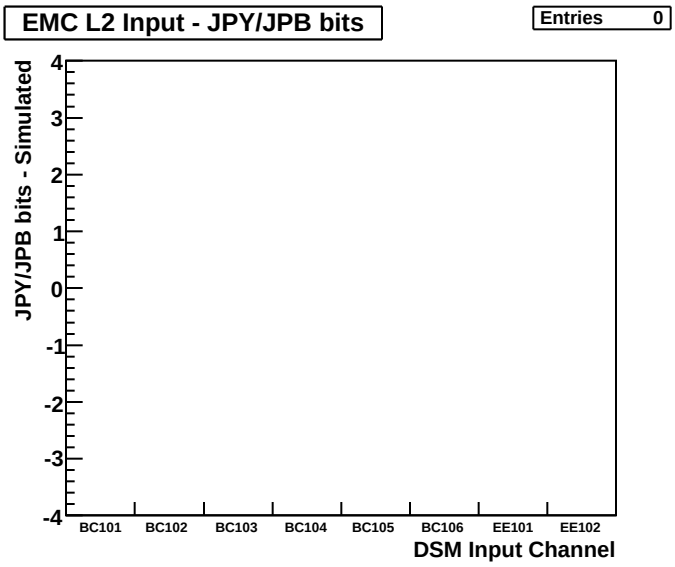

Endcap EMC L1 Input - High Tower Bits
Entries 2785380
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

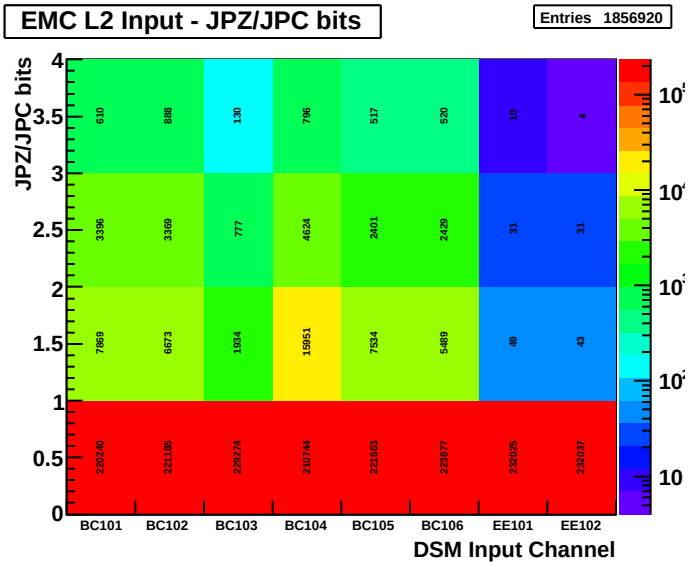

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

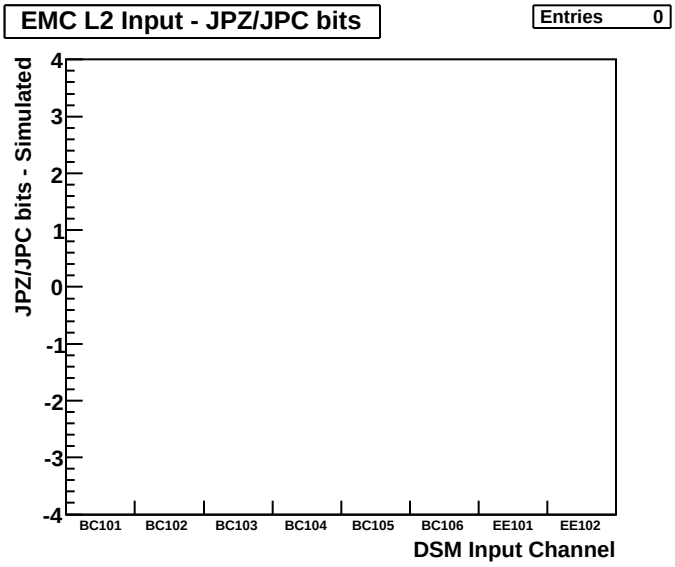

EMC L2 Input - JPX/JPA bits
Entries 1856920
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
620 461 532 476 581 617 40 13
2553 1919 2205 1913 2318 2268 207 37
4583 3641 4085 3835 4502 4321 2235 68
224399 226094 225283 225891 224714 224909 229633 231997

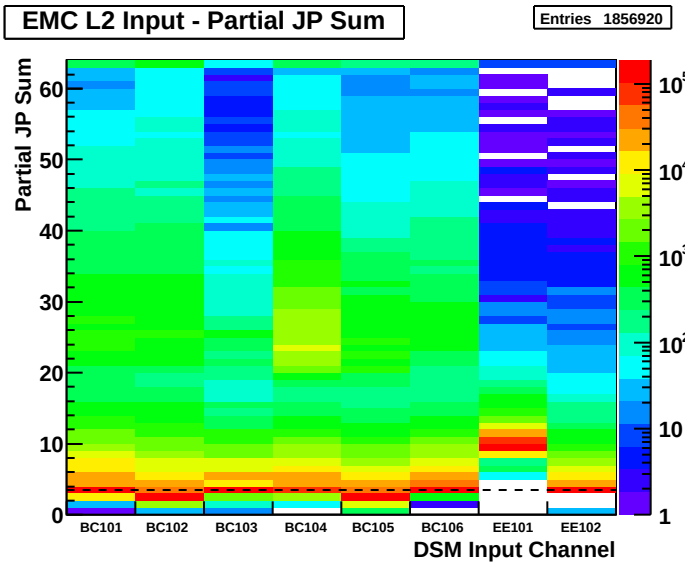

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

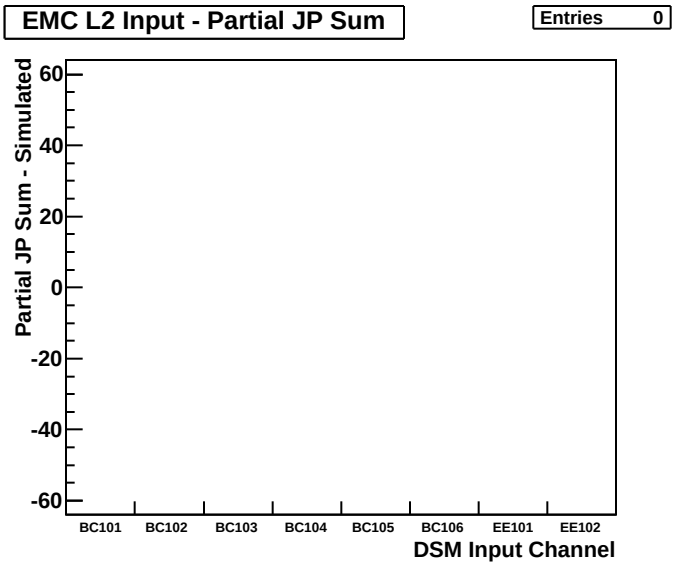

EMC L2 Input - JPY/JPB bits
Entries 1856920
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
450 386 359 427 466 554 7 7
2217 1660 1614 1987 2116 2254 35 21
5372 3815 3554 4502 5782 5035 62 36
224076 226254 226588 225199 223751 224272 232011 232051

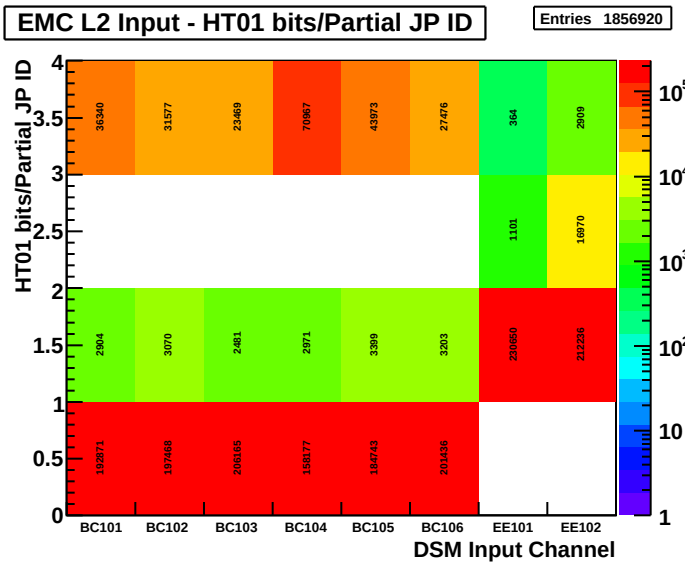

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

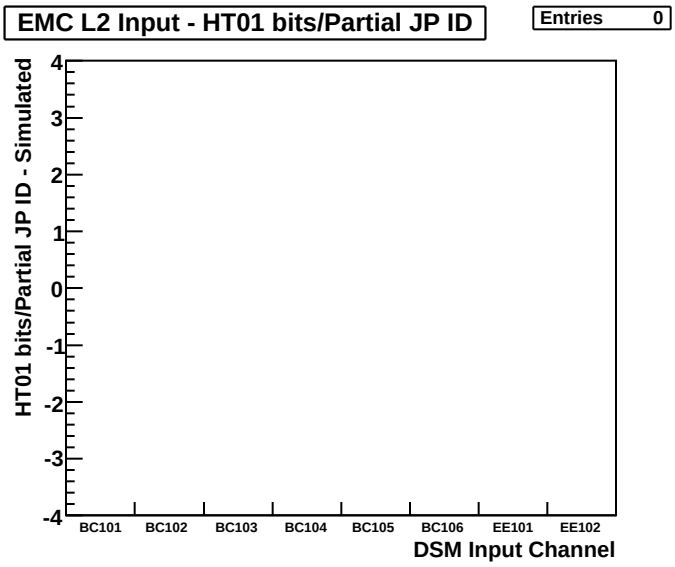

EMC L2 Input - JPZ/JPC bits
Entries 1856920
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
610 888 130 796 517 520 10 4
3396 3369 777 4624 2401 2429 31 31
7869 6673 1934 15951 7534 5489 49 43
220240 221185 229274 210744 221663 223677 232025 232037

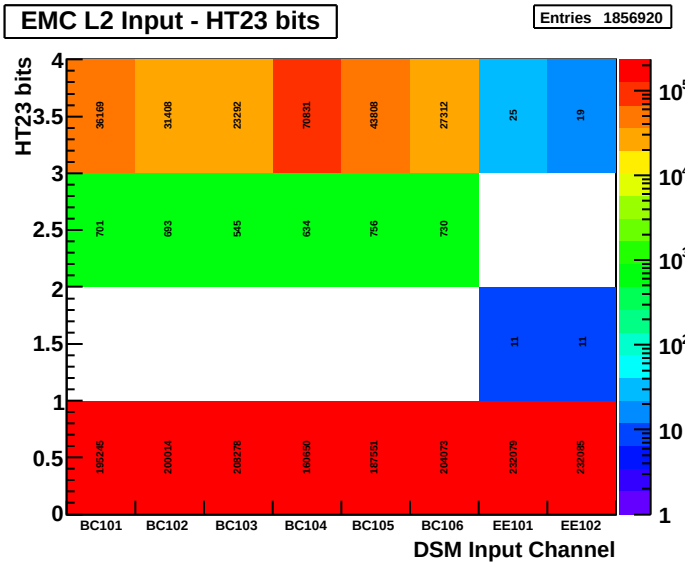

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

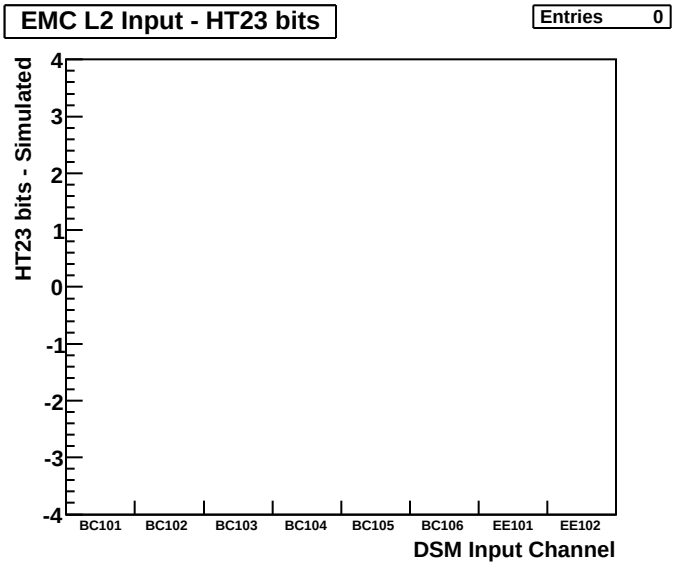

EMC L2 Input - Partial JP Sum
Entries 1856920
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

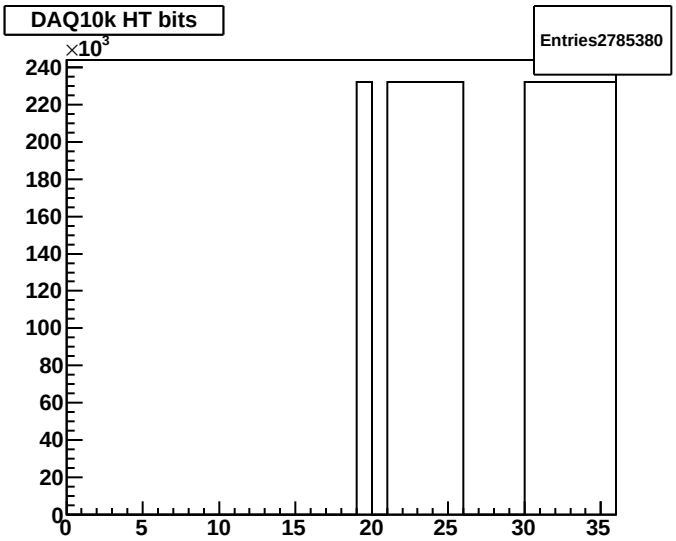

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

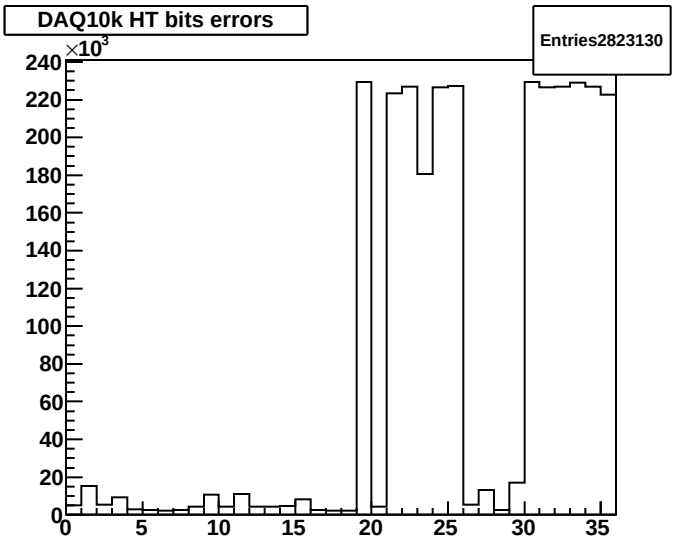

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1856920
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

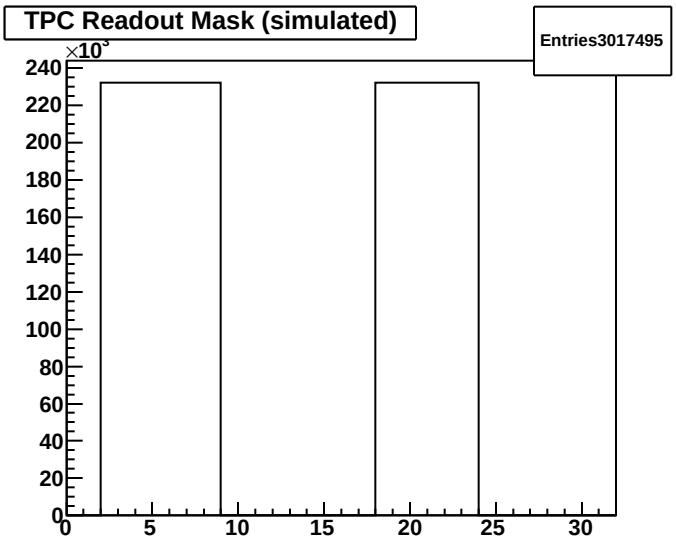

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

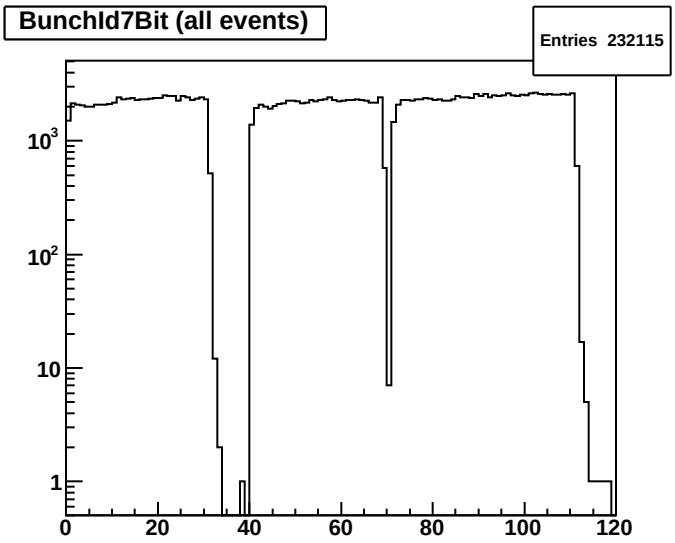

EMC L2 Input - HT23 bits
Entries 1856920
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

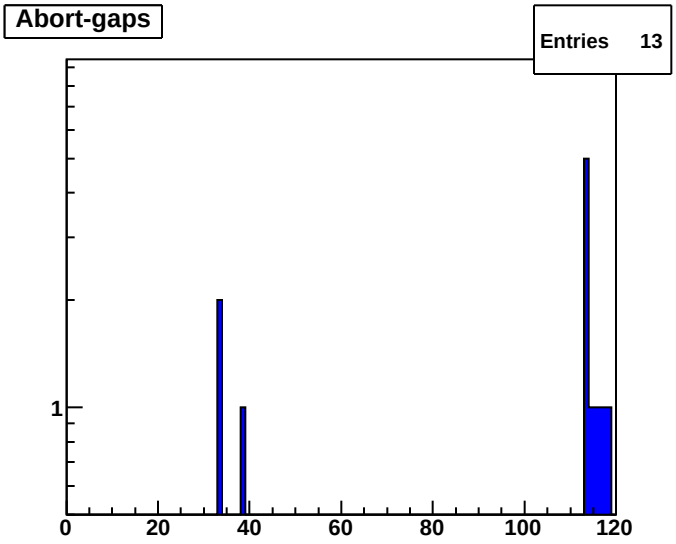

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

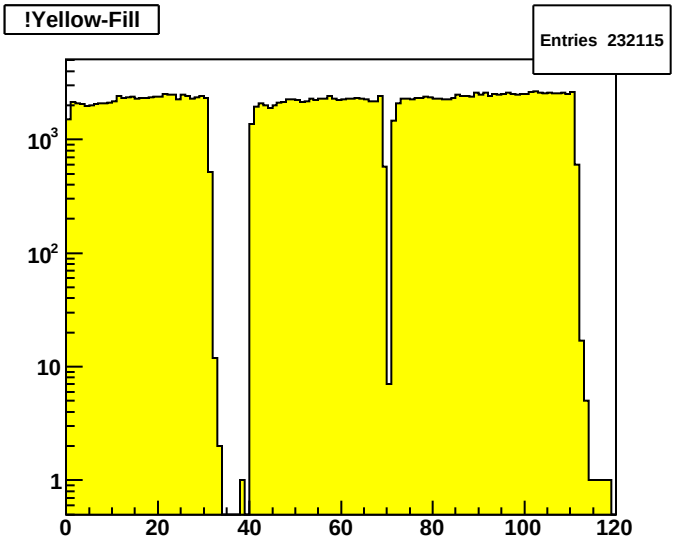

DAQ10k HT bits
Entries2785380
×10^3
240
220
200
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

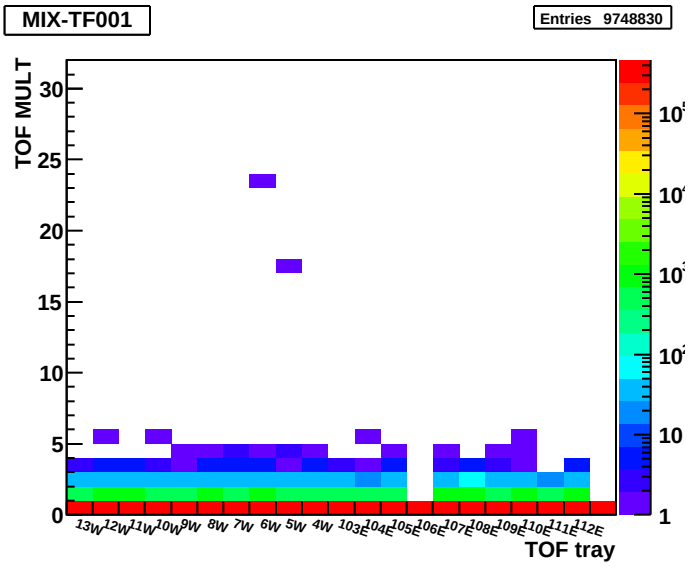

DAQ10k HT bits errors
Entries2823130
×10^3
240
220
200
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30 35

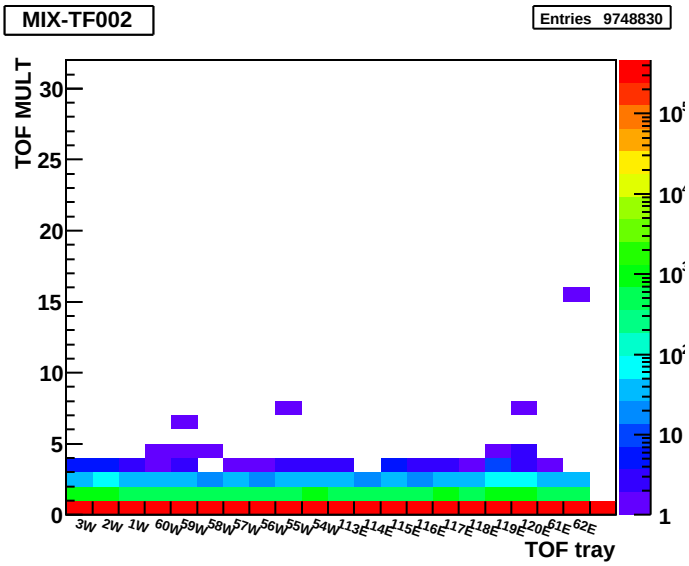

TPC Readout Mask (simulated)
Entries3017495
×10^3
240
220
200
180
160
140
120
100
80
60
40
20
0
0 5 10 15 20 25 30

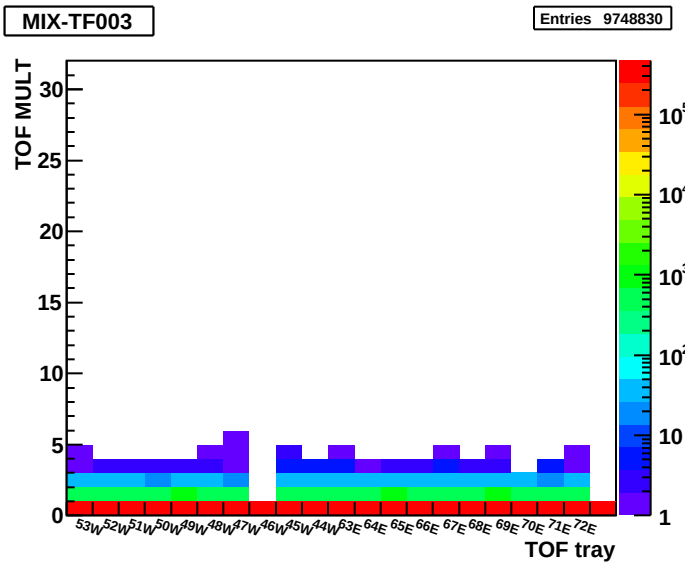

BunchId7Bit (all events)
Entries 232115
10^3
10^2
10
1
0 20 40 60 80 100 120

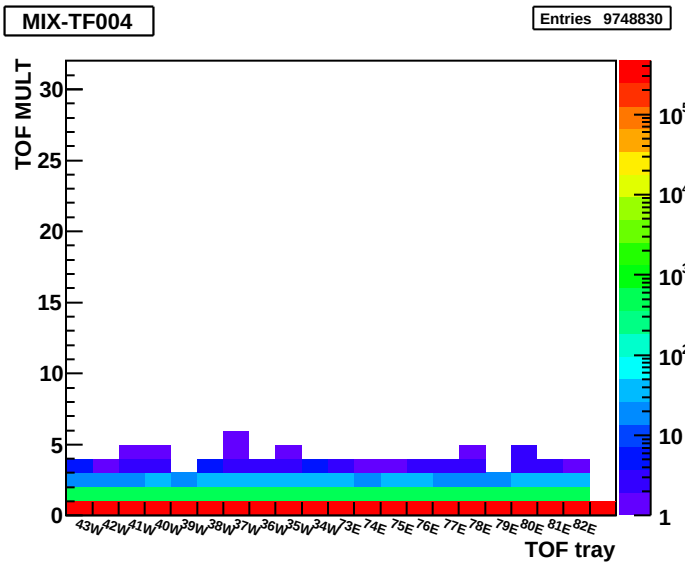

Abort-gaps
Entries 13
1
0 20 40 60 80 100 120

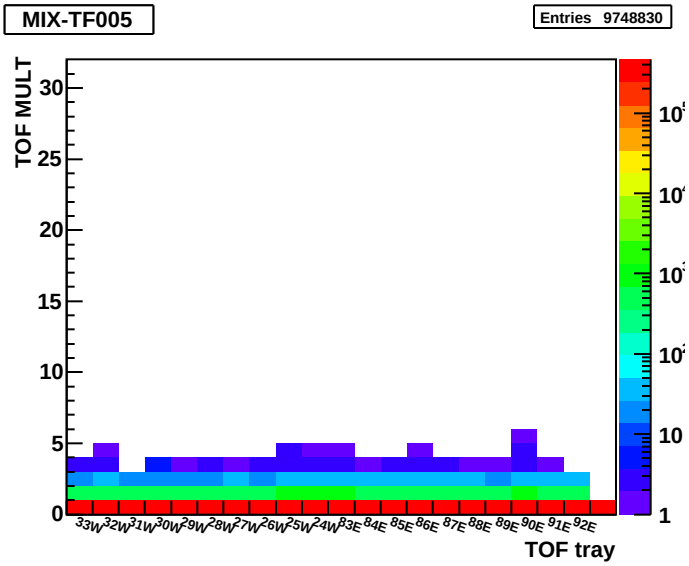

!Yellow-Fill
Entries 232115
10^3
10^2
10
1
0 20 40 60 80 100 120

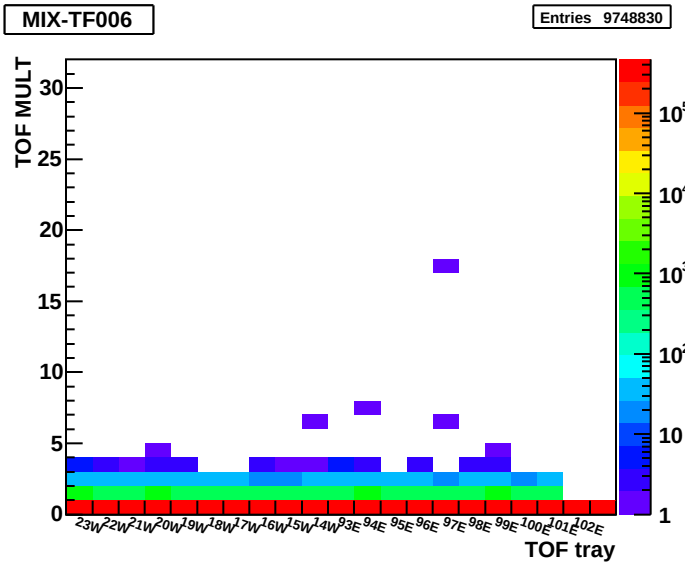

MIX-TF001
Entries 9748830
TOF MULT
TOF tray

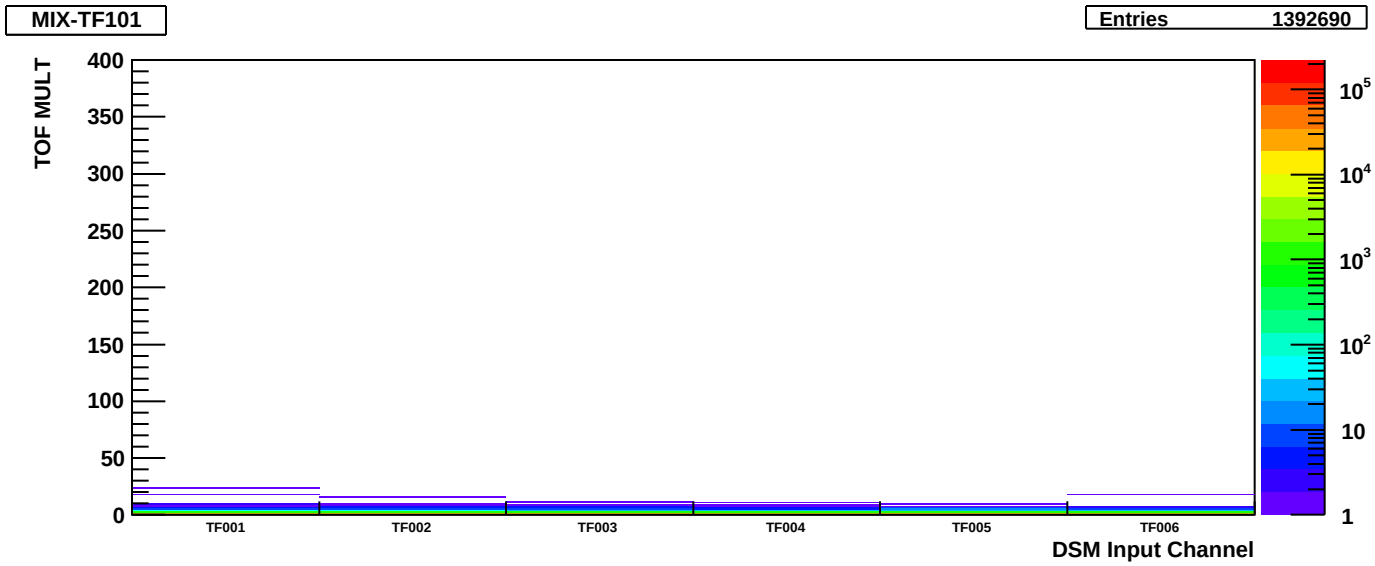

MIX-TF002
Entries 9748830
TOF MULT
TOF tray

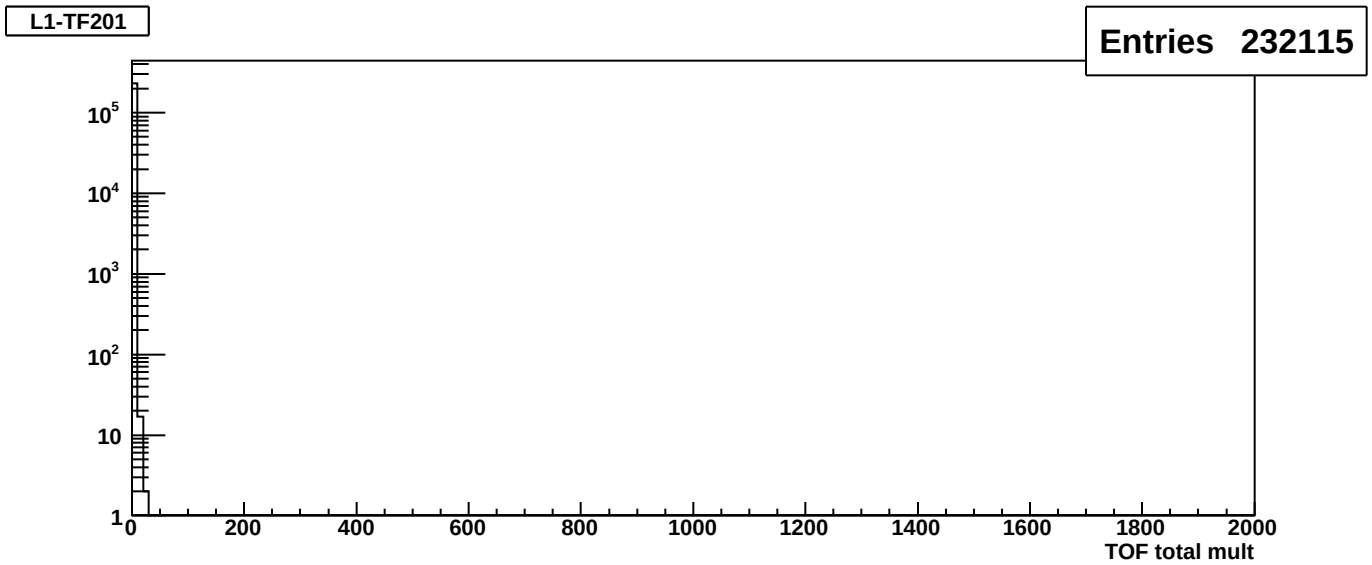

MIX-TF003
Entries 9748830
TOF MULT
TOF tray

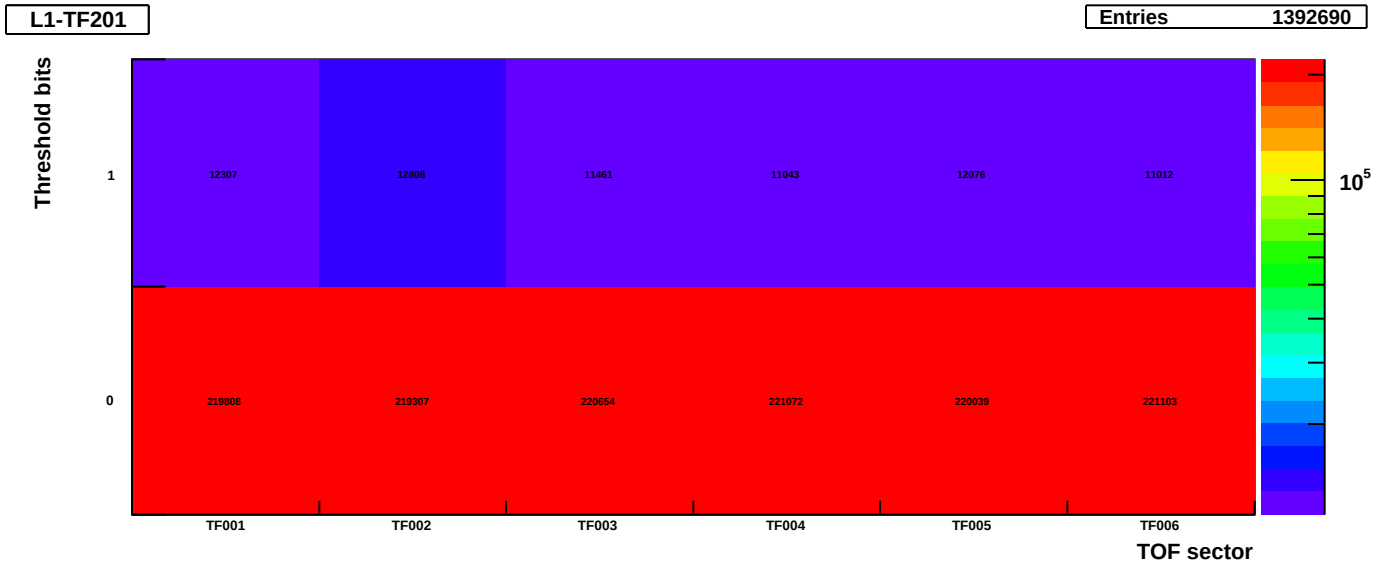

MIX-TF004
Entries 9748830
TOF MULT
TOF tray

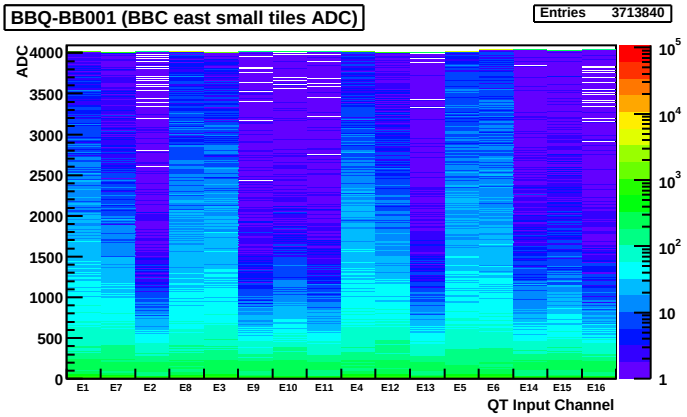

MIX-TF005
Entries 9748830
TOF MULT
TOF tray

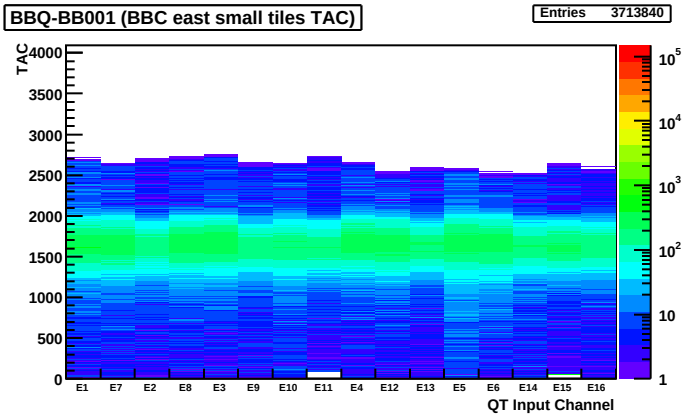

MIX-TF006
Entries 9748830
TOF MULT
TOF tray

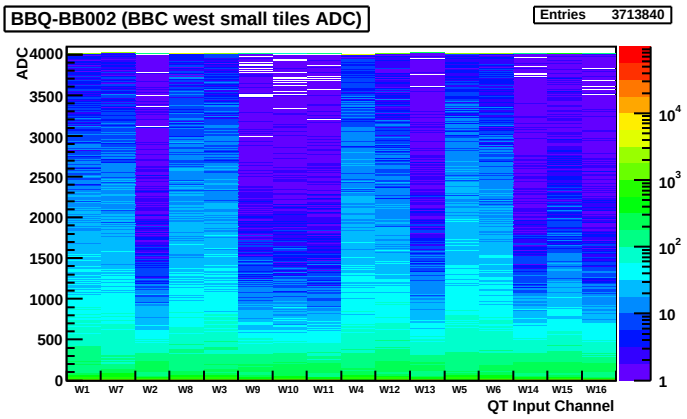

MIX-TF101
Entries 1392690
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^5
10^4
10^3
10^2
10
1

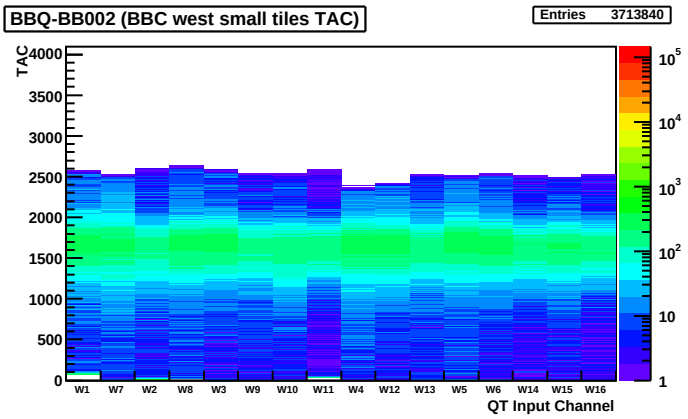

L1-TF201
Entries 232115
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

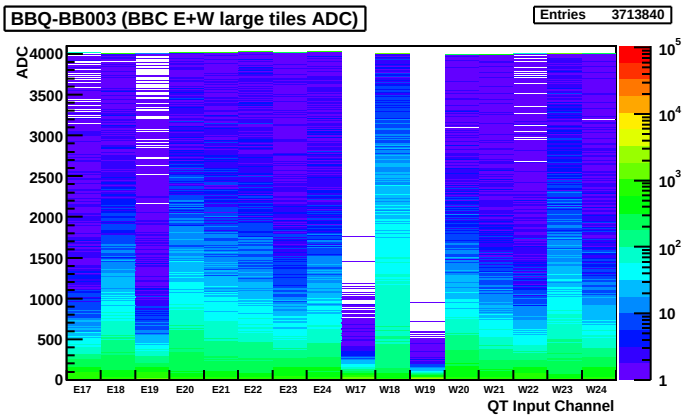

L1-TF201
Entries 1392690
Threshold bits
1
0
12307
12808
11461
11043
12076
11012
219808
219307
220654
221072
220039
221103
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^5

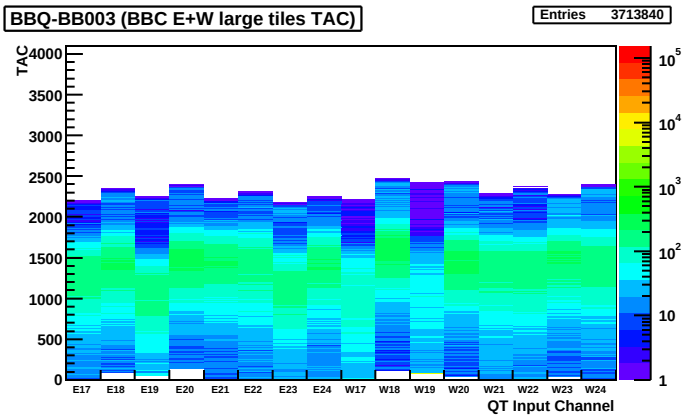

BBQ-BB001 (BBC east small tiles ADC)
Entries 3713840
ADC
QT Input Channel

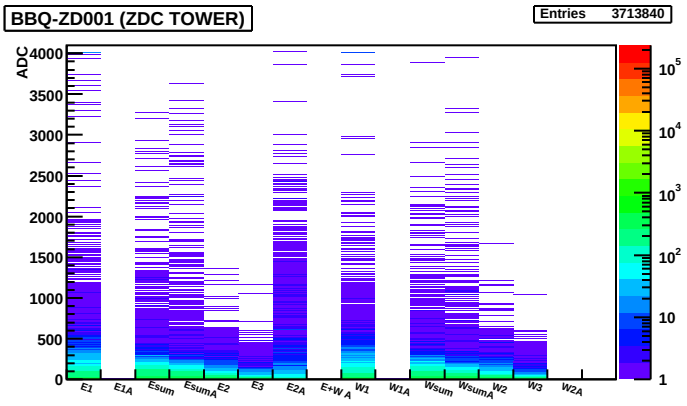

BBQ-BB001 (BBC east small tiles TAC)
Entries 3713840
TAC
QT Input Channel

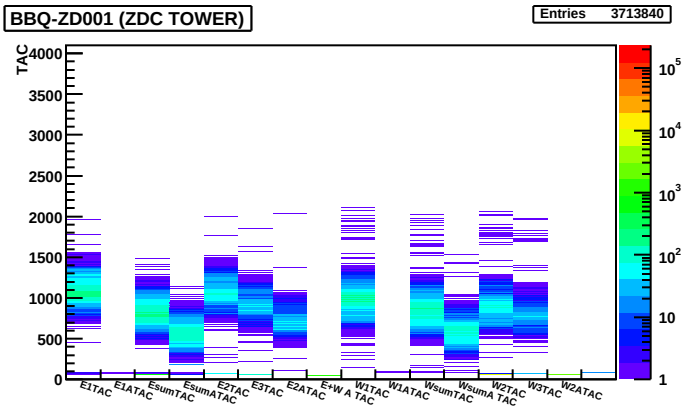

BBQ-BB002 (BBC west small tiles ADC)
Entries 3713840
ADC
QT Input Channel

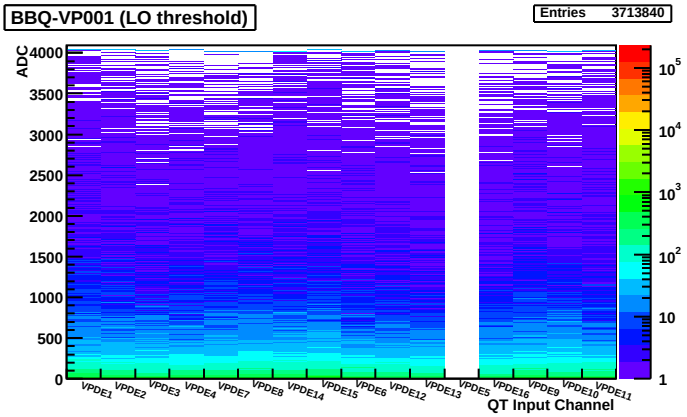

BBQ-BB002 (BBC west small tiles TAC)
Entries 3713840
TAC
QT Input Channel

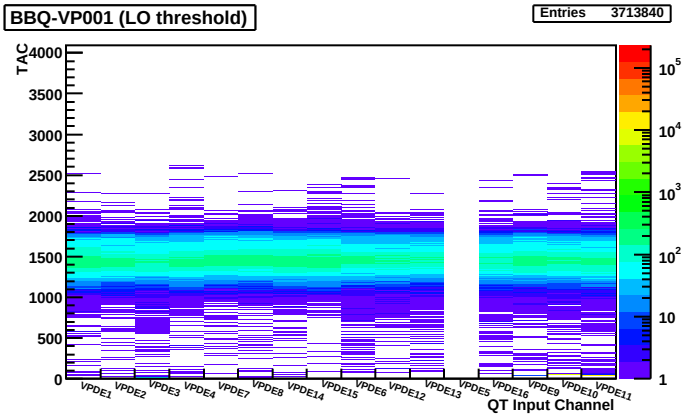

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 3713840
ADC
QT Input Channel

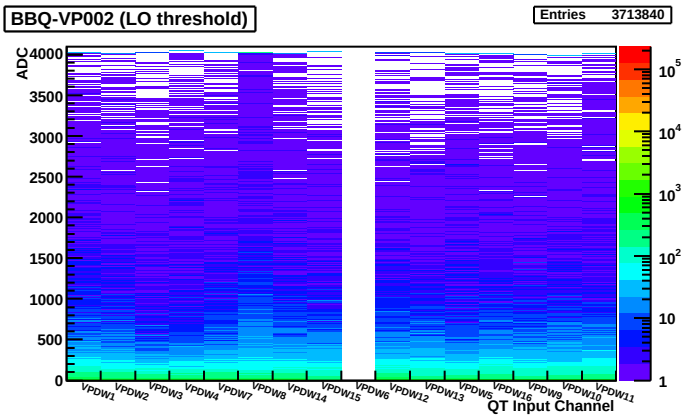

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 3713840
TAC
QT Input Channel

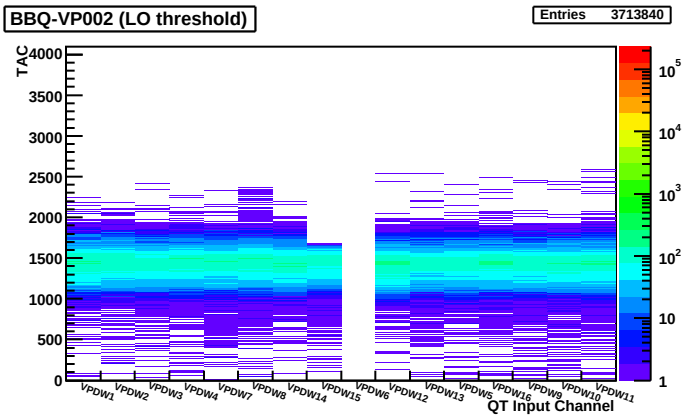

BBQ-ZD001 (ZDC TOWER)
Entries 3713840
ADC

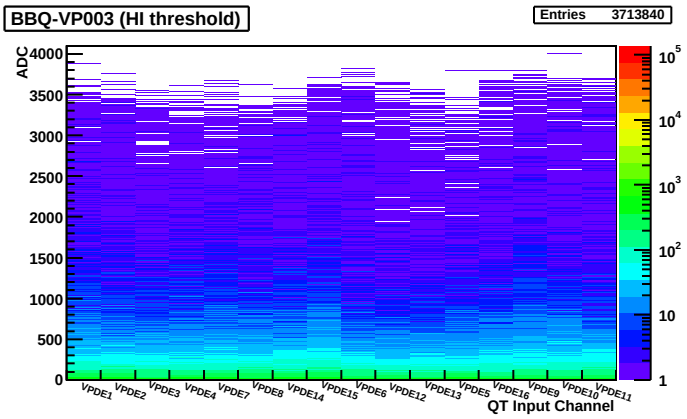

BBQ-ZD001 (ZDC TOWER)
Entries 3713840
TAC

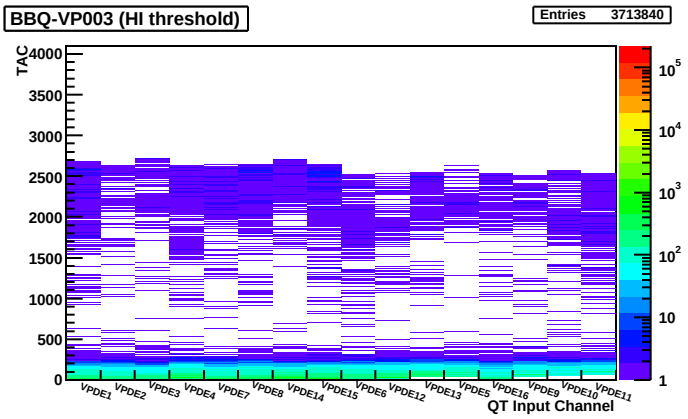

BBQ-VP001 (LO threshold)
Entries 3713840
ADC
QT Input Channel

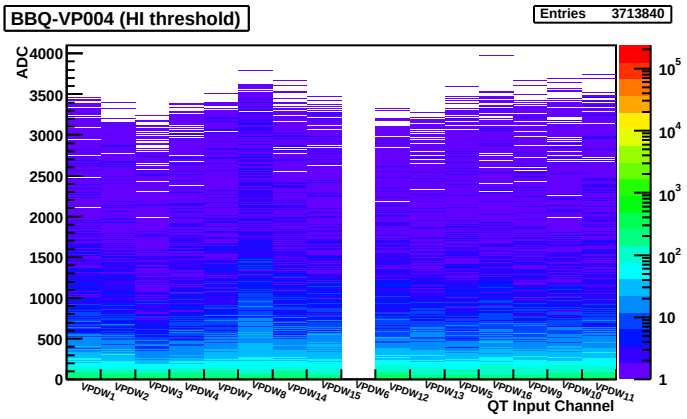

BBQ-VP001 (LO threshold)
Entries 3713840
TAC
QT Input Channel

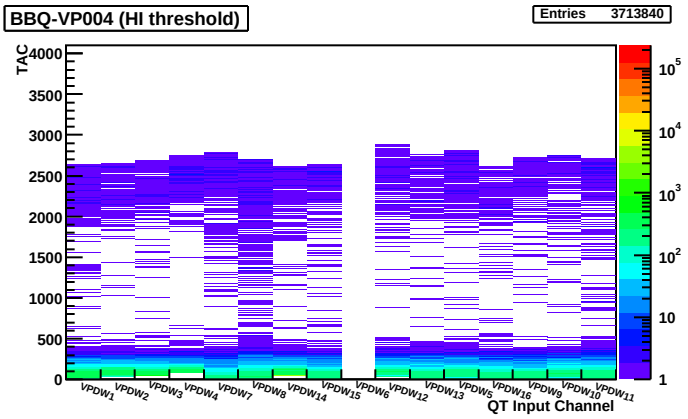

BBQ-VP002 (LO threshold)
Entries 3713840
ADC
QT Input Channel

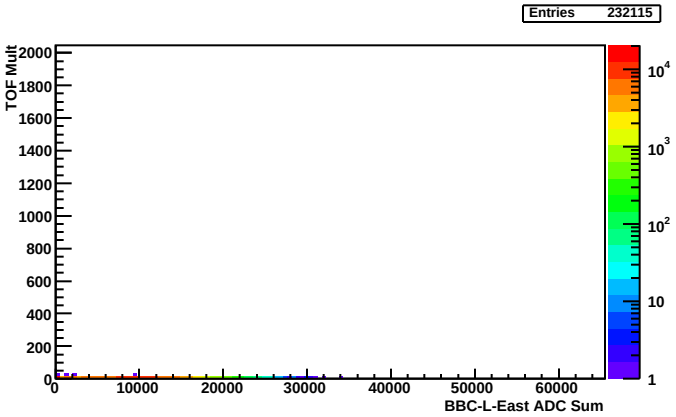

BBQ-VP002 (LO threshold)
Entries 3713840
TAC
QT Input Channel

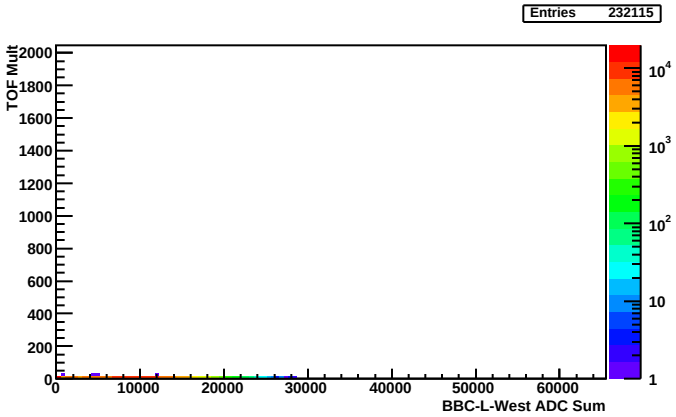

BBQ-VP003 (HI threshold)
Entries 3713840
ADC
QT Input Channel

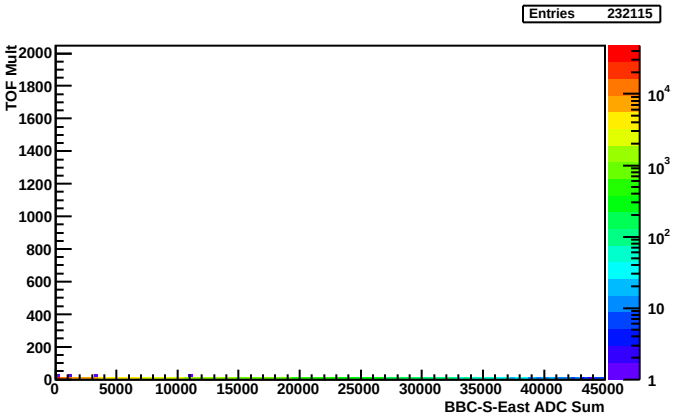

BBQ-VP003 (HI threshold)
Entries 3713840
TAC
QT Input Channel

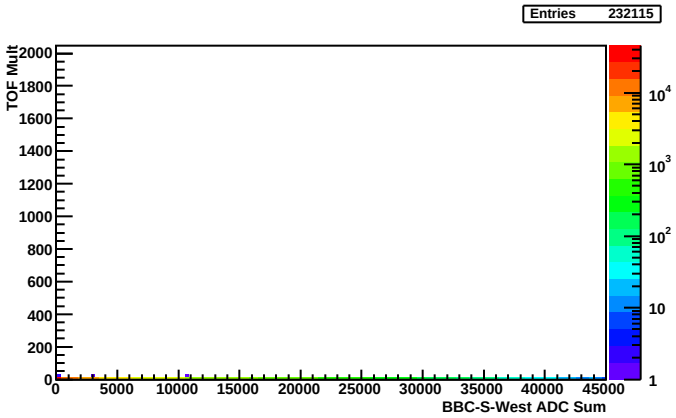

BBQ-VP004 (HI threshold)
Entries 3713840
ADC
QT Input Channel

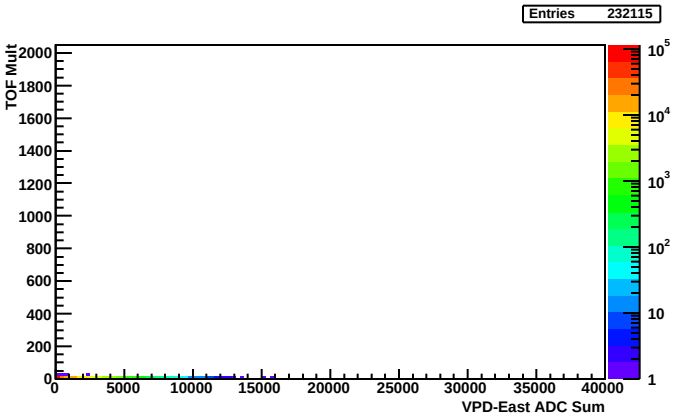

BBQ-VP004 (HI threshold)
Entries 3713840
TAC
QT Input Channel

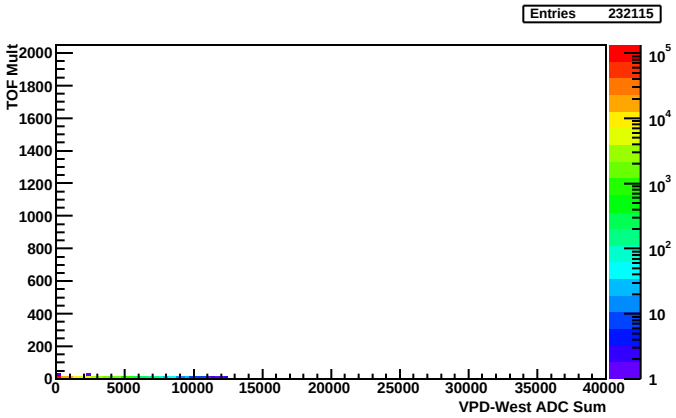

Entries 232115
TOF Mult
BBC-L-East ADC Sum

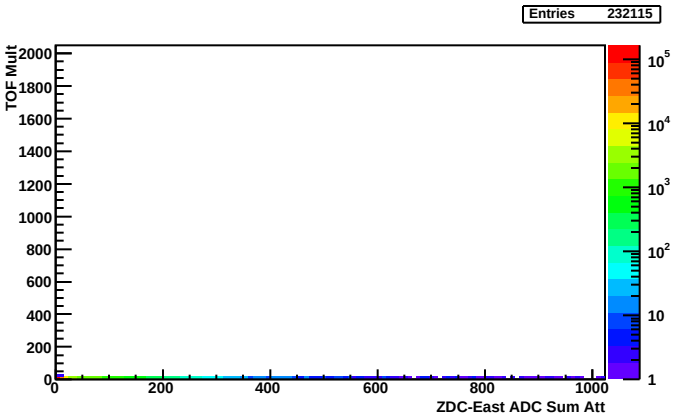

Entries 232115
TOF Mult
BBC-L-West ADC Sum

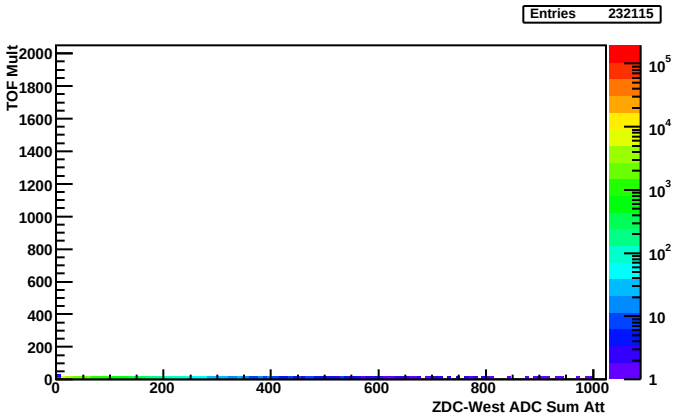

Entries 232115
TOF Mult
BBC-S-East ADC Sum

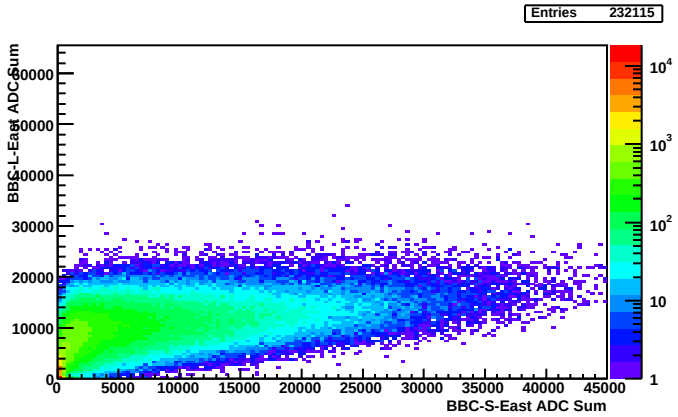

Entries 232115
TOF Mult
BBC-S-West ADC Sum

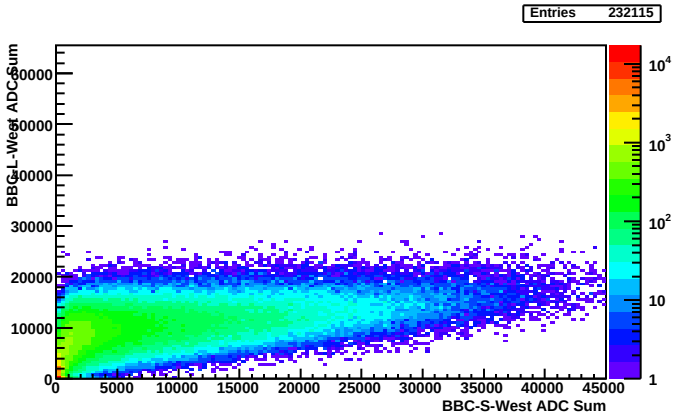

Entries 232115
TOF Mult
VPD-East ADC Sum

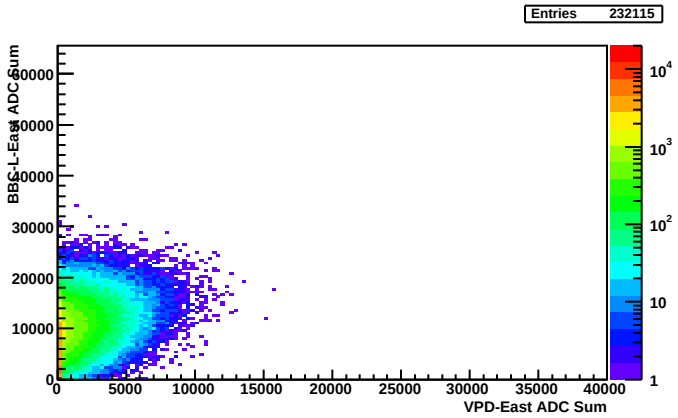

Entries 232115
TOF Mult
VPD-West ADC Sum

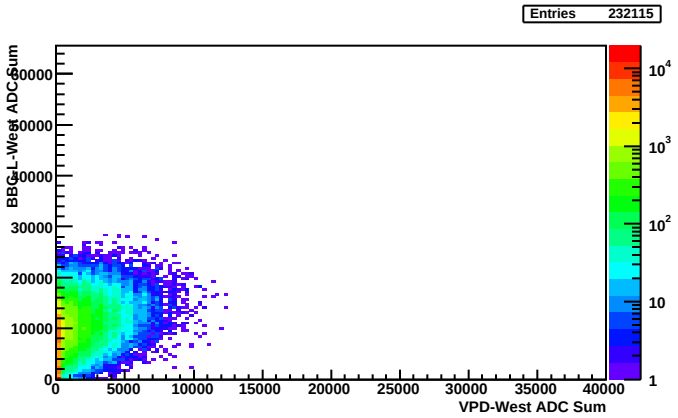

Entries 232115
TOF Mult
ZDC-East ADC Sum Att

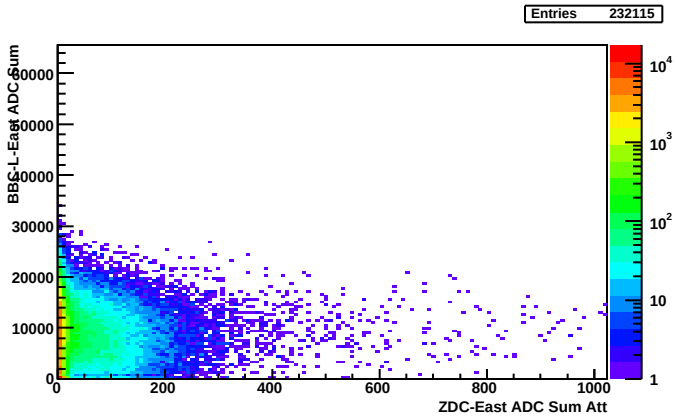

Entries 232115
TOF Mult
ZDC-West ADC Sum Att

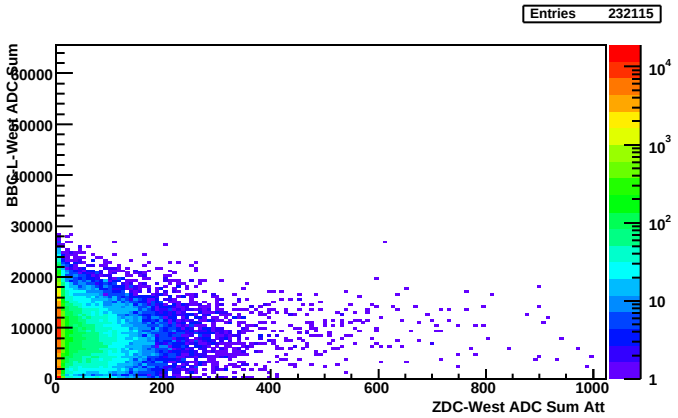

Entries 232115
BBC-L-East ADC Sum
BBC-S-East ADC Sum

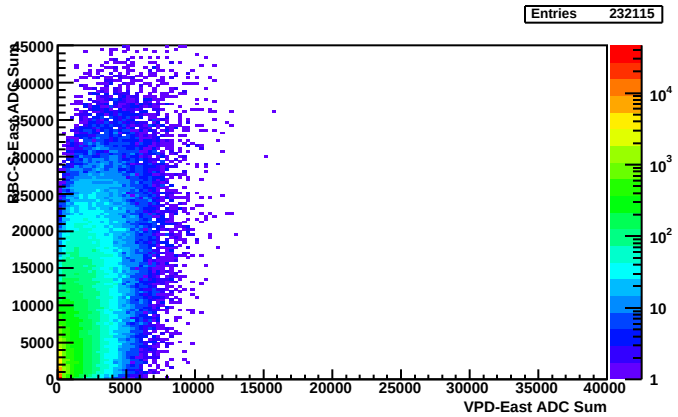

Entries 232115
BBC-L-West ADC Sum
BBC-S-West ADC Sum

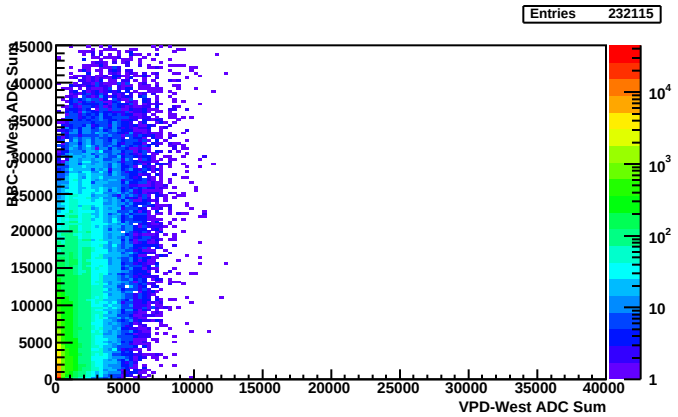

Entries 232115
BBC-L-East ADC Sum
VPD-East ADC Sum

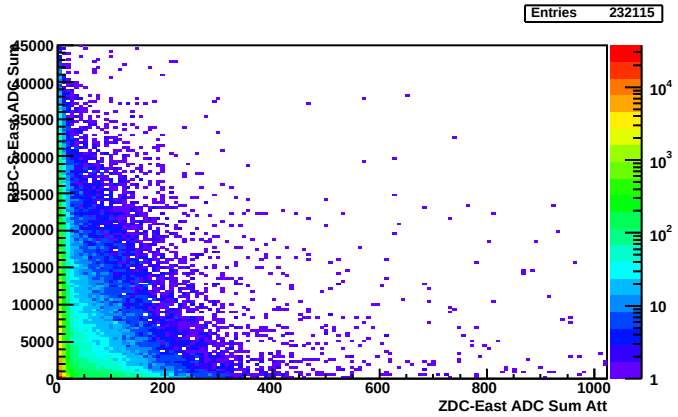

Entries 232115
BBC-L-West ADC Sum
VPD-West ADC Sum

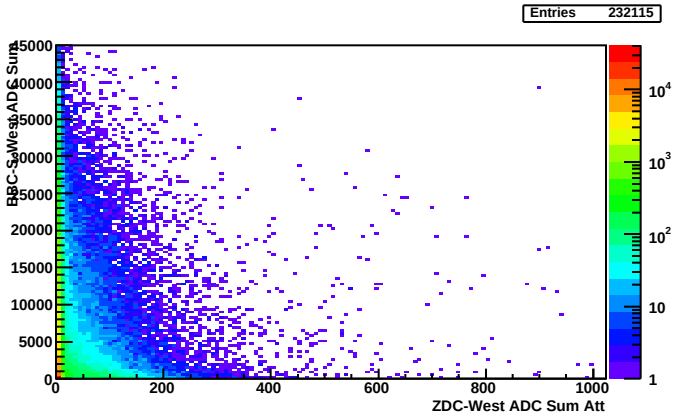

Entries 232115
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

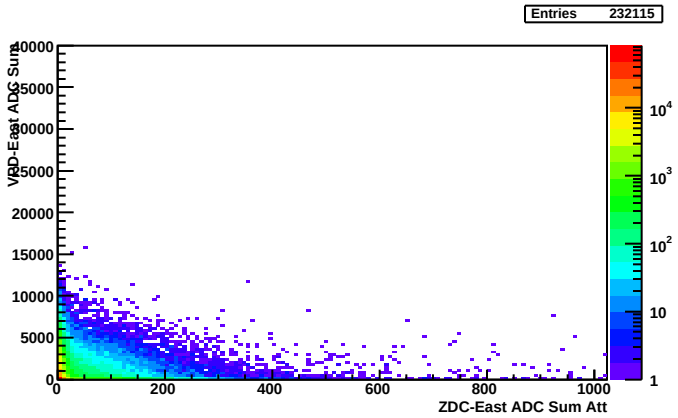

Entries 232115
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

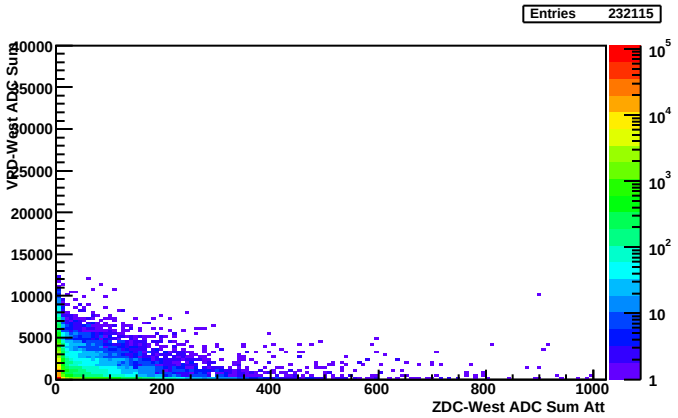

Entries 232115
BBC-S-East ADC Sum
VPD-East ADC Sum

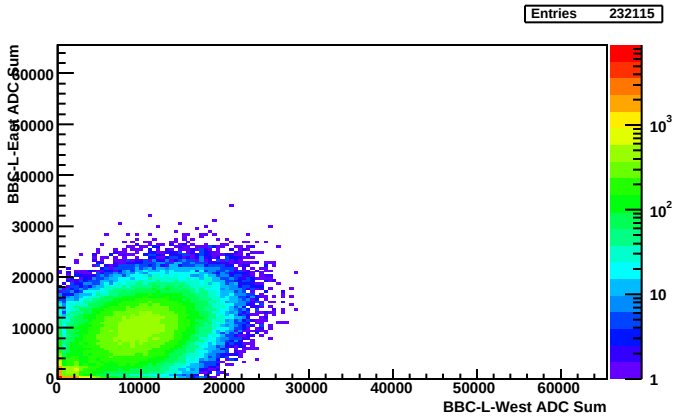

Entries 232115
BBC-S-West ADC Sum
VPD-West ADC Sum

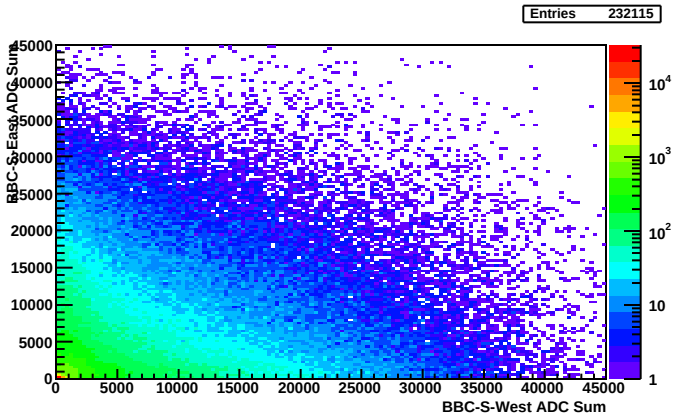

Entries 232115
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

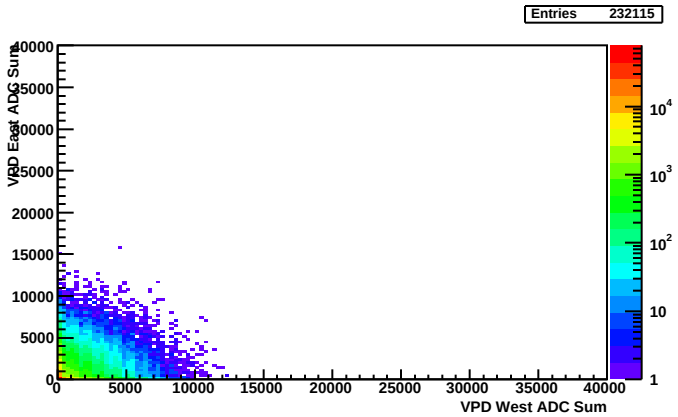

Entries 232115
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

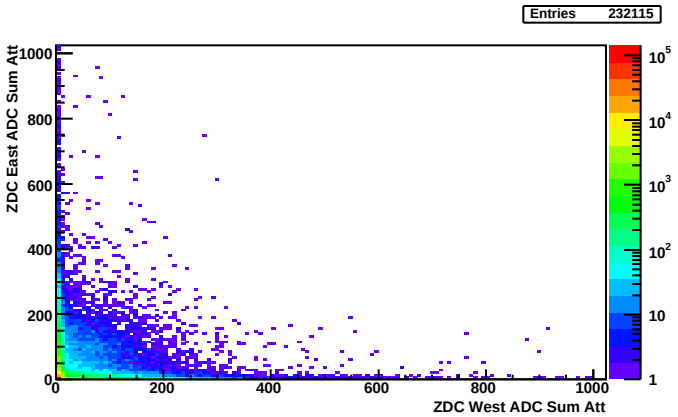

Entries 232115
VPD-East ADC Sum
ZDC-East ADC Sum Att

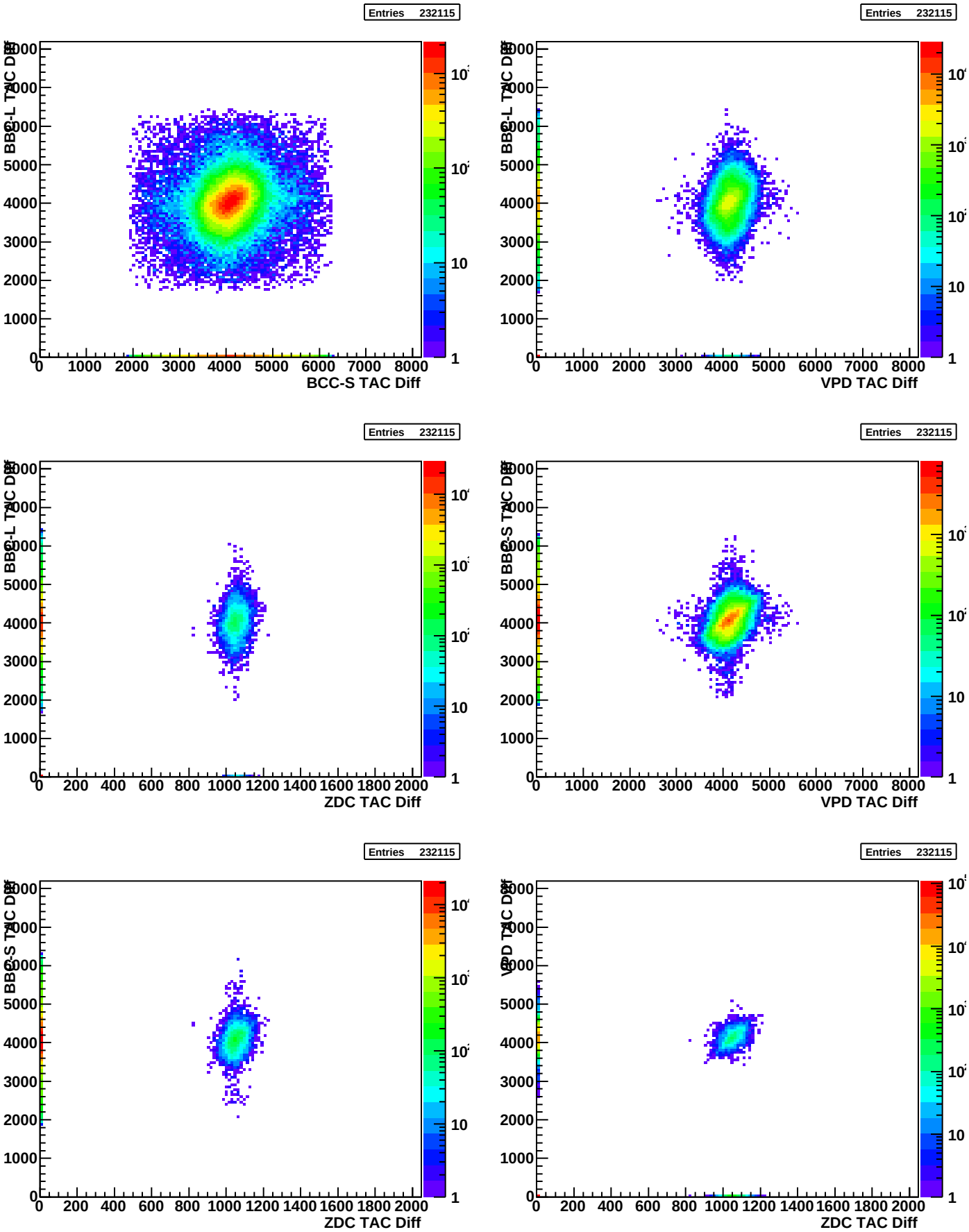

Entries 232115
VPD-West ADC Sum
ZDC-West ADC Sum Att

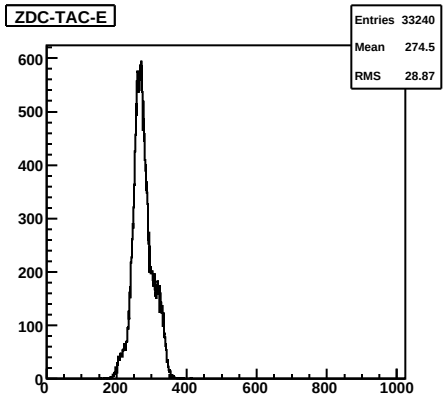

Entries 232115
BBC-L-East ADC Sum
BBC-L-West ADC Sum

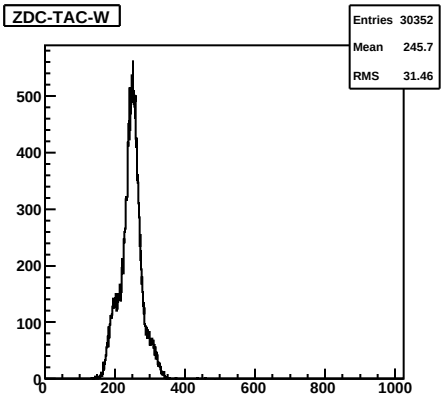

Entries 232115
BBC-S-East ADC Sum
BBC-S-West ADC Sum

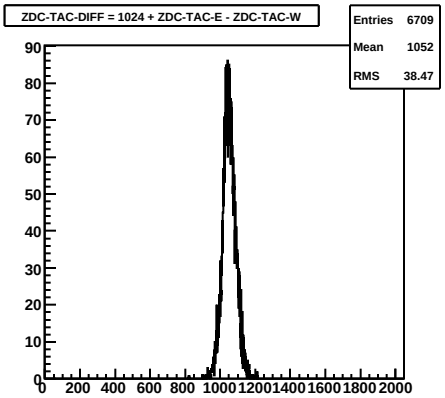

Entries 232115
VPD East ADC Sum
VPD West ADC Sum

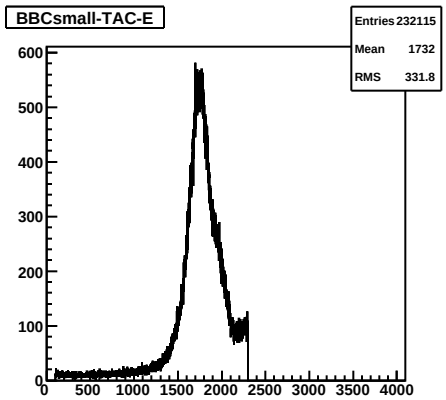

Entries 232115
ZDC East ADC Sum Att
ZDC West ADC Sum Att

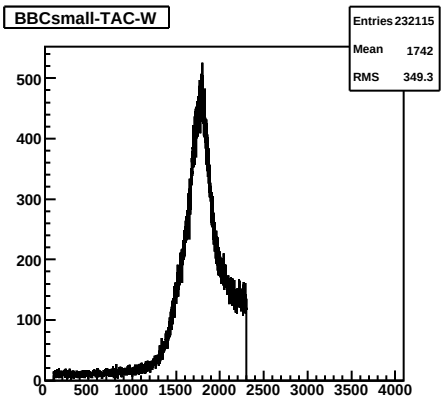

Entries 232115
BBC-L TAC Diff
BCC-S TAC Diff
Entries 232115
BBC-L TAC Diff
VPD TAC Diff
Entries 232115
BBC-L TAC Diff
ZDC TAC Diff
Entries 232115
BBC-S TAC Diff
VPD TAC Diff
Entries 232115
BBC-S TAC Diff
ZDC TAC Diff
Entries 232115
VPD TAC Diff
ZDC TAC Diff

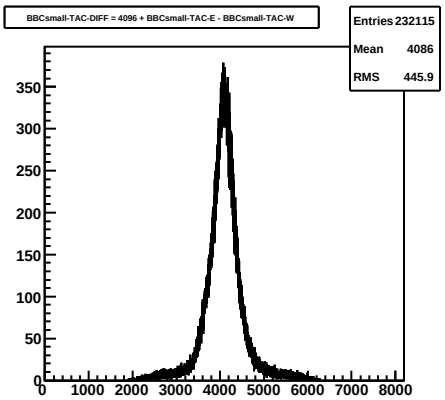

ZDC-TAC-E
Entries 33240
Mean 274.5
RMS 28.87

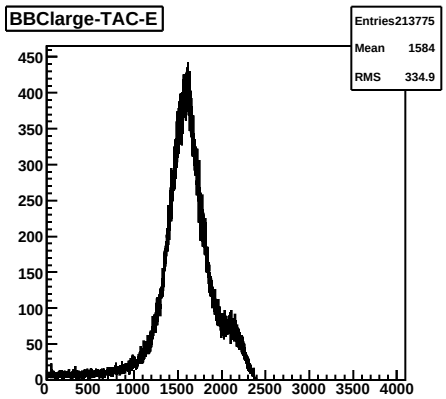

ZDC-TAC-W
Entries 30352
Mean 245.7
RMS 31.46

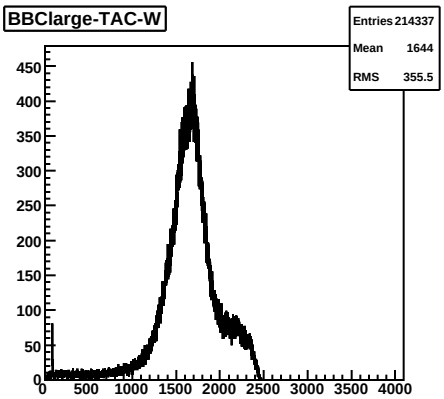

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 6709
Mean 1052
RMS 38.47

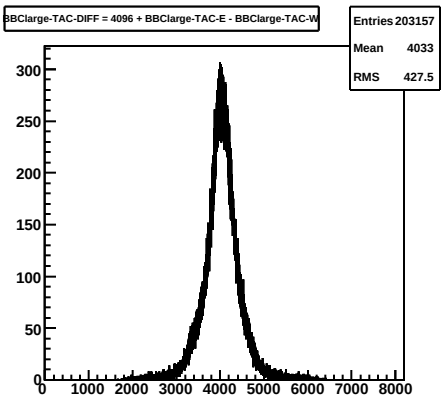

BBCsmall-TAC-E
Entries 232115
Mean 1732
RMS 331.8

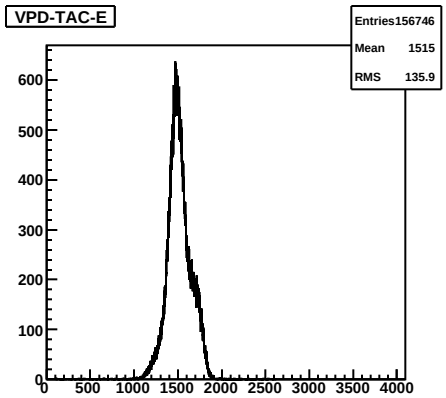

BBCsmall-TAC-W
Entries 232115
Mean 1742
RMS 349.3

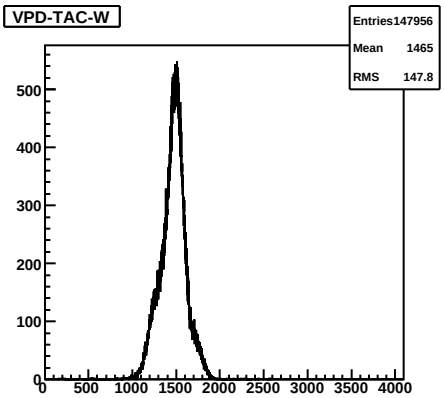

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 232115
Mean 4086
RMS 445.9

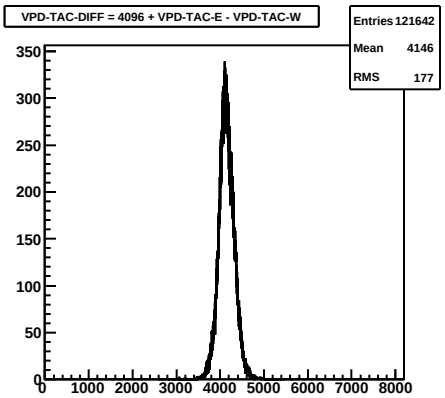

BBClarge-TAC-E
Entries 213775
Mean 1584
RMS 334.9

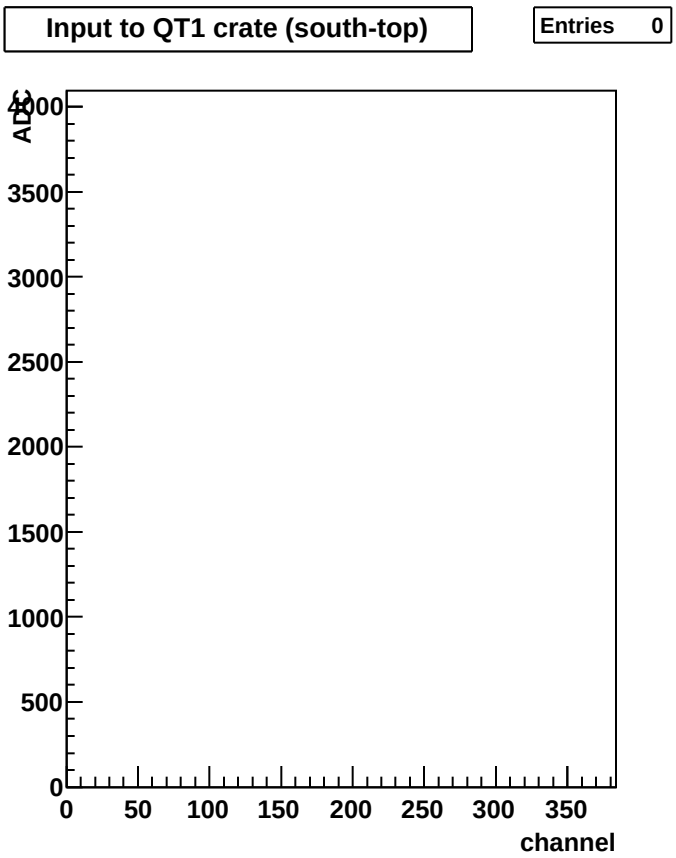

BBClarge-TAC-W
Entries 214337
Mean 1644
RMS 355.5

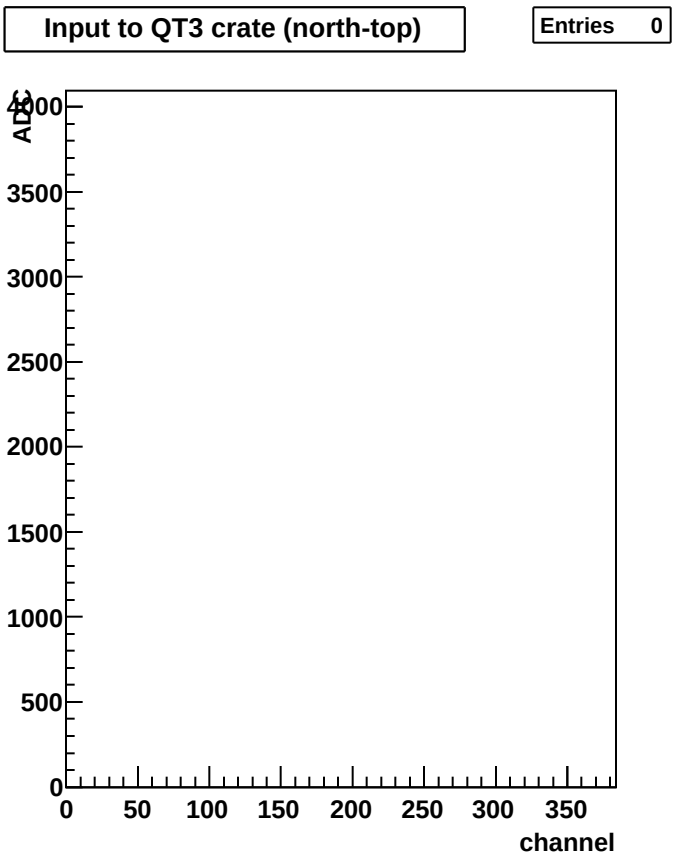

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 203157
Mean 4033
RMS 427.5

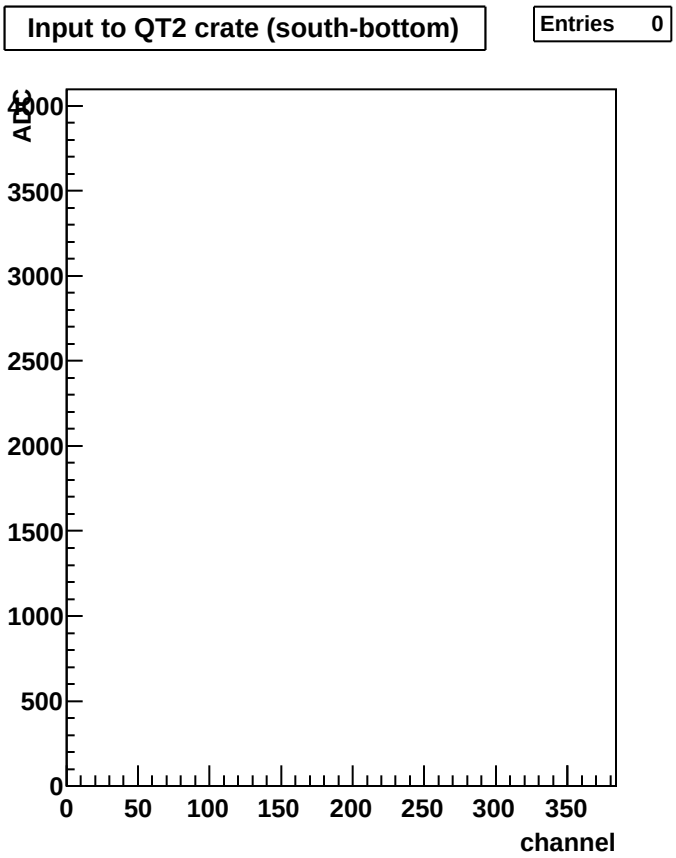

VPD-TAC-E
Entries 156746
Mean 1515
RMS 135.9

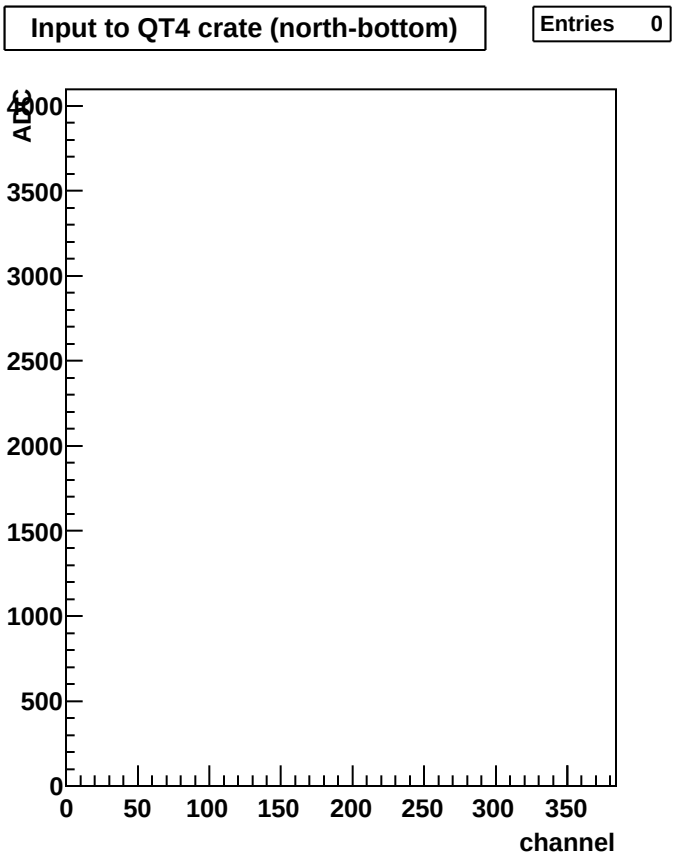

VPD-TAC-W
Entries 147956
Mean 1465
RMS 147.8

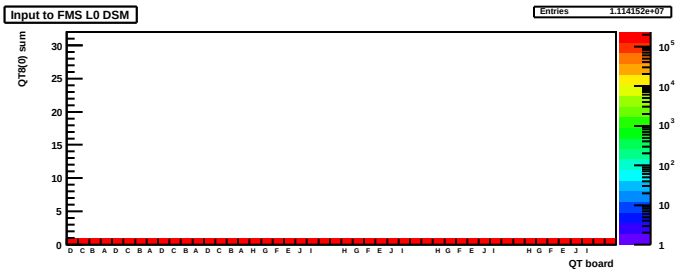

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 121642
Mean 4146
RMS 177

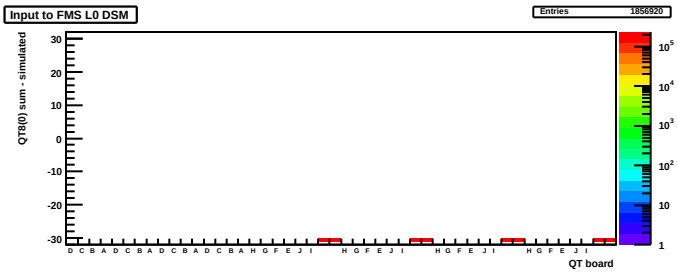

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

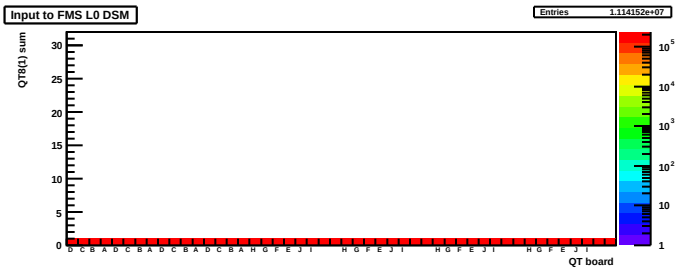

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

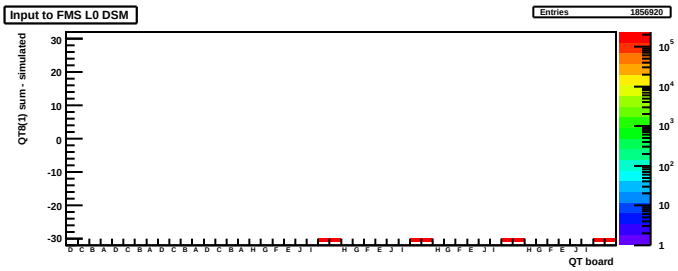

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

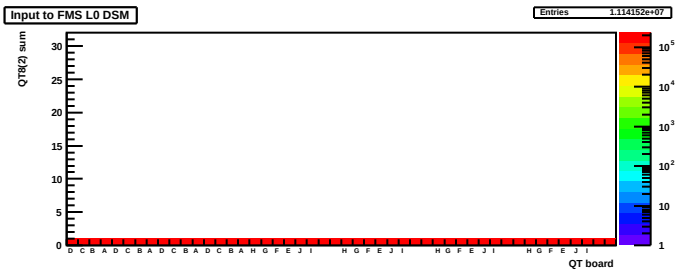

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

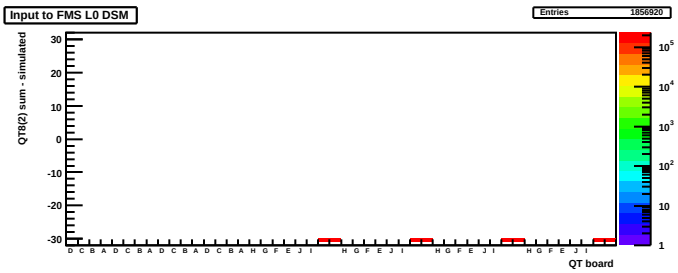

Input to FMS L0 DSM
Entries 1.114152e+07
QT8(0) sum
QT board

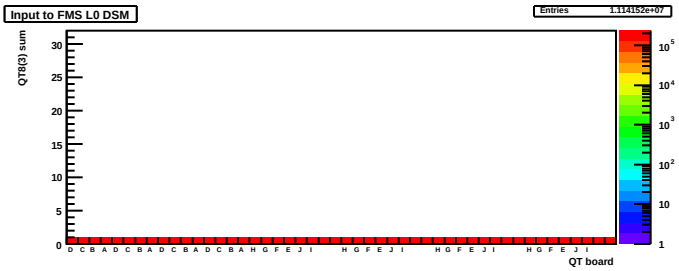

Input to FMS L0 DSM
Entries 1856920
QT8(0) sum - simulated
QT board

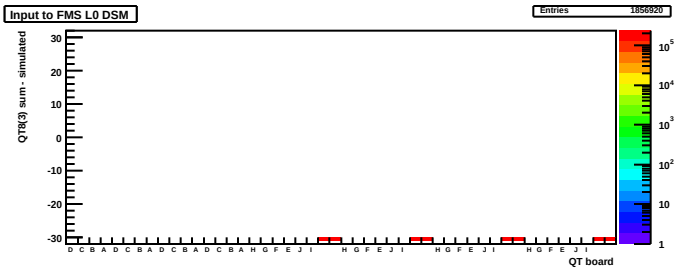

Input to FMS L0 DSM
Entries 1.114152e+07
QT8(1) sum
QT board

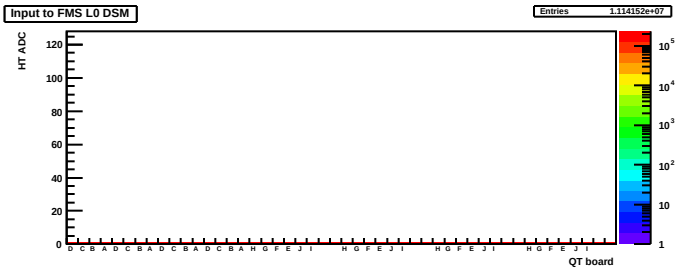

Input to FMS L0 DSM
Entries 1856920
QT8(1) sum - simulated
QT board

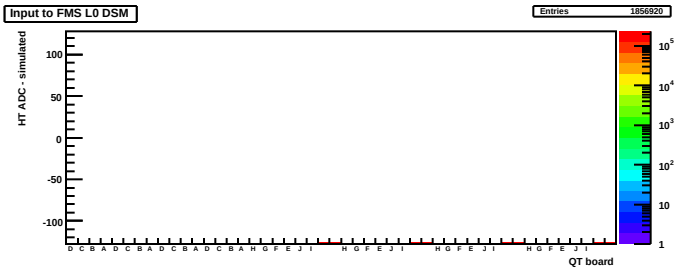

Input to FMS L0 DSM
Entries 1.114152e+07
QT8(2) sum
QT board

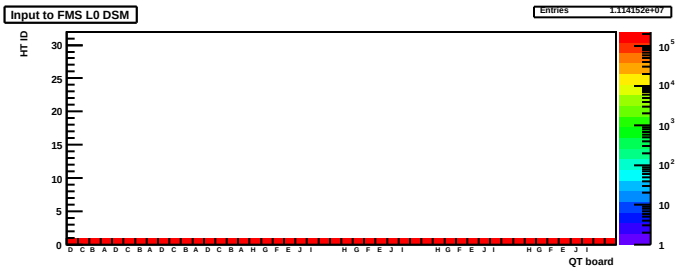

Input to FMS L0 DSM
Entries 1856920
QT8(2) sum - simulated
QT board

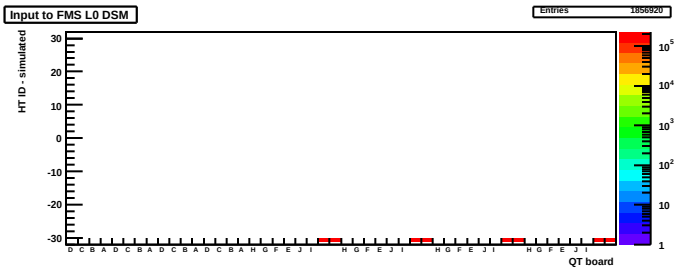

Input to FMS L0 DSM
Entries 1.114152e+07
QT8(3) sum
QT board

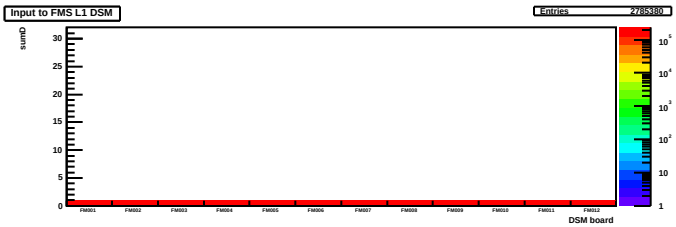

Input to FMS L0 DSM
Entries 1856920
QT8(3) sum - simulated
QT board

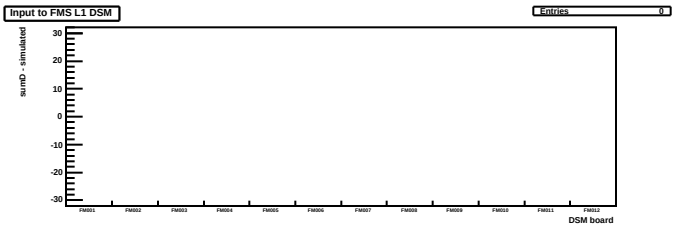

Input to FMS L0 DSM
Entries 1.114152e+07
HT ADC
QT board

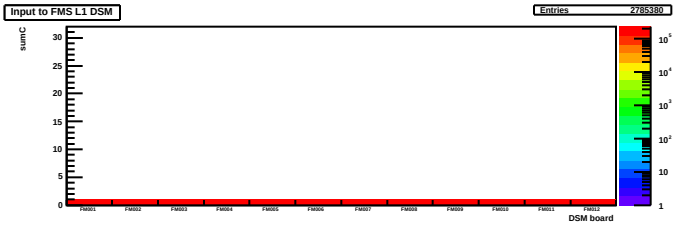

Input to FMS L0 DSM
Entries 1856920
HT ADC - simulated
QT board

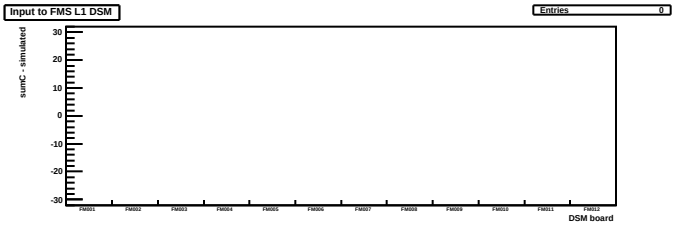

Input to FMS L0 DSM
Entries 1.114152e+07
HT ID
QT board

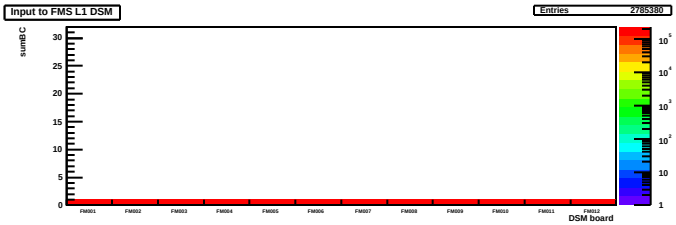

Input to FMS L0 DSM
Entries 1856920
HT ID - simulated
QT board

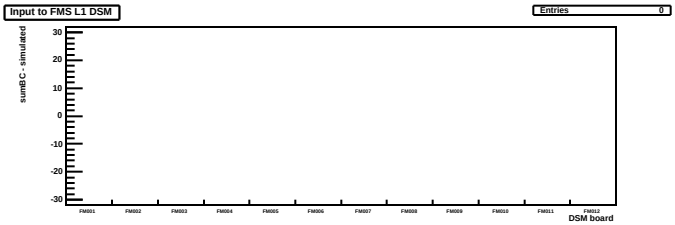

Input to FMS L1 DSM
Entries 2785380
sumD
DSM board

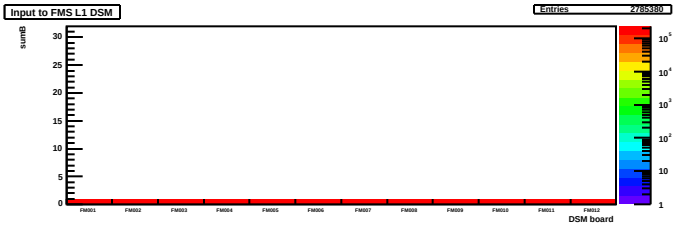

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

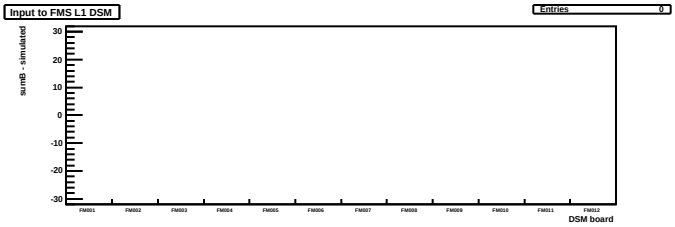

Input to FMS L1 DSM
Entries 2785380
sumC
DSM board

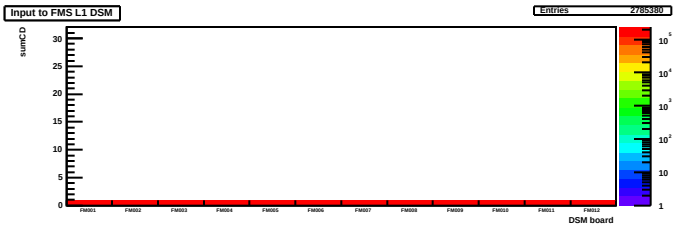

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

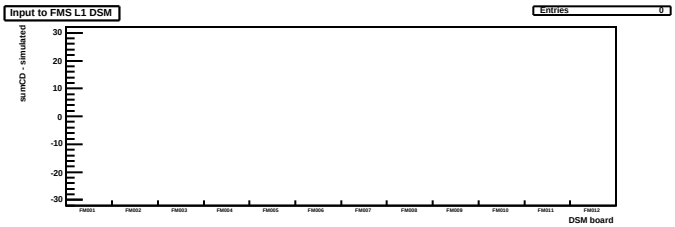

Input to FMS L1 DSM
Entries 2785380
sumBC
DSM board

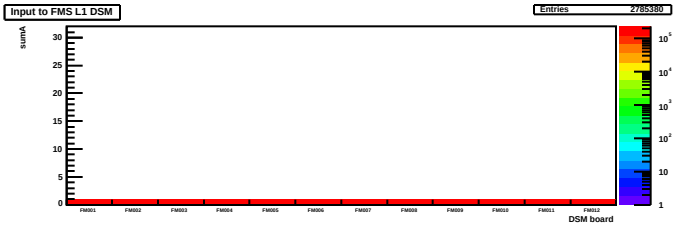

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

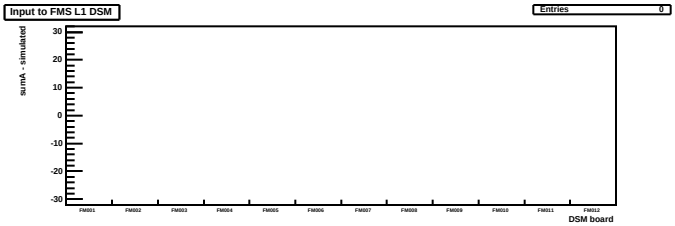

Input to FMS L1 DSM
Entries 2785380
sumB
DSM board

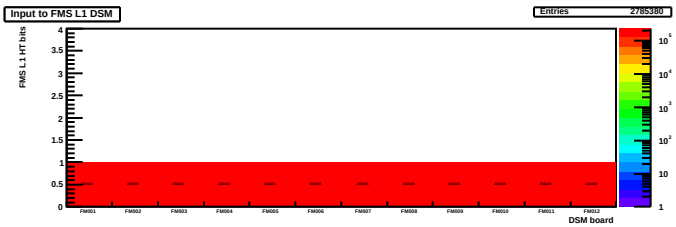

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

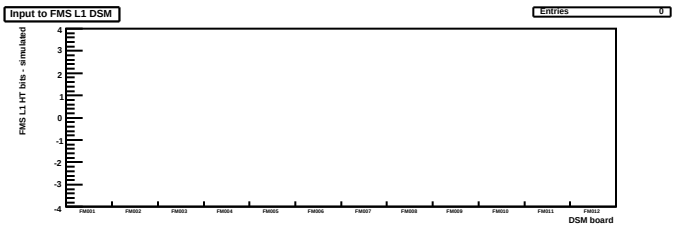

Input to FMS L1 DSM
Entries 2785380
sumCD
DSM board

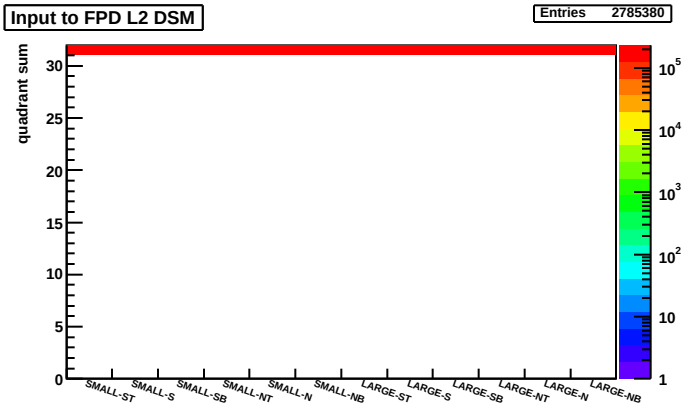

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

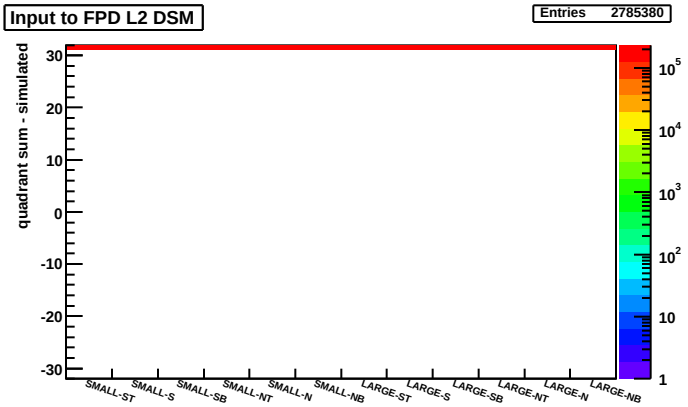

Input to FMS L1 DSM
Entries 2785380
sumA
DSM board

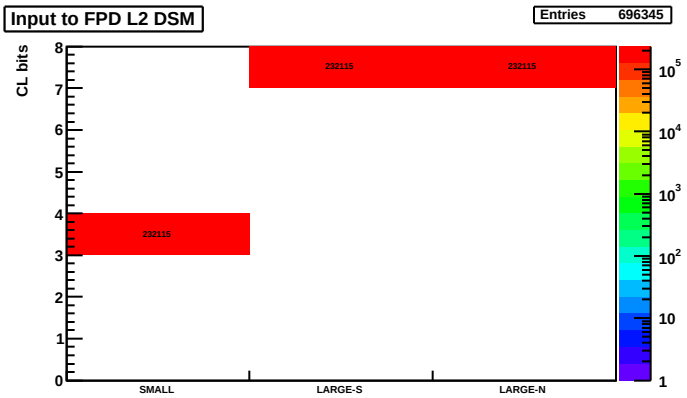

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

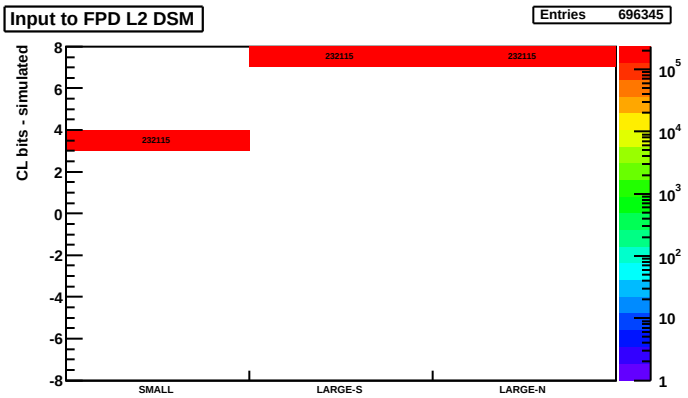

Input to FMS L1 DSM
Entries 2785380
FMS L1 HT bits
DSM board

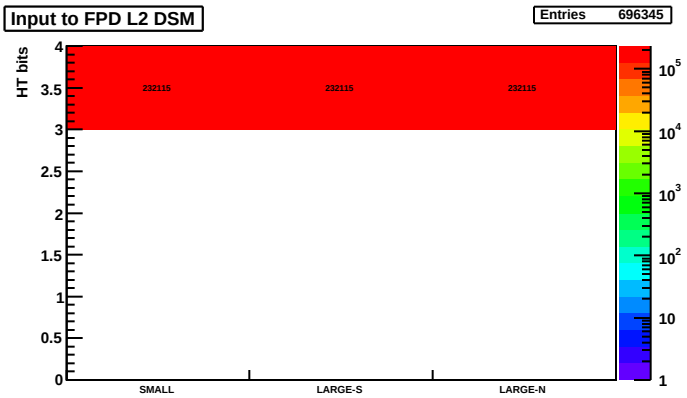

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

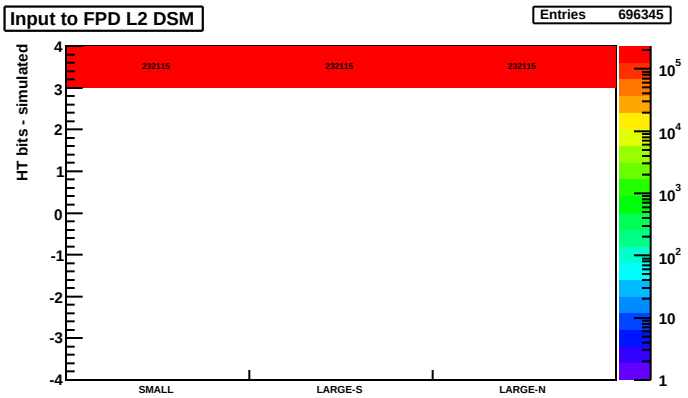

Input to FPD L2 DSM
Entries 2785380
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

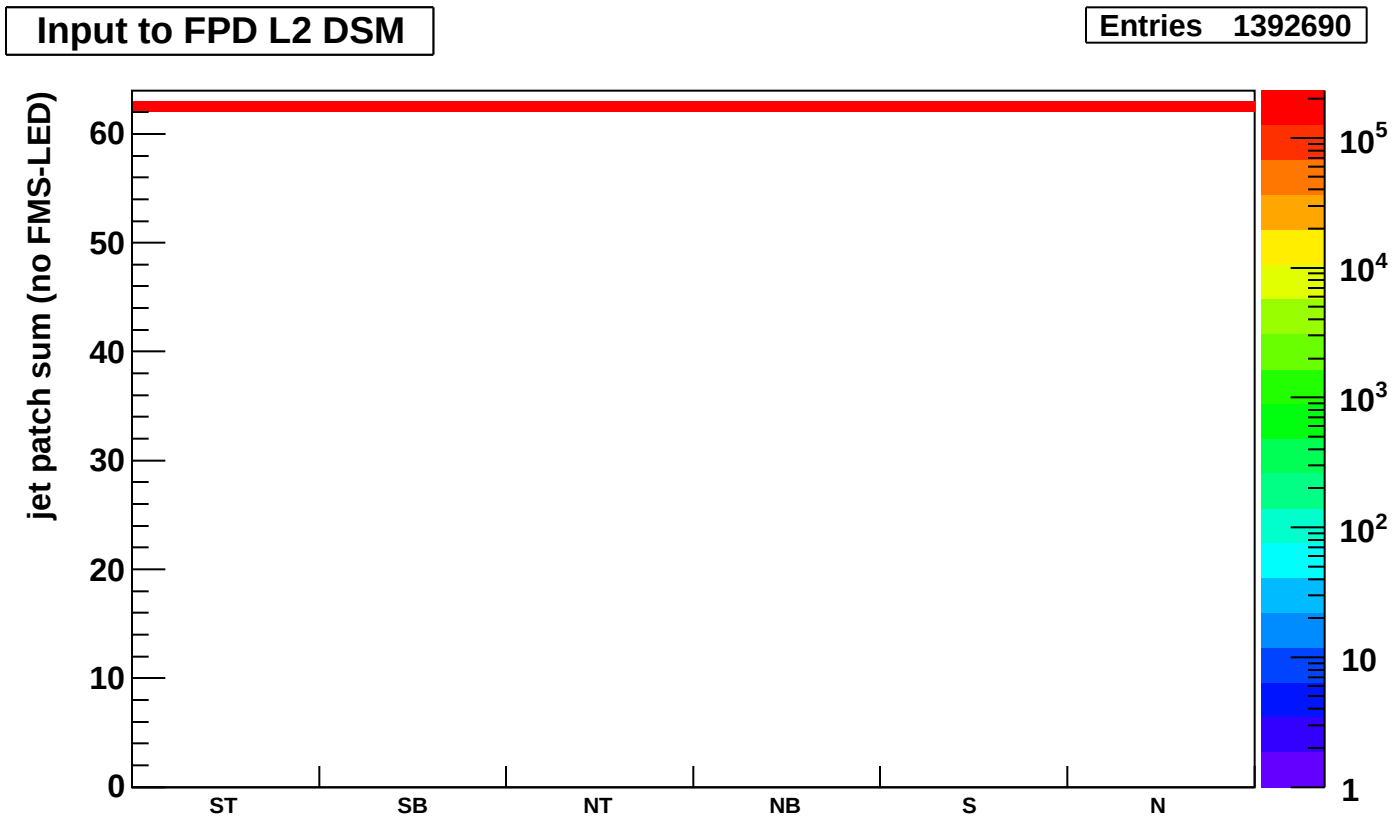

Input to FPD L2 DSM
Entries 2785380
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

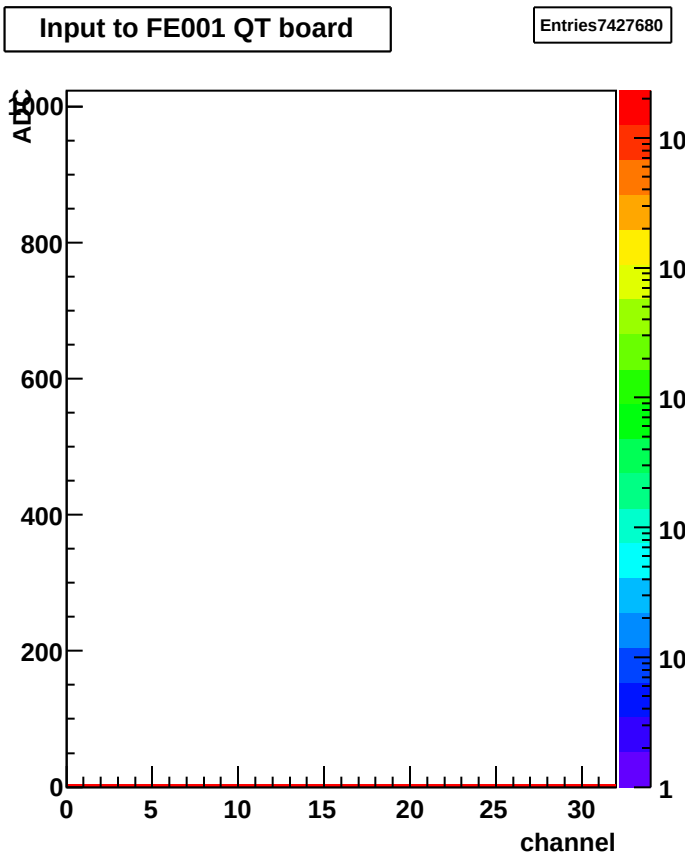

Input to FPD L2 DSM
Entries 696345
CL bits
232115
232115
232115
SMALL
LARGE-S
LARGE-N

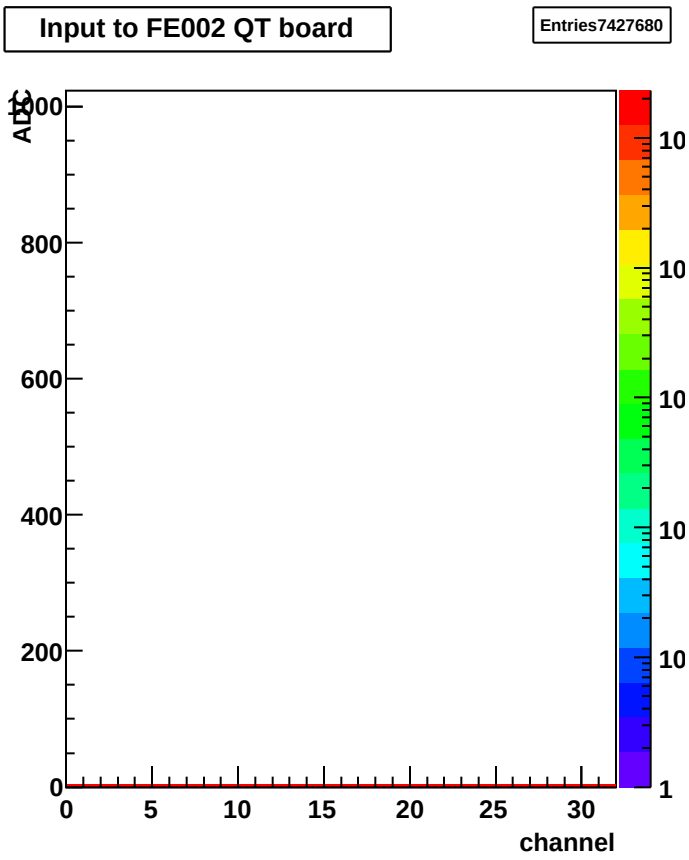

Input to FPD L2 DSM
Entries 696345
CL bits - simulated
232115
232115
232115
SMALL
LARGE-S
LARGE-N

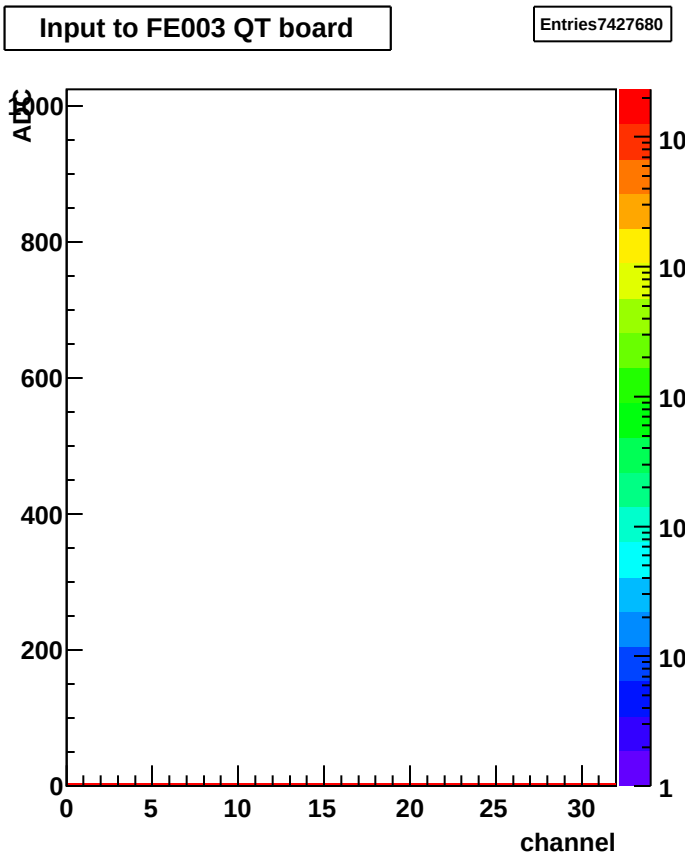

Input to FPD L2 DSM
Entries 696345
HT bits
232115
232115
232115
SMALL
LARGE-S
LARGE-N

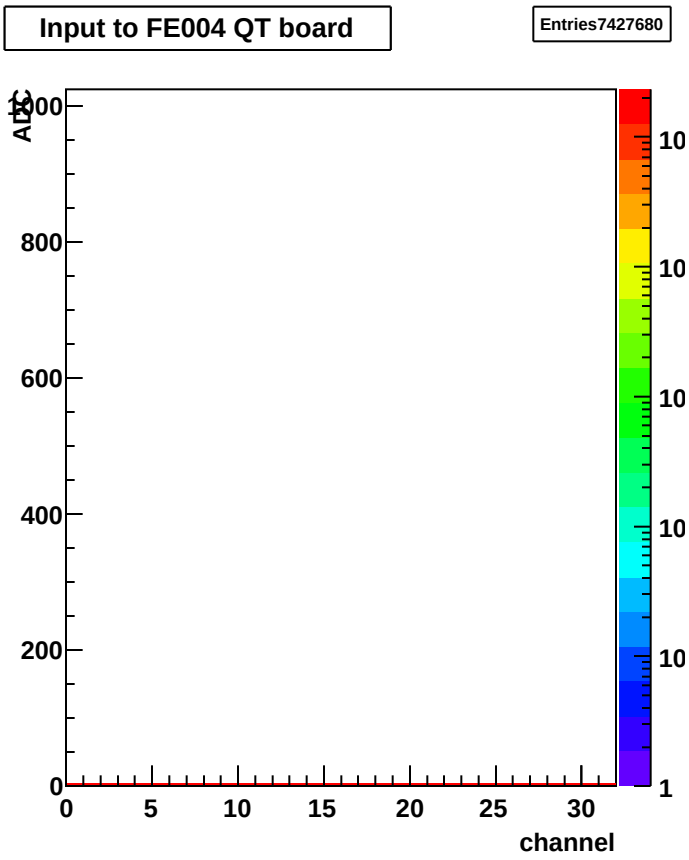

Input to FPD L2 DSM
Entries 696345
HT bits - simulated
232115
232115
232115
SMALL
LARGE-S
LARGE-N

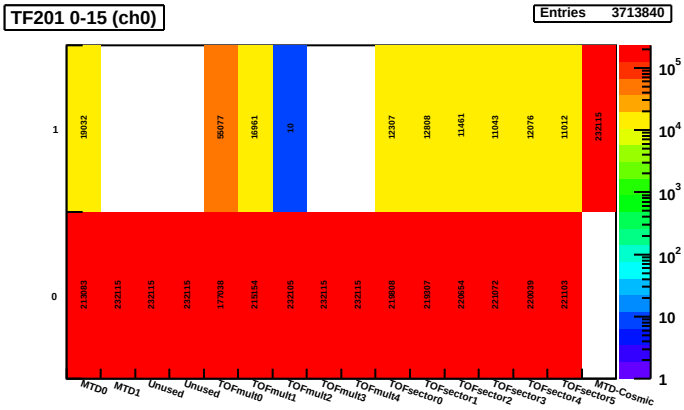

Input to FPD L2 DSM
Entries 1392690
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

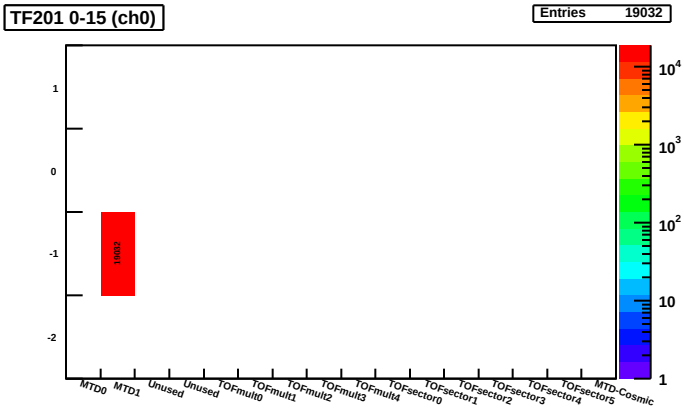

Input to FE001 QT board
Entries7427680
ADC
channel

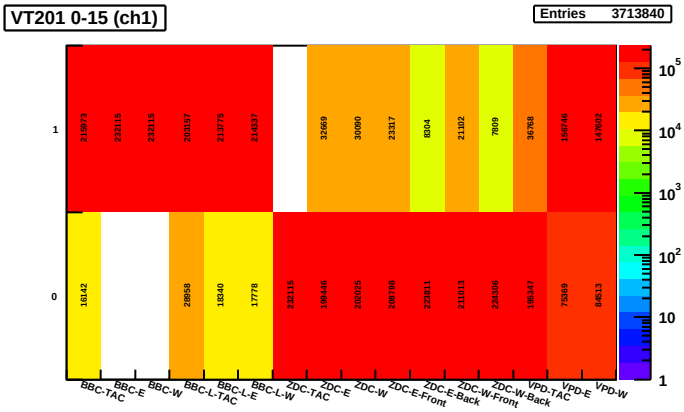

Input to FE002 QT board
Entries7427680
ADC
channel

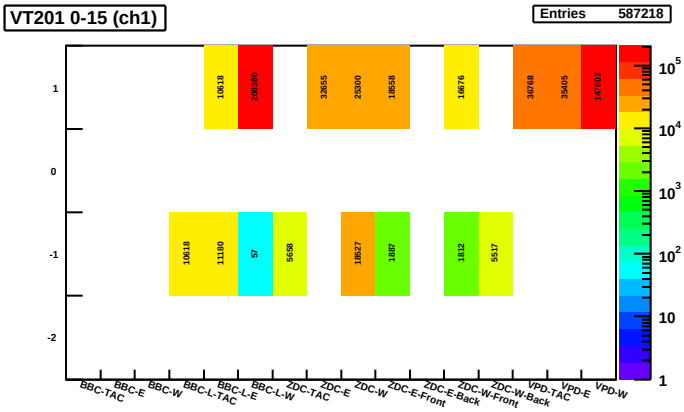

Input to FE003 QT board
Entries7427680
ADC
channel


Input to FE004 QT board
Entries7427680
ADC
channel


TF201 0-15 (ch0)
Entries 3713840
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 19032
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 3713840
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W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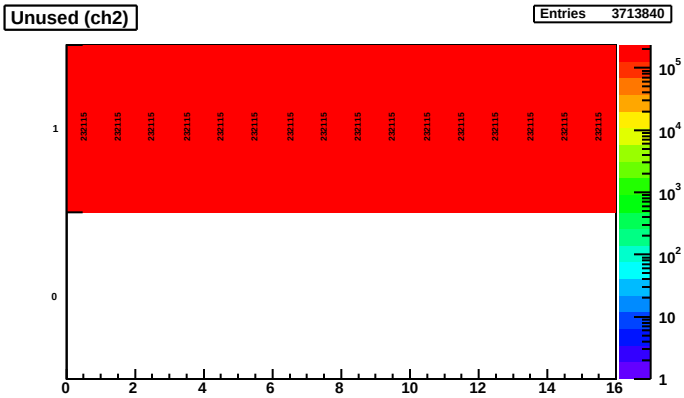
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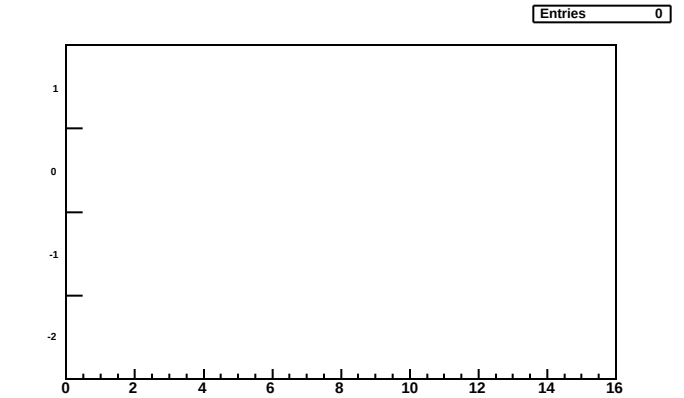
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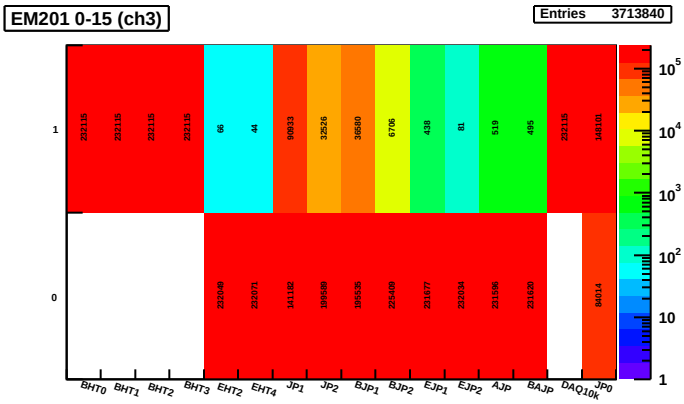
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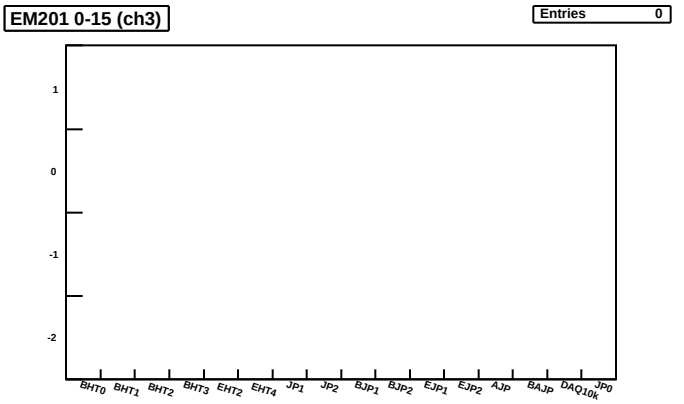
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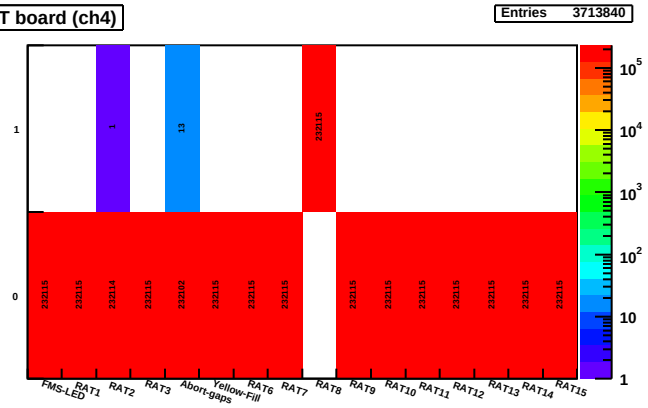
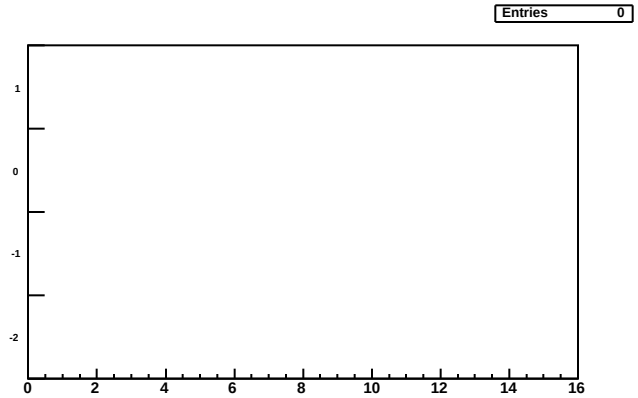
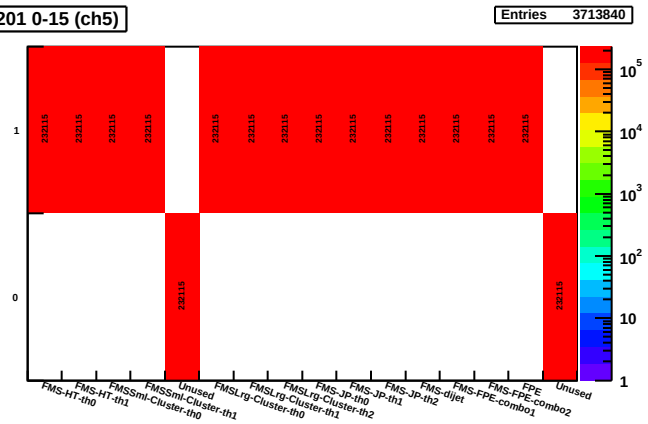
RAT board (ch4)

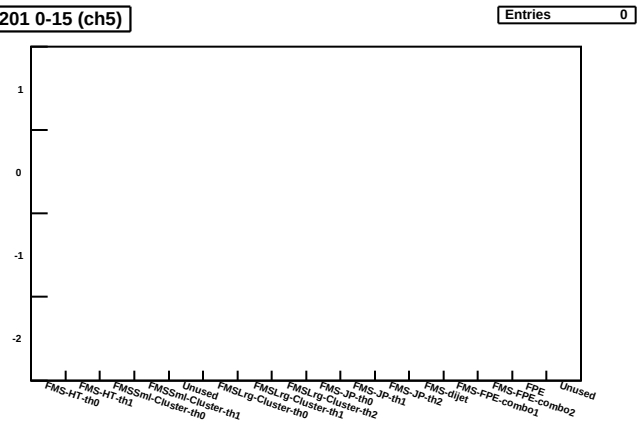




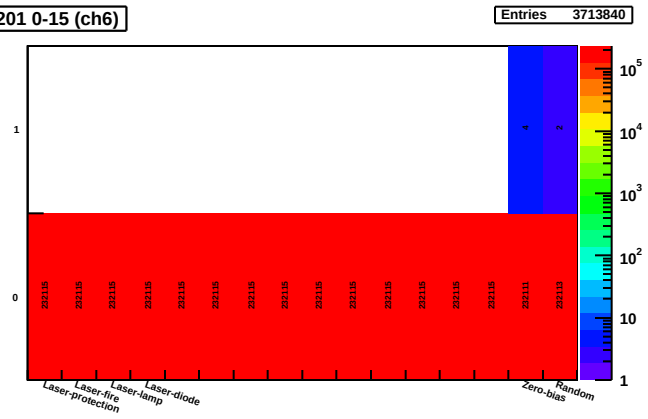
FP201 0-15 (ch5)

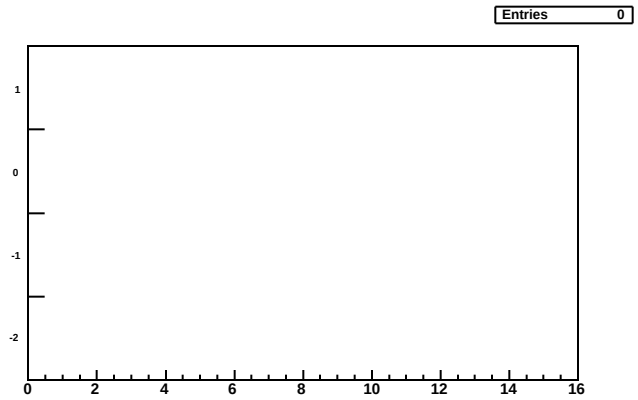
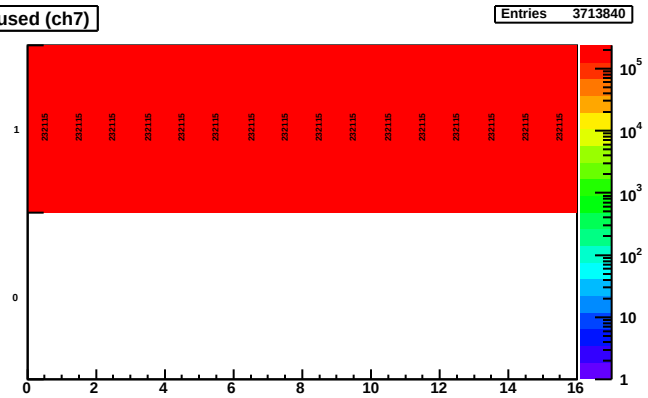
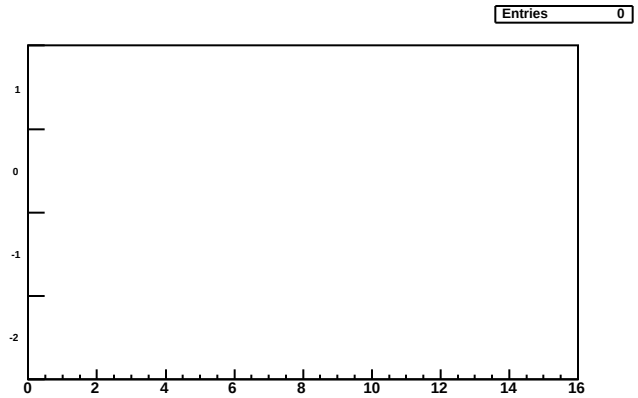


FP201 0-15 (ch5)



ST201 0-15 (ch6)





Unused (ch7)