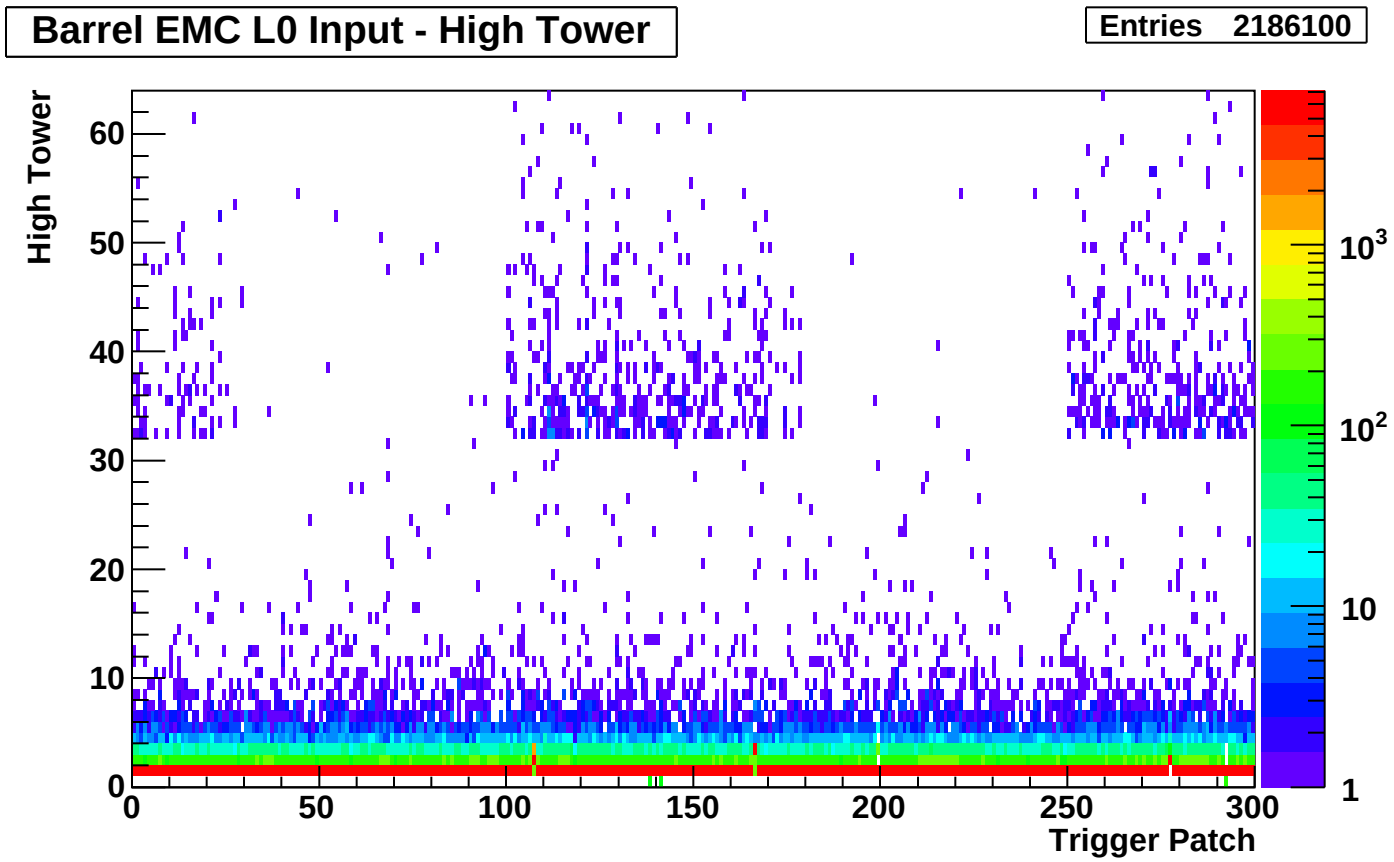
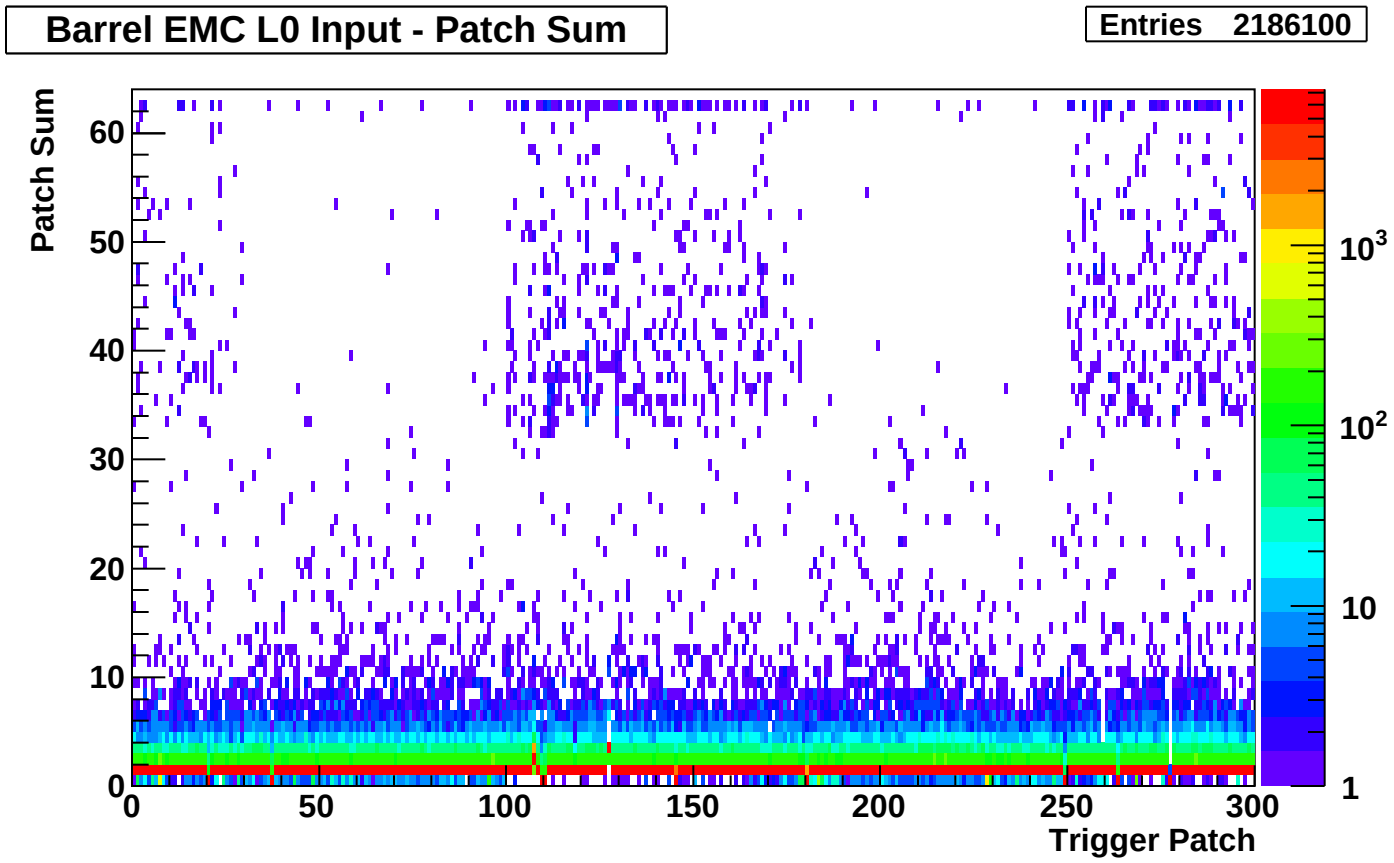
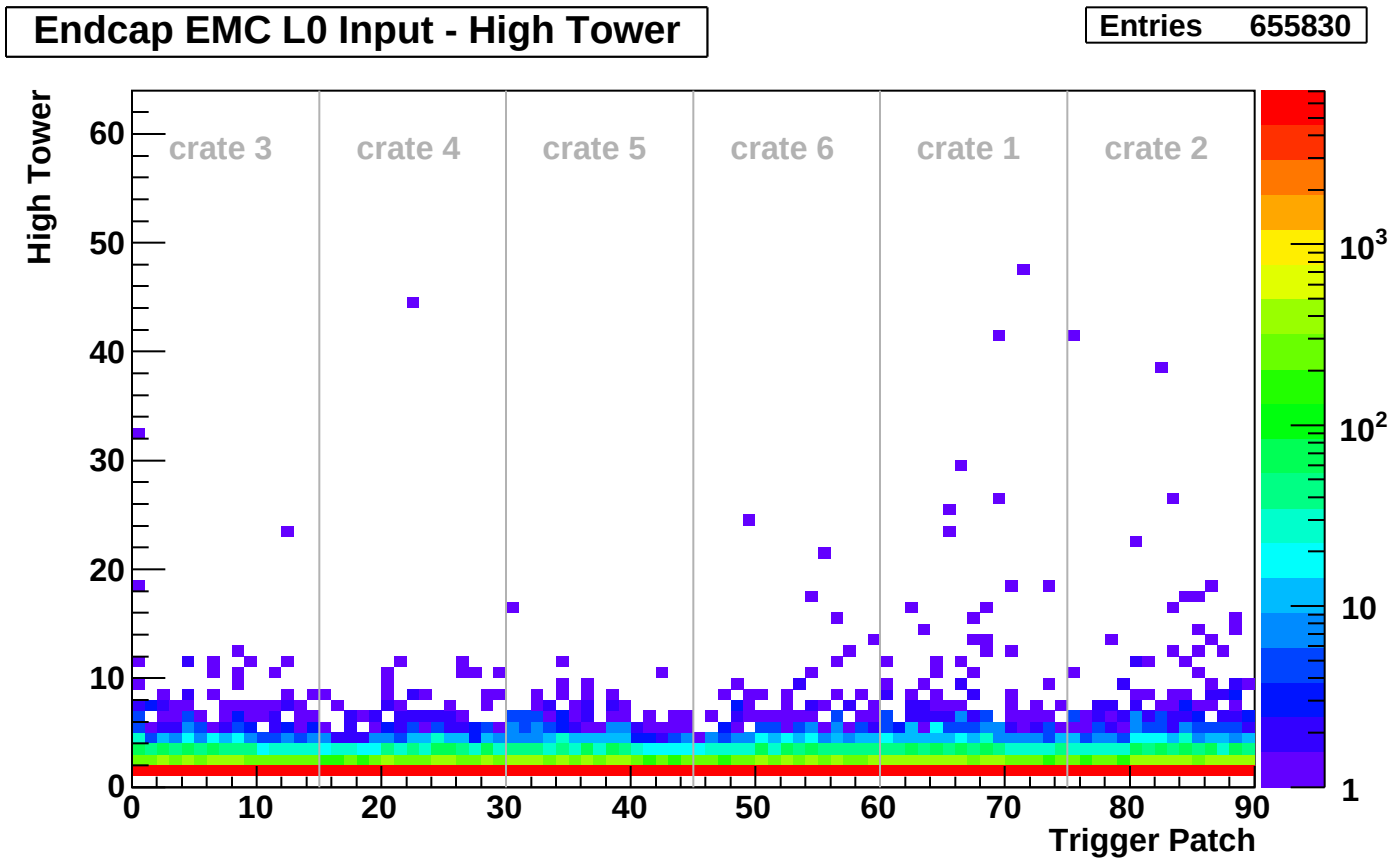
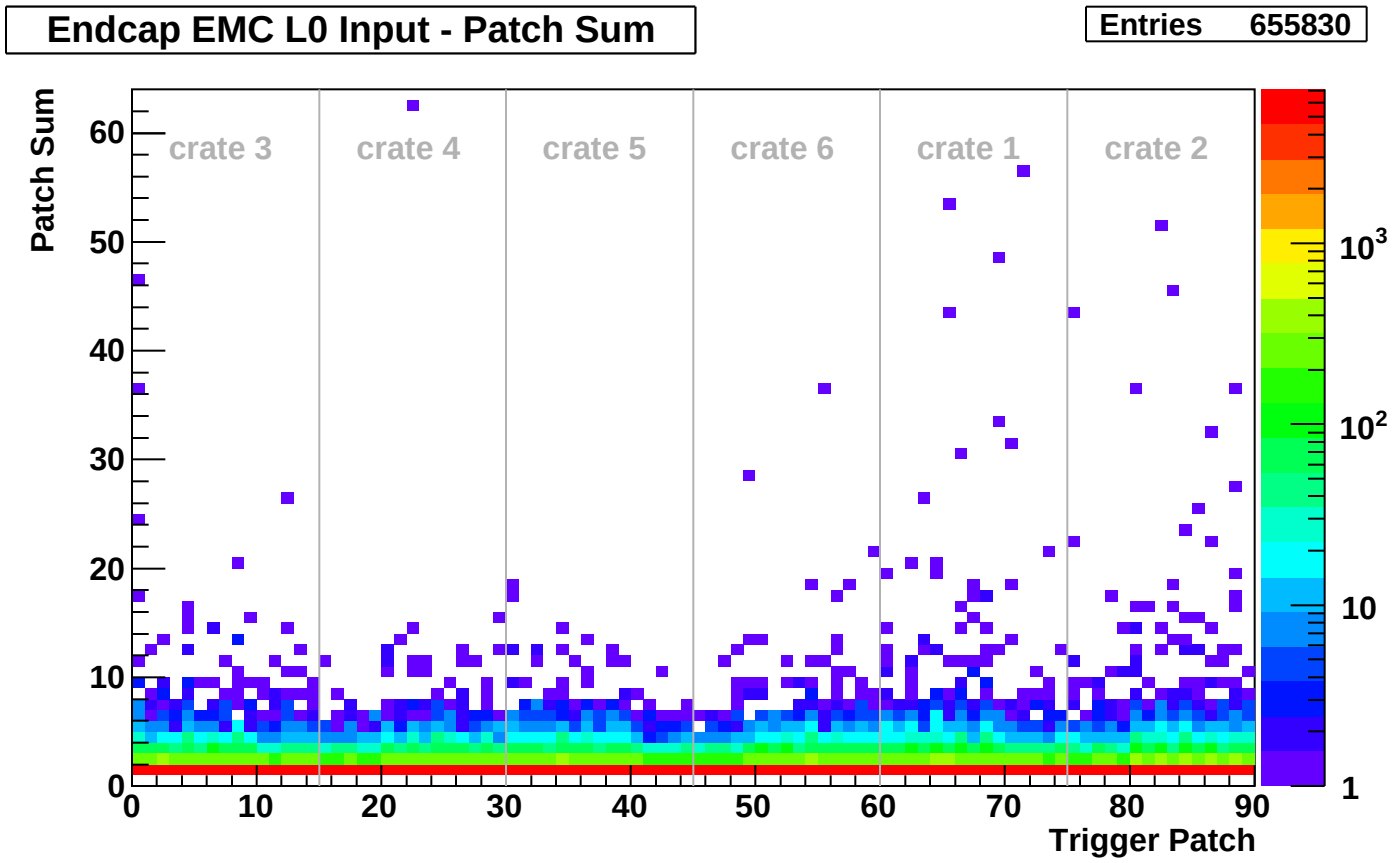
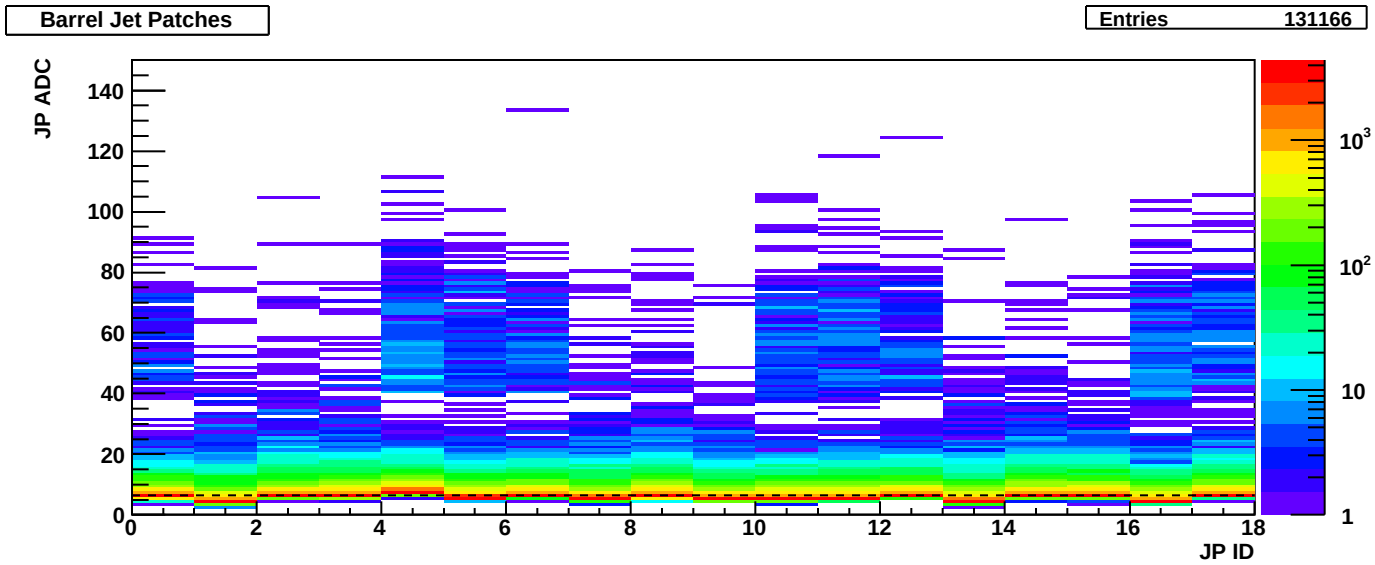
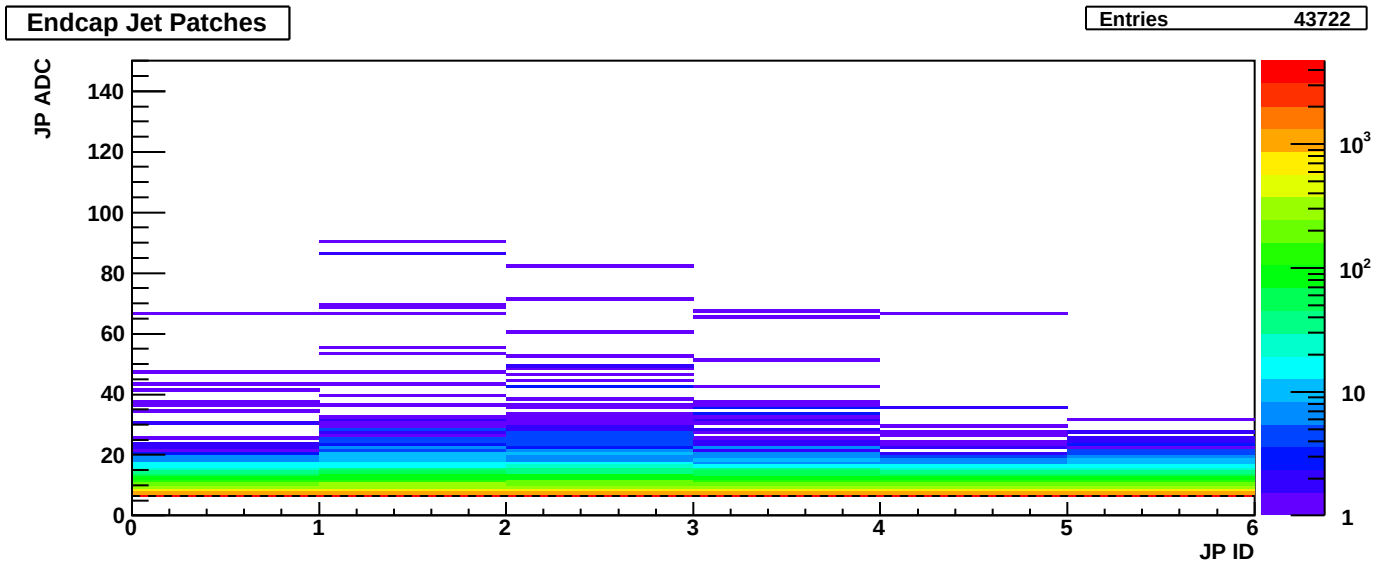

Barrel EMC L0 Input - High Tower
Entries 2186100
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

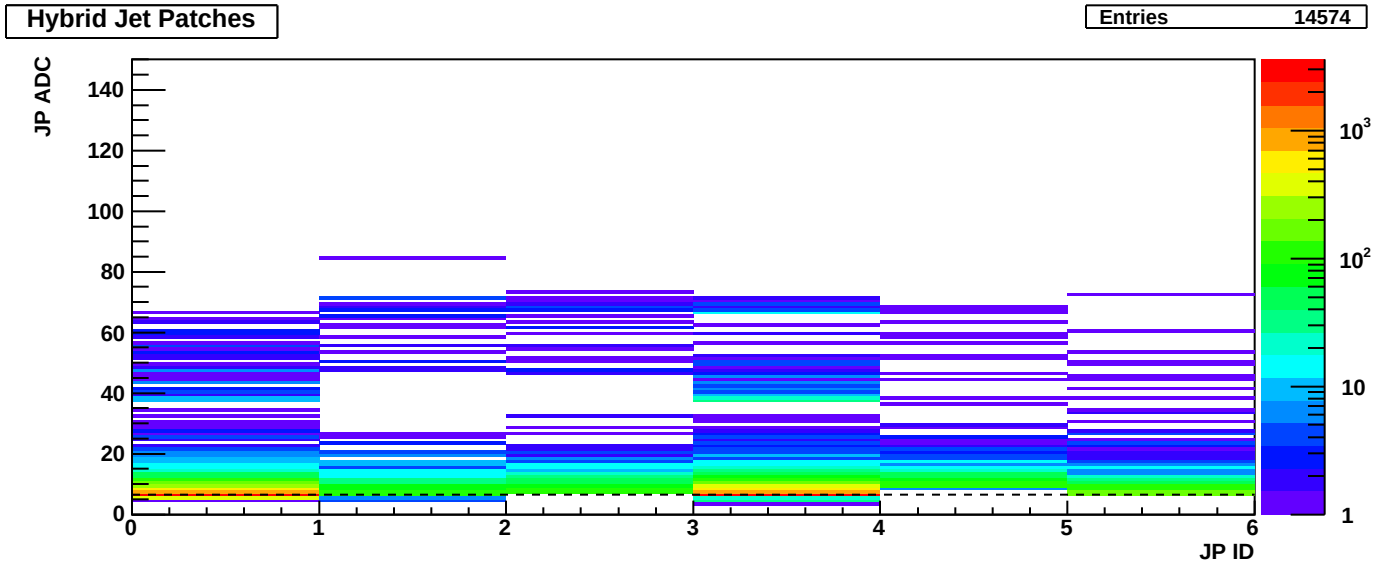

Barrel EMC L0 Input - Patch Sum
Entries 2186100
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

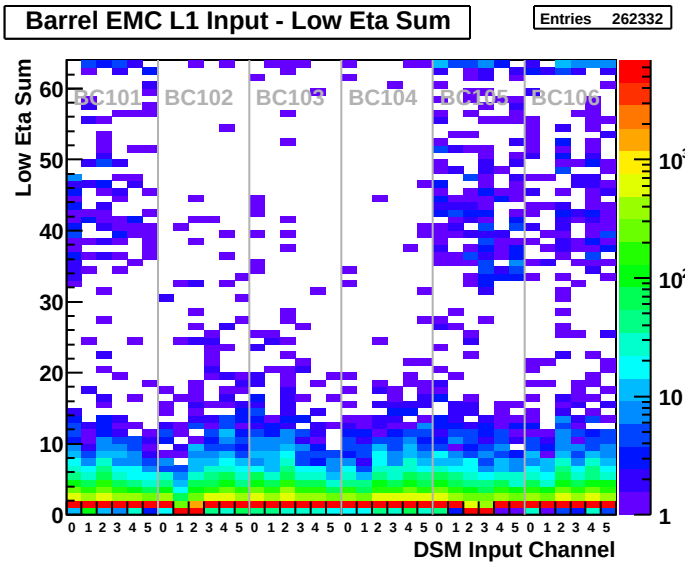

Endcap EMC L0 Input - High Tower
Entries 655830
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

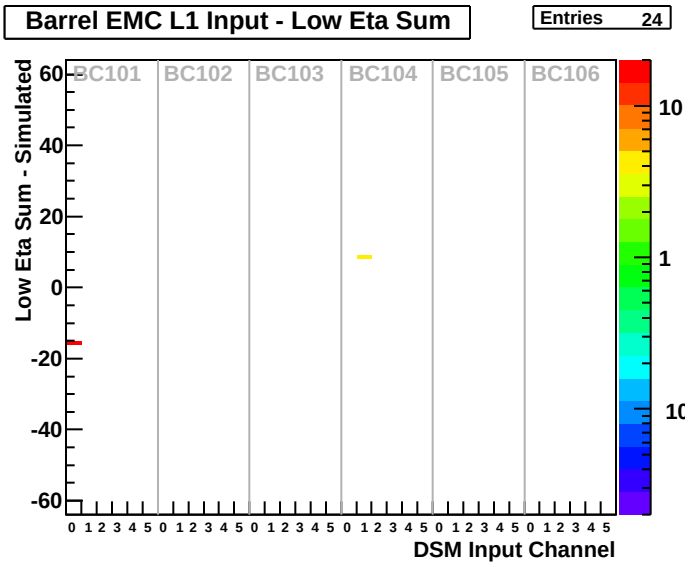

Endcap EMC L0 Input - Patch Sum
Entries 655830
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

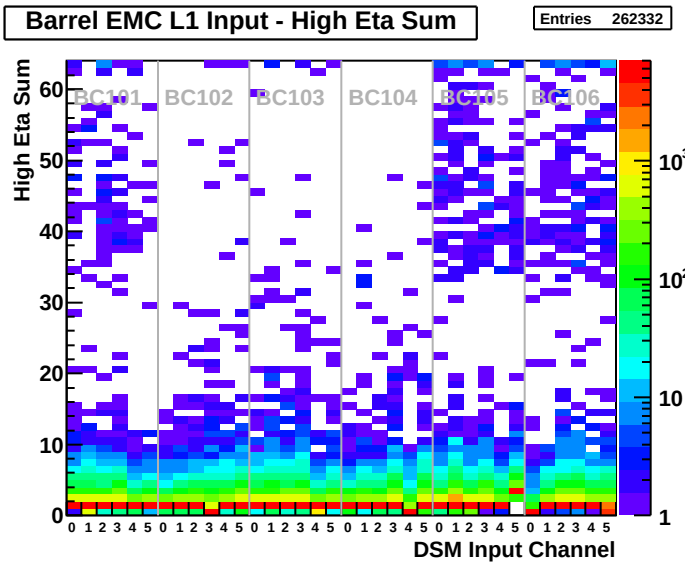

Barrel Jet Patches
Entries 131166
JP ADC
JP ID

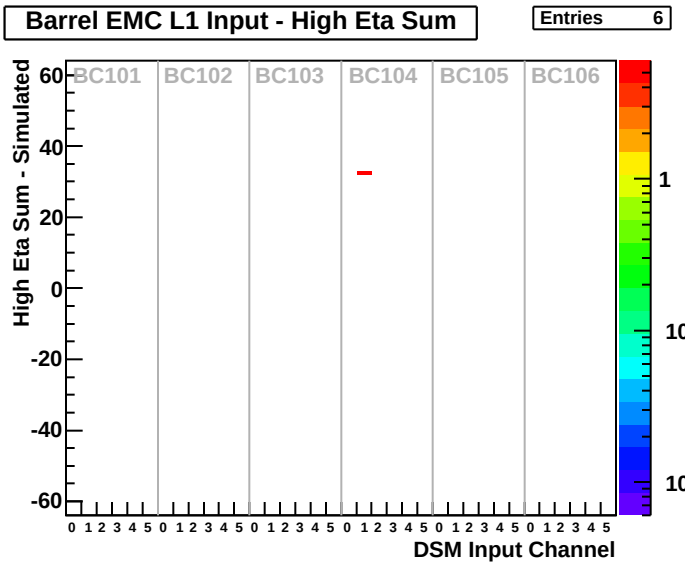

Endcap Jet Patches
Entries 43722
JP ADC
JP ID

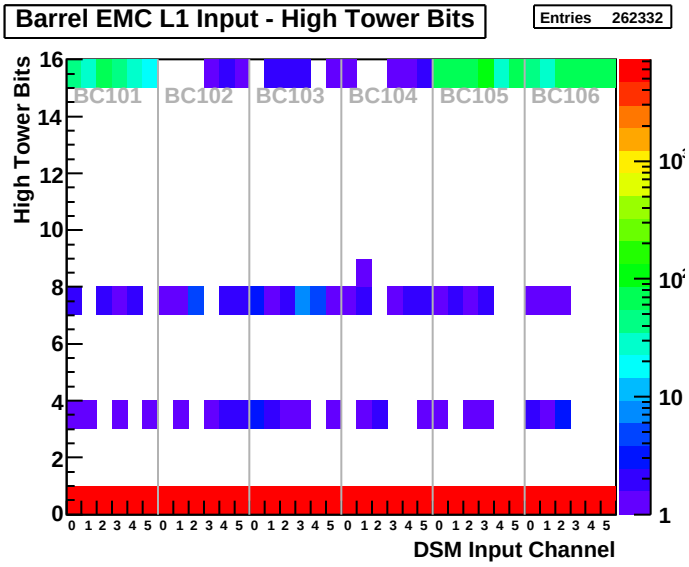

Hybrid Jet Patches
Entries 14574
JP ADC
JP ID

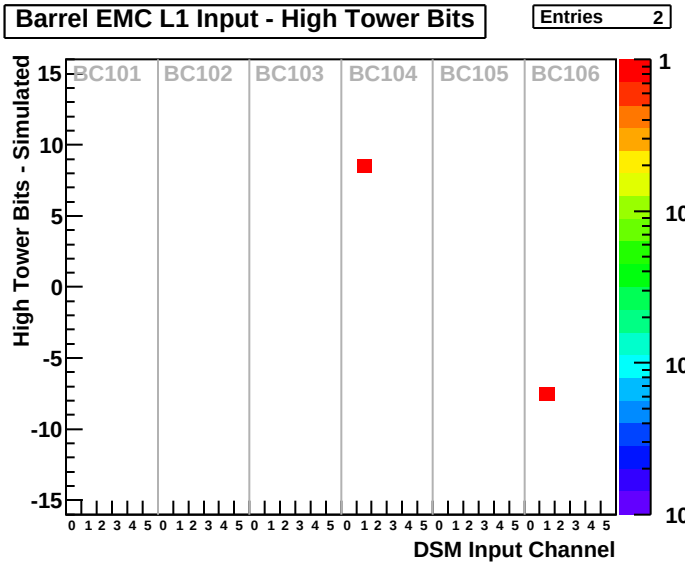

Barrel EMC L1 Input - Low Eta Sum
Entries 262332
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

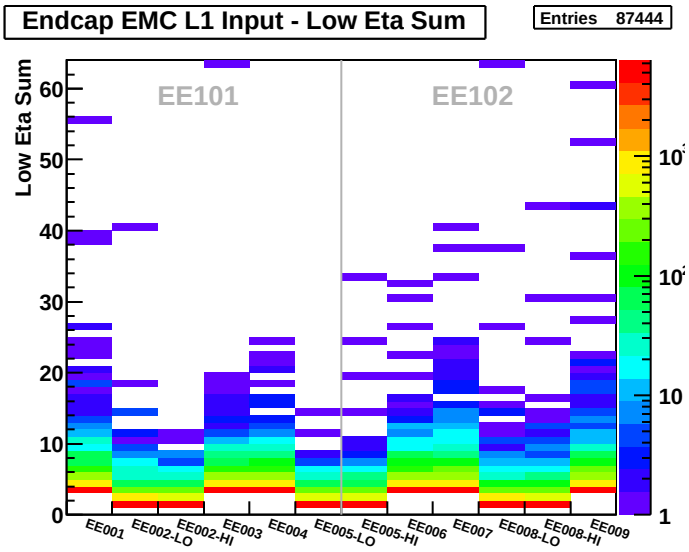

Barrel EMC L1 Input - Low Eta Sum
Entries 24
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

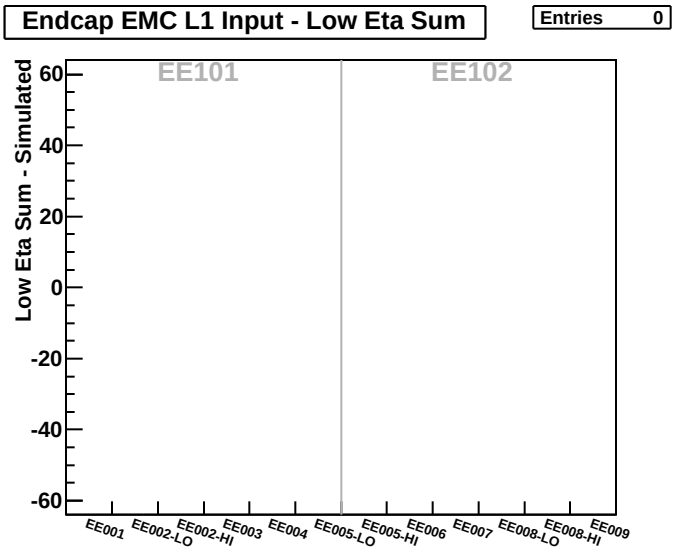

Barrel EMC L1 Input - High Eta Sum
Entries 262332
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

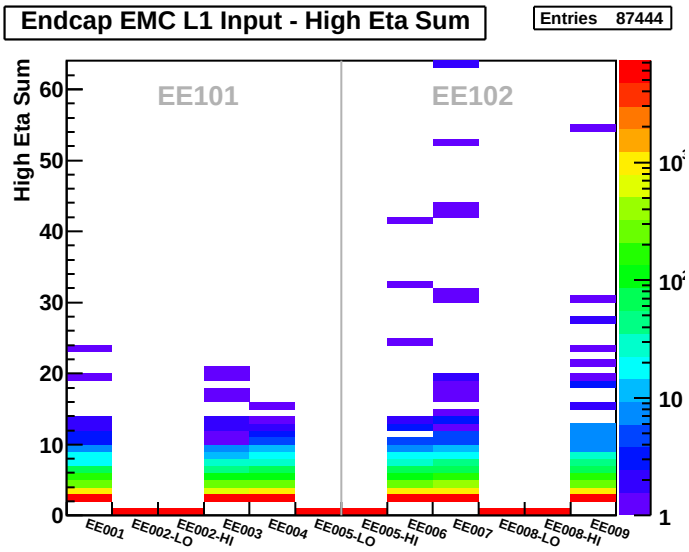

Barrel EMC L1 Input - High Eta Sum
Entries 6
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

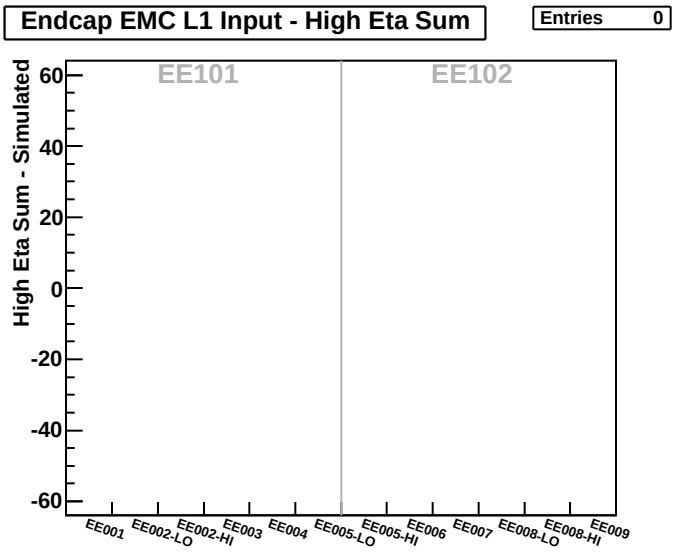

Barrel EMC L1 Input - High Tower Bits
Entries 262332
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

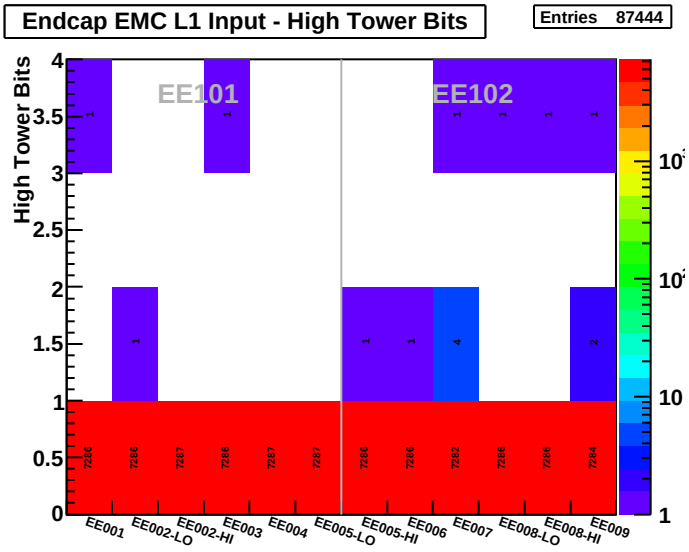

Barrel EMC L1 Input - High Tower Bits
Entries 2
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

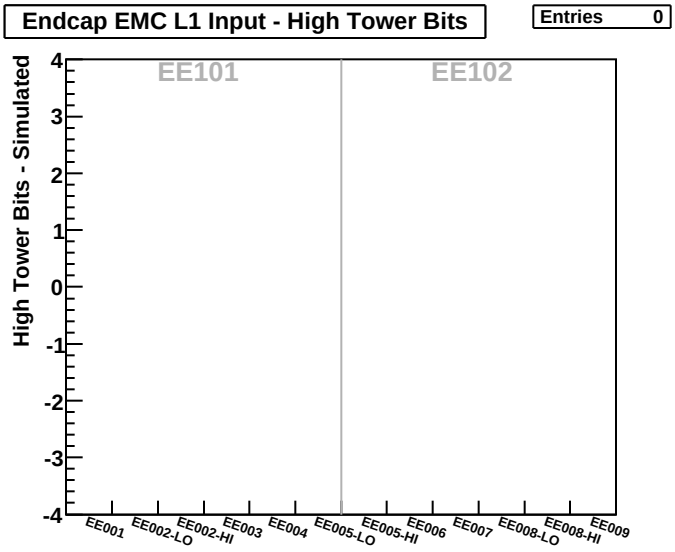

Endcap EMC L1 Input - Low Eta Sum
Entries 87444
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

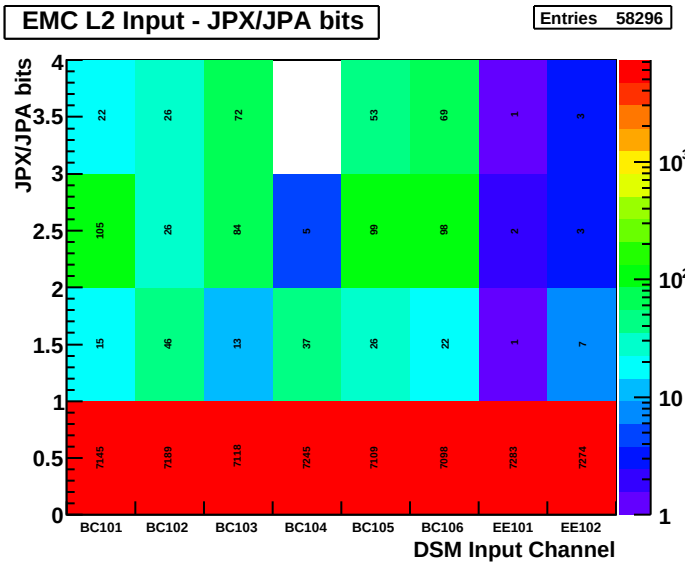

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

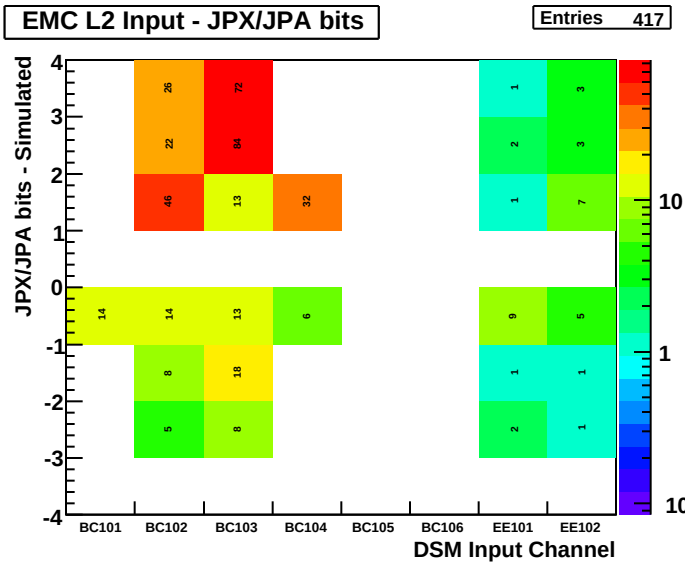

Endcap EMC L1 Input - High Eta Sum
Entries 87444
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

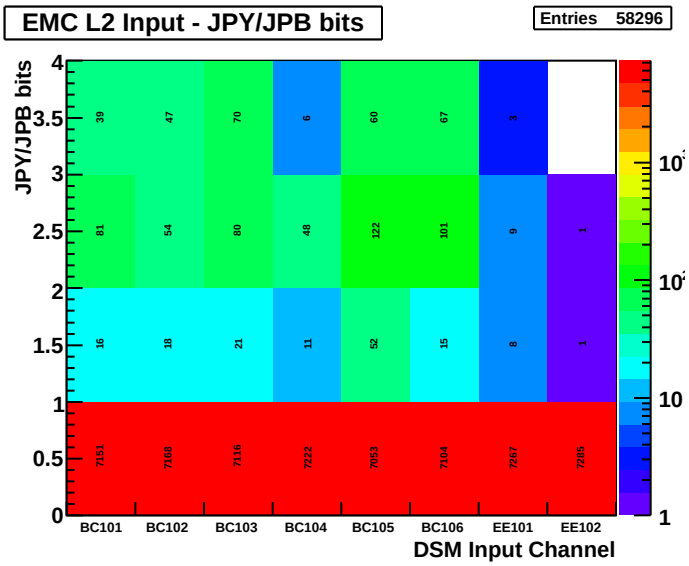

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

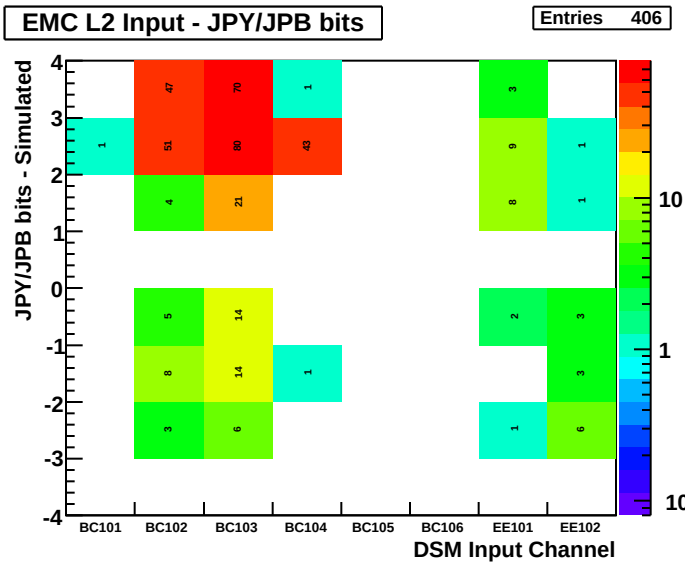

Endcap EMC L1 Input - High Tower Bits
Entries 87444
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

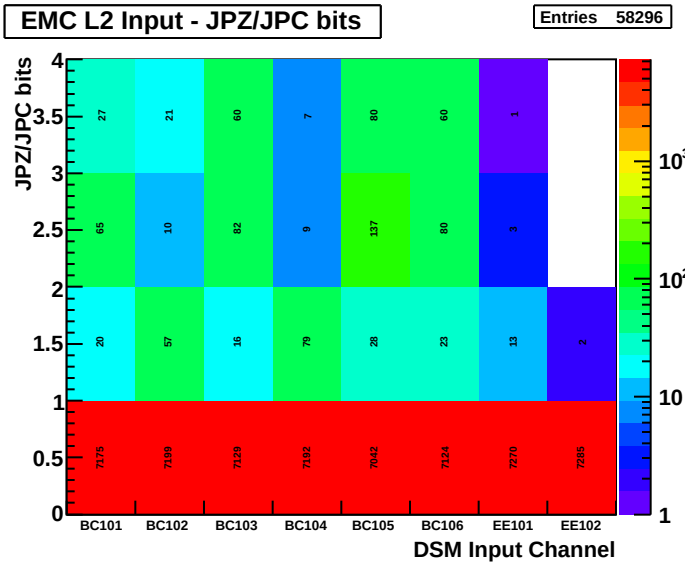

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

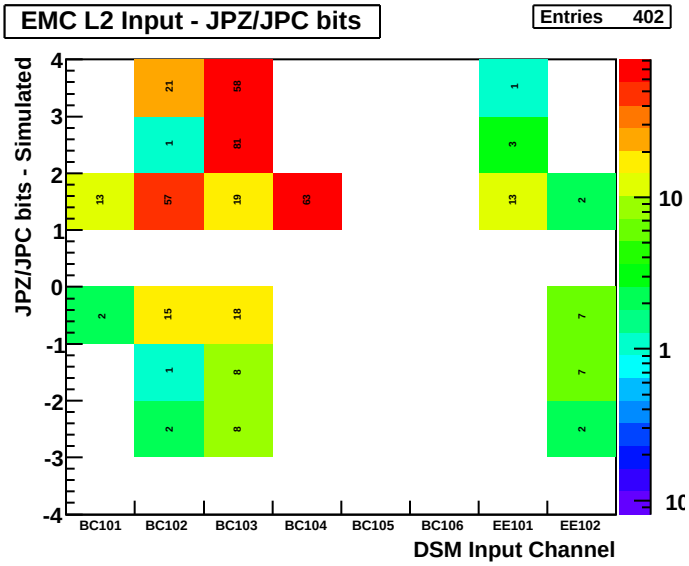

EMC L2 Input - JPX/JPA bits
Entries 58296
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

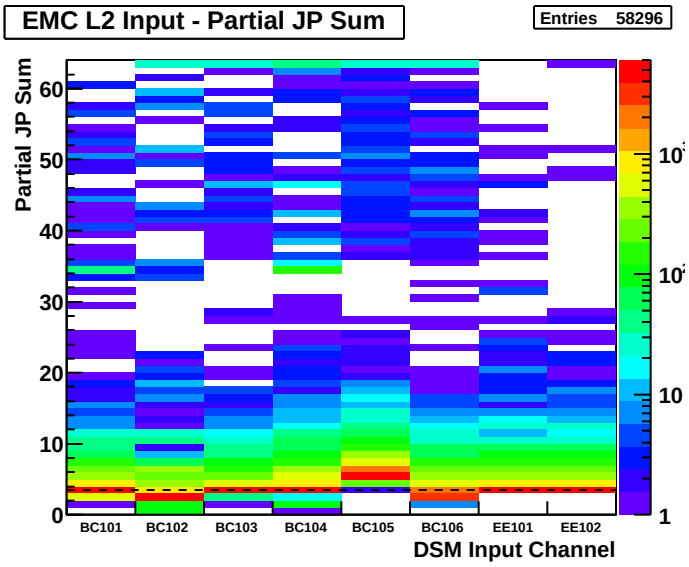

EMC L2 Input - JPX/JPA bits
Entries 417
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

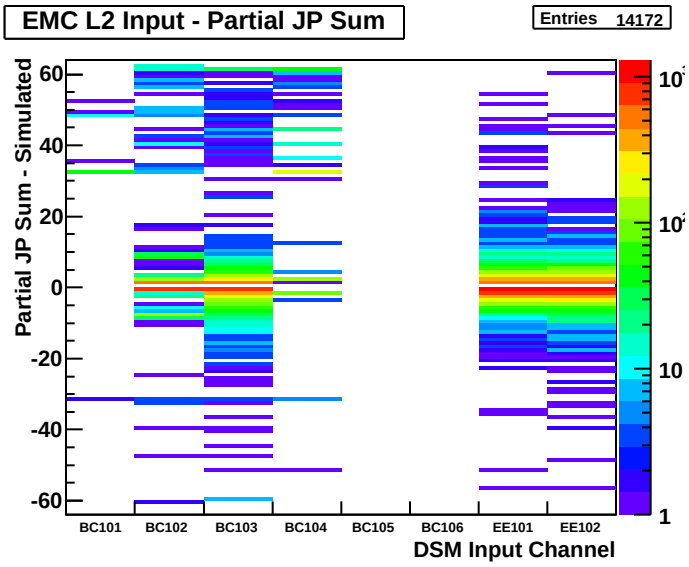

EMC L2 Input - JPY/JPB bits
Entries 58296
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

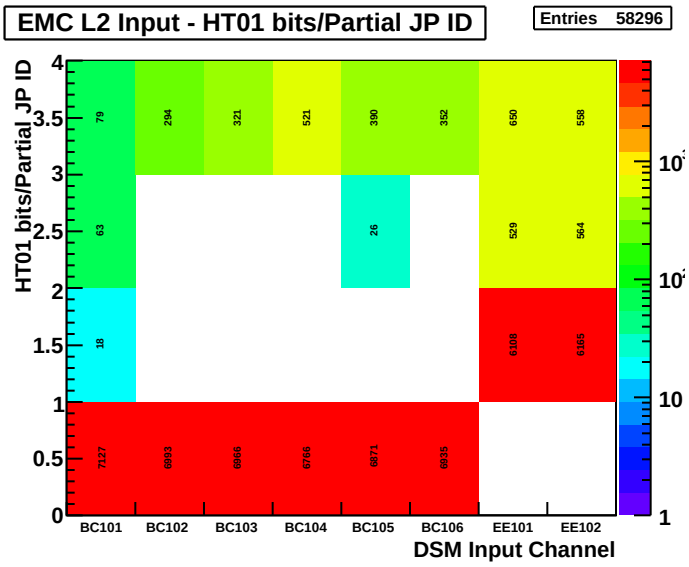

EMC L2 Input - JPY/JPB bits
Entries 406
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

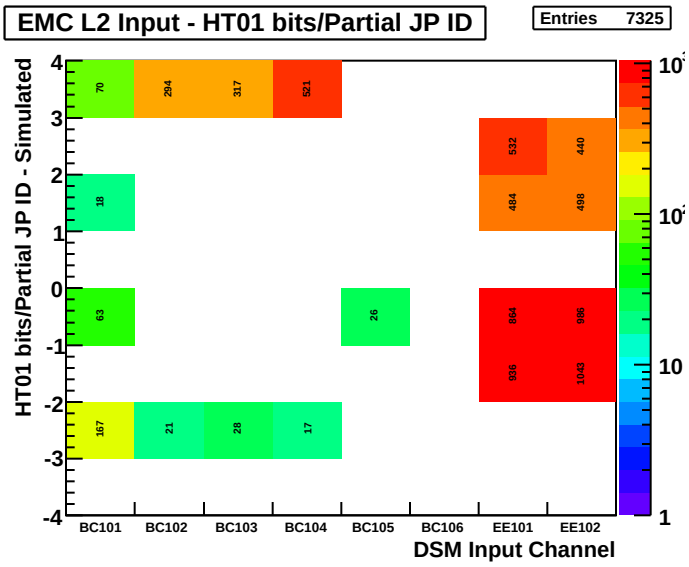

EMC L2 Input - JPZ/JPC bits
Entries 58296
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

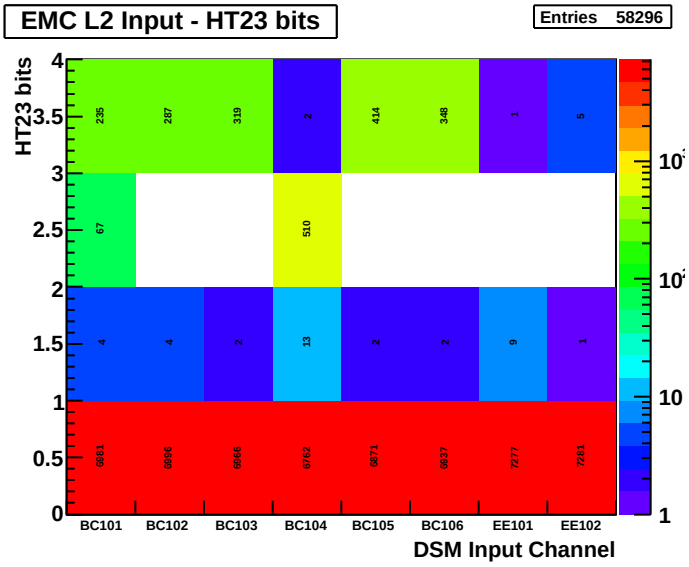

EMC L2 Input - JPZ/JPC bits
Entries 402
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

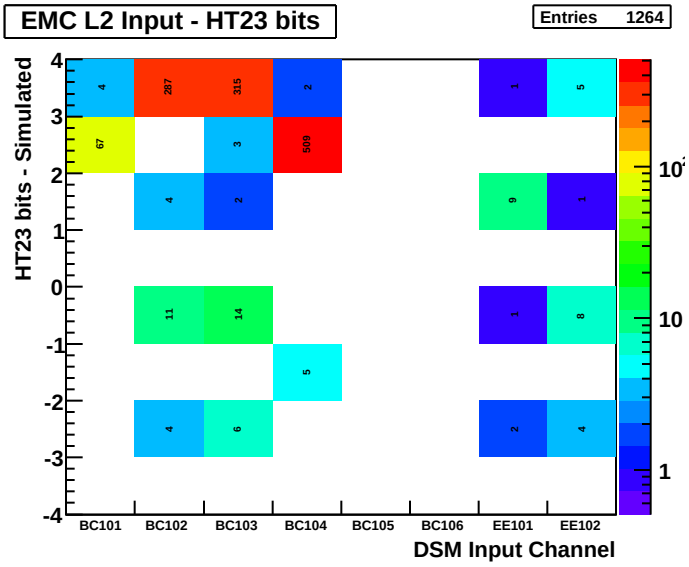

EMC L2 Input - Partial JP Sum
Entries 58296
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

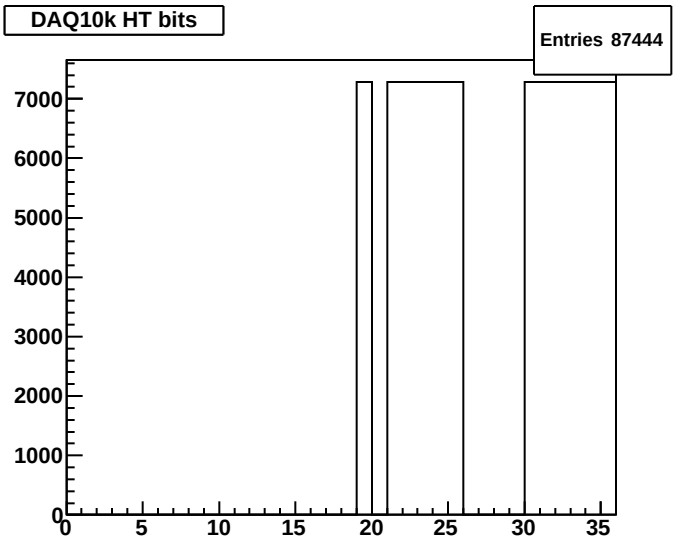

EMC L2 Input - Partial JP Sum
Entries 14172
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

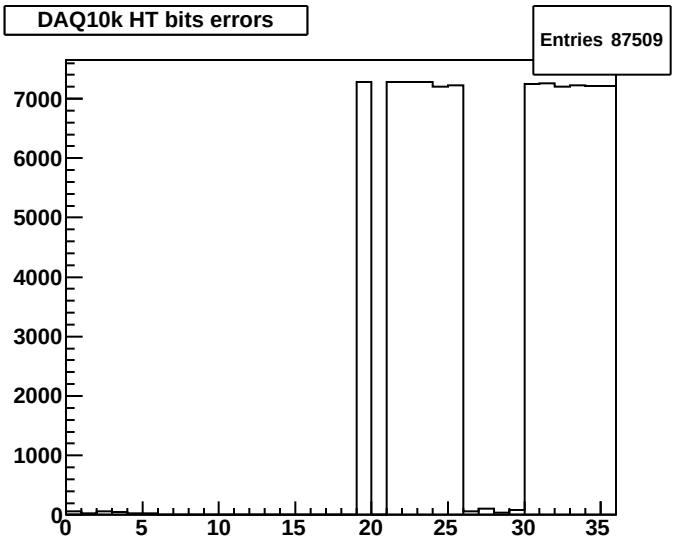

EMC L2 Input - HT01 bits/Partial JP ID
Entries 58296
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

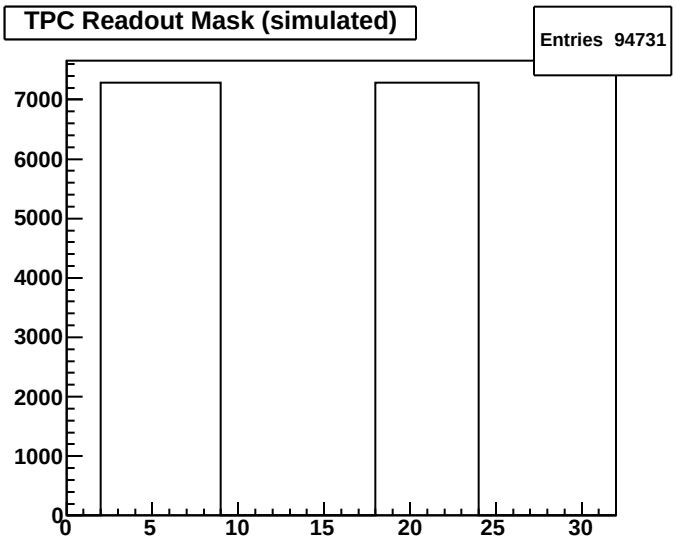

EMC L2 Input - HT01 bits/Partial JP ID
Entries 7325
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

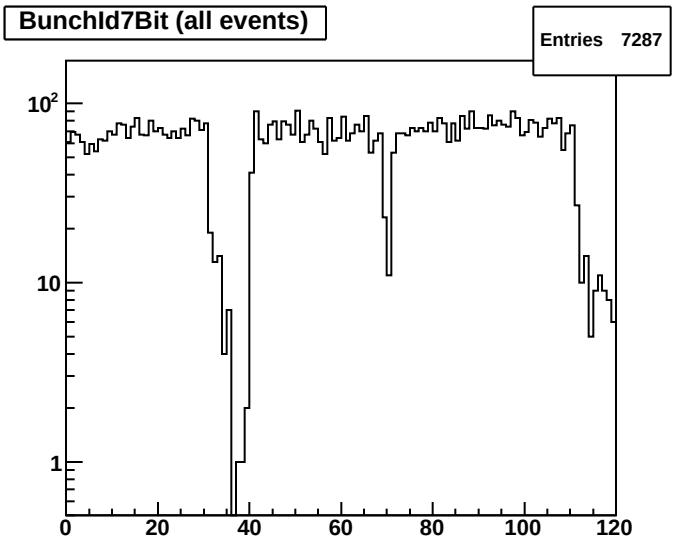

EMC L2 Input - HT23 bits
Entries 58296
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

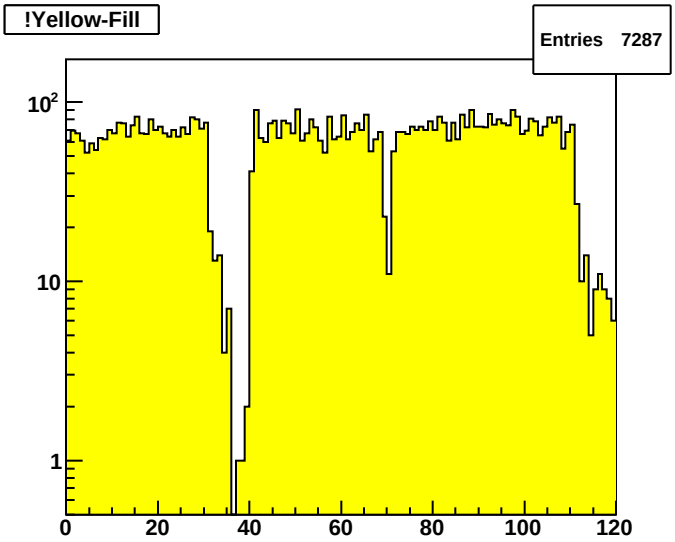

EMC L2 Input - HT23 bits
Entries 1264
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

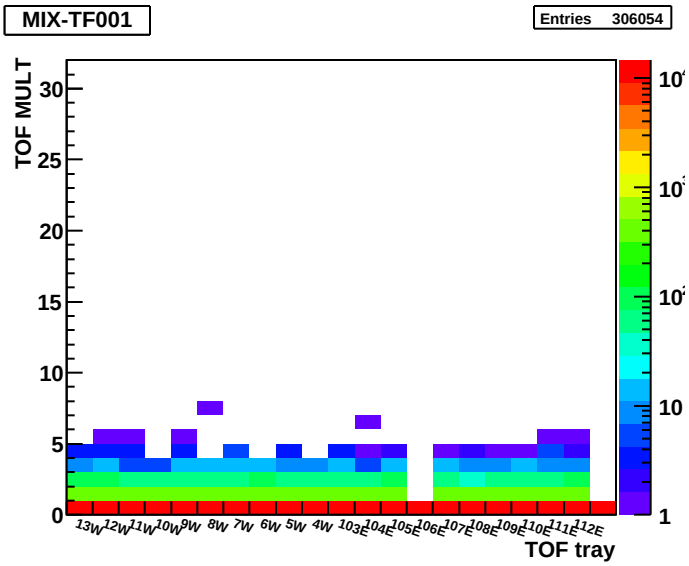

DAQ10k HT bits
Entries 87444
7000
6000
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30 35

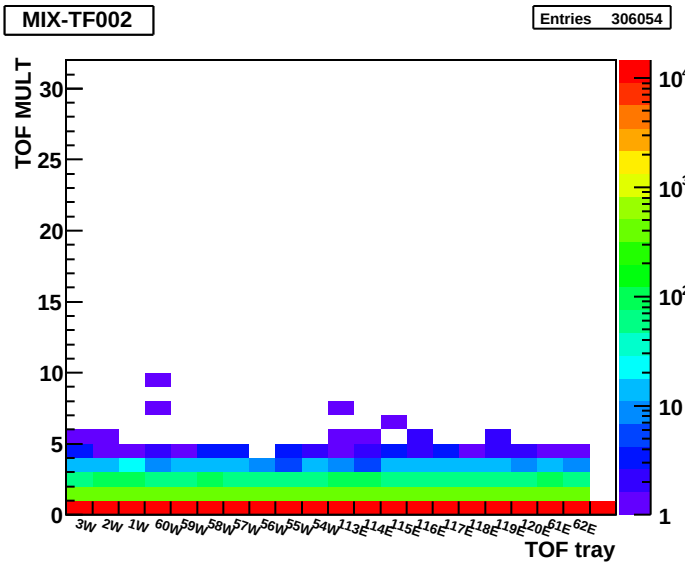

DAQ10k HT bits errors
Entries 87509
7000
6000
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30 35

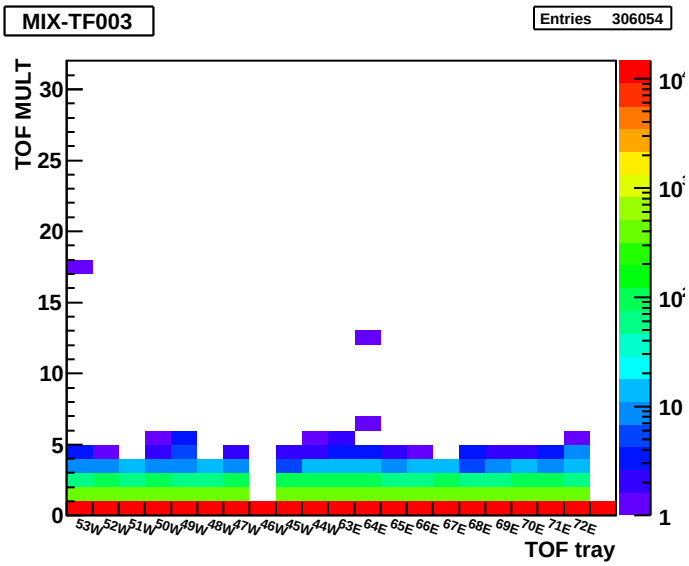

TPC Readout Mask (simulated)
Entries 94731
7000
6000
5000
4000
3000
2000
1000
0
0 5 10 15 20 25 30

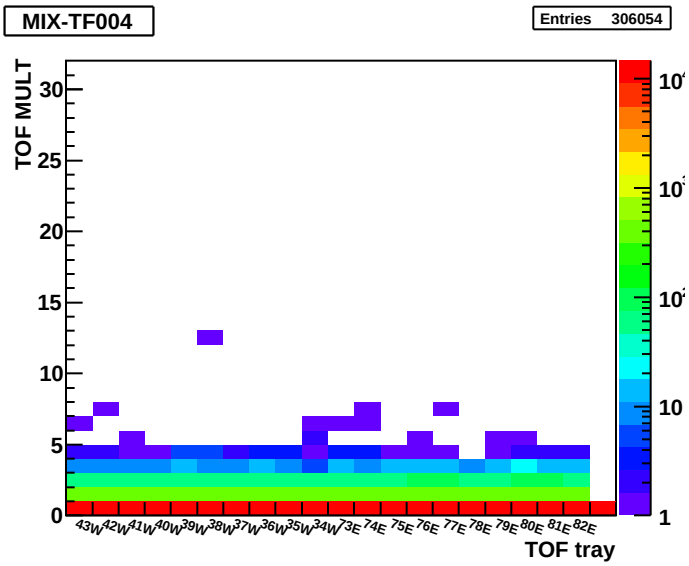

BunchId7Bit (all events)
Entries 7287
10^2
10
1
0 20 40 60 80 100 120

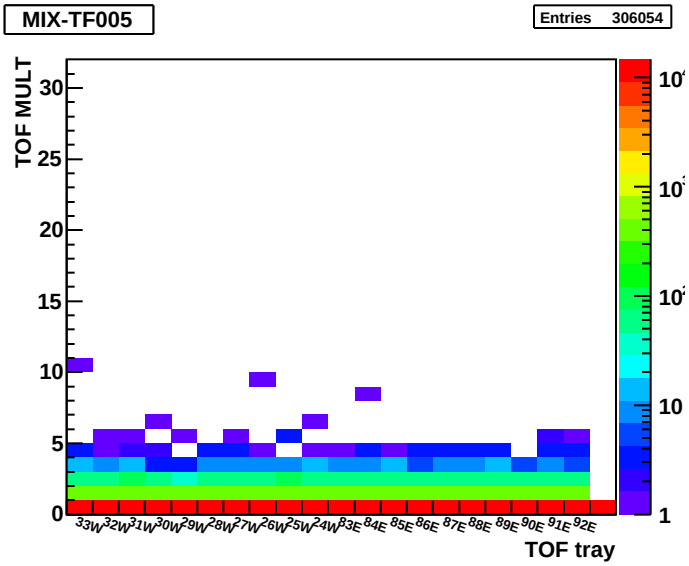

!Yellow-Fill
Entries 7287
10^2
10
1
0 20 40 60 80 100 120

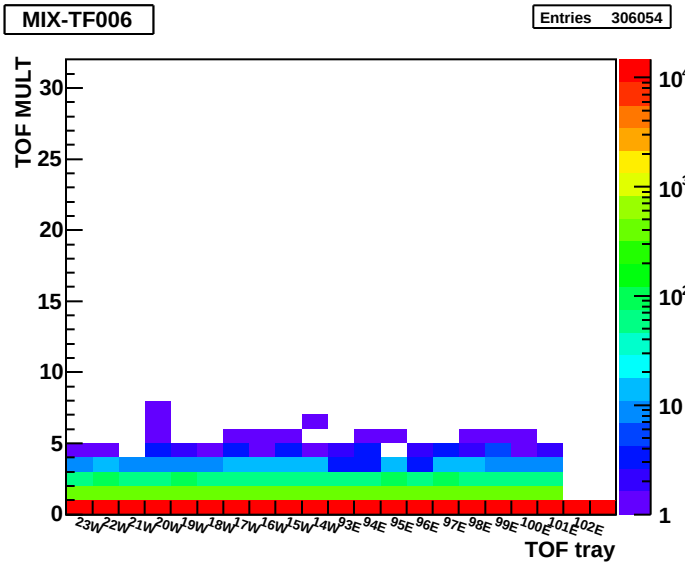

MIX-TF001
Entries 306054
TOF MULT
TOF tray

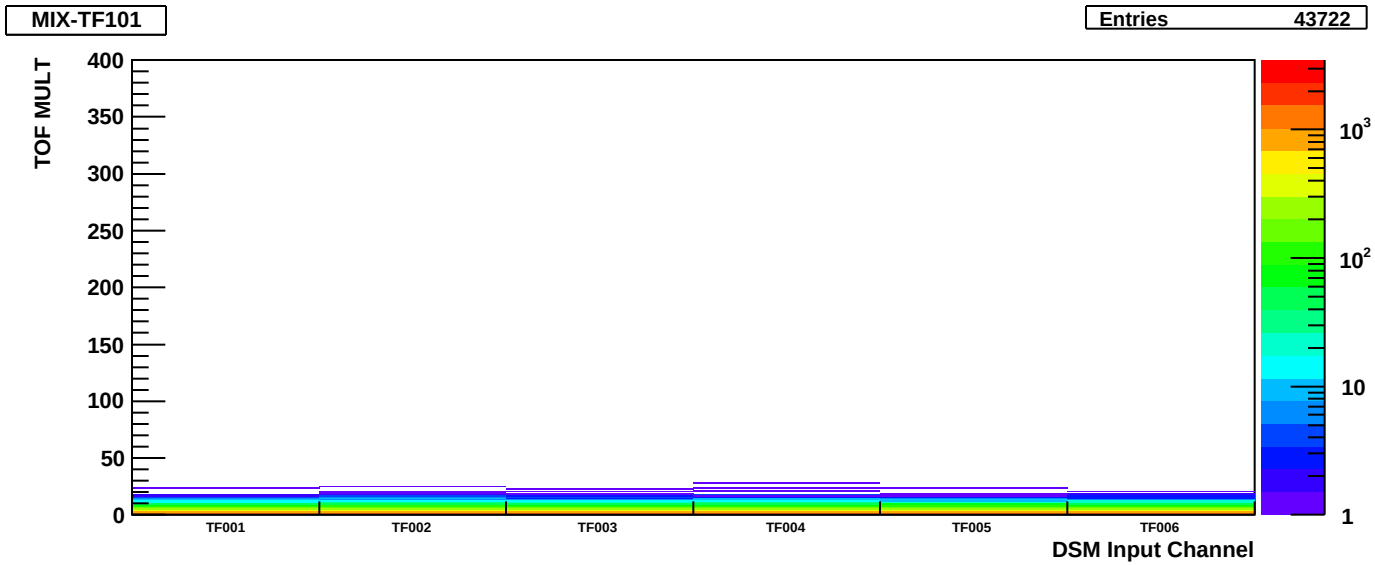

MIX-TF002
Entries 306054
TOF MULT
TOF tray

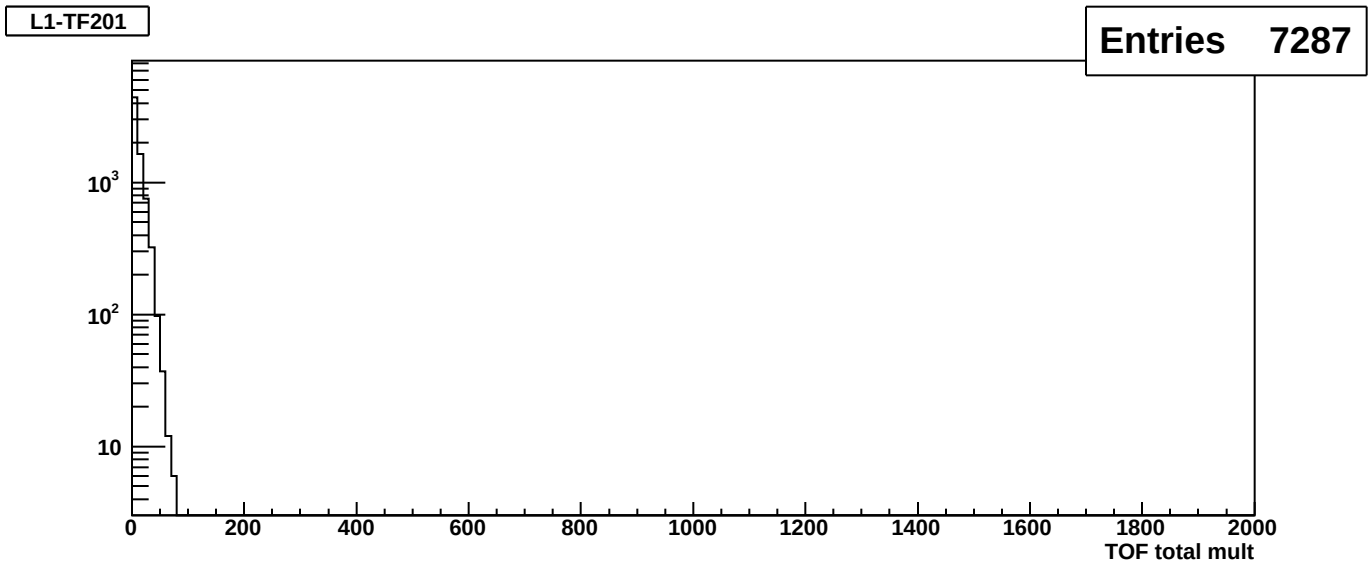

MIX-TF003
Entries 306054
TOF MULT
TOF tray

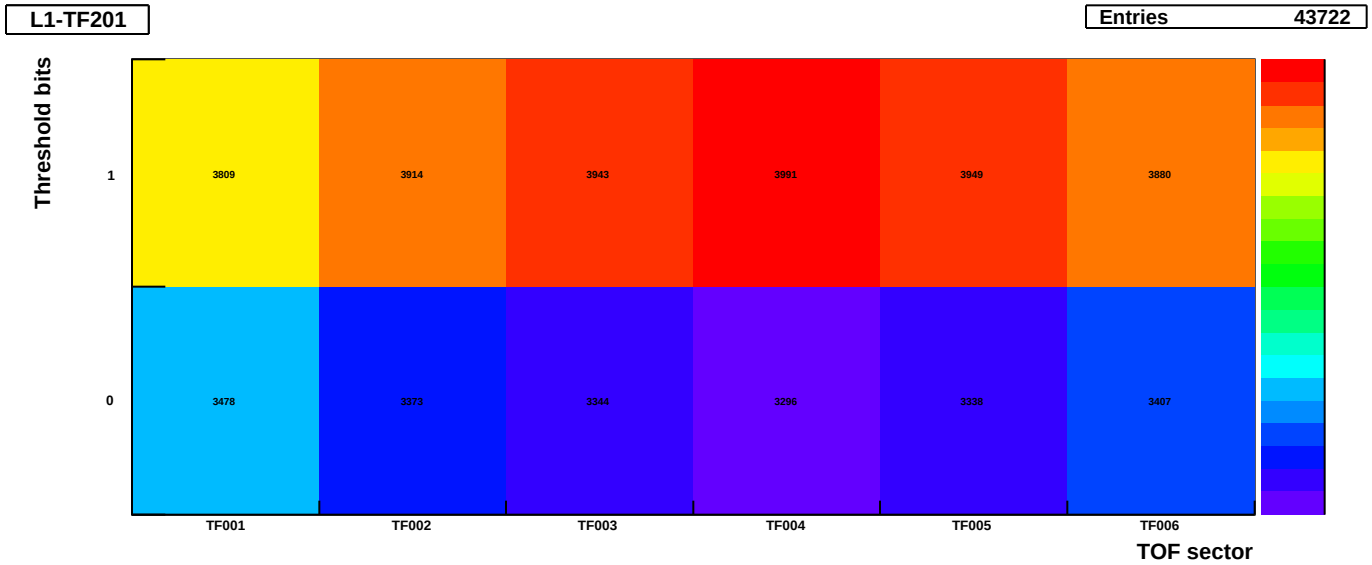

MIX-TF004
Entries 306054
TOF MULT
TOF tray

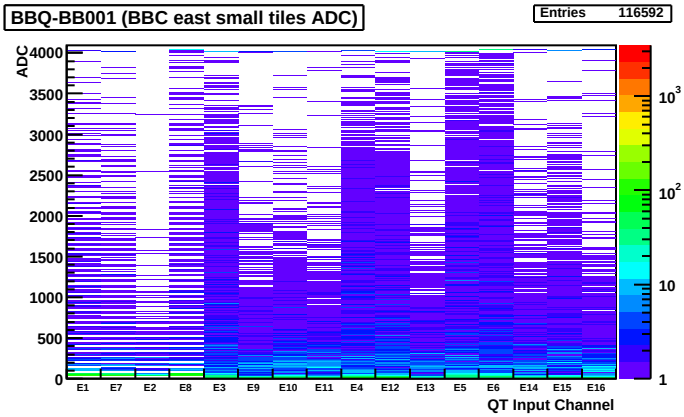

MIX-TF005
Entries 306054
TOF MULT
TOF tray

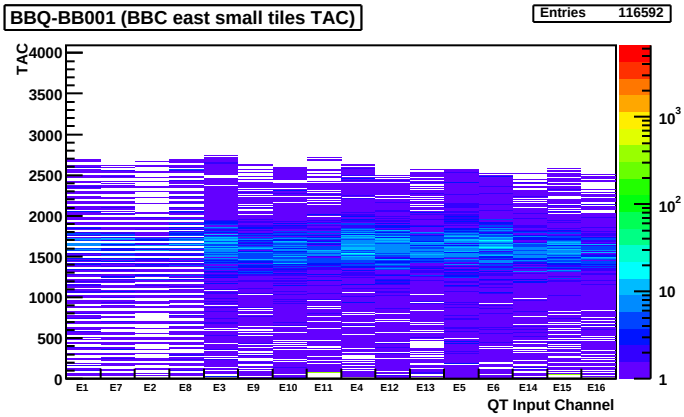

MIX-TF006
Entries 306054
TOF MULT
TOF tray

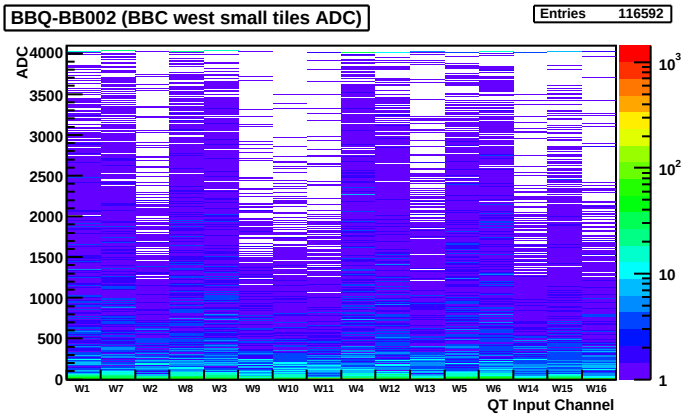

MIX-TF101
Entries 43722
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

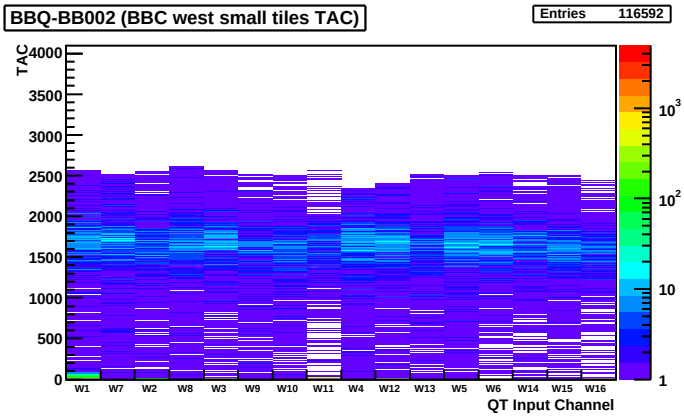

L1-TF201
Entries 7287
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

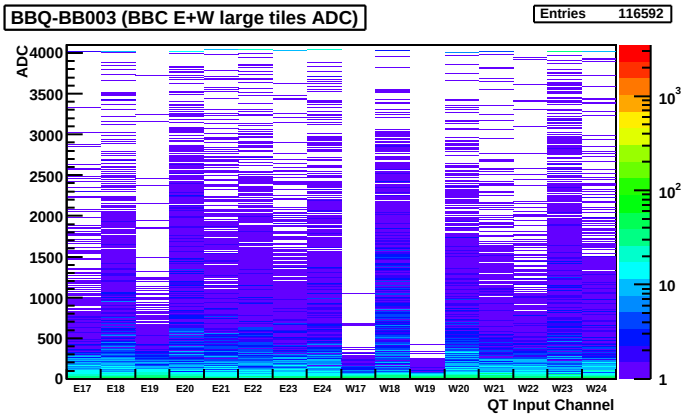

L1-TF201
Entries 43722
Threshold bits
1
0
3809
3914
3943
3991
3949
3880
3478
3373
3344
3296
3338
3407
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

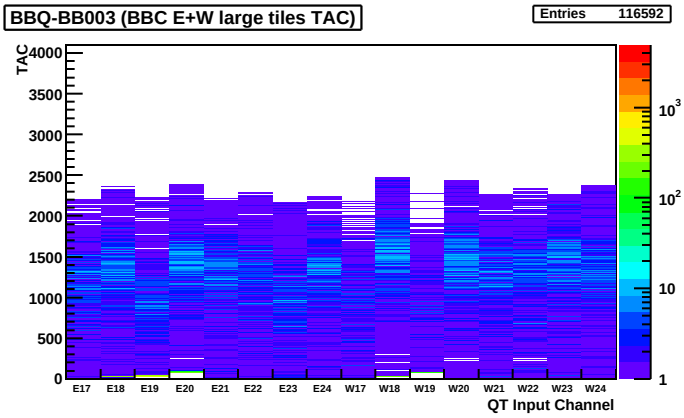

BBQ-BB001 (BBC east small tiles ADC)
Entries 116592
ADC
QT Input Channel

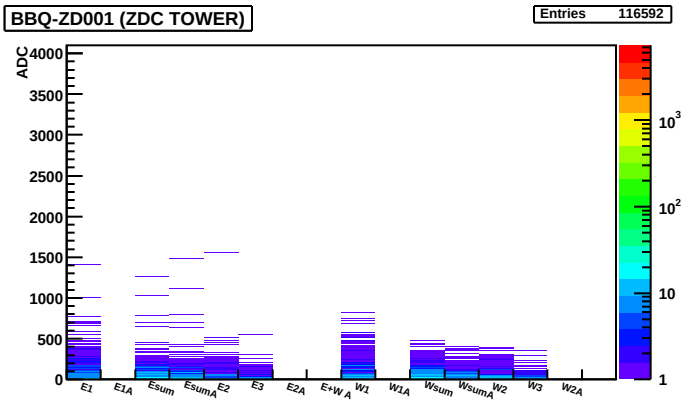

BBQ-BB001 (BBC east small tiles TAC)
Entries 116592
TAC
QT Input Channel

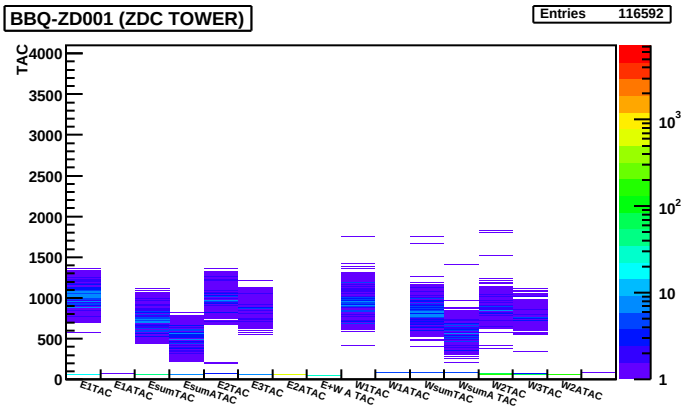

BBQ-BB002 (BBC west small tiles ADC)
Entries 116592
ADC
QT Input Channel

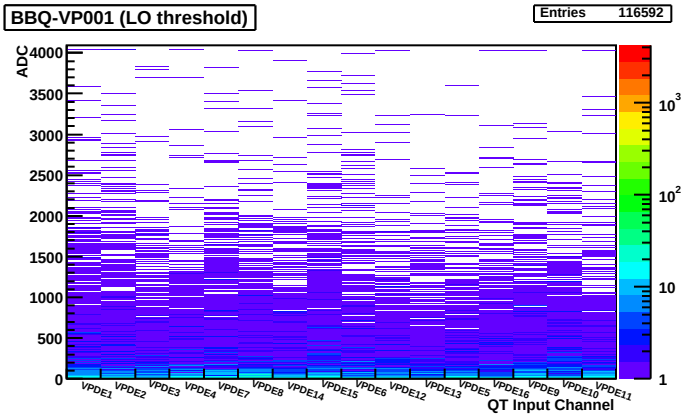

BBQ-BB002 (BBC west small tiles TAC)
Entries 116592
TAC
QT Input Channel

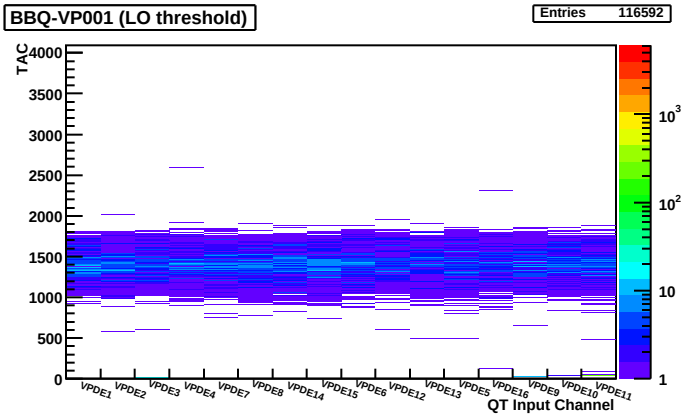

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 116592
ADC
QT Input Channel

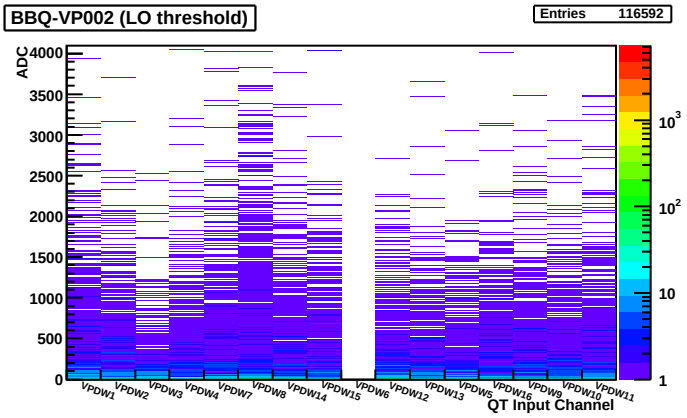

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 116592
TAC
QT Input Channel

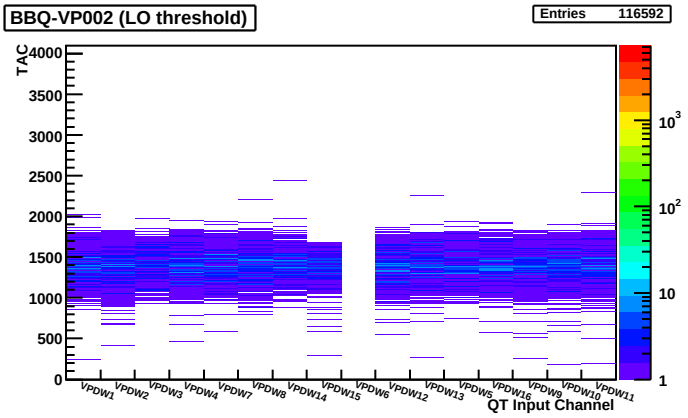

BBQ-ZD001 (ZDC TOWER)
Entries 116592
ADC

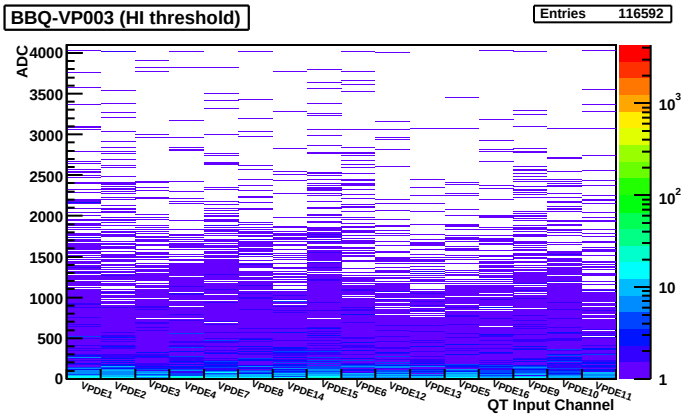

BBQ-ZD001 (ZDC TOWER)
Entries 116592
TAC

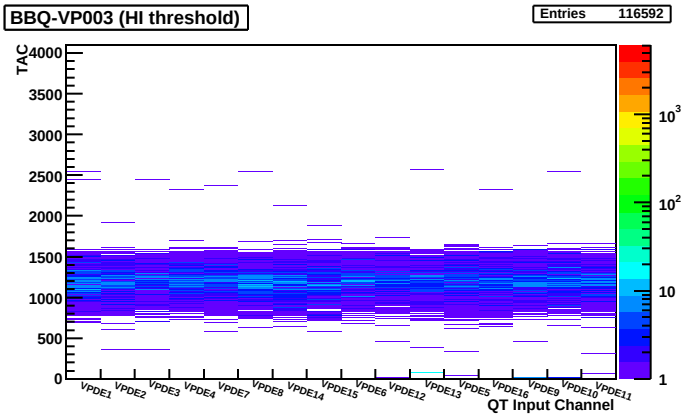

BBQ-VP001 (LO threshold)
Entries 116592
ADC
QT Input Channel

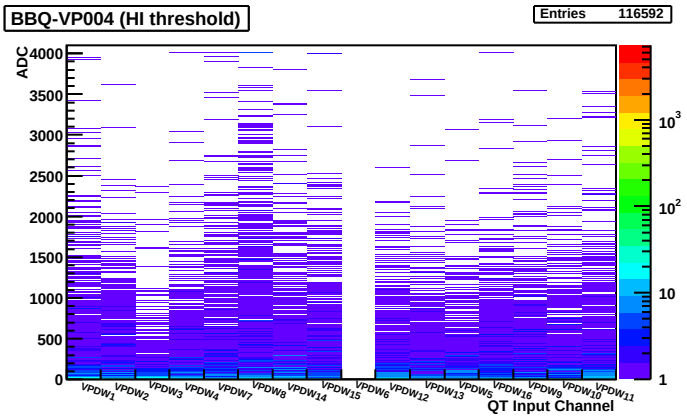

BBQ-VP001 (LO threshold)
Entries 116592
TAC
QT Input Channel

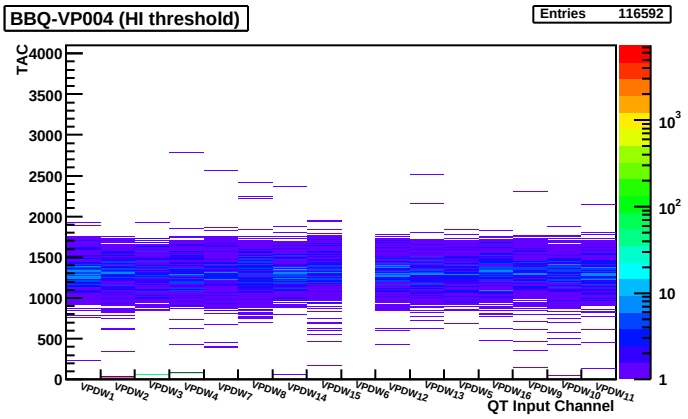

BBQ-VP002 (LO threshold)
Entries 116592
ADC
QT Input Channel

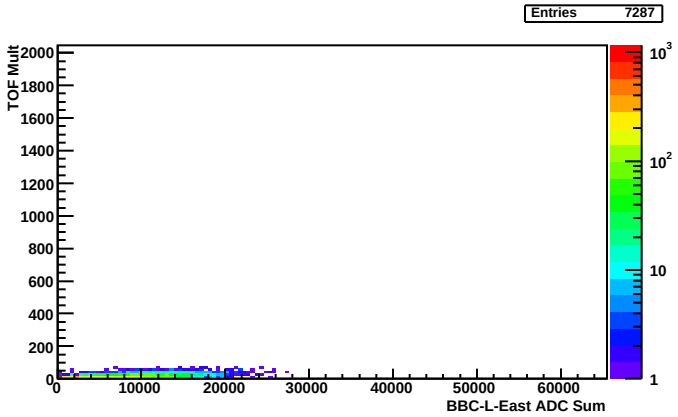

BBQ-VP002 (LO threshold)
Entries 116592
TAC
QT Input Channel

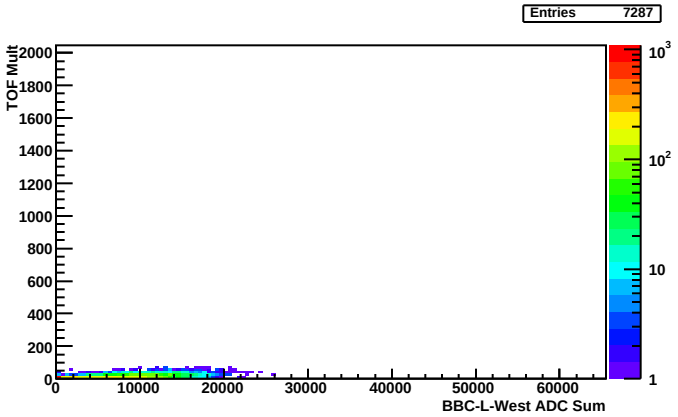

BBQ-VP003 (HI threshold)
Entries 116592
ADC
QT Input Channel

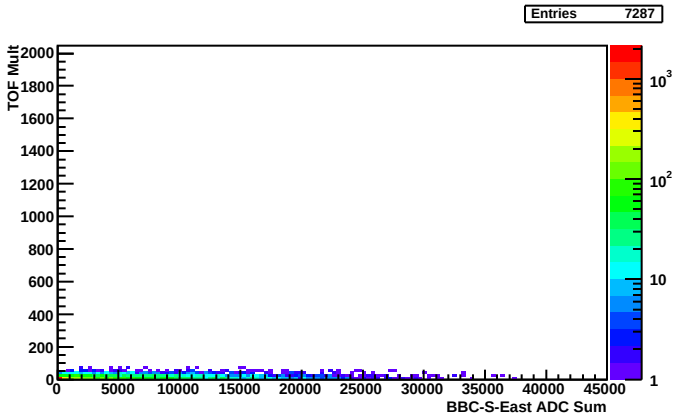

BBQ-VP003 (HI threshold)
Entries 116592
TAC
QT Input Channel

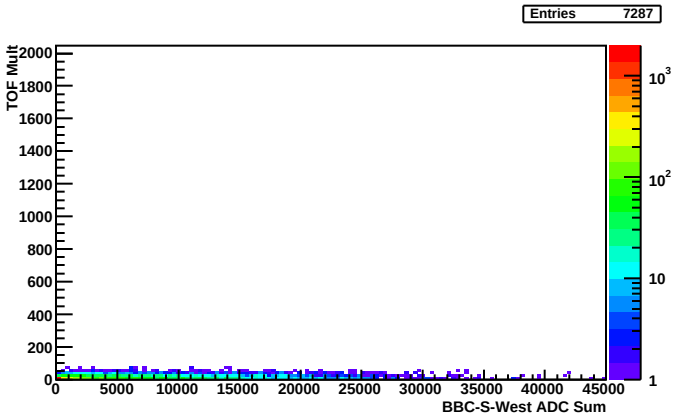

BBQ-VP004 (HI threshold)
Entries 116592
ADC
QT Input Channel

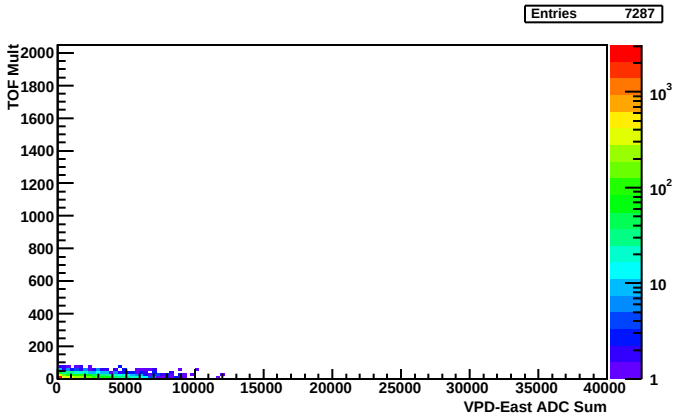

BBQ-VP004 (HI threshold)
Entries 116592
TAC
QT Input Channel

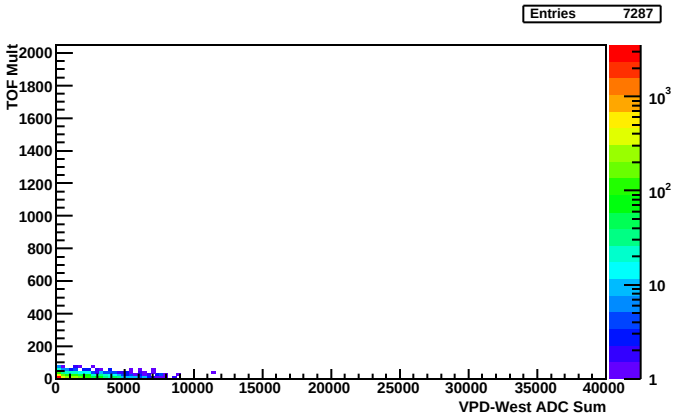

Entries 7287
TOF Mult
BBC-L-East ADC Sum

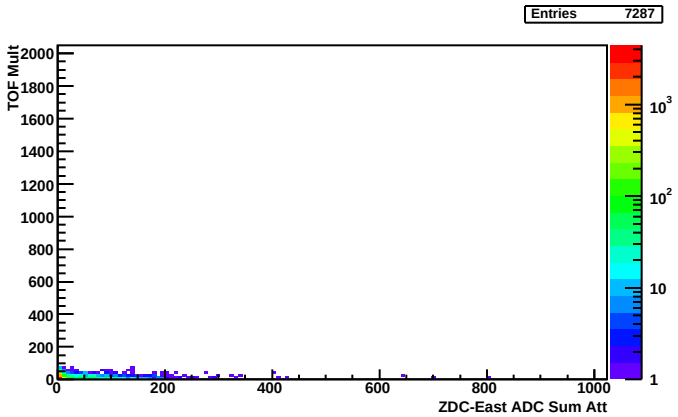

Entries 7287
TOF Mult
BBC-L-West ADC Sum

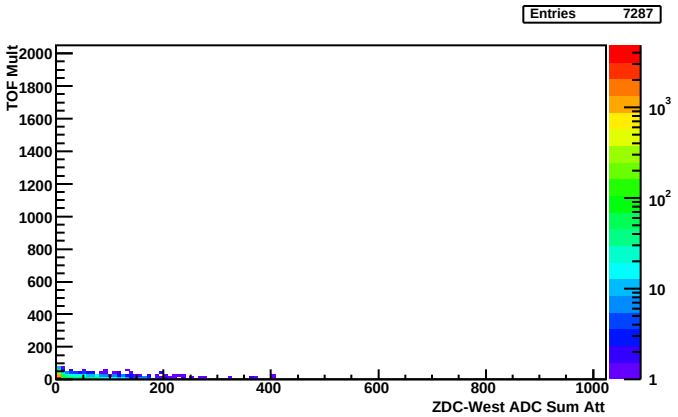

Entries 7287
TOF Mult
BBC-S-East ADC Sum

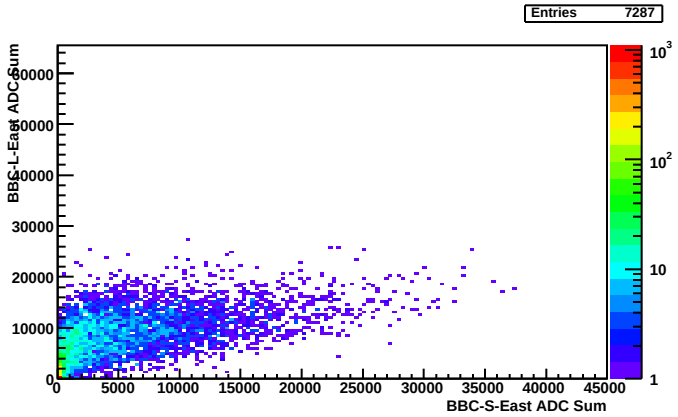

Entries 7287
TOF Mult
BBC-S-West ADC Sum

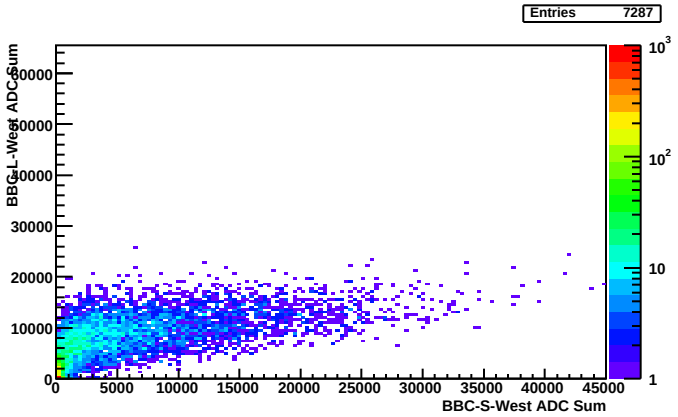

Entries 7287
TOF Mult
VPD-East ADC Sum

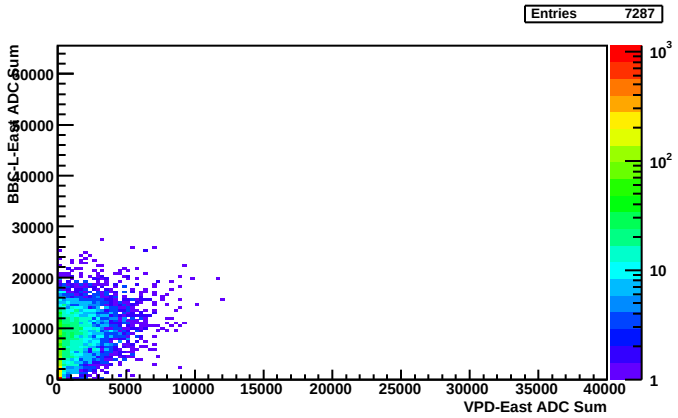

Entries 7287
TOF Mult
VPD-West ADC Sum

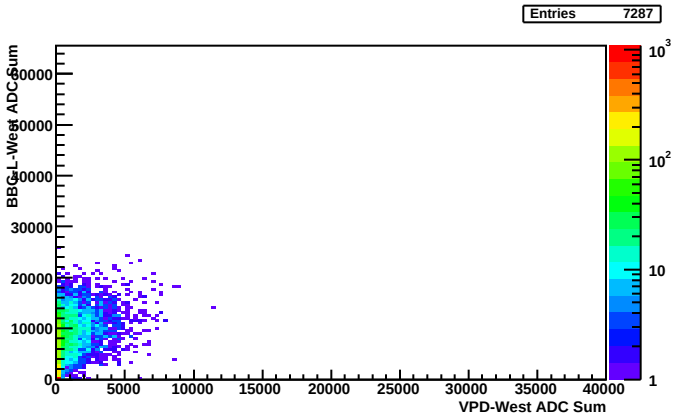

Entries 7287
TOF Mult
ZDC-East ADC Sum Att

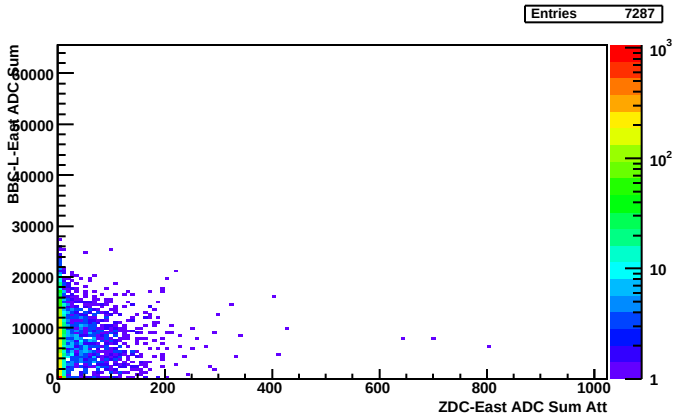

Entries 7287
TOF Mult
ZDC-West ADC Sum Att

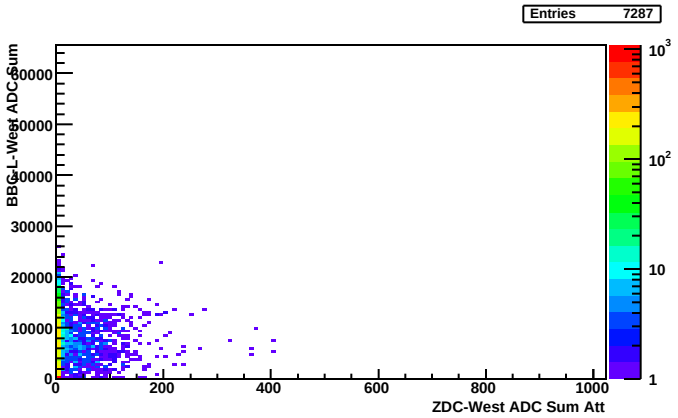

Entries 7287
BBC-L-East ADC Sum
BBC-S-East ADC Sum

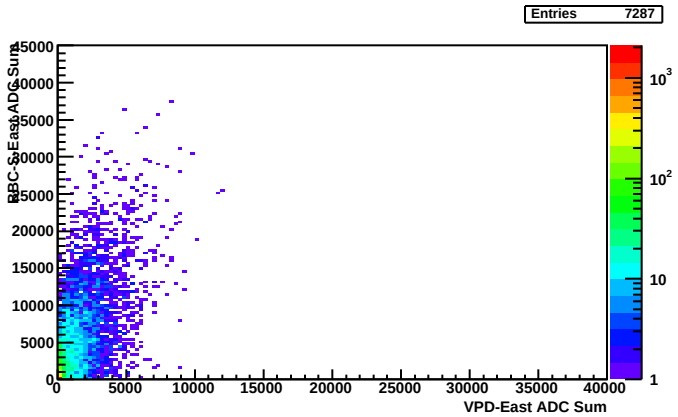

Entries 7287
BBC-L-West ADC Sum
BBC-S-West ADC Sum

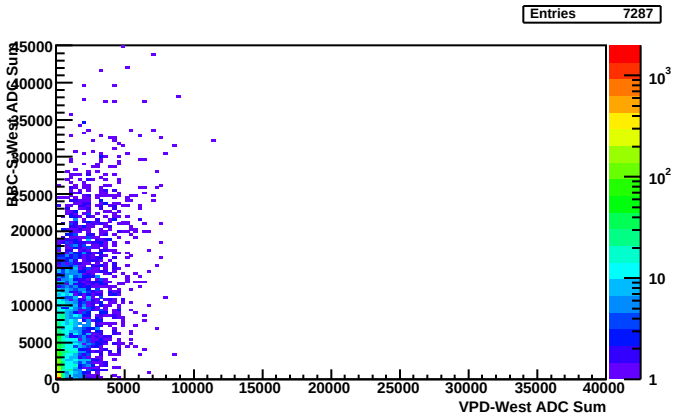

Entries 7287
BBC-L-East ADC Sum
VPD-East ADC Sum

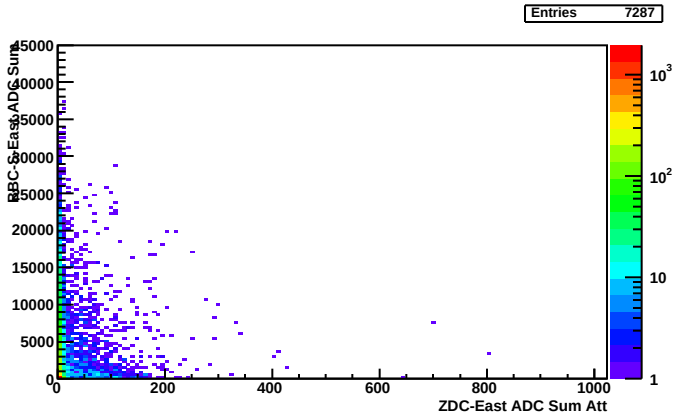

Entries 7287
BBC-L-West ADC Sum
VPD-West ADC Sum

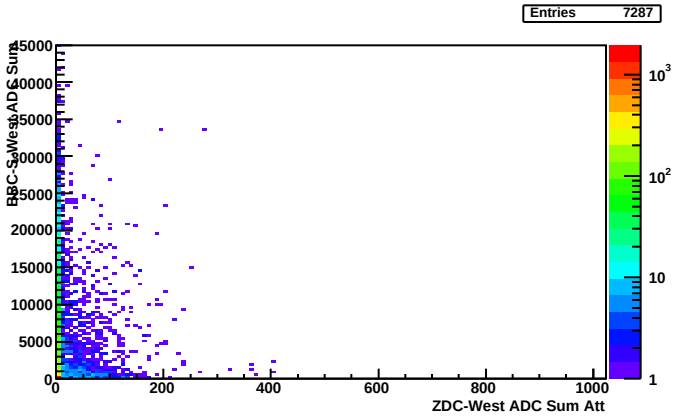

Entries 7287
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

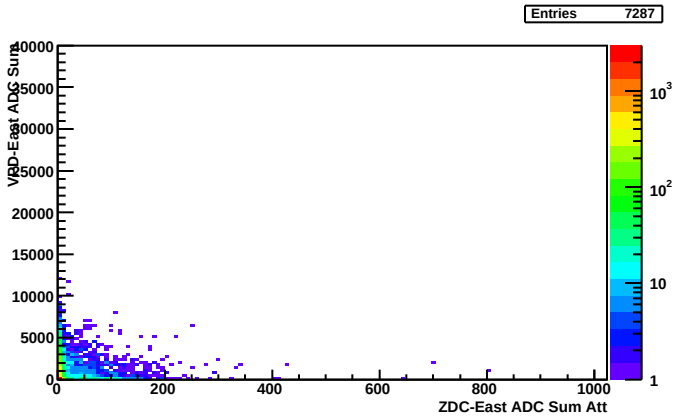

Entries 7287
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

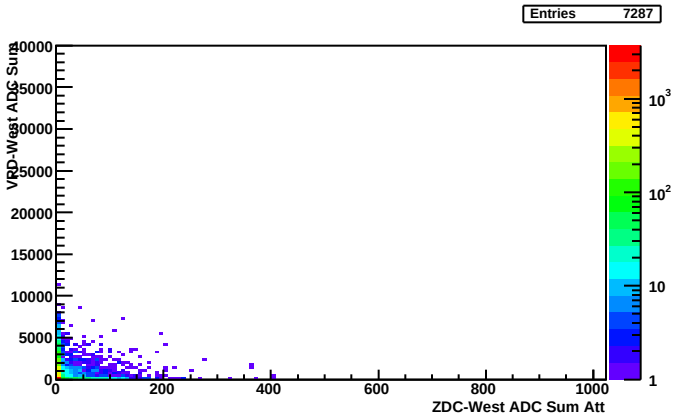

Entries 7287
BBC-S-East ADC Sum
VPD-East ADC Sum


Entries 7287
BBC-S-West ADC Sum
VPD-West ADC Sum


Entries 7287
BBC-S-East ADC Sum
ZDC-East ADC Sum Att


Entries 7287
BBC-S-West ADC Sum
ZDC-West ADC Sum Att


Entries 7287
VPD-East ADC Sum
ZDC-East ADC Sum Att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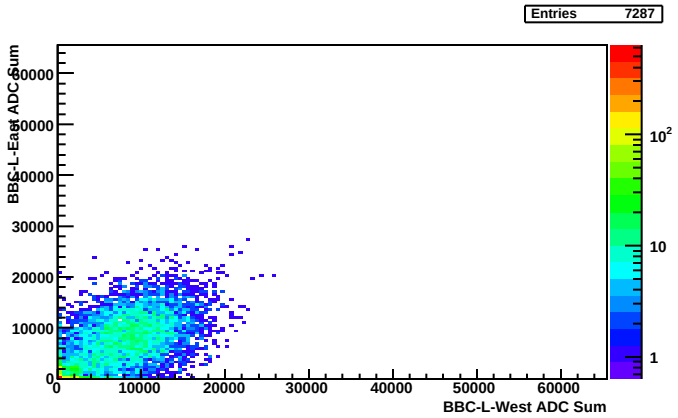
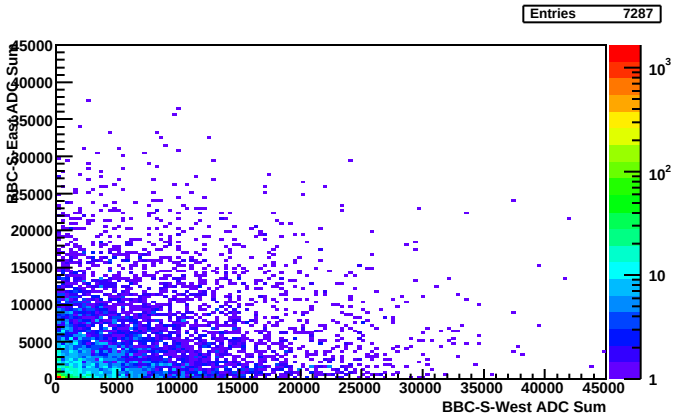
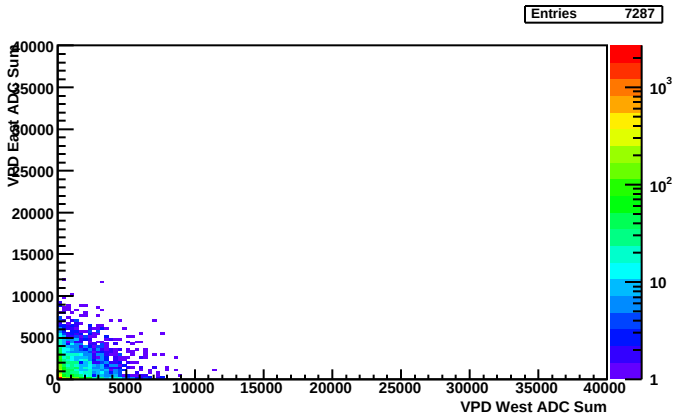
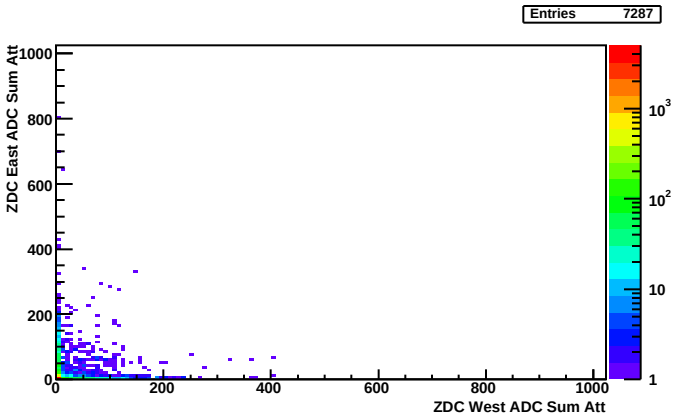
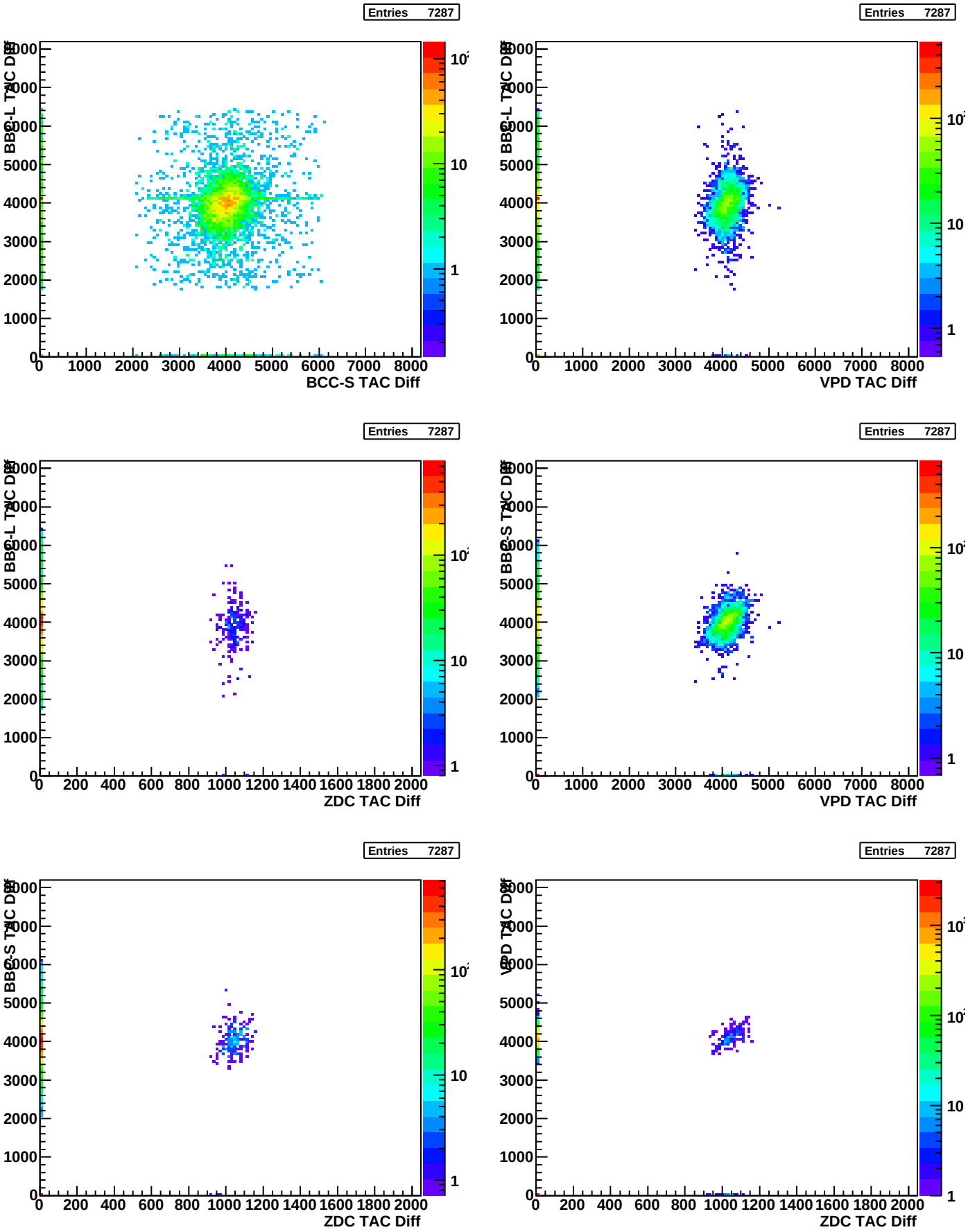
VPD-West ADC Sum
ZDC-West ADC Sum Att

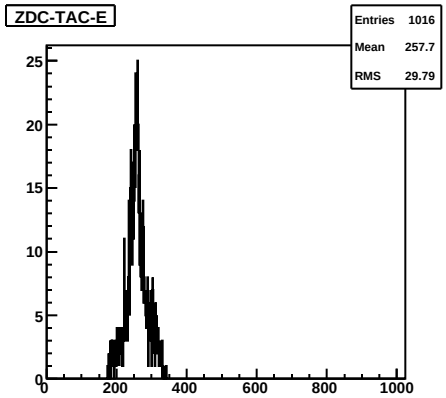

Entries 7287
BBC-L-East ADC Sum
BBC-L-West ADC Sum

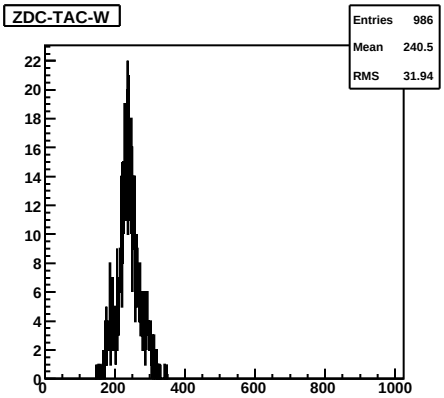

Entries 7287
BBC-S-East ADC Sum
BBC-S-West ADC Sum

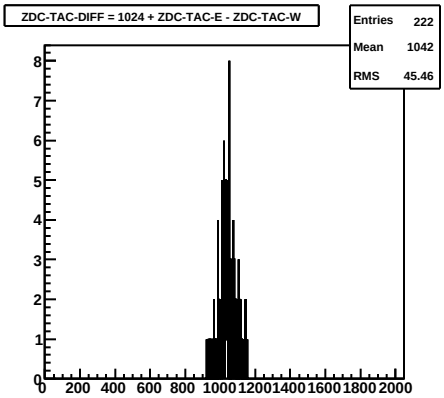

Entries 7287
VPD East ADC Sum
VPD West ADC Sum

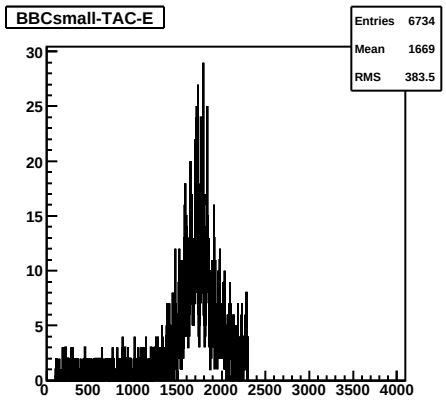

Entries 7287
ZDC East ADC Sum Att
ZDC West ADC Sum Att

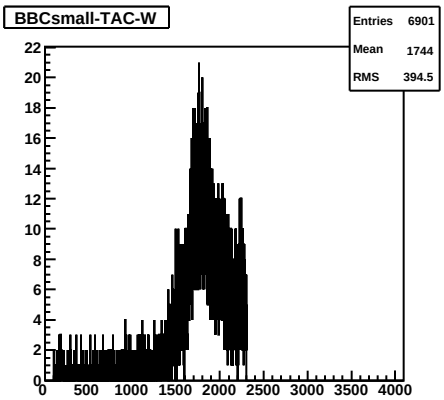

Entries 7287
BBC-L TAC Diff
BCC-S TAC Diff
Entries 7287
BBC-L TAC Diff
VPD TAC Diff
Entries 7287
BBC-L TAC Diff
ZDC TAC Diff
Entries 7287
BBC-S TAC Diff
VPD TAC Diff
Entries 7287
BBC-S TAC Diff
ZDC TAC Diff
Entries 7287
VPD TAC Diff
ZDC TAC Diff

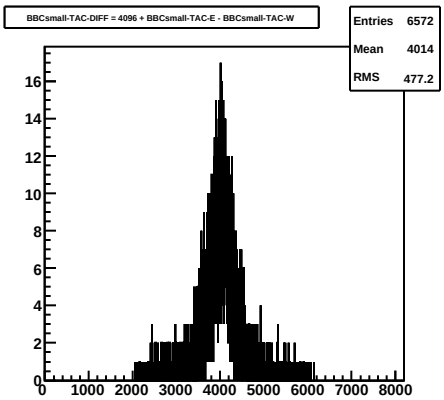

ZDC-TAC-E
Entries 1016
Mean 257.7
RMS 29.79

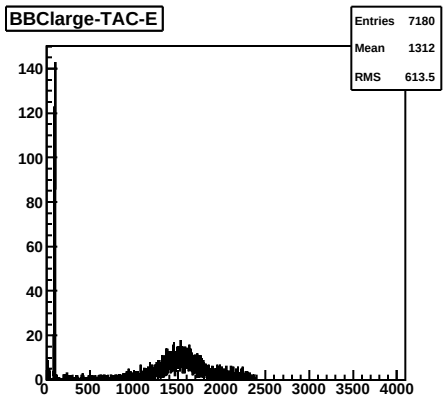

ZDC-TAC-W
Entries 986
Mean 240.5
RMS 31.94

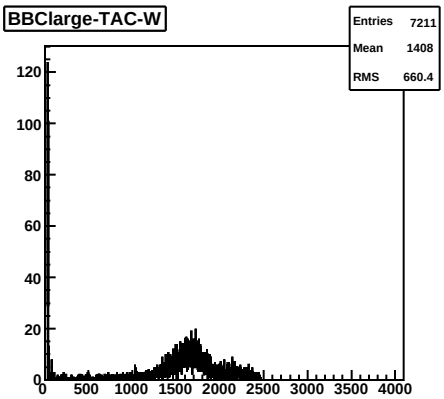

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 222
Mean 1042
RMS 45.46

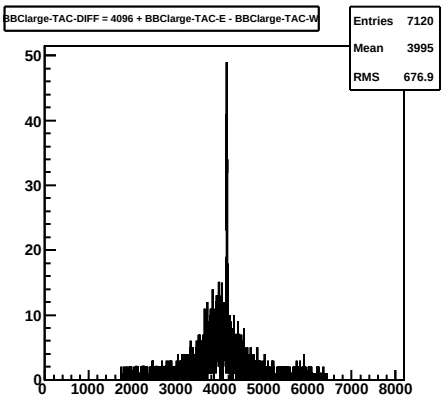

BBCsmall-TAC-E
Entries 6734
Mean 1669
RMS 383.5

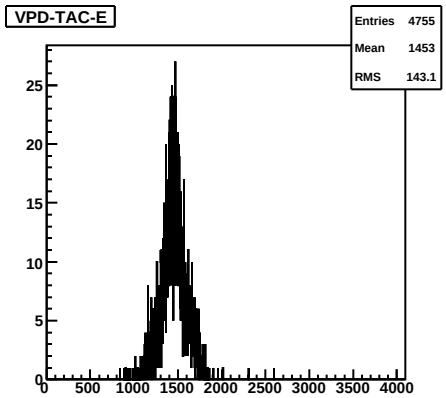

BBCsmall-TAC-W
Entries 6901
Mean 1744
RMS 394.5

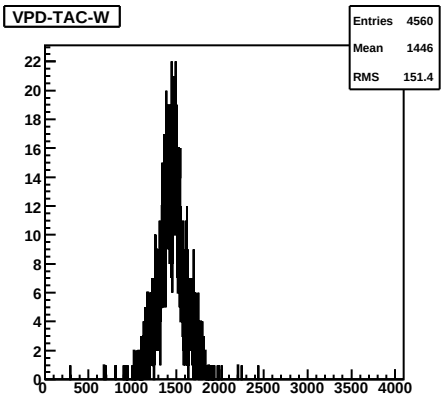

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 6572
Mean 4014
RMS 477.2

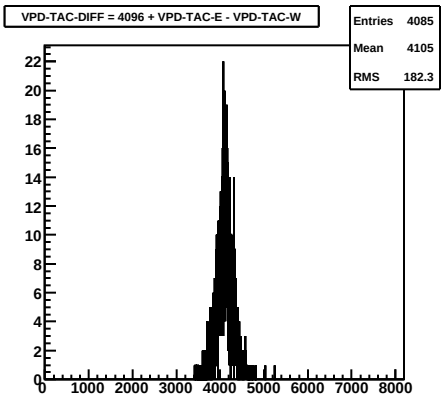

BBClarge-TAC-E
Entries 7180
Mean 1312
RMS 613.5

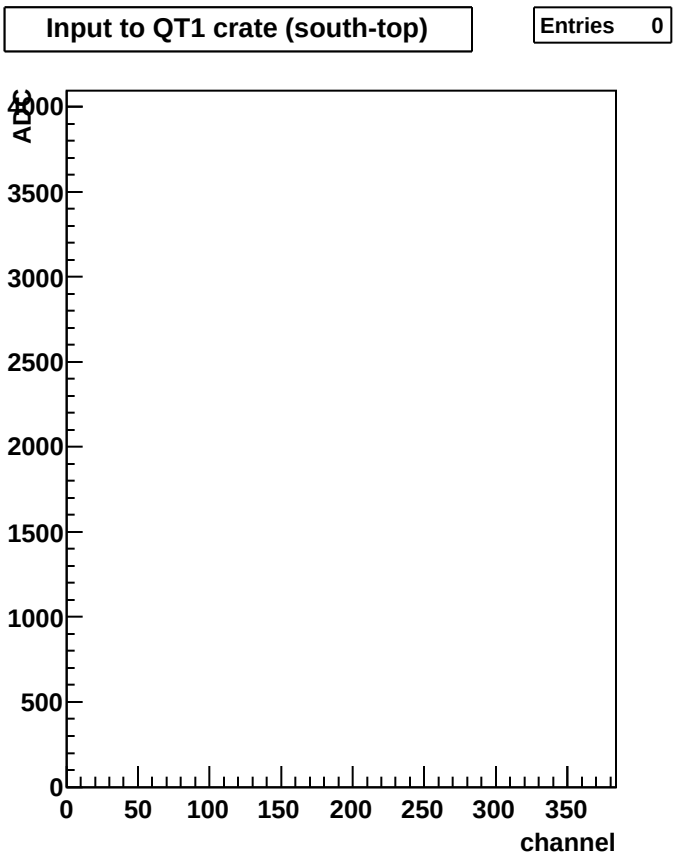

BBClarge-TAC-W
Entries 7211
Mean 1408
RMS 660.4

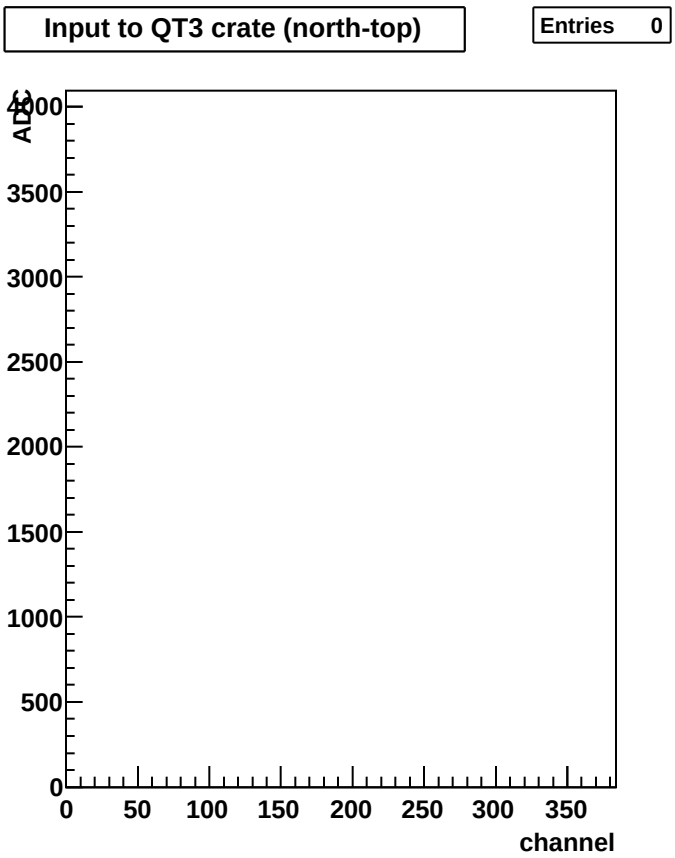

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 7120
Mean 3995
RMS 676.9

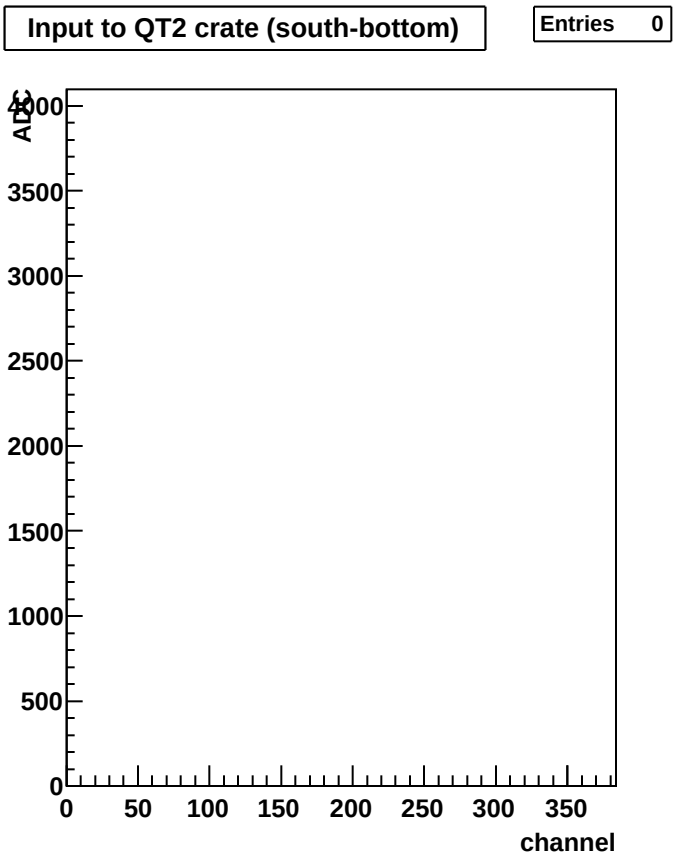

VPD-TAC-E
Entries 4755
Mean 1453
RMS 143.1

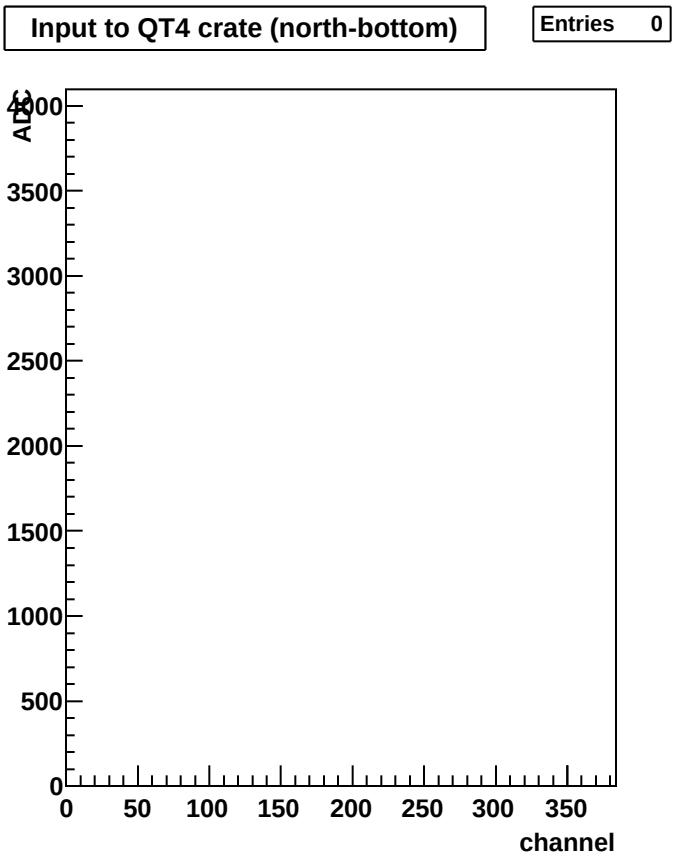

VPD-TAC-W
Entries 4560
Mean 1446
RMS 151.4

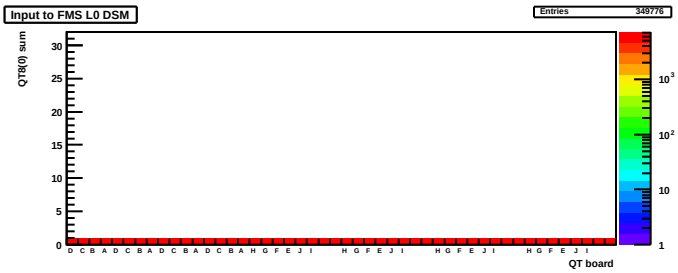

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 4085
Mean 4105
RMS 182.3

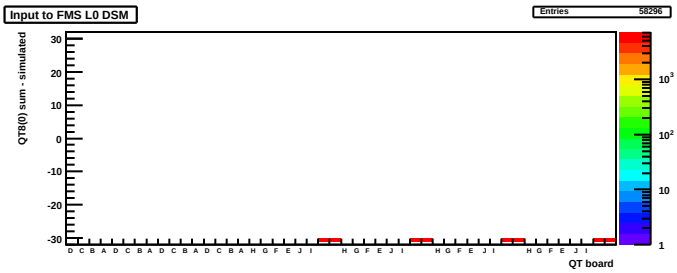

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

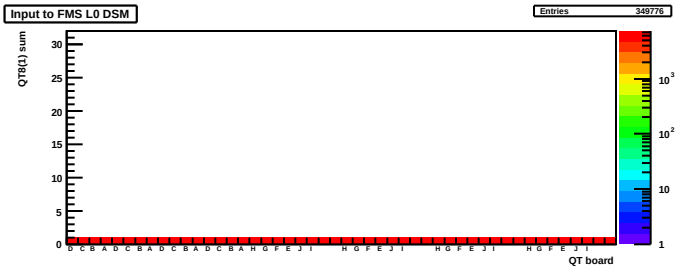

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

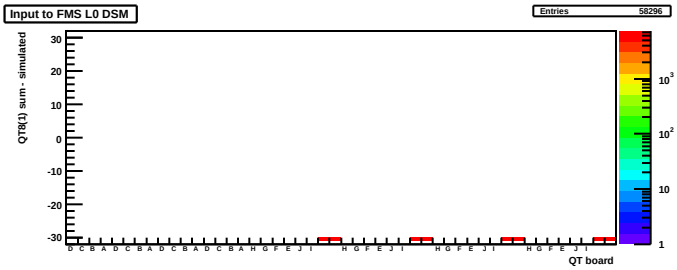

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

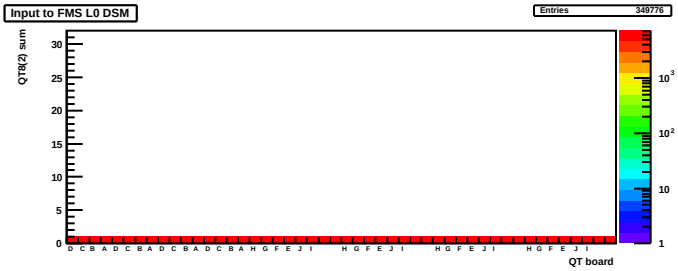

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

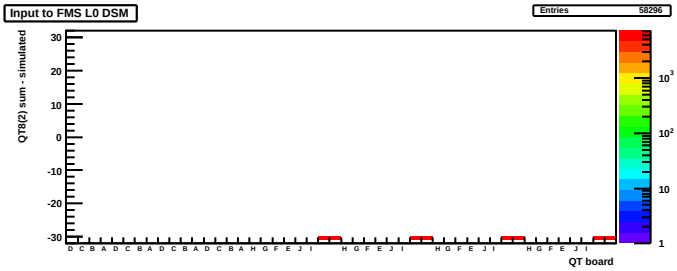

Input to FMS L0 DSM
Entries 349776
QT8(0) sum
QT board

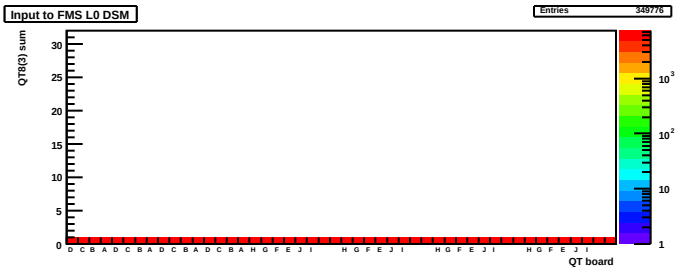

Input to FMS L0 DSM
Entries 58296
QT8(0) sum - simulated
QT board

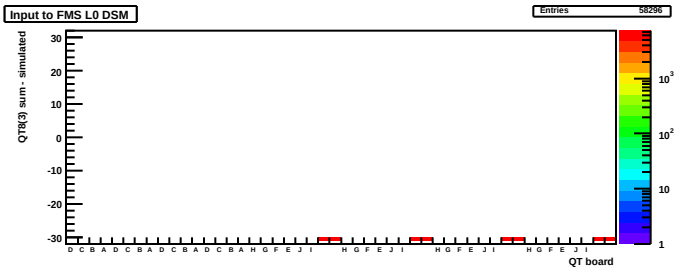

Input to FMS L0 DSM
Entries 349776
QT8(1) sum
QT board

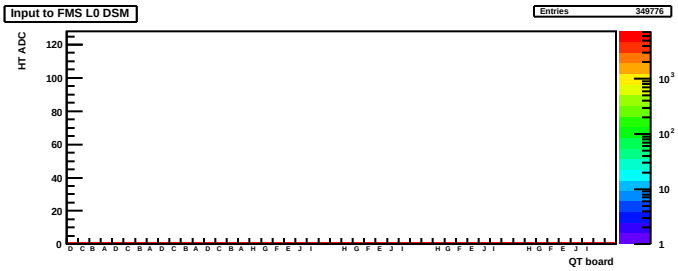

Input to FMS L0 DSM
Entries 58296
QT8(1) sum - simulated
QT board

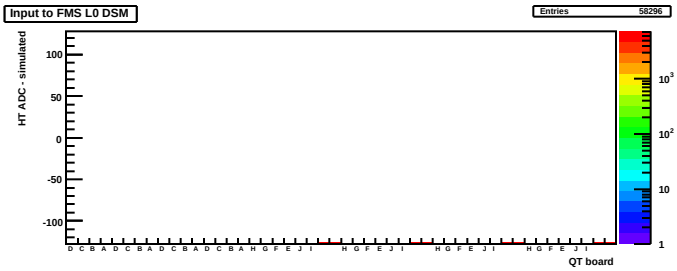

Input to FMS L0 DSM
Entries 349776
QT8(2) sum
QT board

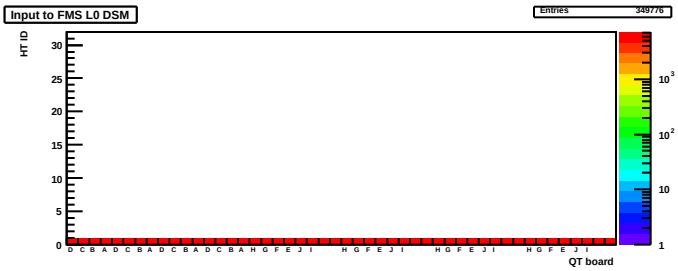

Input to FMS L0 DSM
Entries 58296
QT8(2) sum - simulated
QT board

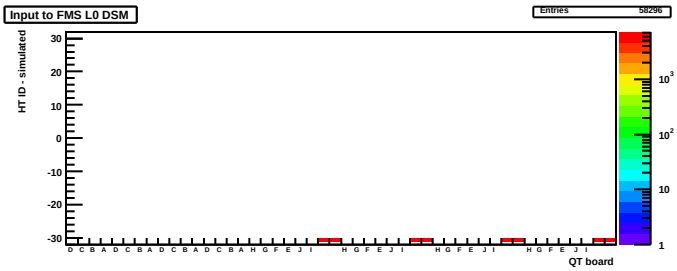

Input to FMS L0 DSM
Entries 349776
QT8(3) sum
QT board

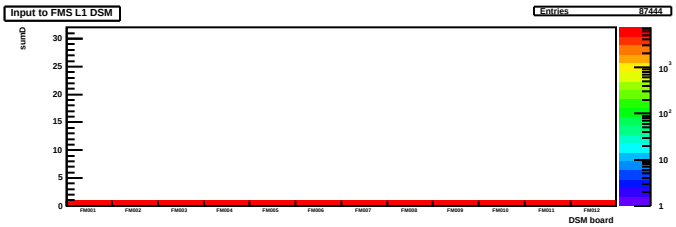

Input to FMS L0 DSM
Entries 58296
QT8(3) sum - simulated
QT board

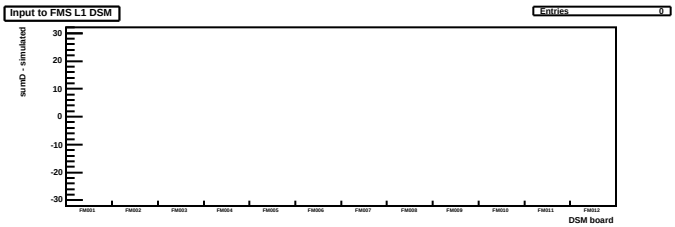

Input to FMS L0 DSM
Entries 349776
HT ADC
QT board

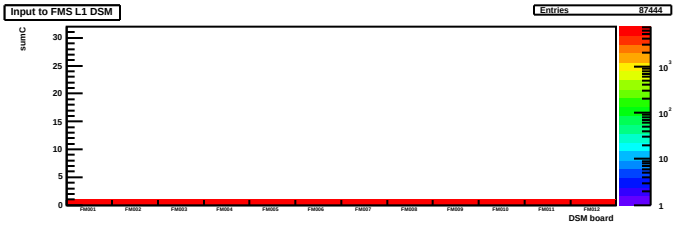

Input to FMS L0 DSM
Entries 58296
HT ADC - simulated
QT board

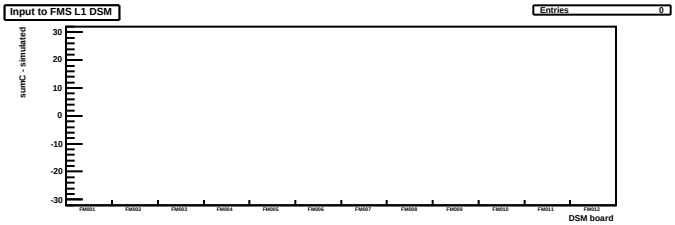

Input to FMS L0 DSM
Entries 349776
HT ID
QT board

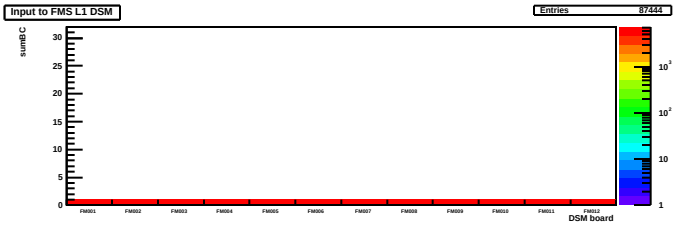

Input to FMS L0 DSM
Entries 58296
HT ID - simulated
QT board

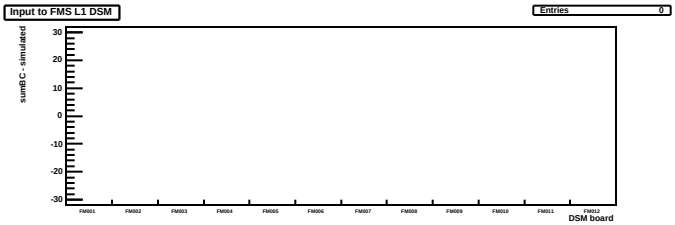

Input to FMS L1 DSM
Entries 87444
sumD
DSM board

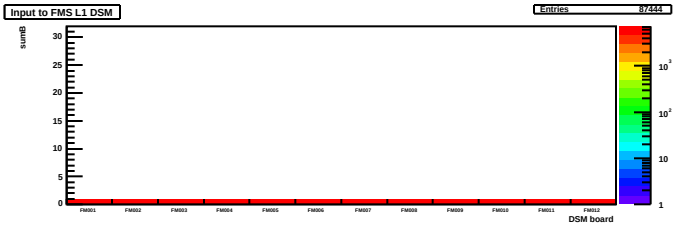

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

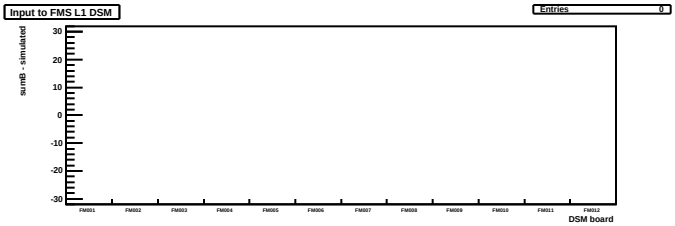

Input to FMS L1 DSM
Entries 87444
sumC
DSM board

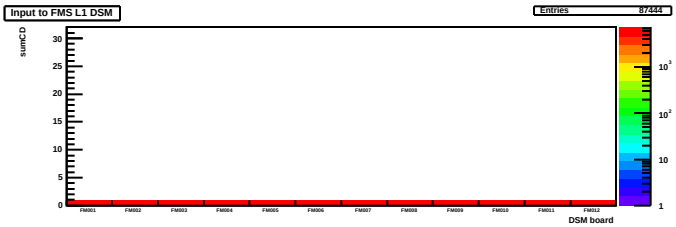

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

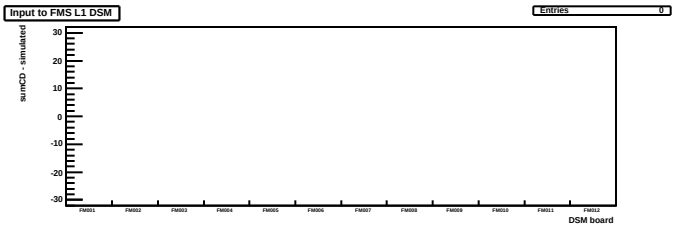

Input to FMS L1 DSM
Entries 87444
sumBC
DSM board

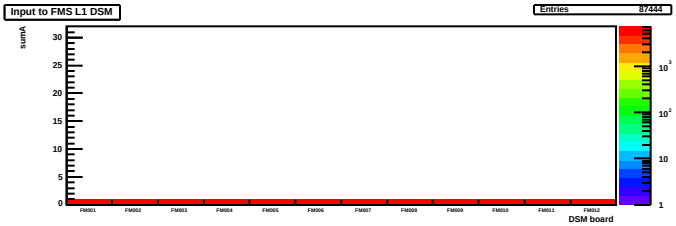

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

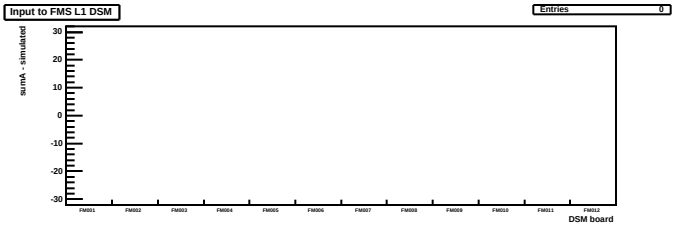

Input to FMS L1 DSM
Entries 87444
sumB
DSM board

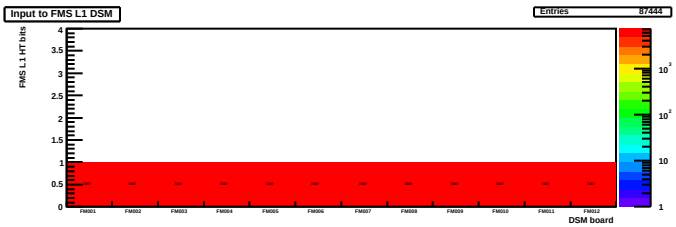

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

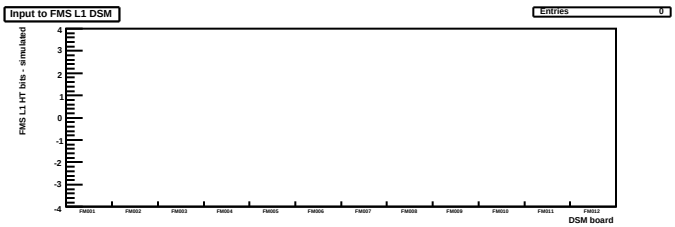

Input to FMS L1 DSM
Entries 87444
sumCD
DSM board

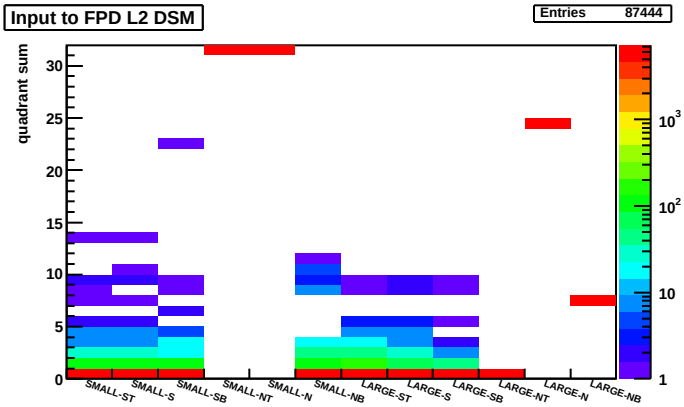

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

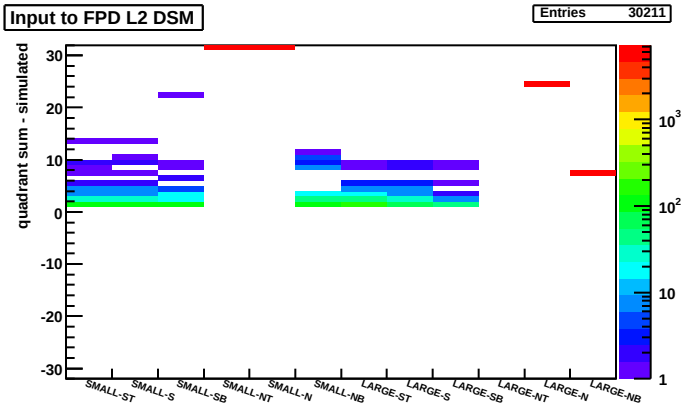

Input to FMS L1 DSM
Entries 87444
sumA
DSM board

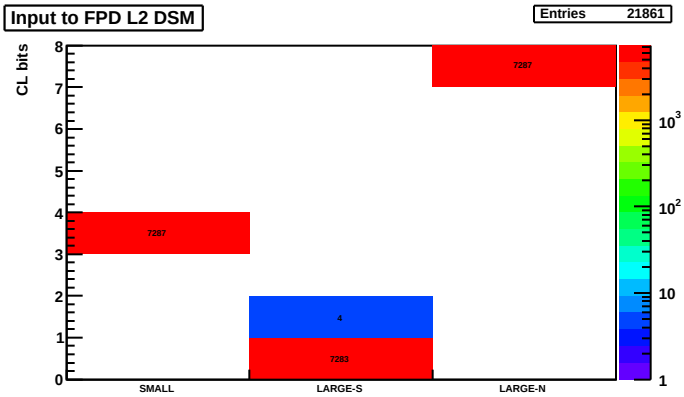

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

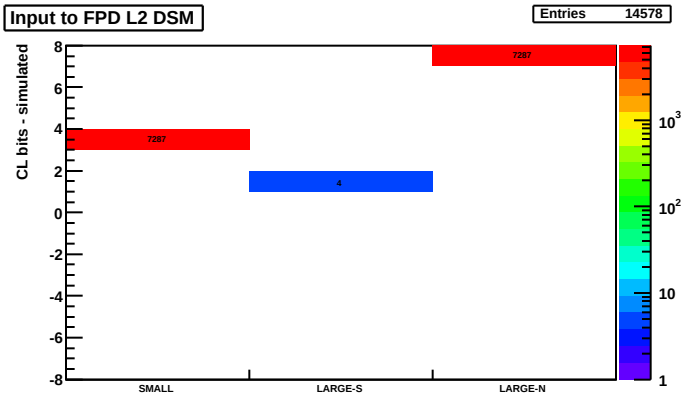

Input to FMS L1 DSM
Entries 87444
FMS L1 HT bits
DSM board

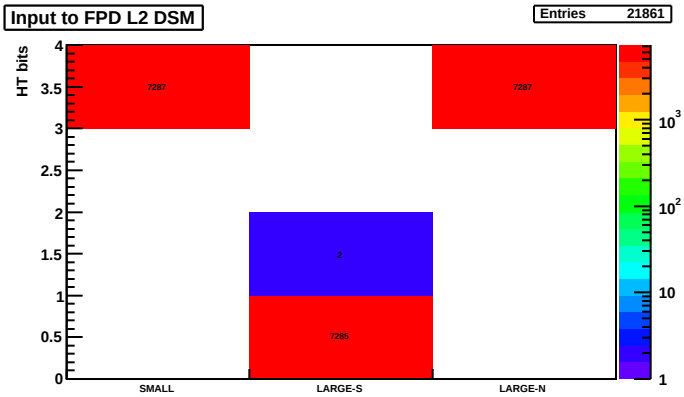

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

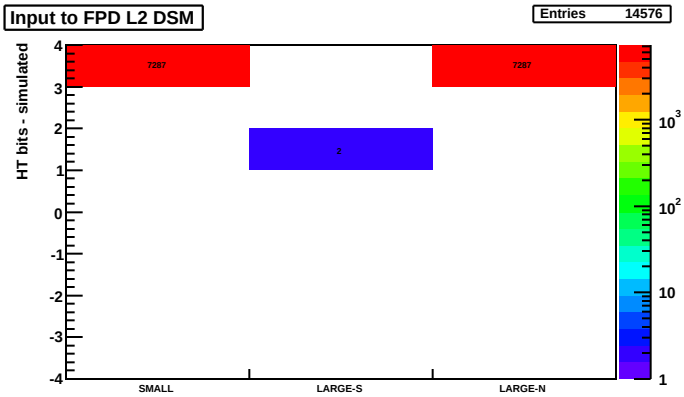

Input to FPD L2 DSM
Entries 87444
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

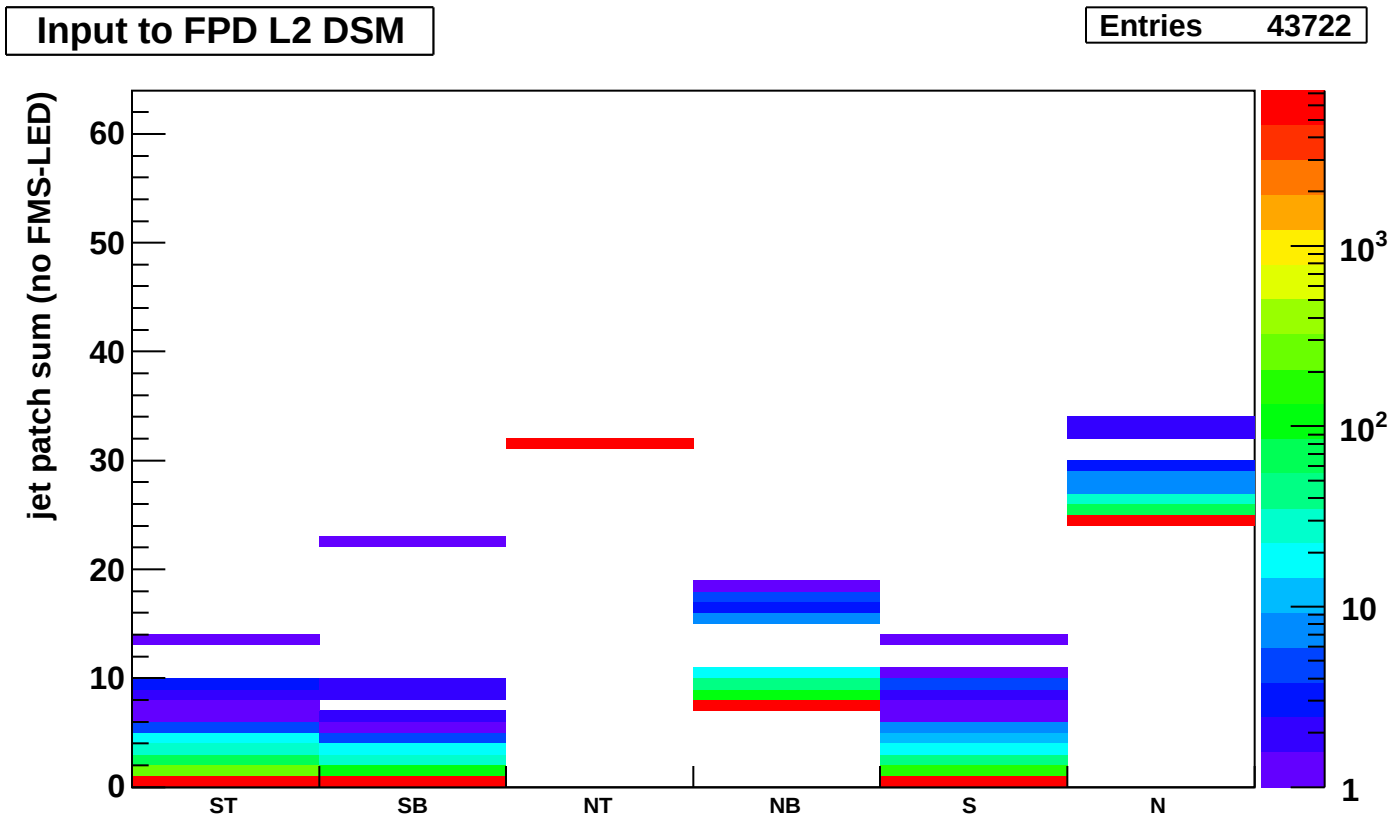

Input to FPD L2 DSM
Entries 30211
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

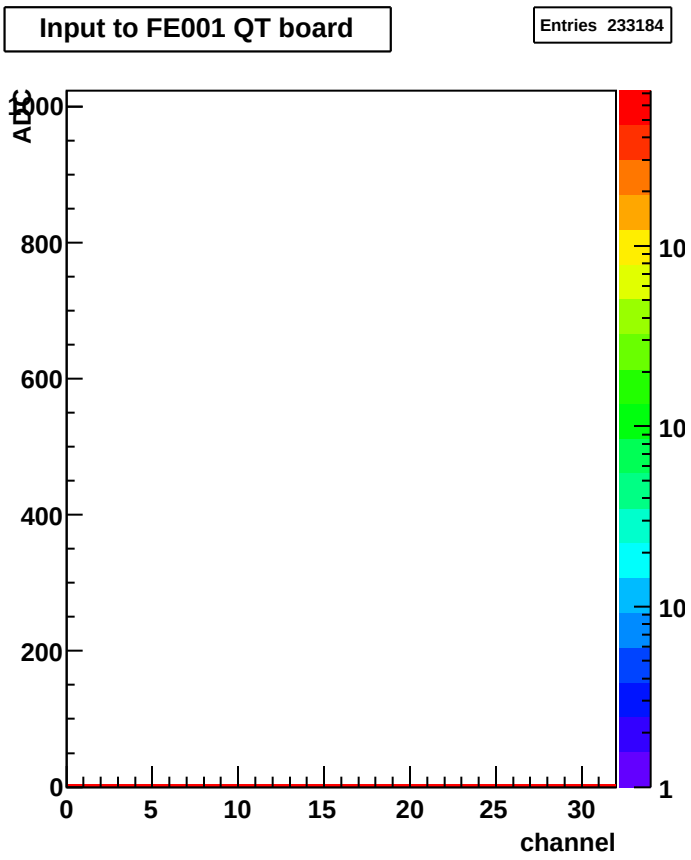

Input to FPD L2 DSM
Entries 21861
CL bits
7287
4
7283
SMALL
LARGE-S
LARGE-N

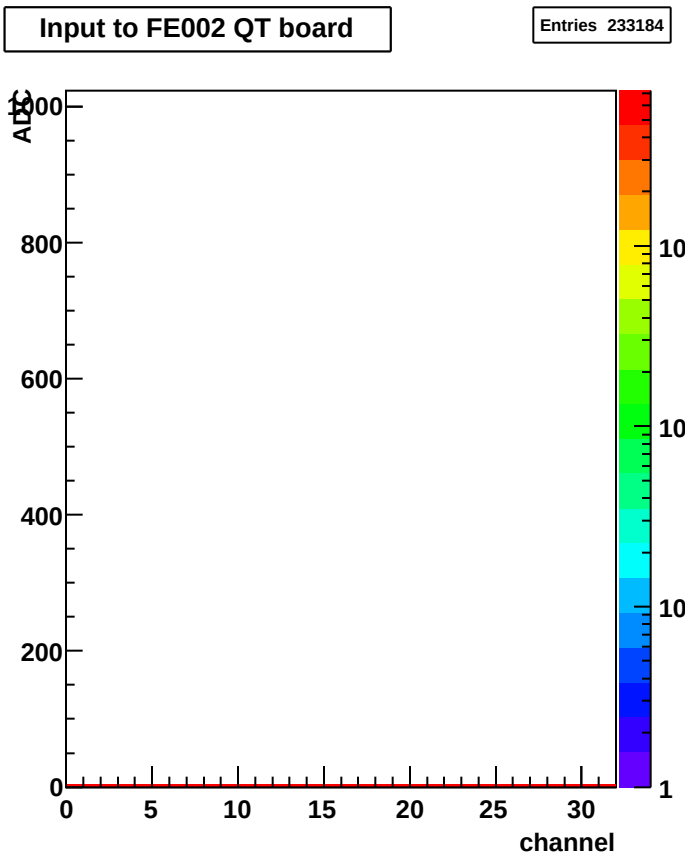

Input to FPD L2 DSM
Entries 14578
CL bits - simulated
7287
4
7287
SMALL
LARGE-S
LARGE-N

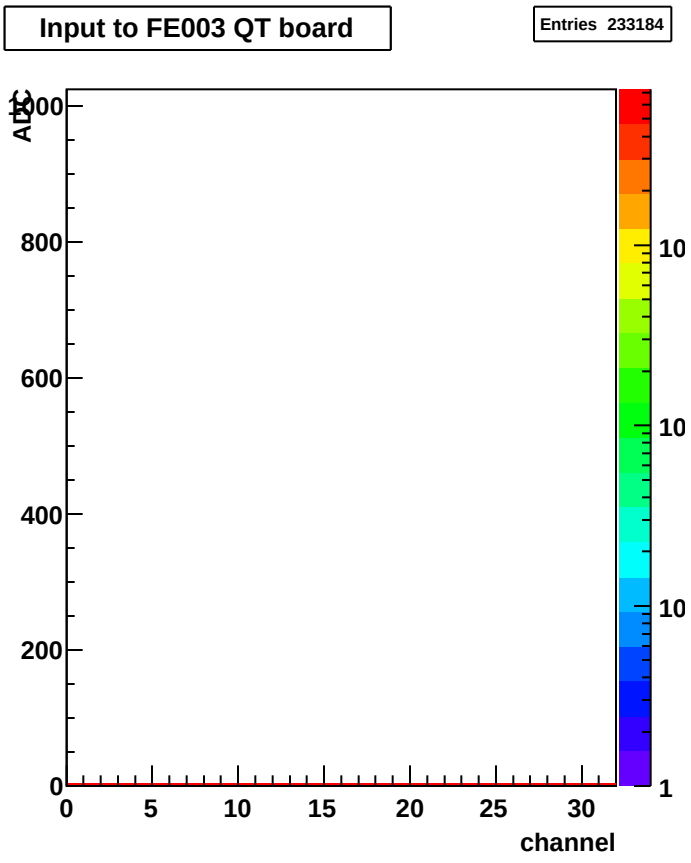

Input to FPD L2 DSM
Entries 21861
HT bits
7287
2
7285
7287
SMALL
LARGE-S
LARGE-N

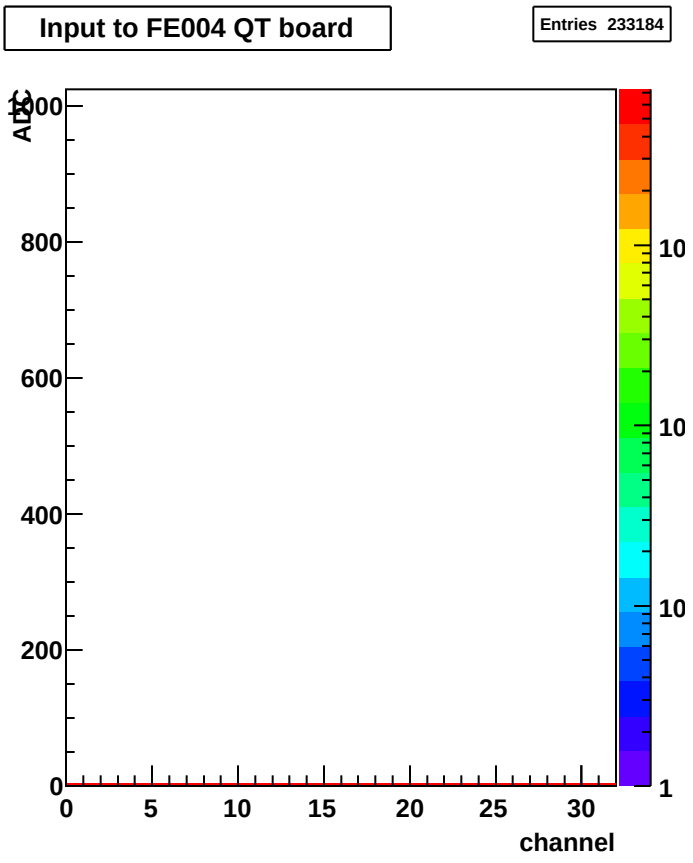

Input to FPD L2 DSM
Entries 14576
HT bits - simulated
7287
2
7287
SMALL
LARGE-S
LARGE-N

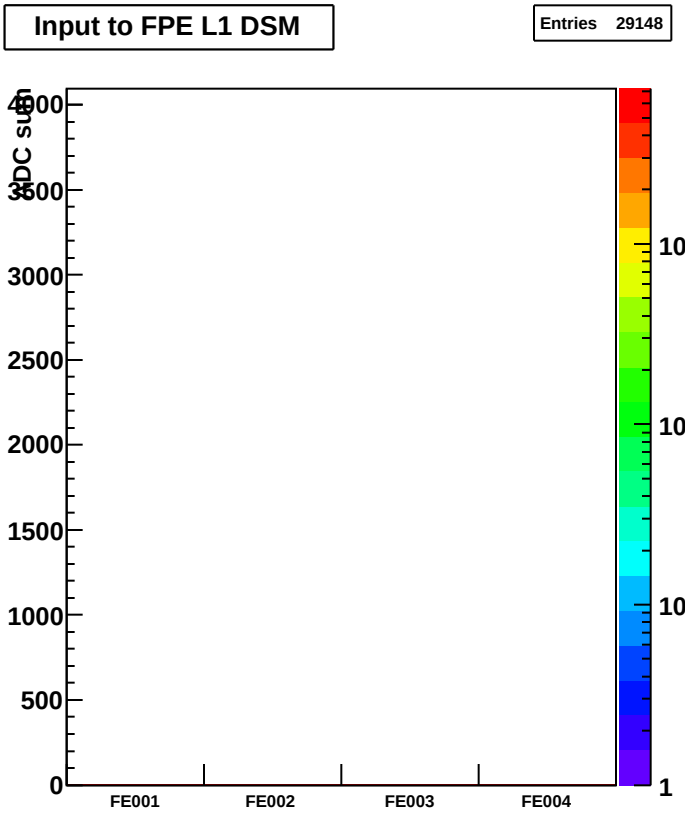

Input to FPD L2 DSM
Entries 43722
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3

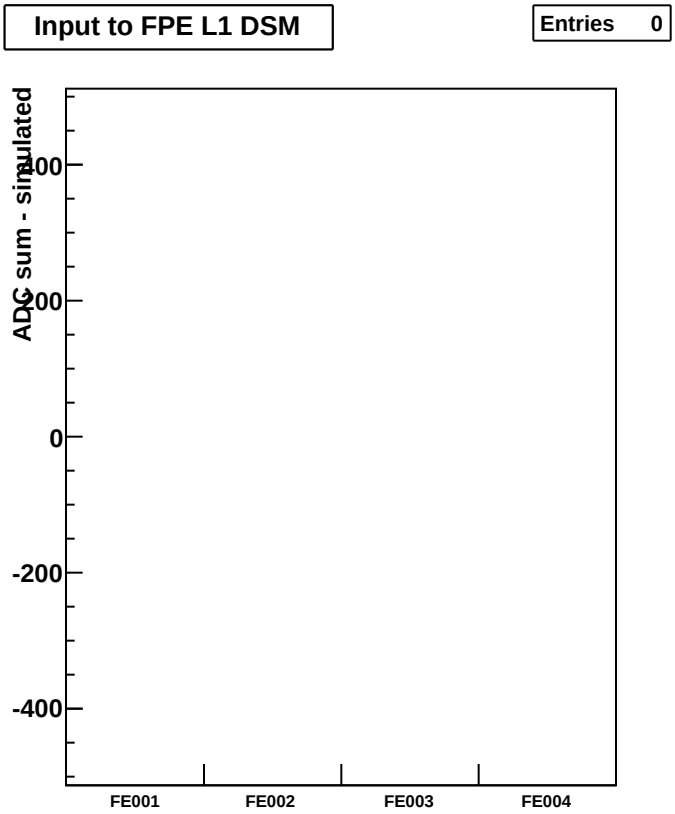

Input to FE001 QT board
Entries 233184
ADC
channel

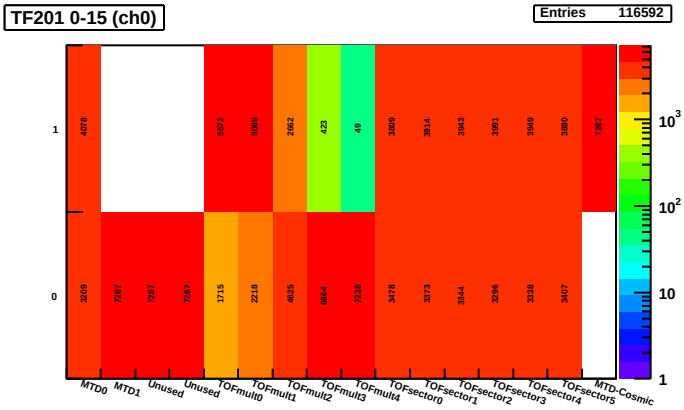

Input to FE002 QT board
Entries 233184
ADC
channel

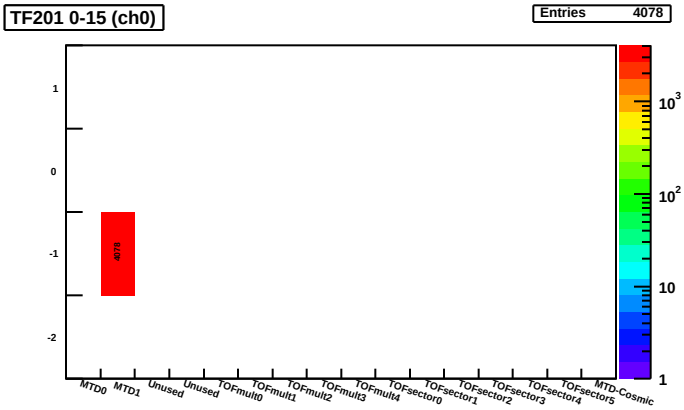

Input to FE003 QT board
Entries 233184
ADC
channel

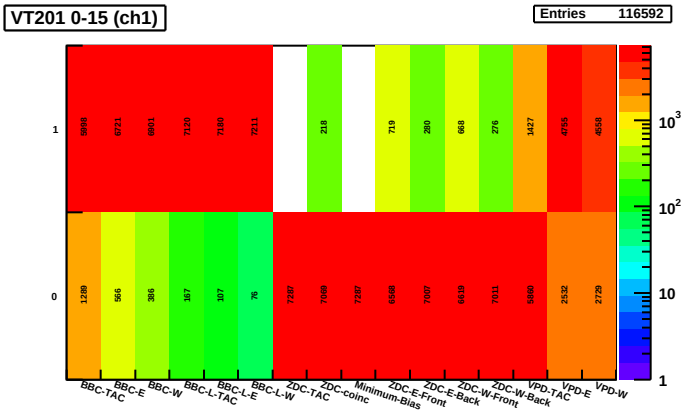

Input to FE004 QT board
Entries 233184
ADC
channel

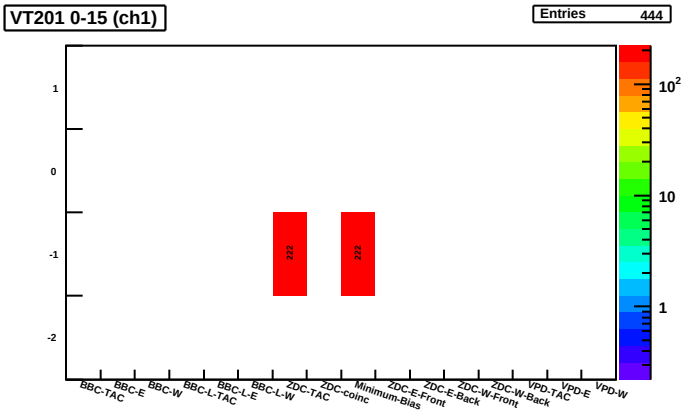

Input to FPE L1 DSM
Entries 29148
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
1

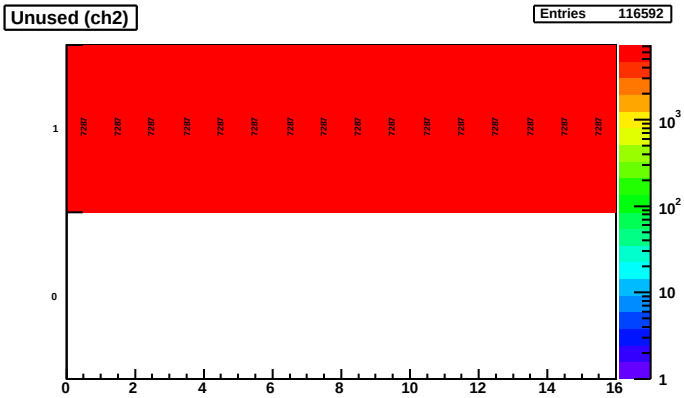

Input to FPE L1 DSM
Entries 0
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004

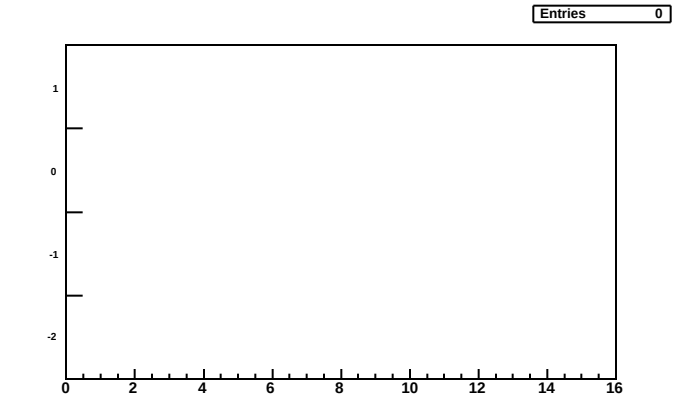

TF201 0-15 (ch0)
Entries 116592
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

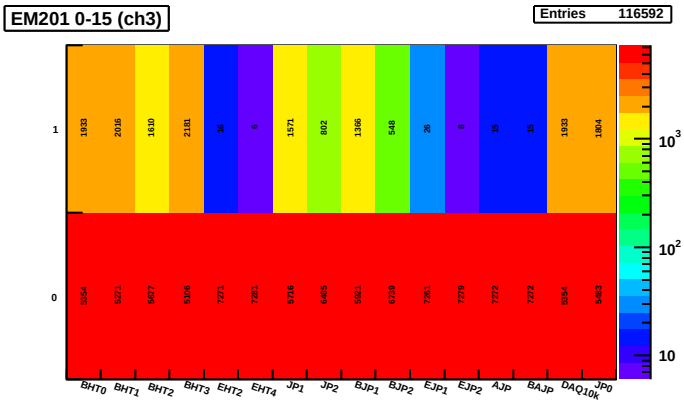

TF201 0-15 (ch0)
Entries 4078
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 116592
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 444
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-coinc Minimum-Bias ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


Unused (ch2)
Entries 116592


Entries 0


EM201 0-15 (ch3)
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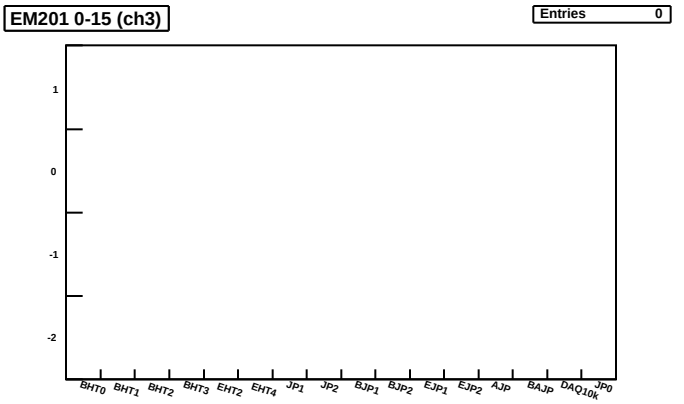
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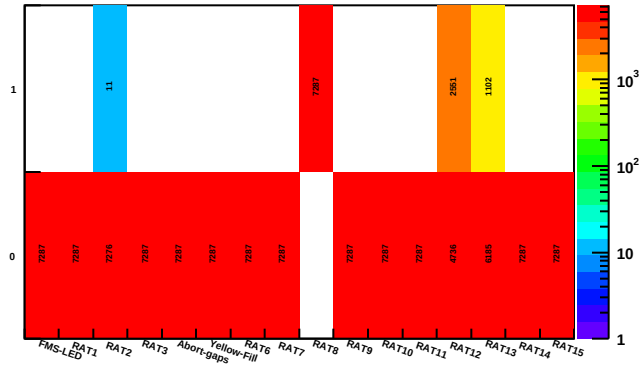
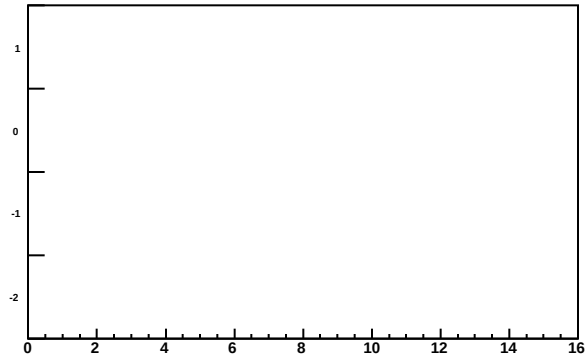
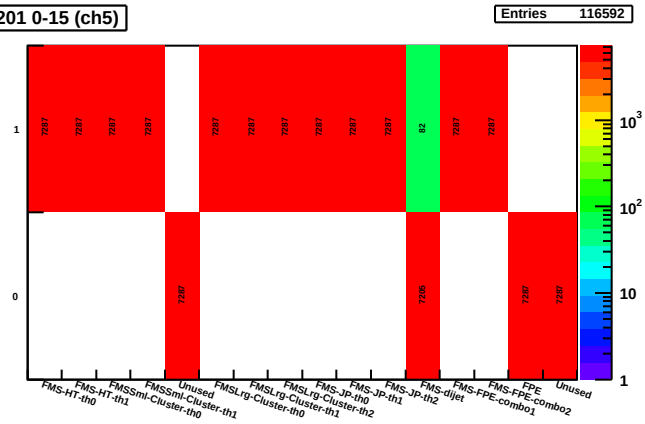
RAT board (ch4)





FP201 0-15 (ch5)



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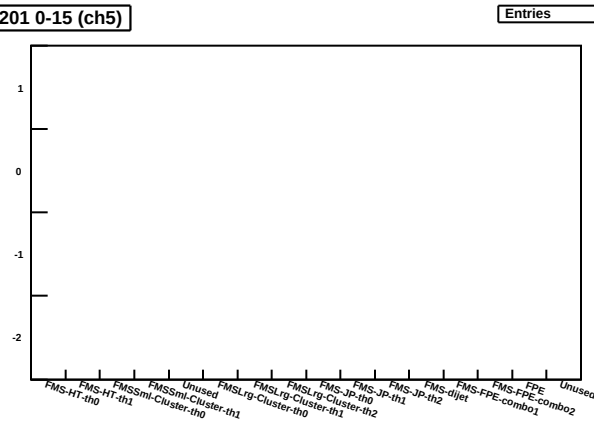
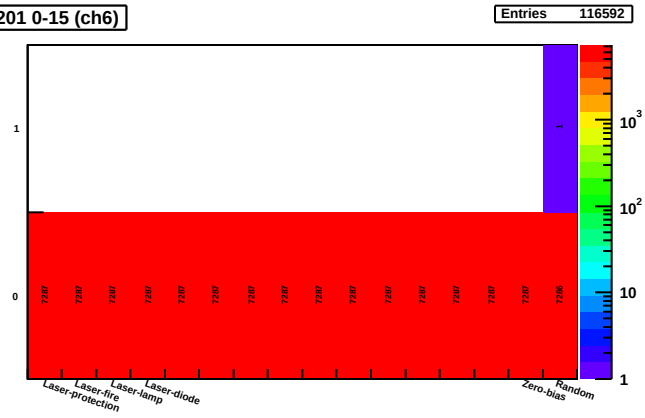
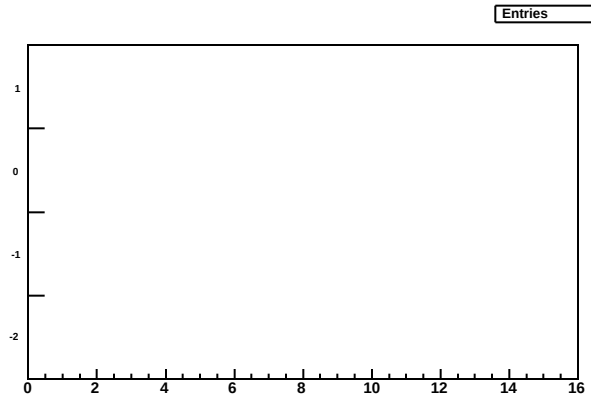
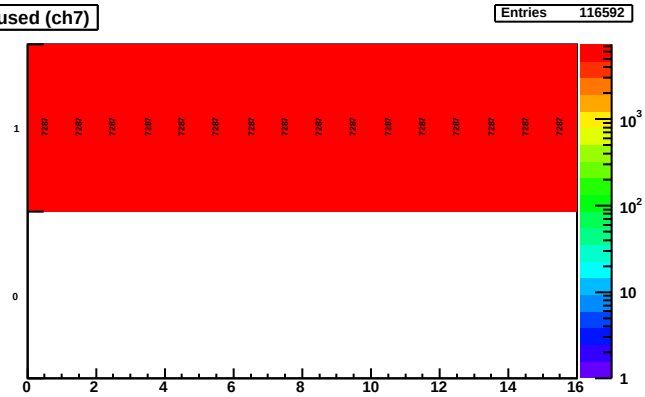
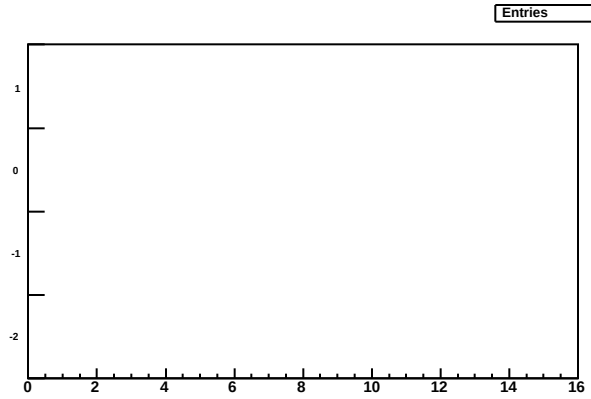


ST201 0-15 (ch6)





Unused (ch7)