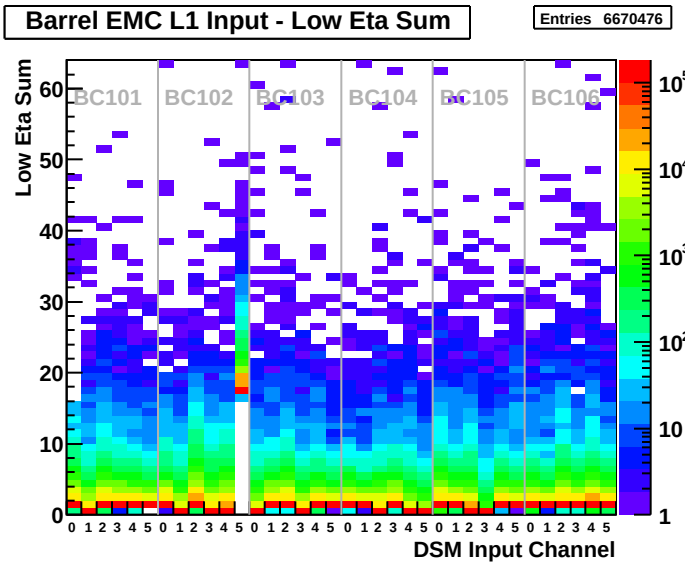
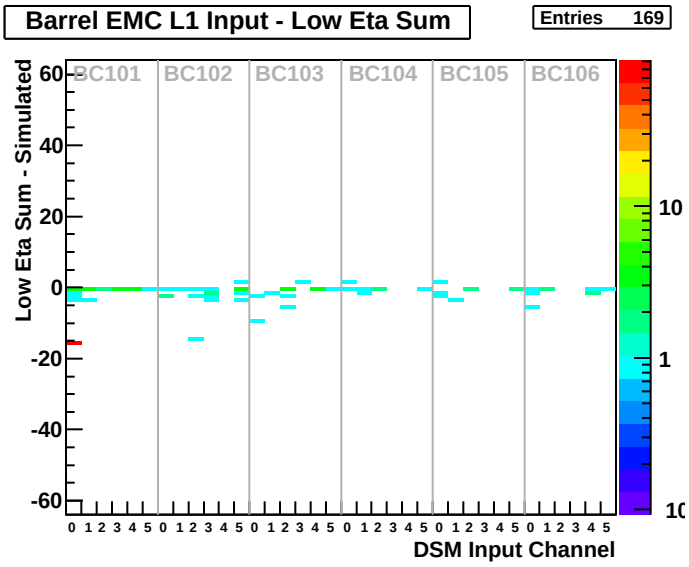
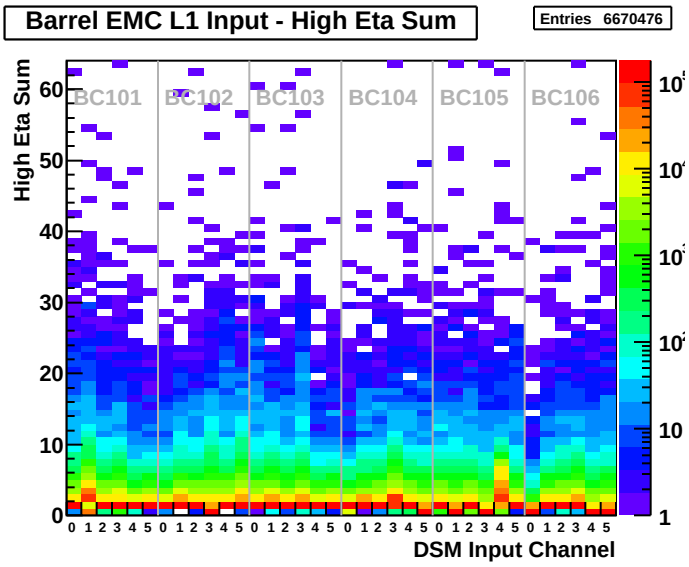
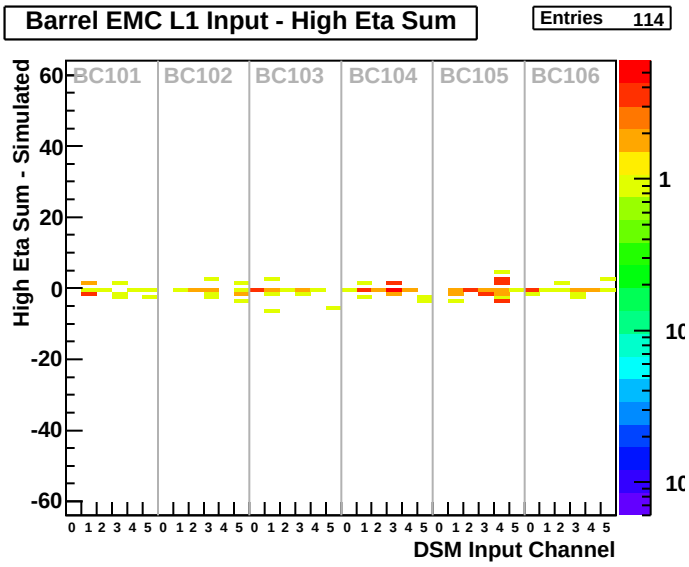
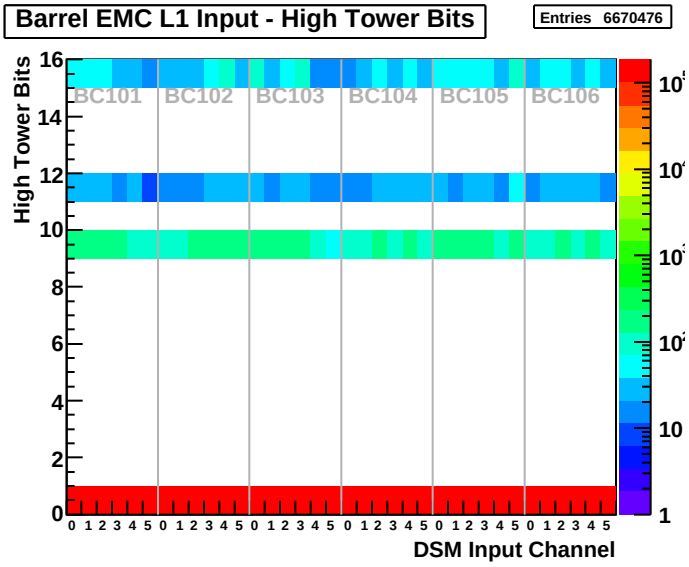
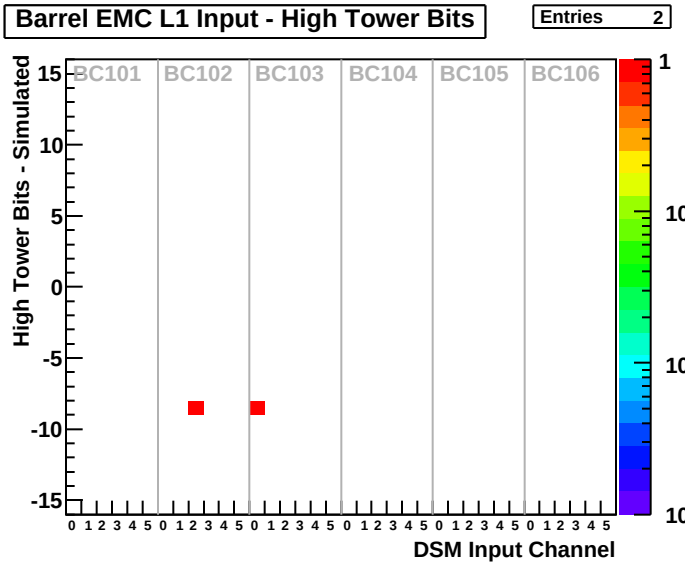

Barrel EMC L1 Input - Low Eta Sum
Entries 6670476
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

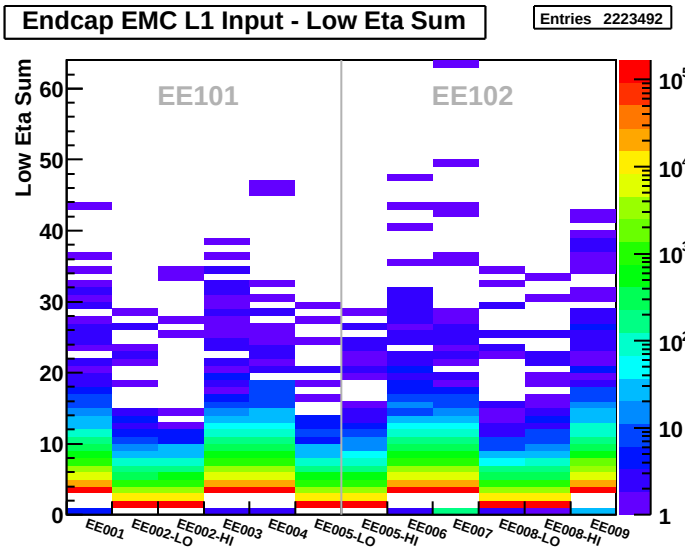

Barrel EMC L1 Input - Low Eta Sum
Entries 169
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

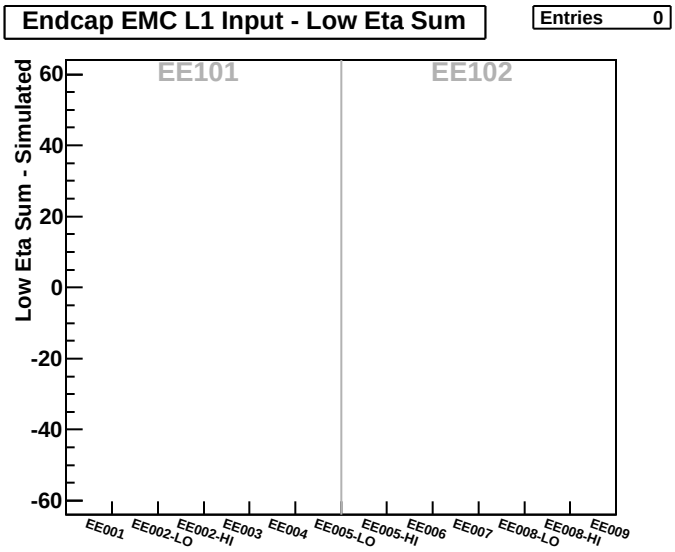

Barrel EMC L1 Input - High Eta Sum
Entries 6670476
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

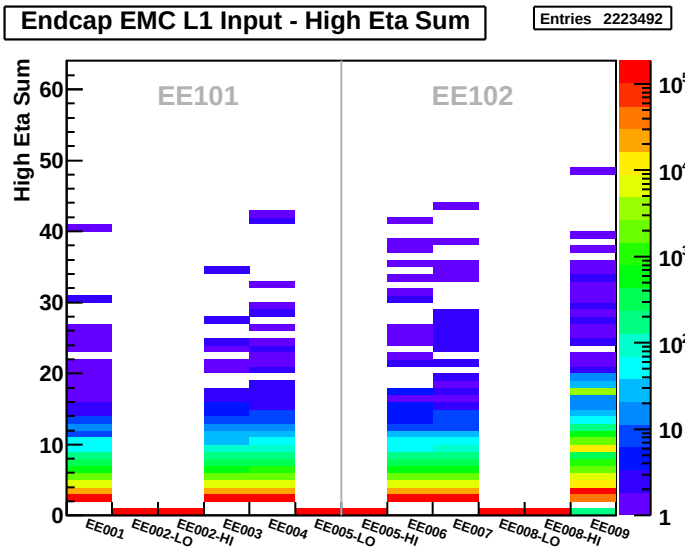

Barrel EMC L1 Input - High Eta Sum
Entries 114
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

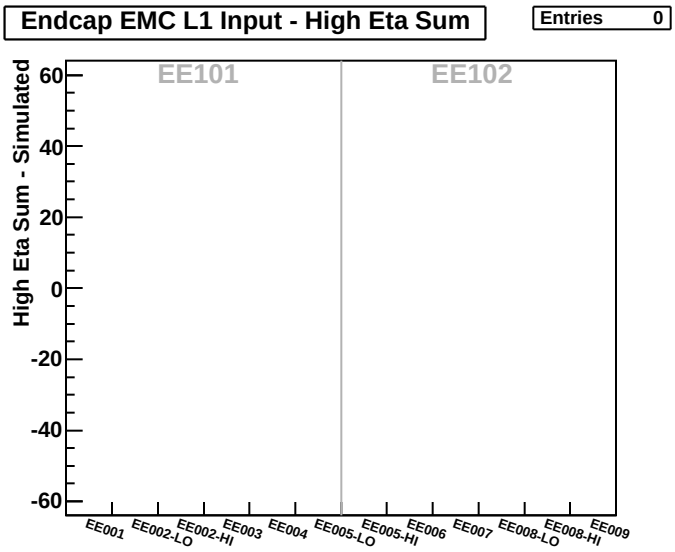

Barrel EMC L1 Input - High Tower Bits
Entries 6670476
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

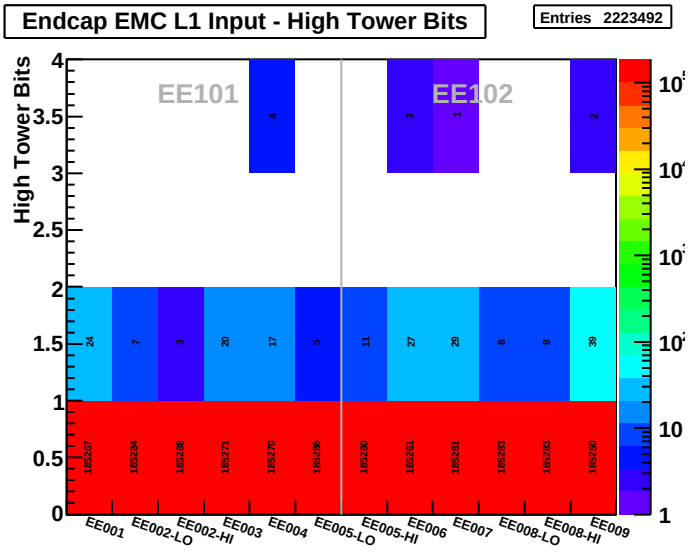

Barrel EMC L1 Input - High Tower Bits
Entries 2
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

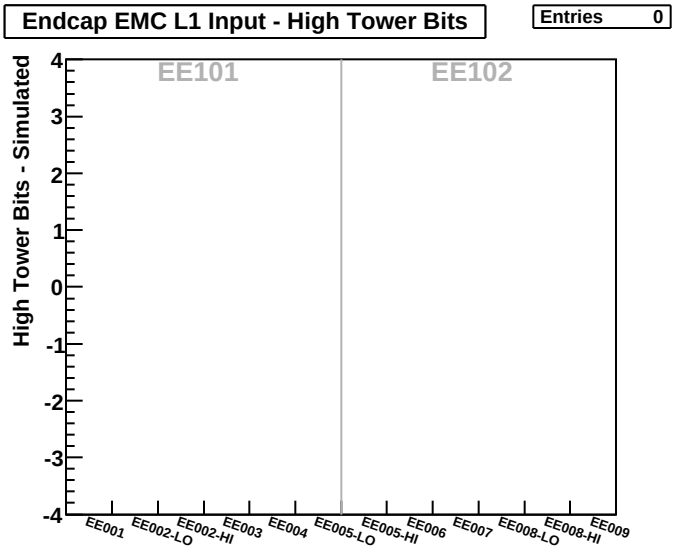

Endcap EMC L1 Input - Low Eta Sum
Entries 2223492
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

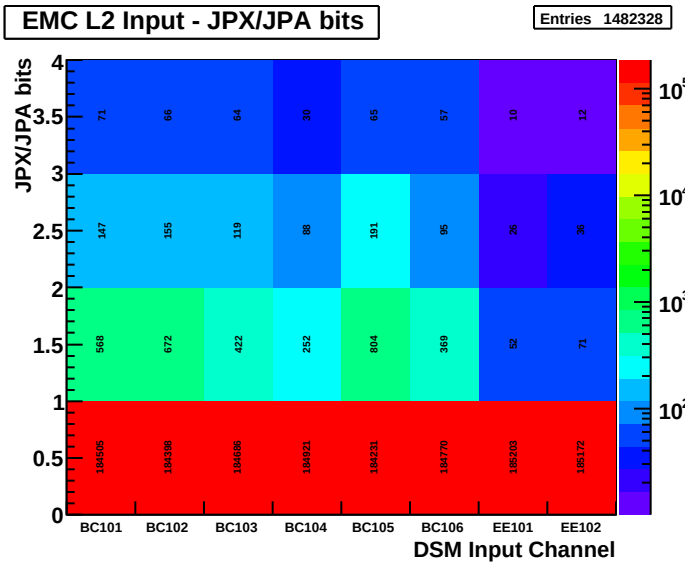

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

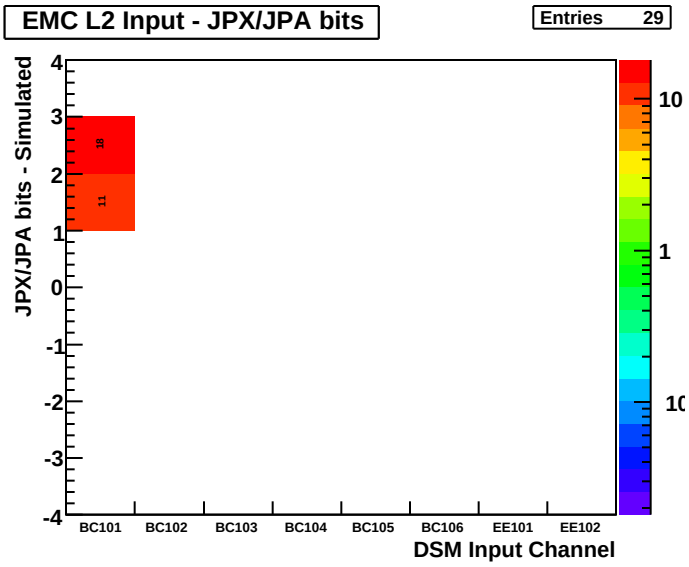

Endcap EMC L1 Input - High Eta Sum
Entries 2223492
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

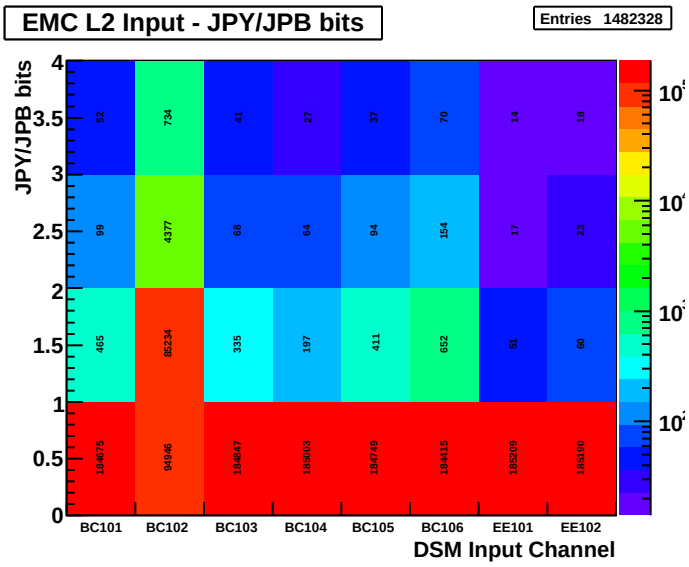

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

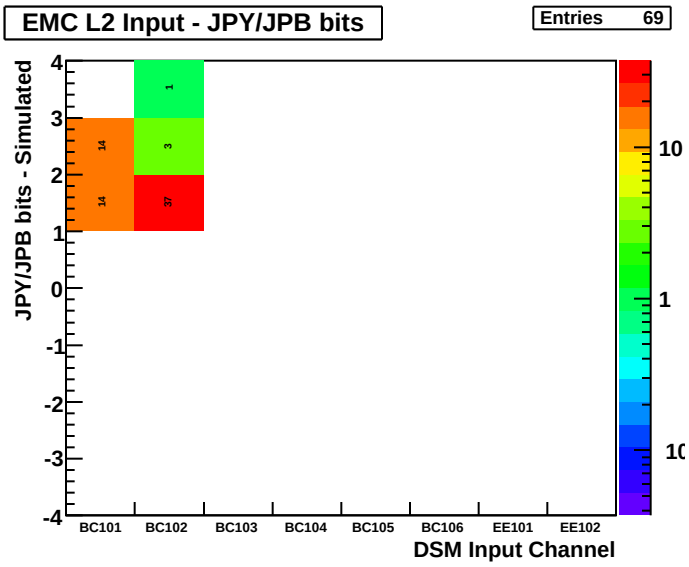

Endcap EMC L1 Input - High Tower Bits
Entries 2223492
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

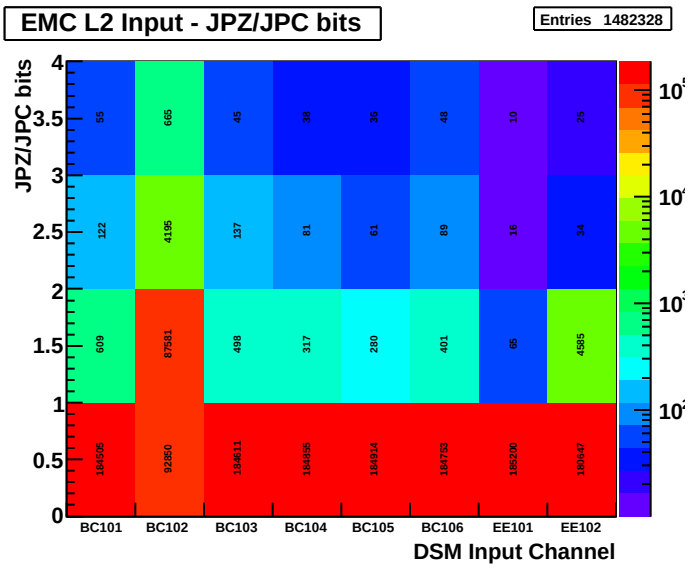

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

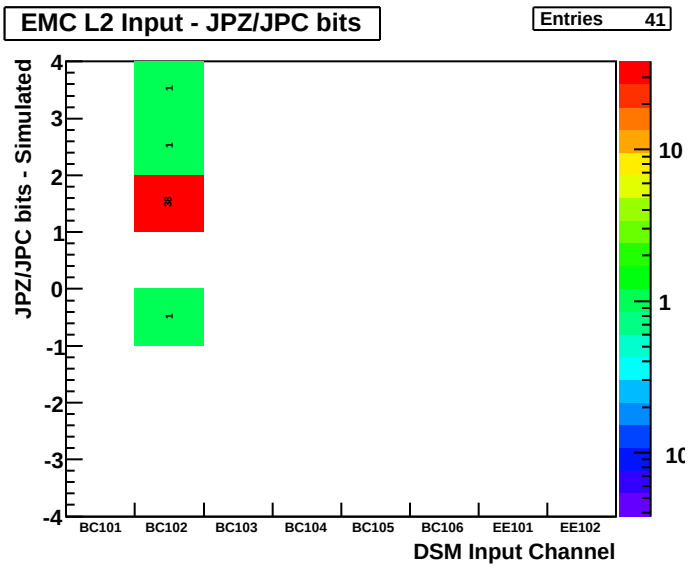

EMC L2 Input - JPX/JPA bits
Entries 1482328
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
71 66 64 30 65 57 10 12
147 155 119 88 191 95 28 36
568 672 422 252 804 369 52 71
184505 184388 184686 184921 184231 184770 185203 185172

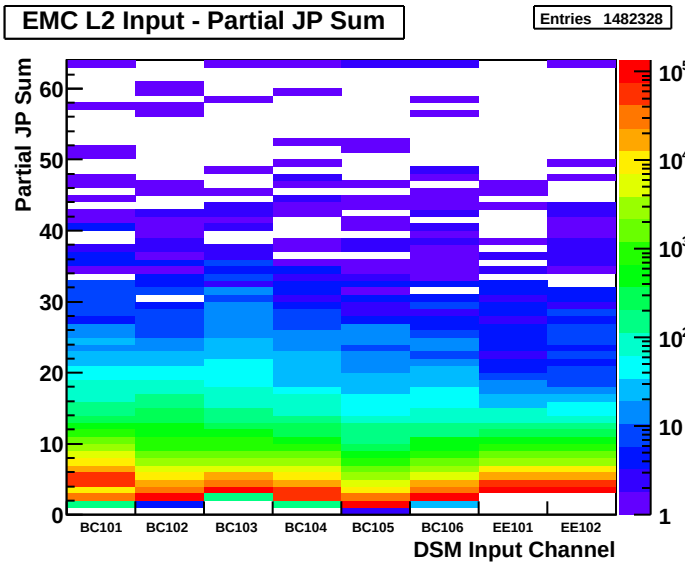

EMC L2 Input - JPX/JPA bits
Entries 29
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
18
11

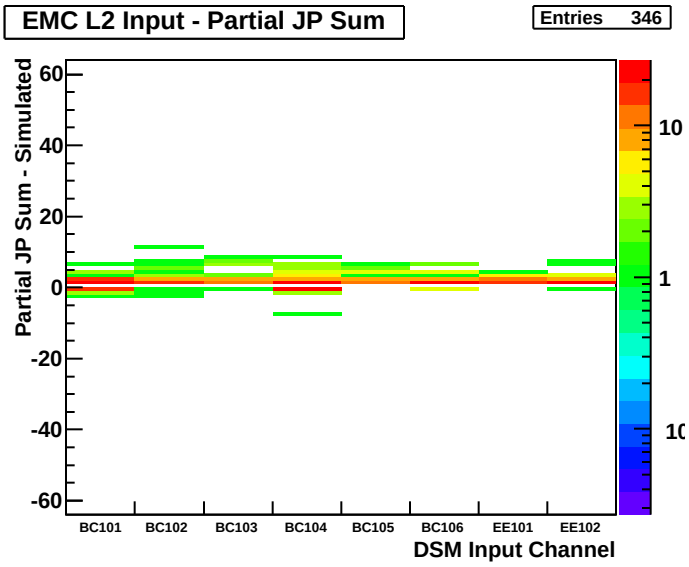

EMC L2 Input - JPY/JPB bits
Entries 1482328
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
52 734 41 27 37 70 14 18
99 4377 68 64 94 154 17 23
465 85234 335 197 411 652 51 60
184675 94946 184847 185003 184749 184415 185209 185190

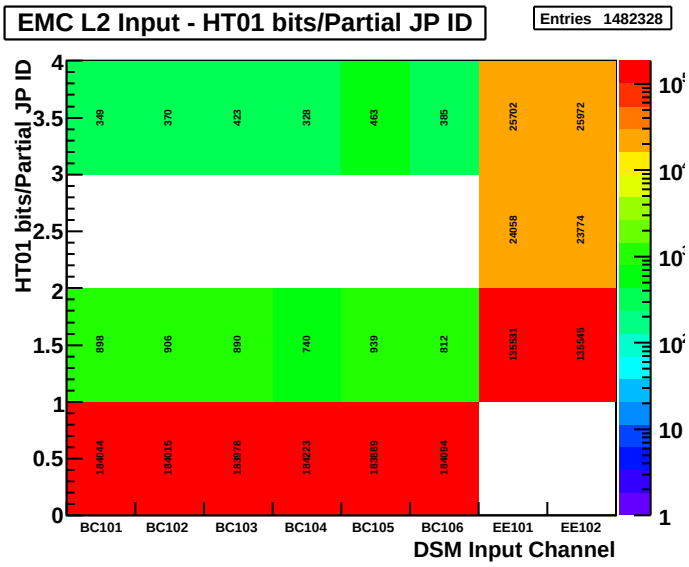

EMC L2 Input - JPY/JPB bits
Entries 69
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
1
14 3
14 37

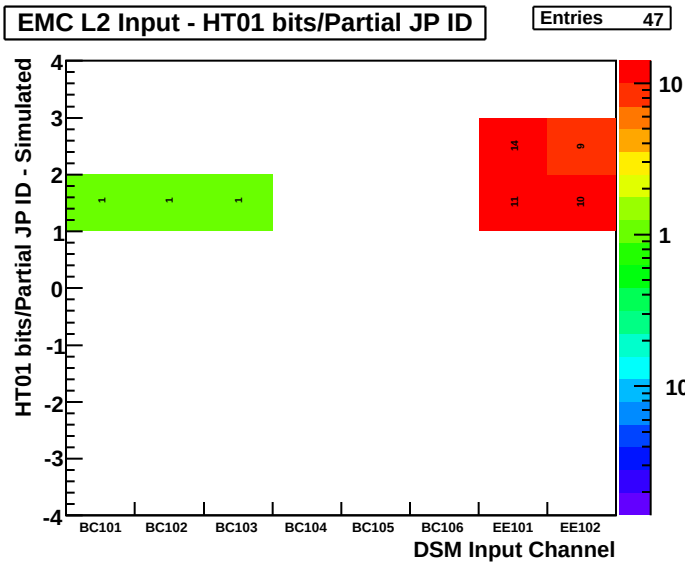

EMC L2 Input - JPZ/JPC bits
Entries 1482328
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
55 665 45 38 36 48 10 25
122 4195 137 81 61 89 16 34
609 87581 498 317 280 401 65 4585
184505 92850 184611 184855 184914 184753 185200 180547

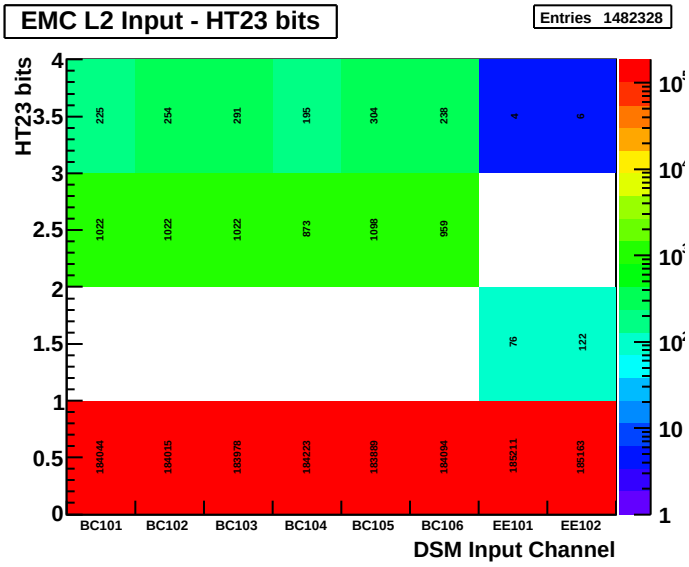

EMC L2 Input - JPZ/JPC bits
Entries 41
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
1
1
38
1

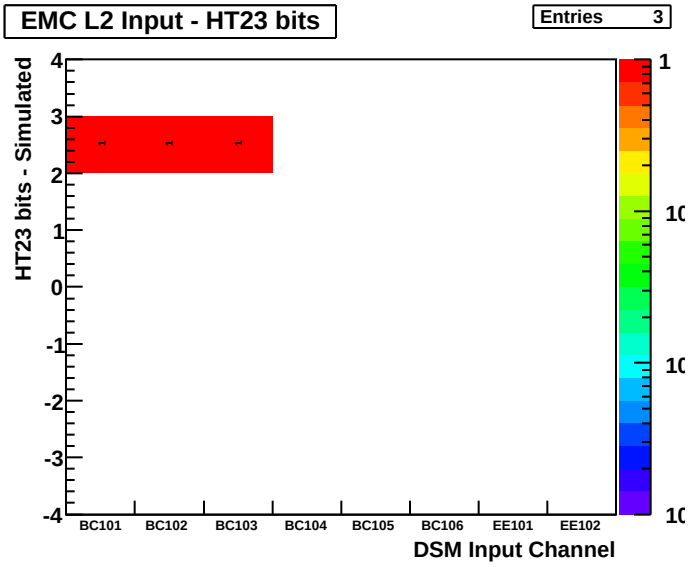

EMC L2 Input - Partial JP Sum
Entries 1482328
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

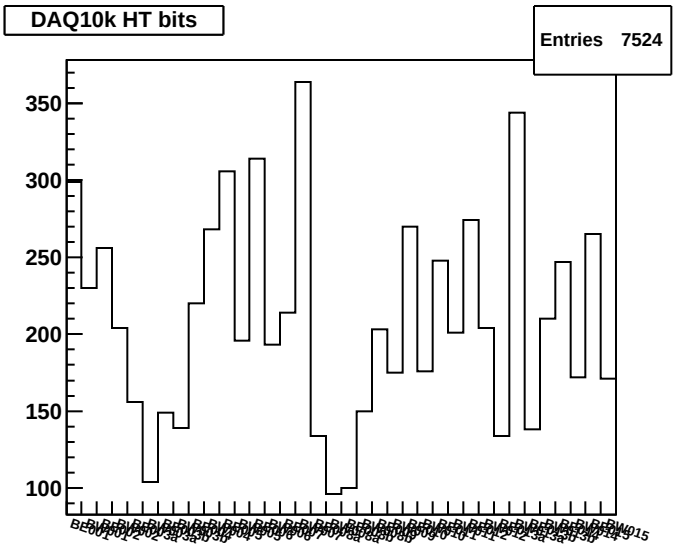

EMC L2 Input - Partial JP Sum
Entries 346
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

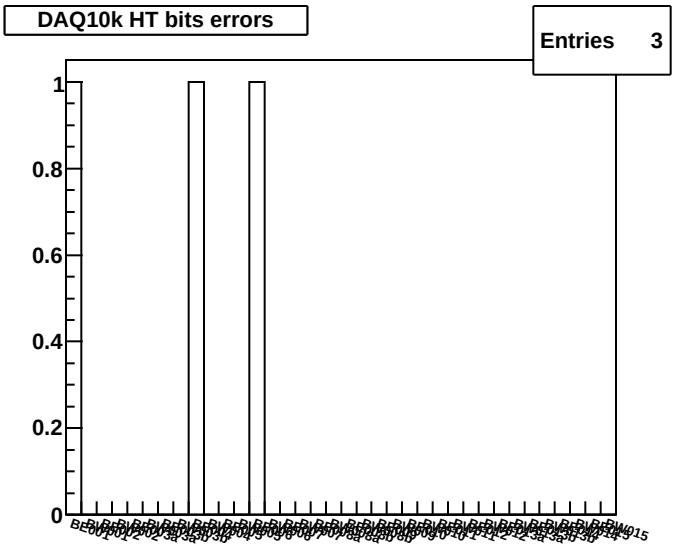

EMC L2 Input - HT01 bits/Partial JP ID
Entries 1482328
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

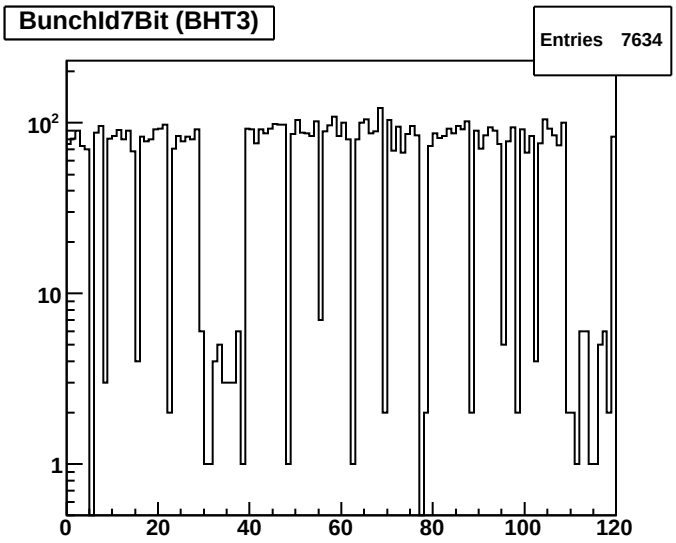

EMC L2 Input - HT01 bits/Partial JP ID
Entries 47
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

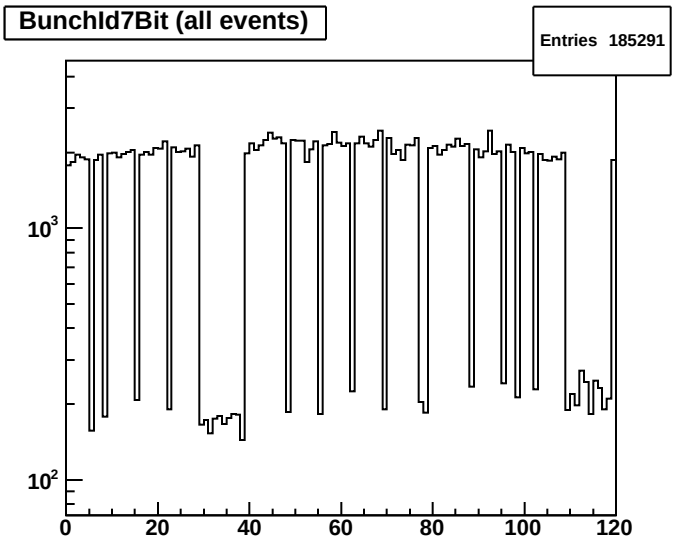

EMC L2 Input - HT23 bits
Entries 1482328
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

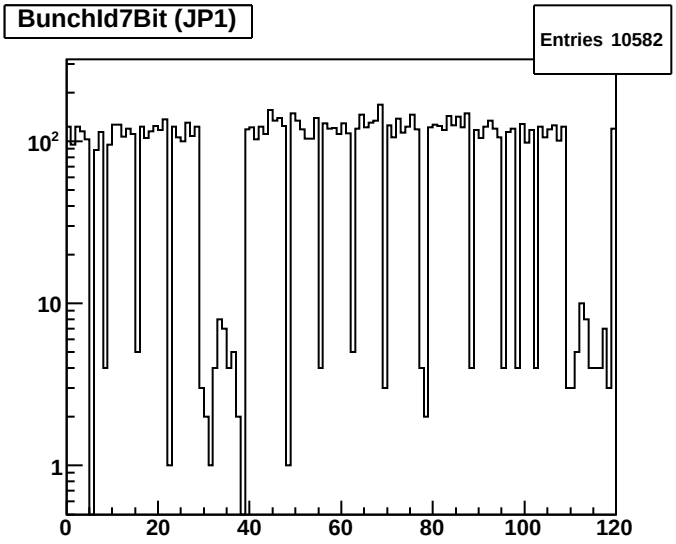

EMC L2 Input - HT23 bits
Entries 3
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

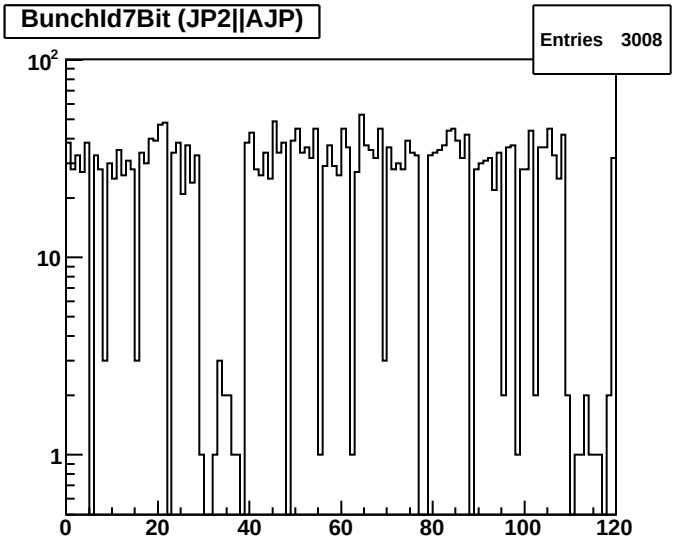

DAQ10k HT bits
Entries 7524
350
300
250
200
150
100

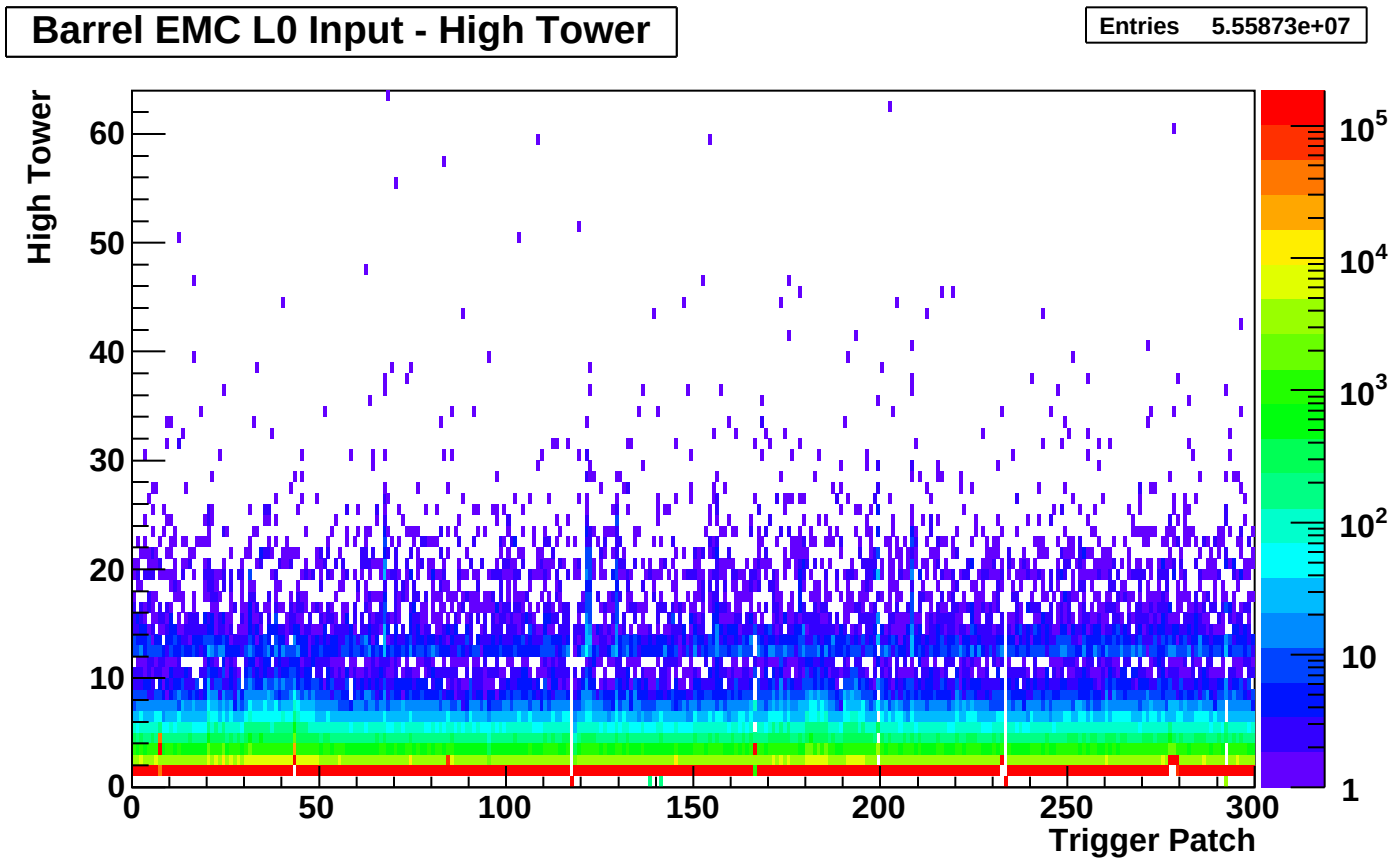

DAQ10k HT bits errors
Entries 3
1
0.8
0.6
0.4
0.2
0

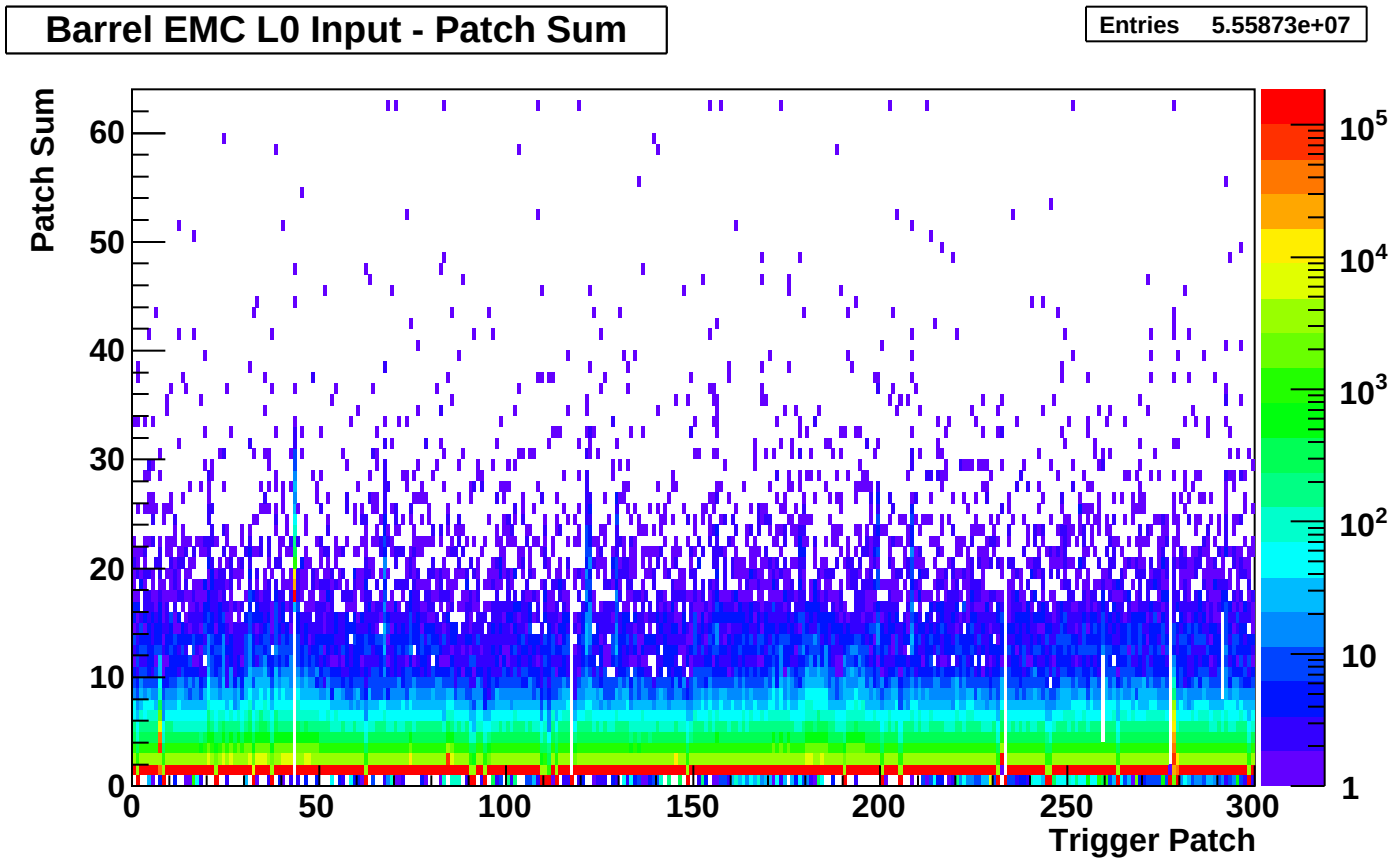

BunchId7Bit (BHT3)
Entries 7634
10^2
10
1
0
20
40
60
80
100
120

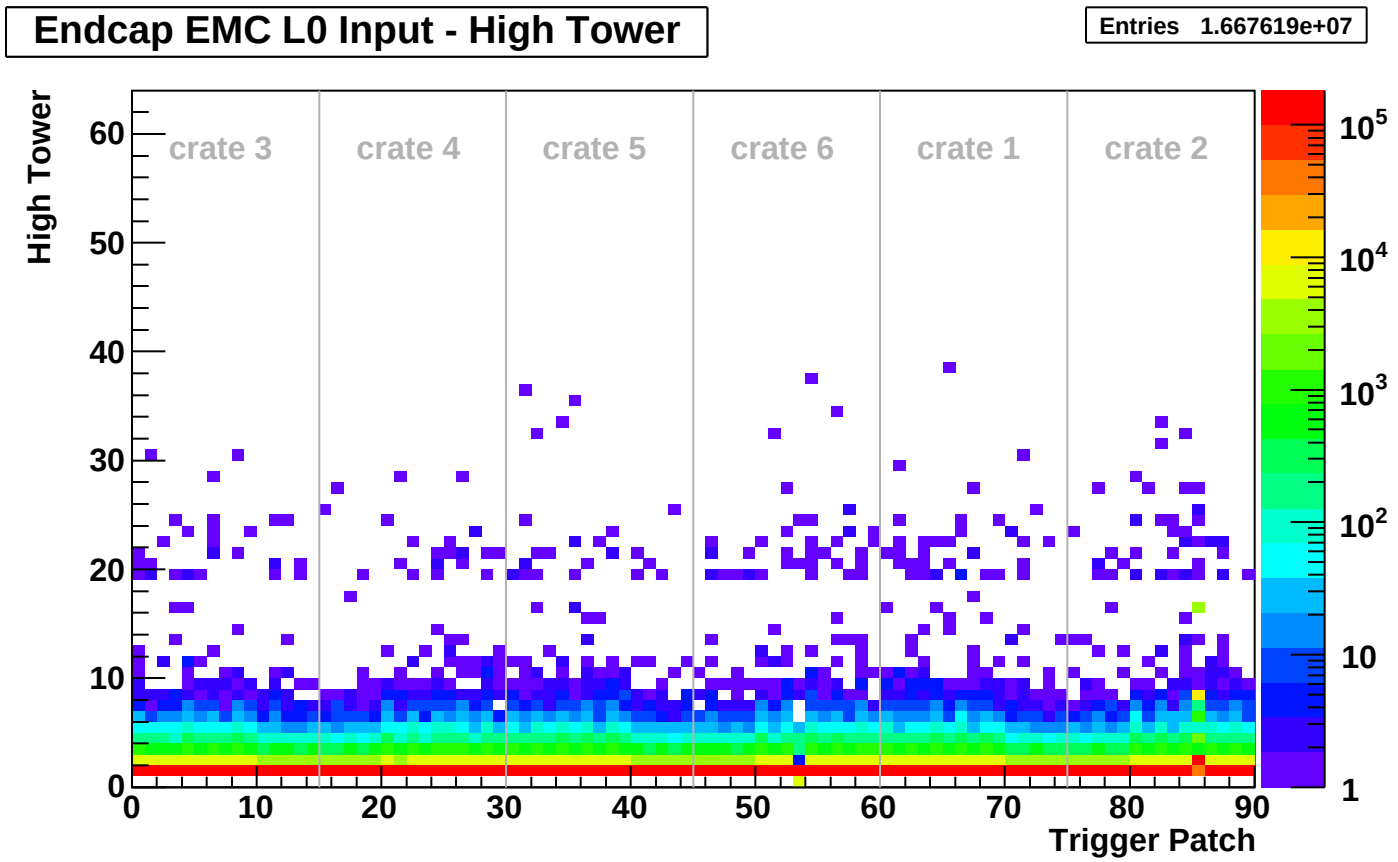

BunchId7Bit (all events)
Entries 185291
10^3
10^2
0
20
40
60
80
100
120

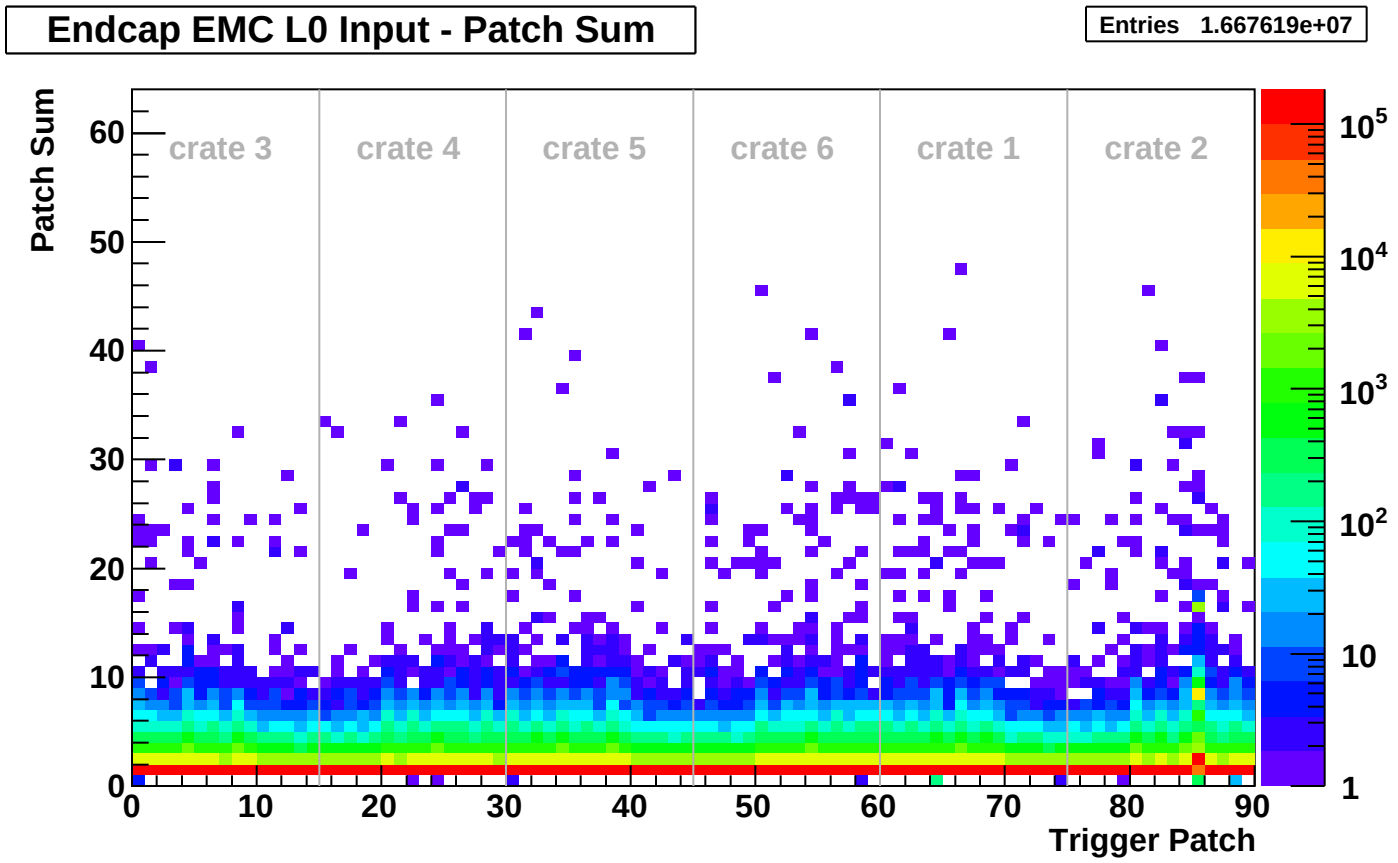

BunchId7Bit (JP1)
Entries 10582
10^2
10
1
0
20
40
60
80
100
120

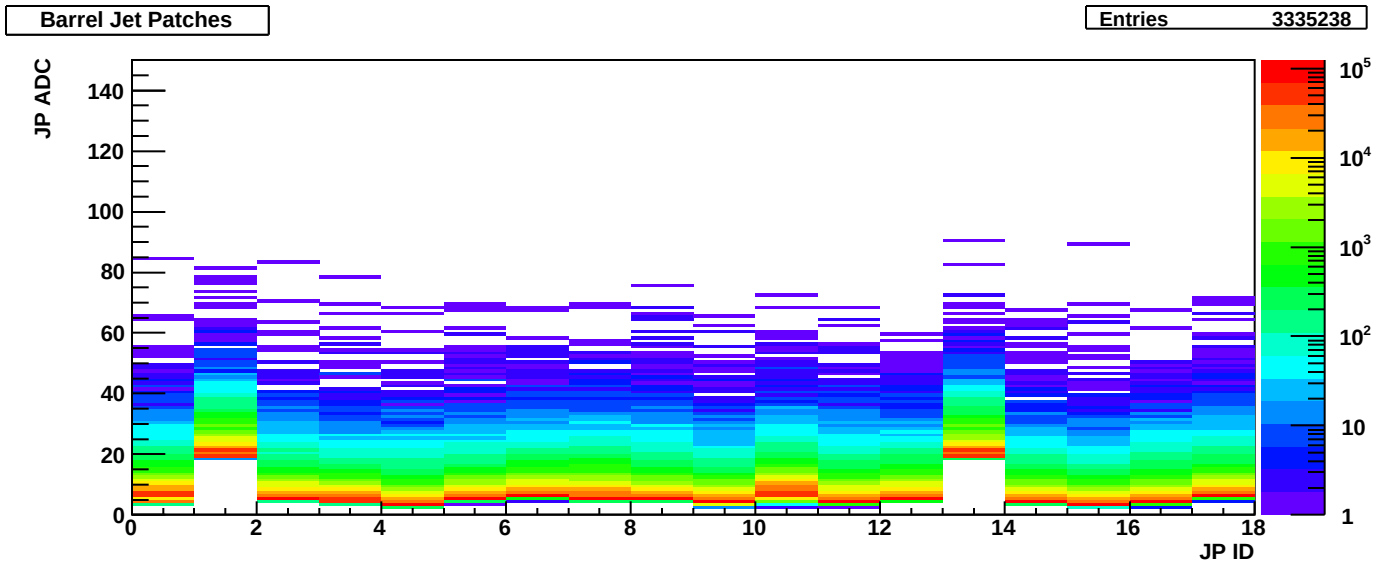

BunchId7Bit (JP2||AJP)
Entries 3008
10^2
10
1
0
20
40
60
80
100
120

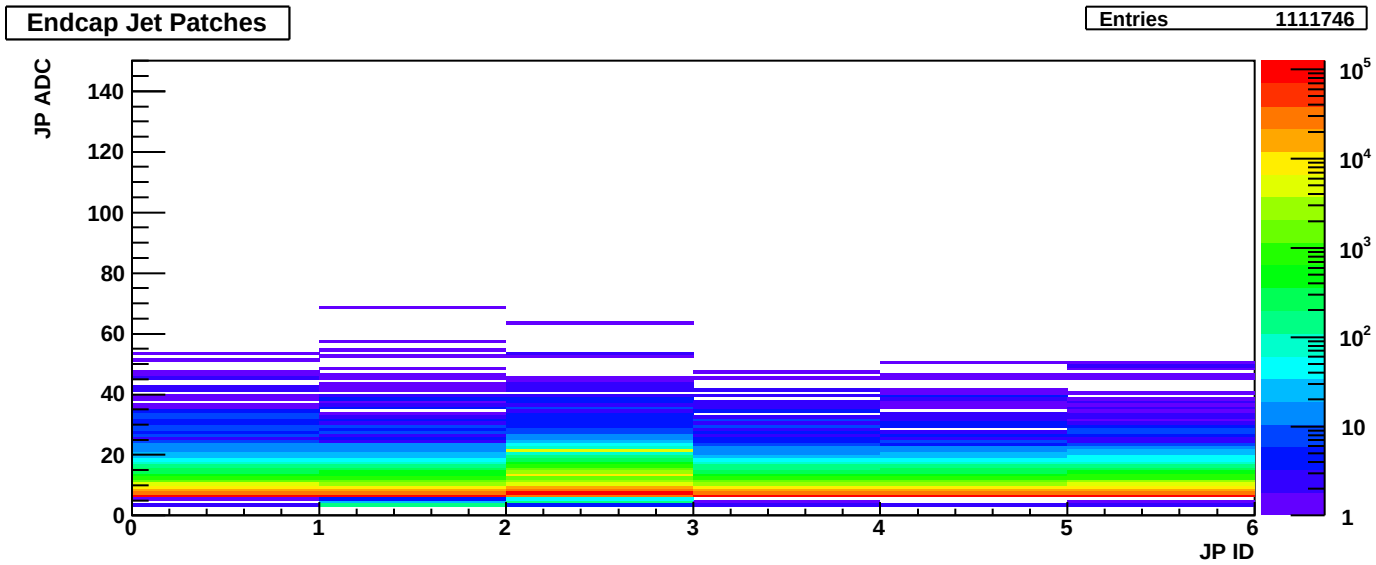

Barrel EMC L0 Input - High Tower
Entries 5.55873e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

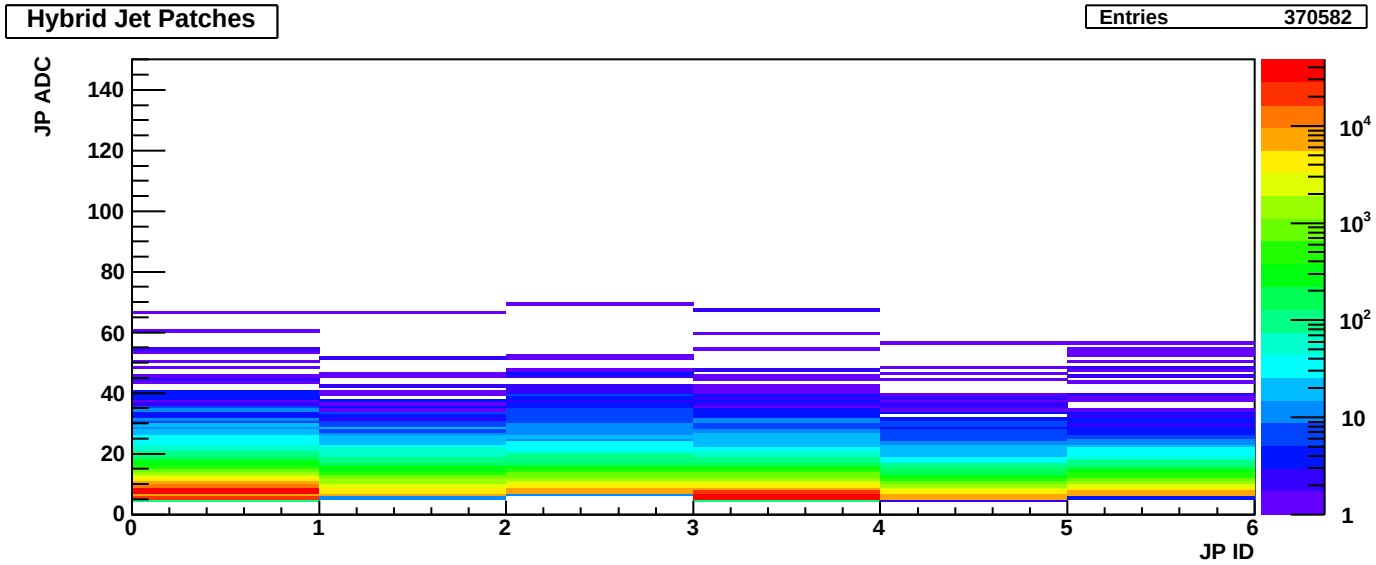

Barrel EMC L0 Input - Patch Sum
Entries 5.55873e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5

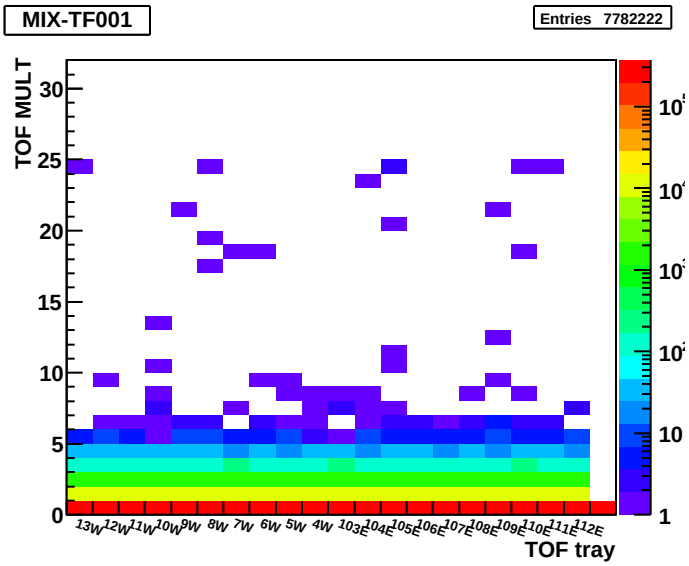

Endcap EMC L0 Input - High Tower
Entries 1.667619e+07
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

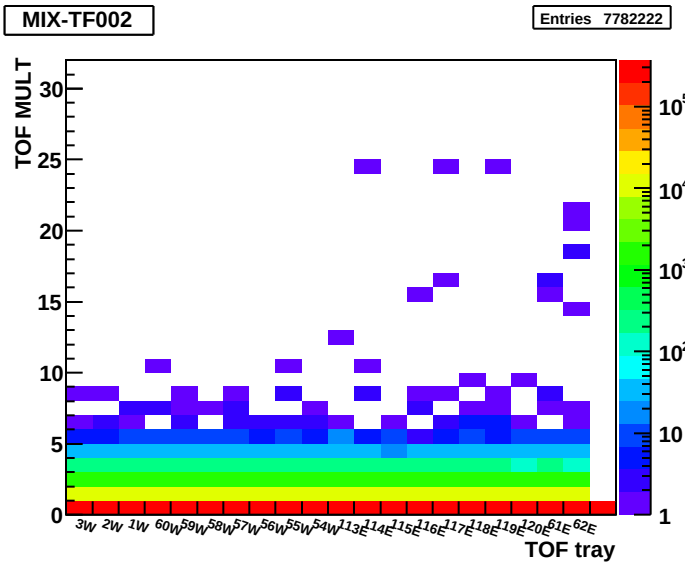

Endcap EMC L0 Input - Patch Sum
Entries 1.667619e+07
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

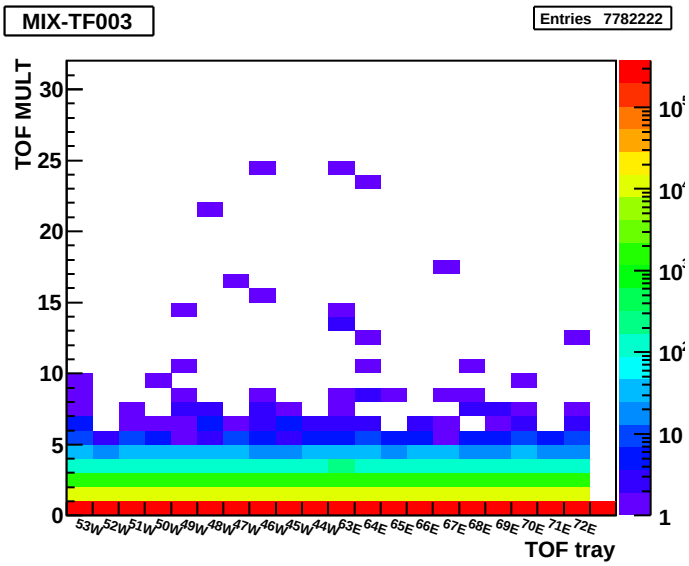

Barrel Jet Patches
Entries 3335238
JP ADC
JP ID

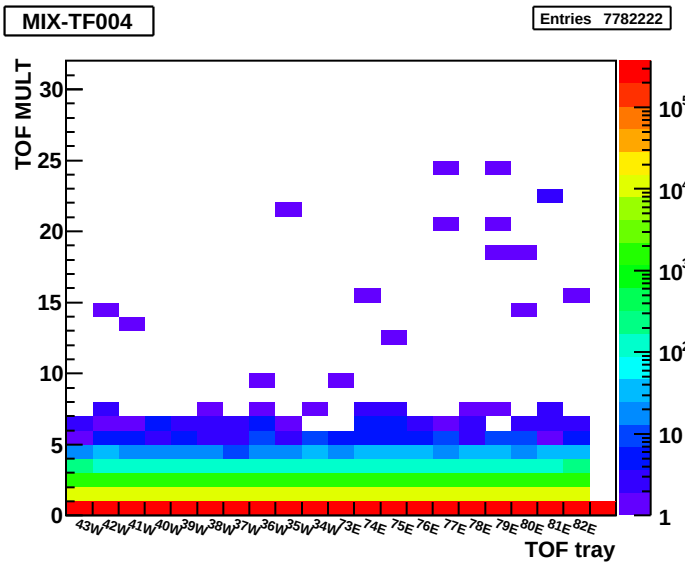

Endcap Jet Patches
Entries 1111746
JP ADC
JP ID

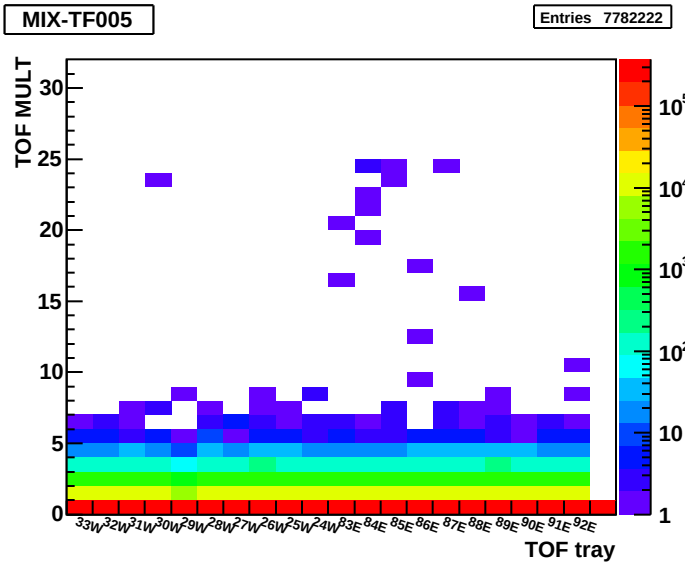

Hybrid Jet Patches
Entries 370582
JP ADC
JP ID

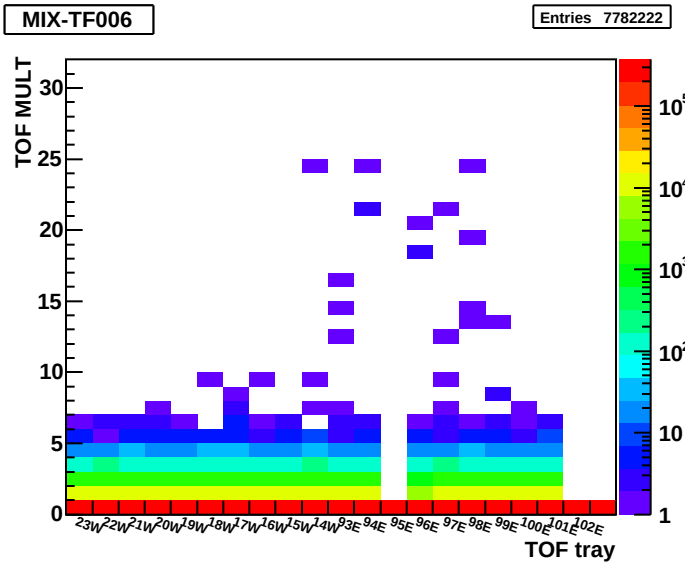

MIX-TF001
Entries 7782222
TOF MULT
TOF tray

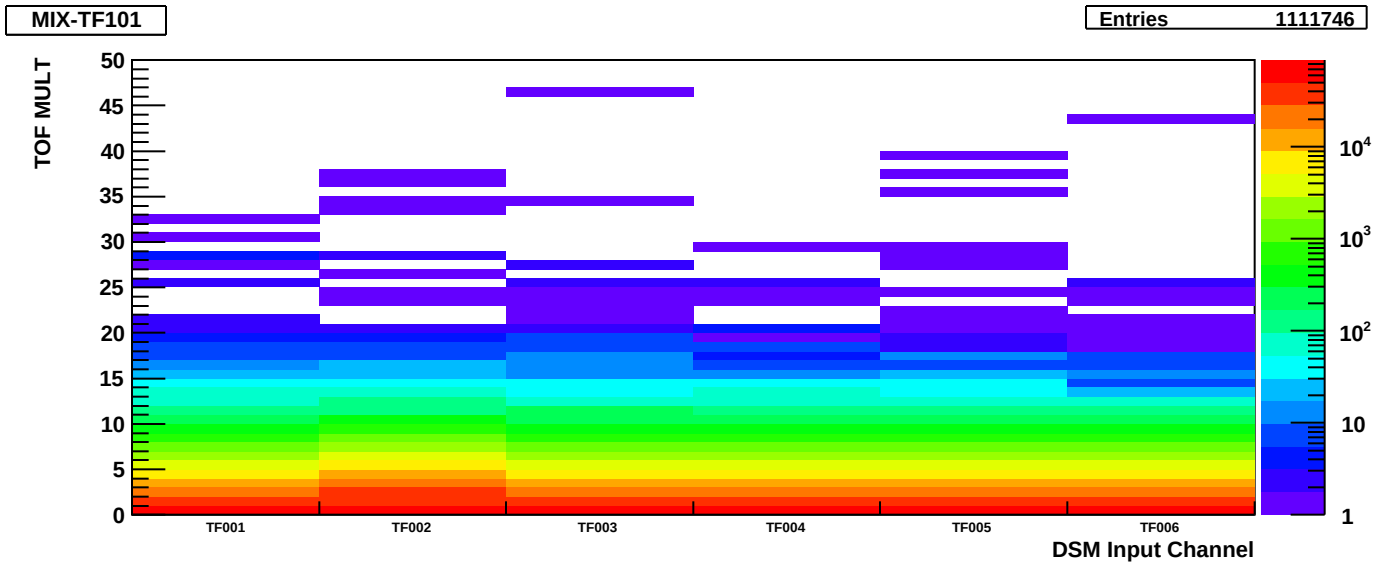

MIX-TF002
Entries 7782222
TOF MULT
TOF tray

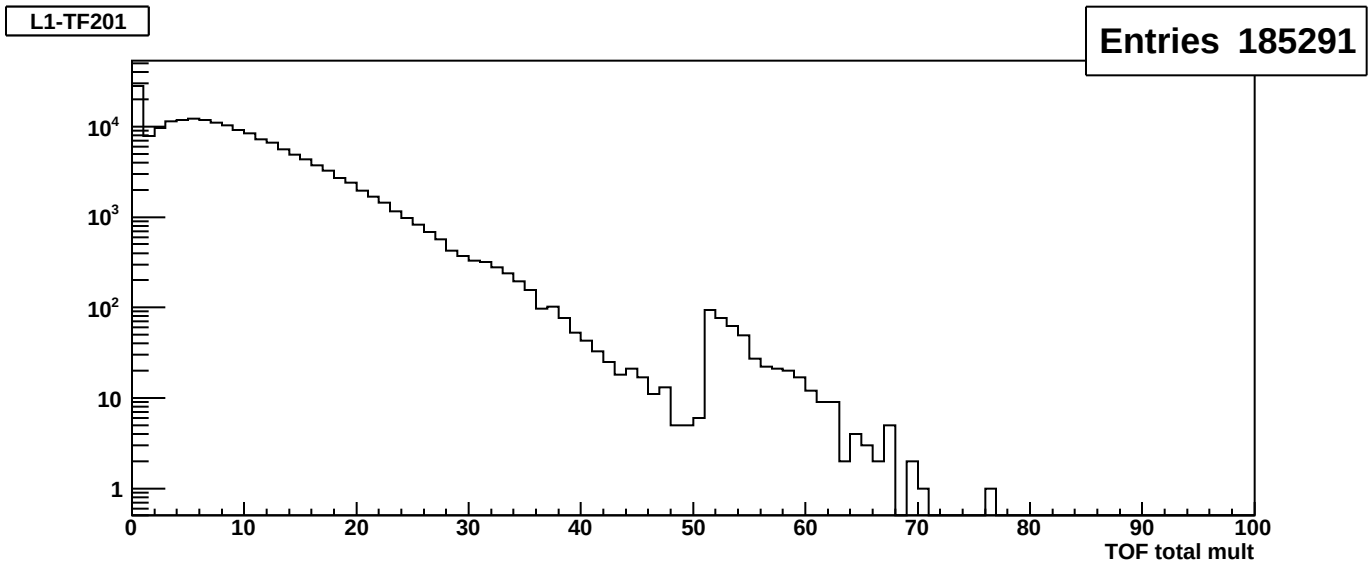

MIX-TF003
Entries 7782222
TOF MULT
TOF tray

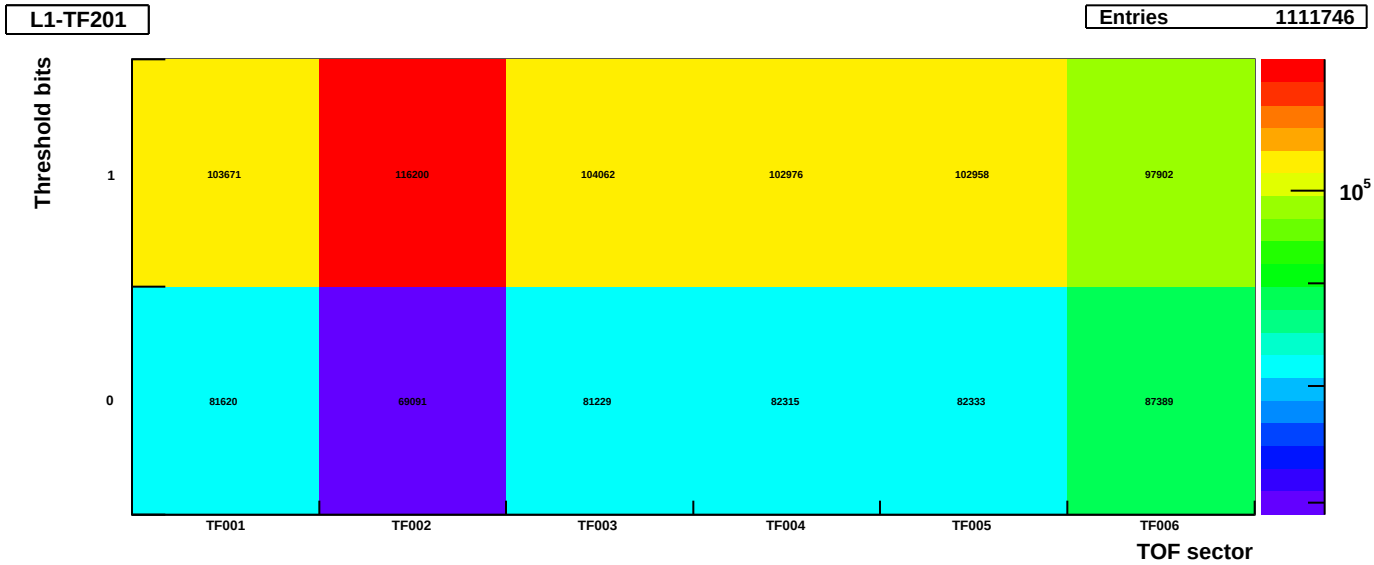

MIX-TF004
Entries 7782222
TOF MULT
TOF tray

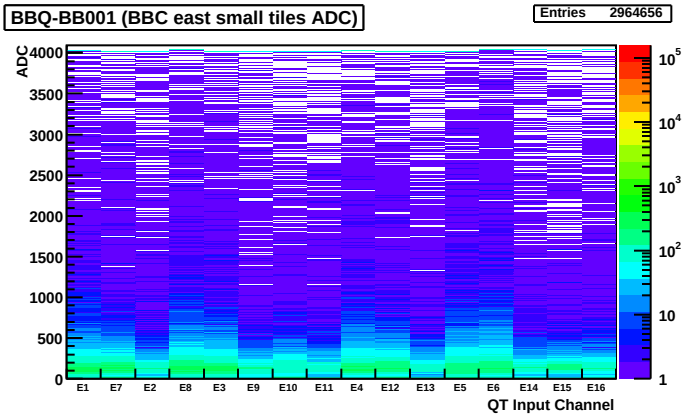

MIX-TF005
Entries 7782222
TOF MULT
TOF tray

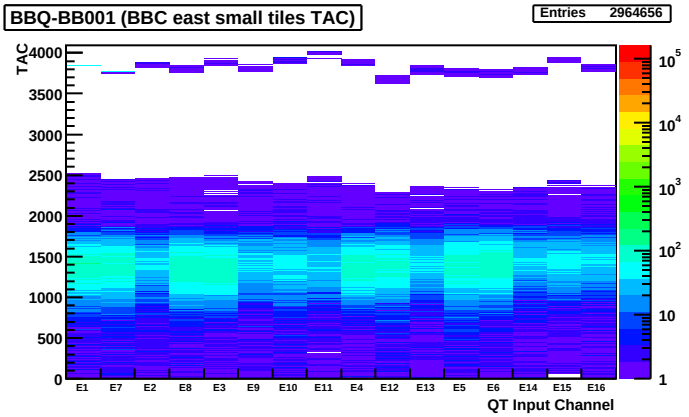

MIX-TF006
Entries 7782222
TOF MULT
TOF tray

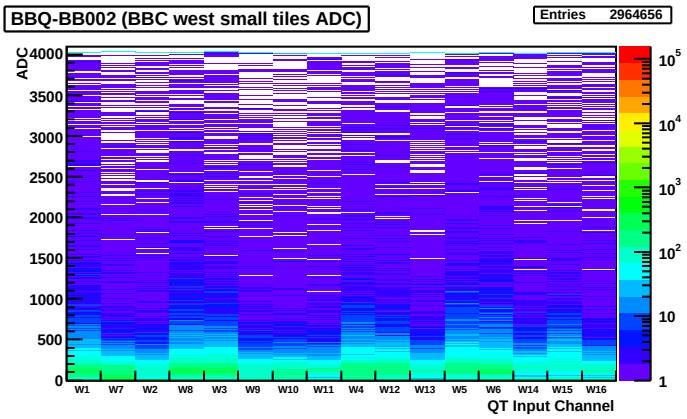

MIX-TF101
Entries 1111746
TOF MULT
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

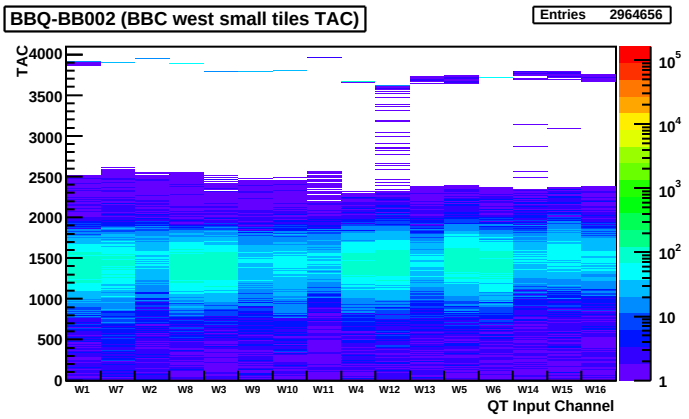

L1-TF201
Entries 185291
TOF total mult

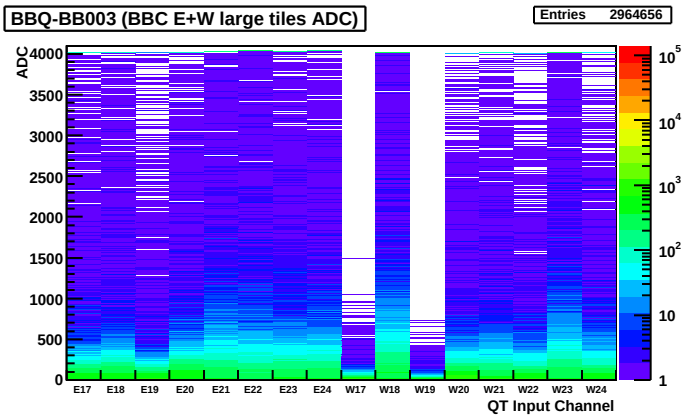

L1-TF201
Entries 1111746
Threshold bits
103671
116200
104062
102976
102958
97902
81620
69091
81229
82315
82333
87389
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

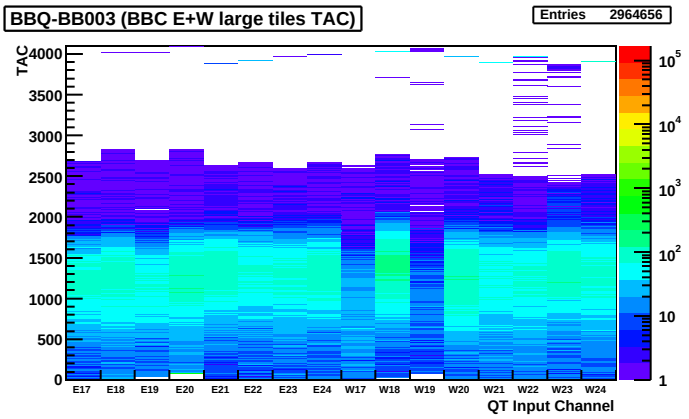

BBQ-BB001 (BBC east small tiles ADC)
Entries 2964656
ADC
QT Input Channel

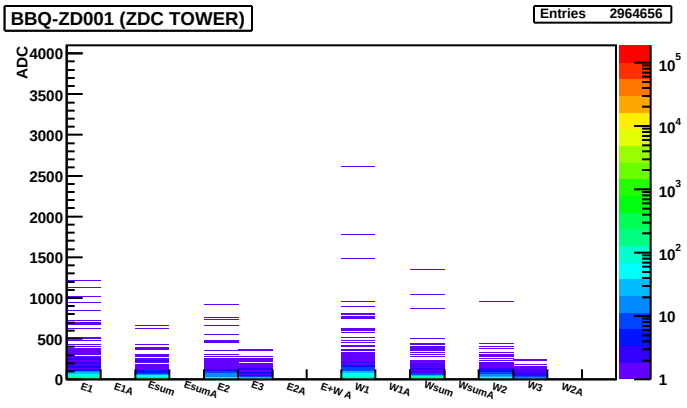

BBQ-BB001 (BBC east small tiles TAC)
Entries 2964656
TAC
QT Input Channel

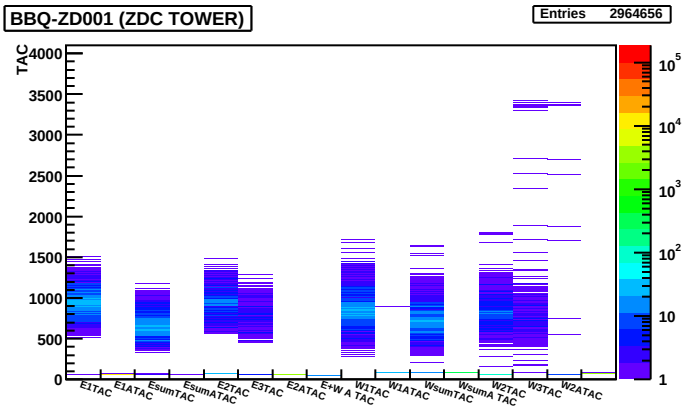

BBQ-BB002 (BBC west small tiles ADC)
Entries 2964656
ADC
QT Input Channel

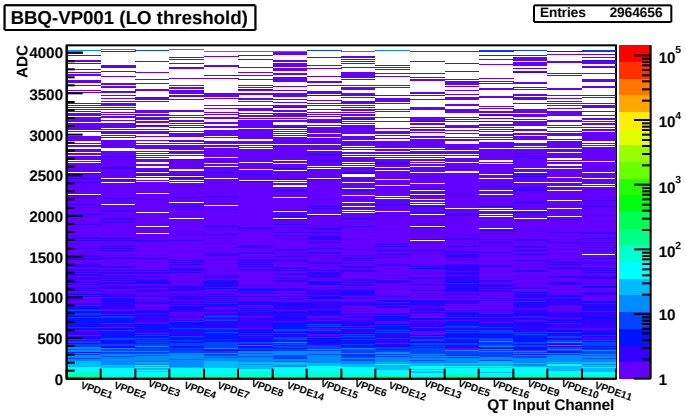

BBQ-BB002 (BBC west small tiles TAC)
Entries 2964656
TAC
QT Input Channel

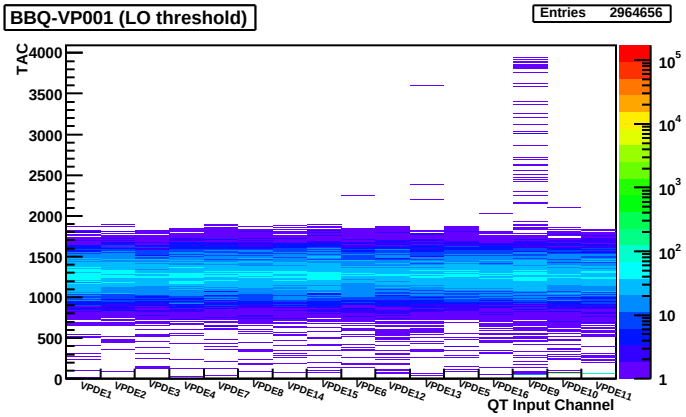

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 2964656
ADC
QT Input Channel

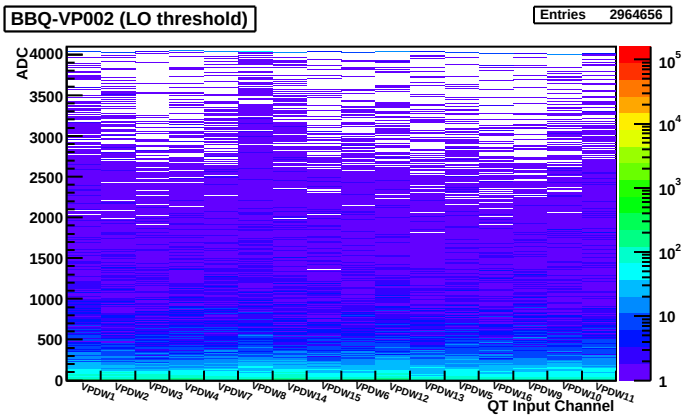

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 2964656
TAC
QT Input Channel

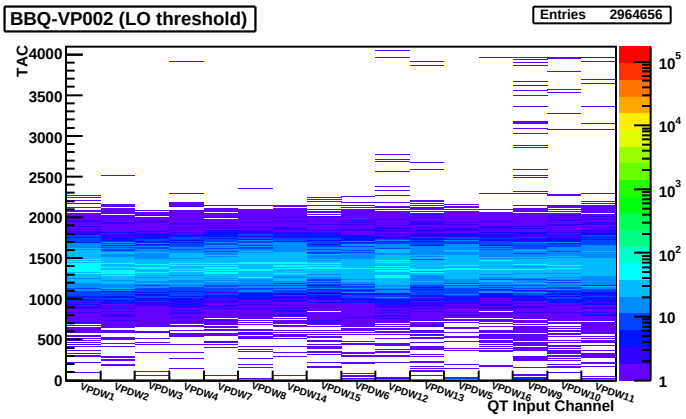

BBQ-ZD001 (ZDC TOWER)
Entries 2964656
ADC

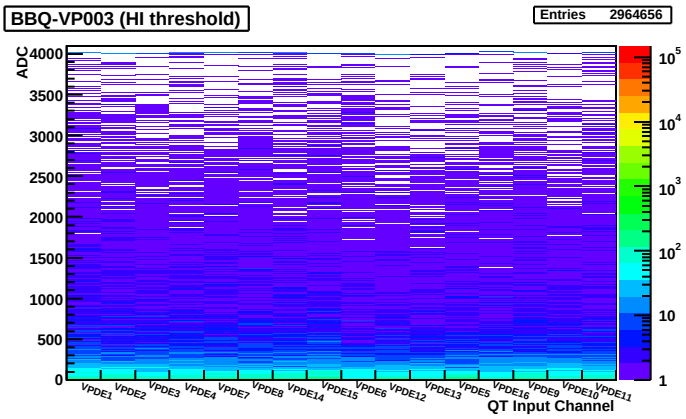

BBQ-ZD001 (ZDC TOWER)
Entries 2964656
TAC

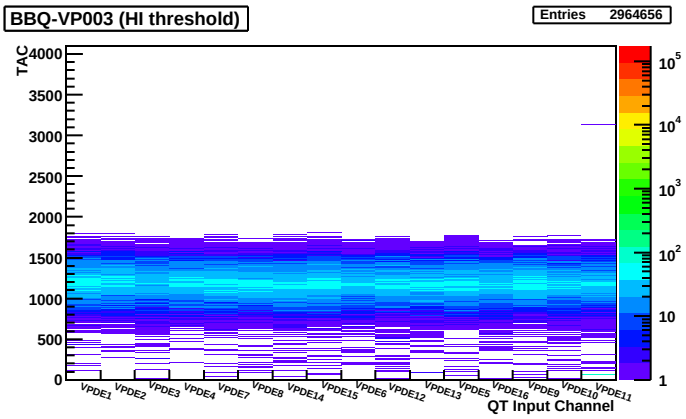

BBQ-VP001 (LO threshold)
Entries 2964656
ADC
QT Input Channel

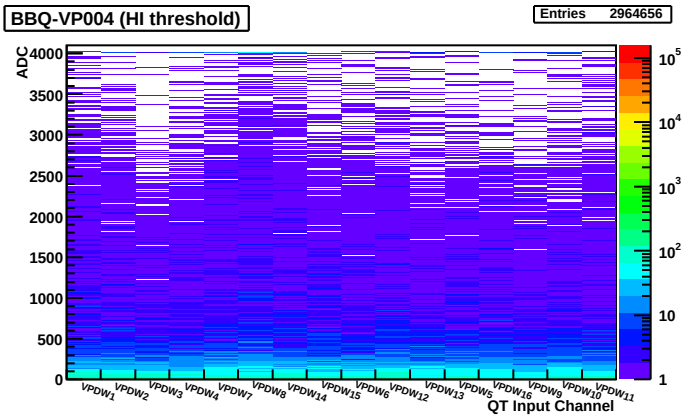

BBQ-VP001 (LO threshold)
Entries 2964656
TAC
QT Input Channel

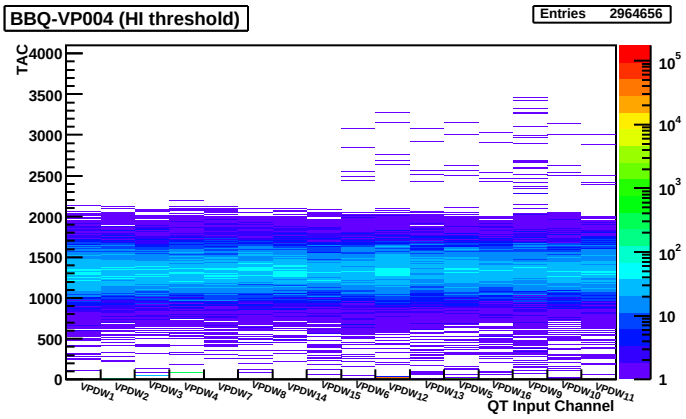

BBQ-VP002 (LO threshold)
Entries 2964656
ADC
QT Input Channel

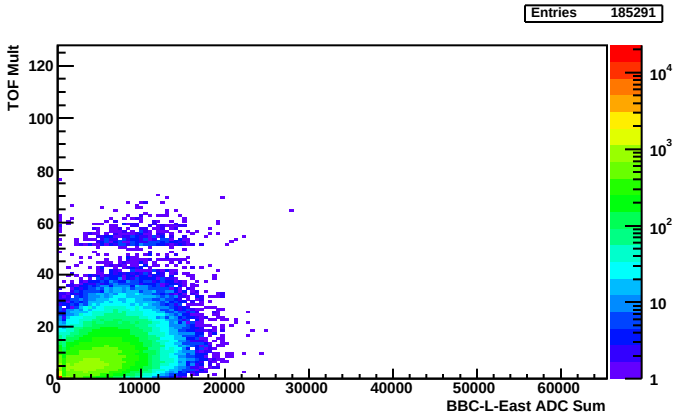

BBQ-VP002 (LO threshold)
Entries 2964656
TAC
QT Input Channel

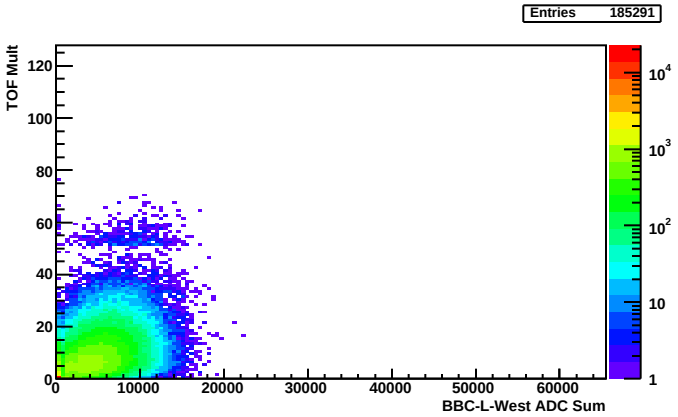

BBQ-VP003 (HI threshold)
Entries 2964656
ADC
QT Input Channel

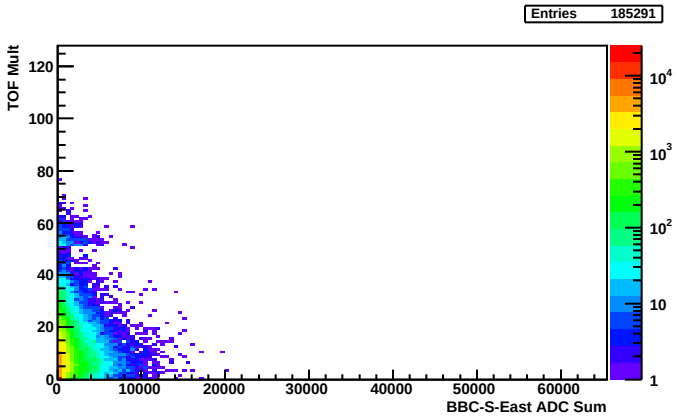

BBQ-VP003 (HI threshold)
Entries 2964656
TAC
QT Input Channel

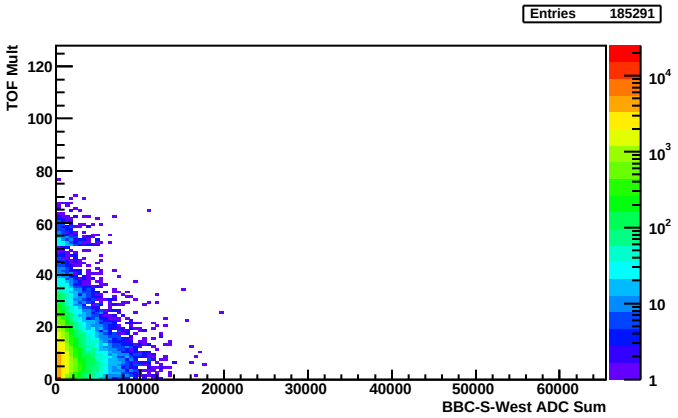

BBQ-VP004 (HI threshold)
Entries 2964656
ADC
QT Input Channel

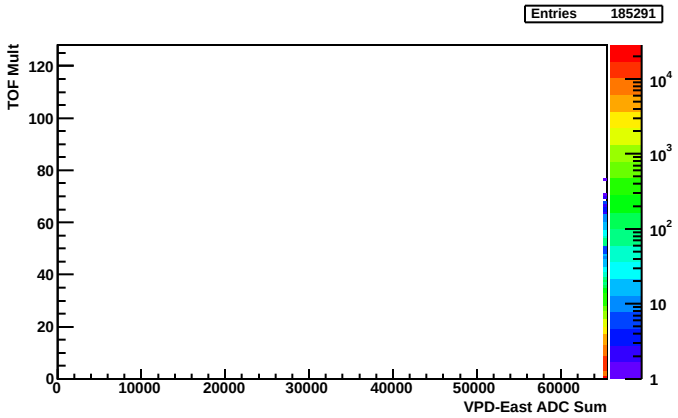

BBQ-VP004 (HI threshold)
Entries 2964656
TAC
QT Input Channel

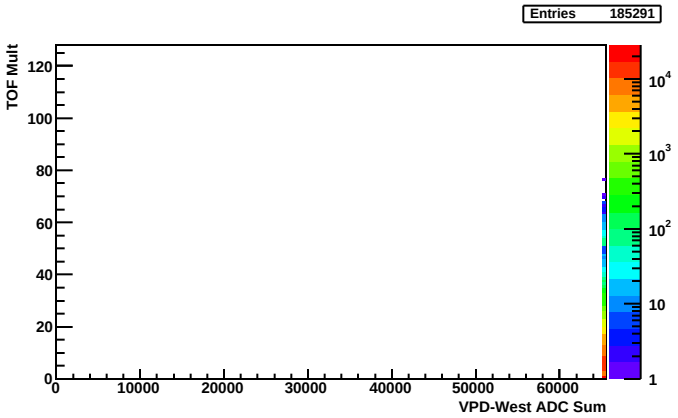

Entries 185291
TOF Mult
BBC-L-East ADC Sum

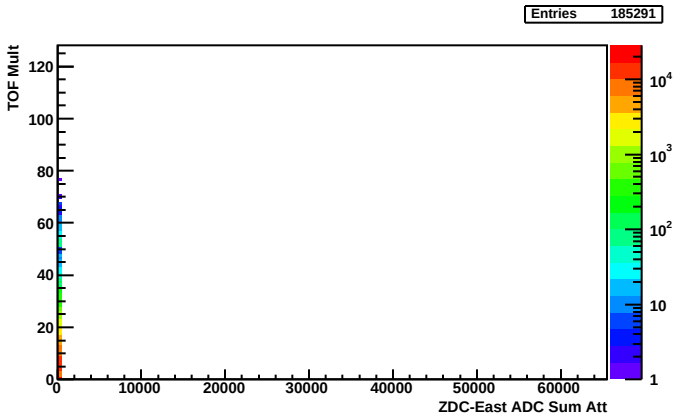

Entries 185291
TOF Mult
BBC-L-West ADC Sum

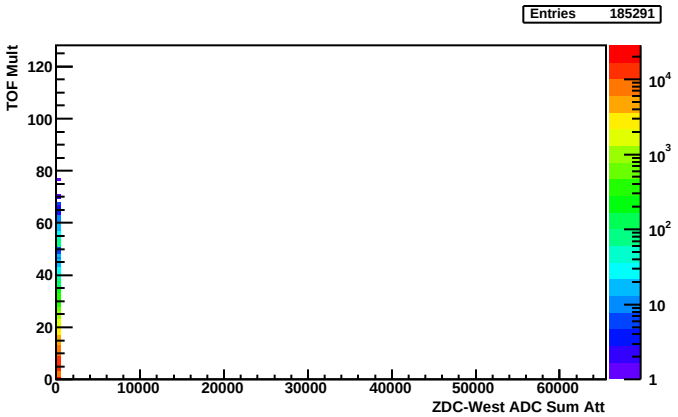

Entries 185291
TOF Mult
BBC-S-East ADC Sum

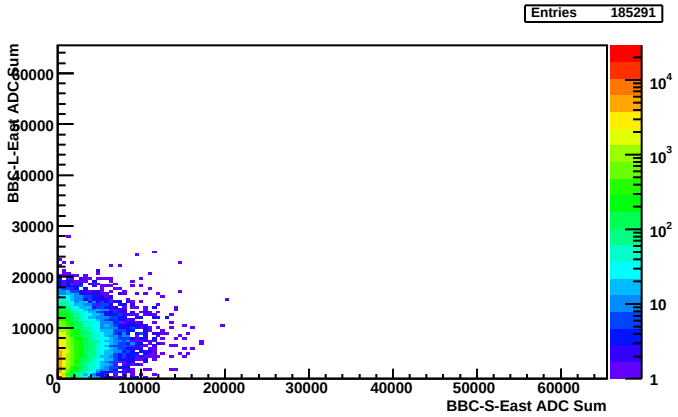

Entries 185291
TOF Mult
BBC-S-West ADC Sum

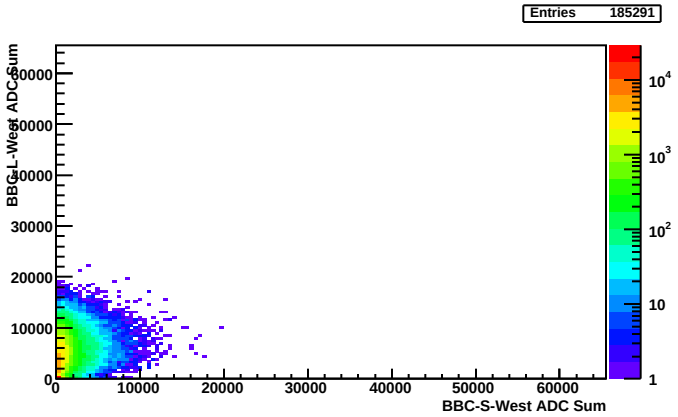

Entries 185291
TOF Mult
VPD-East ADC Sum

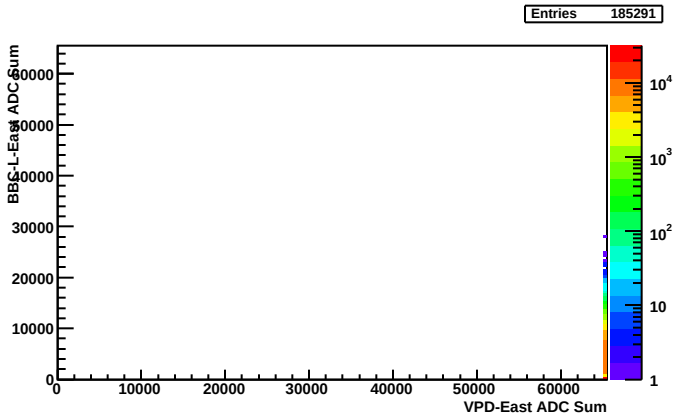

Entries 185291
TOF Mult
VPD-West ADC Sum

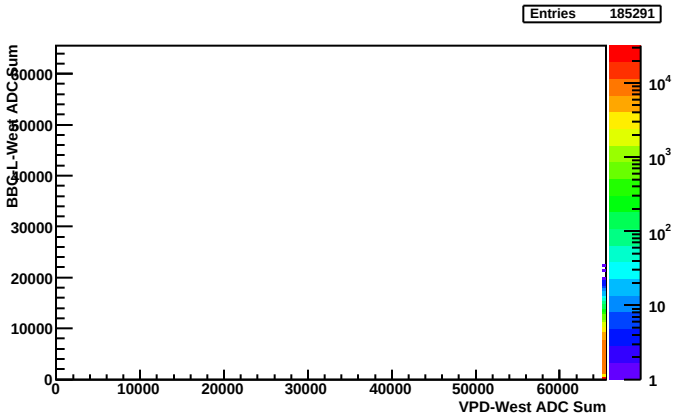

Entries 185291
TOF Mult
ZDC-East ADC Sum Att

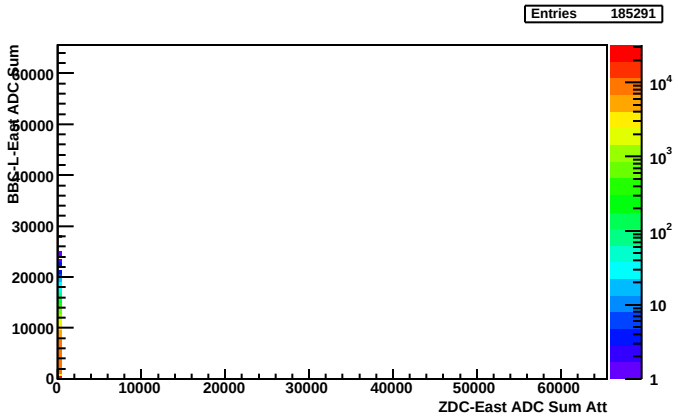

Entries 185291
TOF Mult
ZDC-West ADC Sum Att

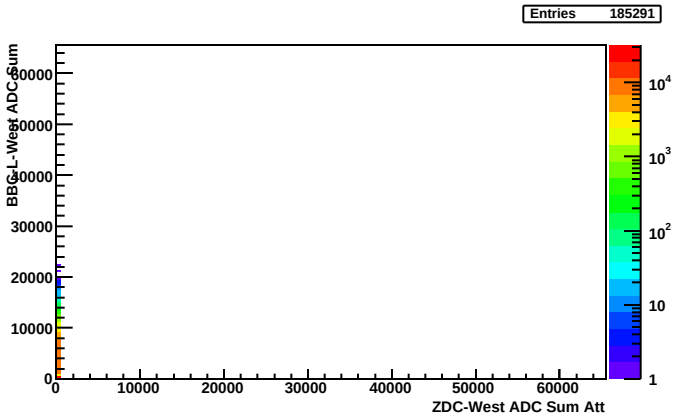

Entries 185291
BBC-L-East ADC Sum
BBC-S-East ADC Sum

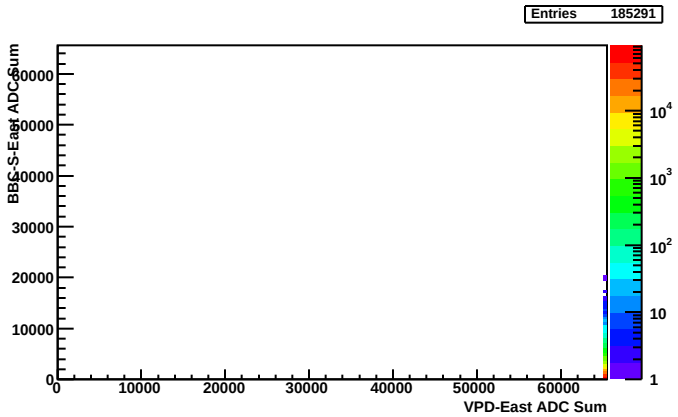

Entries 185291
BBC-L-West ADC Sum
BBC-S-West ADC Sum

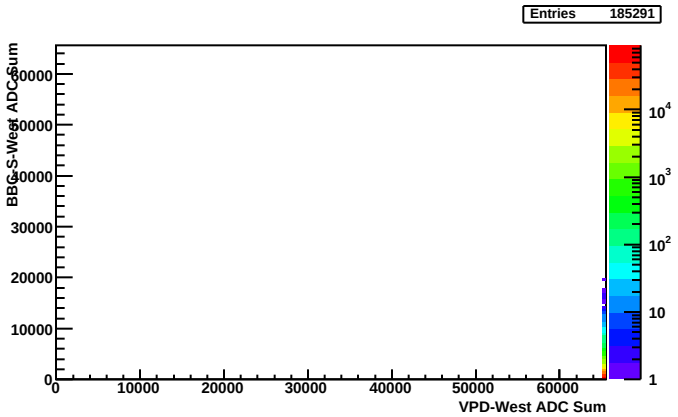

Entries 185291
BBC-L-East ADC Sum
VPD-East ADC Sum

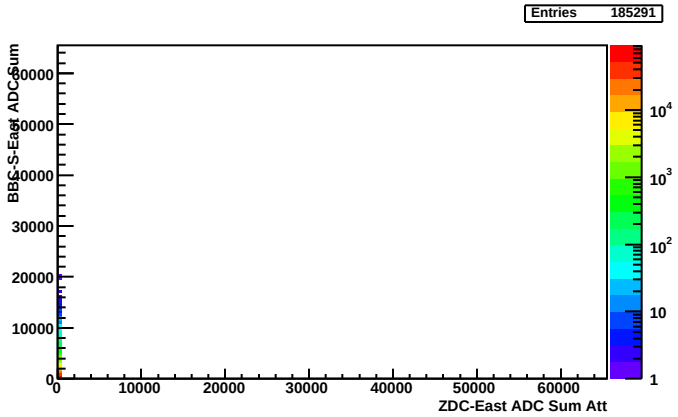

Entries 185291
BBC-L-West ADC Sum
VPD-West ADC Sum

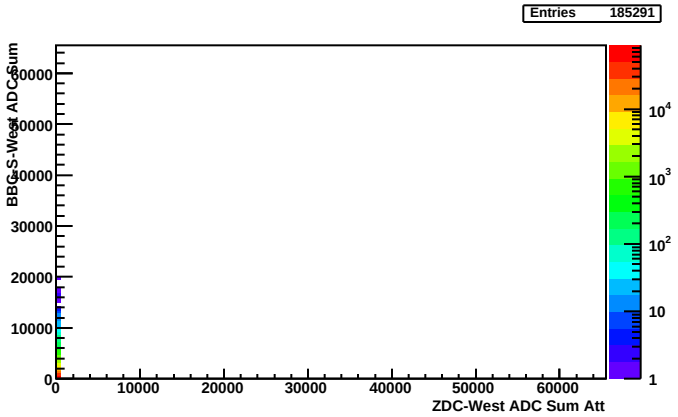

Entries 185291
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

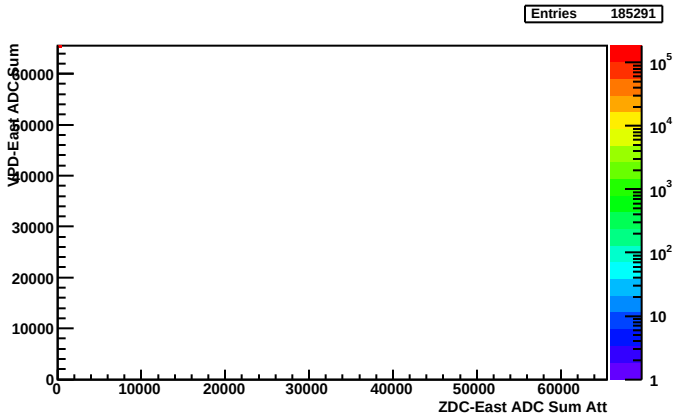

Entries 185291
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

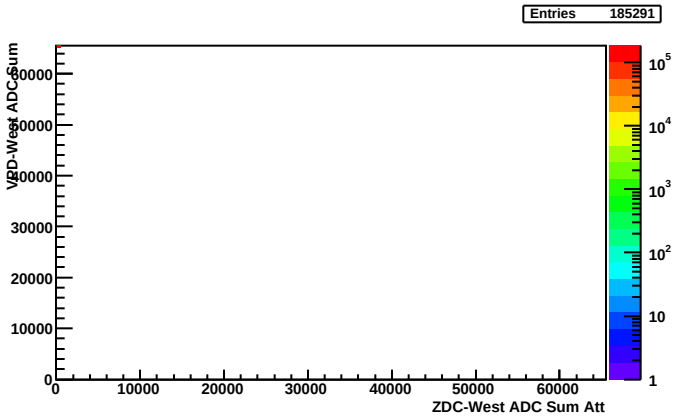

Entries 185291
BBC-S-East ADC Sum
VPD-East ADC Sum

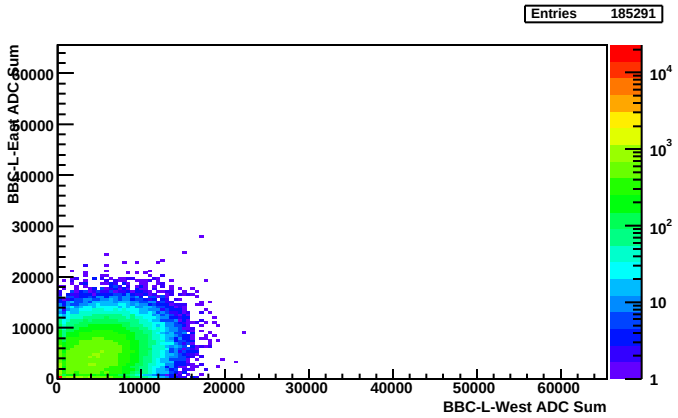

Entries 185291
BBC-S-West ADC Sum
VPD-West ADC Sum


Entries 185291
BBC-S-East ADC Sum
ZDC-East ADC Sum Att


Entries 185291
BBC-S-West ADC Sum
ZDC-West ADC Sum Att


Entries 185291
VPD-East ADC Sum
ZDC-East ADC Sum Att


Entries 185291
VPD-West ADC Sum
ZDC-West ADC Sum Att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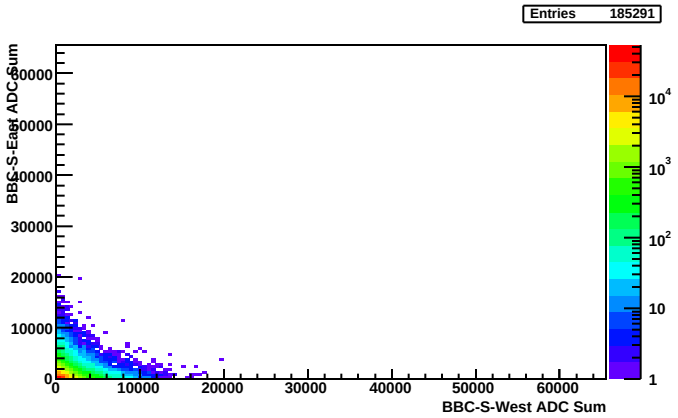
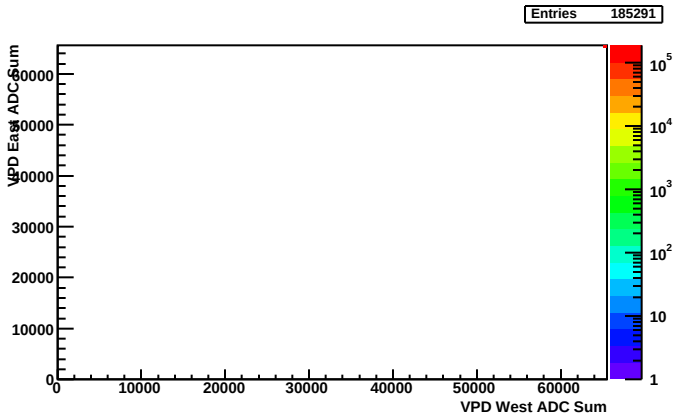
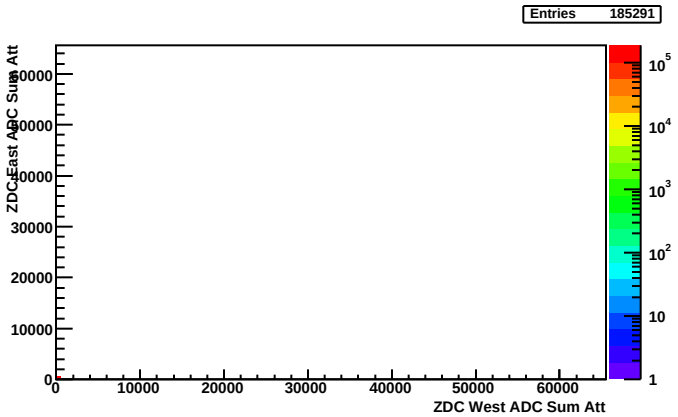
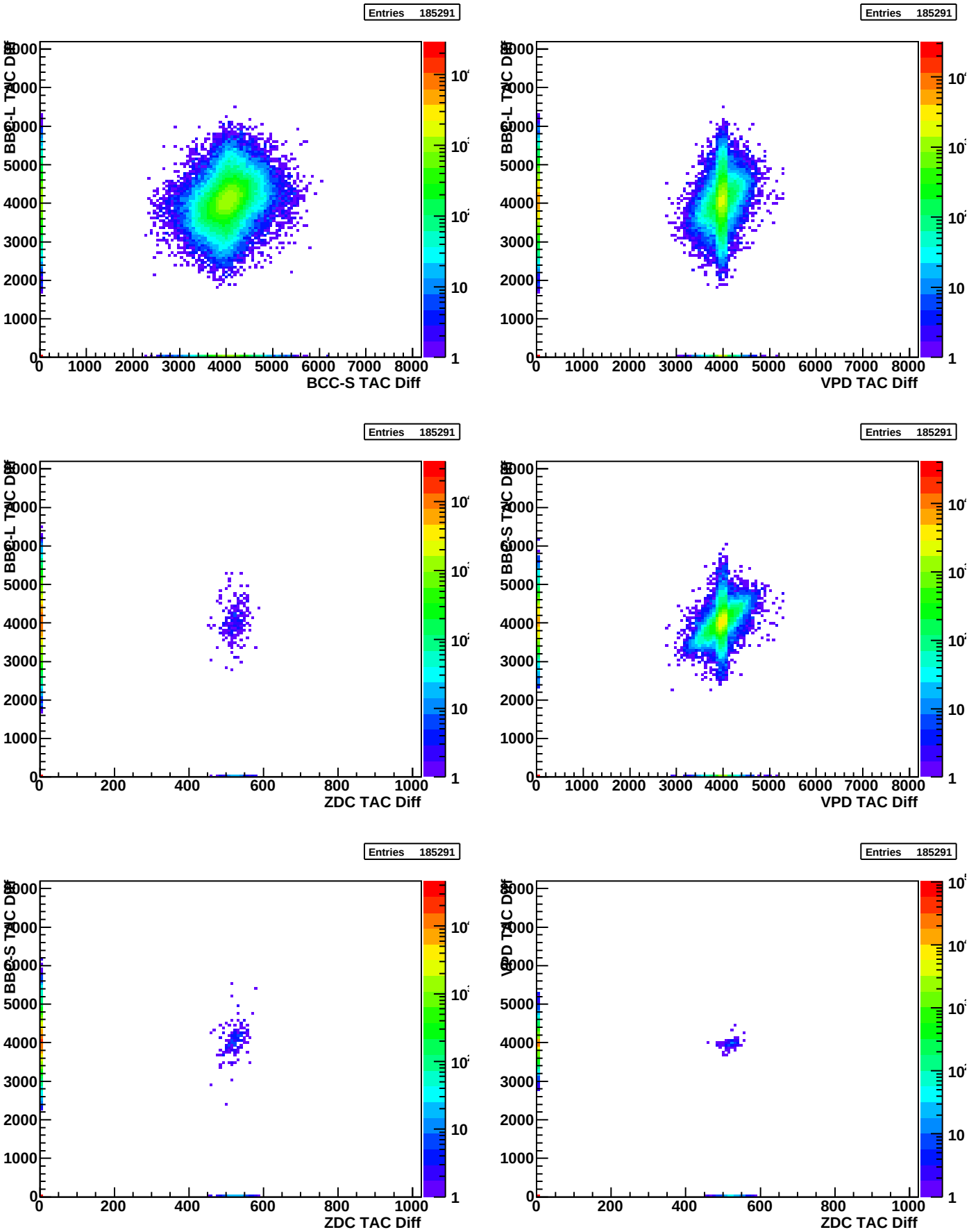
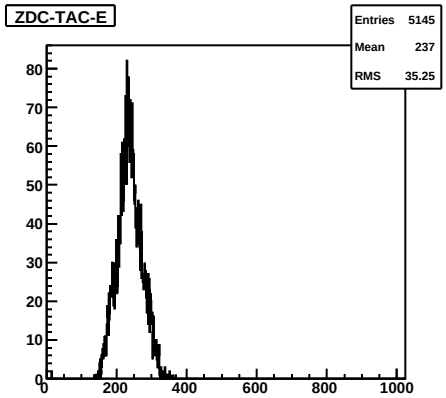
BBC-L-East ADC Sum
BBC-L-West ADC Sum

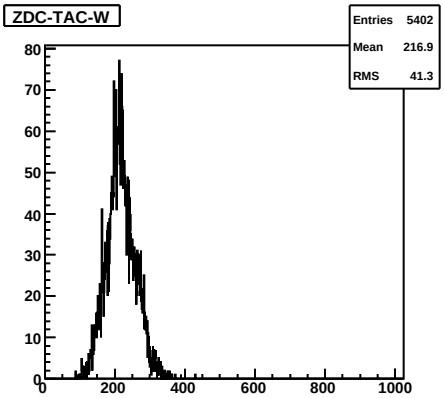

Entries 185291
BBC-S-East ADC Sum
BBC-S-West ADC Sum

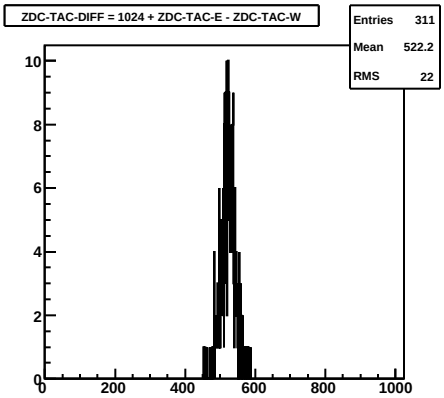

Entries 185291
VPD East ADC Sum
VPD West ADC Sum

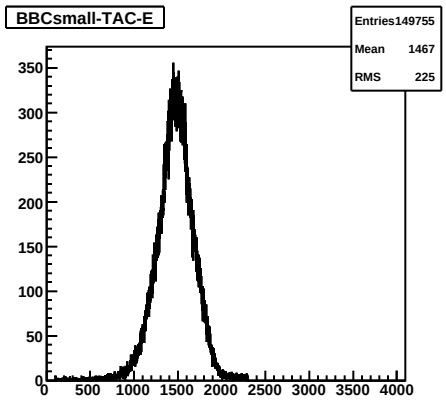

Entries 185291
ZDC East ADC Sum Att
ZDC West ADC Sum Att

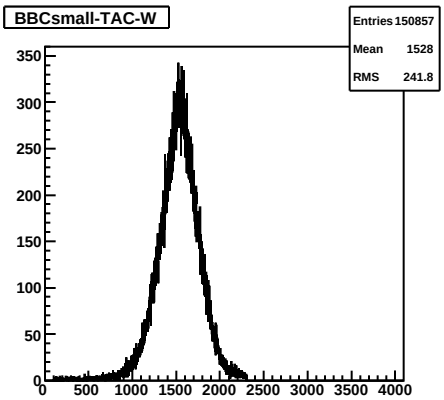

Entries 185291
BBC-L TAC Diff
BCC-S TAC Diff
Entries 185291
BBC-L TAC Diff
VPD TAC Diff
Entries 185291
BBC-L TAC Diff
ZDC TAC Diff
Entries 185291
BBC-S TAC Diff
VPD TAC Diff
Entries 185291
BBC-S TAC Diff
ZDC TAC Diff
Entries 185291
VPD TAC Diff
ZDC TAC Diff

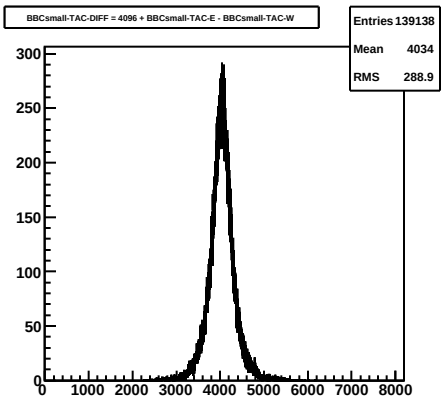

ZDC-TAC-E
Entries 5145
Mean 237
RMS 35.25

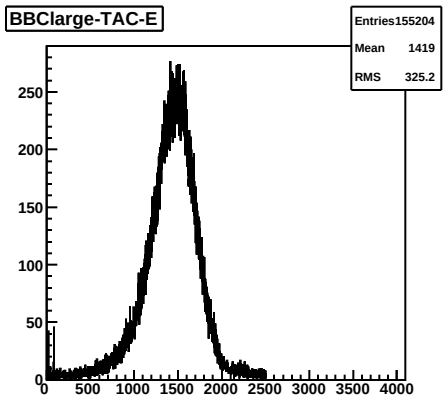

ZDC-TAC-W
Entries 5402
Mean 216.9
RMS 41.3

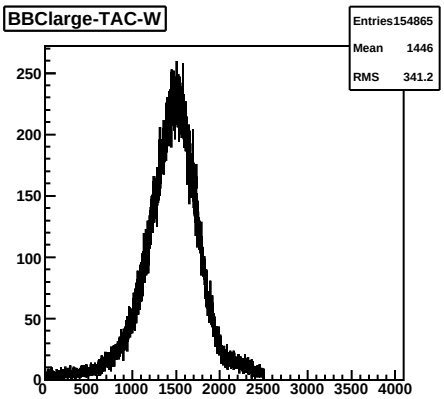

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 311
Mean 522.2
RMS 22

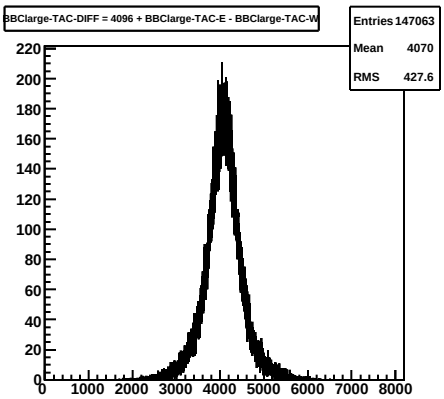

BBCsmall-TAC-E
Entries 149755
Mean 1467
RMS 225

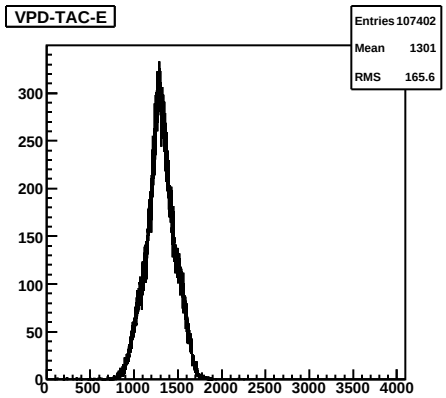

BBCsmall-TAC-W
Entries 150857
Mean 1528
RMS 241.8

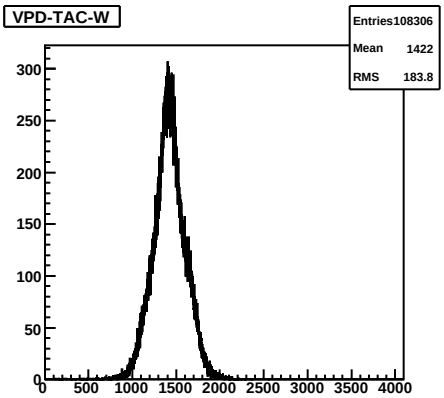

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 139138
Mean 4034
RMS 288.9

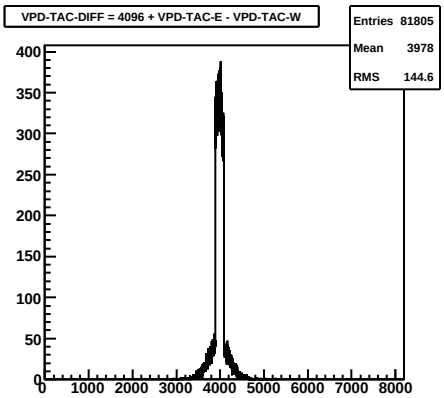

BBClarge-TAC-E
Entries 155204
Mean 1419
RMS 325.2

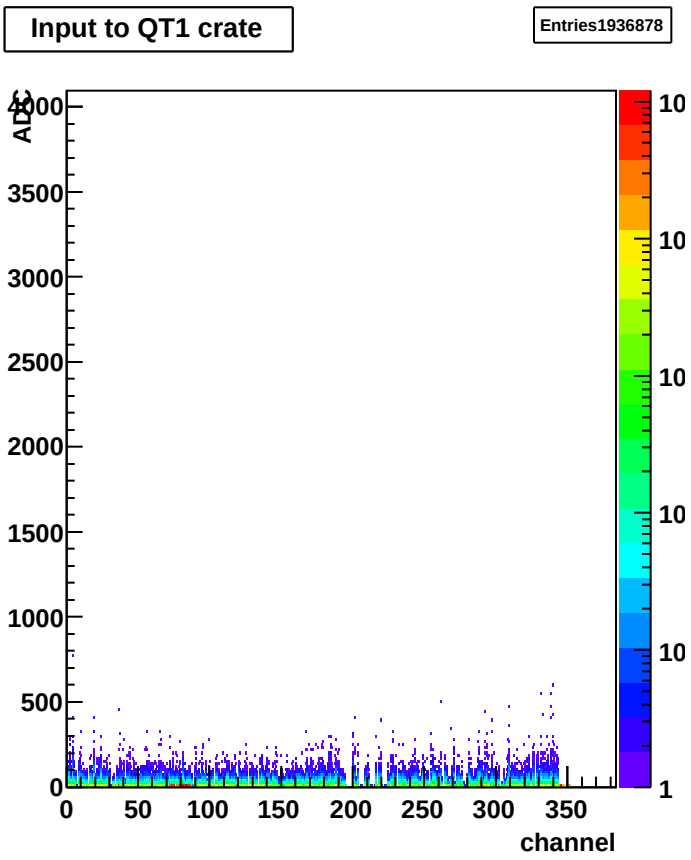

BBClarge-TAC-W
Entries 154865
Mean 1446
RMS 341.2

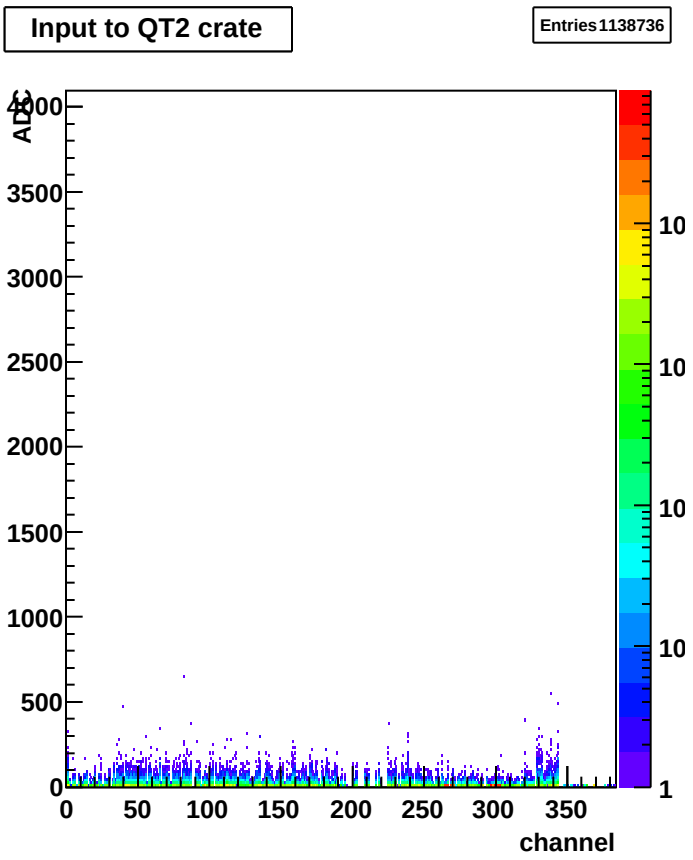

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 147063
Mean 4070
RMS 427.6

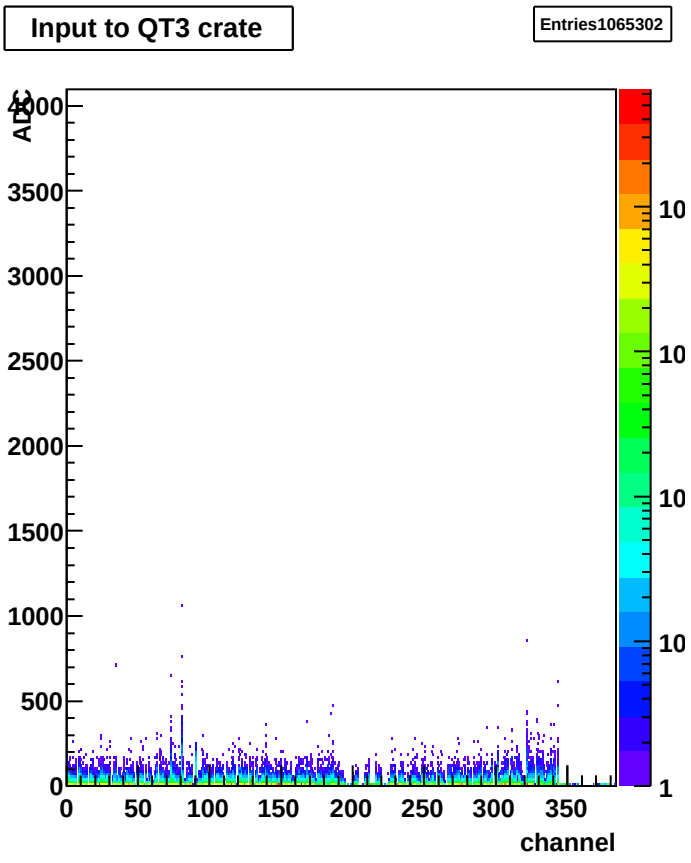

VPD-TAC-E
Entries 107402
Mean 1301
RMS 165.6

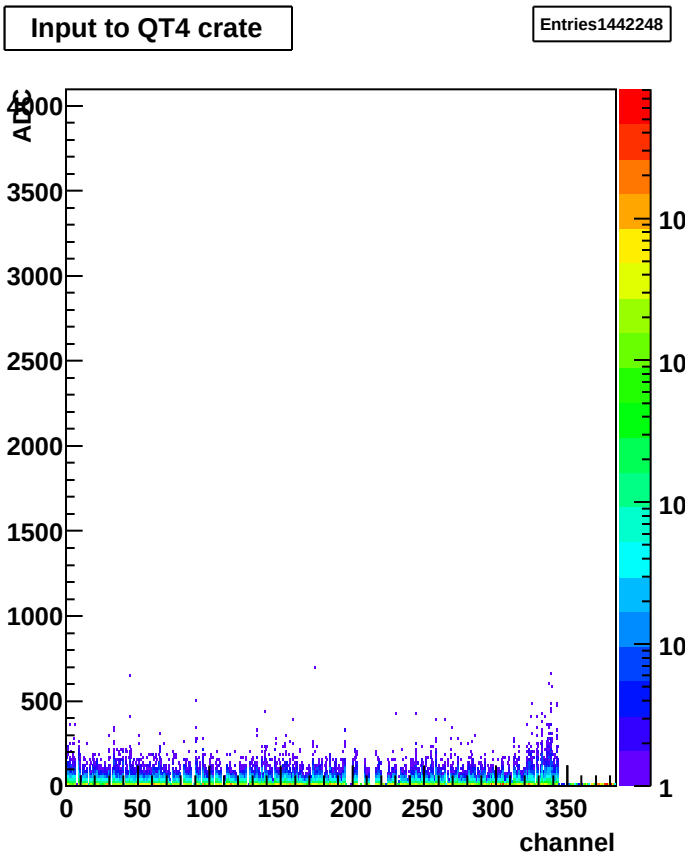

VPD-TAC-W
Entries 108306
Mean 1422
RMS 183.8

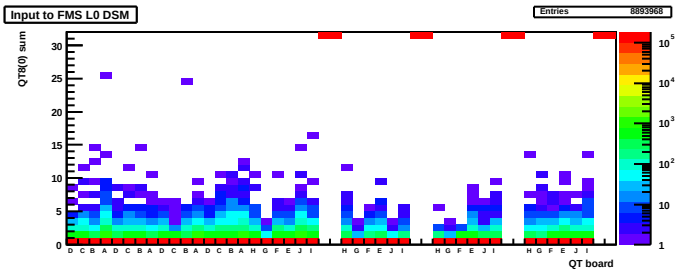

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 81805
Mean 3978
RMS 144.6

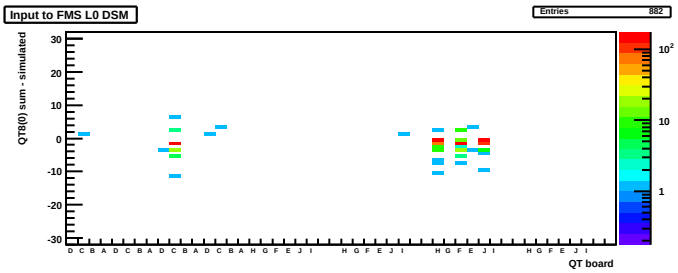

Input to QT1 crate
Entries1936878
ADC
channel

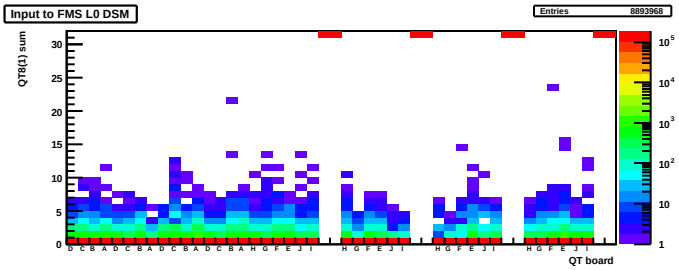

Input to QT2 crate
Entries1138736
ADC
channel

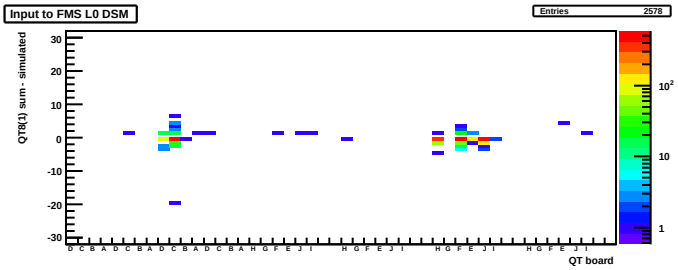

Input to QT3 crate
Entries1065302
ADC
channel

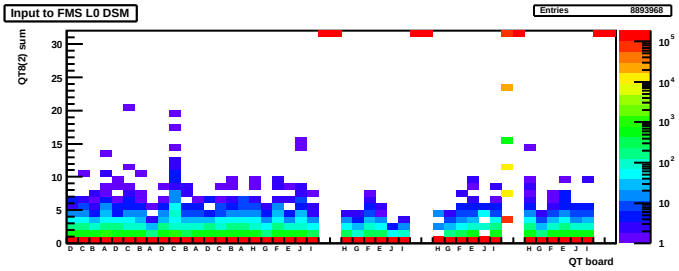

Input to QT4 crate
Entries1442248
ADC
channel

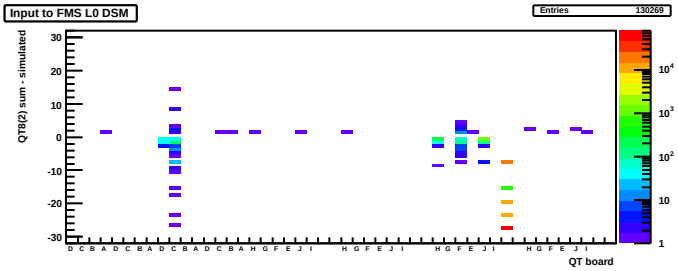

Input to FMS L0 DSM
Entries 8893968
QT8(0) sum
QT board

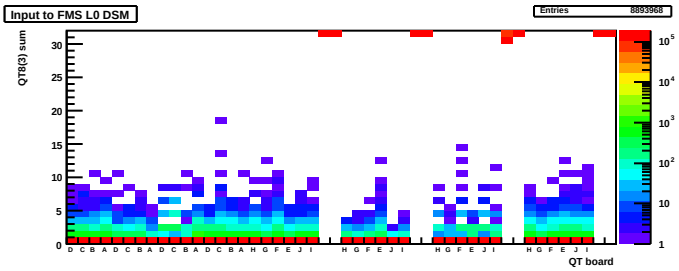

Input to FMS L0 DSM
Entries 882
QT8(0) sum - simulated
QT board

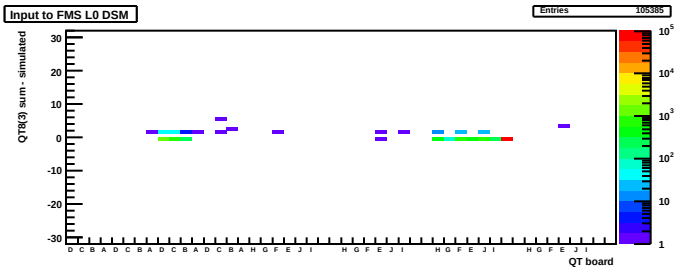

Input to FMS L0 DSM
Entries 8893968
QT8(1) sum
QT board

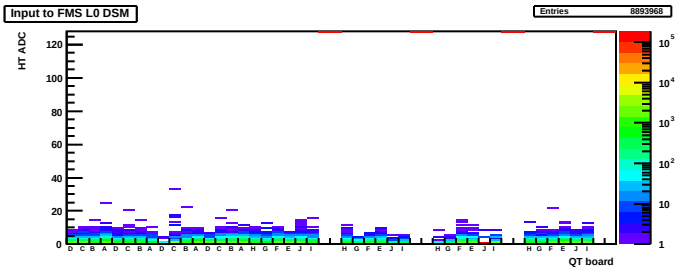

Input to FMS L0 DSM
Entries 2578
QT8(1) sum - simulated
QT board

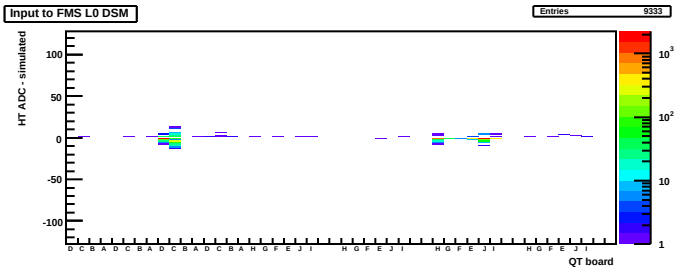

Input to FMS L0 DSM
Entries 8893968
QT8(2) sum
QT board

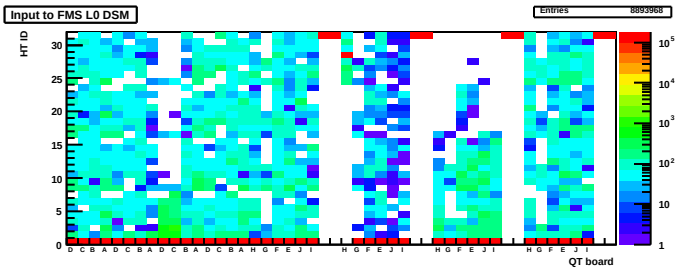

Input to FMS L0 DSM
Entries 130269
QT8(2) sum - simulated
QT board

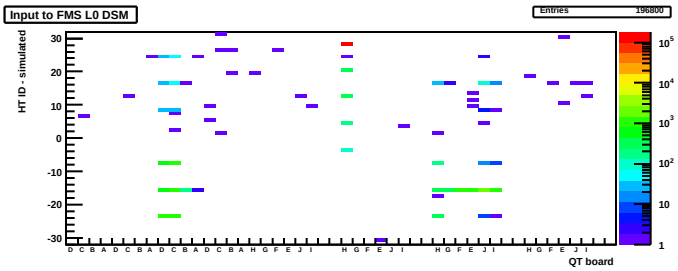

Input to FMS L0 DSM
Entries 8893968
QT8(3) sum
QT board

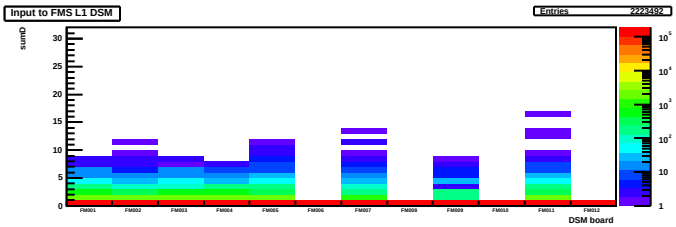

Input to FMS L0 DSM
Entries 105385
QT8(3) sum - simulated
QT board

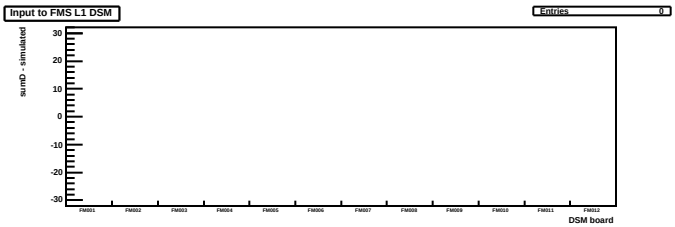

Input to FMS L0 DSM
Entries 8893968
HT ADC
QT board

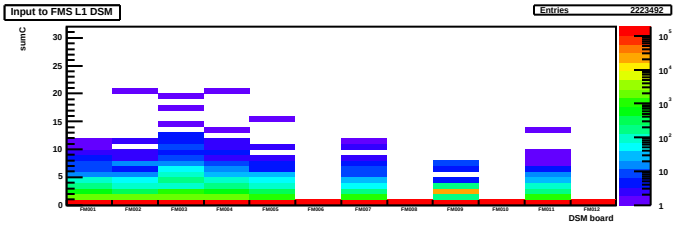

Input to FMS L0 DSM
Entries 9333
HT ADC - simulated
QT board

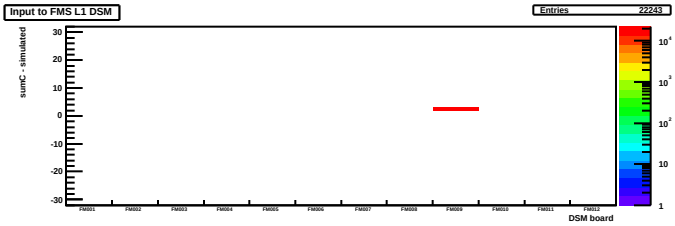

Input to FMS L0 DSM
Entries 8893968
HT ID
QT board

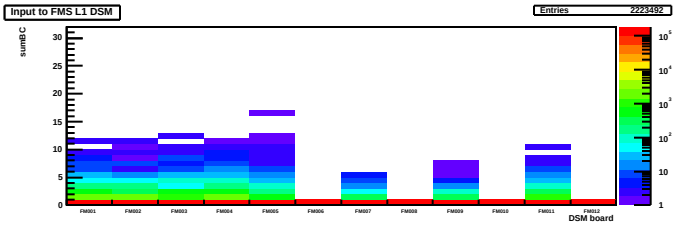

Input to FMS L0 DSM
Entries 196800
HT ID - simulated
QT board

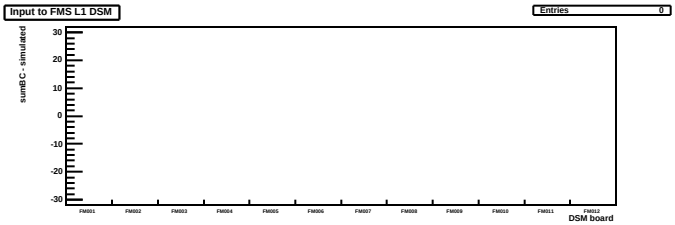

Input to FMS L1 DSM
Entries 2223492
sumD
DSM board

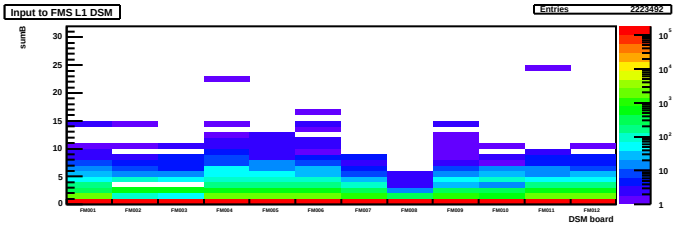

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

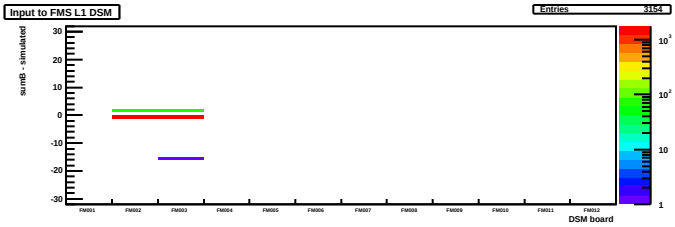

Input to FMS L1 DSM
Entries 2223492
sumC
DSM board

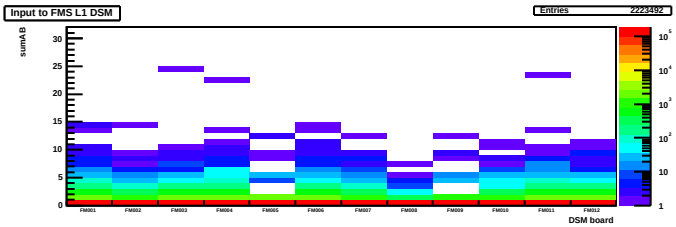

Input to FMS L1 DSM
Entries 22243
sumC - simulated
DSM board

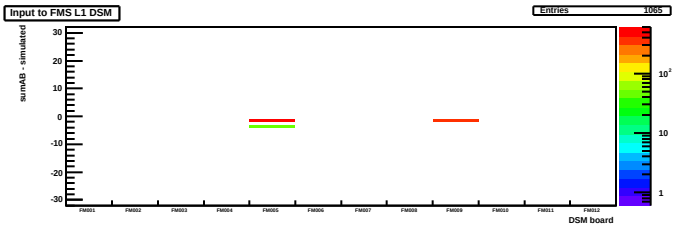

Input to FMS L1 DSM
Entries 2223492
sumBC
DSM board

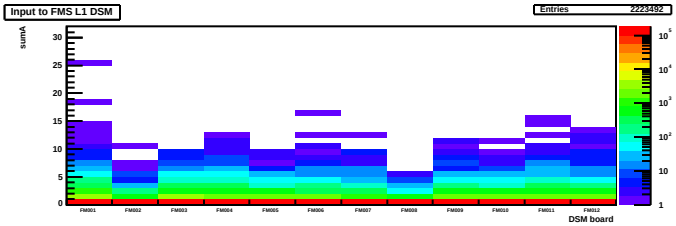

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

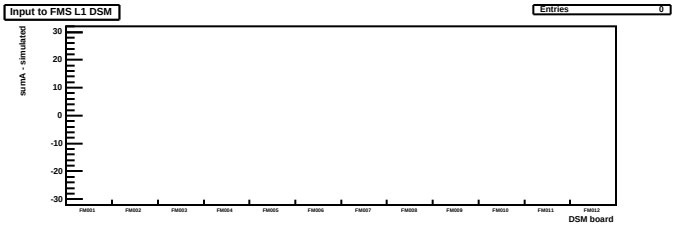

Input to FMS L1 DSM
Entries 2223492
sumB
DSM board

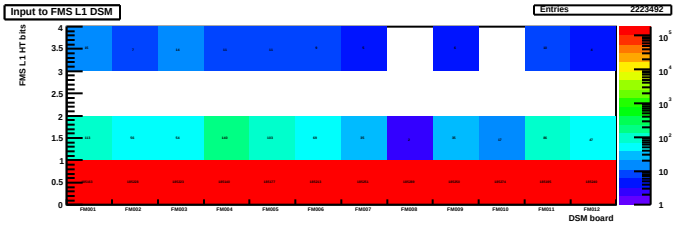

Input to FMS L1 DSM
Entries 3154
sumB - simulated
DSM board

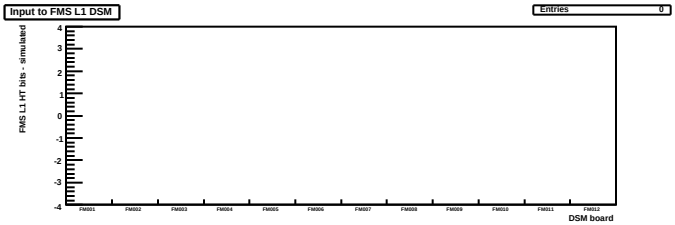

Input to FMS L1 DSM
Entries 2223492
sumAB
DSM board

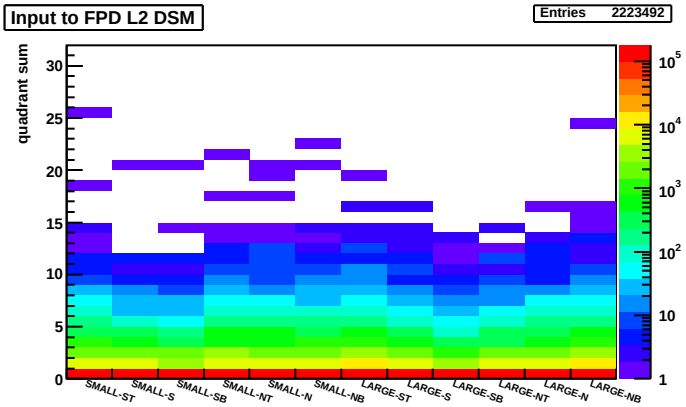

Input to FMS L1 DSM
Entries 1065
sumAB - simulated
DSM board

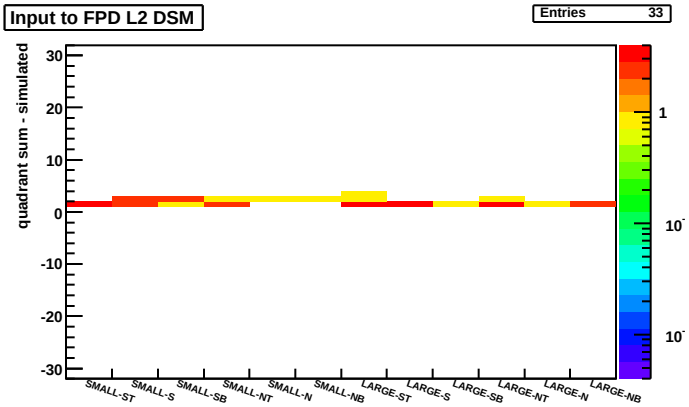

Input to FMS L1 DSM
Entries 2223492
sumA
DSM board

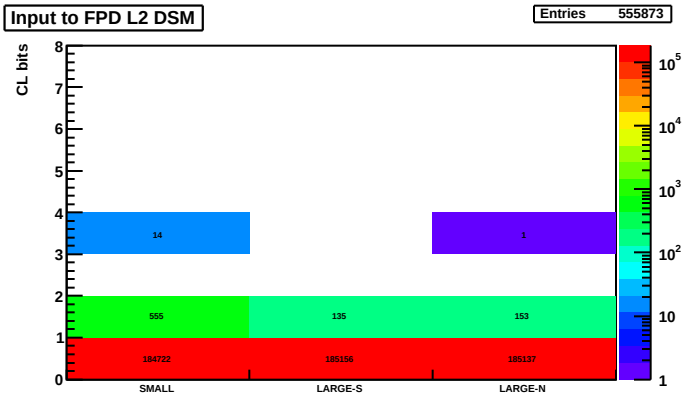

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

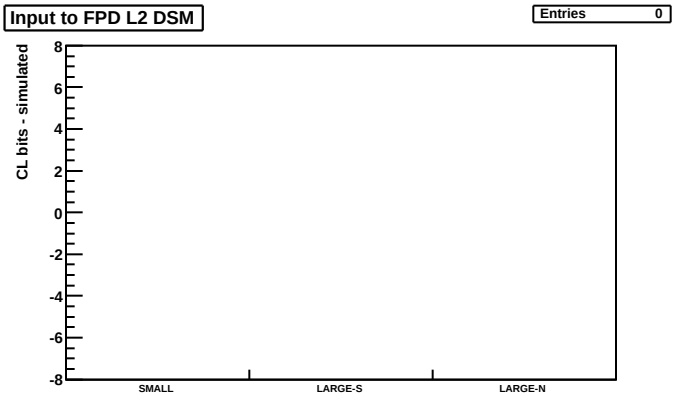

Input to FMS L1 DSM
Entries 2223492
FMS L1 HT bits
DSM board

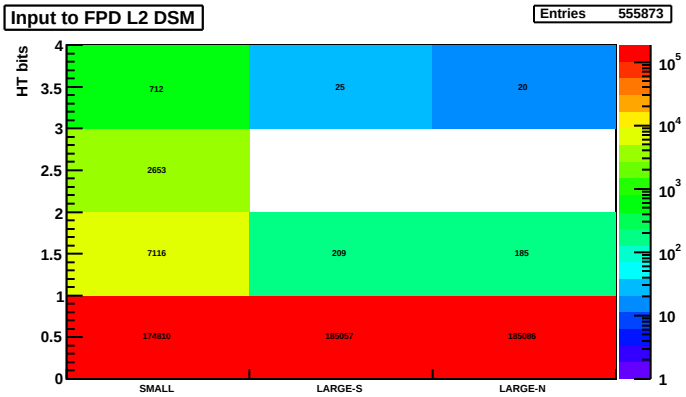

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

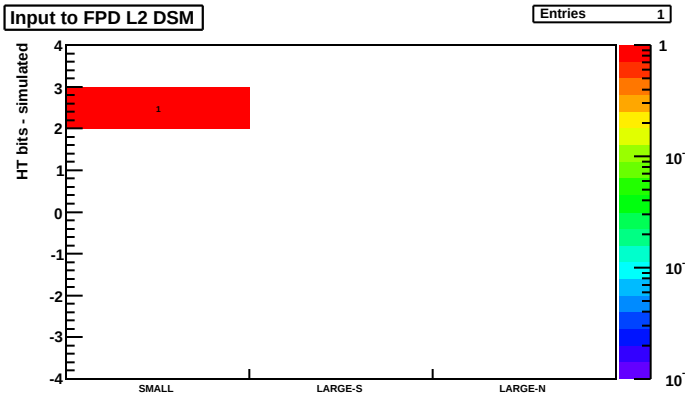

Input to FPD L2 DSM
Entries 2223492
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

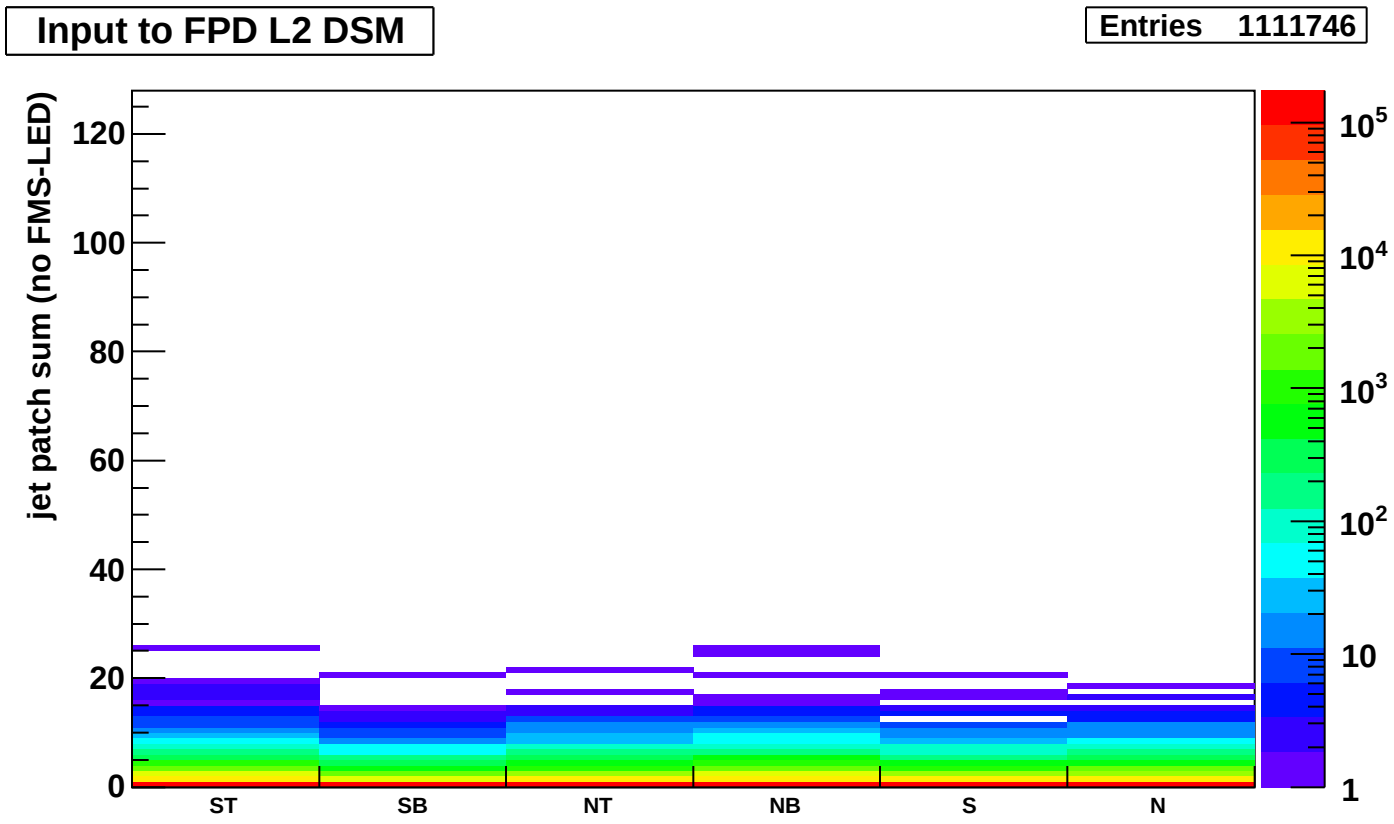

Input to FPD L2 DSM
Entries 33
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

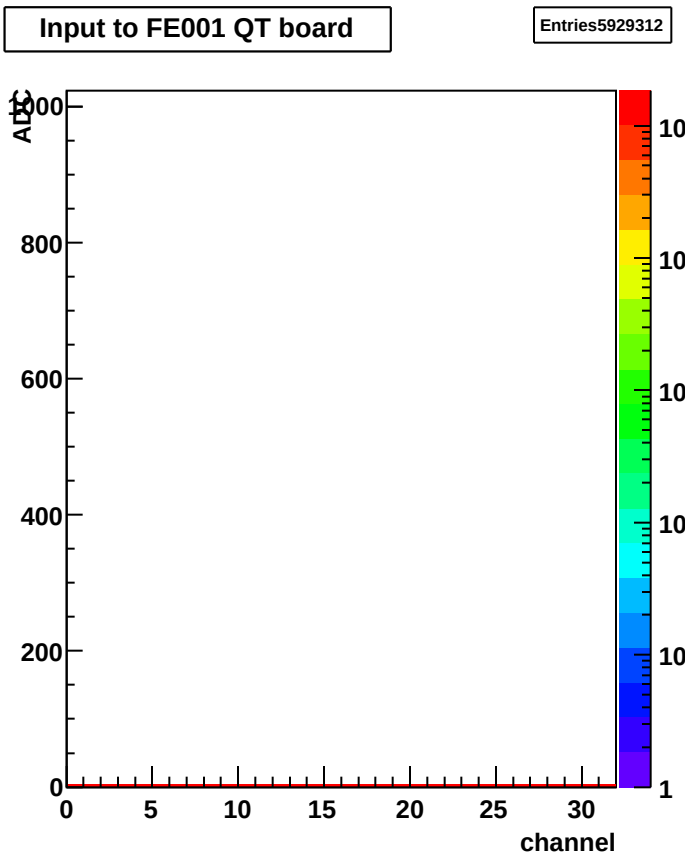

Input to FPD L2 DSM
Entries 555873
CL bits
14
1
555
135
153
184722
185156
185137
SMALL
LARGE-S
LARGE-N

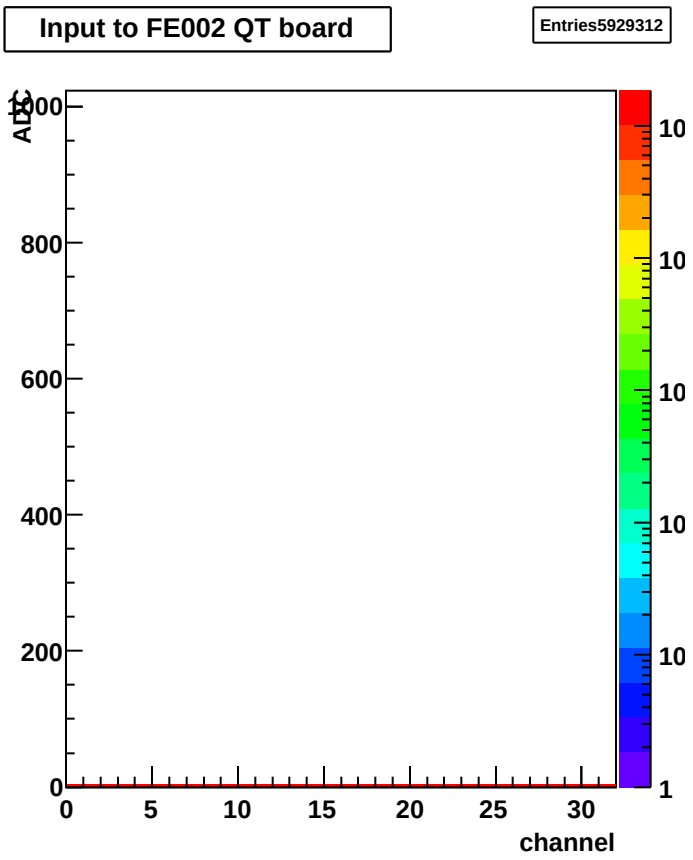

Input to FPD L2 DSM
Entries 0
CL bits - simulated
SMALL
LARGE-S
LARGE-N

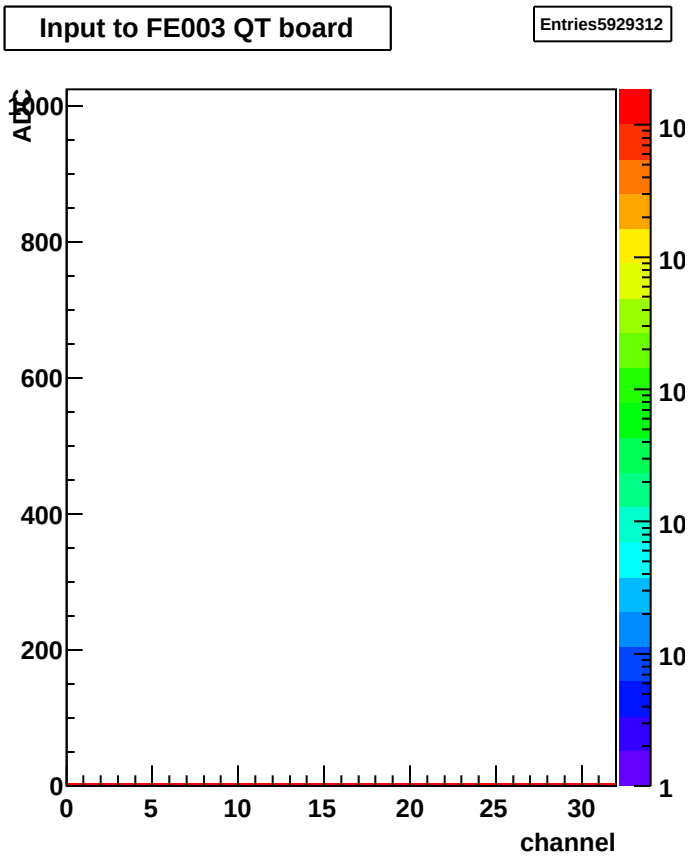

Input to FPD L2 DSM
Entries 555873
HT bits
712
25
20
2653
7116
209
185
174810
185057
185086
SMALL
LARGE-S
LARGE-N

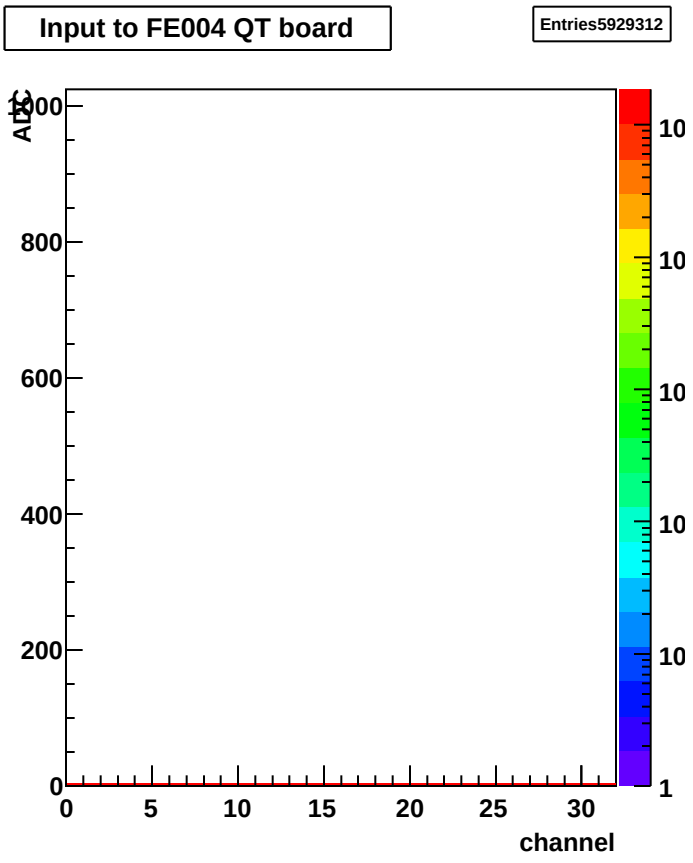

Input to FPD L2 DSM
Entries 1
HT bits - simulated
1
SMALL
LARGE-S
LARGE-N

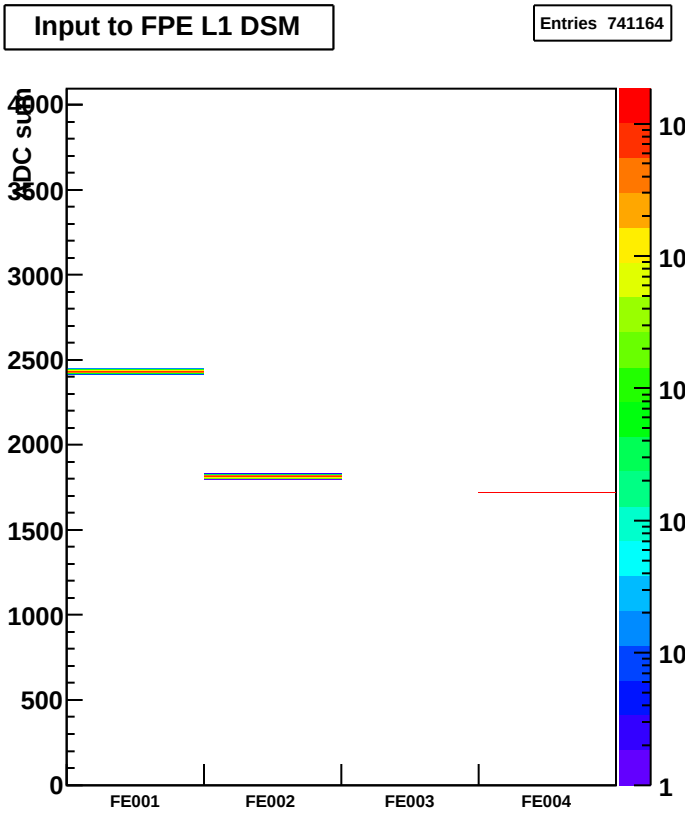

Input to FPD L2 DSM
Entries 1111746
jet patch sum (no FMS-LED)
0
20
40
60
80
100
120
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5

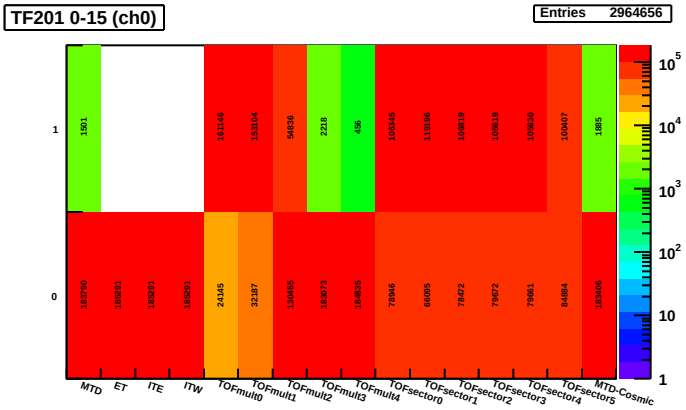

Input to FE001 QT board
Entries5929312
ADC
1000
800
600
400
200
0
0
5
10
15
20
25
30
channel
10
10
10
10
10
1

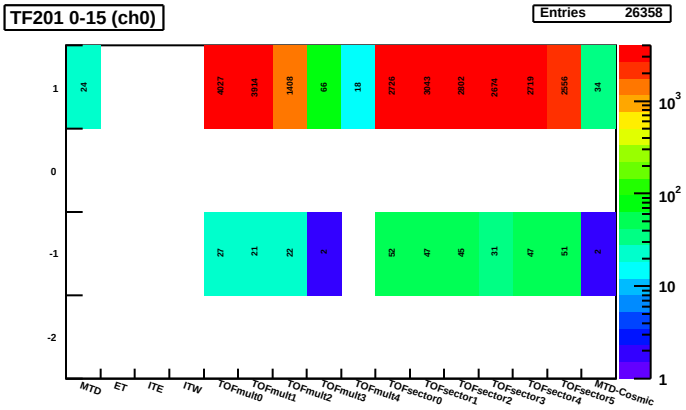

Input to FE002 QT board
Entries5929312
ADC
1000
800
600
400
200
0
0
5
10
15
20
25
30
channel
10
10
10
10
10
1

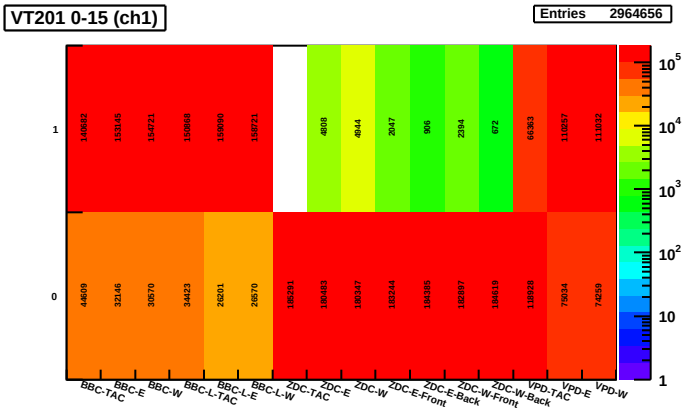

Input to FE003 QT board
Entries5929312
ADC
1000
800
600
400
200
0
0
5
10
15
20
25
30
channel
10
10
10
10
10
1

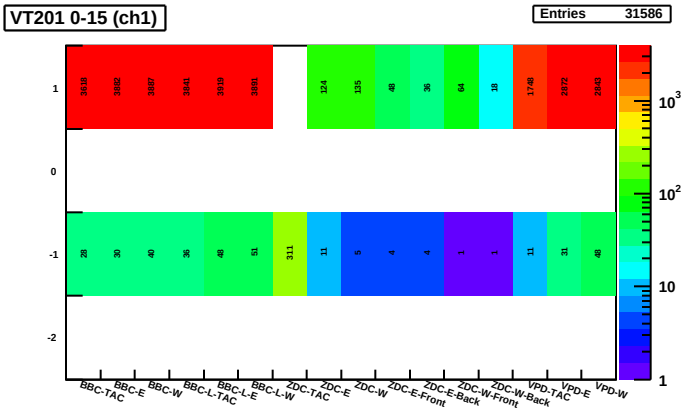

Input to FE004 QT board
Entries5929312
ADC
1000
800
600
400
200
0
0
5
10
15
20
25
30
channel
10
10
10
10
10
1


Input to FPE L1 DSM
Entries 741164
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 2964656
MTD ET ITE ITW TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 26358
MTD ET ITE ITW TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 2964656
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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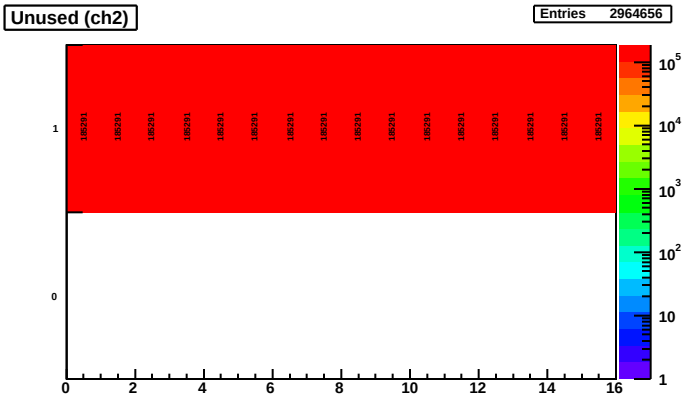
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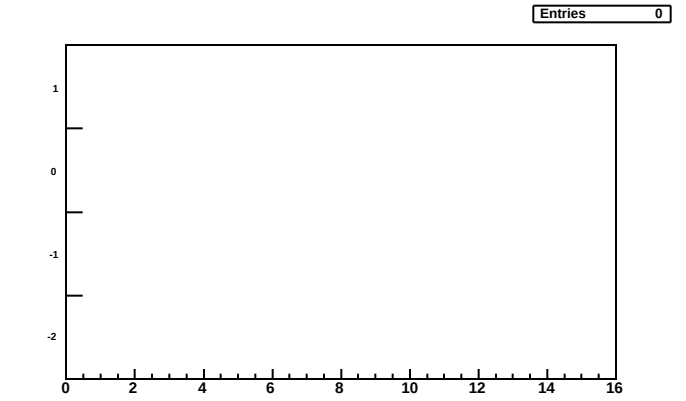
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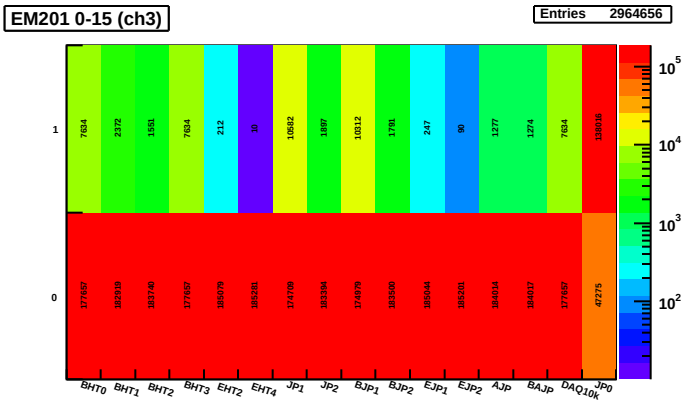
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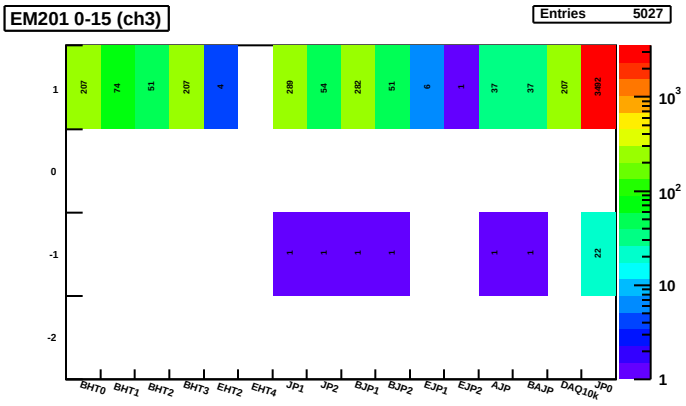
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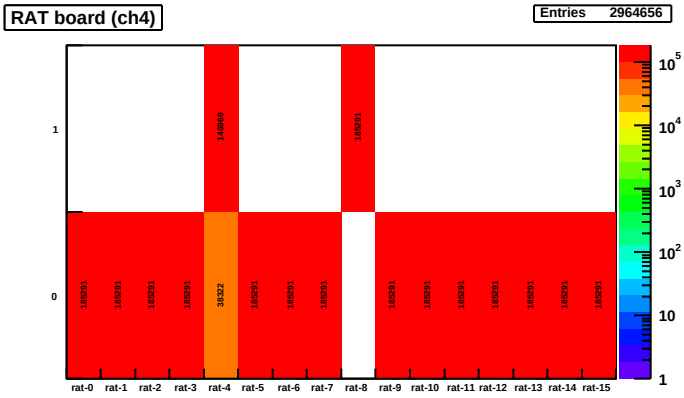
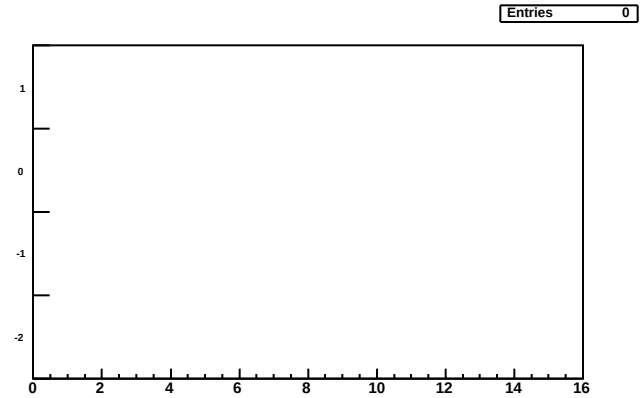
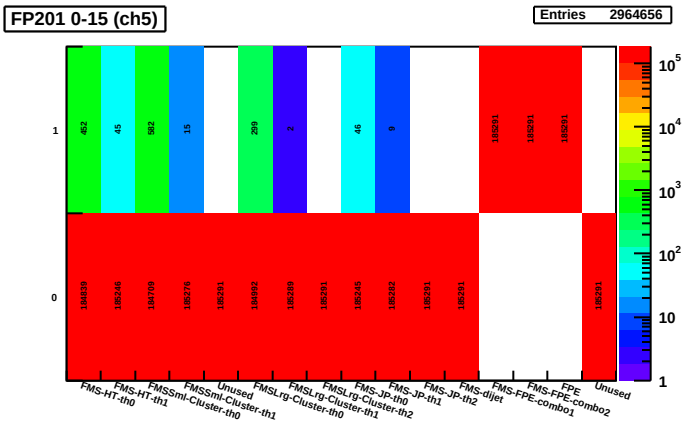
RAT board (ch4)





FP201 0-15 (ch5)



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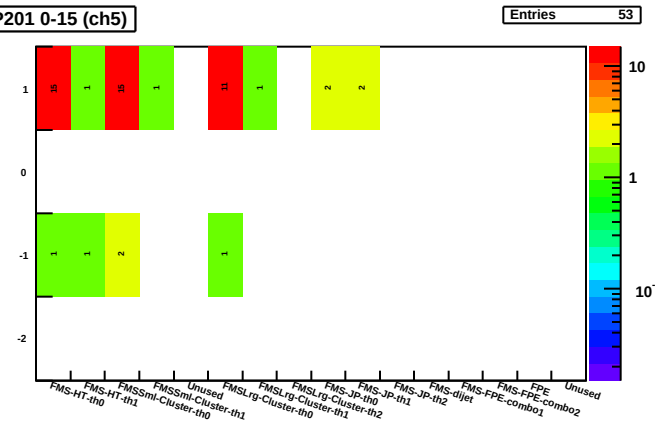
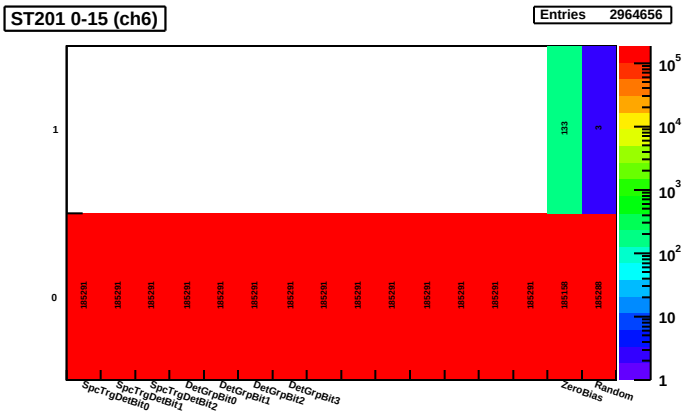
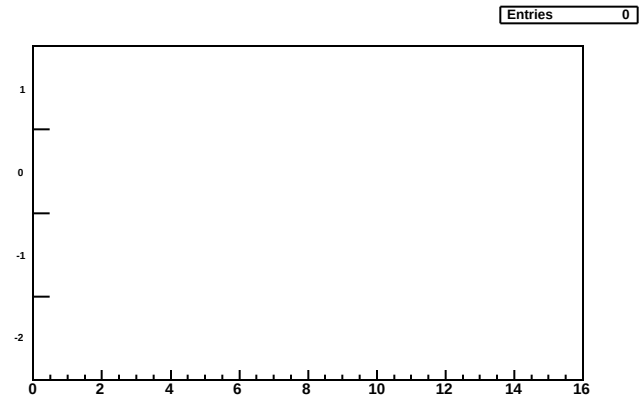
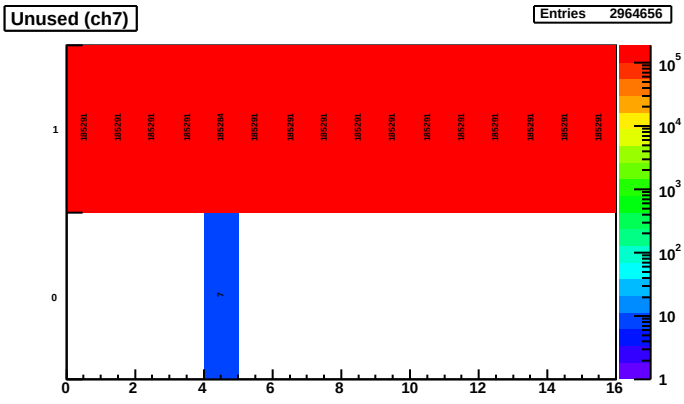
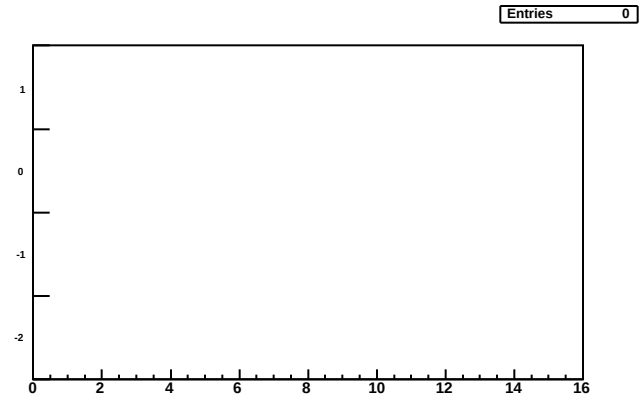


ST201 0-15 (ch6)





Unused (ch7)