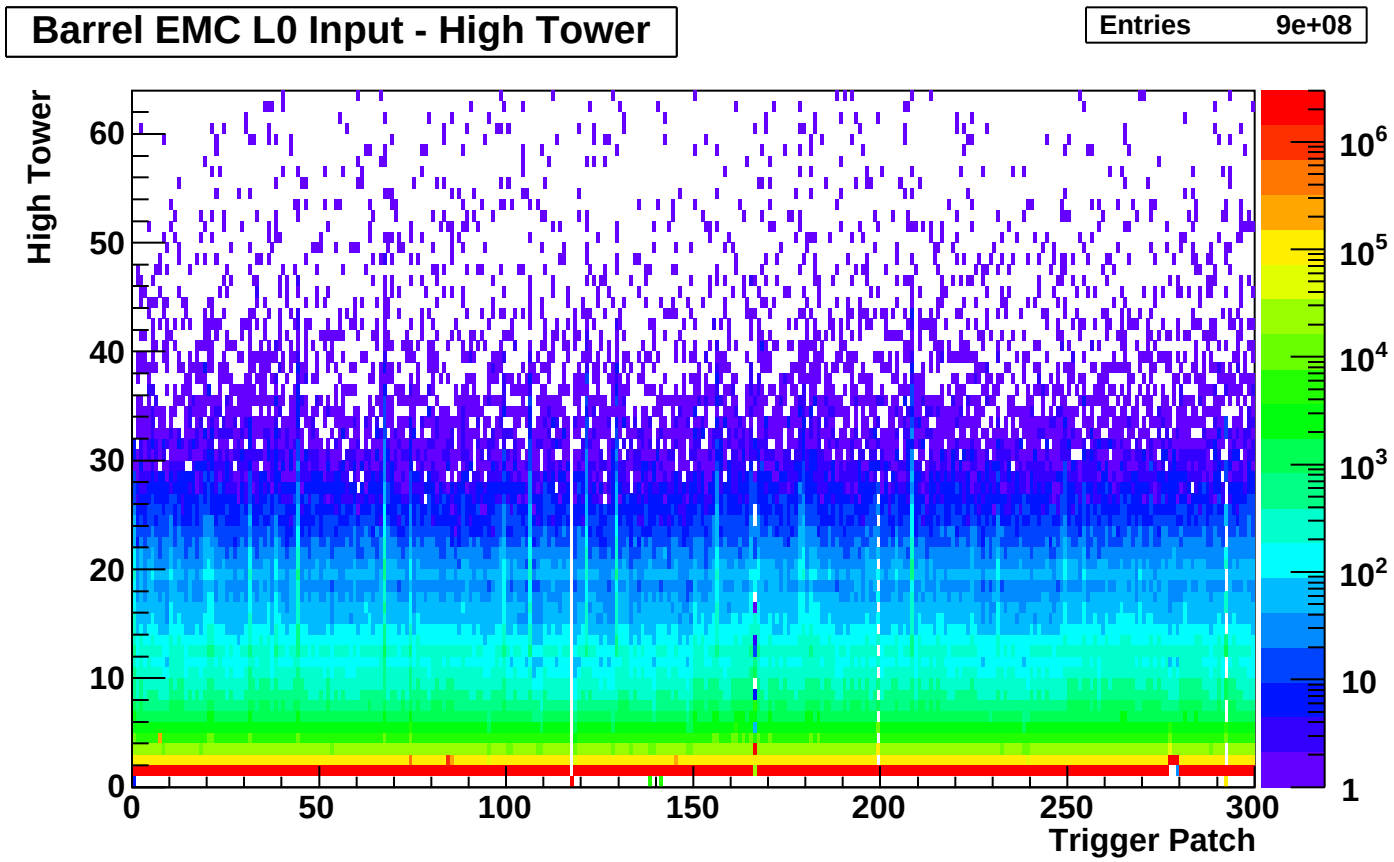
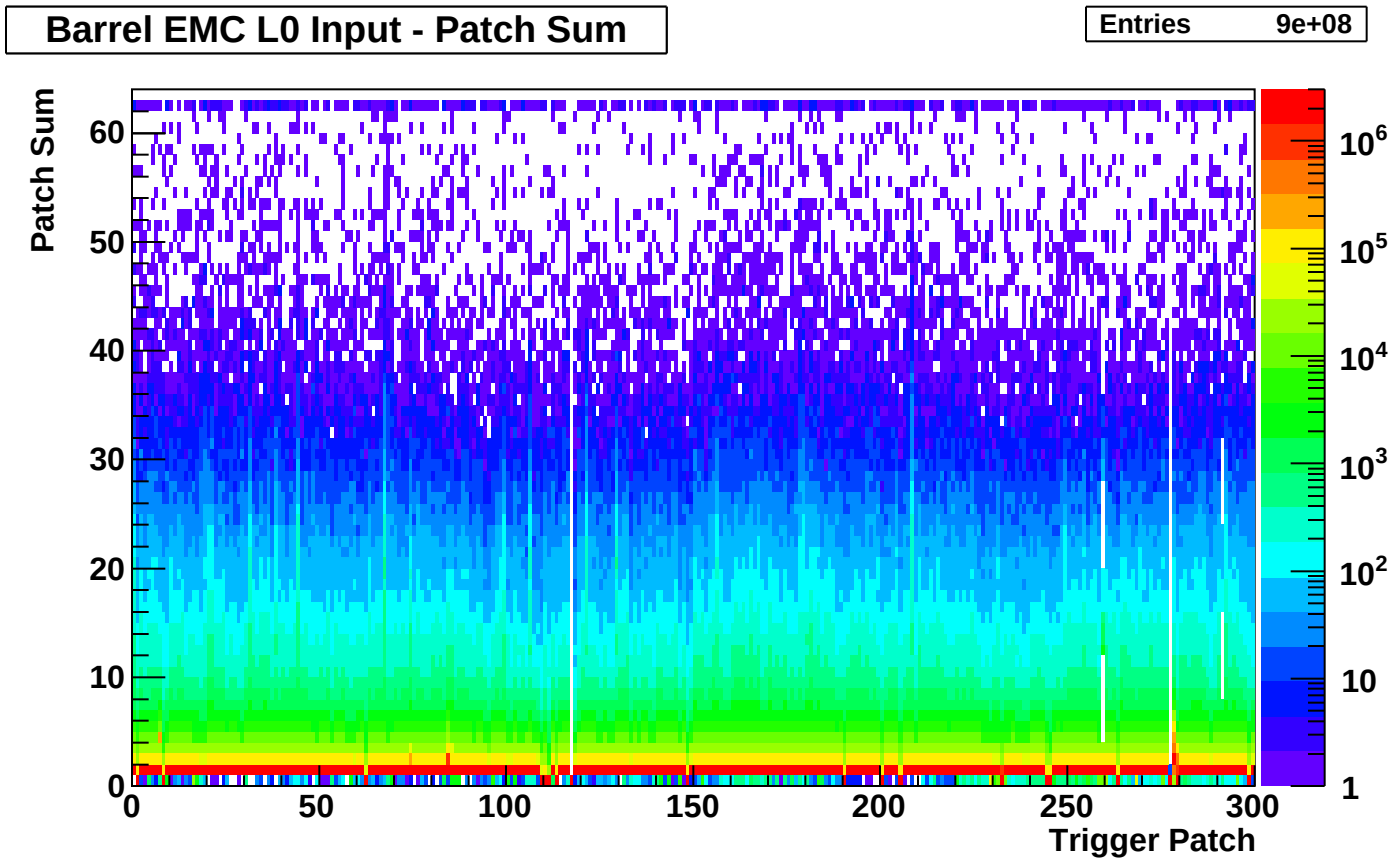
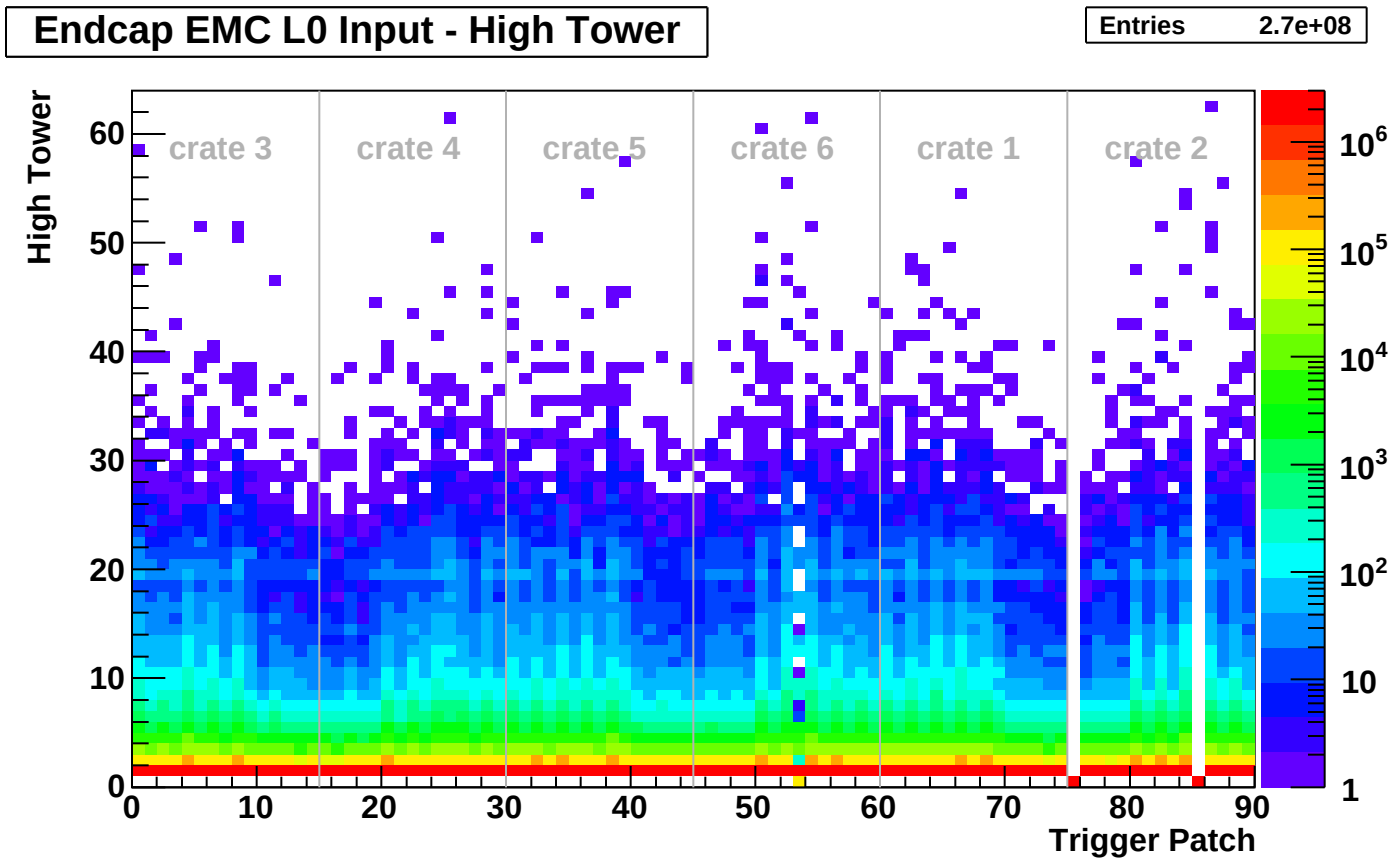
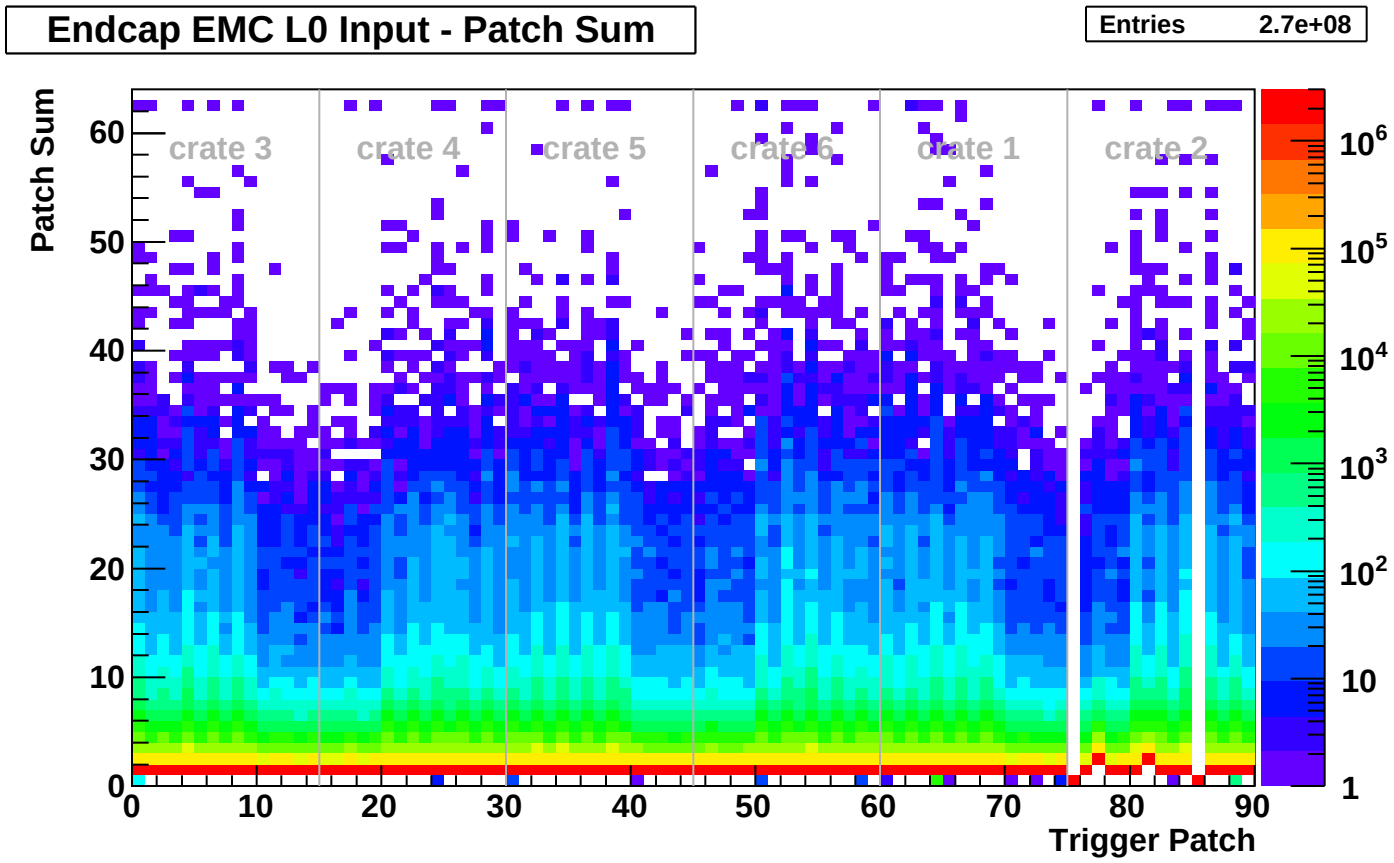
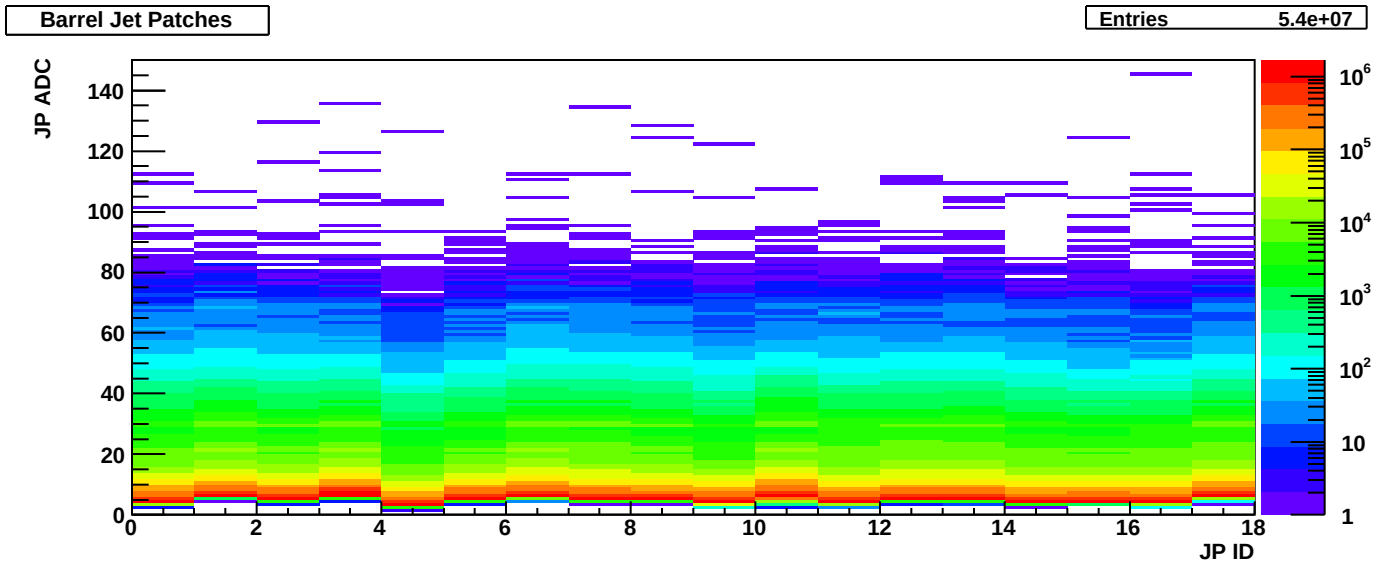
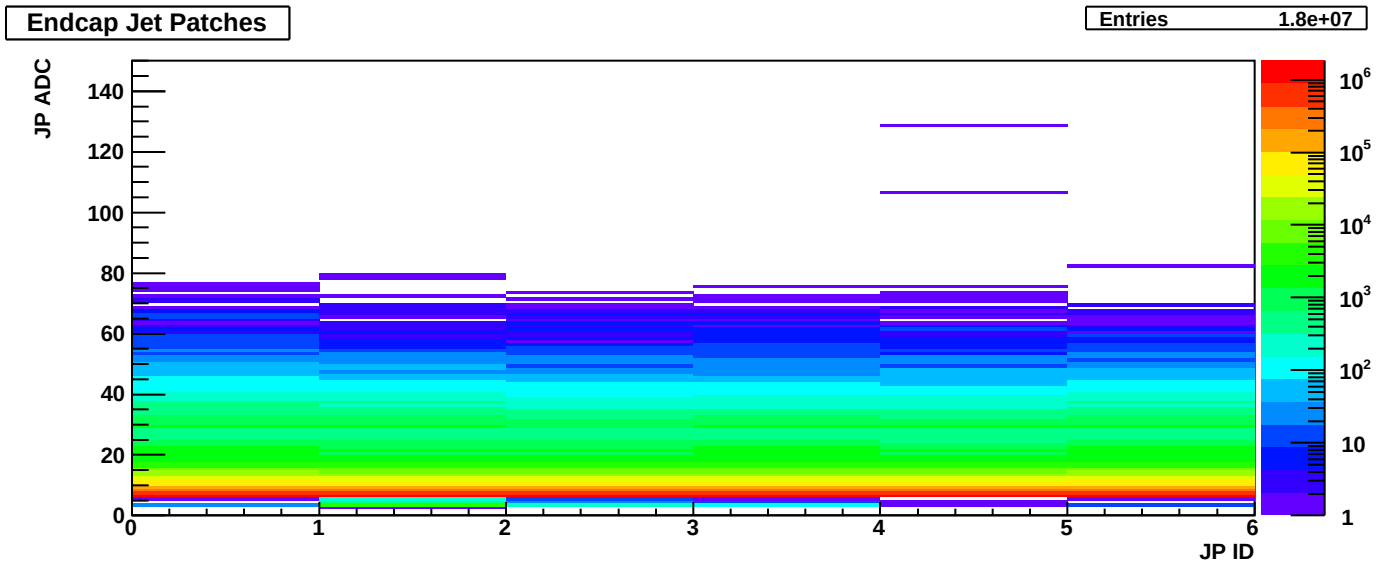

Barrel EMC L0 Input - High Tower
Entries 9e+08
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5
10^6

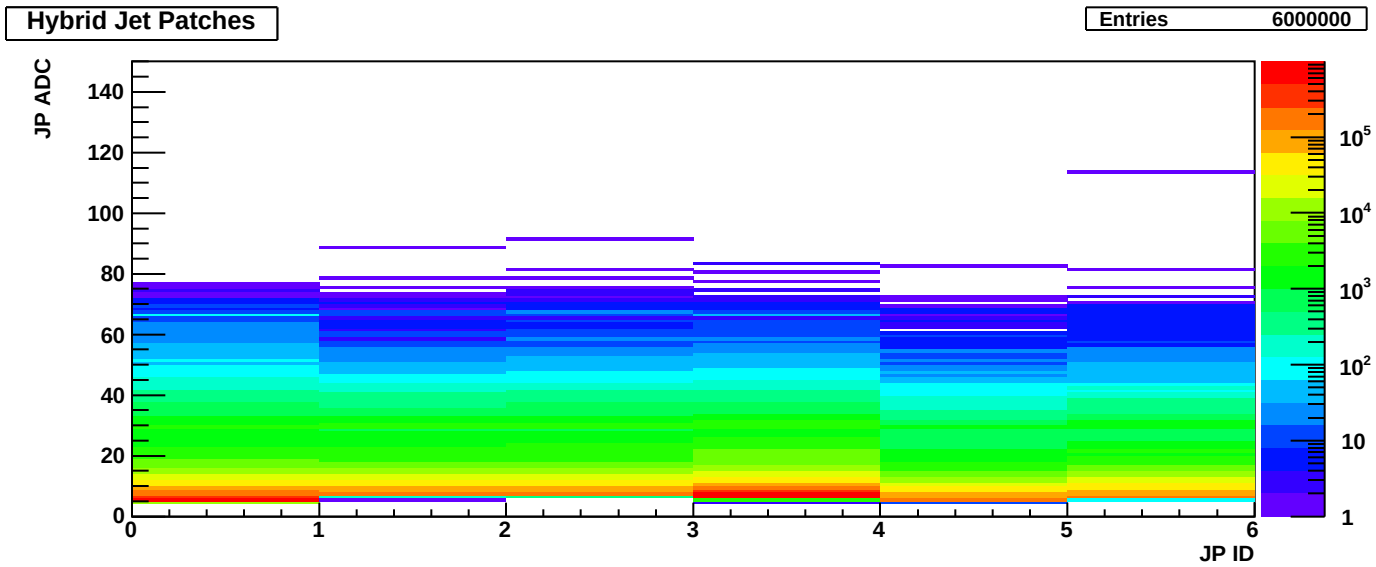

Barrel EMC L0 Input - Patch Sum
Entries 9e+08
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3
10^4
10^5
10^6

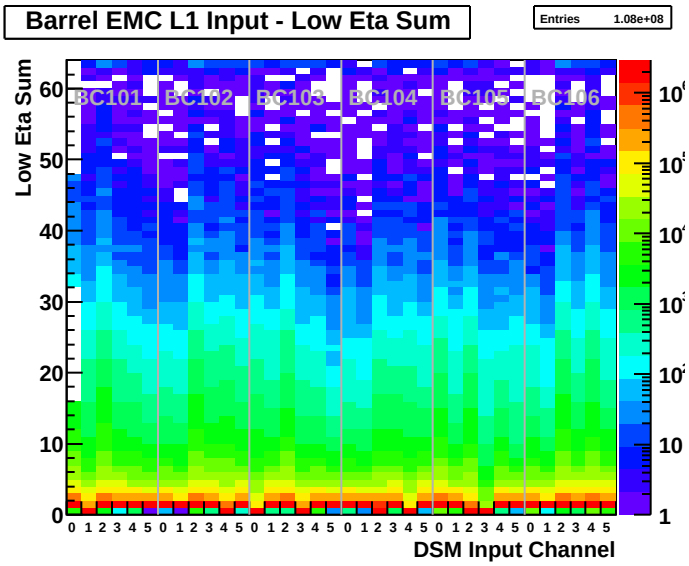

Endcap EMC L0 Input - High Tower
Entries 2.7e+08
High Tower
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

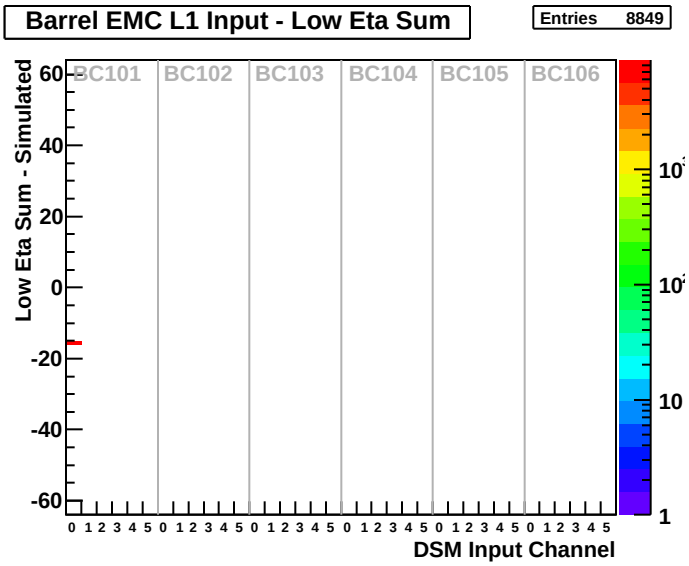

Endcap EMC L0 Input - Patch Sum
Entries 2.7e+08
Patch Sum
Trigger Patch
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2

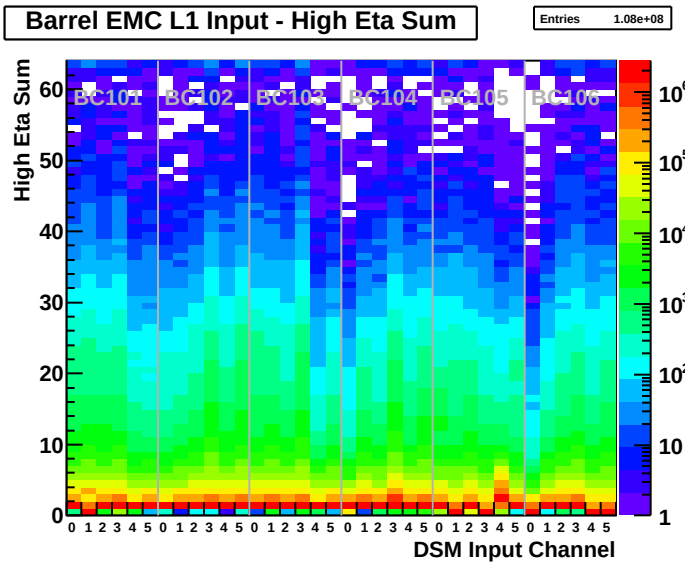

Barrel Jet Patches
Entries 5.4e+07
JP ADC
JP ID

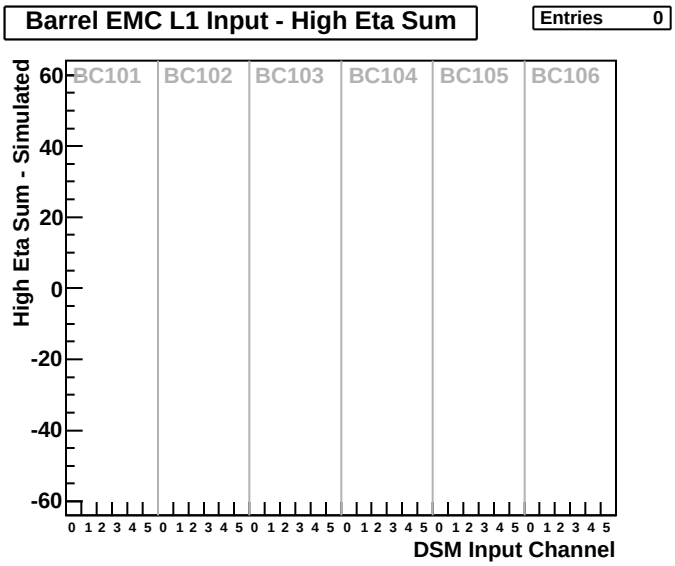

Endcap Jet Patches
Entries 1.8e+07
JP ADC
JP ID

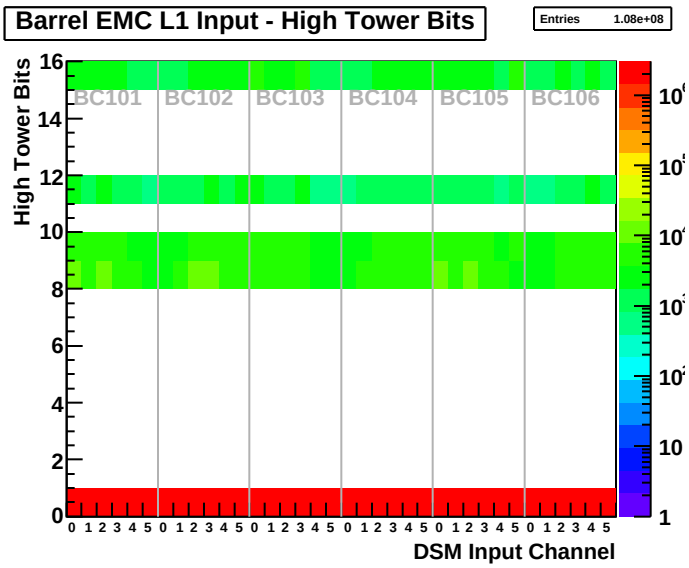

Hybrid Jet Patches
Entries 6000000
JP ADC
JP ID

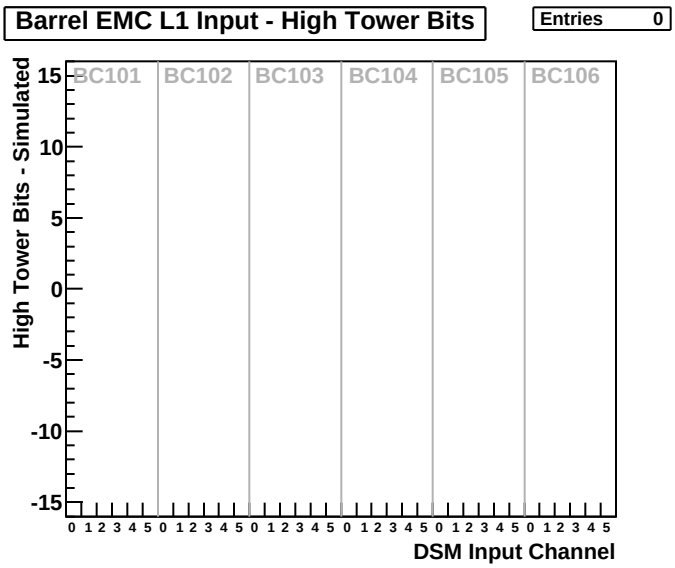

Barrel EMC L1 Input - Low Eta Sum
Entries 1.08e+08
Low Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

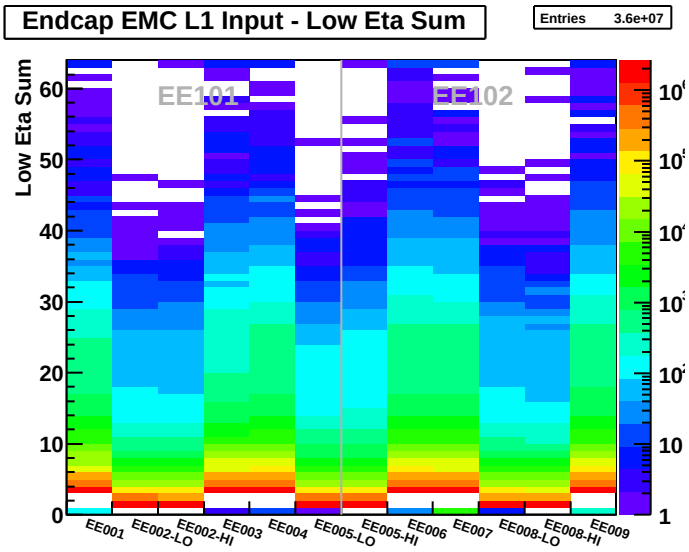

Barrel EMC L1 Input - Low Eta Sum
Entries 8849
Low Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

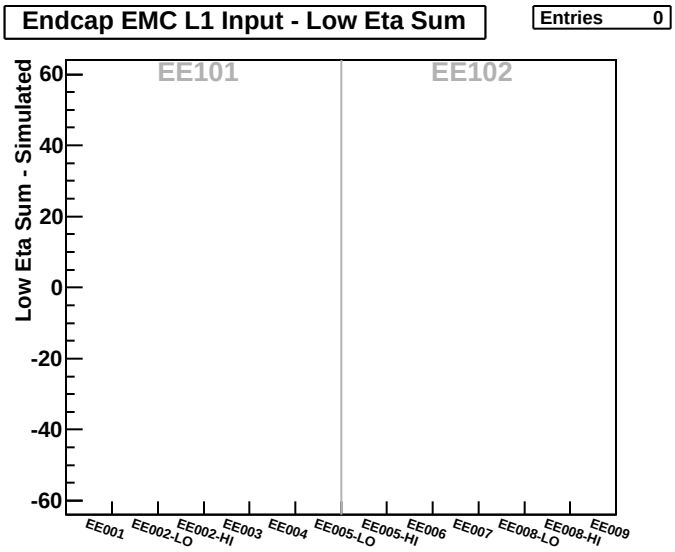

Barrel EMC L1 Input - High Eta Sum
Entries 1.08e+08
High Eta Sum
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

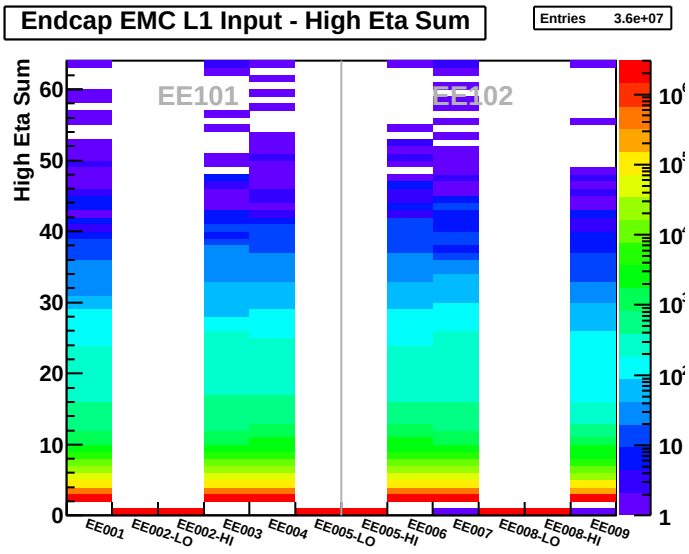

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

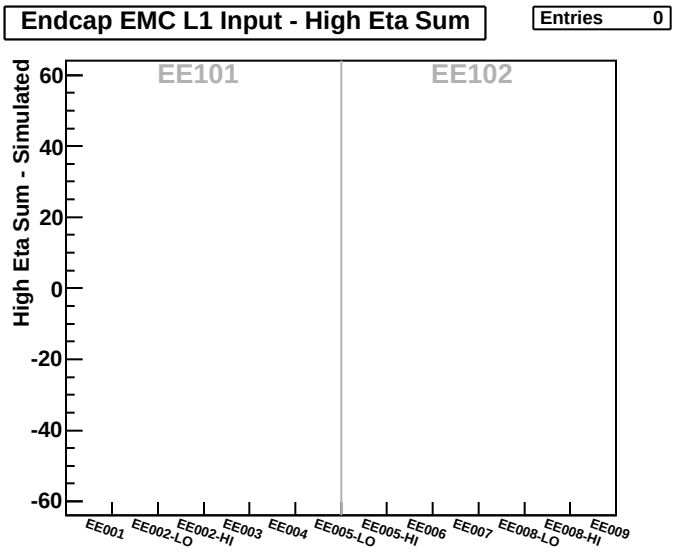

Barrel EMC L1 Input - High Tower Bits
Entries 1.08e+08
High Tower Bits
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

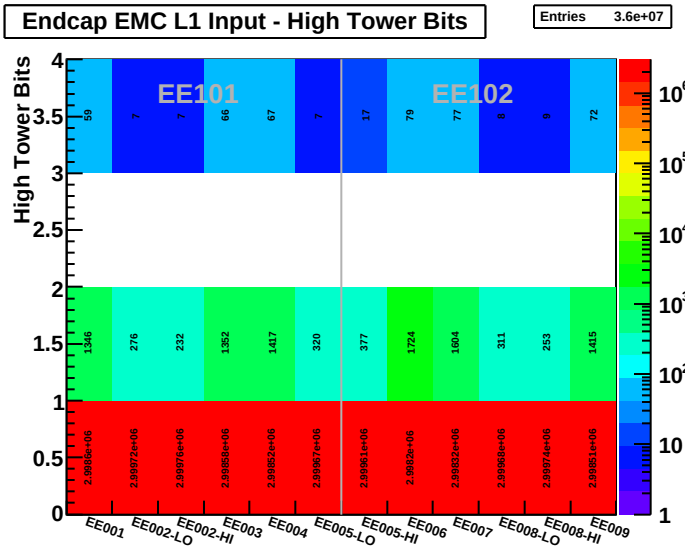

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101 BC102 BC103 BC104 BC105 BC106
DSM Input Channel

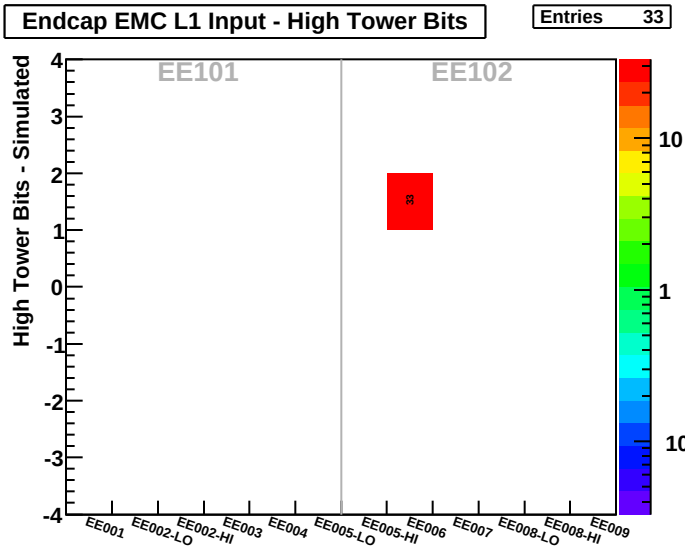

Endcap EMC L1 Input - Low Eta Sum
Entries 3.6e+07
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

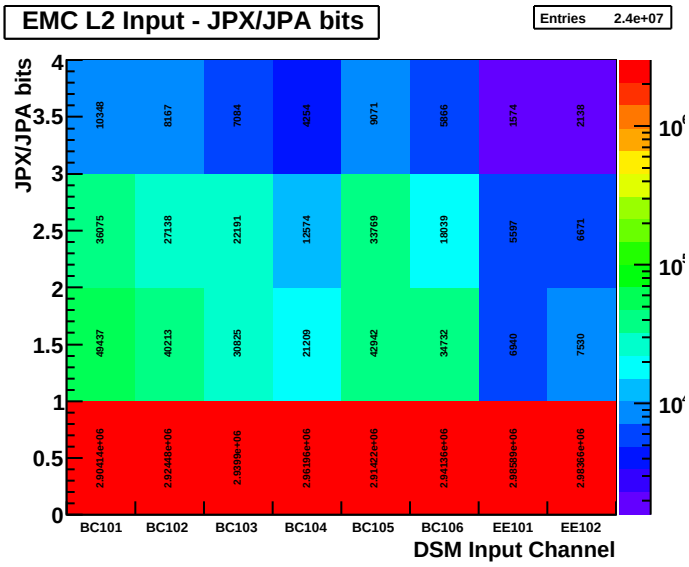

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

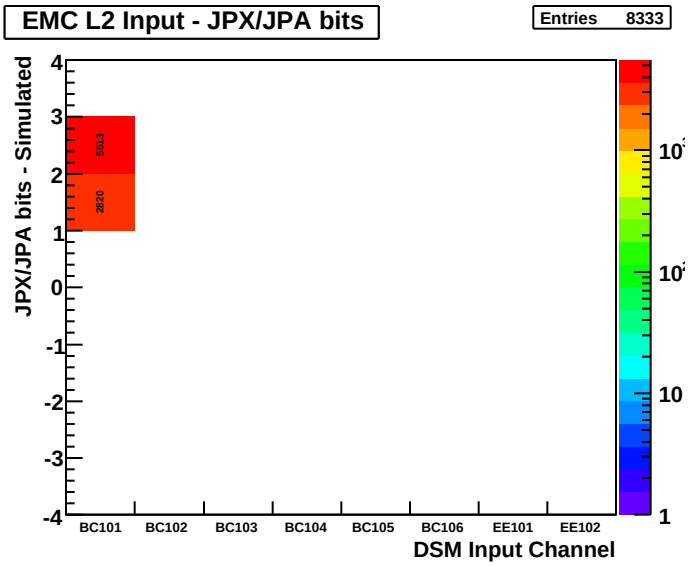

Endcap EMC L1 Input - High Eta Sum
Entries 3.6e+07
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

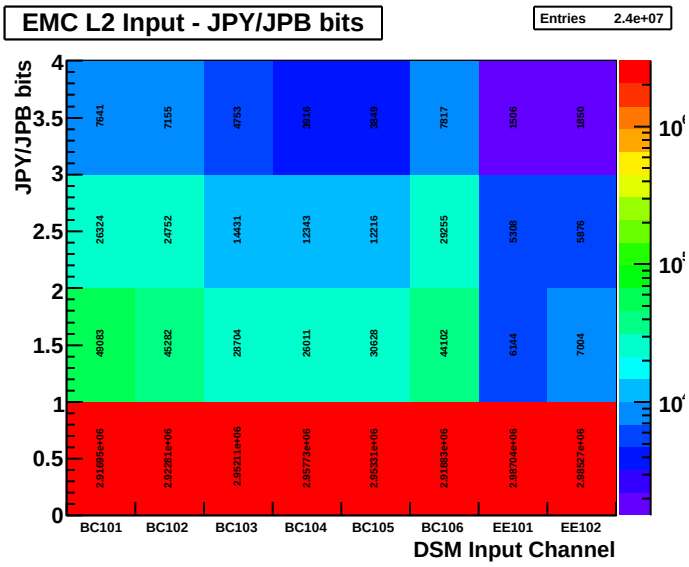

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

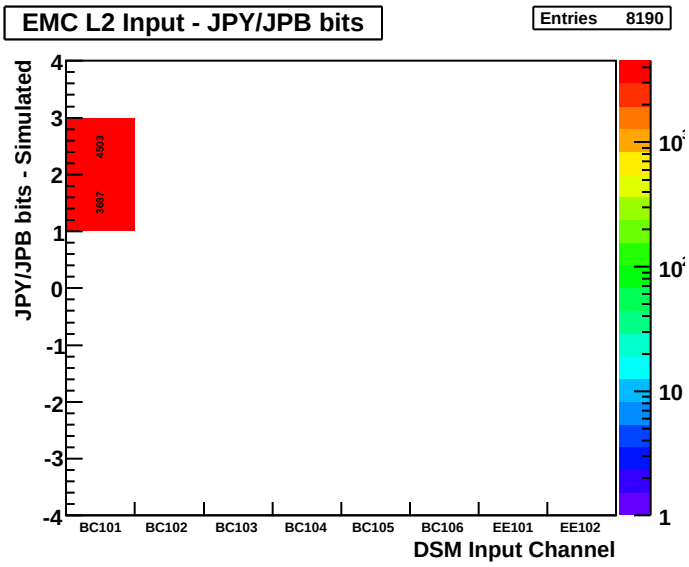

Endcap EMC L1 Input - High Tower Bits
Entries 3.6e+07
High Tower Bits
EE101
EE102
59 7 7 66 67 7 17 79 77 8 9 72
1346 276 232 1352 1417 320 377 1724 1604 311 253 1415
2.9986e+06 2.99972e+06 2.99976e+06 2.99958e+06 2.99852e+06 2.99967e+06 2.99961e+06 2.9982e+06 2.99832e+06 2.99968e+06 2.99974e+06 2.99851e+06
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

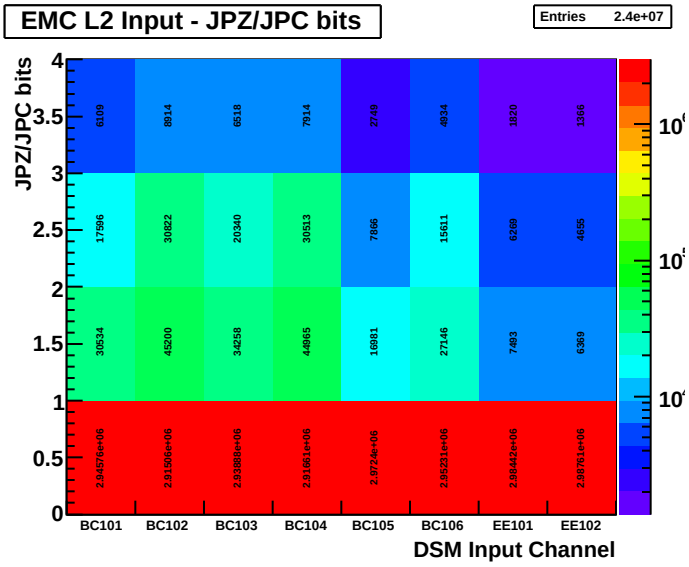

Endcap EMC L1 Input - High Tower Bits
Entries 33
High Tower Bits - Simulated
EE101
EE102
33
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

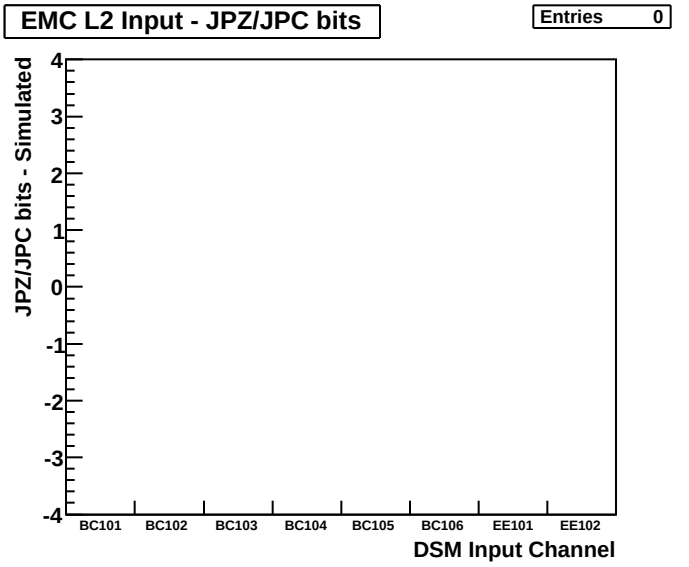

EMC L2 Input - JPX/JPA bits
Entries 2.4e+07
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
10348 8167 7084 4254 9071 5866 1574 2138
36075 27138 22191 12574 33769 18039 5597 6671
49437 40213 30825 21209 42942 34732 6940 7530
2.90414e+06 2.92448e+06 2.8390e+06 2.96196e+06 2.91422e+06 2.94136e+06 2.98589e+06 2.98356e+06

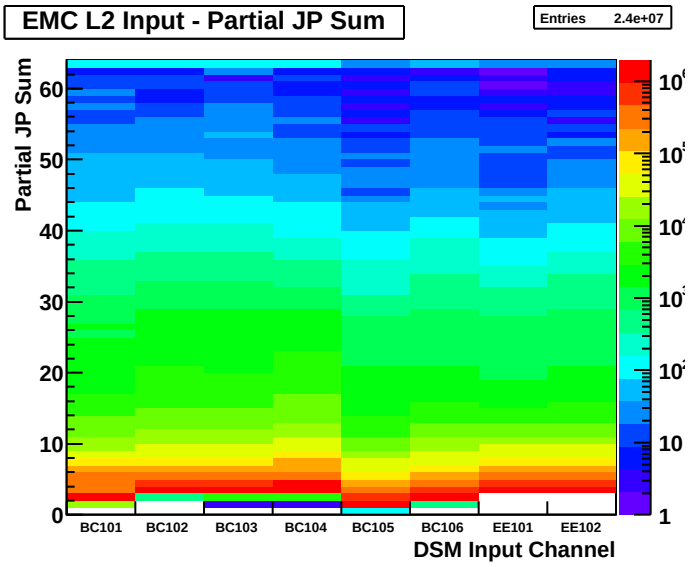

EMC L2 Input - JPX/JPA bits
Entries 8333
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
5513
2820

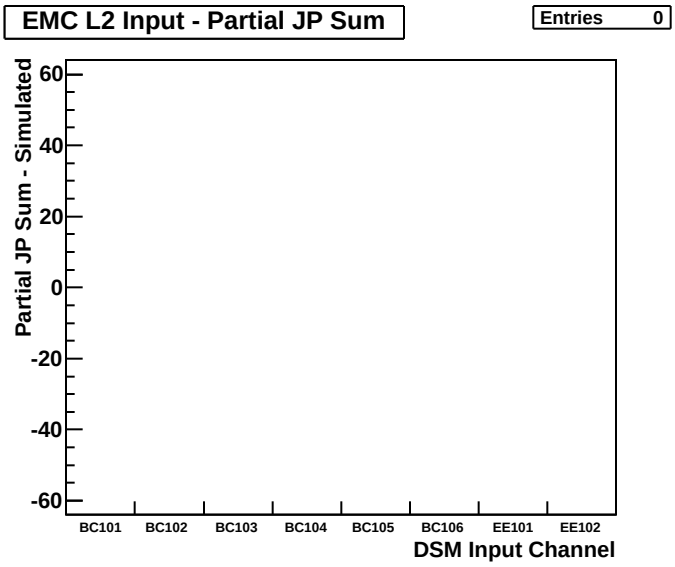

EMC L2 Input - JPY/JPB bits
Entries 2.4e+07
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
7641 7155 4753 3916 3849 7817 1506 1950
26324 24752 14431 12343 12216 29255 5308 5876
49083 45282 28704 26011 30628 44102 6144 7004
2.91695e+06 2.92281e+06 2.95211e+06 2.95772e+06 2.95331e+06 2.91883e+06 2.98704e+06 2.98527e+06

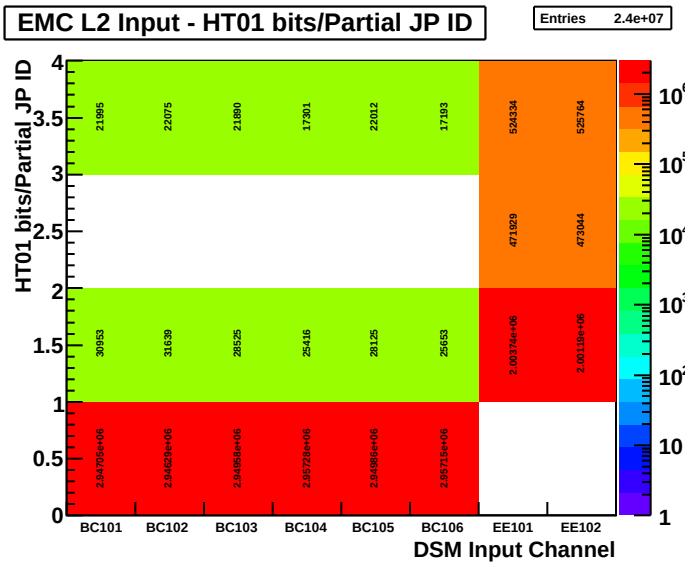

EMC L2 Input - JPY/JPB bits
Entries 8190
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
4503
3687

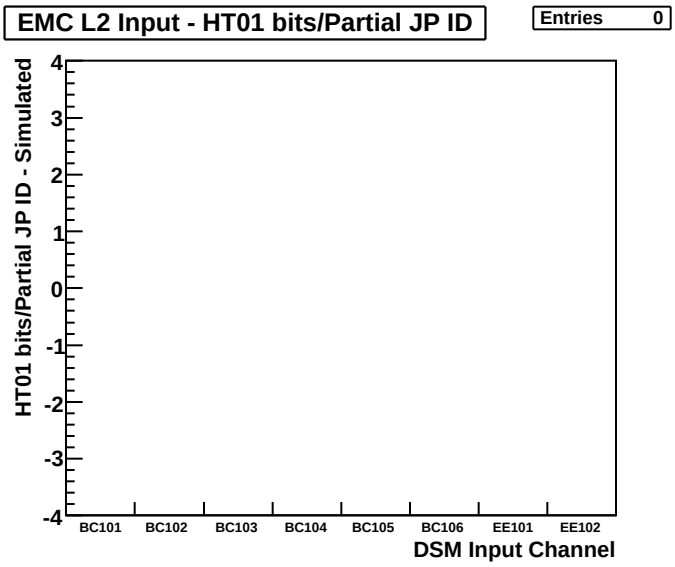

EMC L2 Input - JPZ/JPC bits
Entries 2.4e+07
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102
6109 8914 6518 7914 2749 4934 1820 1366
17596 30822 20340 30513 7866 15611 6269 4655
30534 45200 34258 44965 16981 27146 7493 6369
2.94576e+06 2.91506e+06 2.93888e+06 2.91661e+06 2.9724e+06 2.95231e+06 2.98442e+06 2.98761e+06

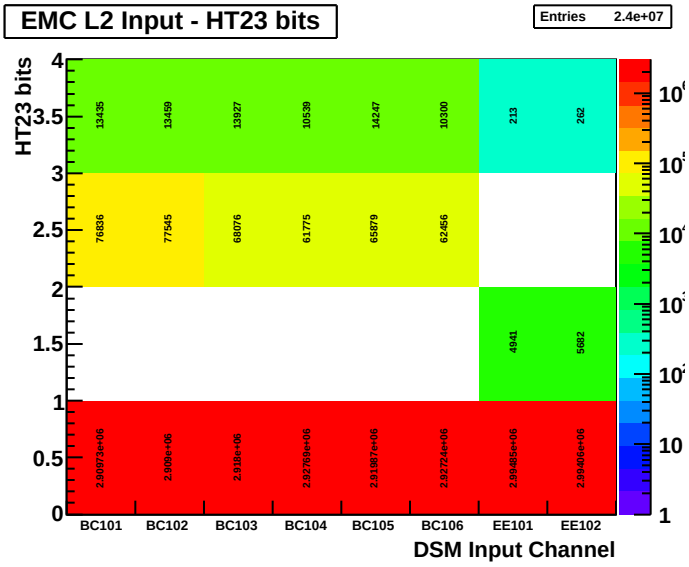

EMC L2 Input - JPZ/JPC bits
Entries 0
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

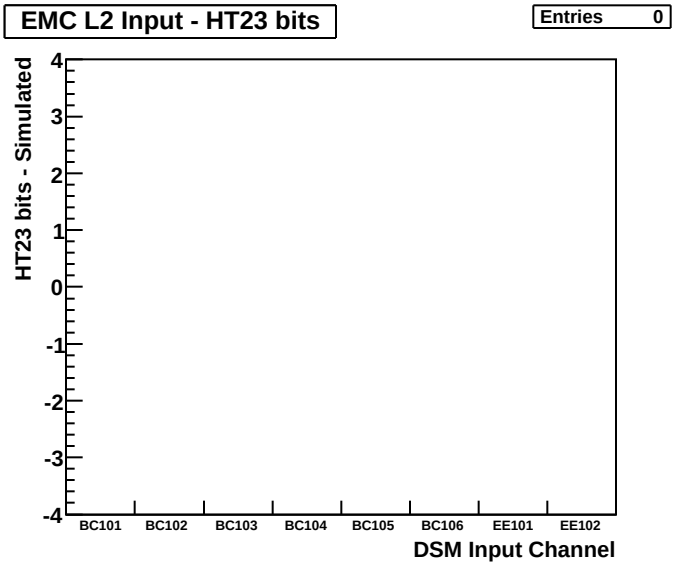

EMC L2 Input - Partial JP Sum
Entries 2.4e+07
Partial JP Sum
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

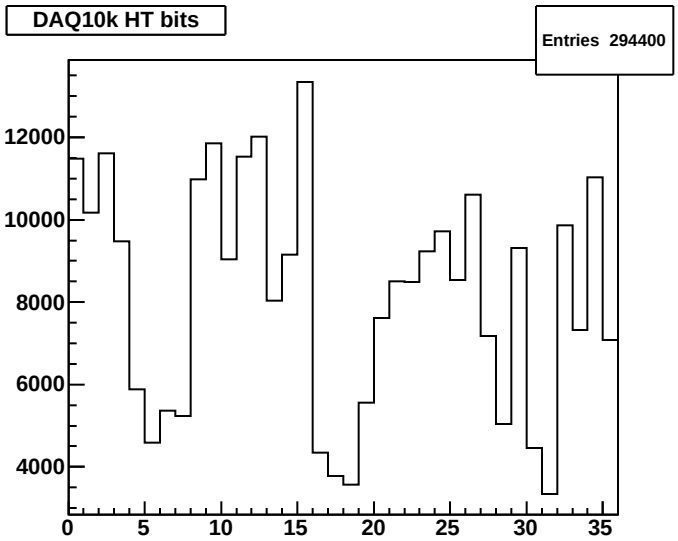

EMC L2 Input - Partial JP Sum
Entries 0
Partial JP Sum - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

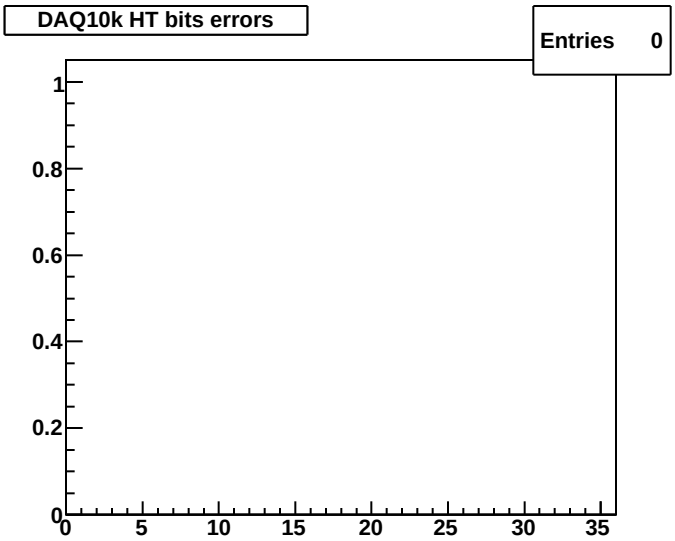

EMC L2 Input - HT01 bits/Partial JP ID
Entries 2.4e+07
HT01 bits/Partial JP ID
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

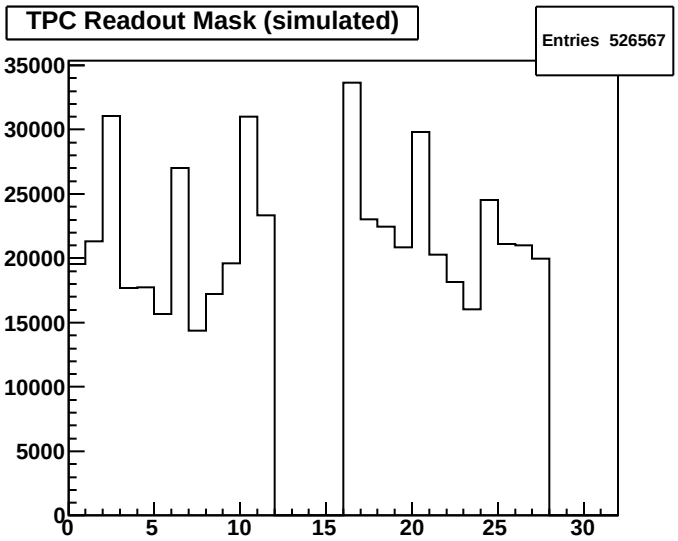

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

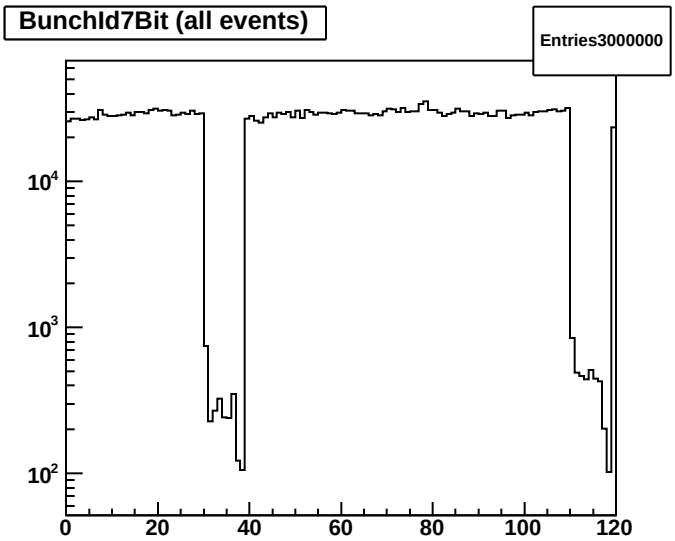

EMC L2 Input - HT23 bits
Entries 2.4e+07
HT23 bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

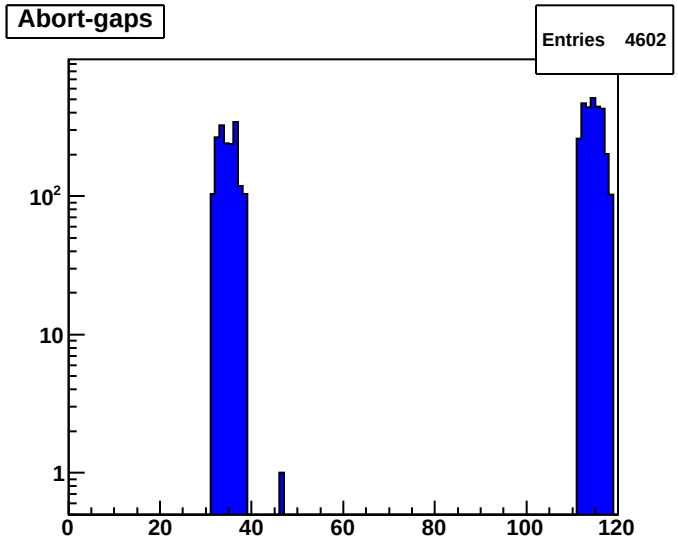

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

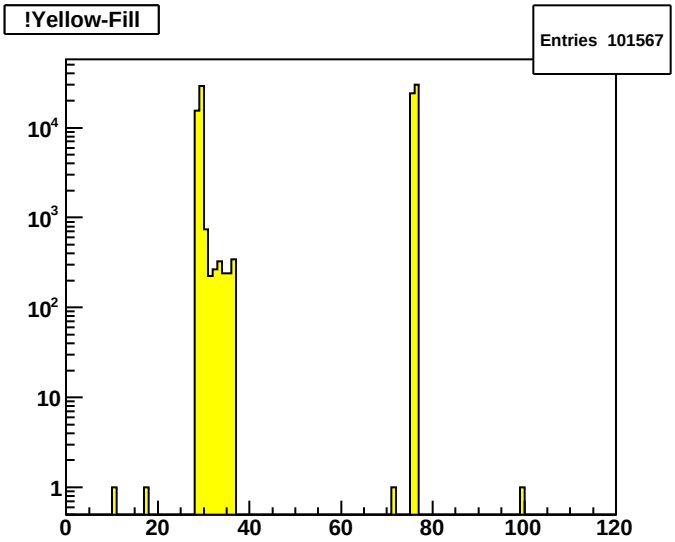

DAQ10k HT bits
Entries 294400
12000
10000
8000
6000
4000
0
5
10
15
20
25
30
35

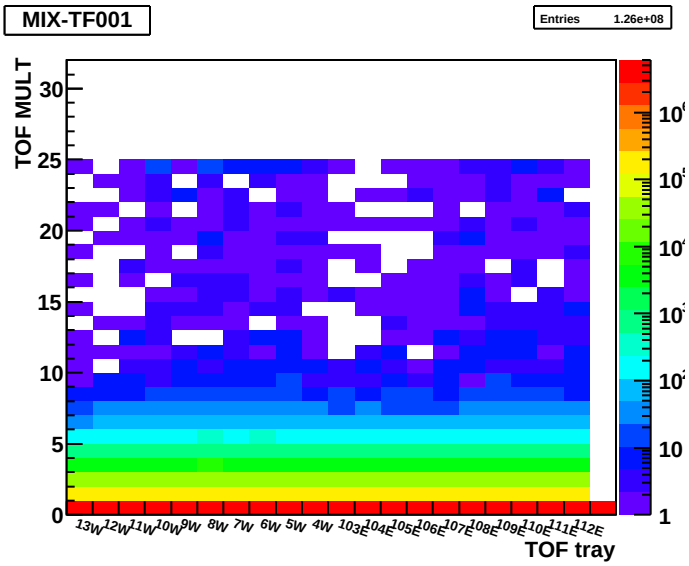

DAQ10k HT bits errors
Entries 0
1
0.8
0.6
0.4
0.2
0
0
5
10
15
20
25
30
35

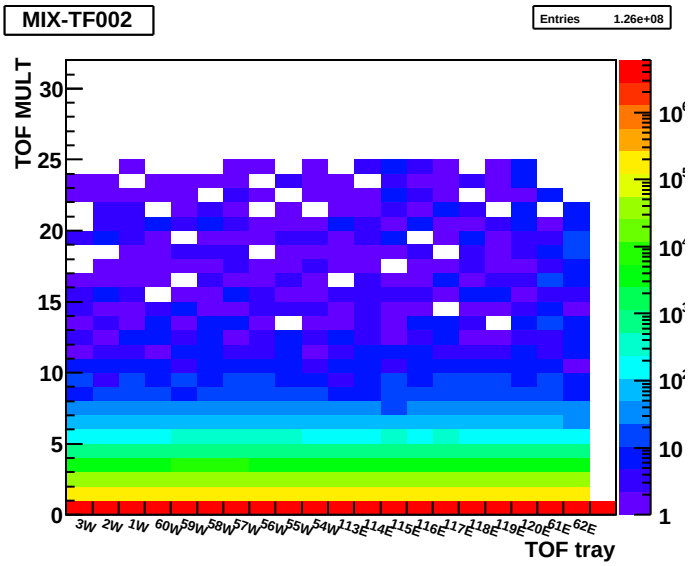

TPC Readout Mask (simulated)
Entries 526567
35000
30000
25000
20000
15000
10000
5000
0
0
5
10
15
20
25
30

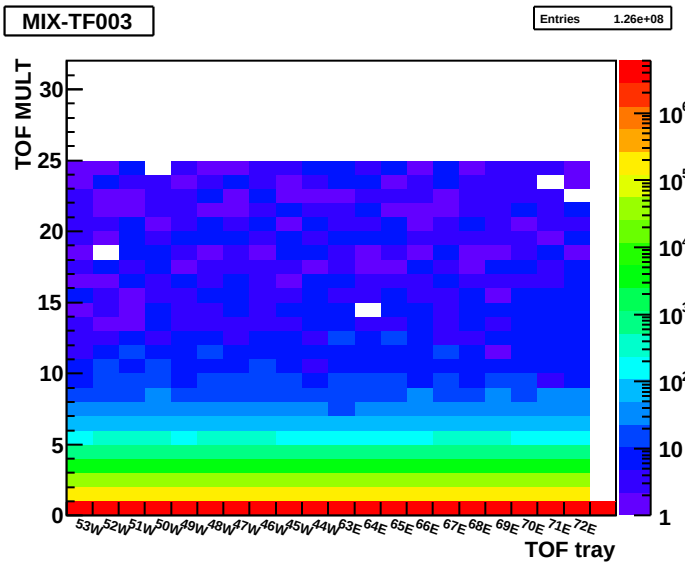

BunchId7Bit (all events)
Entries3000000
10^4
10^3
10^2
0
20
40
60
80
100
120

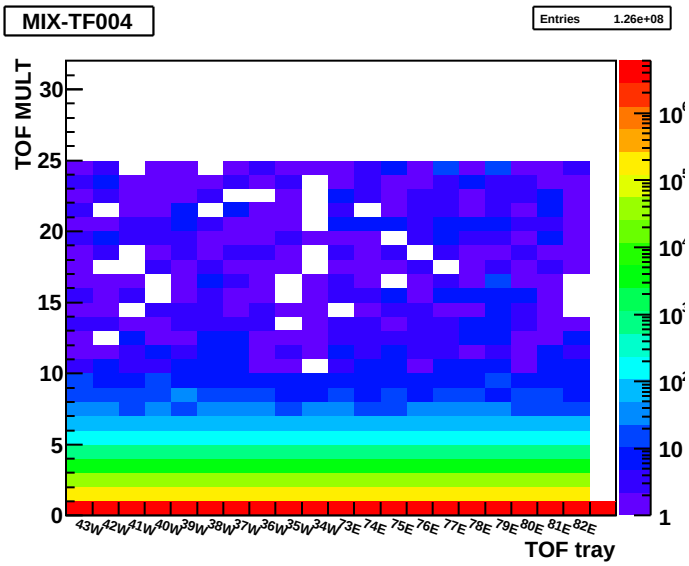

Abort-gaps
Entries 4602
10^2
10
1
0
20
40
60
80
100
120

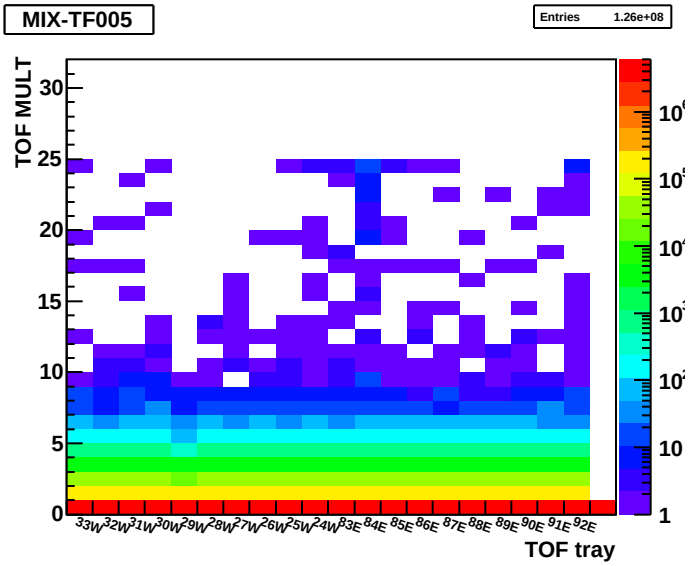

!Yellow-Fill
Entries 101567
10^4
10^3
10^2
10
1
0
20
40
60
80
100
120

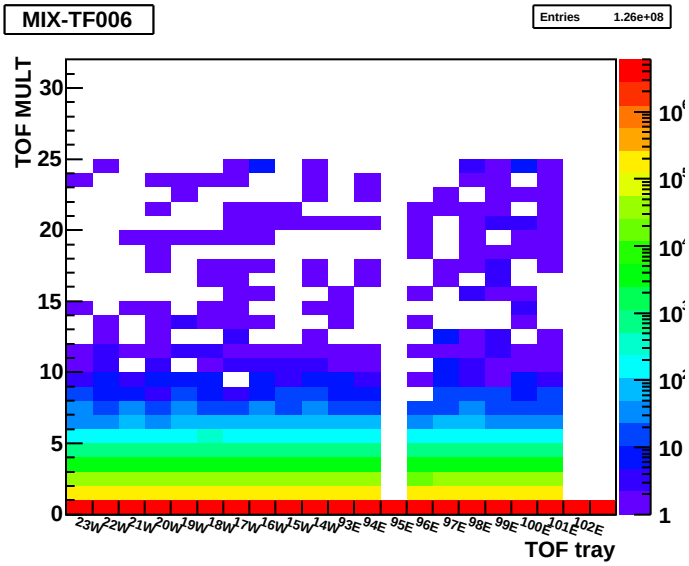

MIX-TF001
Entries 1.26e+08
TOF MULT
TOF tray

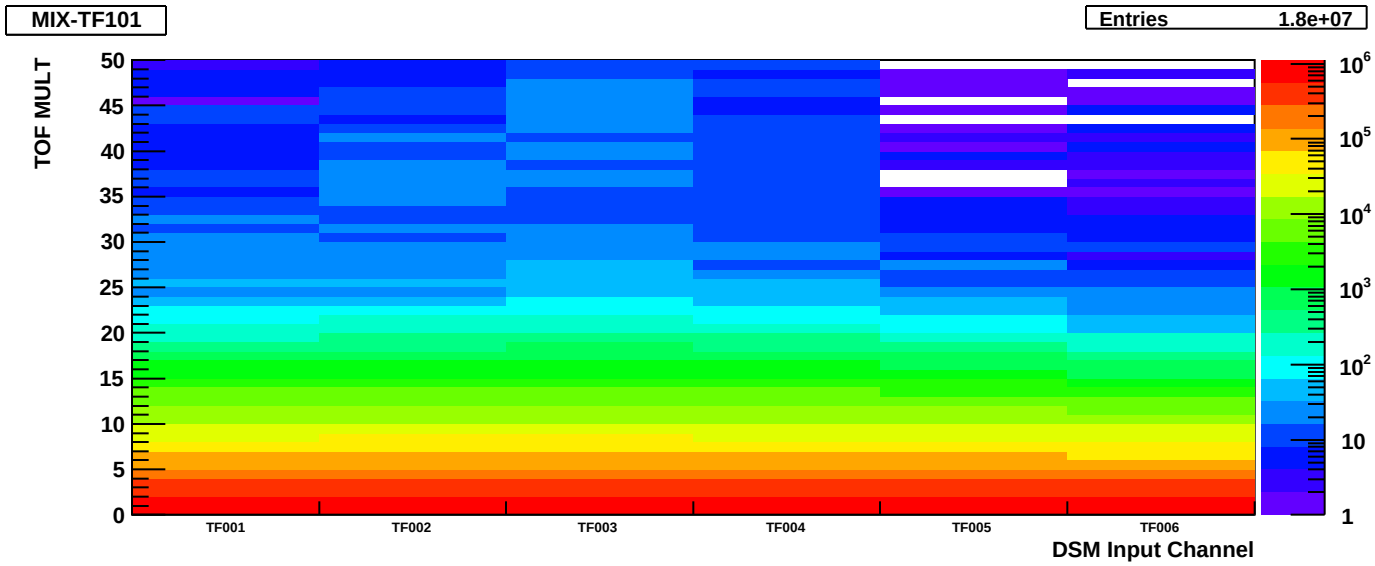

MIX-TF002
Entries 1.26e+08
TOF MULT
TOF tray

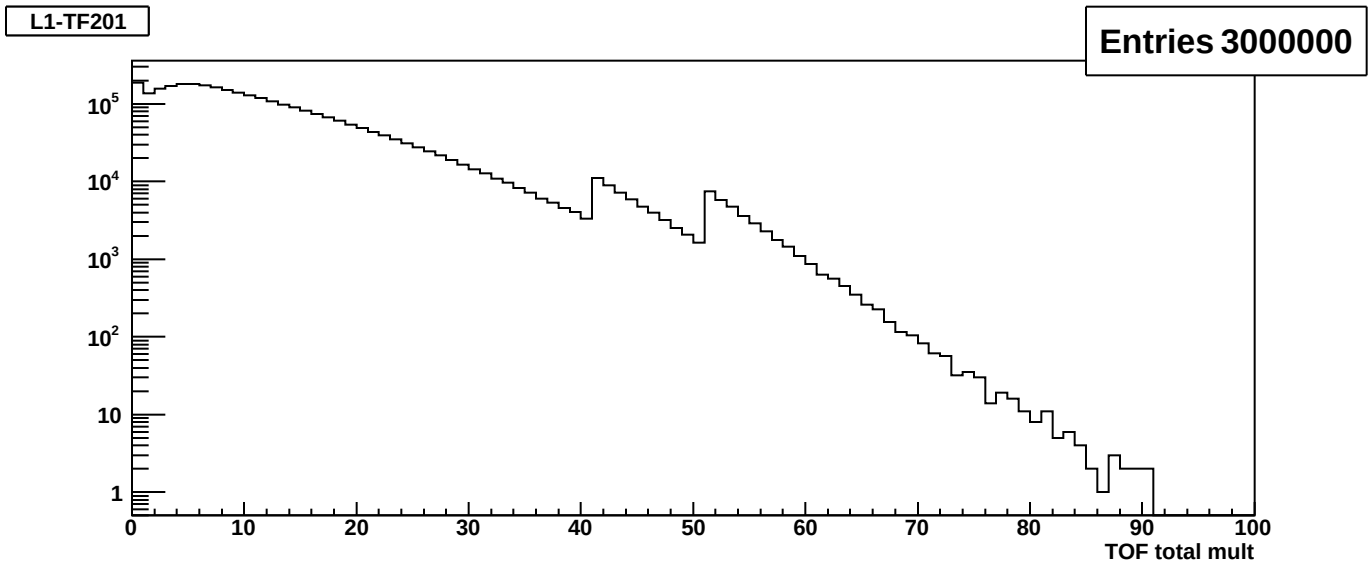

MIX-TF003
Entries 1.26e+08
TOF MULT
TOF tray

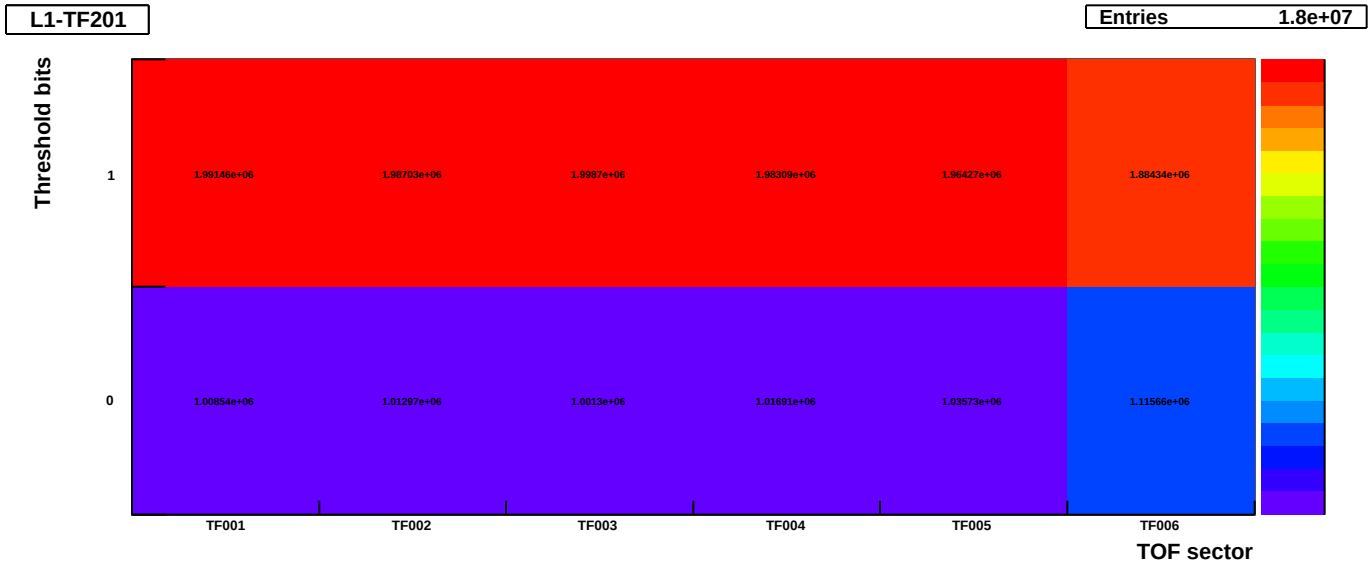

MIX-TF004
Entries 1.26e+08
TOF MULT
TOF tray

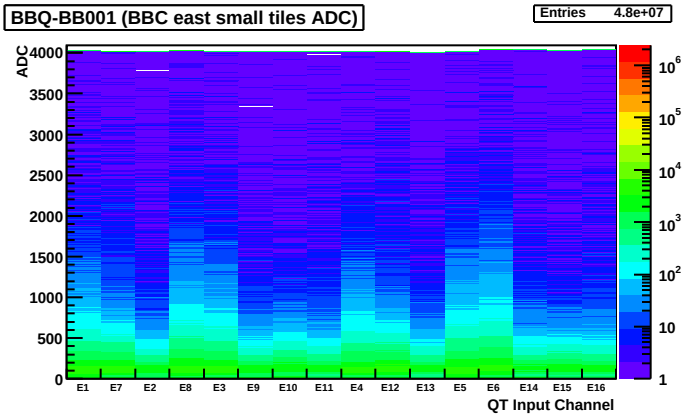

MIX-TF005
Entries 1.26e+08
TOF MULT
TOF tray

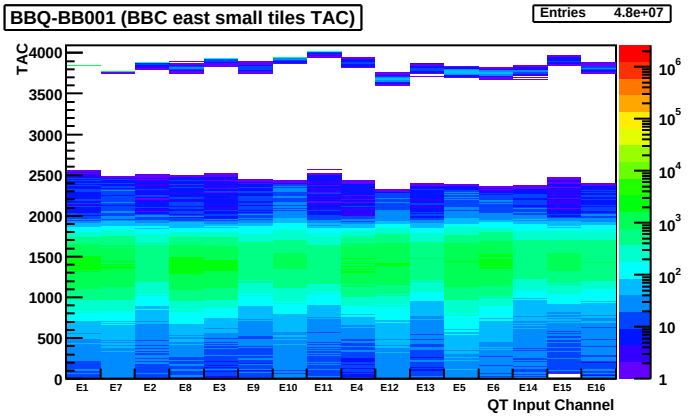

MIX-TF006
Entries 1.26e+08
TOF MULT
TOF tray

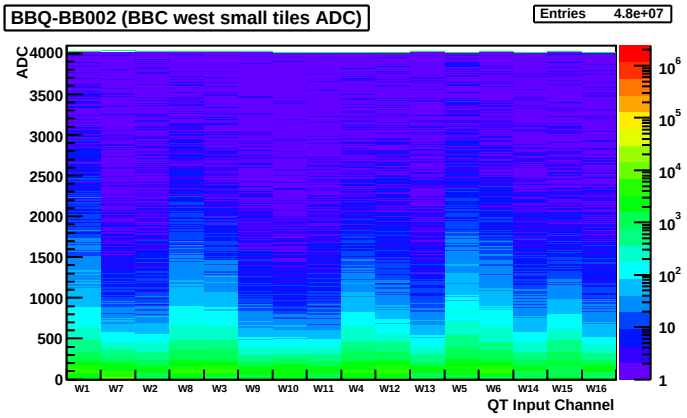

MIX-TF101
Entries 1.8e+07
TOF MULT
DSM Input Channel
TF001
TF002
TF003
TF004
TF005
TF006

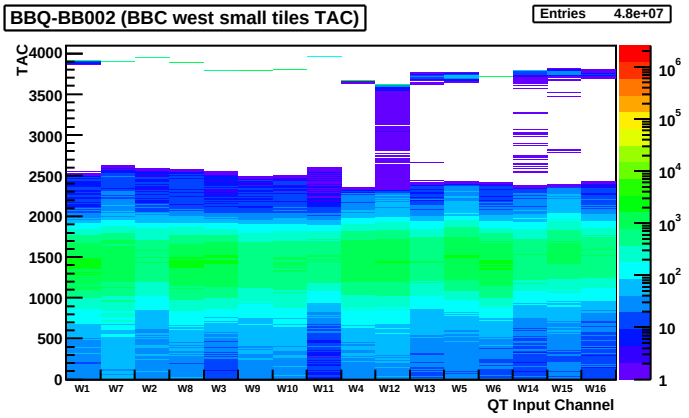

L1-TF201
Entries 3000000
TOF total mult

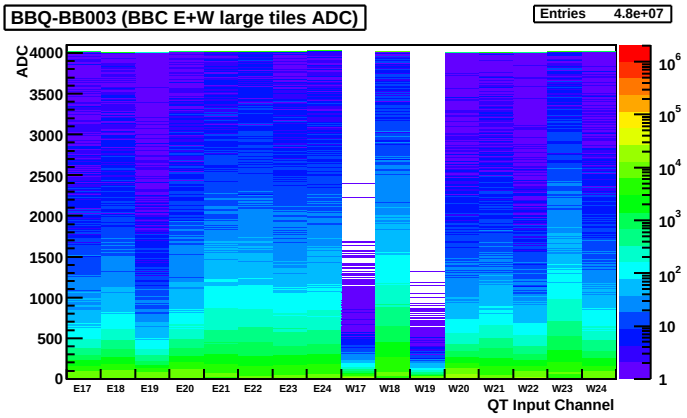

L1-TF201
Entries 1.8e+07
Threshold bits
1.99146e+06
1.98703e+06
1.9987e+06
1.98309e+06
1.96427e+06
1.88434e+06
1.00854e+06
1.01297e+06
1.0013e+06
1.01691e+06
1.03573e+06
1.11566e+06
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector

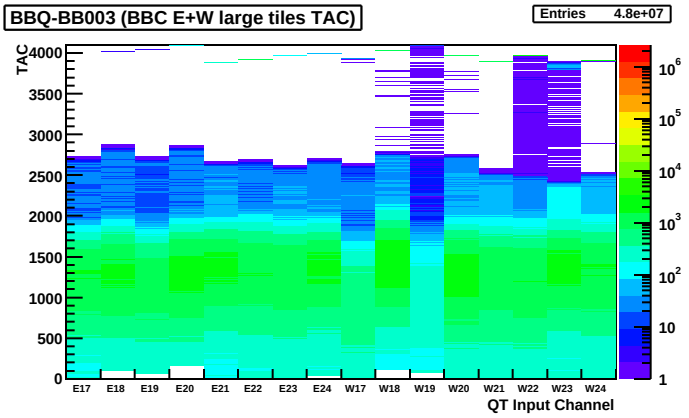

BBQ-BB001 (BBC east small tiles ADC)
Entries 4.8e+07
ADC
QT Input Channel

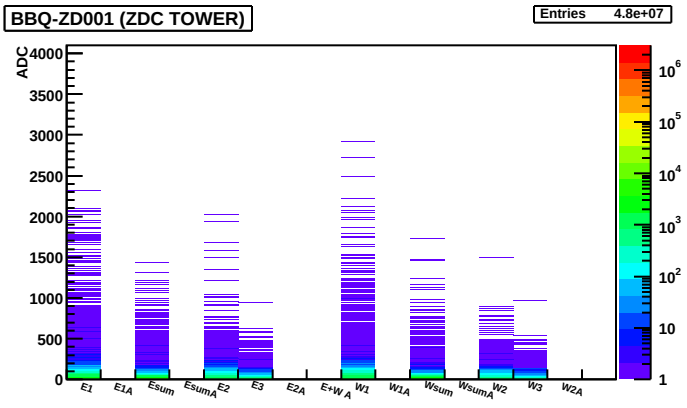

BBQ-BB001 (BBC east small tiles TAC)
Entries 4.8e+07
TAC
QT Input Channel

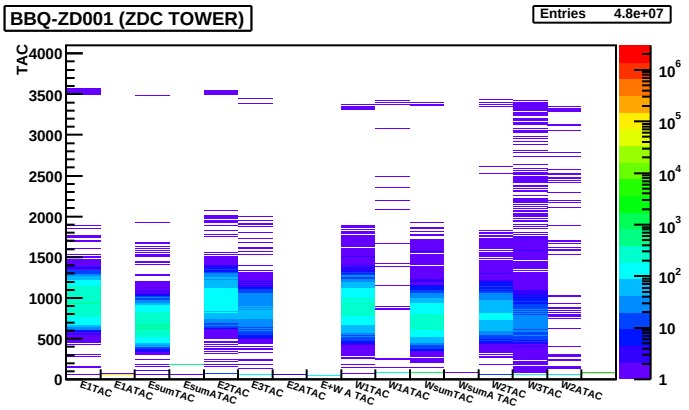

BBQ-BB002 (BBC west small tiles ADC)
Entries 4.8e+07
ADC
QT Input Channel

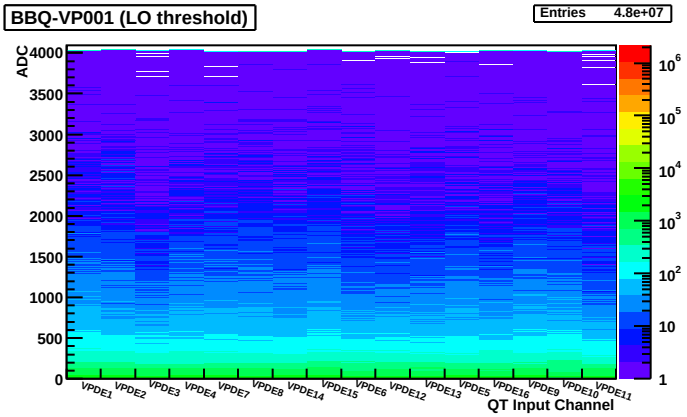

BBQ-BB002 (BBC west small tiles TAC)
Entries 4.8e+07
TAC
QT Input Channel

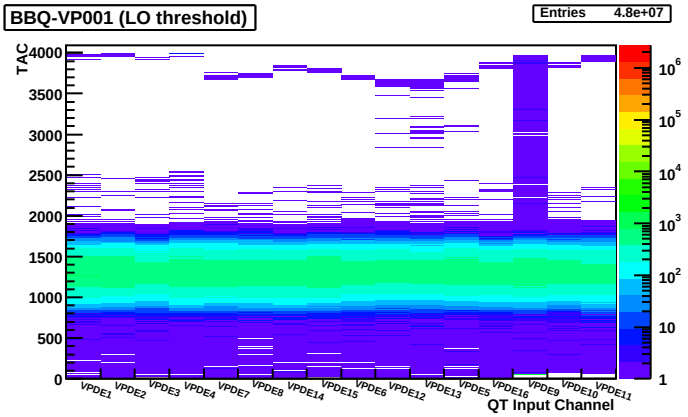

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 4.8e+07
ADC
QT Input Channel

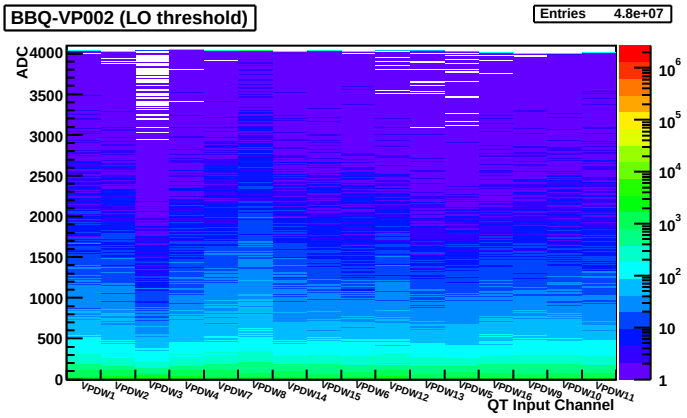

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 4.8e+07
TAC
QT Input Channel

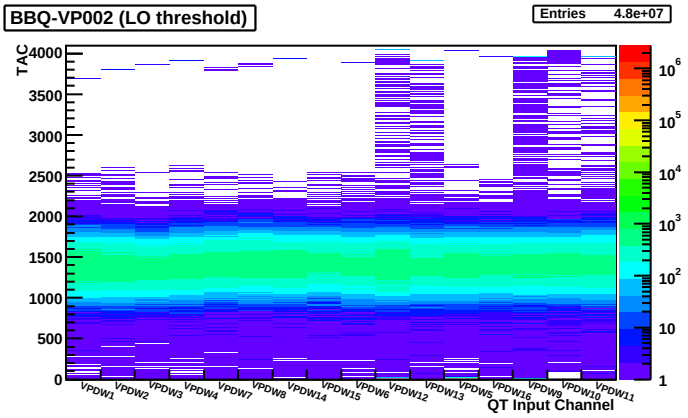

BBQ-ZD001 (ZDC TOWER)
Entries 4.8e+07
ADC

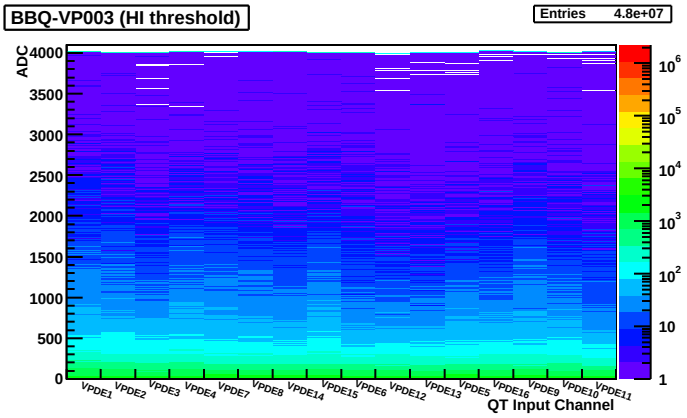

BBQ-ZD001 (ZDC TOWER)
Entries 4.8e+07
TAC

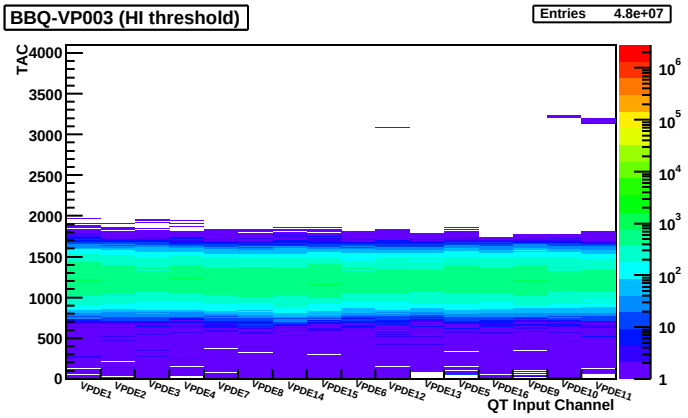

BBQ-VP001 (LO threshold)
Entries 4.8e+07
ADC
QT Input Channel

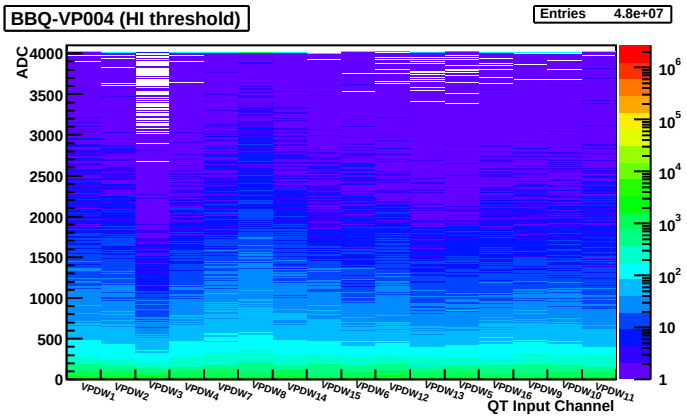

BBQ-VP001 (LO threshold)
Entries 4.8e+07
TAC
QT Input Channel

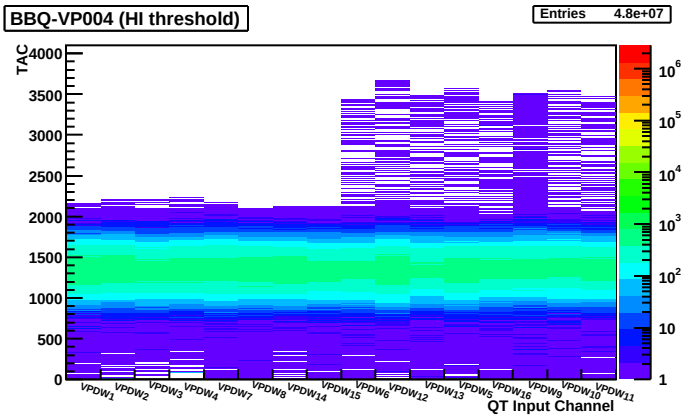

BBQ-VP002 (LO threshold)
Entries 4.8e+07
ADC
QT Input Channel

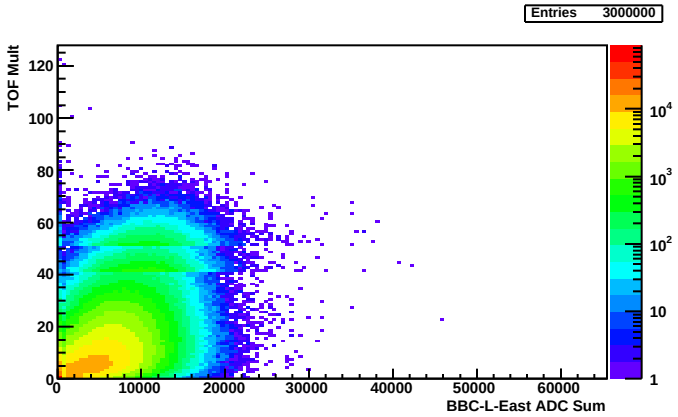

BBQ-VP002 (LO threshold)
Entries 4.8e+07
TAC
QT Input Channel

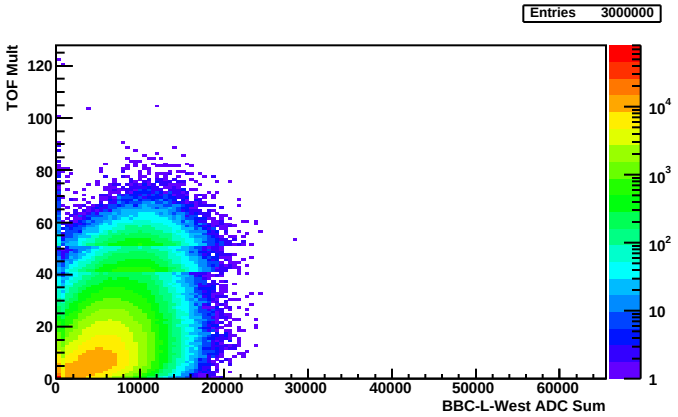

BBQ-VP003 (HI threshold)
Entries 4.8e+07
ADC
QT Input Channel

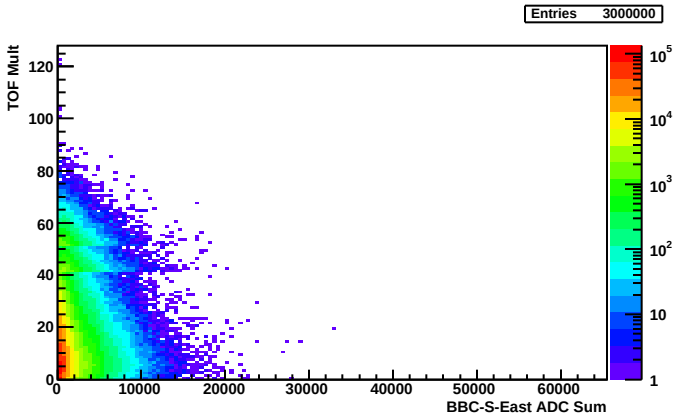

BBQ-VP003 (HI threshold)
Entries 4.8e+07
TAC
QT Input Channel

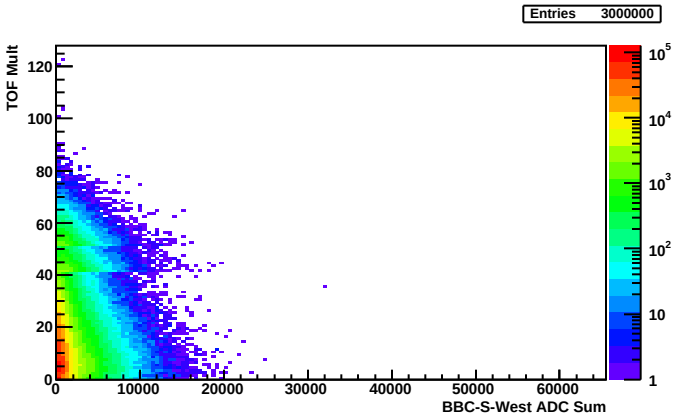

BBQ-VP004 (HI threshold)
Entries 4.8e+07
ADC
QT Input Channel

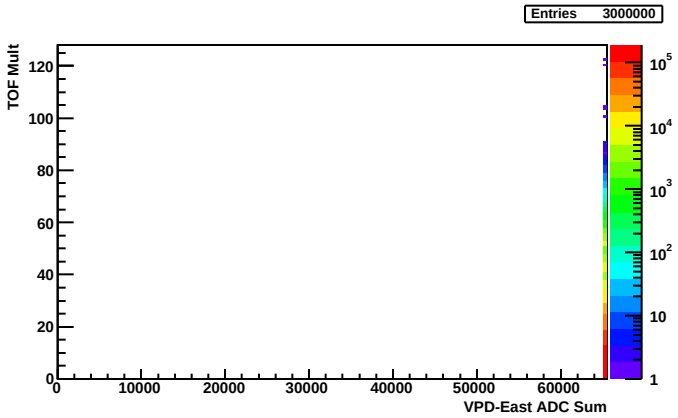

BBQ-VP004 (HI threshold)
Entries 4.8e+07
TAC
QT Input Channel

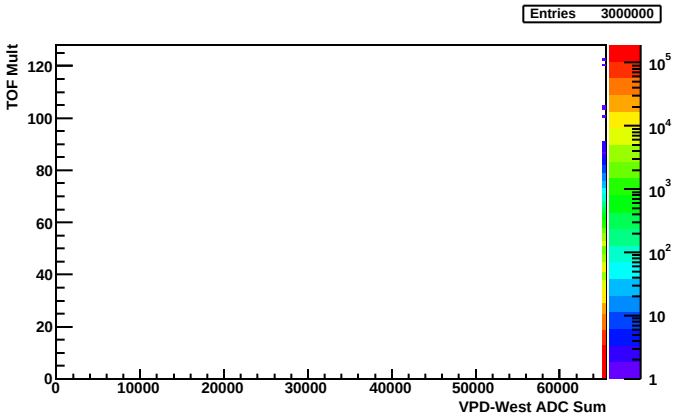

Entries 3000000
TOF Mult
BBC-L-East ADC Sum

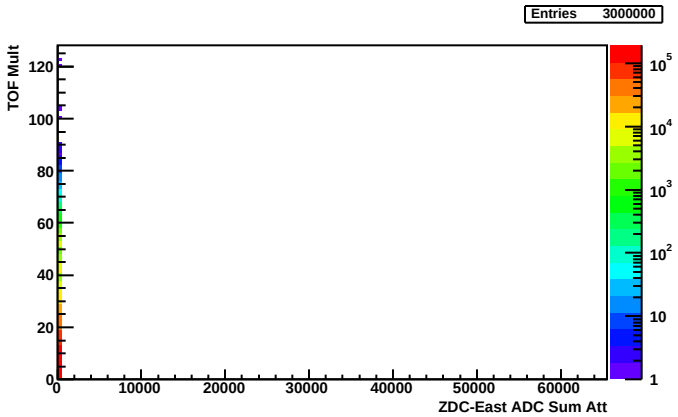

Entries 3000000
TOF Mult
BBC-L-West ADC Sum

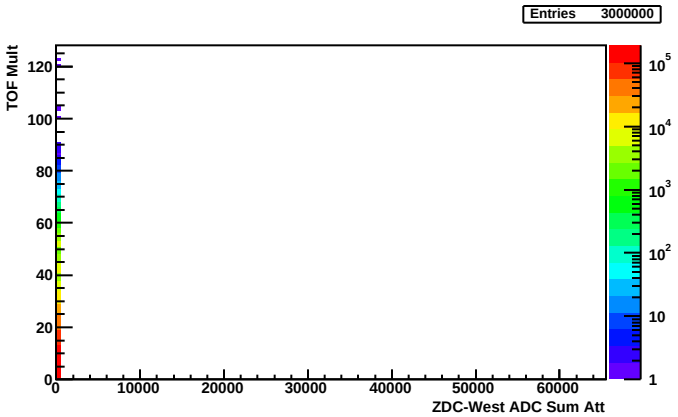

Entries 3000000
TOF Mult
BBC-S-East ADC Sum

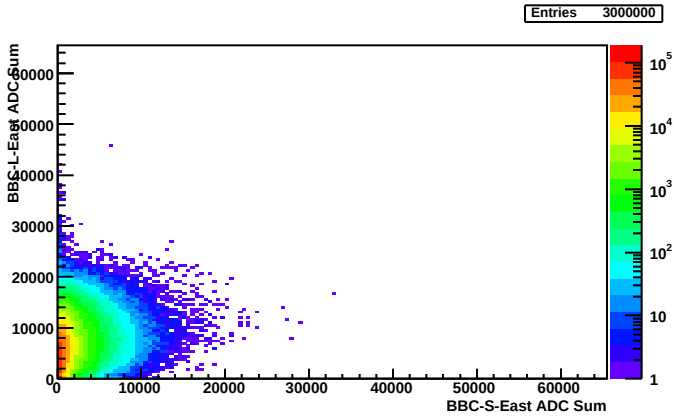

Entries 3000000
TOF Mult
BBC-S-West ADC Sum

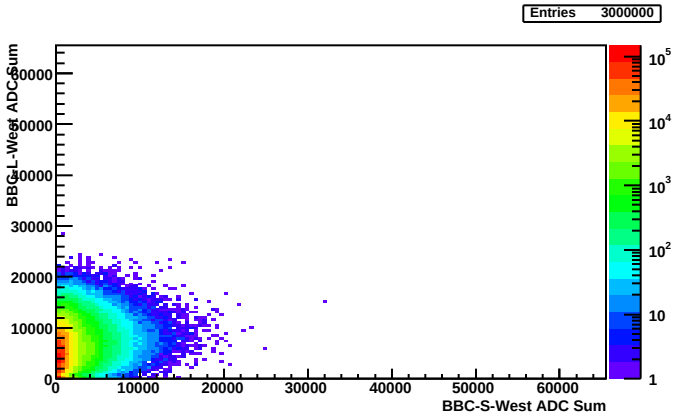

Entries 3000000
TOF Mult
VPD-East ADC Sum

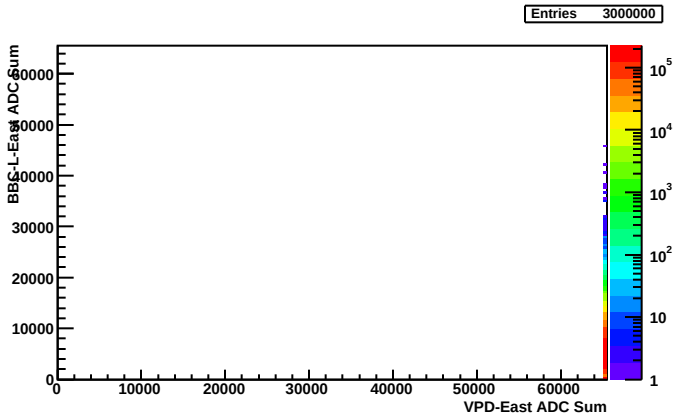

Entries 3000000
TOF Mult
VPD-West ADC Sum

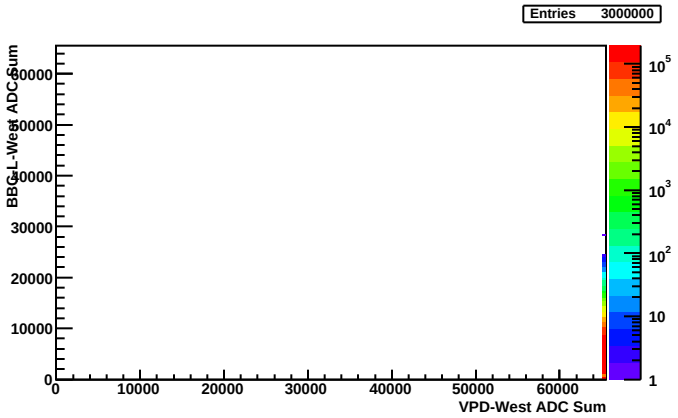

Entries 3000000
TOF Mult
ZDC-East ADC Sum Att

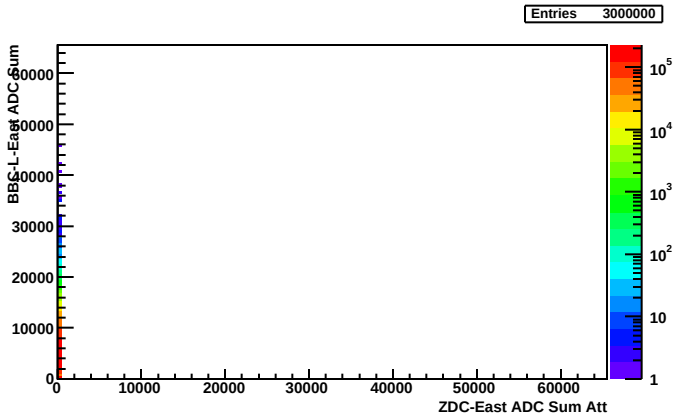

Entries 3000000
TOF Mult
ZDC-West ADC Sum Att

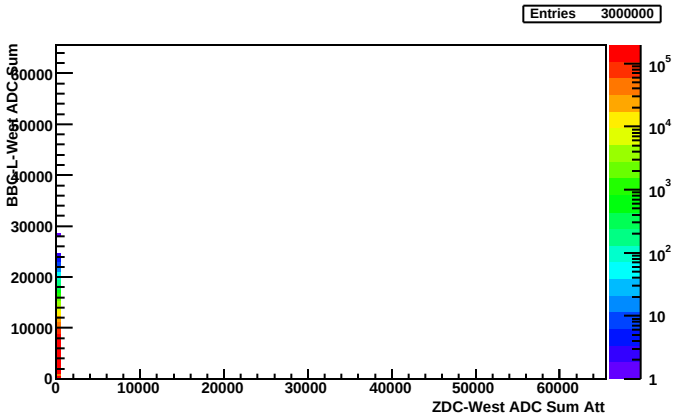

Entries 3000000
BBC-L-East ADC Sum
BBC-S-East ADC Sum

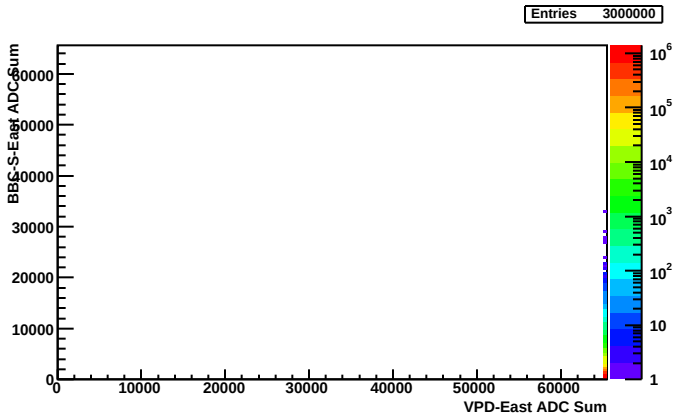

Entries 3000000
BBC-L-West ADC Sum
BBC-S-West ADC Sum

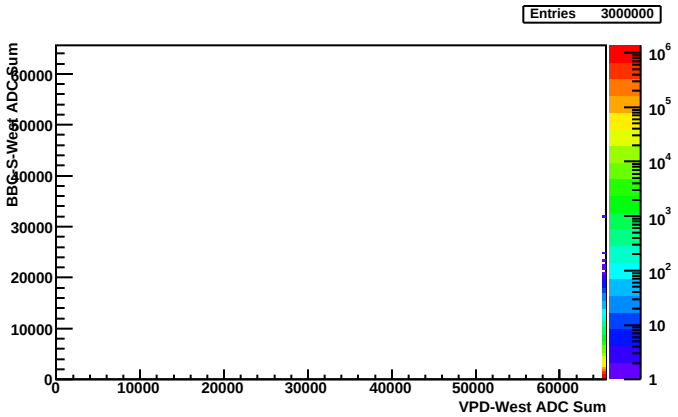

Entries 3000000
BBC-L-East ADC Sum
VPD-East ADC Sum

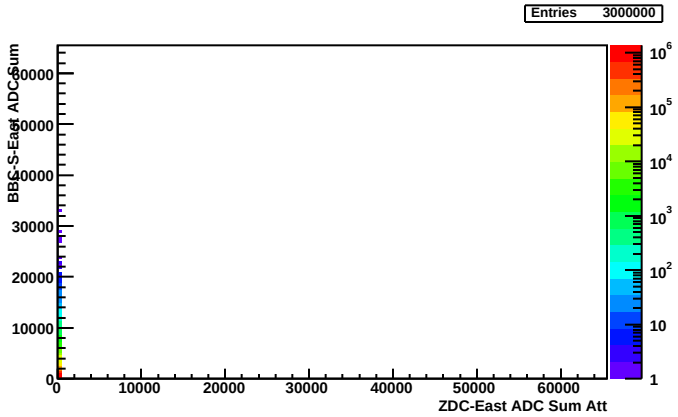

Entries 3000000
BBC-L-West ADC Sum
VPD-West ADC Sum

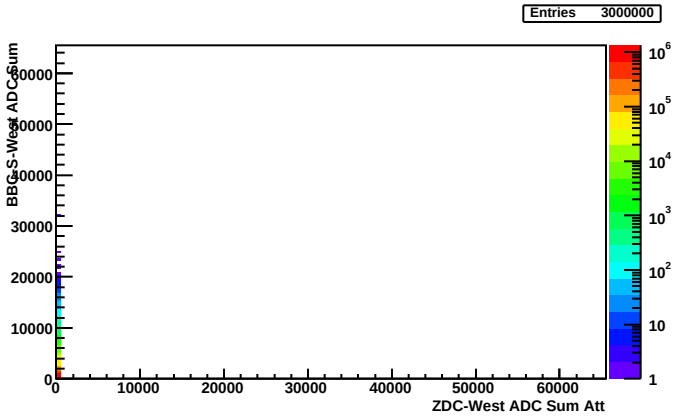

Entries 3000000
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

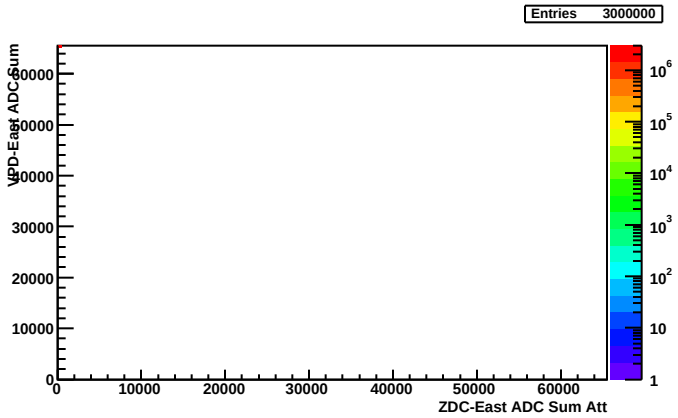

Entries 3000000
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

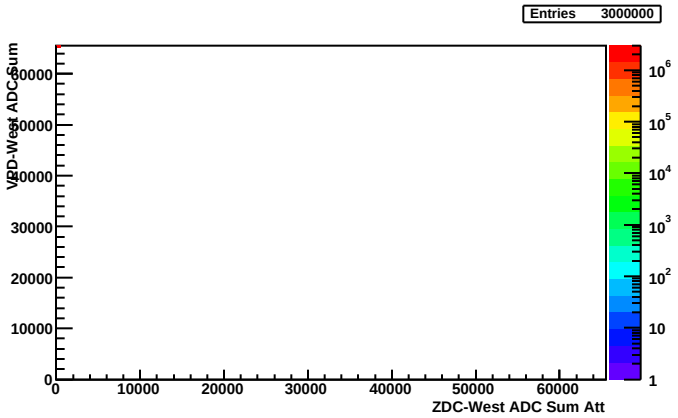

Entries 3000000
BBC-S-East ADC Sum
VPD-East ADC Sum

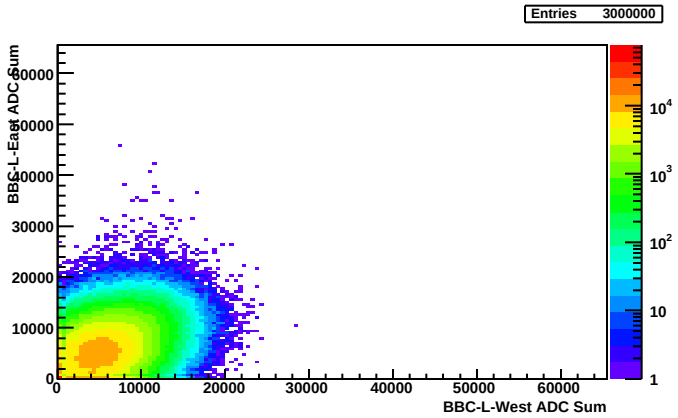

Entries 3000000
BBC-S-West ADC Sum
VPD-West ADC Sum

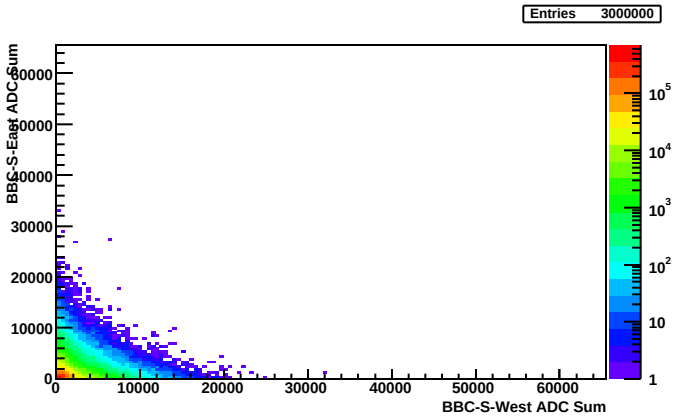

Entries 3000000
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

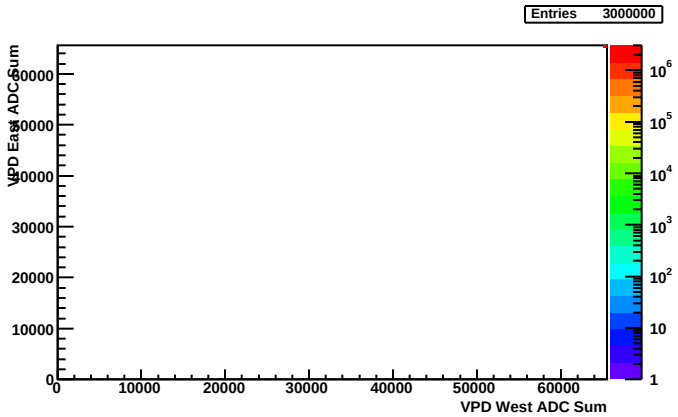

Entries 3000000
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

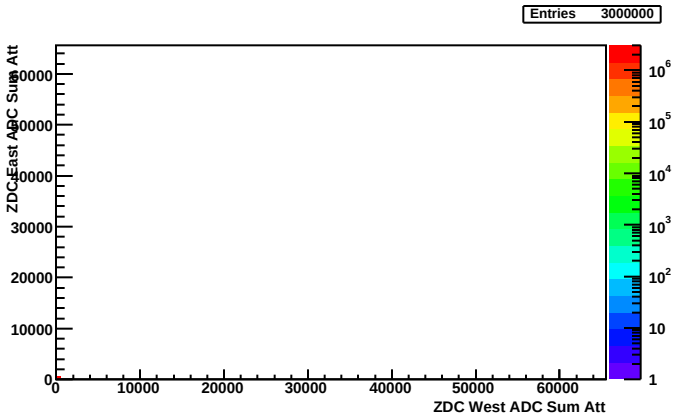

Entries 3000000
VPD-East ADC Sum
ZDC-East ADC Sum Att

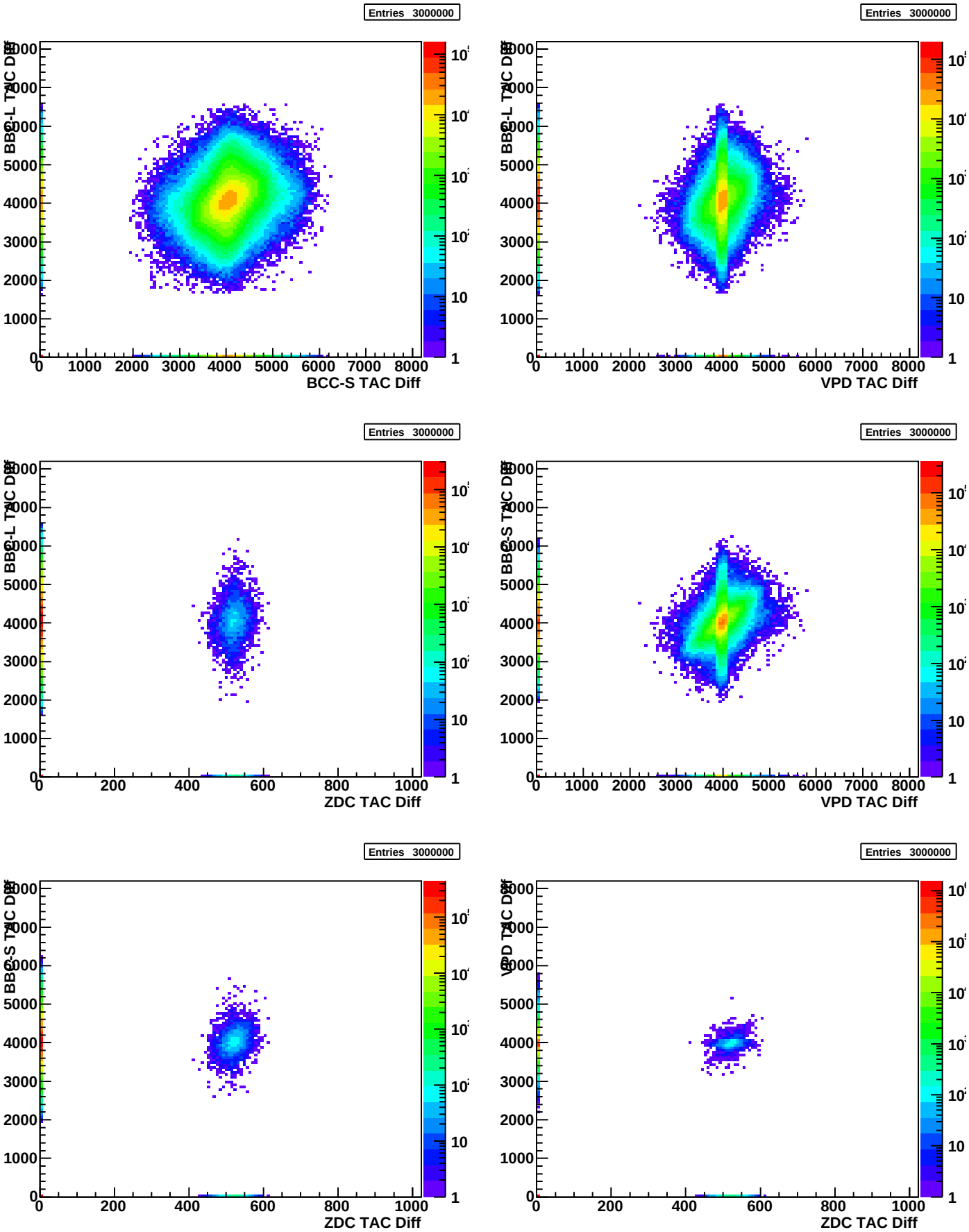

Entries 3000000
VPD-West ADC Sum
ZDC-West ADC Sum Att


Entries 3000000
BBC-L-East ADC Sum
BBC-L-West ADC Sum


Entries 3000000
BBC-S-East ADC Sum
BBC-S-West ADC Sum


Entries 3000000
VPD East ADC Sum
VPD West ADC Sum


Entries 3000000
ZDC East ADC Sum Att
ZDC West ADC Sum Att


Entries 3000000
BBC-L TAC Diff
BCC-S TAC Diff
Entries 3000000
BBC-L TAC Diff
VPD TAC Diff
Entries 3000000
BBC-L TAC Diff
ZDC TAC Diff
Entries 3000000
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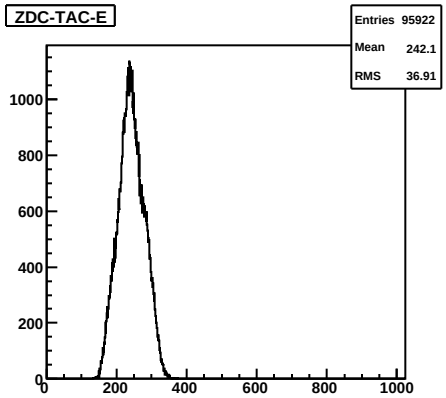
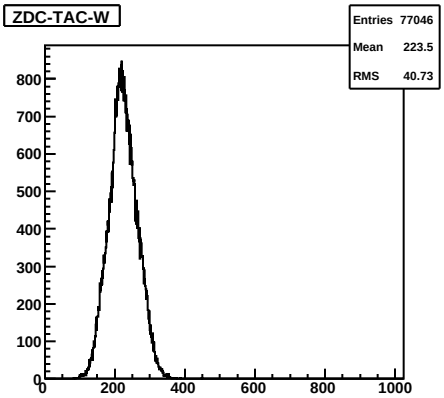
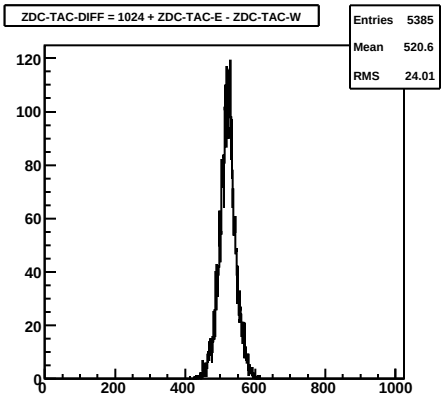
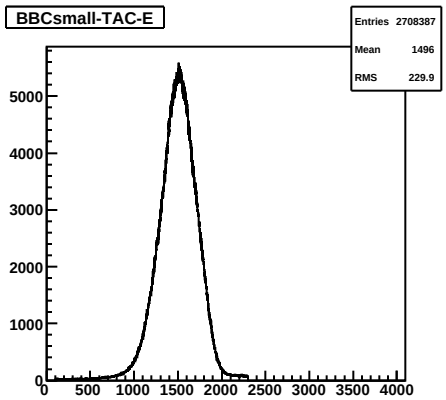
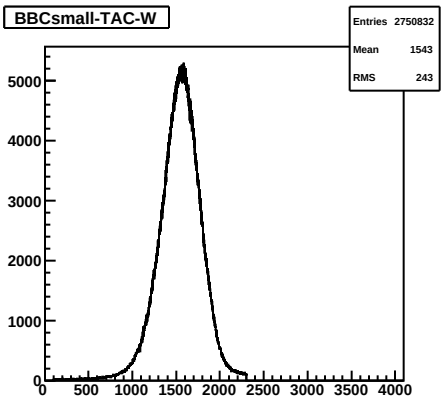
VPD TAC Diff
Entries 3000000
BBC-S TAC Diff
ZDC TAC Diff
Entries 3000000
VPD TAC Diff
ZDC TAC Diff

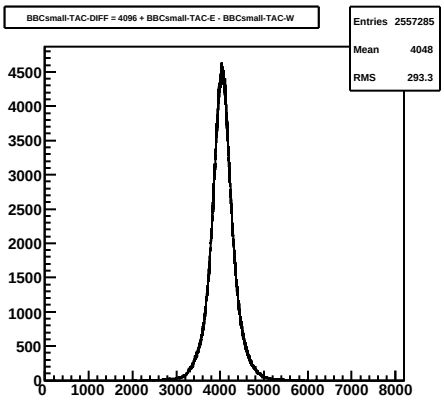

ZDC-TAC-E
Entries 95922
Mean 242.1
RMS 36.91

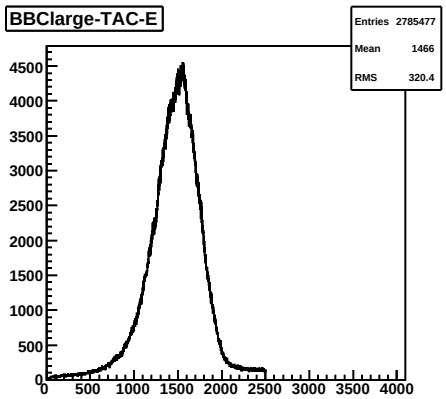

ZDC-TAC-W
Entries 77046
Mean 223.5
RMS 40.73

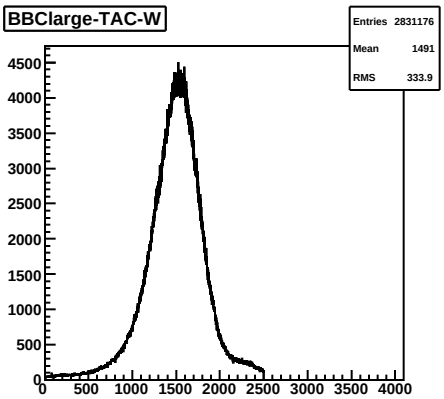

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 5385
Mean 520.6
RMS 24.01

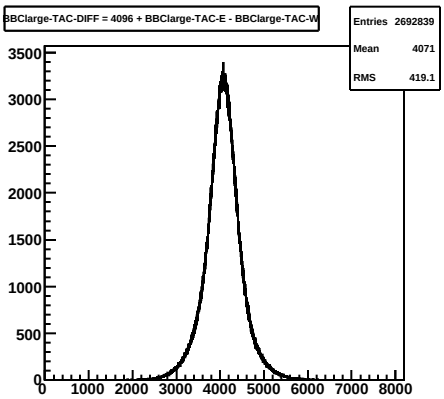

BBCsmall-TAC-E
Entries 2708387
Mean 1496
RMS 229.9

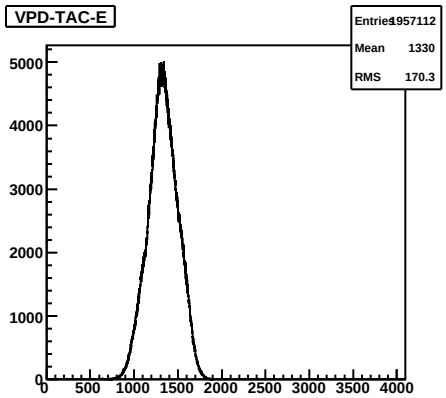

BBCsmall-TAC-W
Entries 2750832
Mean 1543
RMS 243

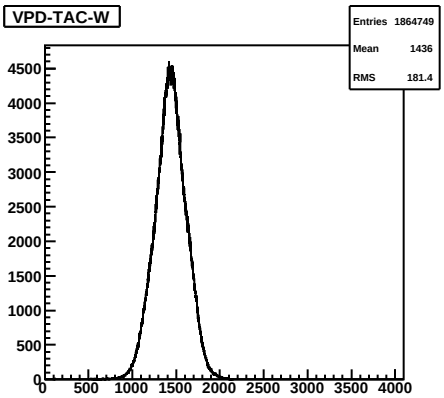

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 2557285
Mean 4048
RMS 293.3

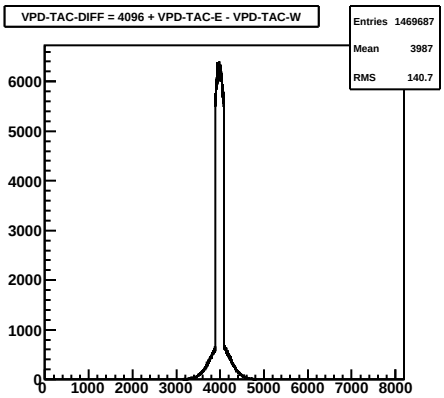

BBClarge-TAC-E
Entries 2785477
Mean 1466
RMS 320.4

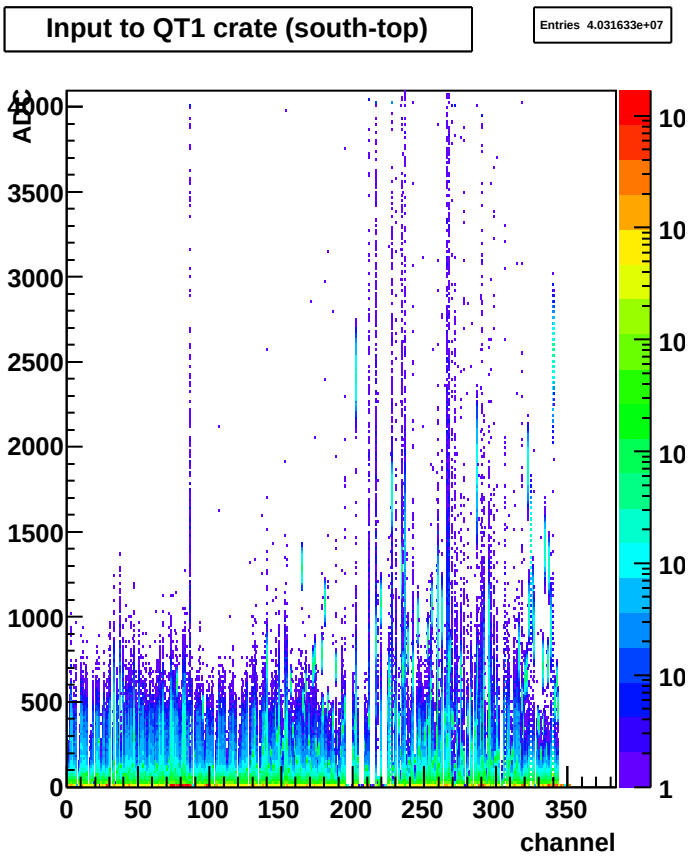

BBClarge-TAC-W
Entries 2831176
Mean 1491
RMS 333.9

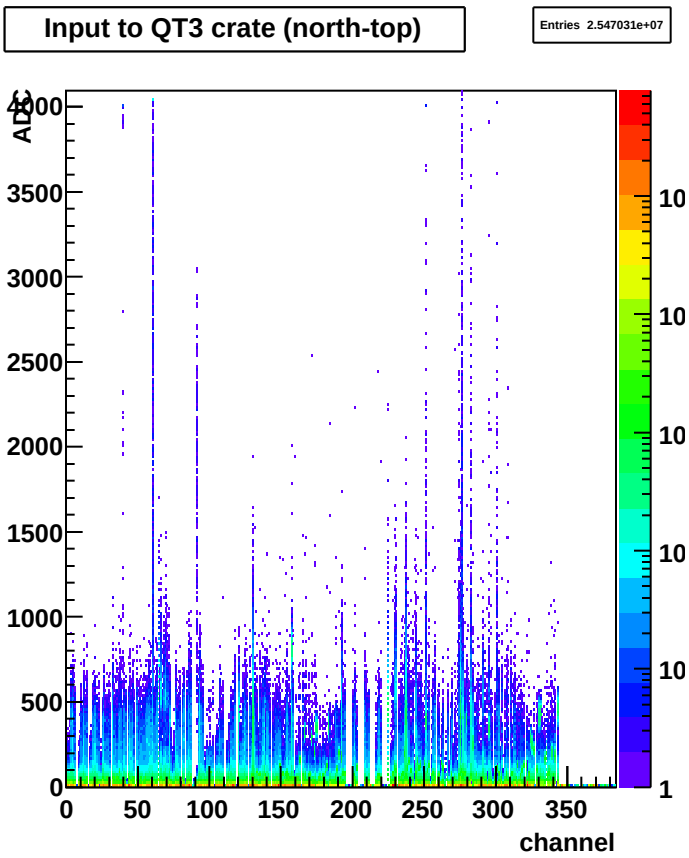

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 2692839
Mean 4071
RMS 419.1

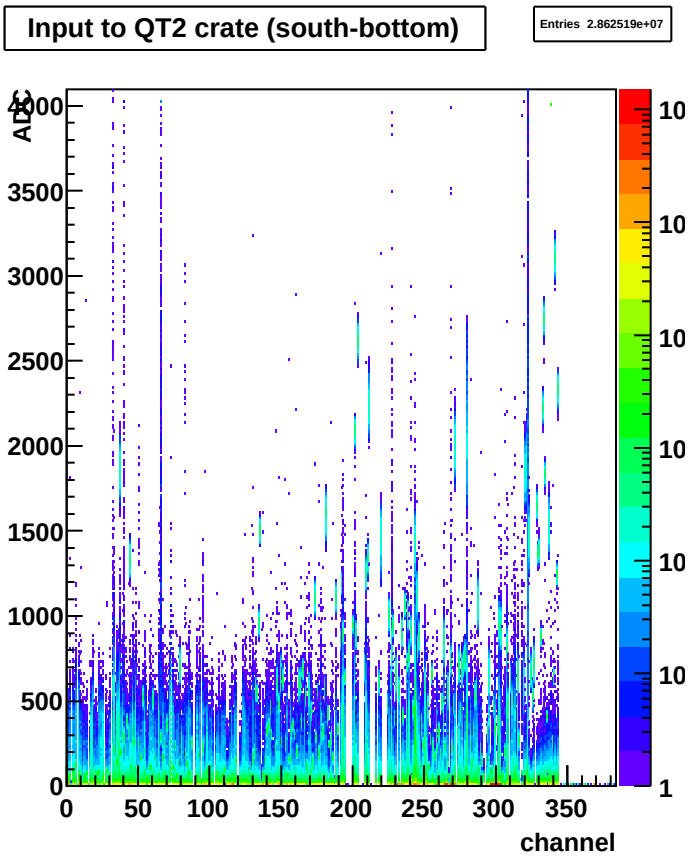

VPD-TAC-E
Entries 1957112
Mean 1330
RMS 170.3

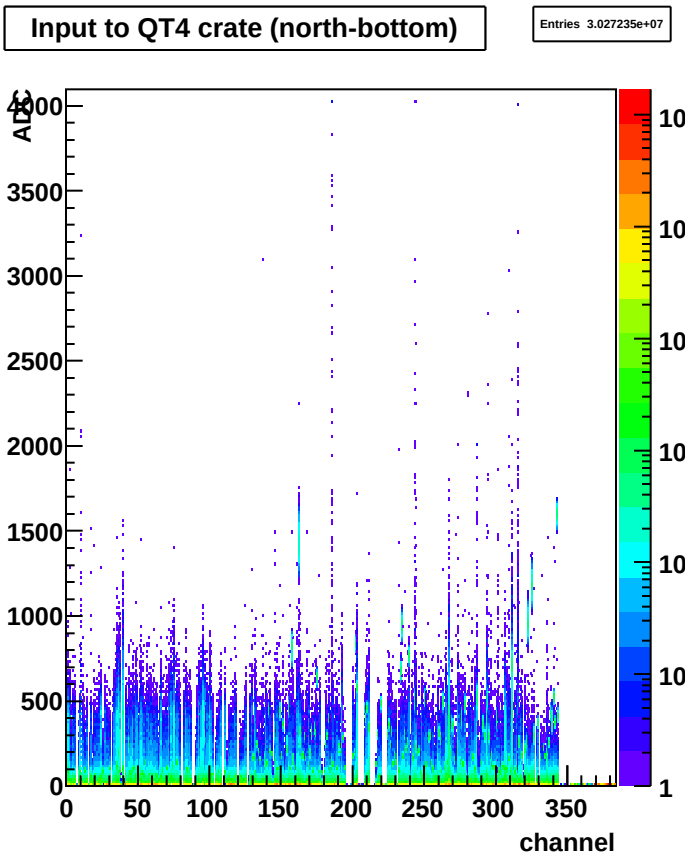

VPD-TAC-W
Entries 1864749
Mean 1436
RMS 181.4

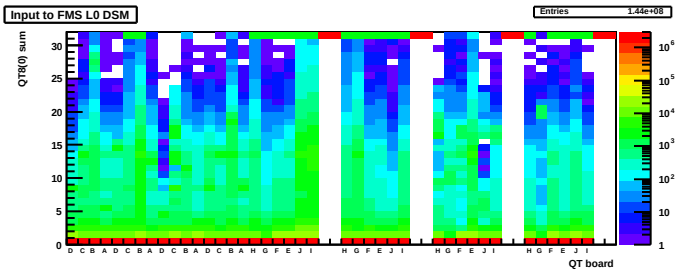

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 1469687
Mean 3987
RMS 140.7

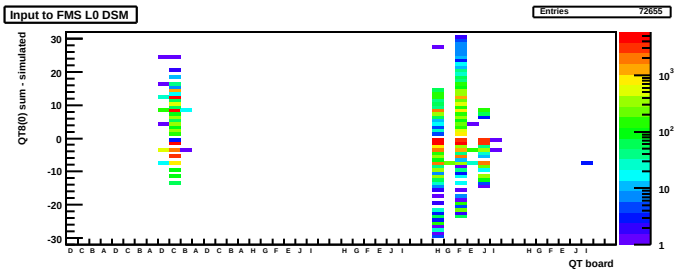

Input to QT1 crate (south-top)
Entries 4.031633e+07
ADC
channel

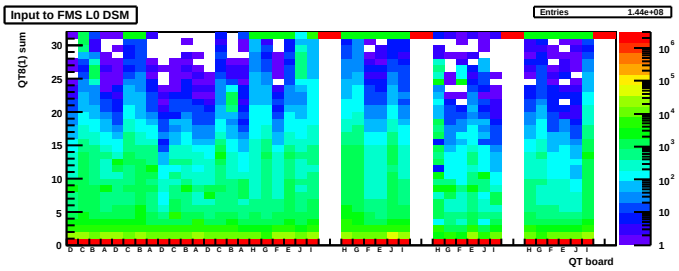

Input to QT3 crate (north-top)
Entries 2.547031e+07
ADC
channel

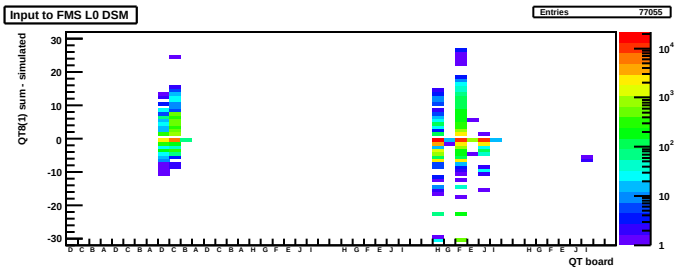

Input to QT2 crate (south-bottom)
Entries 2.862519e+07
ADC
channel

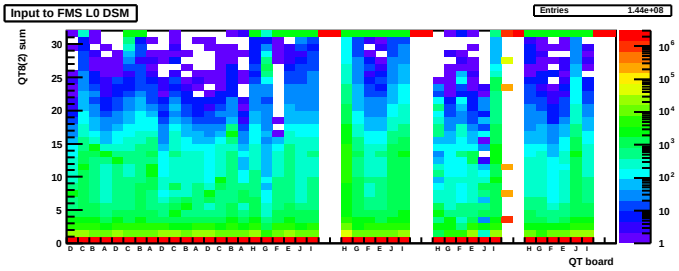

Input to QT4 crate (north-bottom)
Entries 3.027235e+07
ADC
channel

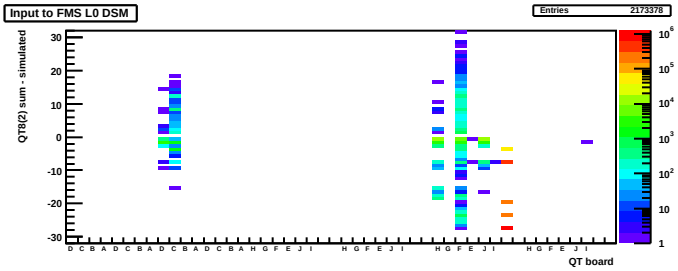

Input to FMS L0 DSM
Entries 1.44e+08
QT8(0) sum
QT board

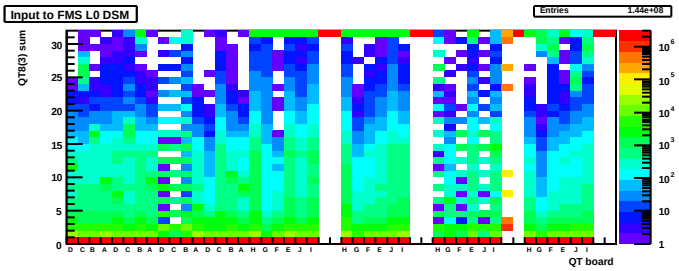

Input to FMS L0 DSM
Entries 72655
QT8(0) sum - simulated
QT board

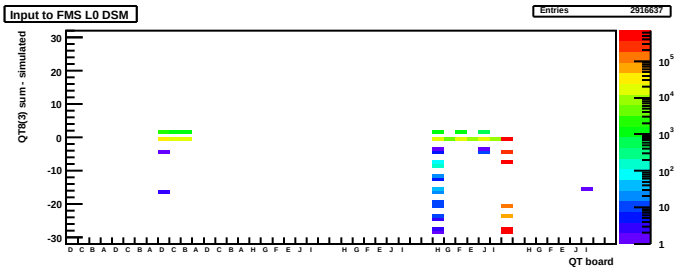

Input to FMS L0 DSM
Entries 1.44e+08
QT8(1) sum
QT board

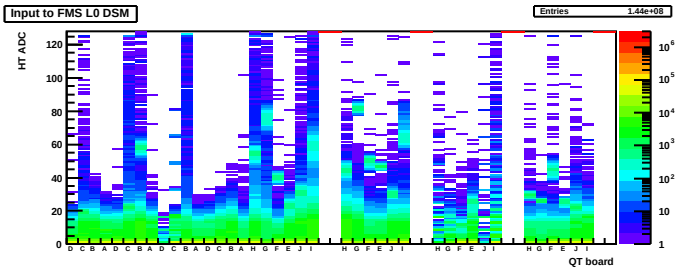

Input to FMS L0 DSM
Entries 77055
QT8(1) sum - simulated
QT board

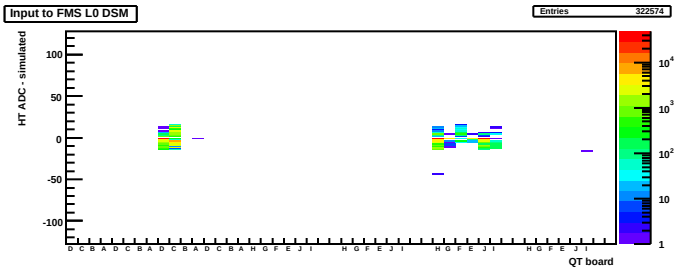

Input to FMS L0 DSM
Entries 1.44e+08
QT8(2) sum
QT board

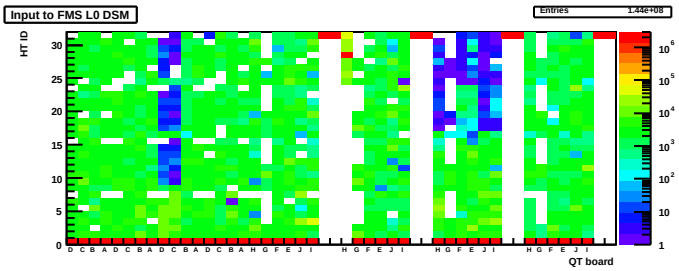

Input to FMS L0 DSM
Entries 2173378
QT8(2) sum - simulated
QT board

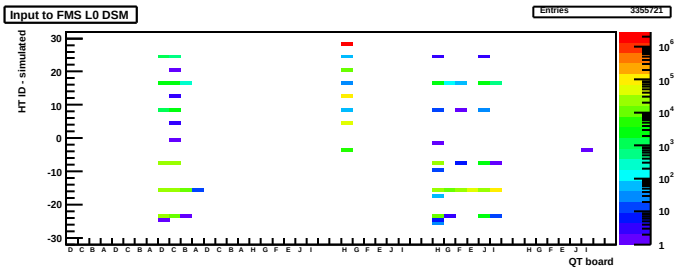

Input to FMS L0 DSM
Entries 1.44e+08
QT8(3) sum
QT board

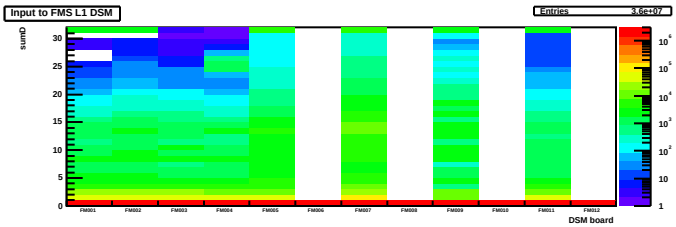

Input to FMS L0 DSM
Entries 2916637
QT8(3) sum - simulated
QT board

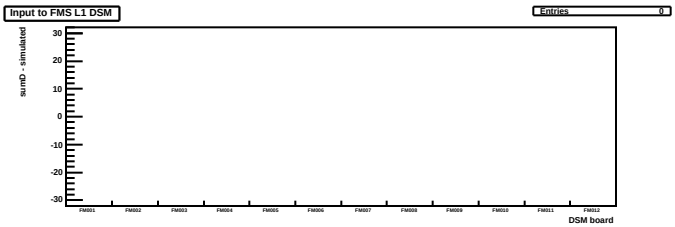

Input to FMS L0 DSM
Entries 1.44e+08
HT ADC
QT board

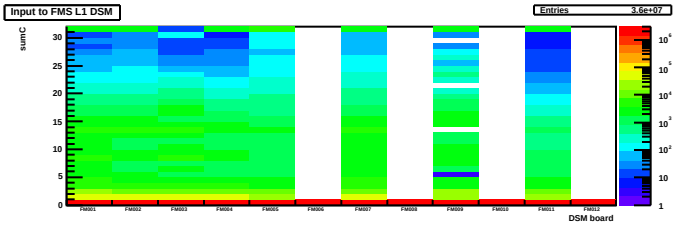

Input to FMS L0 DSM
Entries 322574
HT ADC - simulated
QT board

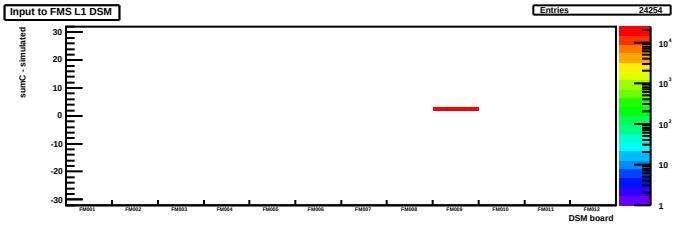

Input to FMS L0 DSM
Entries 1.44e+08
HT ID
QT board

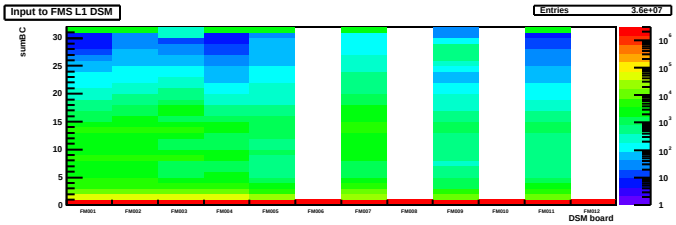

Input to FMS L0 DSM
Entries 3355721
HT ID - simulated
QT board

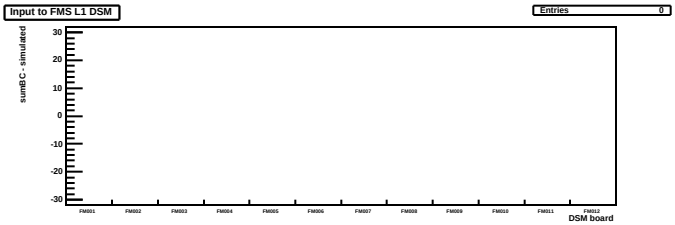

Input to FMS L1 DSM
Entries 3.6e+07
sumD
DSM board

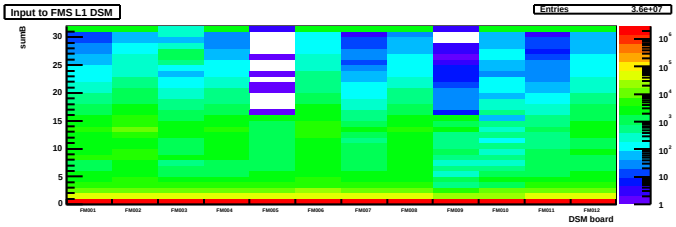

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

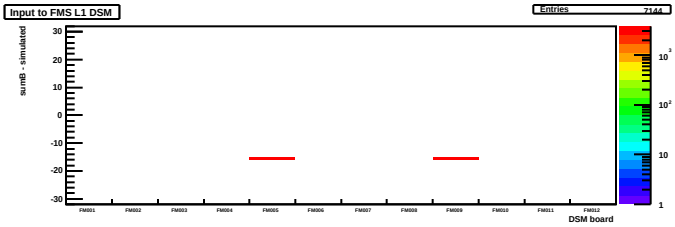

Input to FMS L1 DSM
Entries 3.6e+07
sumC
DSM board

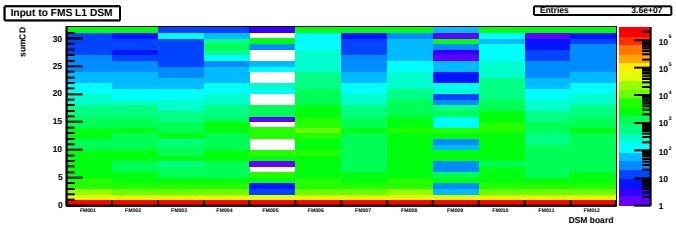

Input to FMS L1 DSM
Entries 24254
sumC - simulated
DSM board

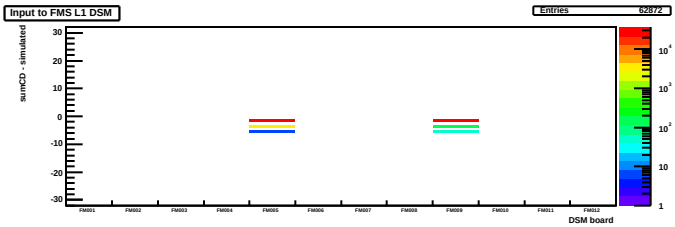

Input to FMS L1 DSM
Entries 3.6e+07
sumBC
DSM board

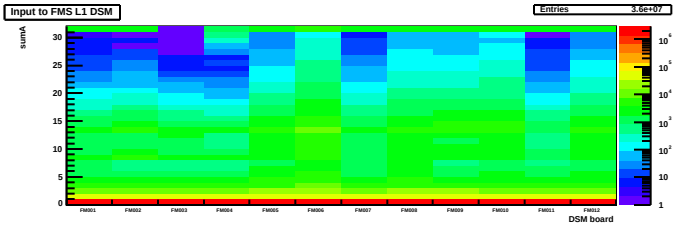

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

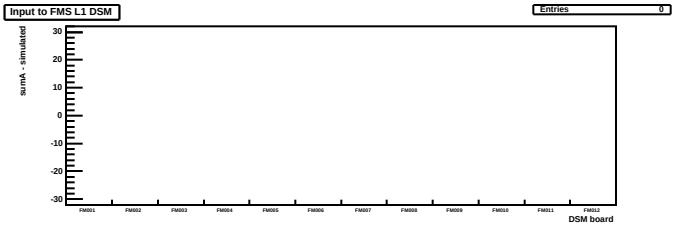

Input to FMS L1 DSM
Entries 3.6e+07
sumB
DSM board

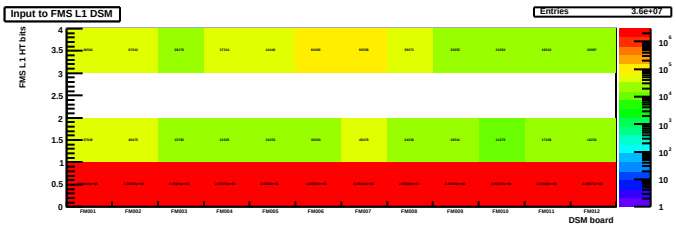

Input to FMS L1 DSM
Entries 7144
sumB - simulated
DSM board

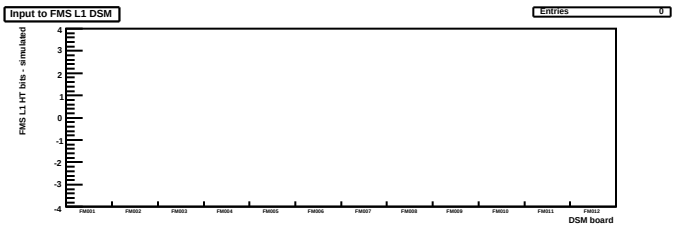

Input to FMS L1 DSM
Entries 3.6e+07
sumCD
DSM board

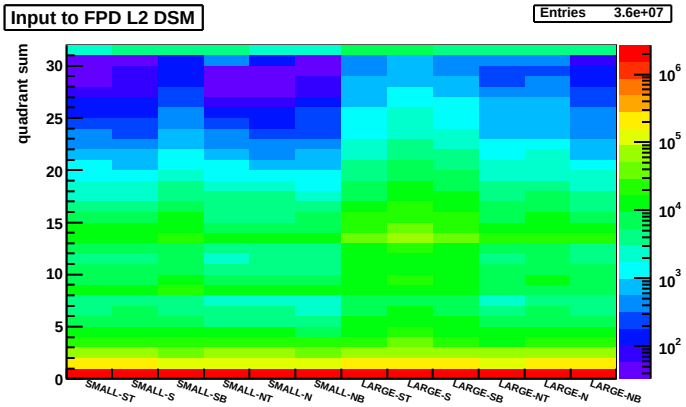

Input to FMS L1 DSM
Entries 62872
sumCD - simulated
DSM board

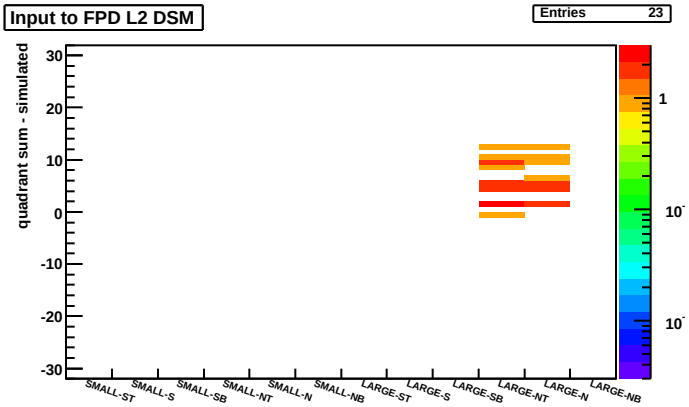

Input to FMS L1 DSM
Entries 3.6e+07
sumA
DSM board

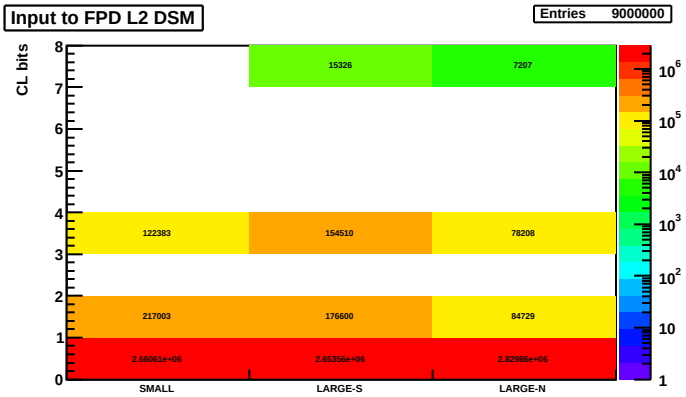

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

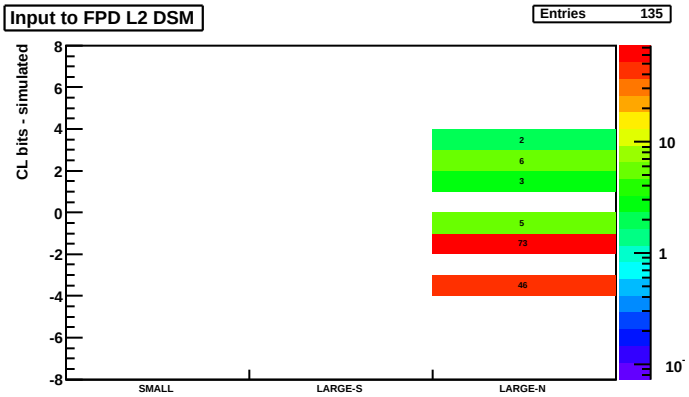

Input to FMS L1 DSM
Entries 3.6e+07
FMS L1 HT bits
DSM board

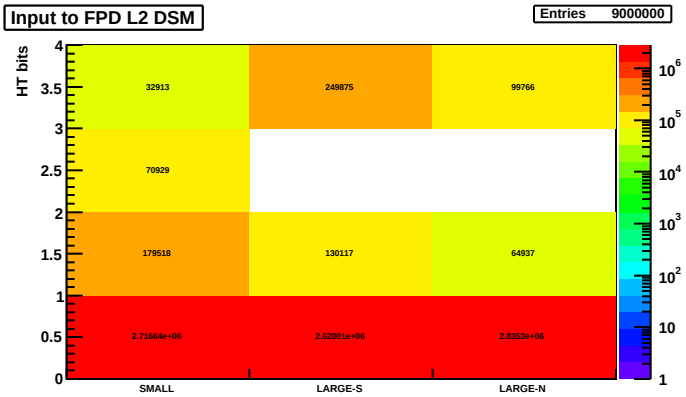

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

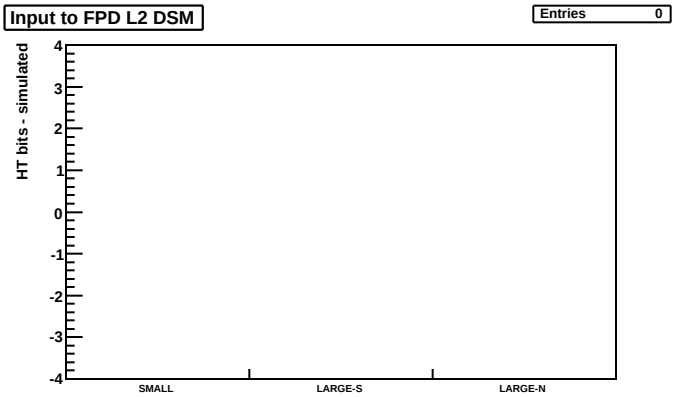

Input to FPD L2 DSM
Entries 3.6e+07
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

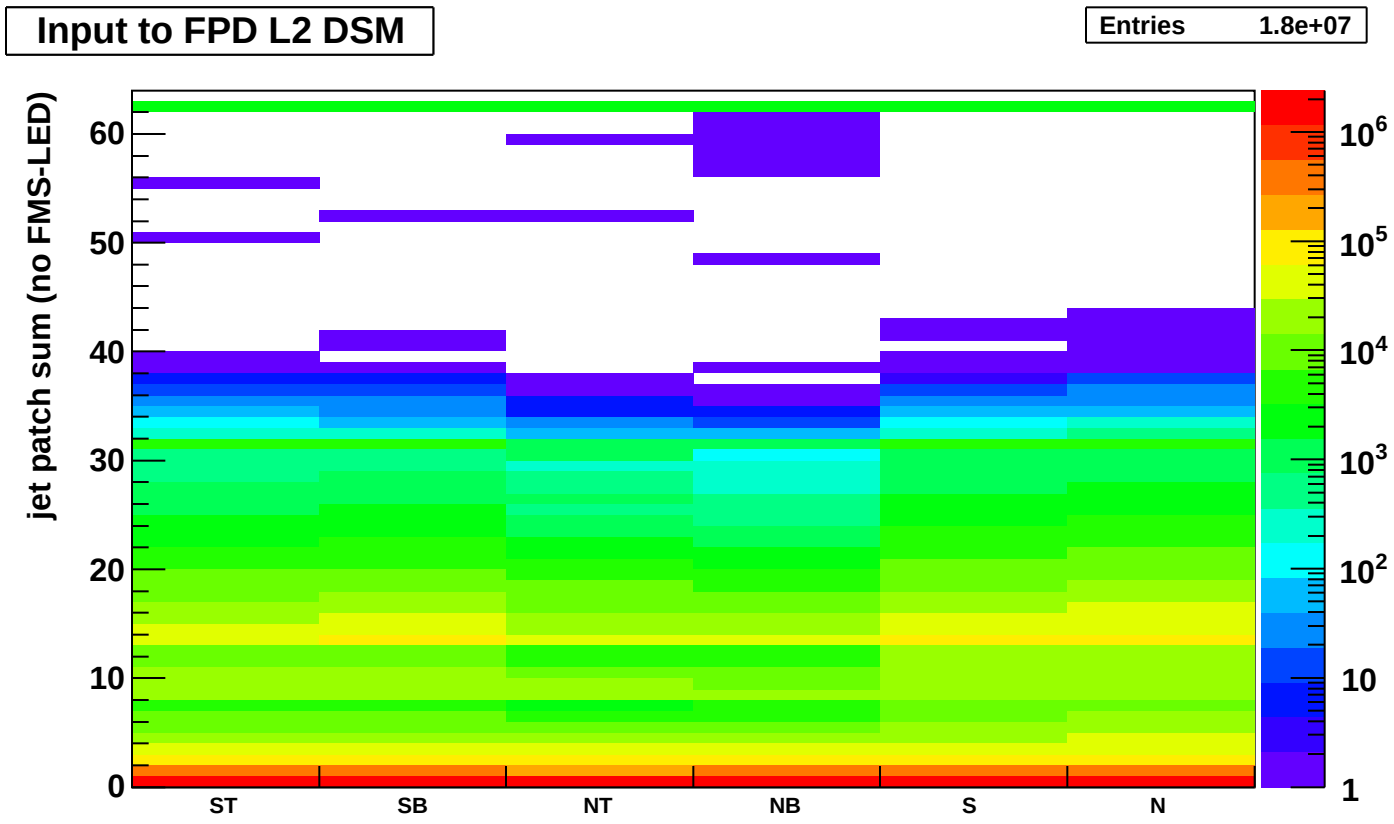

Input to FPD L2 DSM
Entries 23
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

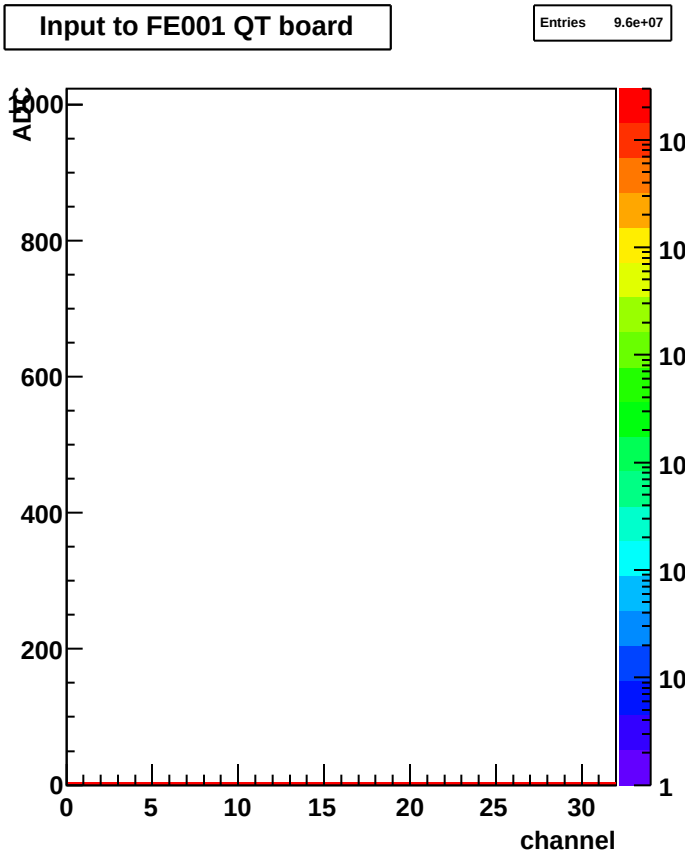

Input to FPD L2 DSM
Entries 9000000
CL bits
15326
7207
122383
154510
78208
217003
176600
84729
2.66061e+06
2.65356e+06
2.82986e+06
SMALL
LARGE-S
LARGE-N

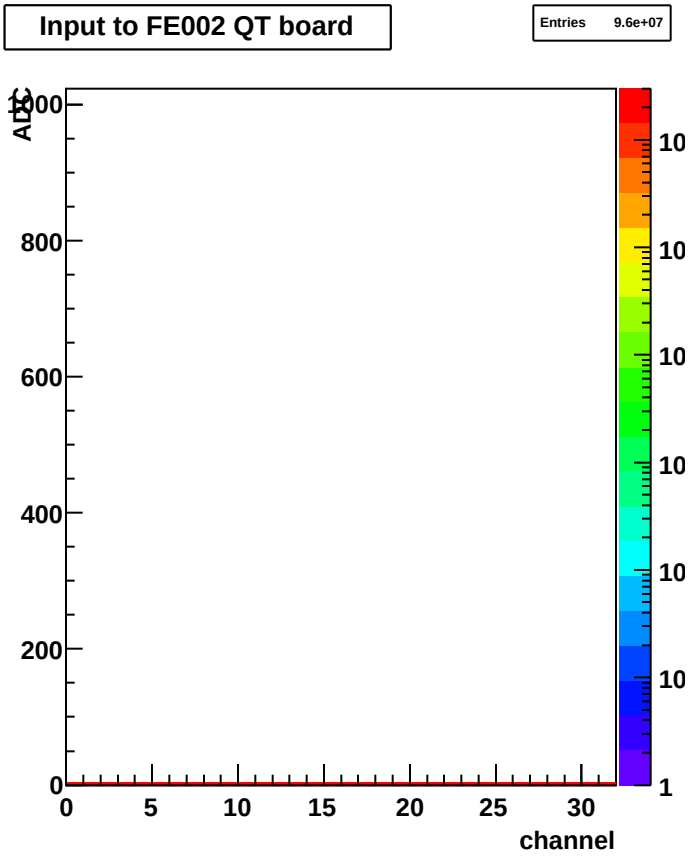

Input to FPD L2 DSM
Entries 135
CL bits - simulated
2
6
3
5
73
46
SMALL
LARGE-S
LARGE-N

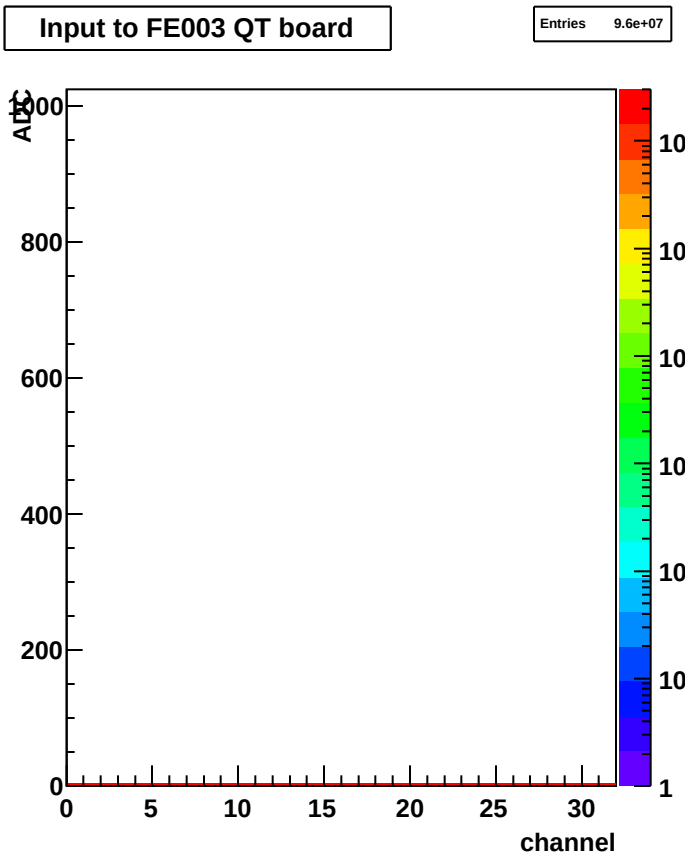

Input to FPD L2 DSM
Entries 9000000
HT bits
32913
249875
99766
70929
179518
130117
64937
2.71664e+06
2.62001e+06
2.8353e+06
SMALL
LARGE-S
LARGE-N

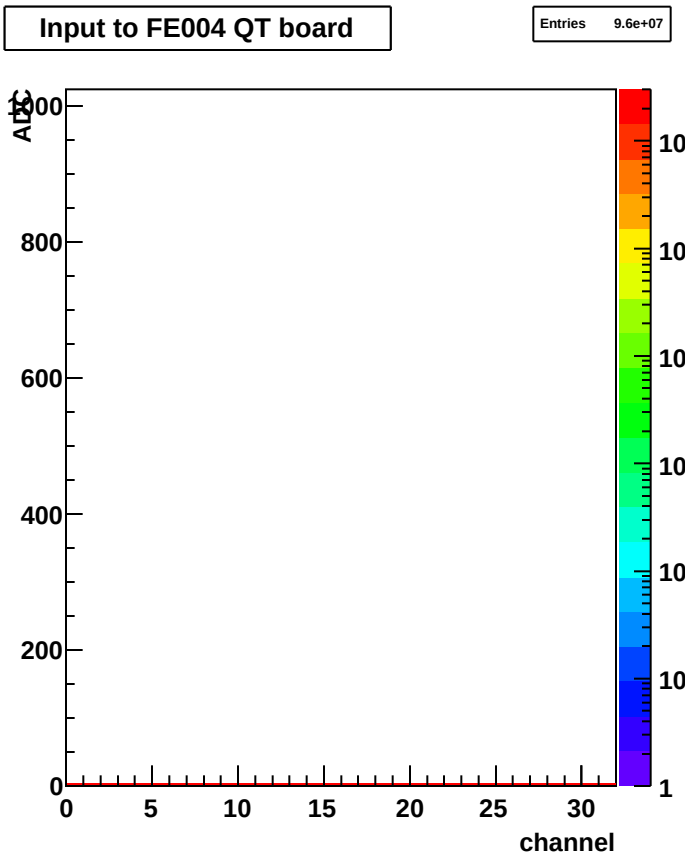

Input to FPD L2 DSM
Entries 0
HT bits - simulated
SMALL
LARGE-S
LARGE-N

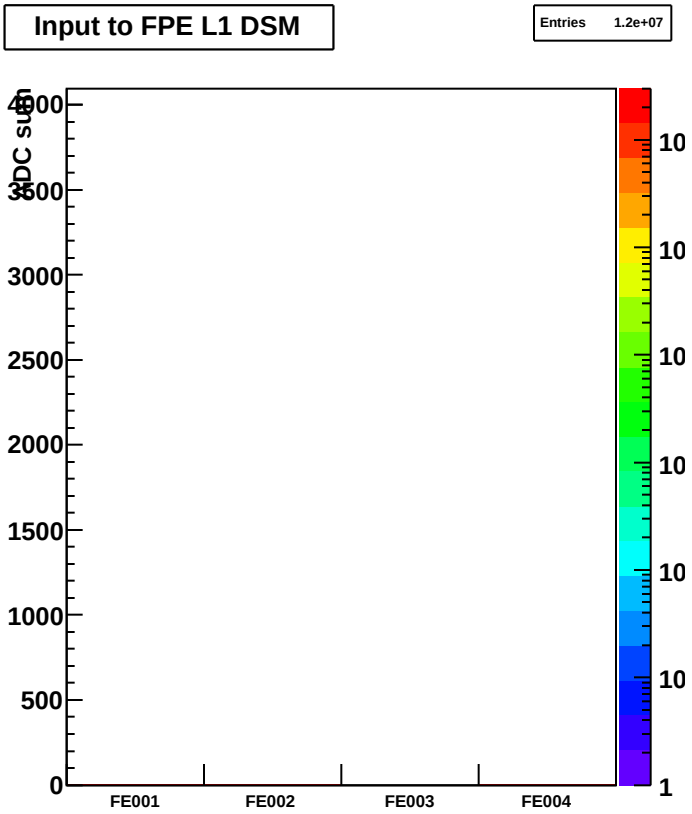

Input to FPD L2 DSM
Entries 1.8e+07
jet patch sum (no FMS-LED)
0
10
20
30
40
50
60
ST
SB
NT
NB
S
N
1
10
10^2
10^3
10^4
10^5
10^6

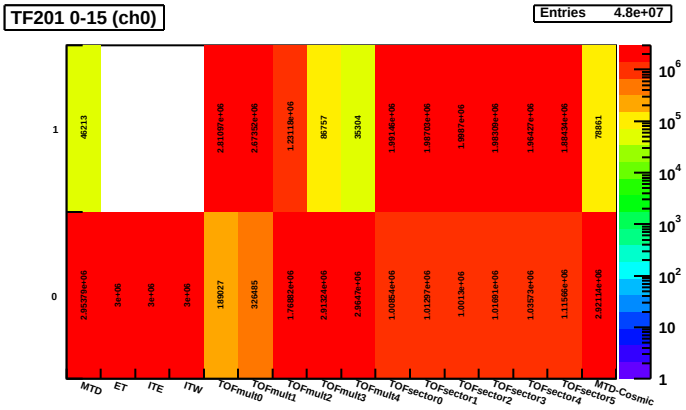

Input to FE001 QT board
Entries 9.6e+07
ADC
channel

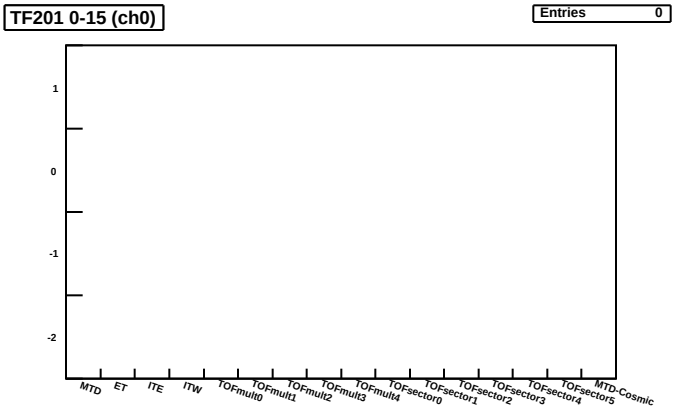

Input to FE002 QT board
Entries 9.6e+07
ADC
channel

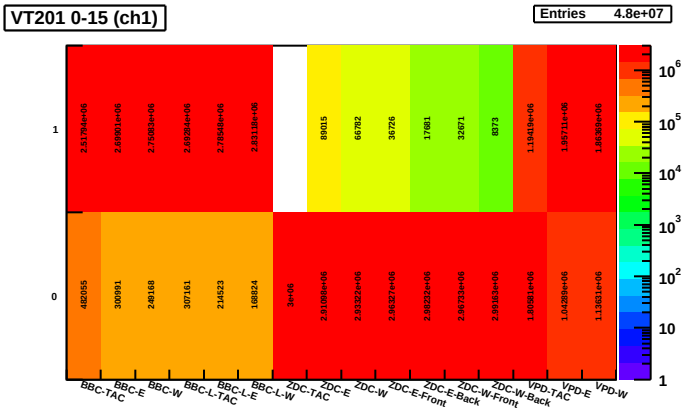

Input to FE003 QT board
Entries 9.6e+07
ADC
channel

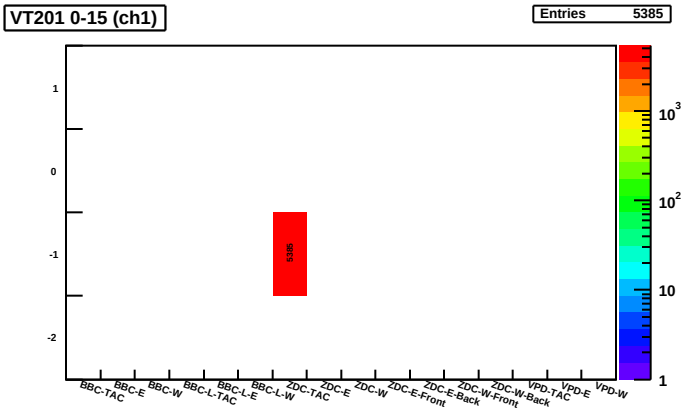

Input to FE004 QT board
Entries 9.6e+07
ADC
channel

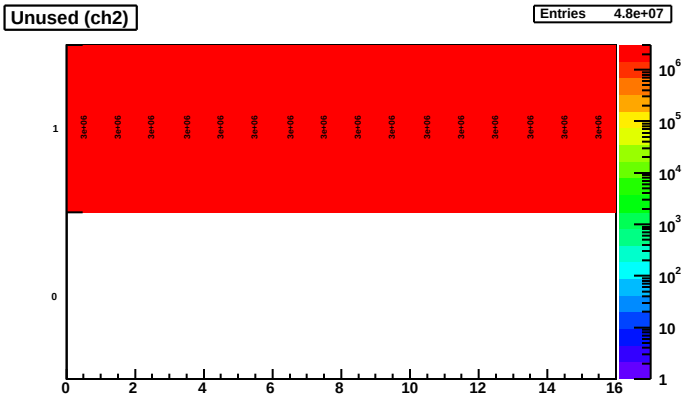

Input to FPE L1 DSM
Entries 1.2e+07
ADC sum
4000
3500
3000
2500
2000
1500
1000
500
0
FE001
FE002
FE003
FE004
10
10
10
10
10
10
1

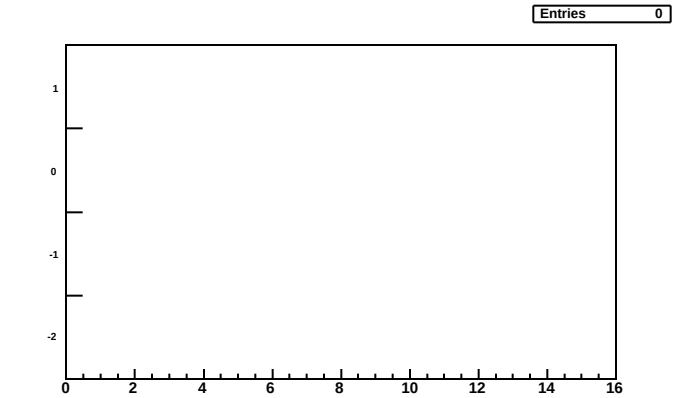

TF201 0-15 (ch0)
Entries 4.8e+07
MTD ET ITE ITW TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

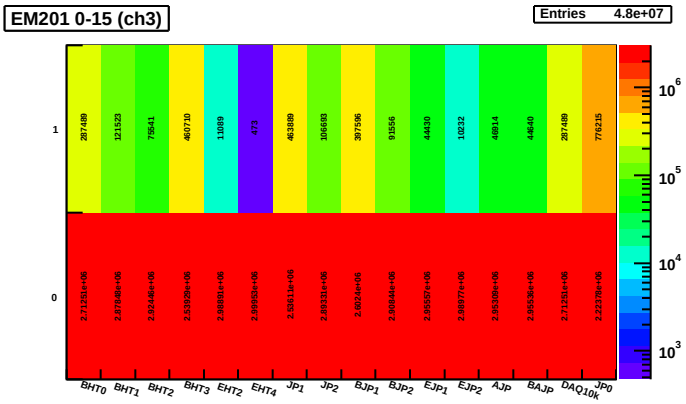

TF201 0-15 (ch0)
Entries 0
MTD ET ITE ITW TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

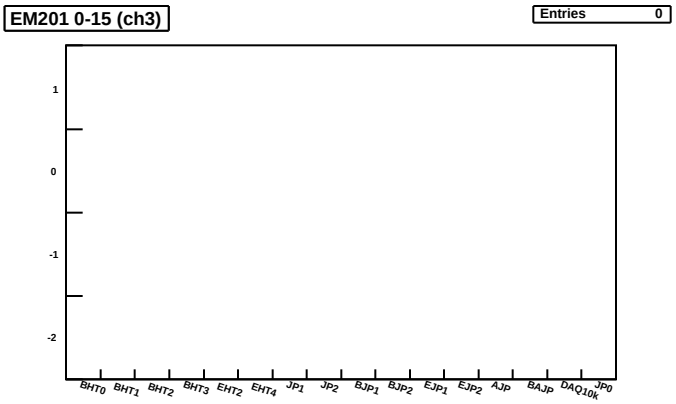

VT201 0-15 (ch1)
Entries 4.8e+07
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 5385
5385
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

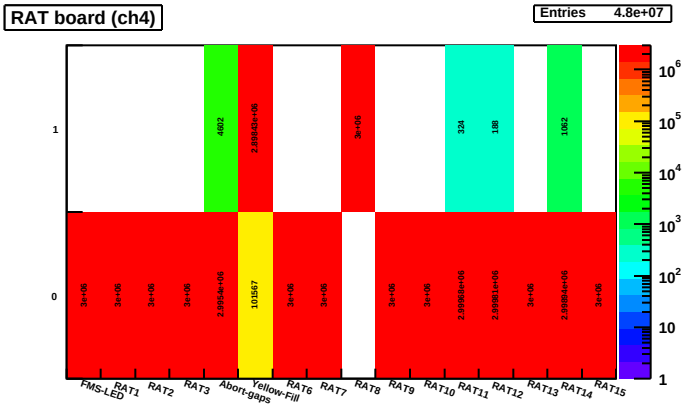

Unused (ch2)
Entries 4.8e+07

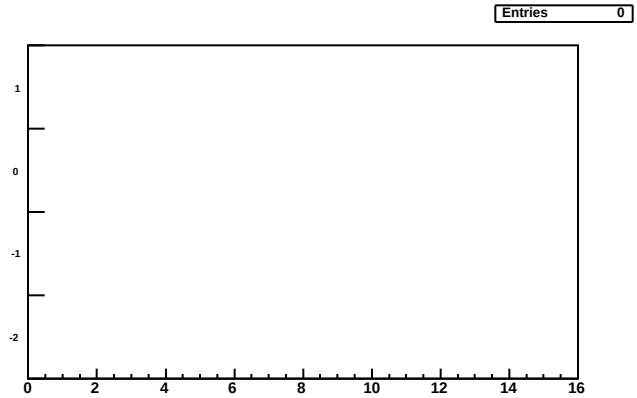

Entries 0


EM201 0-15 (ch3)
Entries 4.8e+07
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

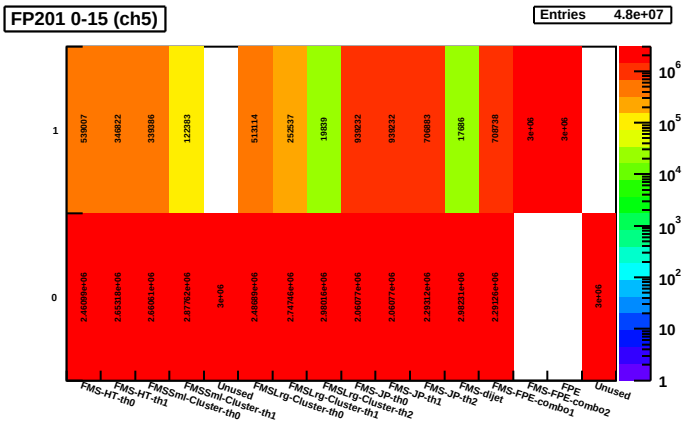

EM201 0-15 (ch3)
Entries 0
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0

RAT board (ch4)





FP201 0-15 (ch5)



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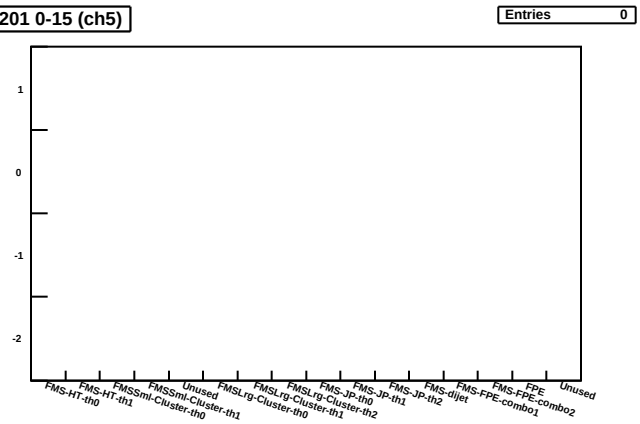
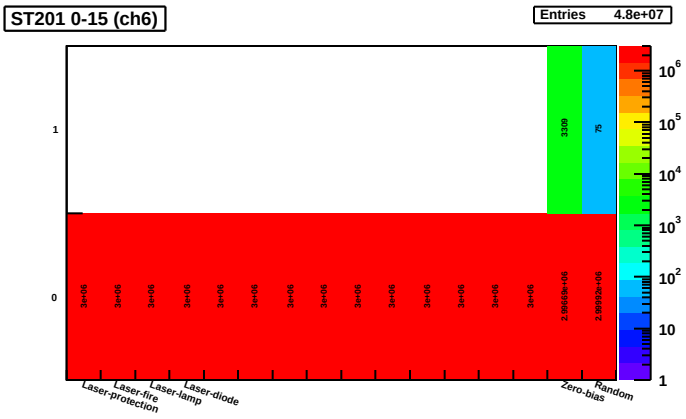
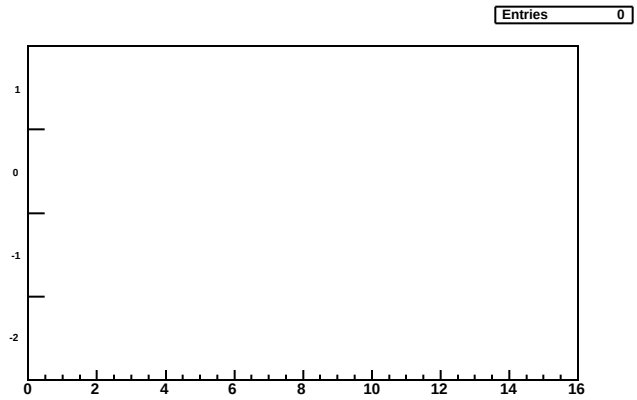
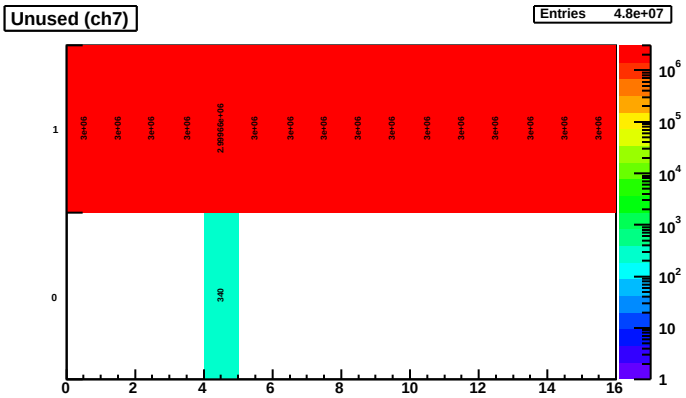
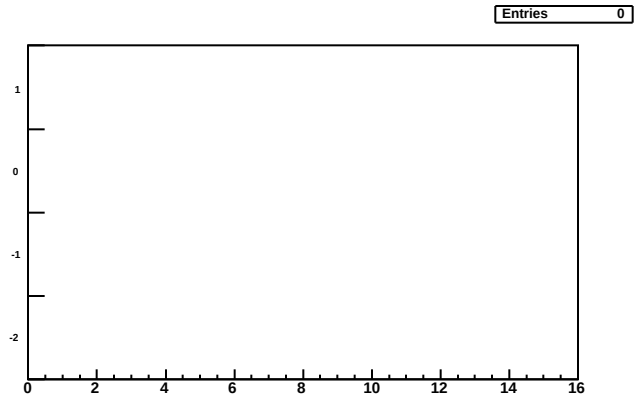


ST201 0-15 (ch6)





Unused (ch7)