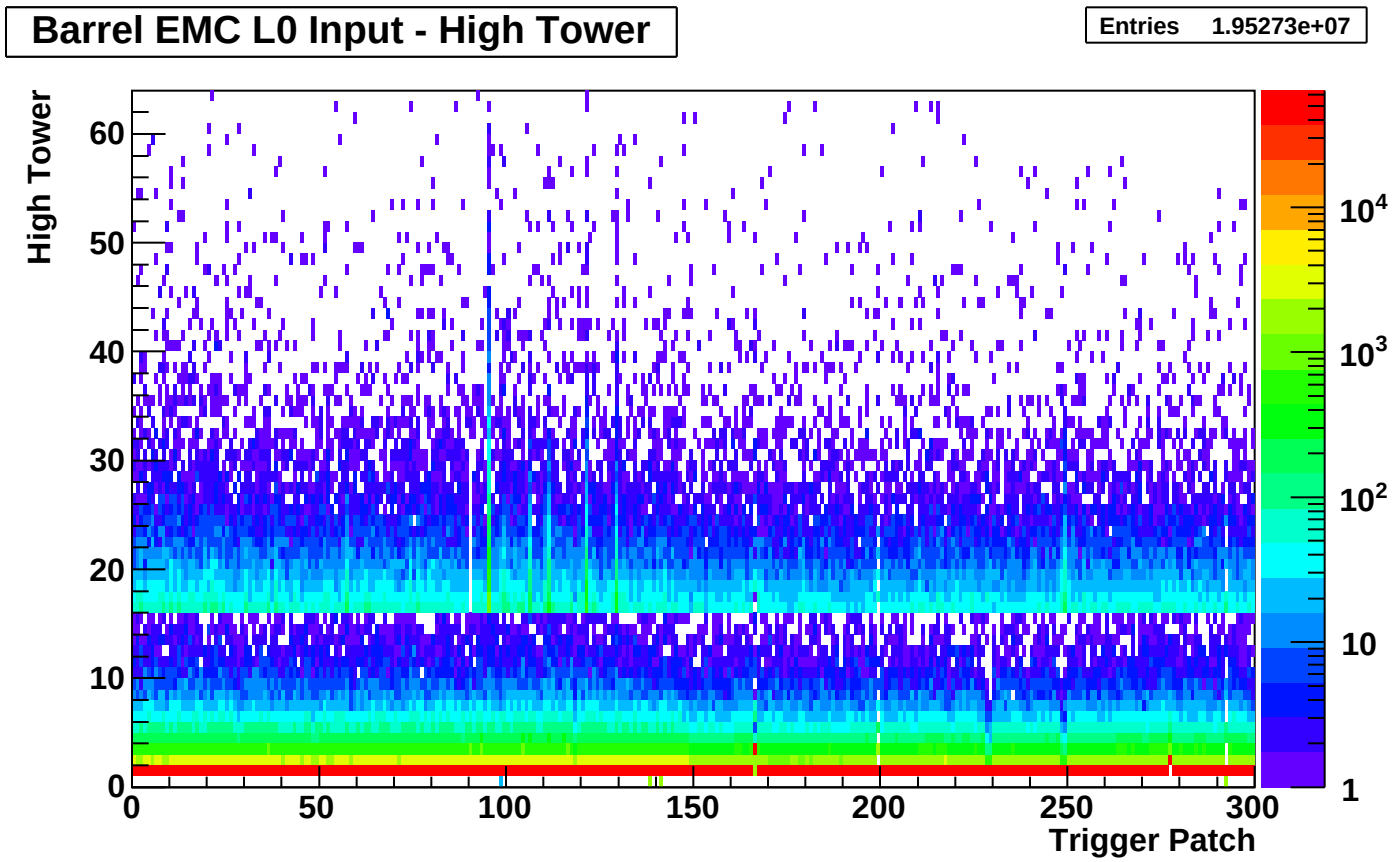
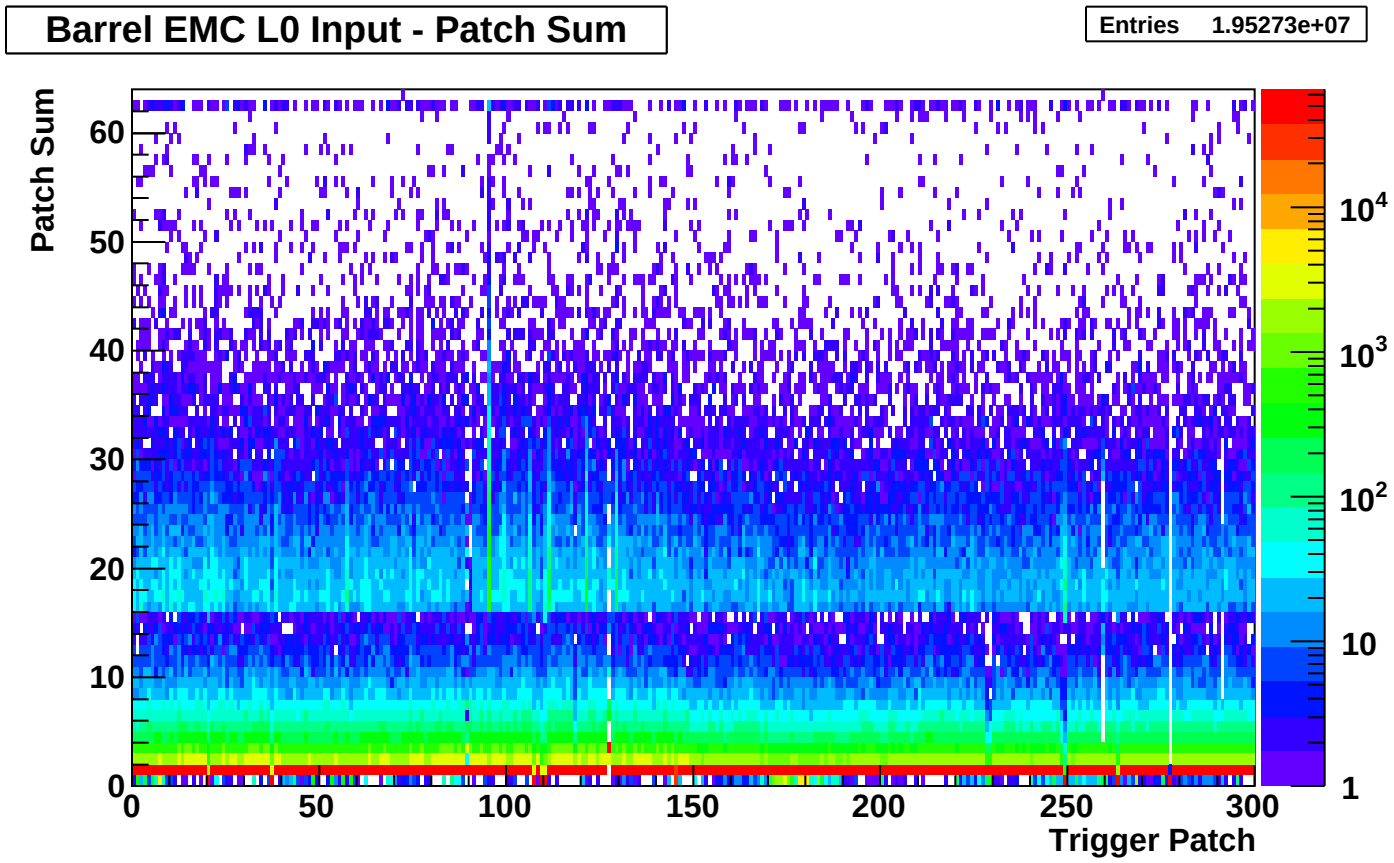
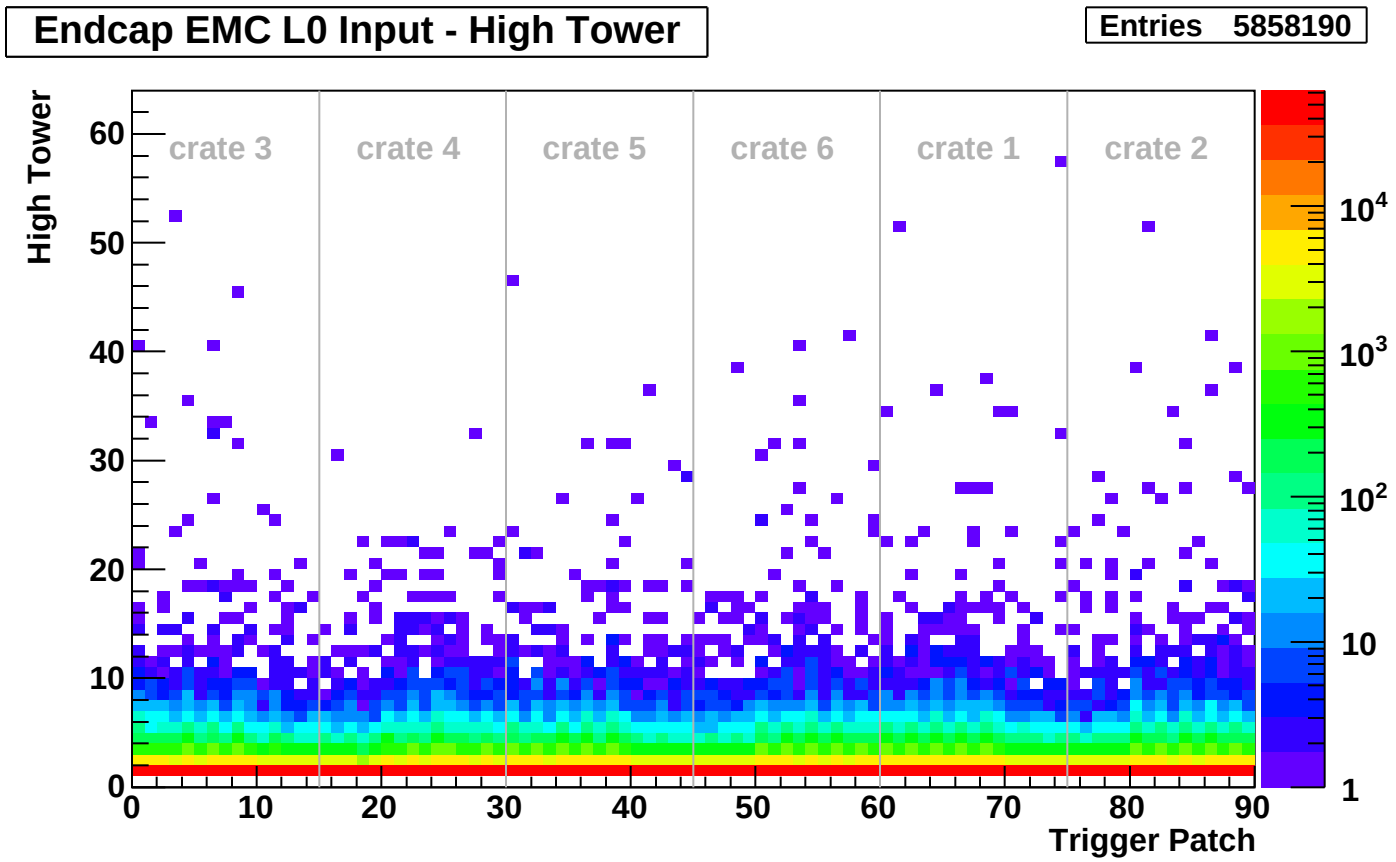
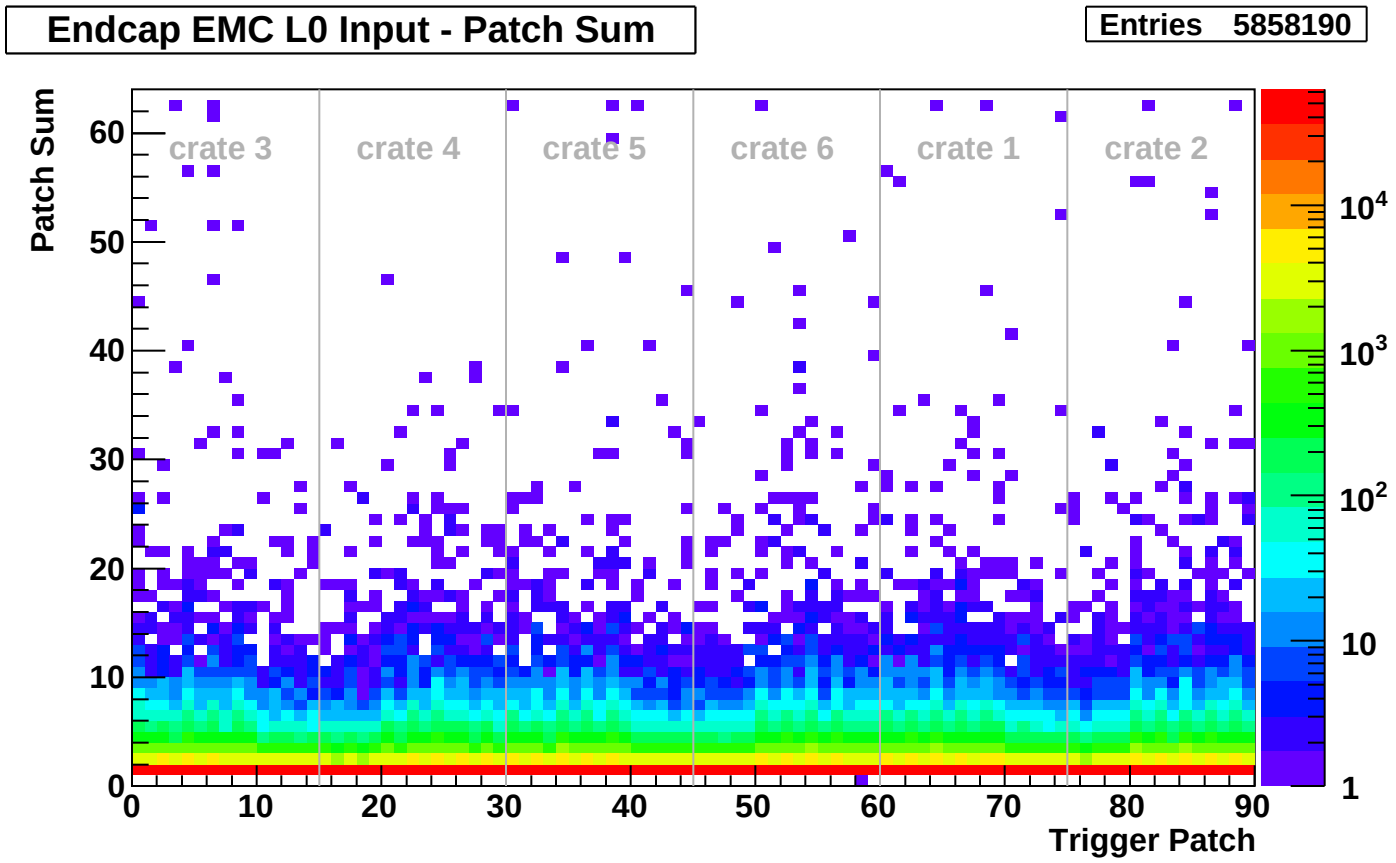
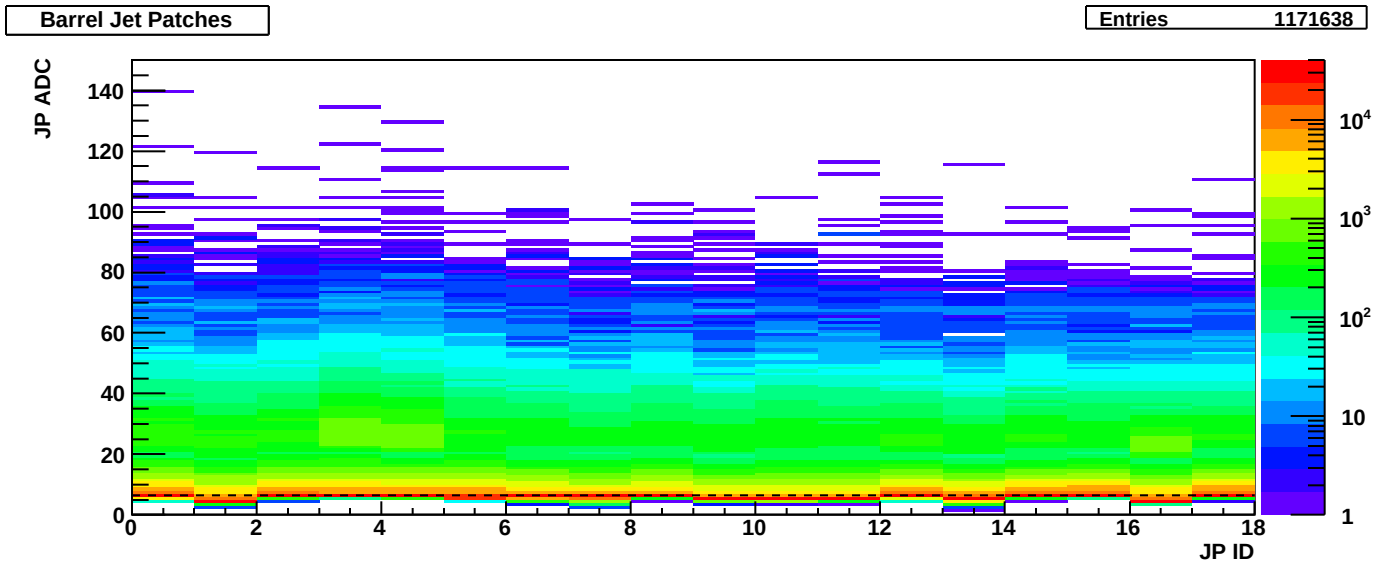
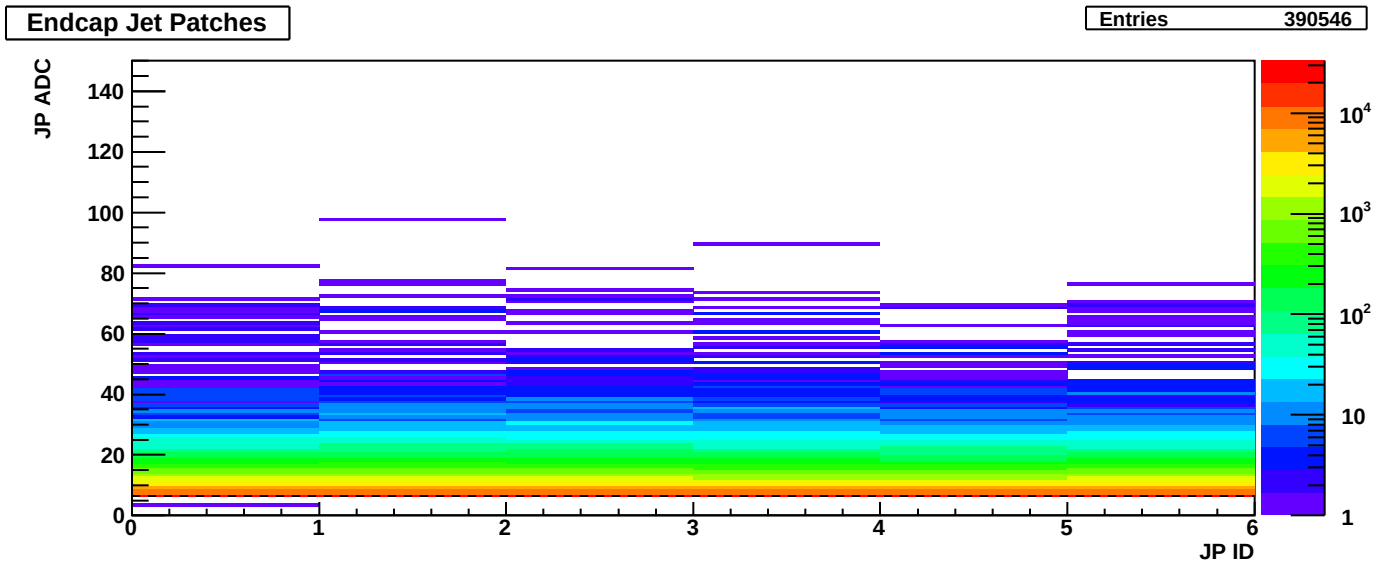

Barrel EMC L0 Input - High Tower
Entries 1.95273e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

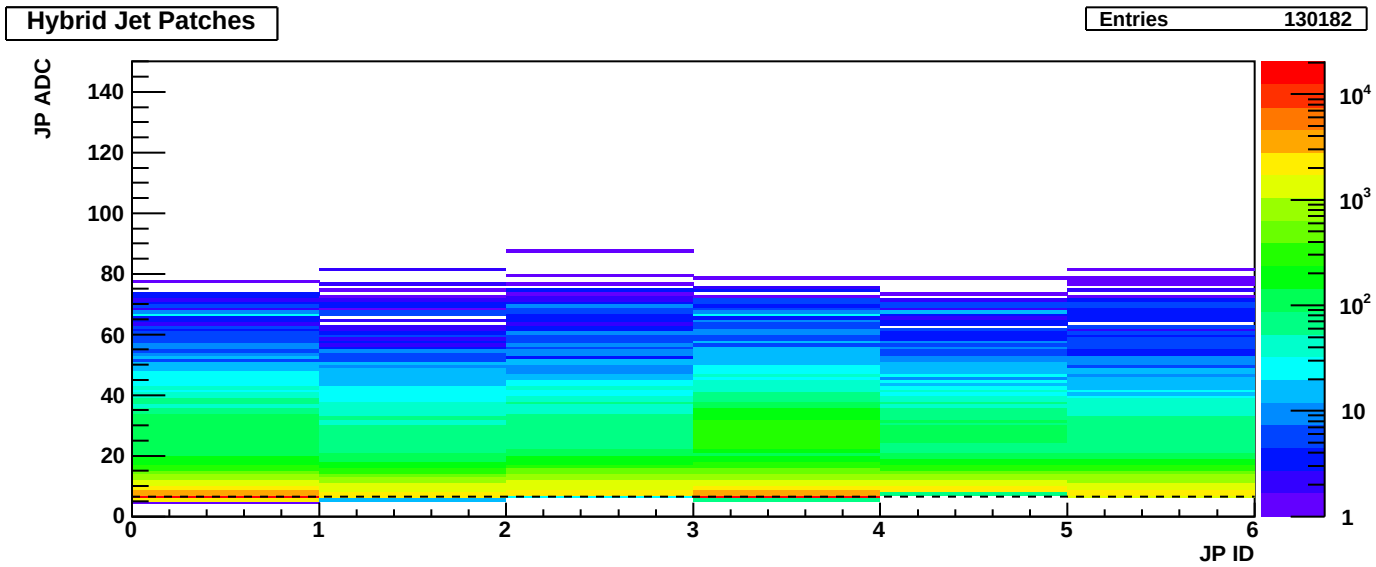

Barrel EMC L0 Input - Patch Sum
Entries 1.95273e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

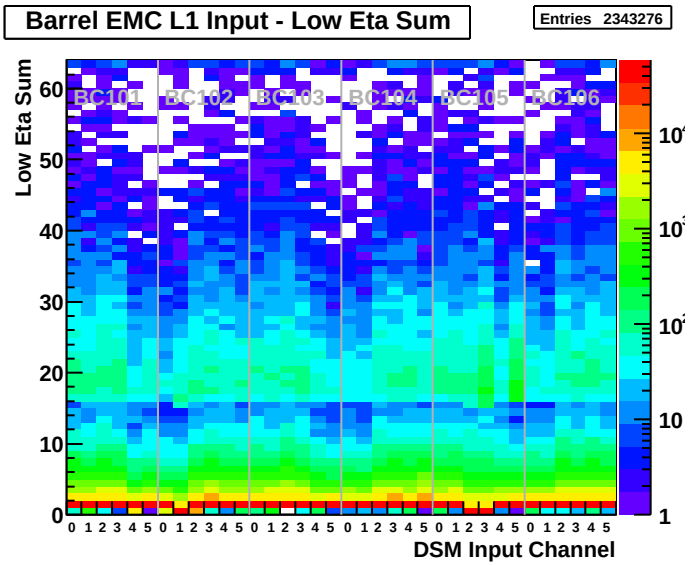

Endcap EMC L0 Input - High Tower
Entries 5858190
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

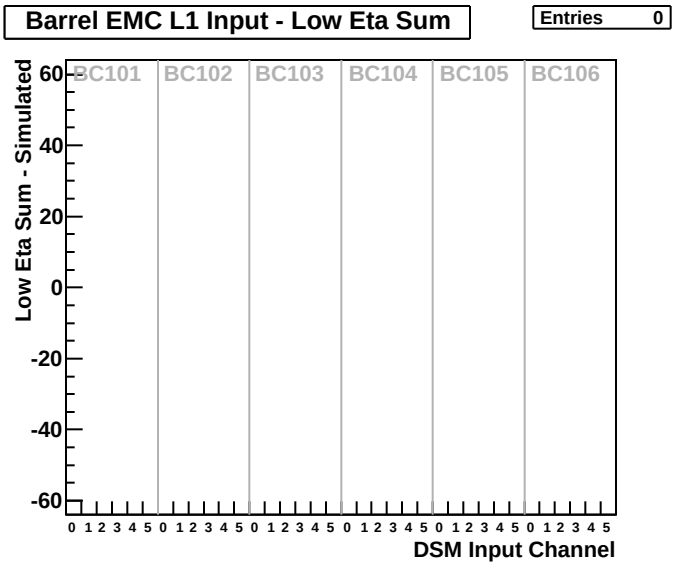

Endcap EMC L0 Input - Patch Sum
Entries 5858190
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

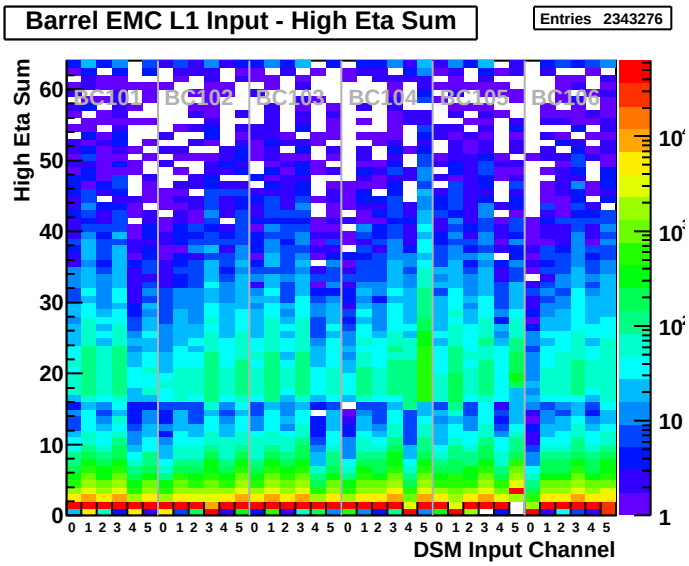

Barrel Jet Patches
Entries 1171638
JP ADC
JP ID

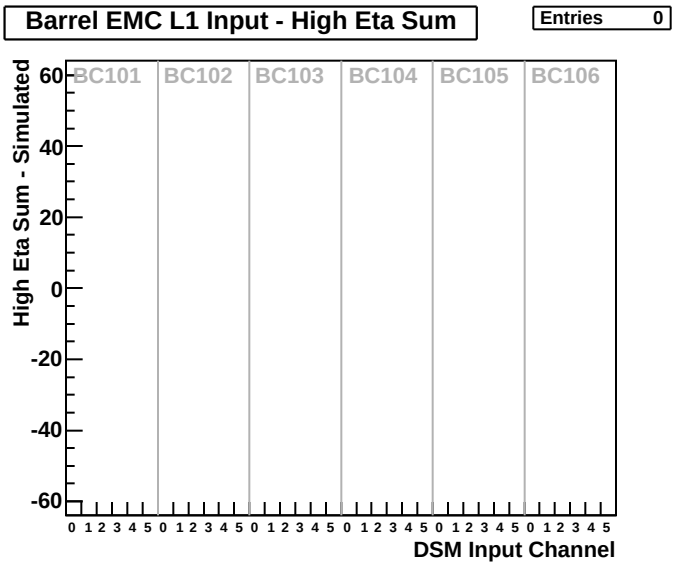

Endcap Jet Patches
Entries 390546
JP ADC
JP ID

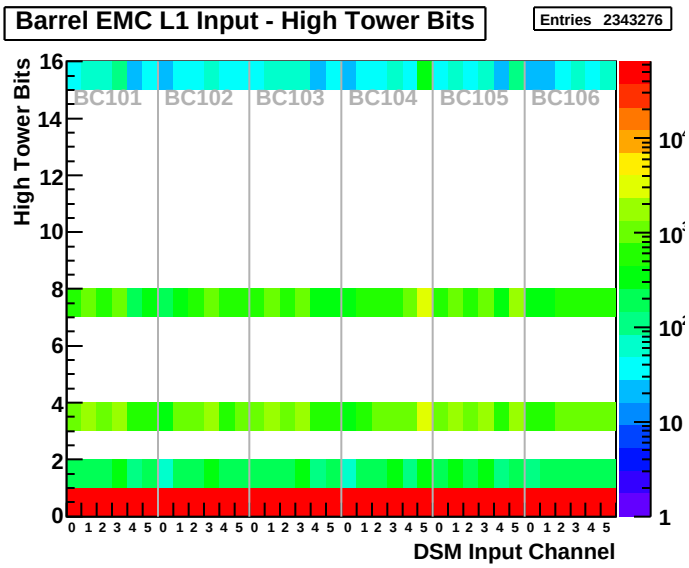

Hybrid Jet Patches
Entries 130182
JP ADC
JP ID

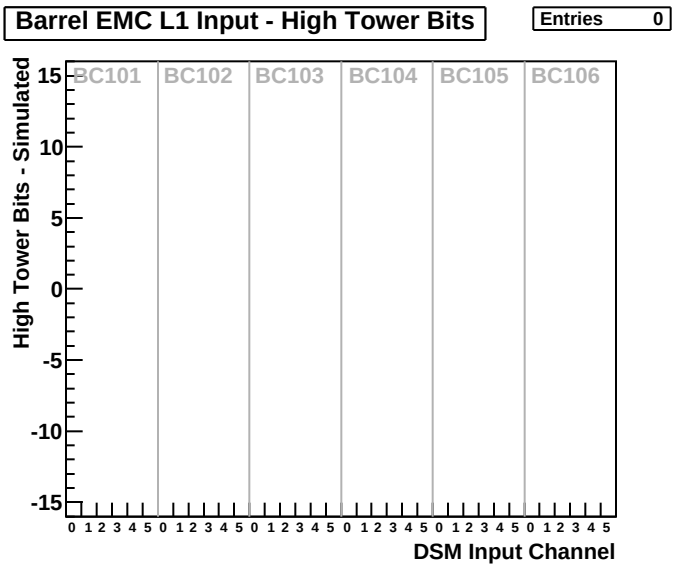

Barrel EMC L1 Input - Low Eta Sum
Entries 2343276
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

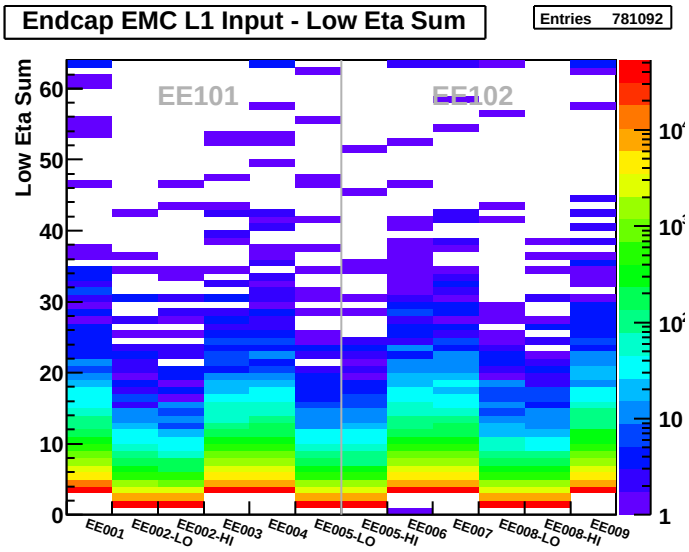

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

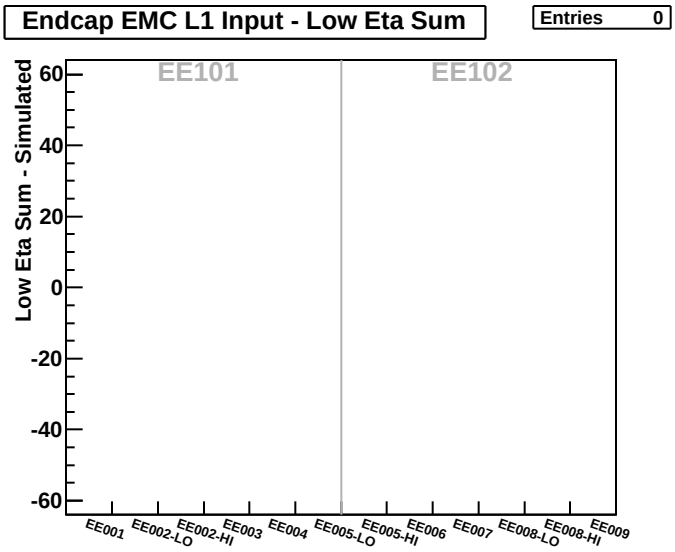

Barrel EMC L1 Input - High Eta Sum
Entries 2343276
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

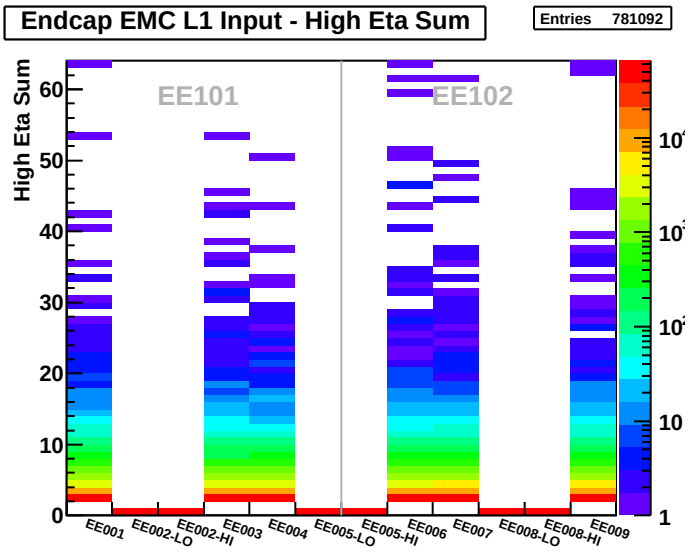

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

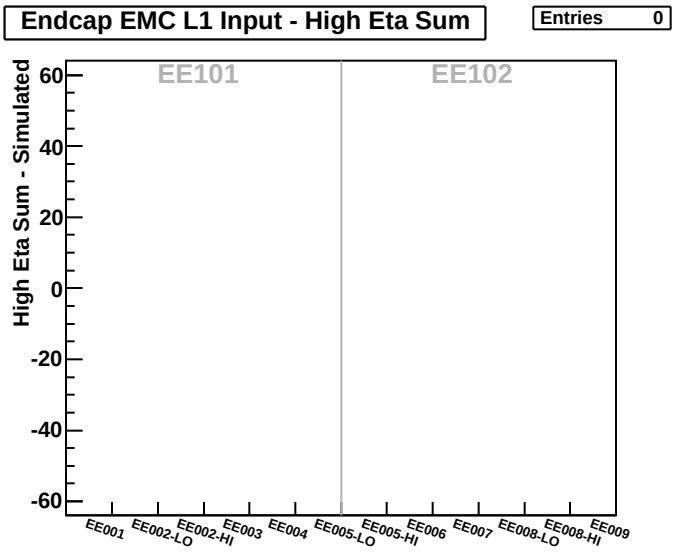

Barrel EMC L1 Input - High Tower Bits
Entries 2343276
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

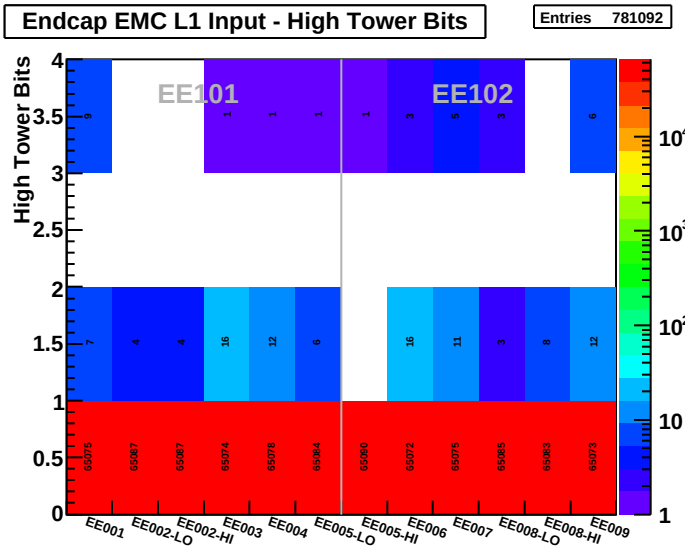

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

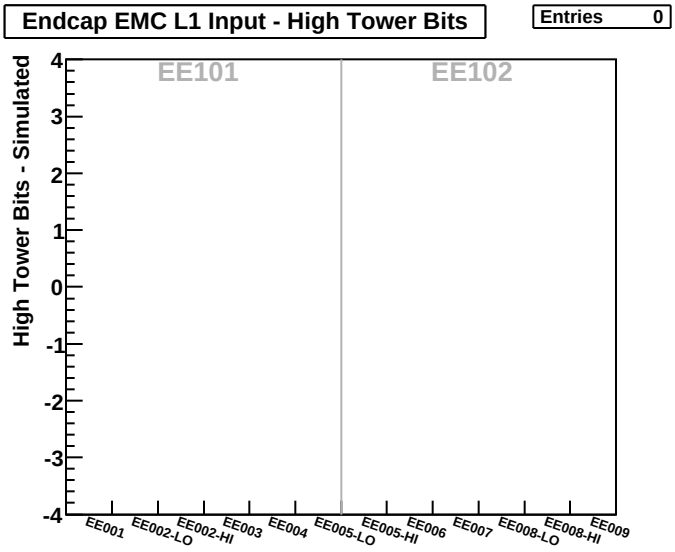

Endcap EMC L1 Input - Low Eta Sum
Entries 781092
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

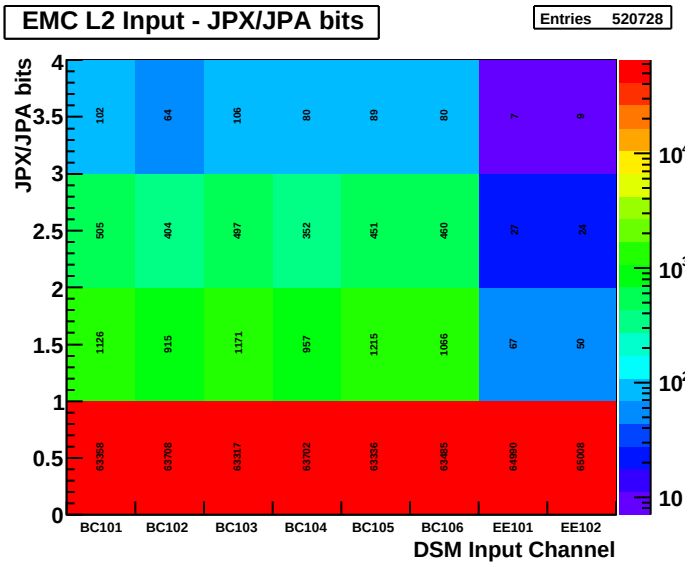

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

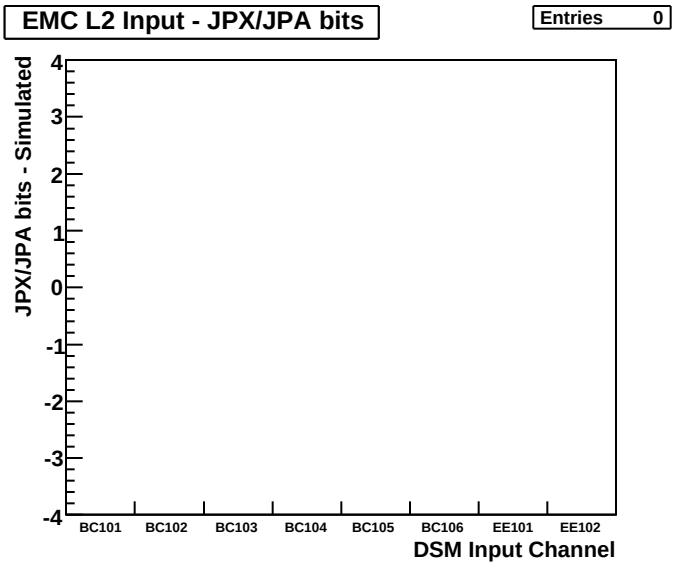

Endcap EMC L1 Input - High Eta Sum
Entries 781092
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

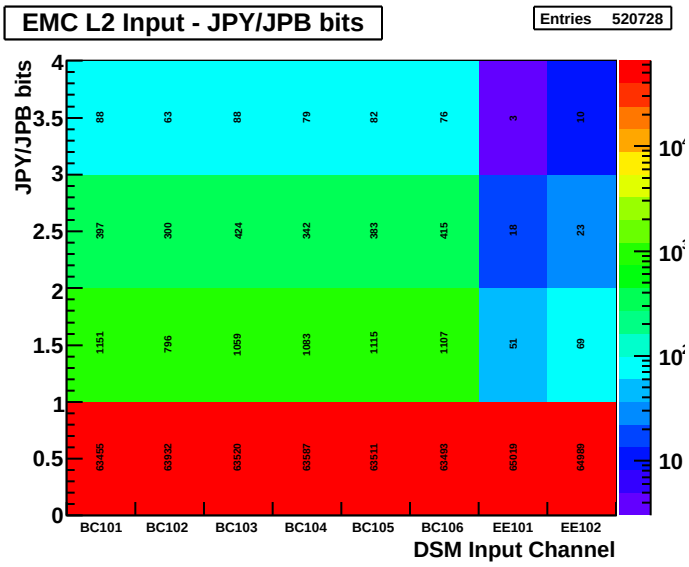

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

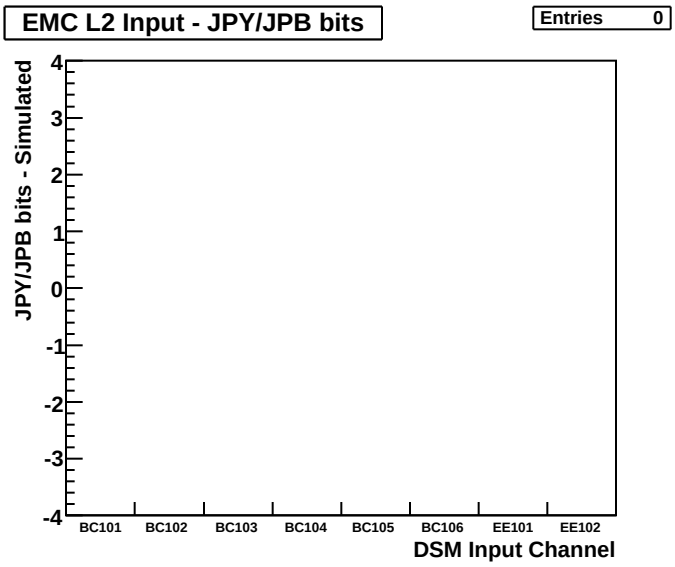

Endcap EMC L1 Input - High Tower Bits
Entries 781092
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

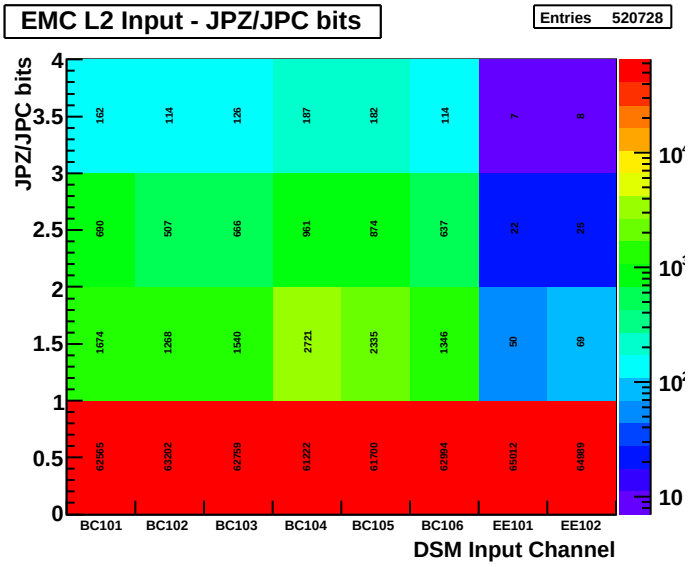

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

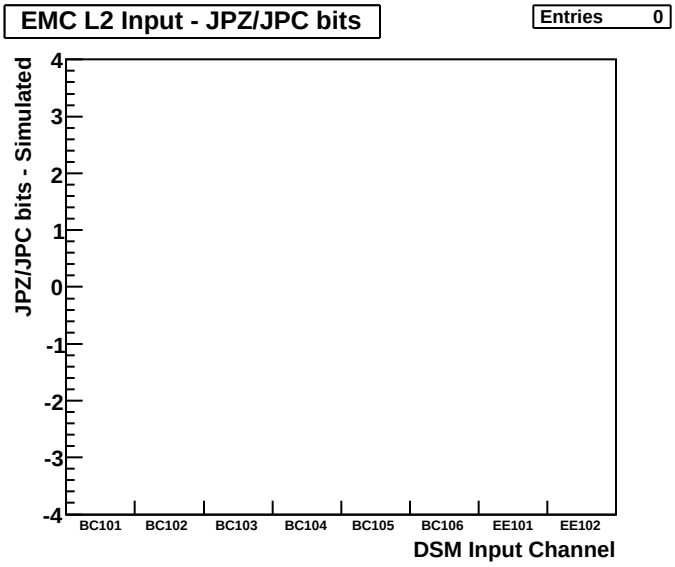

EMC L2 Input - JPX/JPA bits
Entries 520728
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
102 64 106 80 89 80 7 9
505 404 497 352 451 460 27 24
1126 915 1171 957 1215 1066 67 50
63358 63708 63317 63702 63336 63485 64990 65008

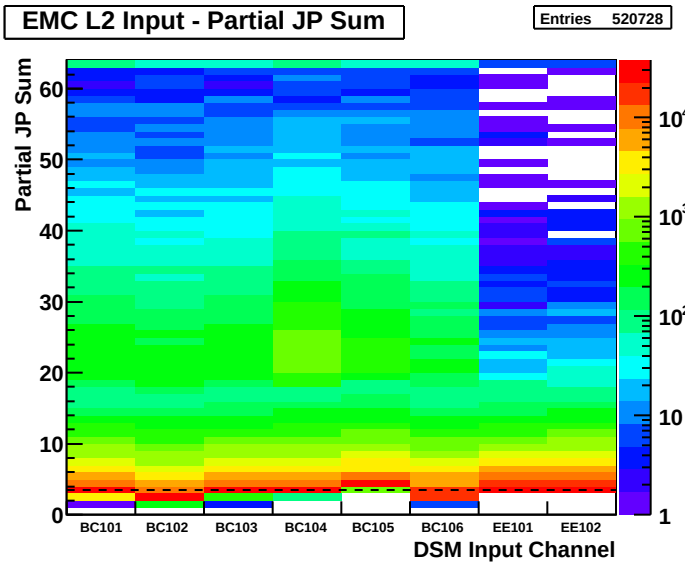

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

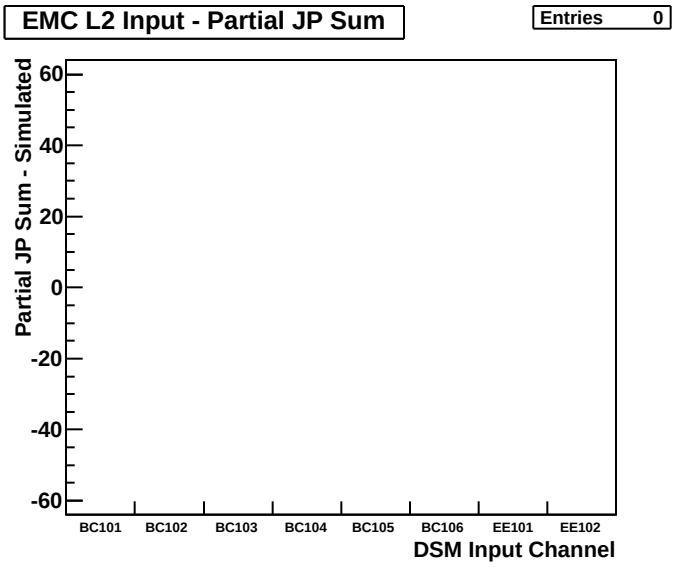

EMC L2 Input - JPY/JPB bits
Entries 520728
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
88 63 88 79 82 76 3 10
397 300 424 342 383 415 18 23
1151 796 1059 1083 1115 1107 51 69
63455 63932 63520 63587 63511 63493 65019 64989

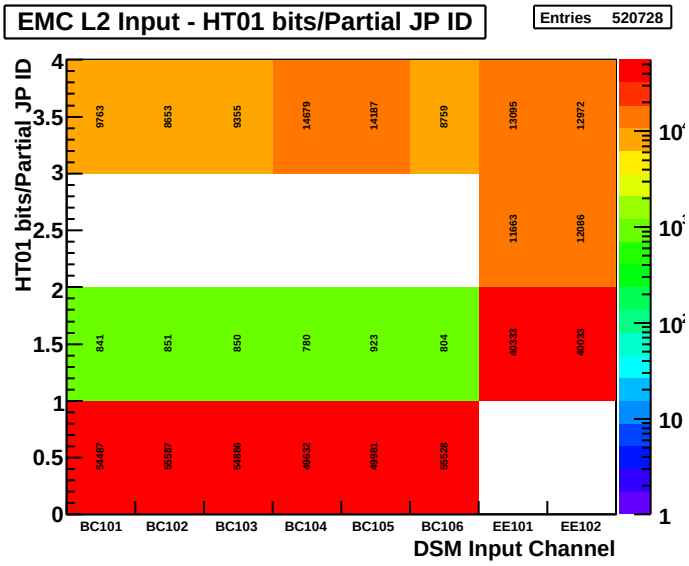

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

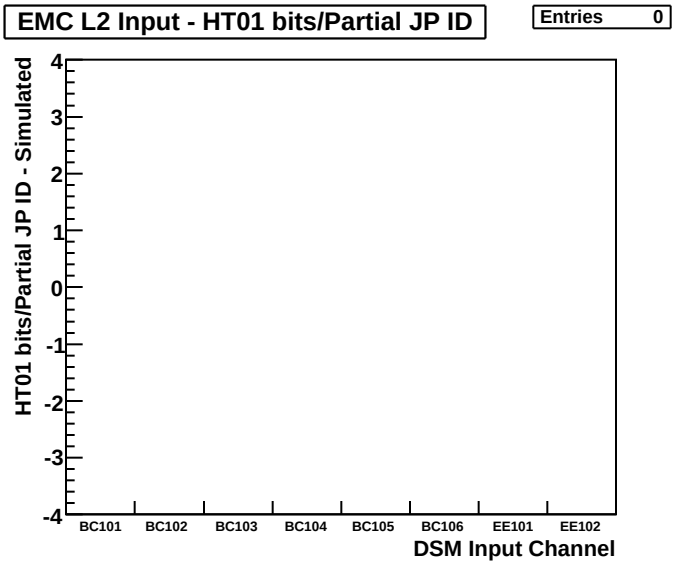

EMC L2 Input - JPZ/JPC bits
Entries 520728
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
162 114 126 187 182 114 7 8
690 507 666 961 874 637 22 25
1674 1268 1540 2721 2335 1346 50 69
62865 63202 62759 61222 61700 62894 65012 64989

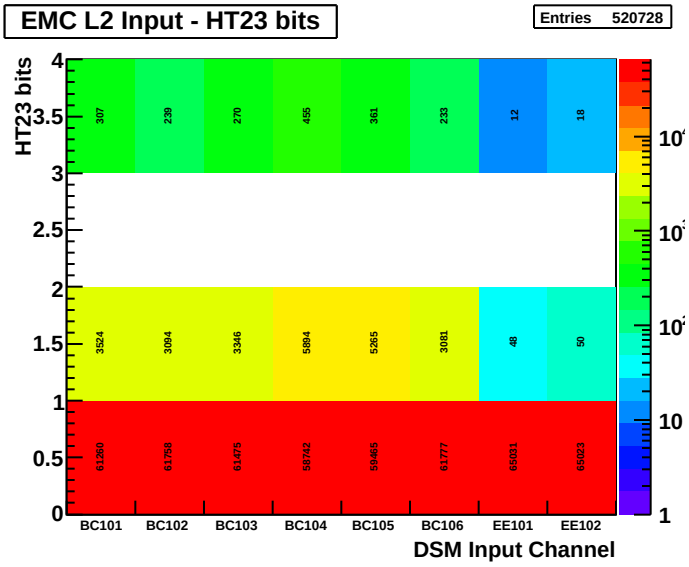

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

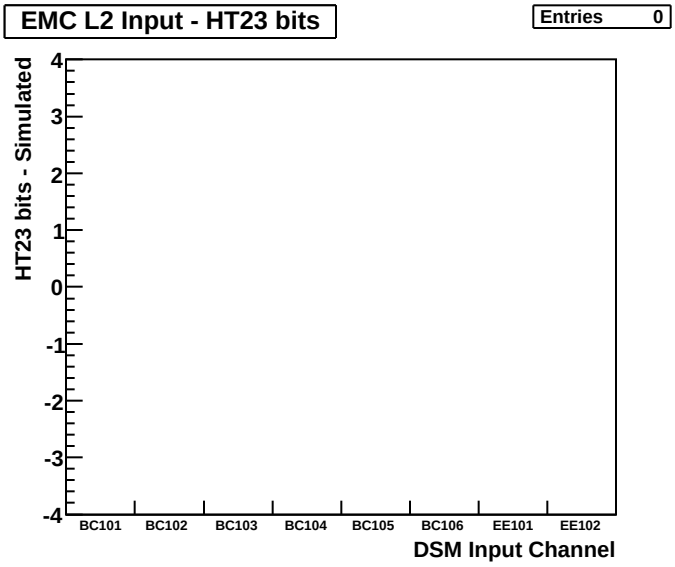

EMC L2 Input - Partial JP Sum
Entries 520728
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

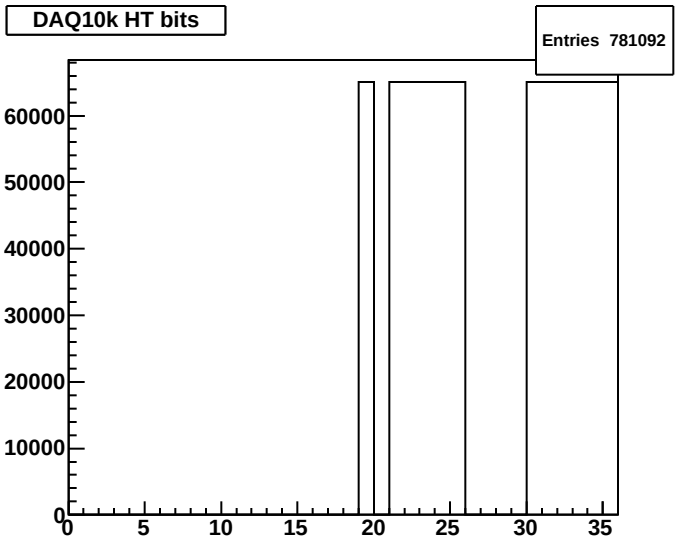

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

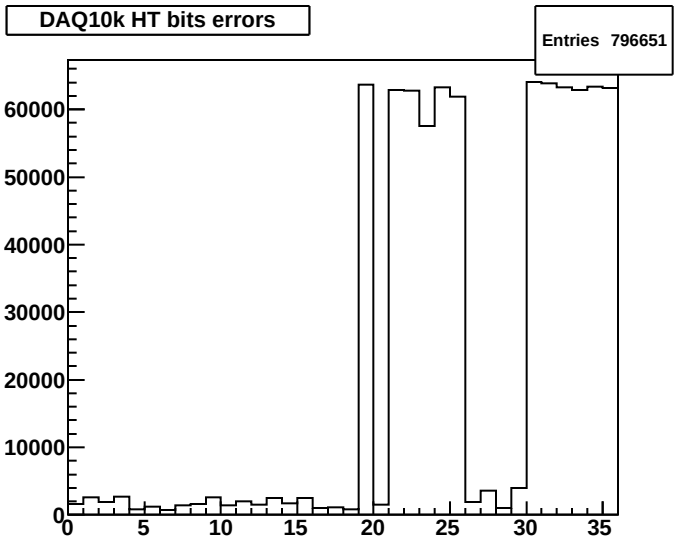

EMC L2 Input - HT01 bits/Partial JP ID
Entries 520728
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

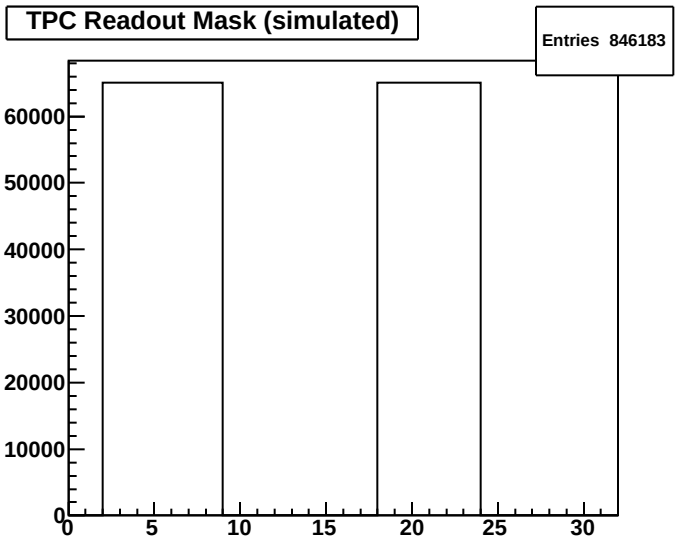

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

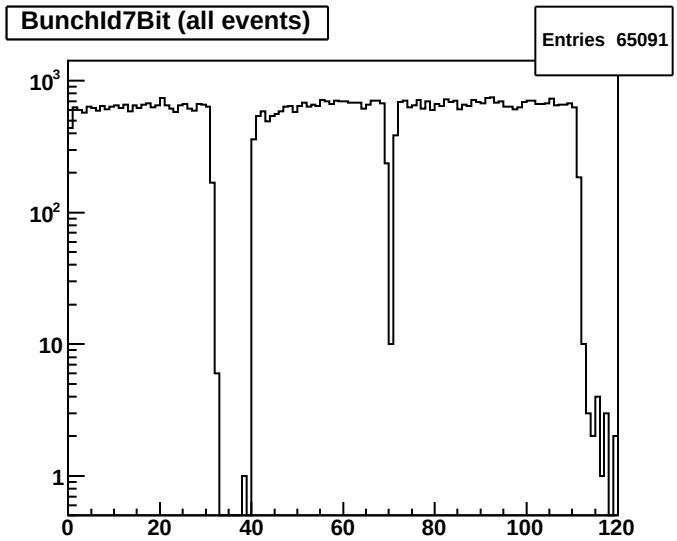

EMC L2 Input - HT23 bits
Entries 520728
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

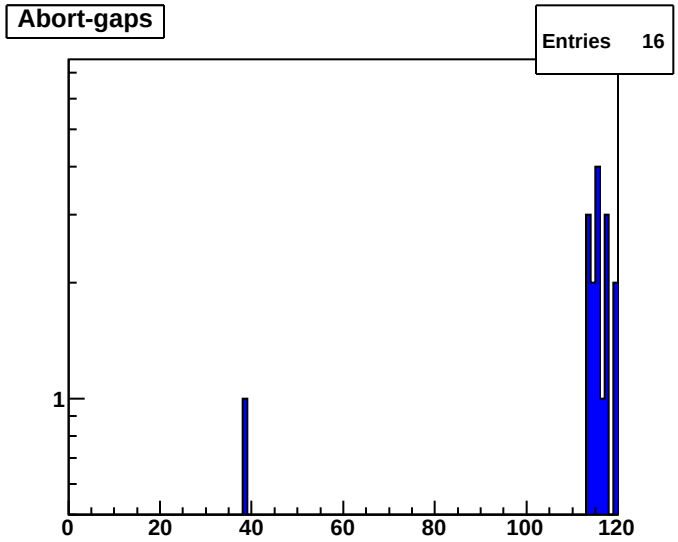

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

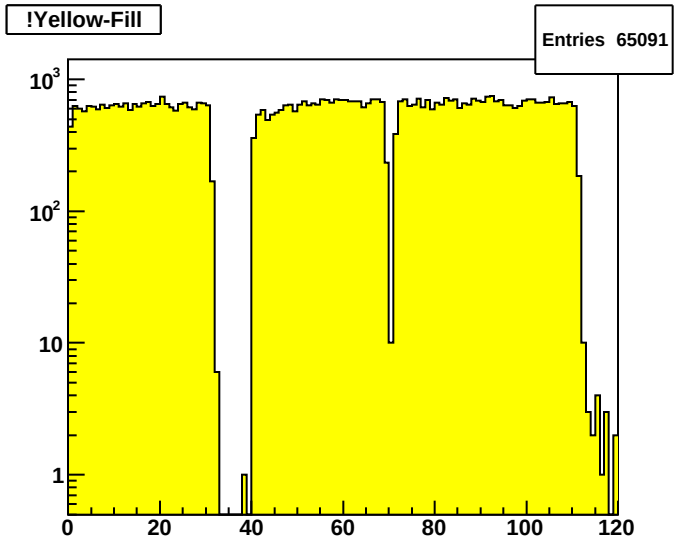

DAQ10k HT bits
Entries 781092
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

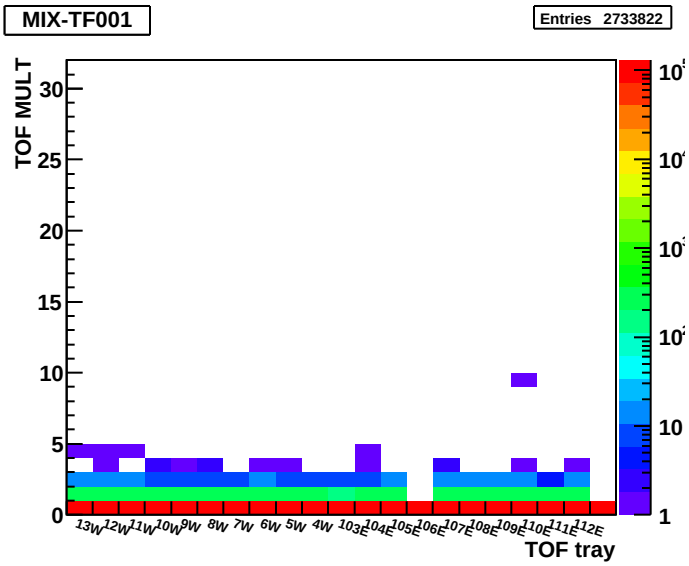

DAQ10k HT bits errors
Entries 796651
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30 35

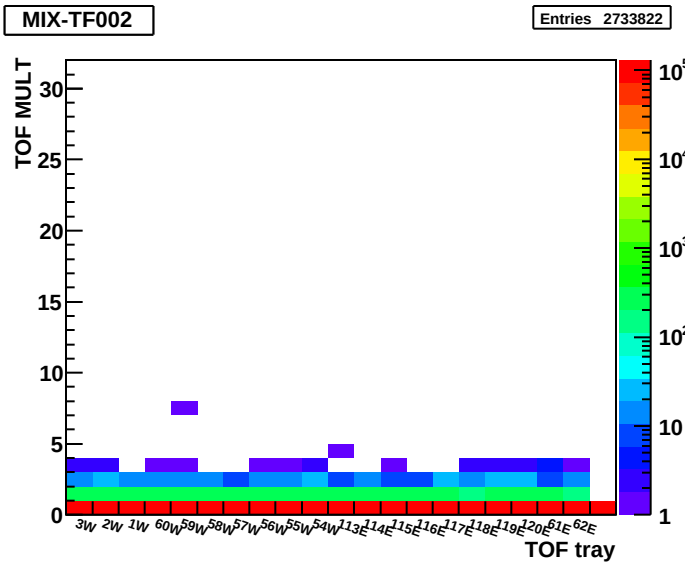

TPC Readout Mask (simulated)
Entries 846183
60000
50000
40000
30000
20000
10000
0
0 5 10 15 20 25 30

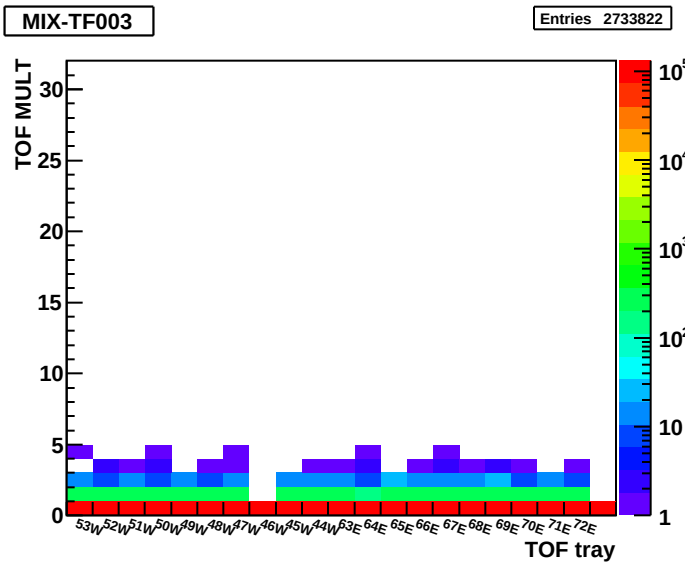

BunchId7Bit (all events)
Entries 65091
10^3
10^2
10
1
0 20 40 60 80 100 120

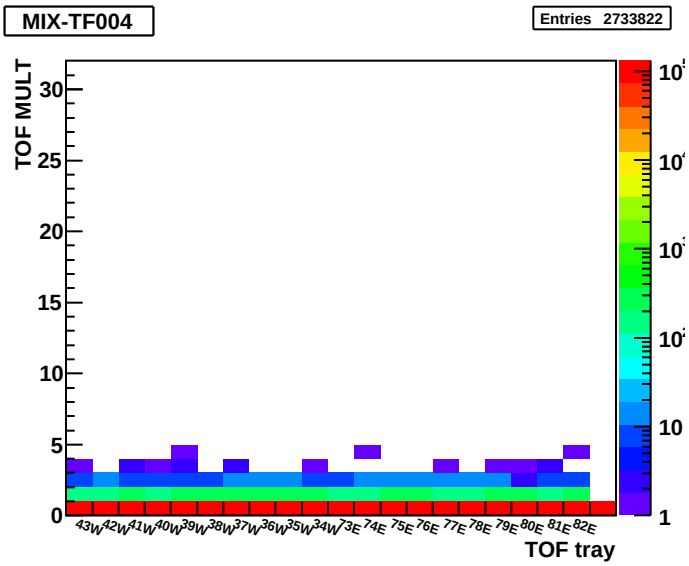

Abort-gaps
Entries 16
1
0 20 40 60 80 100 120

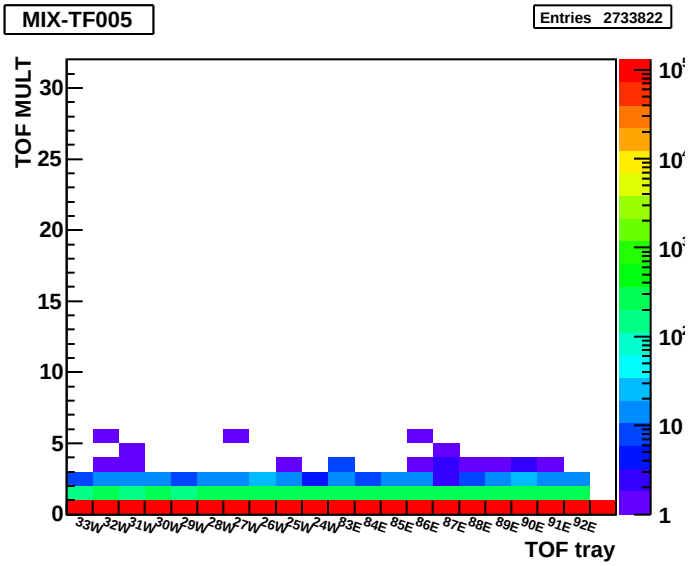

!Yellow-Fill
Entries 65091
10^3
10^2
10
1
0 20 40 60 80 100 120

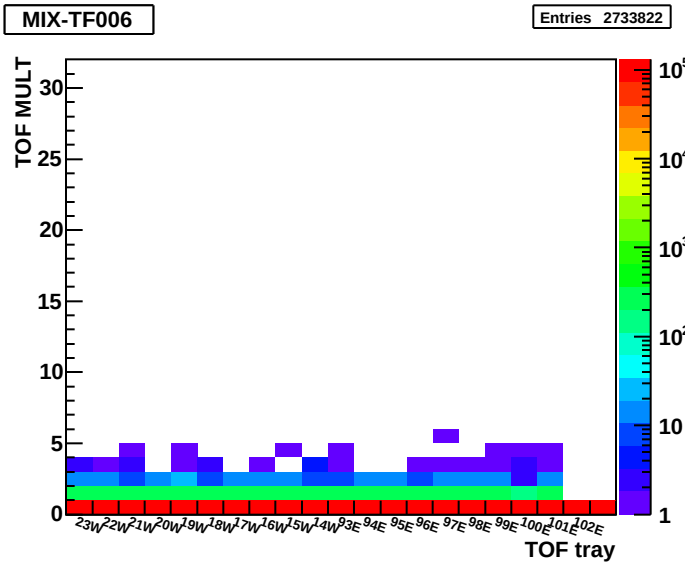

MIX-TF001
Entries 2733822
TOF MULT
TOF tray

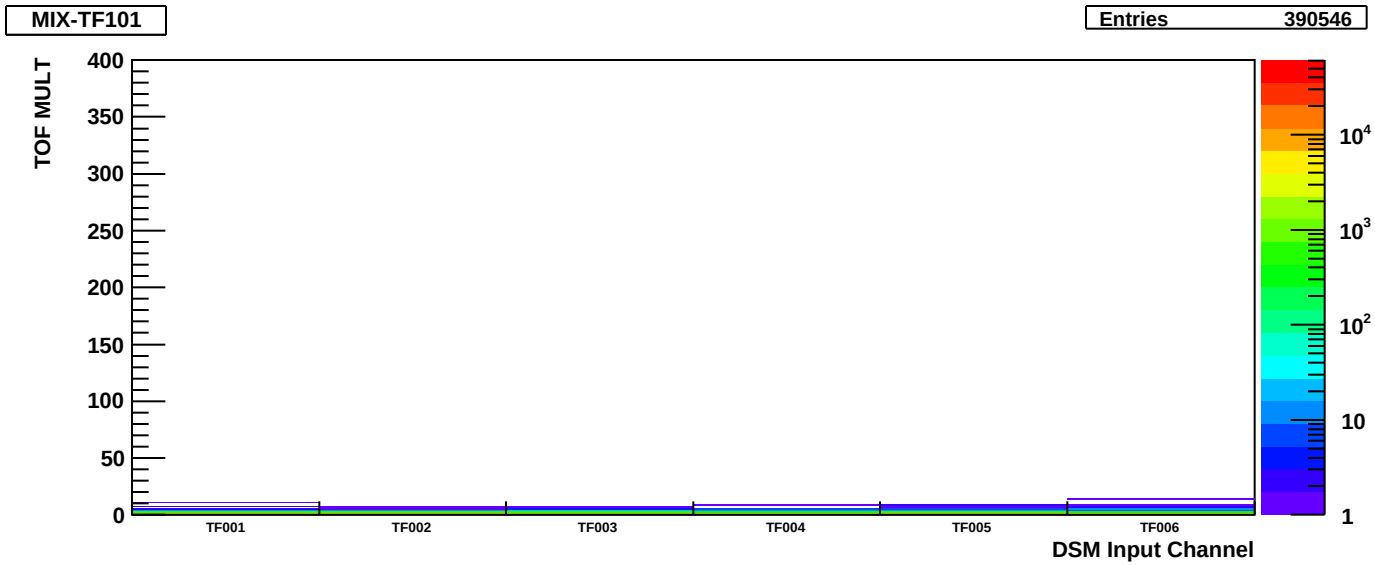

MIX-TF002
Entries 2733822
TOF MULT
TOF tray

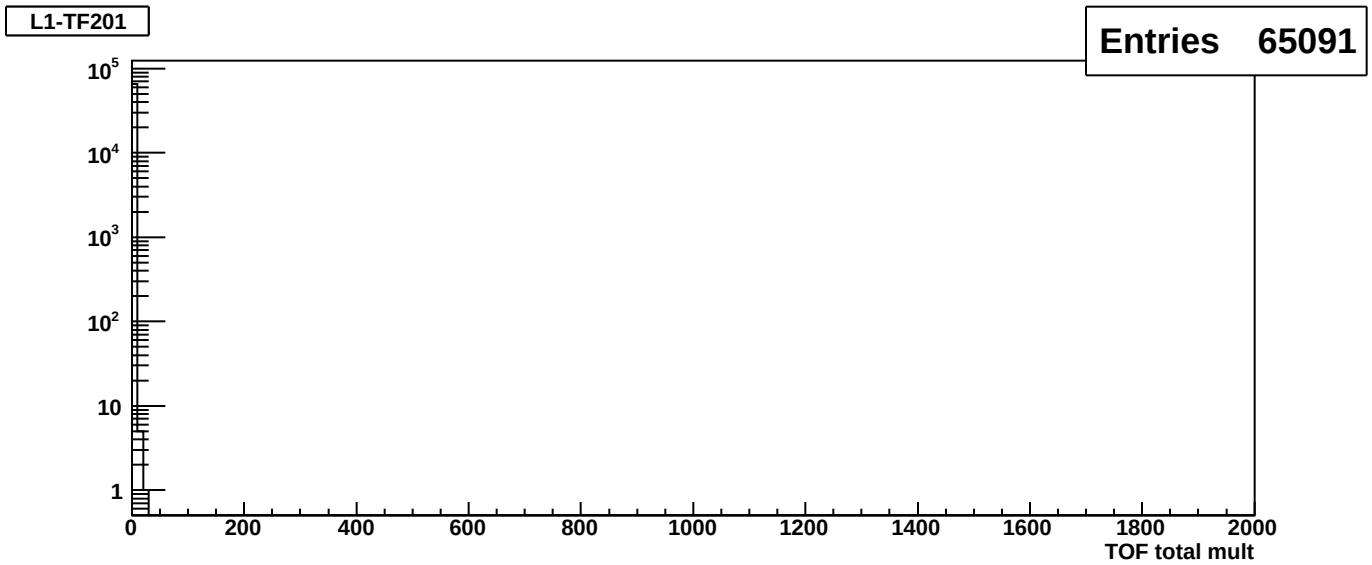

MIX-TF003
Entries 2733822
TOF MULT
TOF tray

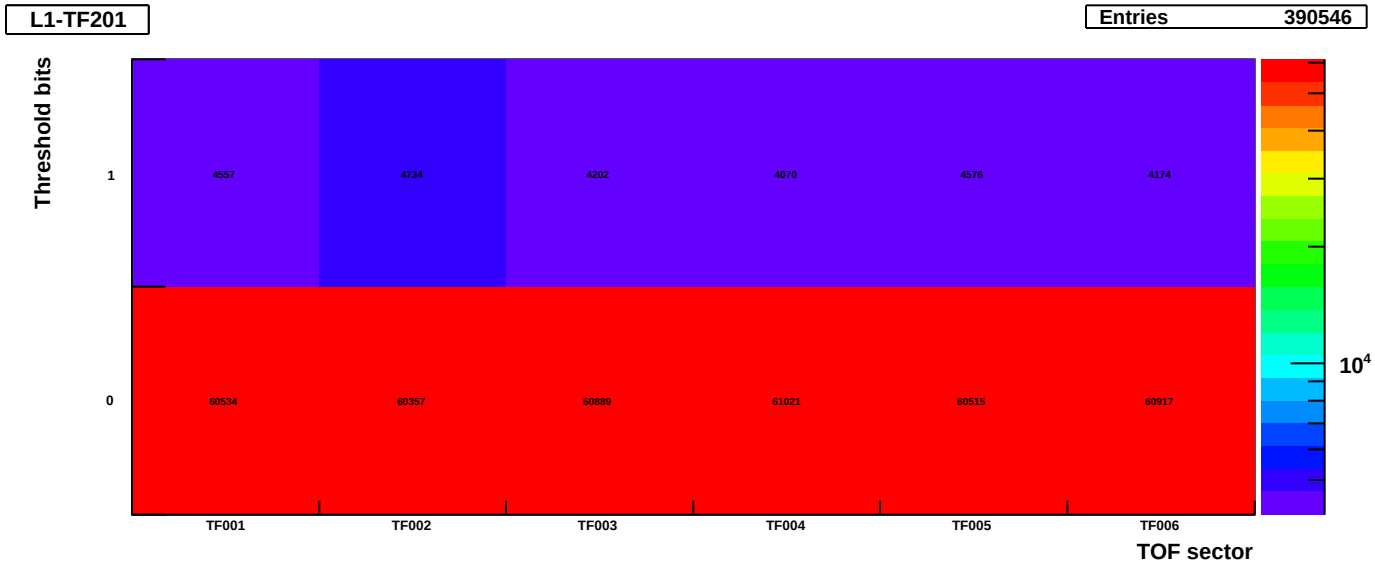

MIX-TF004
Entries 2733822
TOF MULT
TOF tray

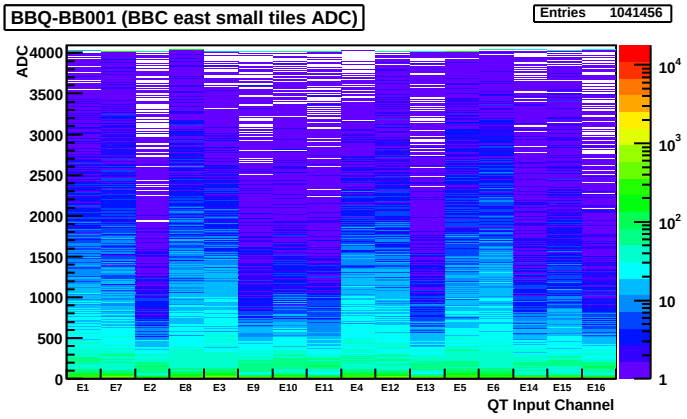

MIX-TF005
Entries 2733822
TOF MULT
TOF tray

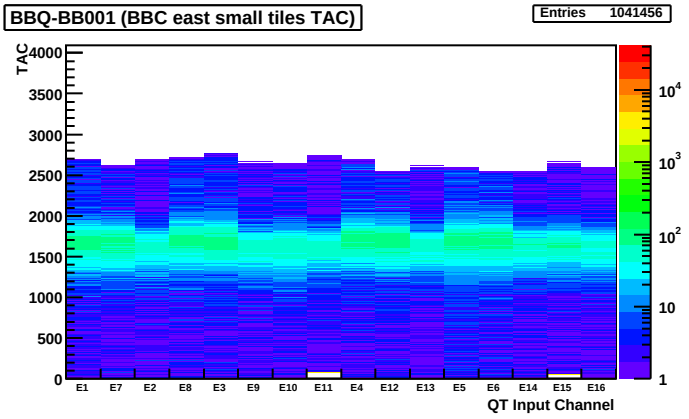

MIX-TF006
Entries 2733822
TOF MULT
TOF tray

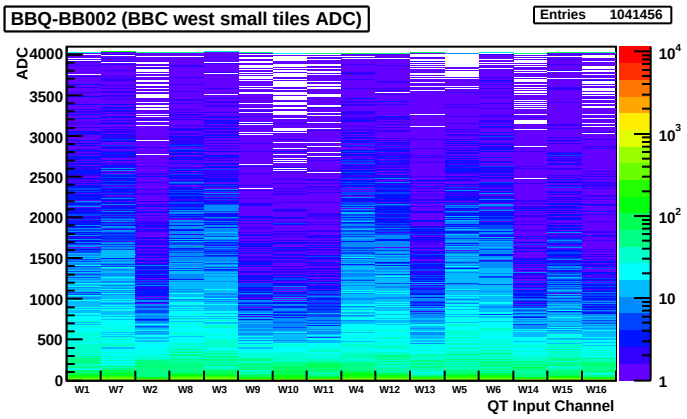

MIX-TF101
Entries 390546
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

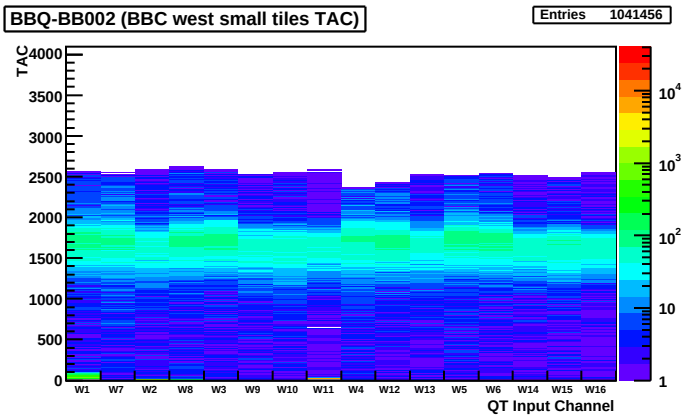

L1-TF201
Entries 65091
10^5
10^4
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

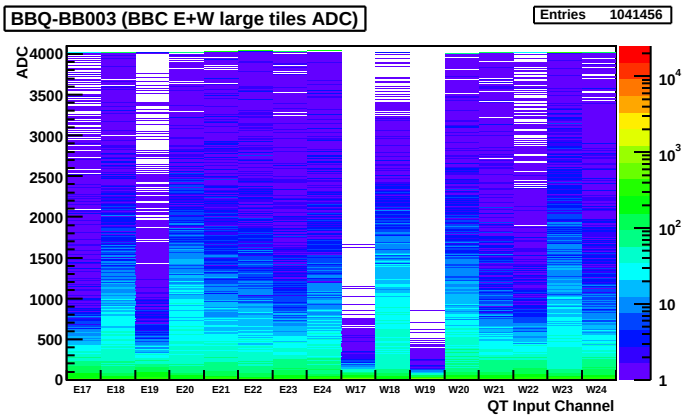

L1-TF201
Entries 390546
Threshold bits
1
0
4557
4734
4202
4070
4576
4174
60534
60357
60889
61021
60515
60917
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4

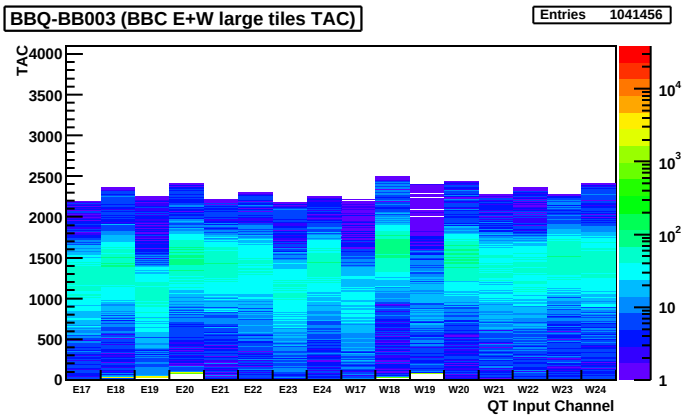

BBQ-BB001 (BBC east small tiles ADC)
Entries 1041456
ADC
QT Input Channel

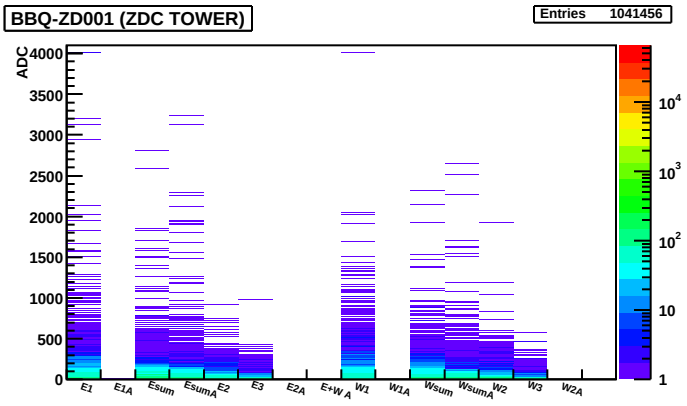

BBQ-BB001 (BBC east small tiles TAC)
Entries 1041456
TAC
QT Input Channel

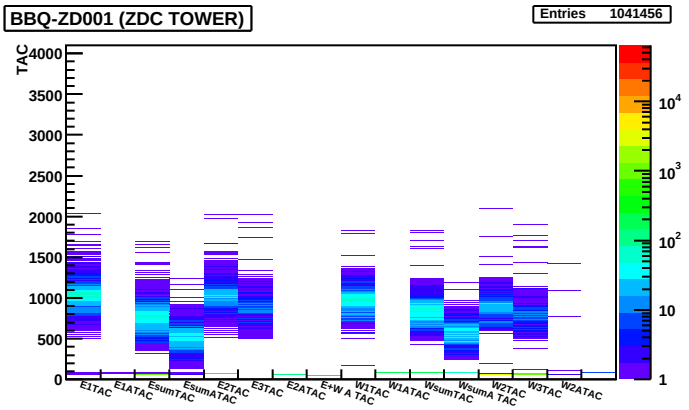

BBQ-BB002 (BBC west small tiles ADC)
Entries 1041456
ADC
QT Input Channel

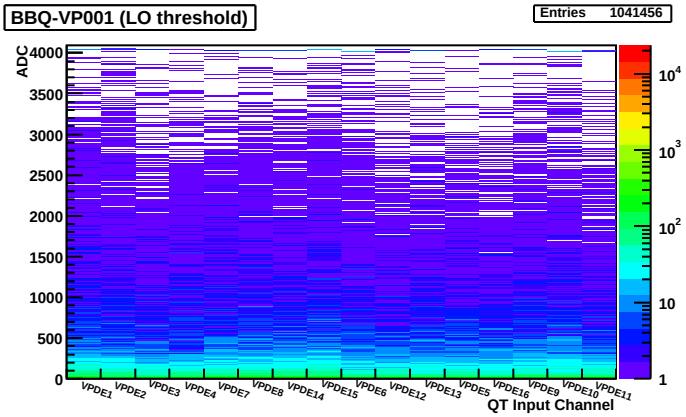

BBQ-BB002 (BBC west small tiles TAC)
Entries 1041456
TAC
QT Input Channel

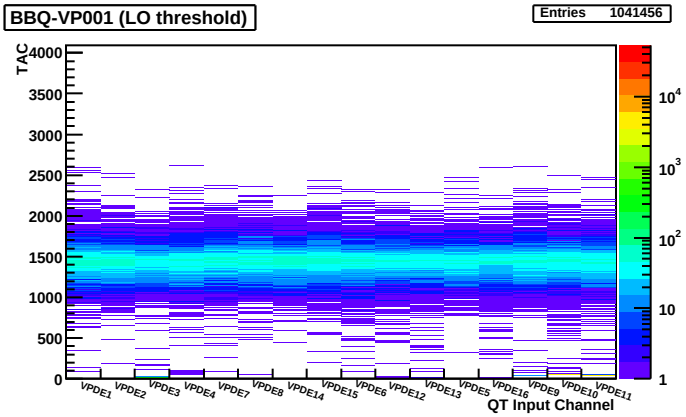

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1041456
ADC
QT Input Channel

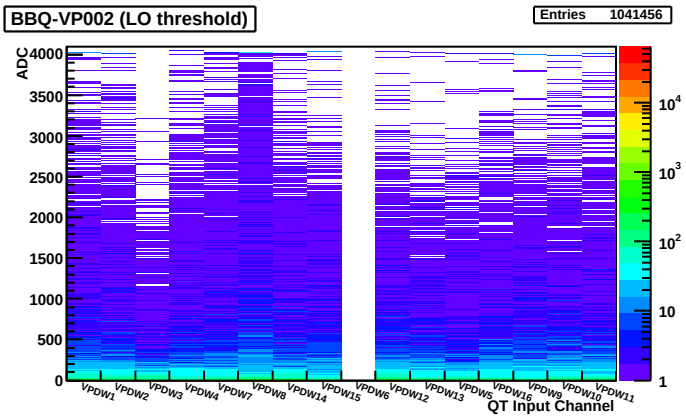

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1041456
TAC
QT Input Channel

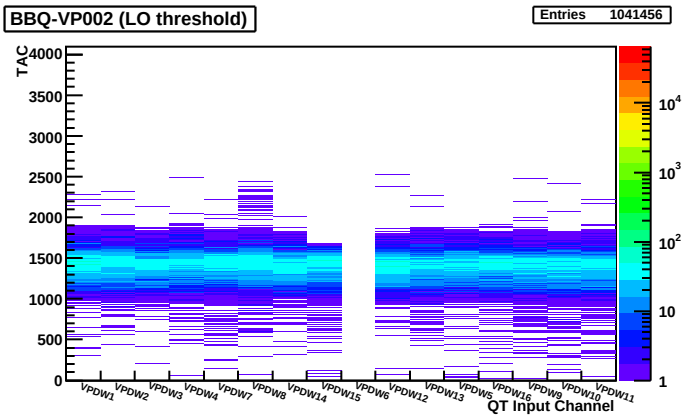

BBQ-ZD001 (ZDC TOWER)
Entries 1041456
ADC

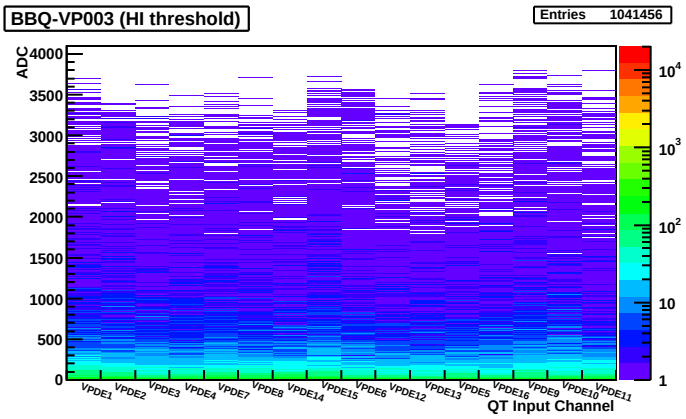

BBQ-ZD001 (ZDC TOWER)
Entries 1041456
TAC

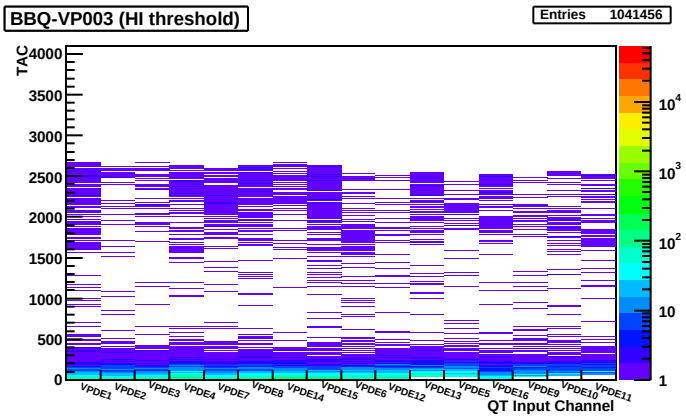

BBQ-VP001 (LO threshold)
Entries 1041456
ADC
QT Input Channel

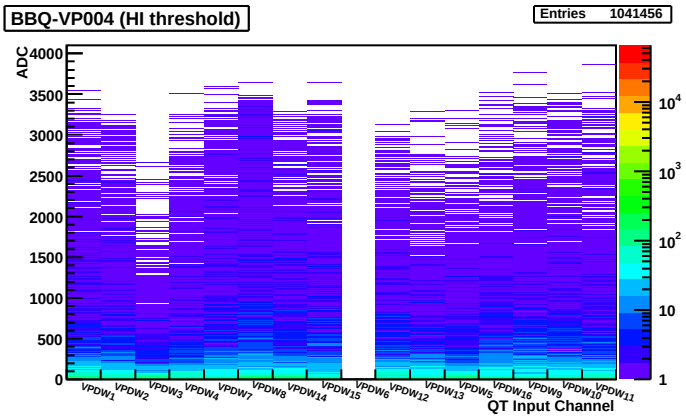

BBQ-VP001 (LO threshold)
Entries 1041456
TAC
QT Input Channel

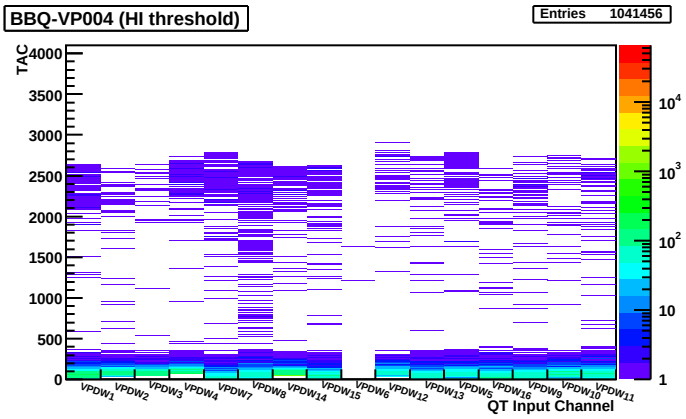

BBQ-VP002 (LO threshold)
Entries 1041456
ADC
QT Input Channel

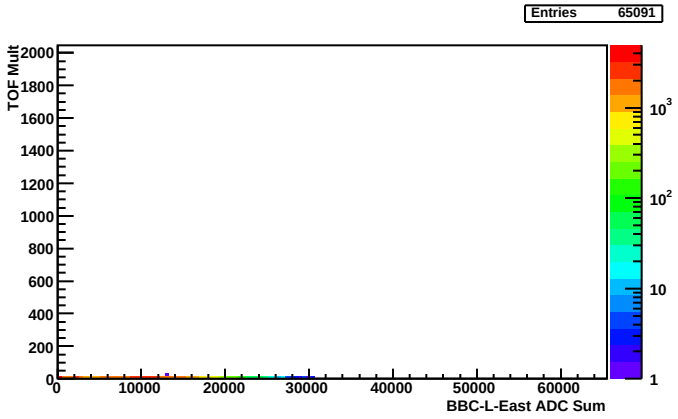

BBQ-VP002 (LO threshold)
Entries 1041456
TAC
QT Input Channel

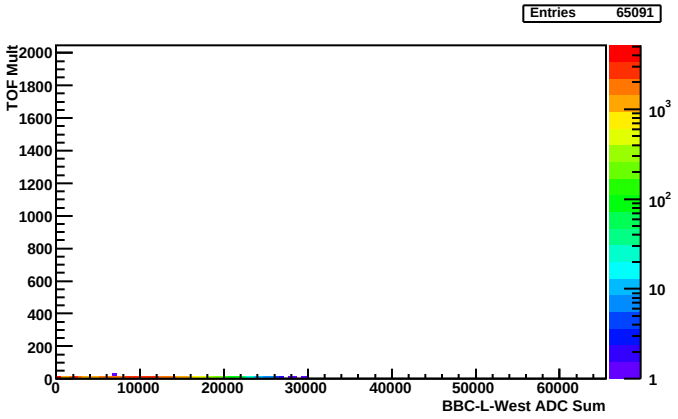

BBQ-VP003 (HI threshold)
Entries 1041456
ADC
QT Input Channel

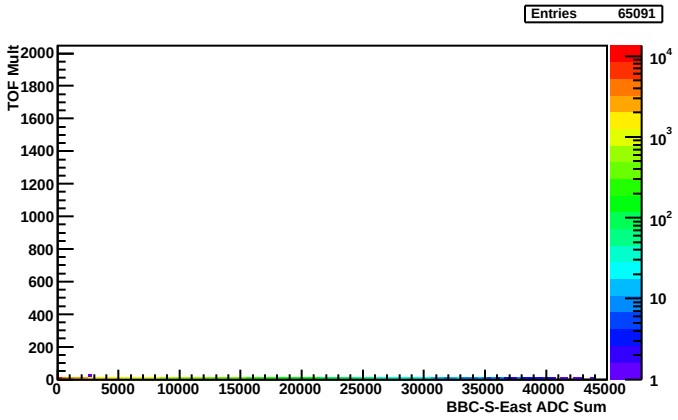

BBQ-VP003 (HI threshold)
Entries 1041456
TAC
QT Input Channel

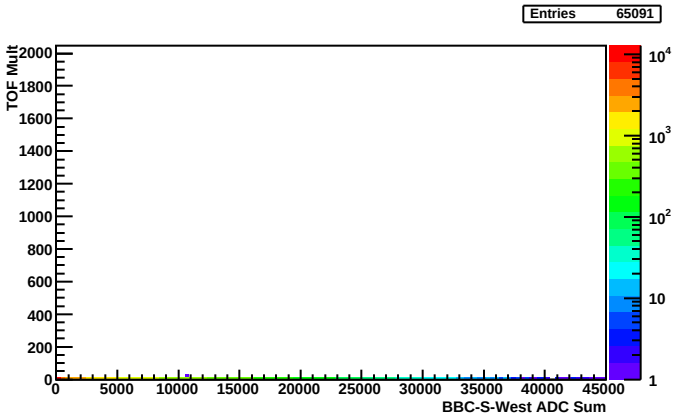

BBQ-VP004 (HI threshold)
Entries 1041456
ADC
QT Input Channel

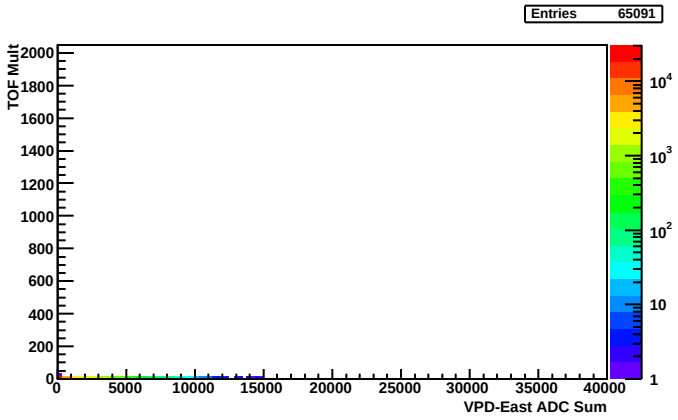

BBQ-VP004 (HI threshold)
Entries 1041456
TAC
QT Input Channel

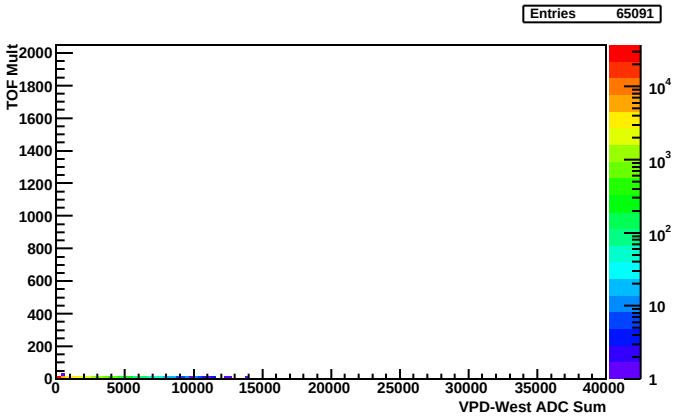

Entries 65091
TOF Mult
BBC-L-East ADC Sum

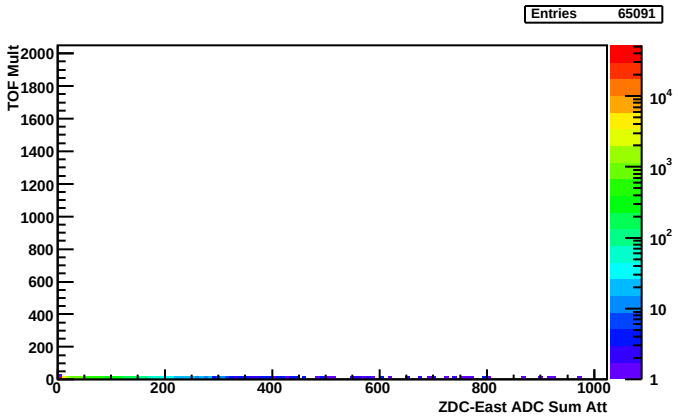

Entries 65091
TOF Mult
BBC-L-West ADC Sum

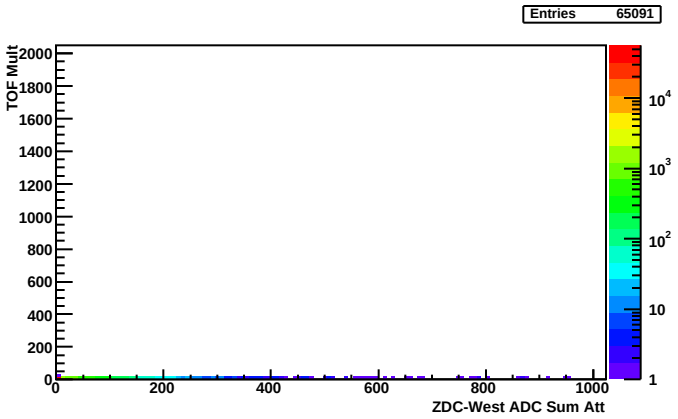

Entries 65091
TOF Mult
BBC-S-East ADC Sum

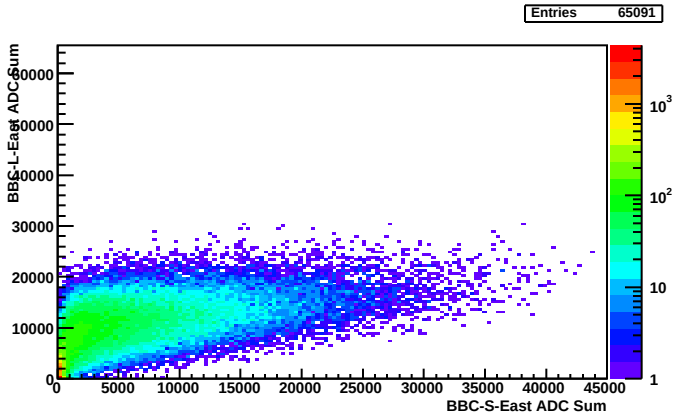

Entries 65091
TOF Mult
BBC-S-West ADC Sum

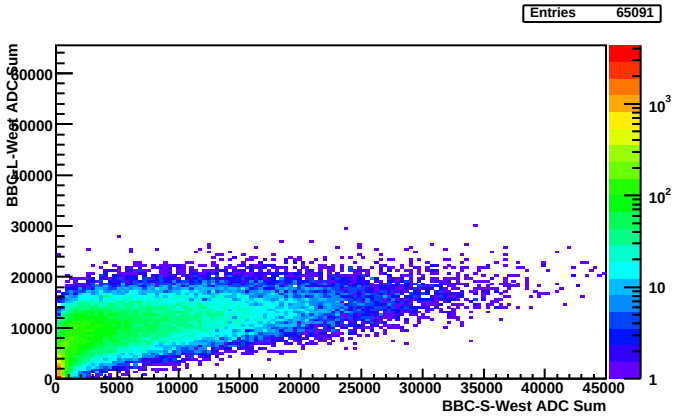

Entries 65091
TOF Mult
VPD-East ADC Sum

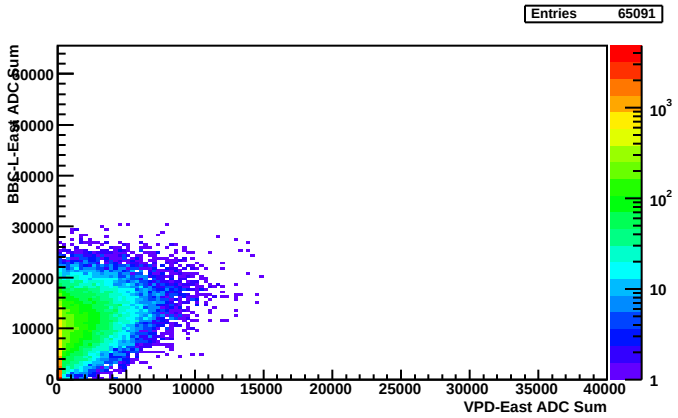

Entries 65091
TOF Mult
VPD-West ADC Sum

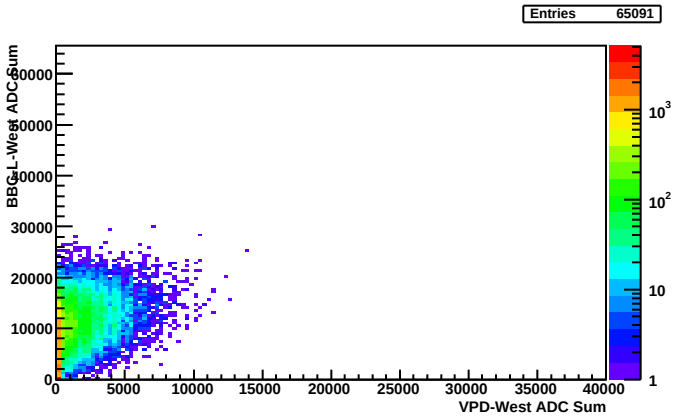

Entries 65091
TOF Mult
ZDC-East ADC Sum Att

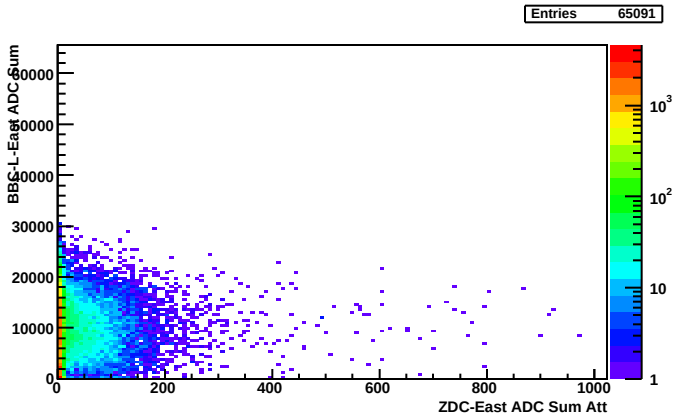

Entries 65091
TOF Mult
ZDC-West ADC Sum Att

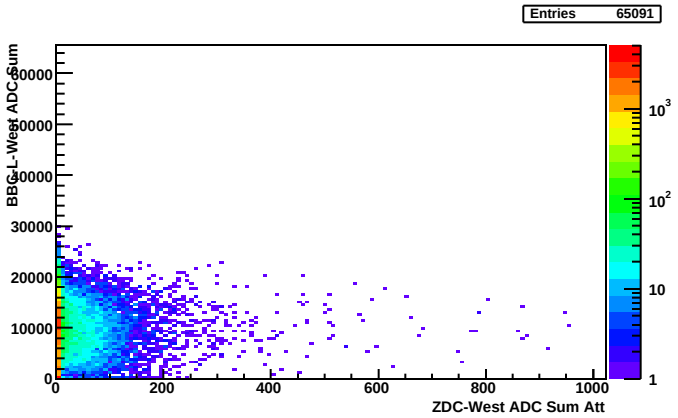

Entries 65091
BBC-L-East ADC Sum
BBC-S-East ADC Sum

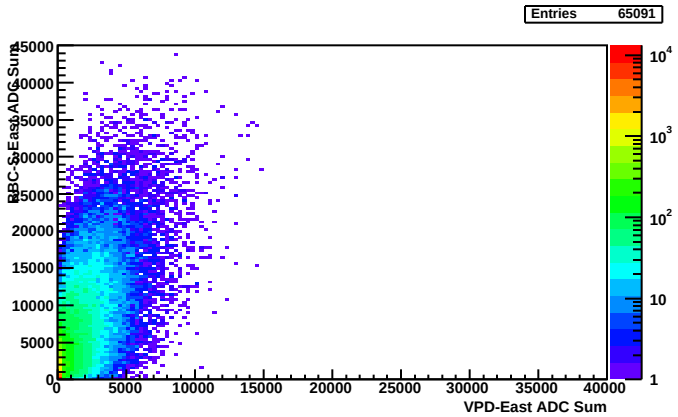

Entries 65091
BBC-L-West ADC Sum
BBC-S-West ADC Sum

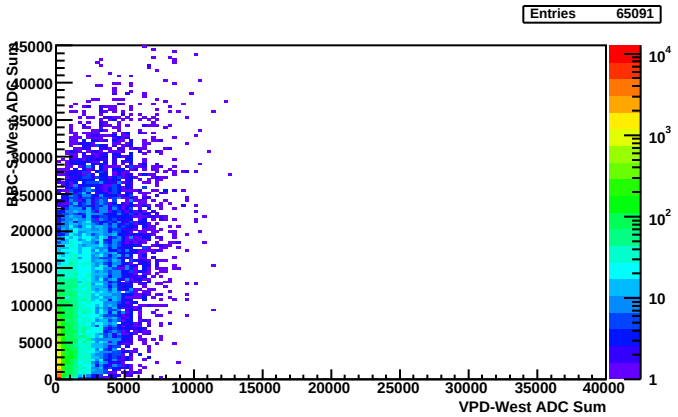

Entries 65091
BBC-L-East ADC Sum
VPD-East ADC Sum

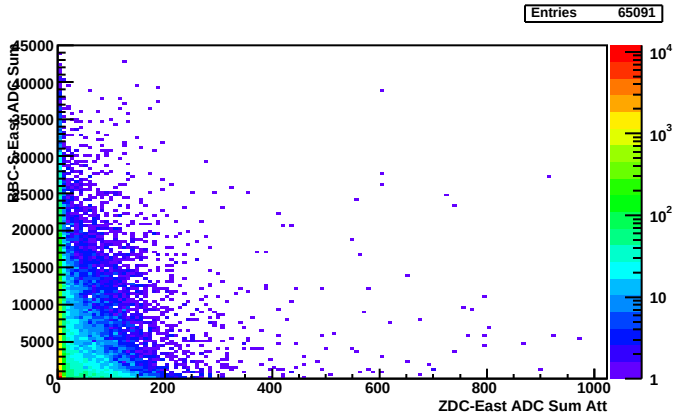

Entries 65091
BBC-L-West ADC Sum
VPD-West ADC Sum

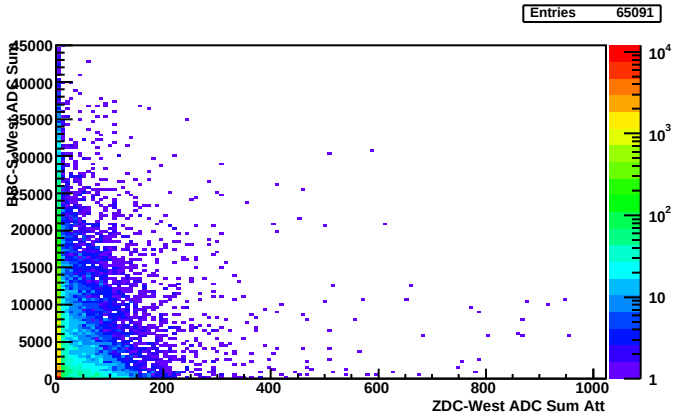

Entries 65091
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

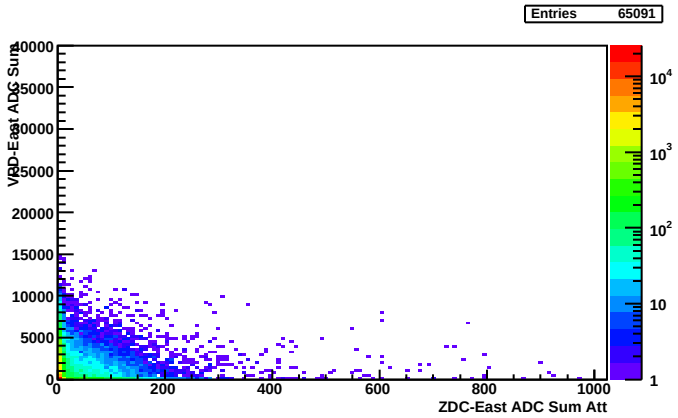

Entries 65091
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

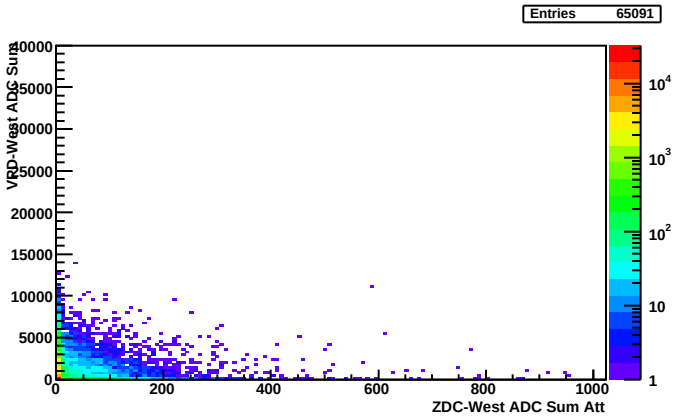

Entries 65091
BBC-S-East ADC Sum
VPD-East ADC Sum

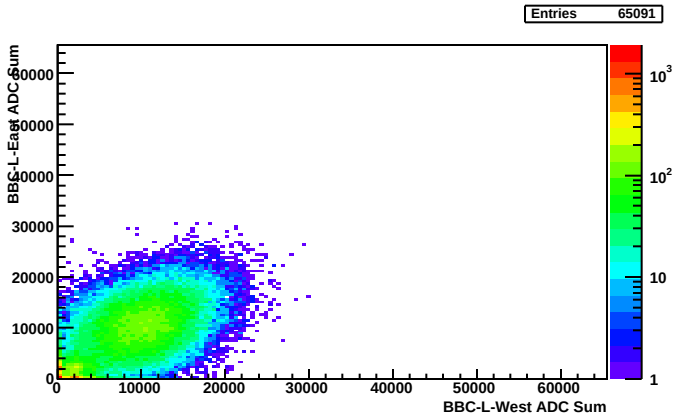

Entries 65091
BBC-S-West ADC Sum
VPD-West ADC Sum

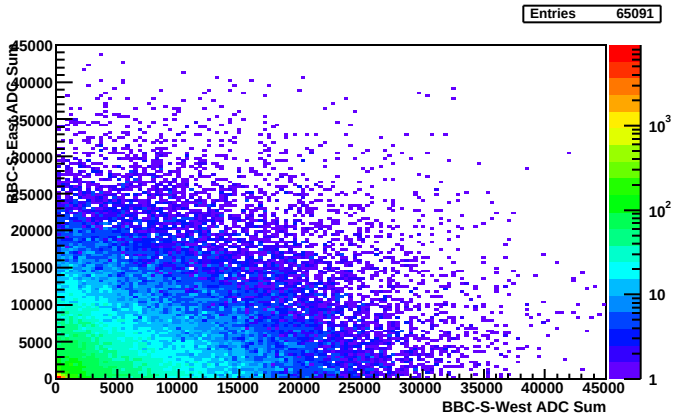

Entries 65091
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

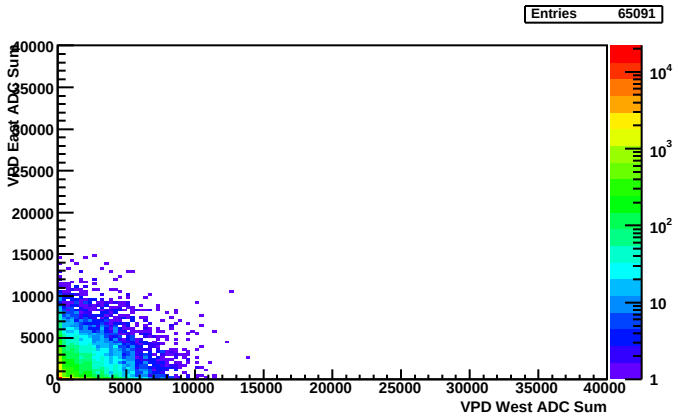

Entries 65091
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

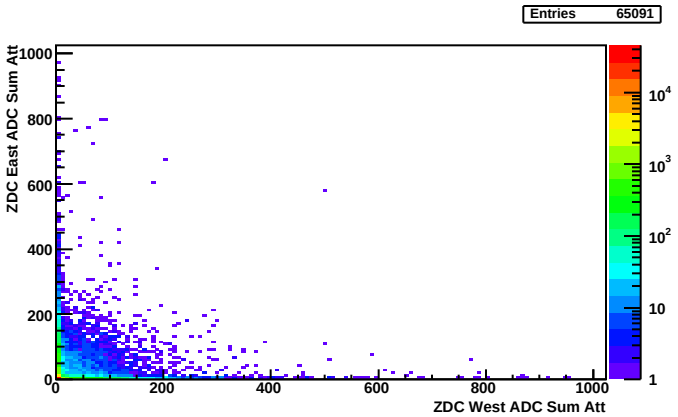

Entries 65091
VPD-East ADC Sum
ZDC-East ADC Sum Att

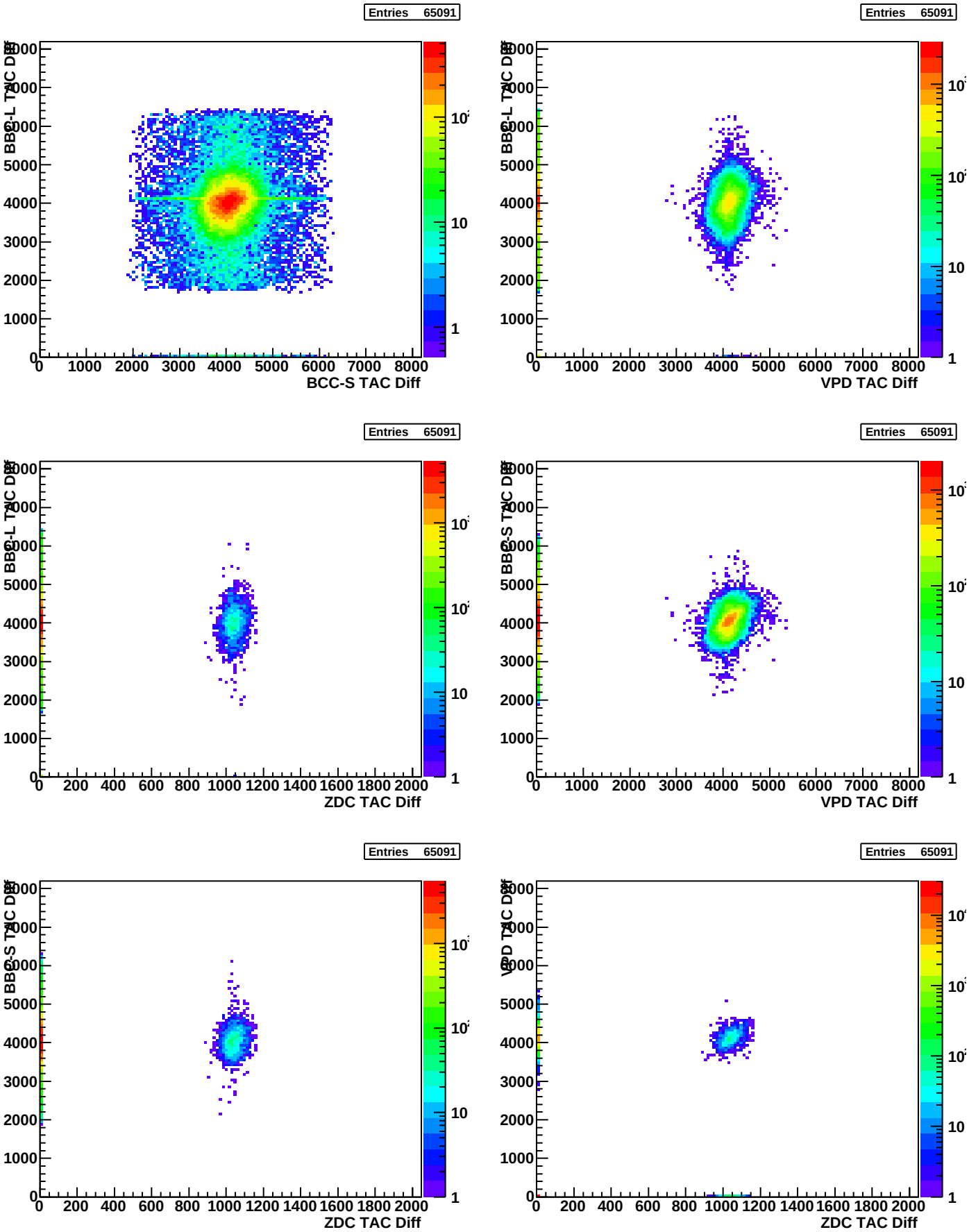

Entries 65091
VPD-West ADC Sum
ZDC-West ADC Sum Att

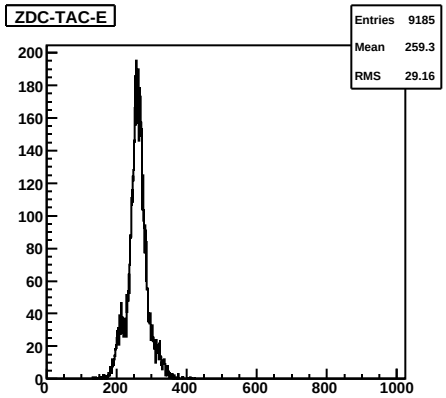

Entries 65091
BBC-L-East ADC Sum
BBC-L-West ADC Sum

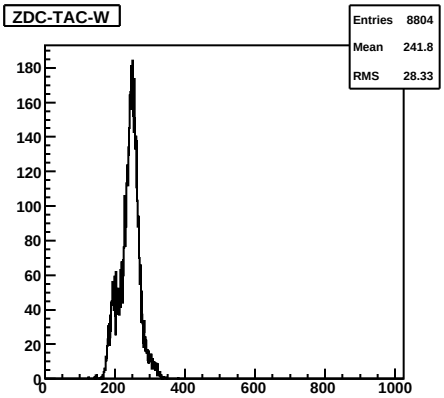

Entries 65091
BBC-S-East ADC Sum
BBC-S-West ADC Sum

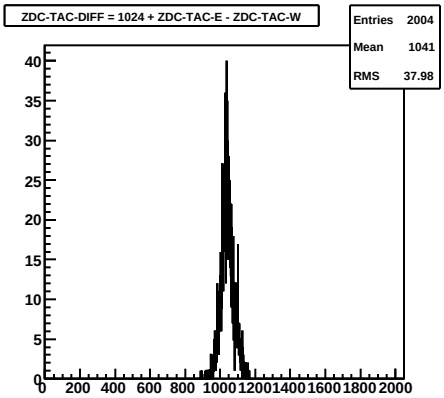

Entries 65091
VPD East ADC Sum
VPD West ADC Sum

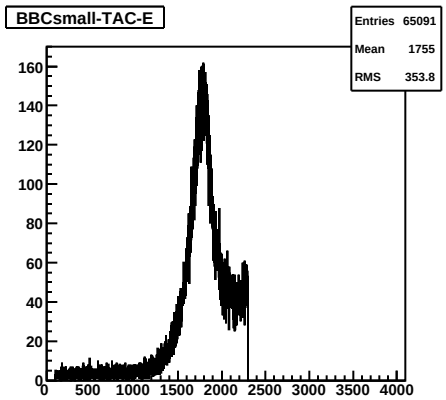

Entries 65091
ZDC East ADC Sum Att
ZDC West ADC Sum Att

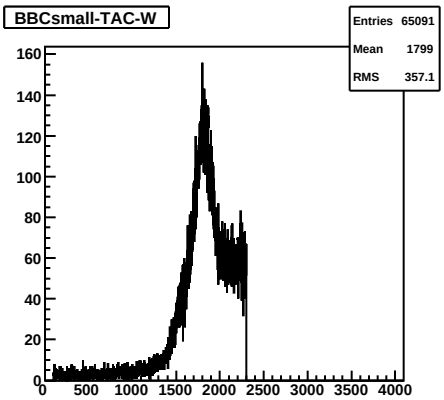

Entries 65091
BBC-L TAC Diff
BCC-S TAC Diff
Entries 65091
BBC-L TAC Diff
VPD TAC Diff
Entries 65091
BBC-L TAC Diff
ZDC TAC Diff
Entries 65091
BBC-S TAC Diff
VPD TAC Diff
Entries 65091
BBC-S TAC Diff
ZDC TAC Diff
Entries 65091
VPD TAC Diff
ZDC TAC Diff

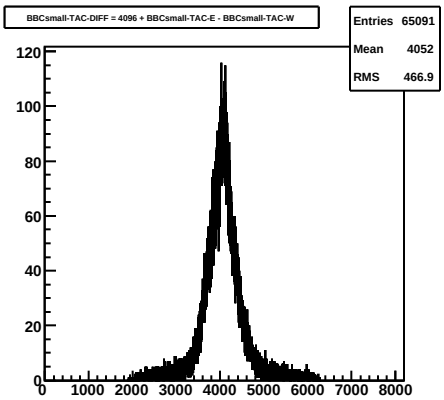

ZDC-TAC-E
Entries 9185
Mean 259.3
RMS 29.16

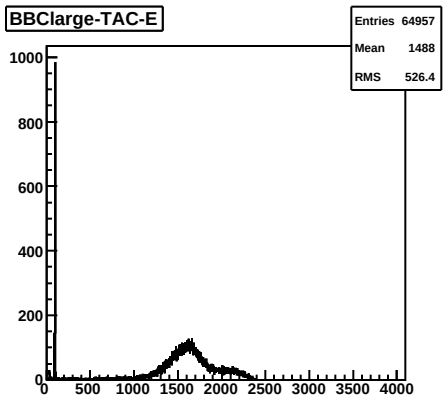

ZDC-TAC-W
Entries 8804
Mean 241.8
RMS 28.33

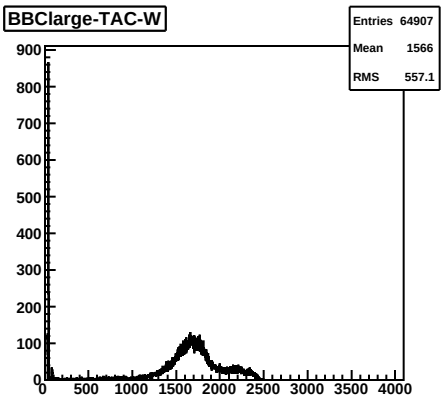

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 2004
Mean 1041
RMS 37.98

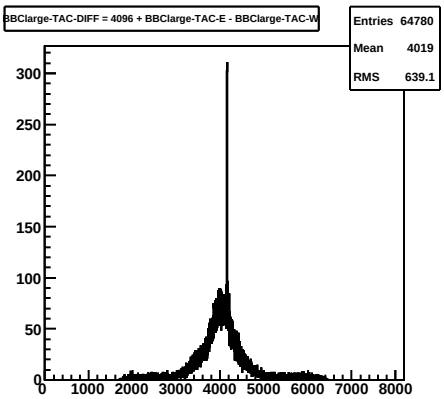

BBCsmall-TAC-E
Entries 65091
Mean 1755
RMS 353.8

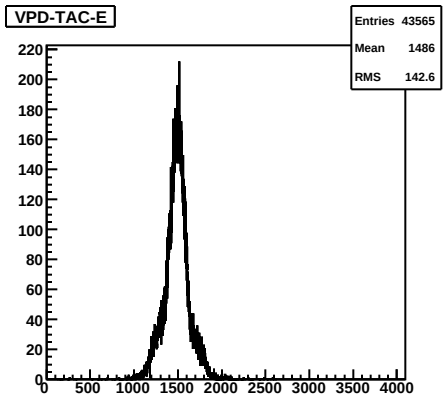

BBCsmall-TAC-W
Entries 65091
Mean 1799
RMS 357.1

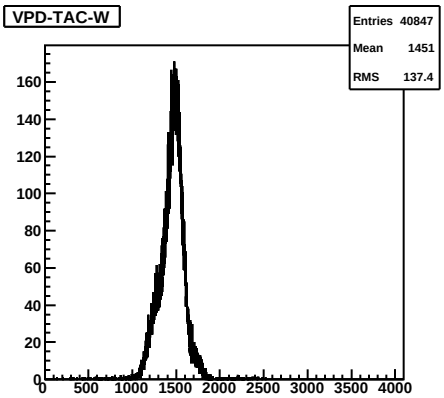

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 65091
Mean 4052
RMS 466.9

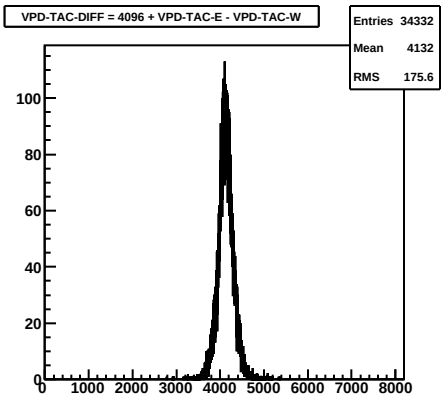

BBClarge-TAC-E
Entries 64957
Mean 1488
RMS 526.4

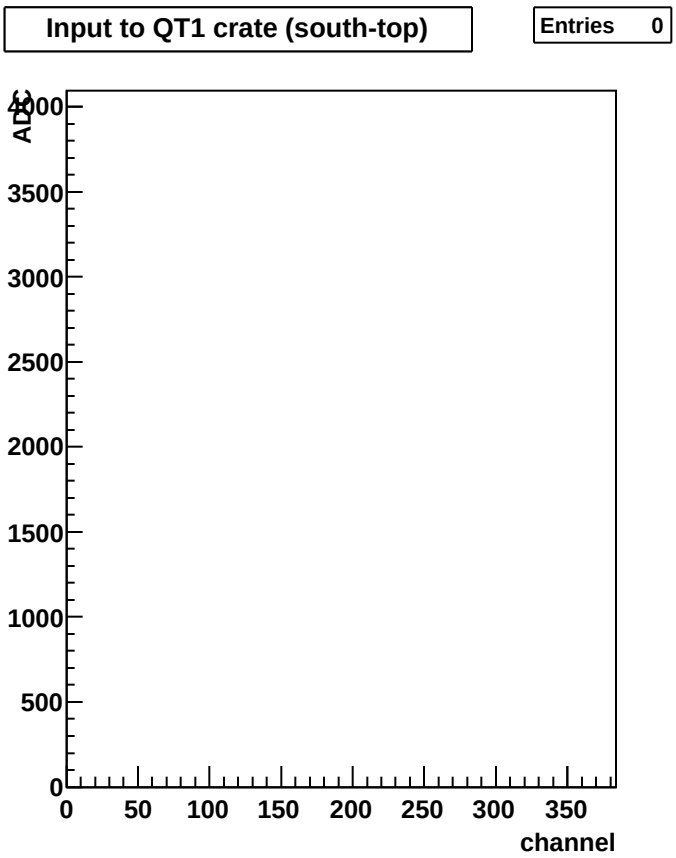

BBClarge-TAC-W
Entries 64907
Mean 1566
RMS 557.1

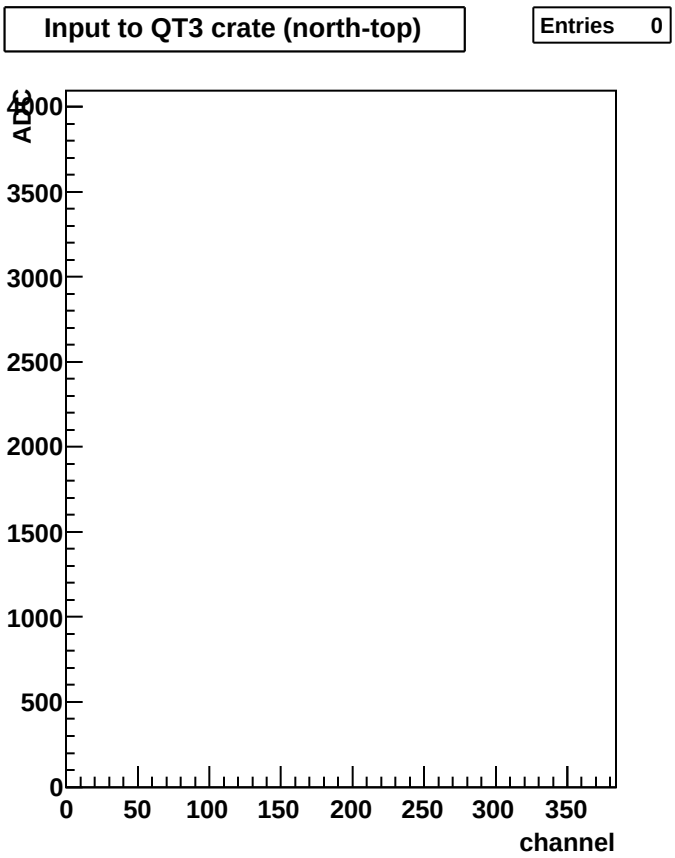

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 64780
Mean 4019
RMS 639.1

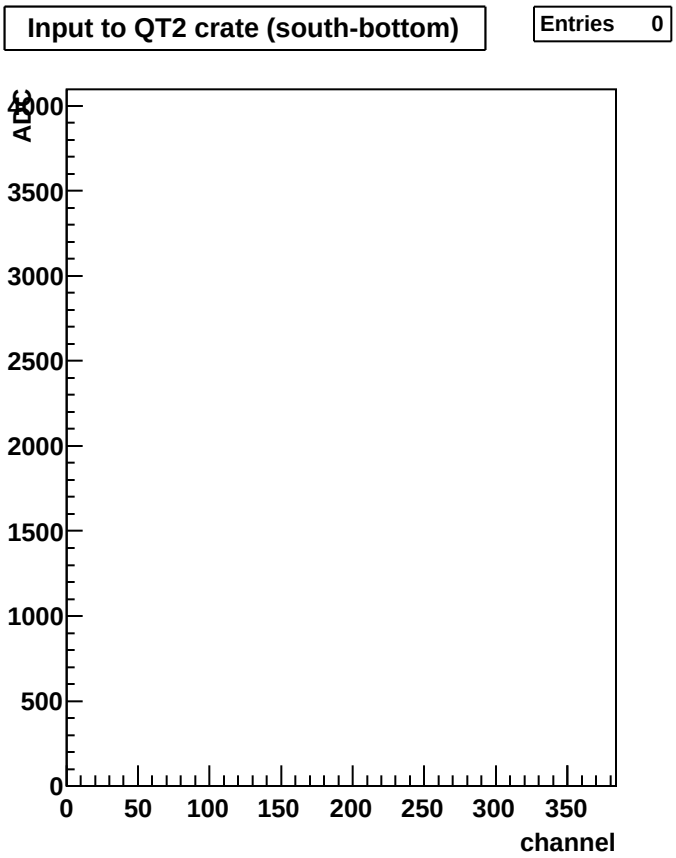

VPD-TAC-E
Entries 43565
Mean 1486
RMS 142.6

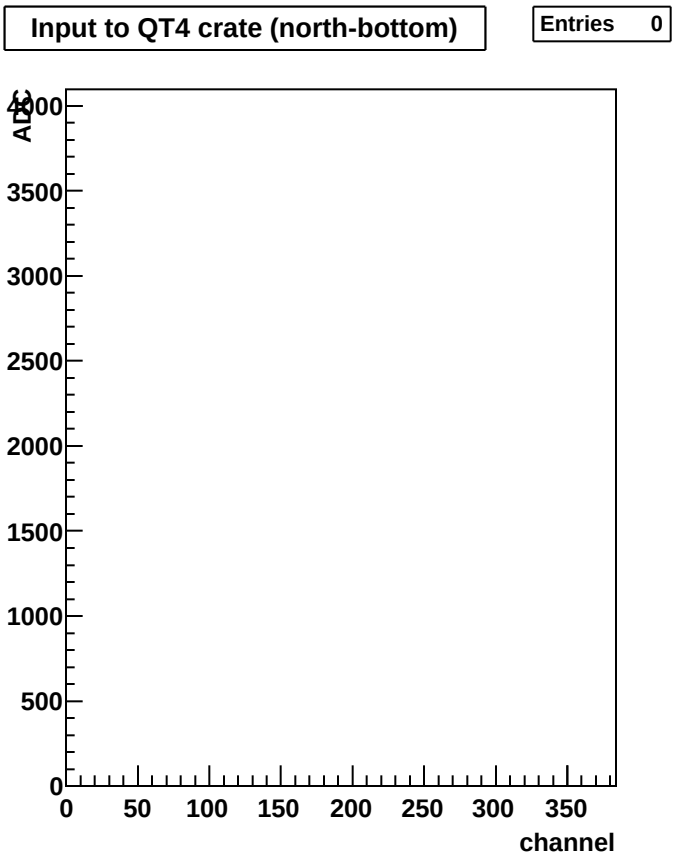

VPD-TAC-W
Entries 40847
Mean 1451
RMS 137.4

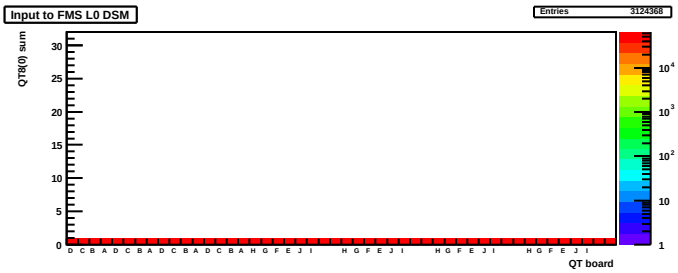

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 34332
Mean 4132
RMS 175.6

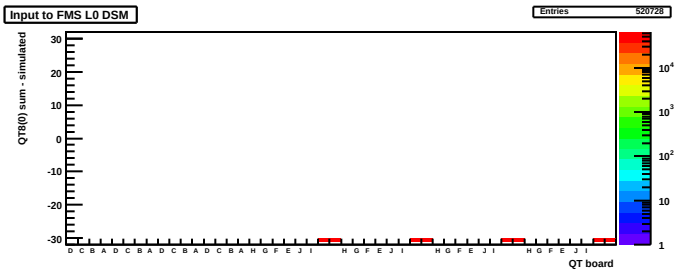

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

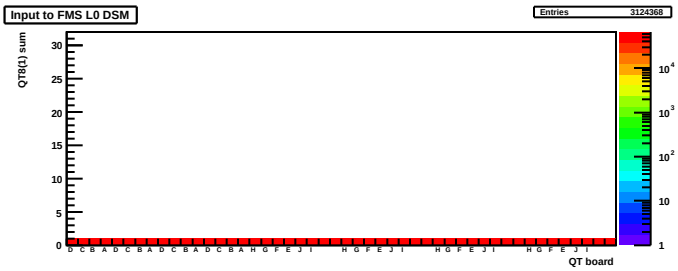

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

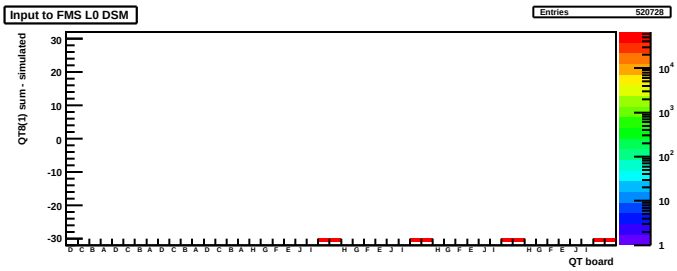

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

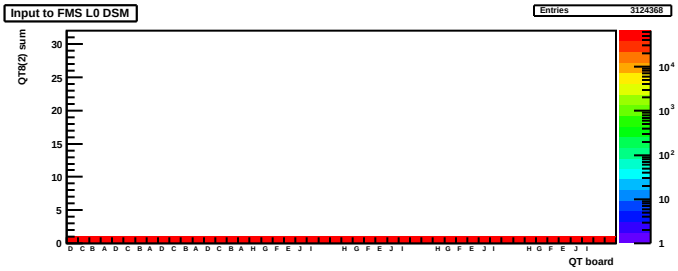

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

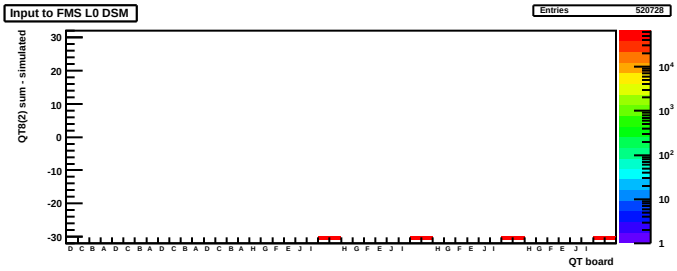

Input to FMS L0 DSM
Entries 3124368
QT8(0) sum
QT board

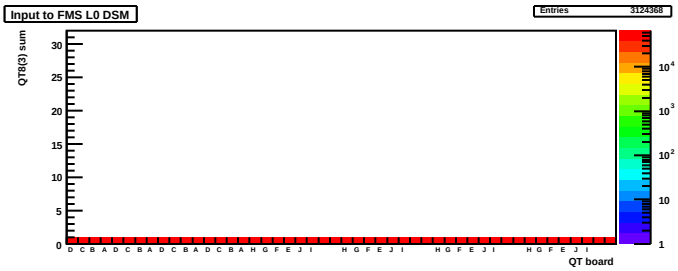

Input to FMS L0 DSM
Entries 520728
QT8(0) sum - simulated
QT board

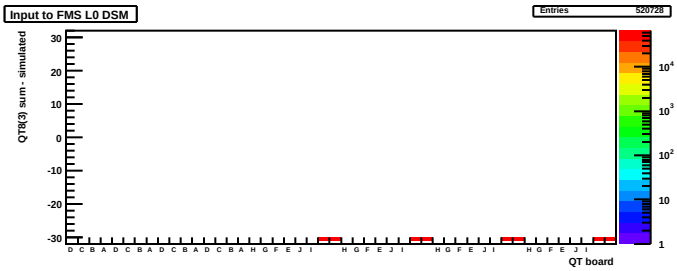

Input to FMS L0 DSM
Entries 3124368
QT8(1) sum
QT board

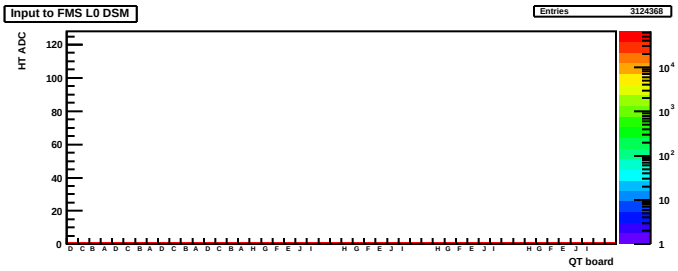

Input to FMS L0 DSM
Entries 520728
QT8(1) sum - simulated
QT board

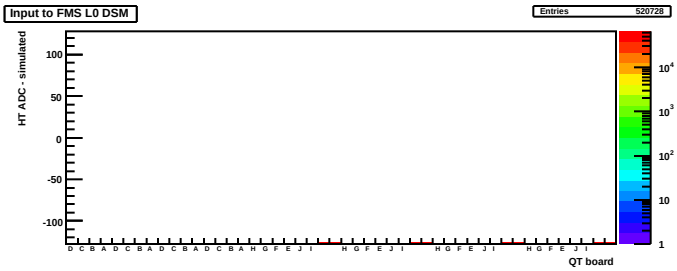

Input to FMS L0 DSM
Entries 3124368
QT8(2) sum
QT board

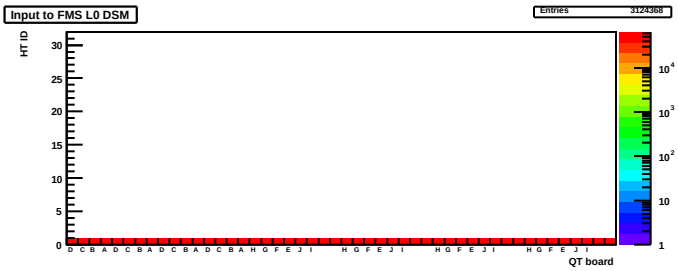

Input to FMS L0 DSM
Entries 520728
QT8(2) sum - simulated
QT board

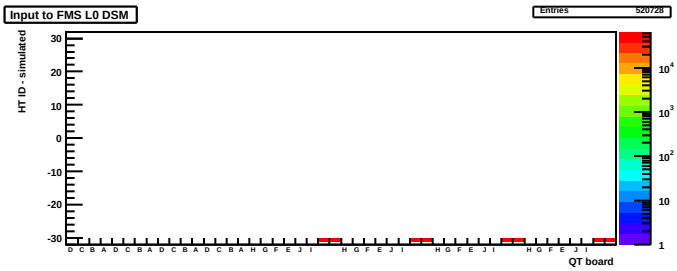

Input to FMS L0 DSM
Entries 3124368
QT8(3) sum
QT board

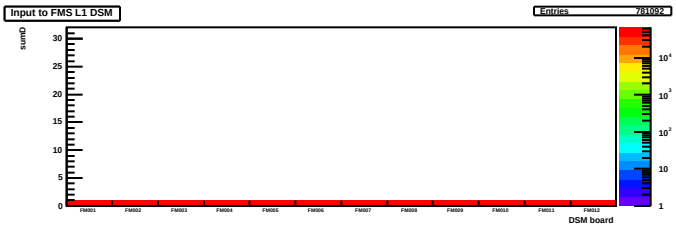

Input to FMS L0 DSM
Entries 520728
QT8(3) sum - simulated
QT board

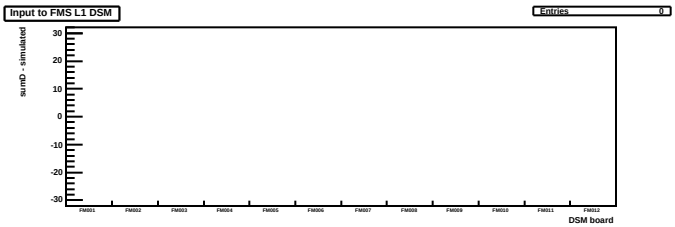

Input to FMS L0 DSM
Entries 3124368
HT ADC
QT board

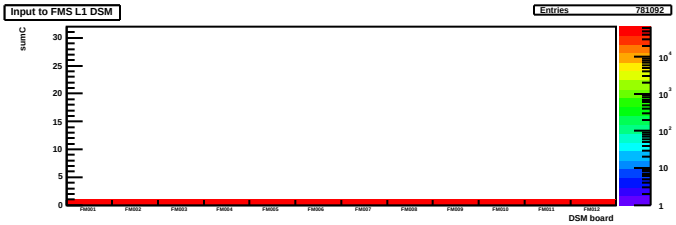

Input to FMS L0 DSM
Entries 520728
HT ADC - simulated
QT board

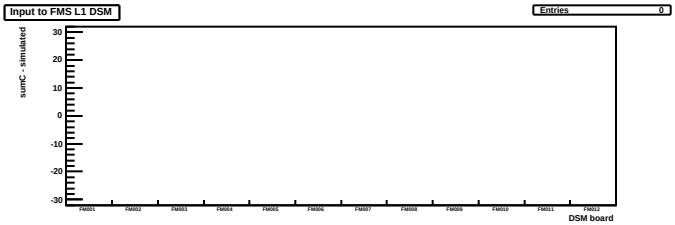

Input to FMS L0 DSM
Entries 3124368
HT ID
QT board

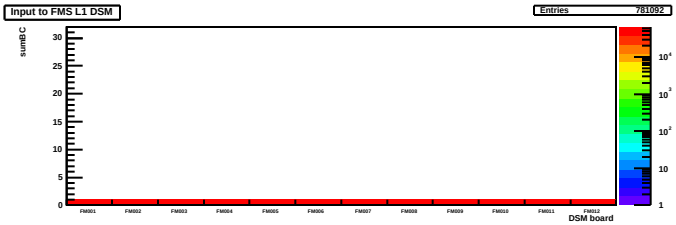

Input to FMS L0 DSM
Entries 520728
HT ID - simulated
QT board

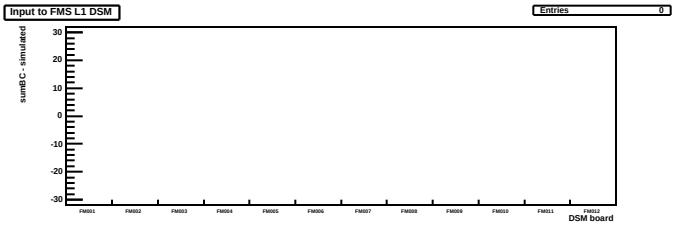

Input to FMS L1 DSM
Entries 781092
sumD
DSM board

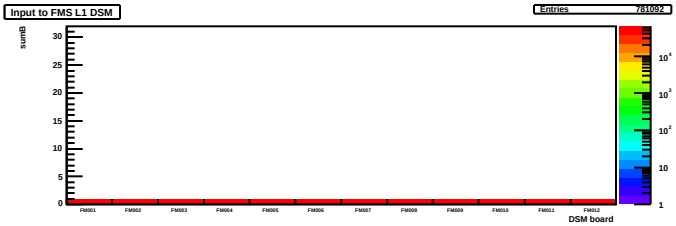

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

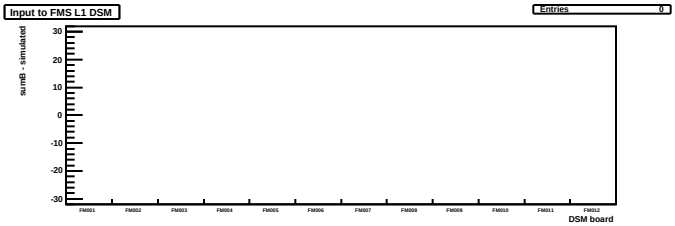

Input to FMS L1 DSM
Entries 781092
sumC
DSM board

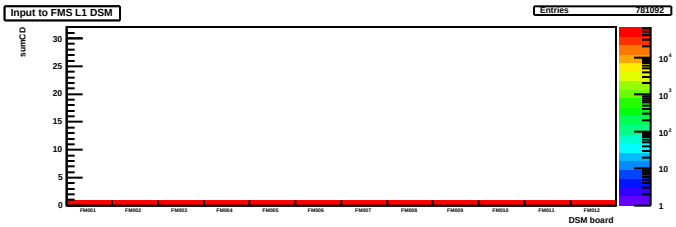

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

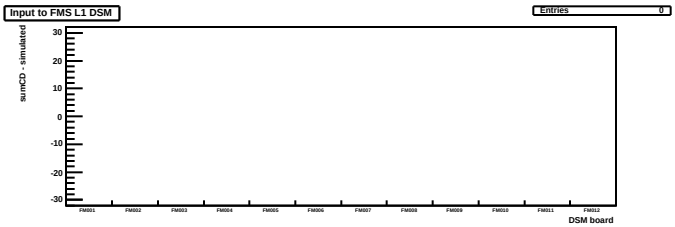

Input to FMS L1 DSM
Entries 781092
sumBC
DSM board

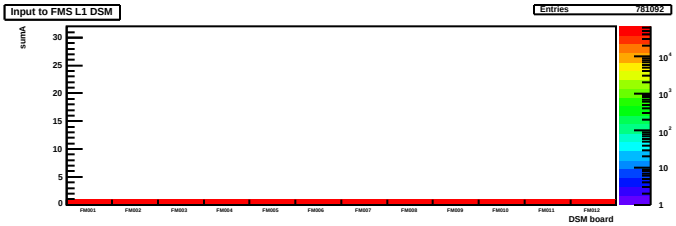

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

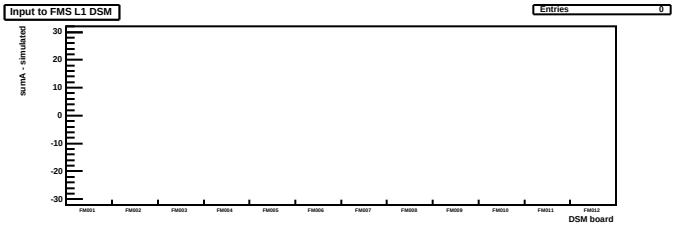

Input to FMS L1 DSM
Entries 781092
sumB
DSM board

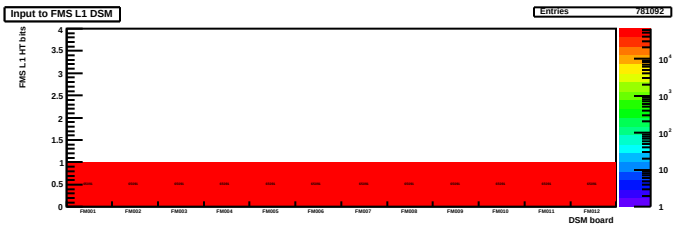

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

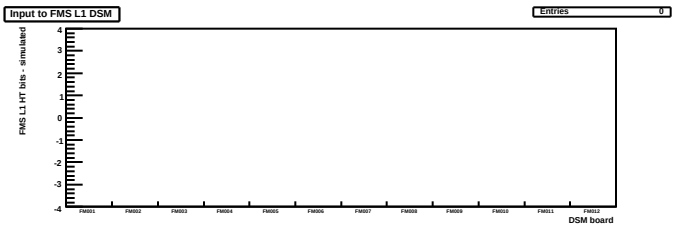

Input to FMS L1 DSM
Entries 781092
sumCD
DSM board

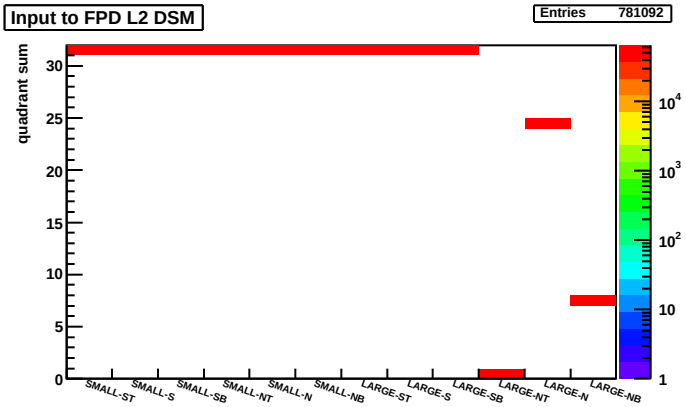

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

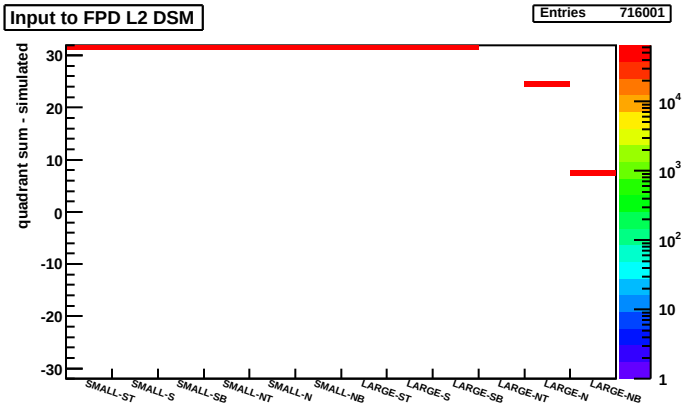

Input to FMS L1 DSM
Entries 781092
sumA
DSM board

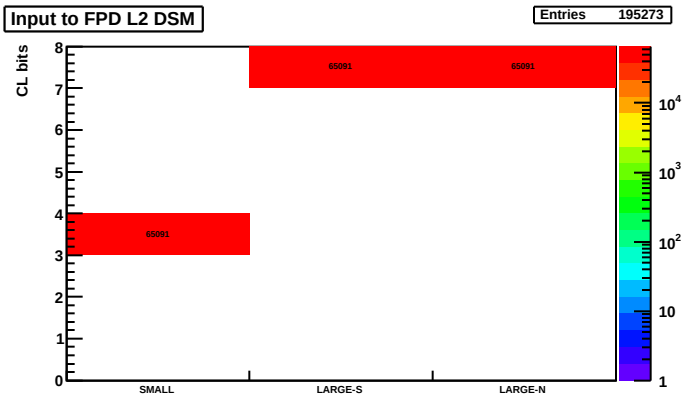

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

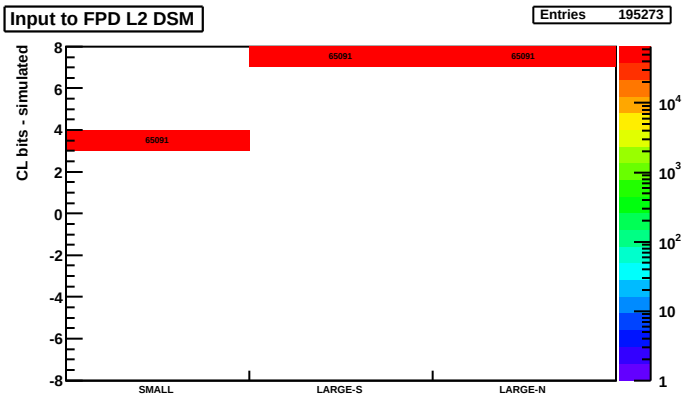

Input to FMS L1 DSM
Entries 781092
FMS L1 HT bits
DSM board

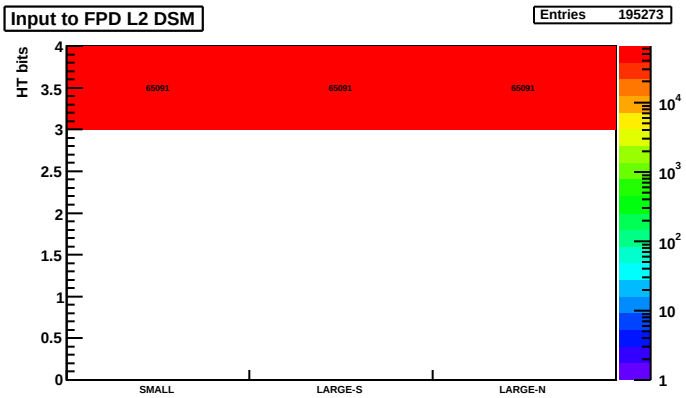

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

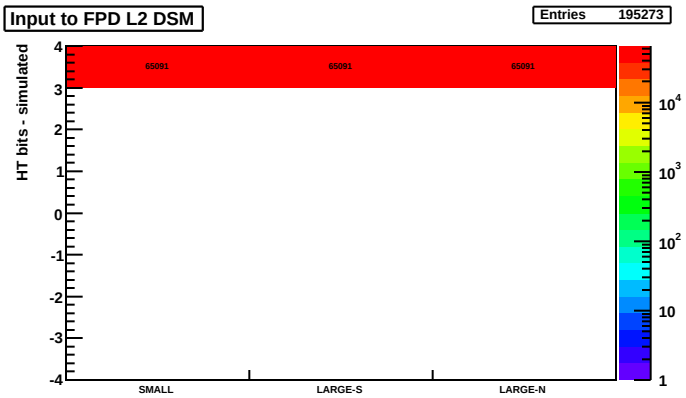

Input to FPD L2 DSM
Entries 781092
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

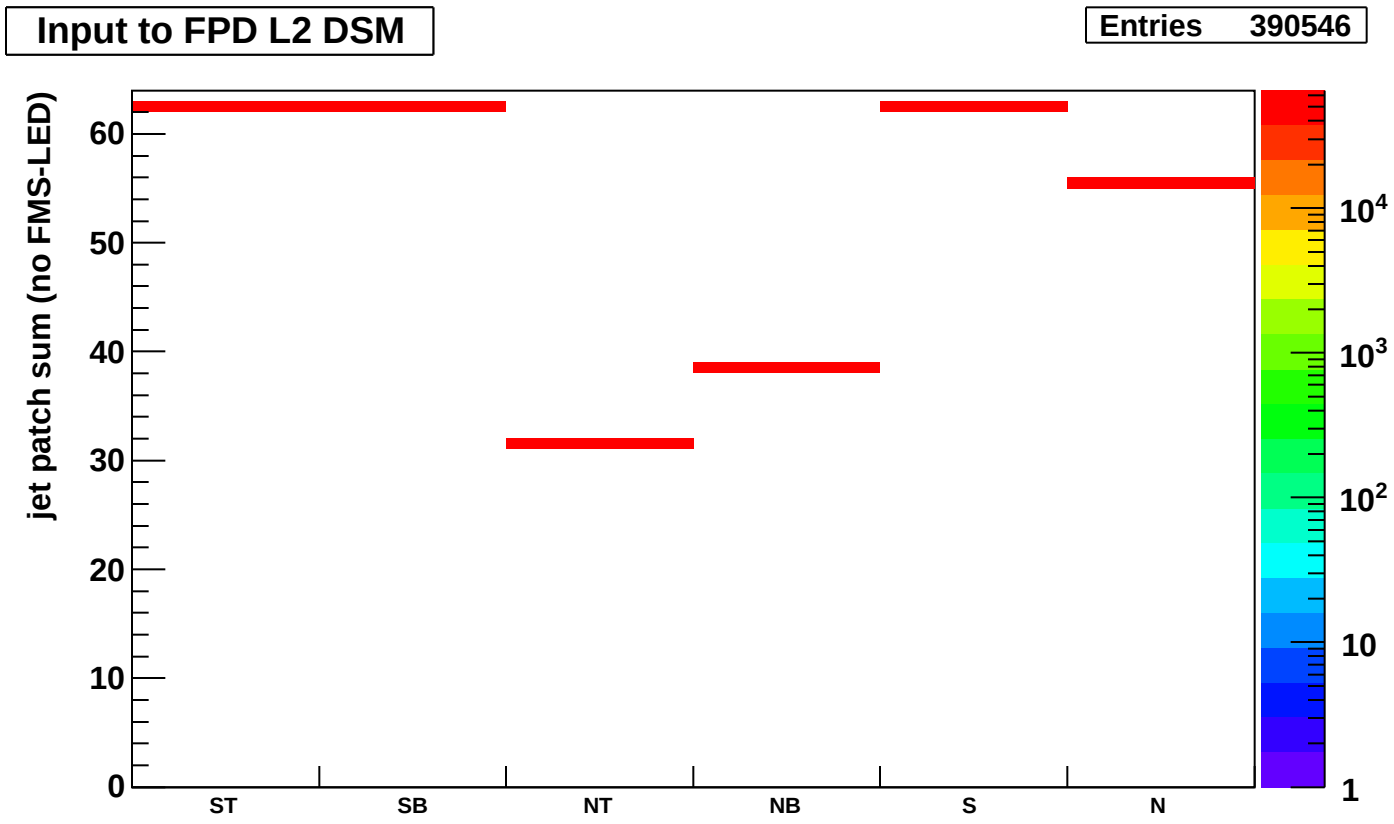

Input to FPD L2 DSM
Entries 716001
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

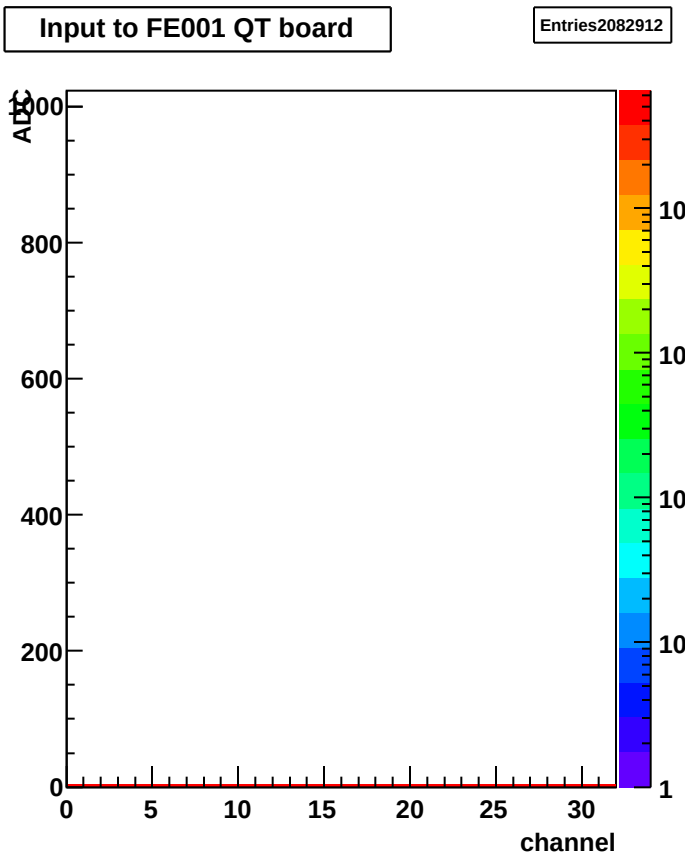

Input to FPD L2 DSM
Entries 195273
CL bits
65091
65091
65091
SMALL
LARGE-S
LARGE-N

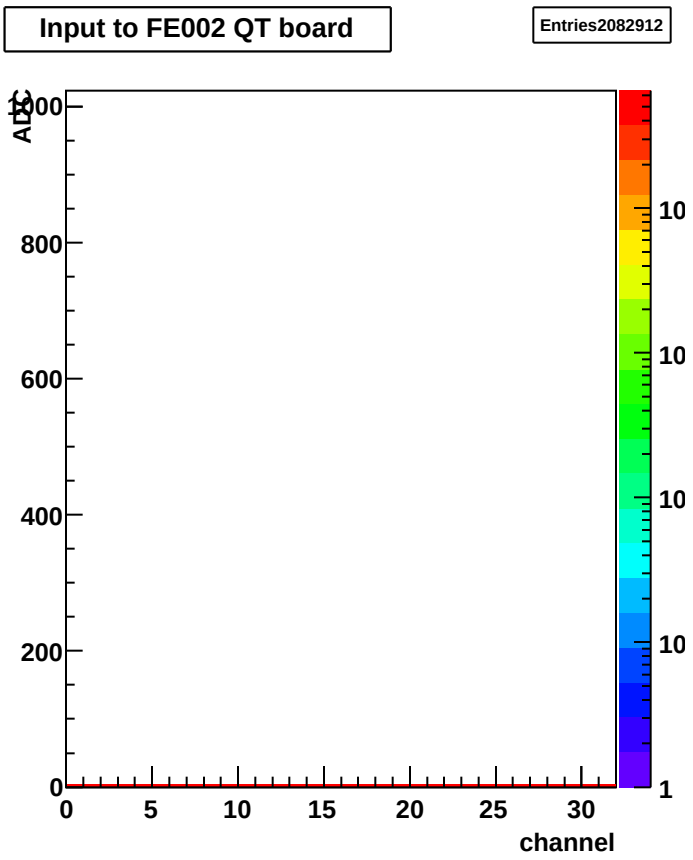

Input to FPD L2 DSM
Entries 195273
CL bits - simulated
65091
65091
65091
SMALL
LARGE-S
LARGE-N

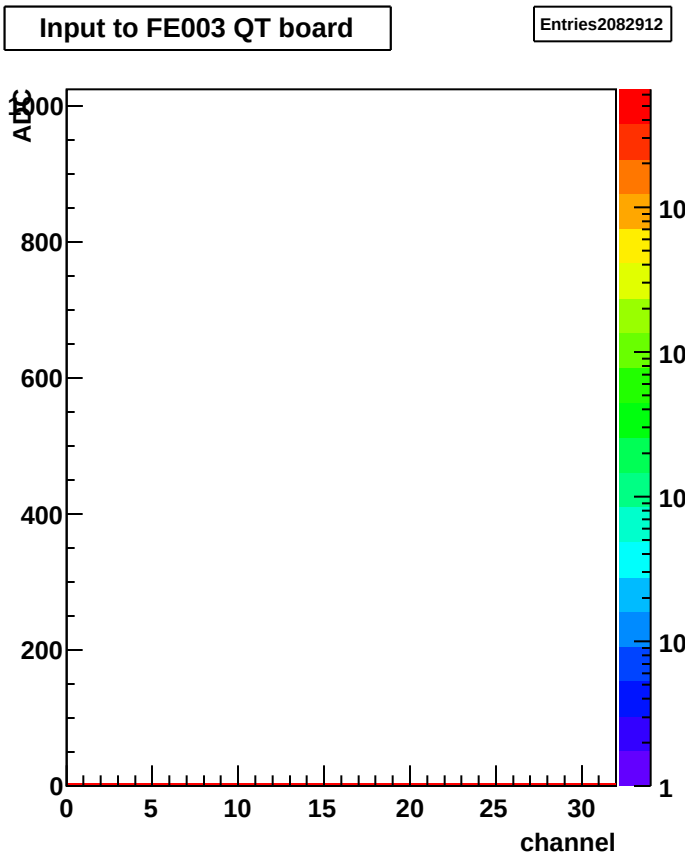

Input to FPD L2 DSM
Entries 195273
HT bits
65091
65091
65091
SMALL
LARGE-S
LARGE-N

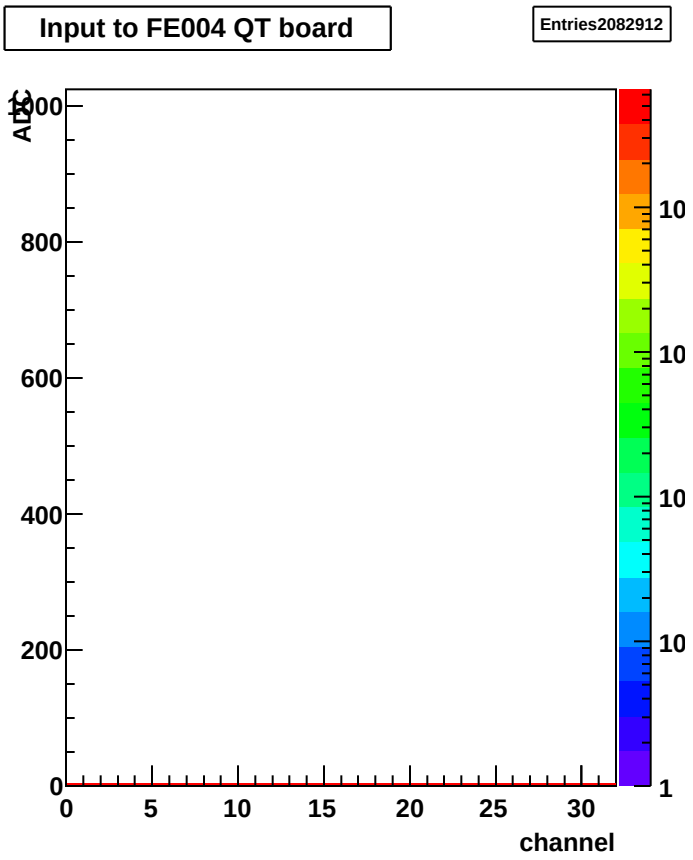

Input to FPD L2 DSM
Entries 195273
HT bits - simulated
65091
65091
65091
SMALL
LARGE-S
LARGE-N

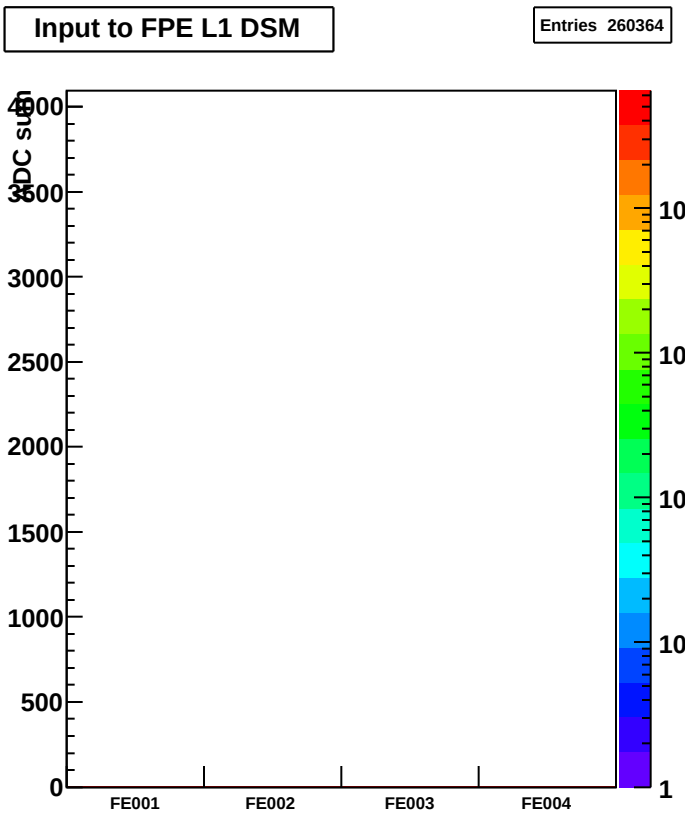

Input to FPD L2 DSM
Entries 390546
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

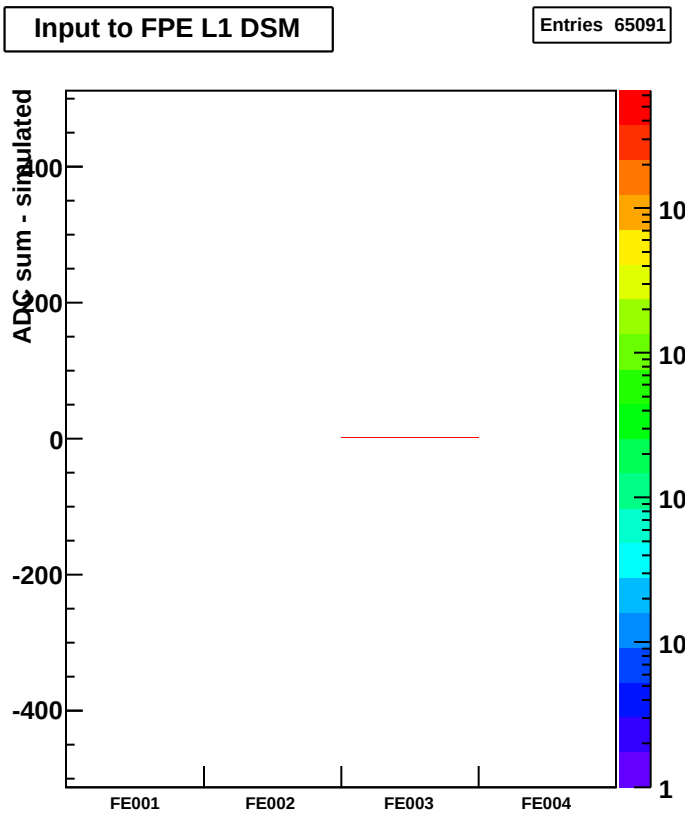

Input to FE001 QT board
Entries2082912
ADC
channel

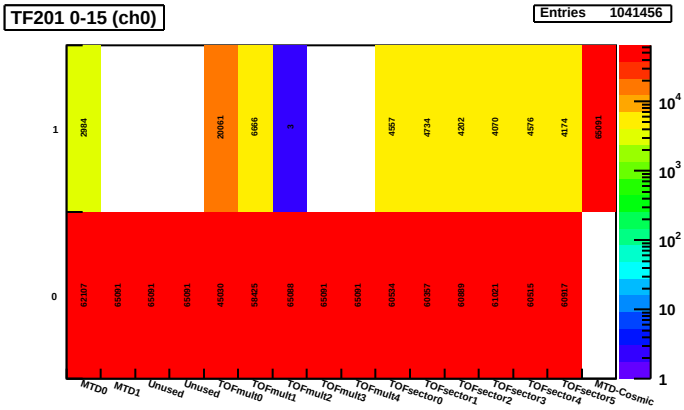

Input to FE002 QT board
Entries2082912
ADC
channel

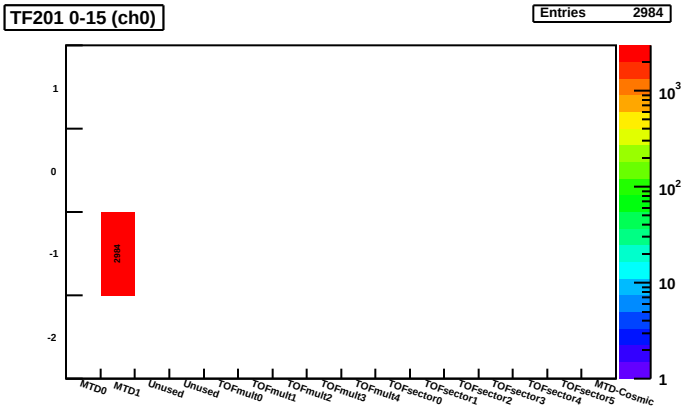

Input to FE003 QT board
Entries2082912
ADC
channel

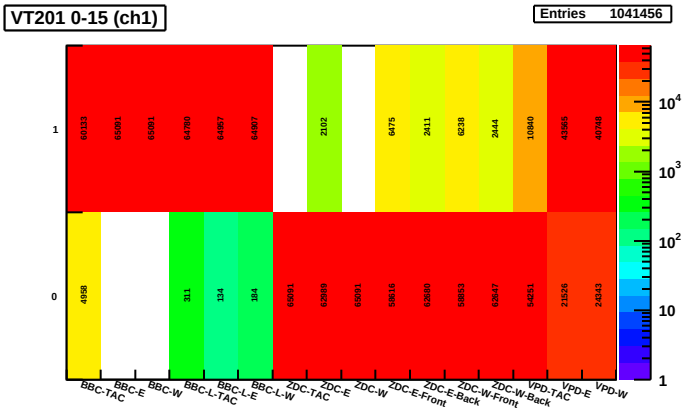

Input to FE004 QT board
Entries2082912
ADC
channel


Input to FPE L1 DSM
Entries 260364
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1


Input to FPE L1 DSM
Entries 65091
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1


TF201 0-15 (ch0)
Entries 1041456
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 2984
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic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Entries 1041456
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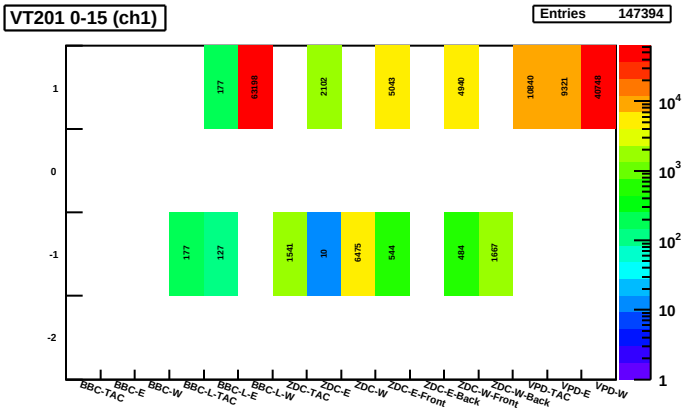
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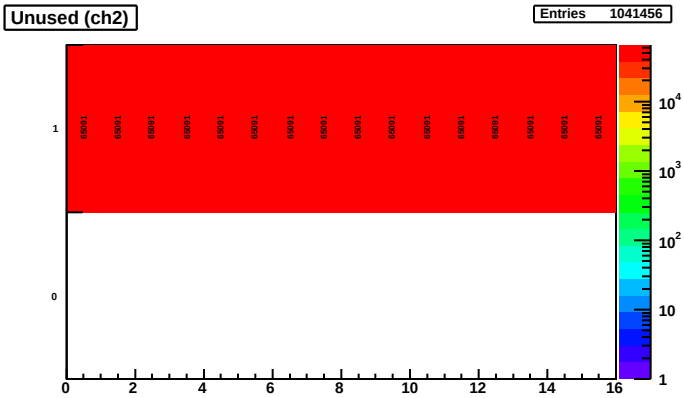
Unused (ch2)
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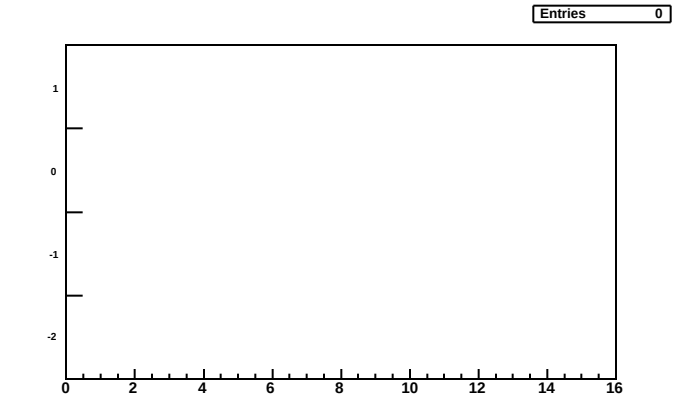
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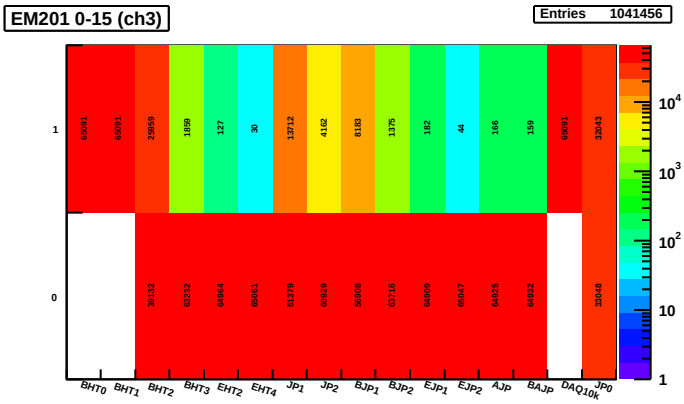
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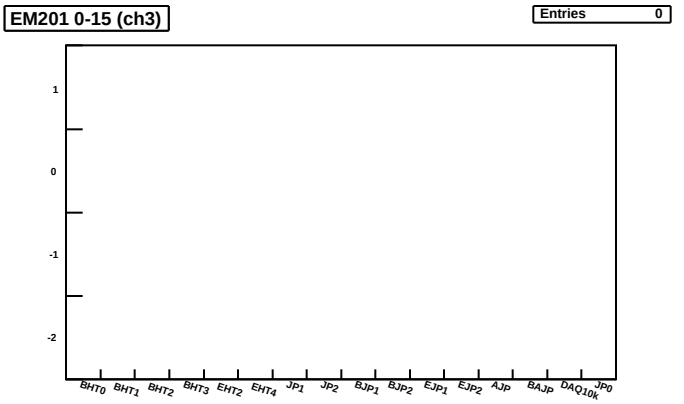
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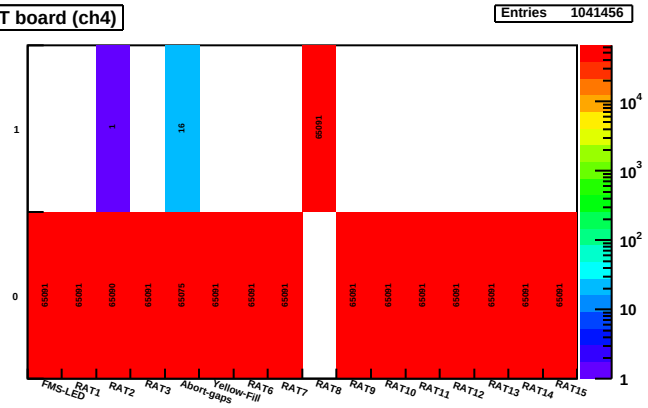
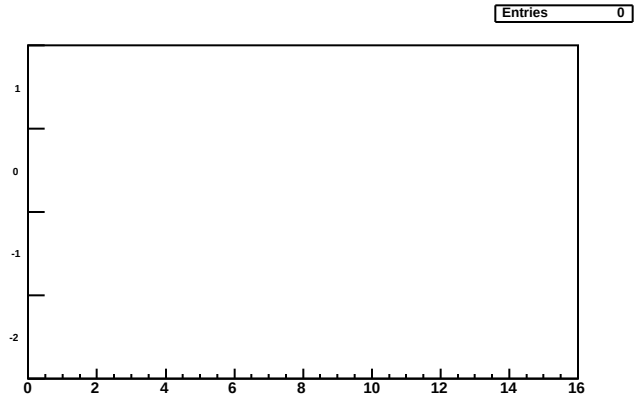
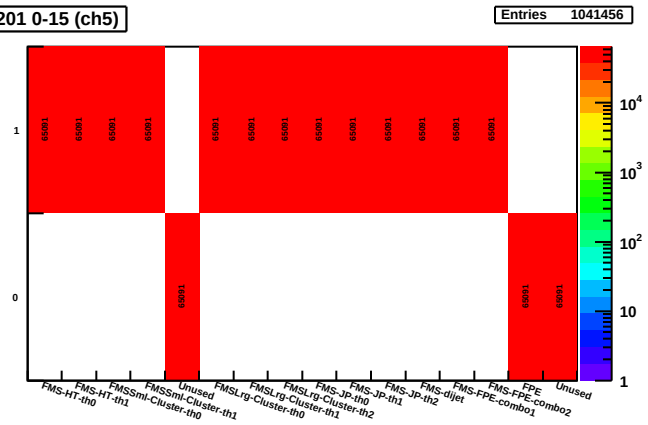
RAT board (ch4)





FP201 0-15 (ch5)



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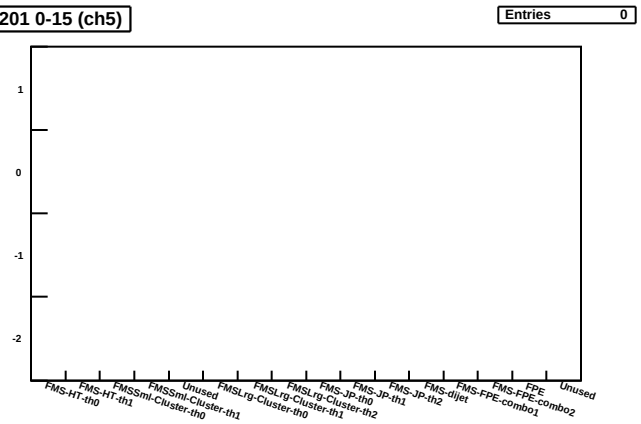
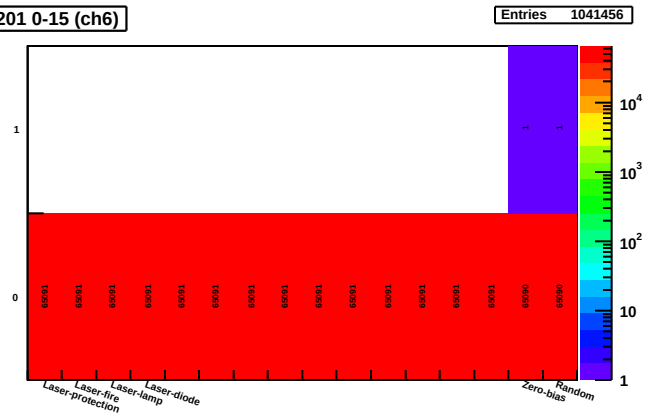
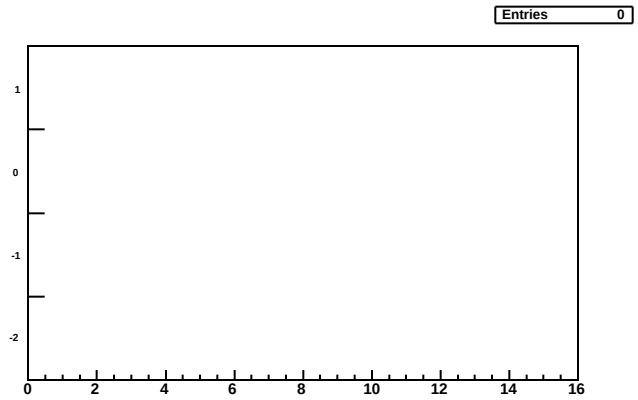
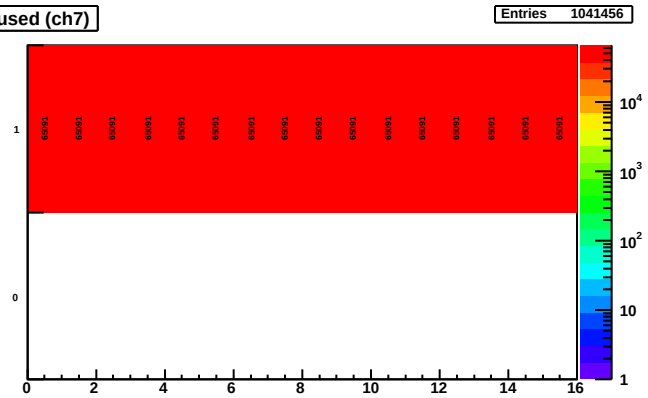
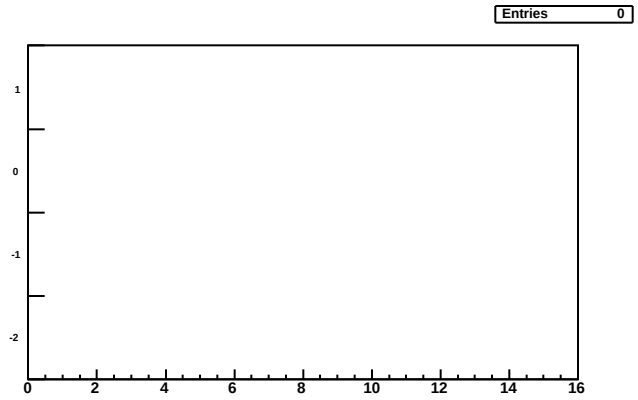


ST201 0-15 (ch6)





Unused (ch7)