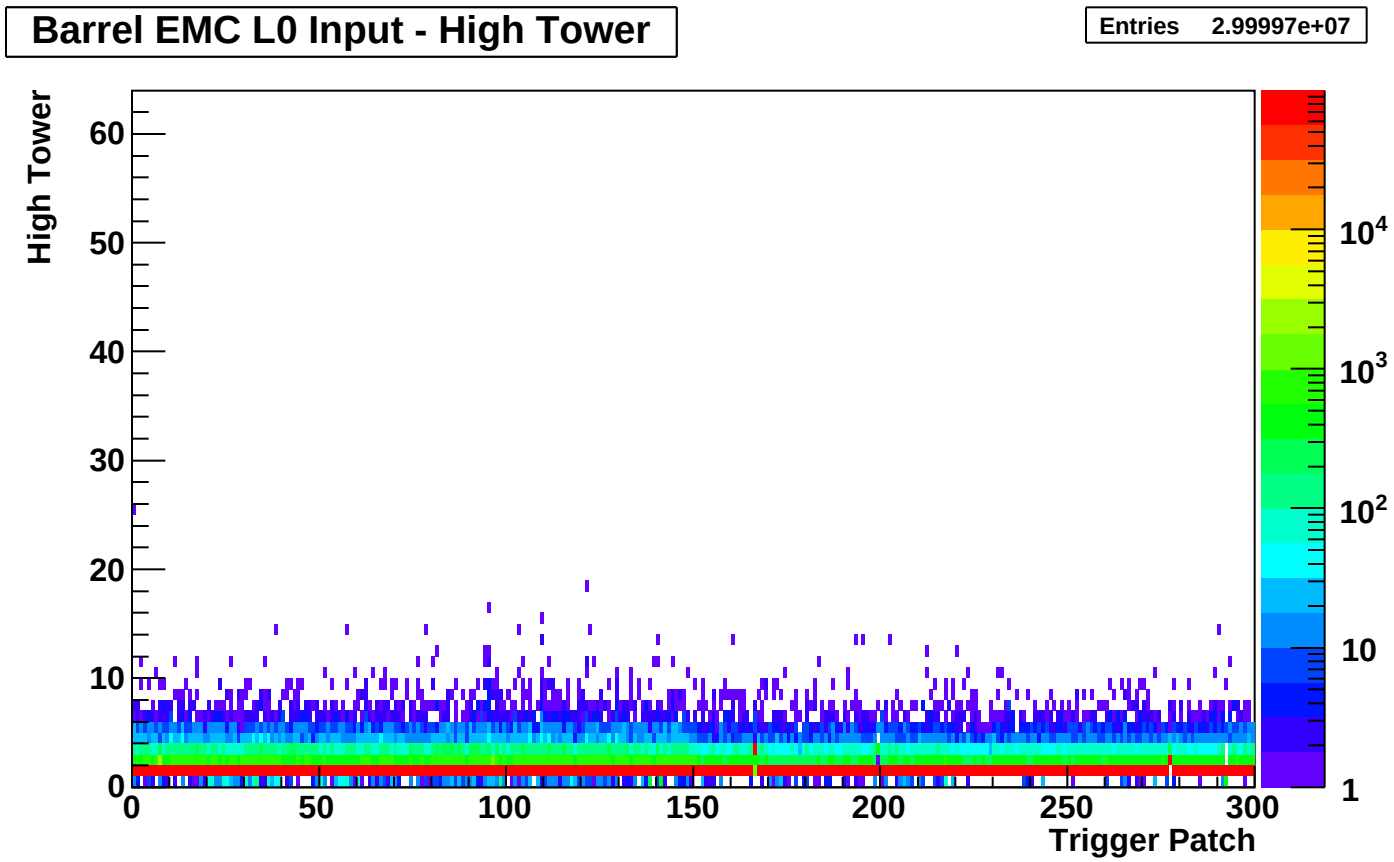
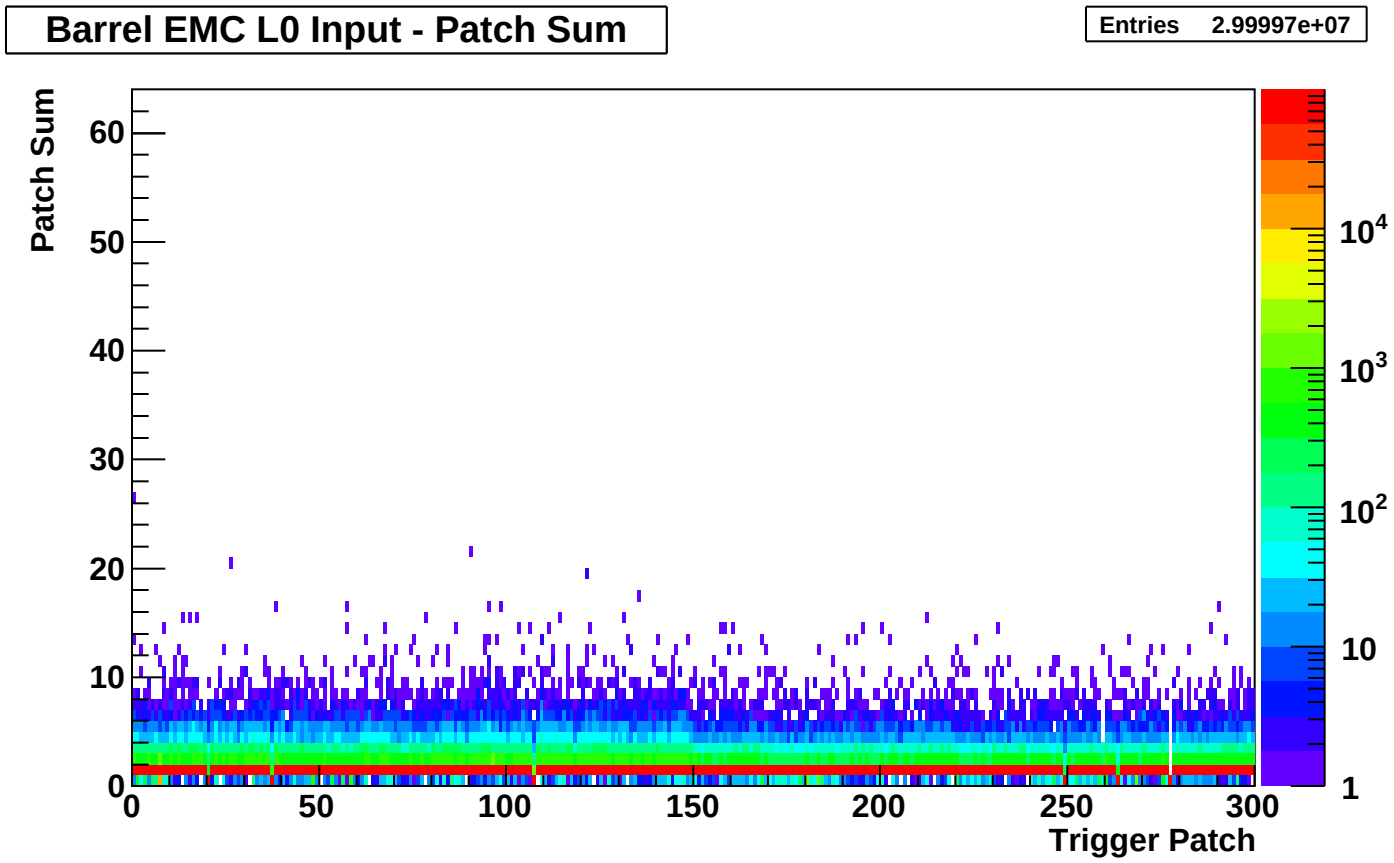
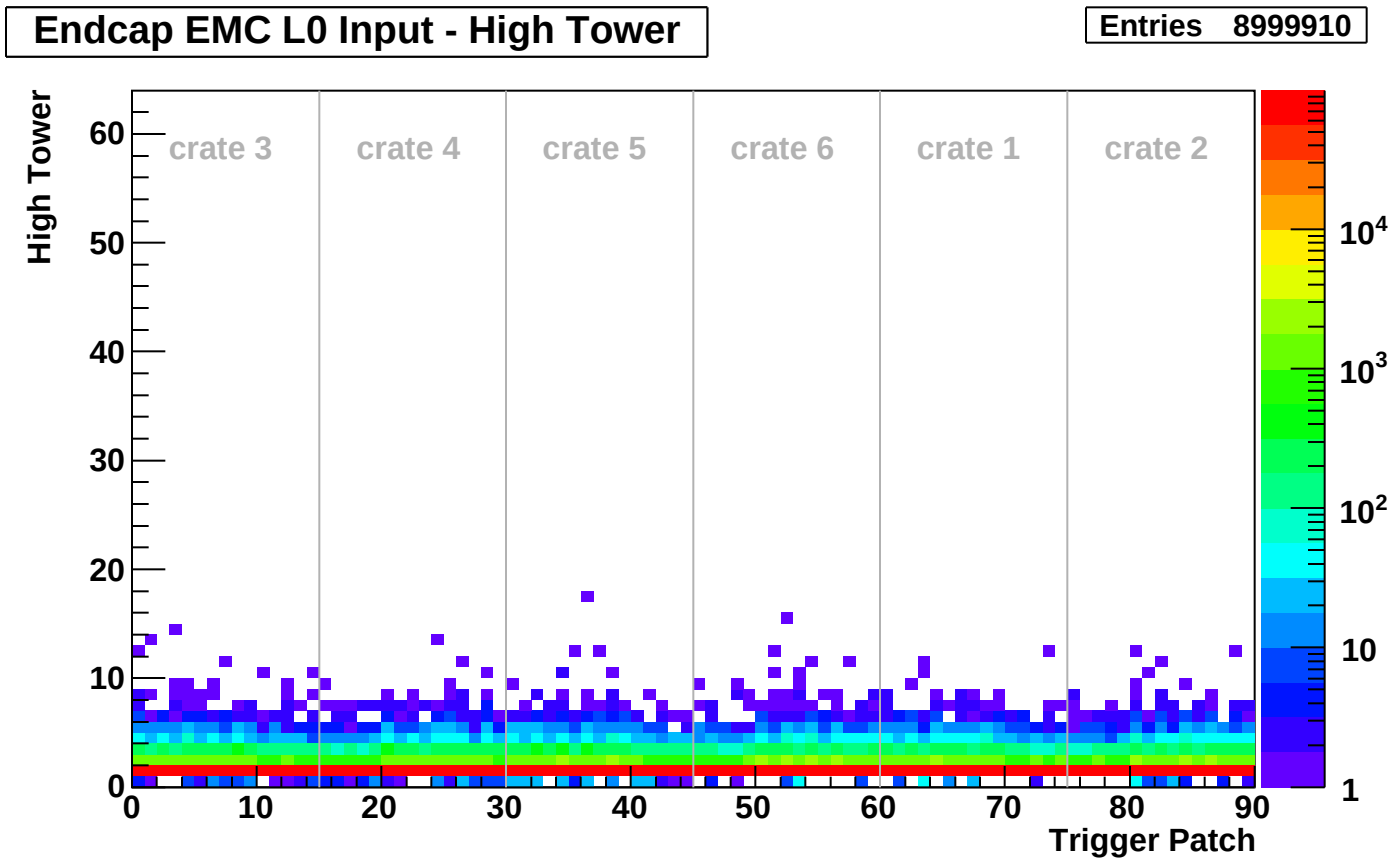
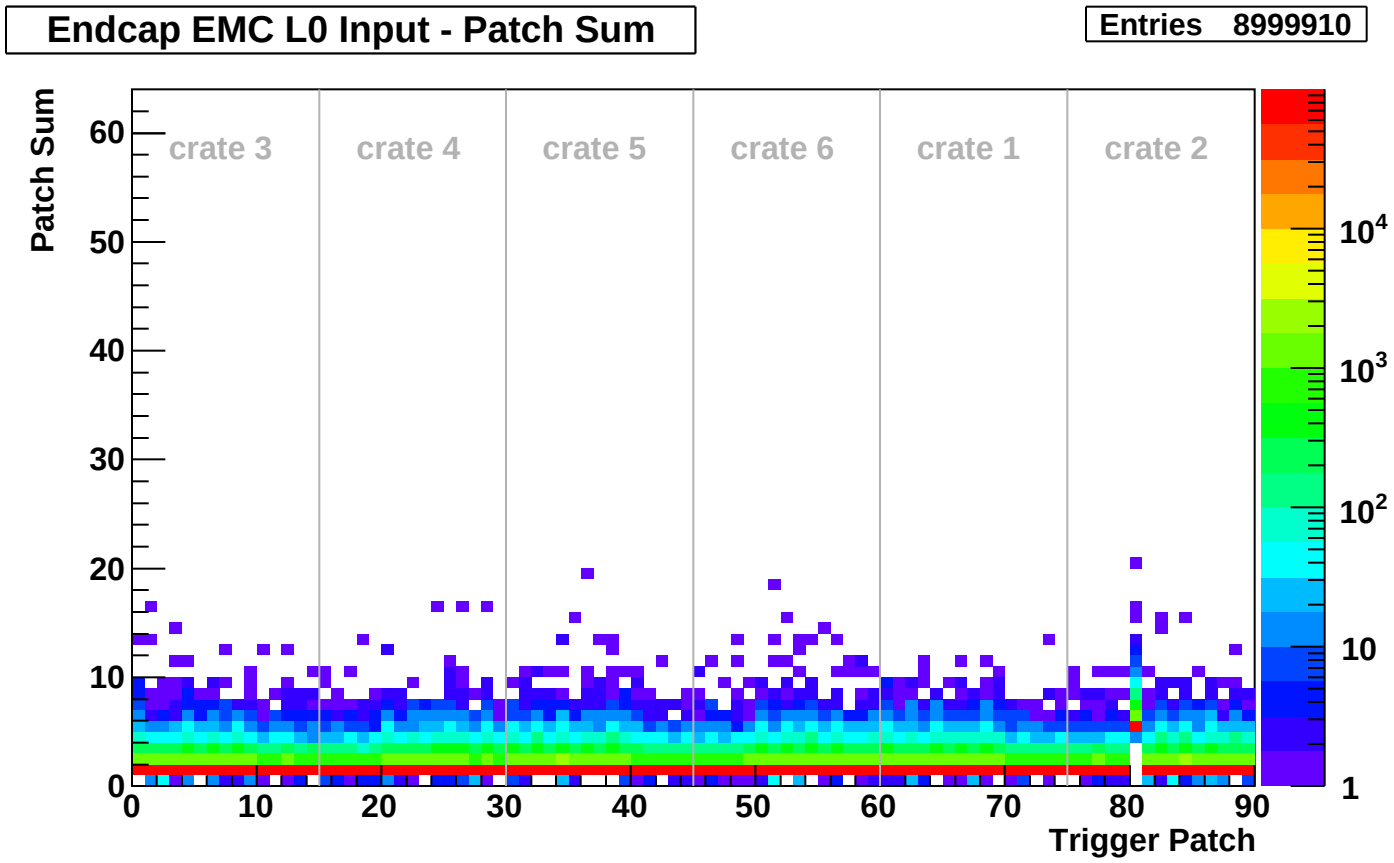
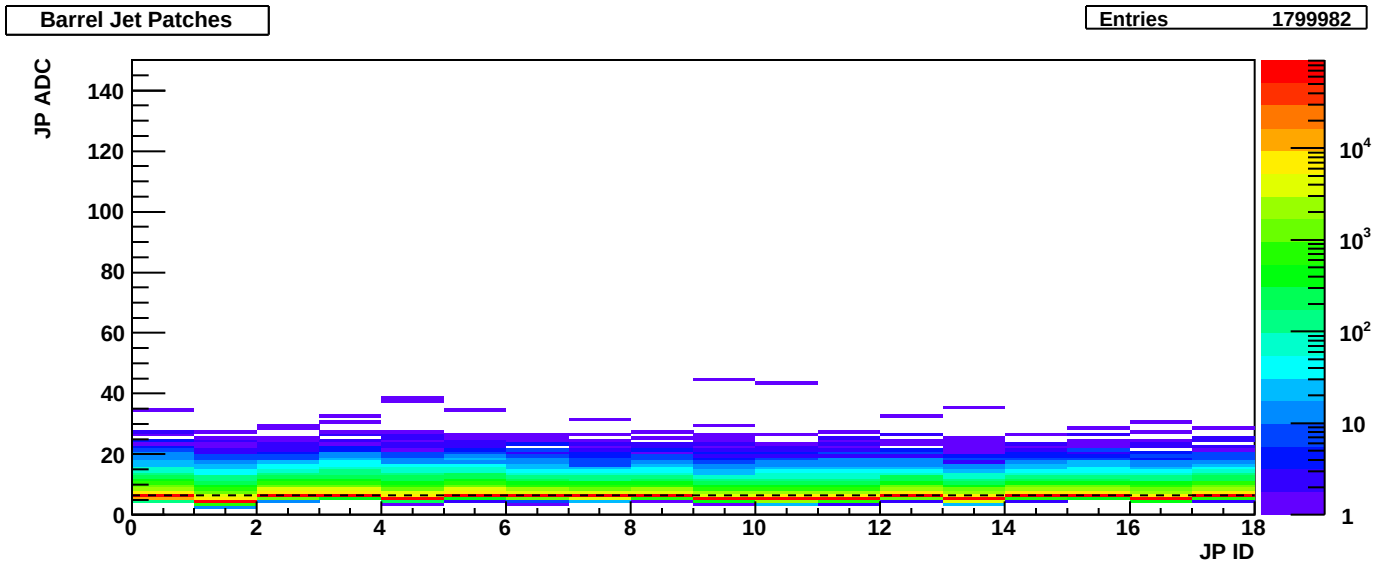
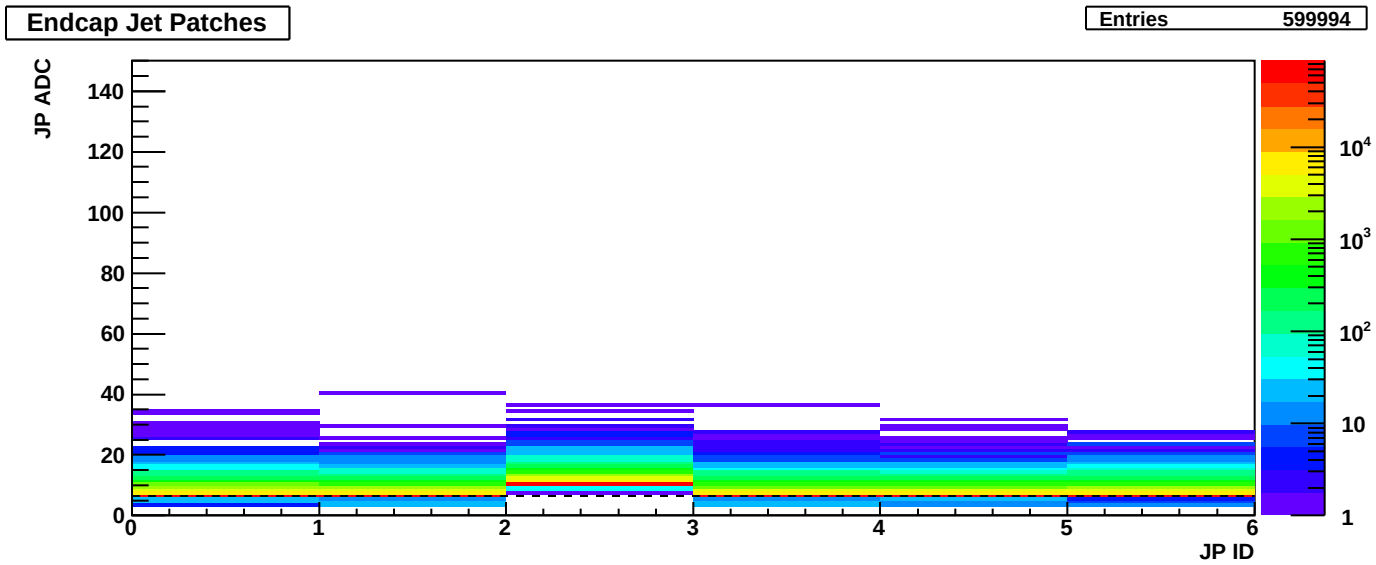

Barrel EMC L0 Input - High Tower
Entries 2.99997e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

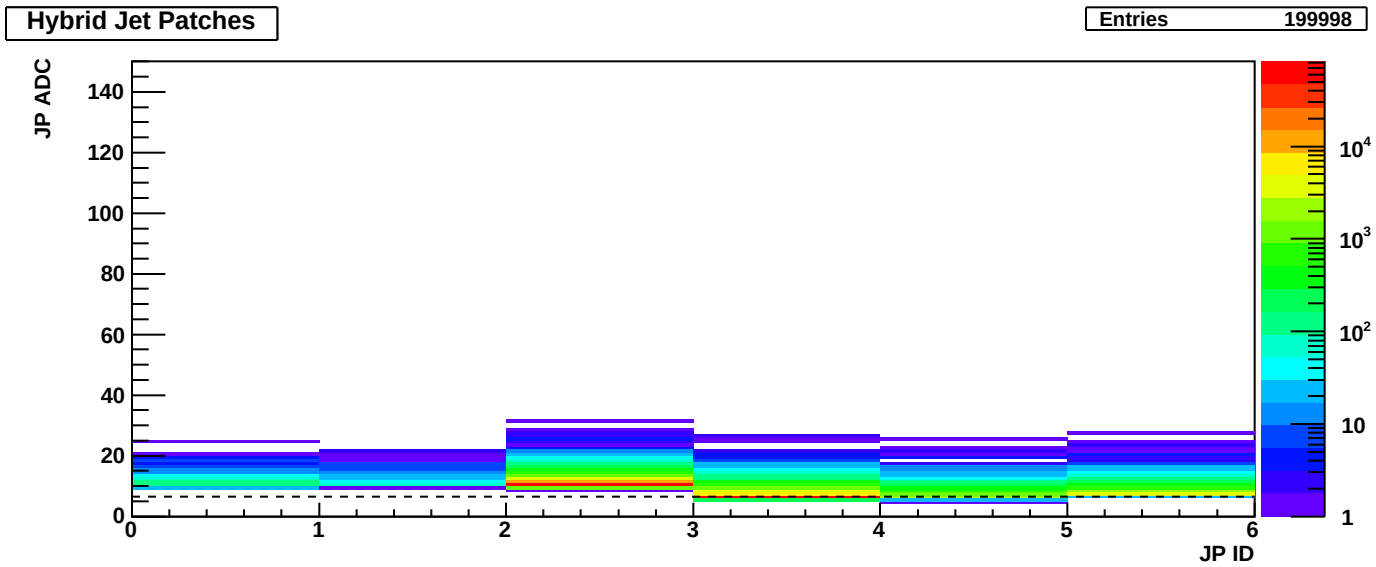

Barrel EMC L0 Input - Patch Sum
Entries 2.99997e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4

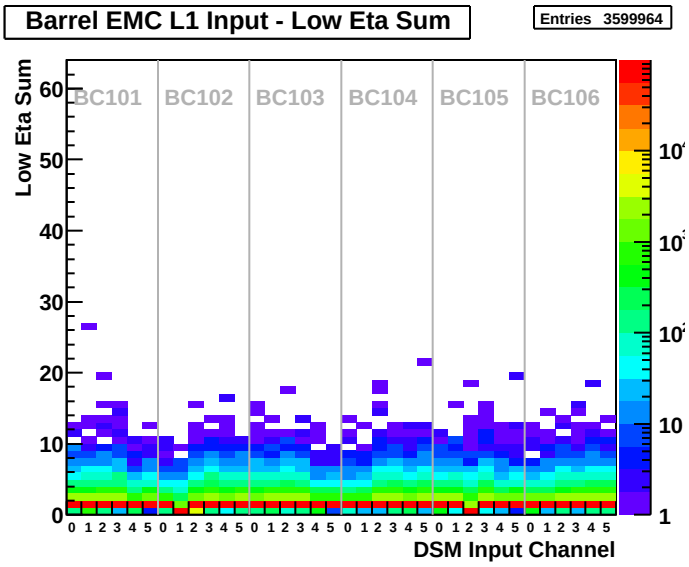

Endcap EMC L0 Input - High Tower
Entries 8999910
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

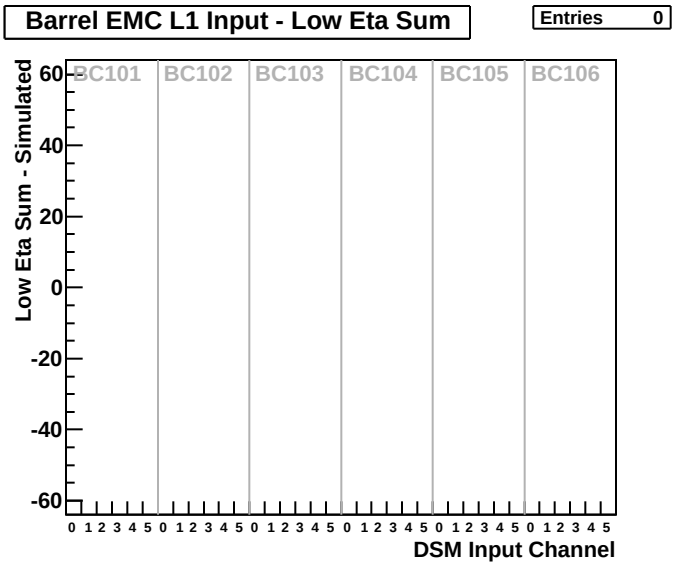

Endcap EMC L0 Input - Patch Sum
Entries 8999910
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

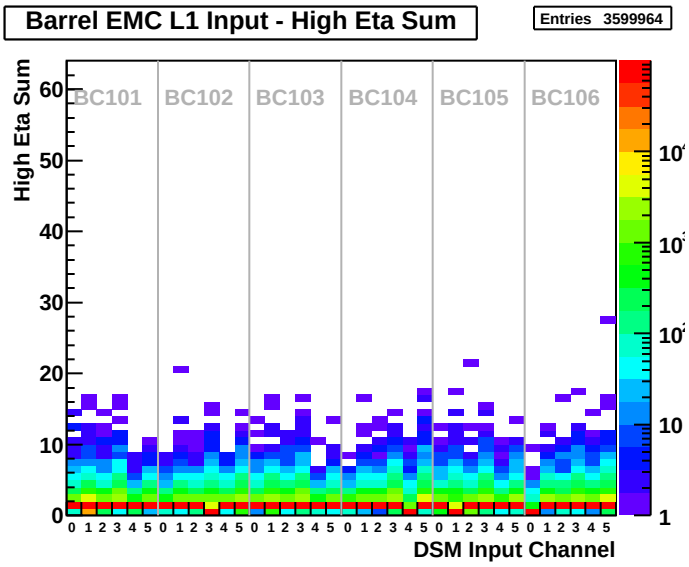

Barrel Jet Patches
Entries 1799982
JP ADC
JP ID

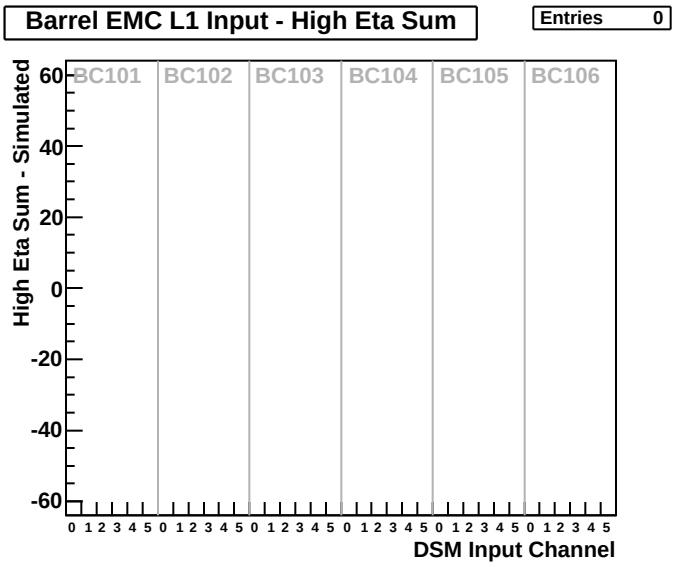

Endcap Jet Patches
Entries 599994
JP ADC
JP ID

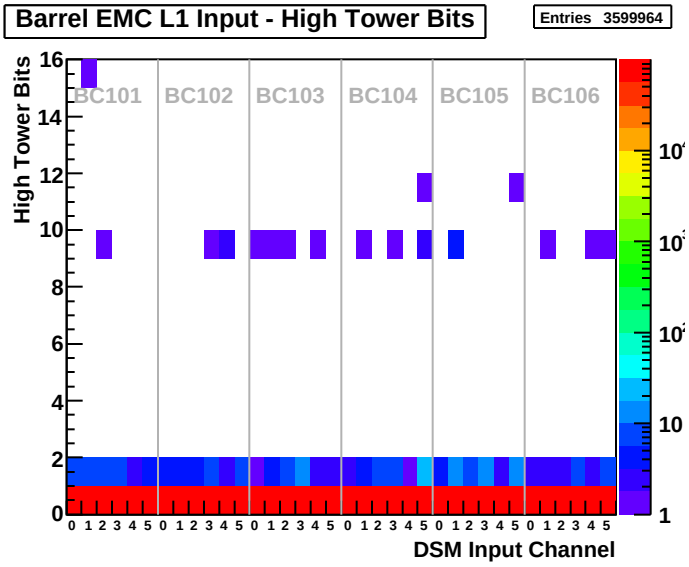

Hybrid Jet Patches
Entries 199998
JP ADC
JP ID

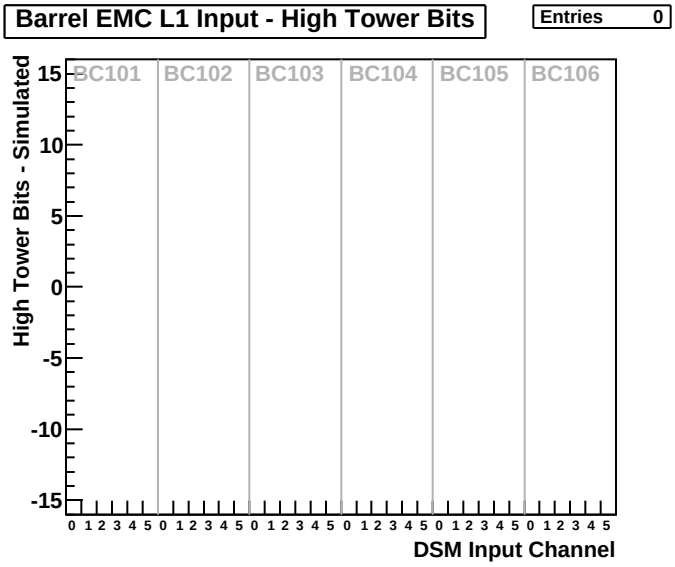

Barrel EMC L1 Input - Low Eta Sum
Entries 3599964
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

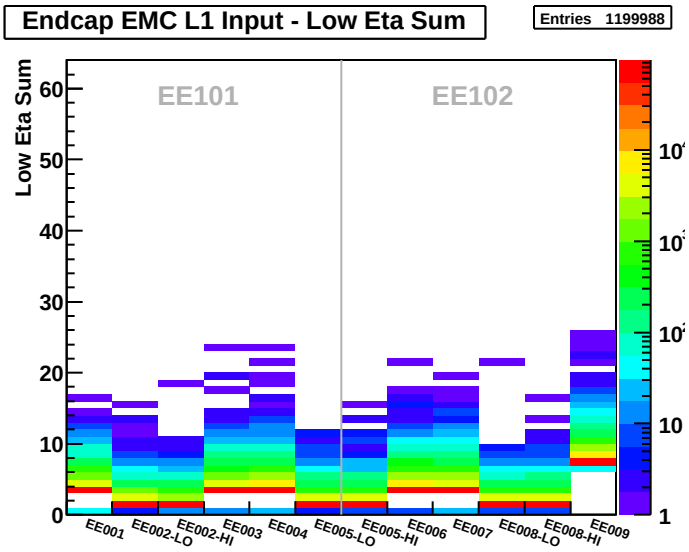

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

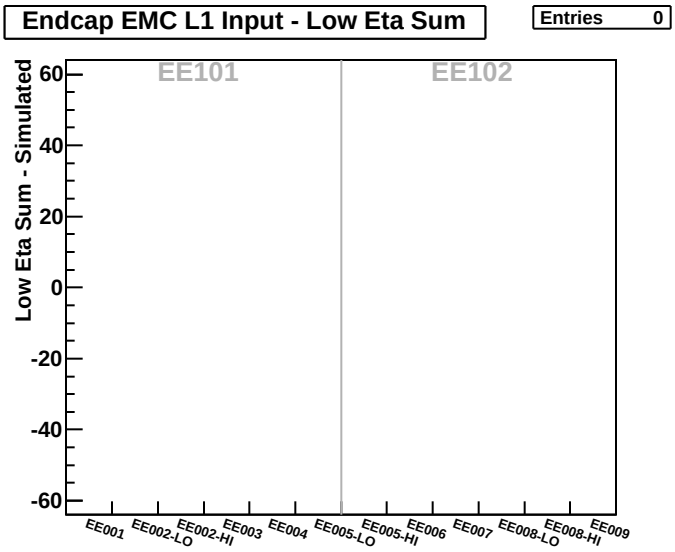

Barrel EMC L1 Input - High Eta Sum
Entries 3599964
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

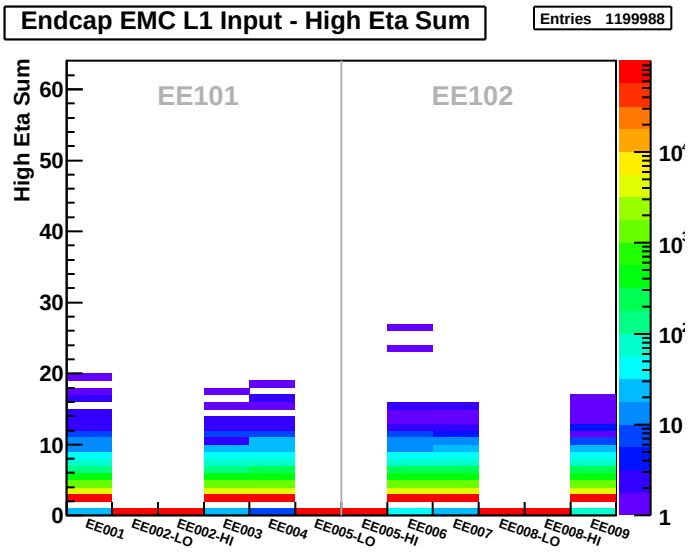

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

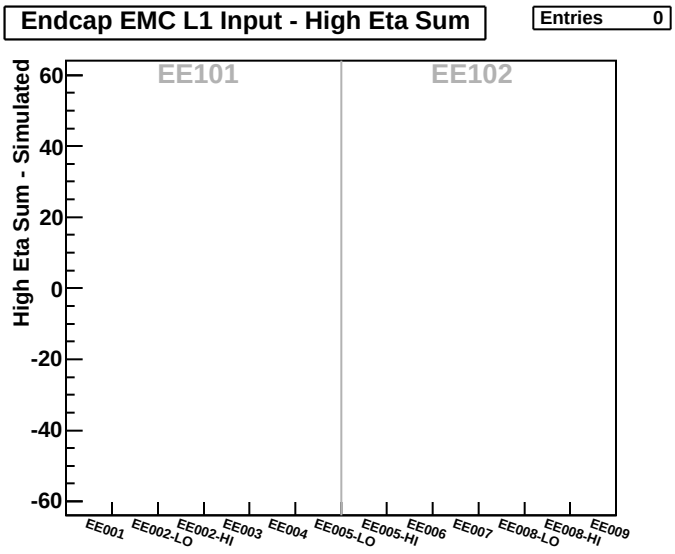

Barrel EMC L1 Input - High Tower Bits
Entries 3599964
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

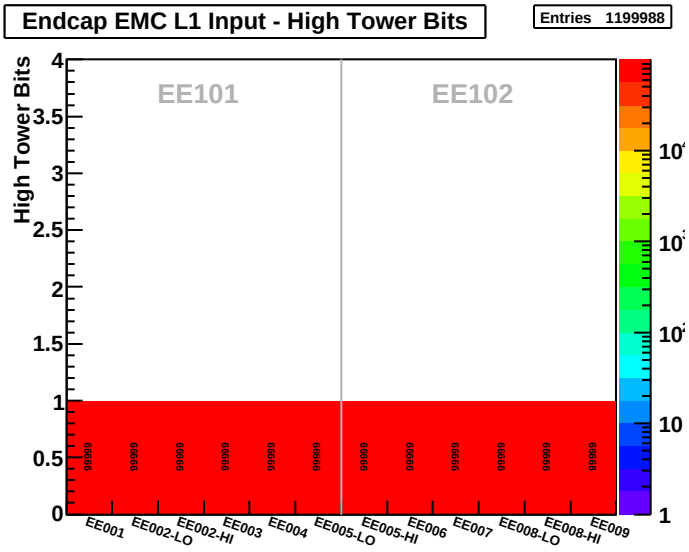

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

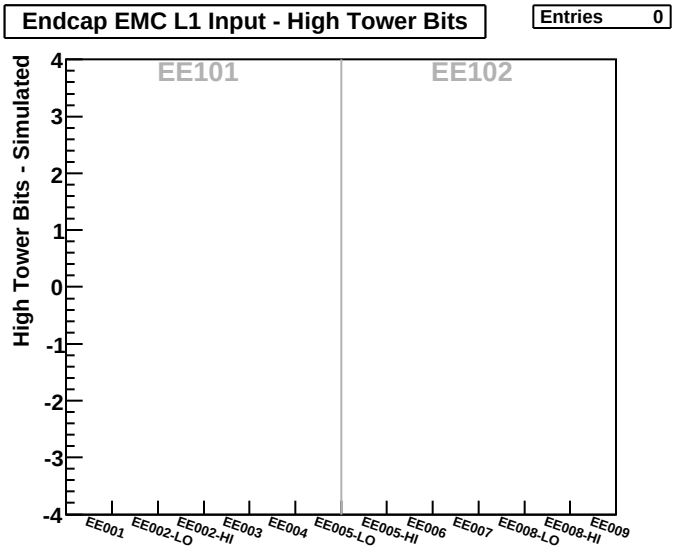

Endcap EMC L1 Input - Low Eta Sum
Entries 1199988
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

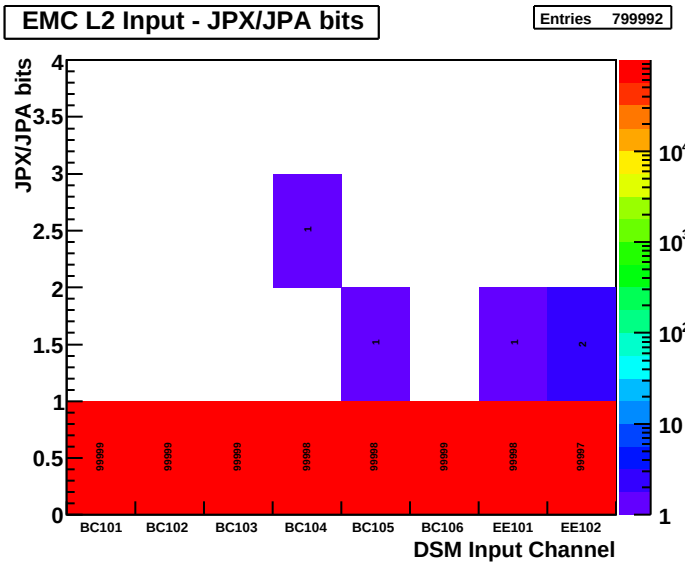

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

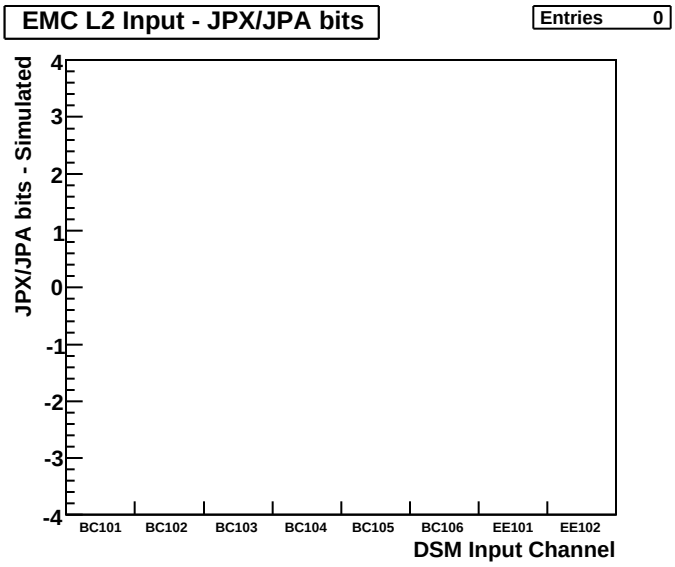

Endcap EMC L1 Input - High Eta Sum
Entries 1199988
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

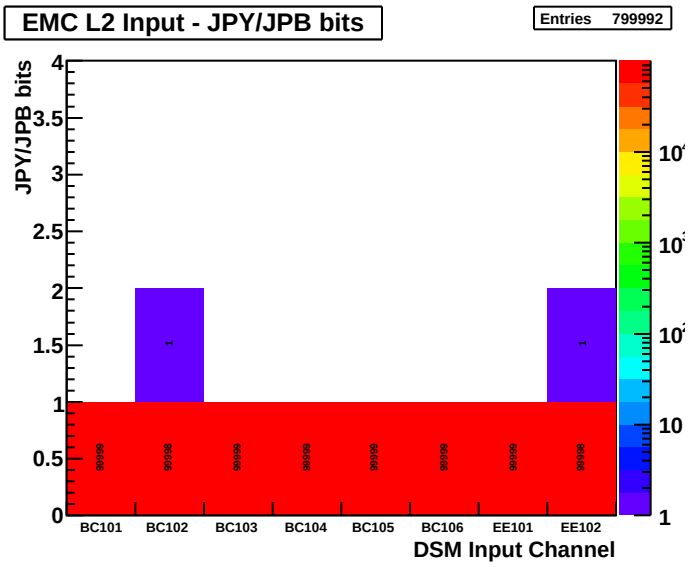

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

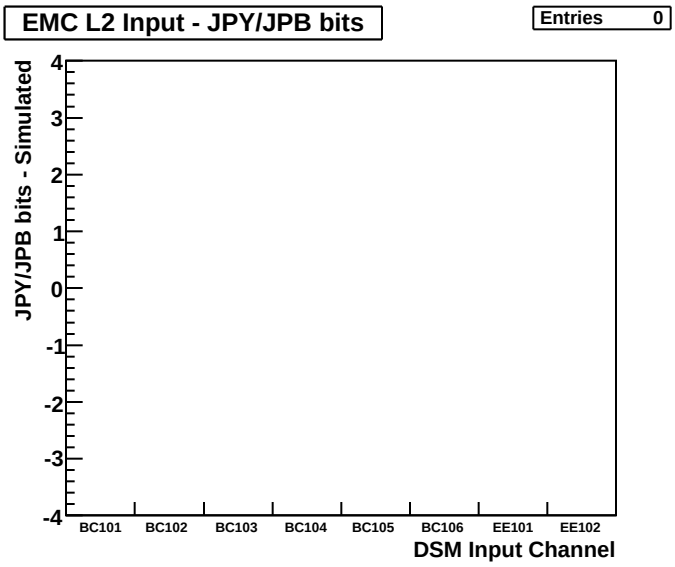

Endcap EMC L1 Input - High Tower Bits
Entries 1199988
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

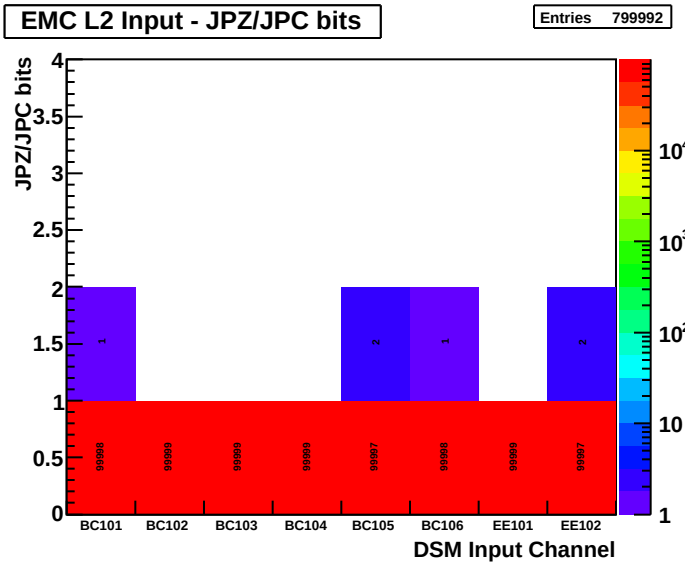

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

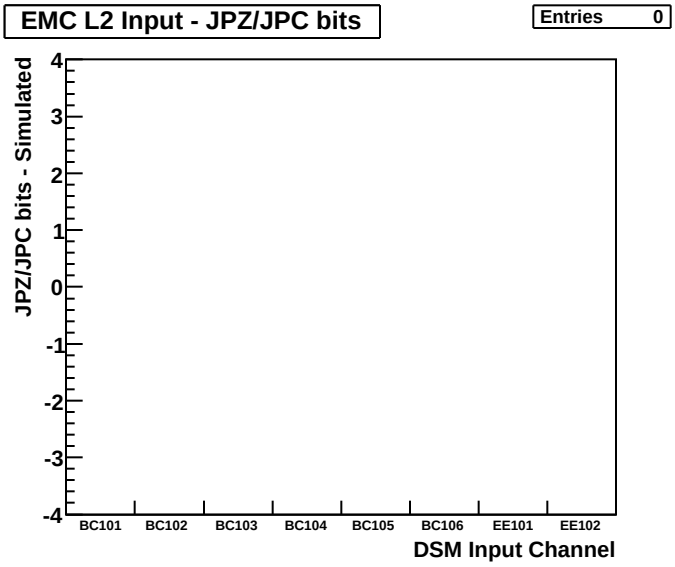

EMC L2 Input - JPX/JPA bits
Entries 799992
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

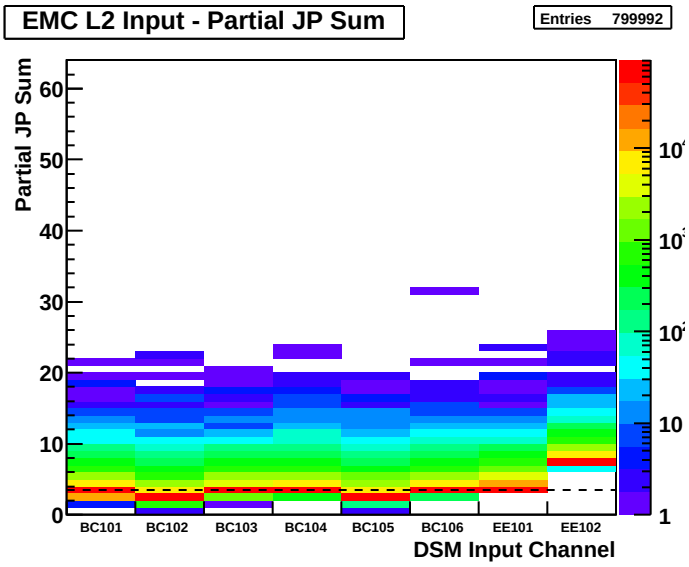

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

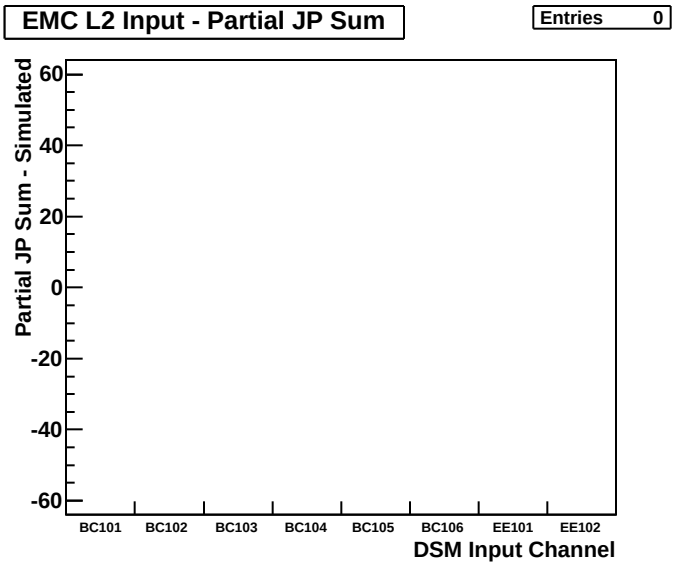

EMC L2 Input - JPY/JPB bits
Entries 799992
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

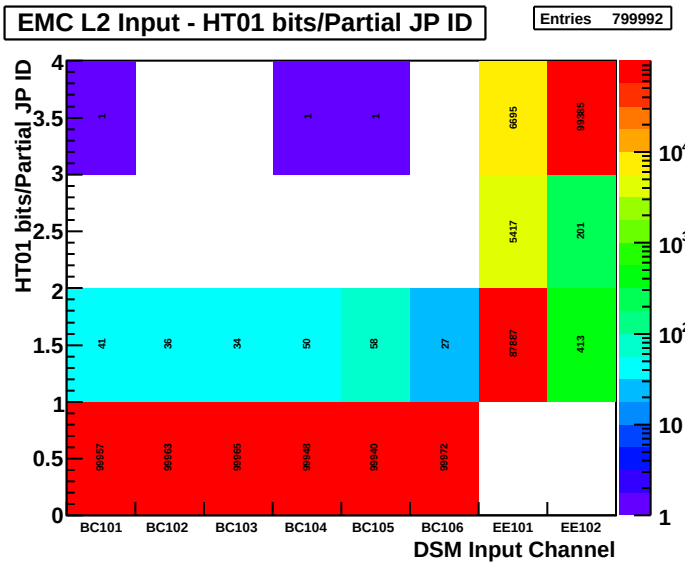

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

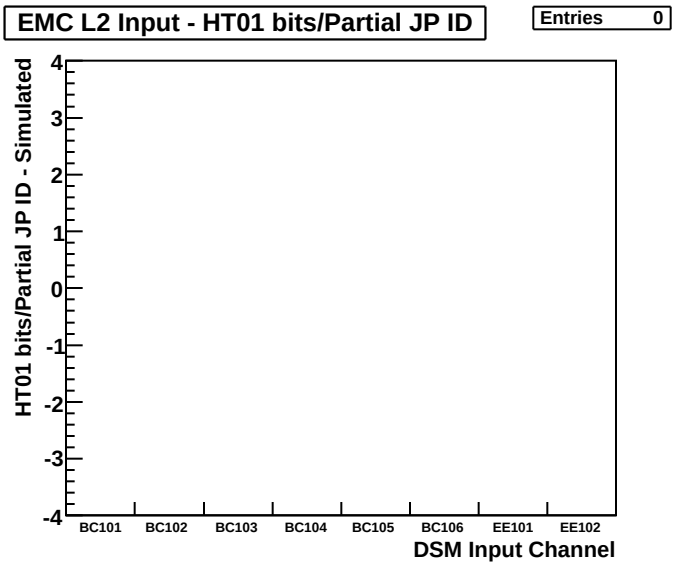

EMC L2 Input - JPZ/JPC bits
Entries 799992
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

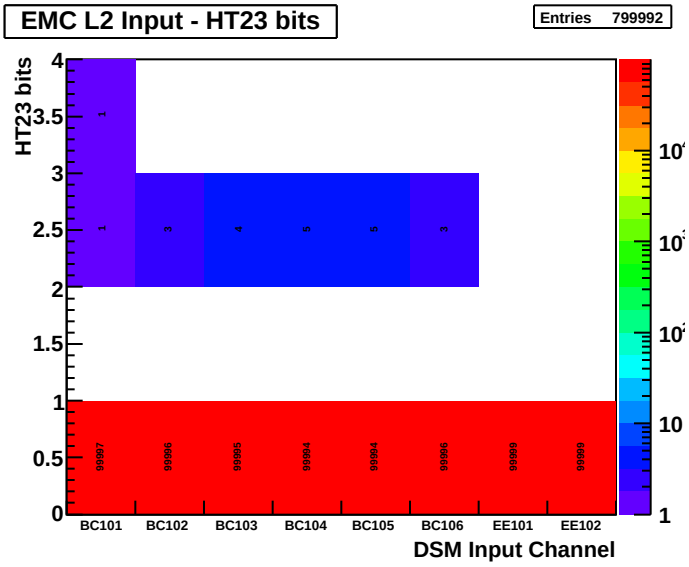

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

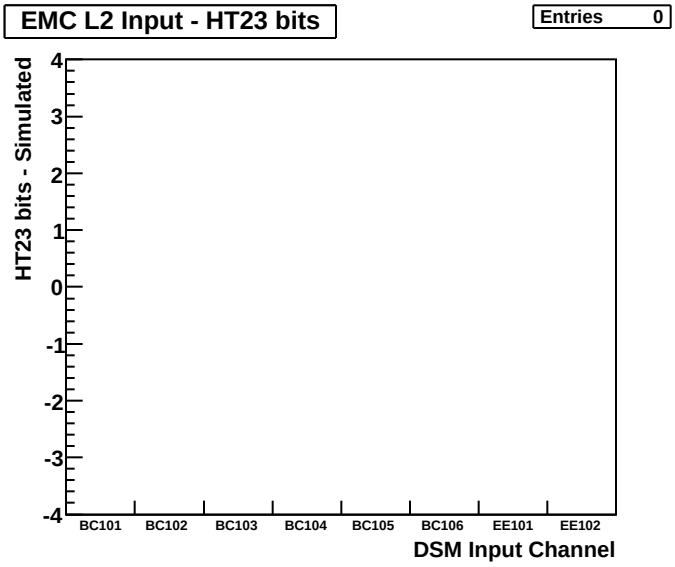

EMC L2 Input - Partial JP Sum
Entries 799992
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

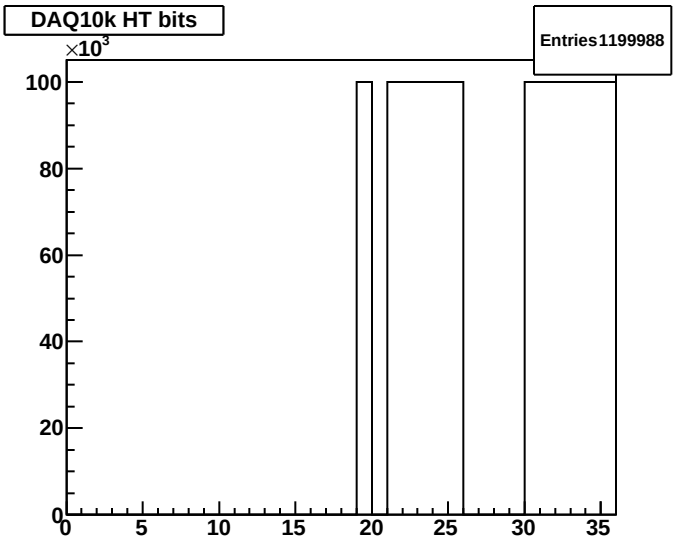

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

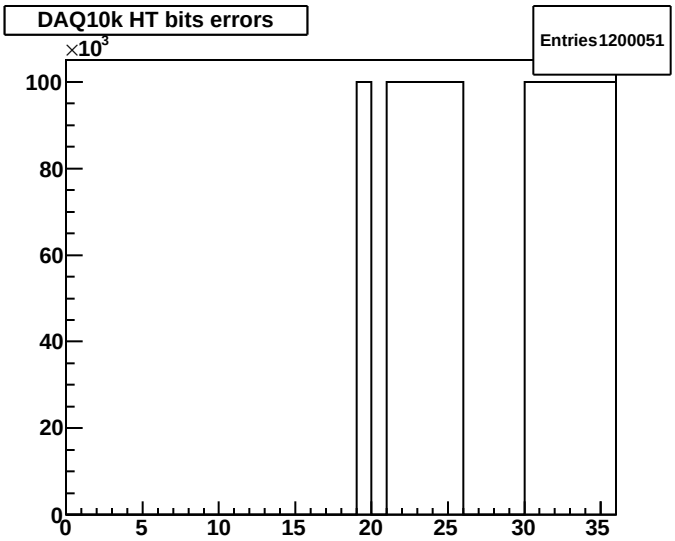

EMC L2 Input - HT01 bits/Partial JP ID
Entries 799992
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

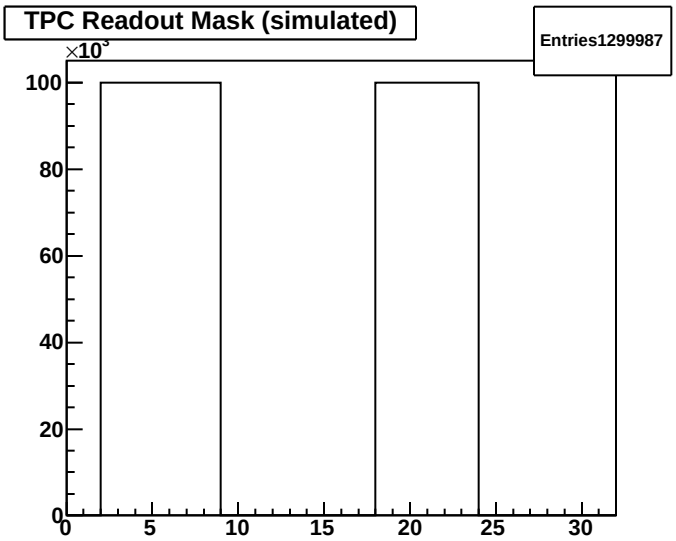

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

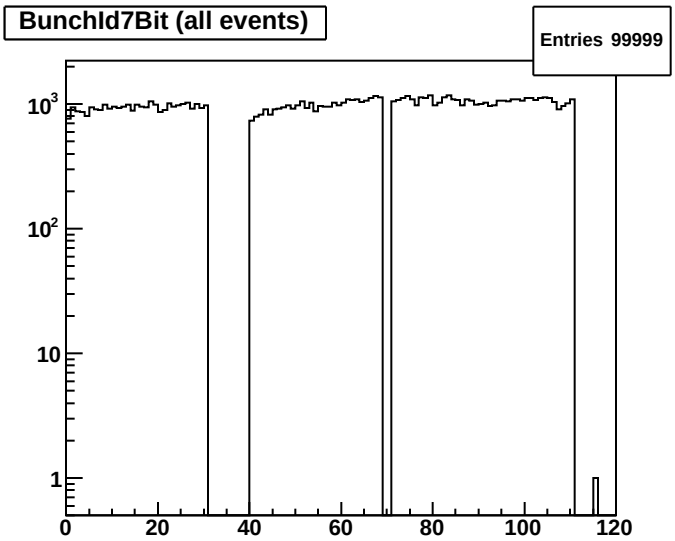

EMC L2 Input - HT23 bits
Entries 799992
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

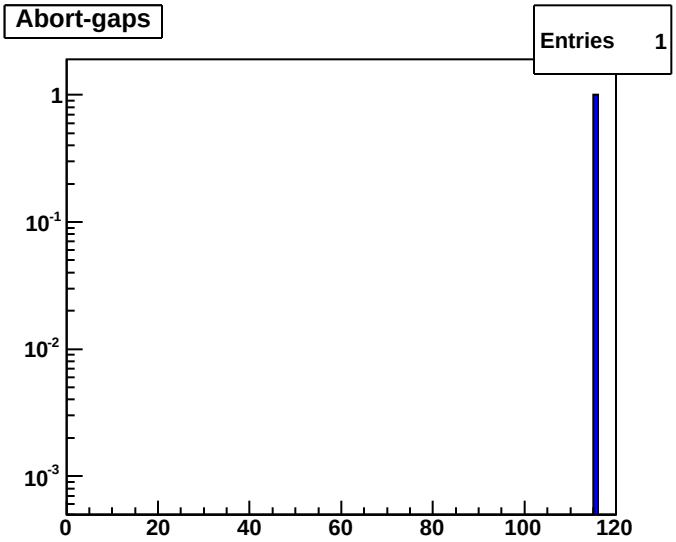

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

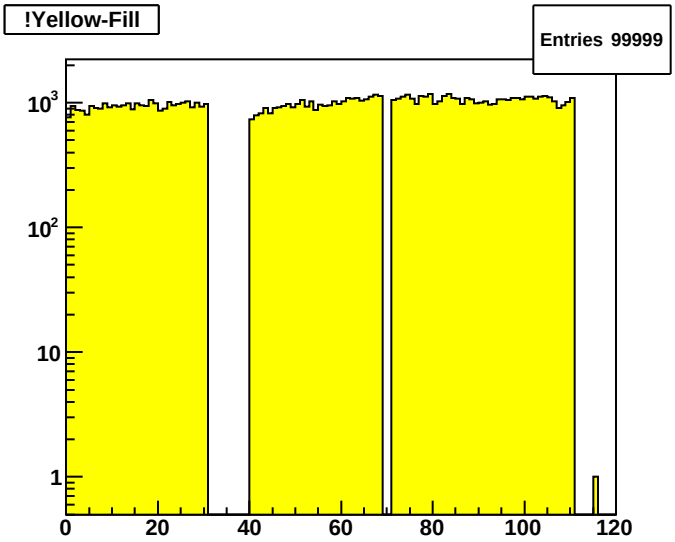

DAQ10k HT bits
Entries 1199988
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

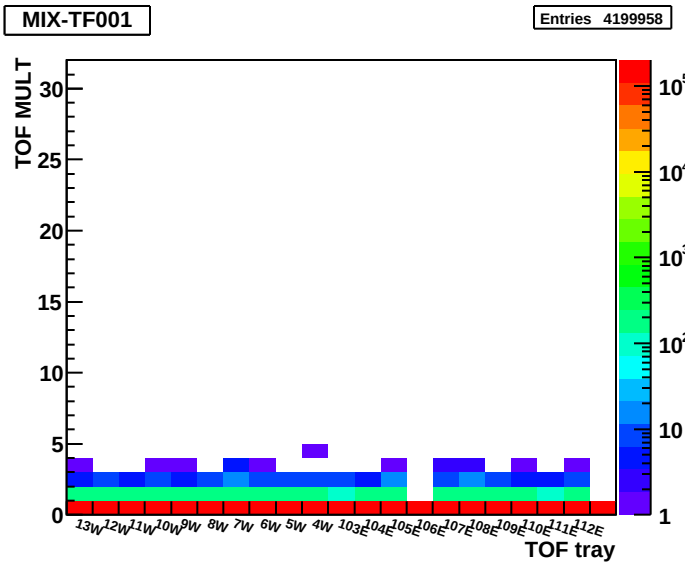

DAQ10k HT bits errors
Entries 1200051
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

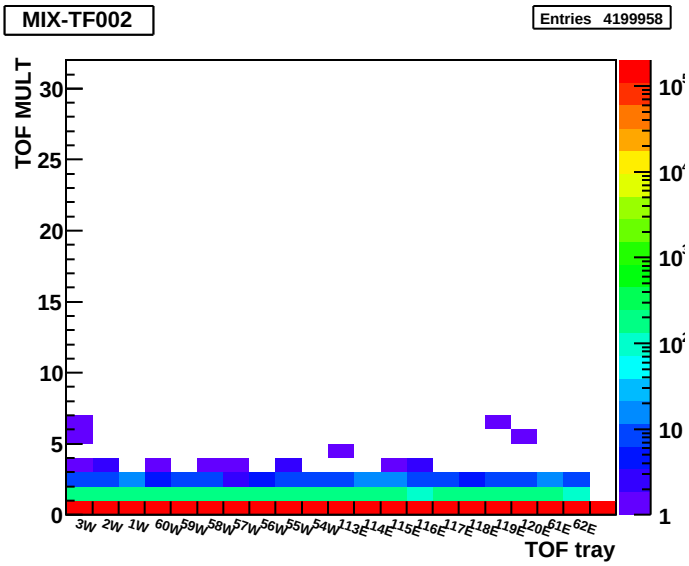

TPC Readout Mask (simulated)
Entries 1299987
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30

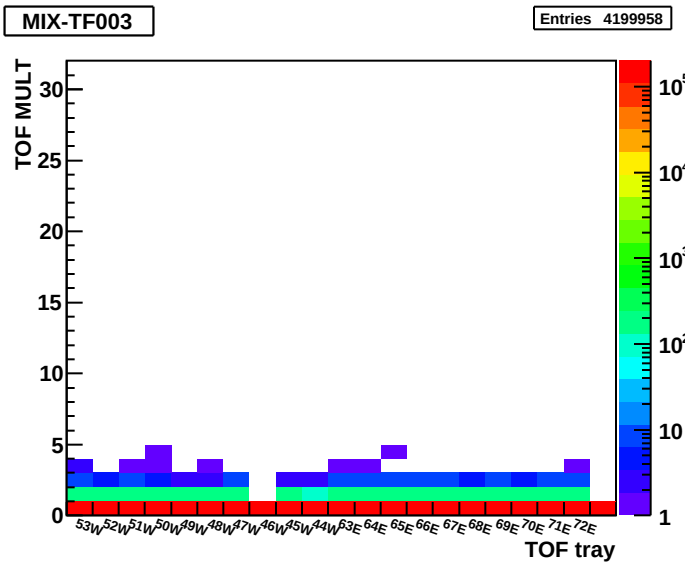

BunchId7Bit (all events)
Entries 99999
10^3
10^2
10
1
0 20 40 60 80 100 120

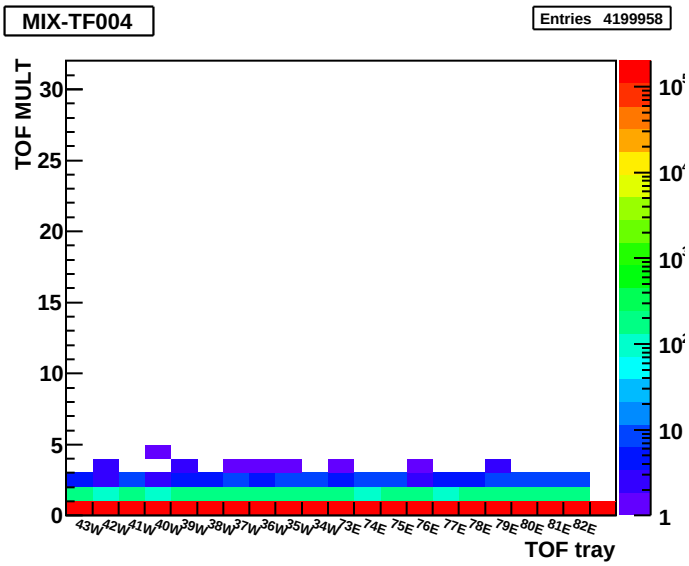

Abort-gaps
Entries 1
1
10^-1
10^-2
10^-3
0 20 40 60 80 100 120

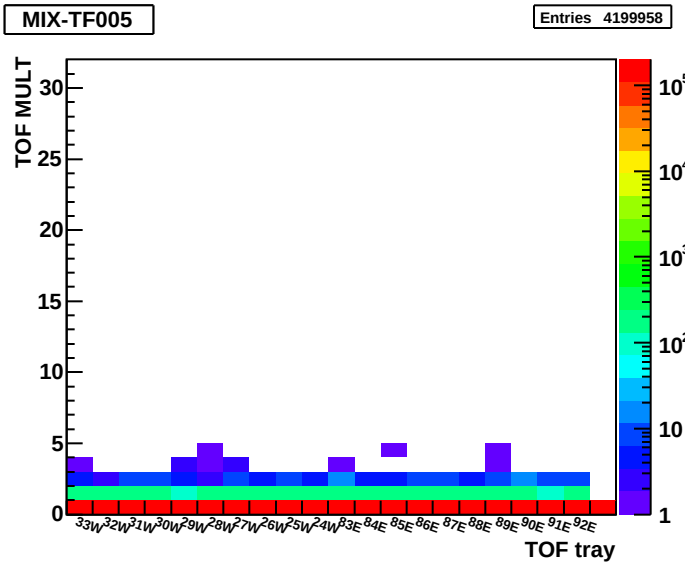

!Yellow-Fill
Entries 99999
10^3
10^2
10
1
0 20 40 60 80 100 120

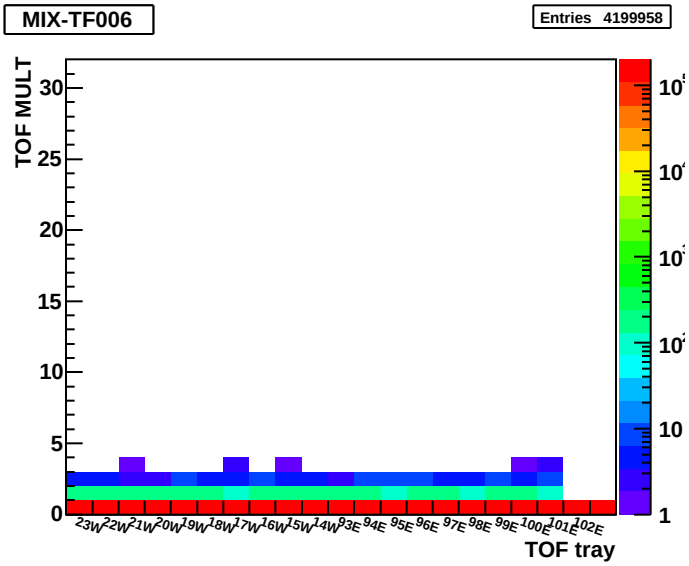

MIX-TF001
Entries 4199958
TOF MULT
TOF tray

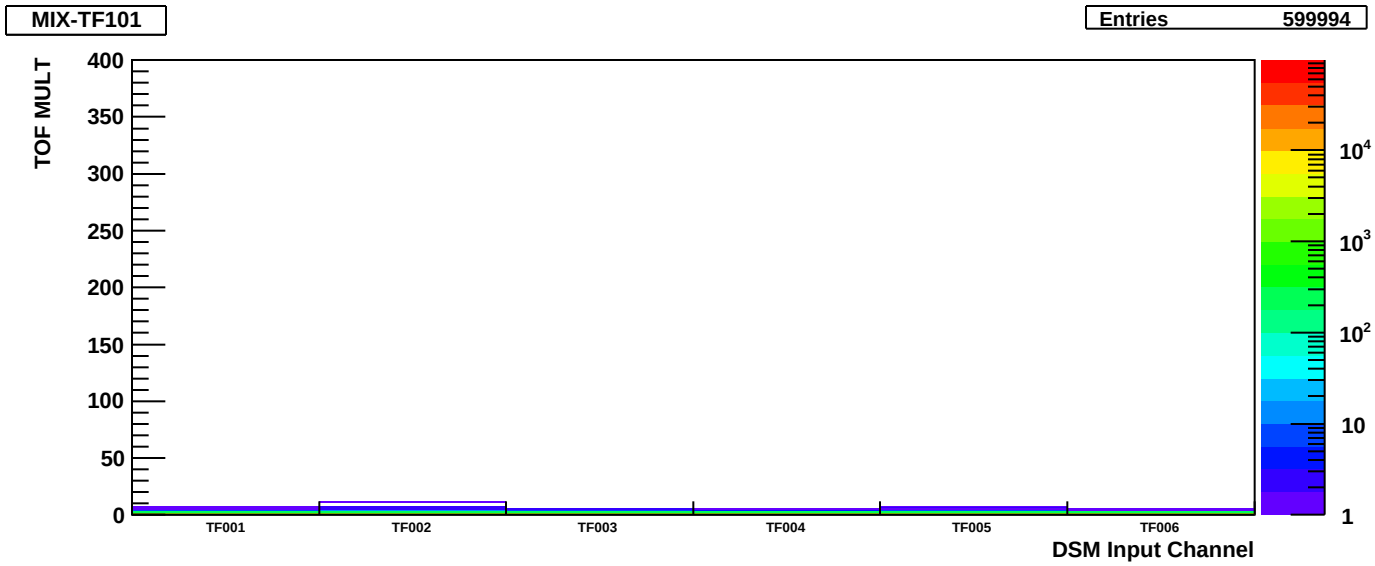

MIX-TF002
Entries 4199958
TOF MULT
TOF tray

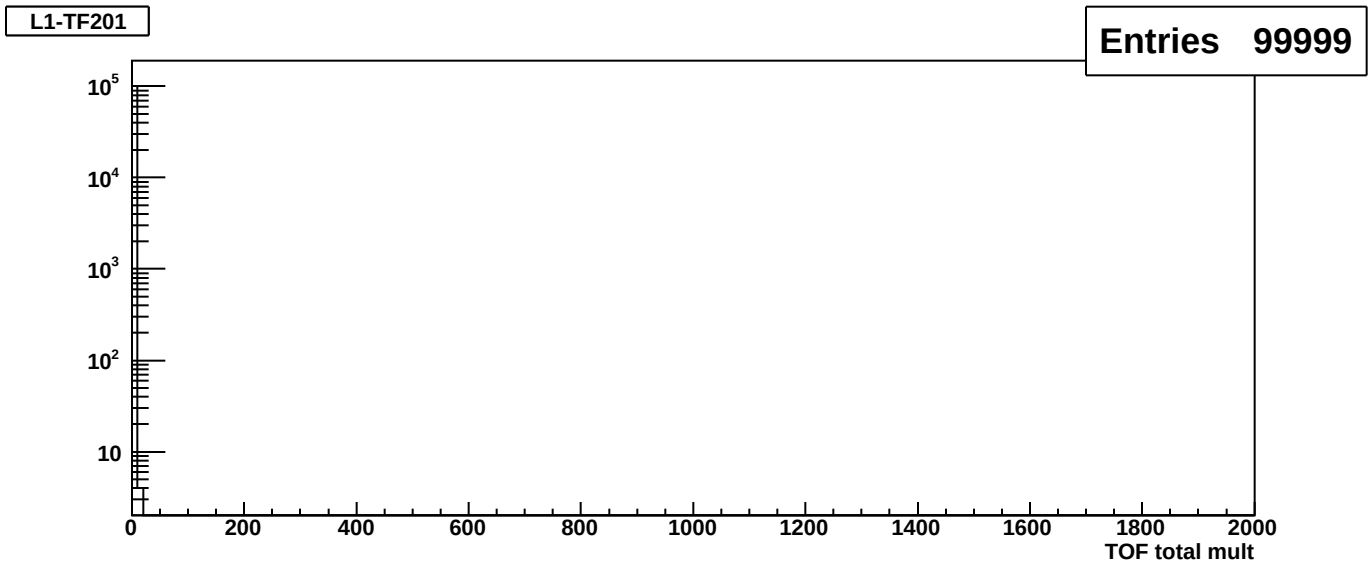

MIX-TF003
Entries 4199958
TOF MULT
TOF tray

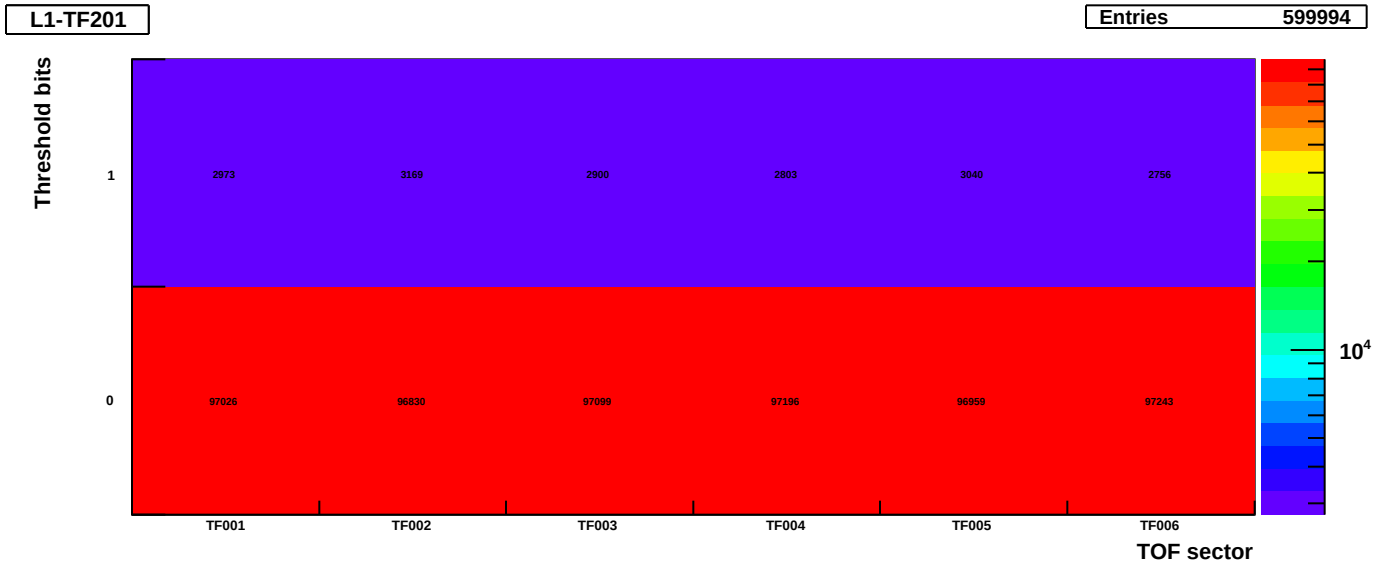

MIX-TF004
Entries 4199958
TOF MULT
TOF tray

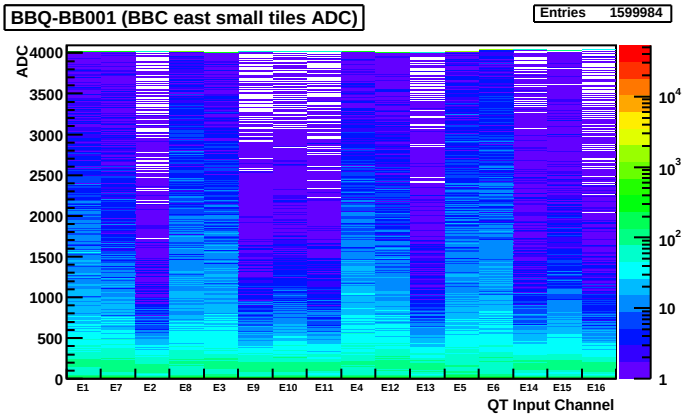

MIX-TF005
Entries 4199958
TOF MULT
TOF tray

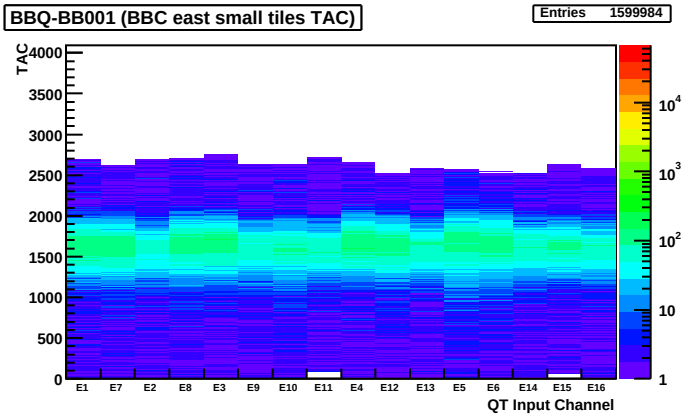

MIX-TF006
Entries 4199958
TOF MULT
TOF tray

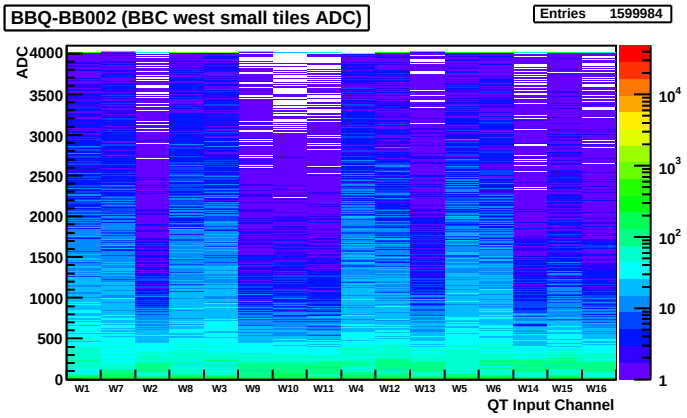

MIX-TF101
Entries 599994
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^4
10^3
10^2
10
1

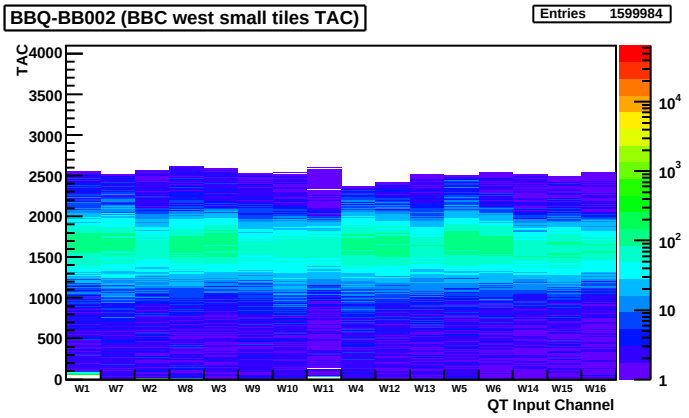

L1-TF201
Entries 99999
10^5
10^4
10^3
10^2
10
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

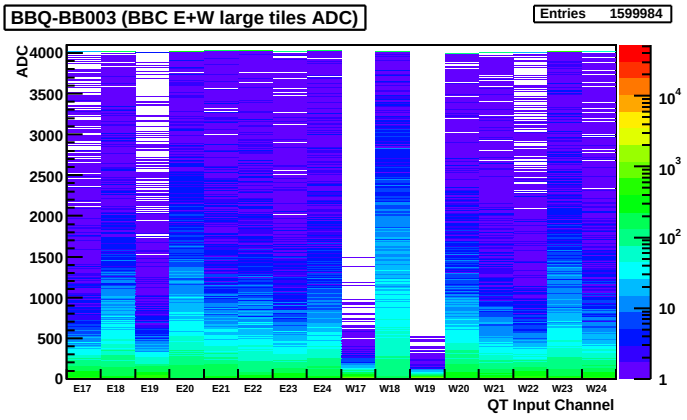

L1-TF201
Entries 599994
Threshold bits
1
0
2973
3169
2900
2803
3040
2756
97026
96830
97099
97196
96959
97243
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^4

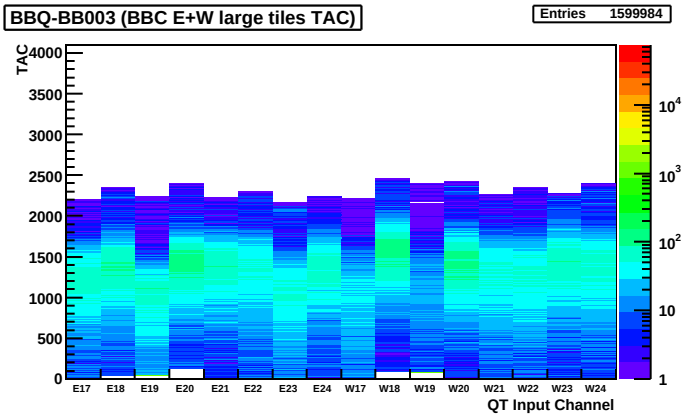

BBQ-BB001 (BBC east small tiles ADC)
Entries 1599984
ADC
QT Input Channel

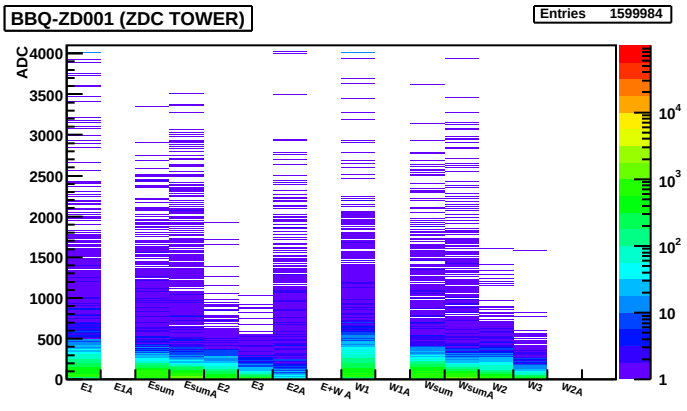

BBQ-BB001 (BBC east small tiles TAC)
Entries 1599984
TAC
QT Input Channel

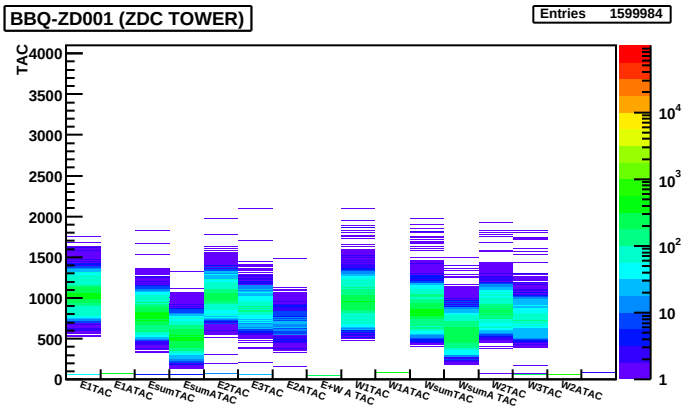

BBQ-BB002 (BBC west small tiles ADC)
Entries 1599984
ADC
QT Input Channel

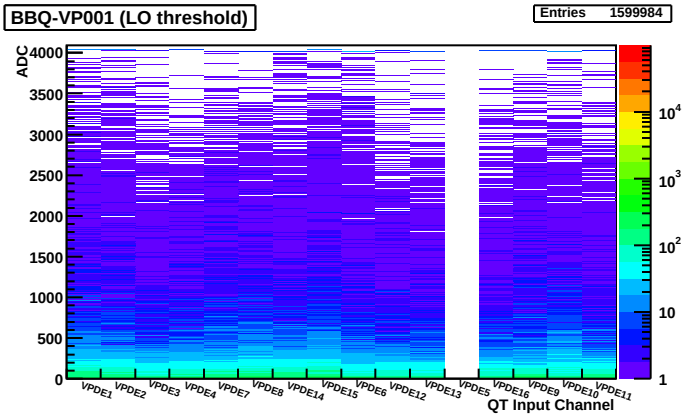

BBQ-BB002 (BBC west small tiles TAC)
Entries 1599984
TAC
QT Input Channel

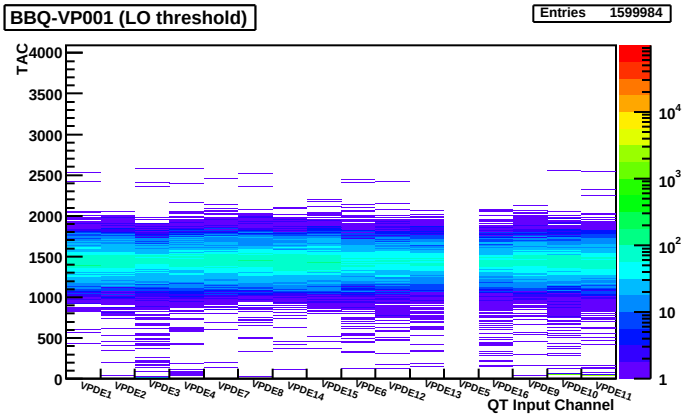

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1599984
ADC
QT Input Channel

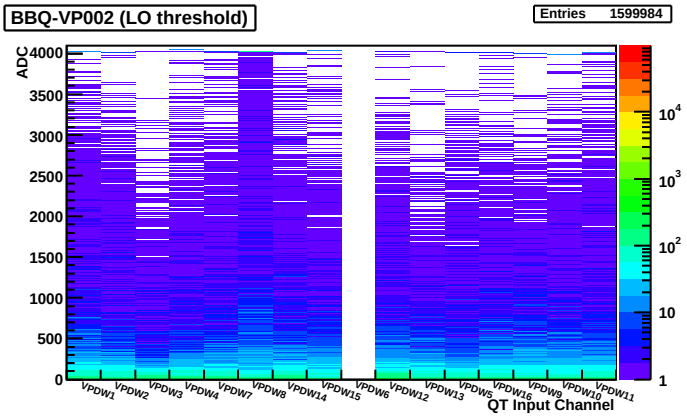

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1599984
TAC
QT Input Channel

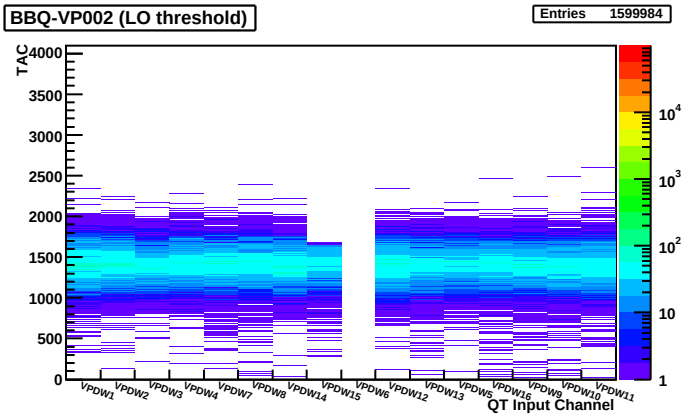

BBQ-ZD001 (ZDC TOWER)
Entries 1599984
ADC

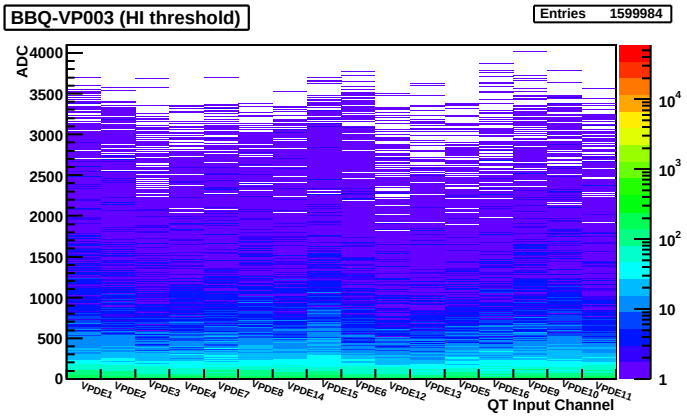

BBQ-ZD001 (ZDC TOWER)
Entries 1599984
TAC

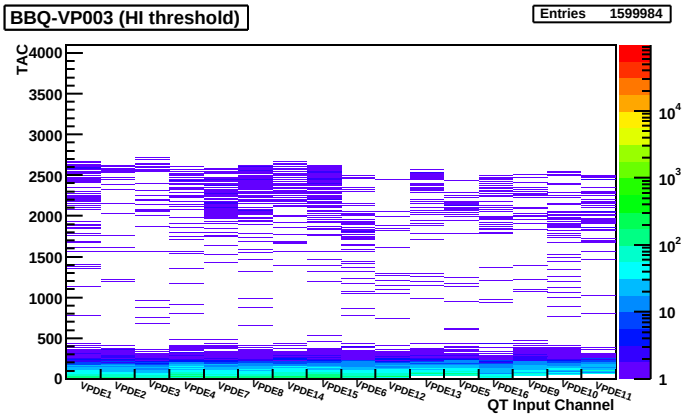

BBQ-VP001 (LO threshold)
Entries 1599984
ADC
QT Input Channel

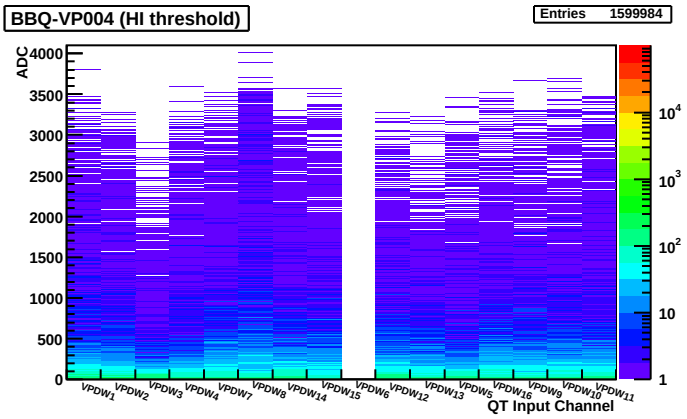

BBQ-VP001 (LO threshold)
Entries 1599984
TAC
QT Input Channel

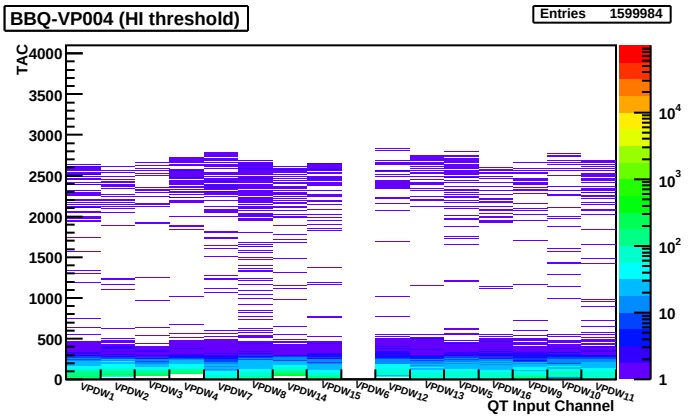

BBQ-VP002 (LO threshold)
Entries 1599984
ADC
QT Input Channel

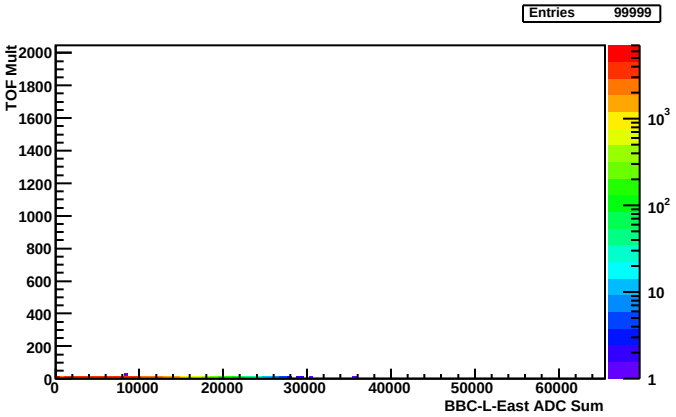

BBQ-VP002 (LO threshold)
Entries 1599984
TAC
QT Input Channel

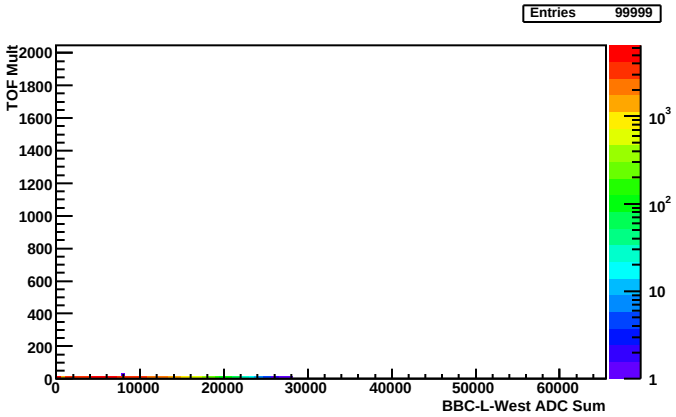

BBQ-VP003 (HI threshold)
Entries 1599984
ADC
QT Input Channel

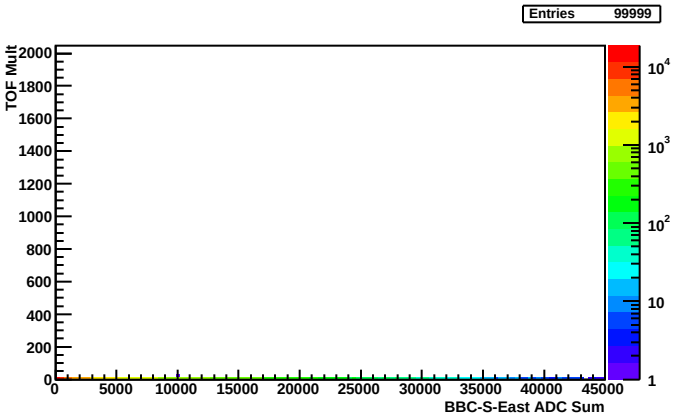

BBQ-VP003 (HI threshold)
Entries 1599984
TAC
QT Input Channel

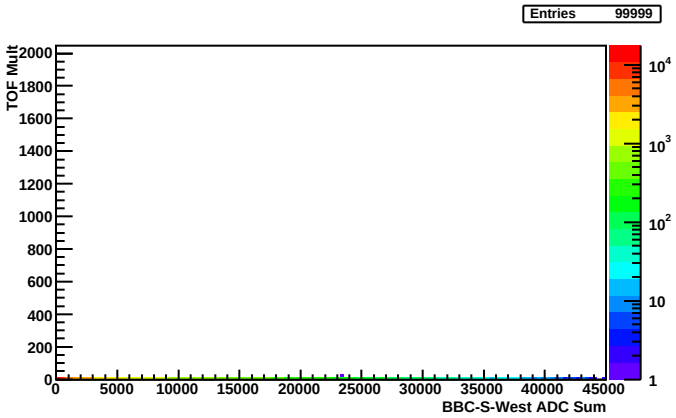

BBQ-VP004 (HI threshold)
Entries 1599984
ADC
QT Input Channel

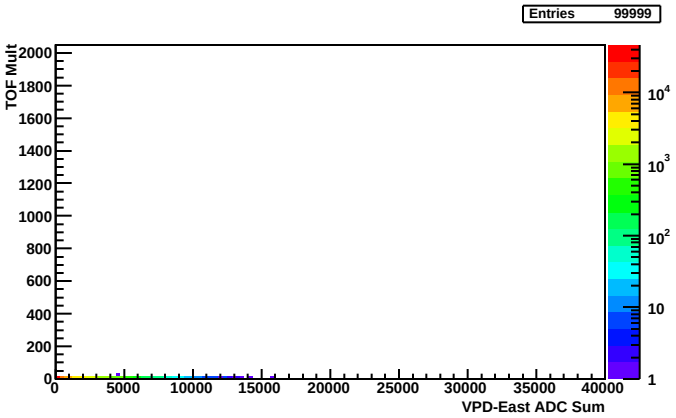

BBQ-VP004 (HI threshold)
Entries 1599984
TAC
QT Input Channel

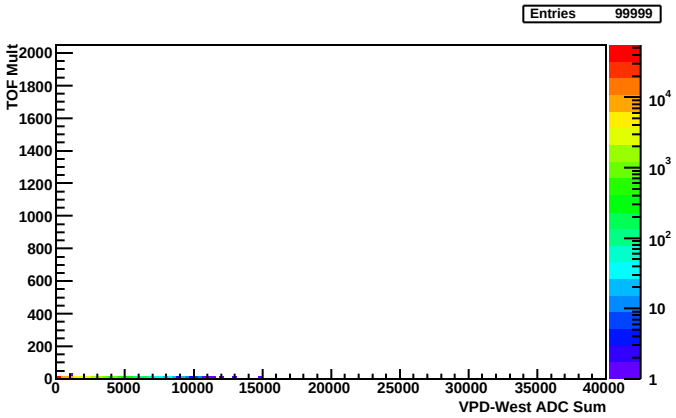

Entries 99999
TOF Mult
BBC-L-East ADC Sum

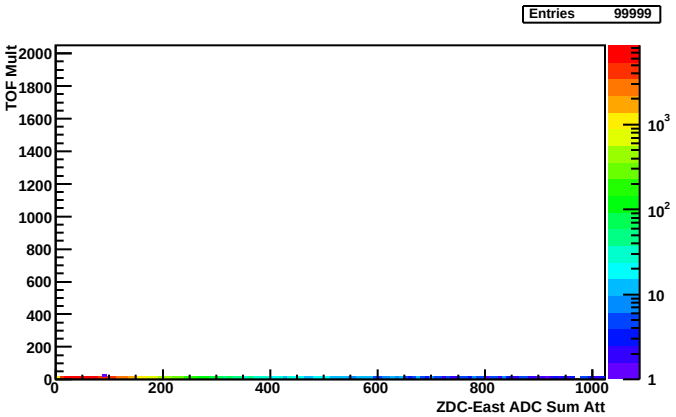

Entries 99999
TOF Mult
BBC-L-West ADC Sum

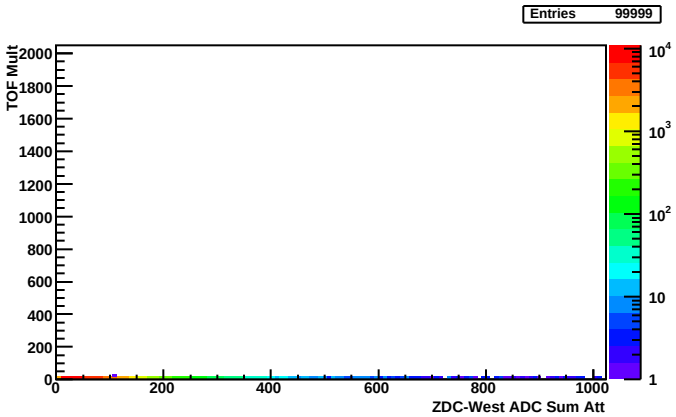

Entries 99999
TOF Mult
BBC-S-East ADC Sum

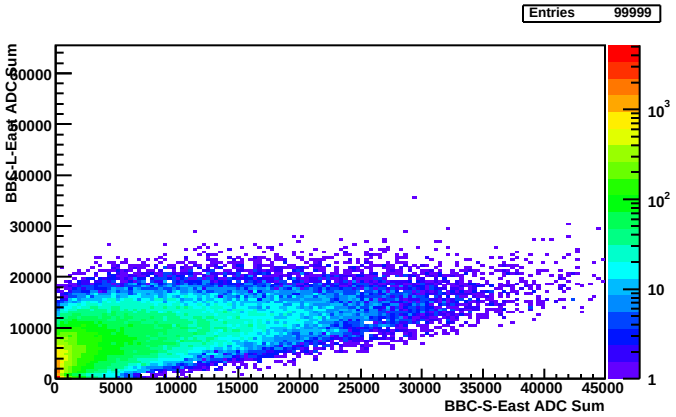

Entries 99999
TOF Mult
BBC-S-West ADC Sum

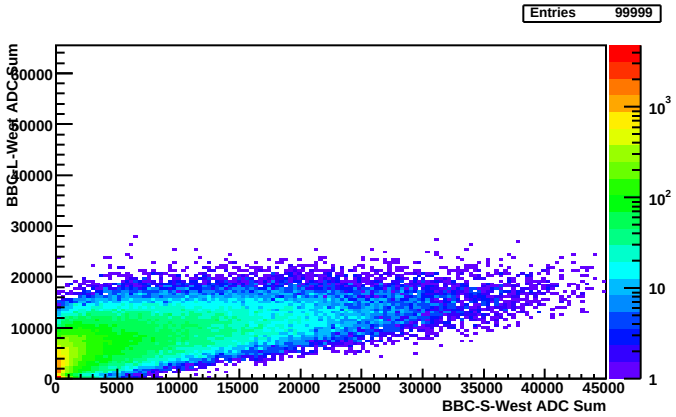

Entries 99999
TOF Mult
VPD-East ADC Sum

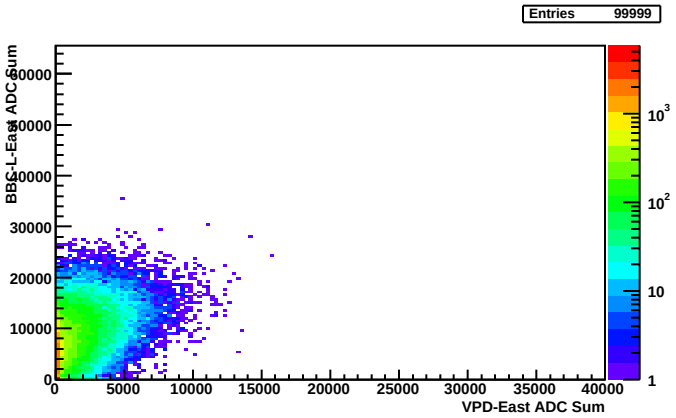

Entries 99999
TOF Mult
VPD-West ADC Sum

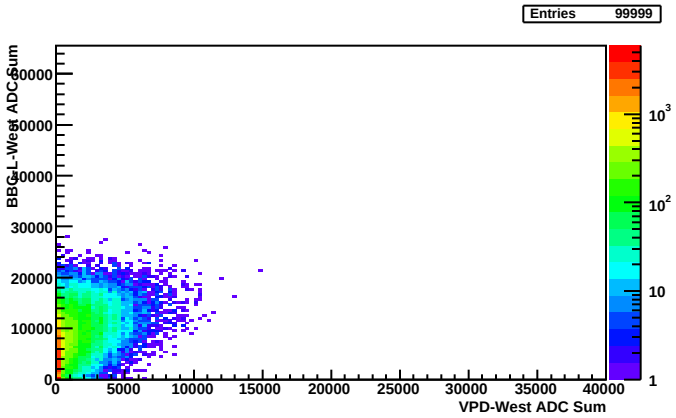

Entries 99999
TOF Mult
ZDC-East ADC Sum Att

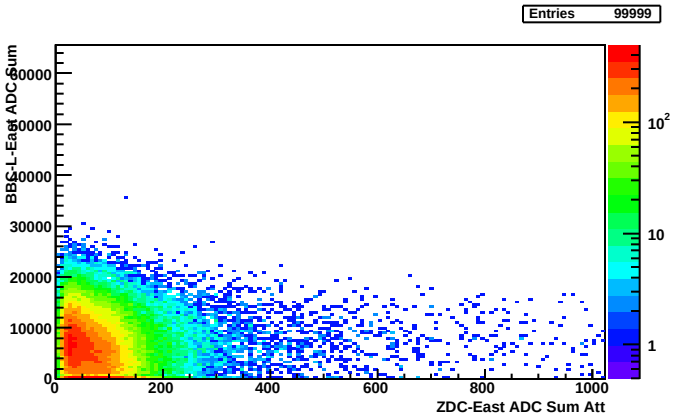

Entries 99999
TOF Mult
ZDC-West ADC Sum Att

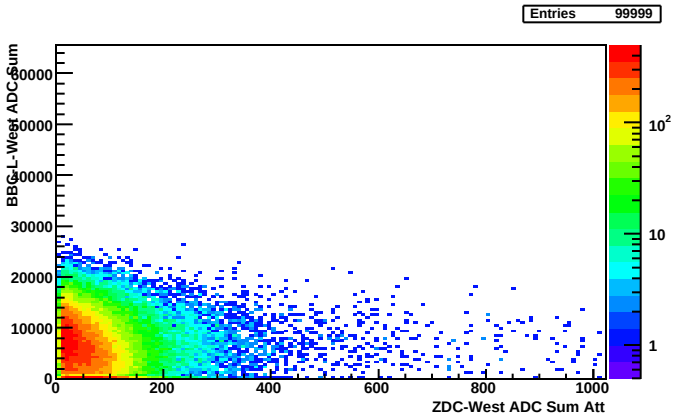

Entries 99999
BBC-L-East ADC Sum
BBC-S-East ADC Sum

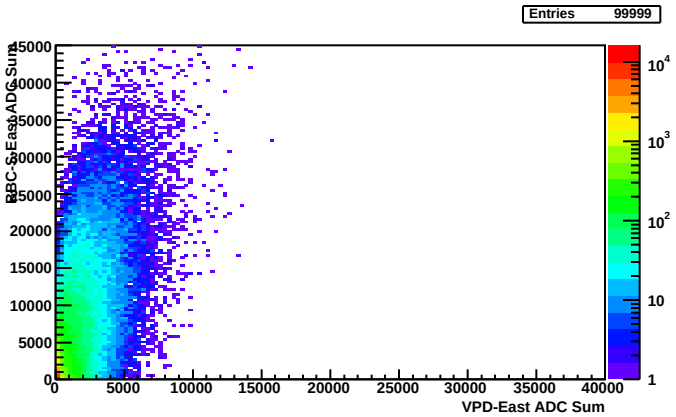

Entries 99999
BBC-L-West ADC Sum
BBC-S-West ADC Sum

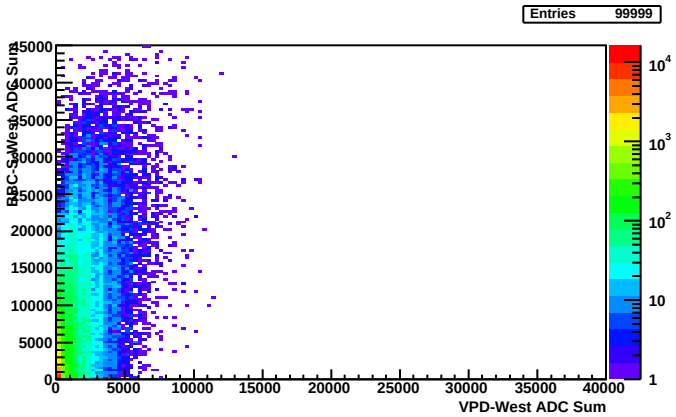

Entries 99999
BBC-L-East ADC Sum
VPD-East ADC Sum

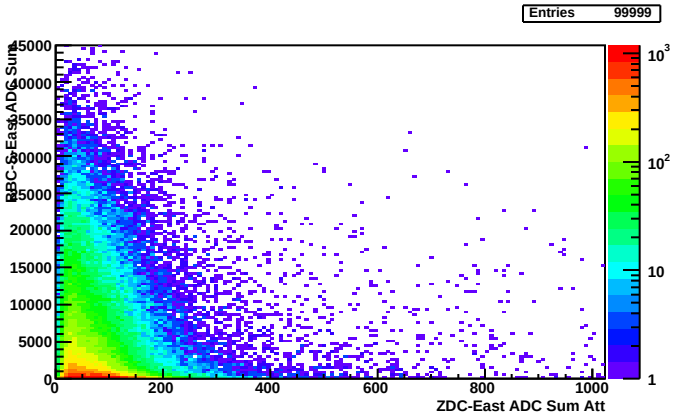

Entries 99999
BBC-L-West ADC Sum
VPD-West ADC Sum

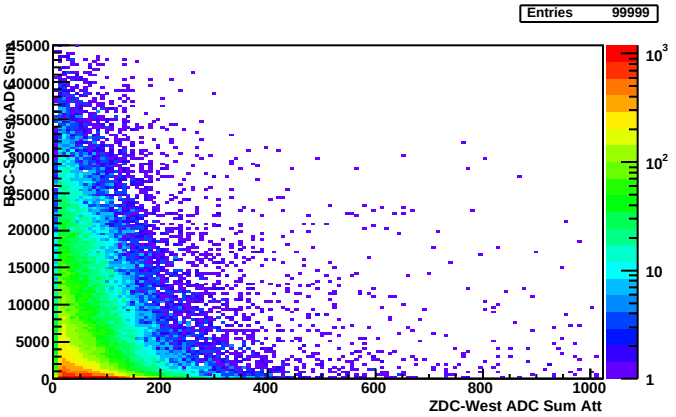

Entries 99999
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

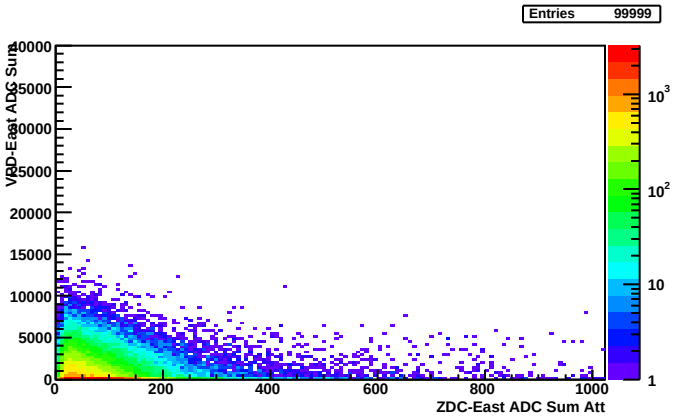

Entries 99999
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

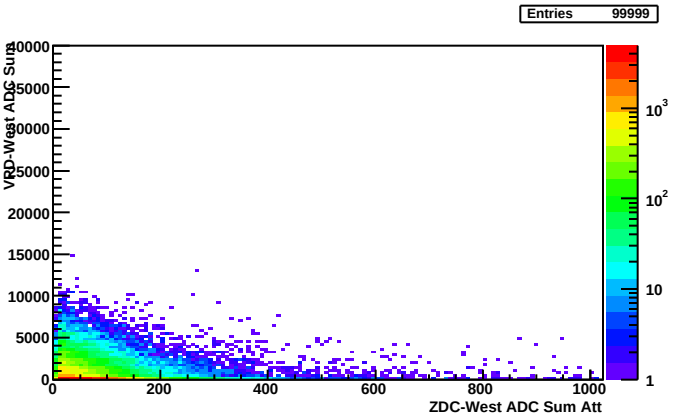

Entries 99999
BBC-S-East ADC Sum
VPD-East ADC Sum


Entries 99999
BBC-S-West ADC Sum
VPD-West ADC Sum


Entries 99999
BBC-S-East ADC Sum
ZDC-East ADC Sum Att


Entries 99999
BBC-S-West ADC Sum
ZDC-West ADC Sum Att


Entries 99999
VPD-East ADC Sum
ZDC-East ADC Sum Att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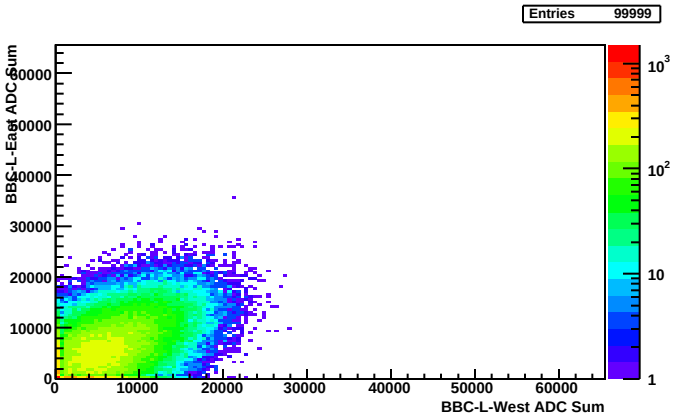
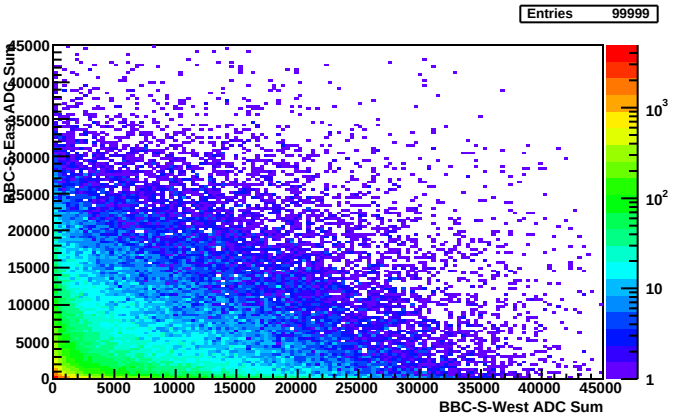
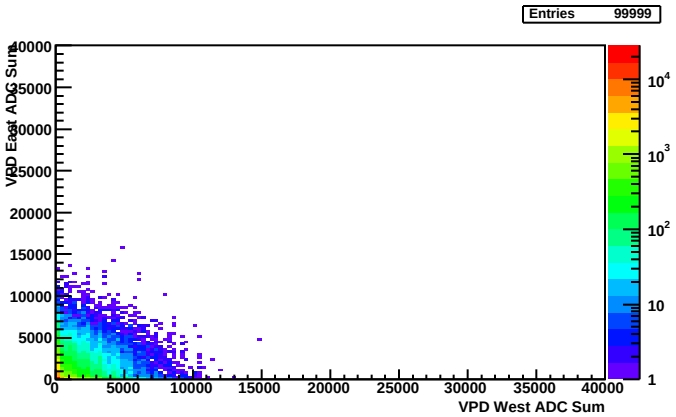
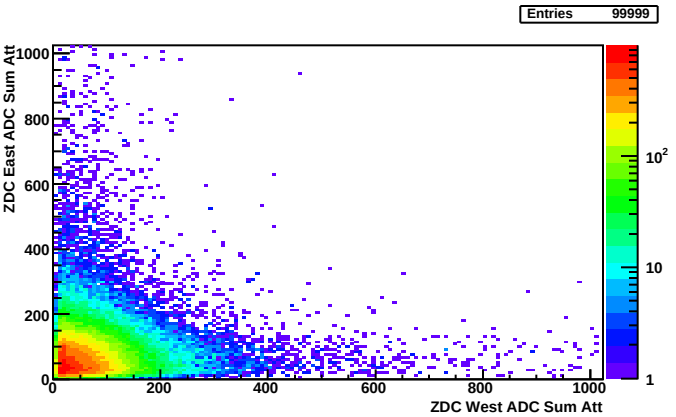
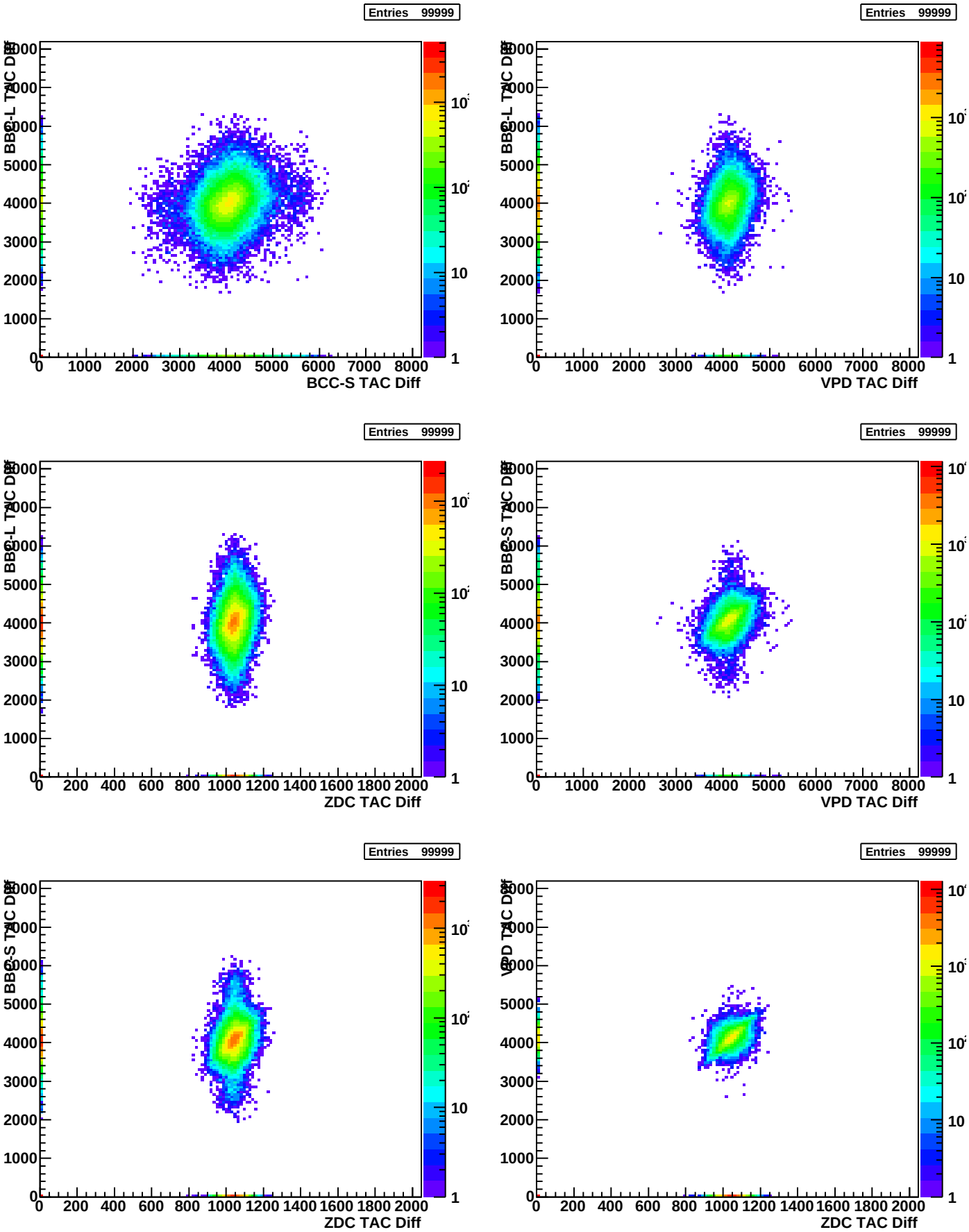
VPD-West ADC Sum
ZDC-West ADC Sum Att

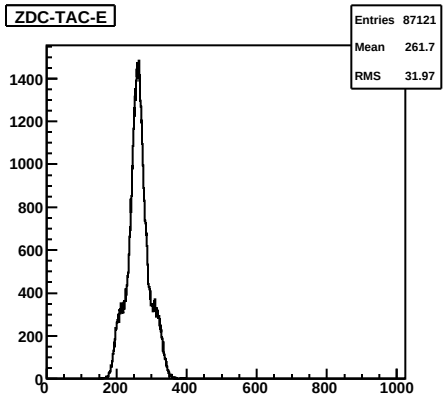

Entries 99999
BBC-L-East ADC Sum
BBC-L-West ADC Sum

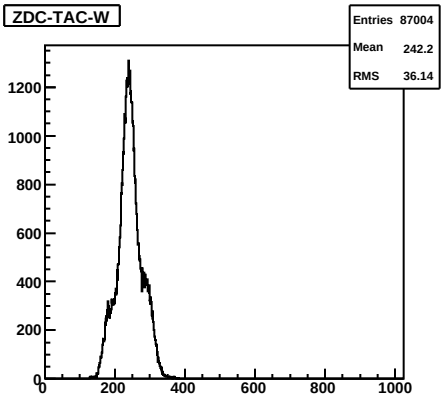

Entries 99999
BBC-S-East ADC Sum
BBC-S-West ADC Sum

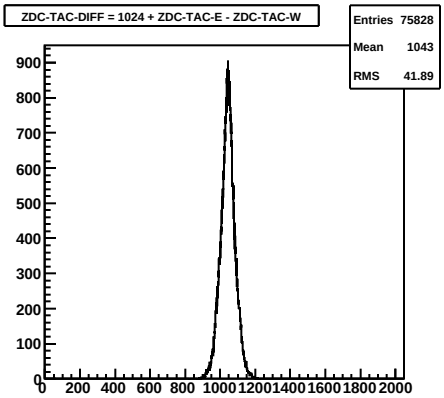

Entries 99999
VPD East ADC Sum
VPD West ADC Sum

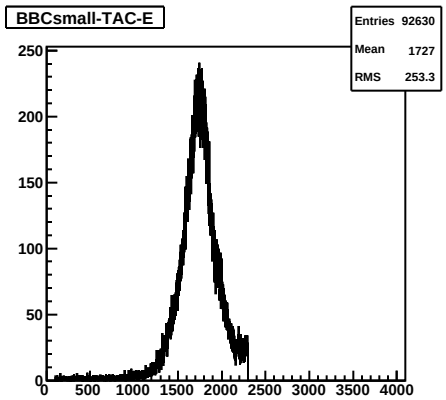

Entries 99999
ZDC East ADC Sum Att
ZDC West ADC Sum Att

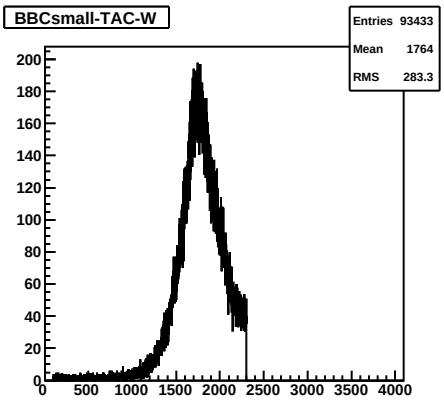

Entries 99999
BBC-L TAC Diff
BCC-S TAC Diff
Entries 99999
BBC-L TAC Diff
VPD TAC Diff
Entries 99999
BBC-L TAC Diff
ZDC TAC Diff
Entries 99999
BBC-S TAC Diff
VPD TAC Diff
Entries 99999
BBC-S TAC Diff
ZDC TAC Diff
Entries 99999
VPD TAC Diff
ZDC TAC Diff

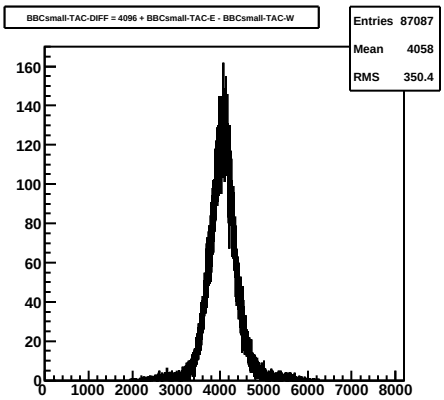

ZDC-TAC-E
Entries 87121
Mean 261.7
RMS 31.97

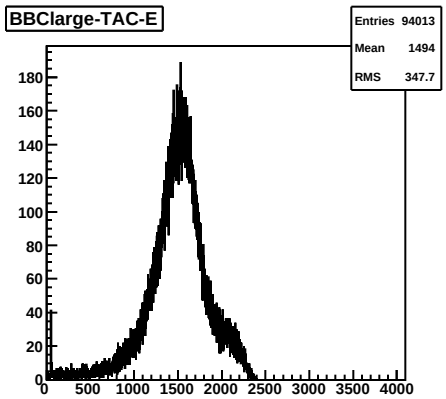

ZDC-TAC-W
Entries 87004
Mean 242.2
RMS 36.14

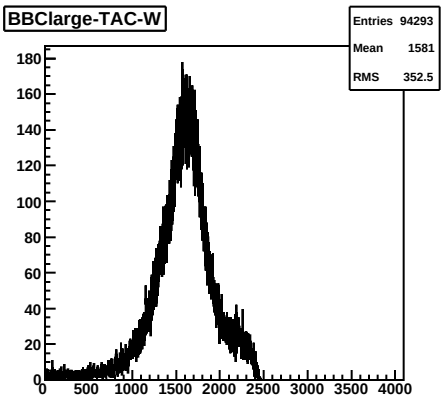

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 75828
Mean 1043
RMS 41.89

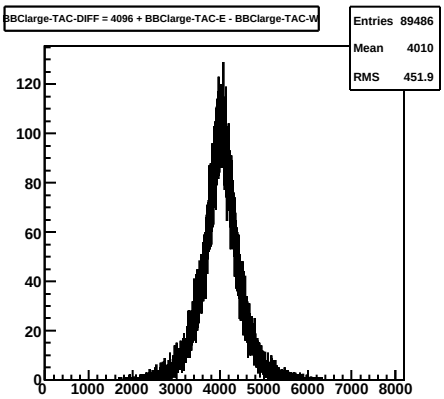

BBCsmall-TAC-E
Entries 92630
Mean 1727
RMS 253.3

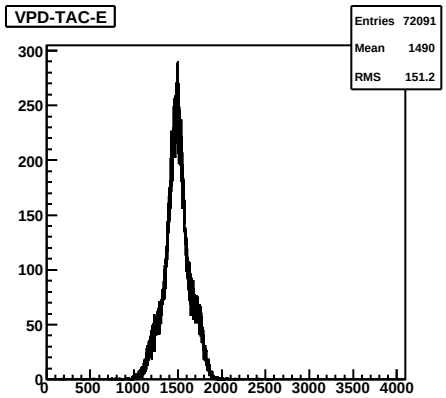

BBCsmall-TAC-W
Entries 93433
Mean 1764
RMS 283.3

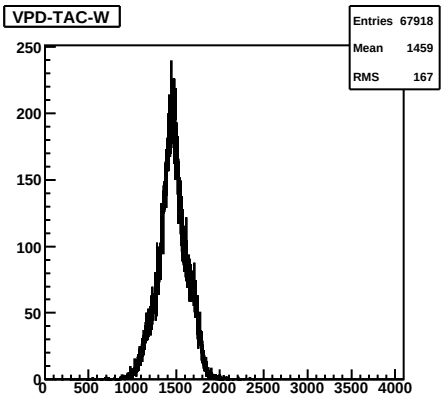

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 87087
Mean 4058
RMS 350.4

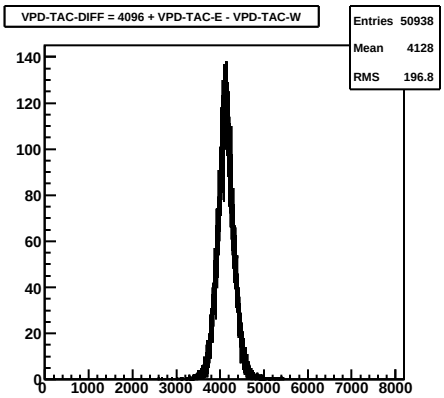

BBClarge-TAC-E
Entries 94013
Mean 1494
RMS 347.7

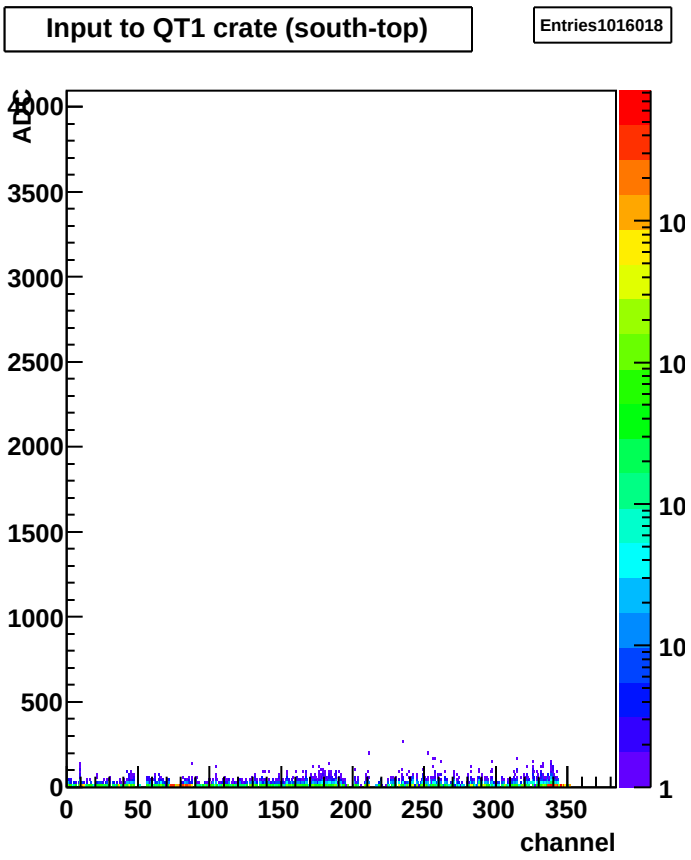

BBClarge-TAC-W
Entries 94293
Mean 1581
RMS 352.5

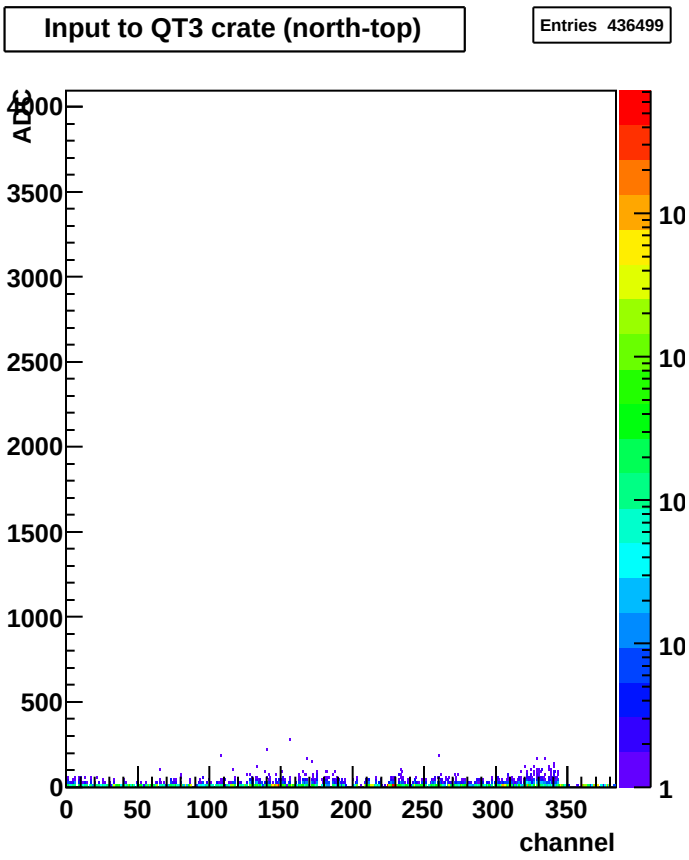

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 89486
Mean 4010
RMS 451.9

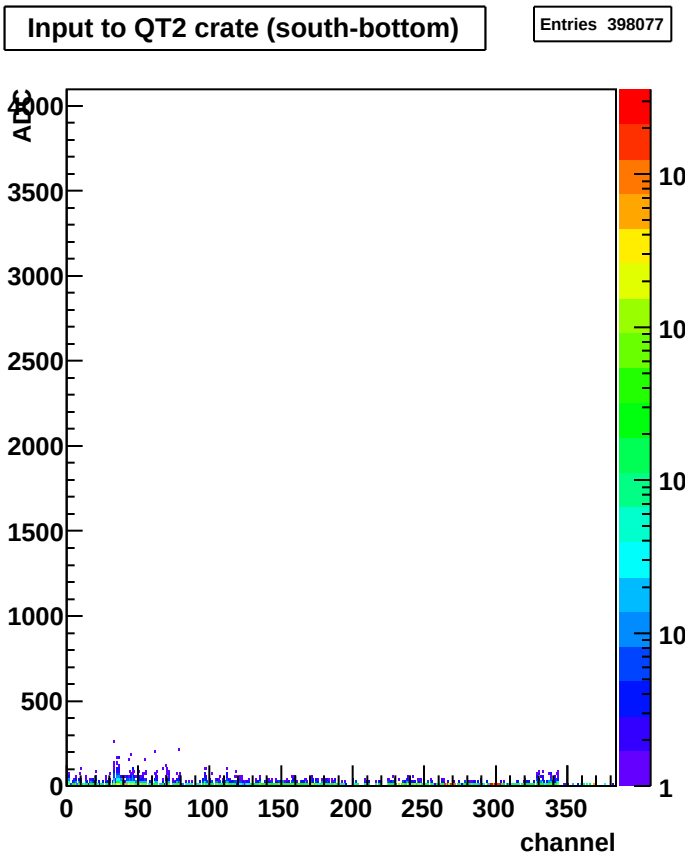

VPD-TAC-E
Entries 72091
Mean 1490
RMS 151.2

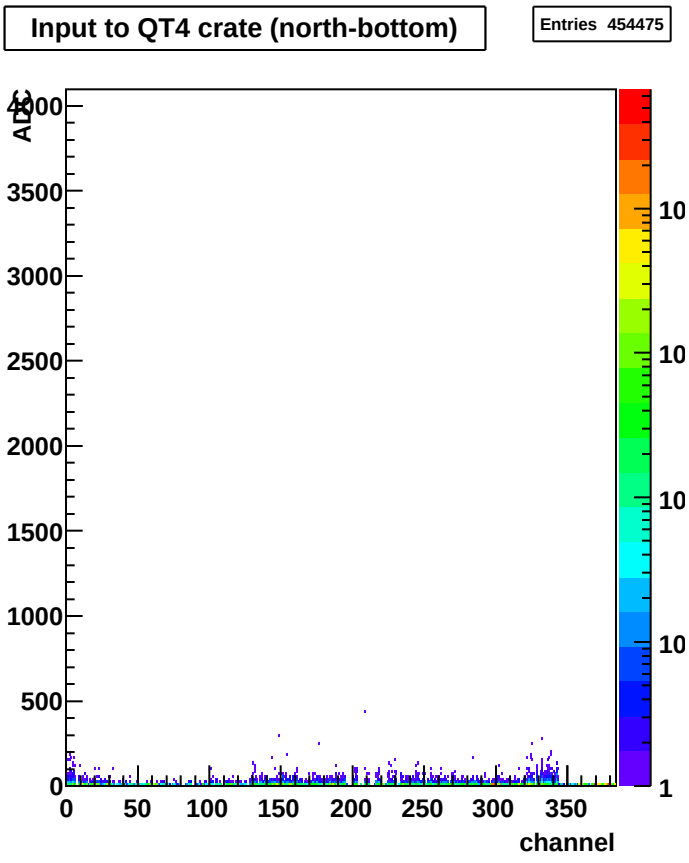

VPD-TAC-W
Entries 67918
Mean 1459
RMS 167

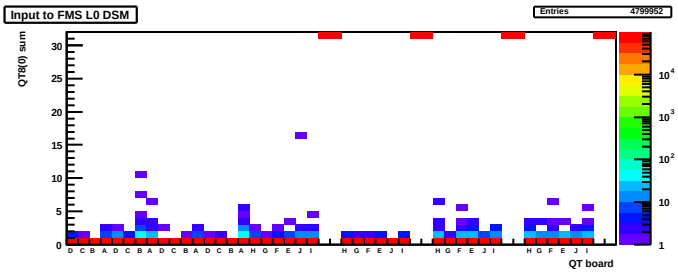

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 50938
Mean 4128
RMS 196.8

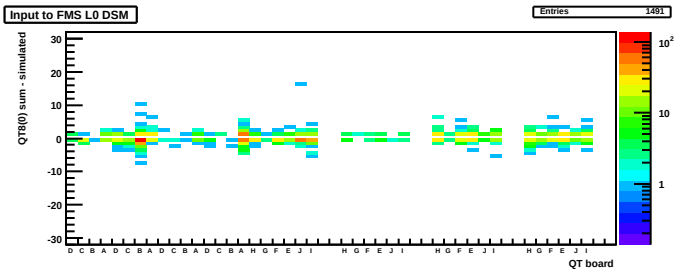

Input to QT1 crate (south-top)
Entries1016018
ADC
channel

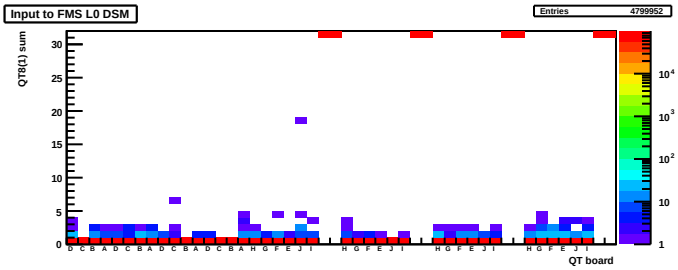

Input to QT3 crate (north-top)
Entries 436499
ADC
channel

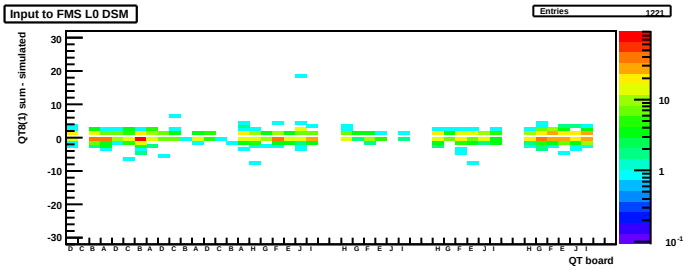

Input to QT2 crate (south-bottom)
Entries 398077
ADC
channel

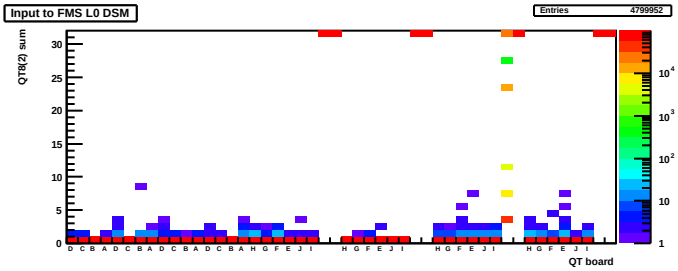

Input to QT4 crate (north-bottom)
Entries 454475
ADC
channel

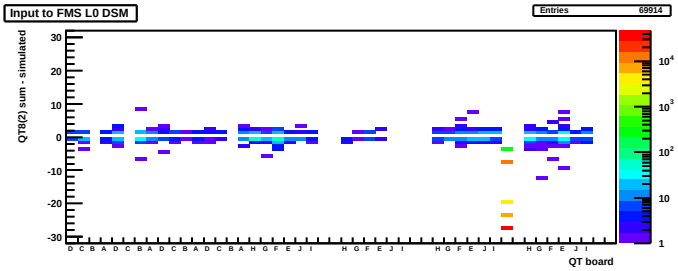

Input to FMS L0 DSM
Entries 4799952
QT8(0) sum
QT board

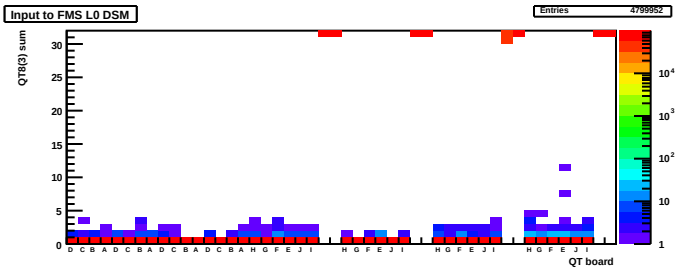

Input to FMS L0 DSM
Entries 1481
QT8(0) sum - simulated
QT board

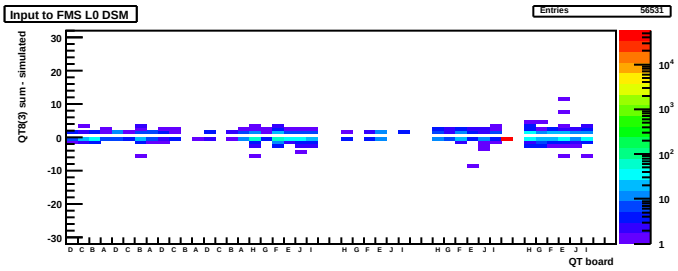

Input to FMS L0 DSM
Entries 4799952
QT8(1) sum
QT board

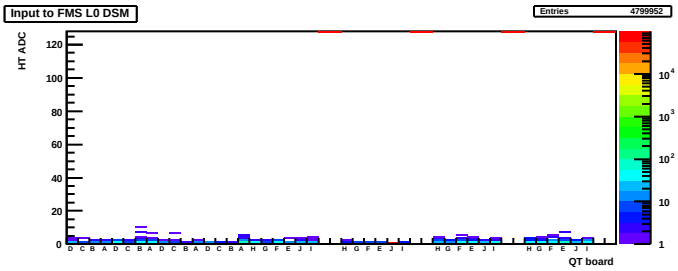

Input to FMS L0 DSM
Entries 1221
QT8(1) sum - simulated
QT board

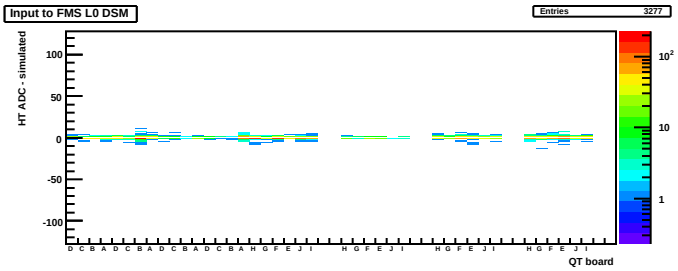

Input to FMS L0 DSM
Entries 4799952
QT8(2) sum
QT board

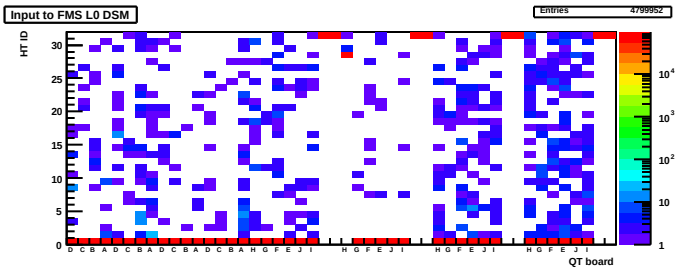

Input to FMS L0 DSM
Entries 69914
QT8(2) sum - simulated
QT board

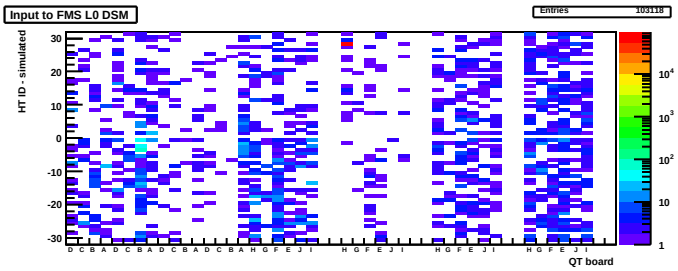

Input to FMS L0 DSM
Entries 4799952
QT8(3) sum
QT board

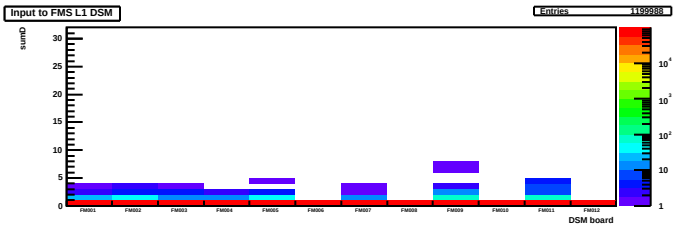

Input to FMS L0 DSM
Entries 56531
QT8(3) sum - simulated
QT board

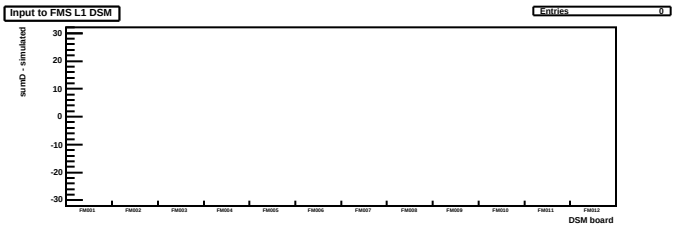

Input to FMS L0 DSM
Entries 4799952
HT ADC
QT board

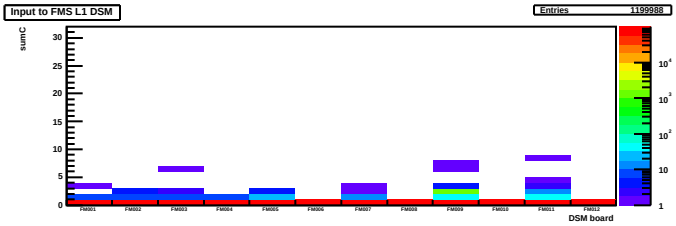

Input to FMS L0 DSM
Entries 3277
HT ADC - simulated
QT board

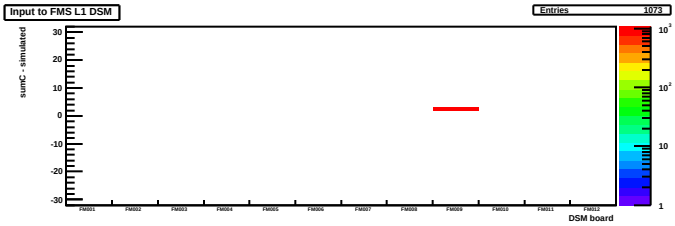

Input to FMS L0 DSM
Entries 4799952
HT ID
QT board

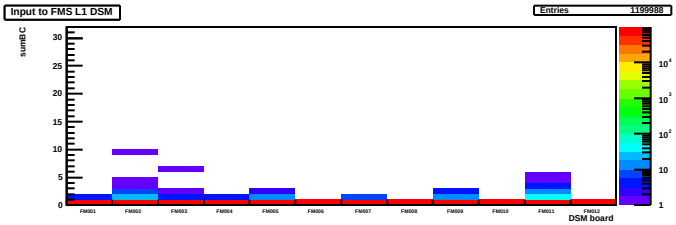

Input to FMS L0 DSM
Entries 103118
HT ID - simulated
QT board

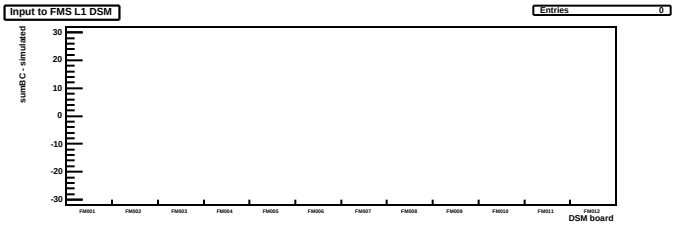

Input to FMS L1 DSM
Entries 1199988
sumD
DSM board

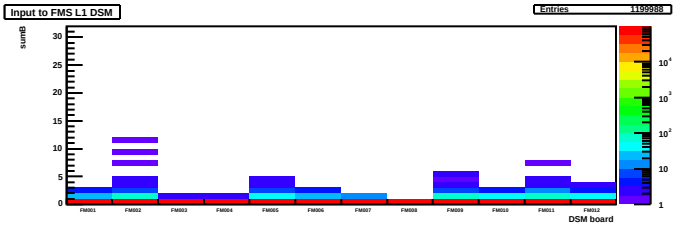

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

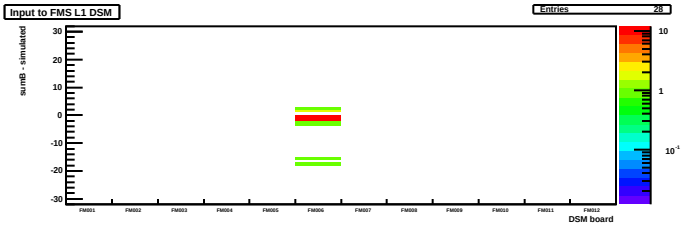

Input to FMS L1 DSM
Entries 1199988
sumC
DSM board

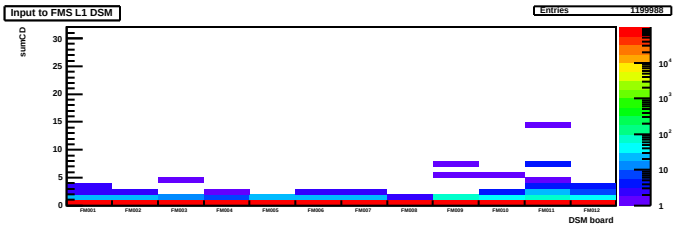

Input to FMS L1 DSM
Entries 1073
sumC - simulated
DSM board

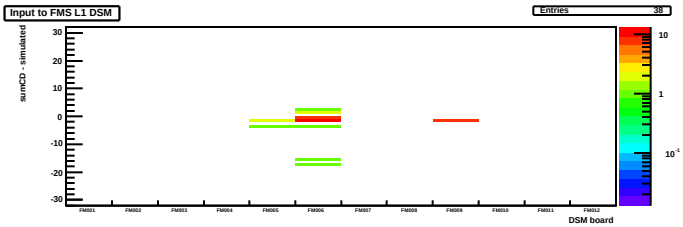

Input to FMS L1 DSM
Entries 1199988
sumBC
DSM board

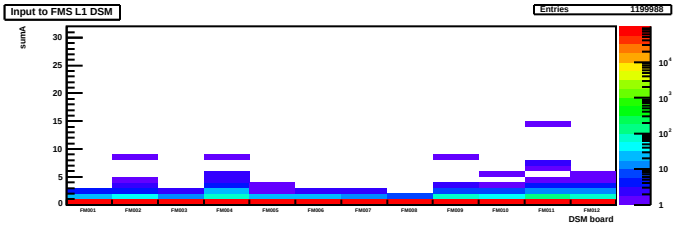

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

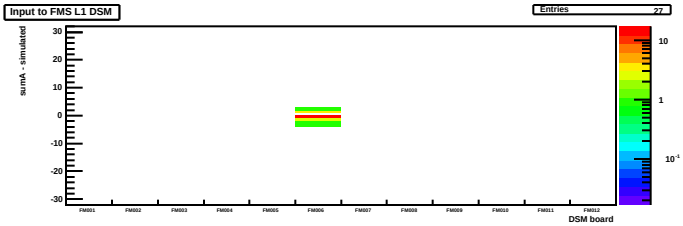

Input to FMS L1 DSM
Entries 1199988
sumB
DSM board

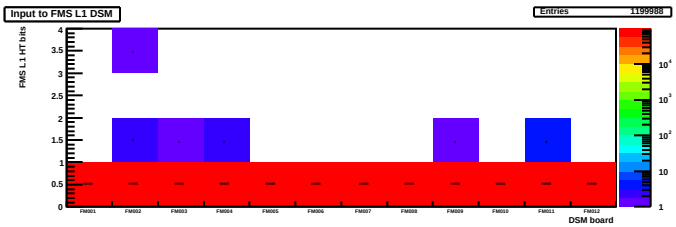

Input to FMS L1 DSM
Entries 28
sumB - simulated
DSM board

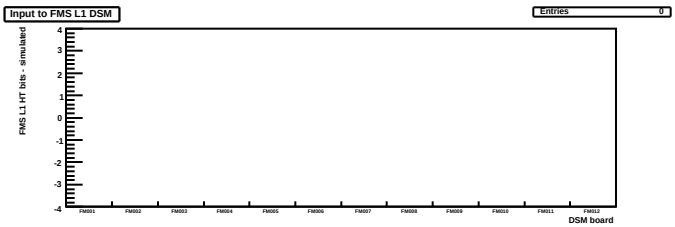

Input to FMS L1 DSM
Entries 1199988
sumCD
DSM board

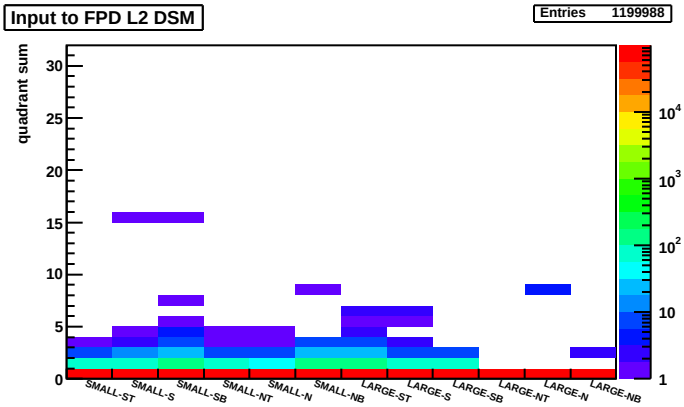

Input to FMS L1 DSM
Entries 38
sumCD - simulated
DSM board

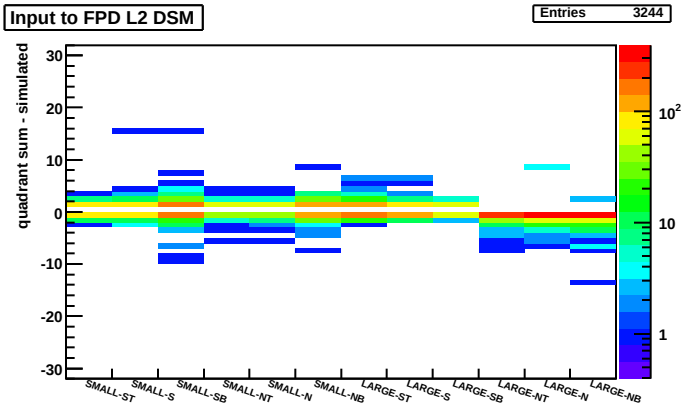

Input to FMS L1 DSM
Entries 1199988
sumA
DSM board

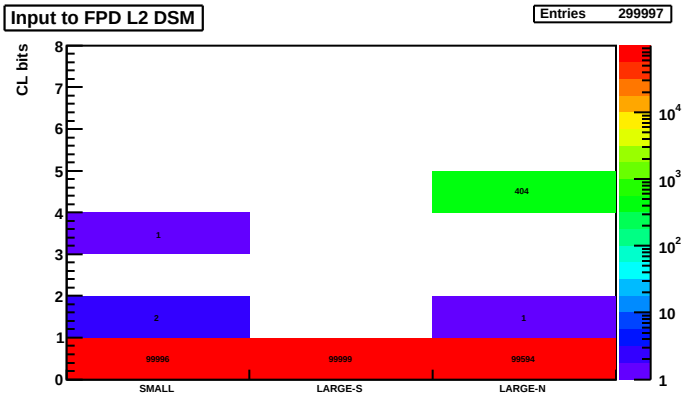

Input to FMS L1 DSM
Entries 27
sumA - simulated
DSM board

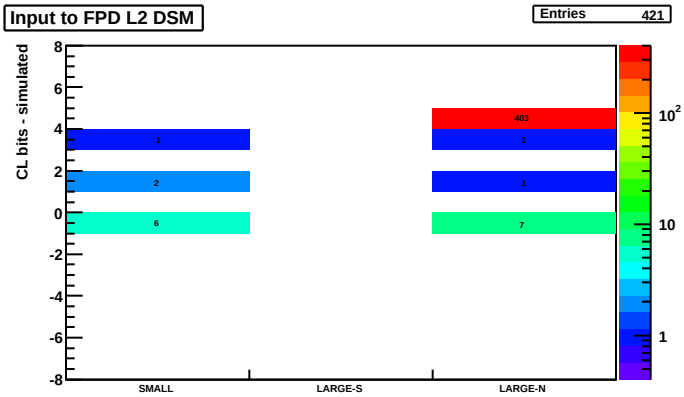

Input to FMS L1 DSM
Entries 1199988
FMS L1 HT bits
DSM board

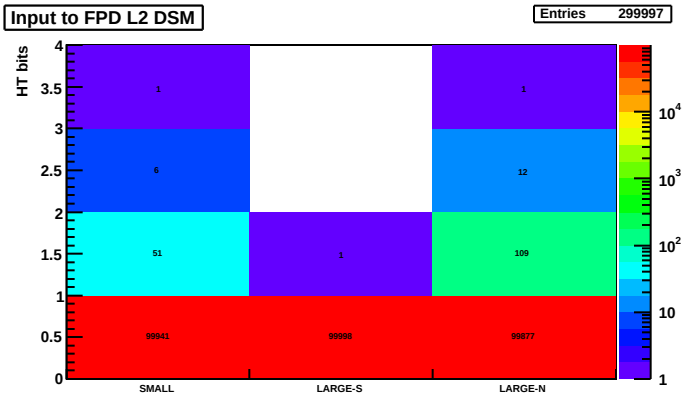

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

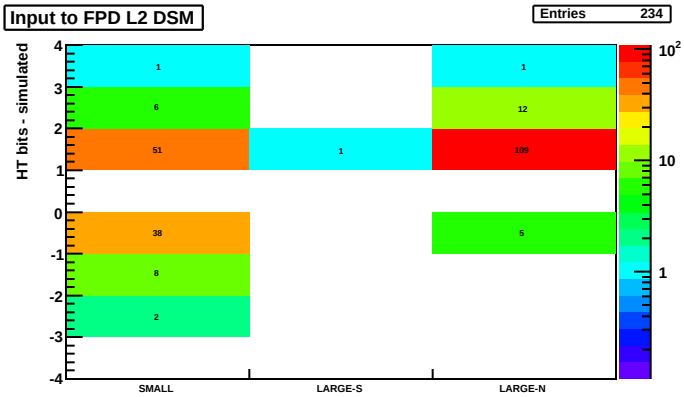

Input to FPD L2 DSM
Entries 1199988
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

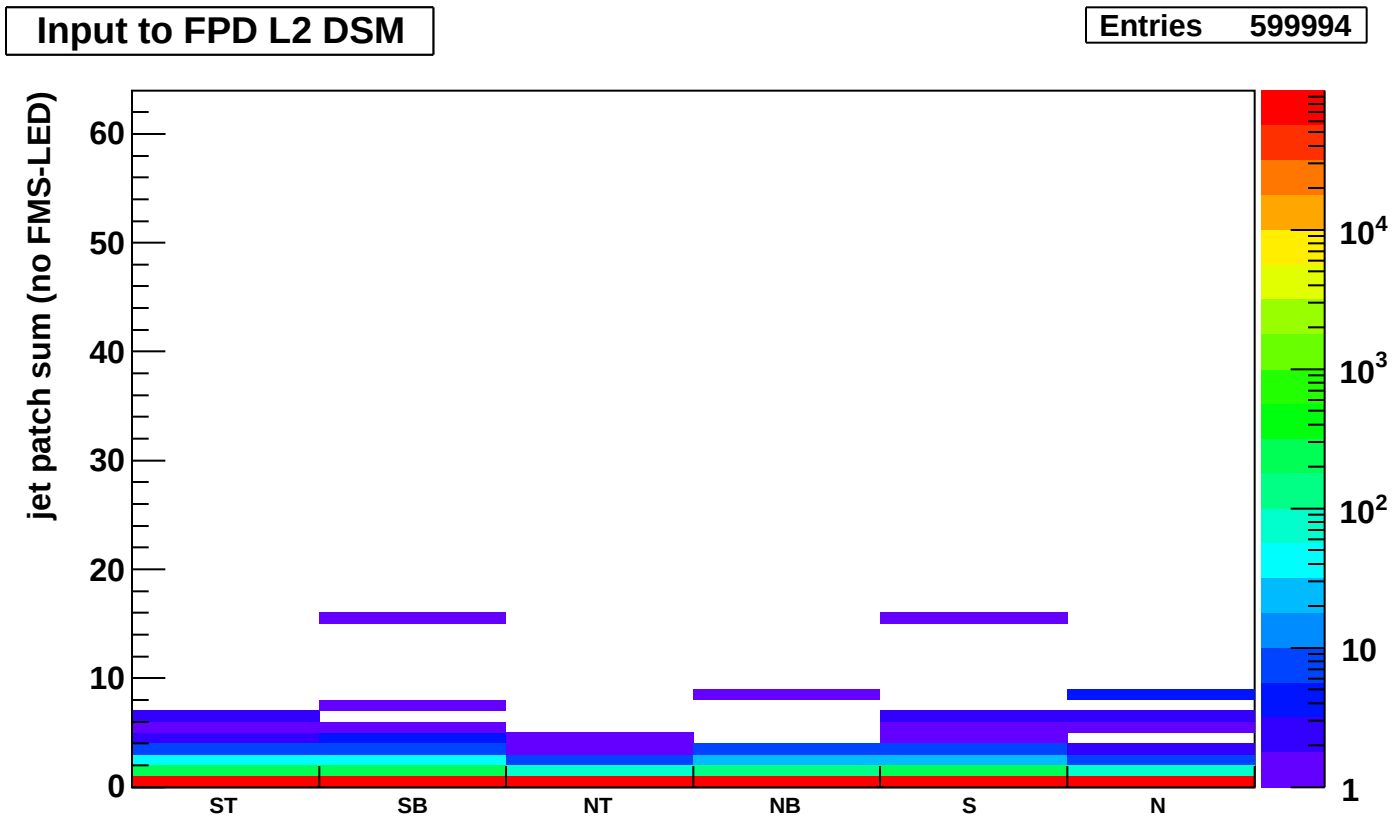

Input to FPD L2 DSM
Entries 3244
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

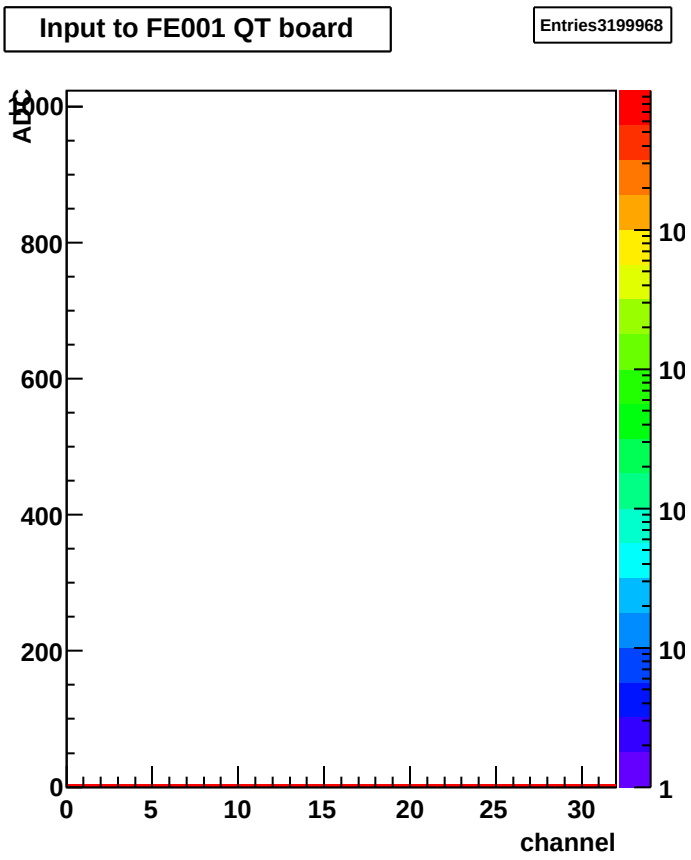

Input to FPD L2 DSM
Entries 299997
CL bits
1
2
99996
99999
404
1
99594
SMALL
LARGE-S
LARGE-N

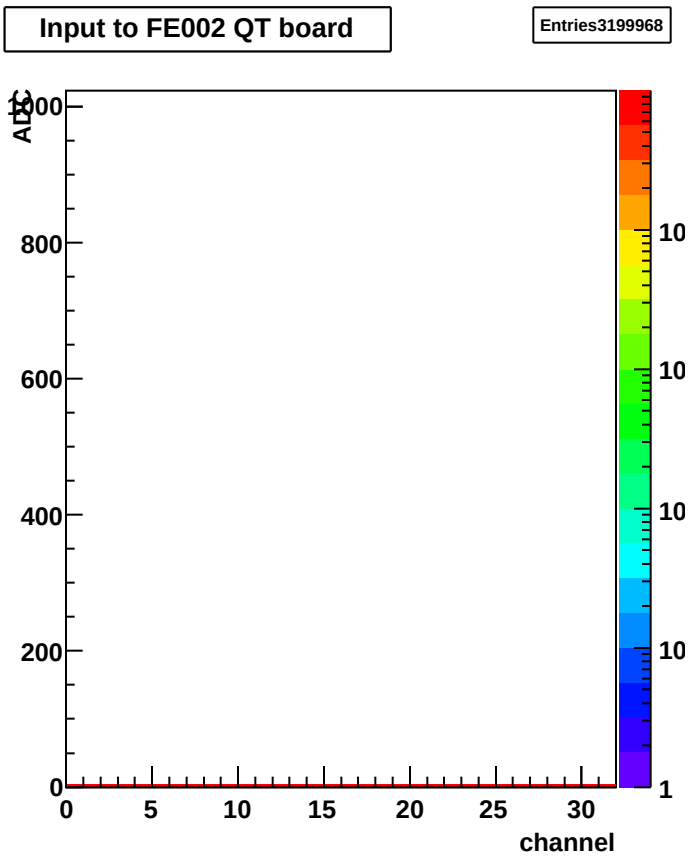

Input to FPD L2 DSM
Entries 421
CL bits - simulated
1
2
6
403
1
1
7
SMALL
LARGE-S
LARGE-N

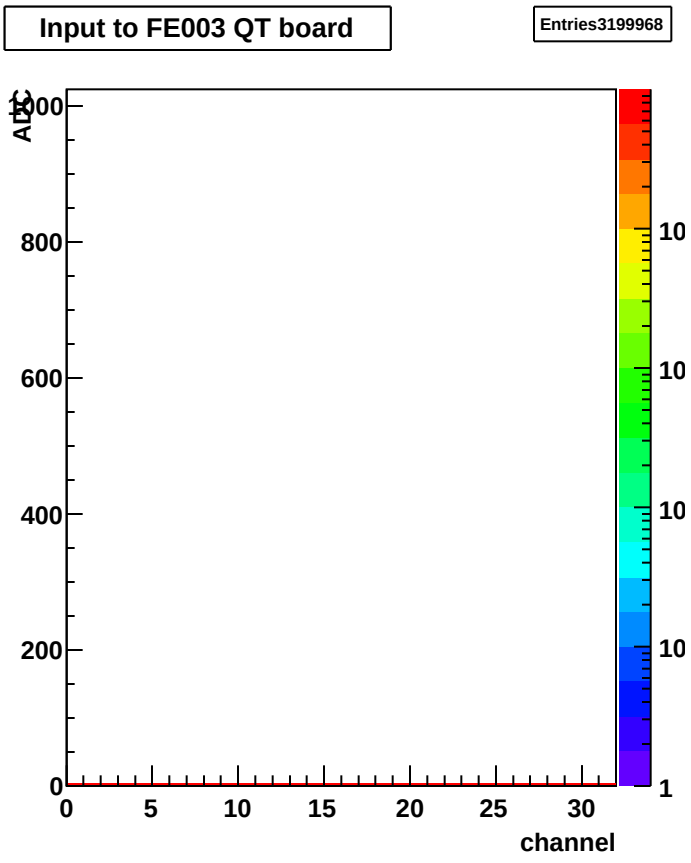

Input to FPD L2 DSM
Entries 299997
HT bits
1
6
51
99941
1
99998
1
12
109
99877
SMALL
LARGE-S
LARGE-N

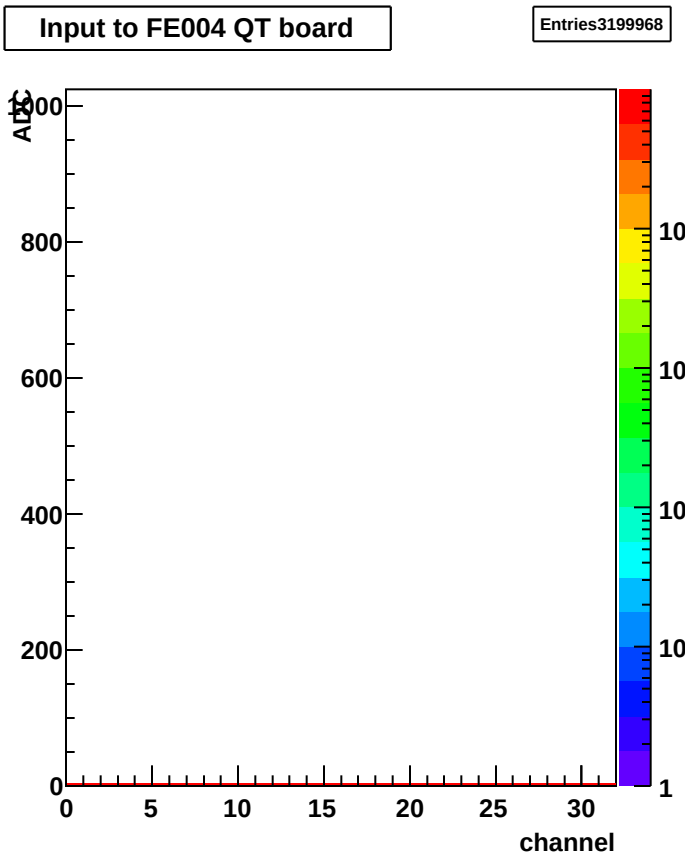

Input to FPD L2 DSM
Entries 234
HT bits - simulated
1
6
51
38
8
2
1
1
12
109
5
SMALL
LARGE-S
LARGE-N

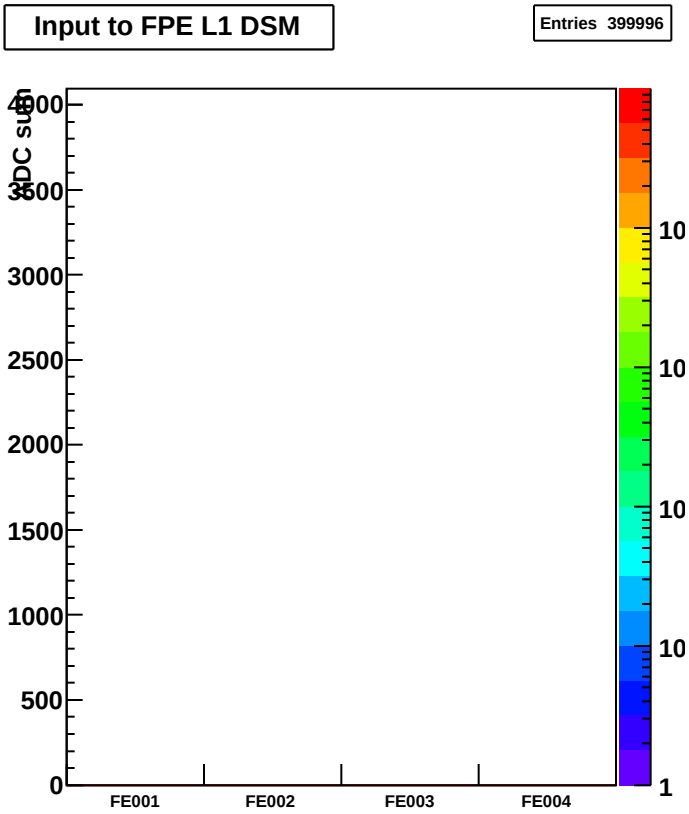

Input to FPD L2 DSM
Entries 599994
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4

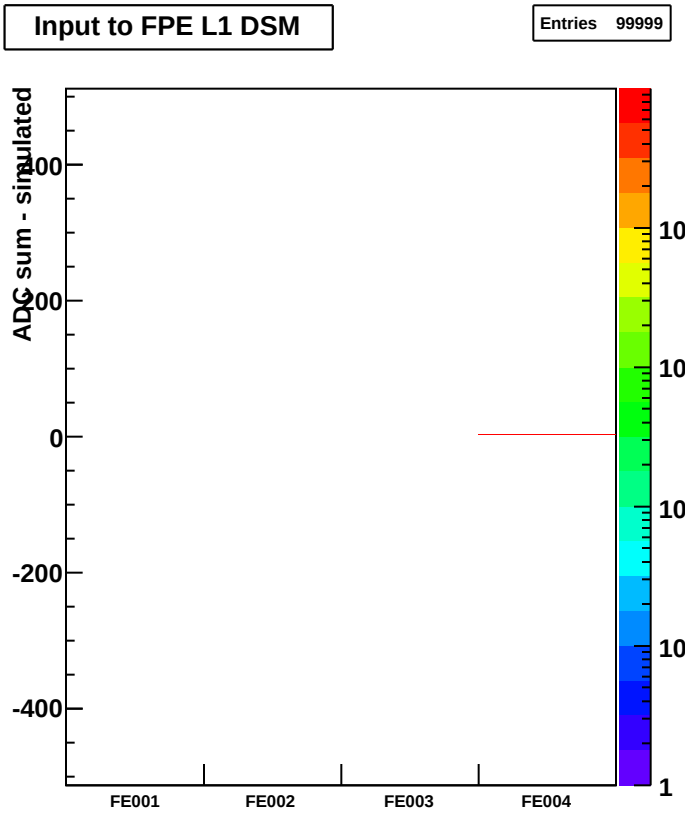

Input to FE001 QT board
Entries3199968
ADC
channel

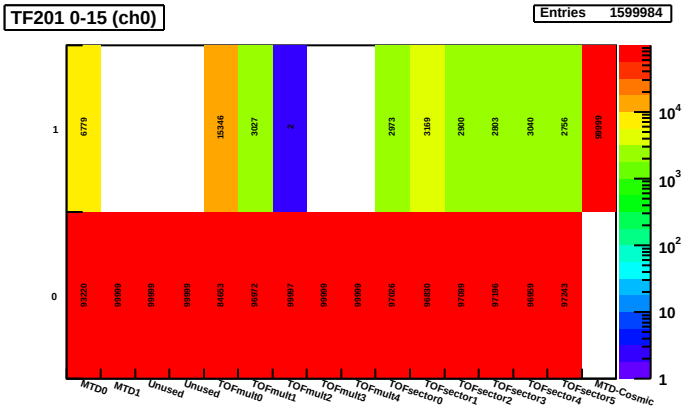

Input to FE002 QT board
Entries3199968
ADC
channel

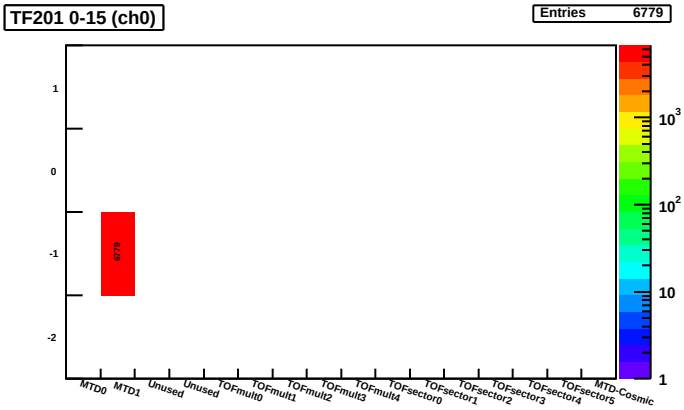

Input to FE003 QT board
Entries3199968
ADC
channel

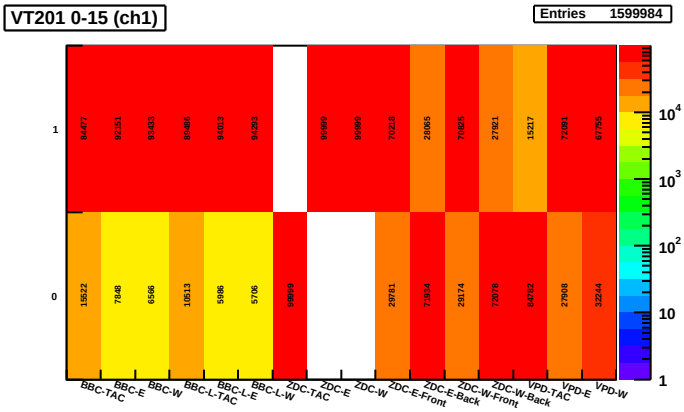

Input to FE004 QT board
Entries3199968
ADC
channel

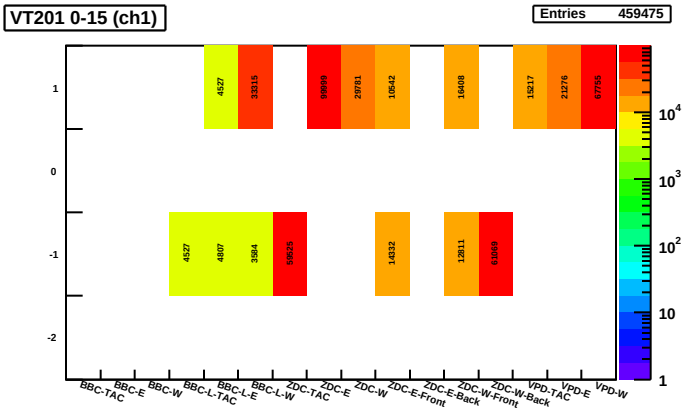

Input to FPE L1 DSM
Entries 399996
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
1


Input to FPE L1 DSM
Entries 99999
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
1


TF201 0-15 (ch0)
Entries 1599984
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


TF201 0-15 (ch0)
Entries 6779
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic


VT201 0-15 (ch1)
Entries 1599984
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W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Entries 459475
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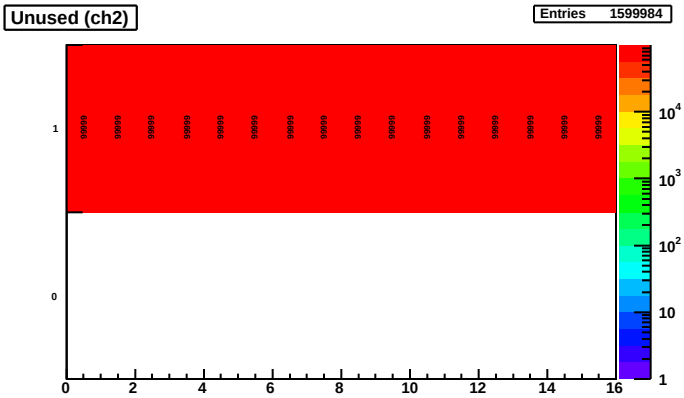
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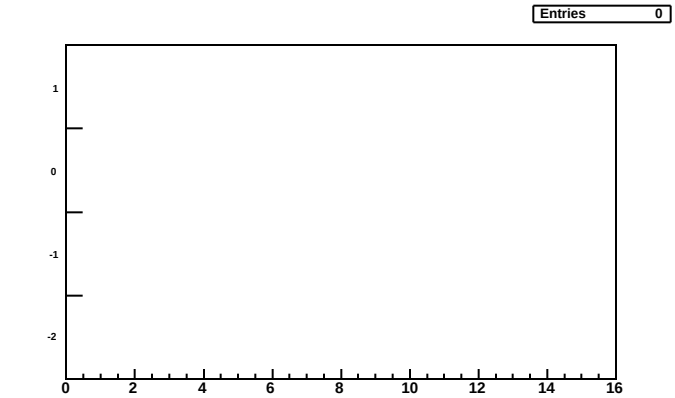
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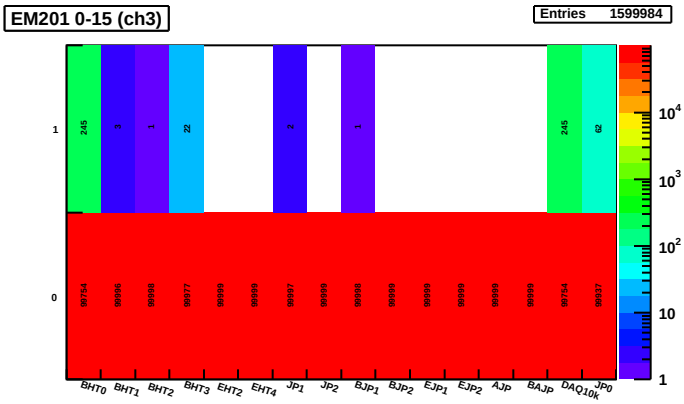
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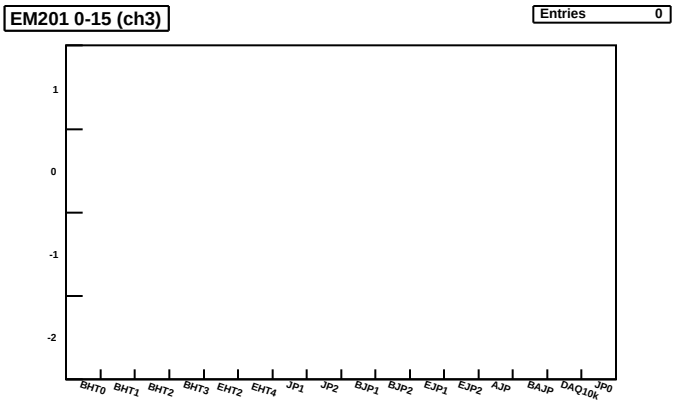
EM201 0-15 (ch3)
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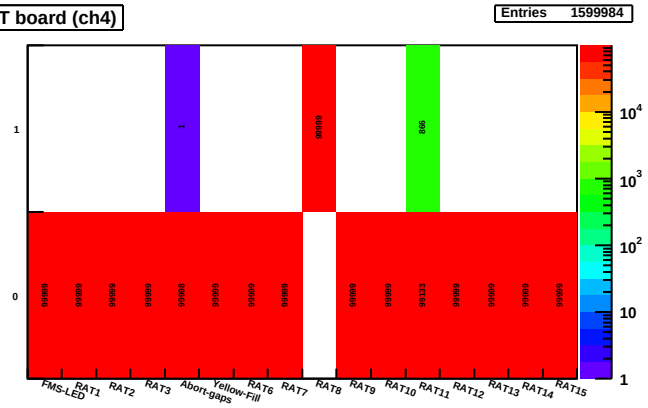
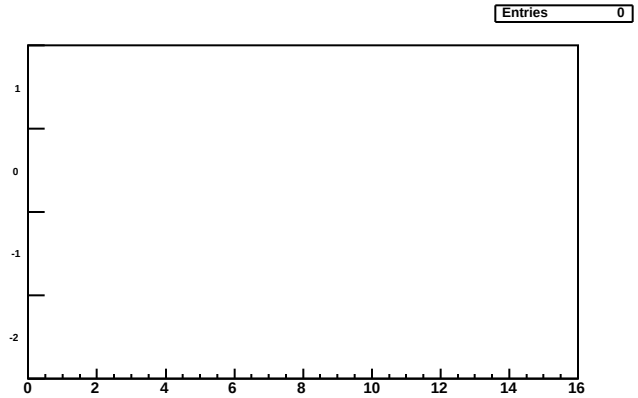
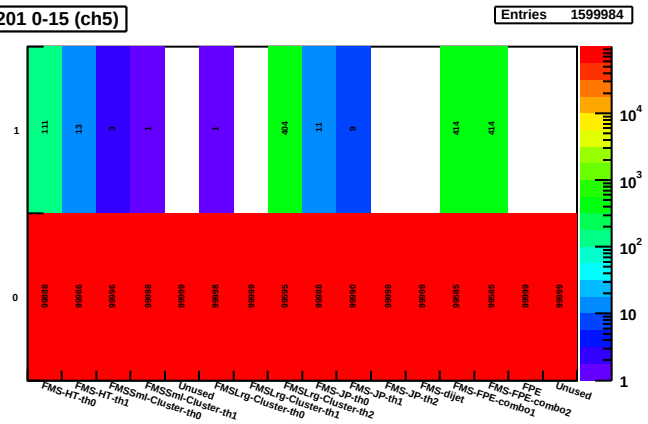
RAT board (ch4)





FP201 0-15 (ch5)



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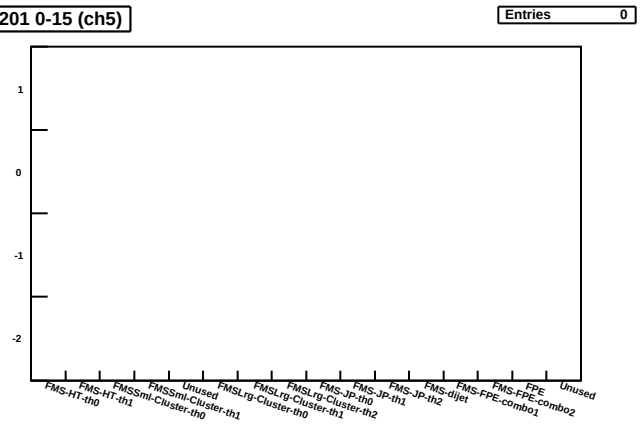
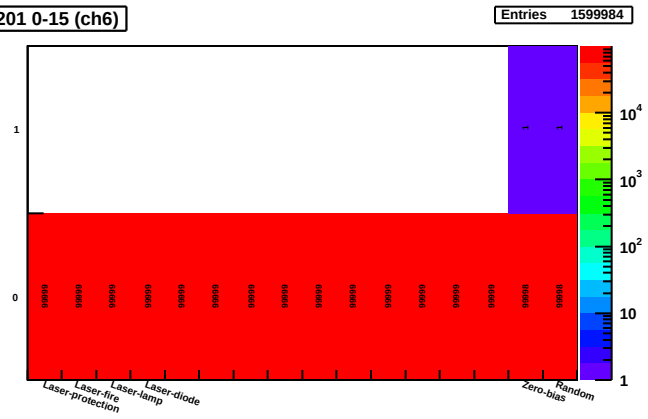
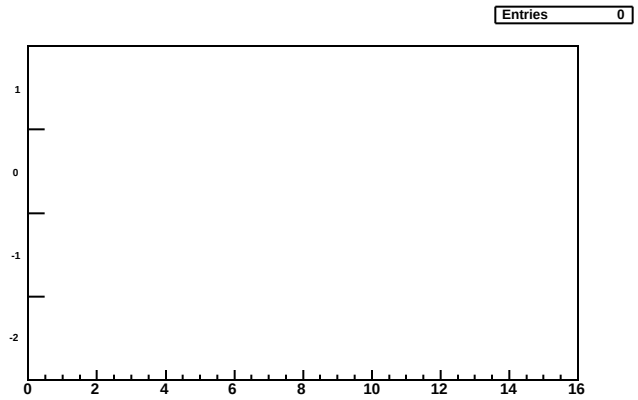
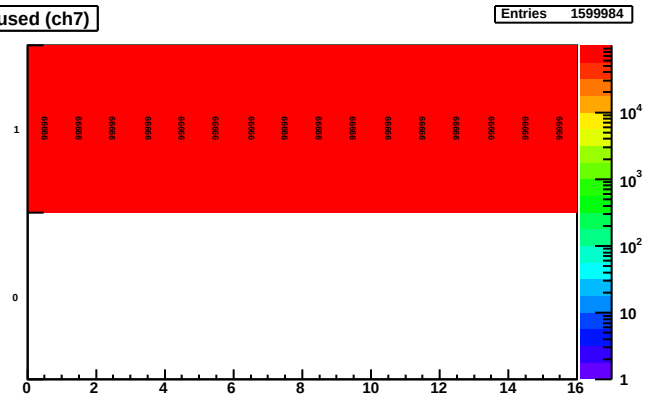
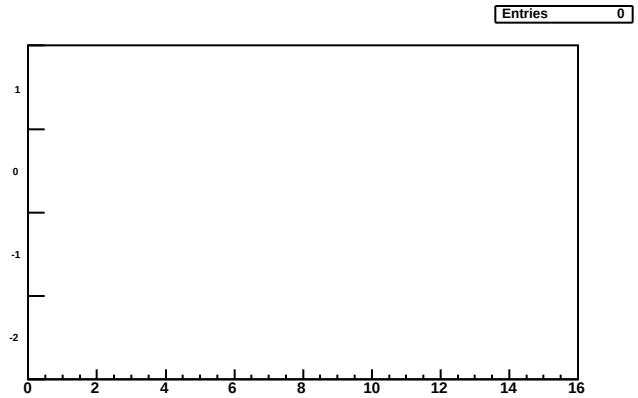


ST201 0-15 (ch6)





Unused (ch7)