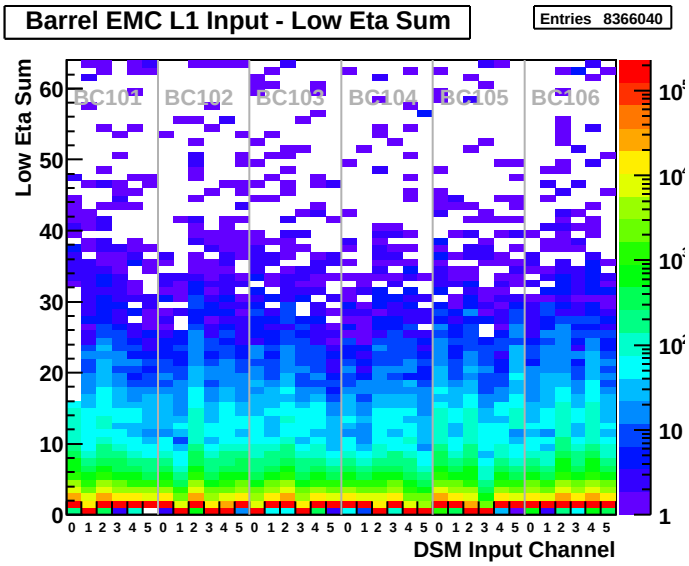
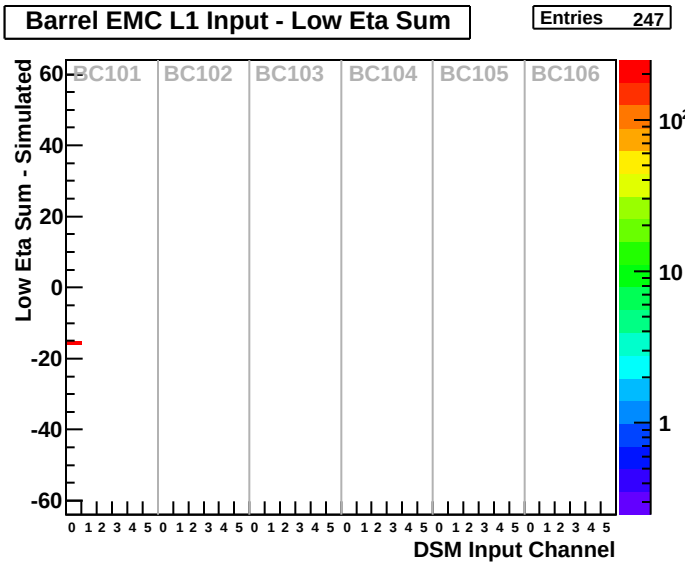
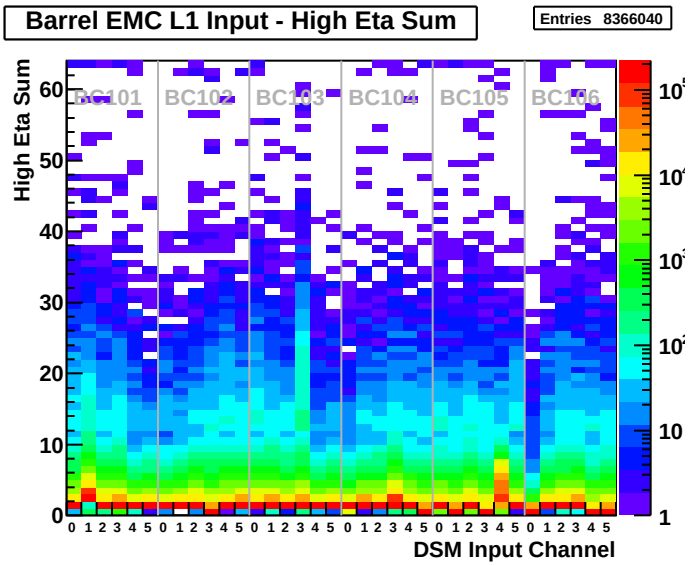
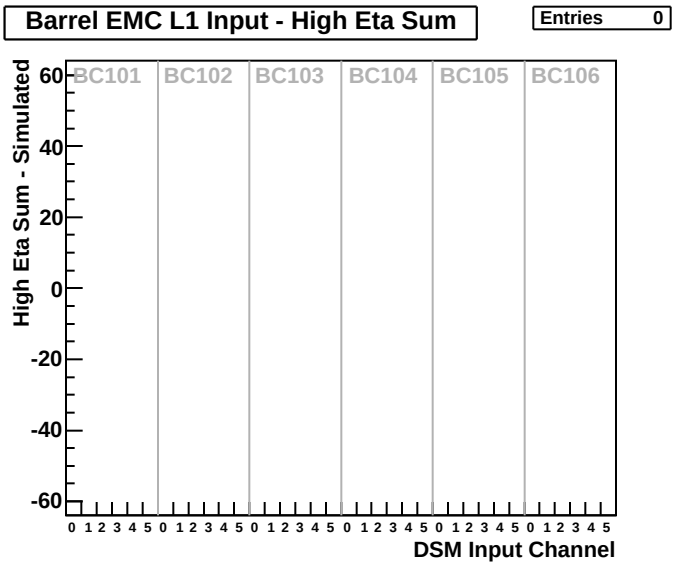
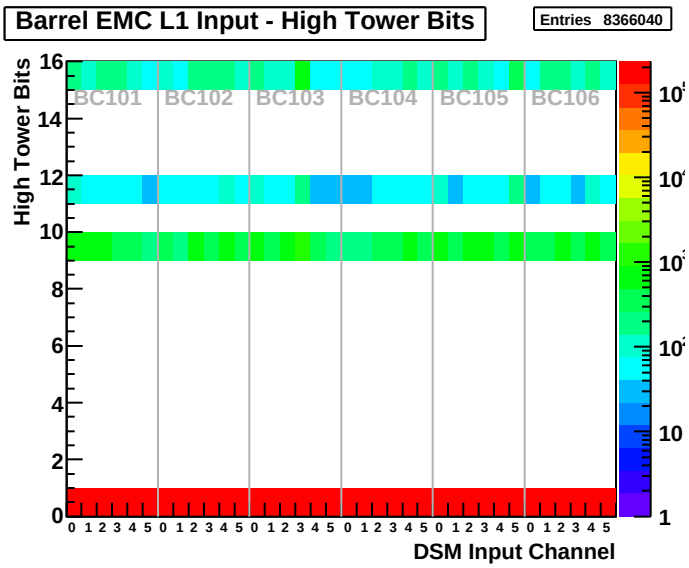
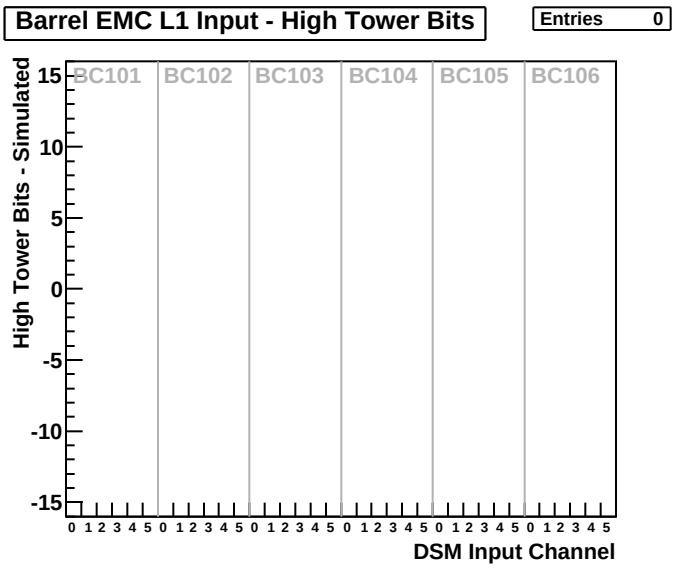

Barrel EMC L1 Input - Low Eta Sum
Entries 8366040
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

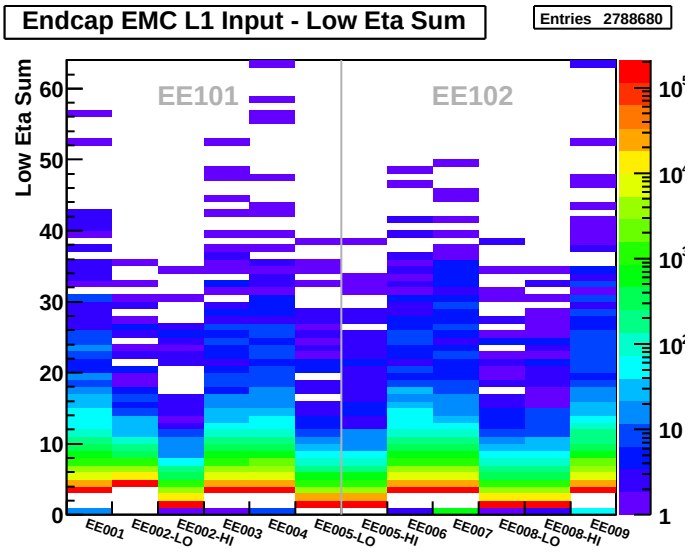

Barrel EMC L1 Input - Low Eta Sum
Entries 247
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

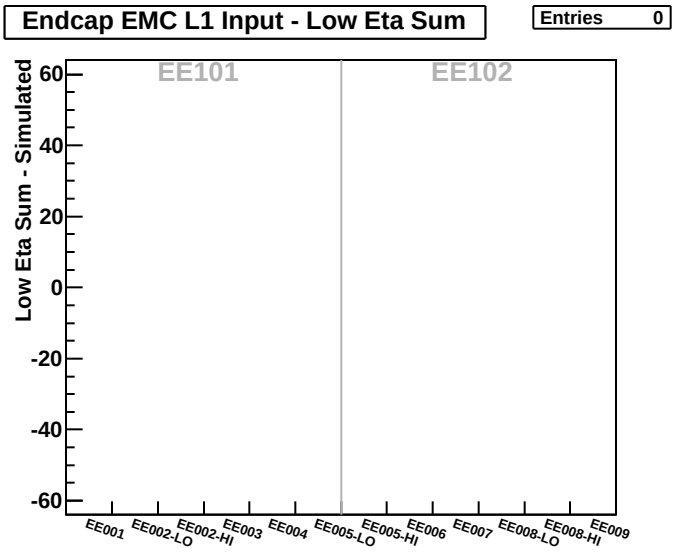

Barrel EMC L1 Input - High Eta Sum
Entries 8366040
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

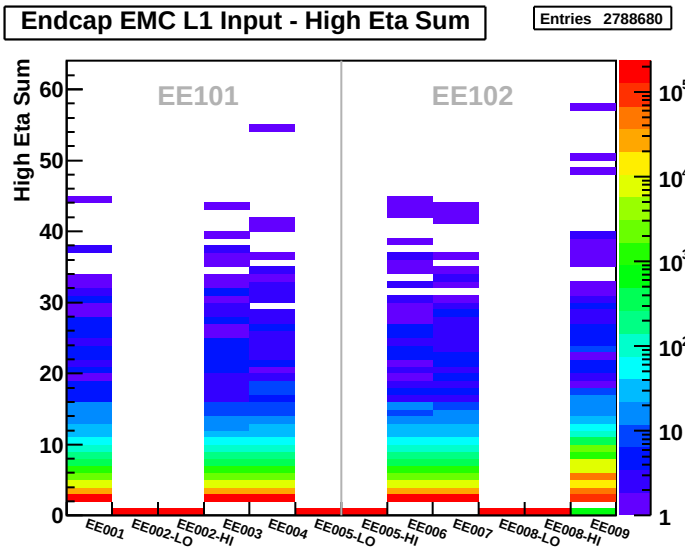

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

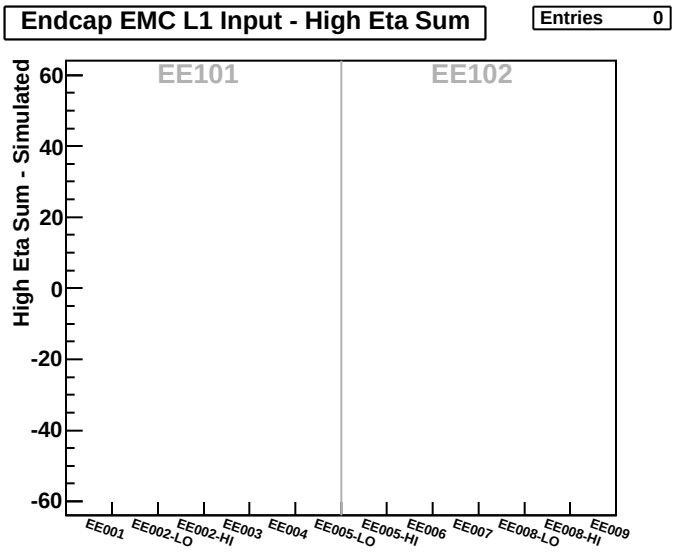

Barrel EMC L1 Input - High Tower Bits
Entries 8366040
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

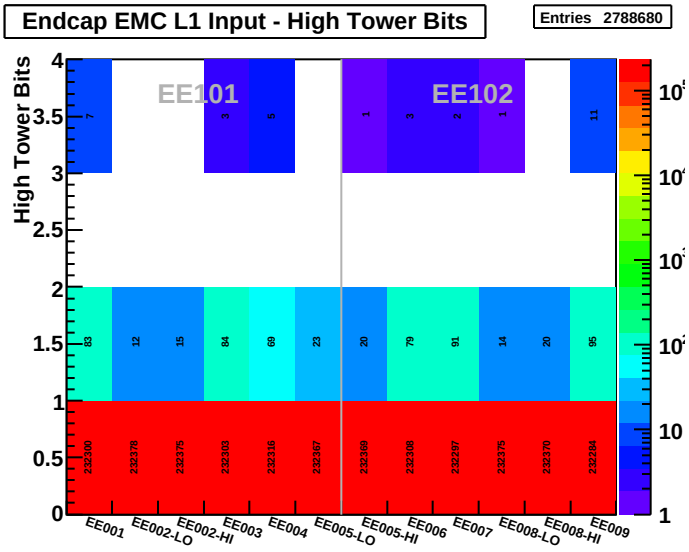

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

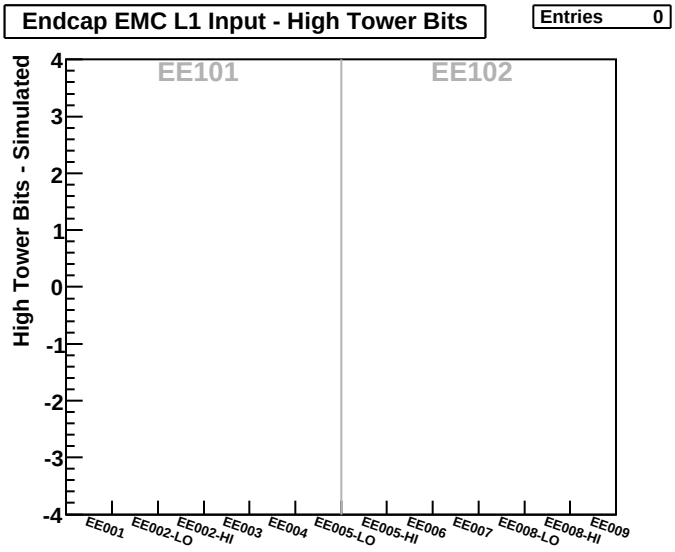

Endcap EMC L1 Input - Low Eta Sum
Entries 2788680
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

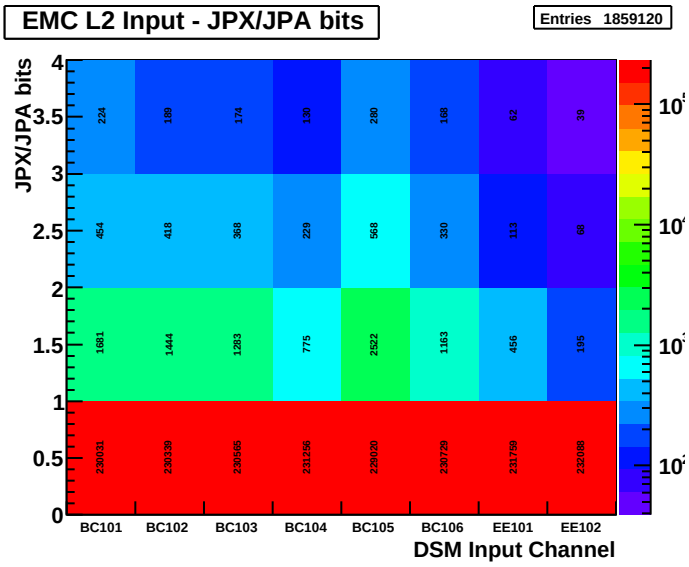

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

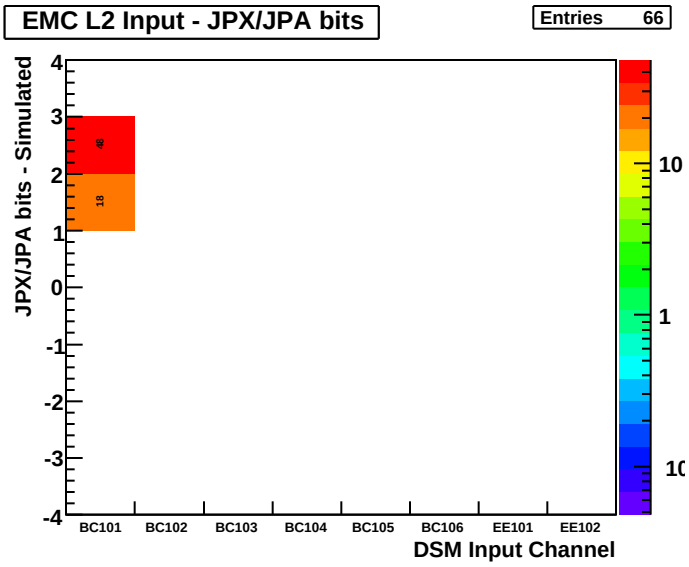

Endcap EMC L1 Input - High Eta Sum
Entries 2788680
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

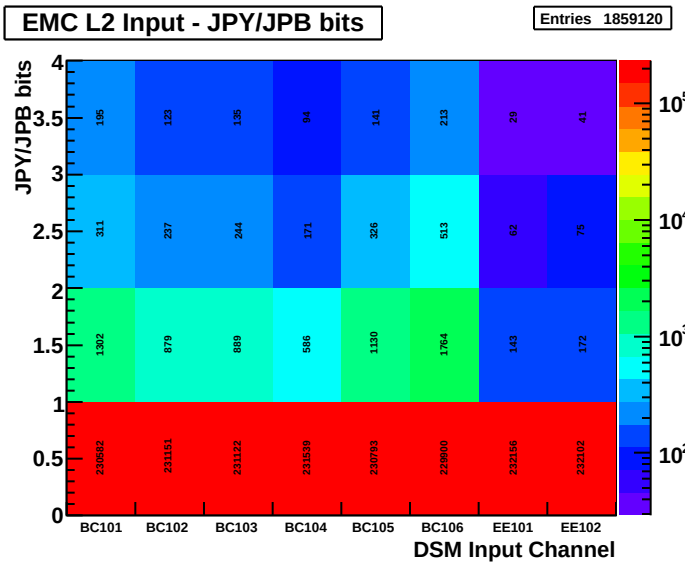

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

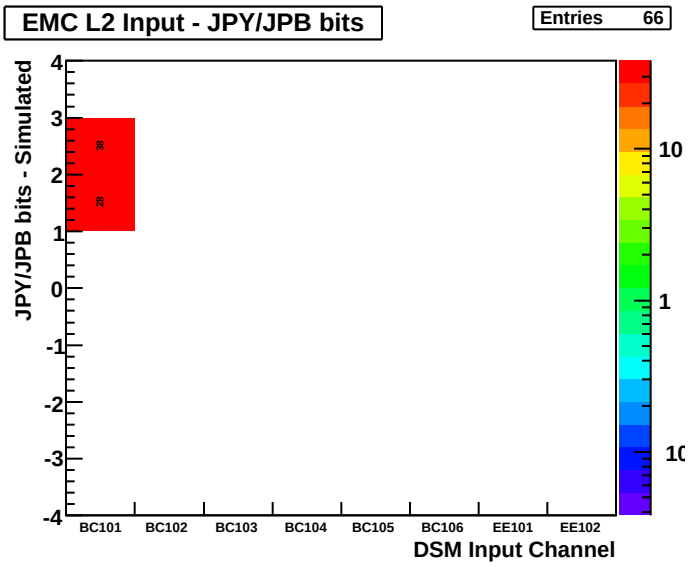

Endcap EMC L1 Input - High Tower Bits
Entries 2788680
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

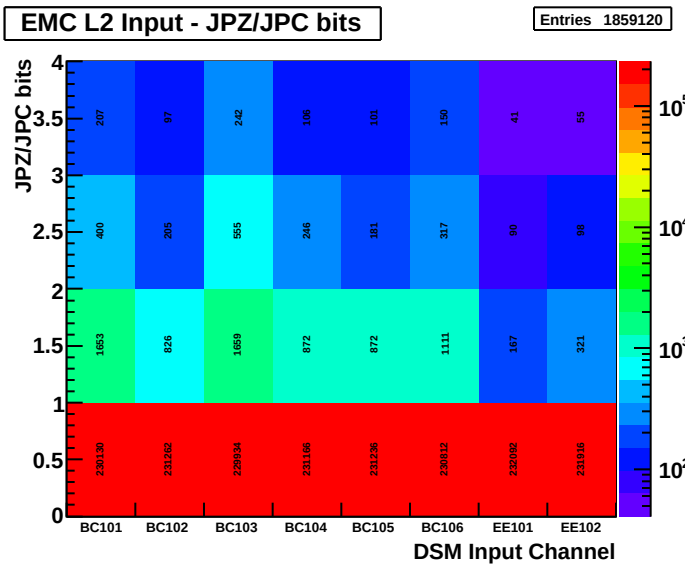

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

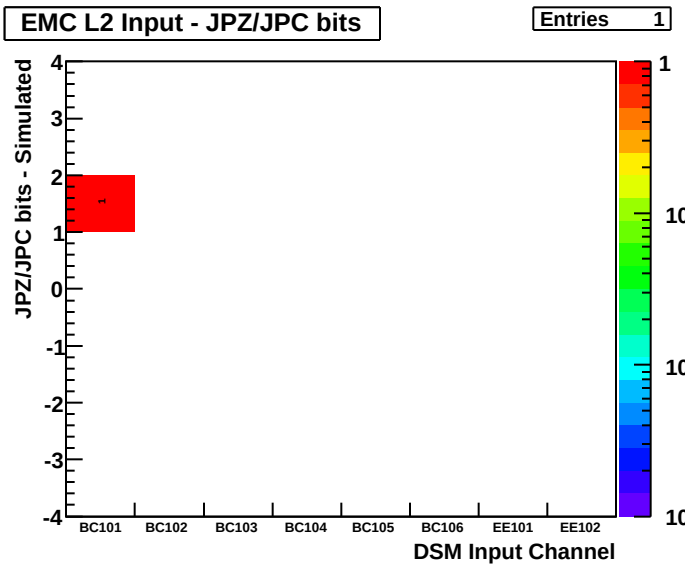

EMC L2 Input - JPX/JPA bits
Entries 1859120
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
224 189 174 130 280 168 62 39
454 418 368 229 568 330 113 88
1681 1444 1283 775 2522 1163 456 195
230031 230339 230565 231256 229020 230729 231759 232088

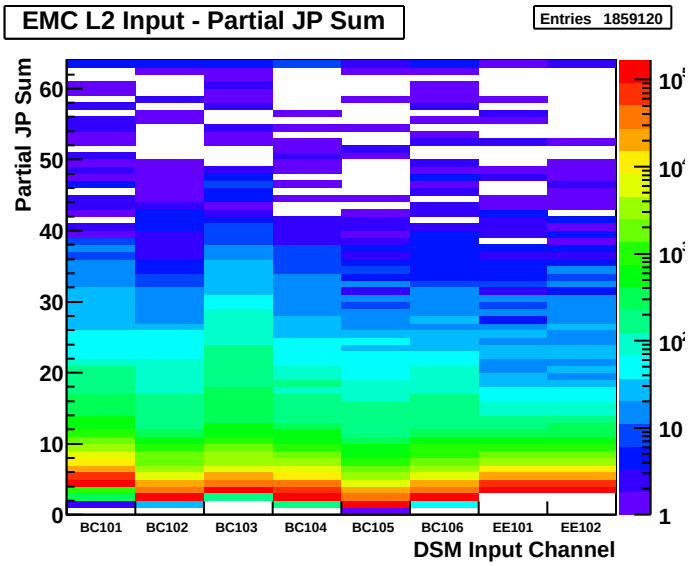

EMC L2 Input - JPX/JPA bits
Entries 66
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
48
18

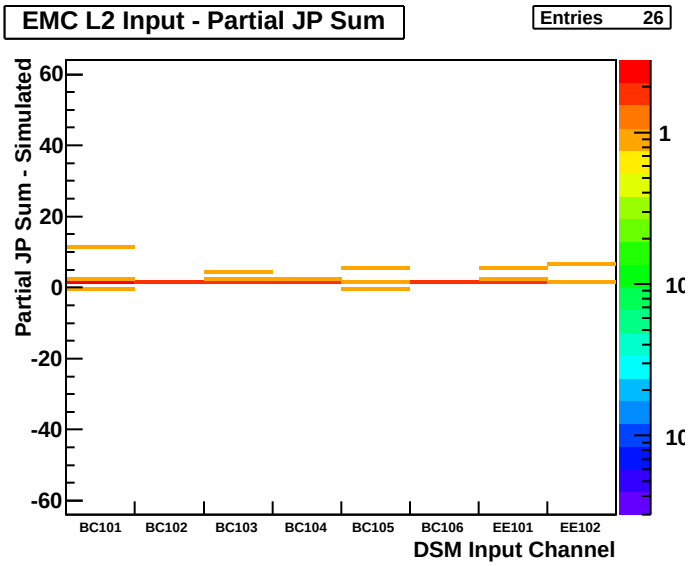

EMC L2 Input - JPY/JPB bits
Entries 1859120
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
105 123 135 94 141 213 29 41
311 237 244 171 326 513 62 75
1302 879 889 586 1130 1764 143 172
230582 231151 231122 231539 230793 229900 232156 232102

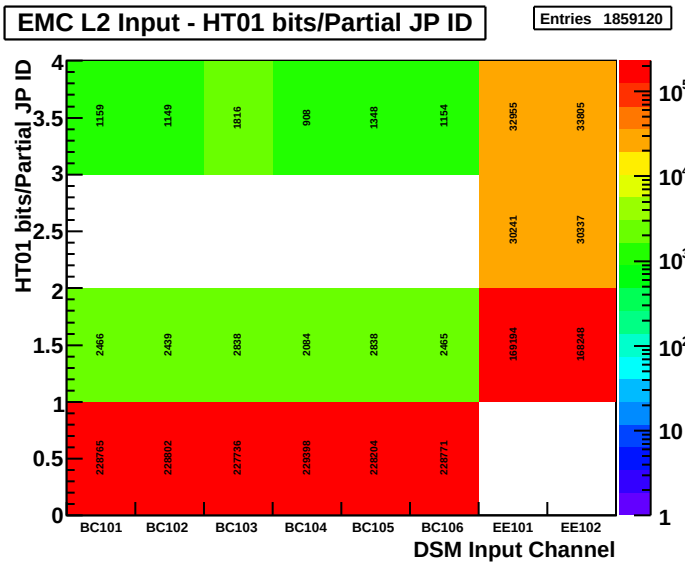

EMC L2 Input - JPY/JPB bits
Entries 66
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
38
28

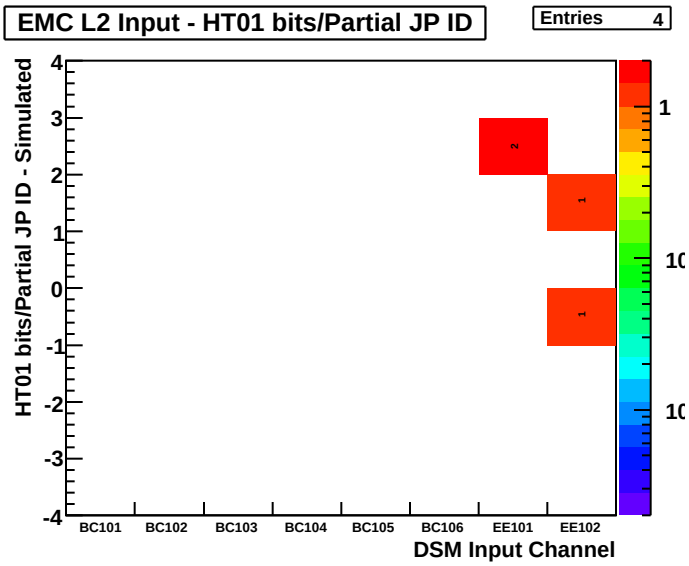

EMC L2 Input - JPZ/JPC bits
Entries 1859120
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
207 97 242 106 101 150 41 55
400 205 555 246 181 317 90 98
1653 826 1659 872 872 1111 167 321
230130 231262 229934 231166 231236 230812 232092 231916

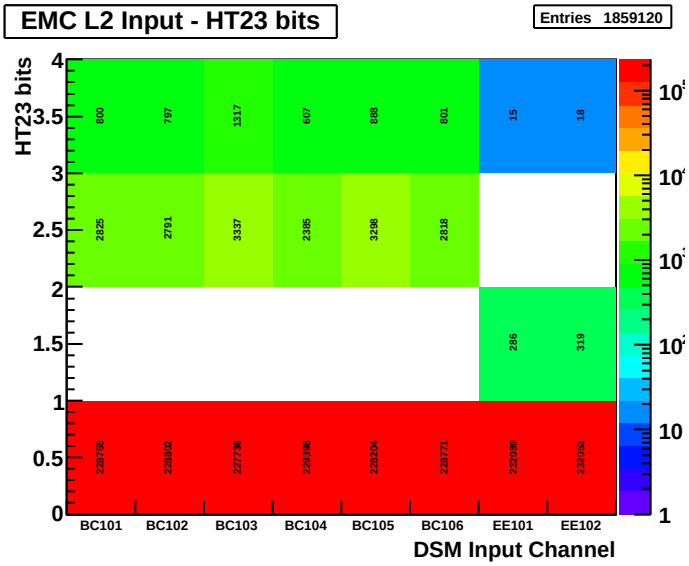

EMC L2 Input - JPZ/JPC bits
Entries 1
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
1

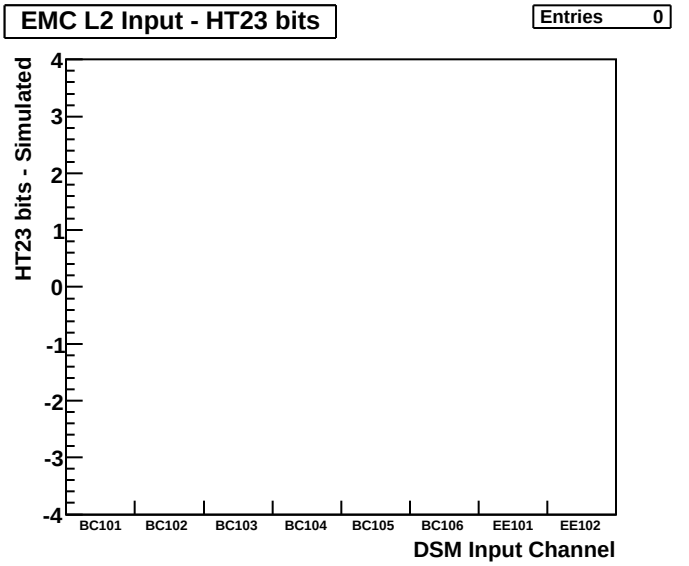

EMC L2 Input - Partial JP Sum
Entries 1859120
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

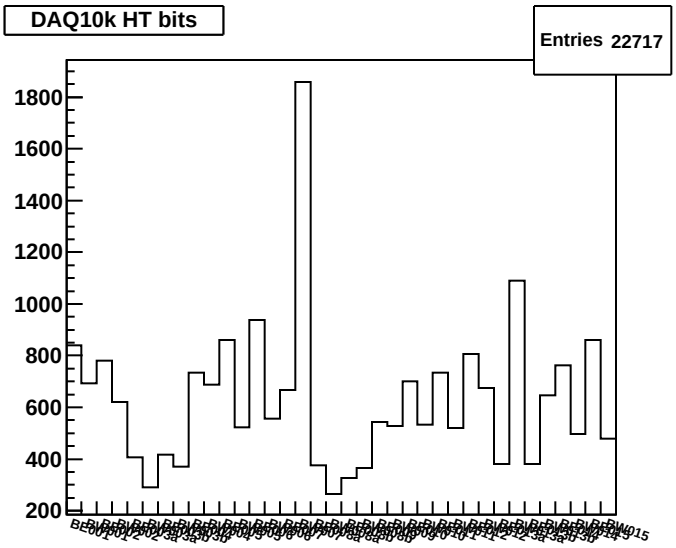

EMC L2 Input - Partial JP Sum
Entries 26
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

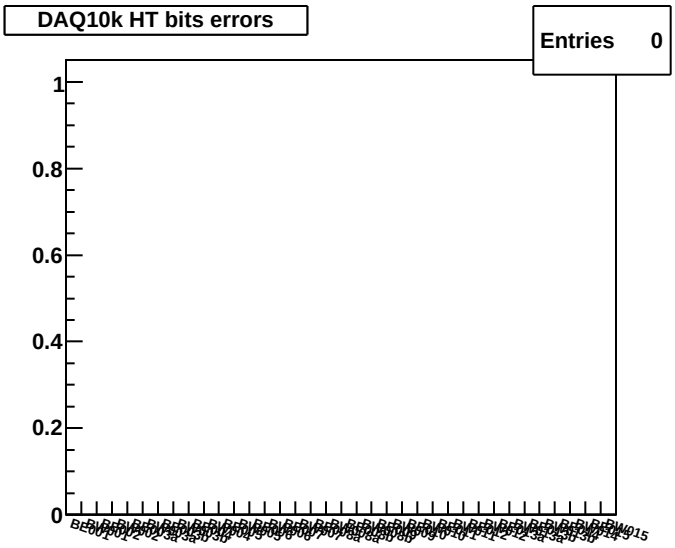

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1859120
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

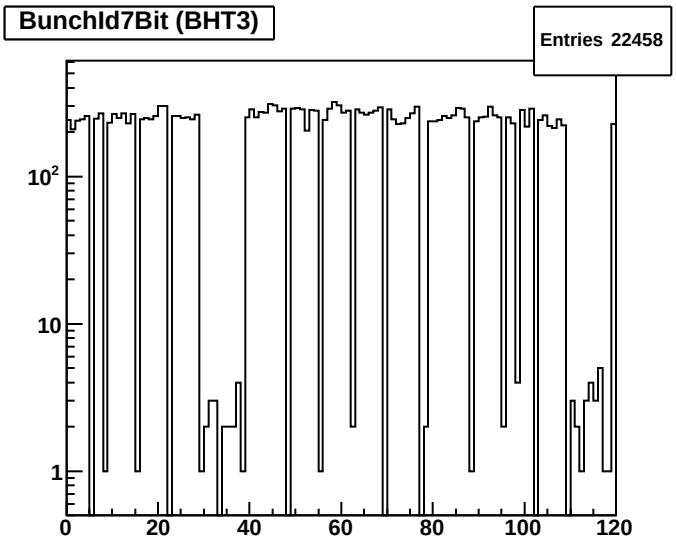

EMC L2 Input - HT01 bits/Partial JP ID
Entries 4
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

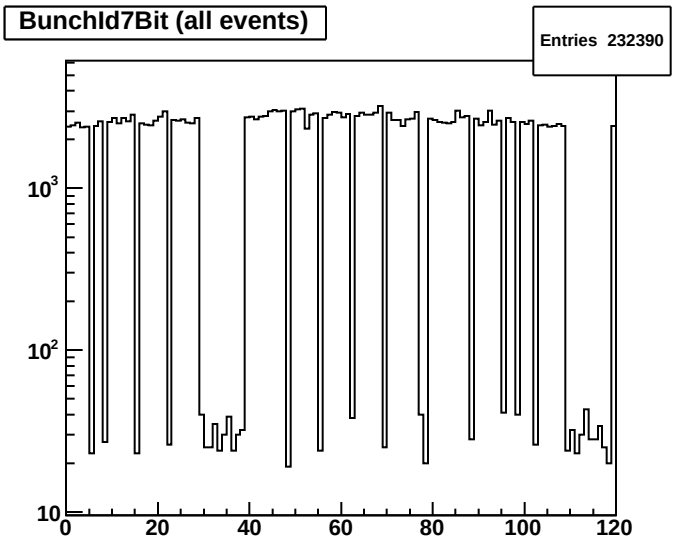

EMC L2 Input - HT23 bits
Entries 1859120
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

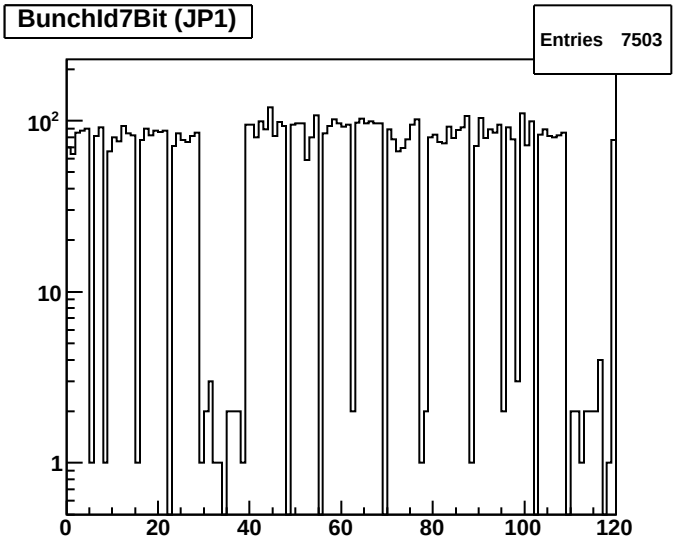

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

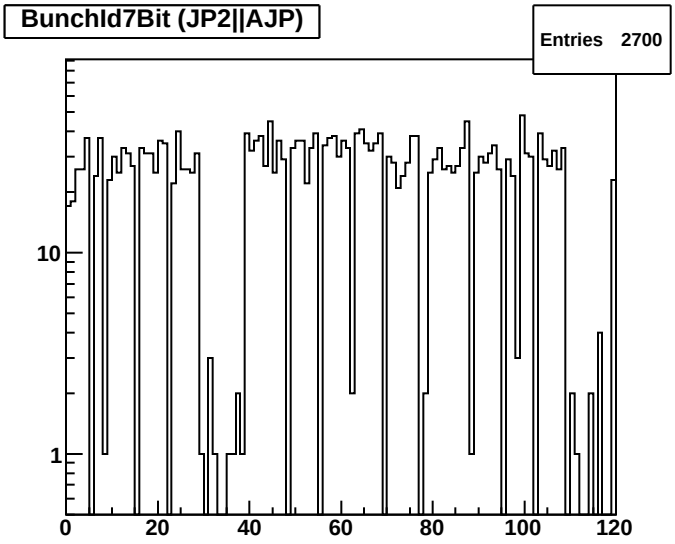

DAQ10k HT bits
Entries 22717
1800
1600
1400
1200
1000
800
600
400
200

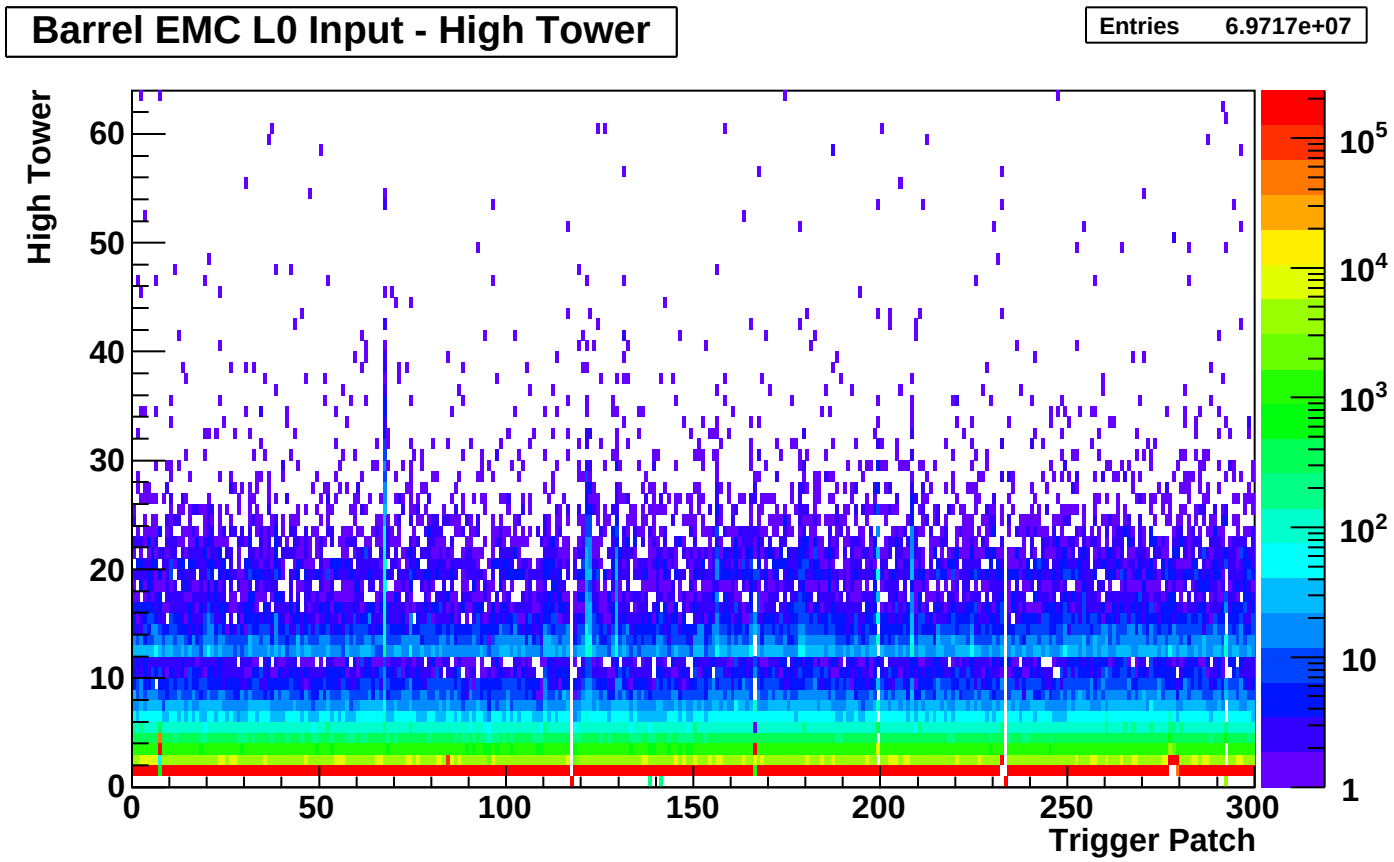

DAQ10k HT bits errors
Entries 0
1
0.8
0.6
0.4
0.2
0

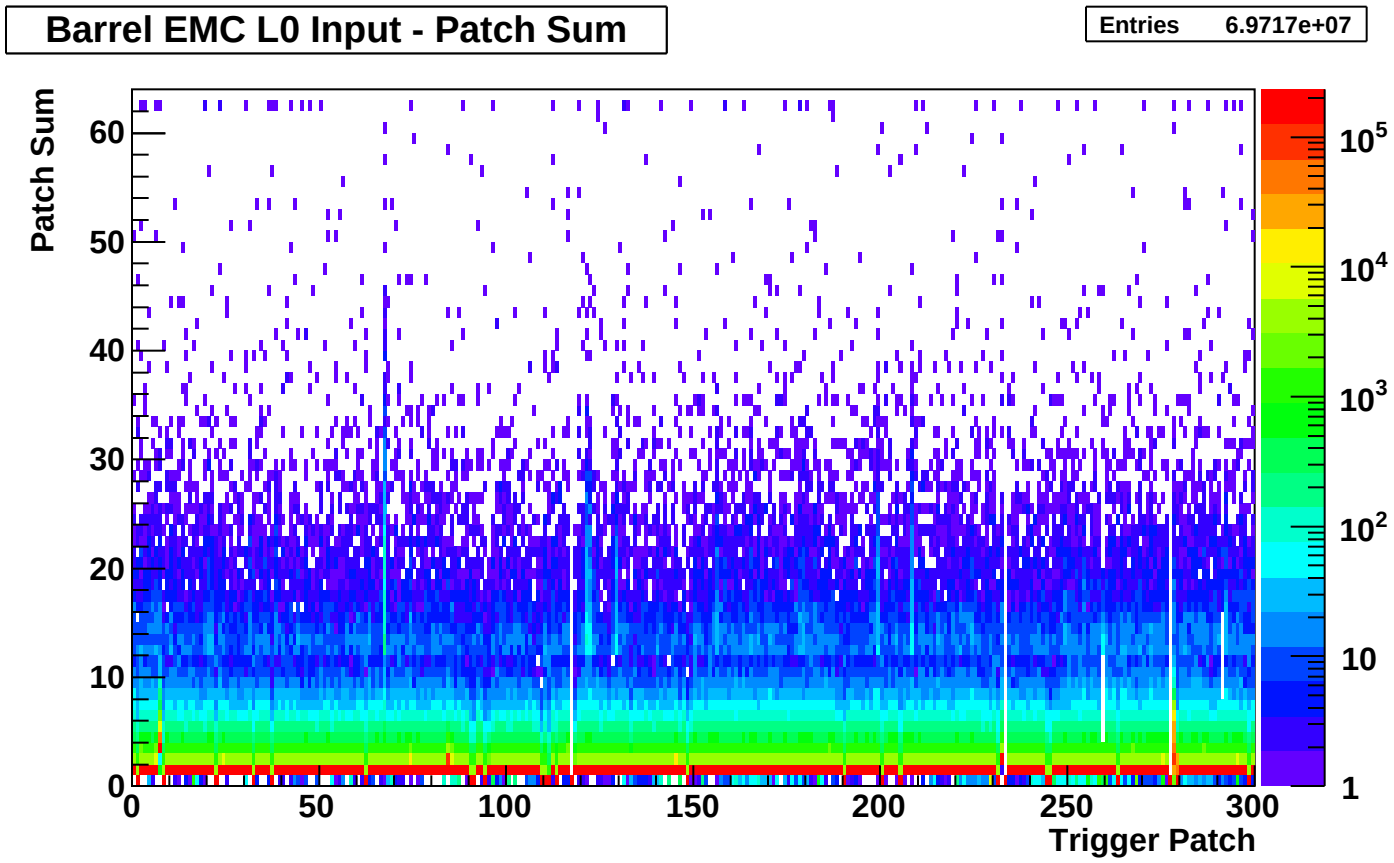

BunchId7Bit (BHT3)
Entries 22458
10^2
10
1
0
20
40
60
80
100
120

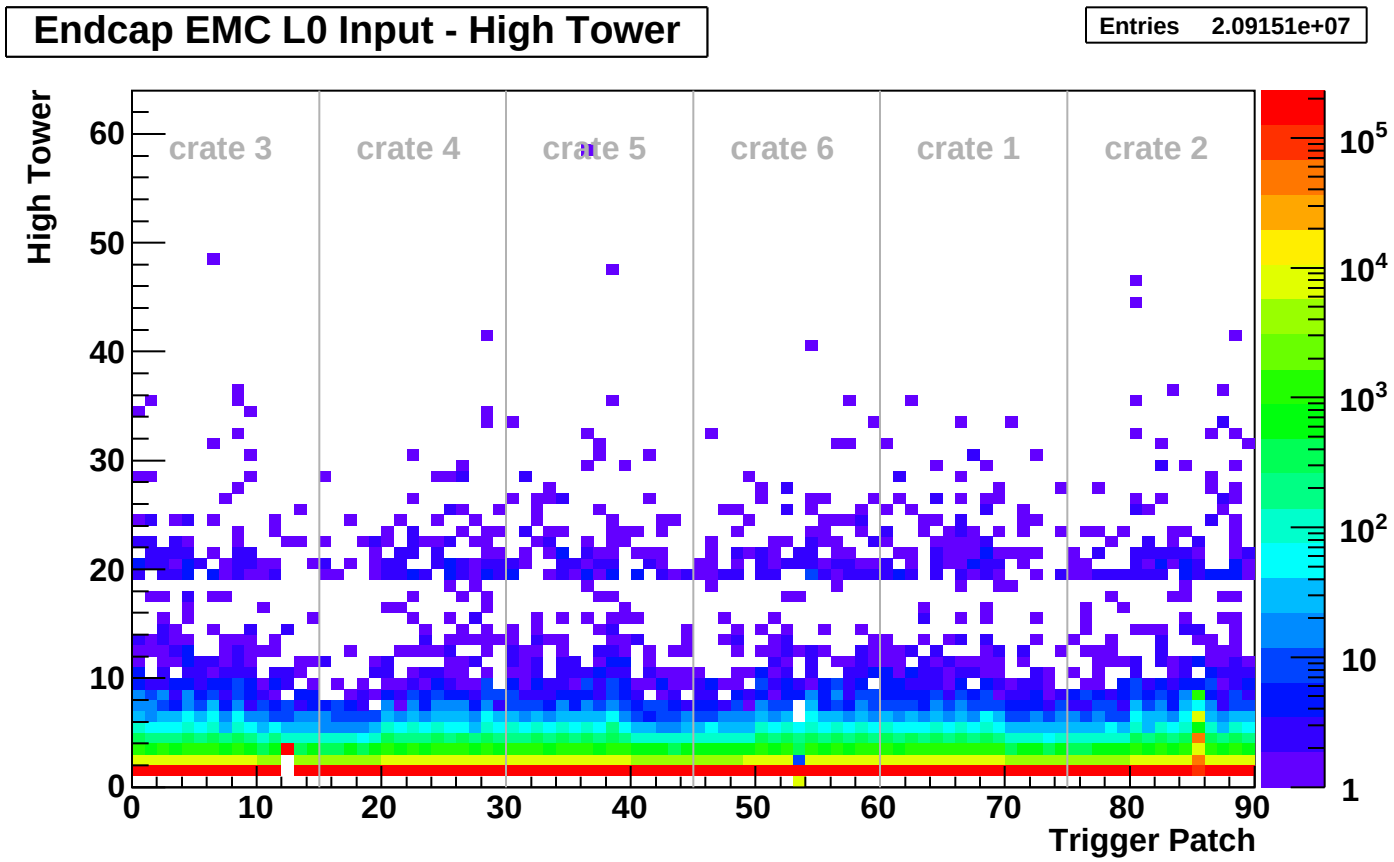

BunchId7Bit (all events)
Entries 232390
10^3
10^2
10
0
20
40
60
80
100
120

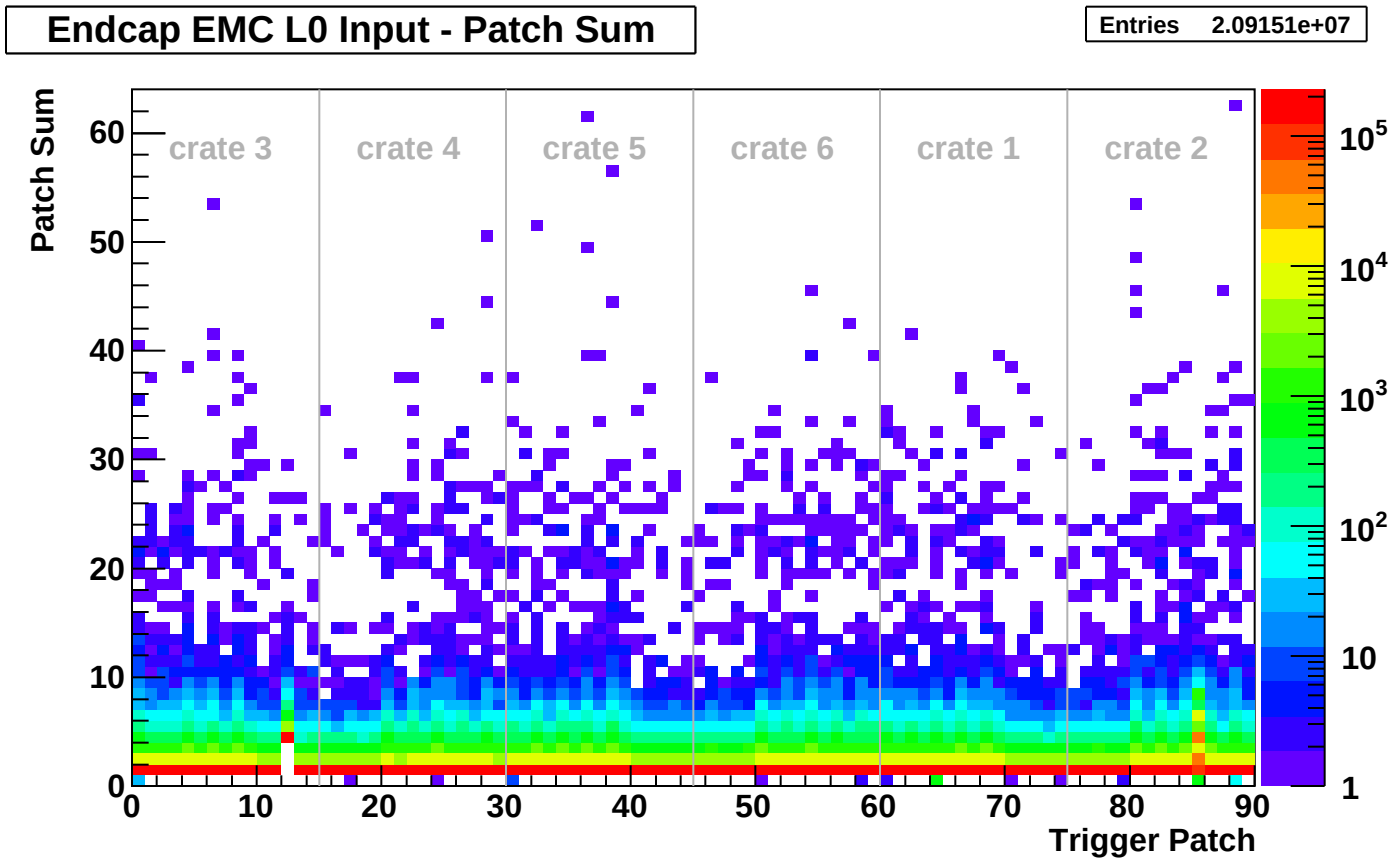

BunchId7Bit (JP1)
Entries 7503
10^2
10
1
0
20
40
60
80
100
120

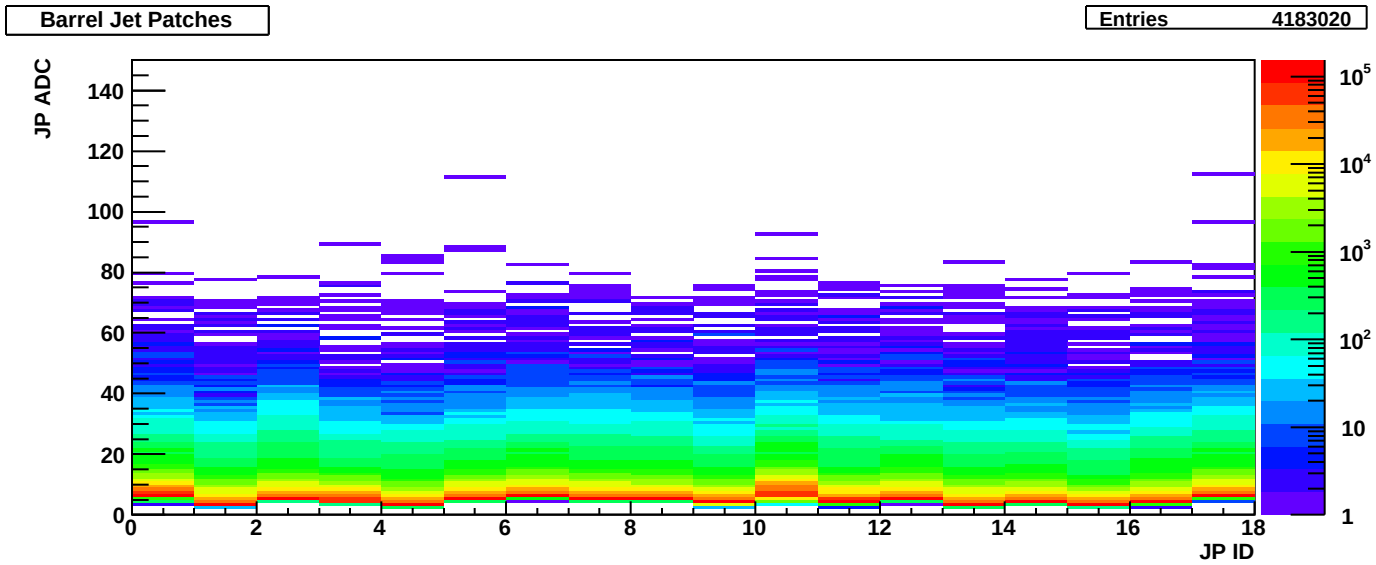

BunchId7Bit (JP2||AJP)
Entries 2700
10
1
0
20
40
60
80
100
120

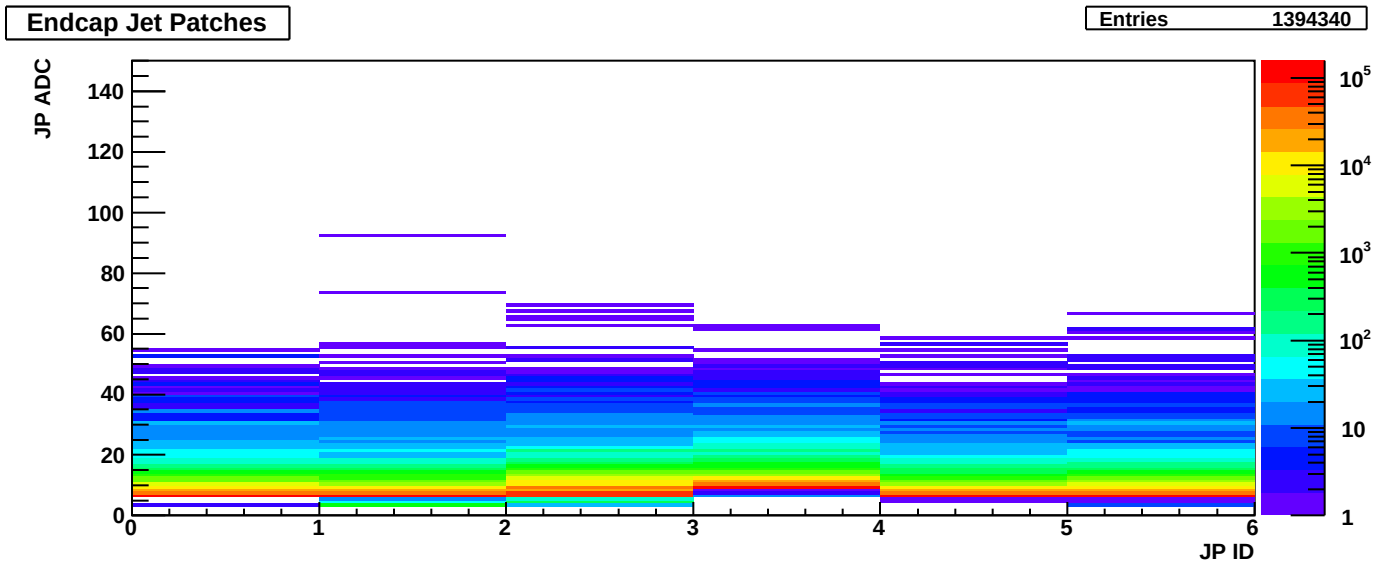

Barrel EMC L0 Input - High Tower
Entries 6.9717e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

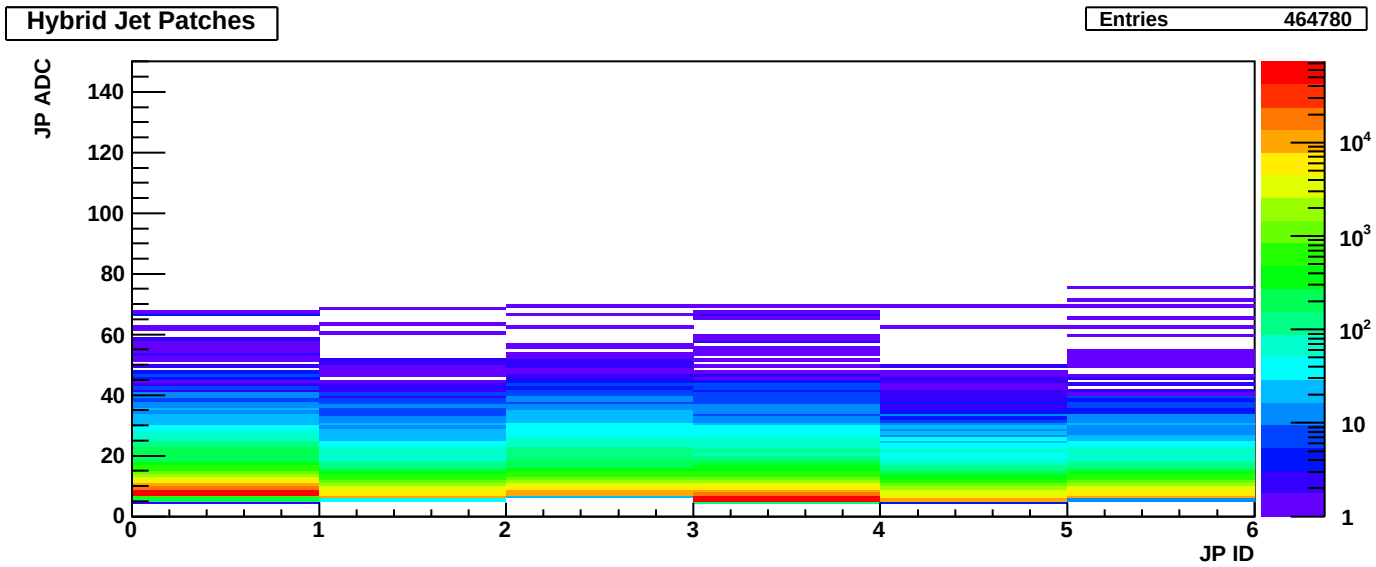

Barrel EMC L0 Input - Patch Sum
Entries 6.9717e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

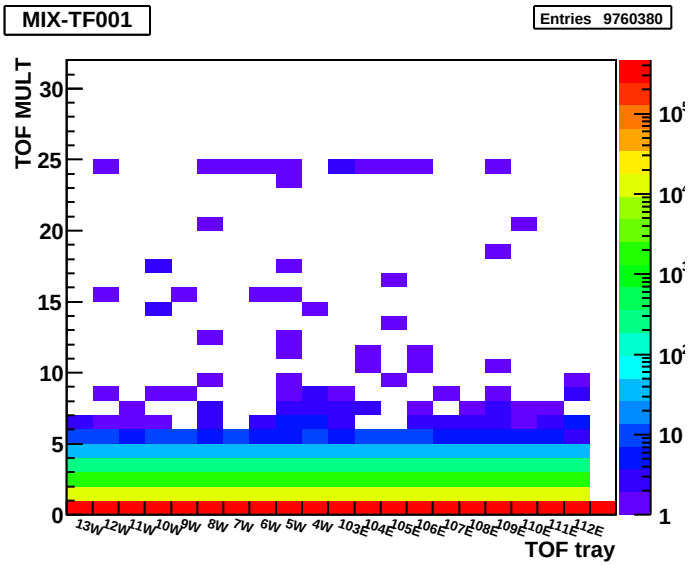

Endcap EMC L0 Input - High Tower
Entries 2.09151e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

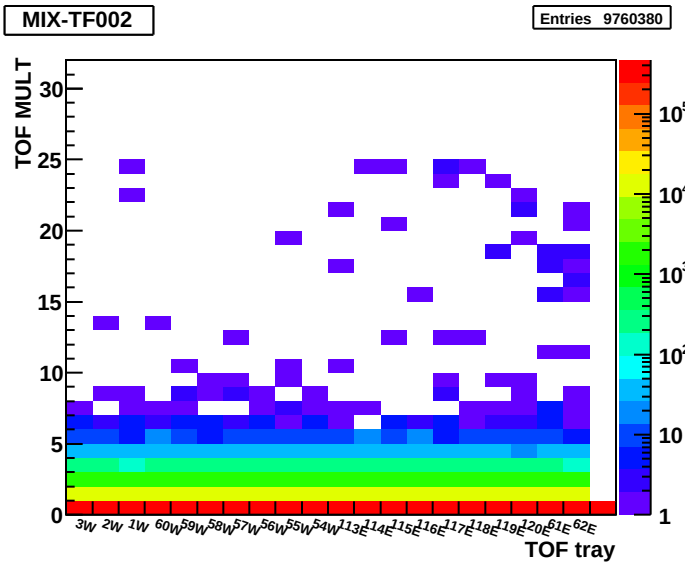

Endcap EMC L0 Input - Patch Sum
Entries 2.09151e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

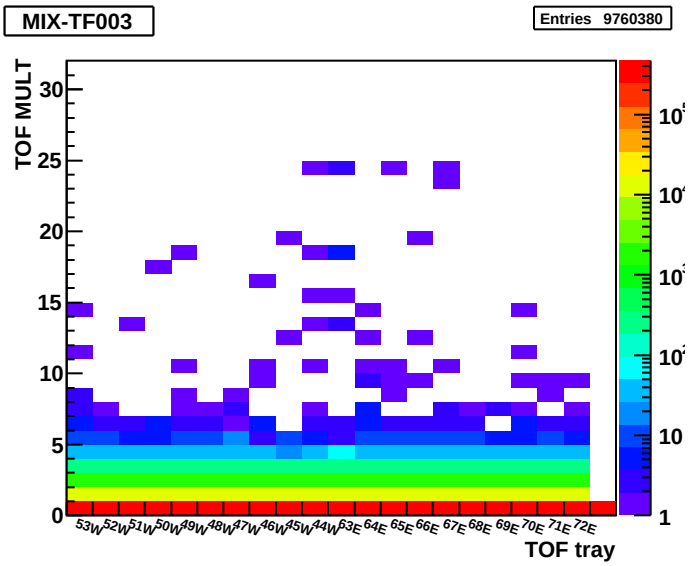

Barrel Jet Patches
Entries 4183020
JP ADC
JP ID

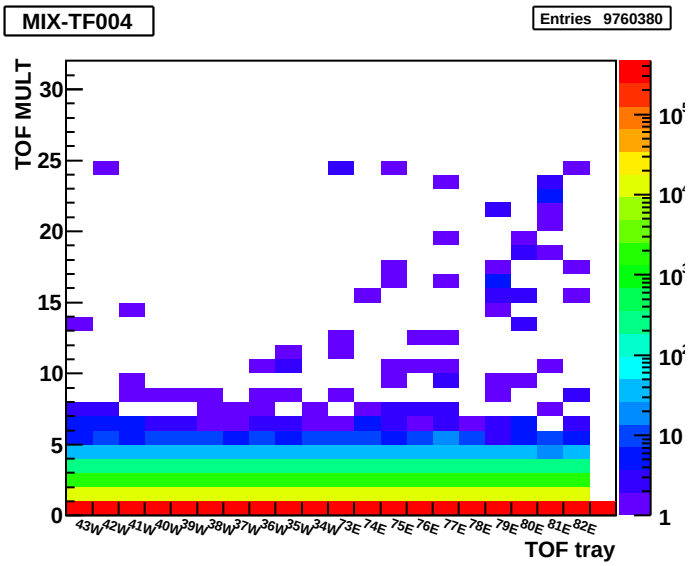

Endcap Jet Patches
Entries 1394340
JP ADC
JP ID

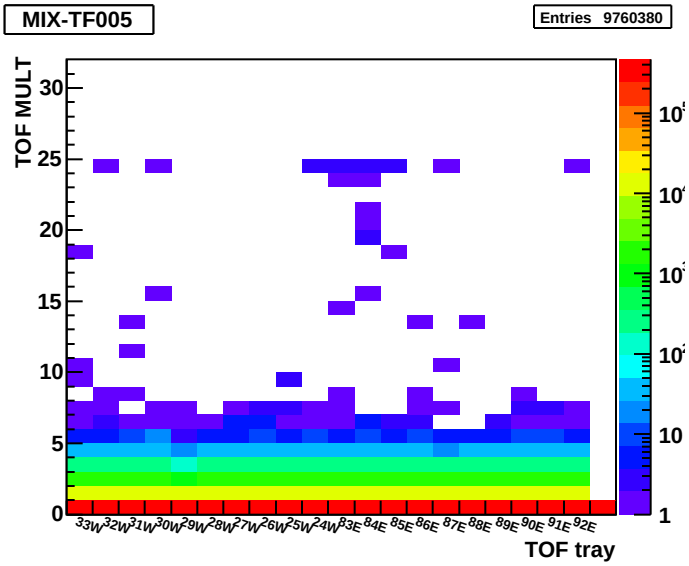

Hybrid Jet Patches
Entries 464780
JP ADC
JP ID

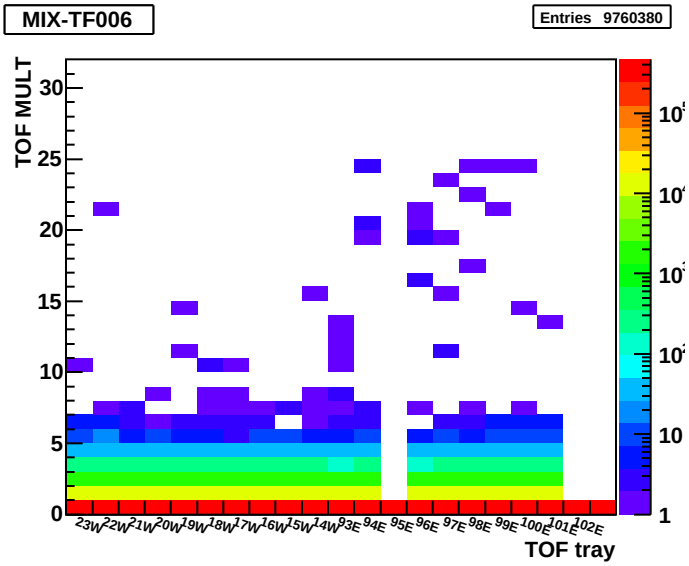

MIX-TF001
Entries 9760380
TOF MULT
TOF tray

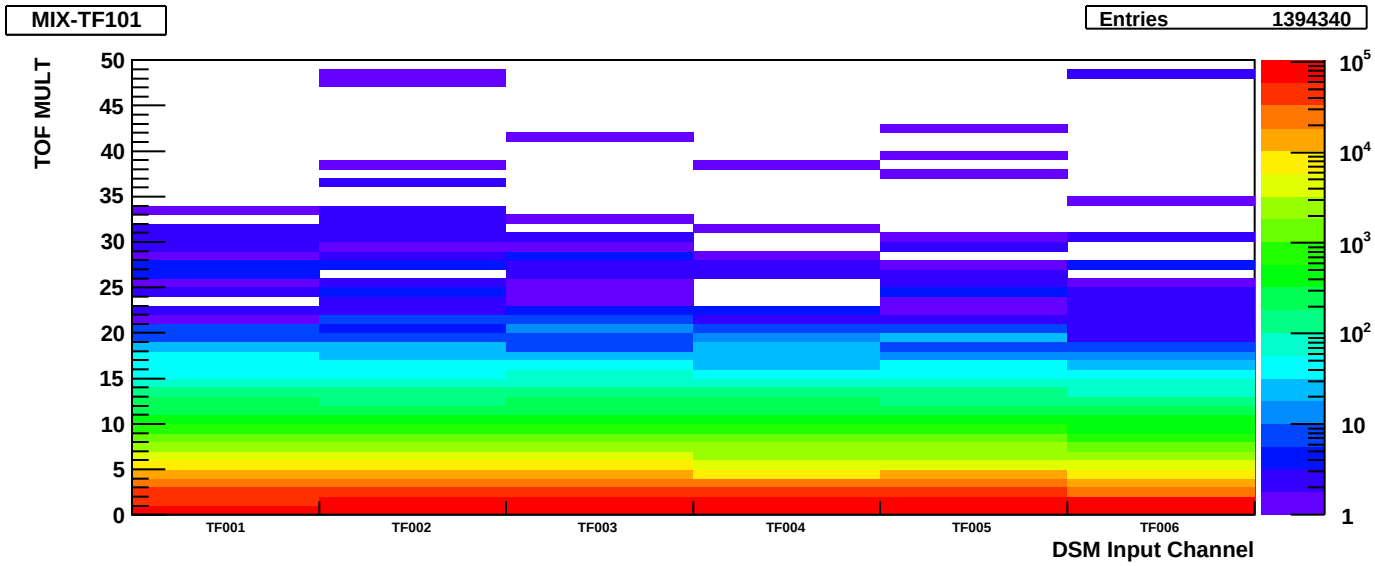

MIX-TF002
Entries 9760380
TOF MULT
TOF tray

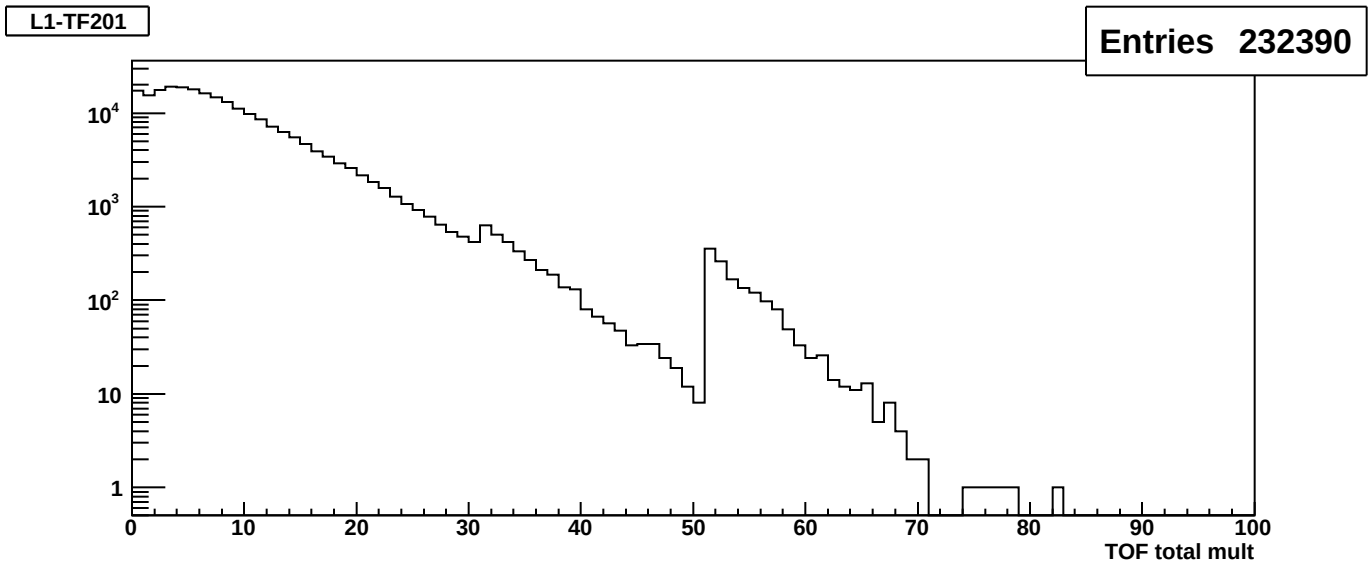

MIX-TF003
Entries 9760380
TOF MULT
TOF tray

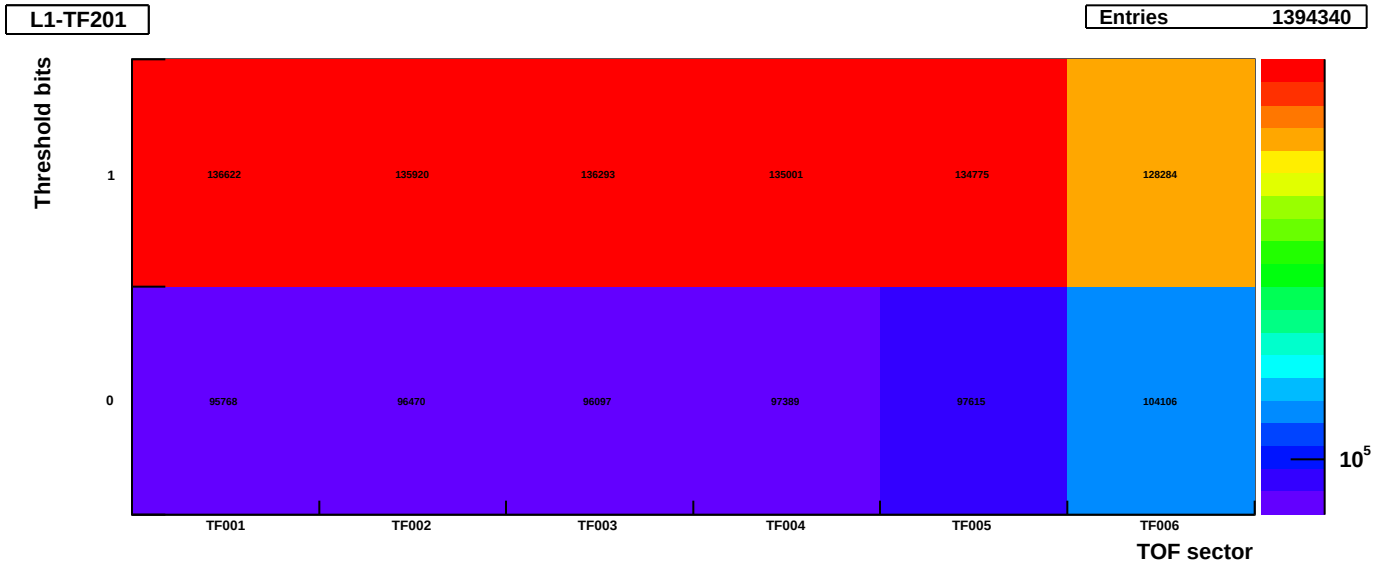

MIX-TF004
Entries 9760380
TOF MULT
TOF tray

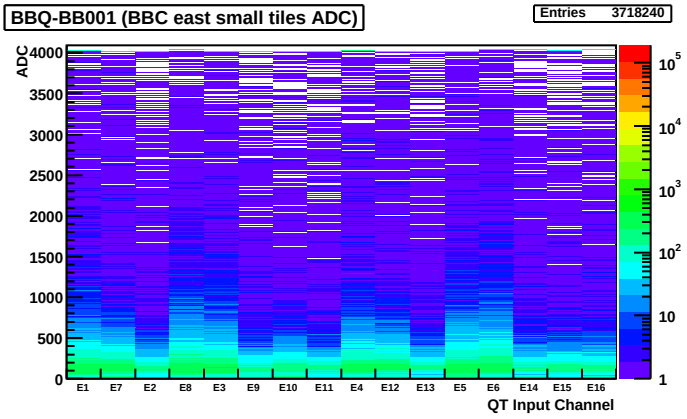

MIX-TF005
Entries 9760380
TOF MULT
TOF tray

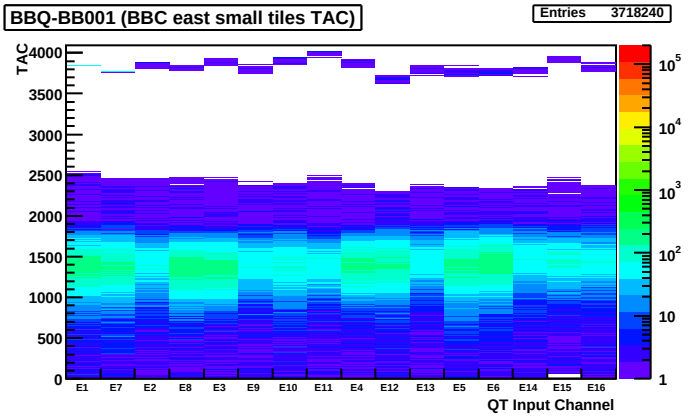

MIX-TF006
Entries 9760380
TOF MULT
TOF tray

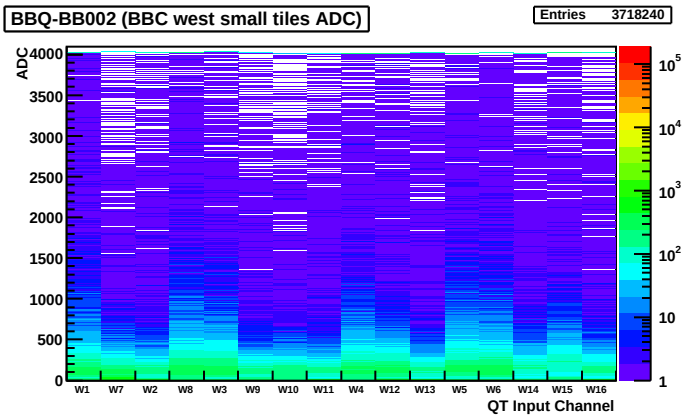

MIX-TF101
Entries 1394340
TOF MULT
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

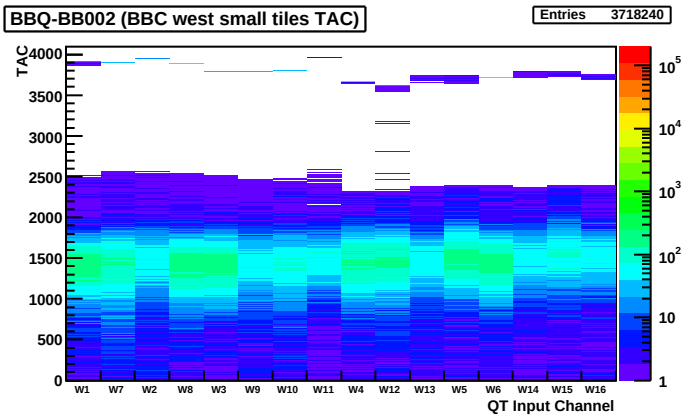

L1-TF201
Entries 232390
TOF total mult

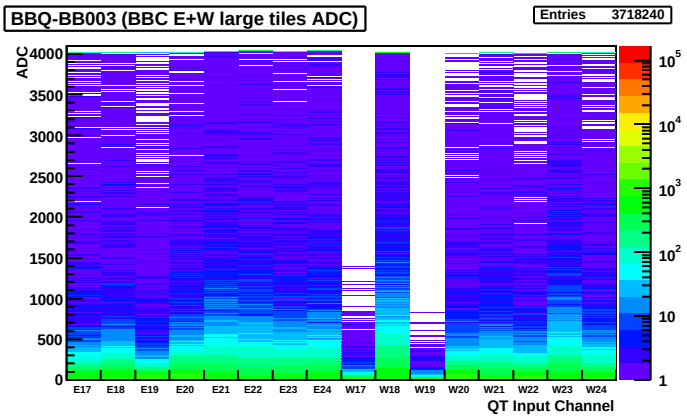

L1-TF201
Entries 1394340
Threshold bits
136622
135920
136293
135001
134775
128284
95768
96470
96097
97389
97615
104106
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

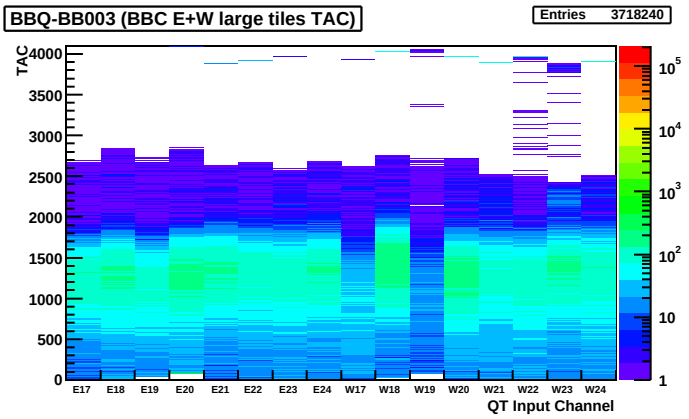

BBQ-BB001 (BBC east small tiles ADC)
Entries 3718240
ADC
QT Input Channel

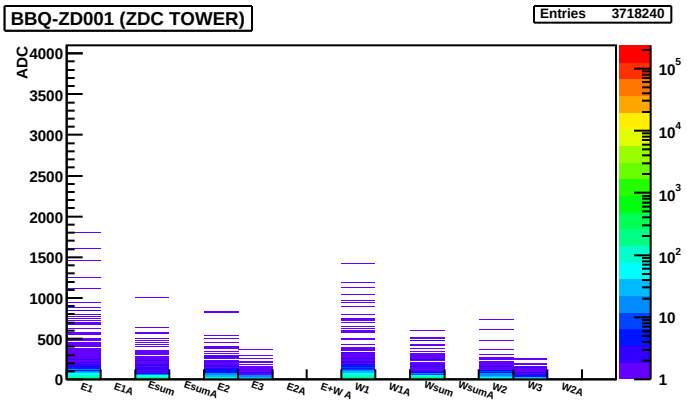

BBQ-BB001 (BBC east small tiles TAC)
Entries 3718240
TAC
QT Input Channel

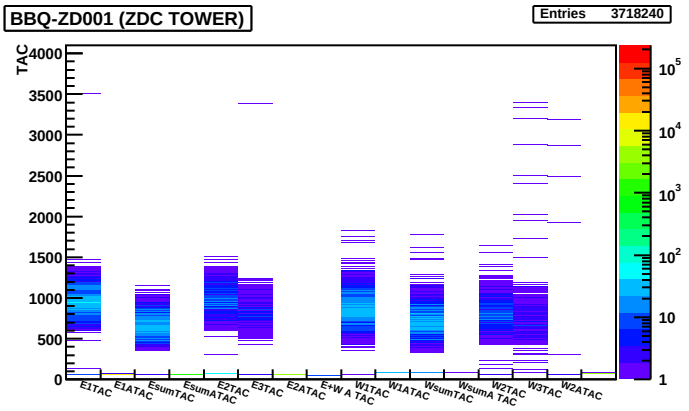

BBQ-BB002 (BBC west small tiles ADC)
Entries 3718240
ADC
QT Input Channel

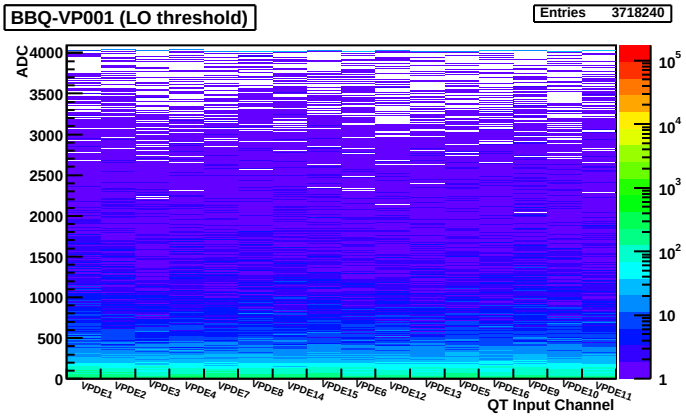

BBQ-BB002 (BBC west small tiles TAC)
Entries 3718240
TAC
QT Input Channel

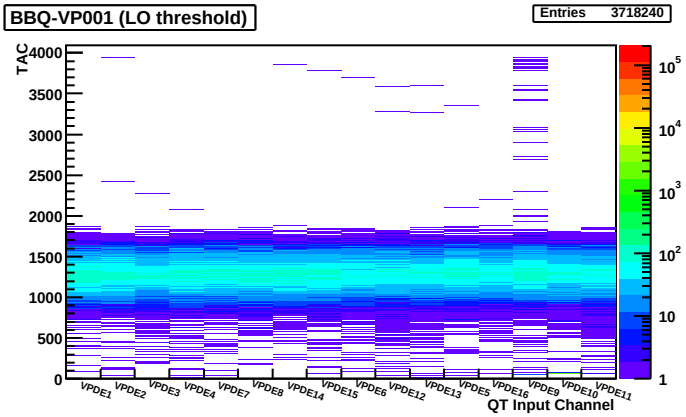

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 3718240
ADC
QT Input Channel

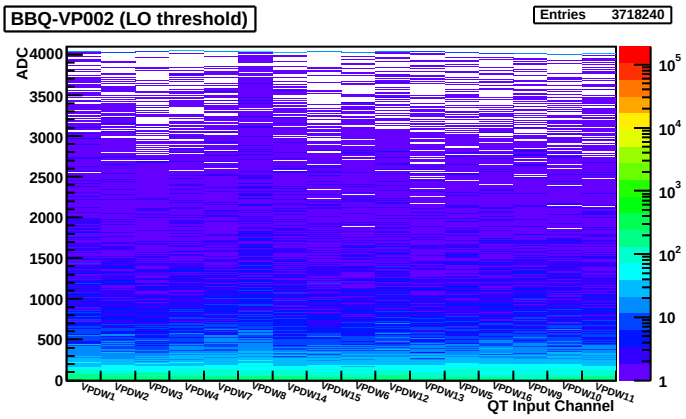

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 3718240
TAC
QT Input Channel

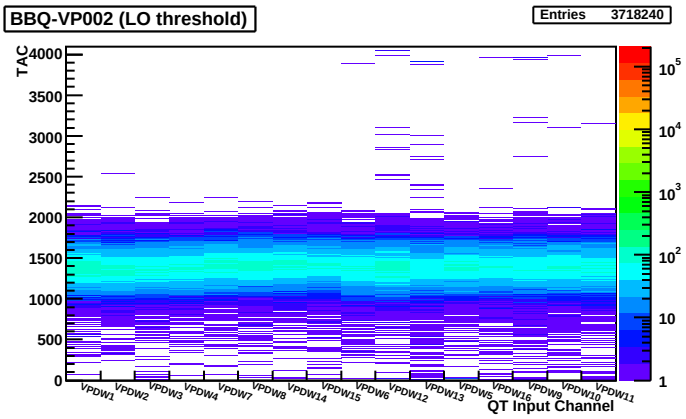

BBQ-ZD001 (ZDC TOWER)
Entries 3718240
ADC

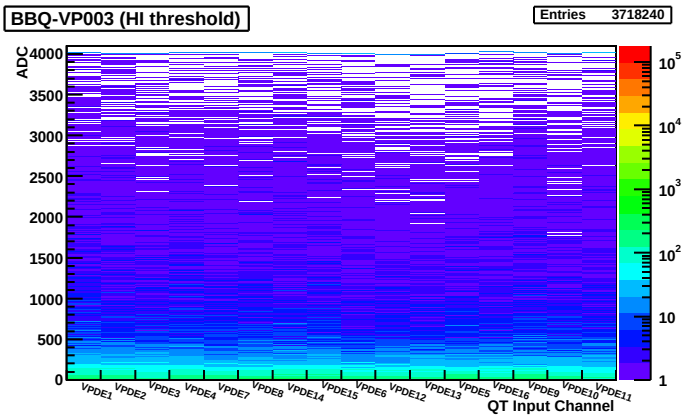

BBQ-ZD001 (ZDC TOWER)
Entries 3718240
TAC

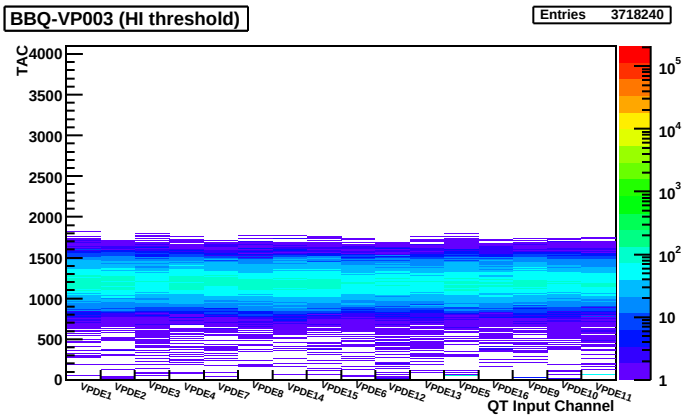

BBQ-VP001 (LO threshold)
Entries 3718240
ADC
QT Input Channel

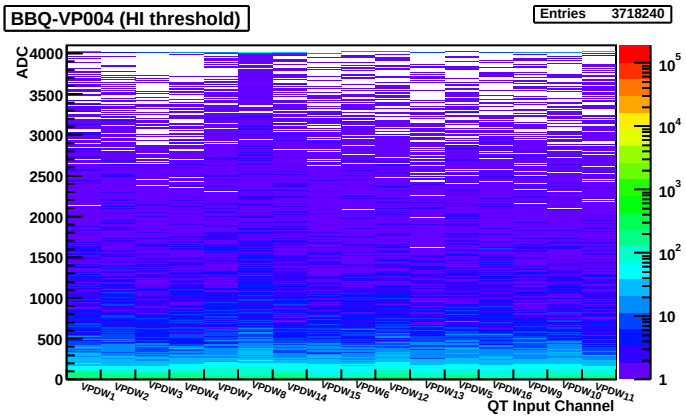

BBQ-VP001 (LO threshold)
Entries 3718240
TAC
QT Input Channel

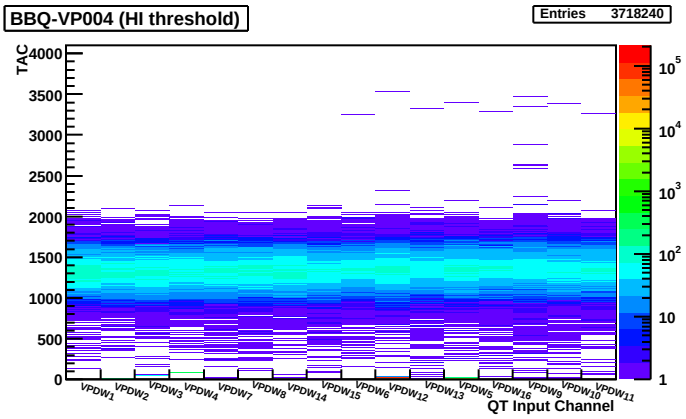

BBQ-VP002 (LO threshold)
Entries 3718240
ADC
QT Input Channel

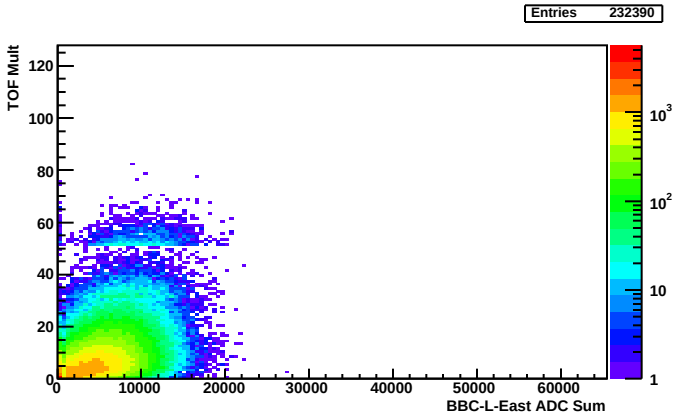

BBQ-VP002 (LO threshold)
Entries 3718240
TAC
QT Input Channel

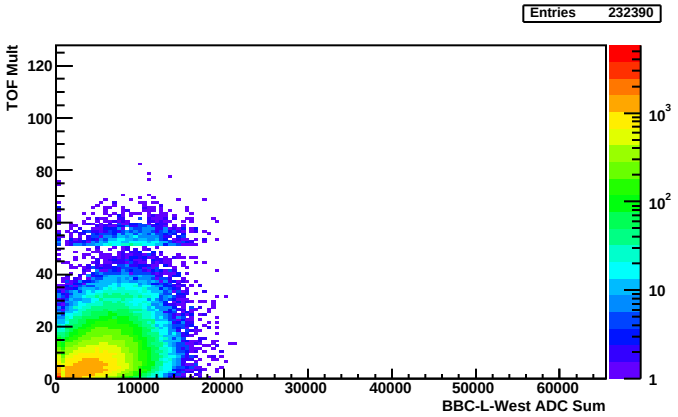

BBQ-VP003 (HI threshold)
Entries 3718240
ADC
QT Input Channel

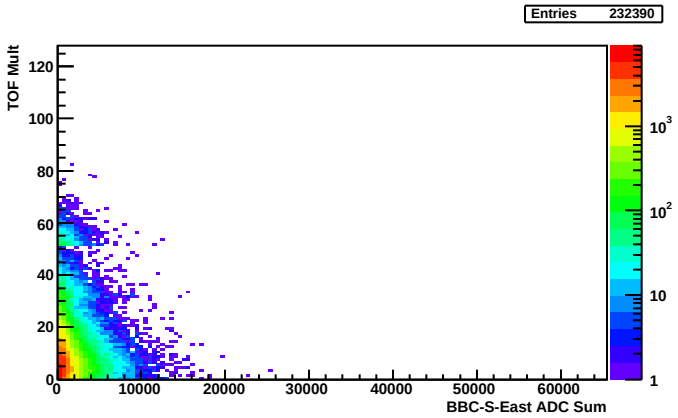

BBQ-VP003 (HI threshold)
Entries 3718240
TAC
QT Input Channel

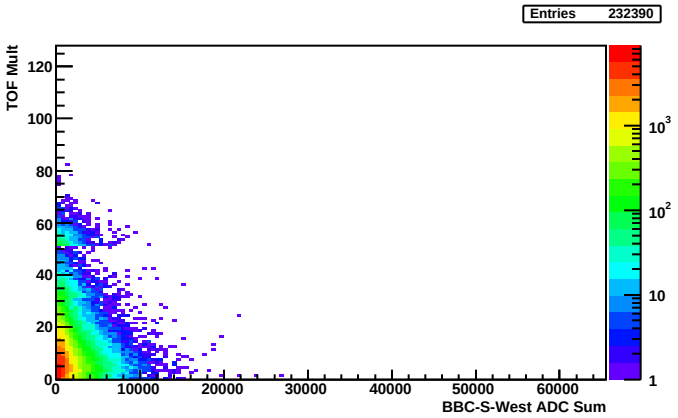

BBQ-VP004 (HI threshold)
Entries 3718240
ADC
QT Input Channel

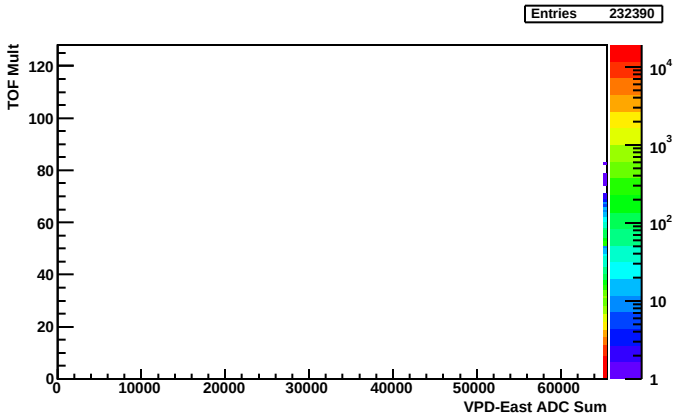

BBQ-VP004 (HI threshold)
Entries 3718240
TAC
QT Input Channel

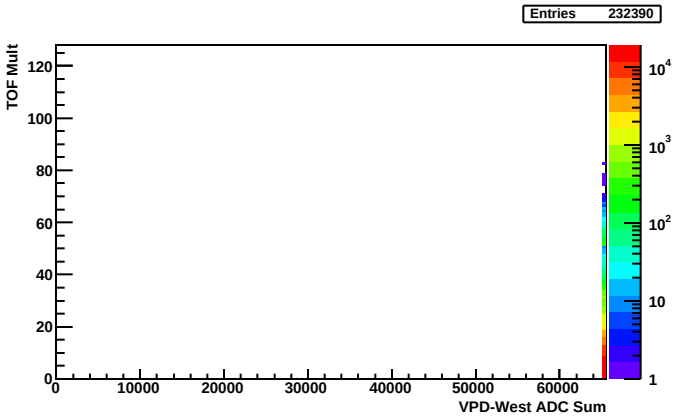

Entries 232390
TOF Mult
BBC-L-East ADC Sum

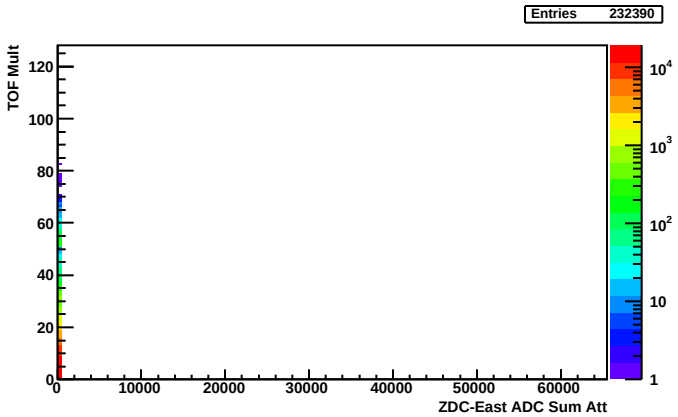

Entries 232390
TOF Mult
BBC-L-West ADC Sum

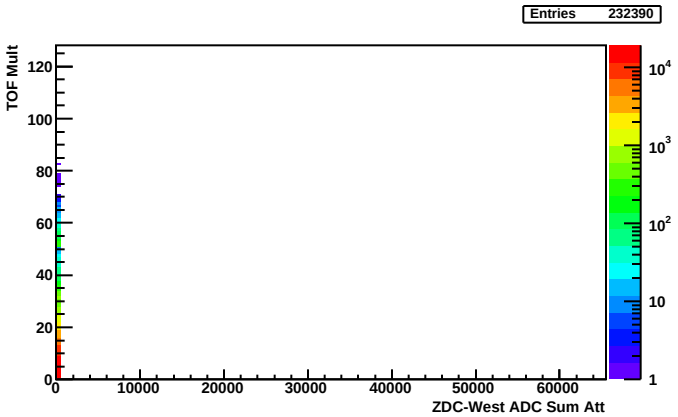

Entries 232390
TOF Mult
BBC-S-East ADC Sum

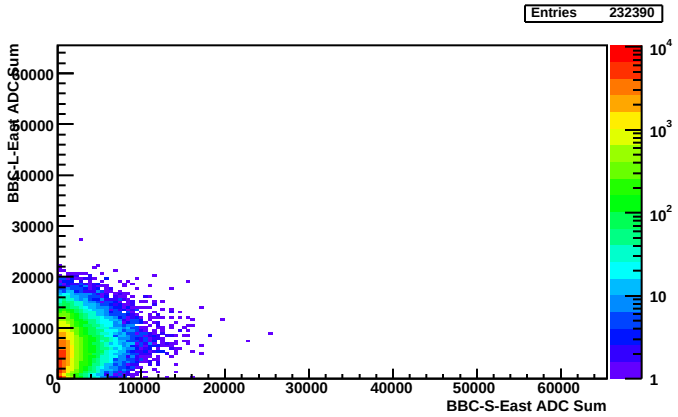

Entries 232390
TOF Mult
BBC-S-West ADC Sum

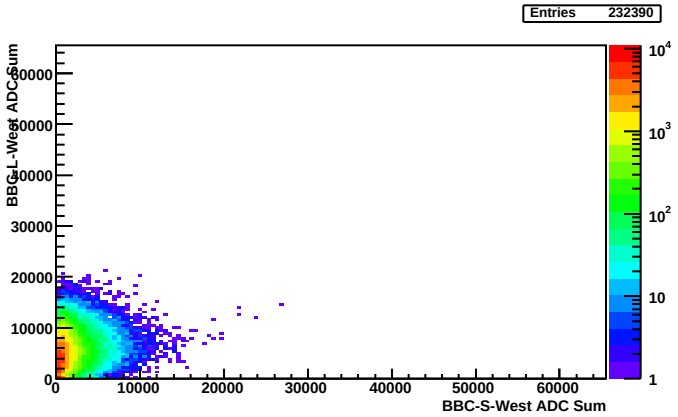

Entries 232390
TOF Mult
VPD-East ADC Sum

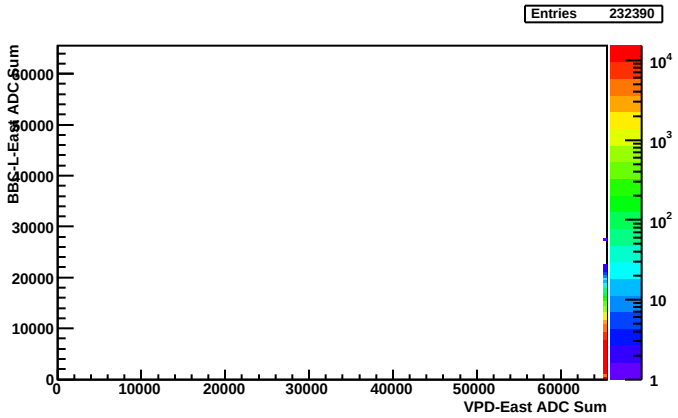

Entries 232390
TOF Mult
VPD-West ADC Sum

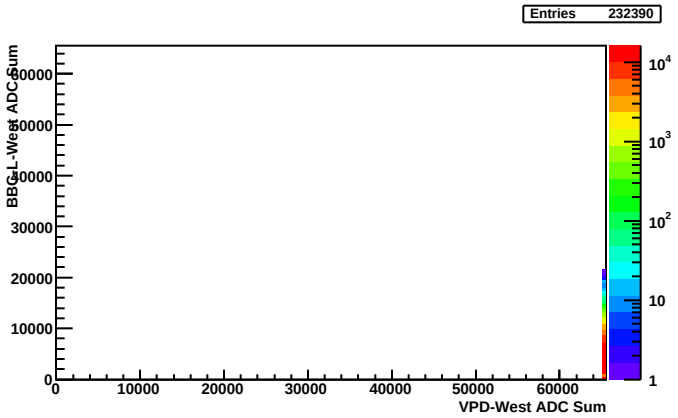

Entries 232390
TOF Mult
ZDC-East ADC Sum Att

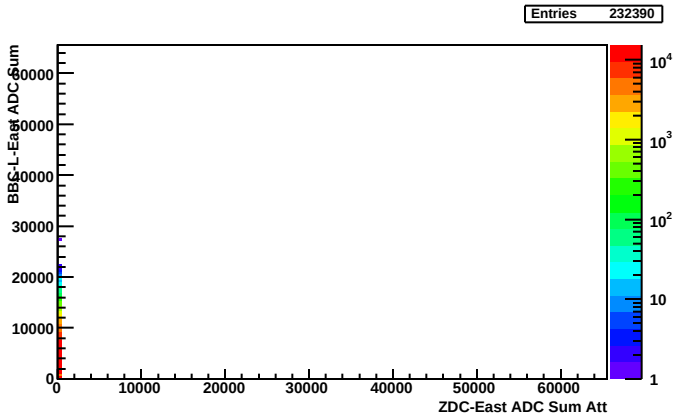

Entries 232390
TOF Mult
ZDC-West ADC Sum Att

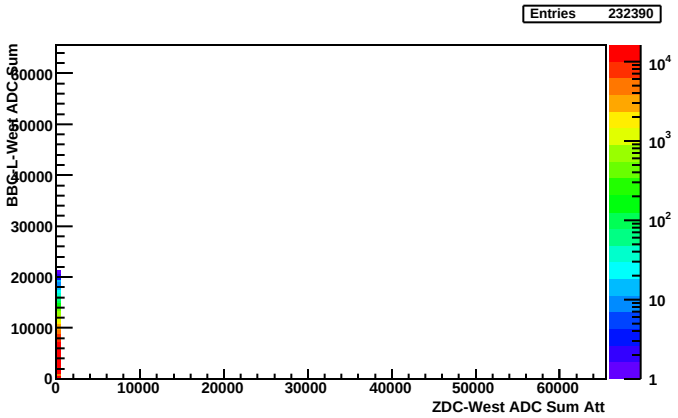

Entries 232390
BBC-L-East ADC Sum
BBC-S-East ADC Sum

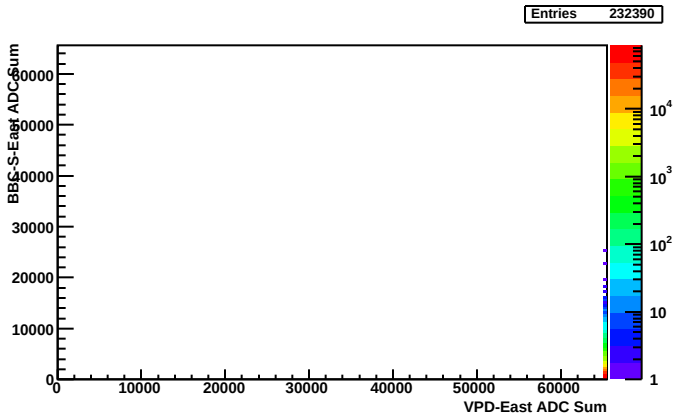

Entries 232390
BBC-L-West ADC Sum
BBC-S-West ADC Sum

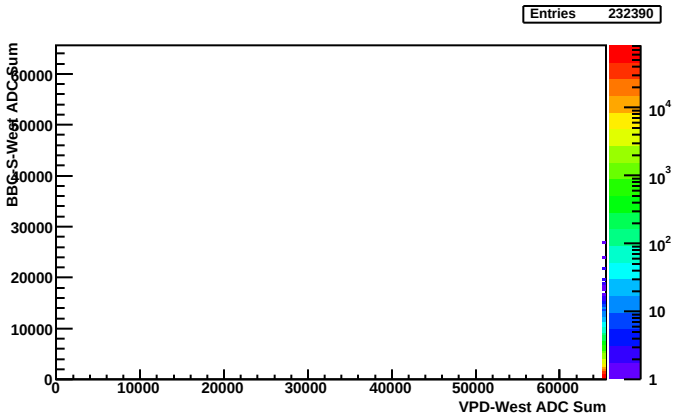

Entries 232390
BBC-L-East ADC Sum
VPD-East ADC Sum

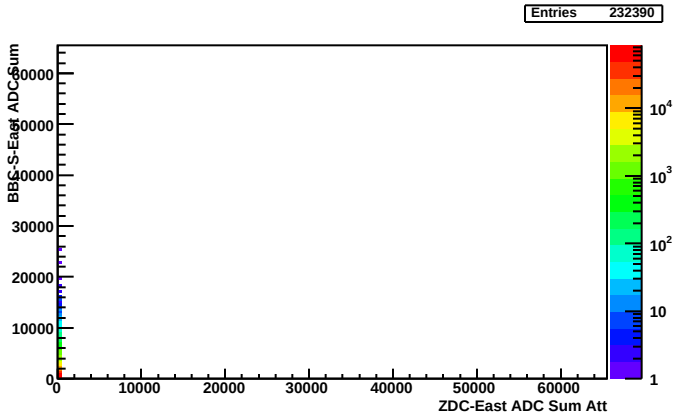

Entries 232390
BBC-L-West ADC Sum
VPD-West ADC Sum

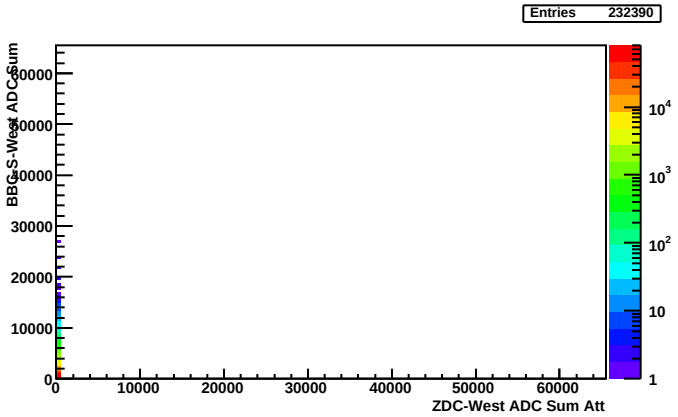

Entries 232390
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

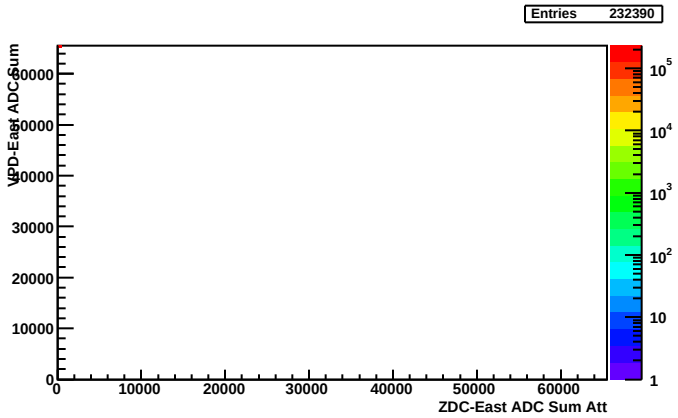

Entries 232390
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

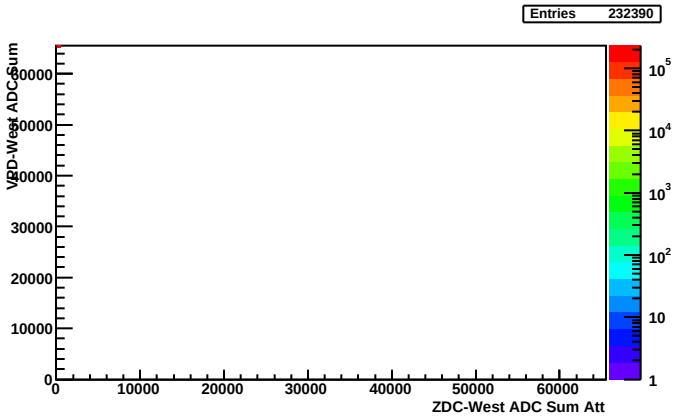

Entries 232390
BBC-S-East ADC Sum
VPD-East ADC Sum

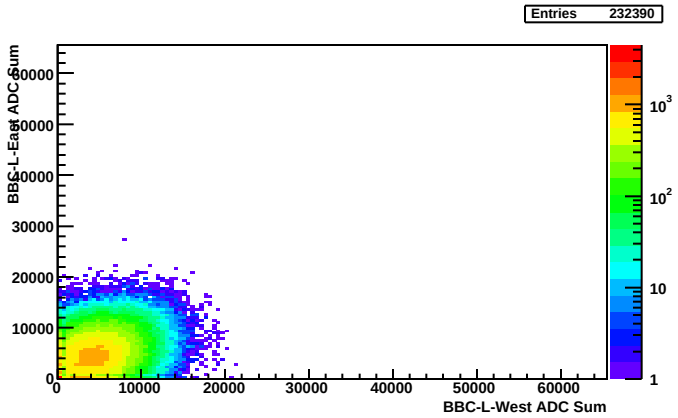

Entries 232390
BBC-S-West ADC Sum
VPD-West ADC Sum

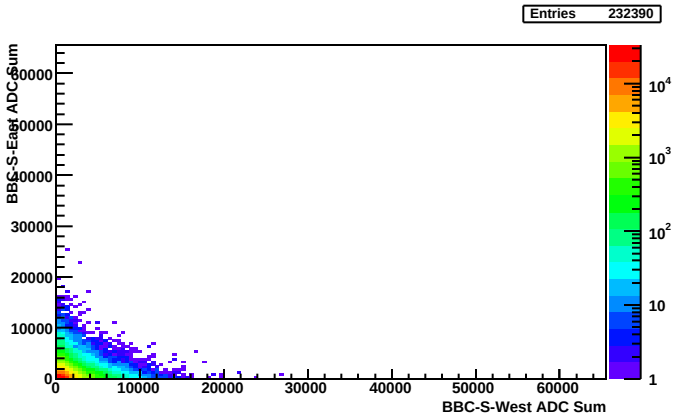

Entries 232390
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

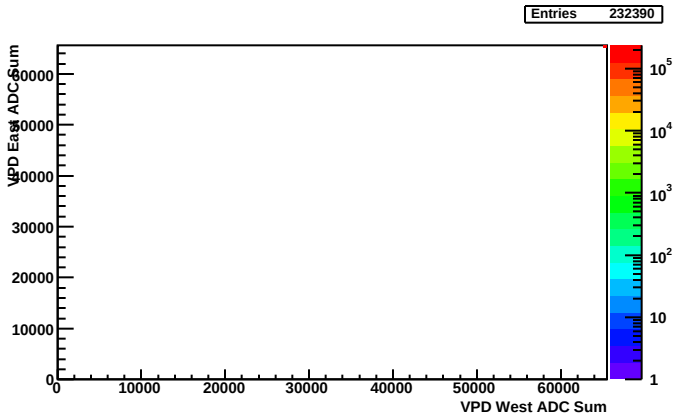

Entries 232390
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

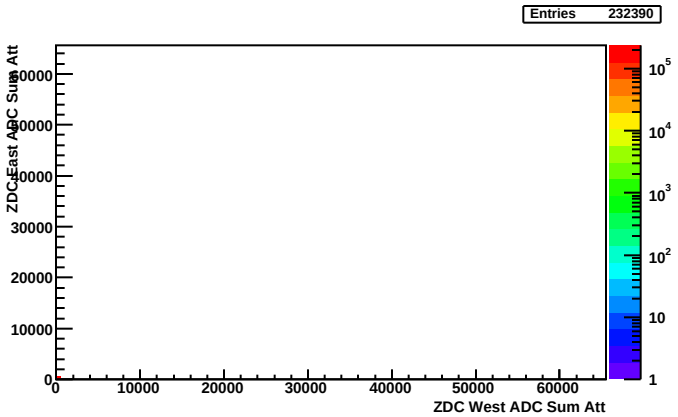

Entries 232390
VPD-East ADC Sum
ZDC-East ADC Sum Att

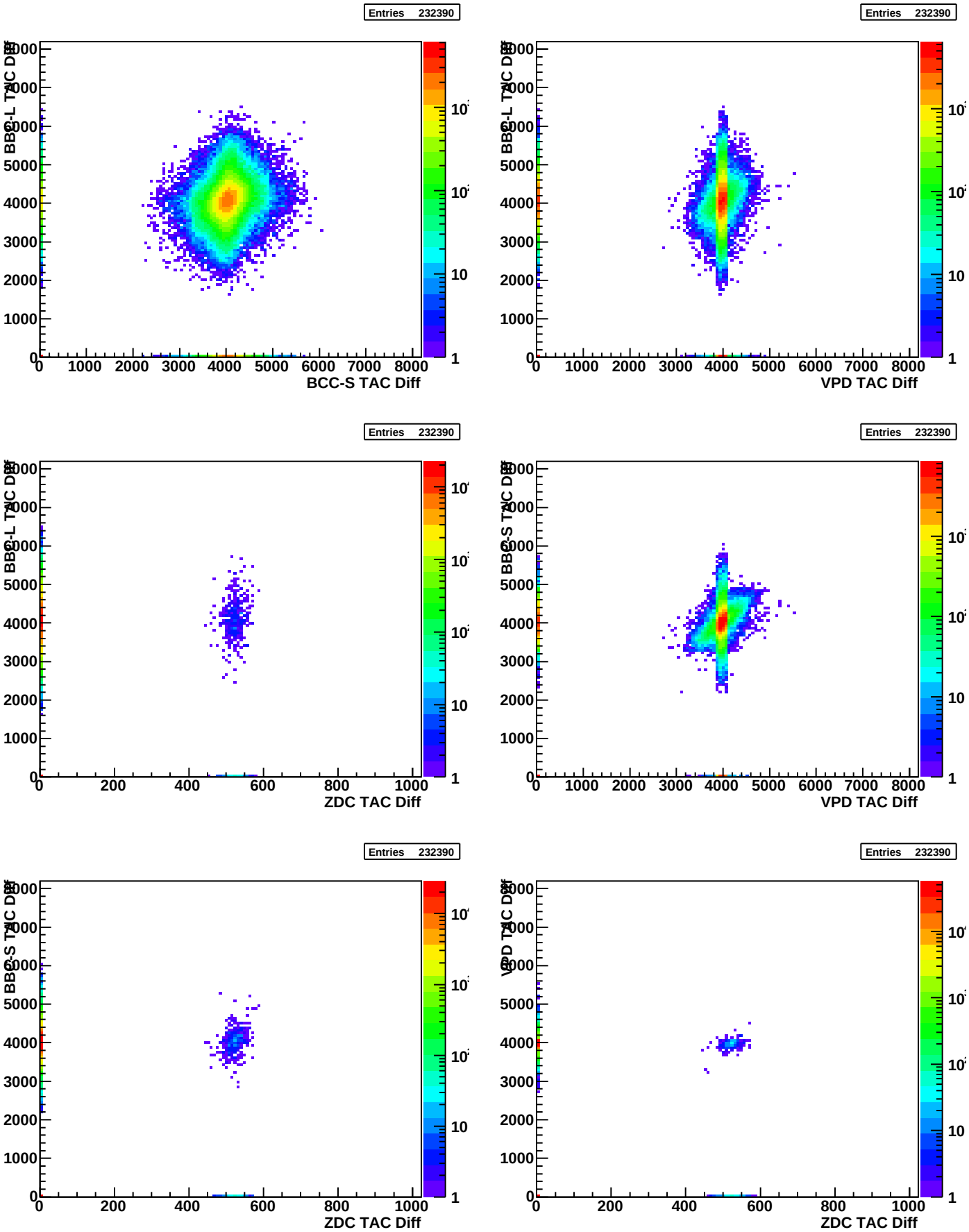

Entries 232390
VPD-West ADC Sum
ZDC-West ADC Sum Att

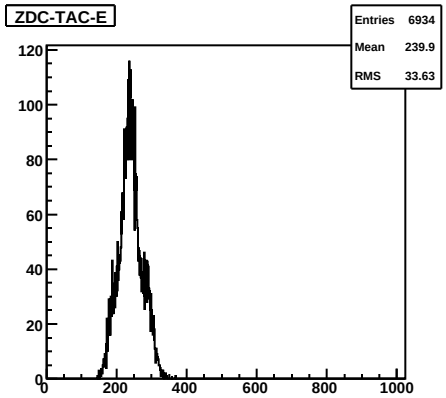

Entries 232390
BBC-L-East ADC Sum
BBC-L-West ADC Sum

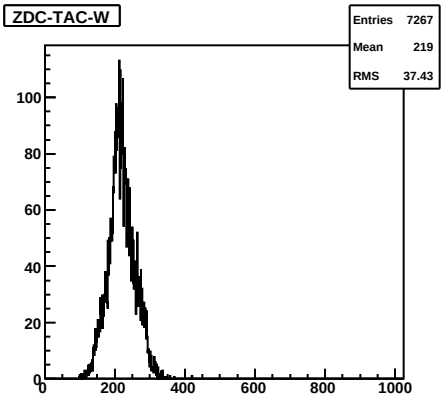

Entries 232390
BBC-S-East ADC Sum
BBC-S-West ADC Sum

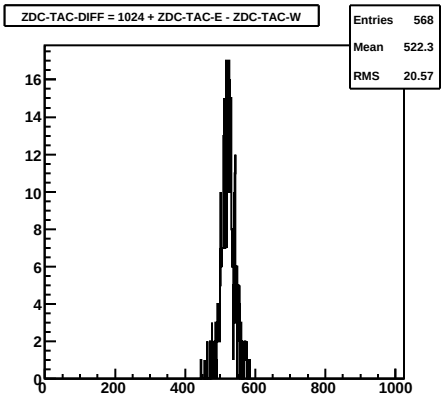

Entries 232390
VPD East ADC Sum
VPD West ADC Sum

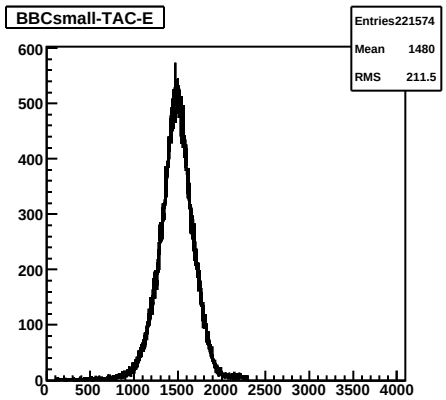

Entries 232390
ZDC East ADC Sum Att
ZDC West ADC Sum Att

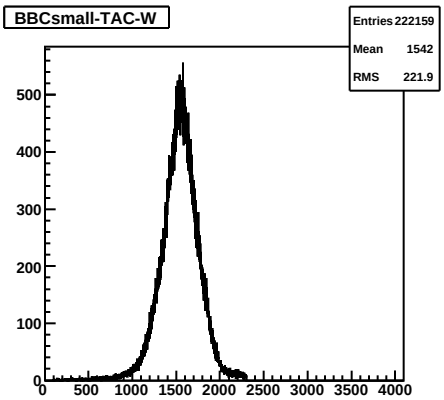

Entries 232390
BBC-L TAC Diff
BCC-S TAC Diff
Entries 232390
BBC-L TAC Diff
VPD TAC Diff
Entries 232390
BBC-L TAC Diff
ZDC TAC Diff
Entries 232390
BBC-S TAC Diff
VPD TAC Diff
Entries 232390
BBC-S TAC Diff
ZDC TAC Diff
Entries 232390
VPD TAC Diff
ZDC TAC Diff

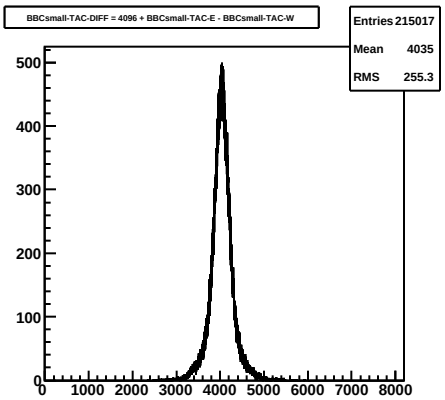

ZDC-TAC-E
Entries 6934
Mean 239.9
RMS 33.63

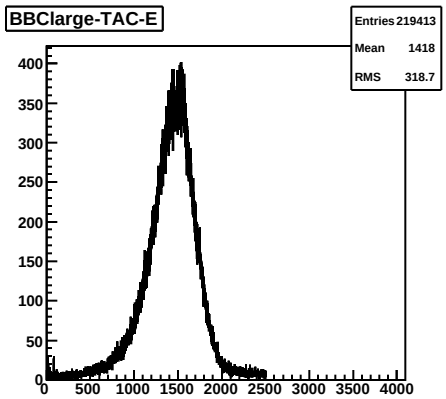

ZDC-TAC-W
Entries 7267
Mean 219
RMS 37.43

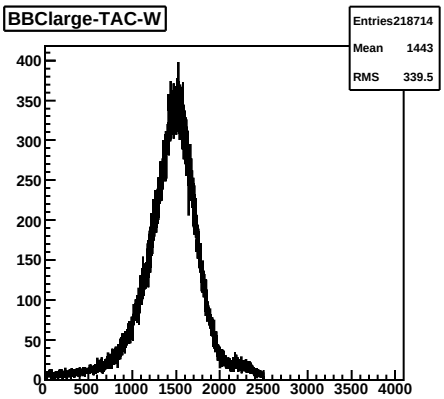

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 568
Mean 522.3
RMS 20.57

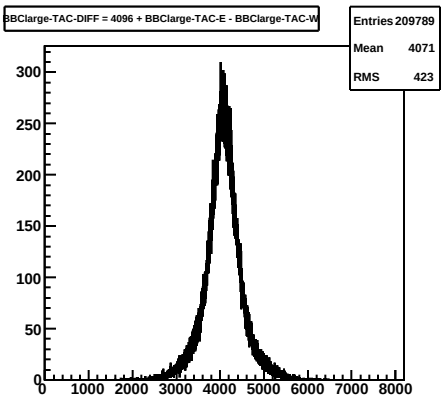

BBCsmall-TAC-E
Entries 221574
Mean 1480
RMS 211.5

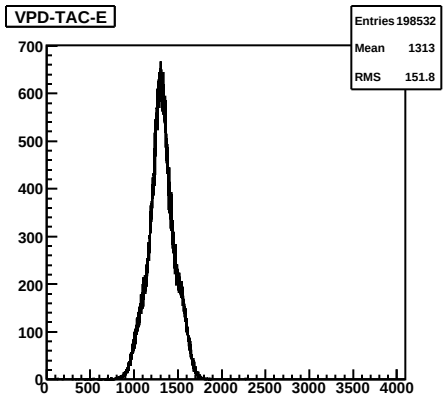

BBCsmall-TAC-W
Entries 222159
Mean 1542
RMS 221.9

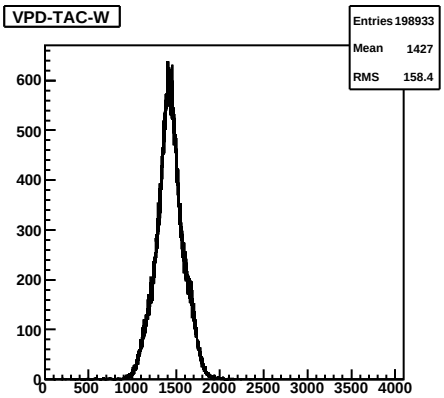

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 215017
Mean 4035
RMS 255.3

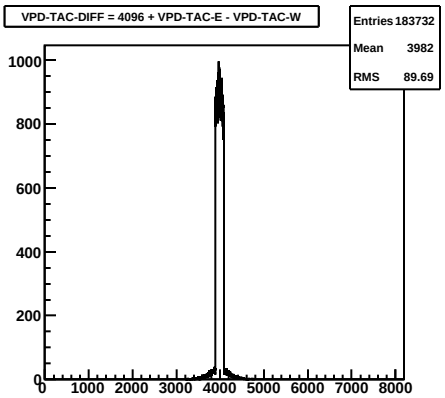

BBClarge-TAC-E
Entries 219413
Mean 1418
RMS 318.7

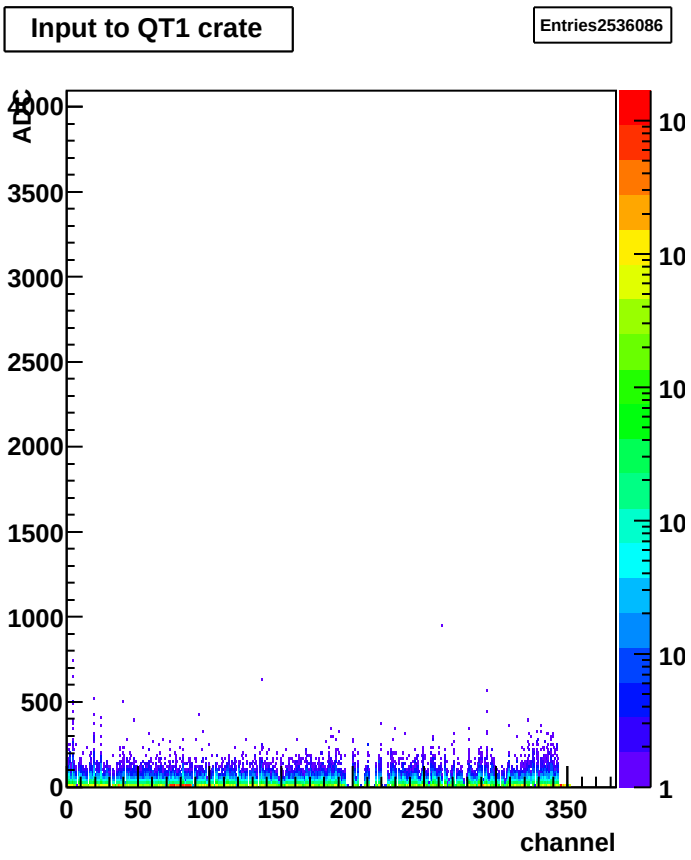

BBClarge-TAC-W
Entries 218714
Mean 1443
RMS 339.5

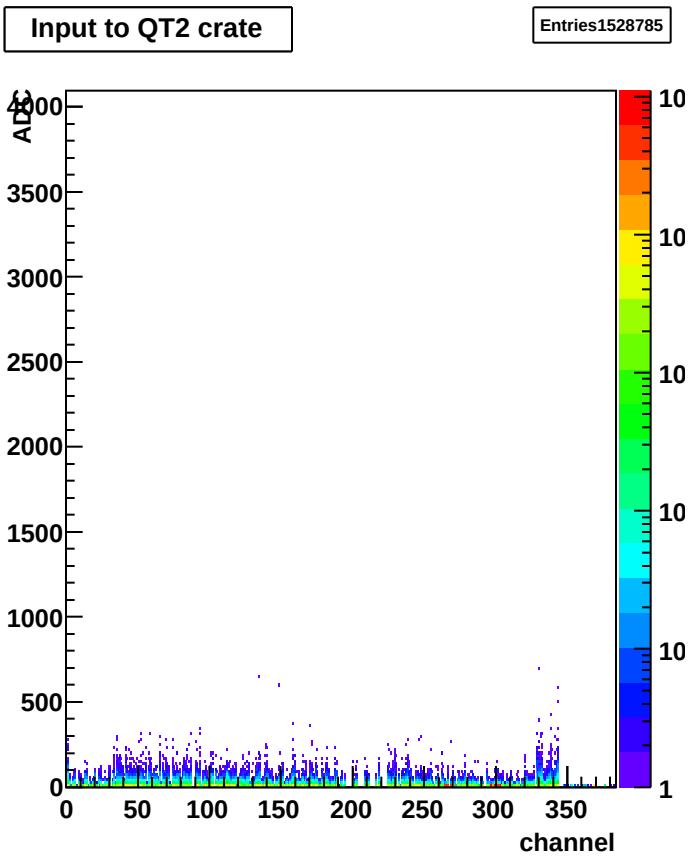

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 209789
Mean 4071
RMS 423

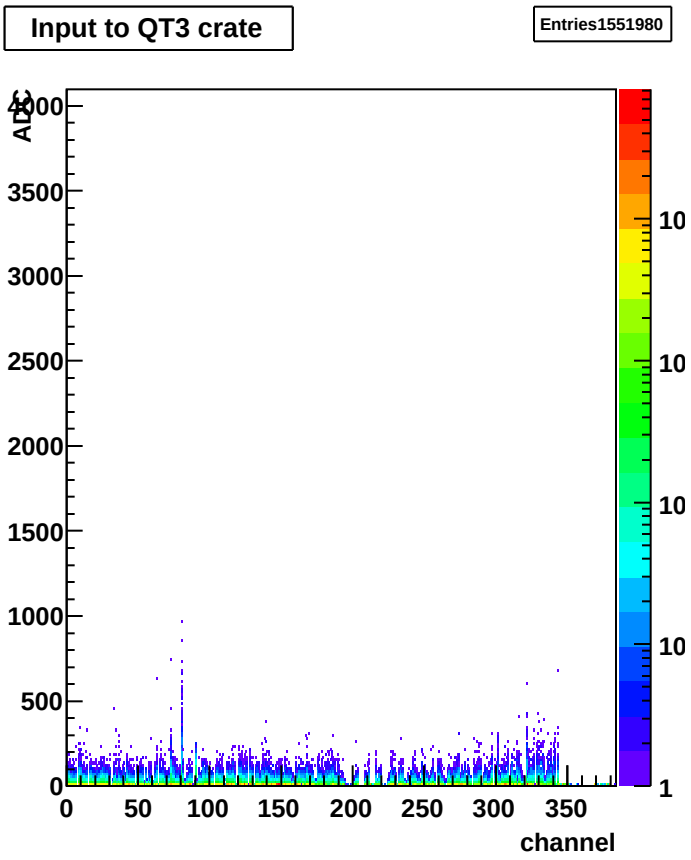

VPD-TAC-E
Entries 198532
Mean 1313
RMS 151.8

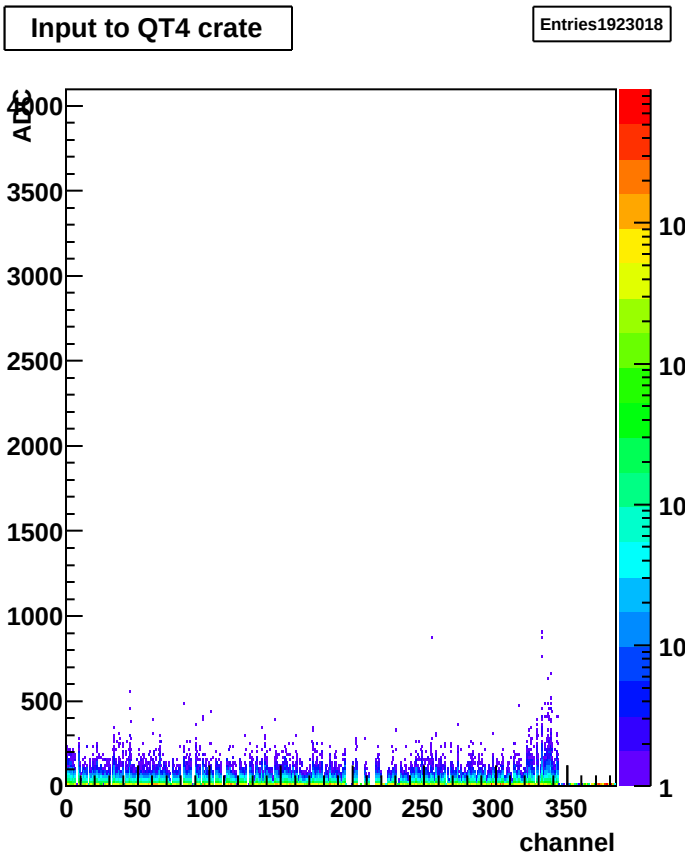

VPD-TAC-W
Entries 198933
Mean 1427
RMS 158.4

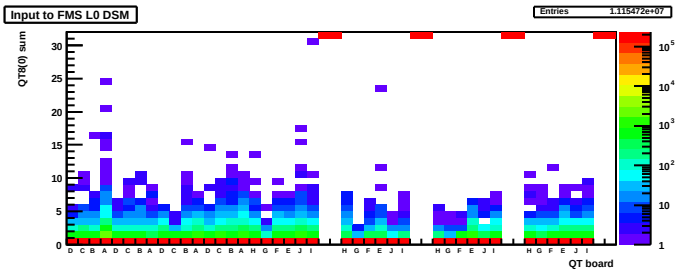

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 183732
Mean 3982
RMS 89.69

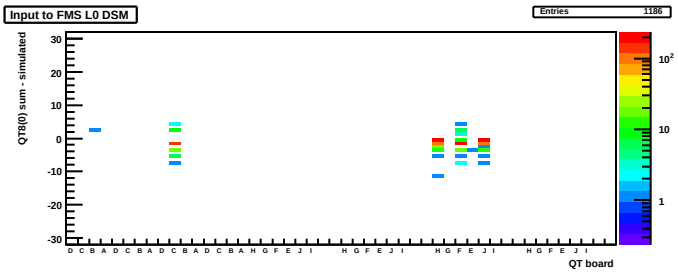

Input to QT1 crate
Entries2536086
ADC
channel

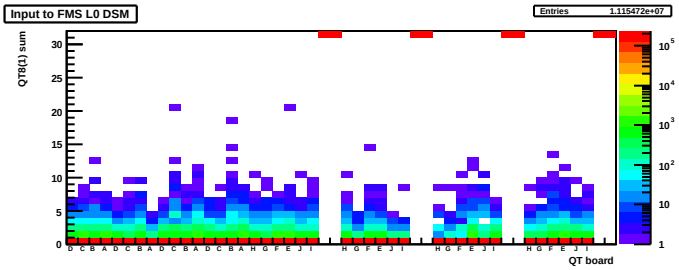

Input to QT2 crate
Entries1528785
ADC
channel

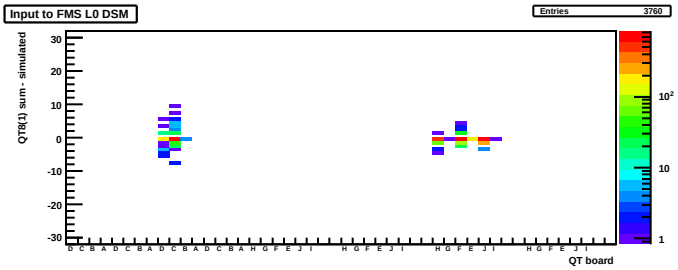

Input to QT3 crate
Entries1551980
ADC
channel

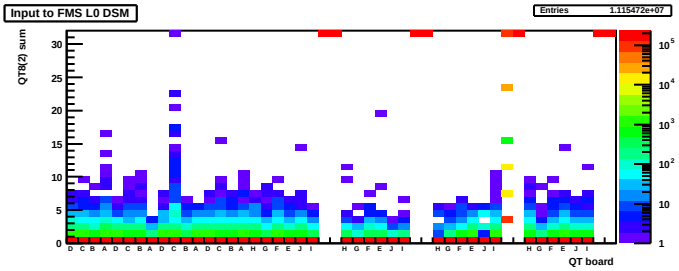

Input to QT4 crate
Entries1923018
ADC
channel

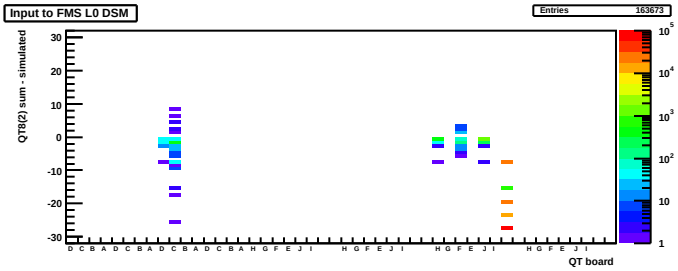

Input to FMS L0 DSM
Entries 1.115472e+07
QT8(0) sum
QT board

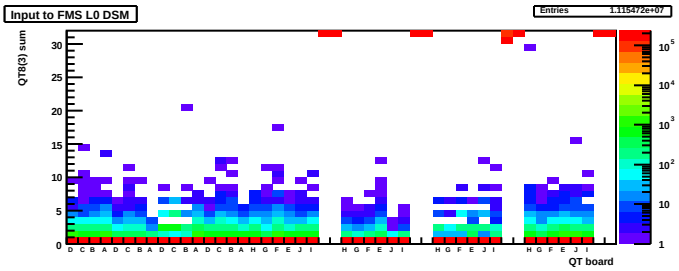

Input to FMS L0 DSM
Entries 1186
QT8(0) sum - simulated
QT board

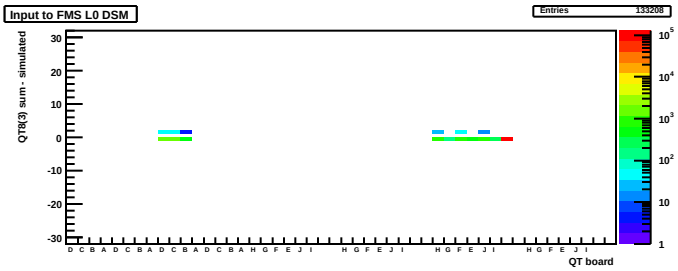

Input to FMS L0 DSM
Entries 1.115472e+07
QT8(1) sum
QT board

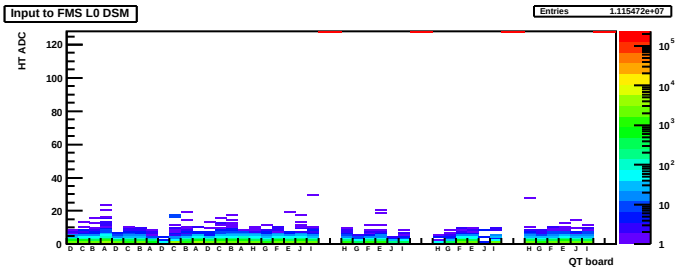

Input to FMS L0 DSM
Entries 3760
QT8(1) sum - simulated
QT board

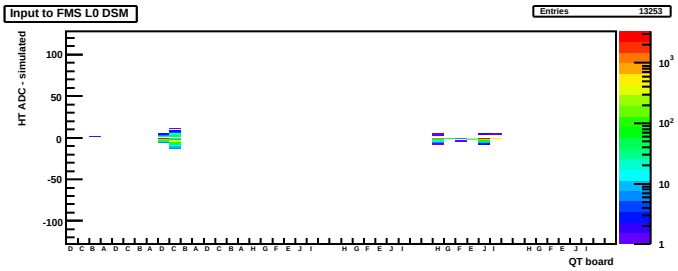

Input to FMS L0 DSM
Entries 1.115472e+07
QT8(2) sum
QT board

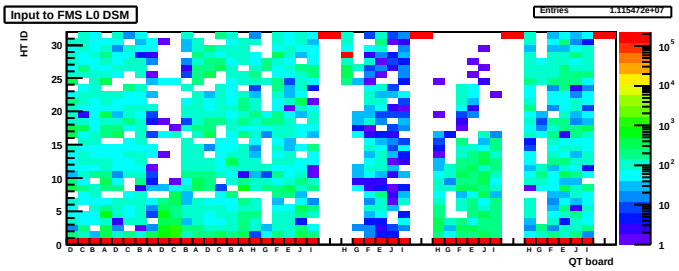

Input to FMS L0 DSM
Entries 163673
QT8(2) sum - simulated
QT board

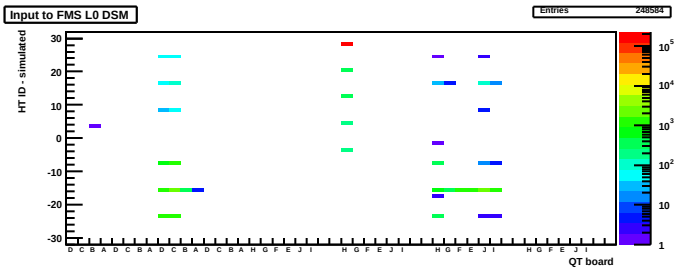

Input to FMS L0 DSM
Entries 1.115472e+07
QT8(3) sum
QT board

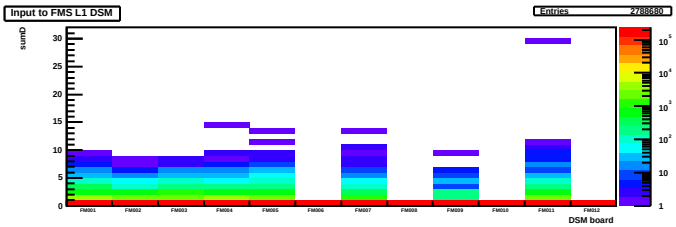

Input to FMS L0 DSM
Entries 133208
QT8(3) sum - simulated
QT board

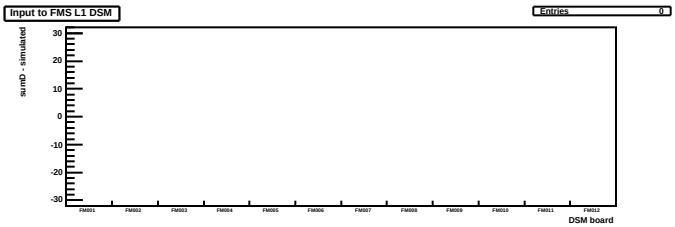

Input to FMS L0 DSM
Entries 1.115472e+07
HT ADC
QT board

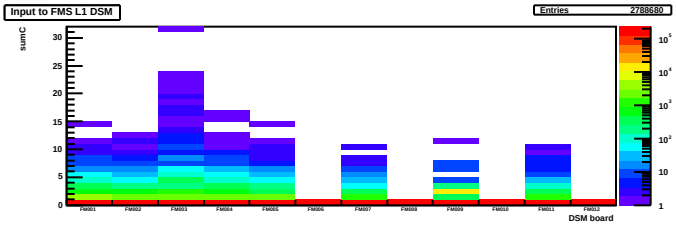

Input to FMS L0 DSM
Entries 13253
HT ADC - simulated
QT board

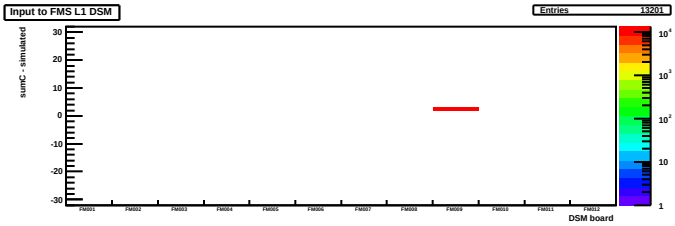

Input to FMS L0 DSM
Entries 1.115472e+07
HT ID
QT board

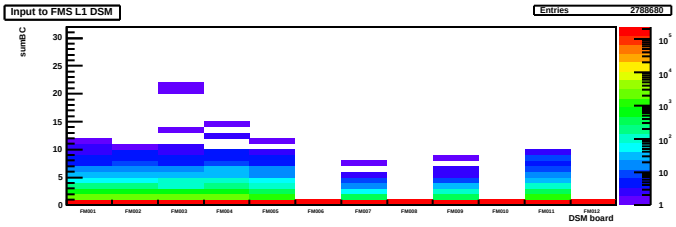

Input to FMS L0 DSM
Entries 248584
HT ID - simulated
QT board

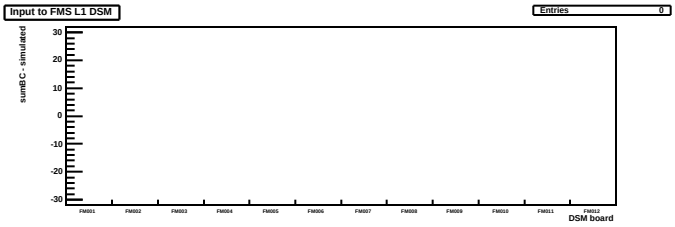

Input to FMS L1 DSM
Entries 2788680
sumD
DSM board

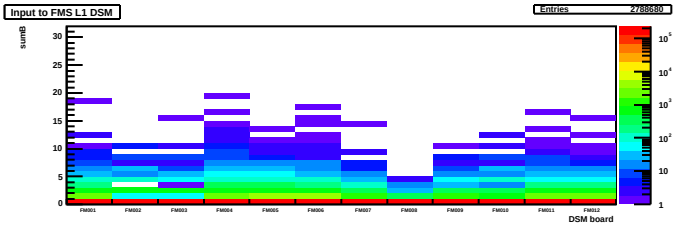

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

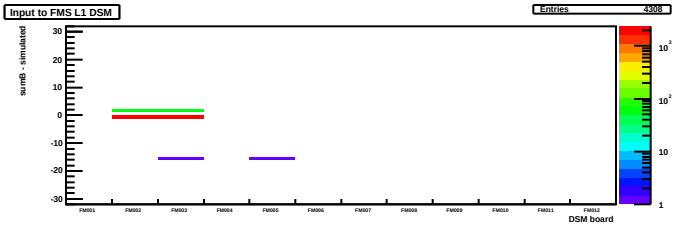

Input to FMS L1 DSM
Entries 2788680
sumC
DSM board

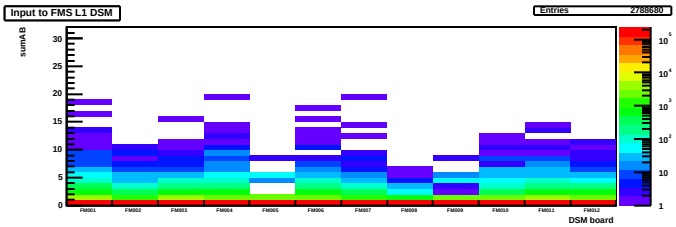

Input to FMS L1 DSM
Entries 13201
sumC - simulated
DSM board

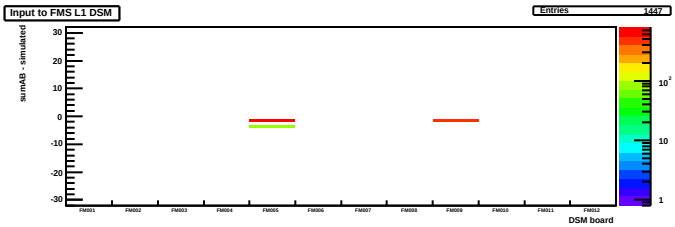

Input to FMS L1 DSM
Entries 2788680
sumBC
DSM board

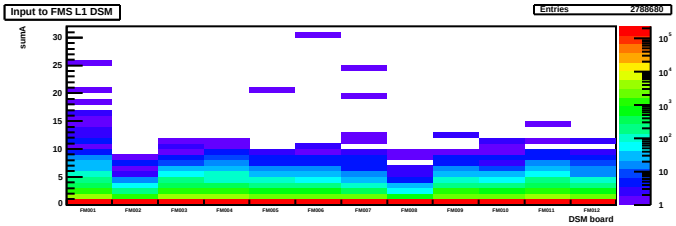

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

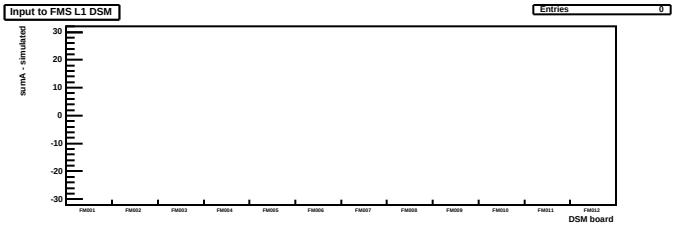

Input to FMS L1 DSM
Entries 2788680
sumB
DSM board

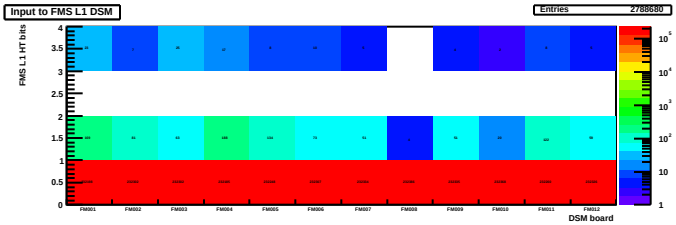

Input to FMS L1 DSM
Entries 4308
sumB - simulated
DSM board

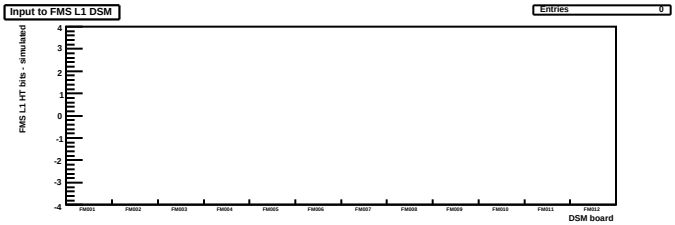

Input to FMS L1 DSM
Entries 2788680
sumAB
DSM board

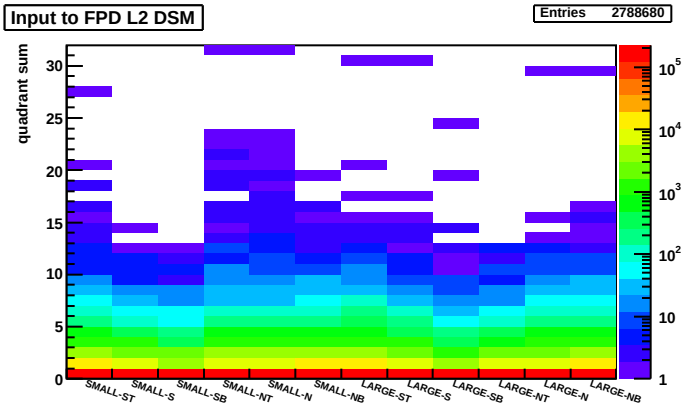

Input to FMS L1 DSM
Entries 1447
sumAB - simulated
DSM board

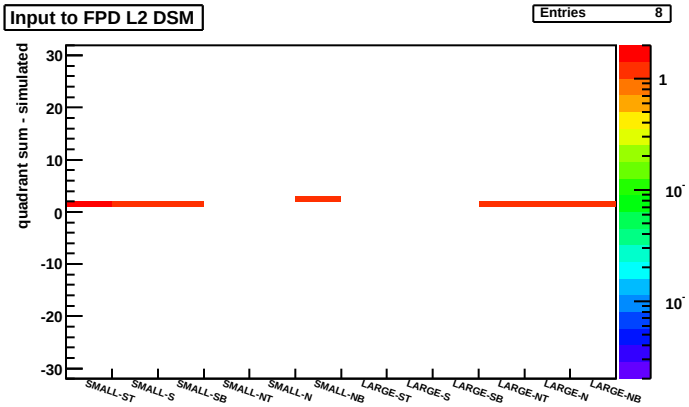

Input to FMS L1 DSM
Entries 2788680
sumA
DSM board

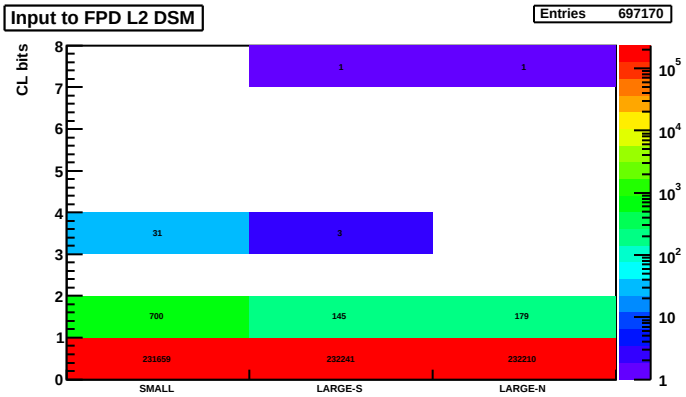

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

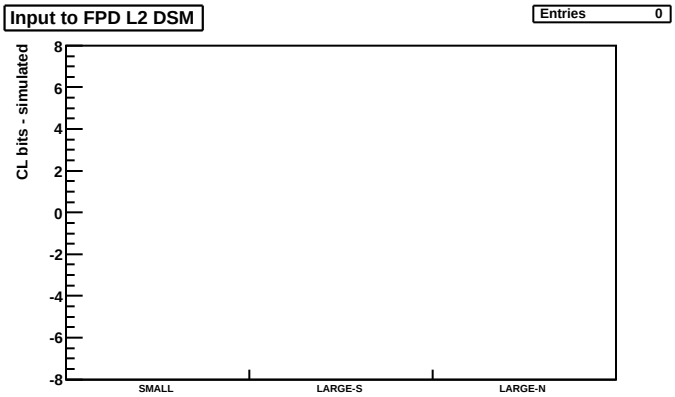

Input to FMS L1 DSM
Entries 2788680
FMS L1 HT bits
DSM board

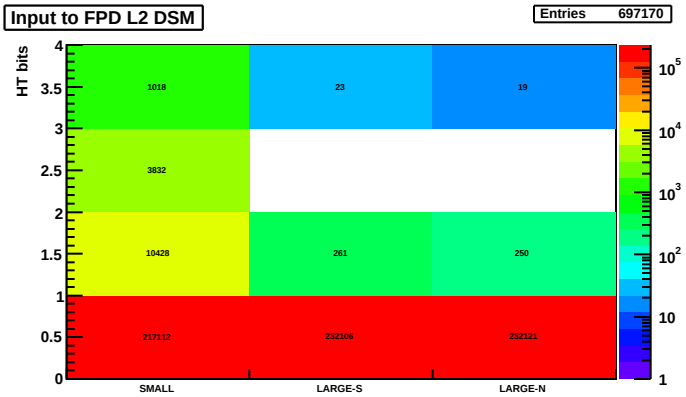

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

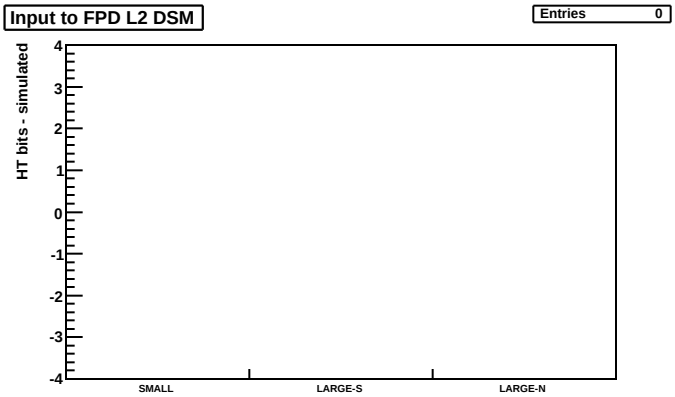

Input to FPD L2 DSM
Entries 2788680
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

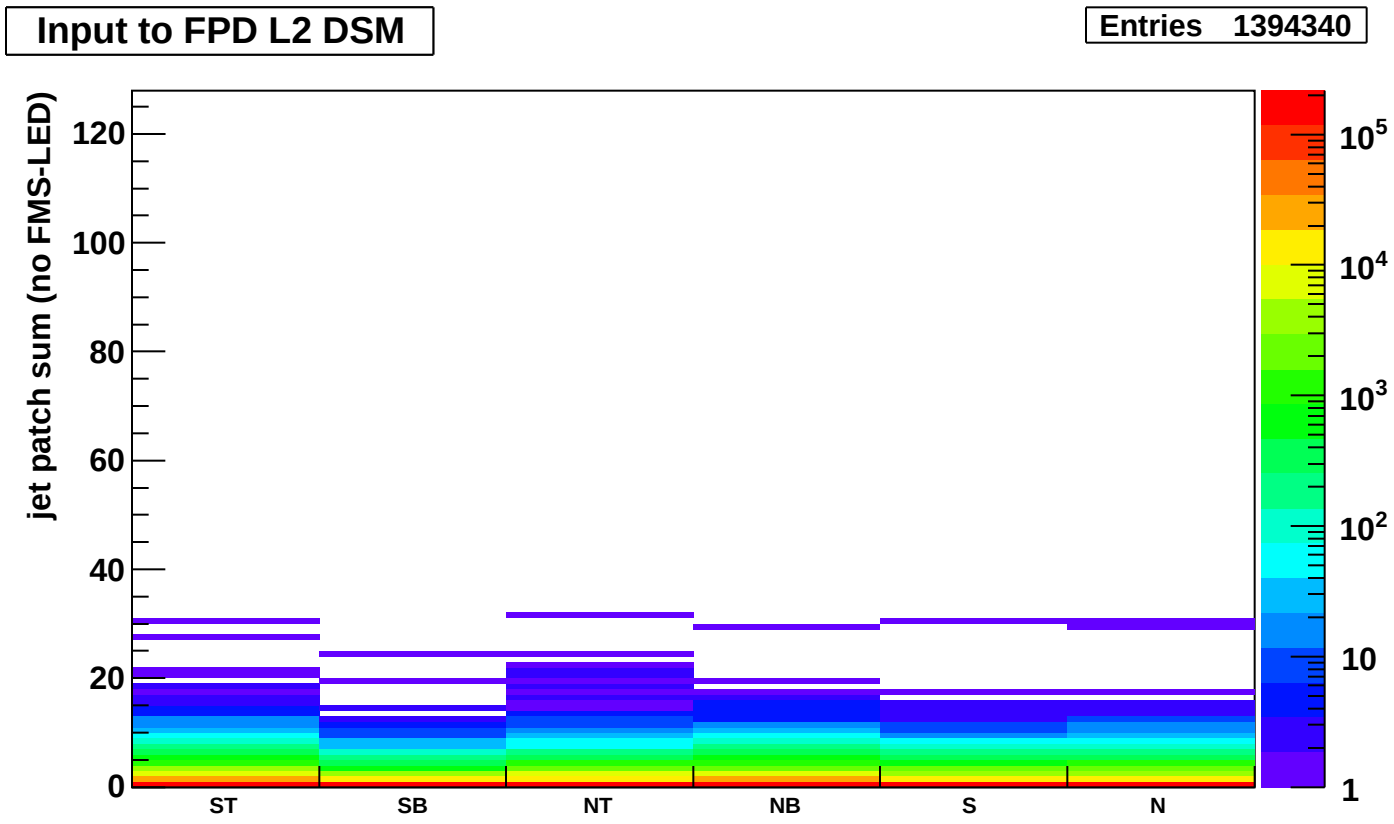

Input to FPD L2 DSM
Entries 8
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

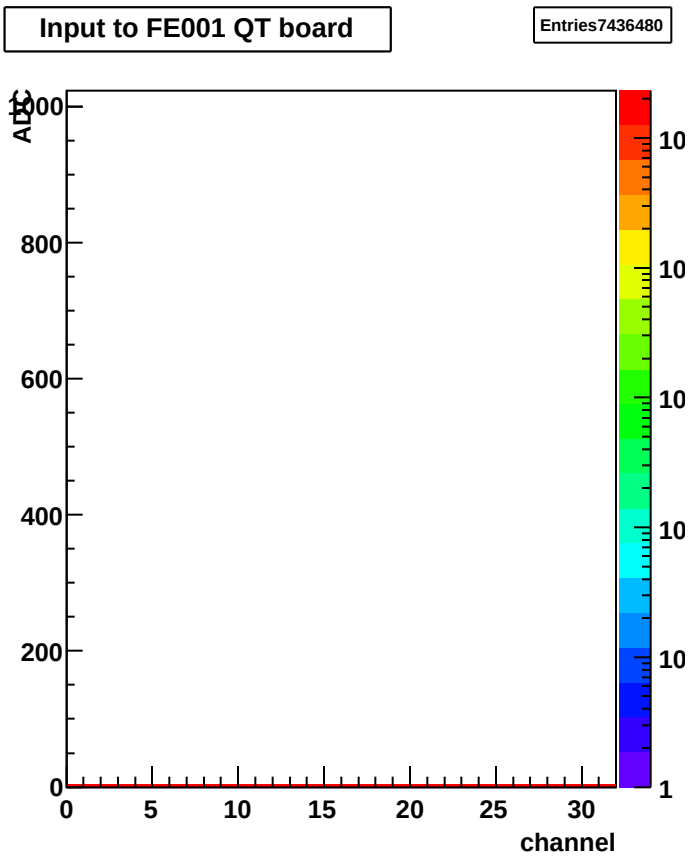

Input to FPD L2 DSM
Entries 697170
CL bits
1
1
31
3
700
145
179
231659
232241
232210
SMALL
LARGE-S
LARGE-N

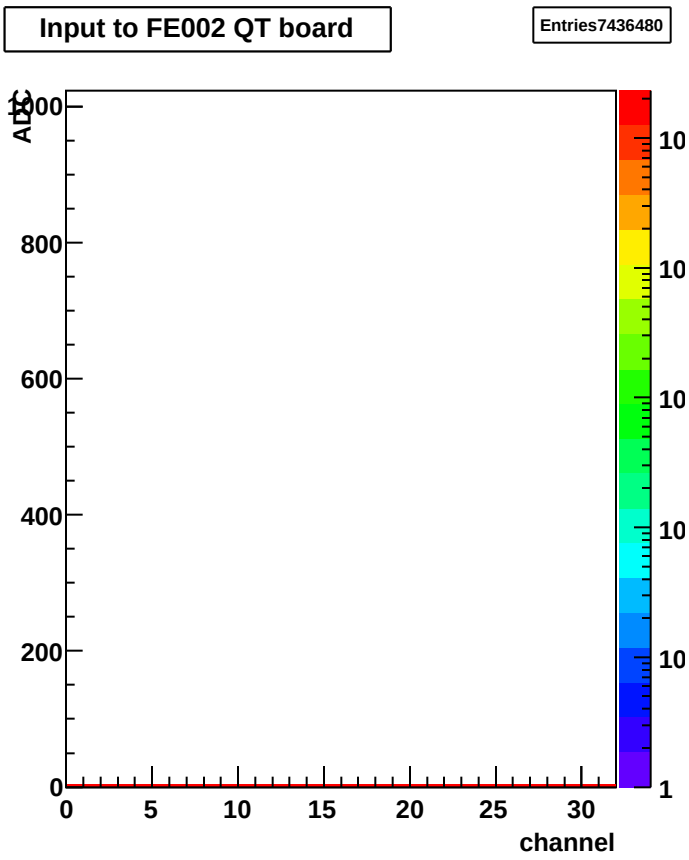

Input to FPD L2 DSM
Entries 0
CL bits - simulated
SMALL
LARGE-S
LARGE-N

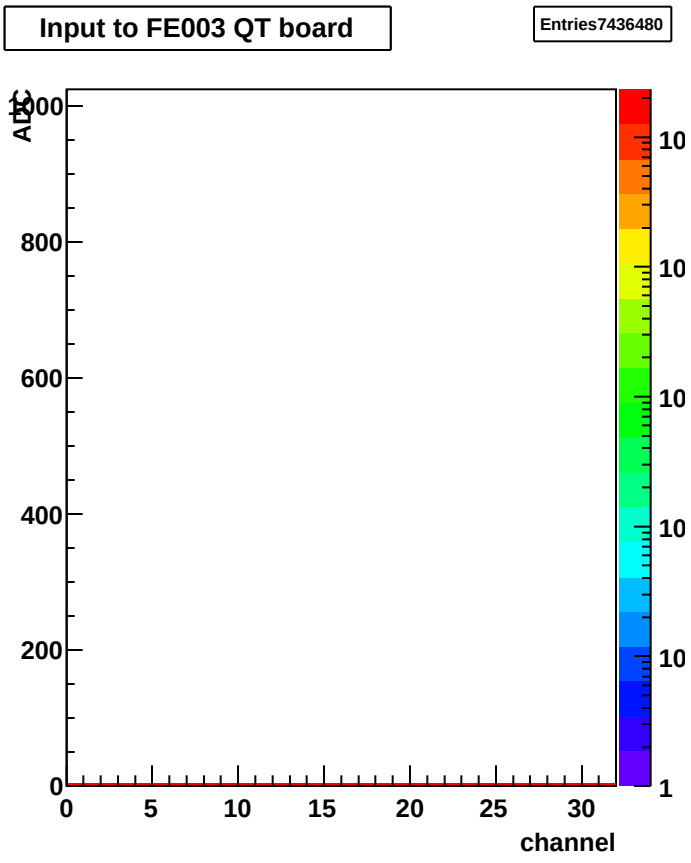

Input to FPD L2 DSM
Entries 697170
HT bits
1018
23
19
3832
10428
261
250
217112
232106
232121
SMALL
LARGE-S
LARGE-N

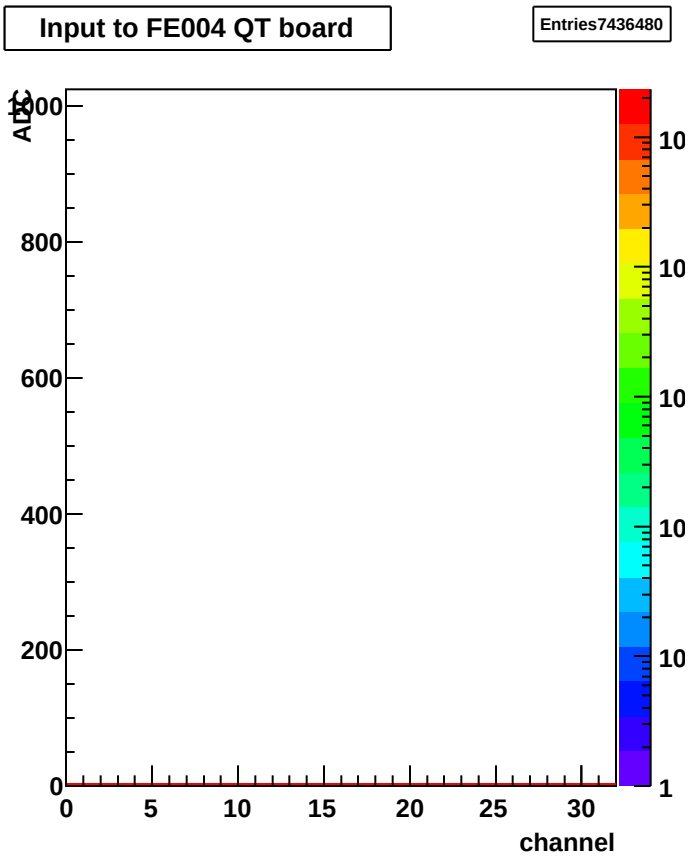

Input to FPD L2 DSM
Entries 0
HT bits - simulated
SMALL
LARGE-S
LARGE-N

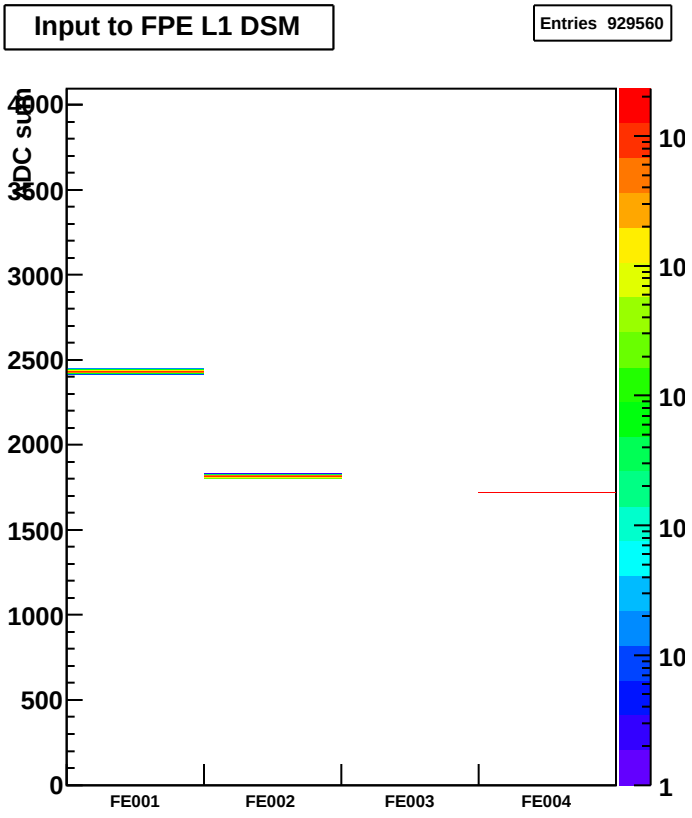

Input to FPD L2 DSM
Entries 1394340
jet patch sum (no FMS-LED)
0
20
40
60
80
100
120
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

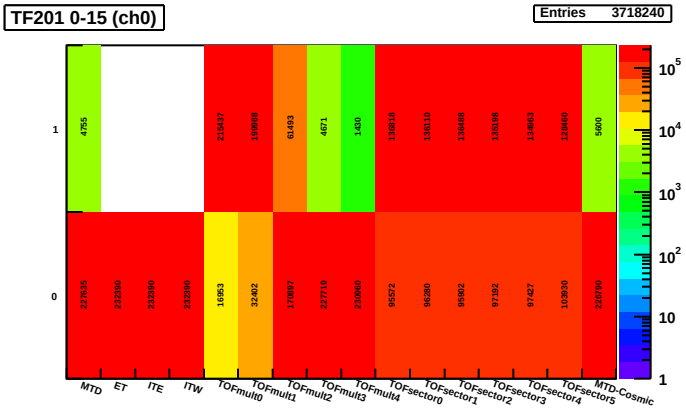

Input to FE001 QT board
Entries7436480
ADC
channel

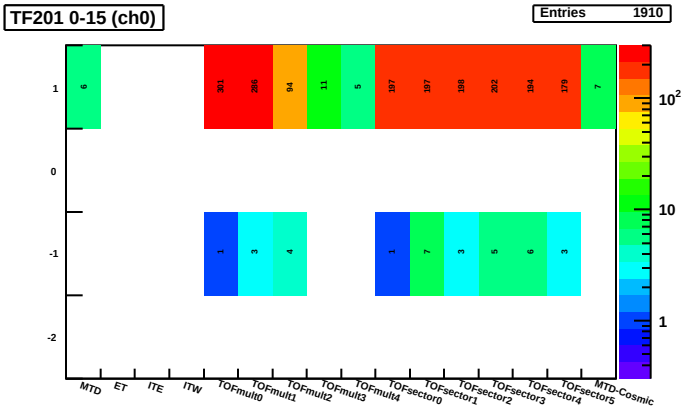

Input to FE002 QT board
Entries7436480
ADC
channel

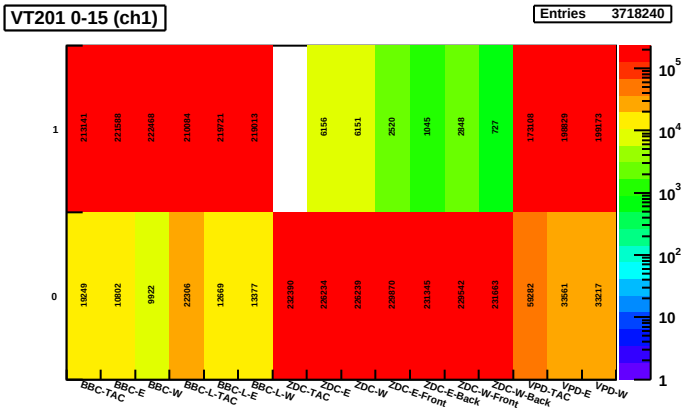

Input to FE003 QT board
Entries7436480
ADC
channel

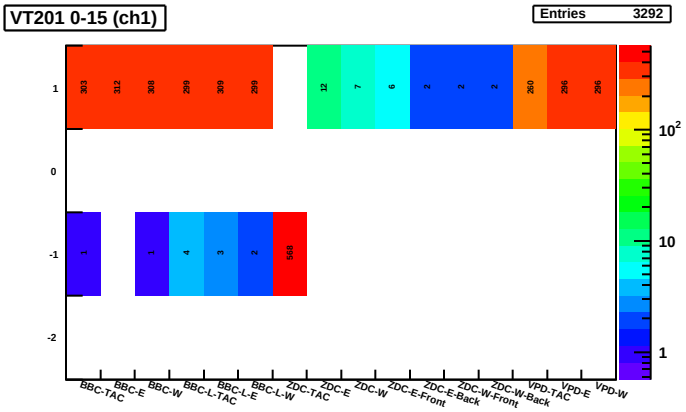

Input to FE004 QT board
Entries7436480
ADC
channel

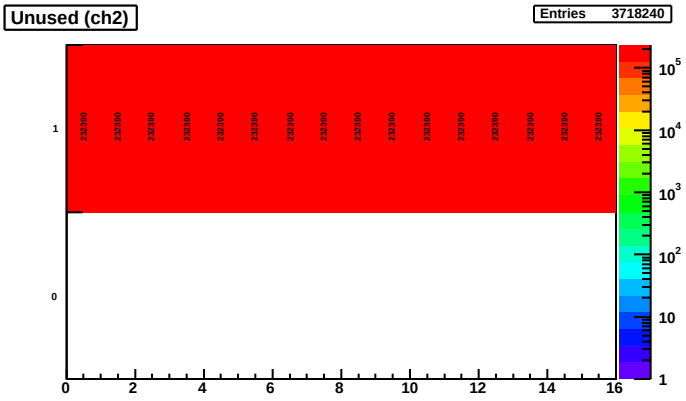

Input to FPE L1 DSM
Entries 929560
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1


TF201 0-15 (ch0)
Entries 3718240
MTD ET ITE ITW TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 1910
MTD ET ITE ITW TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 3718240
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 3292
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)
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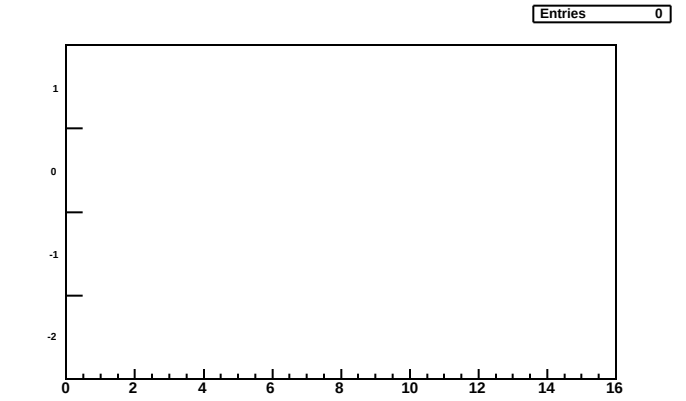
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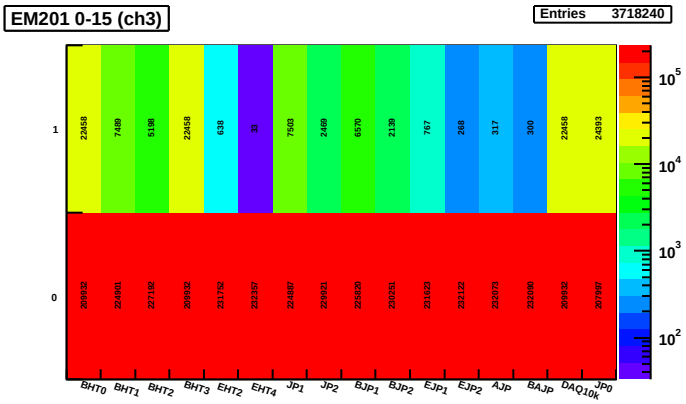
EM201 0-15 (ch3)
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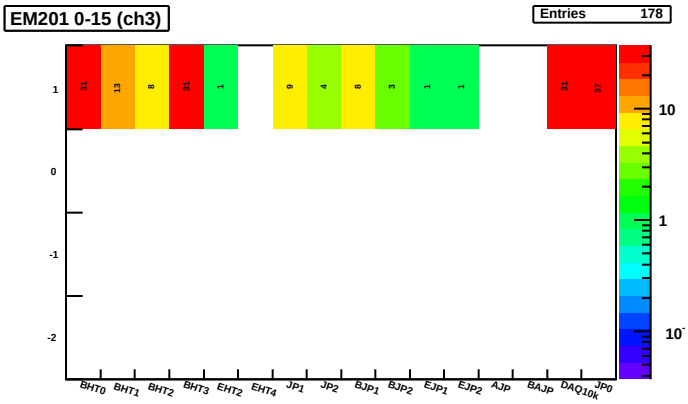
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0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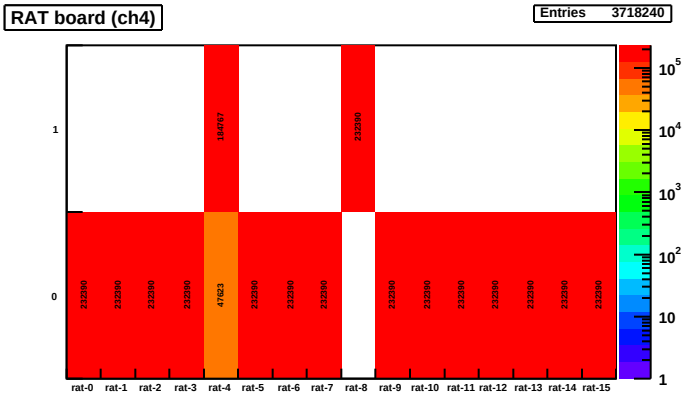
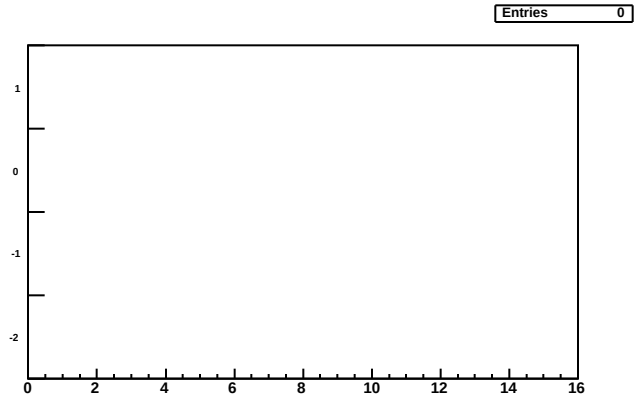

RAT board (ch4)
Entries 3718240
rat-0 rat-1 rat-2 rat-3 rat-4 rat-5 rat-6 rat-7 rat-8 rat-9 rat-10 rat-11 rat-12 rat-13 rat-14 rat-15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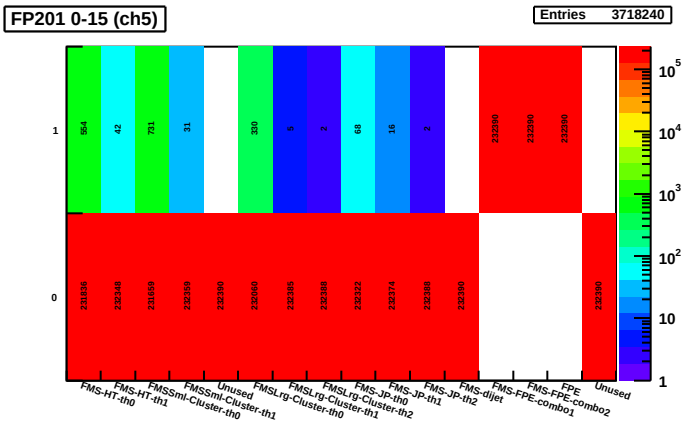
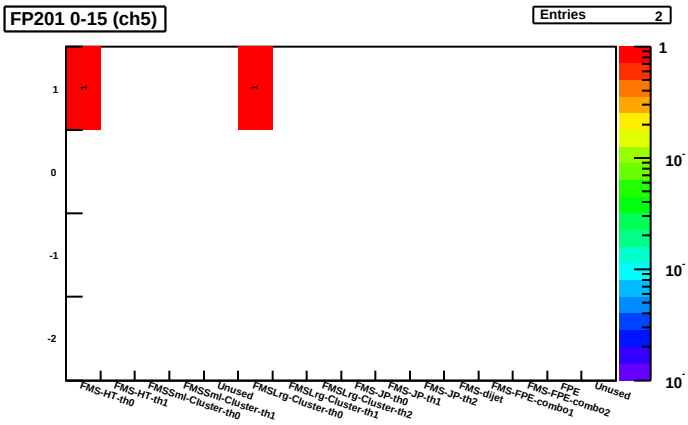
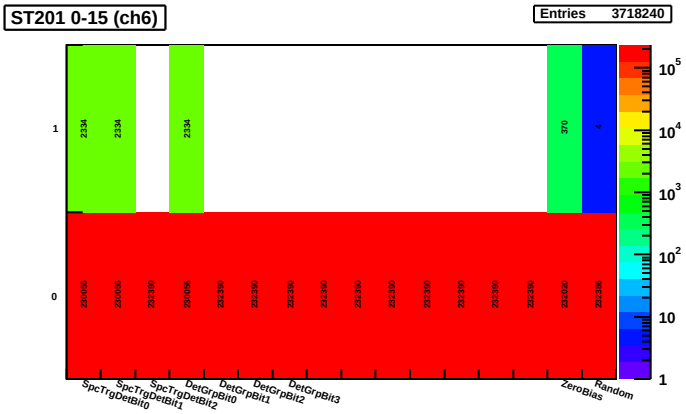
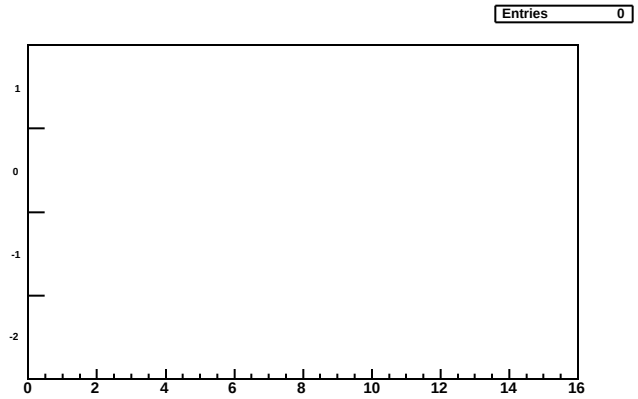
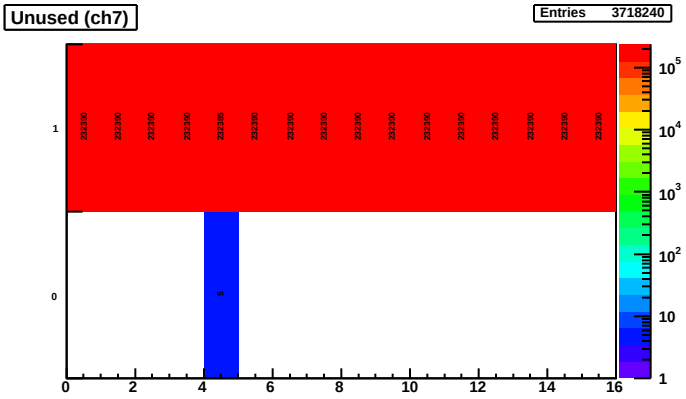
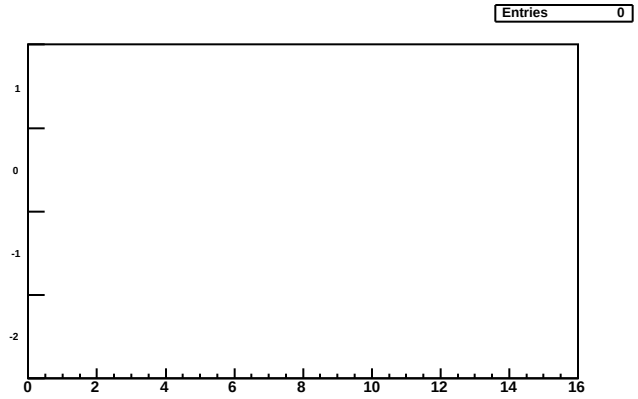

FP201 0-15 (ch5)
Entries 3718240
FMS-HT-th0 FMS-HT-th1 FMSSml-Cluster-th0 FMSSml-Cluster-th1 Unused FMSLrg-Cluster-th0 FMSLrg-Cluster-th1 FMSLrg-Cluster-th2 FMS-JP-th0 FMS-JP-th1 FMS-JP-th2 FMS-dijet FMS-FPE-combo1 FMS-FPE-combo2 FPE Unused


FP201 0-15 (ch5)
Entries 2
FMS-HT-th0 FMS-HT-th1 FMSSml-Cluster-th0 FMSSml-Cluster-th1 Unused FMSLrg-Cluster-th0 FMSLrg-Cluster-th1 FMSLrg-Cluster-th2 FMS-JP-th0 FMS-JP-th1 FMS-JP-th2 FMS-dijet FMS-FPE-combo1 FMS-FPE-combo2 FPE Unused


ST201 0-15 (ch6)
Entries 3718240
SpcTrgDetBit0 SpcTrgDetBit1 SpcTrgDetBit2 DetGrpBit0 DetGrpBit1 DetGrpBit2 DetGrpBit3 ZeroBias Random


Entries 0


Unused (ch7)
Entries 3718240


Entries 0