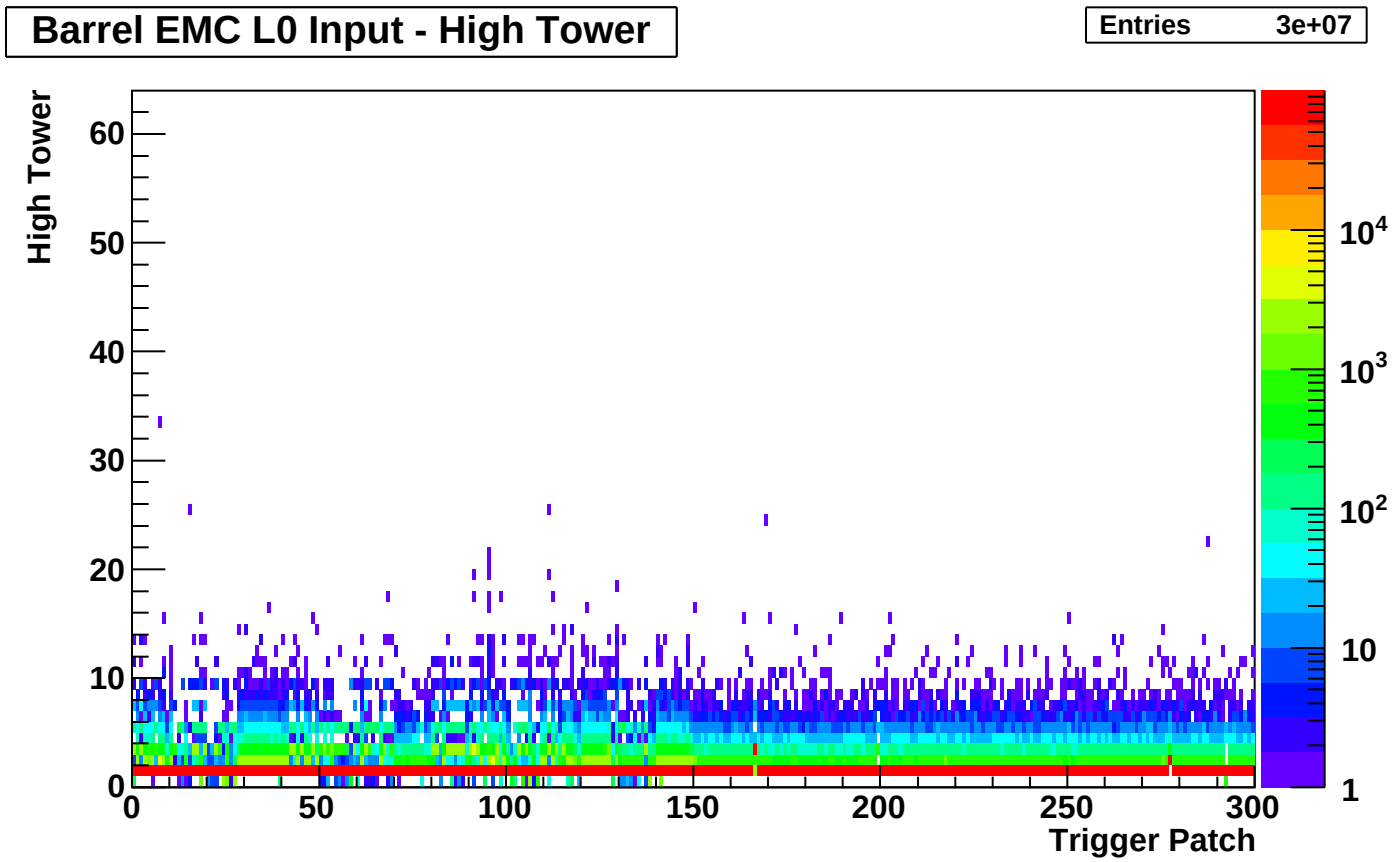
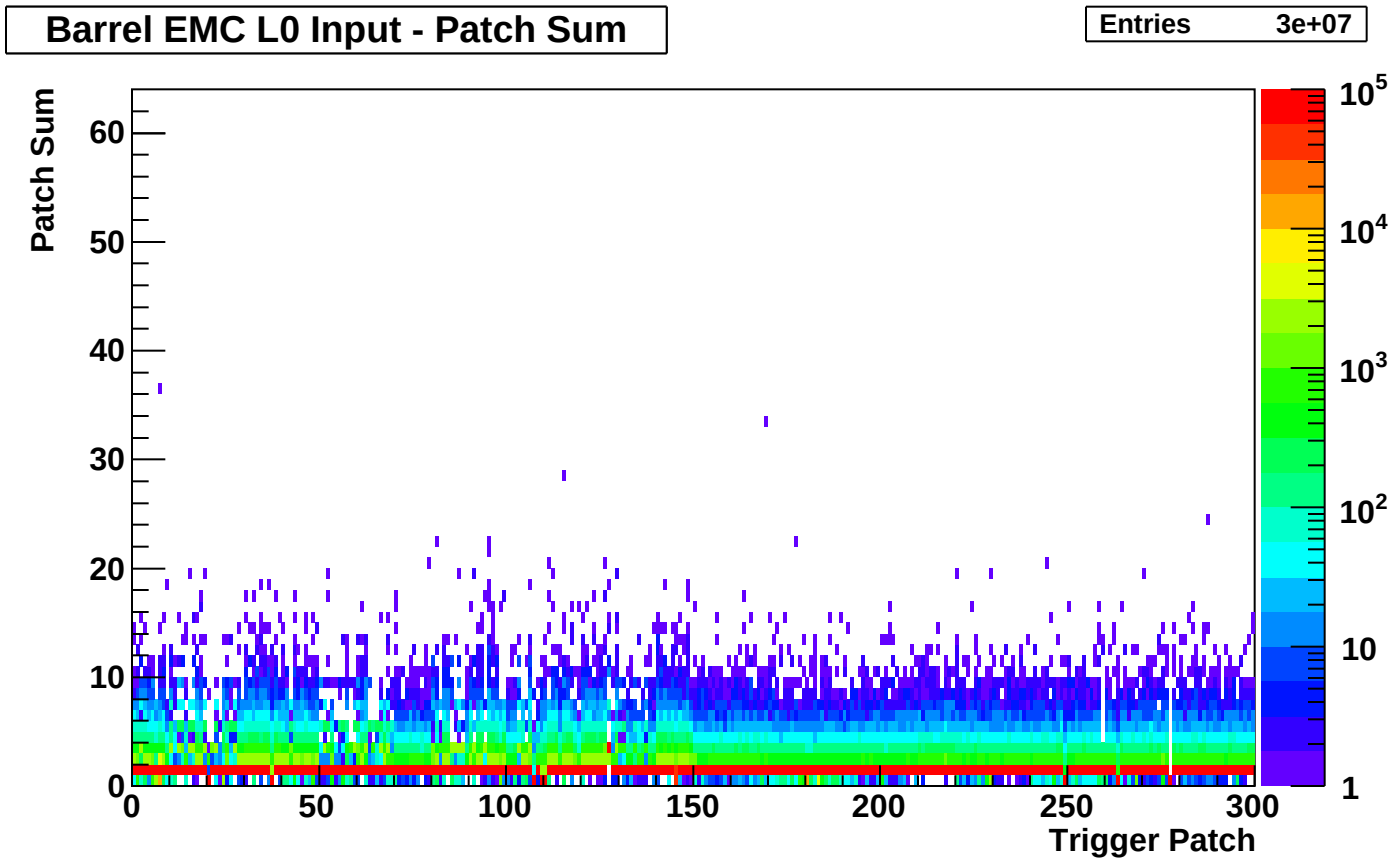
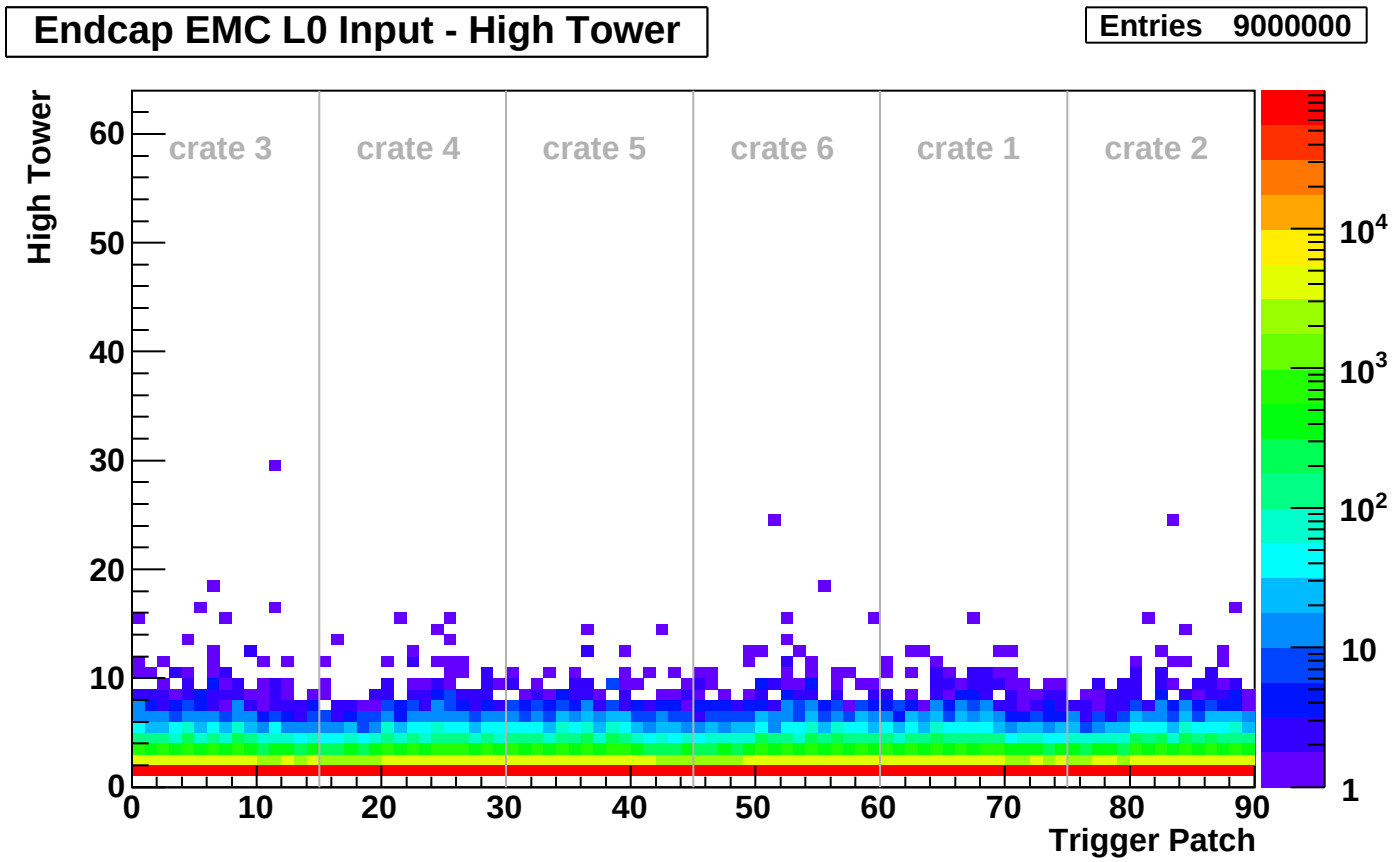
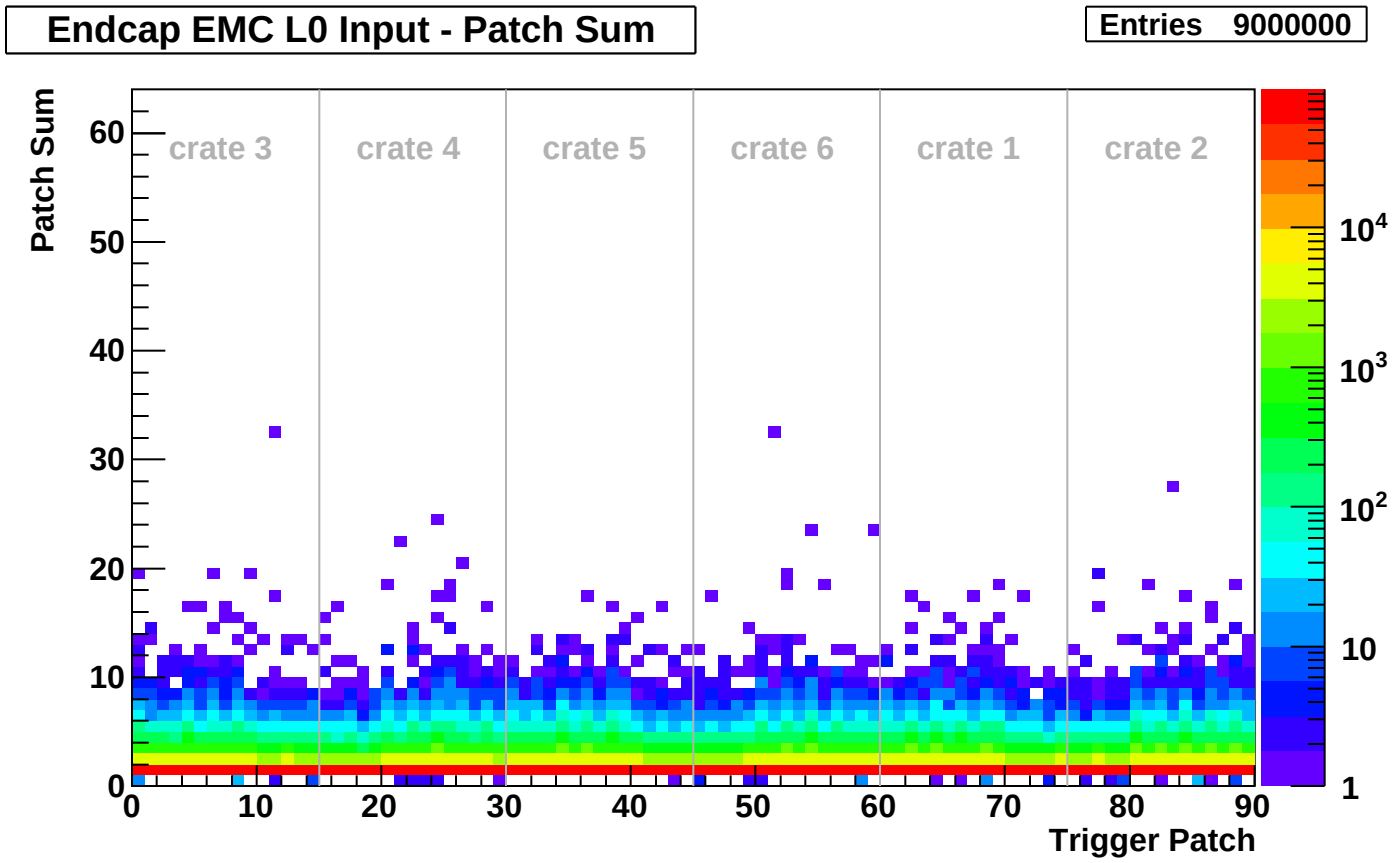
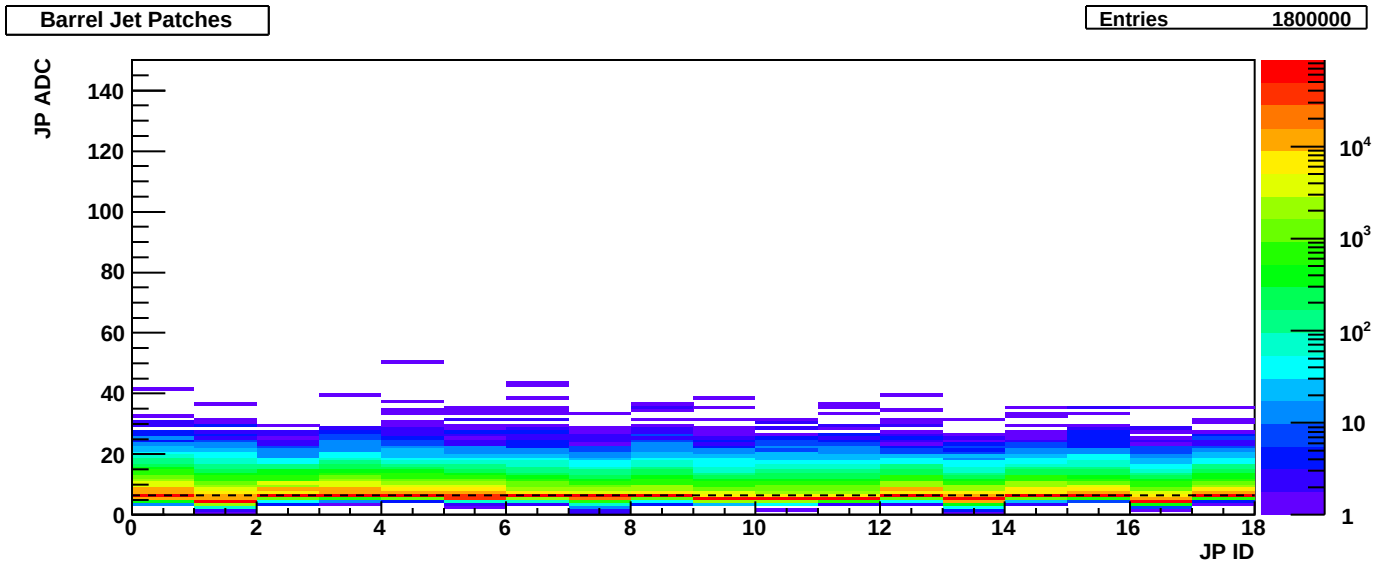
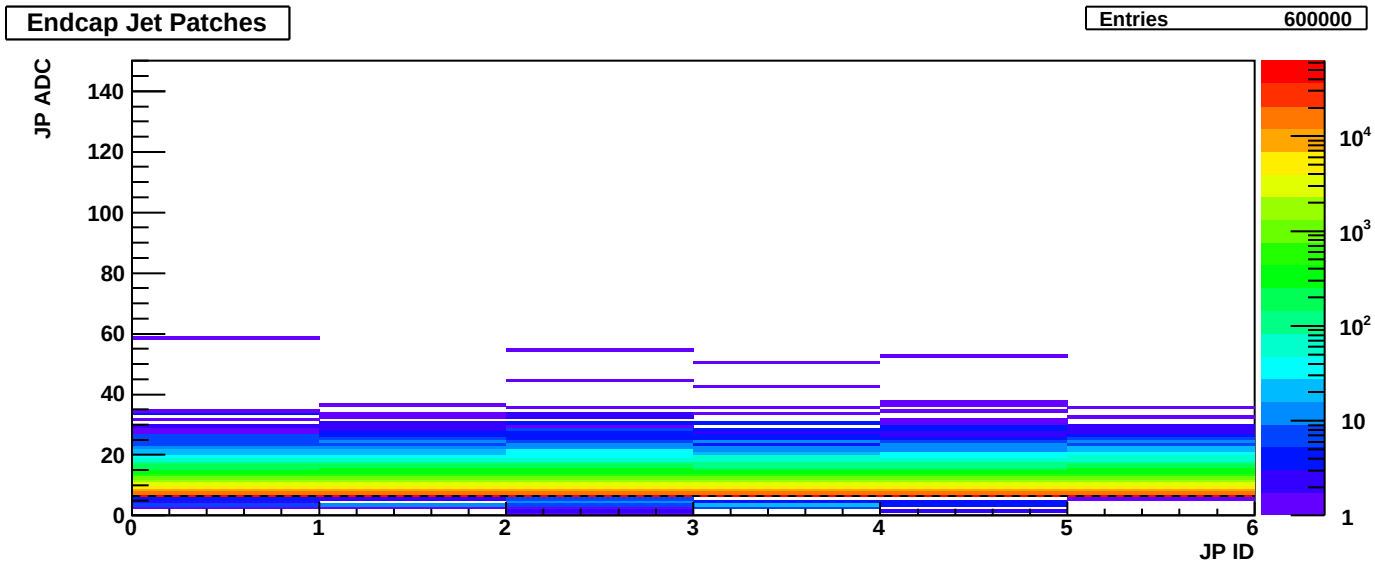

Barrel EMC L0 Input - High Tower
Entries 3e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$

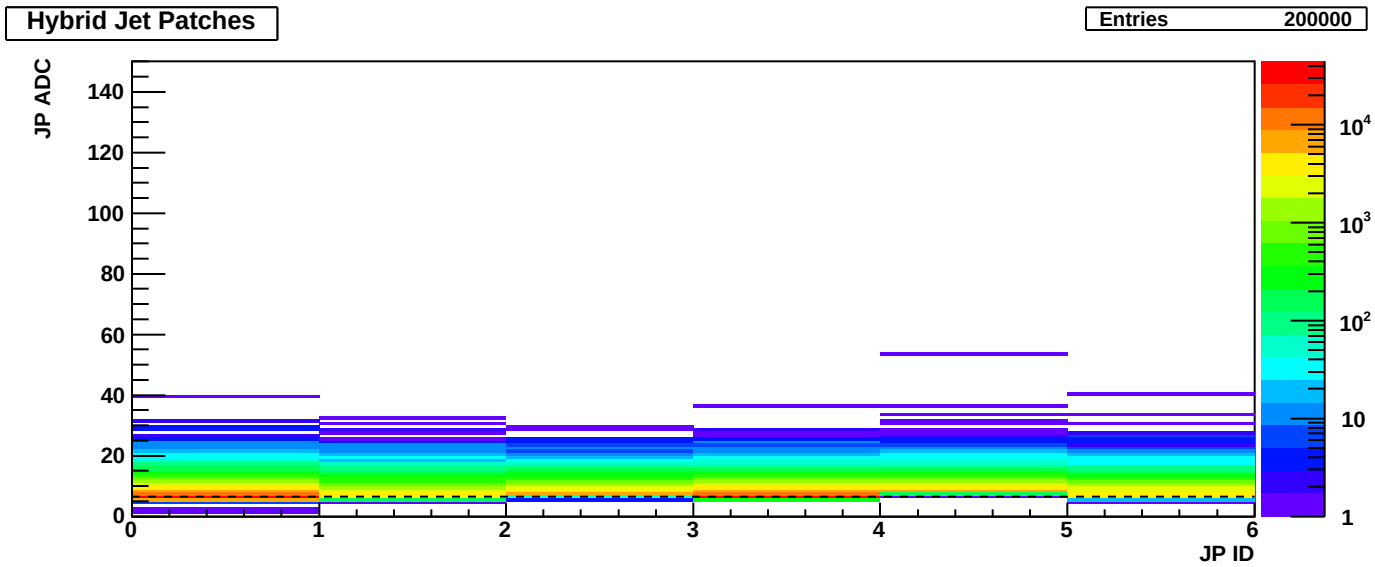

Barrel EMC L0 Input - Patch Sum
Entries 3e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$
$10^5$

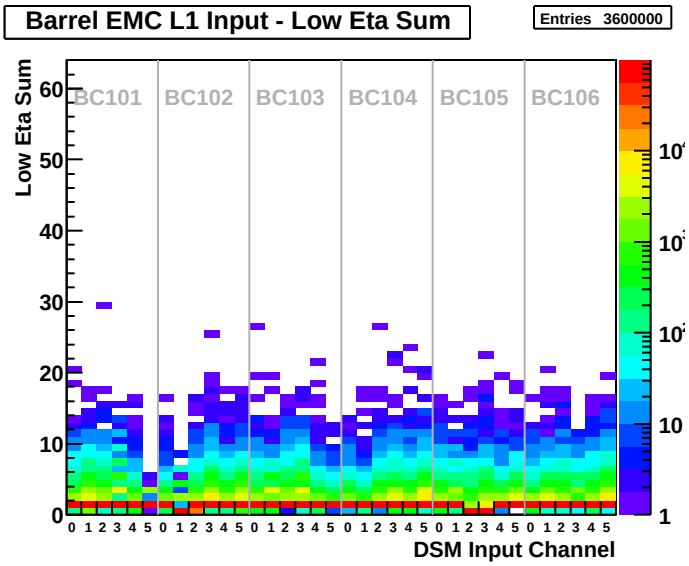

Endcap EMC L0 Input - High Tower
Entries 9000000
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

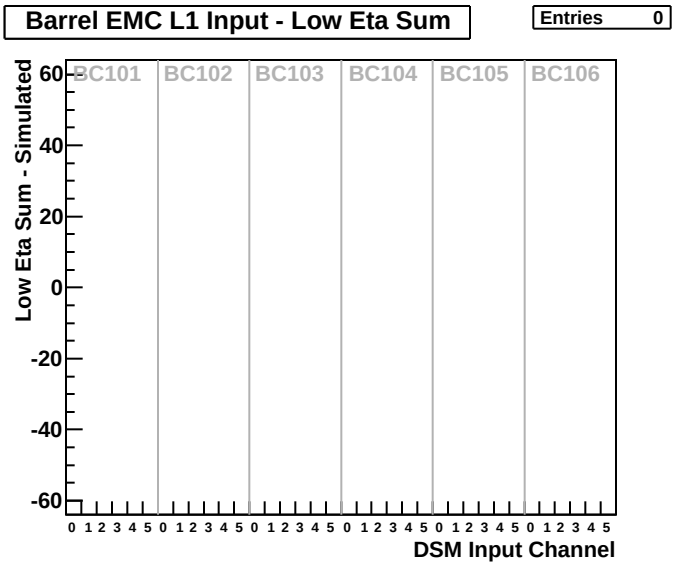

Endcap EMC L0 Input - Patch Sum
Entries 9000000
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

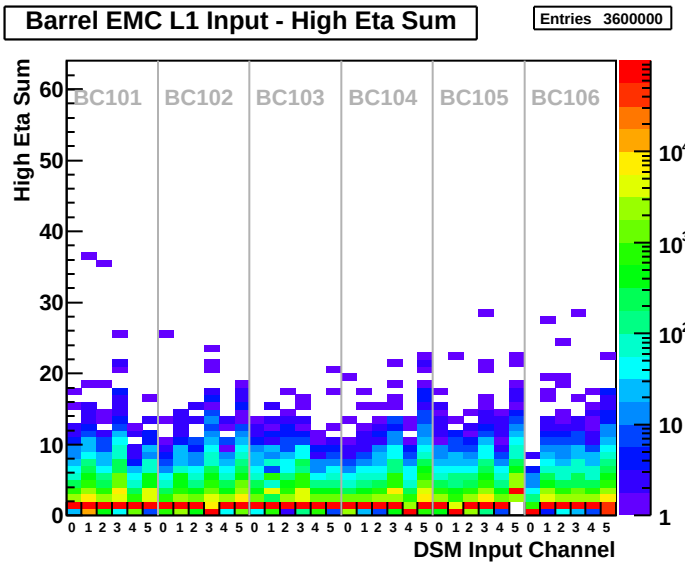

Barrel Jet Patches
Entries 1800000
JP ADC
JP ID

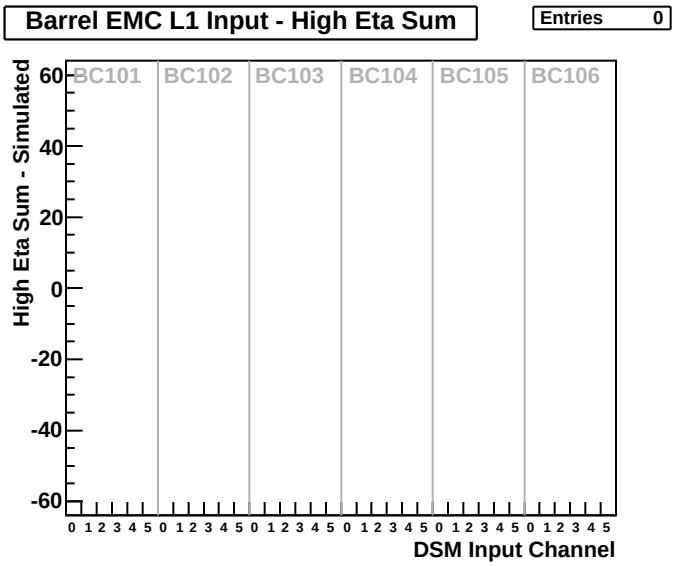

Endcap Jet Patches
Entries 600000
JP ADC
JP ID

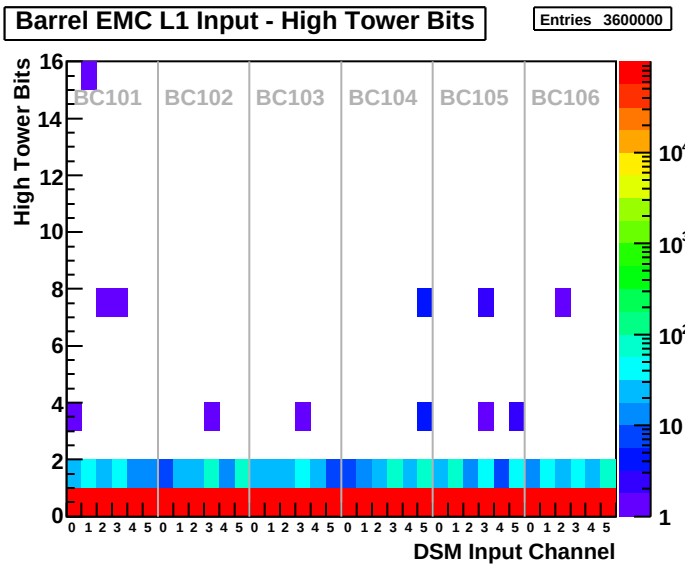

Hybrid Jet Patches
Entries 200000
JP ADC
JP ID

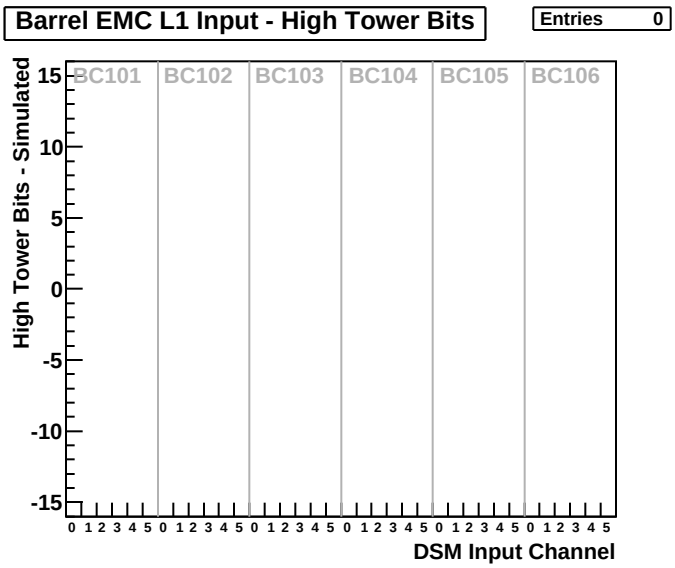

Barrel EMC L1 Input - Low Eta Sum
Entries 3600000
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

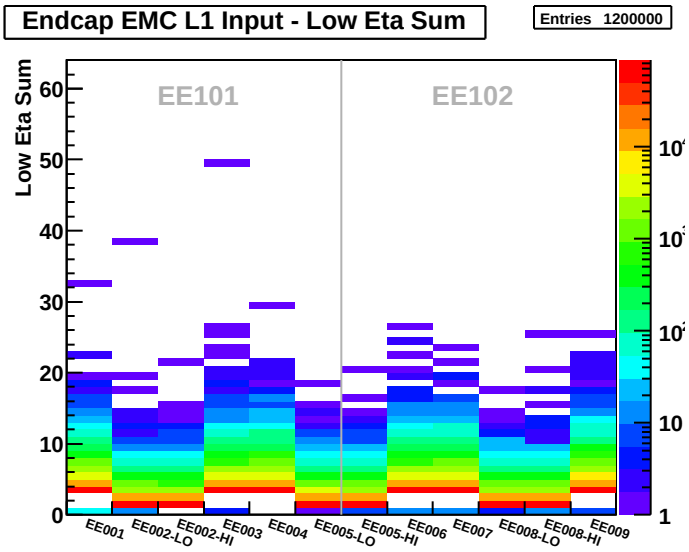

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

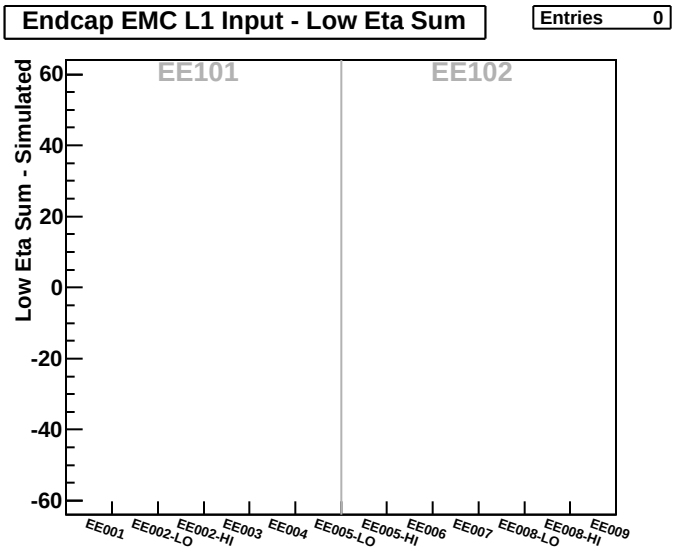

Barrel EMC L1 Input - High Eta Sum
Entries 3600000
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

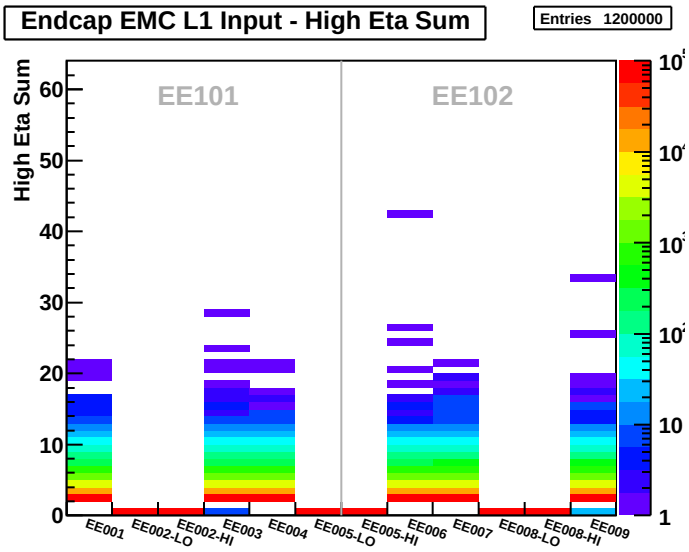

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

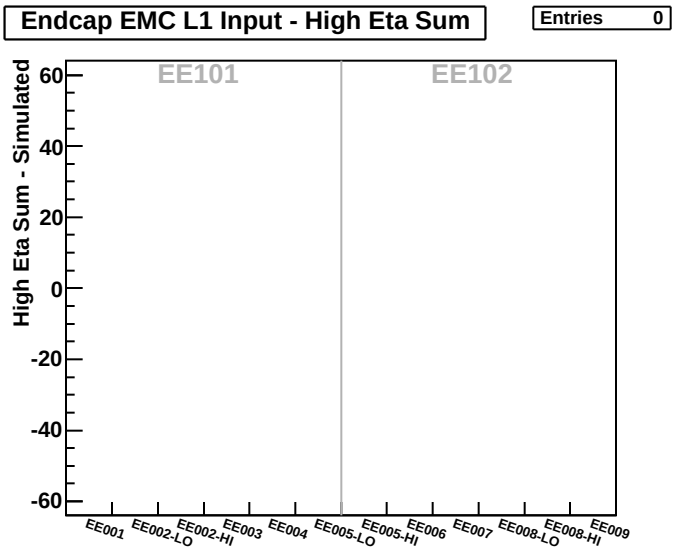

Barrel EMC L1 Input - High Tower Bits
Entries 3600000
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

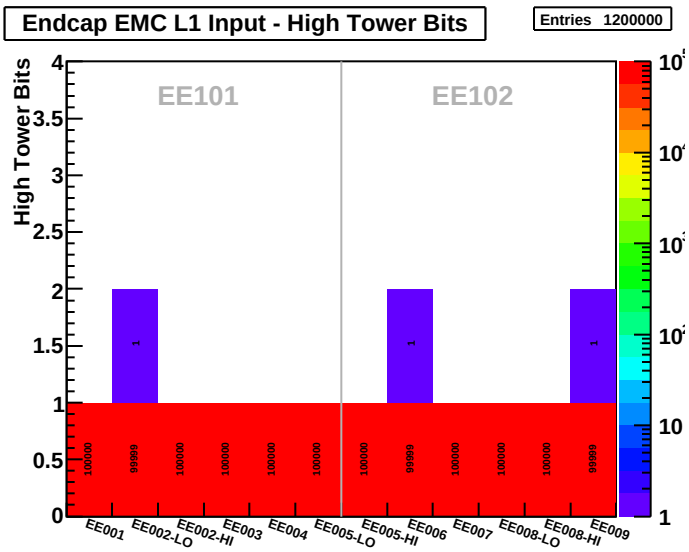

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

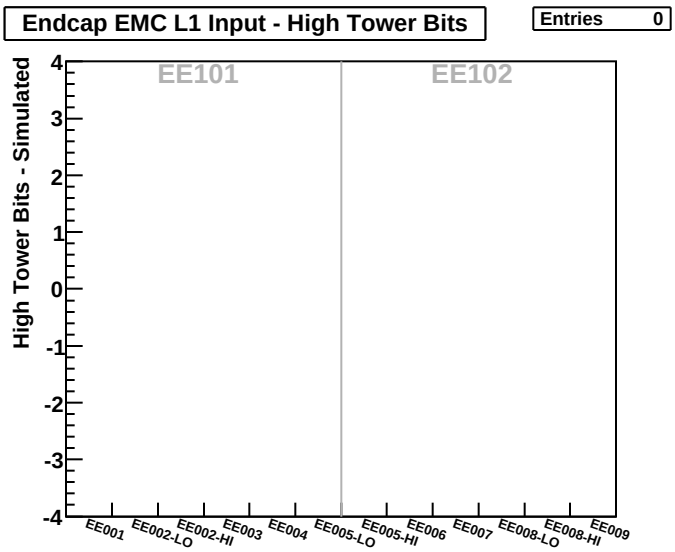

Endcap EMC L1 Input - Low Eta Sum
Entries 1200000
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

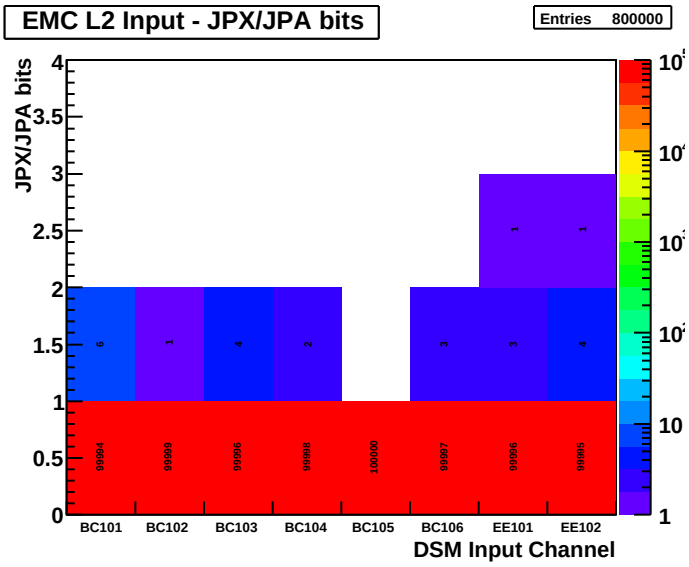

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

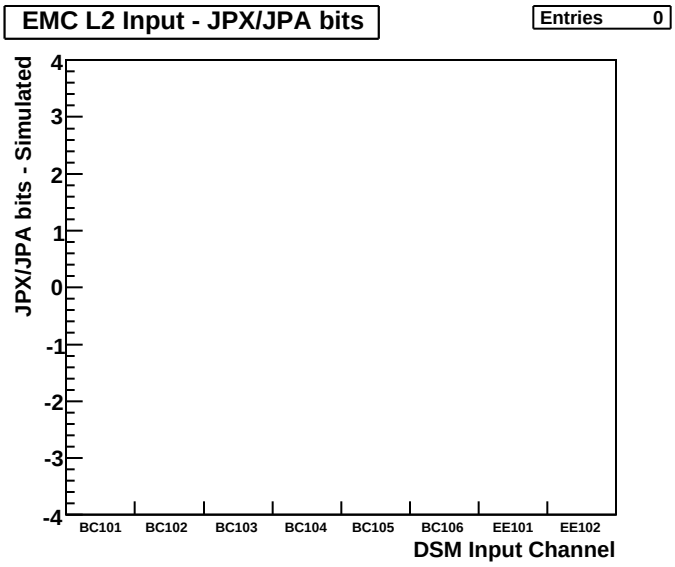

Endcap EMC L1 Input - High Eta Sum
Entries 1200000
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

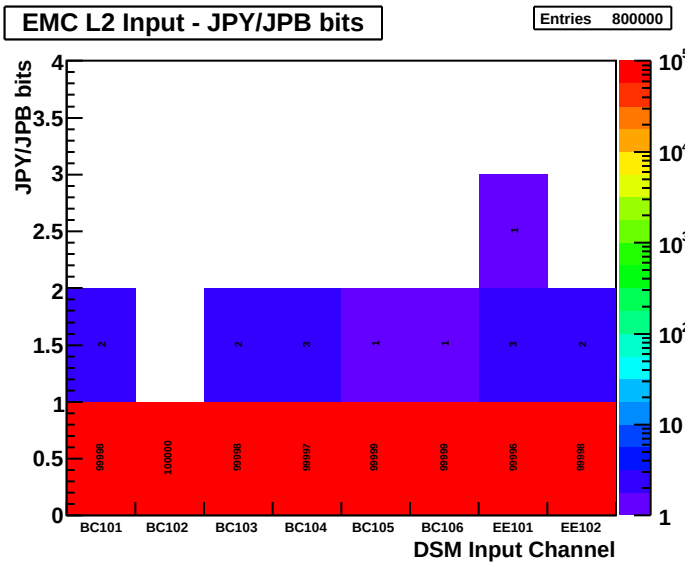

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

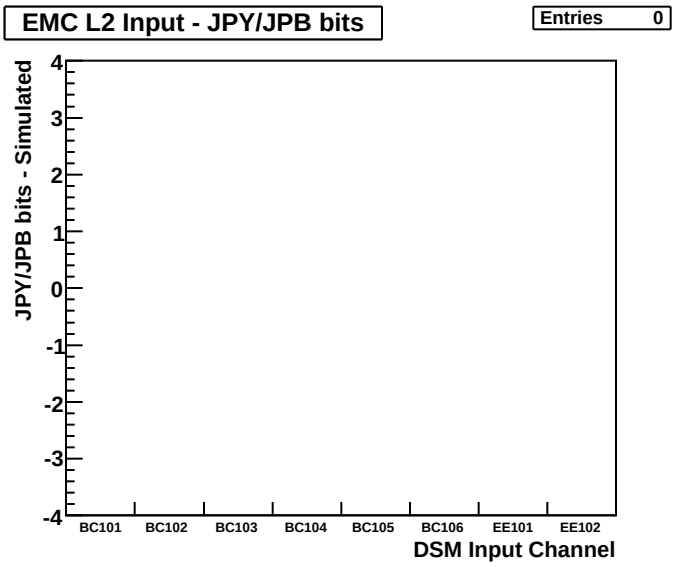

Endcap EMC L1 Input - High Tower Bits
Entries 1200000
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

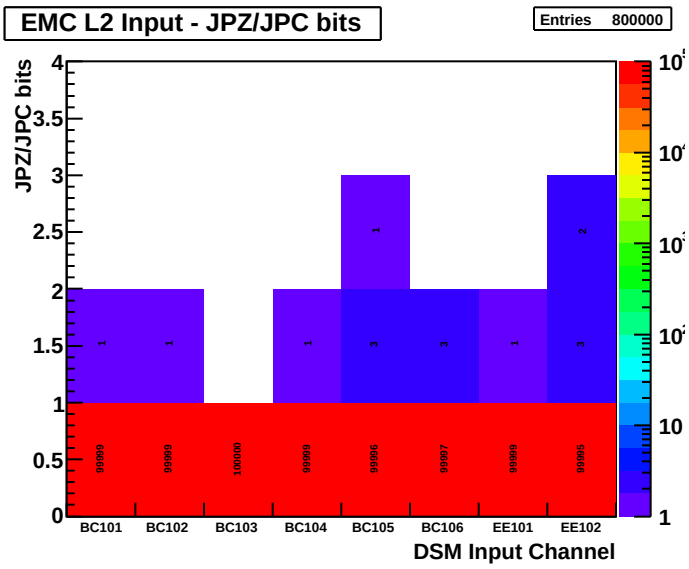

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

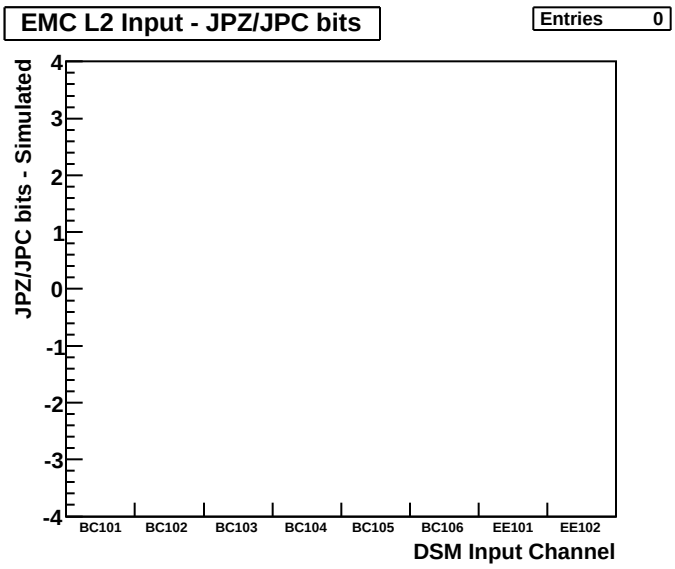

EMC L2 Input - JPX/JPA bits
Entries 800000
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

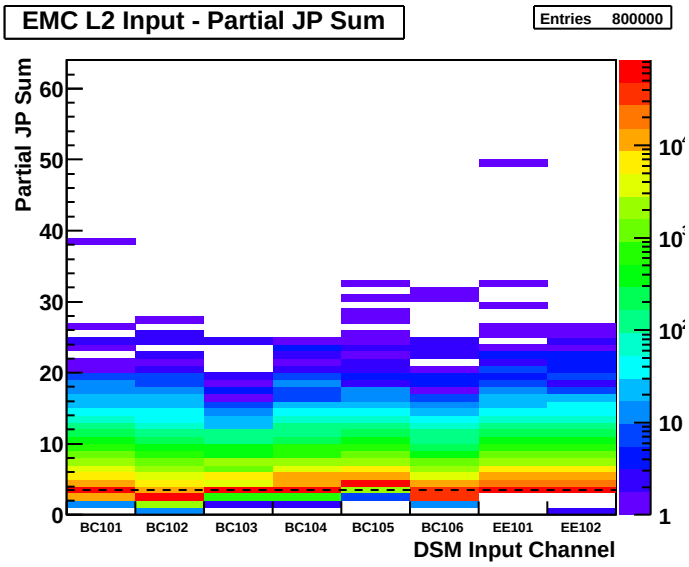

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

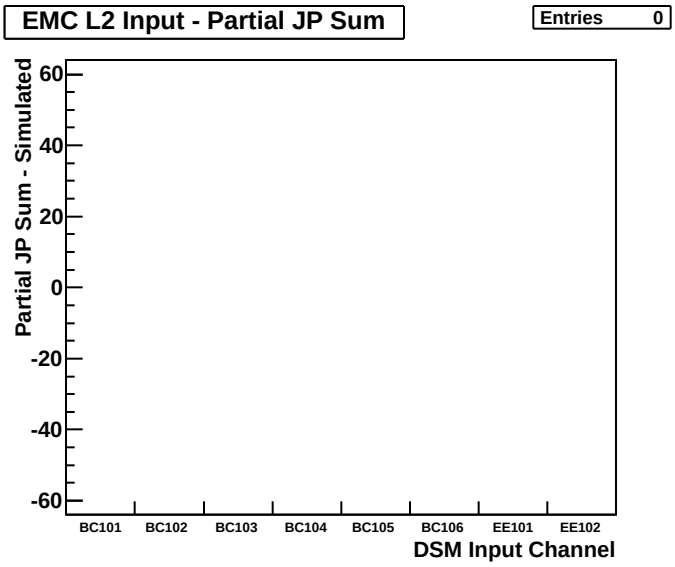

EMC L2 Input - JPY/JPB bits
Entries 800000
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

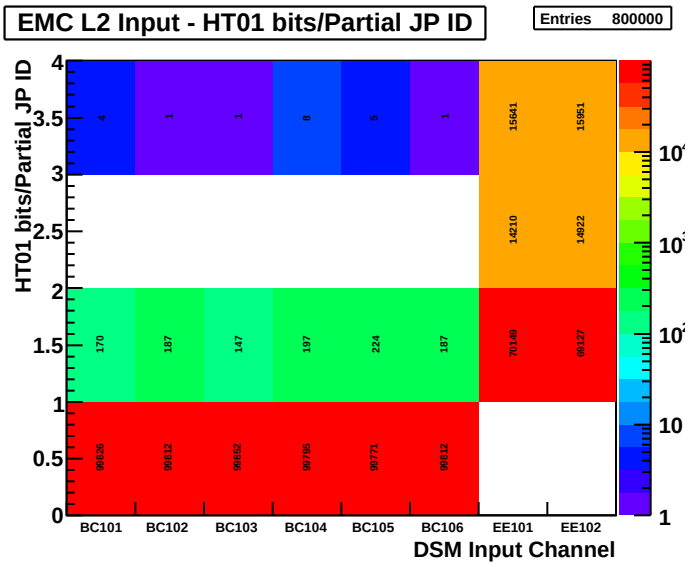

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

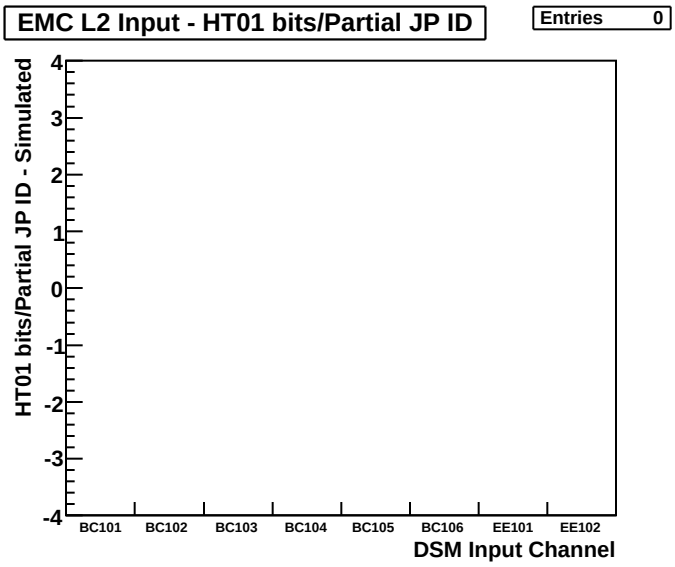

EMC L2 Input - JPZ/JPC bits
Entries 800000
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

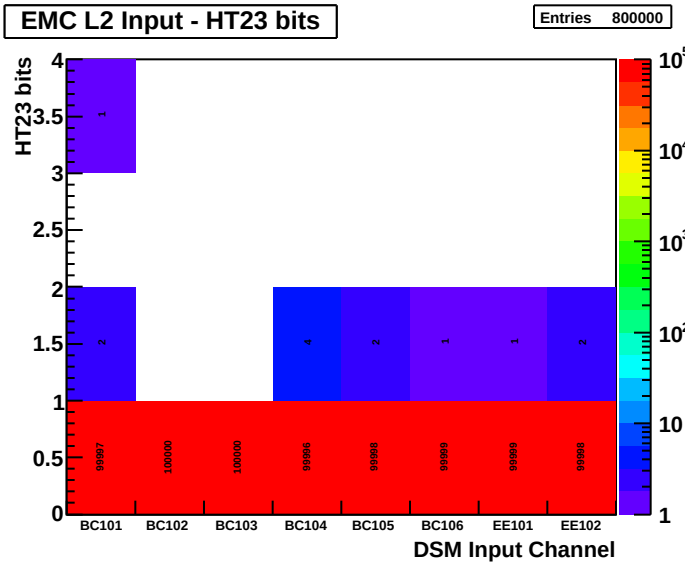

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

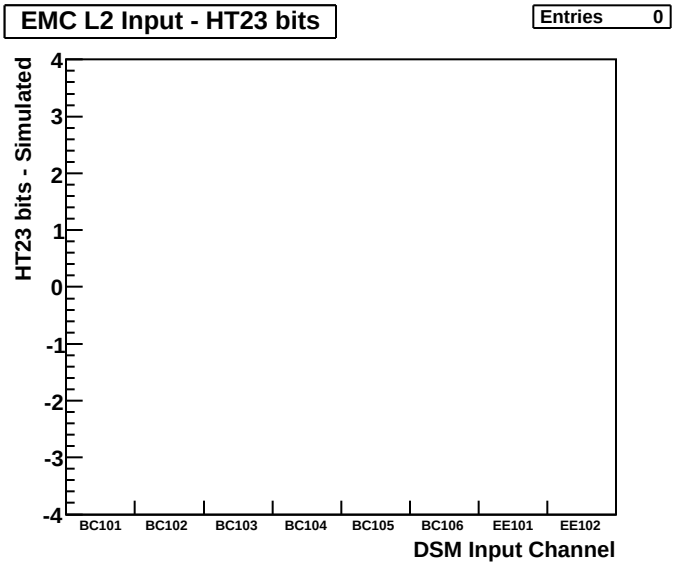

EMC L2 Input - Partial JP Sum
Entries 800000
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

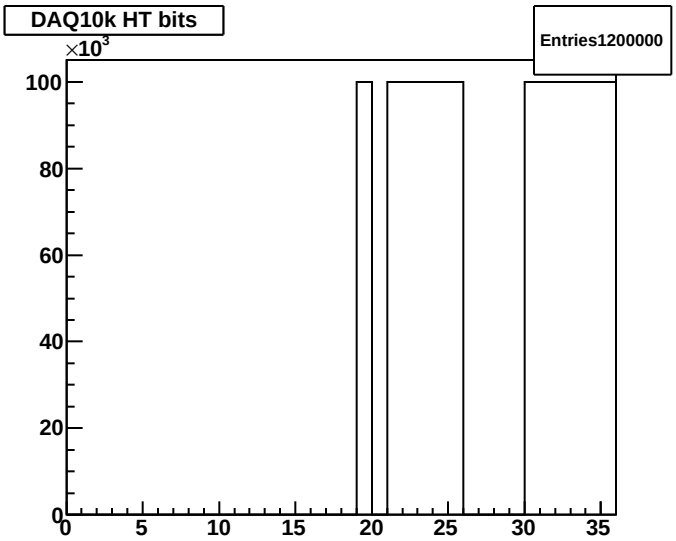

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

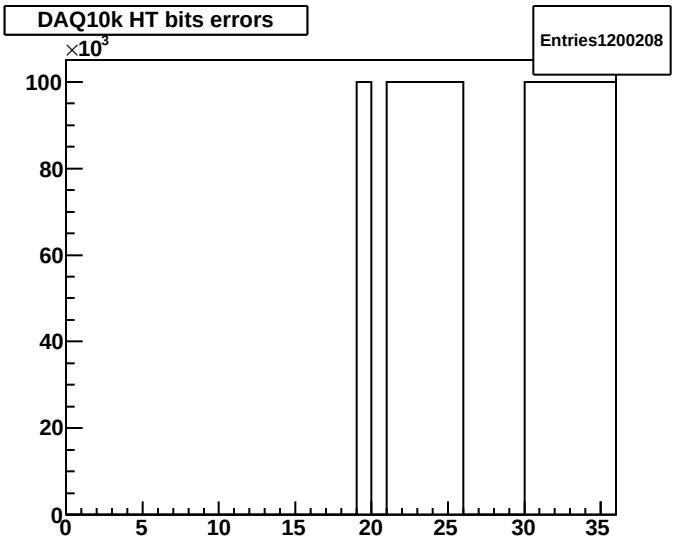

EMC L2 Input - HT01 bits/Partial JP ID
Entries 800000
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

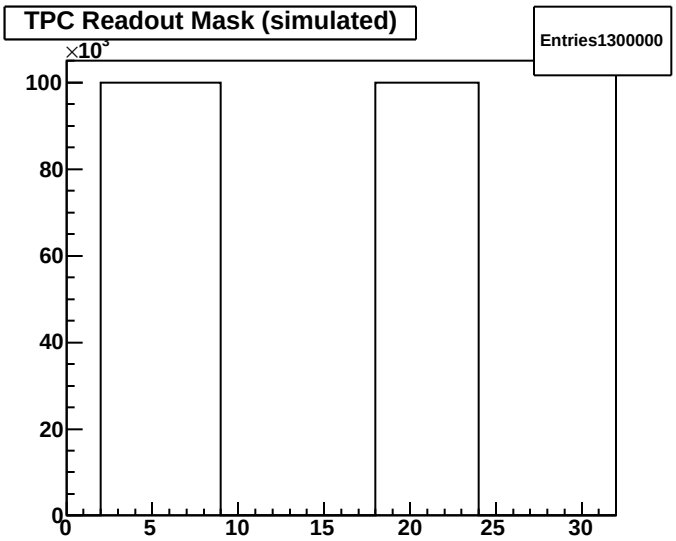

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

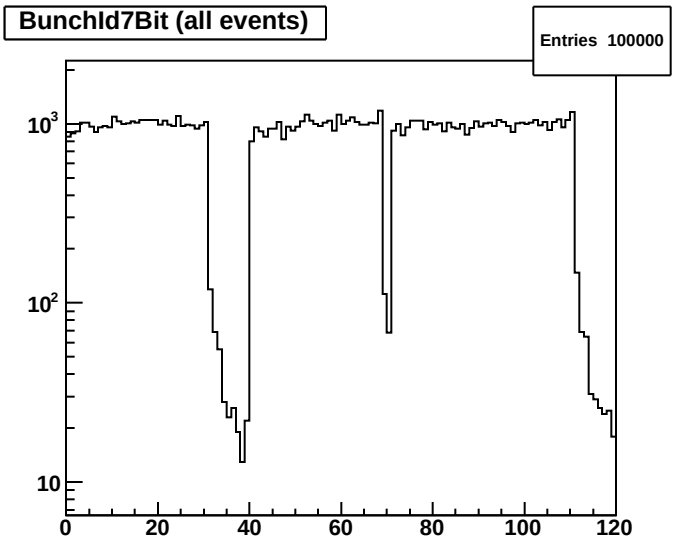

EMC L2 Input - HT23 bits
Entries 800000
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

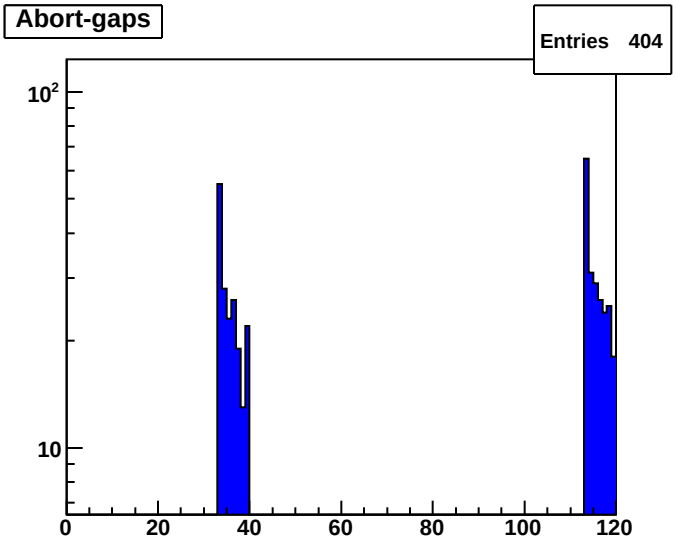

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

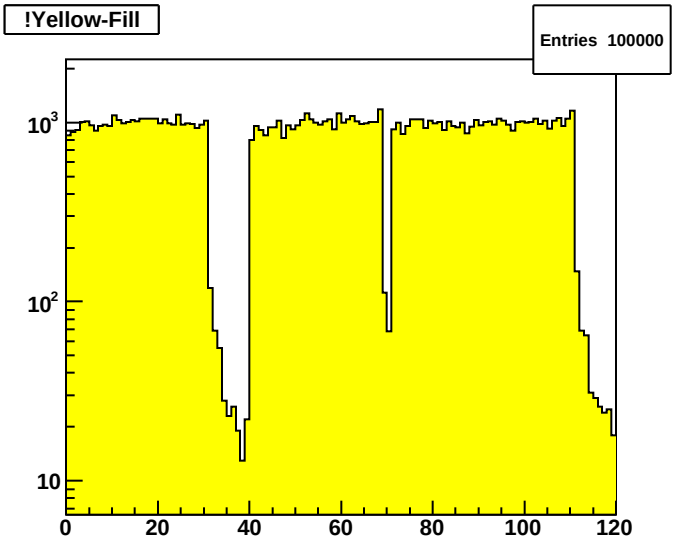

DAQ10k HT bits
Entries1200000
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

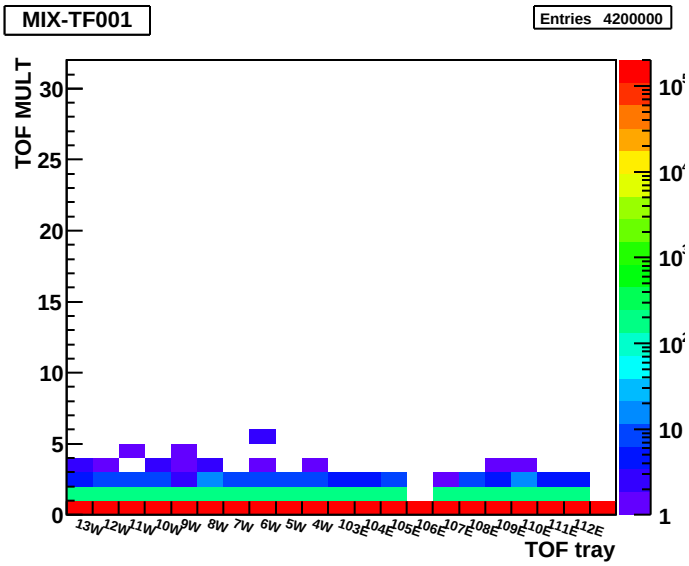

DAQ10k HT bits errors
Entries1200208
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

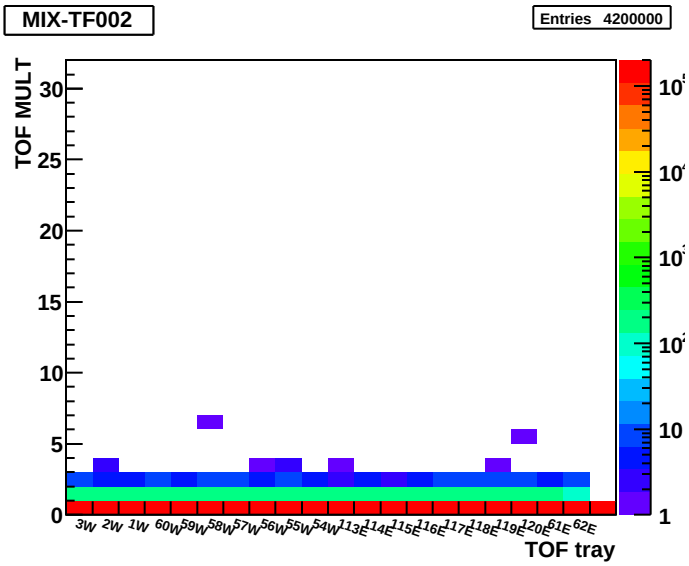

TPC Readout Mask (simulated)
Entries1300000
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30

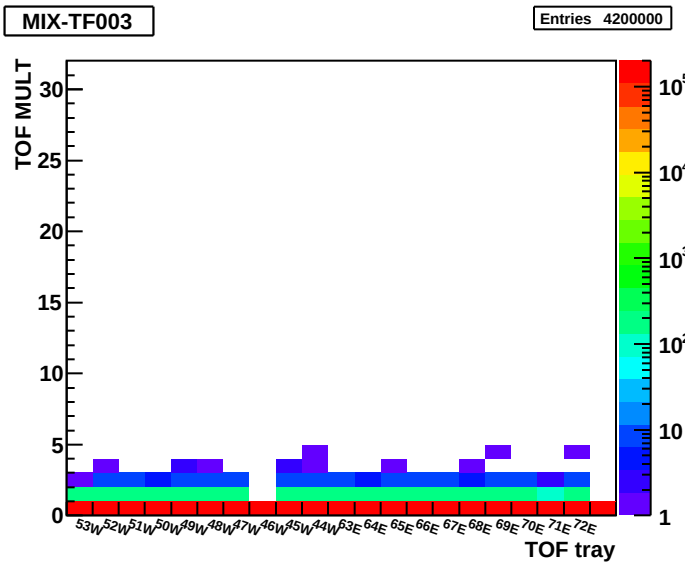

BunchId7Bit (all events)
Entries 100000
10^3
10^2
10
0 20 40 60 80 100 120

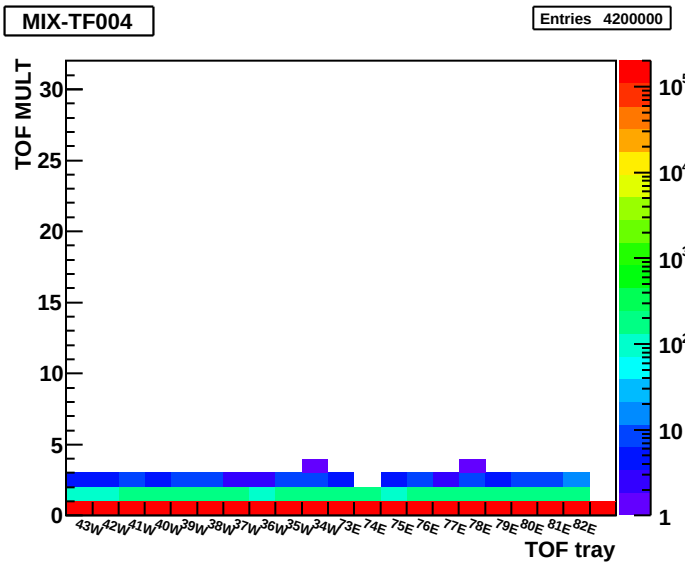

Abort-gaps
Entries 404
10^2
10
0 20 40 60 80 100 120

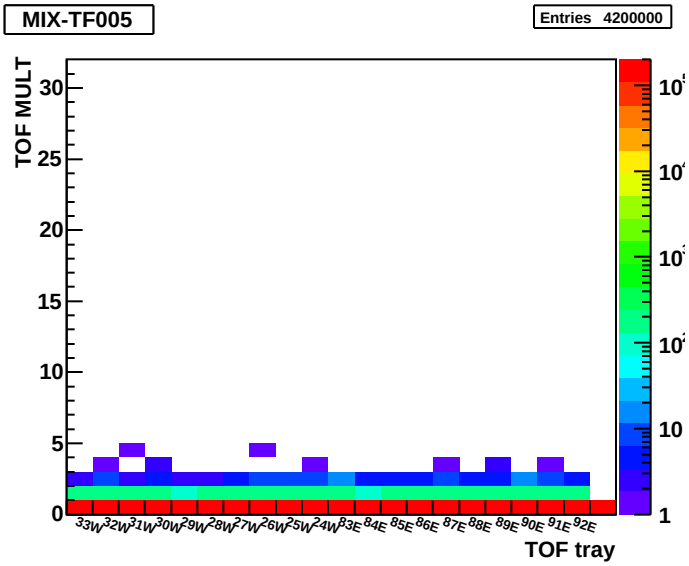

!Yellow-Fill
Entries 100000
10^3
10^2
10
0 20 40 60 80 100 120

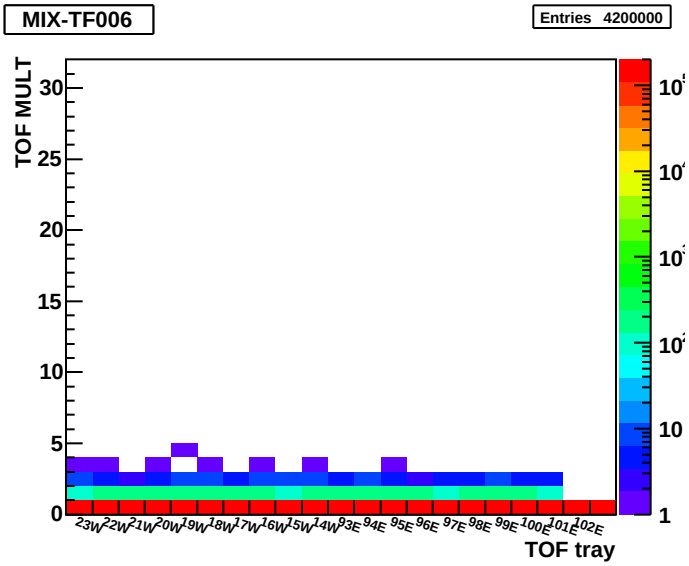

MIX-TF001
Entries 4200000
TOF MULT
TOF tray

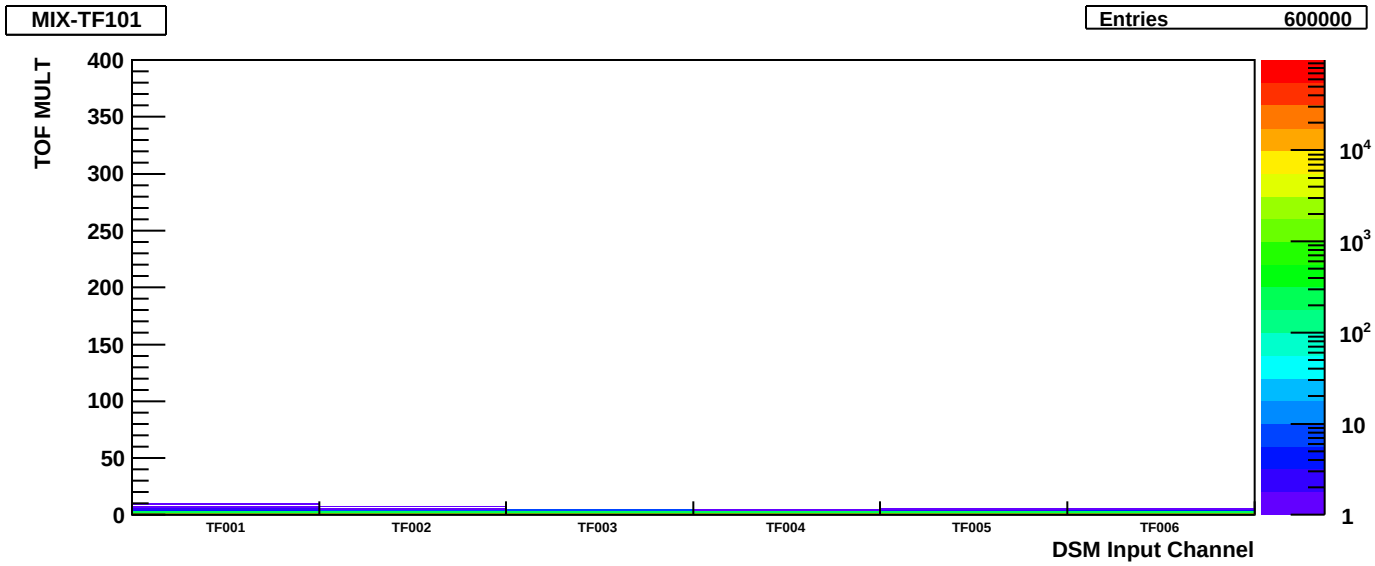

MIX-TF002
Entries 4200000
TOF MULT
TOF tray

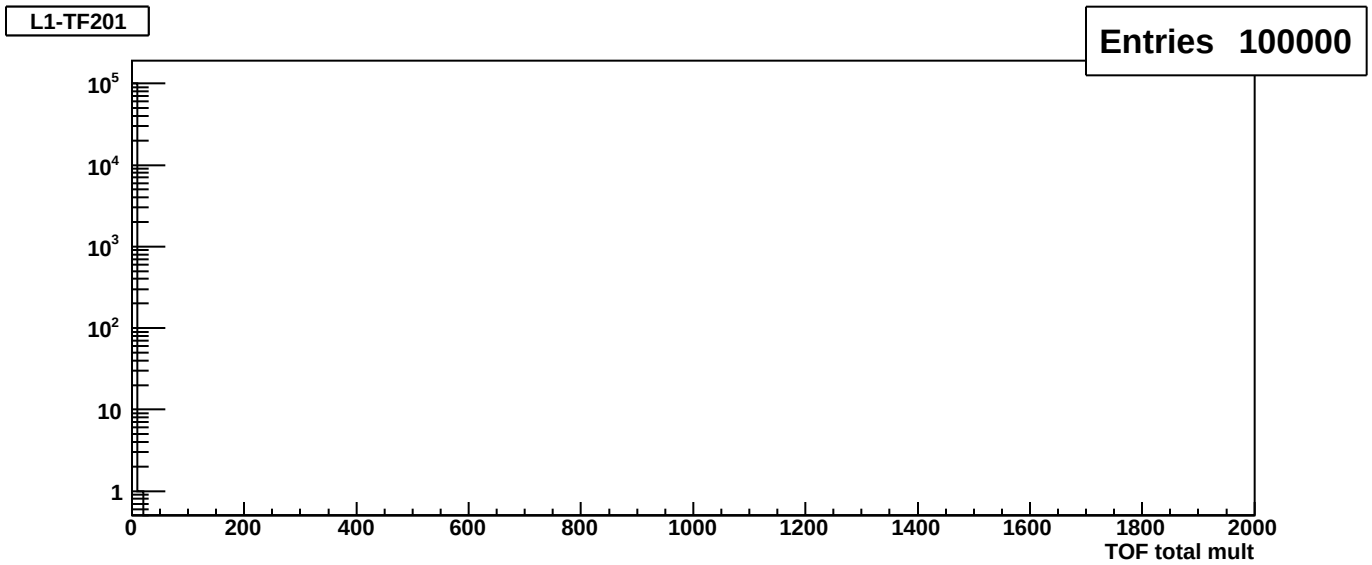

MIX-TF003
Entries 4200000
TOF MULT
TOF tray

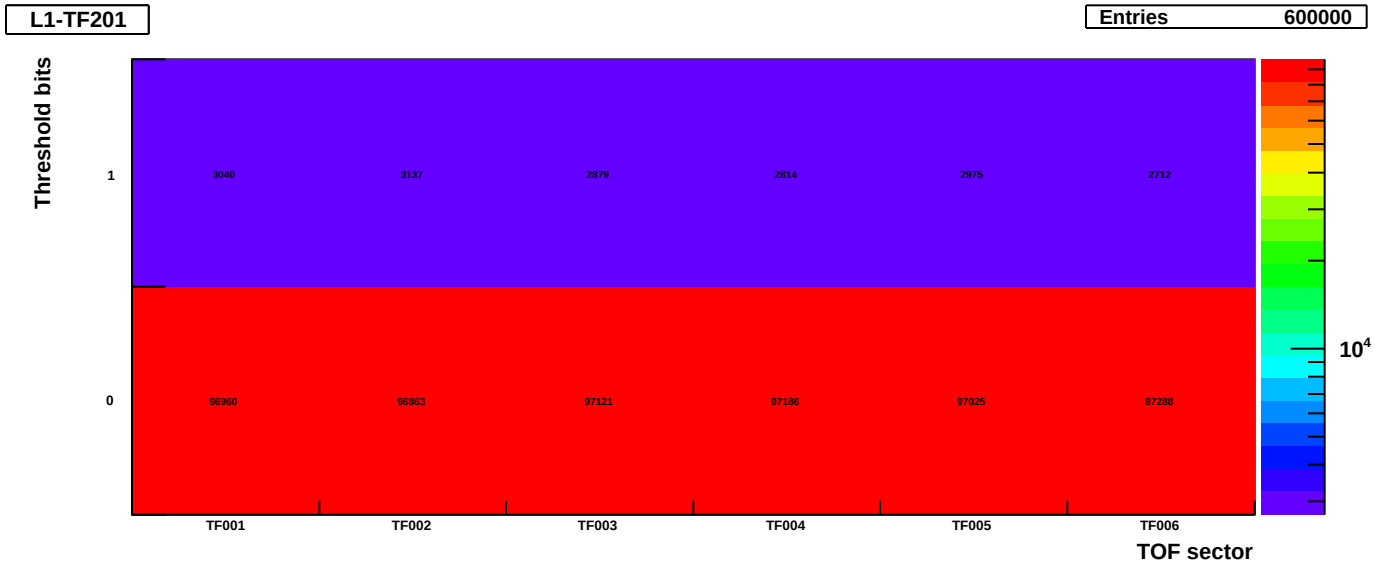

MIX-TF004
Entries 4200000
TOF MULT
TOF tray

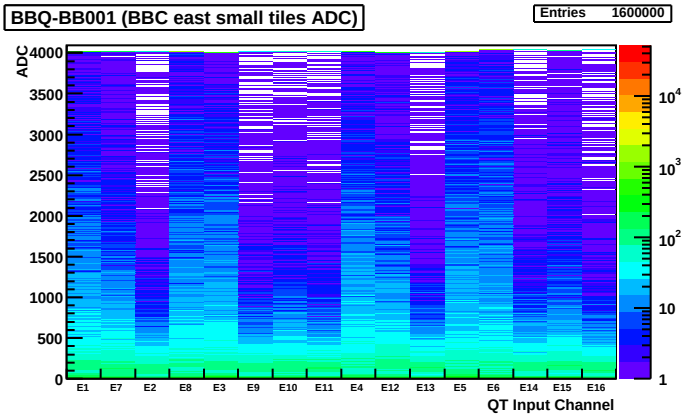

MIX-TF005
Entries 4200000
TOF MULT
TOF tray

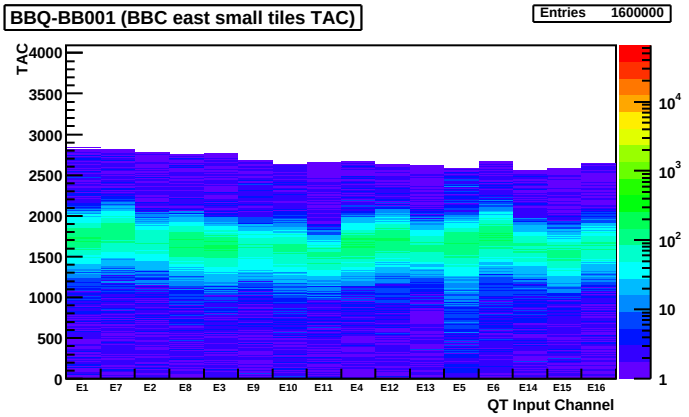

MIX-TF006
Entries 4200000
TOF MULT
TOF tray

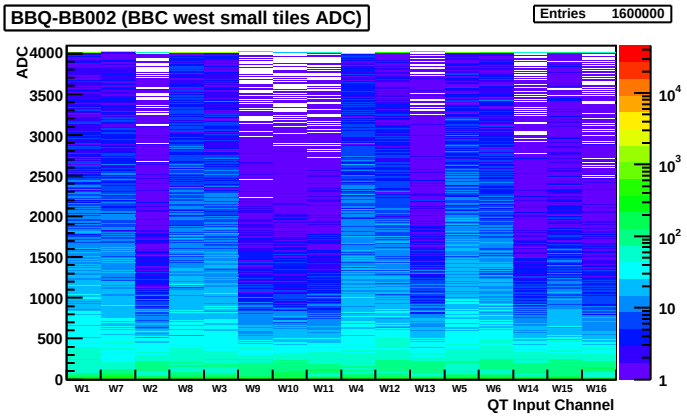

MIX-TF101
Entries 600000
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
$10^4$
$10^3$
$10^2$
10
1

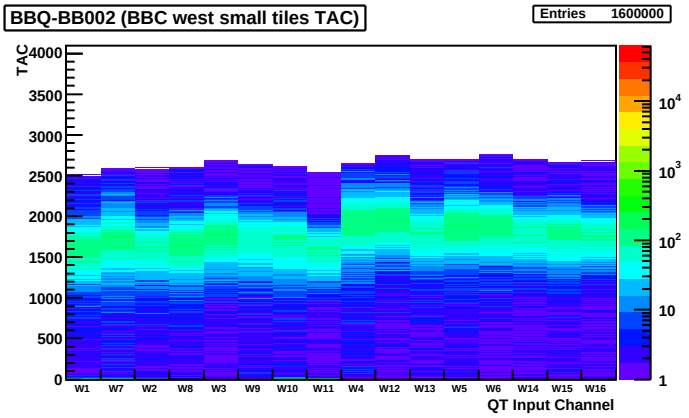

L1-TF201
Entries 100000
$10^5$
$10^4$
$10^3$
$10^2$
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

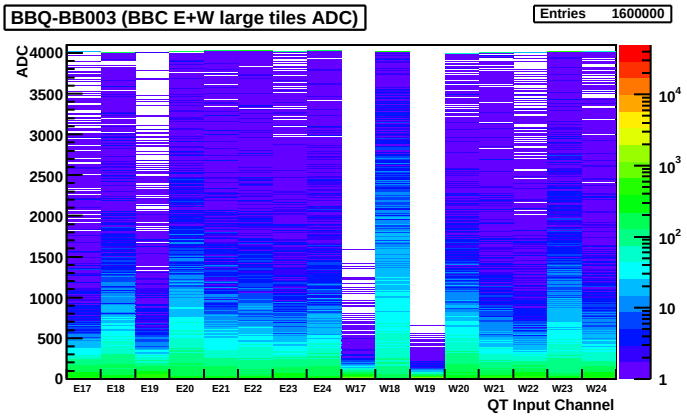

L1-TF201
Entries 600000
Threshold bits
1
0
3040
3137
2879
2814
2975
2712
96960
96863
97121
97186
97025
97288
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
$10^4$

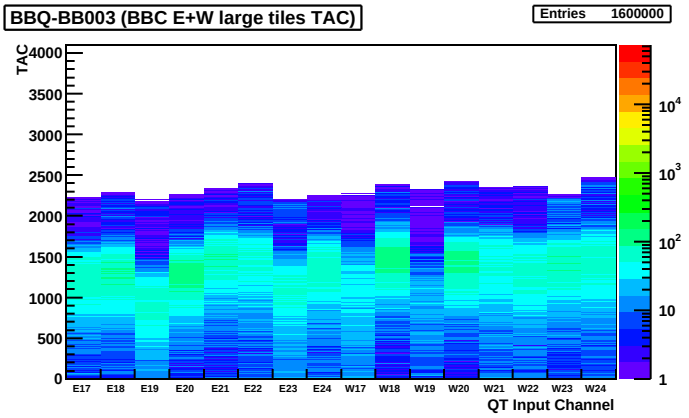

BBQ-BB001 (BBC east small tiles ADC)
Entries 1600000
ADC
QT Input Channel

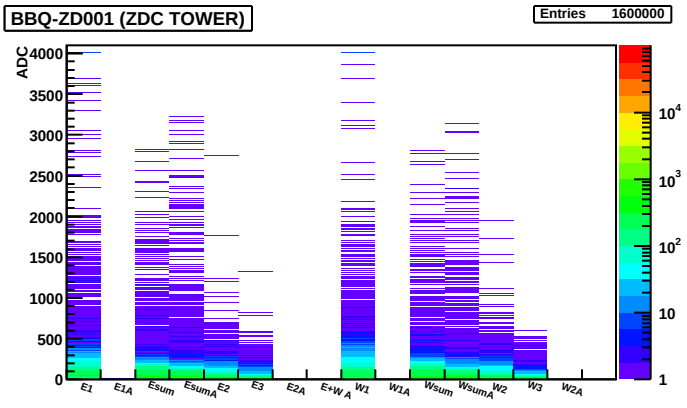

BBQ-BB001 (BBC east small tiles TAC)
Entries 1600000
TAC
QT Input Channel

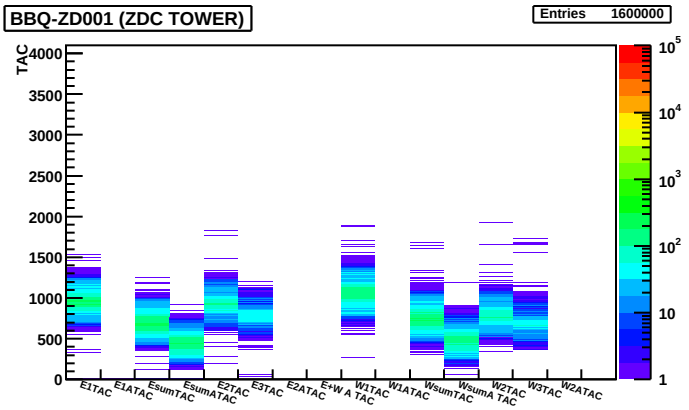

BBQ-BB002 (BBC west small tiles ADC)
Entries 1600000
ADC
QT Input Channel

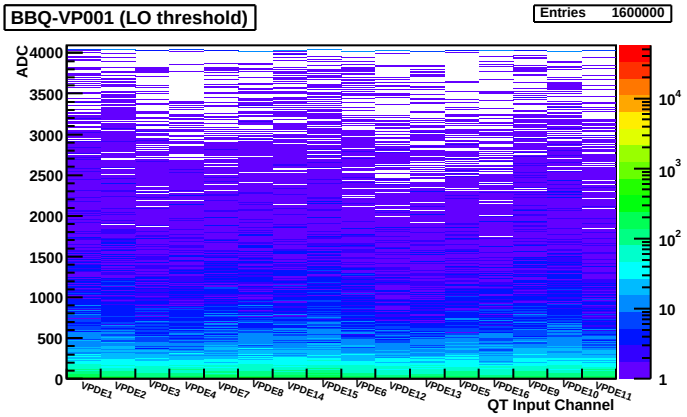

BBQ-BB002 (BBC west small tiles TAC)
Entries 1600000
TAC
QT Input Channel

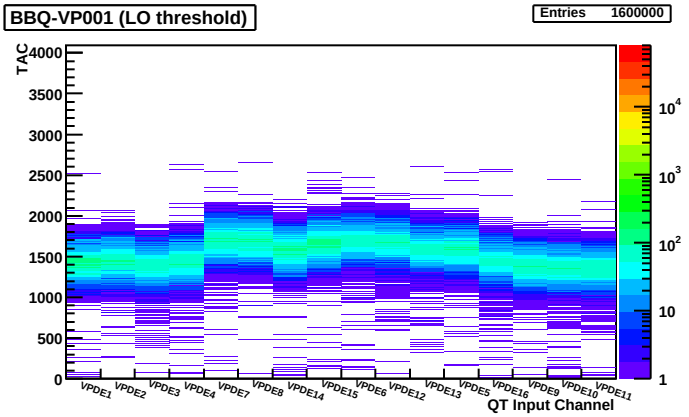

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1600000
ADC
QT Input Channel

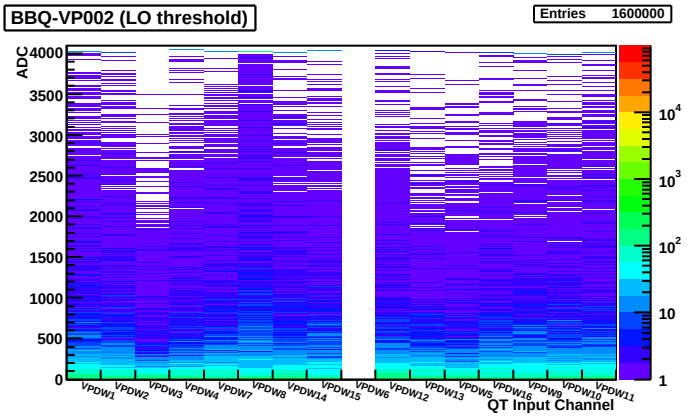

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1600000
TAC
QT Input Channel

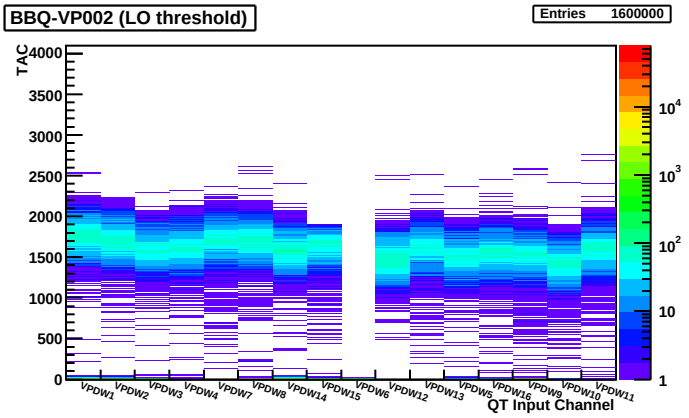

BBQ-ZD001 (ZDC TOWER)
Entries 1600000
ADC

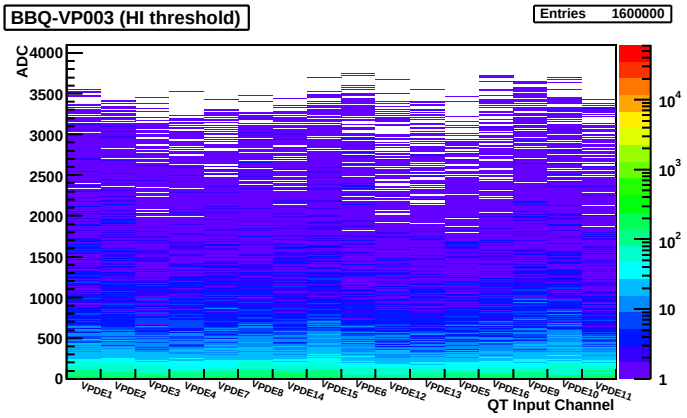

BBQ-ZD001 (ZDC TOWER)
Entries 1600000
TAC

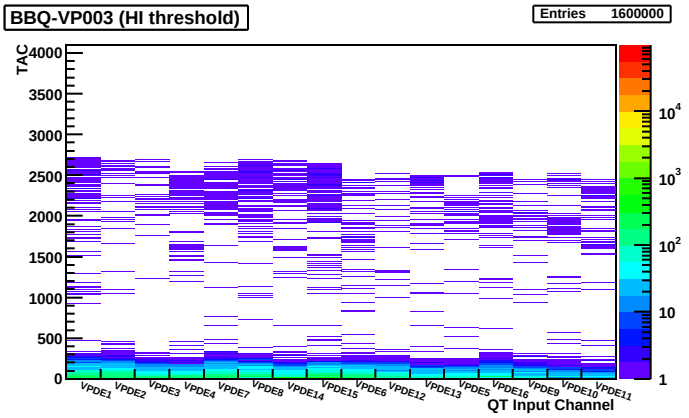

BBQ-VP001 (LO threshold)
Entries 1600000
ADC
QT Input Channel

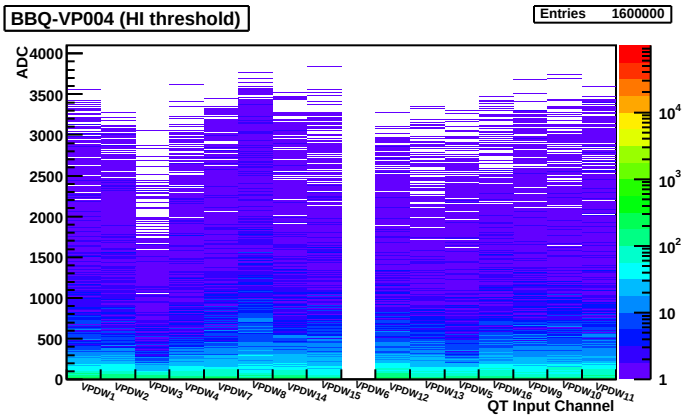

BBQ-VP001 (LO threshold)
Entries 1600000
TAC
QT Input Channel

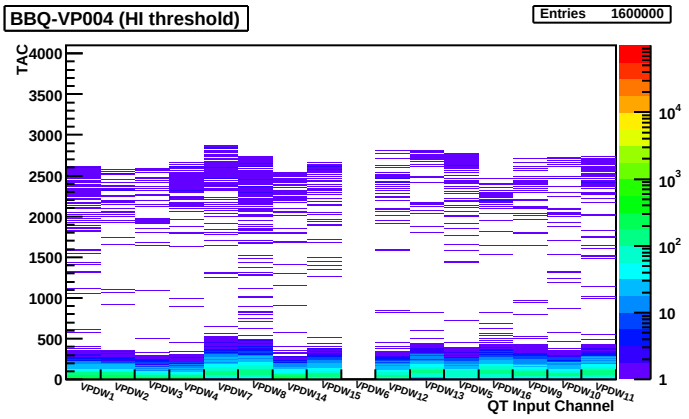

BBQ-VP002 (LO threshold)
Entries 1600000
ADC
QT Input Channel

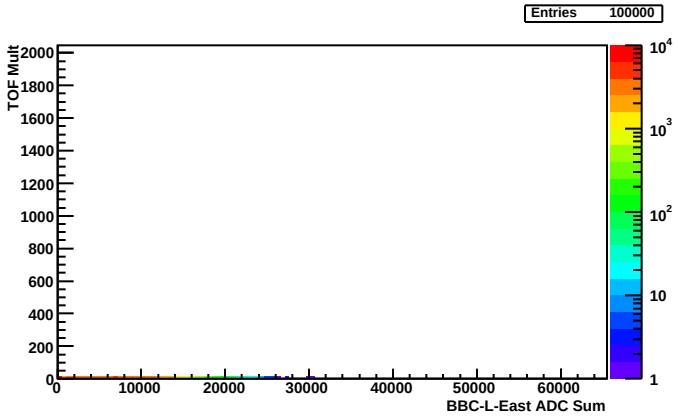

BBQ-VP002 (LO threshold)
Entries 1600000
TAC
QT Input Channel

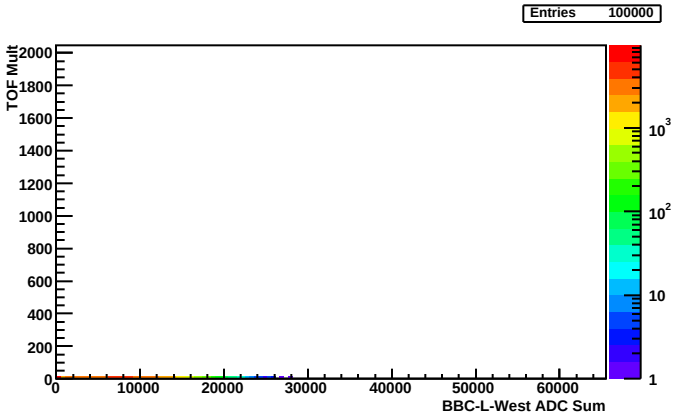

BBQ-VP003 (HI threshold)
Entries 1600000
ADC
QT Input Channel

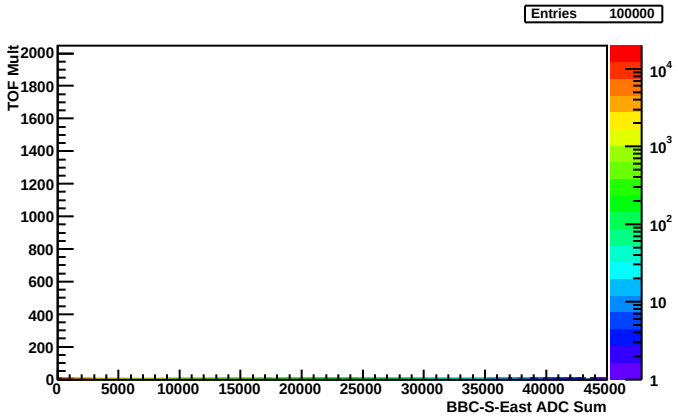

BBQ-VP003 (HI threshold)
Entries 1600000
TAC
QT Input Channel

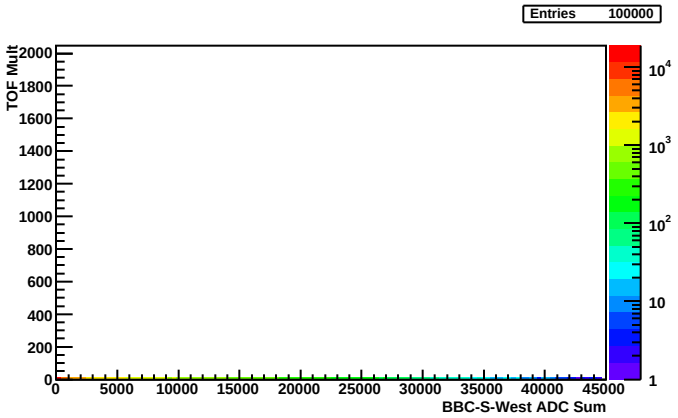

BBQ-VP004 (HI threshold)
Entries 1600000
ADC
QT Input Channel

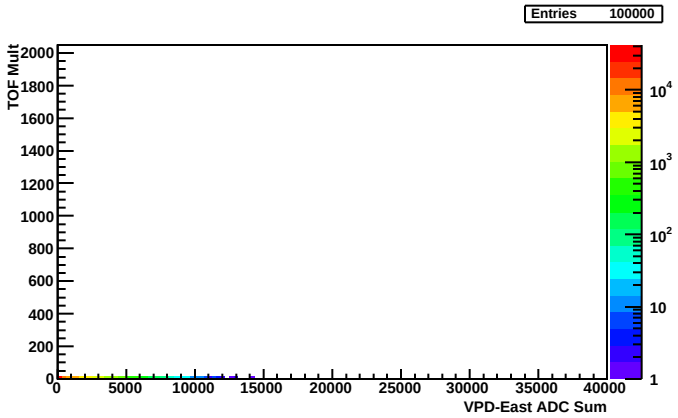

BBQ-VP004 (HI threshold)
Entries 1600000
TAC
QT Input Channel

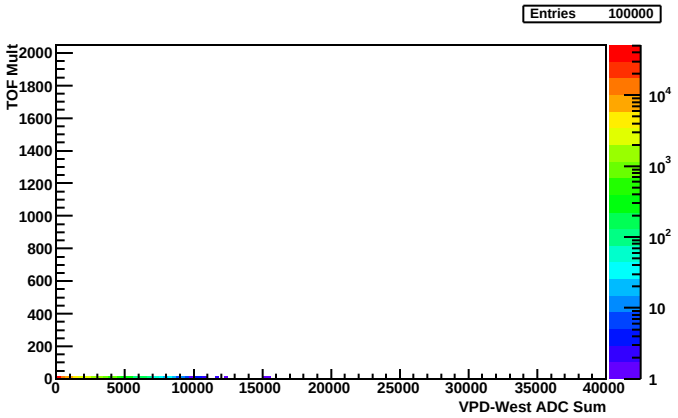

Entries 100000
TOF Mult
BBC-L-East ADC Sum

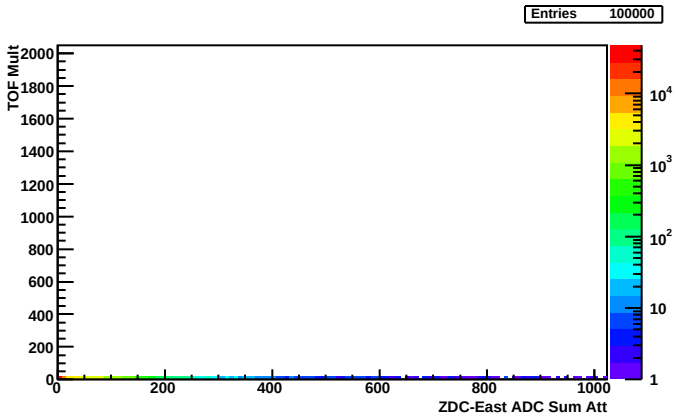

Entries 100000
TOF Mult
BBC-L-West ADC Sum

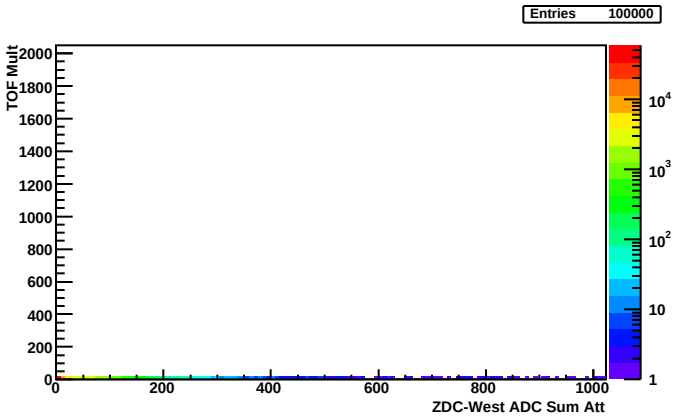

Entries 100000
TOF Mult
BBC-S-East ADC Sum

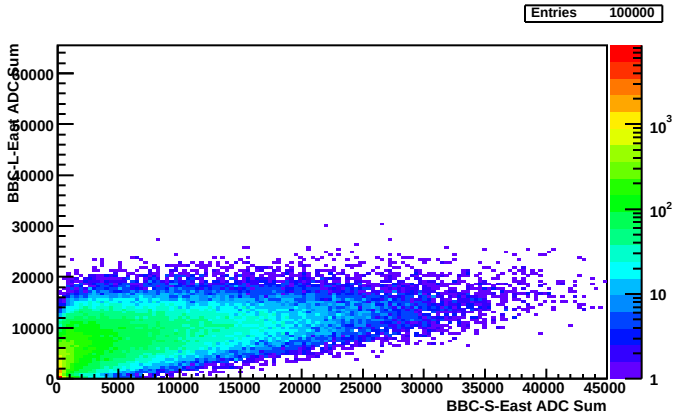

Entries 100000
TOF Mult
BBC-S-West ADC Sum

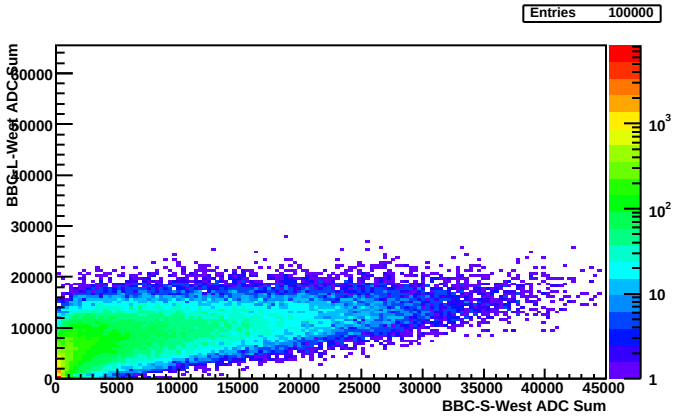

Entries 100000
TOF Mult
VPD-East ADC Sum

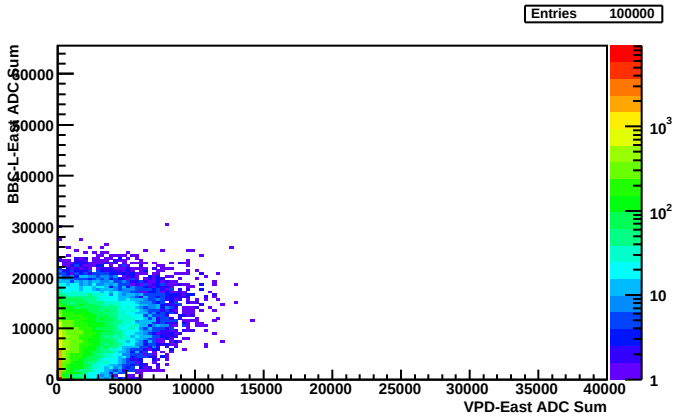

Entries 100000
TOF Mult
VPD-West ADC Sum

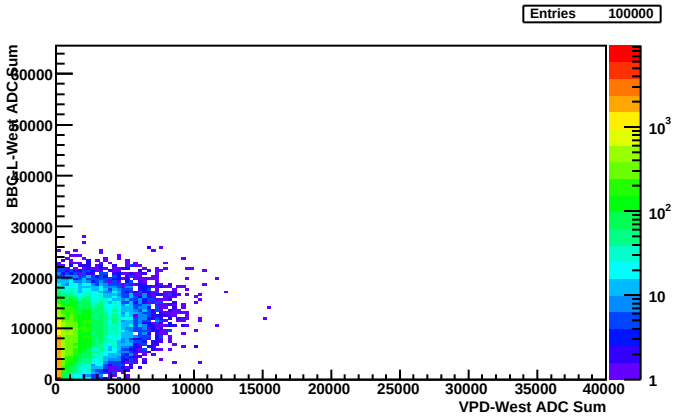

Entries 100000
TOF Mult
ZDC-East ADC Sum Att

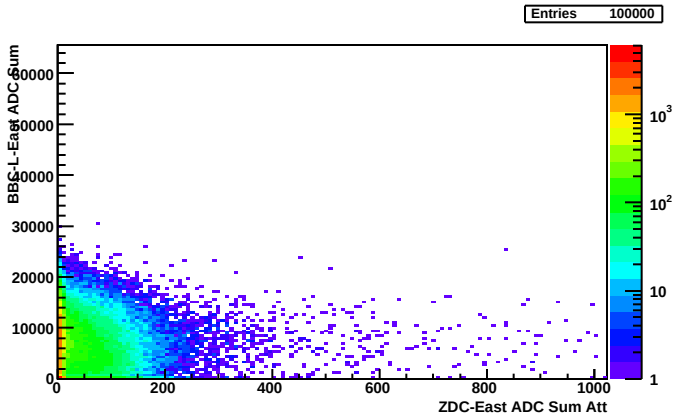

Entries 100000
TOF Mult
ZDC-West ADC Sum Att

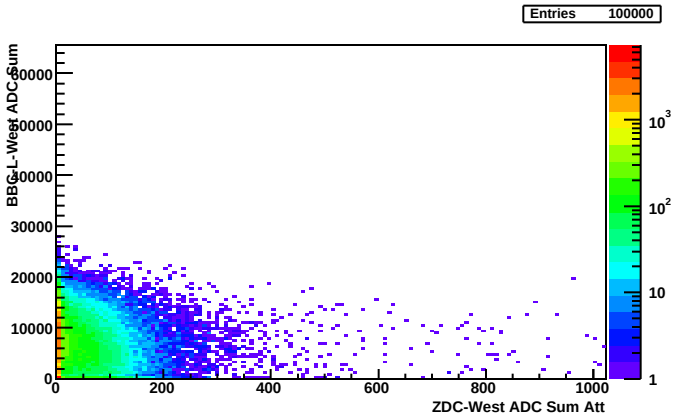

Entries 100000
BBC-L-East ADC Sum
BBC-S-East ADC Sum

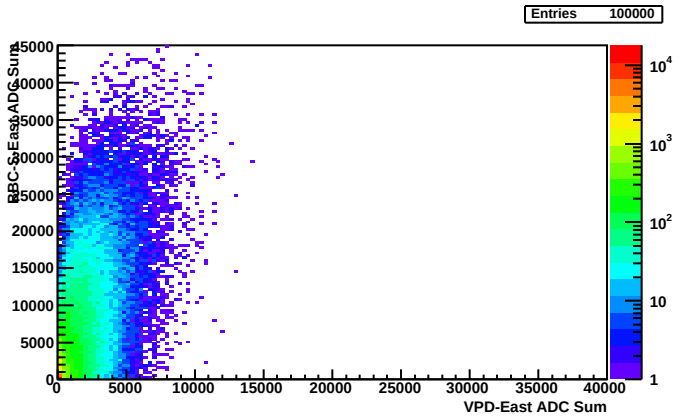

Entries 100000
BBC-L-West ADC Sum
BBC-S-West ADC Sum

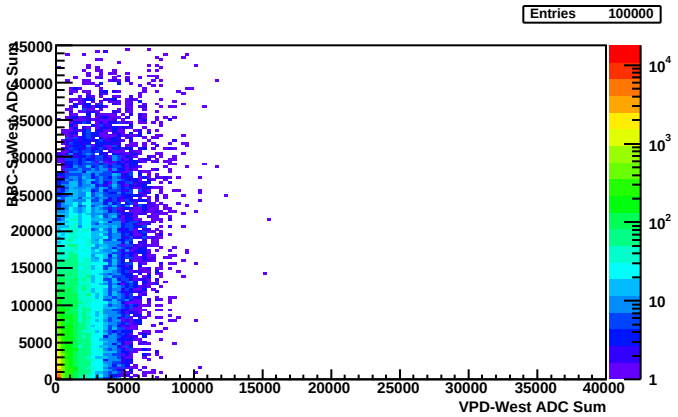

Entries 100000
BBC-L-East ADC Sum
VPD-East ADC Sum

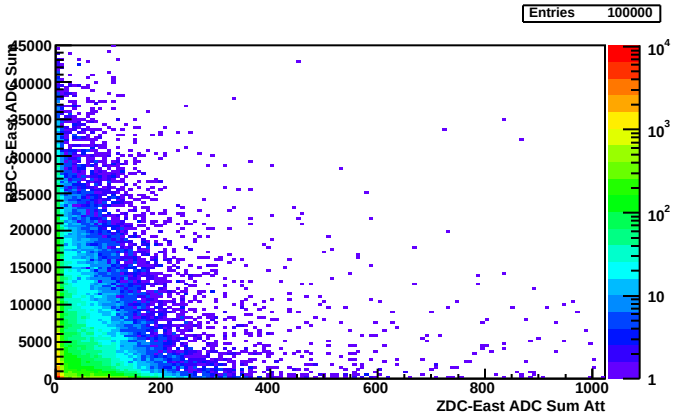

Entries 100000
BBC-L-West ADC Sum
VPD-West ADC Sum

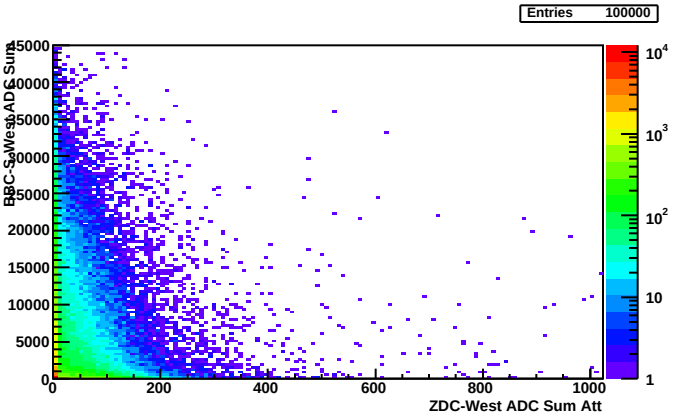

Entries 100000
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

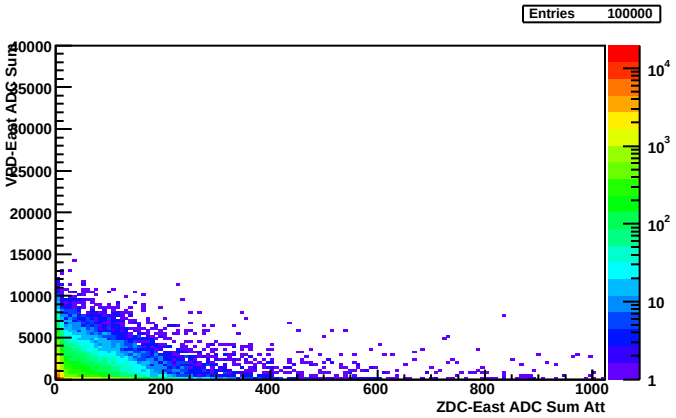

Entries 100000
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

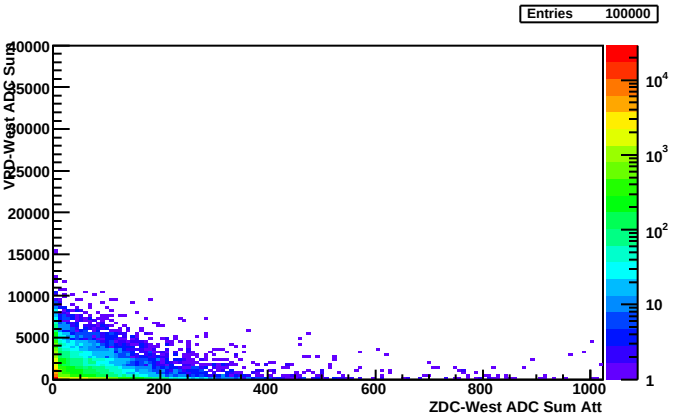

Entries 100000
BBC-S-East ADC Sum
VPD-East ADC Sum

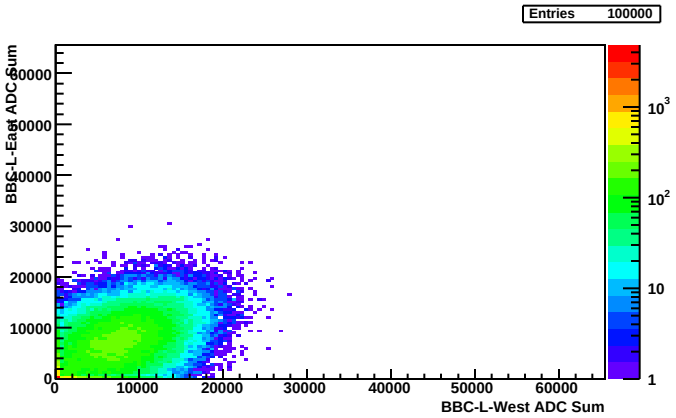

Entries 100000
BBC-S-West ADC Sum
VPD-West ADC Sum

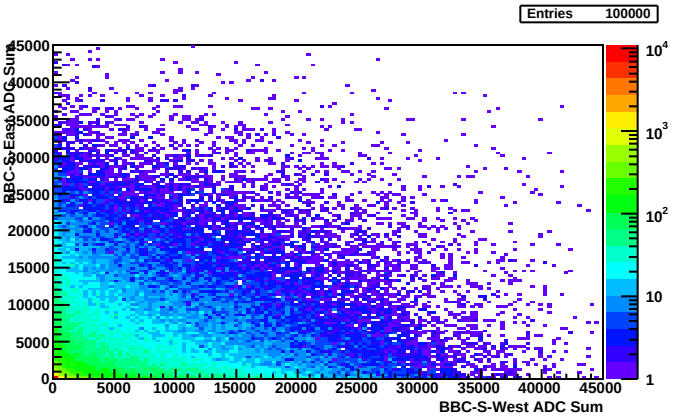

Entries 100000
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

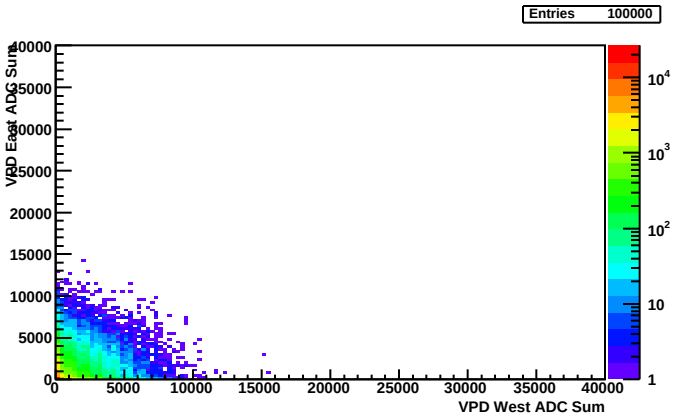

Entries 100000
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

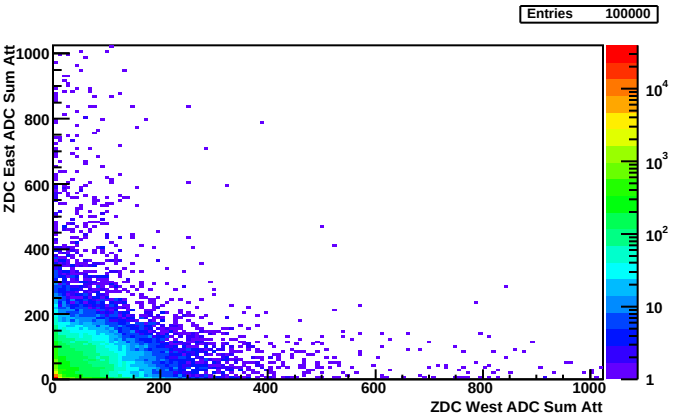

Entries 100000
VPD-East ADC Sum
ZDC-East ADC Sum Att

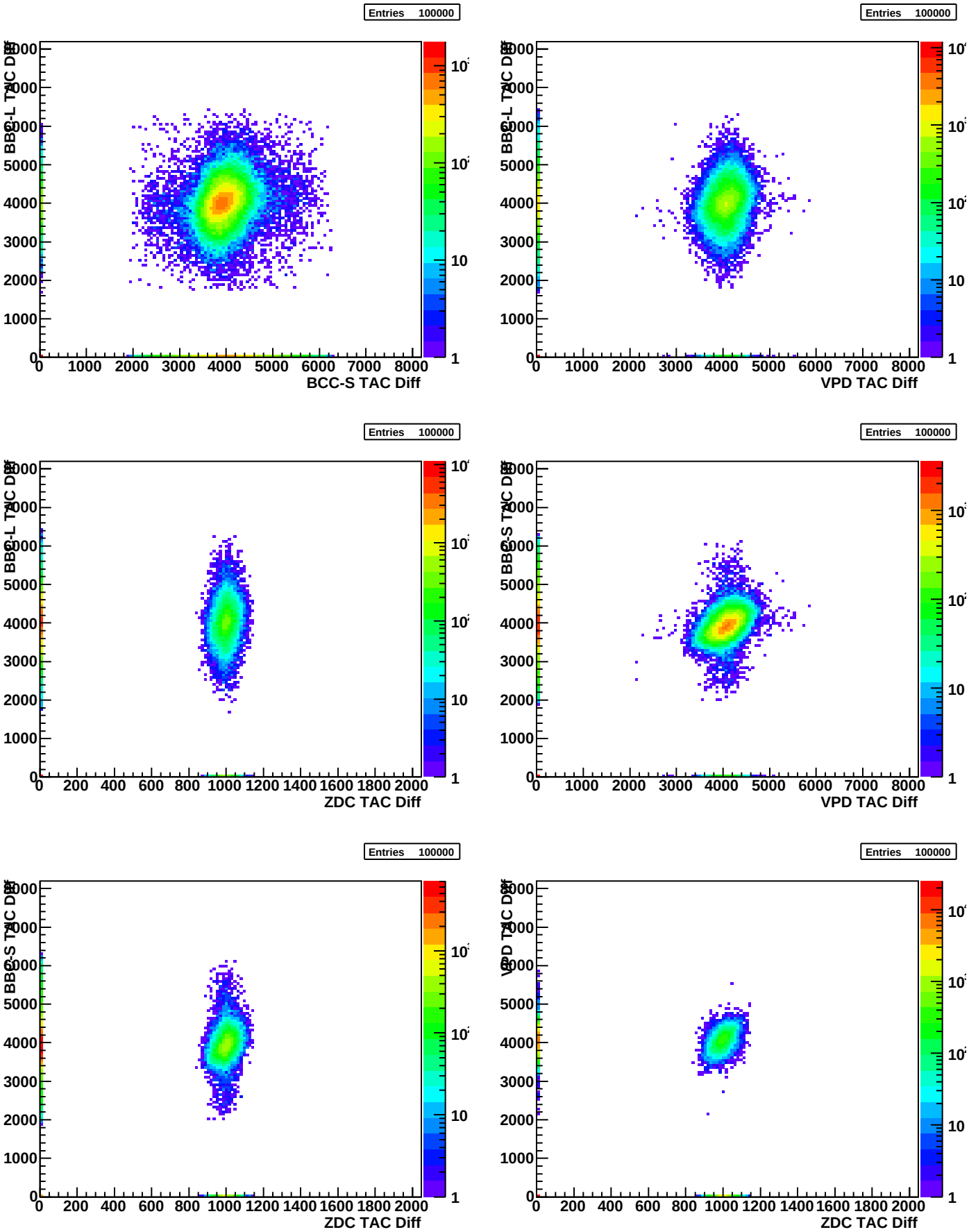

Entries 100000
VPD-West ADC Sum
ZDC-West ADC Sum Att

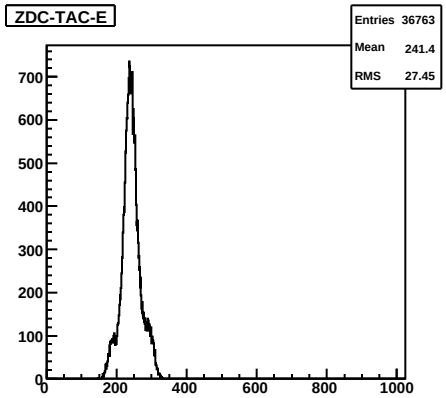

Entries 100000
BBC-L-East ADC Sum
BBC-L-West ADC Sum

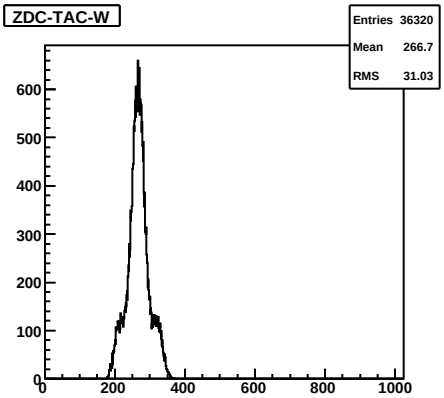

Entries 100000
BBC-S-East ADC Sum
BBC-S-West ADC Sum

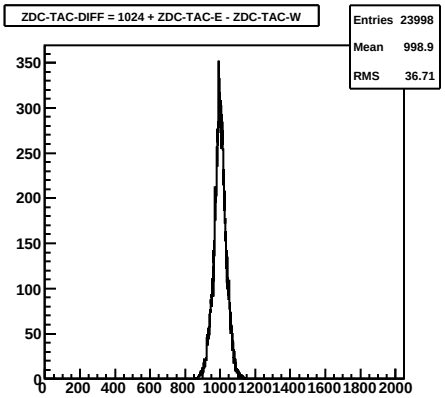

Entries 100000
VPD East ADC Sum
VPD West ADC Sum

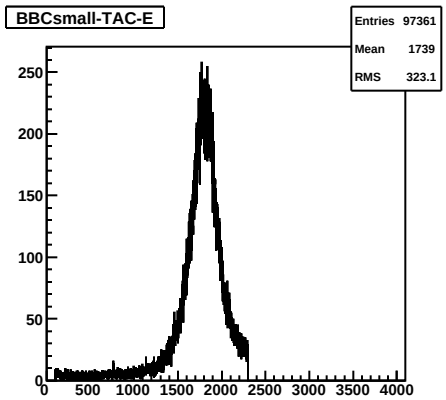

Entries 100000
ZDC East ADC Sum Att
ZDC West ADC Sum Att

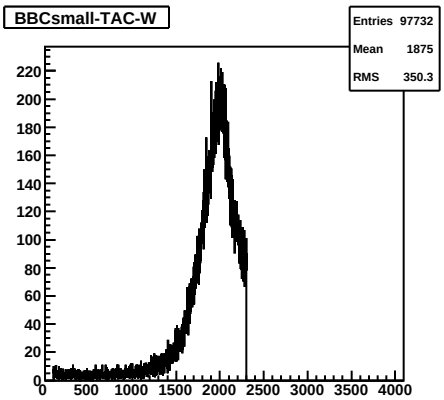

Entries 100000
BBC-L TAC Diff
BCC-S TAC Diff
Entries 100000
BBC-L TAC Diff
VPD TAC Diff
Entries 100000
BBC-L TAC Diff
ZDC TAC Diff
Entries 100000
BBC-S TAC Diff
VPD TAC Diff
Entries 100000
BBC-S TAC Diff
ZDC TAC Diff
Entries 100000
VPD TAC Diff
ZDC TAC Diff

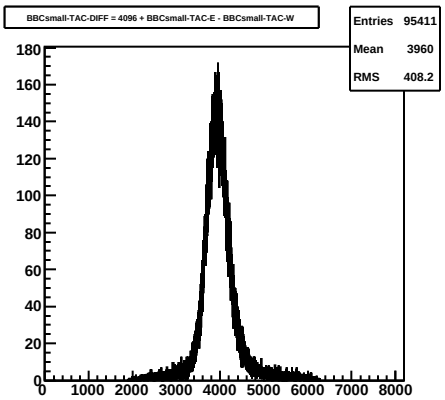

ZDC-TAC-E
Entries 36763
Mean 241.4
RMS 27.45

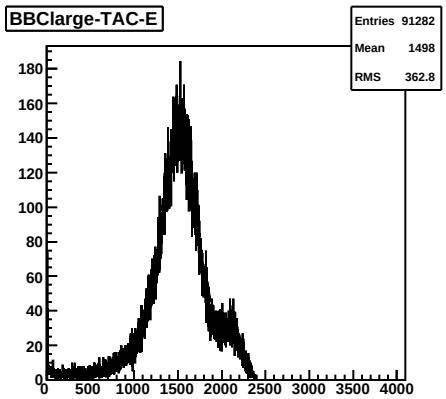

ZDC-TAC-W
Entries 36320
Mean 266.7
RMS 31.03

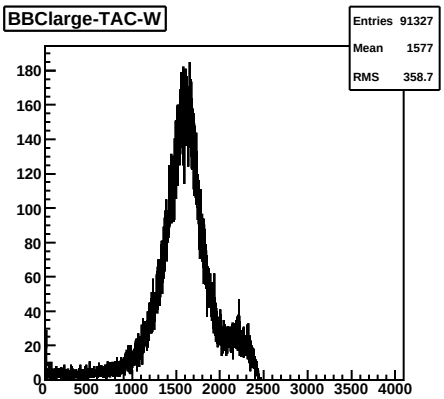

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 23998
Mean 998.9
RMS 36.71

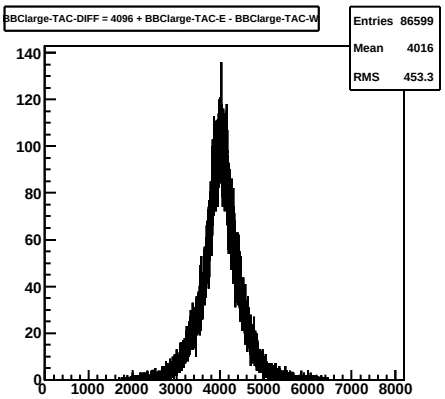

BBCsmall-TAC-E
Entries 97361
Mean 1739
RMS 323.1

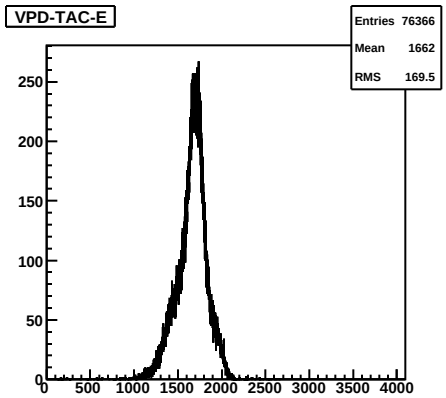

BBCsmall-TAC-W
Entries 97732
Mean 1875
RMS 350.3

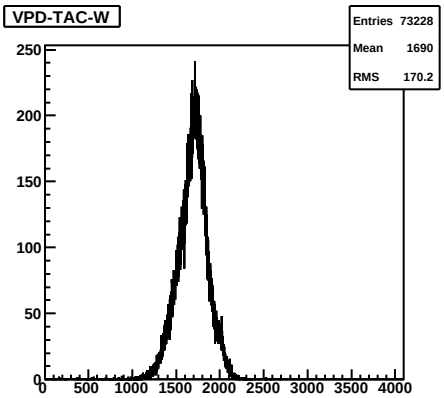

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 95411
Mean 3960
RMS 408.2

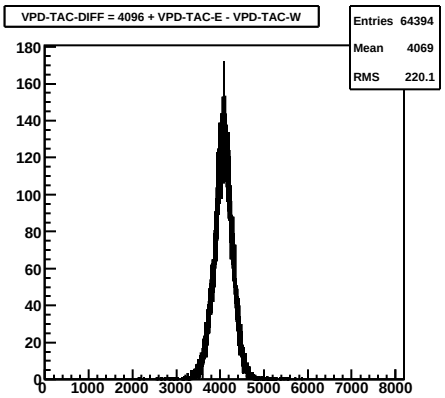

BBClarge-TAC-E
Entries 91282
Mean 1498
RMS 362.8

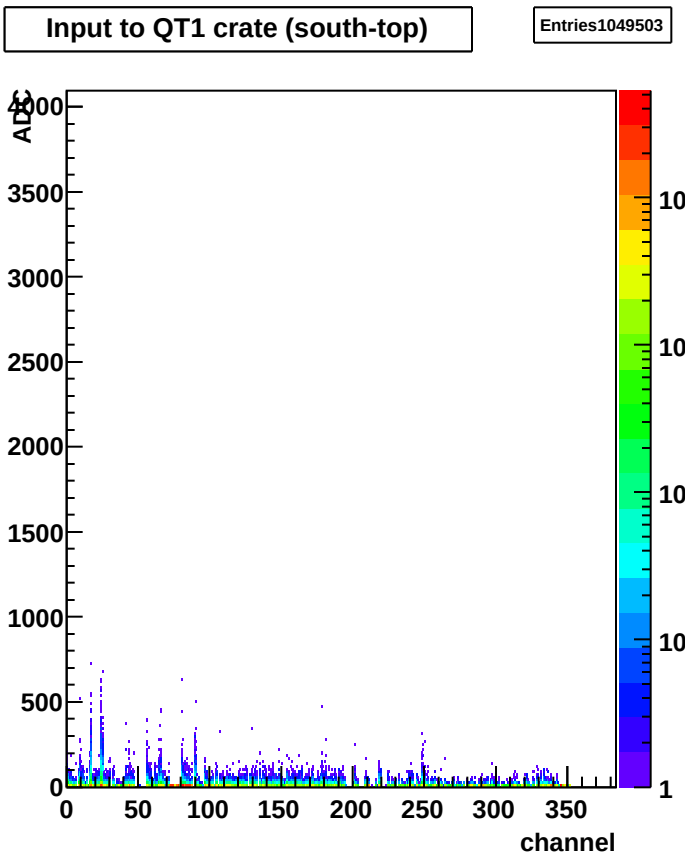

BBClarge-TAC-W
Entries 91327
Mean 1577
RMS 358.7

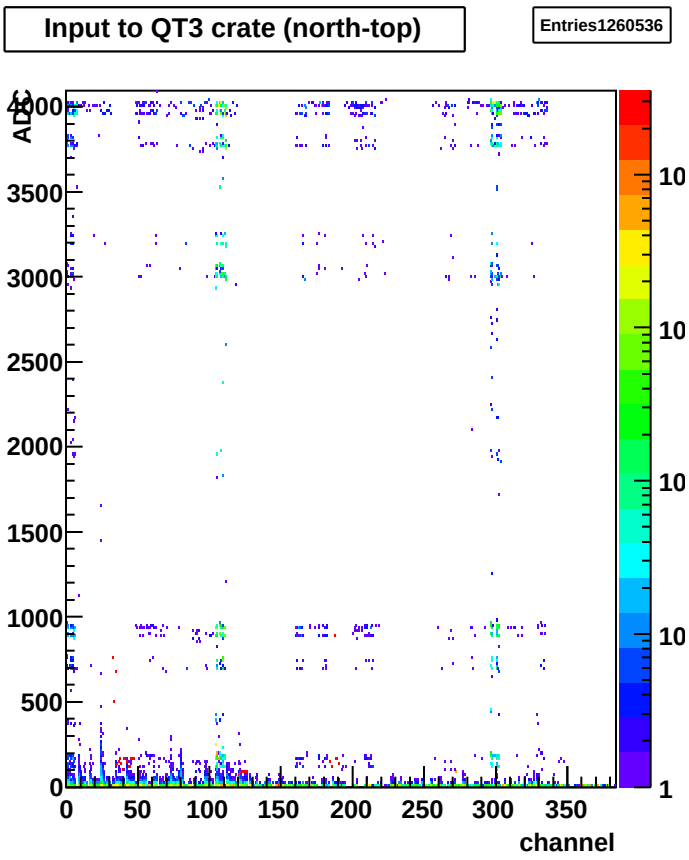

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 86599
Mean 4016
RMS 453.3

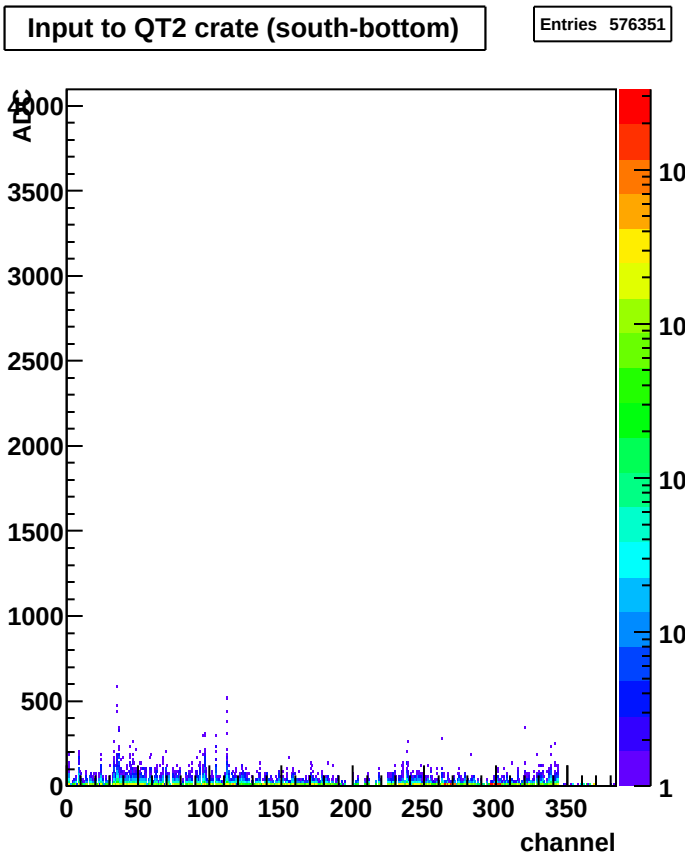

VPD-TAC-E
Entries 76366
Mean 1662
RMS 169.5

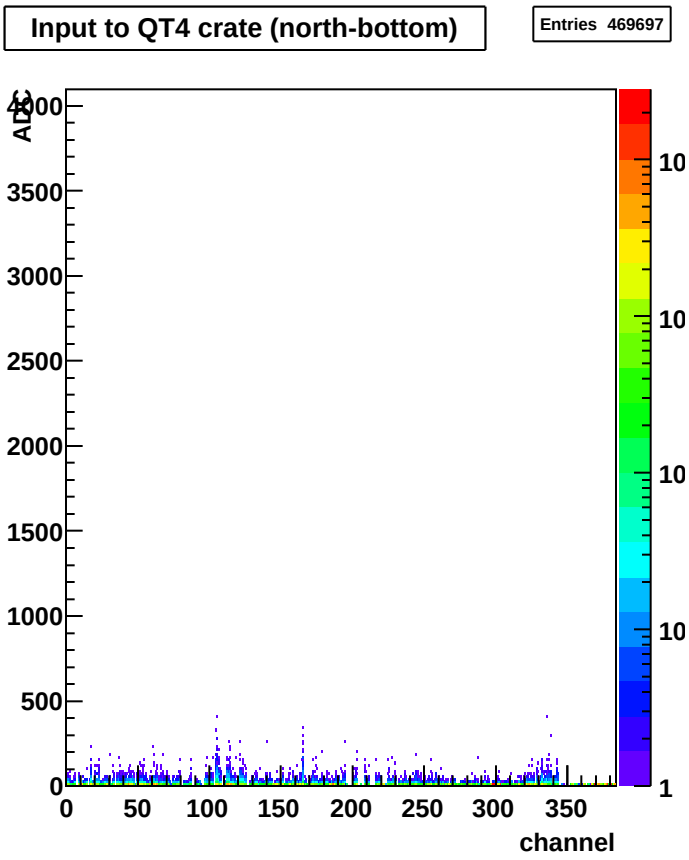

VPD-TAC-W
Entries 73228
Mean 1690
RMS 170.2

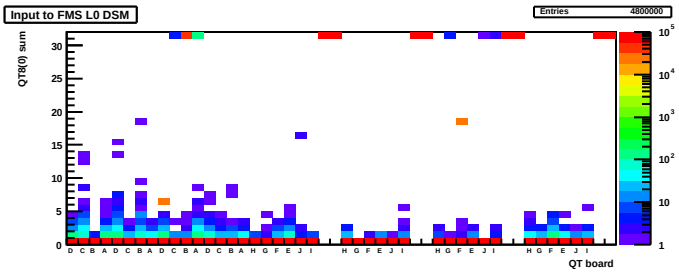

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 64394
Mean 4069
RMS 220.1

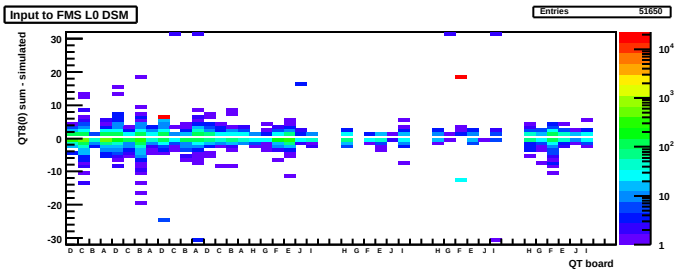

Input to QT1 crate (south-top)
Entries1049503
ADC
channel

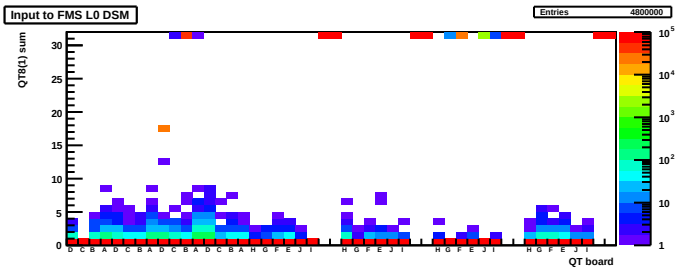

Input to QT3 crate (north-top)
Entries1260536
ADC
channel

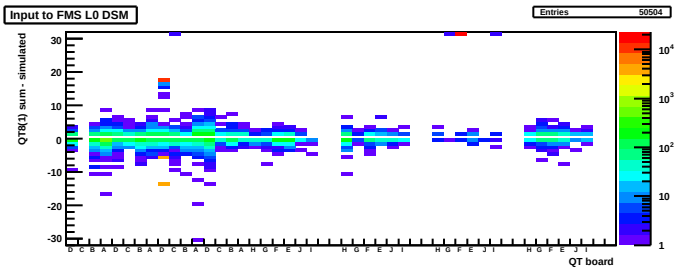

Input to QT2 crate (south-bottom)
Entries 576351
ADC
channel

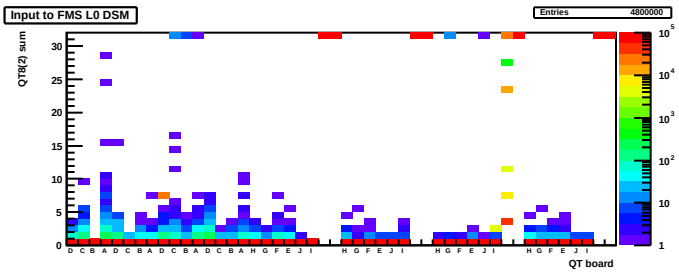

Input to QT4 crate (north-bottom)
Entries 469697
ADC
channel

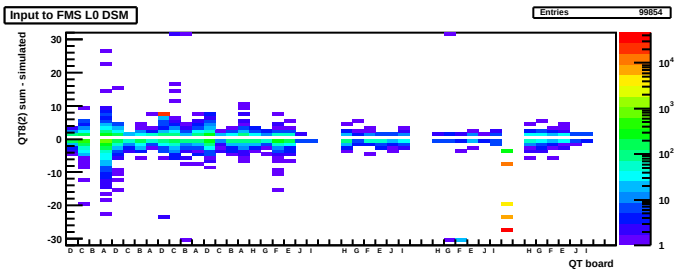

Input to FMS L0 DSM
Entries 4800000
QT8(0) sum
QT board

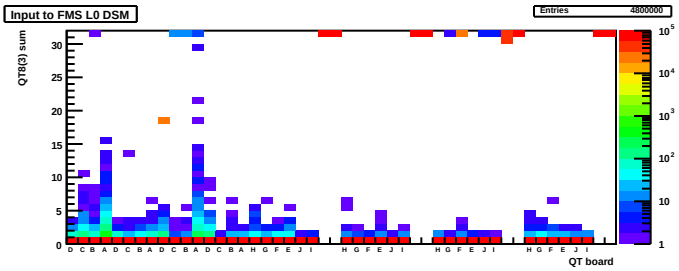

Input to FMS L0 DSM
Entries 51650
QT8(0) sum - simulated
QT board

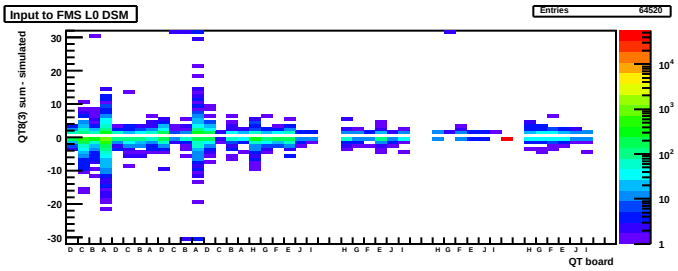

Input to FMS L0 DSM
Entries 4800000
QT8(1) sum
QT board

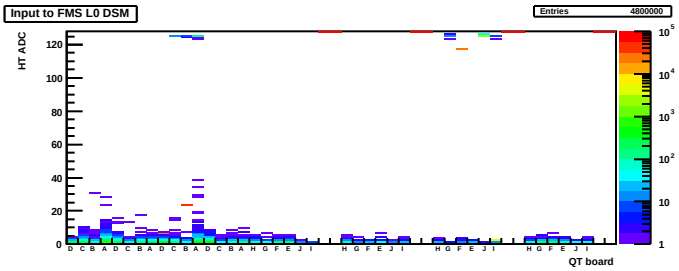

Input to FMS L0 DSM
Entries 50504
QT8(1) sum - simulated
QT board

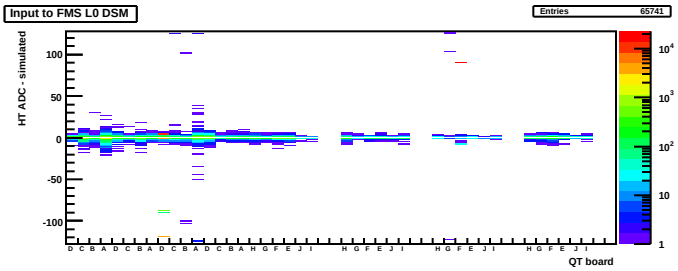

Input to FMS L0 DSM
Entries 4800000
QT8(2) sum
QT board

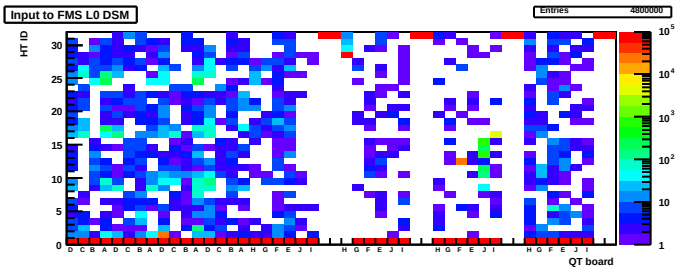

Input to FMS L0 DSM
Entries 99854
QT8(2) sum - simulated
QT board

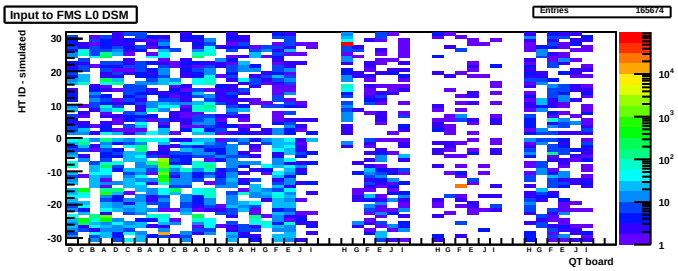

Input to FMS L0 DSM
Entries 4800000
QT8(3) sum
QT board

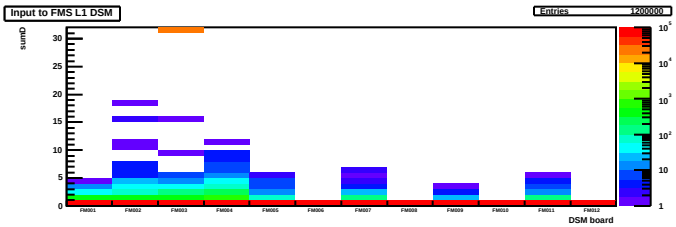

Input to FMS L0 DSM
Entries 64520
QT8(3) sum - simulated
QT board

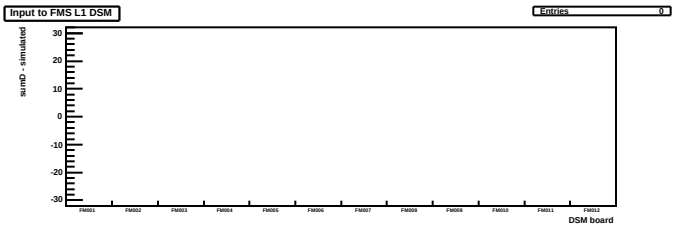

Input to FMS L0 DSM
Entries 4800000
HT ADC
QT board

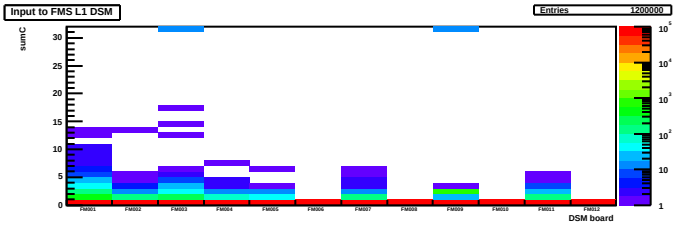

Input to FMS L0 DSM
Entries 65741
HT ADC - simulated
QT board

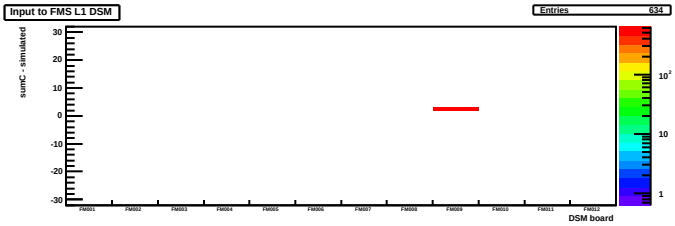

Input to FMS L0 DSM
Entries 4800000
HT ID
QT board

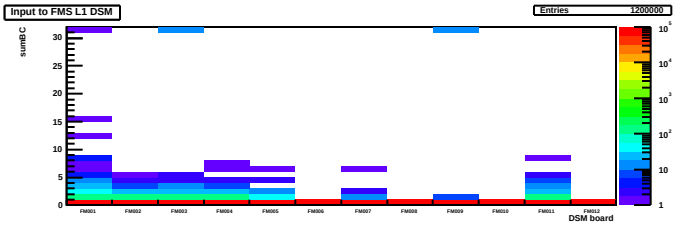

Input to FMS L0 DSM
Entries 165674
HT ID - simulated
QT board

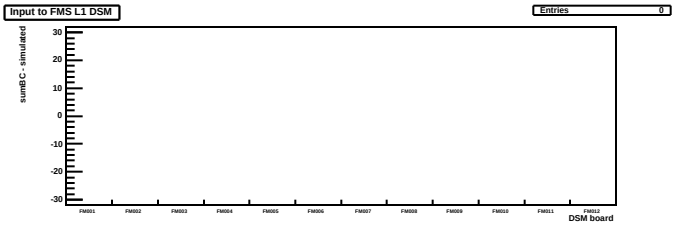

Input to FMS L1 DSM
Entries 1200000
sumD
DSM board

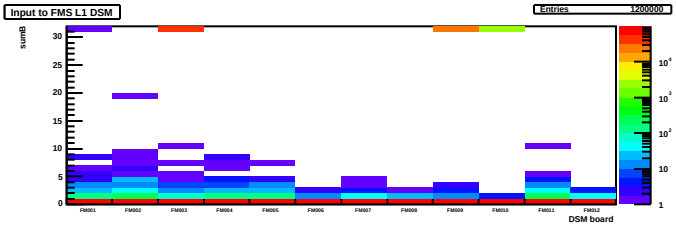

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

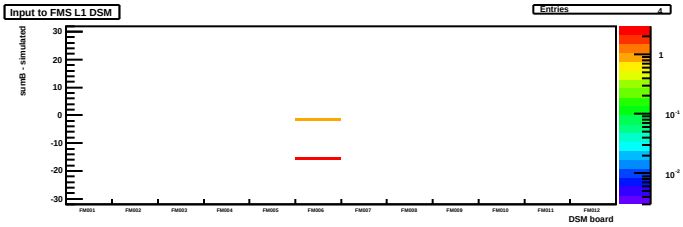

Input to FMS L1 DSM
Entries 1200000
sumC
DSM board

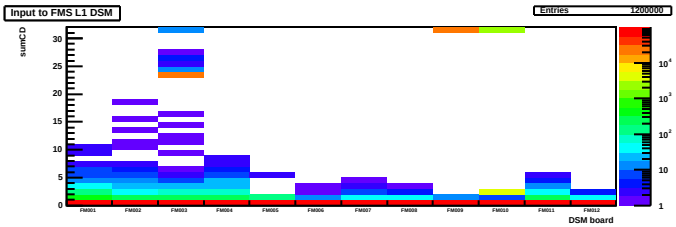

Input to FMS L1 DSM
Entries 634
sumC - simulated
DSM board

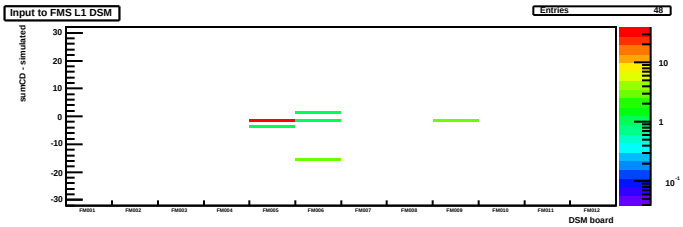

Input to FMS L1 DSM
Entries 1200000
sumBC
DSM board

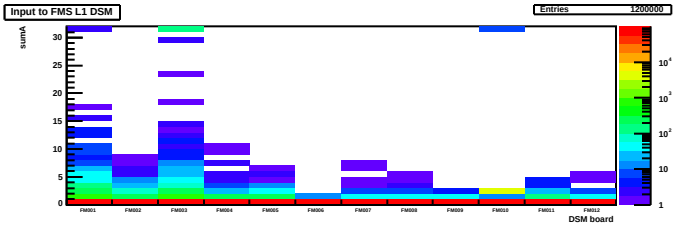

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

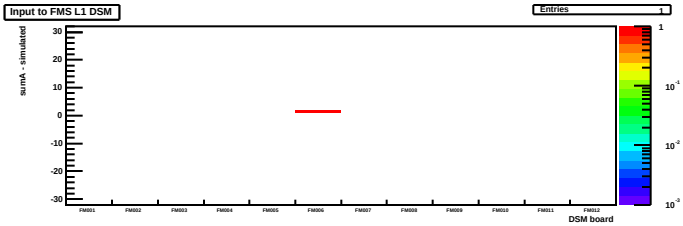

Input to FMS L1 DSM
Entries 1200000
sumB
DSM board

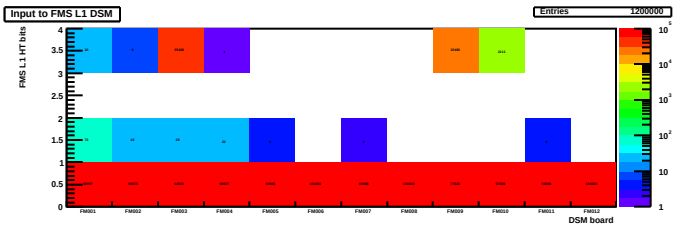

Input to FMS L1 DSM
Entries 4
sumB - simulated
DSM board

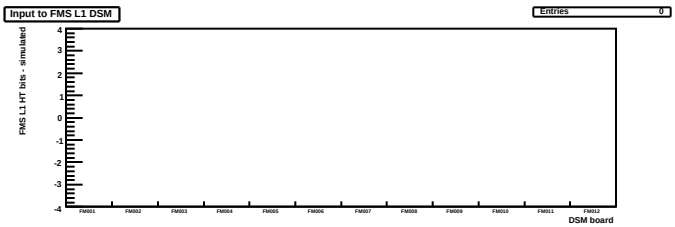

Input to FMS L1 DSM
Entries 1200000
sumCD
DSM board

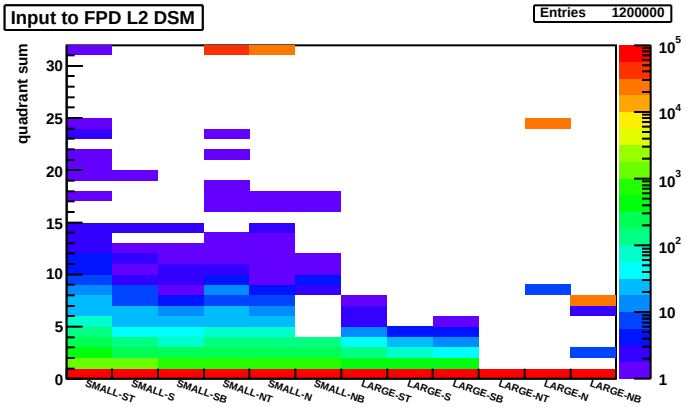

Input to FMS L1 DSM
Entries 48
sumCD - simulated
DSM board

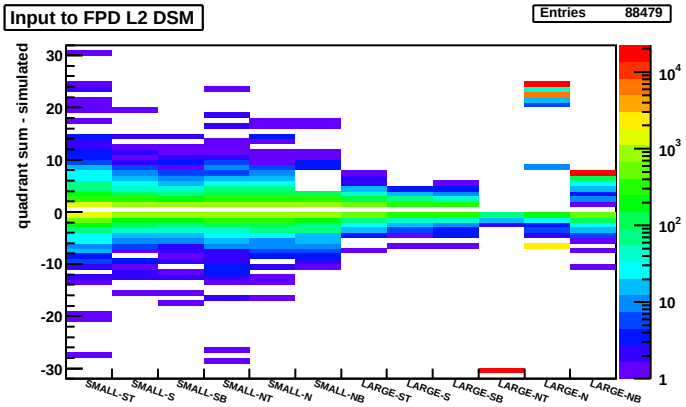

Input to FMS L1 DSM
Entries 1200000
sumA
DSM board

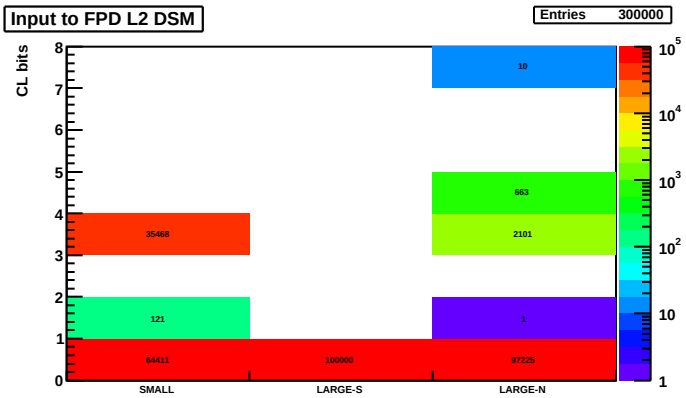

Input to FMS L1 DSM
Entries 1
sumA - simulated
DSM board

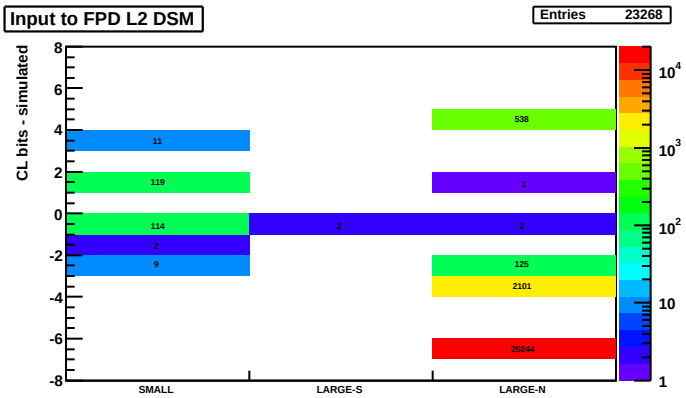

Input to FMS L1 DSM
Entries 1200000
FMS L1 HT bits
DSM board

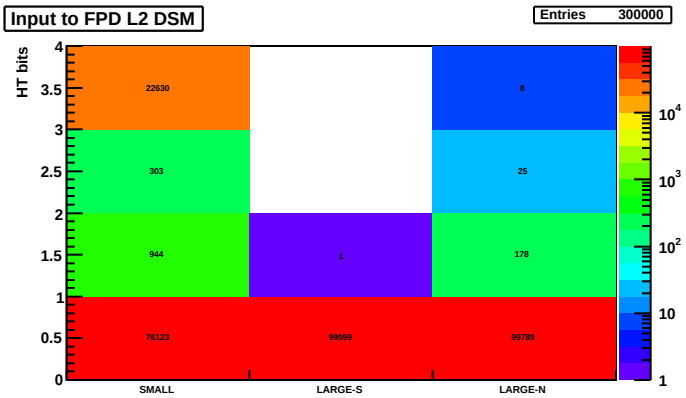

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

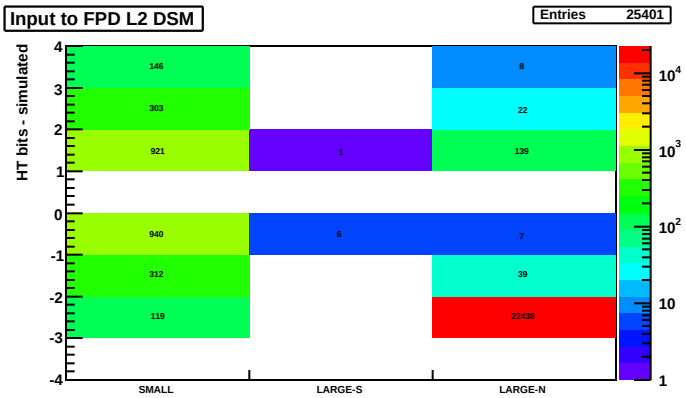

Input to FPD L2 DSM
Entries 1200000
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

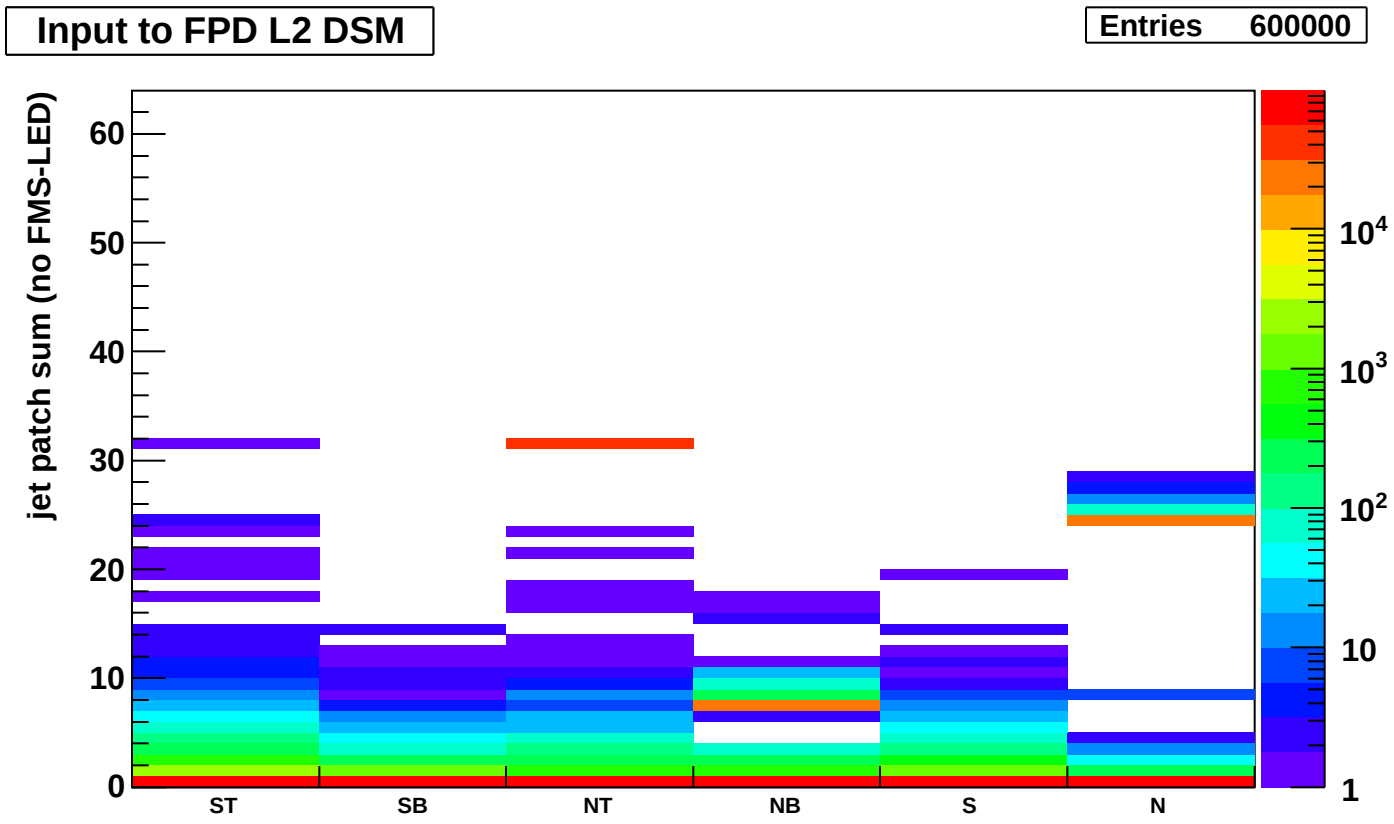

Input to FPD L2 DSM
Entries 88479
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

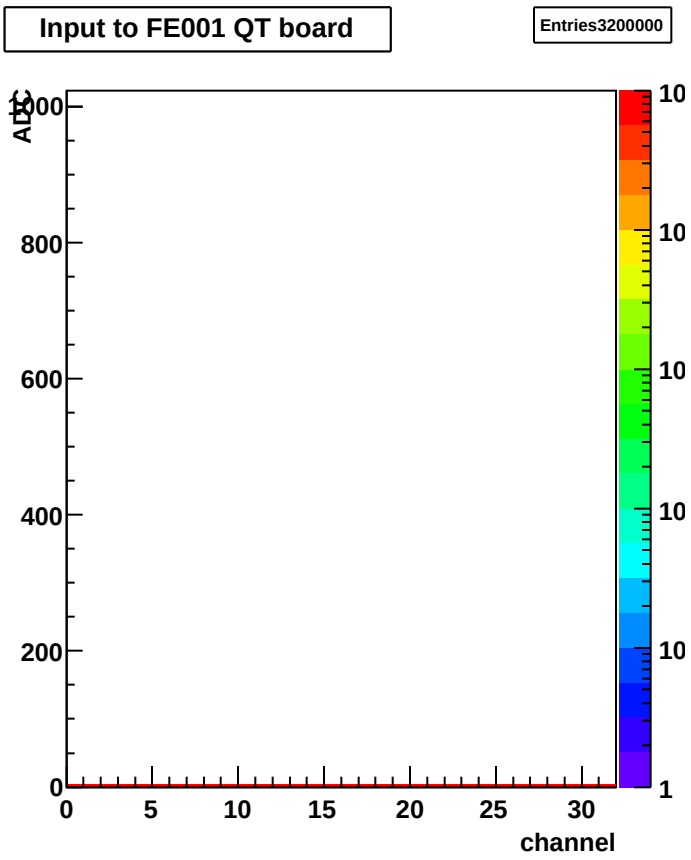

Input to FPD L2 DSM
Entries 300000
CL bits
10
663
35468
2101
121
1
64411
100000
97225
SMALL
LARGE-S
LARGE-N

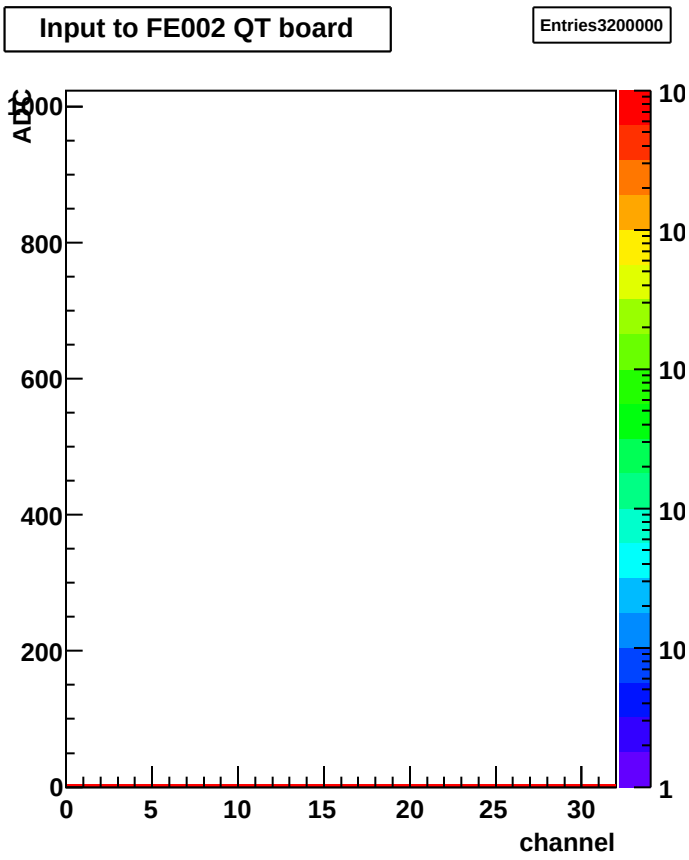

Input to FPD L2 DSM
Entries 23268
CL bits - simulated
538
11
119
1
114
2
2
2
9
125
2101
20244
SMALL
LARGE-S
LARGE-N

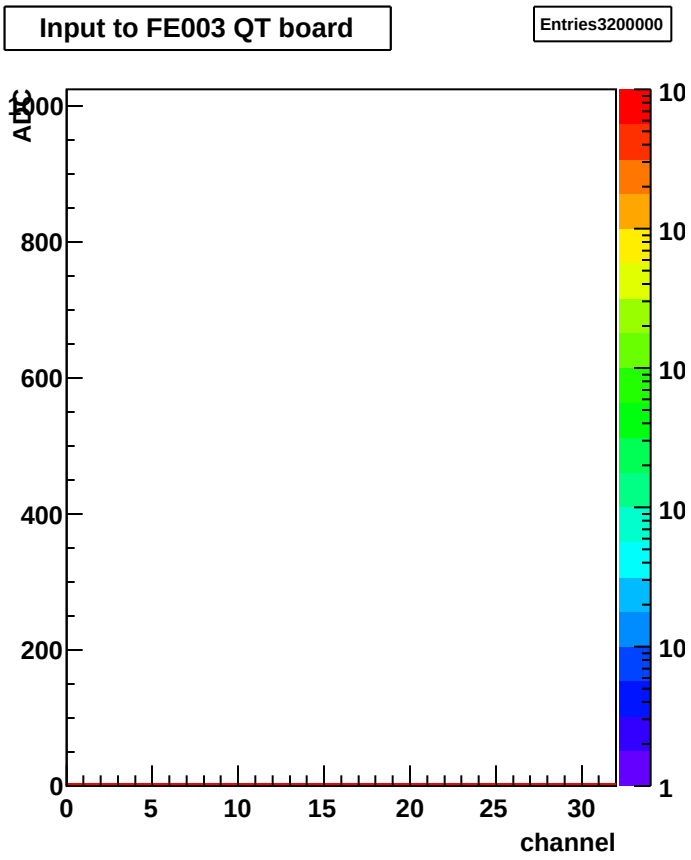

Input to FPD L2 DSM
Entries 300000
HT bits
22630
8
303
25
944
1
178
76123
99999
99789
SMALL
LARGE-S
LARGE-N

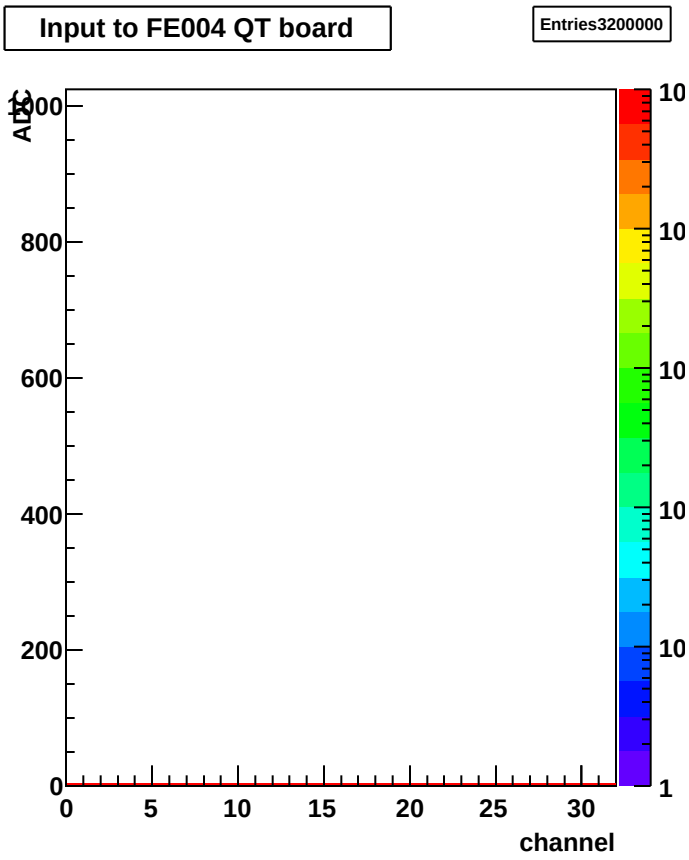

Input to FPD L2 DSM
Entries 25401
HT bits - simulated
146
8
303
22
921
1
139
940
6
7
312
39
119
22438
SMALL
LARGE-S
LARGE-N

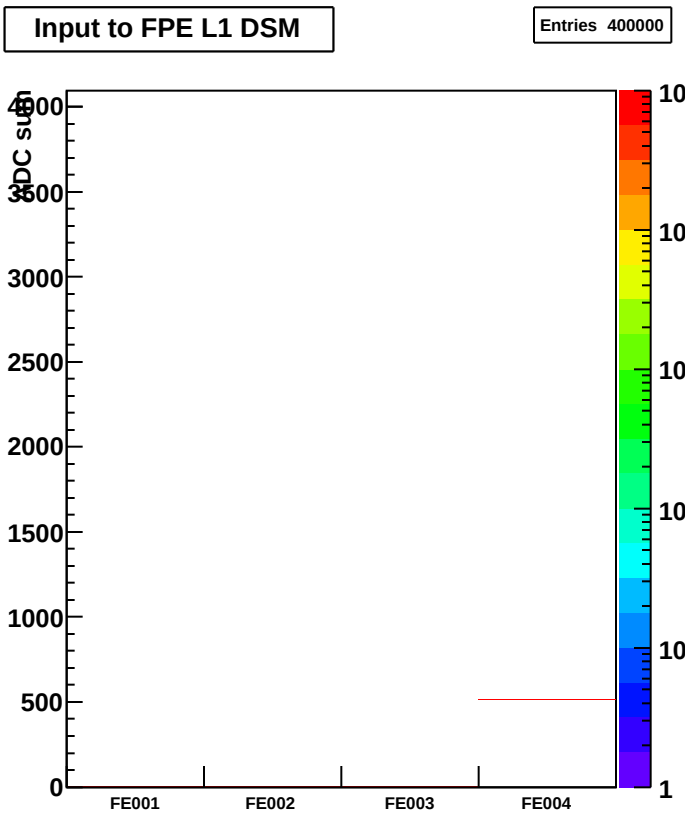

Input to FPD L2 DSM
Entries 600000
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
$10^2$
$10^3$
$10^4$

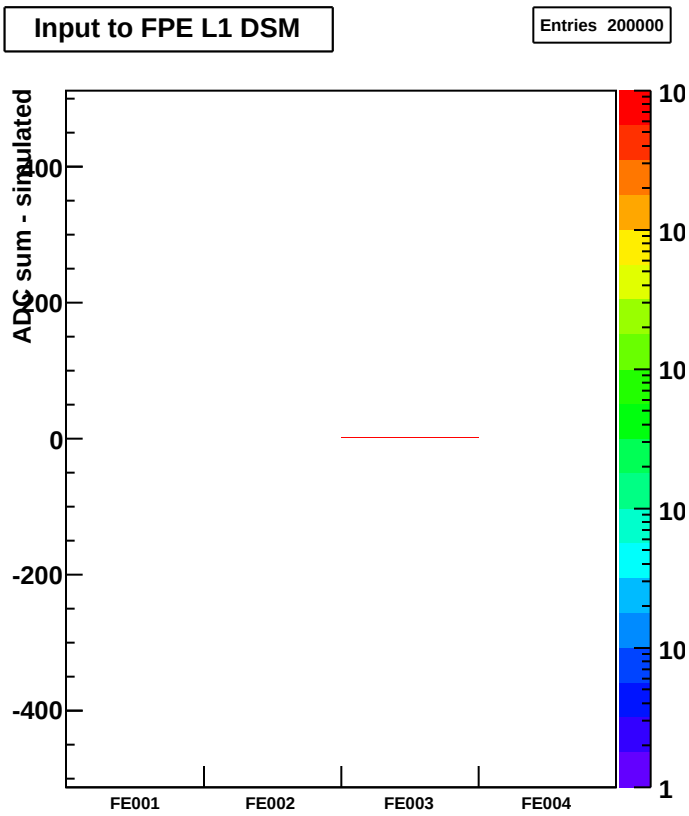

Input to FE001 QT board
Entries3200000
ADC
channel

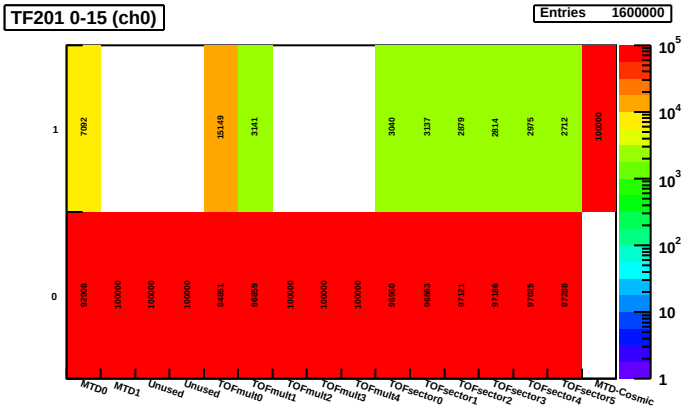

Input to FE002 QT board
Entries3200000
ADC
channel

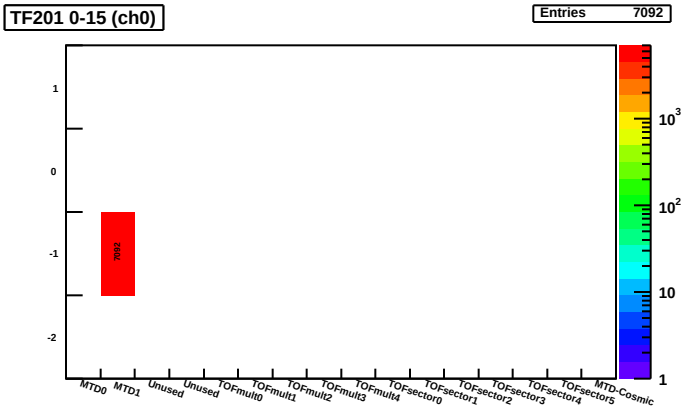

Input to FE003 QT board
Entries3200000
ADC
channel

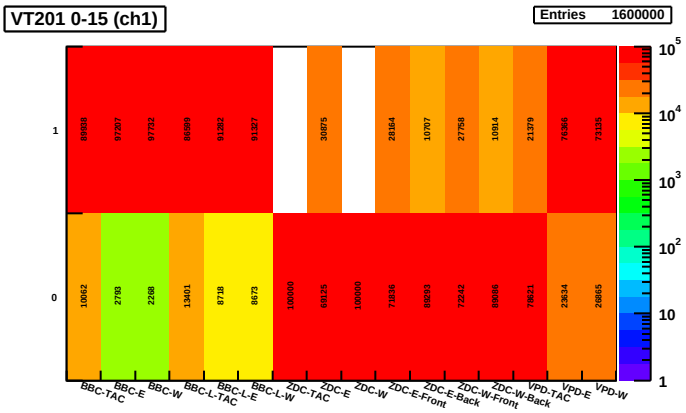

Input to FE004 QT board
Entries3200000
ADC
channel

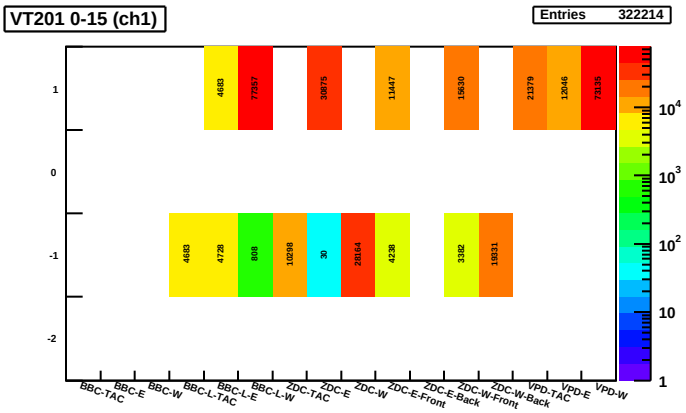

Input to FPE L1 DSM
Entries 400000
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

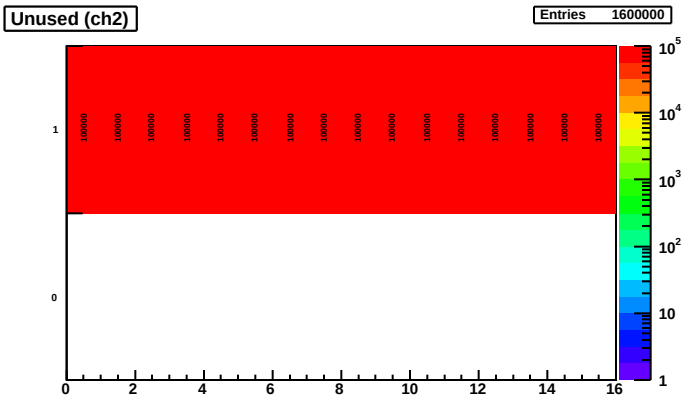

Input to FPE L1 DSM
Entries 200000
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

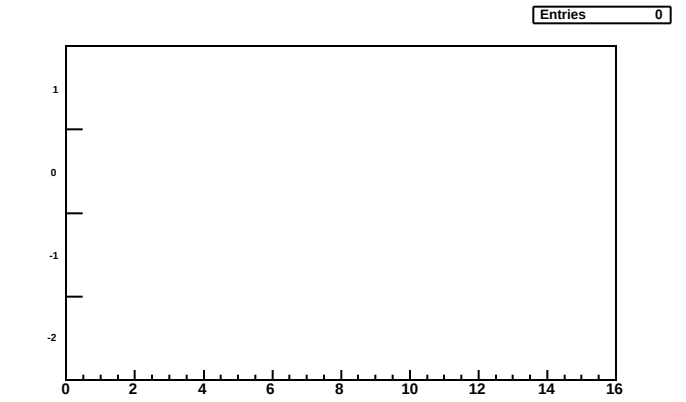

TF201 0-15 (ch0)
Entries 1600000
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

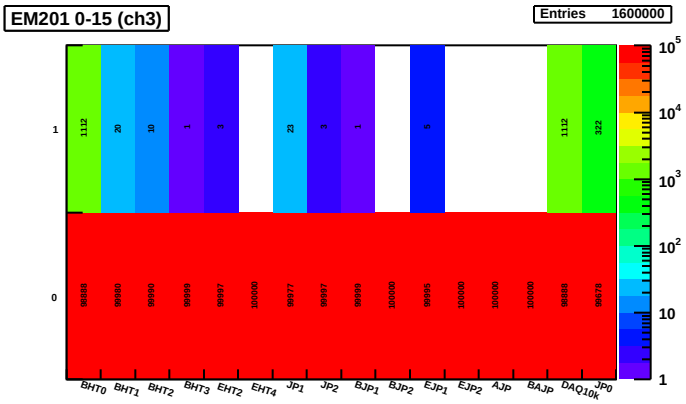

TF201 0-15 (ch0)
Entries 7092
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

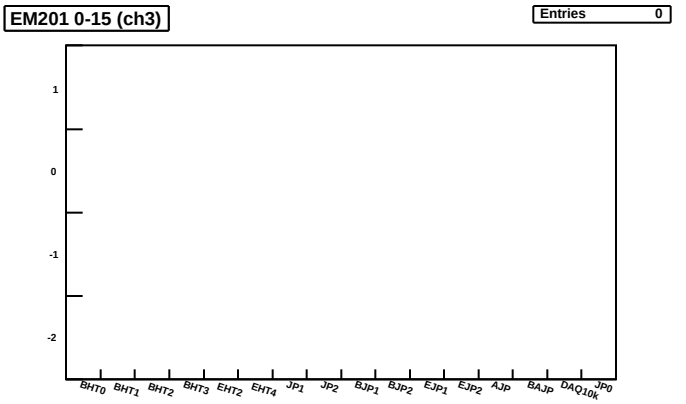

VT201 0-15 (ch1)
Entries 1600000
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

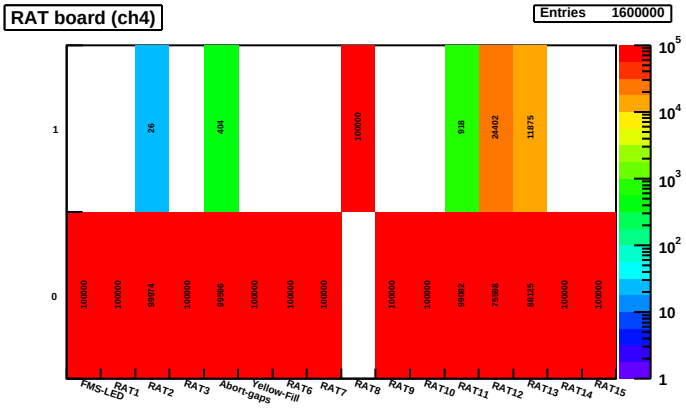

VT201 0-15 (ch1)
Entries 322214
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

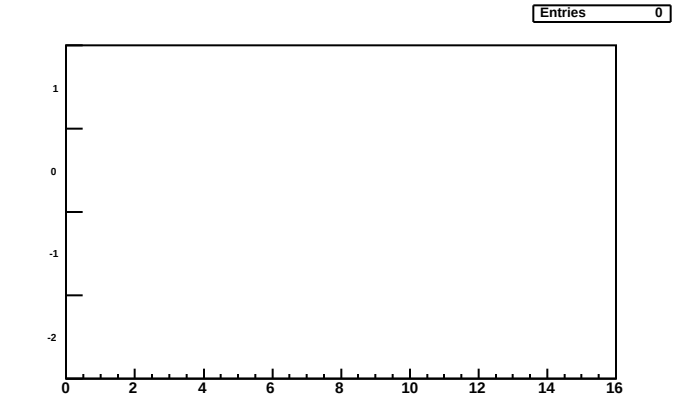

Unused (ch2)
Entries 1600000

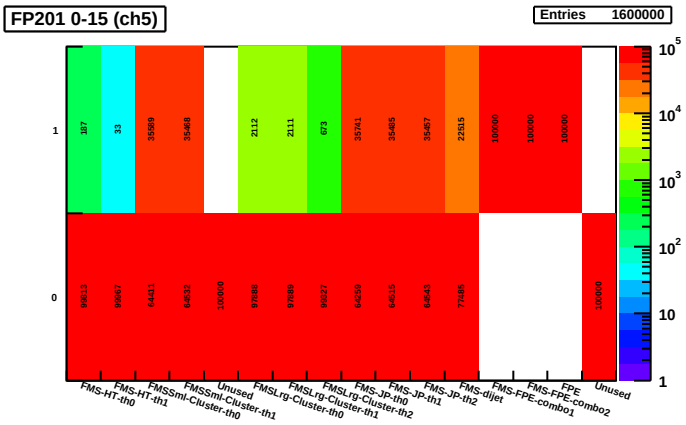

Entries 0

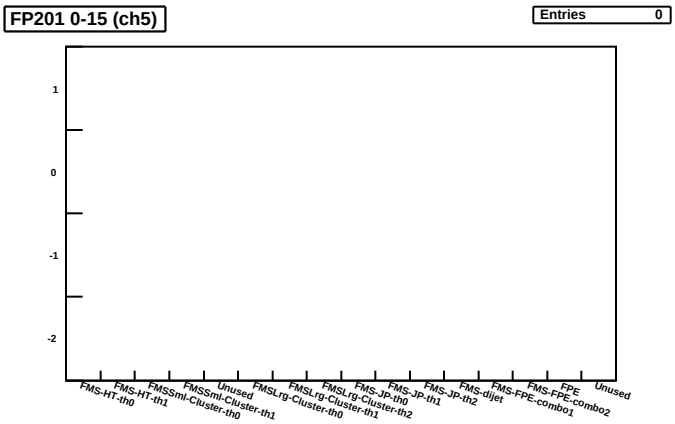

EM201 0-15 (ch3)
Entries 1600000
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

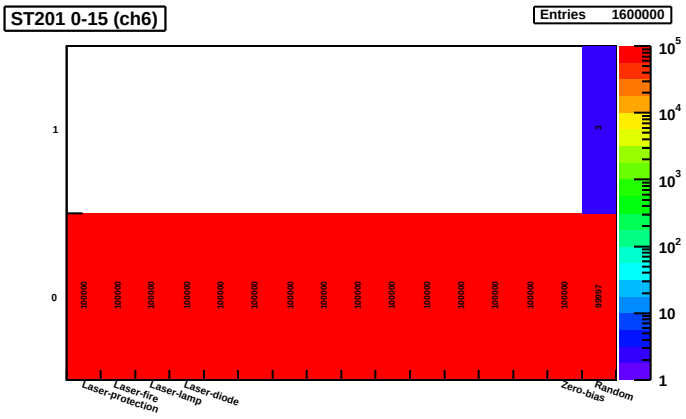

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

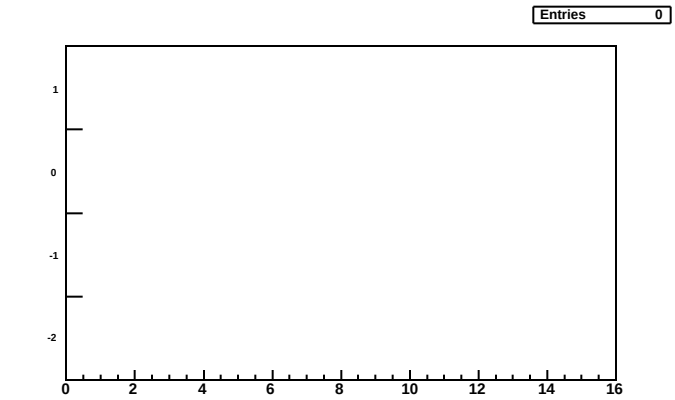

RAT board (ch4)
Entries 1600000
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15

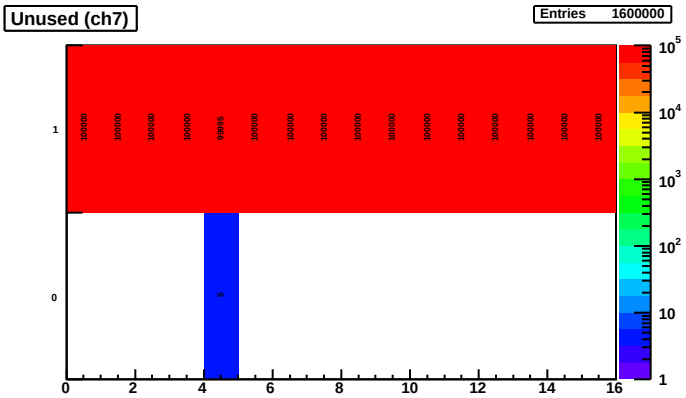

Entries 0

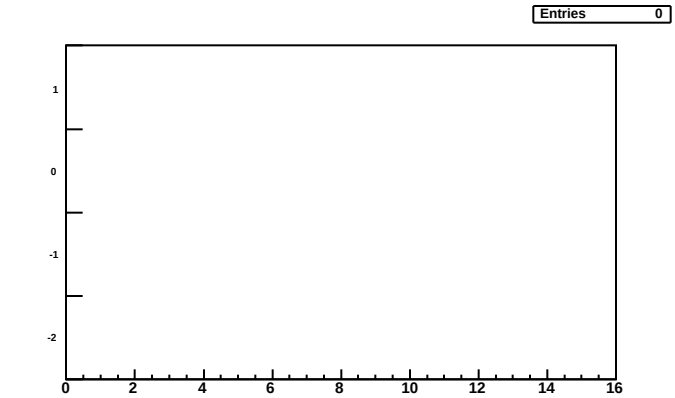

FP201 0-15 (ch5)
Entries 1600000
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMSLrg-Cluster-th2
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-dijet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


FP201 0-15 (ch5)
Entries 0


ST201 0-15 (ch6)
Entries 1600000
Laser-protection
Laser-fire
Laser-lamp
Laser-diode
Zero-bias
Random


Entries 0


Unused (ch7)
Entries 1600000


Entries 0