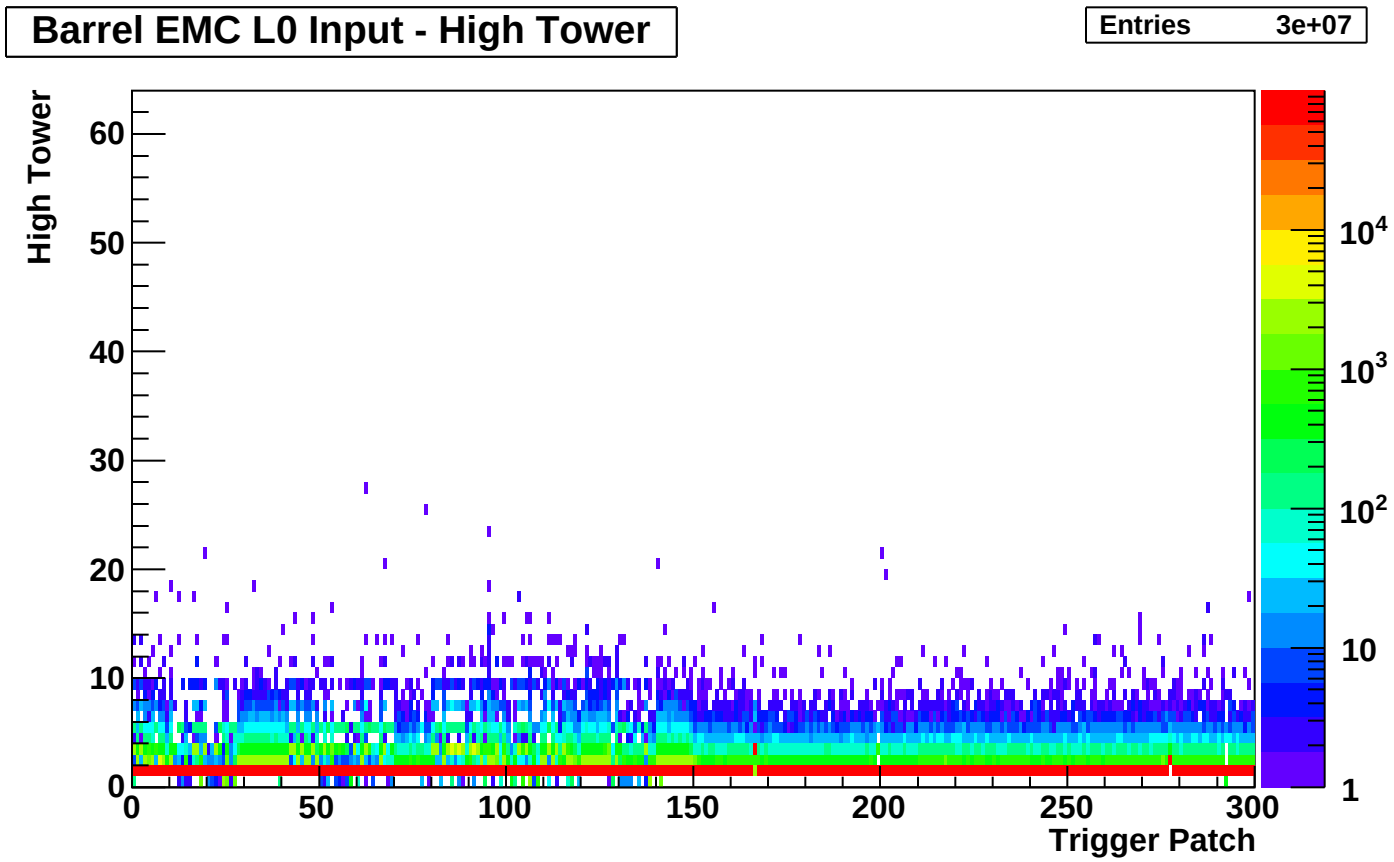
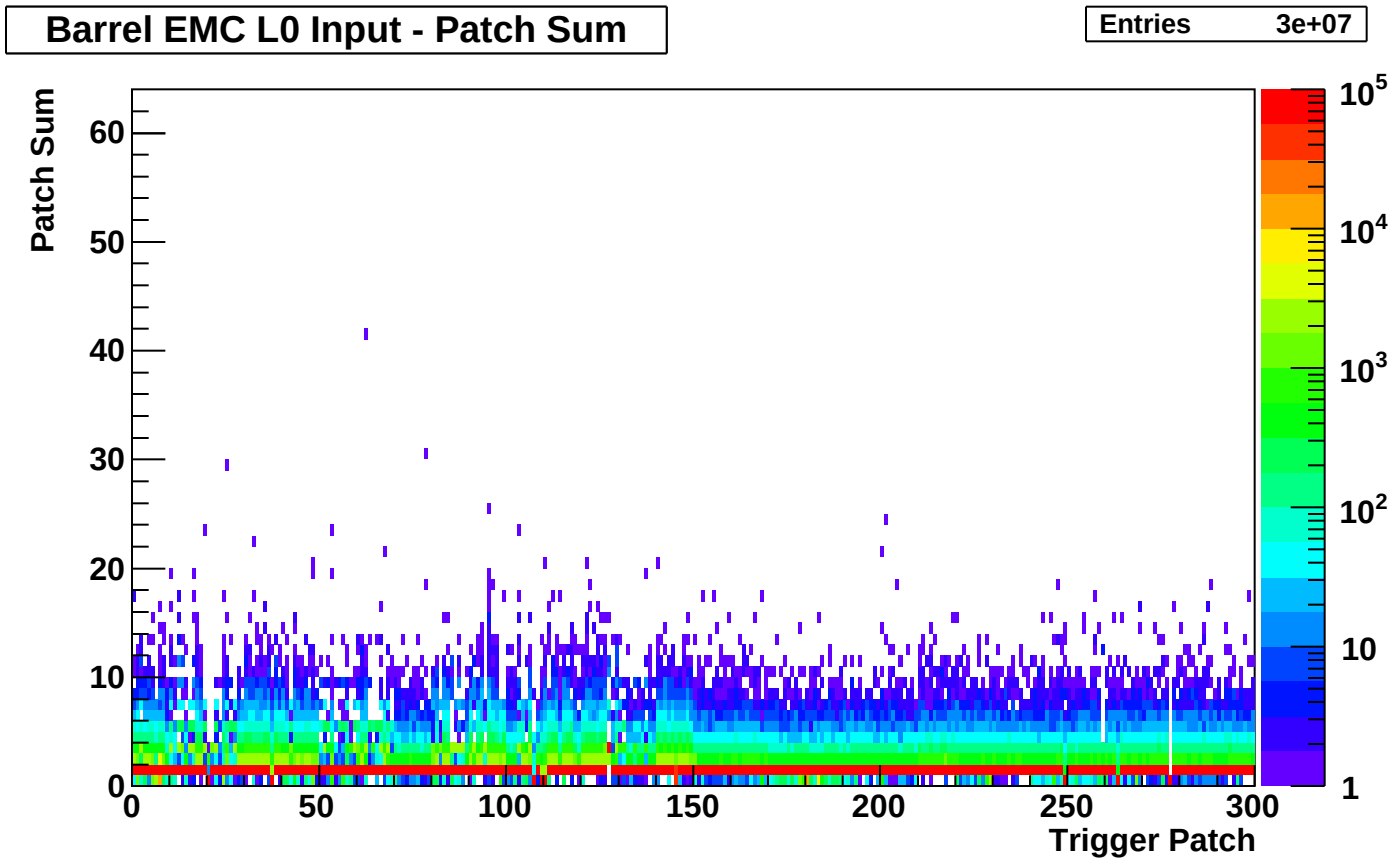
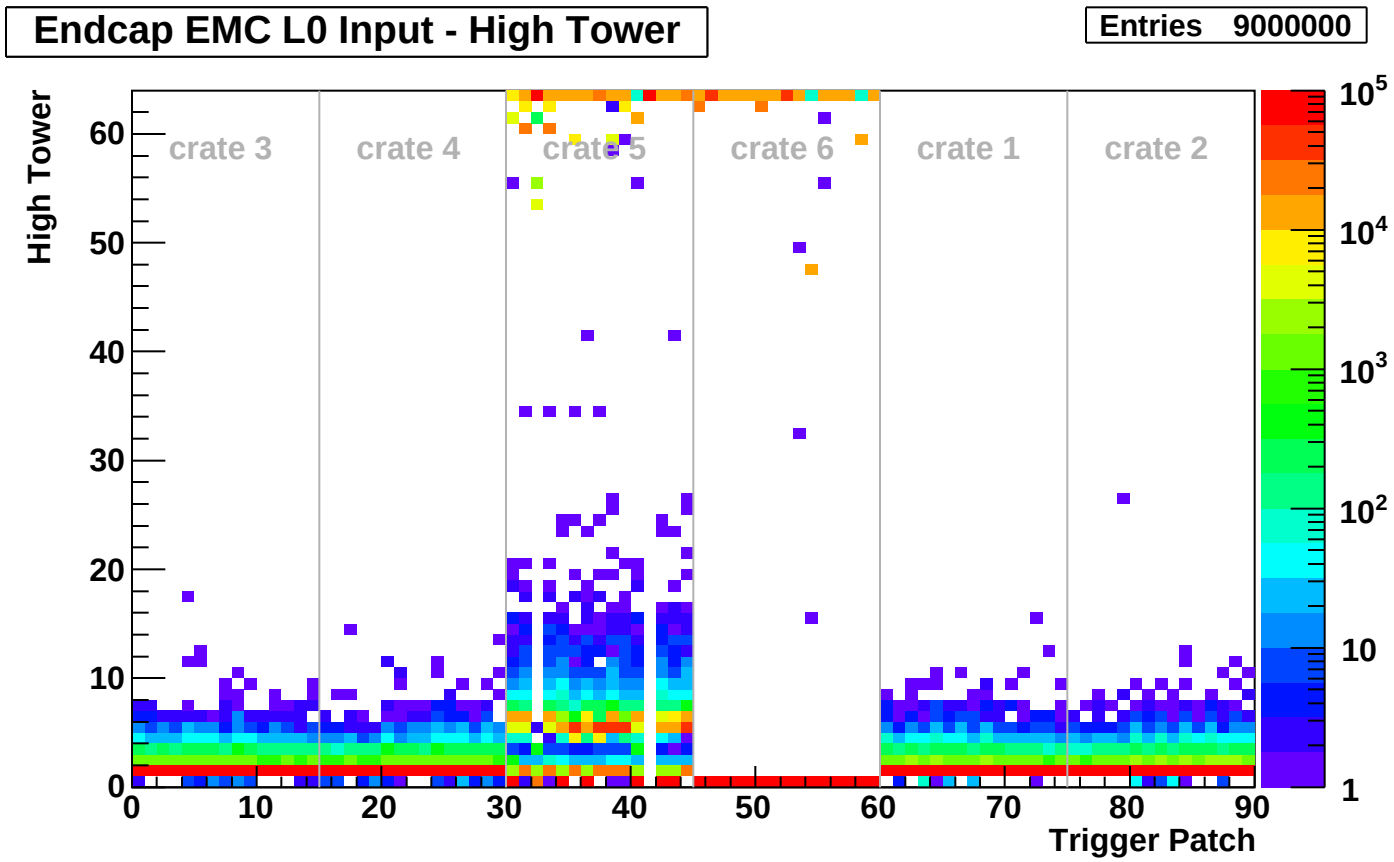
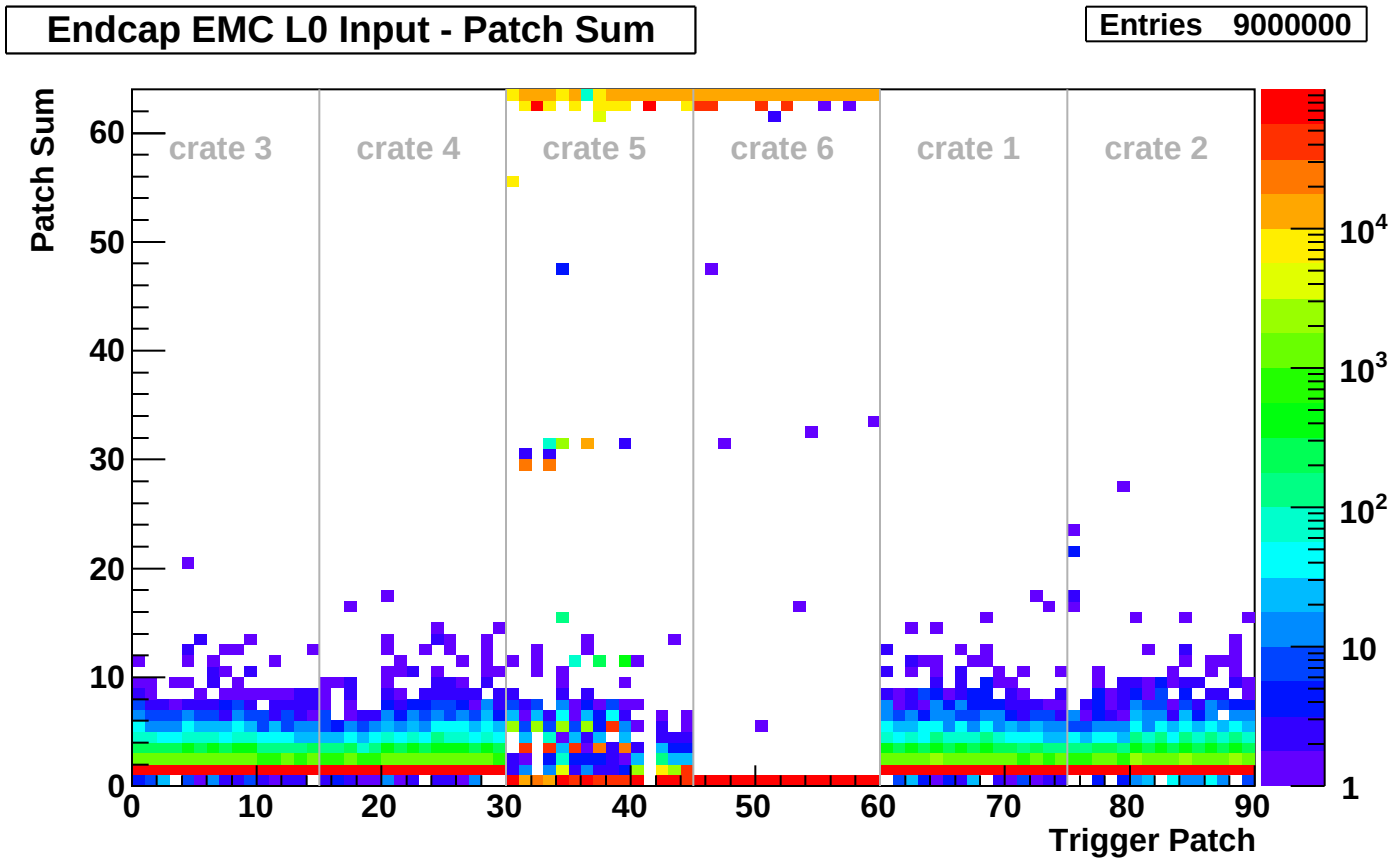
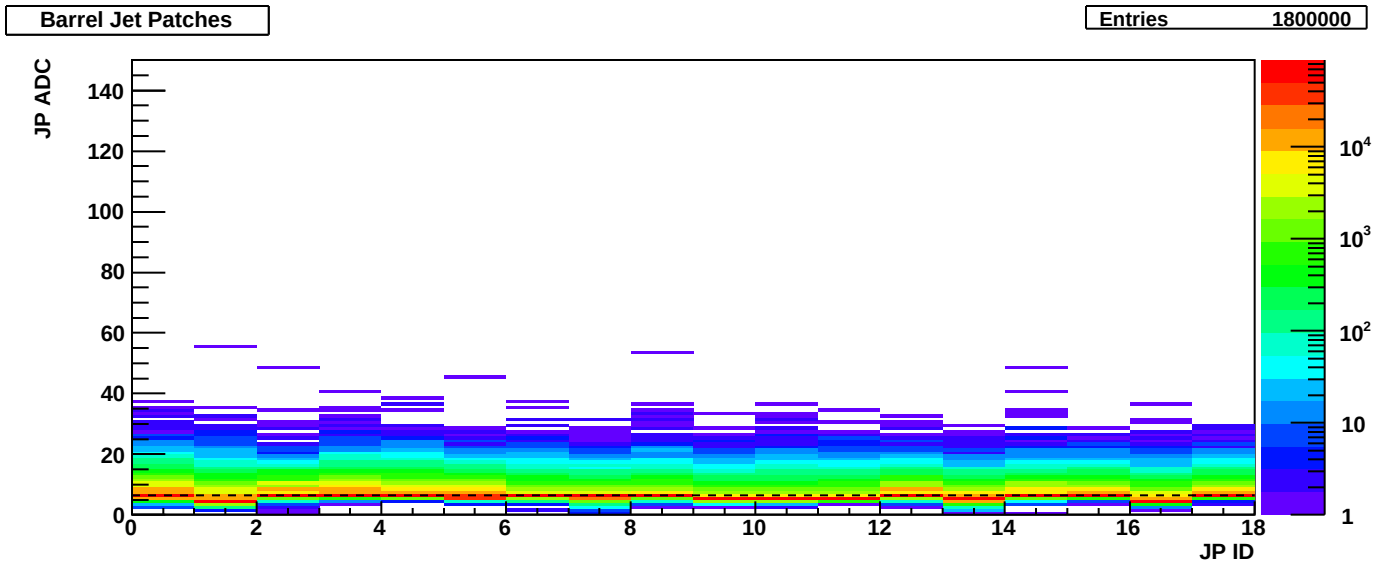
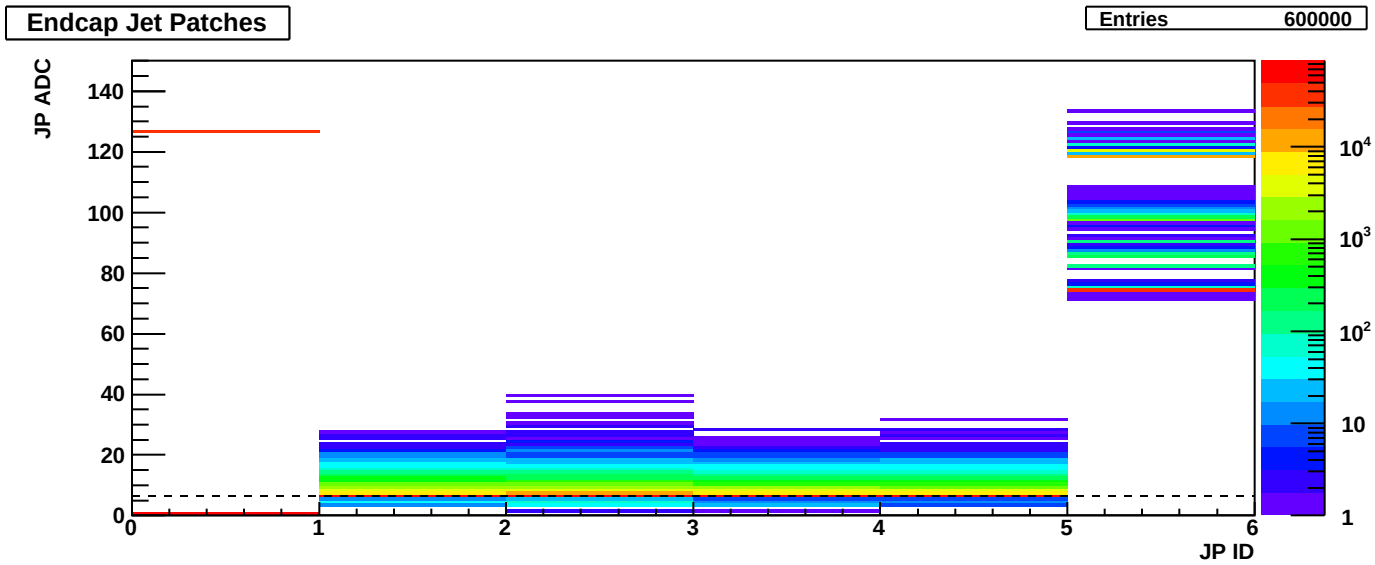

Barrel EMC L0 Input - High Tower
Entries 3e+07
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$

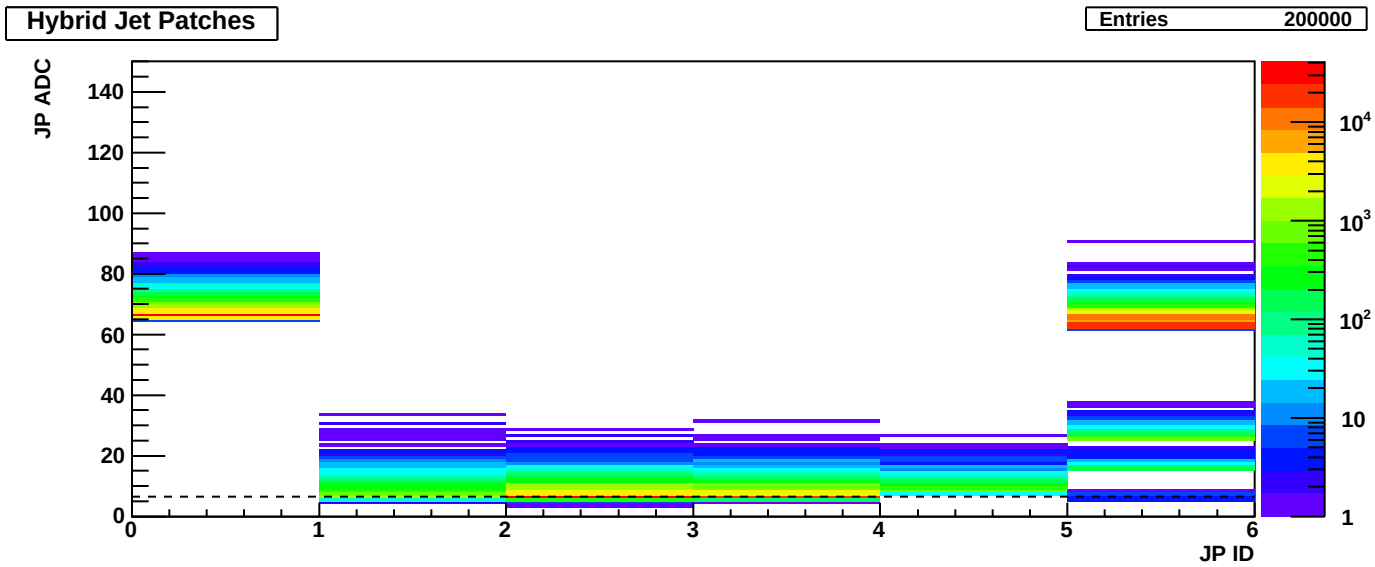

Barrel EMC L0 Input - Patch Sum
Entries 3e+07
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
$10^2$
$10^3$
$10^4$
$10^5$

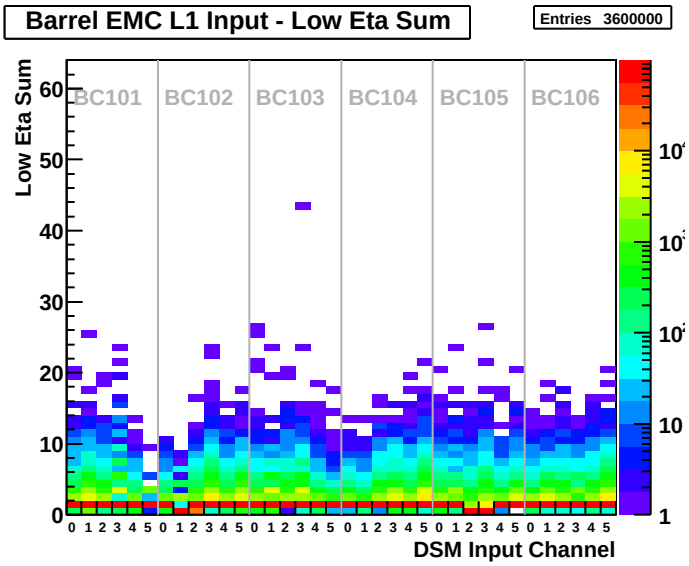

Endcap EMC L0 Input - High Tower
Entries 9000000
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

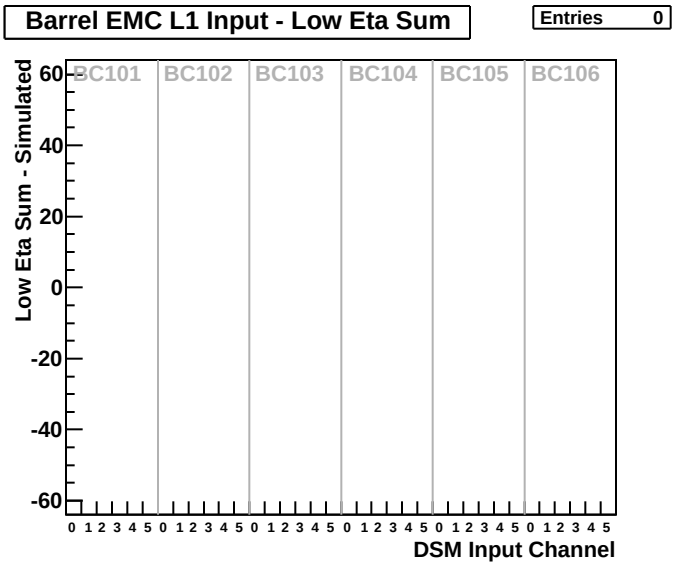

Endcap EMC L0 Input - Patch Sum
Entries 9000000
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

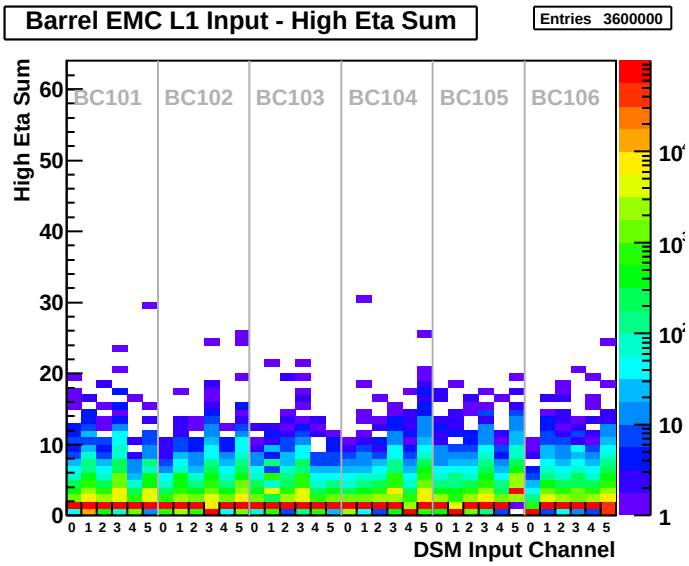

Barrel Jet Patches
Entries 1800000
JP ADC
JP ID

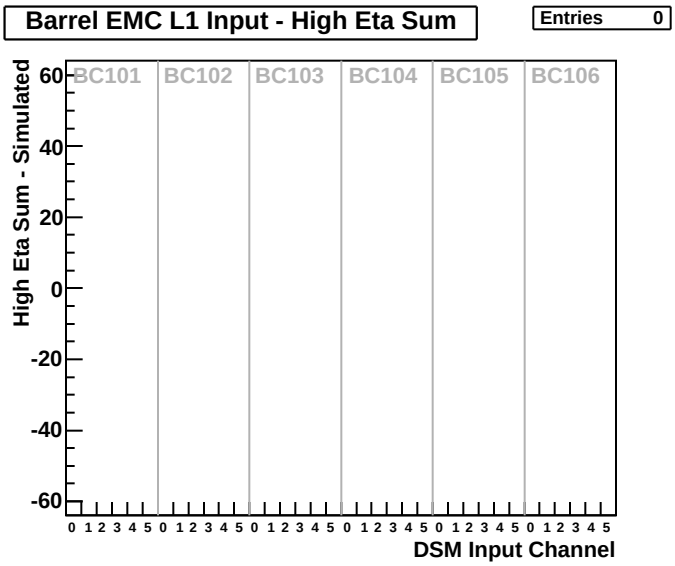

Endcap Jet Patches
Entries 600000
JP ADC
JP ID

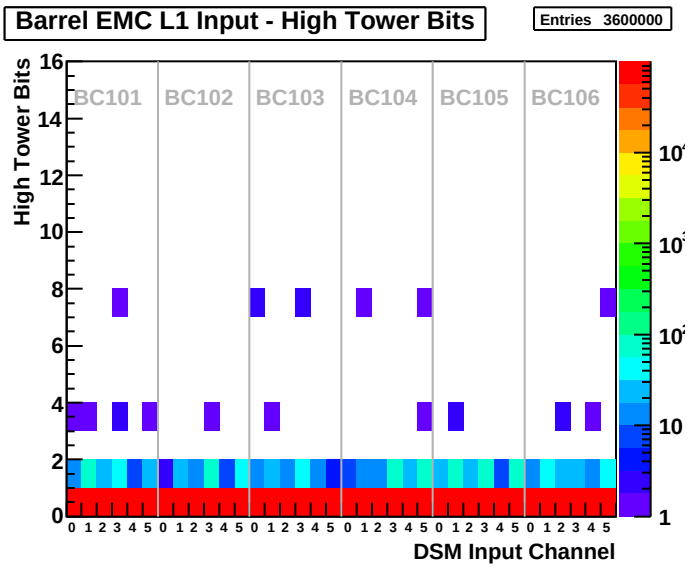

Hybrid Jet Patches
Entries 200000
JP ADC
JP ID

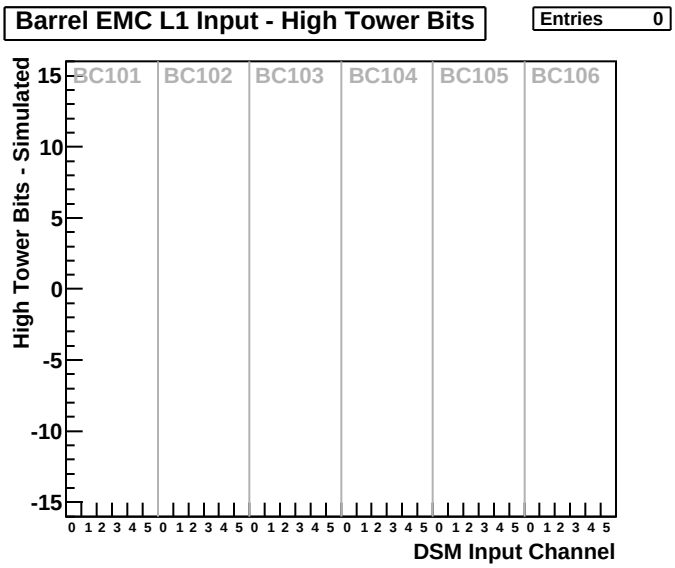

Barrel EMC L1 Input - Low Eta Sum
Entries 3600000
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

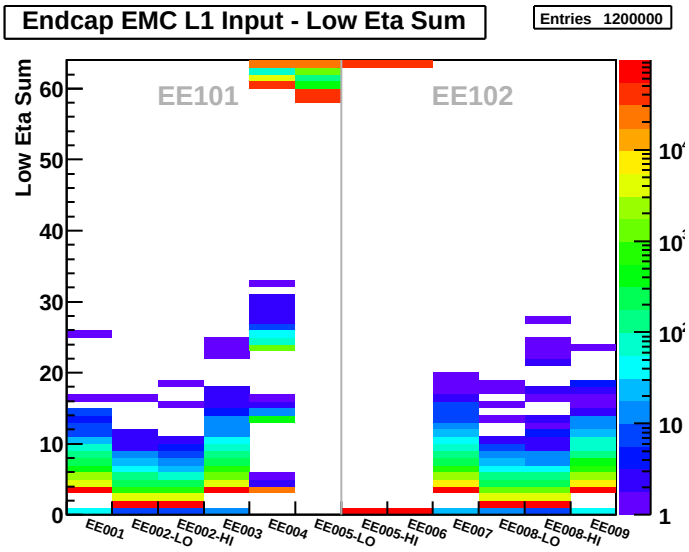

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

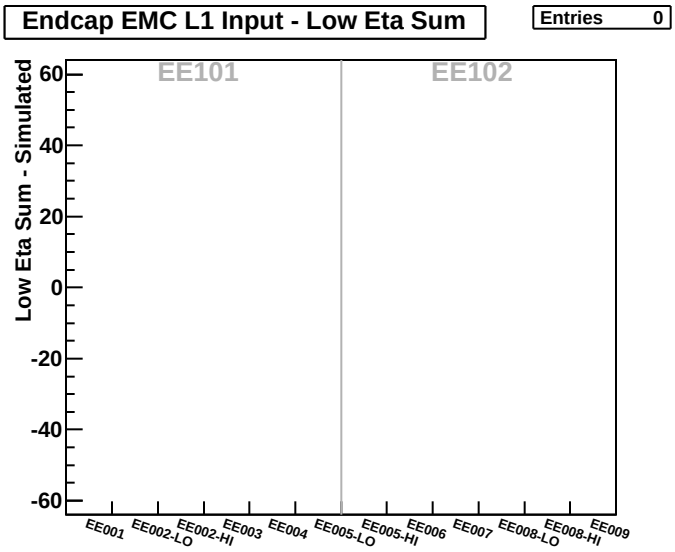

Barrel EMC L1 Input - High Eta Sum
Entries 3600000
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

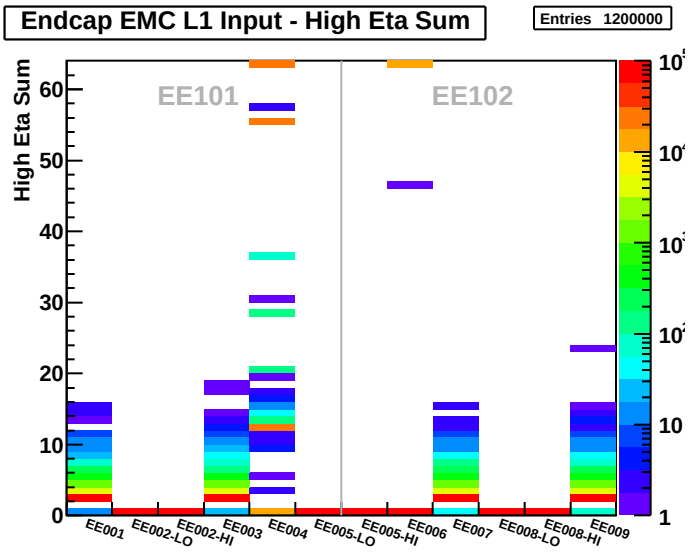

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

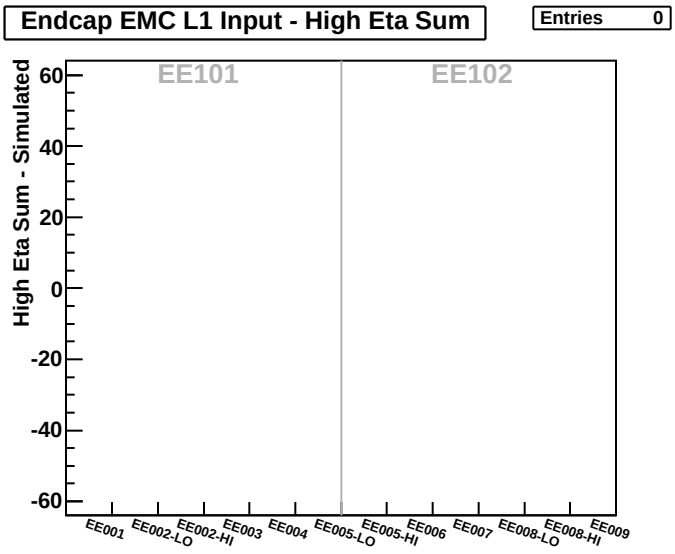

Barrel EMC L1 Input - High Tower Bits
Entries 3600000
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

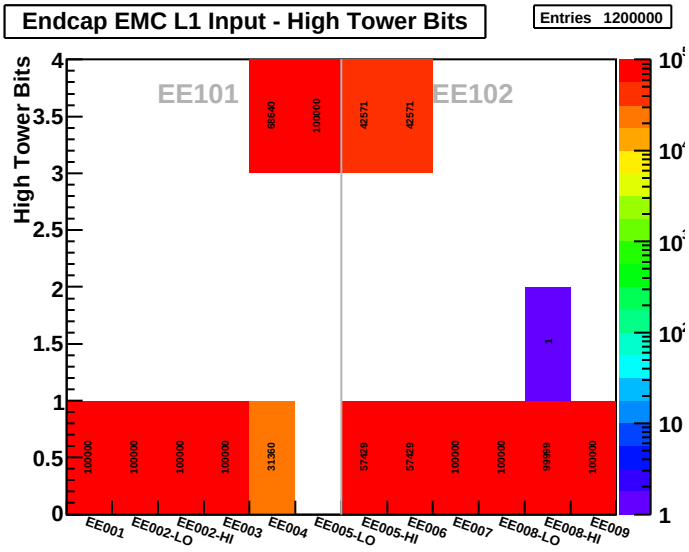

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

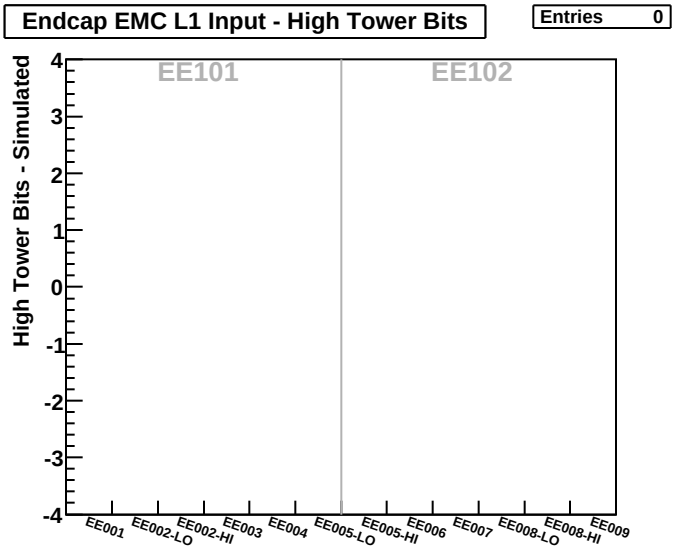

Endcap EMC L1 Input - Low Eta Sum
Entries 1200000
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

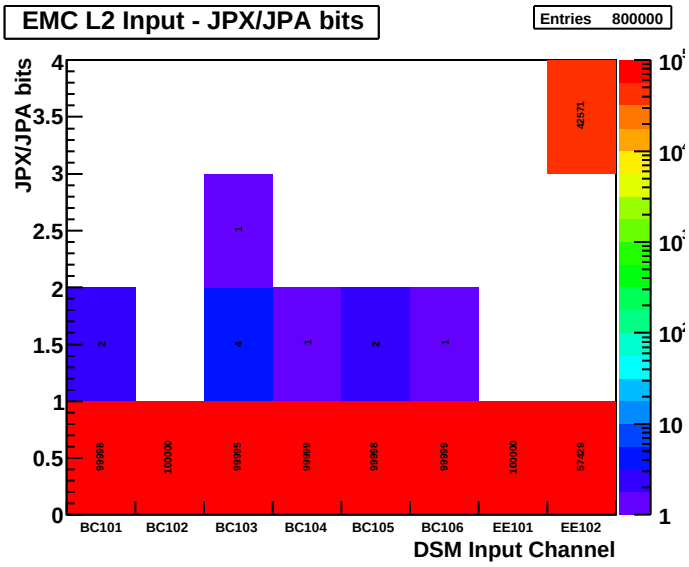

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

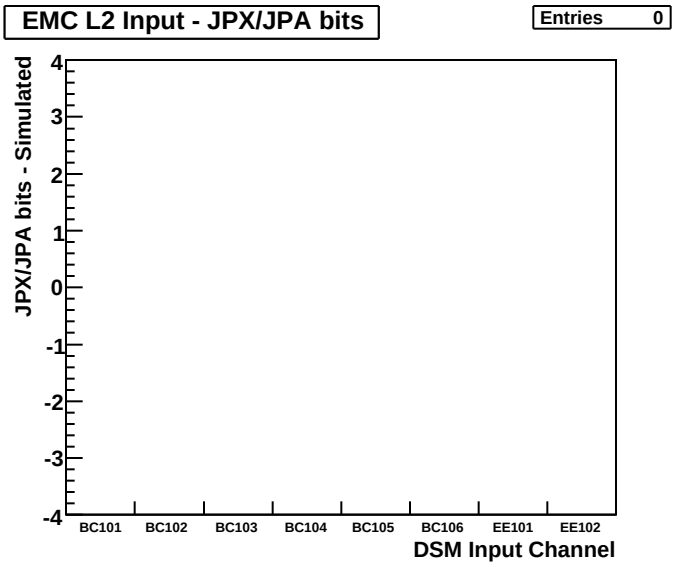

Endcap EMC L1 Input - High Eta Sum
Entries 1200000
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

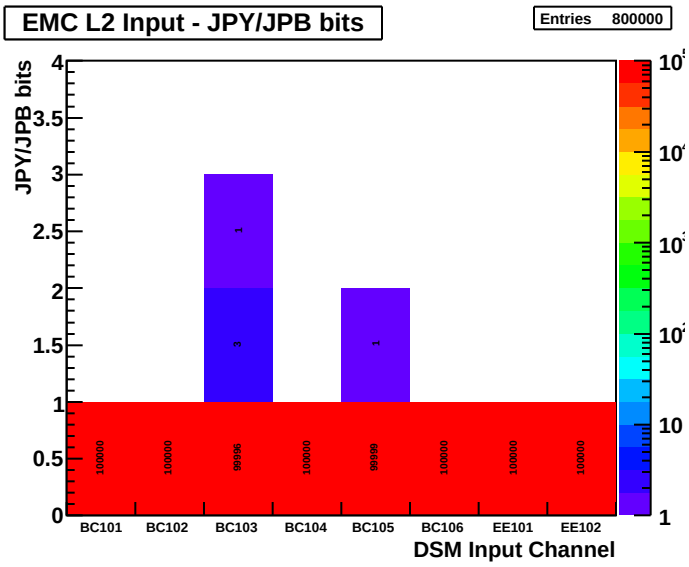

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

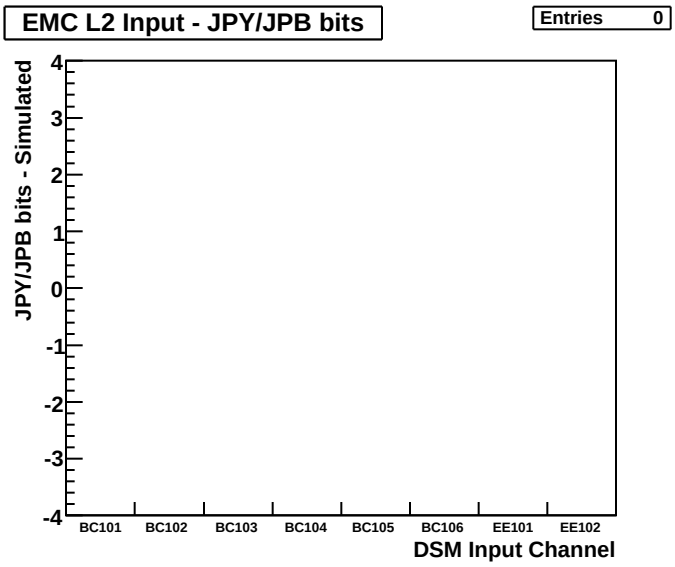

Endcap EMC L1 Input - High Tower Bits
Entries 1200000
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

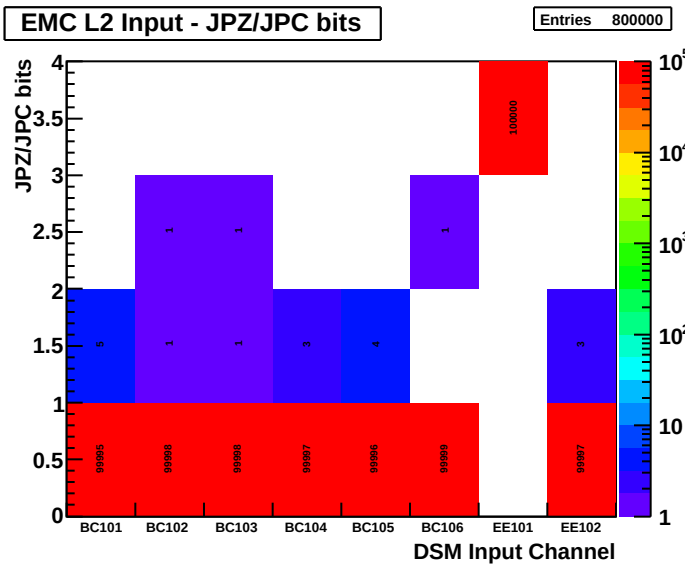

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

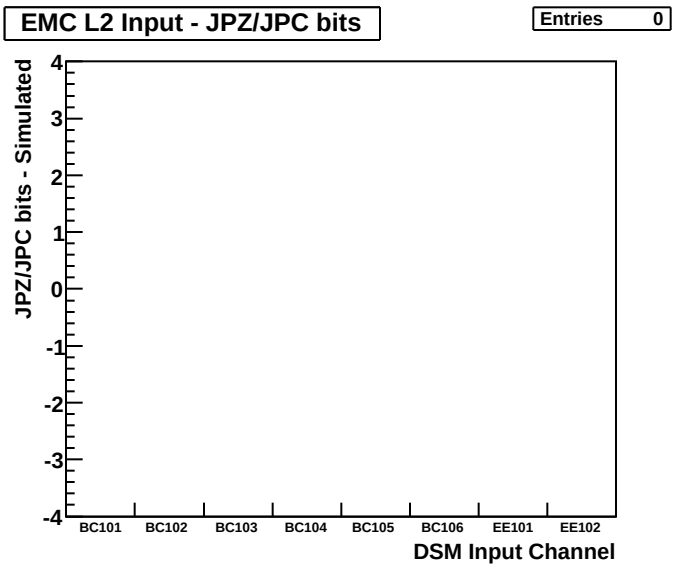

EMC L2 Input - JPX/JPA bits
Entries 800000
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

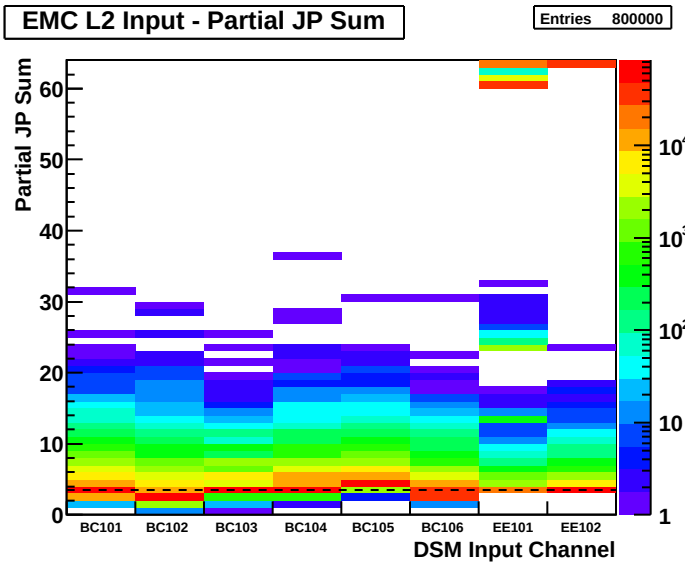

EMC L2 Input - JPX/JPA bits
Entries 0
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

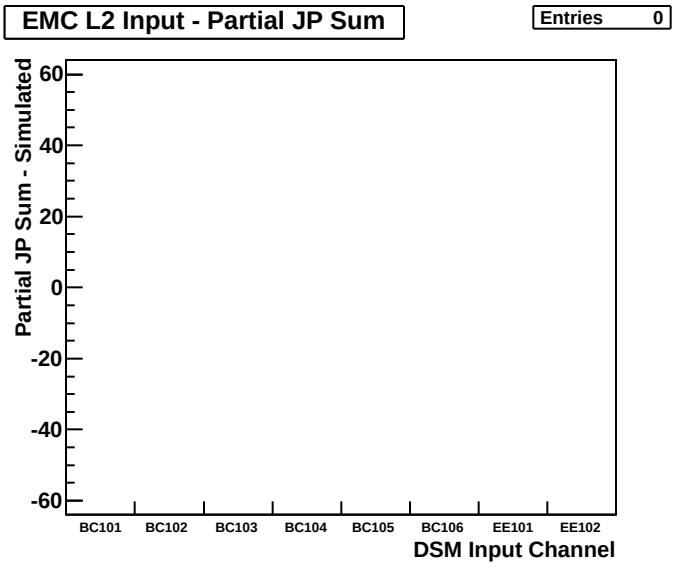

EMC L2 Input - JPY/JPB bits
Entries 800000
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

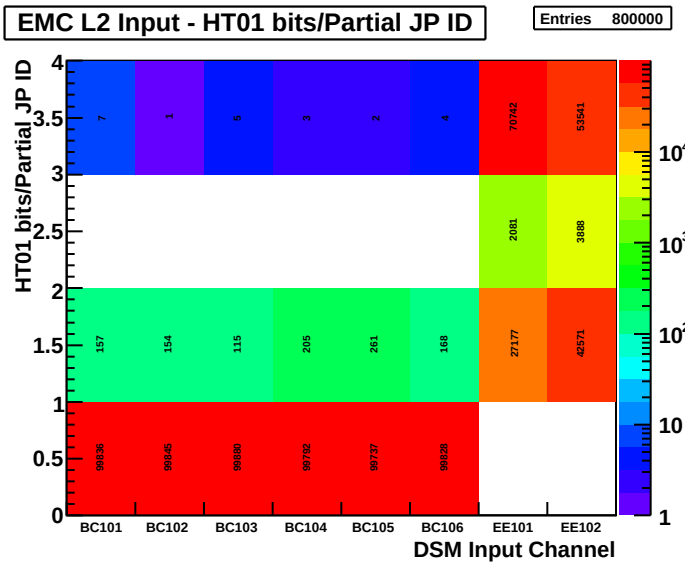

EMC L2 Input - JPY/JPB bits
Entries 0
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

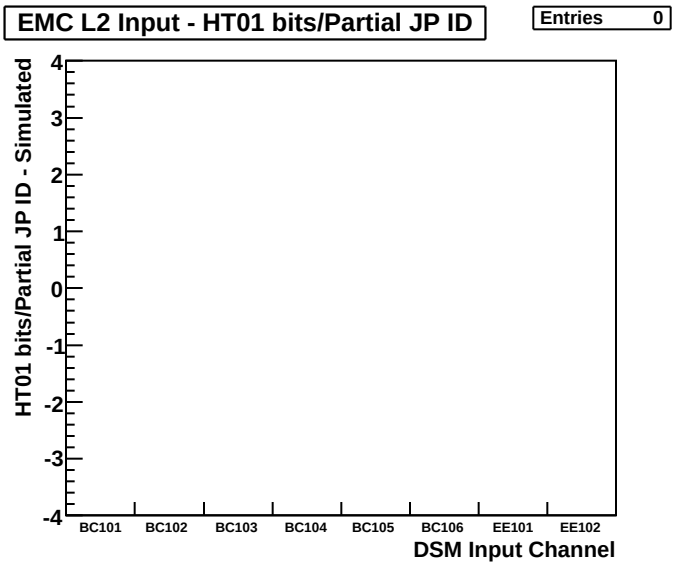

EMC L2 Input - JPZ/JPC bits
Entries 800000
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

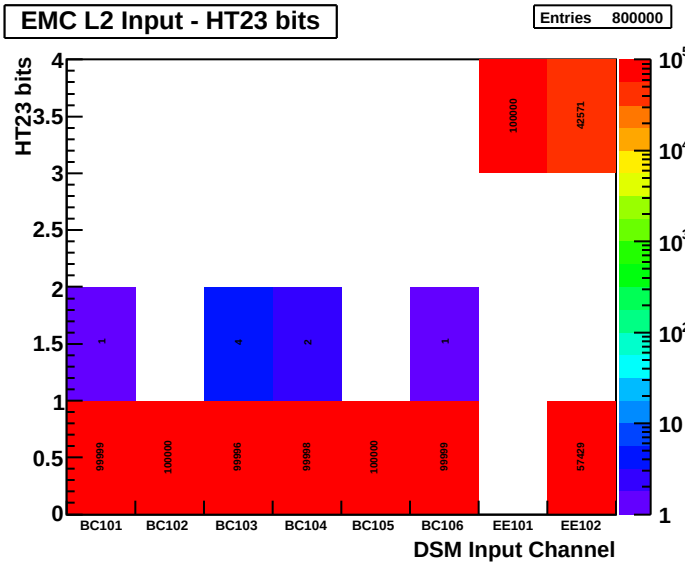

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

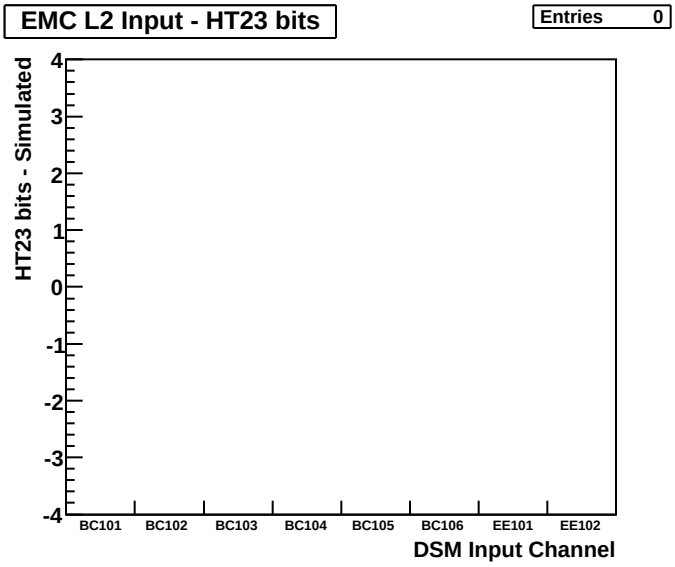

EMC L2 Input - Partial JP Sum
Entries 800000
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

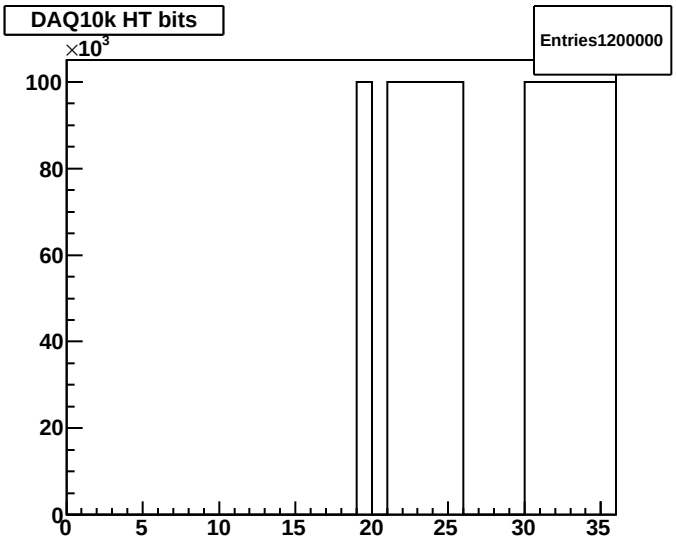

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

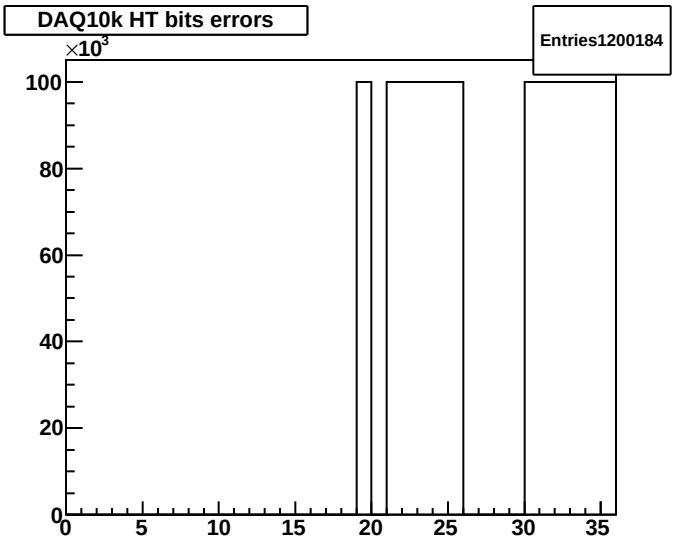

EMC L2 Input - HT01 bits/Partial JP ID
Entries 800000
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

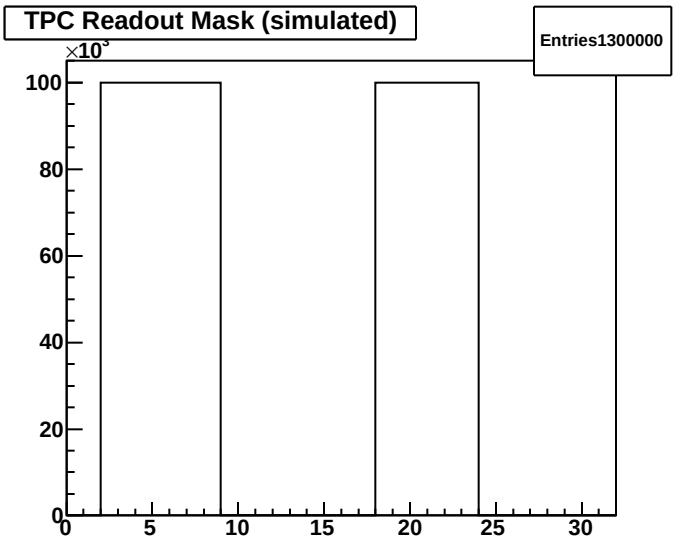

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

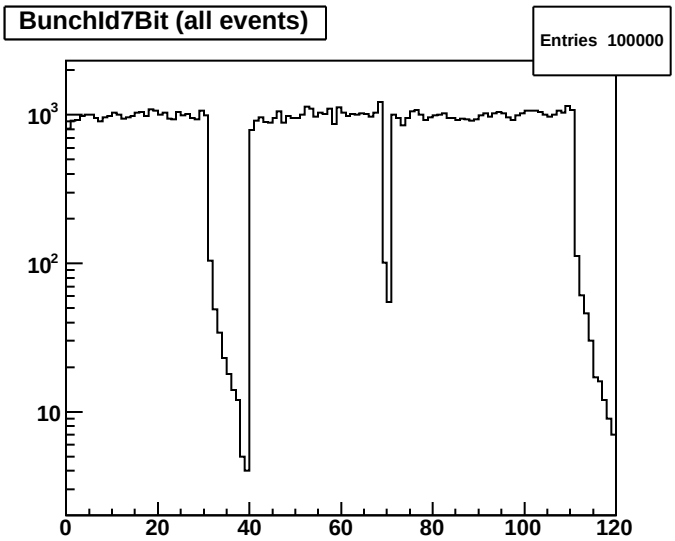

EMC L2 Input - HT23 bits
Entries 800000
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

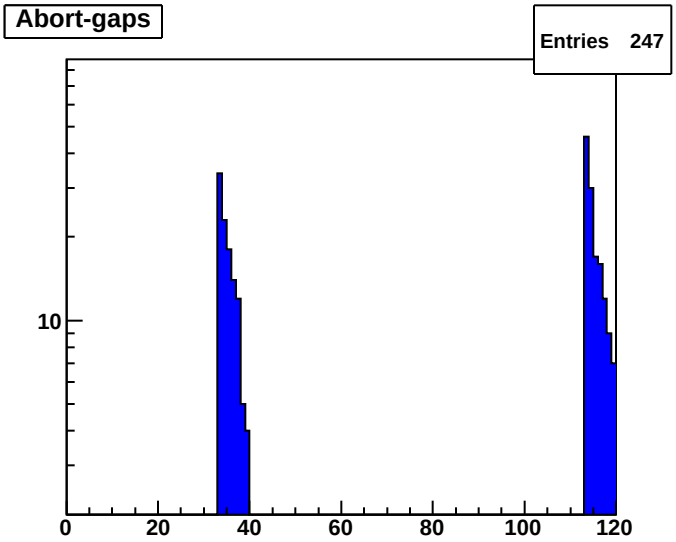

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

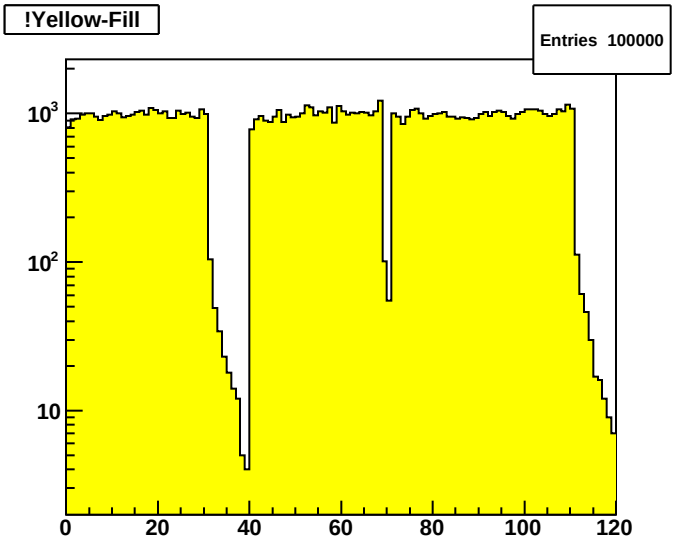

DAQ10k HT bits
Entries1200000
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

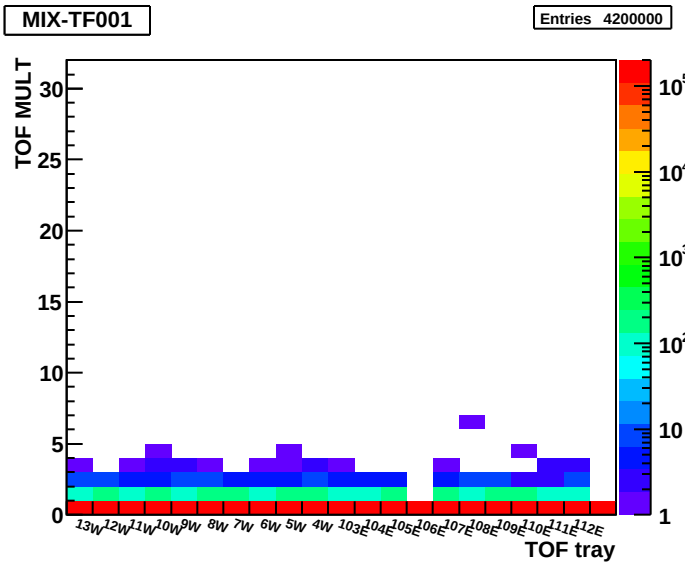

DAQ10k HT bits errors
Entries1200184
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30 35

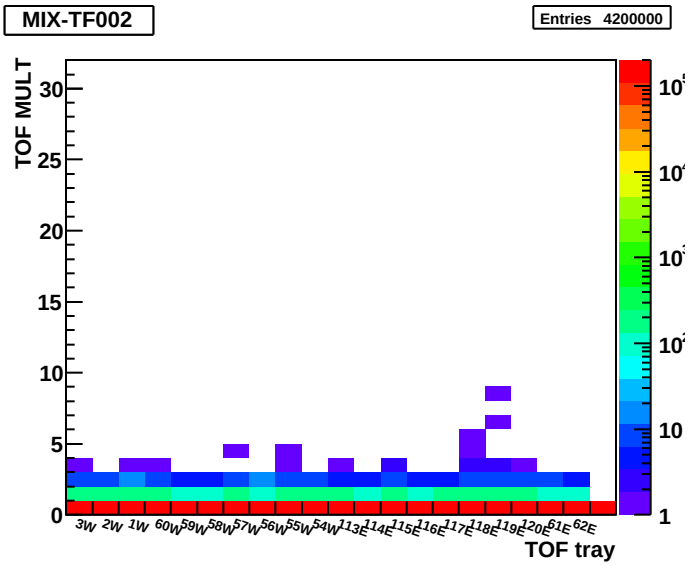

TPC Readout Mask (simulated)
Entries1300000
×10^3
100
80
60
40
20
0
0 5 10 15 20 25 30

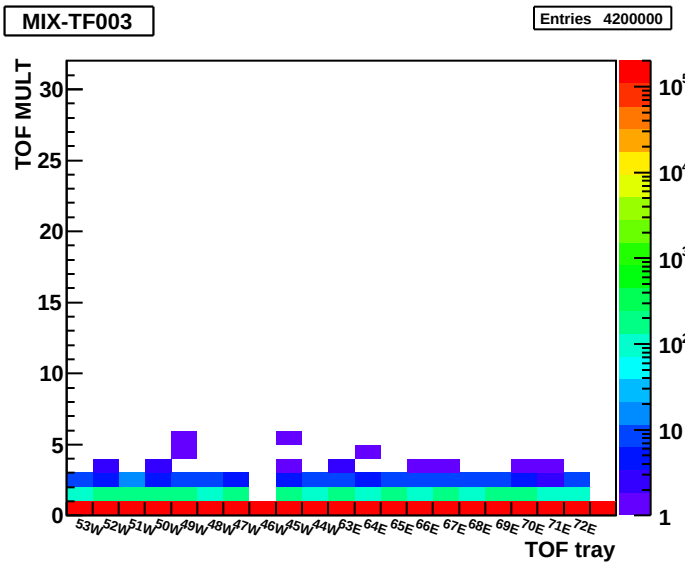

BunchId7Bit (all events)
Entries 100000
10^3
10^2
10
0 20 40 60 80 100 120

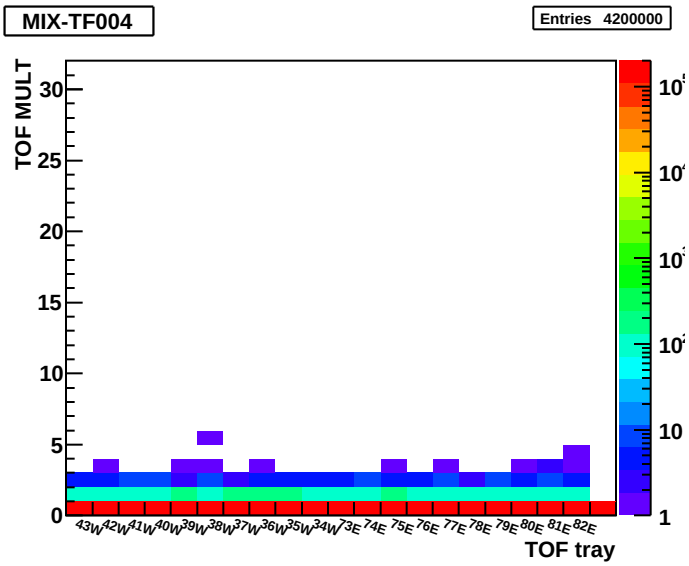

Abort-gaps
Entries 247
10
0 20 40 60 80 100 120

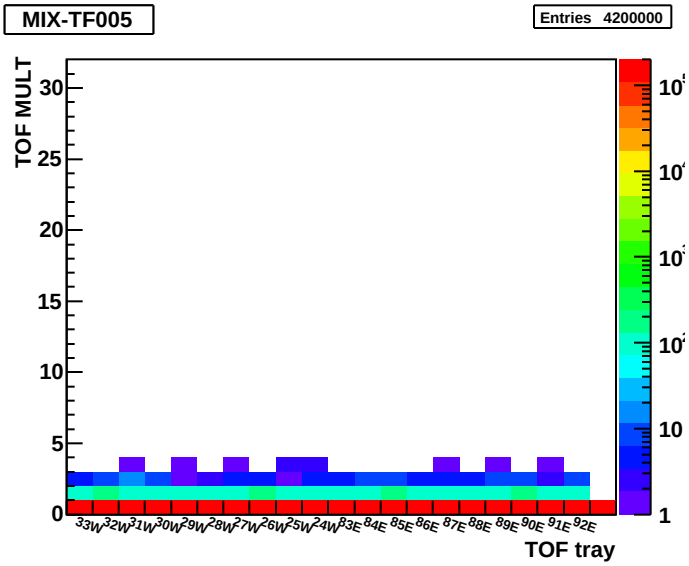

!Yellow-Fill
Entries 100000
10^3
10^2
10
0 20 40 60 80 100 120

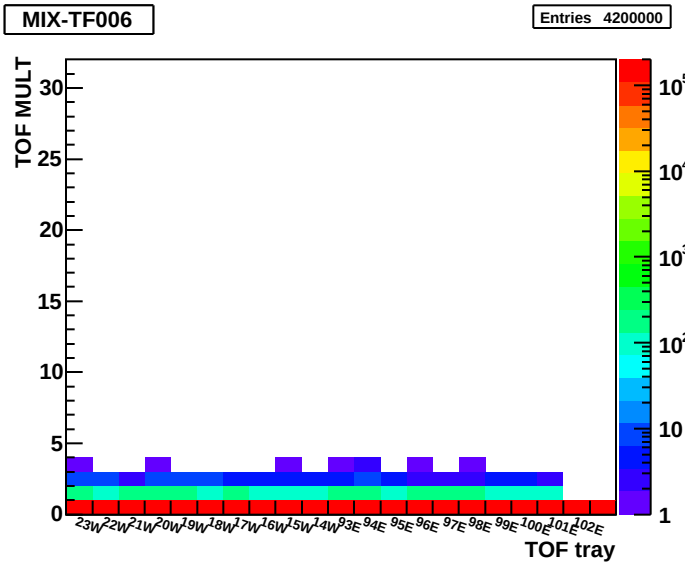

MIX-TF001
Entries 4200000
TOF MULT
TOF tray


MIX-TF002
Entries 4200000
TOF MULT
TOF tray

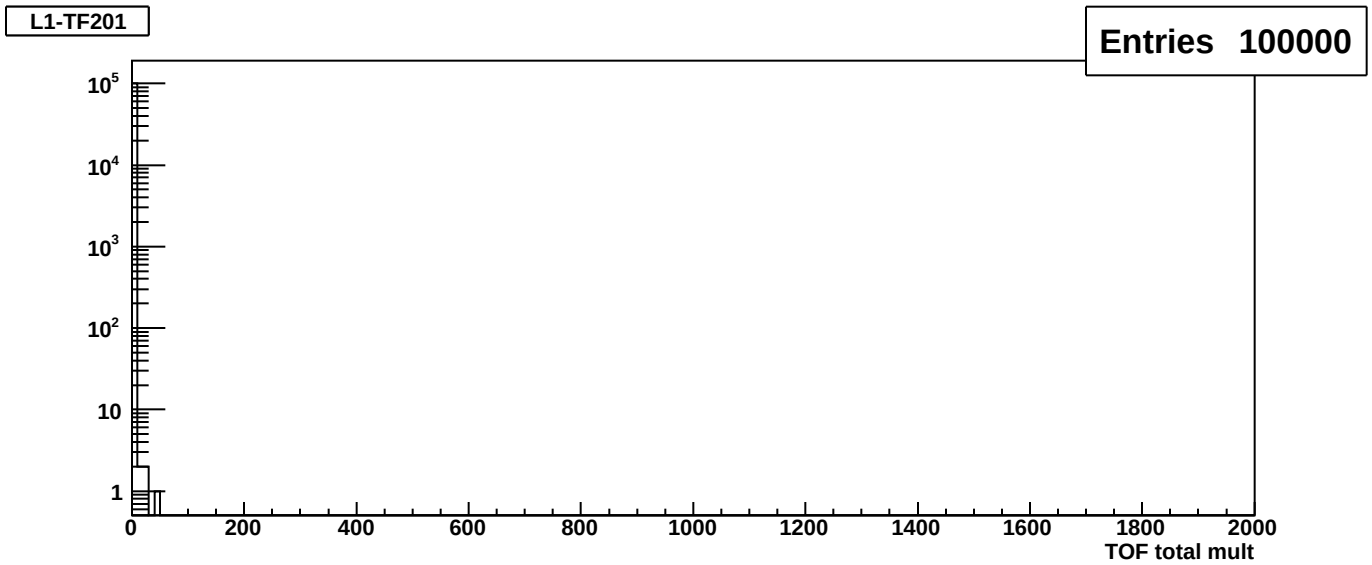

MIX-TF003
Entries 4200000
TOF MULT
TOF tray

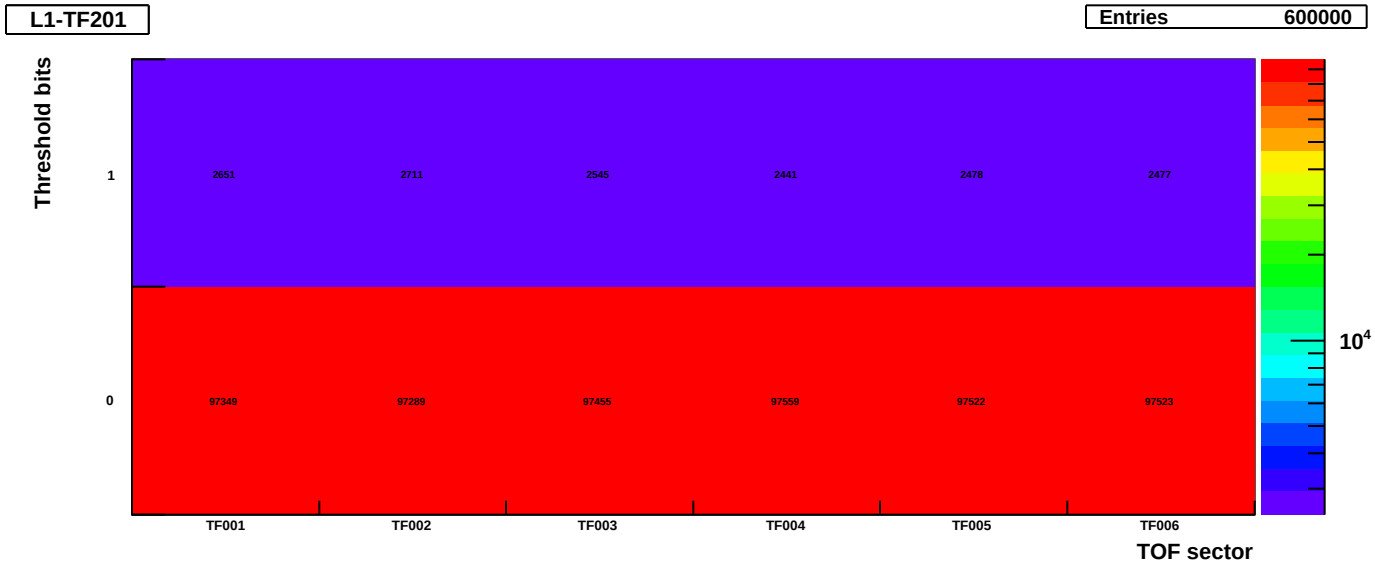

MIX-TF004
Entries 4200000
TOF MULT
TOF tray

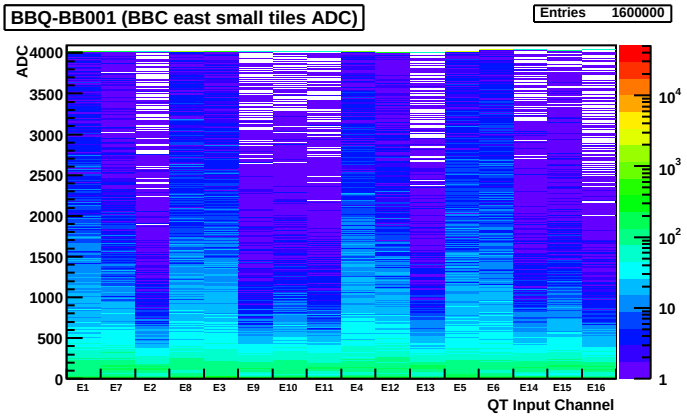

MIX-TF005
Entries 4200000
TOF MULT
TOF tray

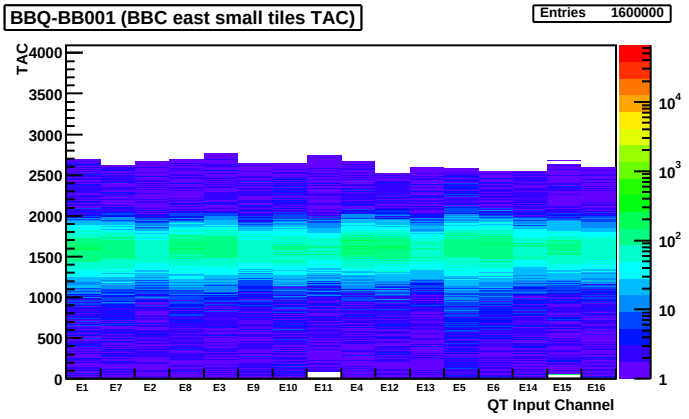

MIX-TF006
Entries 4200000
TOF MULT
TOF tray

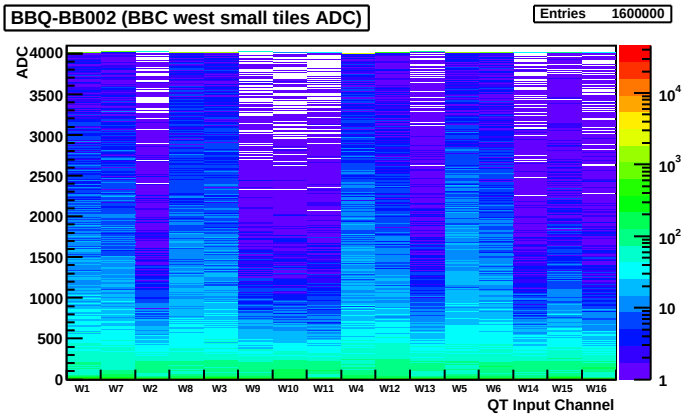
MIX-TF101
Entries 600000
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
$10^4$
$10^3$
$10^2$
10
1

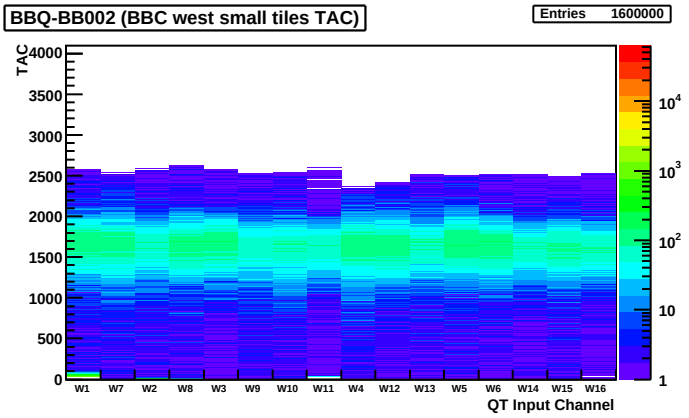

L1-TF201
Entries 100000
$10^5$
$10^4$
$10^3$
$10^2$
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

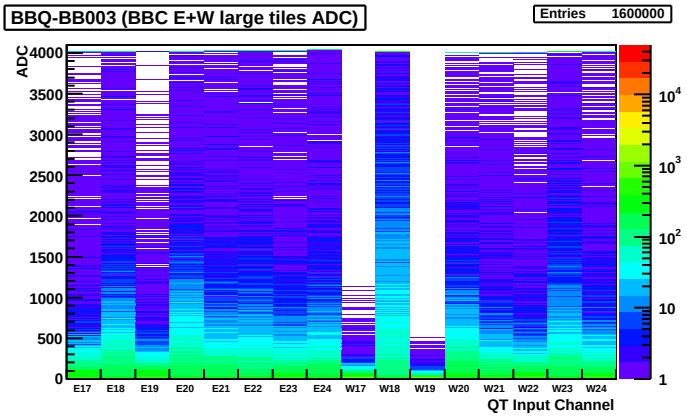

L1-TF201
Entries 600000
Threshold bits
1
0
2651
2711
2545
2441
2478
2477
97349
97289
97455
97559
97522
97523
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
$10^4$

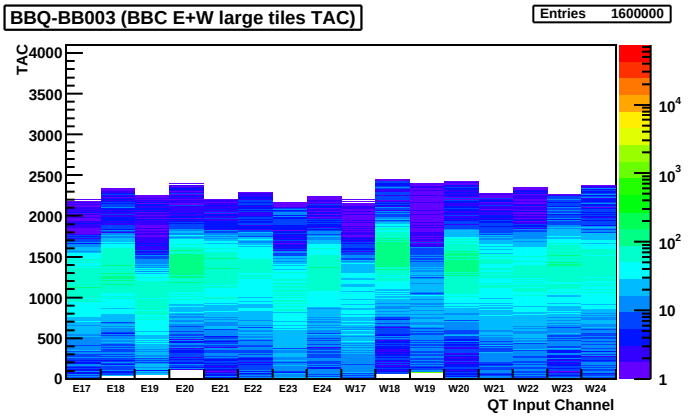

BBQ-BB001 (BBC east small tiles ADC)
Entries 1600000
ADC
QT Input Channel

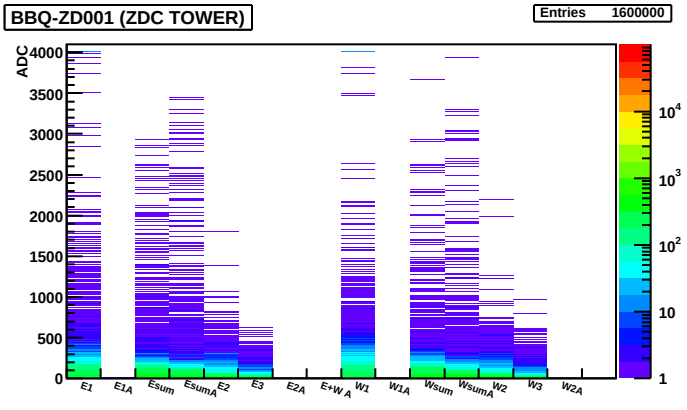

BBQ-BB001 (BBC east small tiles TAC)
Entries 1600000
TAC
QT Input Channel

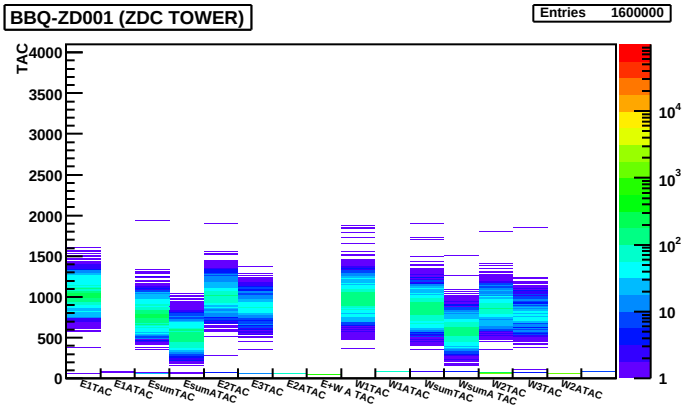

BBQ-BB002 (BBC west small tiles ADC)
Entries 1600000
ADC
QT Input Channel

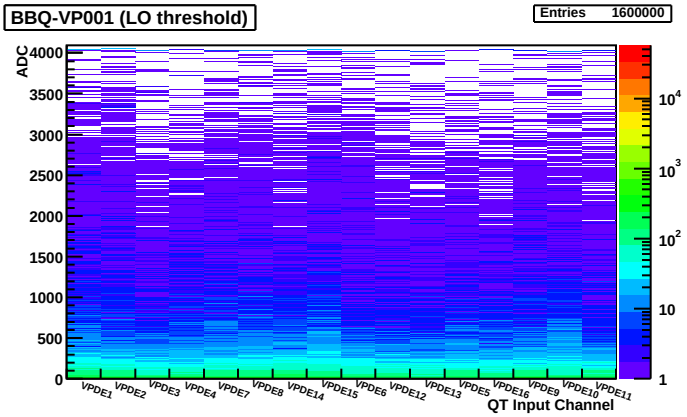

BBQ-BB002 (BBC west small tiles TAC)
Entries 1600000
TAC
QT Input Channel

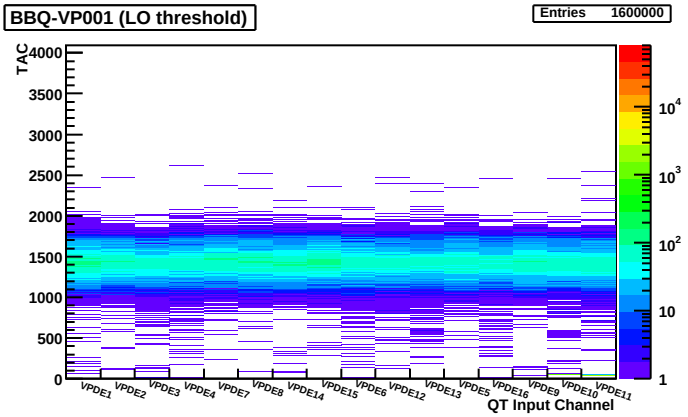

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 1600000
ADC
QT Input Channel

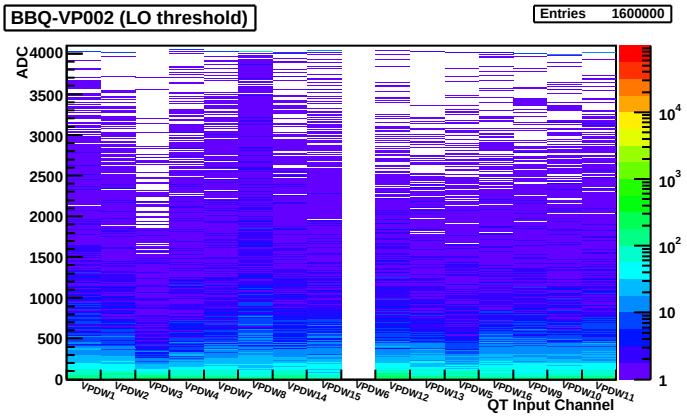

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 1600000
TAC
QT Input Channel

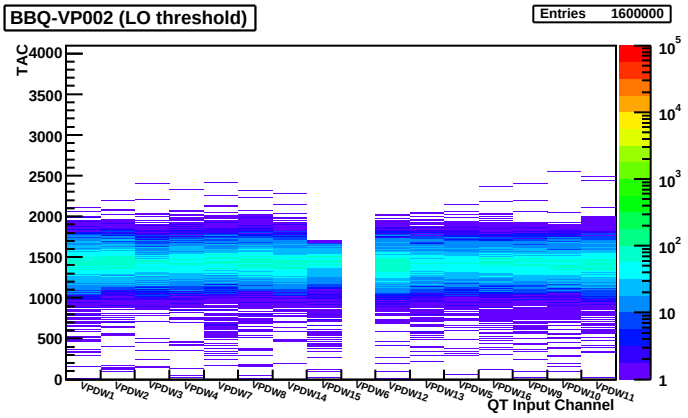

BBQ-ZD001 (ZDC TOWER)
Entries 1600000
ADC

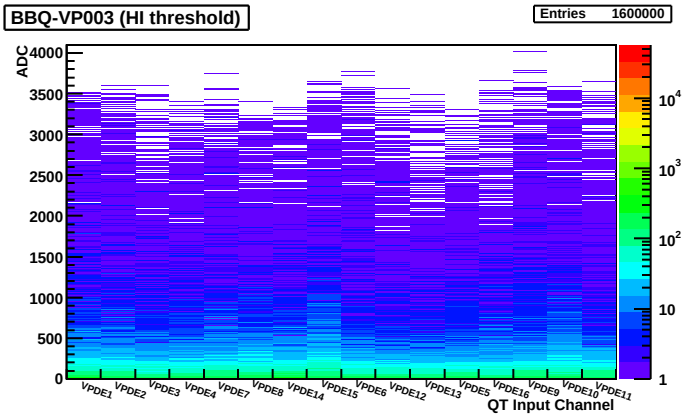

BBQ-ZD001 (ZDC TOWER)
Entries 1600000
TAC

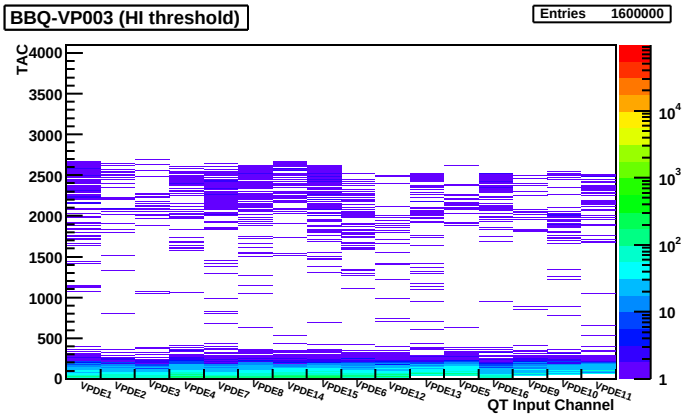

BBQ-VP001 (LO threshold)
Entries 1600000
ADC
QT Input Channel

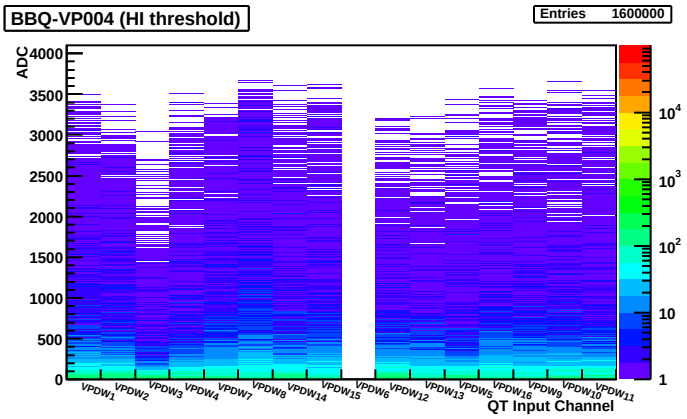

BBQ-VP001 (LO threshold)
Entries 1600000
TAC
QT Input Channel

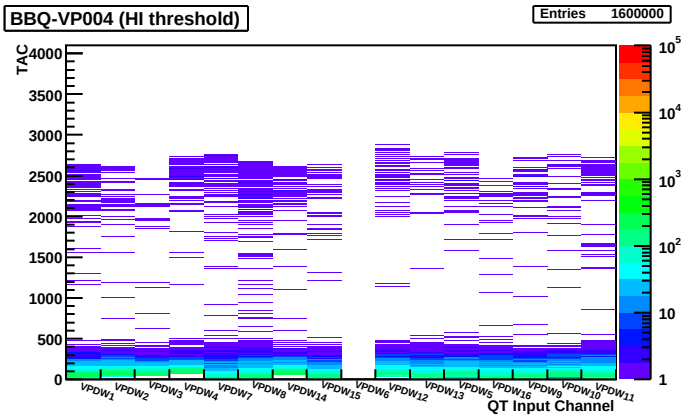

BBQ-VP002 (LO threshold)
Entries 1600000
ADC
QT Input Channel

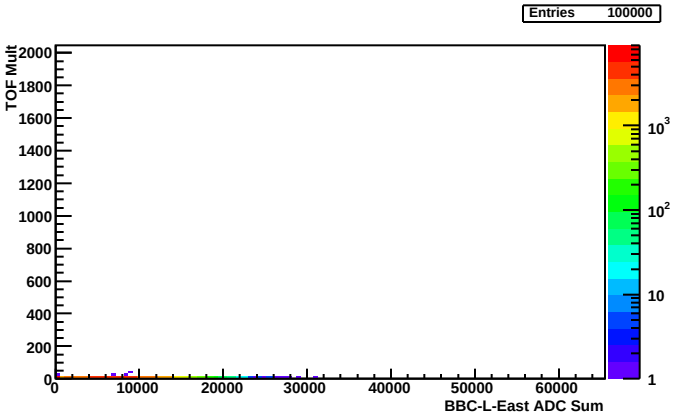

BBQ-VP002 (LO threshold)
Entries 1600000
TAC
QT Input Channel

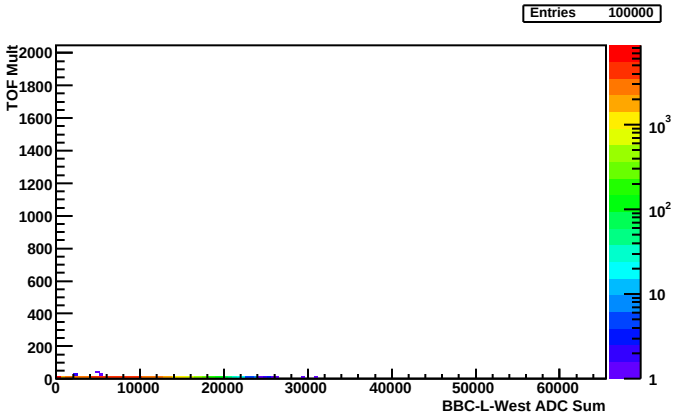

BBQ-VP003 (HI threshold)
Entries 1600000
ADC
QT Input Channel

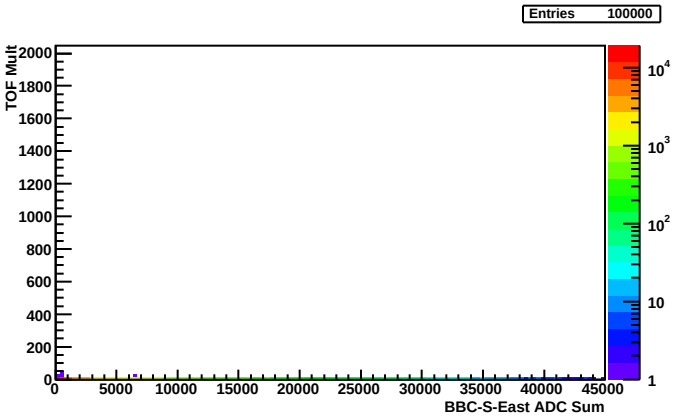

BBQ-VP003 (HI threshold)
Entries 1600000
TAC
QT Input Channel

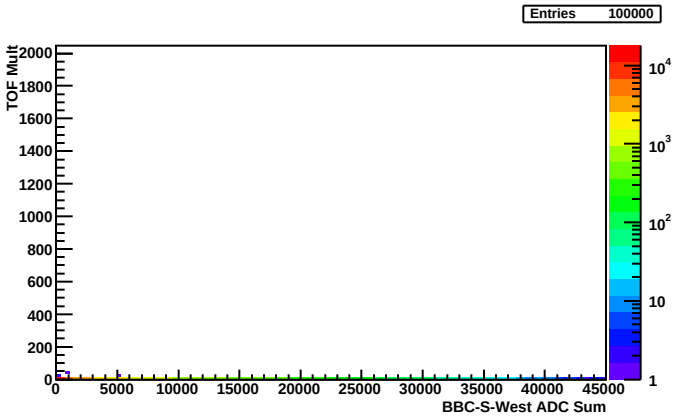

BBQ-VP004 (HI threshold)
Entries 1600000
ADC
QT Input Channel

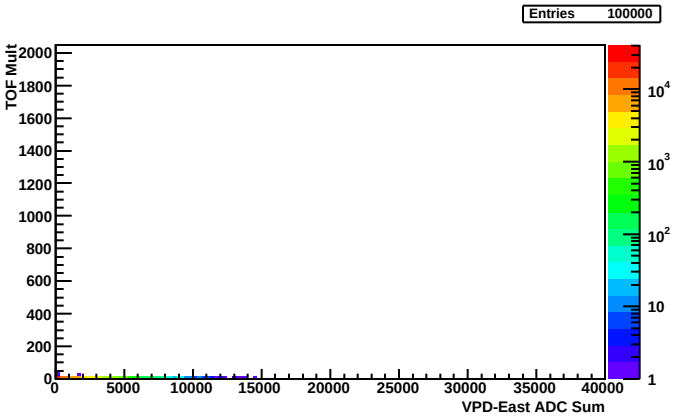

BBQ-VP004 (HI threshold)
Entries 1600000
TAC
QT Input Channel

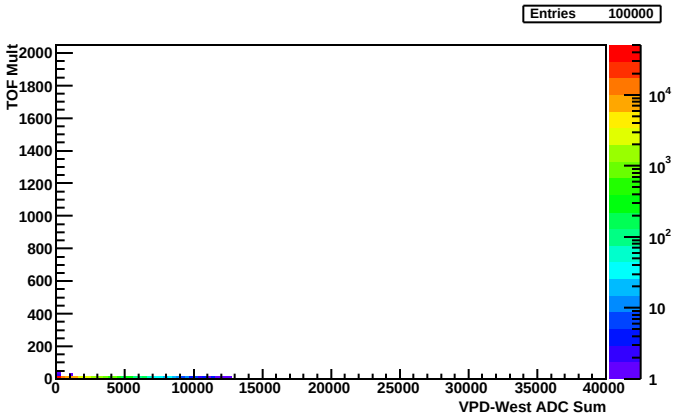

Entries 100000
TOF Mult
BBC-L-East ADC Sum

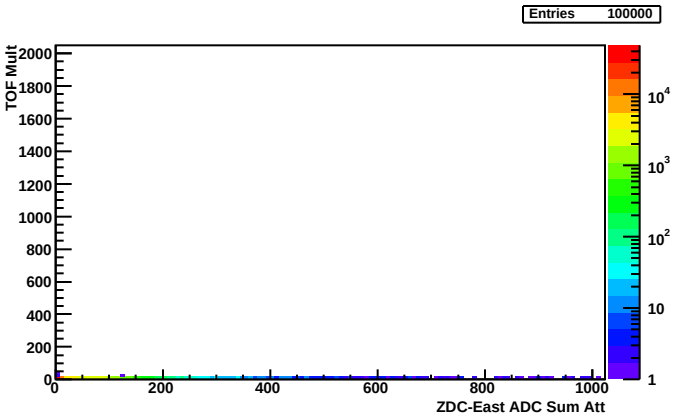

Entries 100000
TOF Mult
BBC-L-West ADC Sum

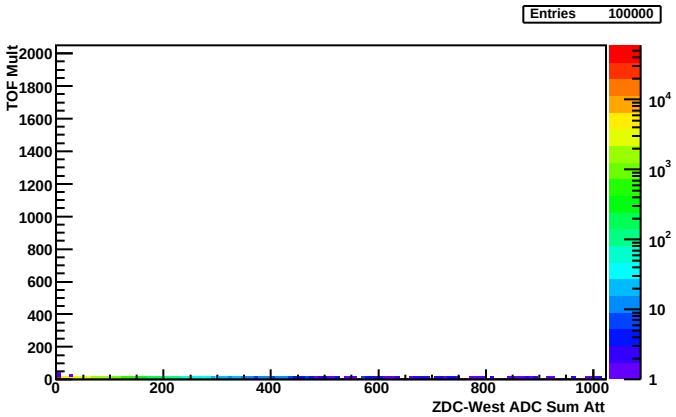

Entries 100000
TOF Mult
BBC-S-East ADC Sum

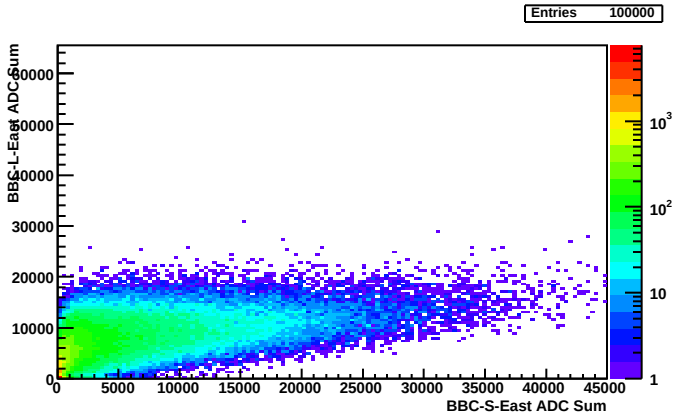

Entries 100000
TOF Mult
BBC-S-West ADC Sum

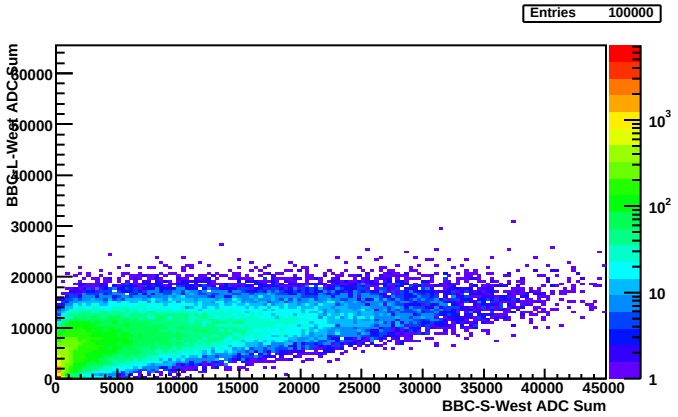

Entries 100000
TOF Mult
VPD-East ADC Sum

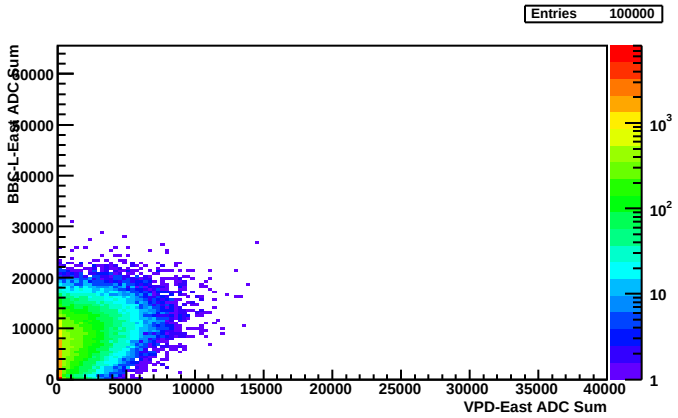

Entries 100000
TOF Mult
VPD-West ADC Sum

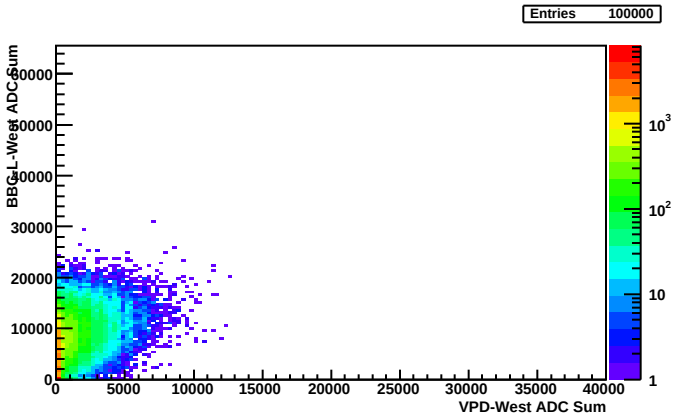

Entries 100000
TOF Mult
ZDC-East ADC Sum Att

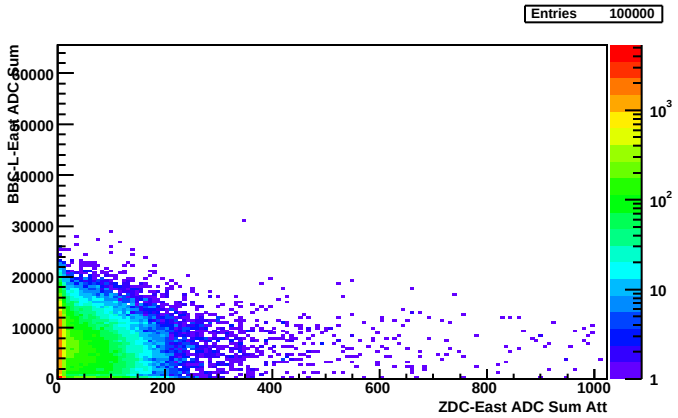

Entries 100000
TOF Mult
ZDC-West ADC Sum Att

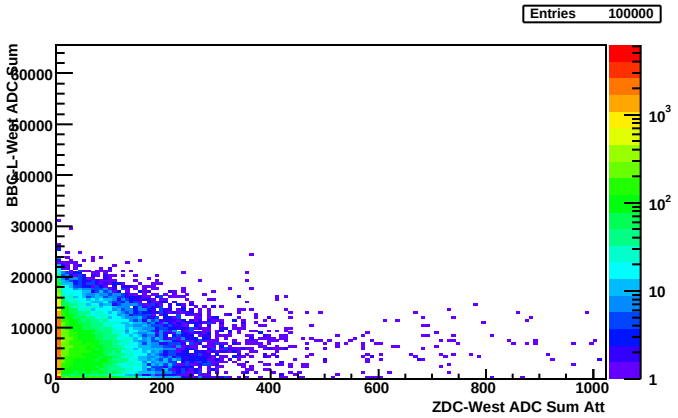

Entries 100000
BBC-L-East ADC Sum
BBC-S-East ADC Sum

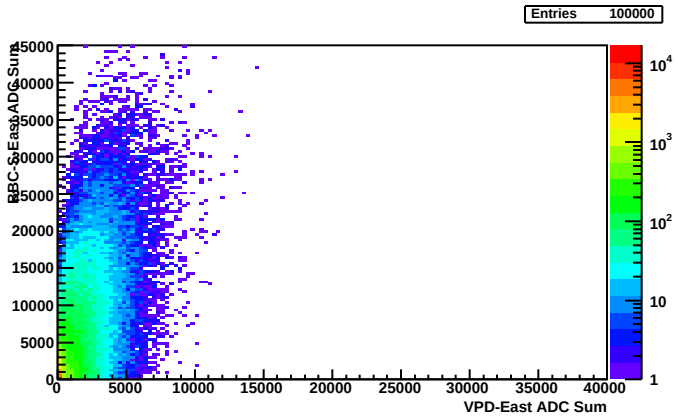

Entries 100000
BBC-L-West ADC Sum
BBC-S-West ADC Sum

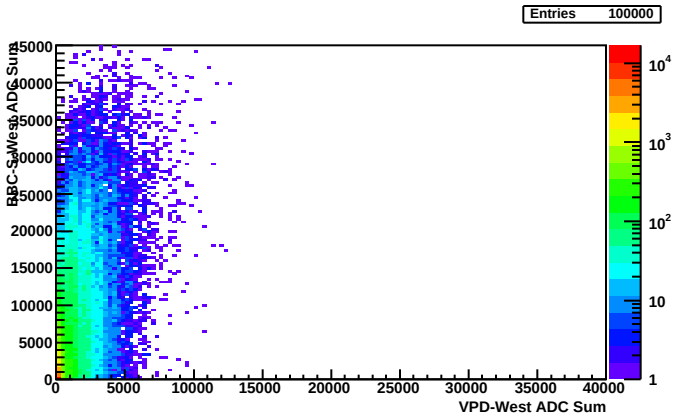

Entries 100000
BBC-L-East ADC Sum
VPD-East ADC Sum

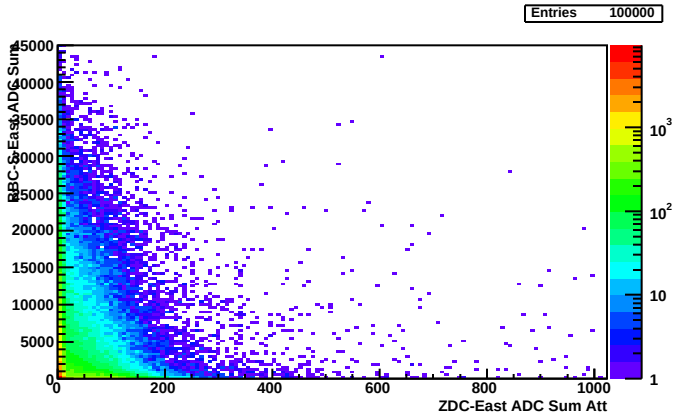

Entries 100000
BBC-L-West ADC Sum
VPD-West ADC Sum

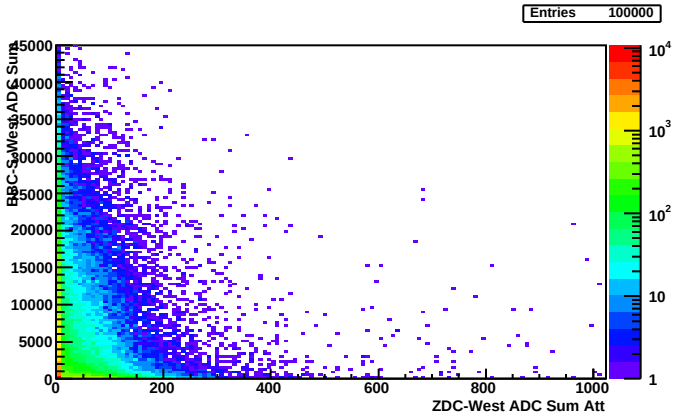

Entries 100000
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

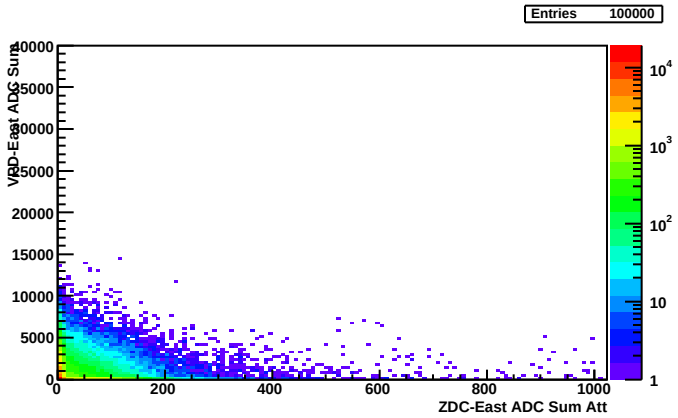

Entries 100000
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

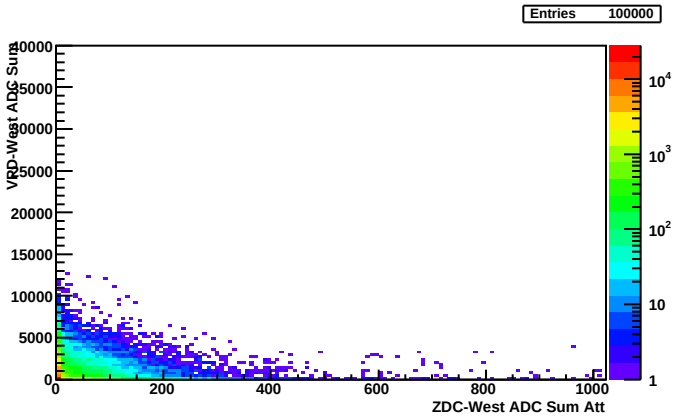

Entries 100000
BBC-S-East ADC Sum
VPD-East ADC Sum

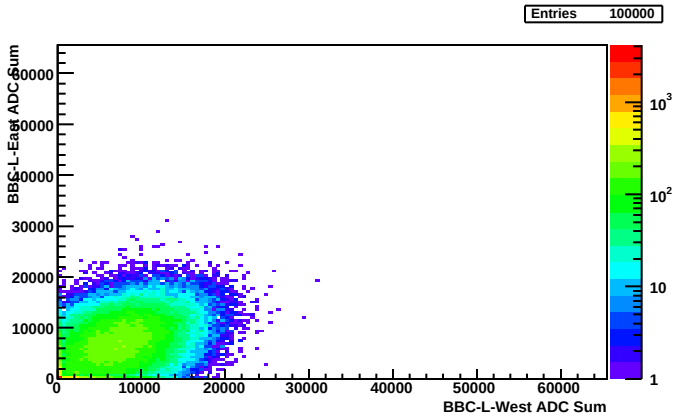

Entries 100000
BBC-S-West ADC Sum
VPD-West ADC Sum

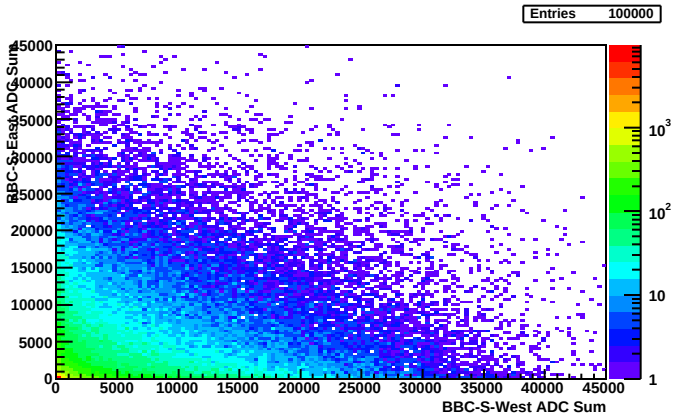

Entries 100000
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

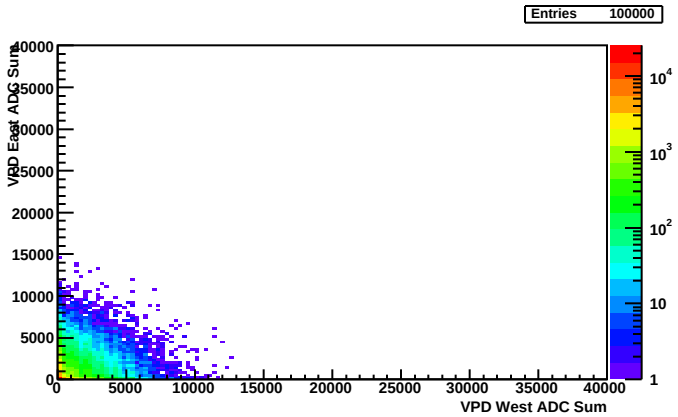

Entries 100000
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

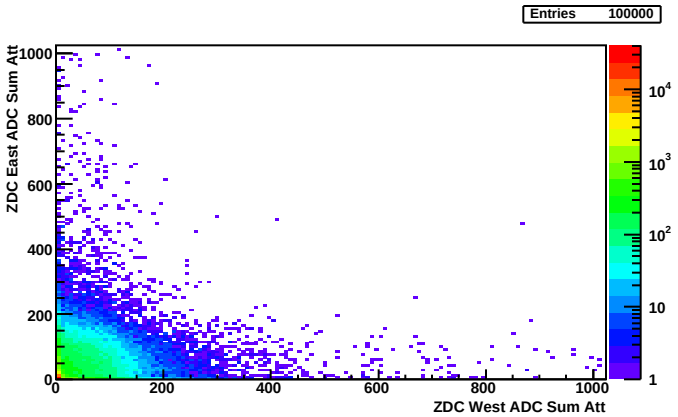

Entries 100000
VPD-East ADC Sum
ZDC-East ADC Sum Att

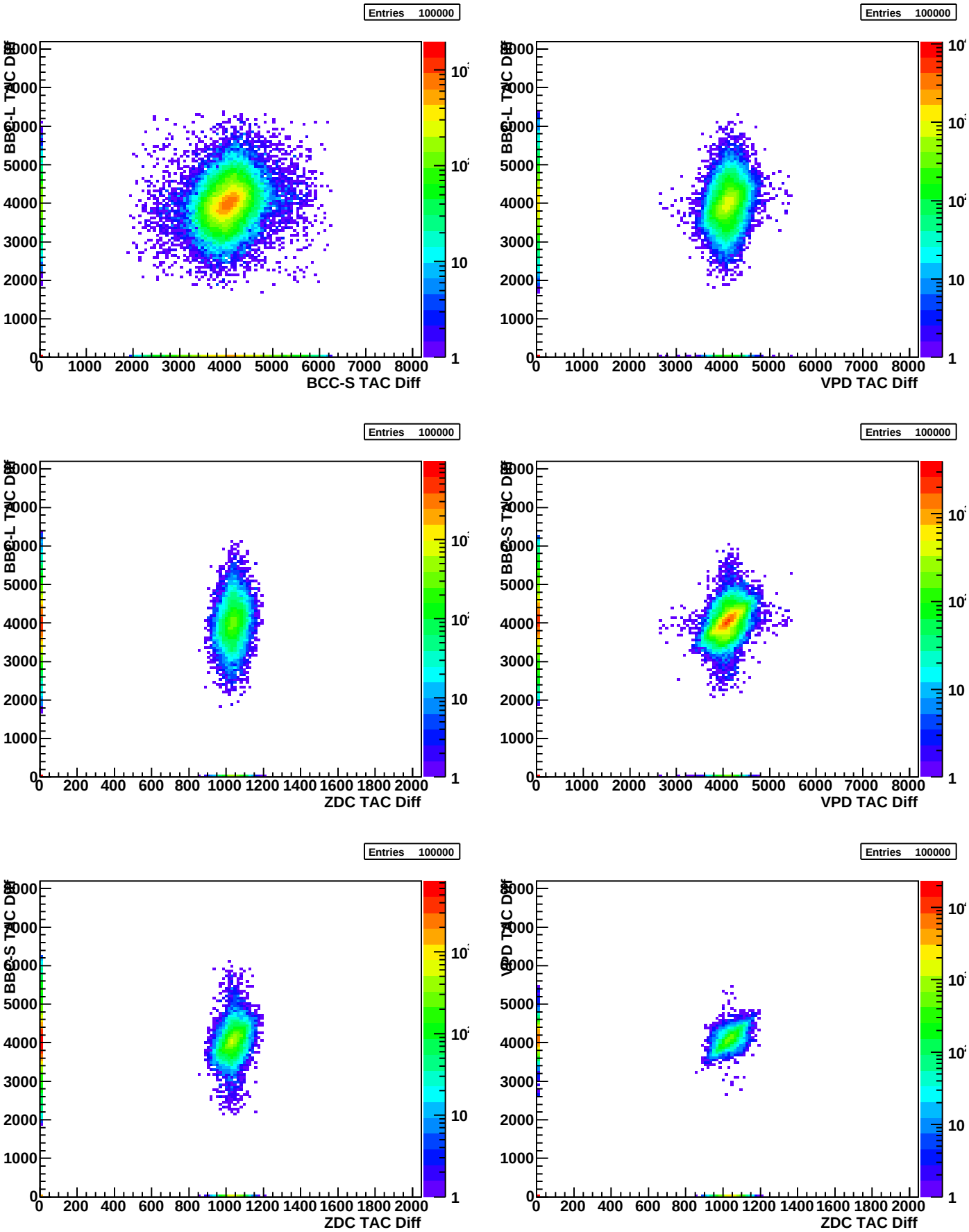

Entries 100000
VPD-West ADC Sum
ZDC-West ADC Sum Att

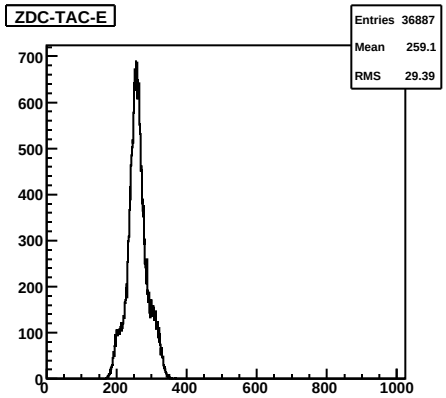

Entries 100000
BBC-L-East ADC Sum
BBC-L-West ADC Sum

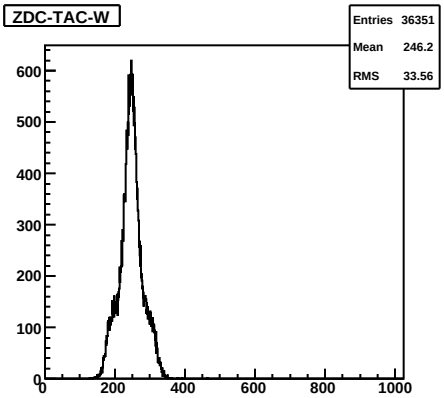

Entries 100000
BBC-S-East ADC Sum
BBC-S-West ADC Sum

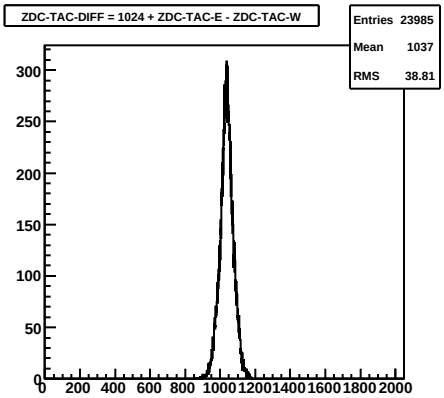

Entries 100000
VPD East ADC Sum
VPD West ADC Sum

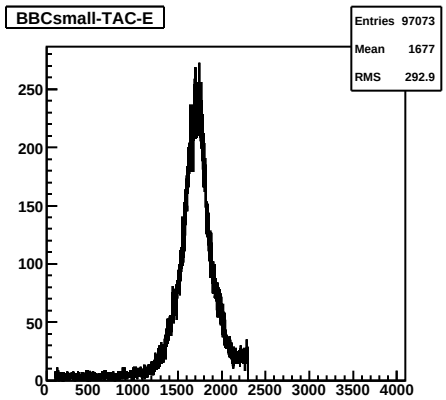

Entries 100000
ZDC East ADC Sum Att
ZDC West ADC Sum Att

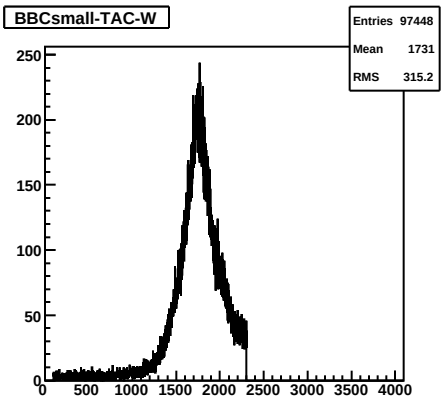

Entries 100000
BBC-L TAC Diff
BCC-S TAC Diff
Entries 100000
BBC-L TAC Diff
VPD TAC Diff
Entries 100000
BBC-L TAC Diff
ZDC TAC Diff
Entries 100000
BBC-S TAC Diff
VPD TAC Diff
Entries 100000
BBC-S TAC Diff
ZDC TAC Diff
Entries 100000
VPD TAC Diff
ZDC TAC Diff

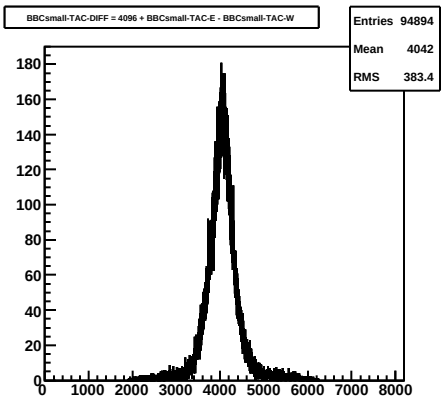

ZDC-TAC-E
Entries 36887
Mean 259.1
RMS 29.39

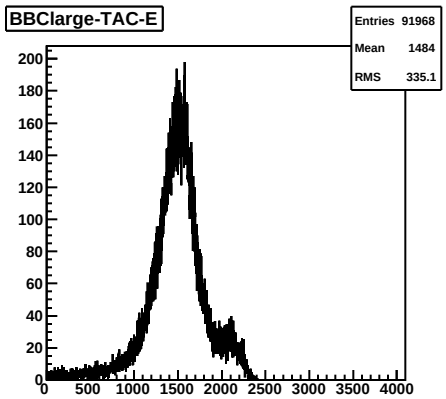

ZDC-TAC-W
Entries 36351
Mean 246.2
RMS 33.56

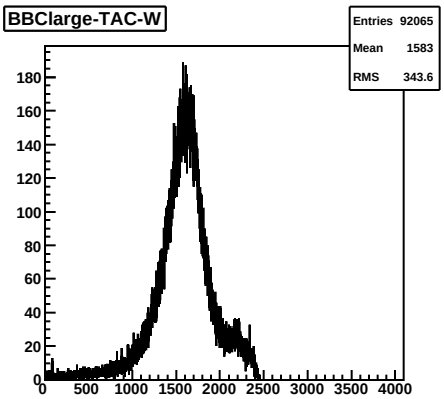

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 23985
Mean 1037
RMS 38.81

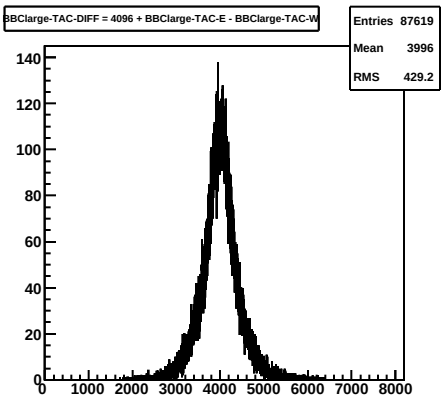

BBCsmall-TAC-E
Entries 97073
Mean 1677
RMS 292.9

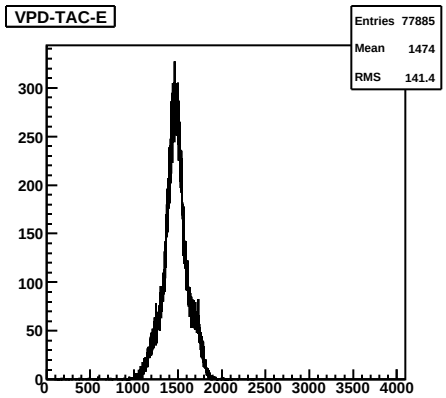

BBCsmall-TAC-W
Entries 97448
Mean 1731
RMS 315.2

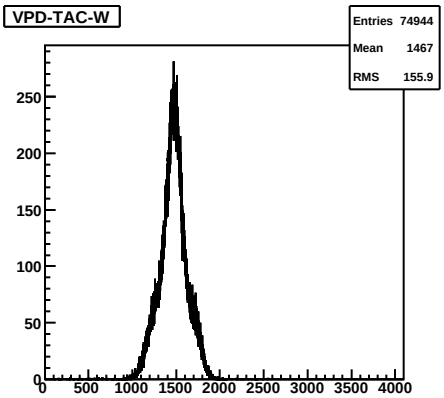

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 94894
Mean 4042
RMS 383.4

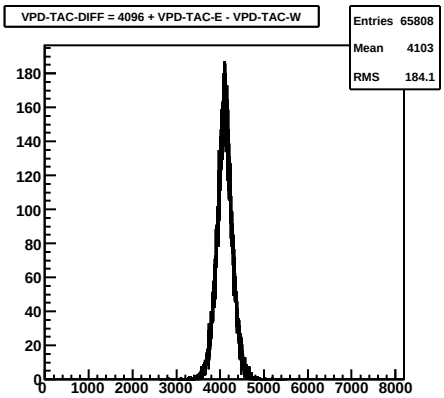

BBClarge-TAC-E
Entries 91968
Mean 1484
RMS 335.1

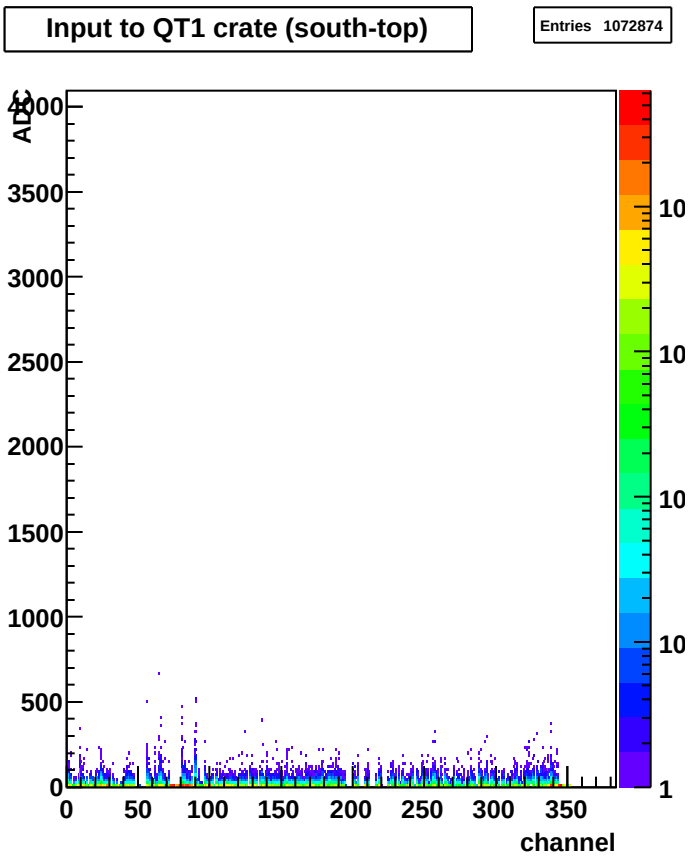

BBClarge-TAC-W
Entries 92065
Mean 1583
RMS 343.6

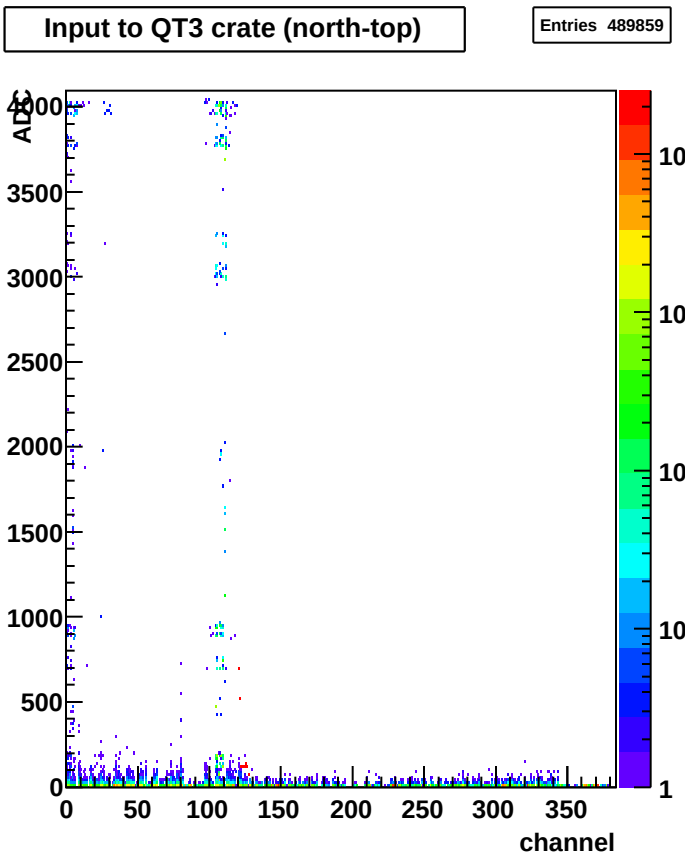

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 87619
Mean 3996
RMS 429.2

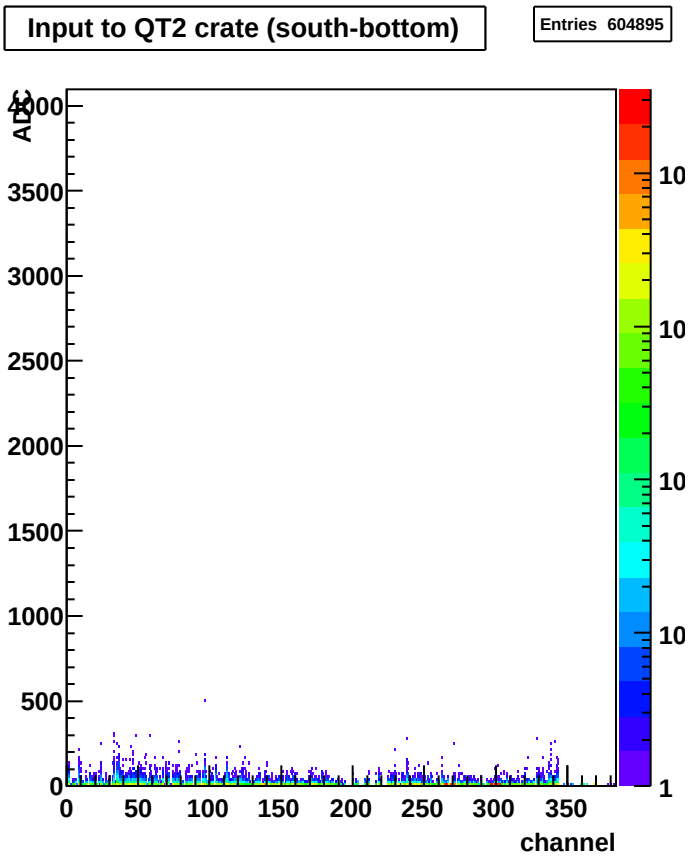

VPD-TAC-E
Entries 77885
Mean 1474
RMS 141.4

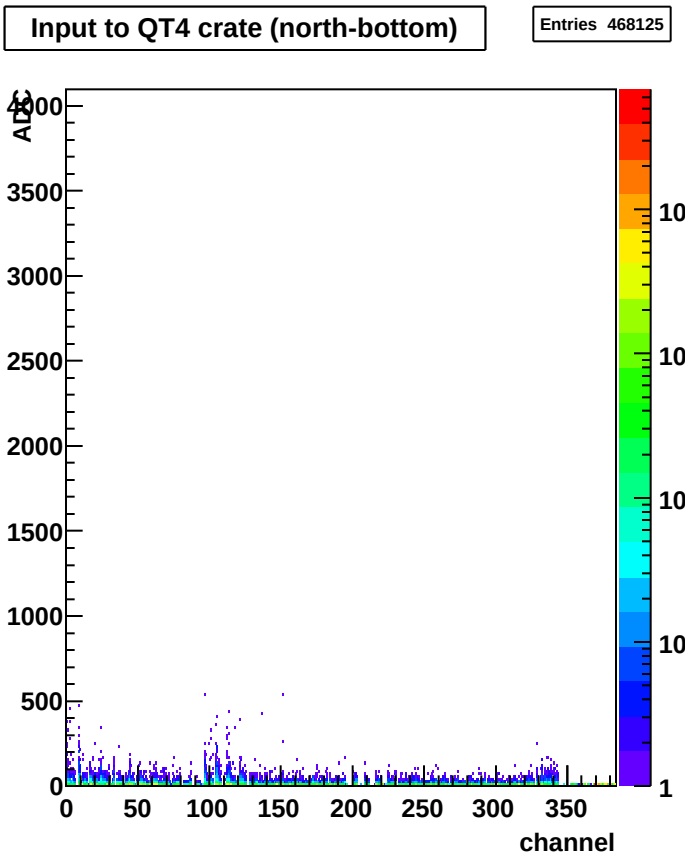

VPD-TAC-W
Entries 74944
Mean 1467
RMS 155.9

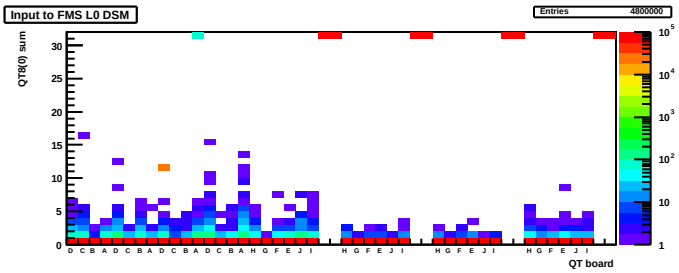

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 65808
Mean 4103
RMS 184.1

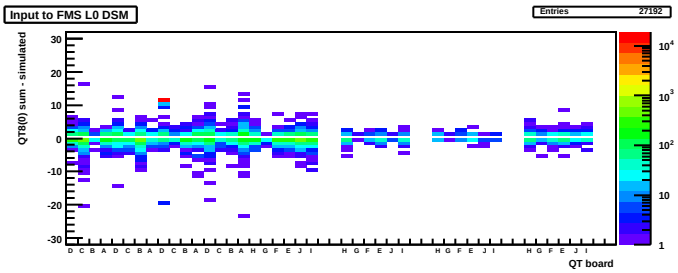

Input to QT1 crate (south-top)
Entries 1072874
ADC
channel

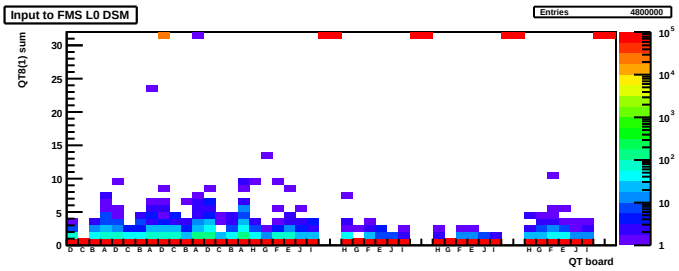

Input to QT3 crate (north-top)
Entries 489859
ADC
channel

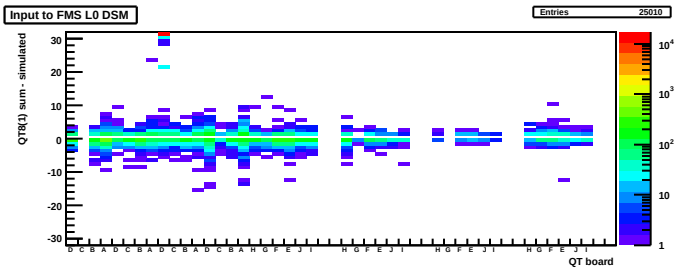

Input to QT2 crate (south-bottom)
Entries 604895
ADC
channel

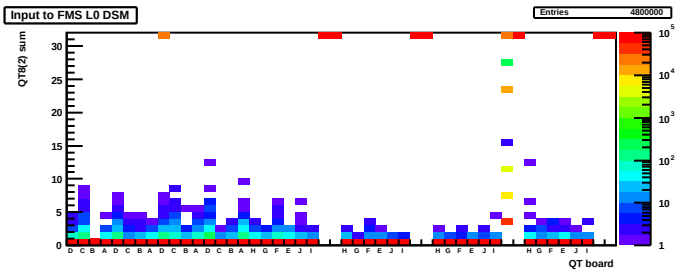

Input to QT4 crate (north-bottom)
Entries 468125
ADC
channel

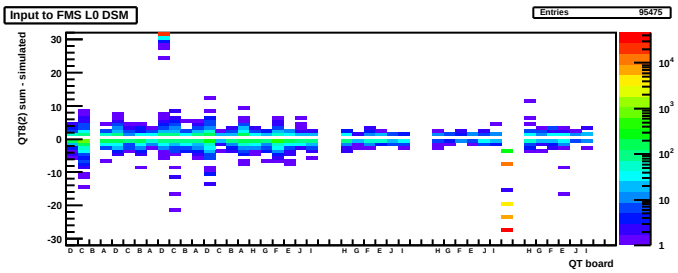

Input to FMS L0 DSM
Entries 4800000
QT8(0) sum
QT board

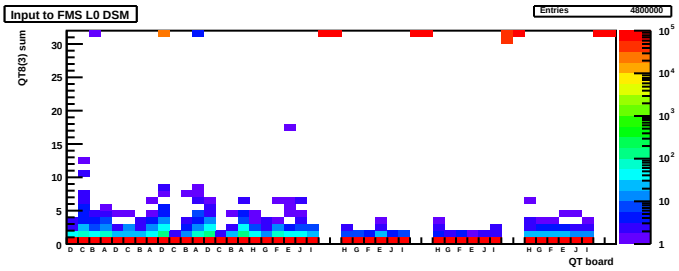

Input to FMS L0 DSM
Entries 27192
QT8(0) sum - simulated
QT board

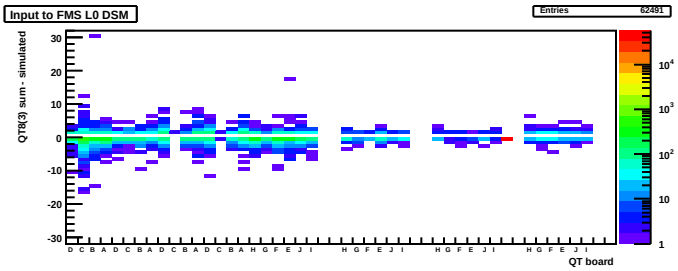

Input to FMS L0 DSM
Entries 4800000
QT8(1) sum
QT board

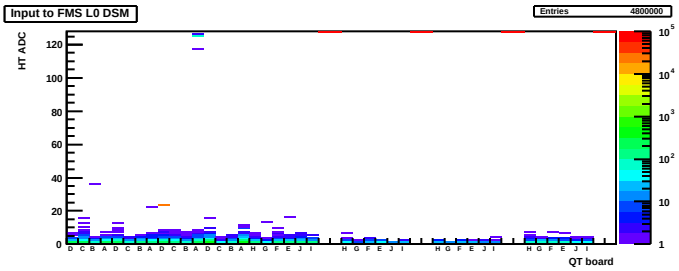

Input to FMS L0 DSM
Entries 25010
QT8(1) sum - simulated
QT board

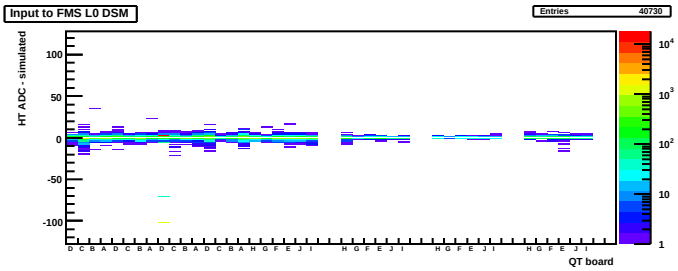

Input to FMS L0 DSM
Entries 4800000
QT8(2) sum
QT board

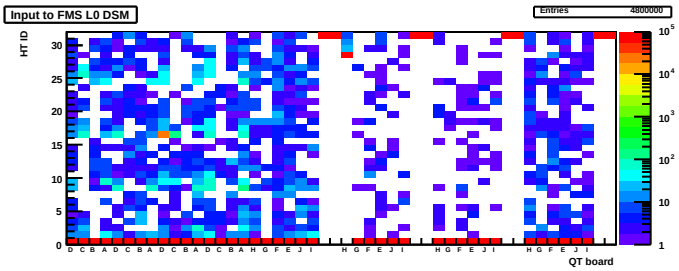

Input to FMS L0 DSM
Entries 95475
QT8(2) sum - simulated
QT board

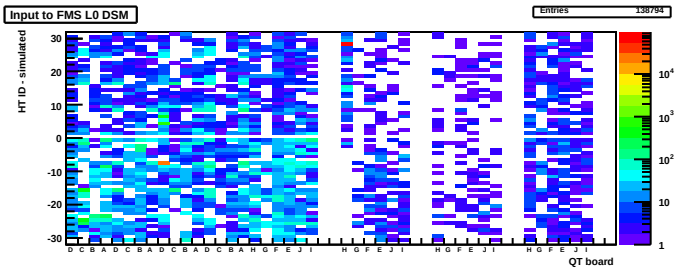

Input to FMS L0 DSM
Entries 4800000
QT8(3) sum
QT board

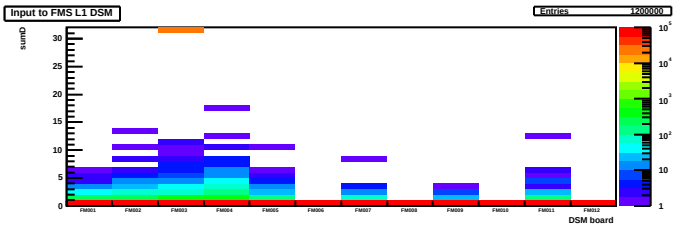

Input to FMS L0 DSM
Entries 62491
QT8(3) sum - simulated
QT board

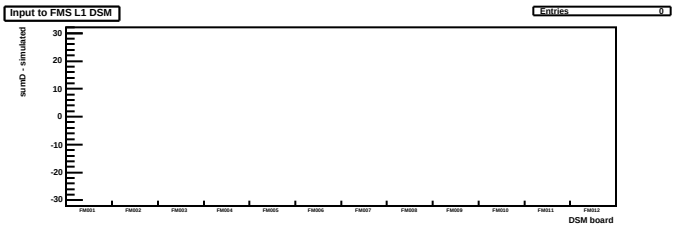

Input to FMS L0 DSM
Entries 4800000
HT ADC
QT board

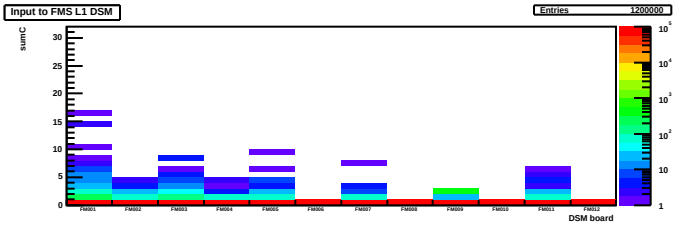

Input to FMS L0 DSM
Entries 40730
HT ADC - simulated
QT board

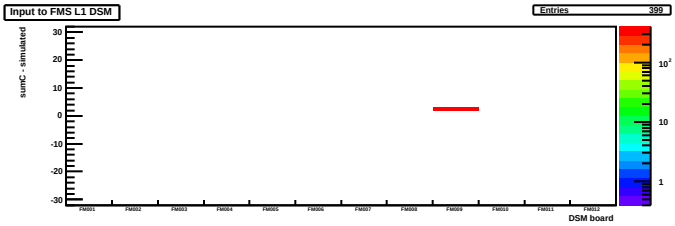

Input to FMS L0 DSM
Entries 4800000
HT ID
QT board

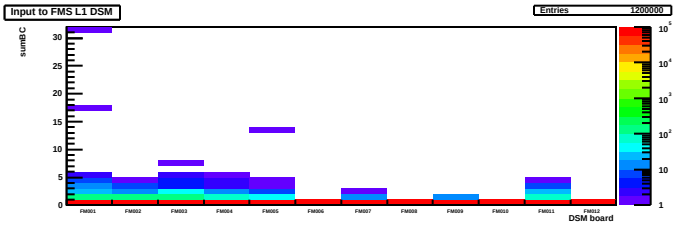

Input to FMS L0 DSM
Entries 138794
HT ID - simulated
QT board

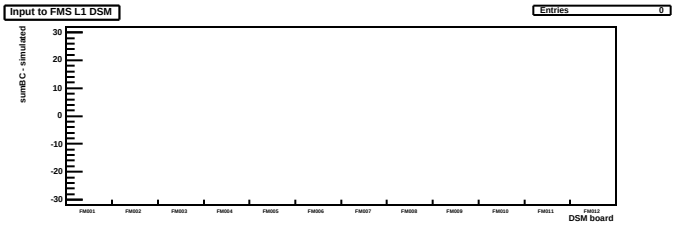

Input to FMS L1 DSM
Entries 1200000
sumD
DSM board

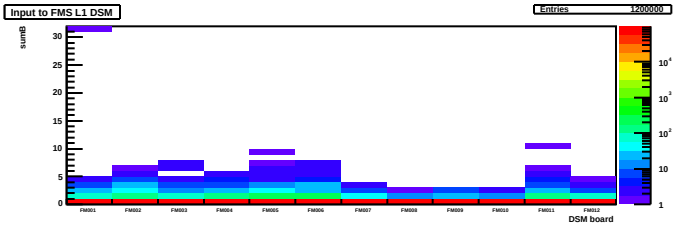

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

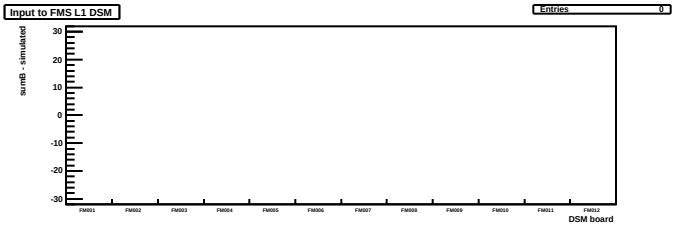

Input to FMS L1 DSM
Entries 1200000
sumC
DSM board

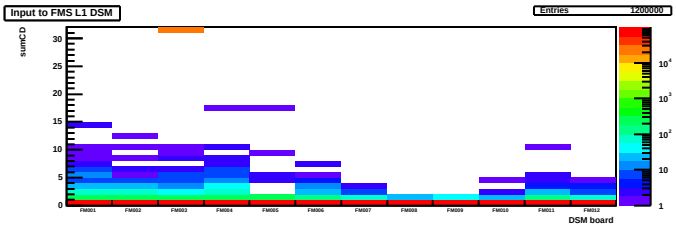

Input to FMS L1 DSM
Entries 399
sumC - simulated
DSM board

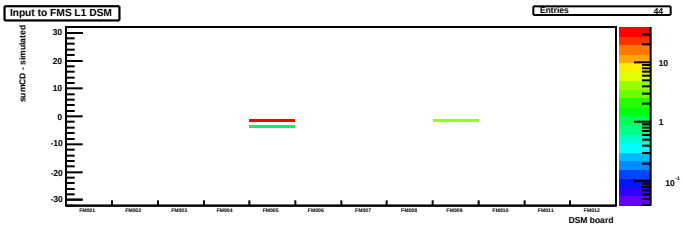

Input to FMS L1 DSM
Entries 1200000
sumBC
DSM board

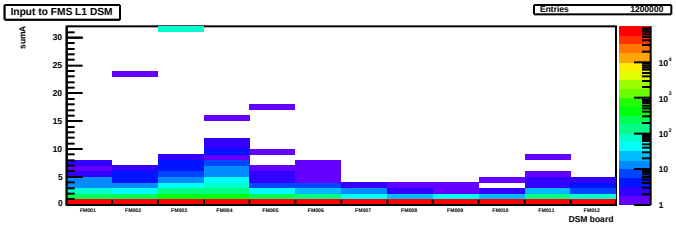

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

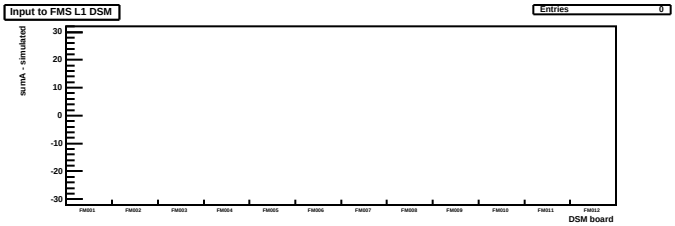

Input to FMS L1 DSM
Entries 1200000
sumB
DSM board

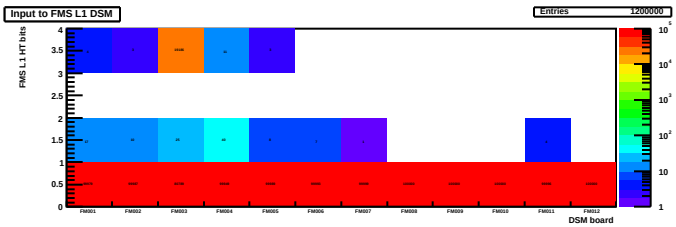

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

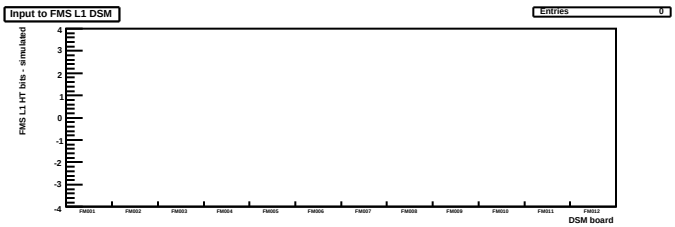

Input to FMS L1 DSM
Entries 1200000
sumCD
DSM board

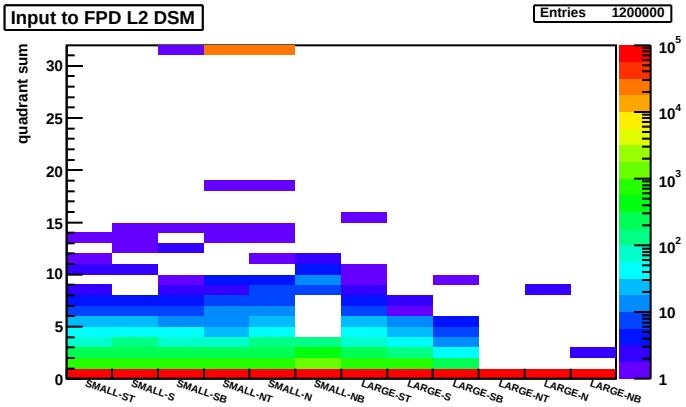

Input to FMS L1 DSM
Entries 44
sumCD - simulated
DSM board

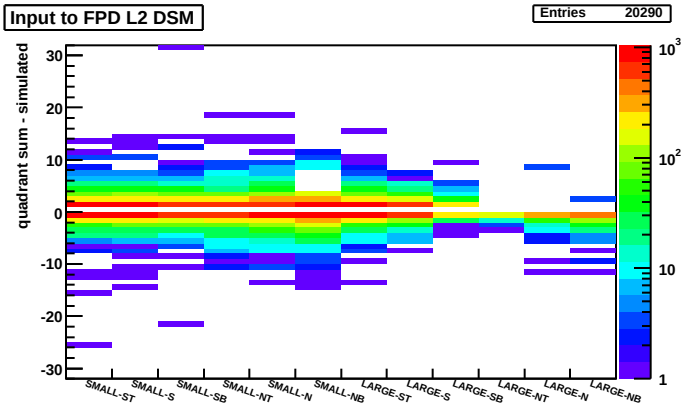

Input to FMS L1 DSM
Entries 1200000
sumA
DSM board

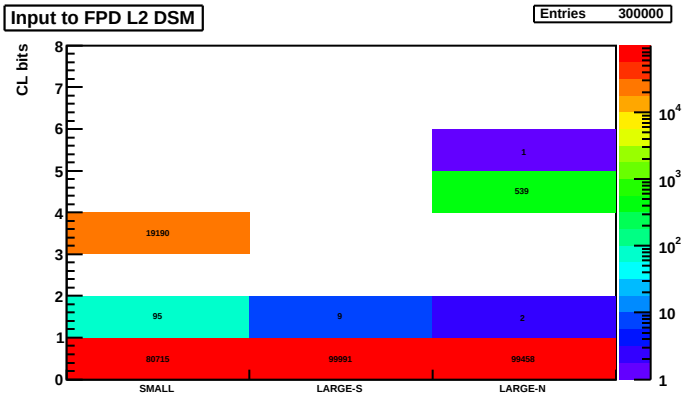

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

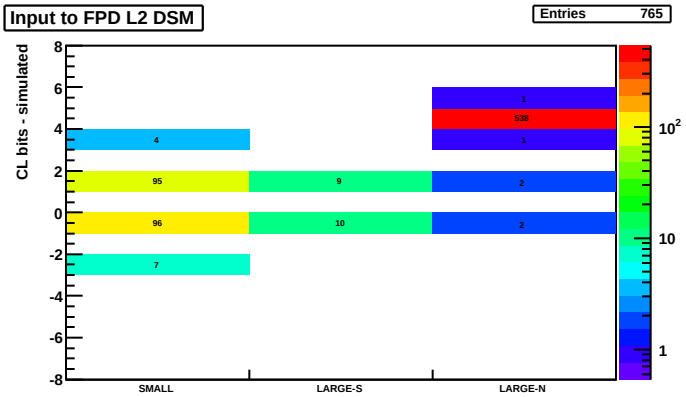

Input to FMS L1 DSM
Entries 1200000
FMS L1 HT bits
DSM board

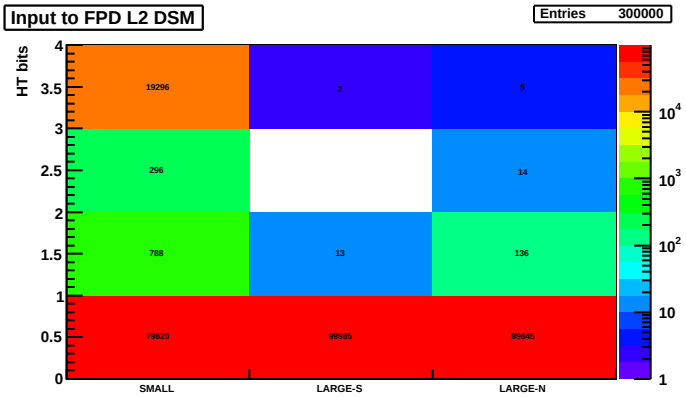

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

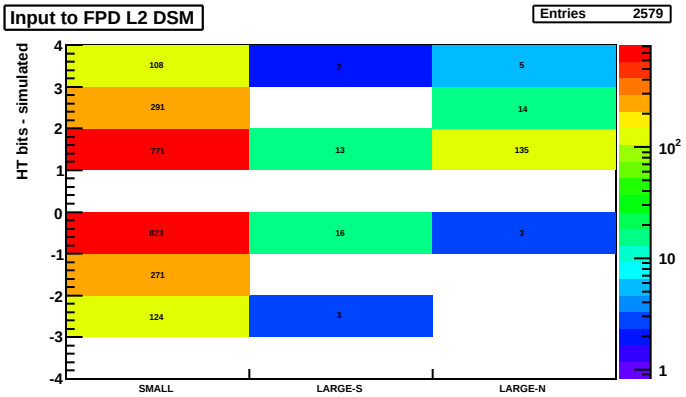

Input to FPD L2 DSM
Entries 1200000
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

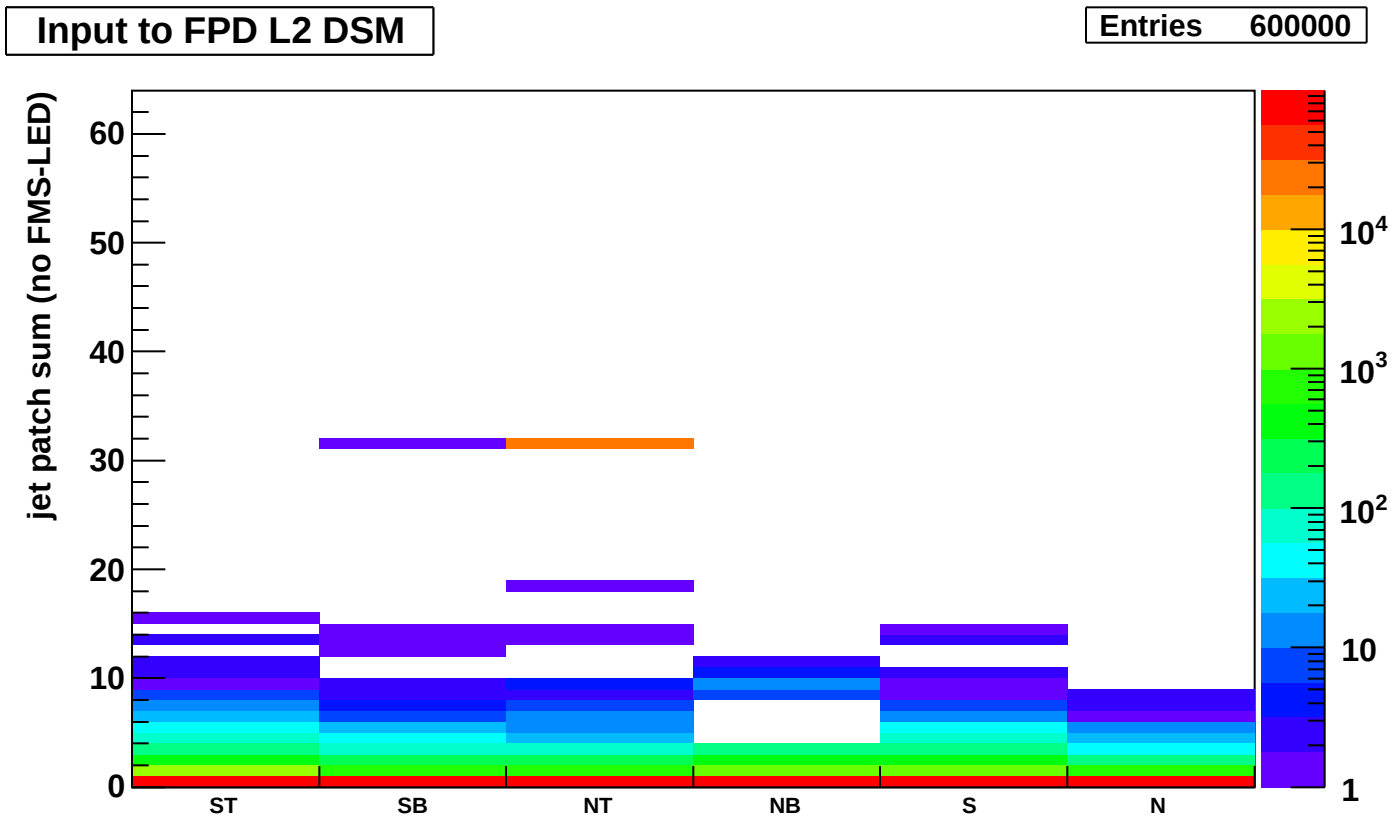

Input to FPD L2 DSM
Entries 20290
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

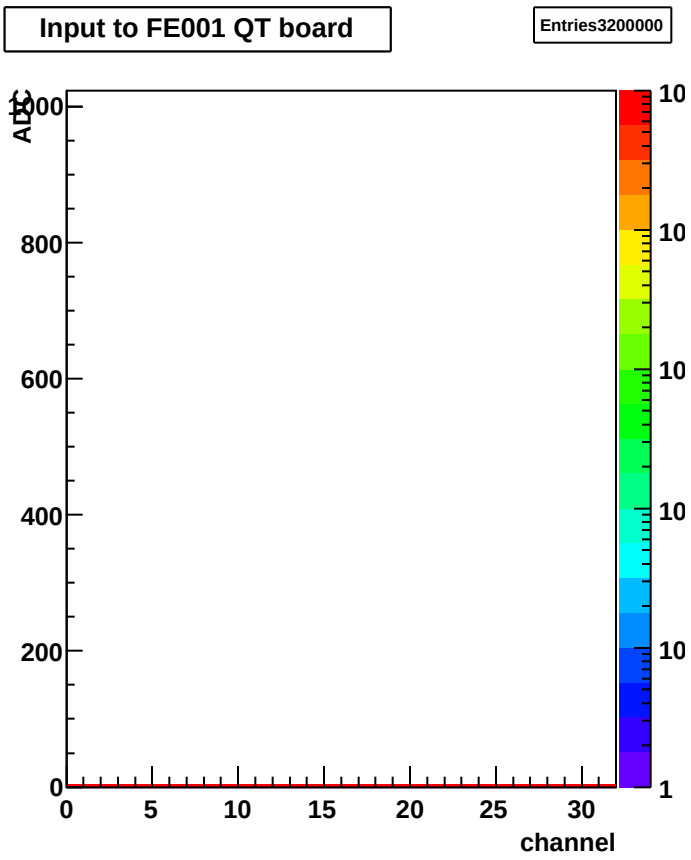

Input to FPD L2 DSM
Entries 300000
CL bits
19190
1
539
95
9
2
80715
99991
99458
SMALL
LARGE-S
LARGE-N

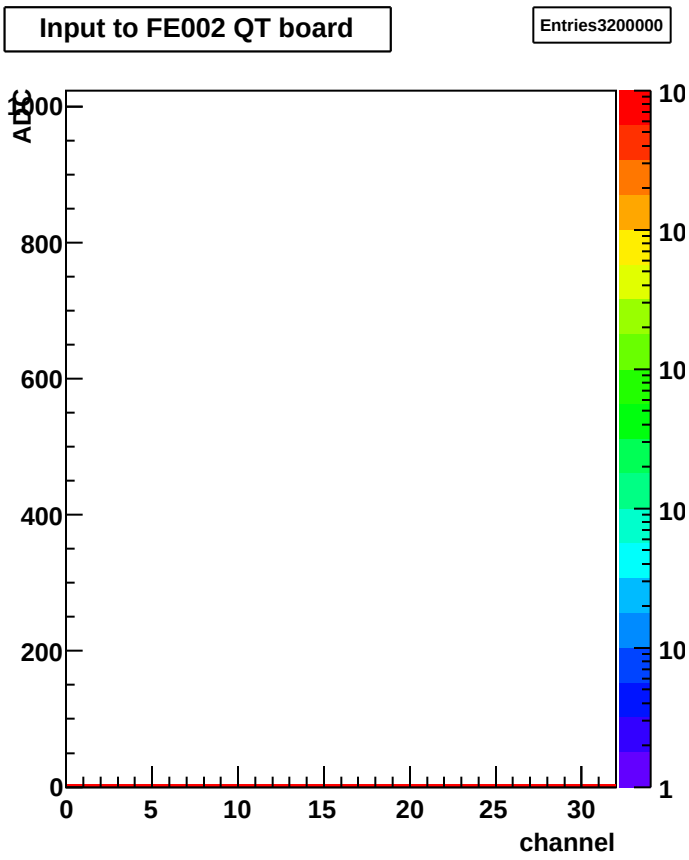

Input to FPD L2 DSM
Entries 765
CL bits - simulated
4
1
538
1
95
9
2
96
10
2
7
SMALL
LARGE-S
LARGE-N

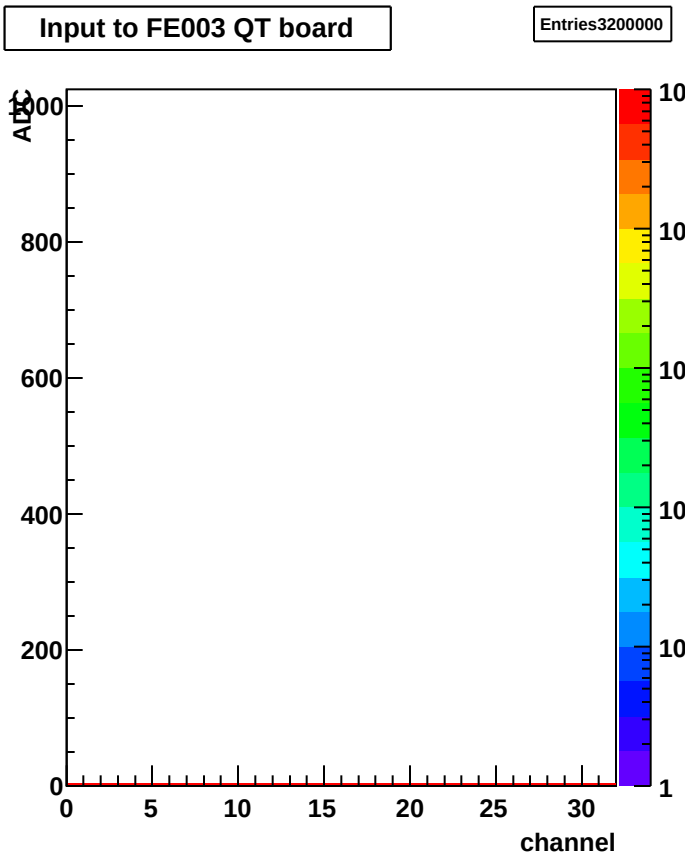

Input to FPD L2 DSM
Entries 300000
HT bits
19296
2
5
296
14
788
13
136
79620
99985
99845
SMALL
LARGE-S
LARGE-N

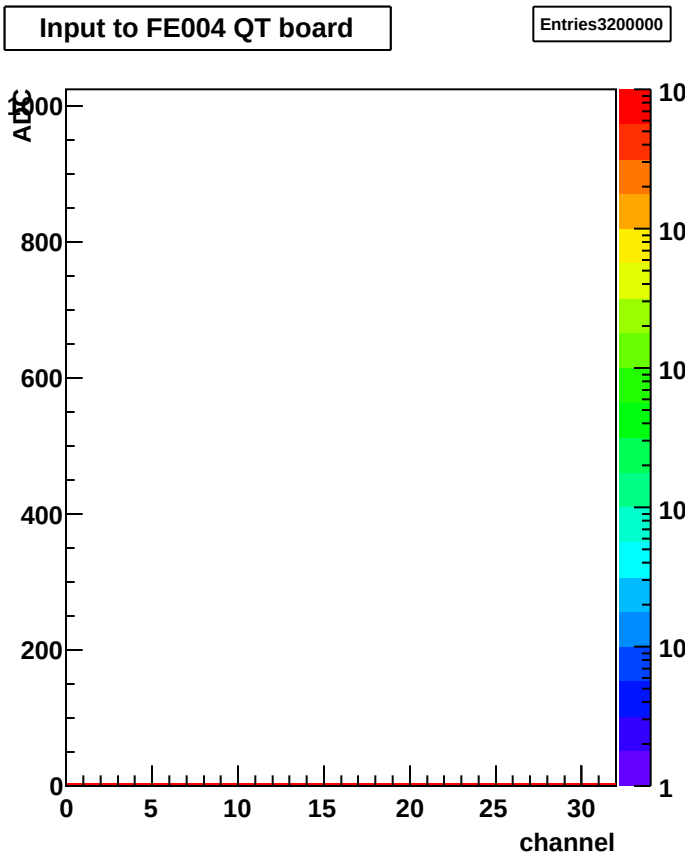

Input to FPD L2 DSM
Entries 2579
HT bits - simulated
108
2
5
291
14
771
13
135
823
16
3
271
124
3
SMALL
LARGE-S
LARGE-N

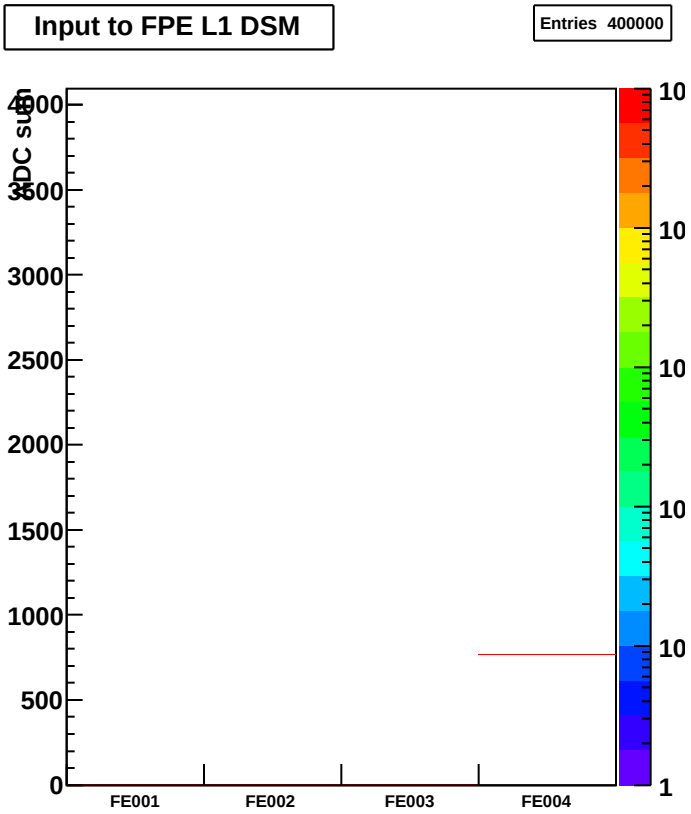

Input to FPD L2 DSM
Entries 600000
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
$10^2$
$10^3$
$10^4$

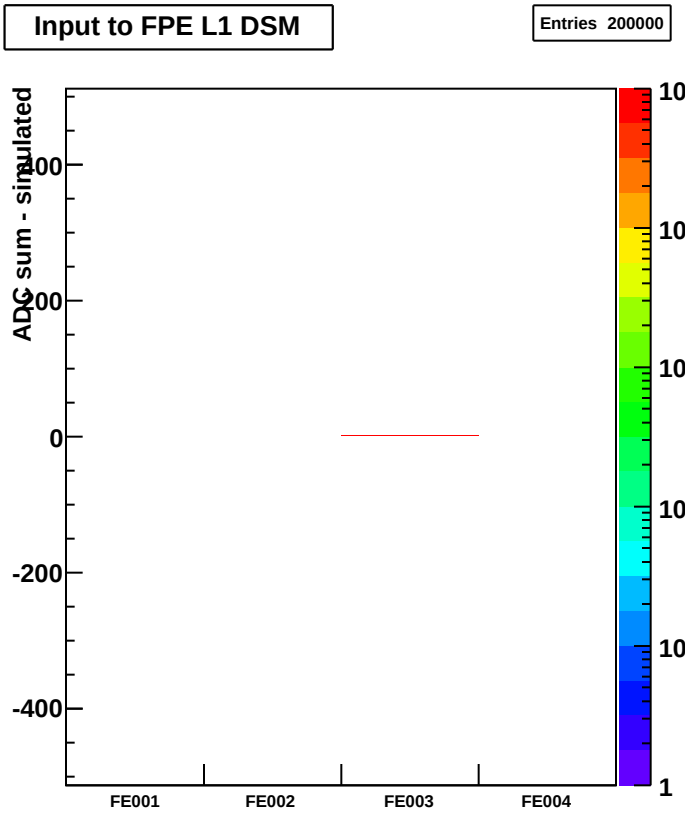

Input to FE001 QT board
Entries3200000
ADC
channel

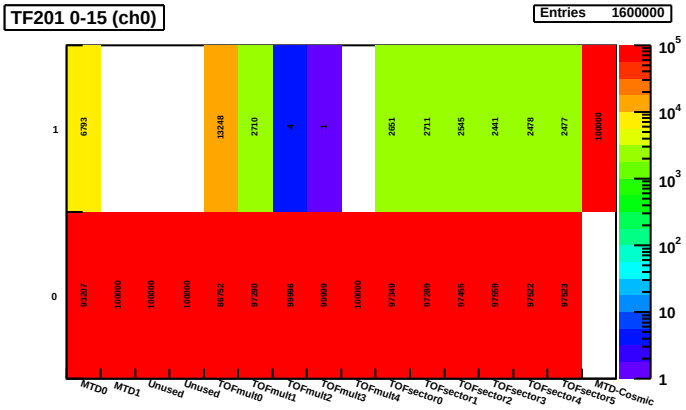

Input to FE002 QT board
Entries3200000
ADC
channel

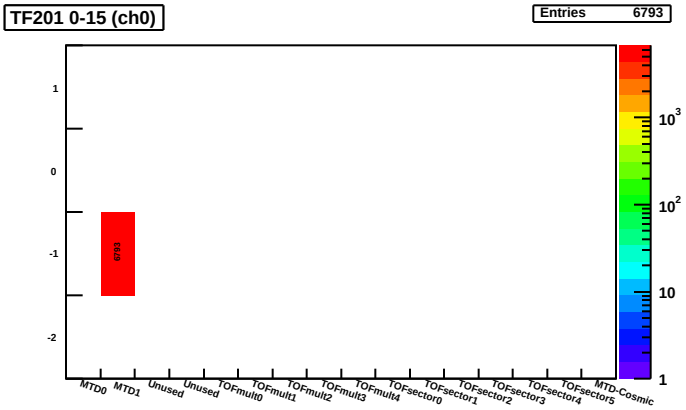

Input to FE003 QT board
Entries3200000
ADC
channel

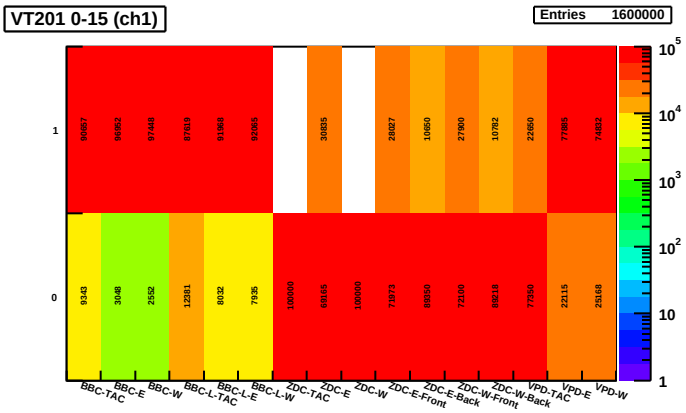

Input to FE004 QT board
Entries3200000
ADC
channel

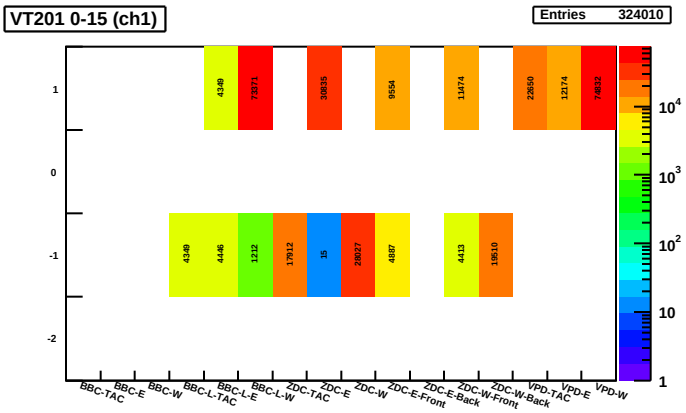

Input to FPE L1 DSM
Entries 400000
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
1

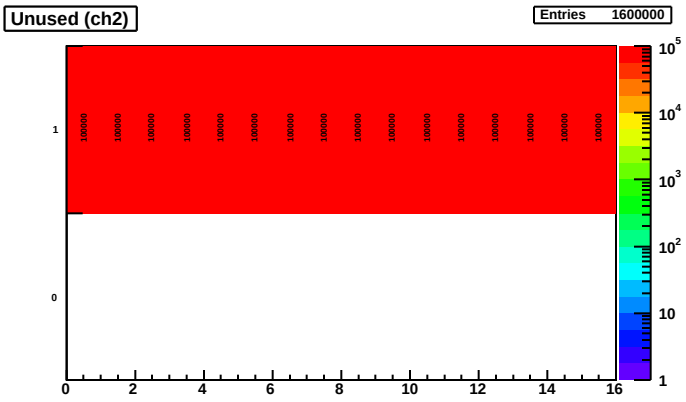

Input to FPE L1 DSM
Entries 200000
ADC sum - simulated
0
-200
-400
FE001
FE002
FE003
FE004
10
10
10
10
10
1

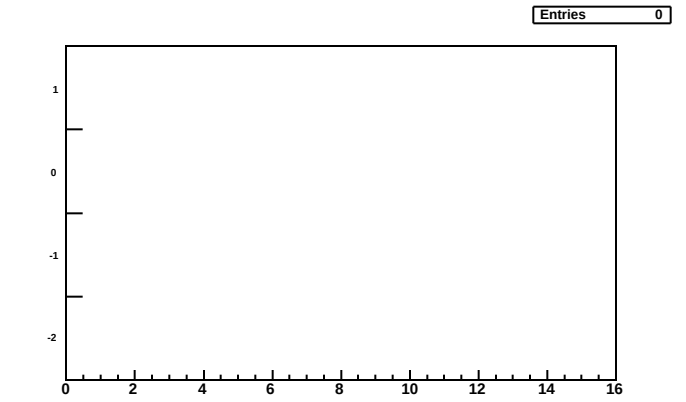

TF201 0-15 (ch0)
Entries 1600000
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

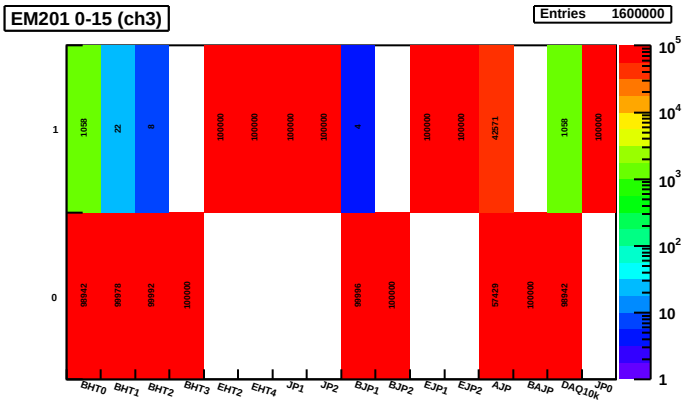

TF201 0-15 (ch0)
Entries 6793
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

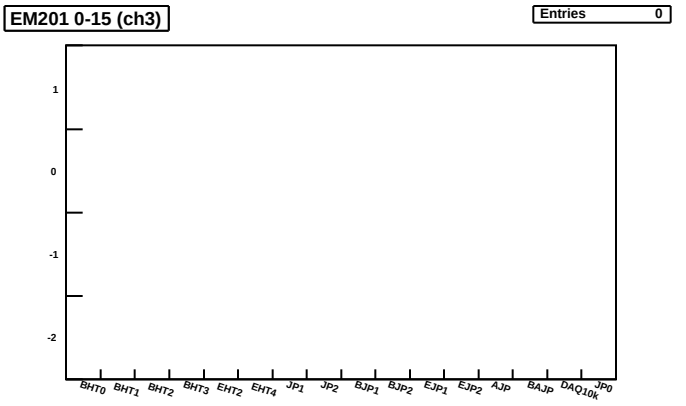

VT201 0-15 (ch1)
Entries 1600000
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

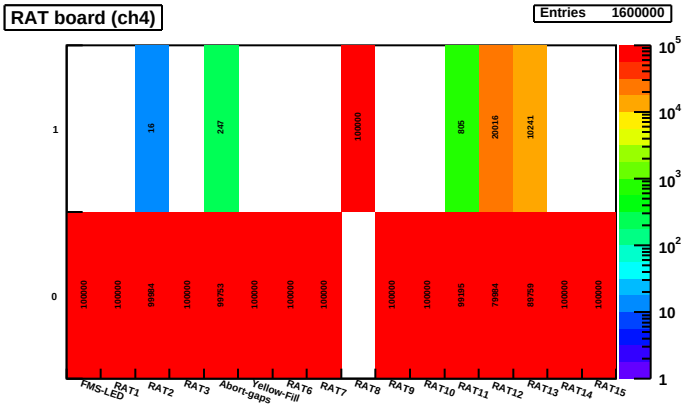

VT201 0-15 (ch1)
Entries 324010
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W

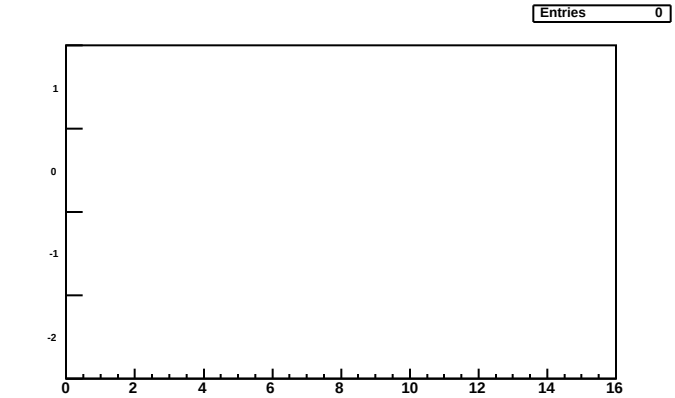

Unused (ch2)
Entries 1600000

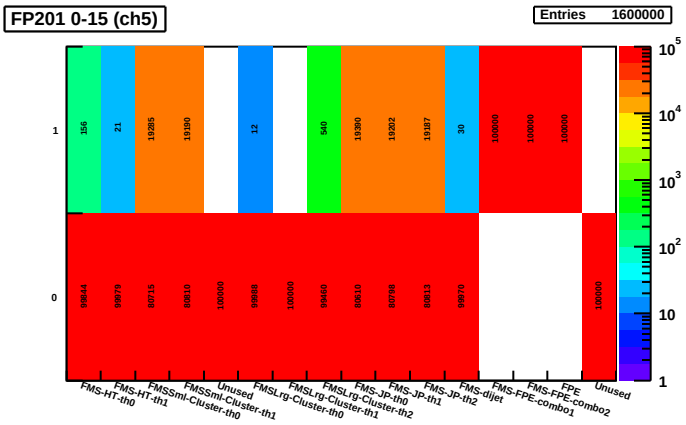

Entries 0

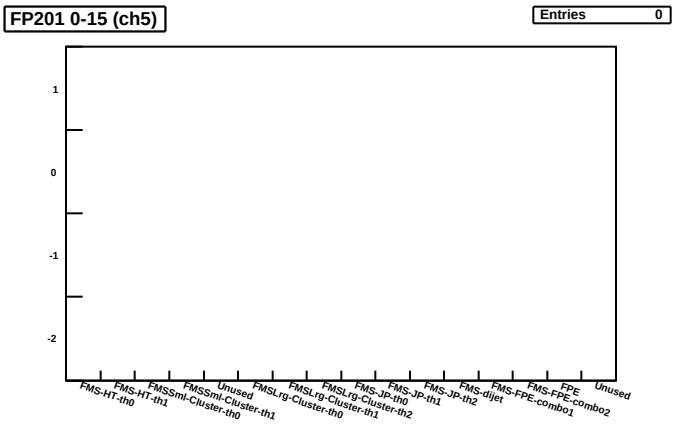

EM201 0-15 (ch3)
Entries 1600000
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

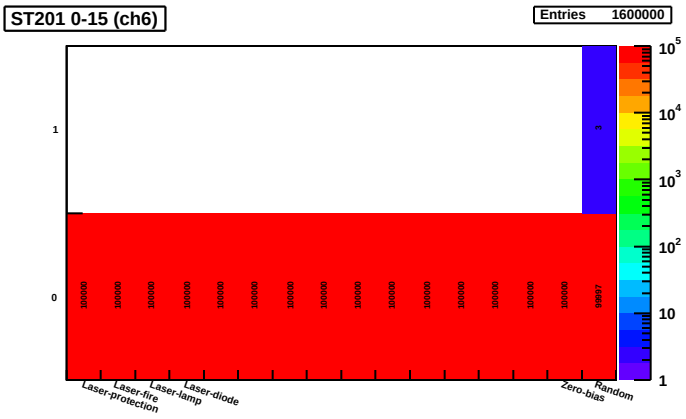

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

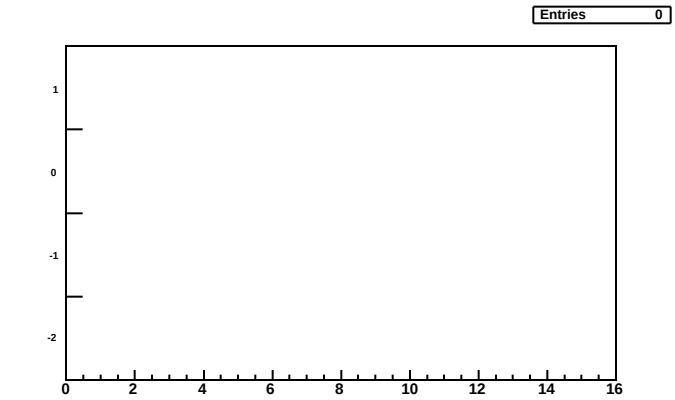

RAT board (ch4)
Entries 1600000
FMS-LED
RAT1
RAT2
RAT3
Abort-gaps
Yellow-Fill
RAT6
RAT7
RAT8
RAT9
RAT10
RAT11
RAT12
RAT13
RAT14
RAT15

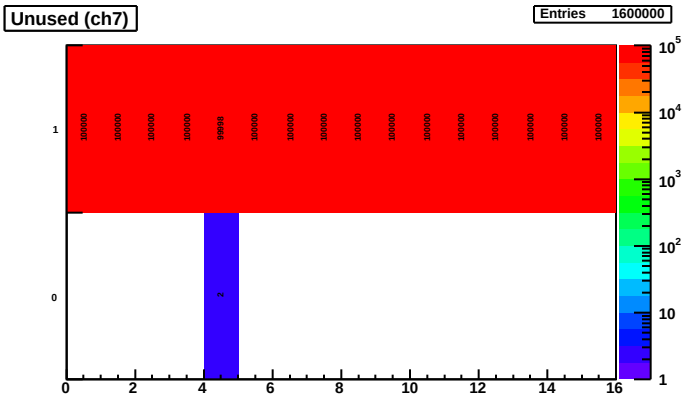

Entries 0

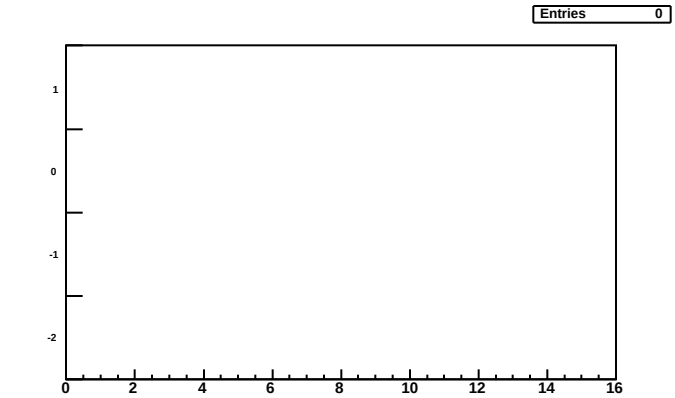

FP201 0-15 (ch5)
Entries 1600000
FMS-HT-th0
FMS-HT-th1
FMSSml-Cluster-th0
FMSSml-Cluster-th1
Unused
FMSLrg-Cluster-th0
FMSLrg-Cluster-th1
FMS-JP-th0
FMS-JP-th1
FMS-JP-th2
FMS-diJet
FMS-FPE-combo1
FPE
FMS-FPE-combo2
Unused


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