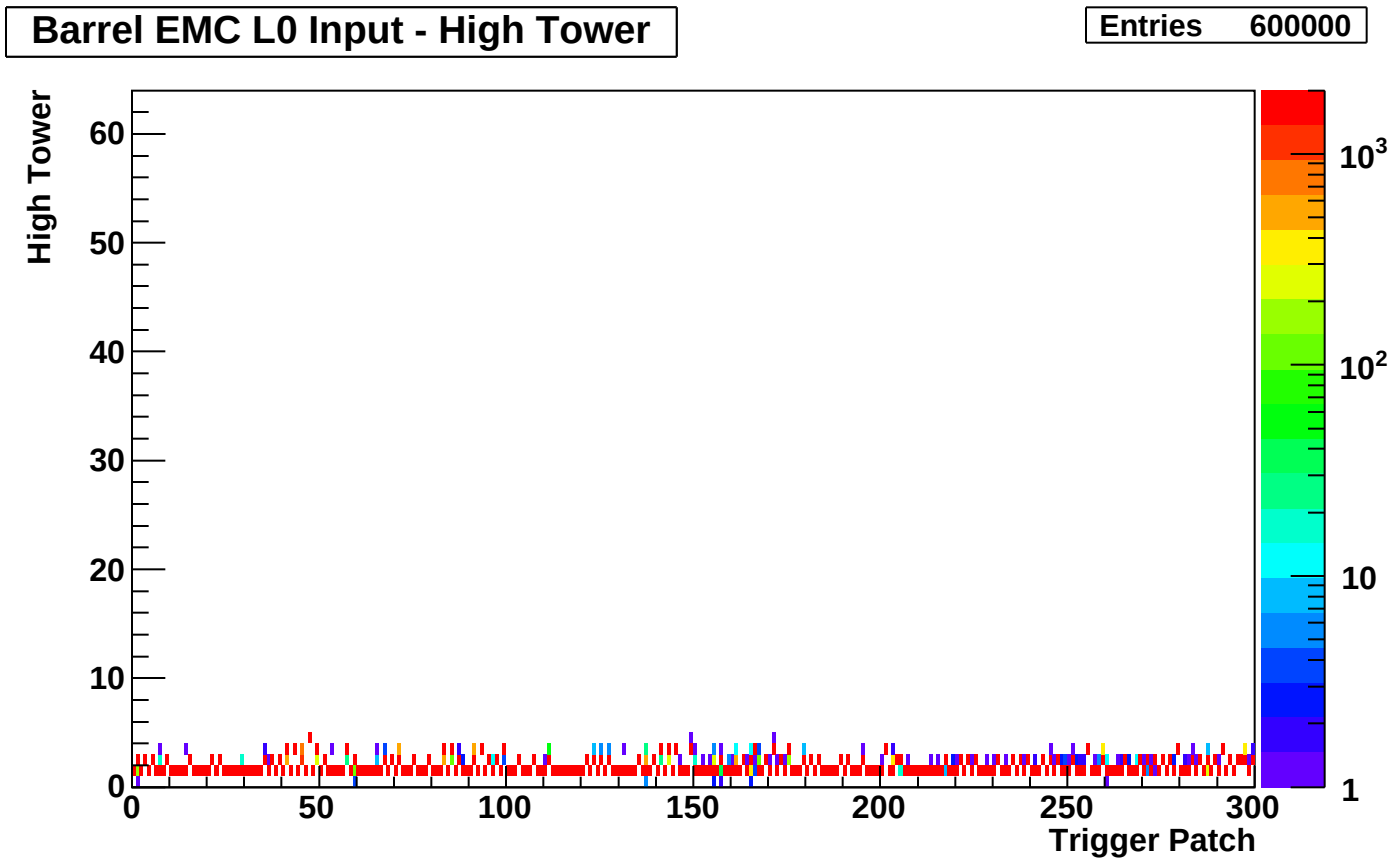
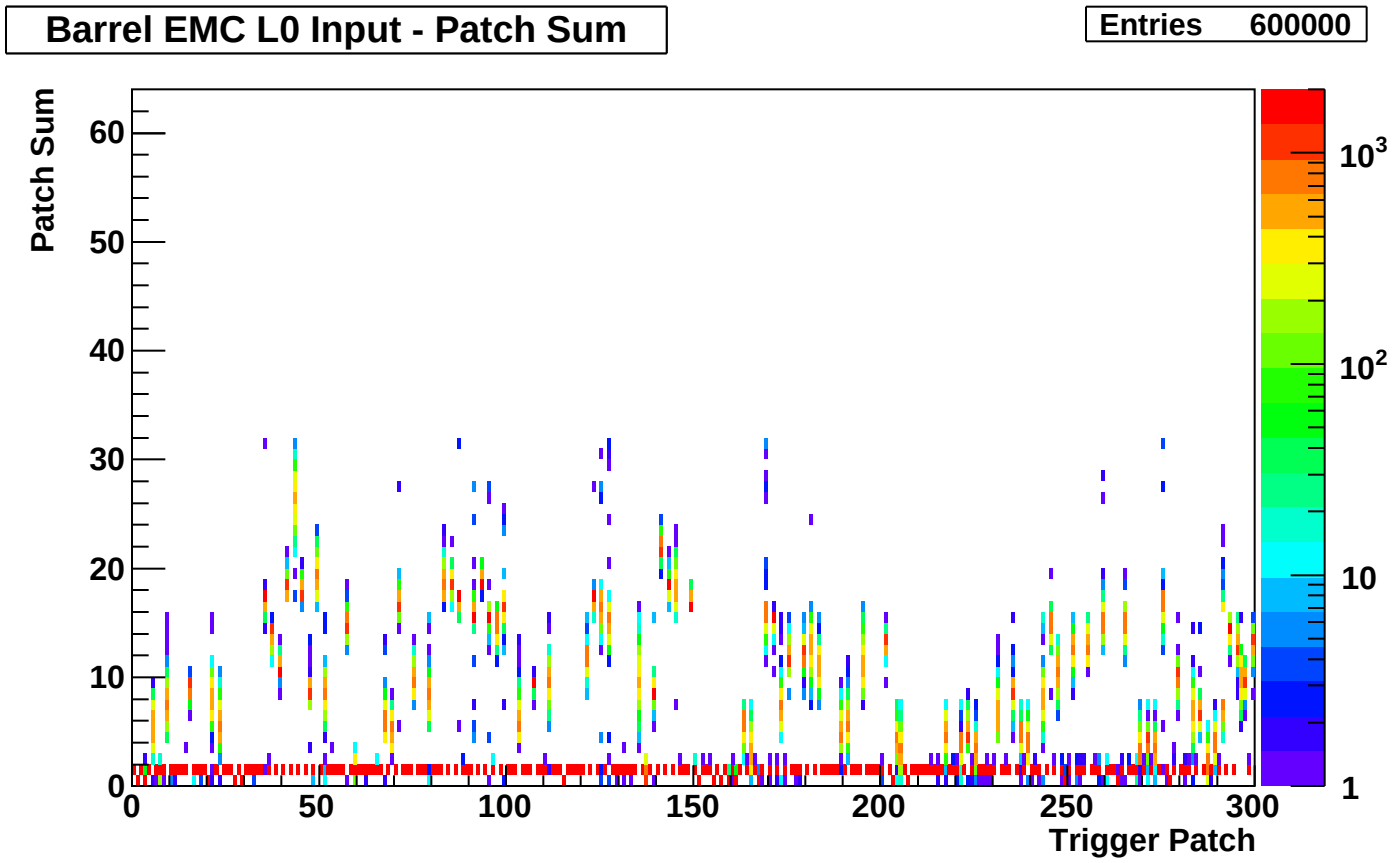
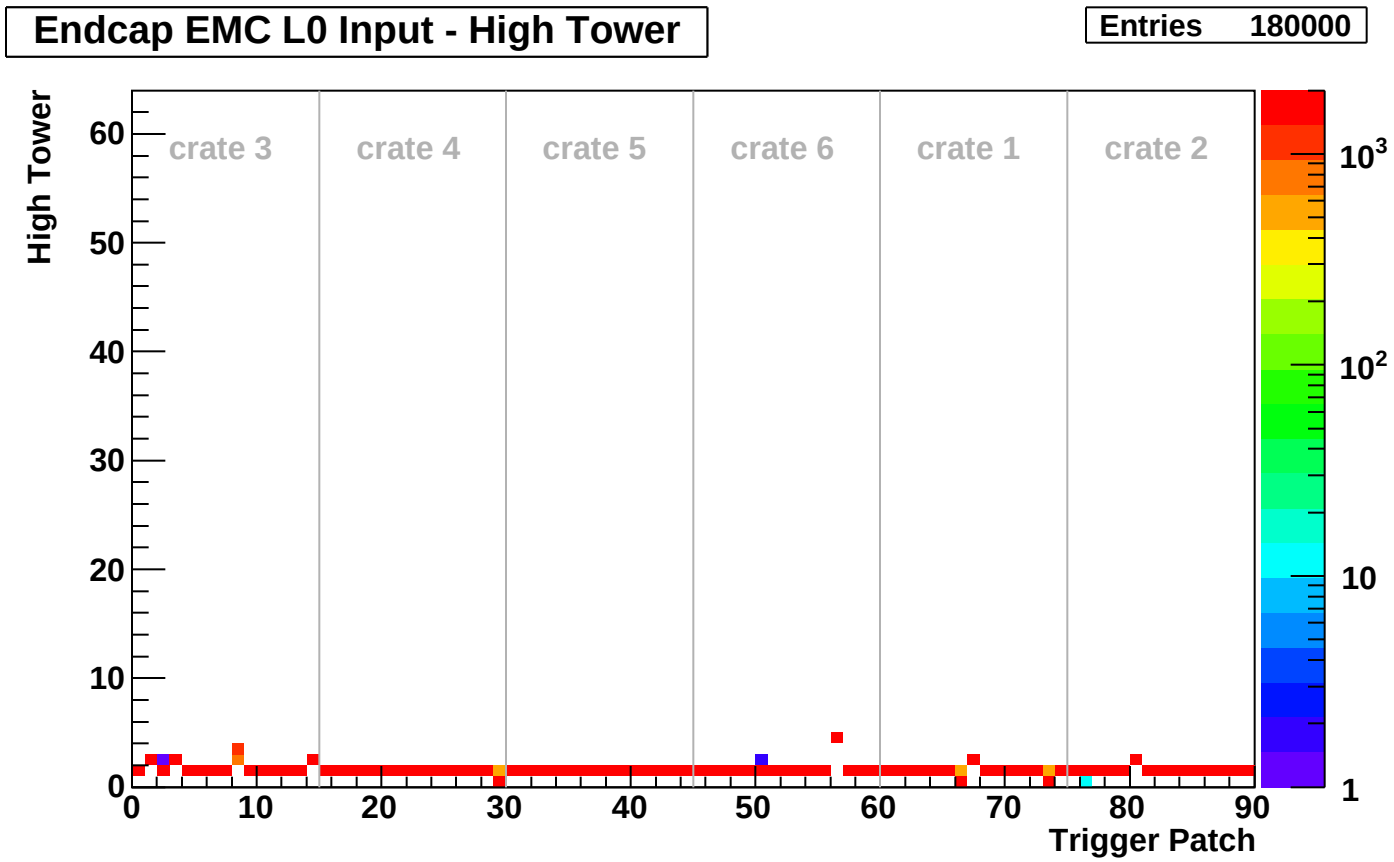
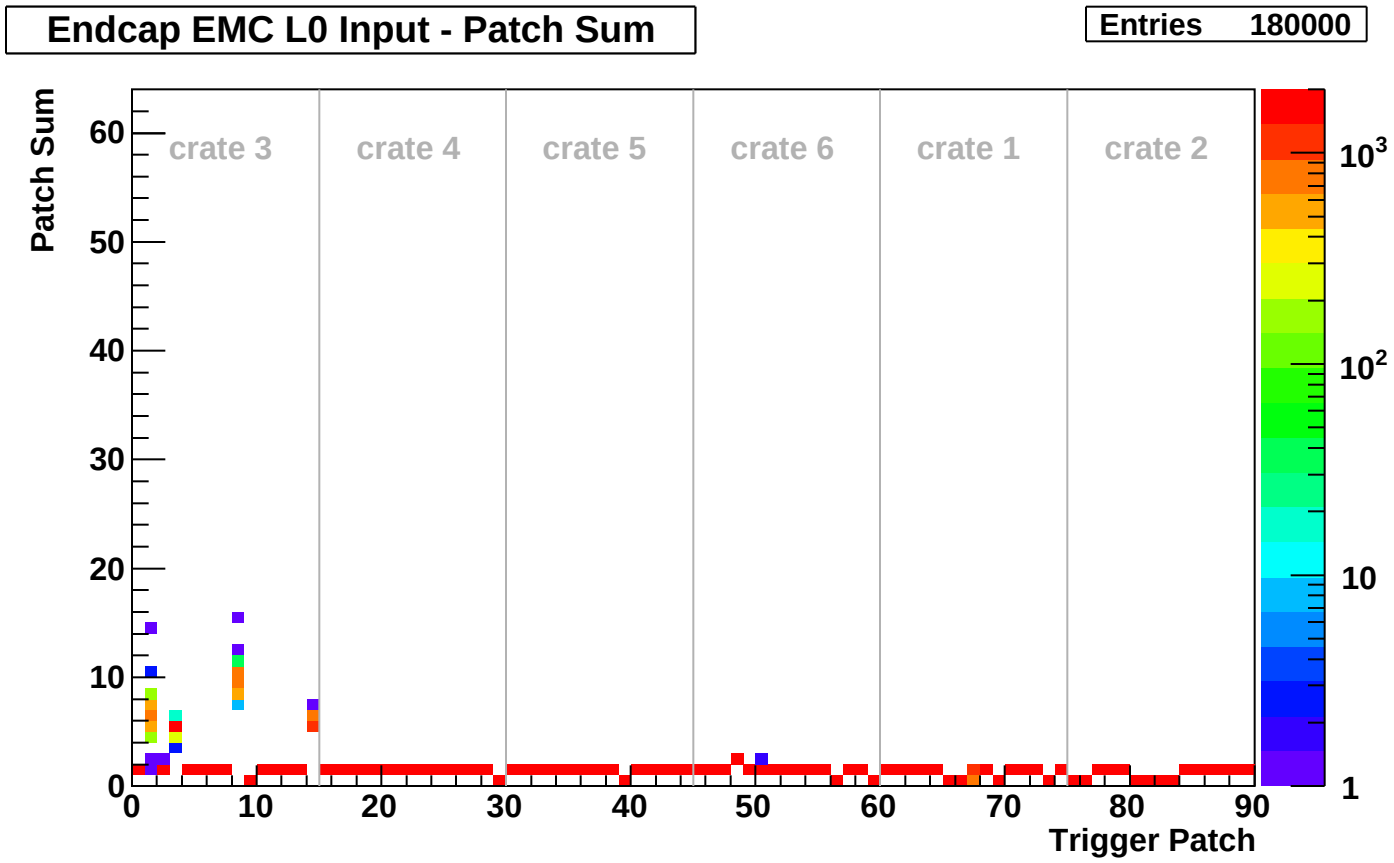
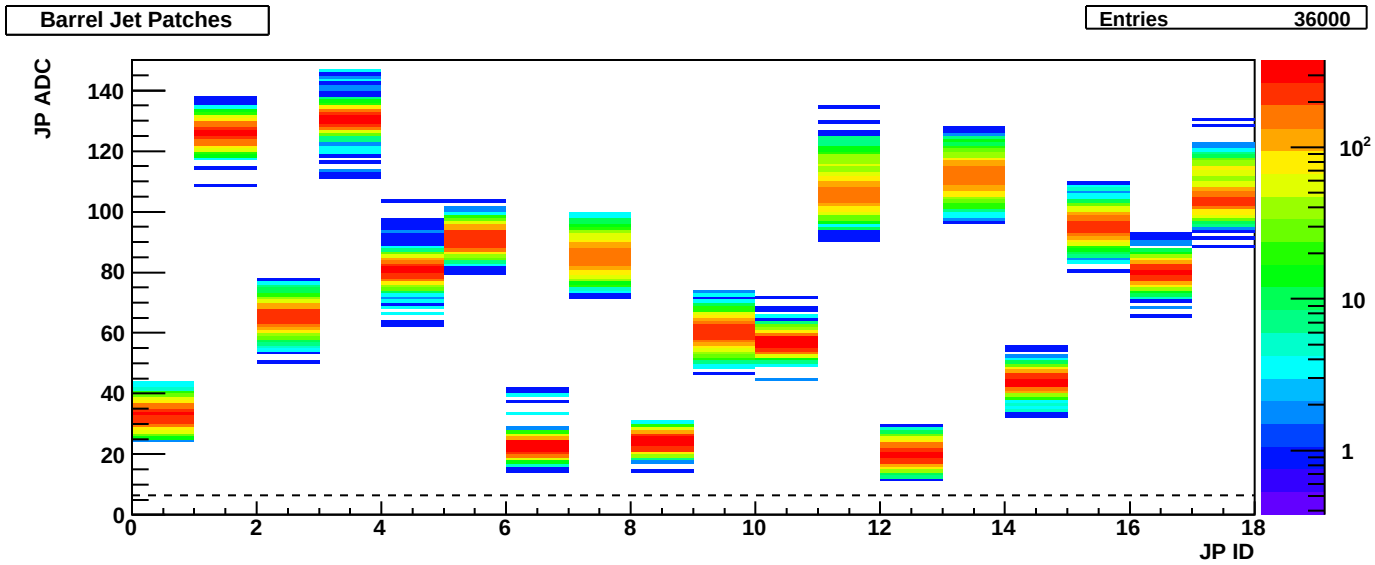
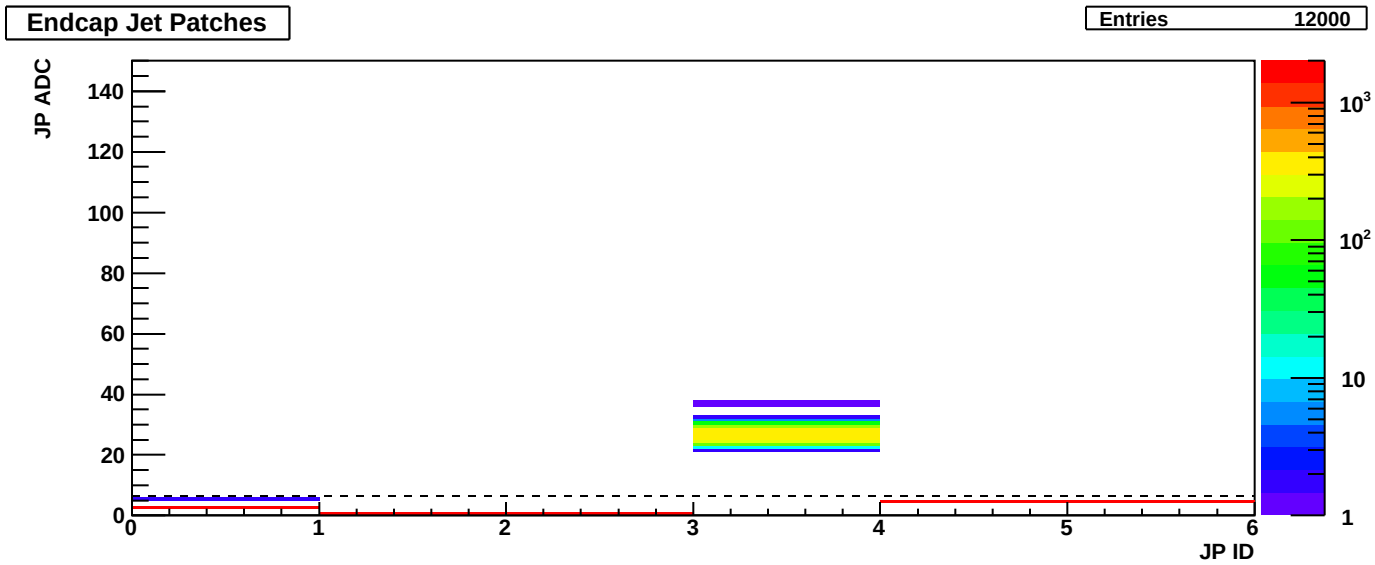

Barrel EMC L0 Input - High Tower
Entries 600000
High Tower
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

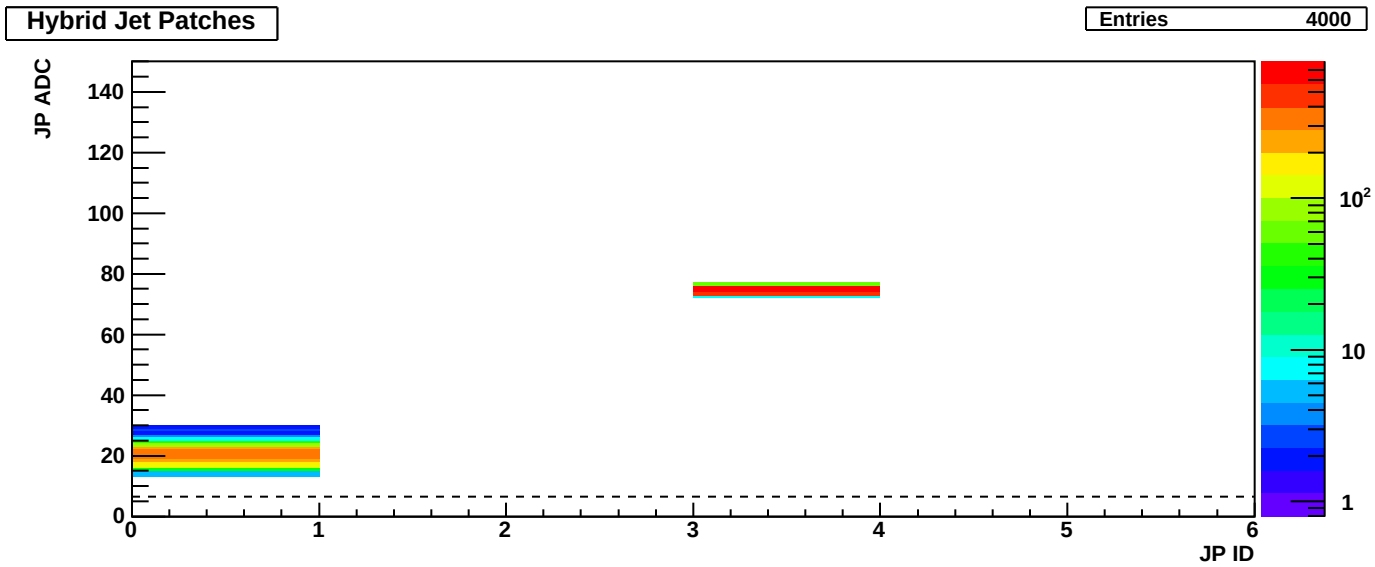

Barrel EMC L0 Input - Patch Sum
Entries 600000
Patch Sum
Trigger Patch
0
10
20
30
40
50
60
0
50
100
150
200
250
300
1
10
10^2
10^3

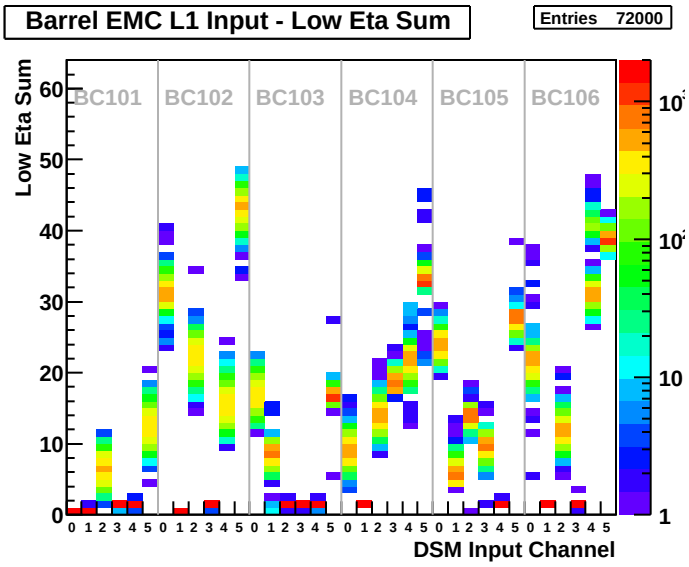

Endcap EMC L0 Input - High Tower
Entries 180000
High Tower
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

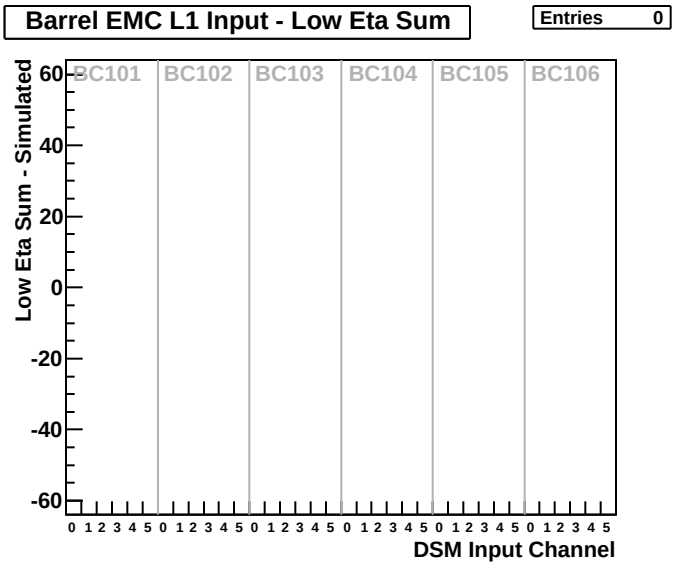

Endcap EMC L0 Input - Patch Sum
Entries 180000
Patch Sum
crate 3
crate 4
crate 5
crate 6
crate 1
crate 2
Trigger Patch

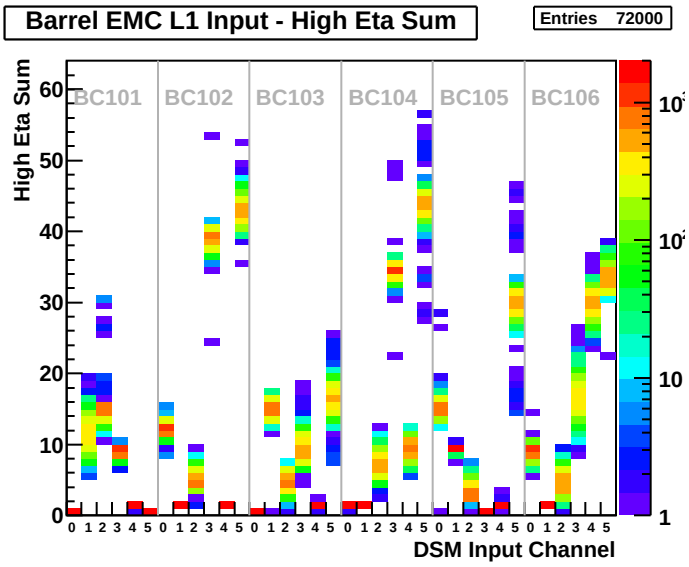

Barrel Jet Patches
Entries 36000
JP ADC
JP ID

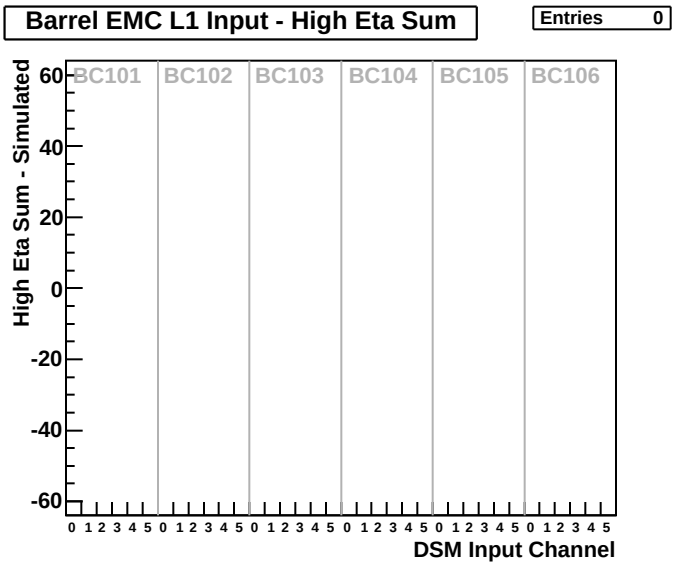

Endcap Jet Patches
Entries 12000
JP ADC
JP ID

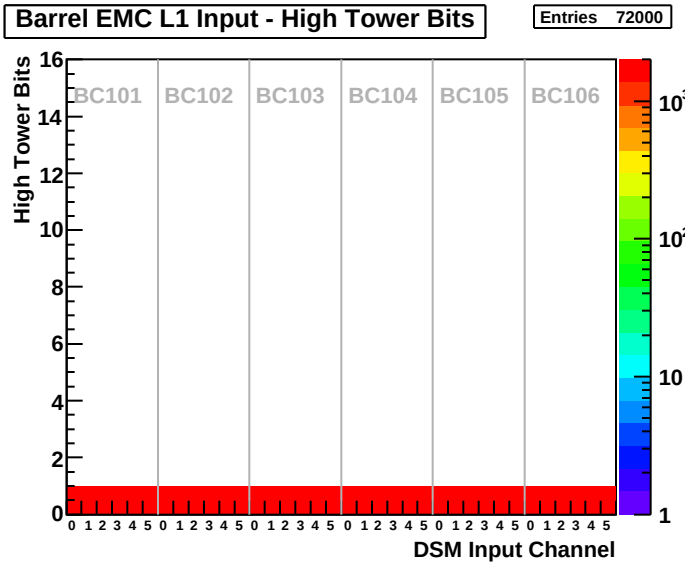

Hybrid Jet Patches
Entries 4000
JP ADC
JP ID

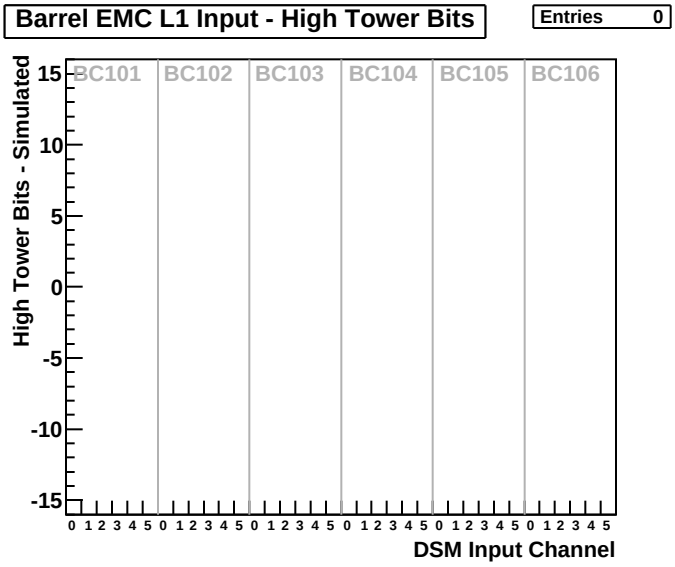

Barrel EMC L1 Input - Low Eta Sum
Entries 72000
Low Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

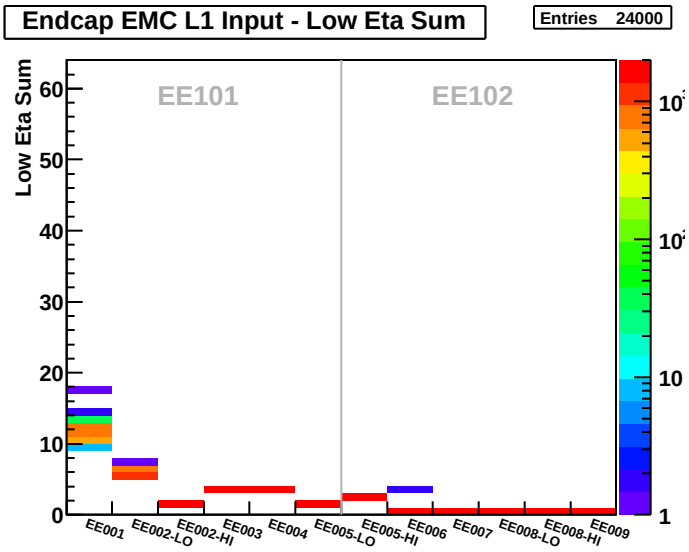

Barrel EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

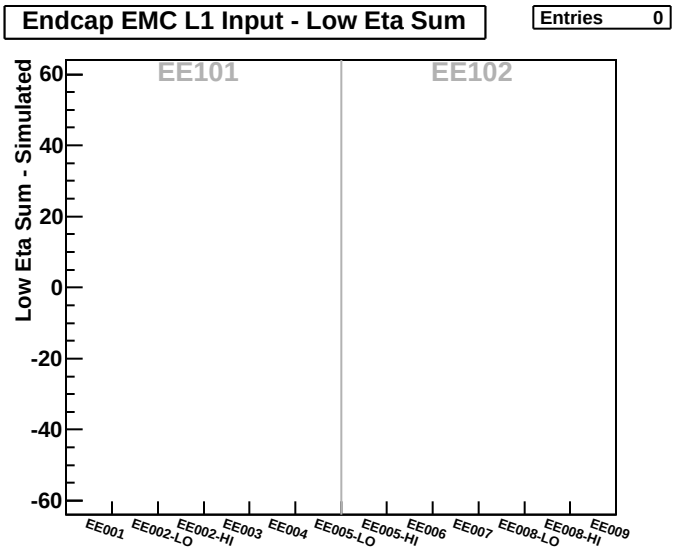

Barrel EMC L1 Input - High Eta Sum
Entries 72000
High Eta Sum
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

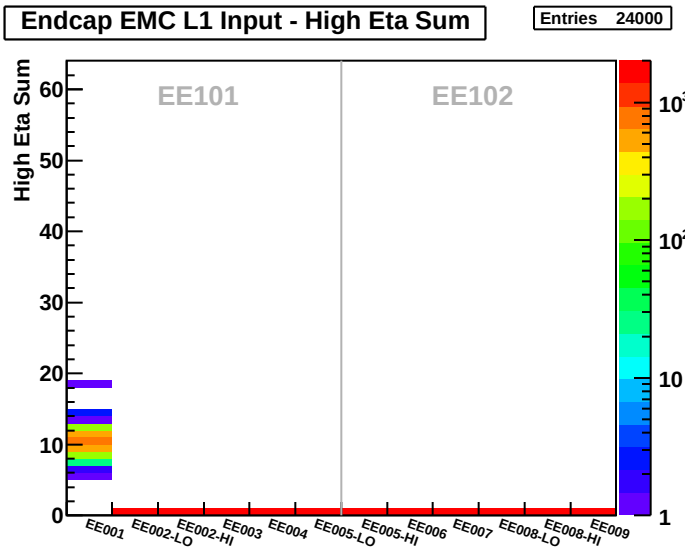

Barrel EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

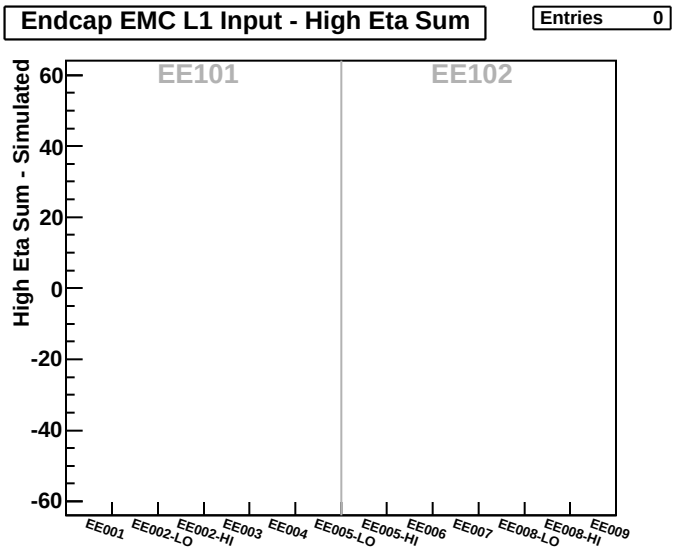

Barrel EMC L1 Input - High Tower Bits
Entries 72000
High Tower Bits
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

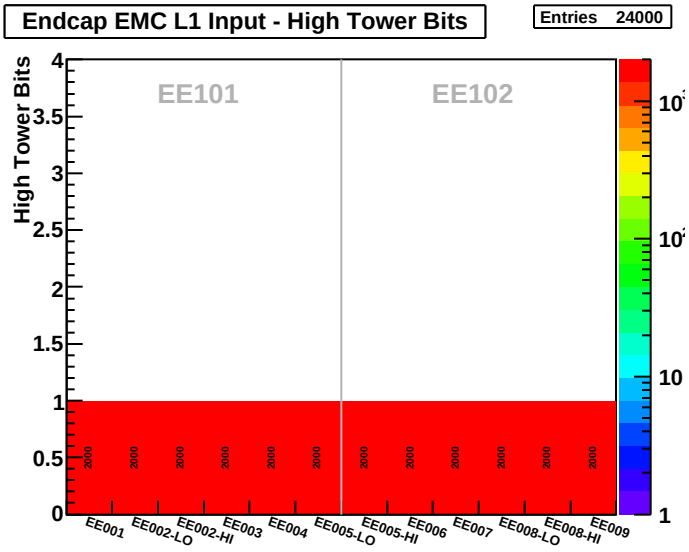

Barrel EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
BC101
BC102
BC103
BC104
BC105
BC106
DSM Input Channel

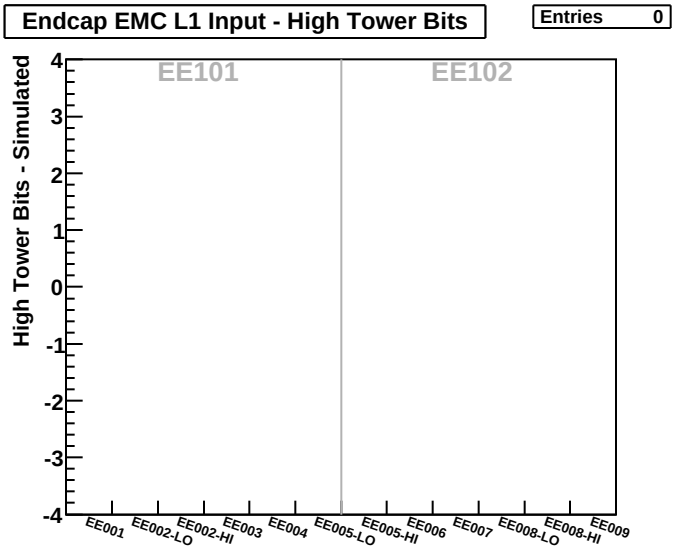

Endcap EMC L1 Input - Low Eta Sum
Entries 24000
Low Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

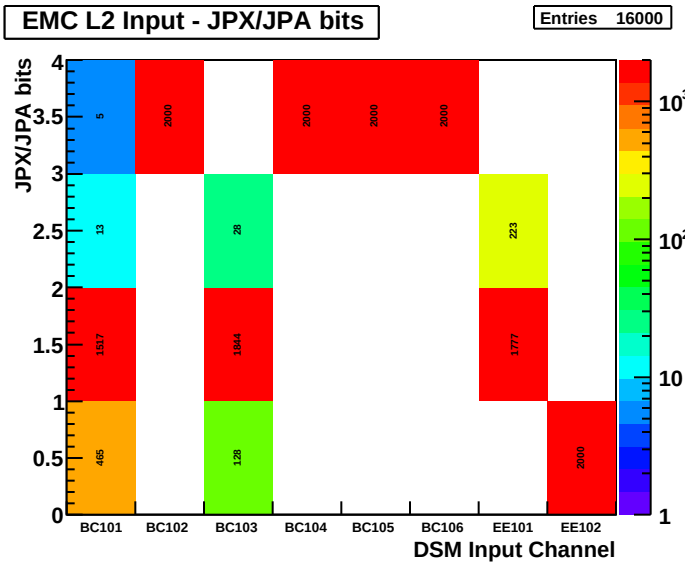

Endcap EMC L1 Input - Low Eta Sum
Entries 0
Low Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

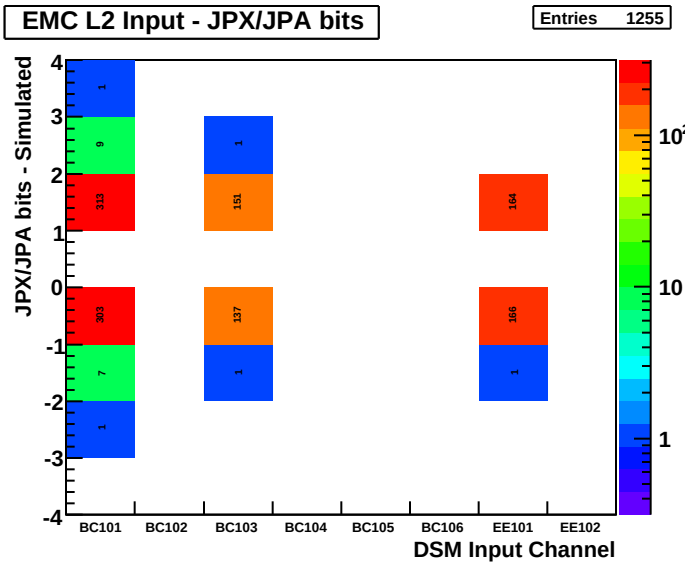

Endcap EMC L1 Input - High Eta Sum
Entries 24000
High Eta Sum
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

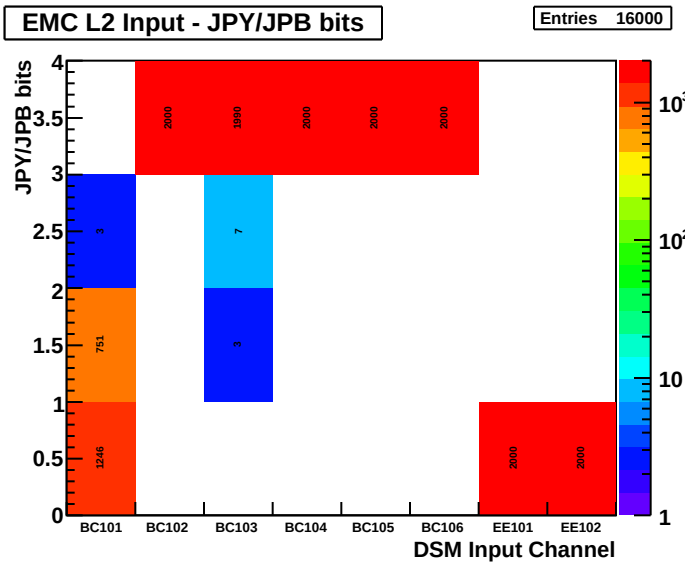

Endcap EMC L1 Input - High Eta Sum
Entries 0
High Eta Sum - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

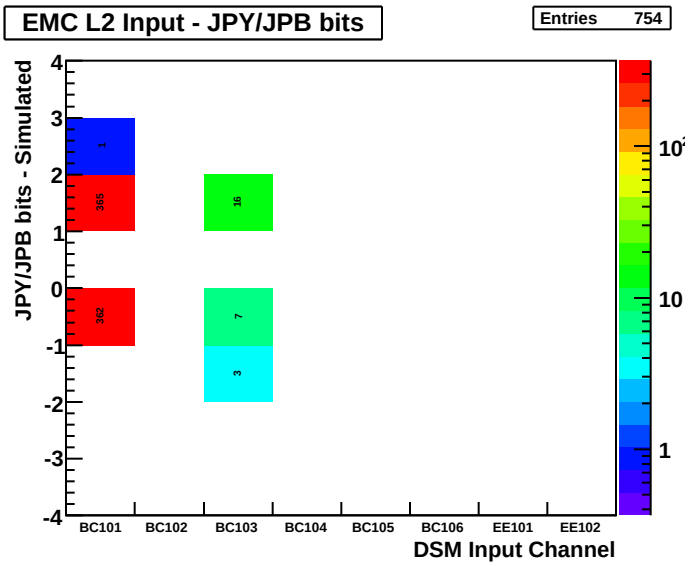

Endcap EMC L1 Input - High Tower Bits
Entries 24000
High Tower Bits
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

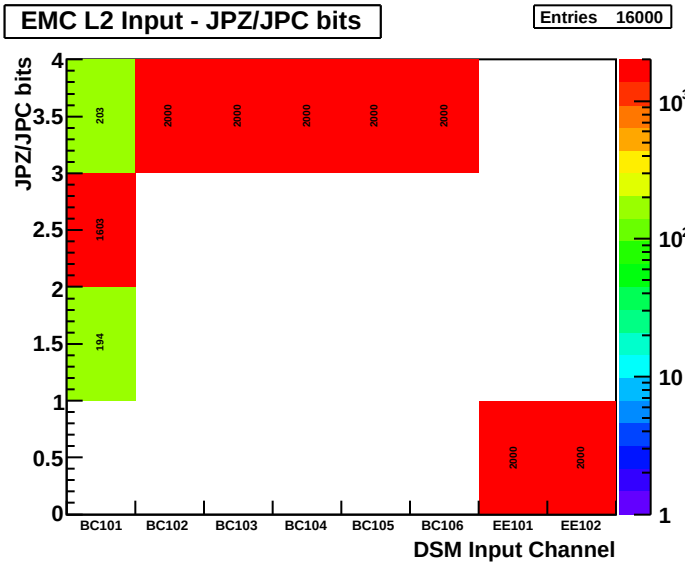

Endcap EMC L1 Input - High Tower Bits
Entries 0
High Tower Bits - Simulated
EE101
EE102
EE001 EE002-LO EE002-HI EE003 EE004 EE005-LO EE005-HI EE006 EE007 EE008-LO EE008-HI EE009

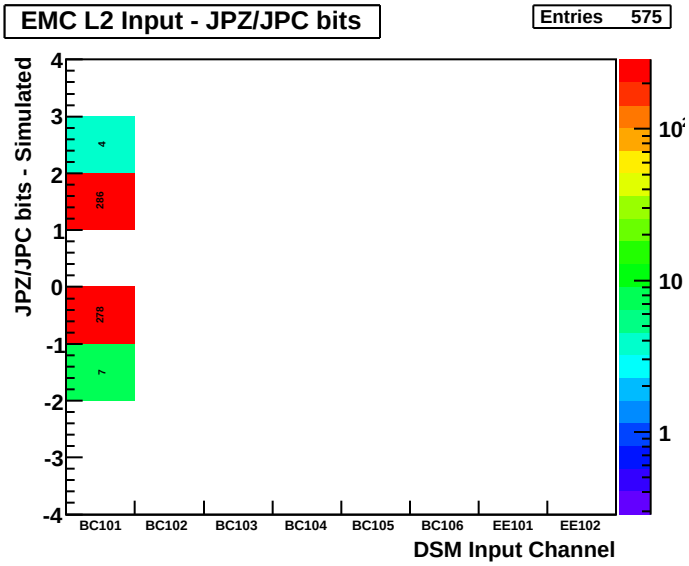

EMC L2 Input - JPX/JPA bits
Entries 16000
JPX/JPA bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

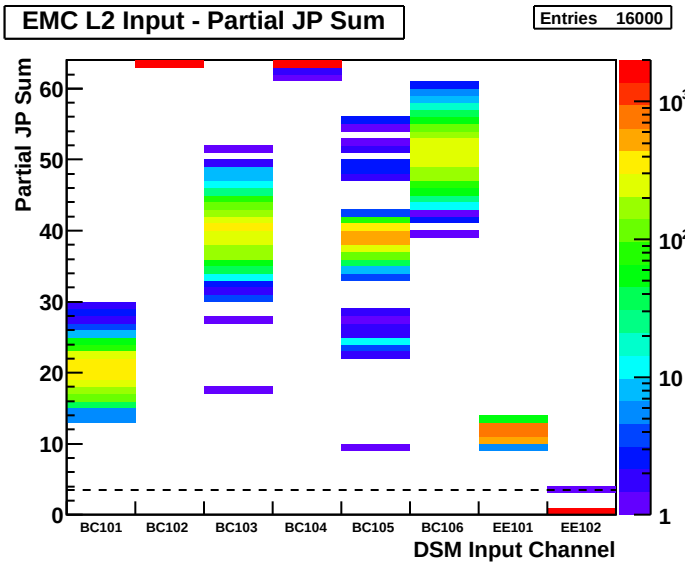

EMC L2 Input - JPX/JPA bits
Entries 1255
JPX/JPA bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

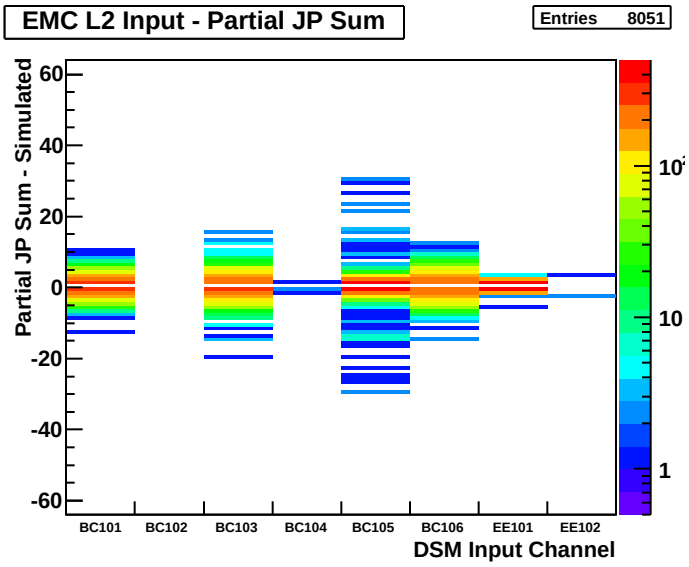

EMC L2 Input - JPY/JPB bits
Entries 16000
JPY/JPB bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

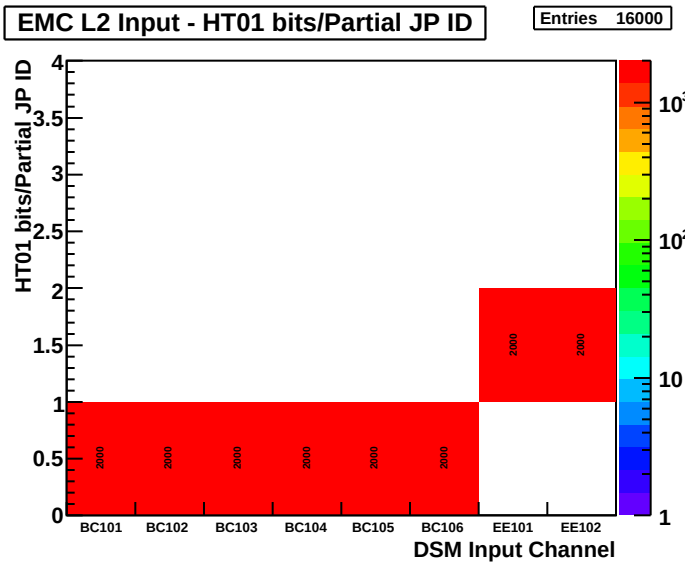

EMC L2 Input - JPY/JPB bits
Entries 754
JPY/JPB bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

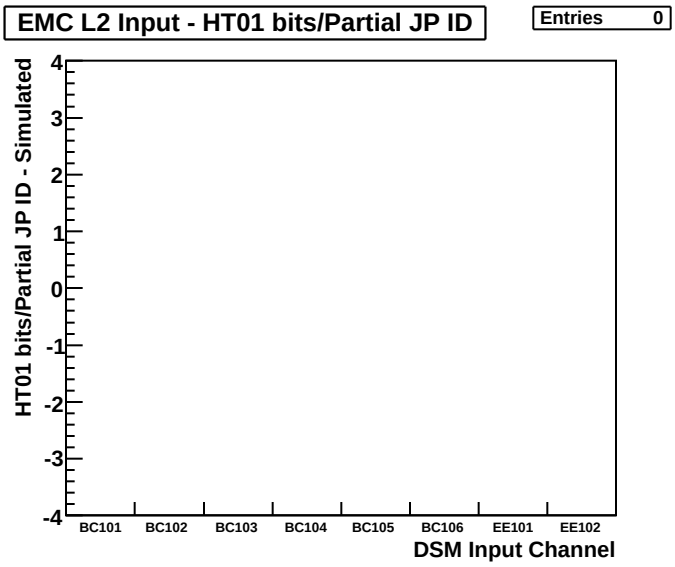

EMC L2 Input - JPZ/JPC bits
Entries 16000
JPZ/JPC bits
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

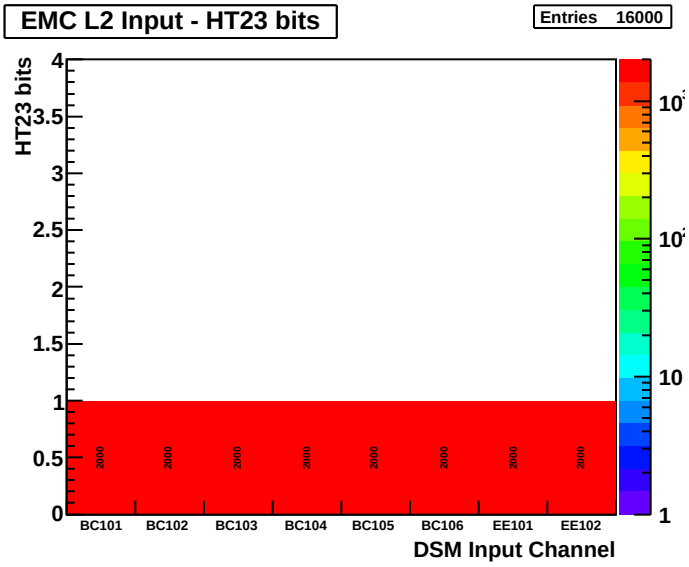

EMC L2 Input - JPZ/JPC bits
Entries 575
JPZ/JPC bits - Simulated
DSM Input Channel
BC101 BC102 BC103 BC104 BC105 BC106 EE101 EE102

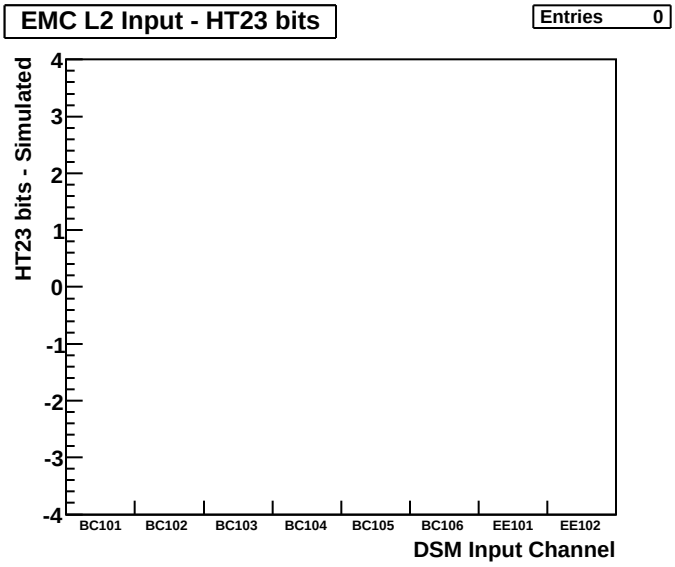

EMC L2 Input - Partial JP Sum
Entries 16000
Partial JP Sum
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

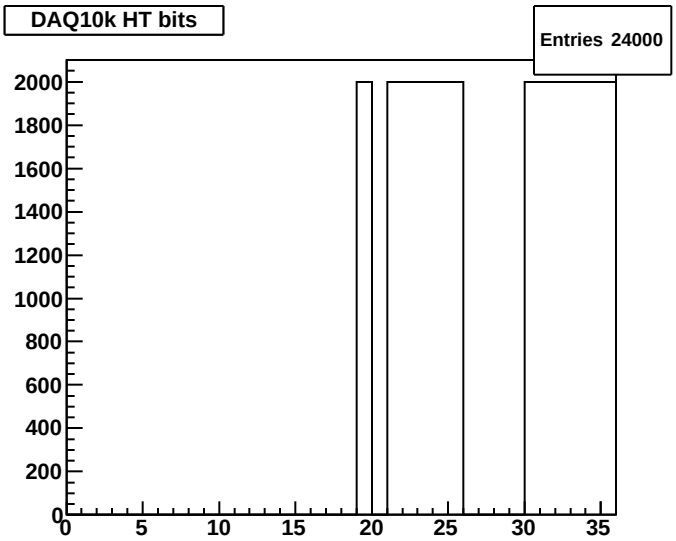

EMC L2 Input - Partial JP Sum
Entries 8051
Partial JP Sum - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

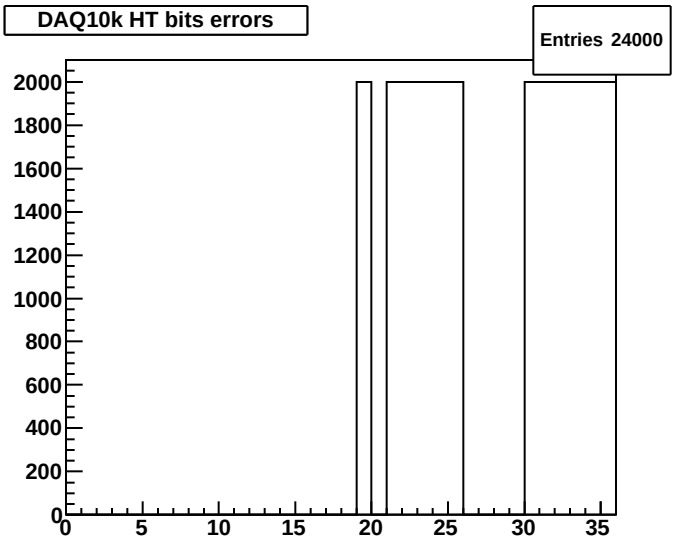

EMC L2 Input - HT01 bits/Partial JP ID
Entries 16000
HT01 bits/Partial JP ID
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

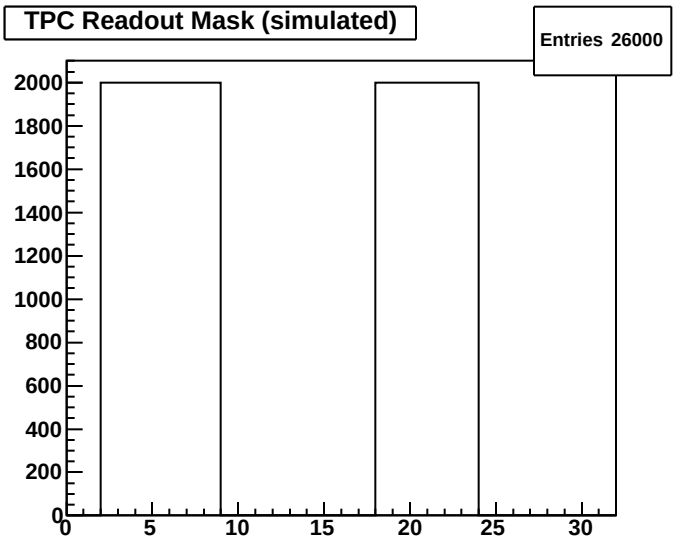

EMC L2 Input - HT01 bits/Partial JP ID
Entries 0
HT01 bits/Partial JP ID - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

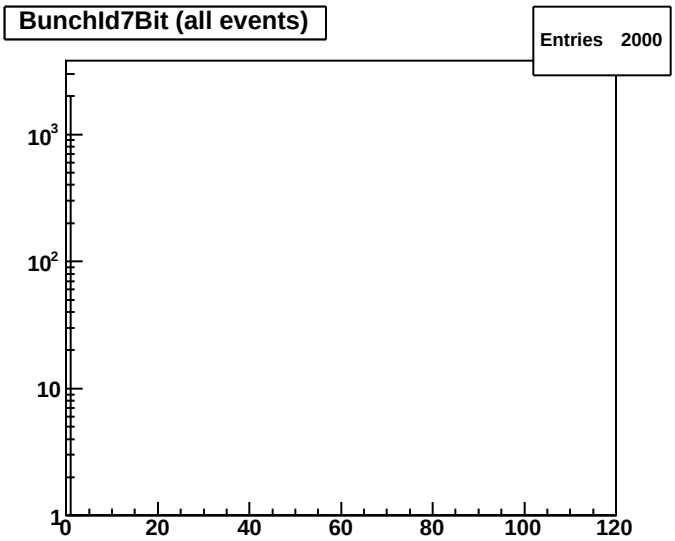

EMC L2 Input - HT23 bits
Entries 16000
HT23 bits
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

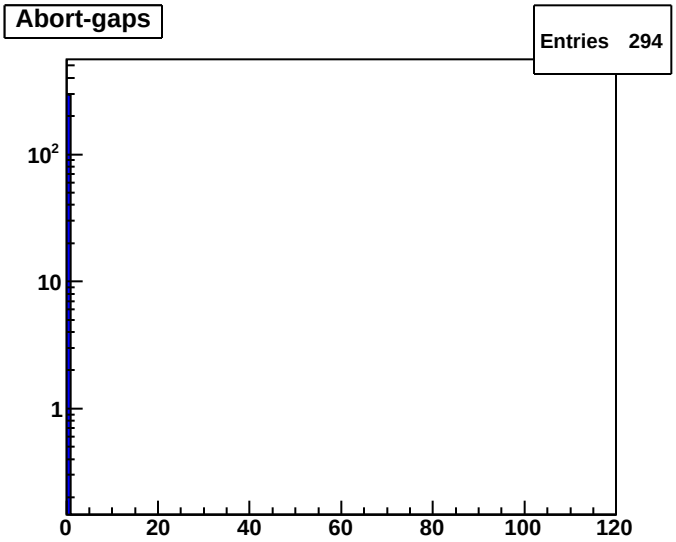

EMC L2 Input - HT23 bits
Entries 0
HT23 bits - Simulated
DSM Input Channel
BC101
BC102
BC103
BC104
BC105
BC106
EE101
EE102

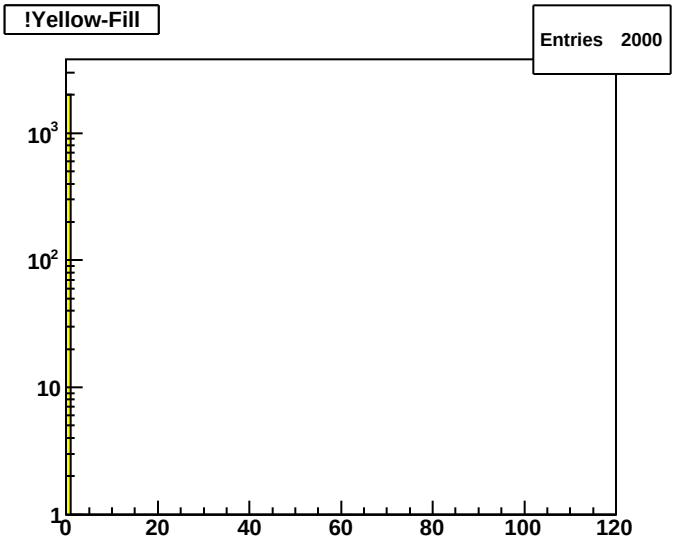

DAQ10k HT bits
Entries 24000
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0 5 10 15 20 25 30 35

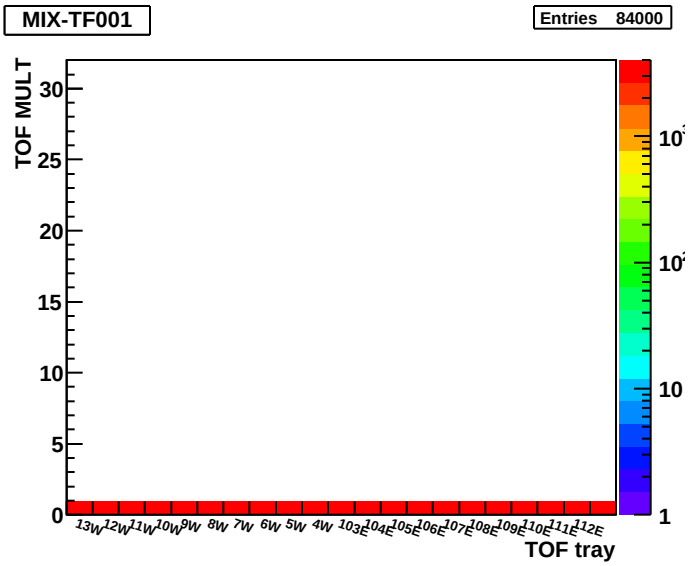

DAQ10k HT bits errors
Entries 24000
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0 5 10 15 20 25 30 35

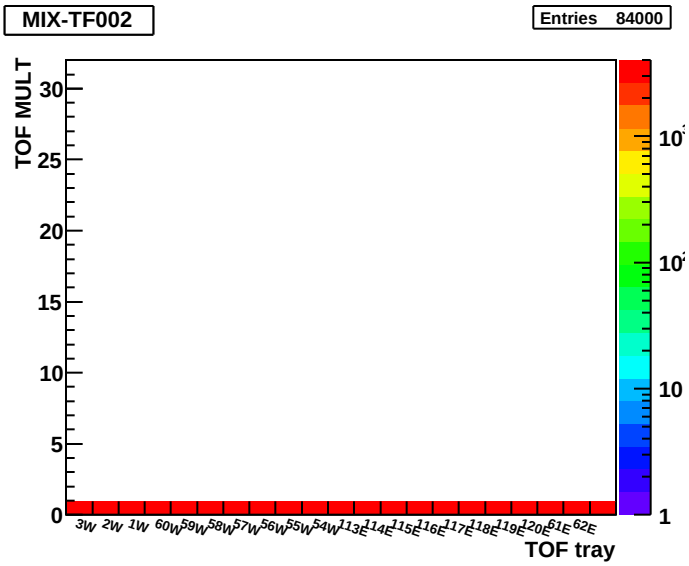

TPC Readout Mask (simulated)
Entries 26000
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0 5 10 15 20 25 30

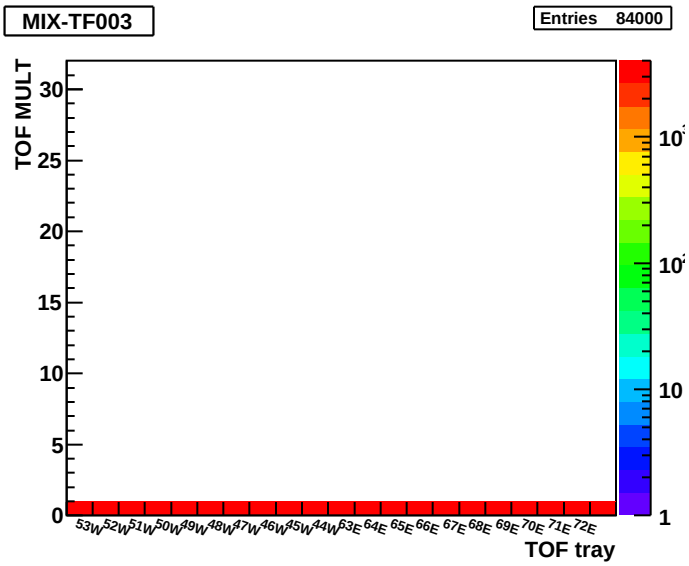

BunchId7Bit (all events)
Entries 2000
10^3
10^2
10
1
0 20 40 60 80 100 120

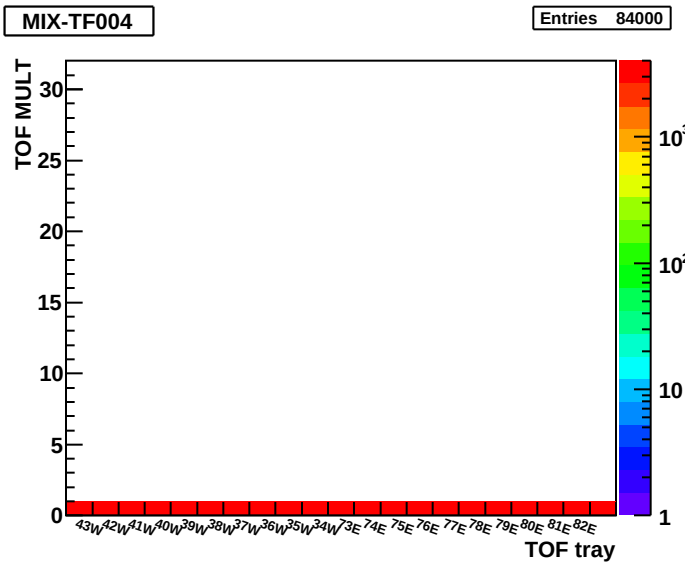

Abort-gaps
Entries 294
10^2
10
1
0 20 40 60 80 100 120

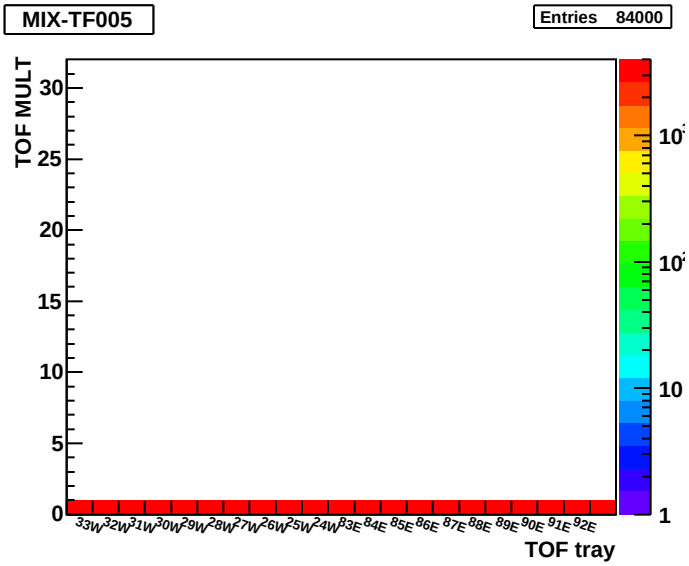

!Yellow-Fill
Entries 2000
10^3
10^2
10
1
0 20 40 60 80 100 120

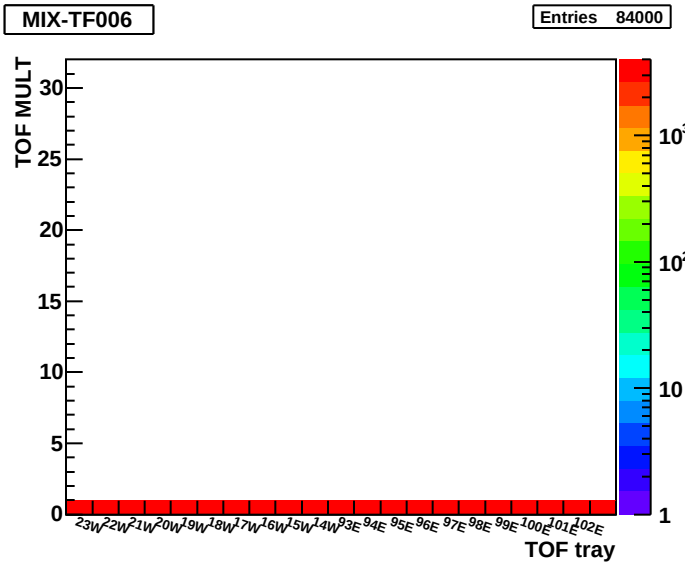

MIX-TF001
Entries 84000
TOF MULT
TOF tray

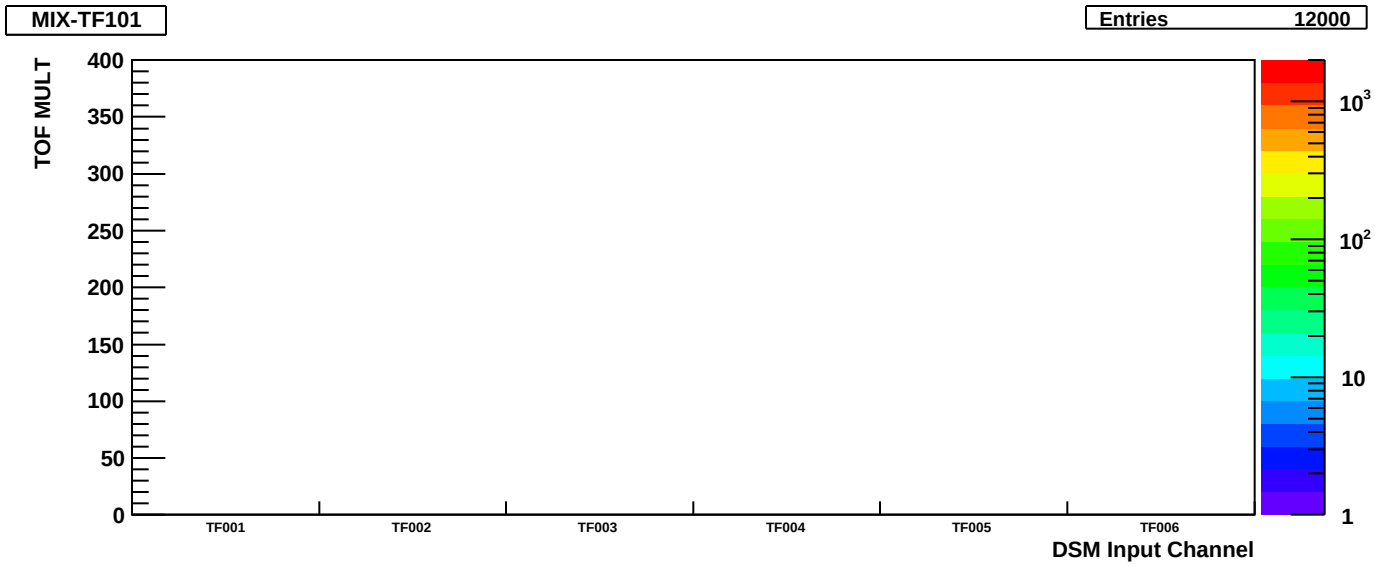

MIX-TF002
Entries 84000
TOF MULT
TOF tray

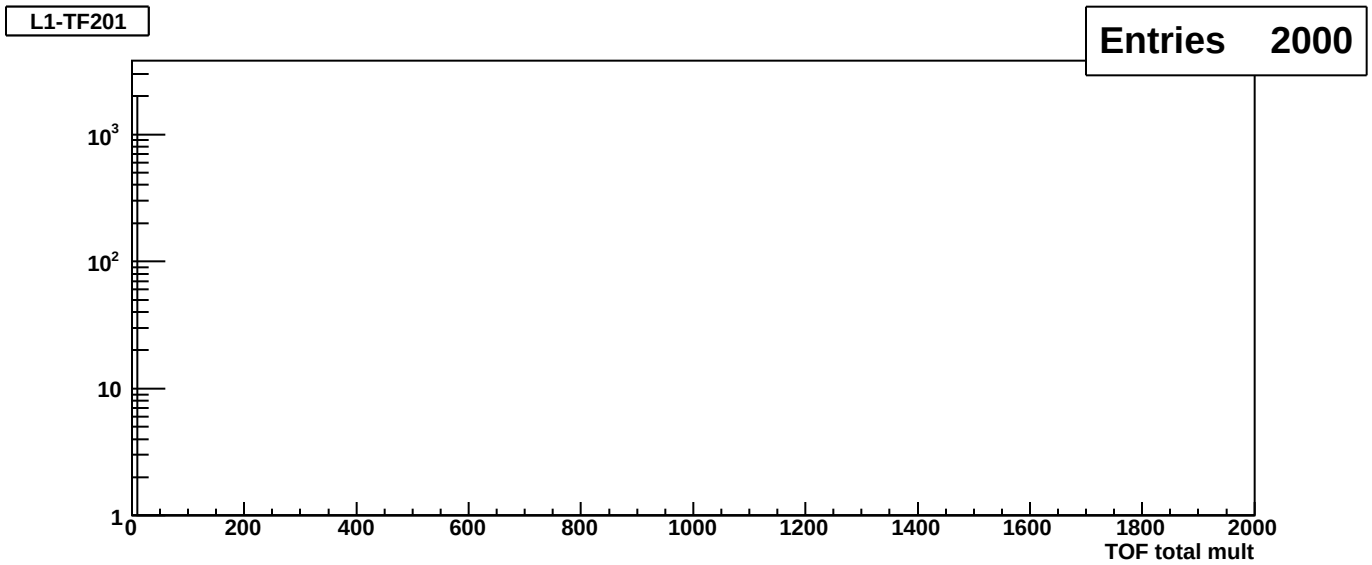

MIX-TF003
Entries 84000
TOF MULT
TOF tray

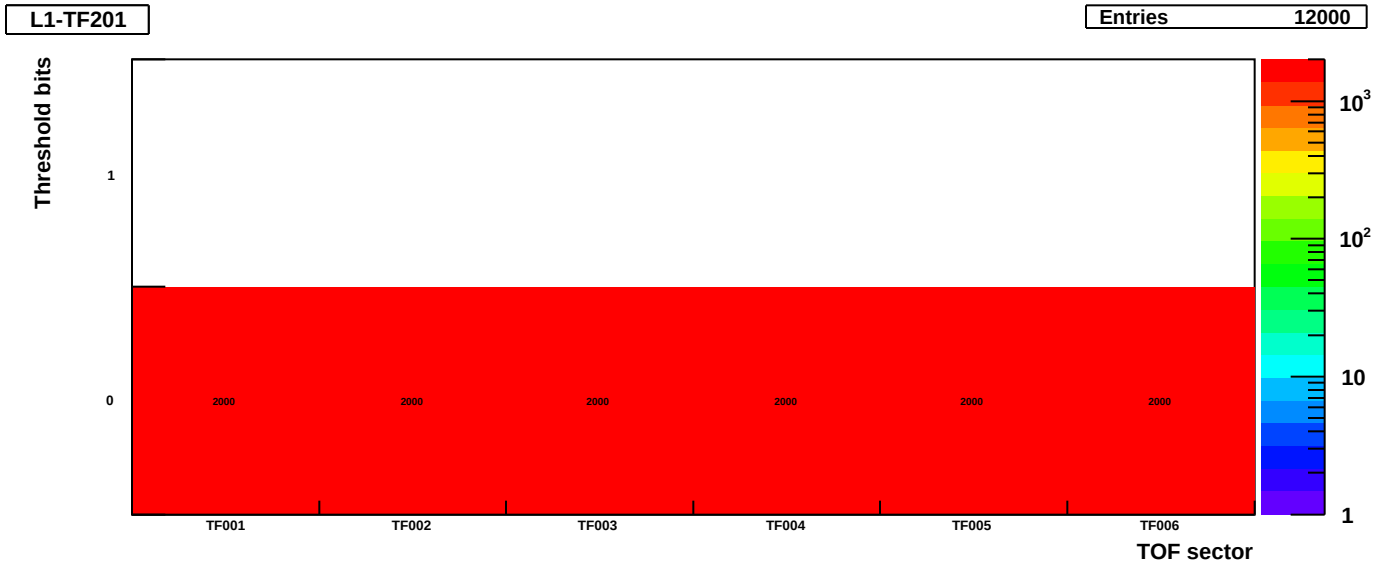

MIX-TF004
Entries 84000
TOF MULT
TOF tray

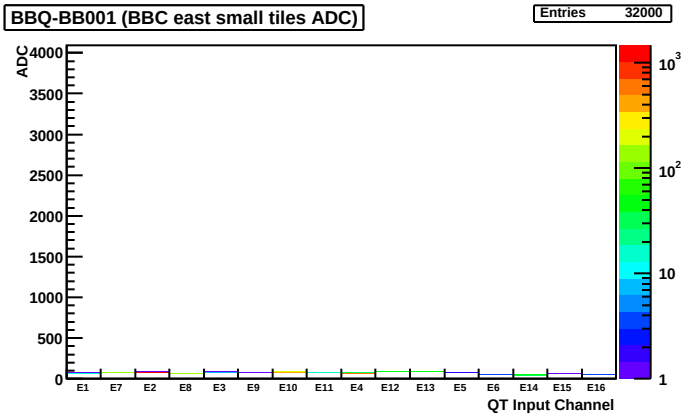

MIX-TF005
Entries 84000
TOF MULT
TOF tray

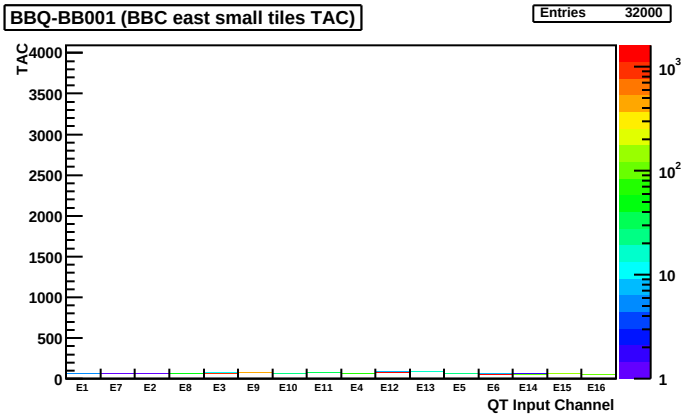

MIX-TF006
Entries 84000
TOF MULT
TOF tray

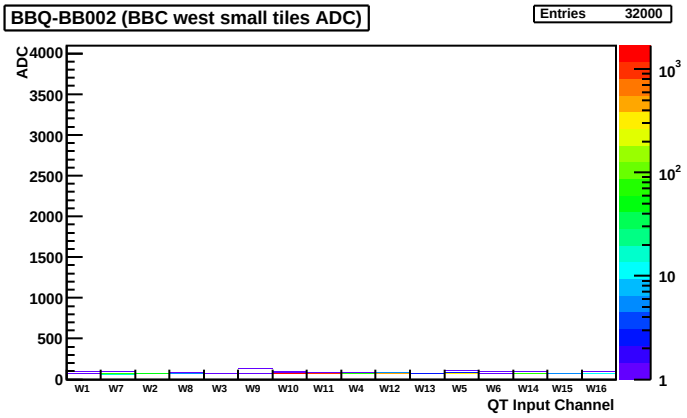

MIX-TF101
Entries 12000
TOF MULT
400
350
300
250
200
150
100
50
0
TF001
TF002
TF003
TF004
TF005
TF006
DSM Input Channel
10^3
10^2
10
1

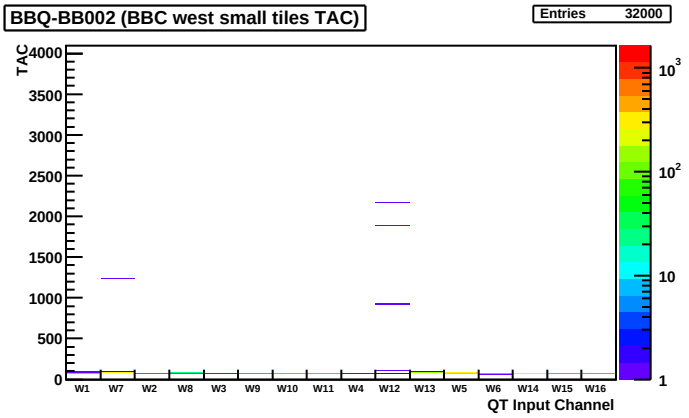

L1-TF201
Entries 2000
10^3
10^2
10
1
0
200
400
600
800
1000
1200
1400
1600
1800
2000
TOF total mult

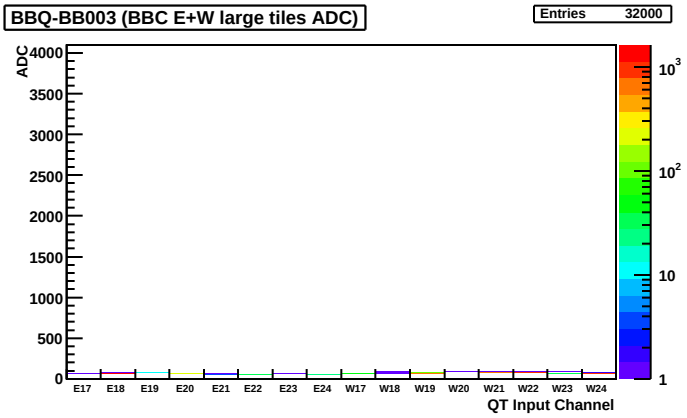

L1-TF201
Entries 12000
Threshold bits
1
0
2000
2000
2000
2000
2000
2000
TF001
TF002
TF003
TF004
TF005
TF006
TOF sector
10^3
10^2
10
1

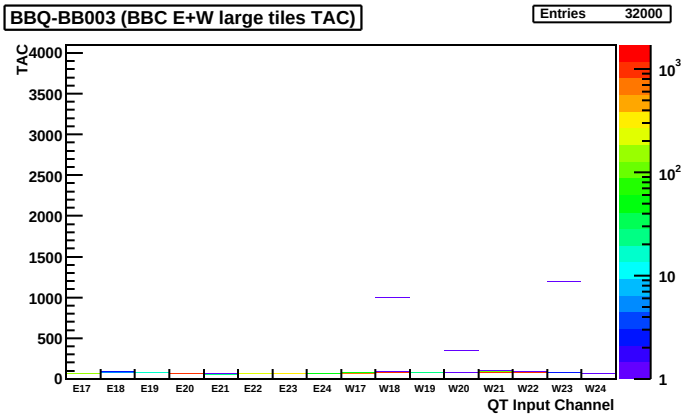

BBQ-BB001 (BBC east small tiles ADC)
Entries 32000
ADC
QT Input Channel

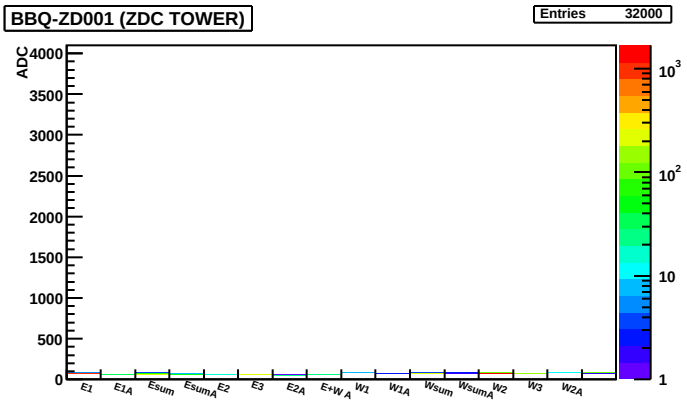

BBQ-BB001 (BBC east small tiles TAC)
Entries 32000
TAC
QT Input Channel

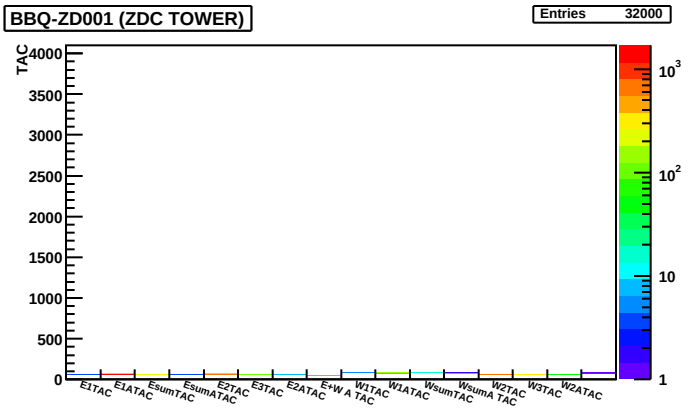

BBQ-BB002 (BBC west small tiles ADC)
Entries 32000
ADC
QT Input Channel

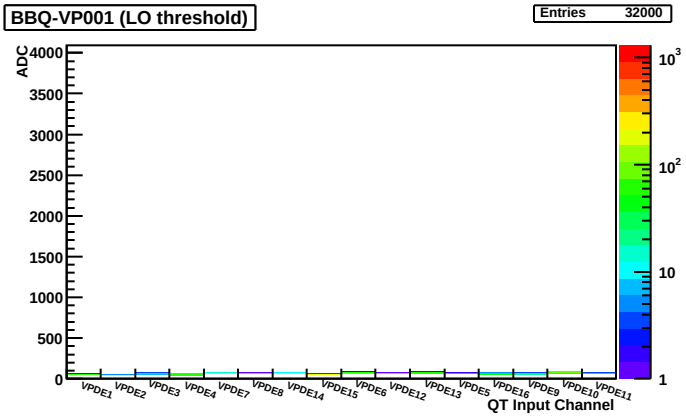

BBQ-BB002 (BBC west small tiles TAC)
Entries 32000
TAC
QT Input Channel

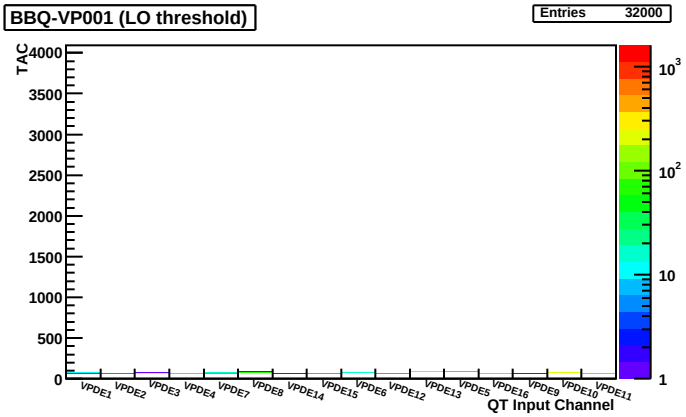

BBQ-BB003 (BBC E+W large tiles ADC)
Entries 32000
ADC
QT Input Channel

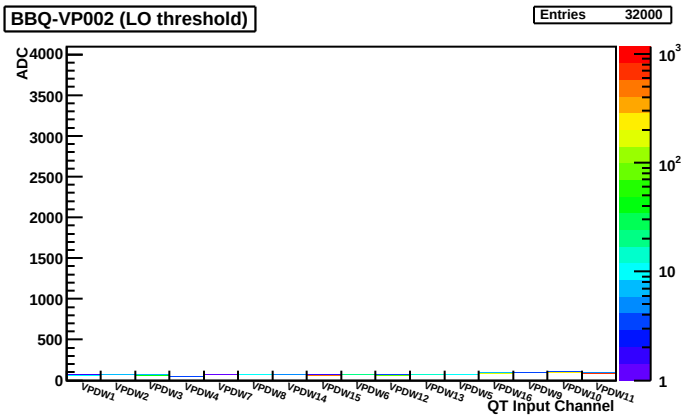

BBQ-BB003 (BBC E+W large tiles TAC)
Entries 32000
TAC
QT Input Channel

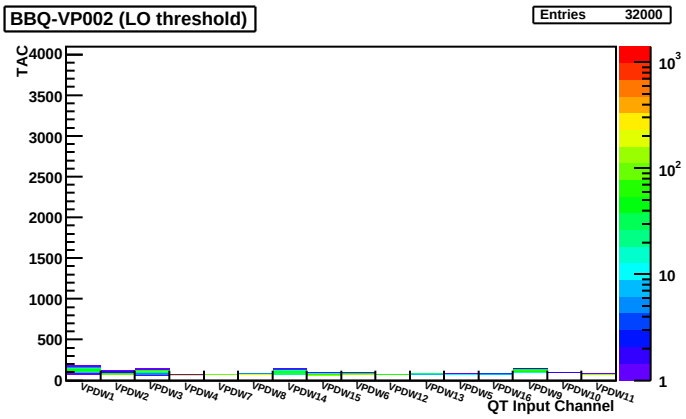

BBQ-ZD001 (ZDC TOWER)
Entries 32000
ADC

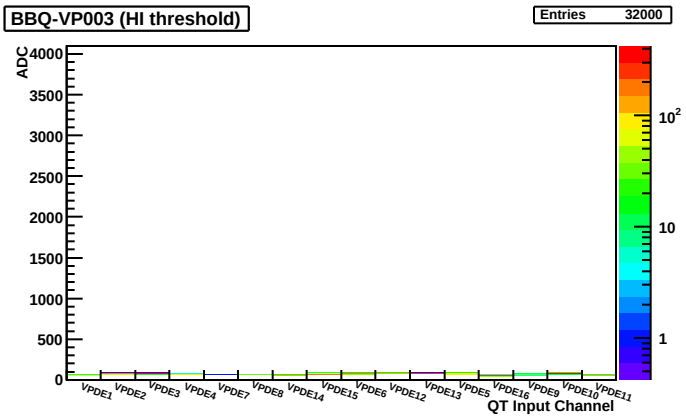

BBQ-ZD001 (ZDC TOWER)
Entries 32000
TAC

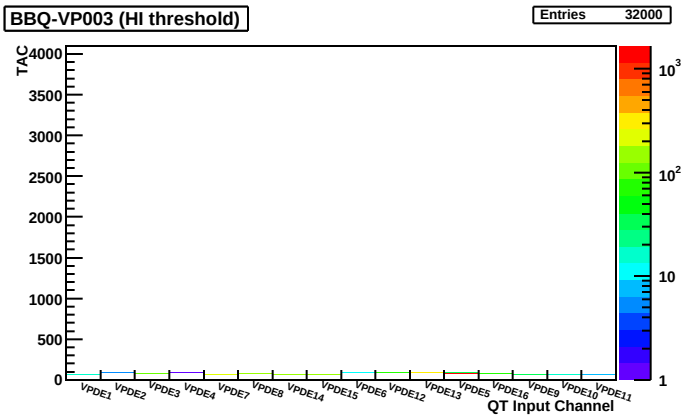

BBQ-VP001 (LO threshold)
Entries 32000
ADC
QT Input Channel

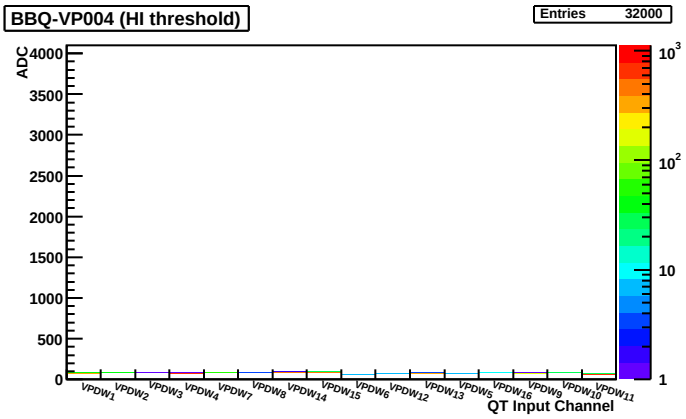

BBQ-VP001 (LO threshold)
Entries 32000
TAC
QT Input Channel

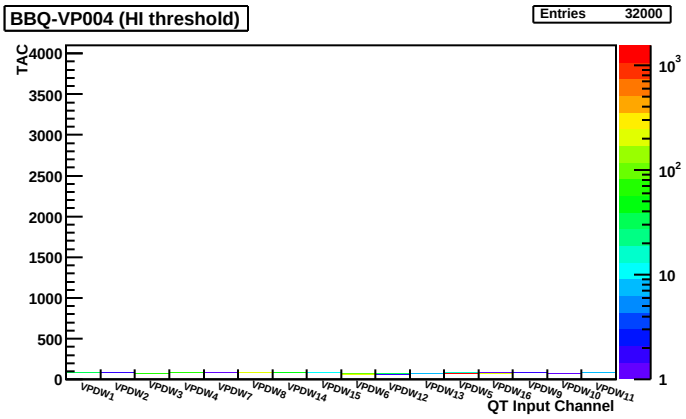

BBQ-VP002 (LO threshold)
Entries 32000
ADC
QT Input Channel

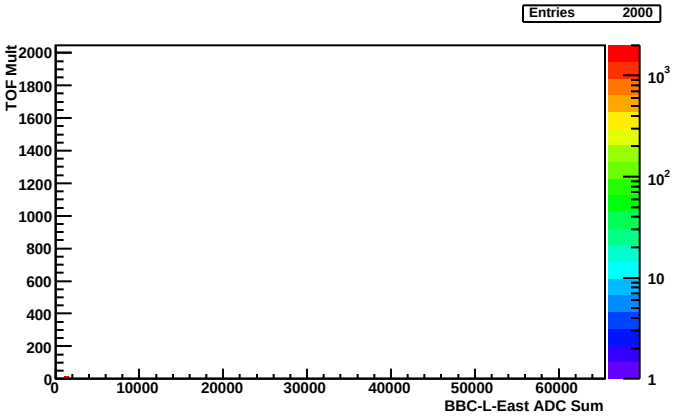

BBQ-VP002 (LO threshold)
Entries 32000
TAC
QT Input Channel

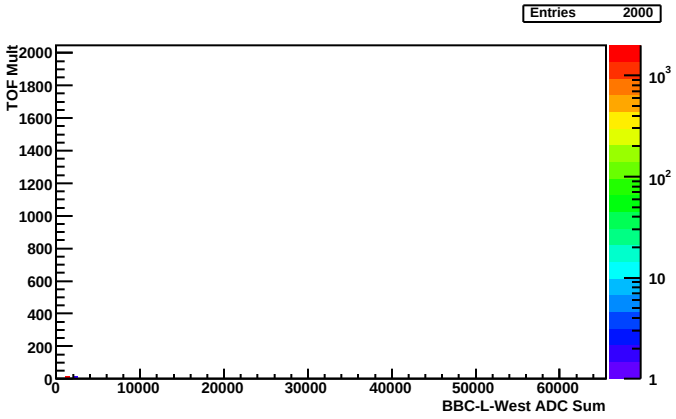

BBQ-VP003 (HI threshold)
Entries 32000
ADC
QT Input Channel

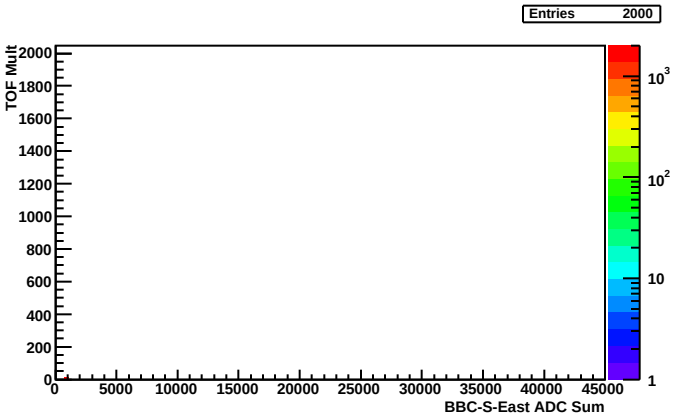

BBQ-VP003 (HI threshold)
Entries 32000
TAC
QT Input Channel

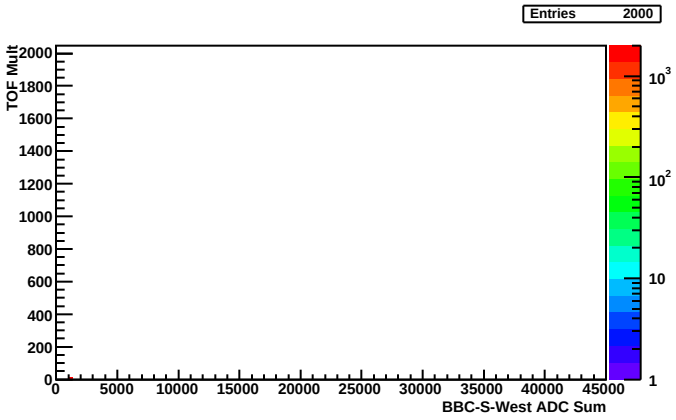

BBQ-VP004 (HI threshold)
Entries 32000
ADC
QT Input Channel

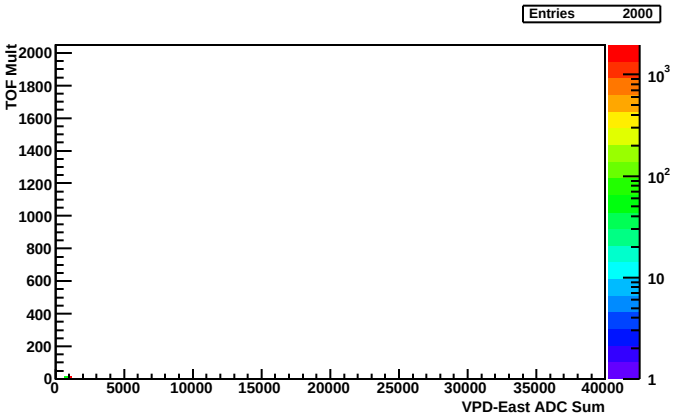

BBQ-VP004 (HI threshold)
Entries 32000
TAC
QT Input Channel

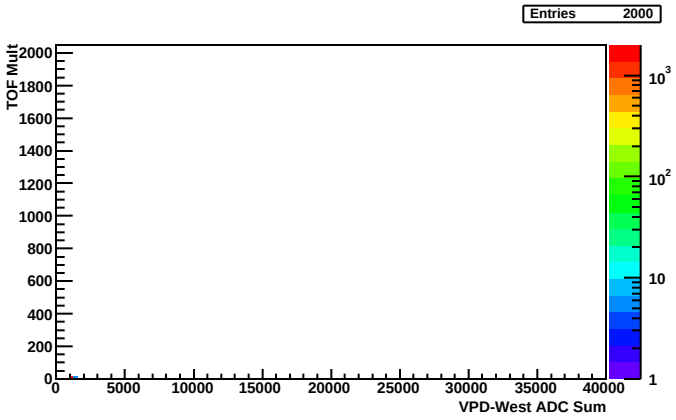

Entries 2000
TOF Mult
BBC-L-East ADC Sum

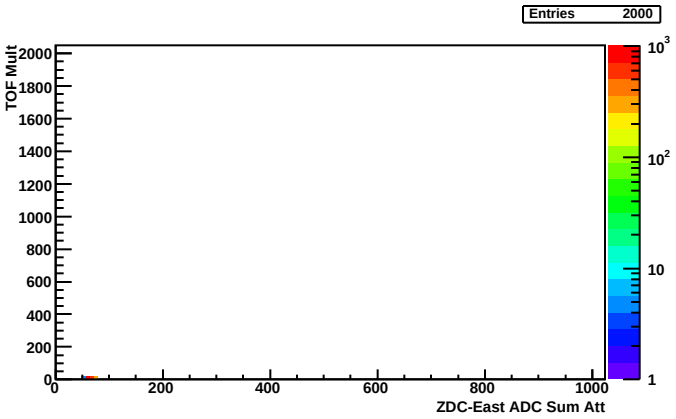

Entries 2000
TOF Mult
BBC-L-West ADC Sum

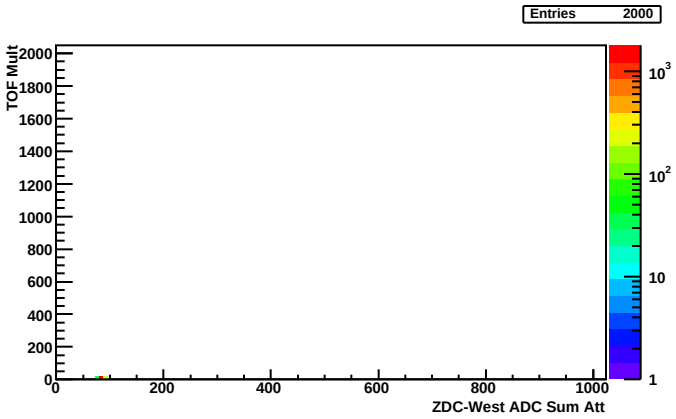

Entries 2000
TOF Mult
BBC-S-East ADC Sum

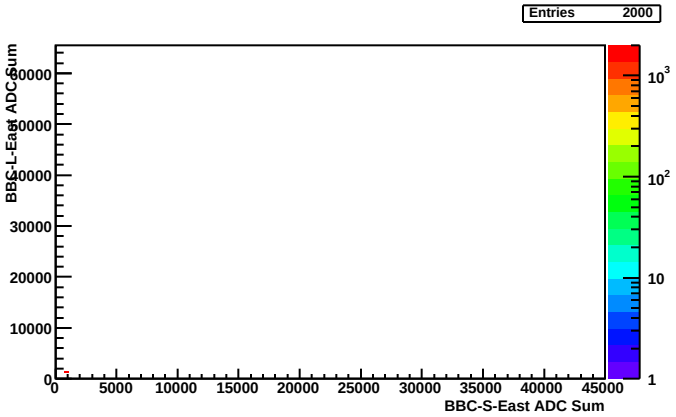

Entries 2000
TOF Mult
BBC-S-West ADC Sum

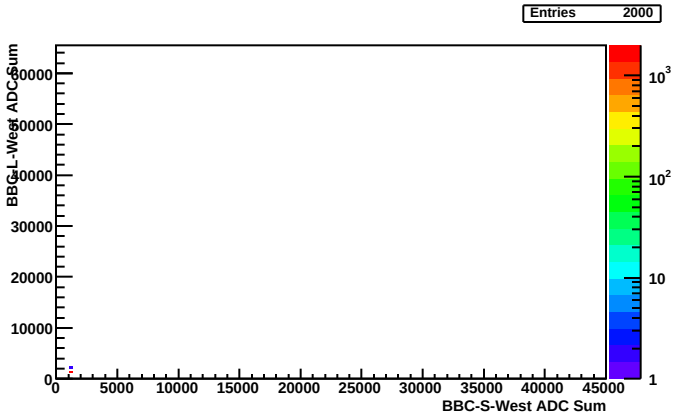

Entries 2000
TOF Mult
VPD-East ADC Sum

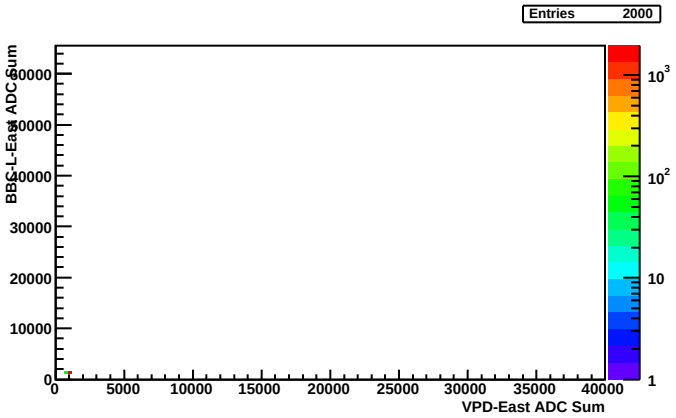

Entries 2000
TOF Mult
VPD-West ADC Sum

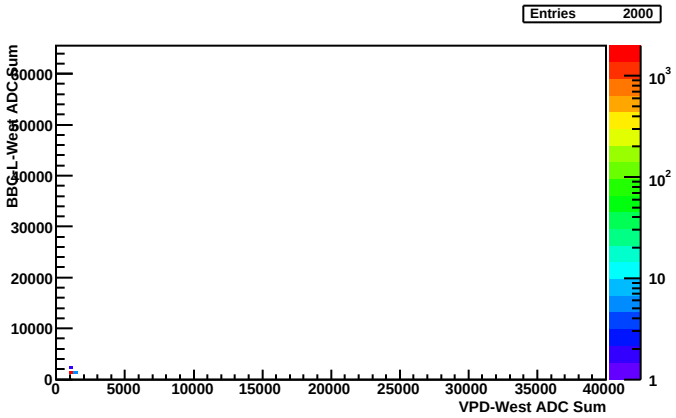

Entries 2000
TOF Mult
ZDC-East ADC Sum Att

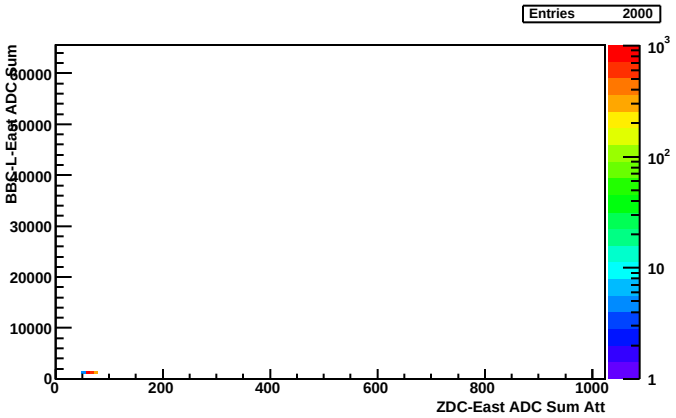

Entries 2000
TOF Mult
ZDC-West ADC Sum Att

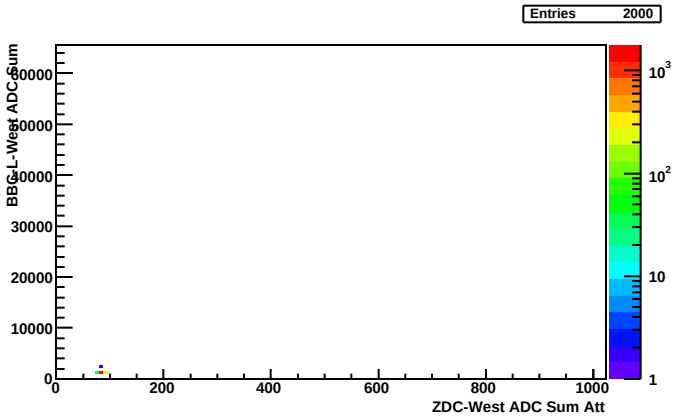

Entries 2000
BBC-L-East ADC Sum
BBC-S-East ADC Sum

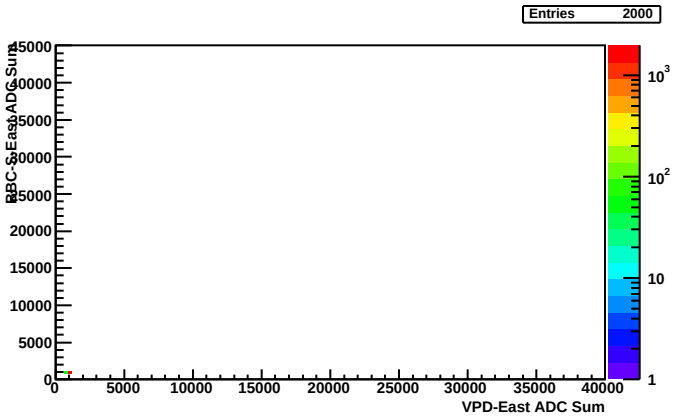

Entries 2000
BBC-L-West ADC Sum
BBC-S-West ADC Sum

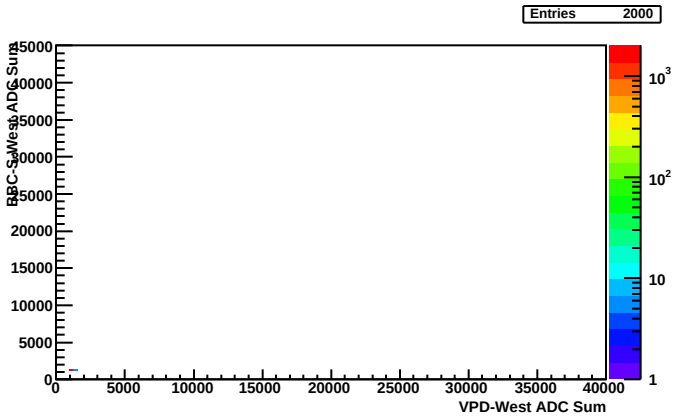

Entries 2000
BBC-L-East ADC Sum
VPD-East ADC Sum

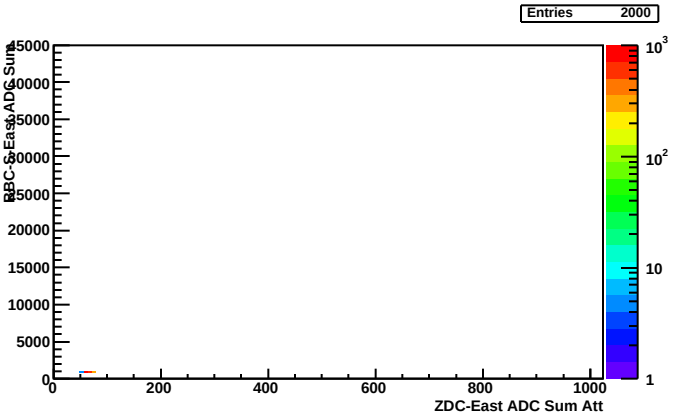

Entries 2000
BBC-L-West ADC Sum
VPD-West ADC Sum

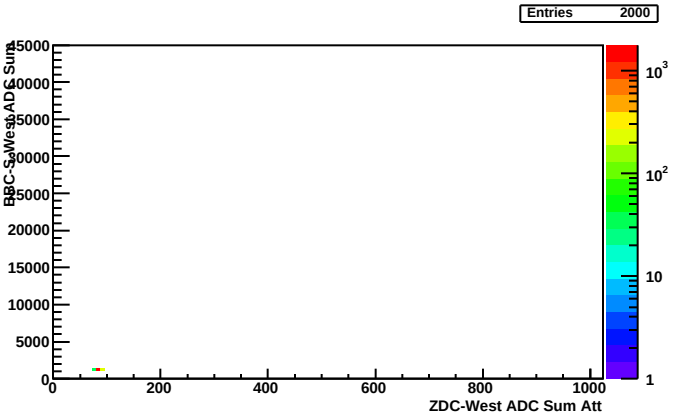

Entries 2000
BBC-L-East ADC Sum
ZDC-East ADC Sum Att

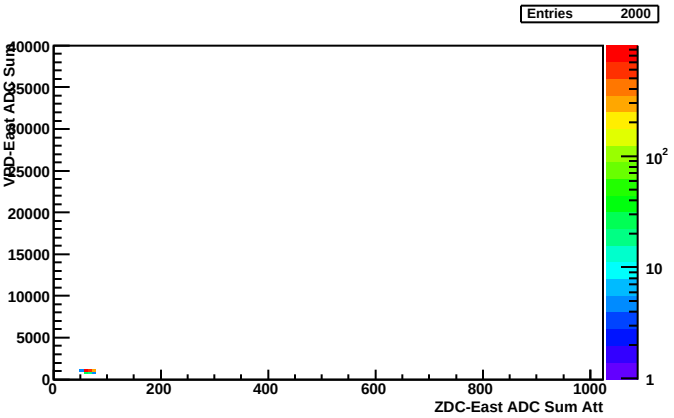

Entries 2000
BBC-L-West ADC Sum
ZDC-West ADC Sum Att

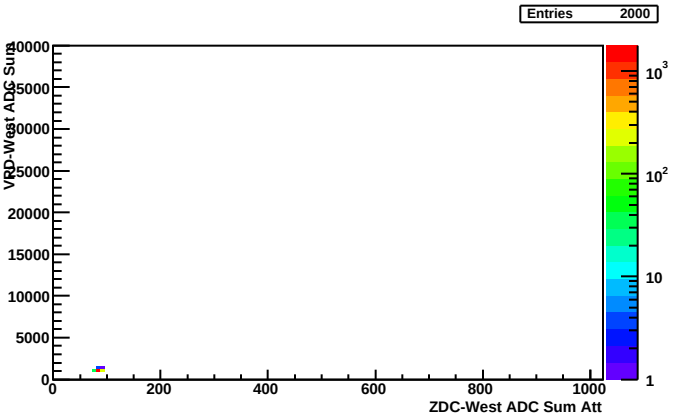

Entries 2000
BBC-S-East ADC Sum
VPD-East ADC Sum

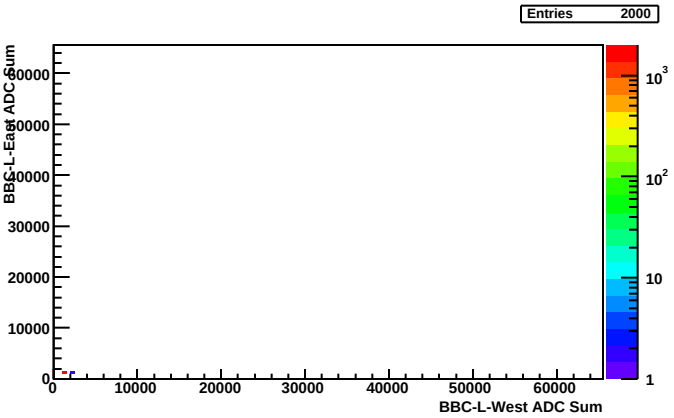

Entries 2000
BBC-S-West ADC Sum
VPD-West ADC Sum

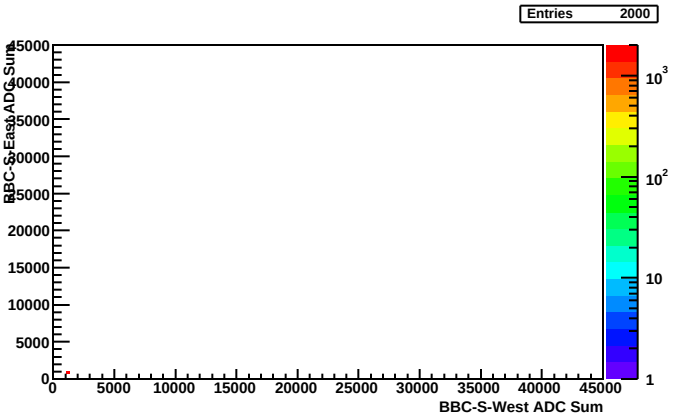

Entries 2000
BBC-S-East ADC Sum
ZDC-East ADC Sum Att

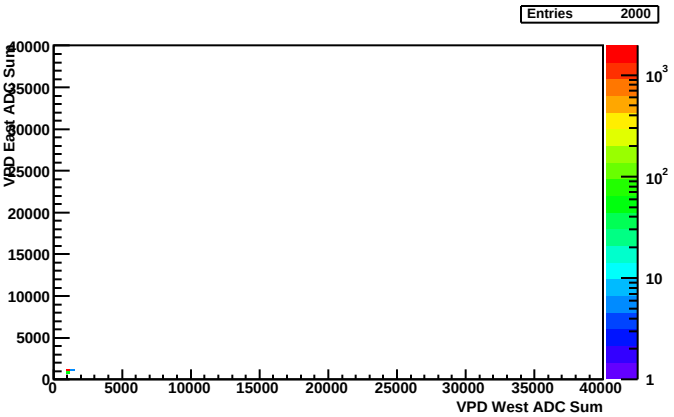

Entries 2000
BBC-S-West ADC Sum
ZDC-West ADC Sum Att

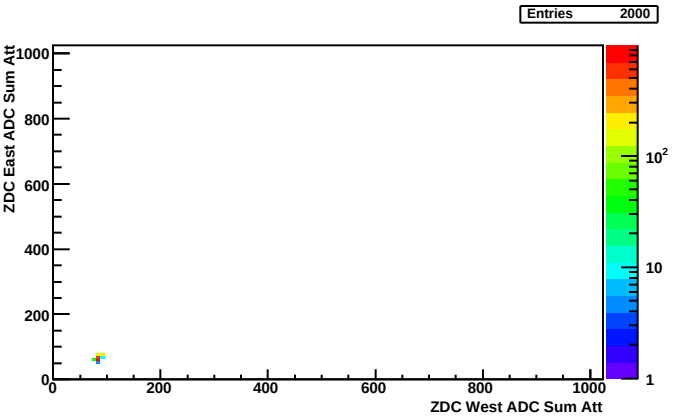

Entries 2000
VPD-East ADC Sum
ZDC-East ADC Sum Att

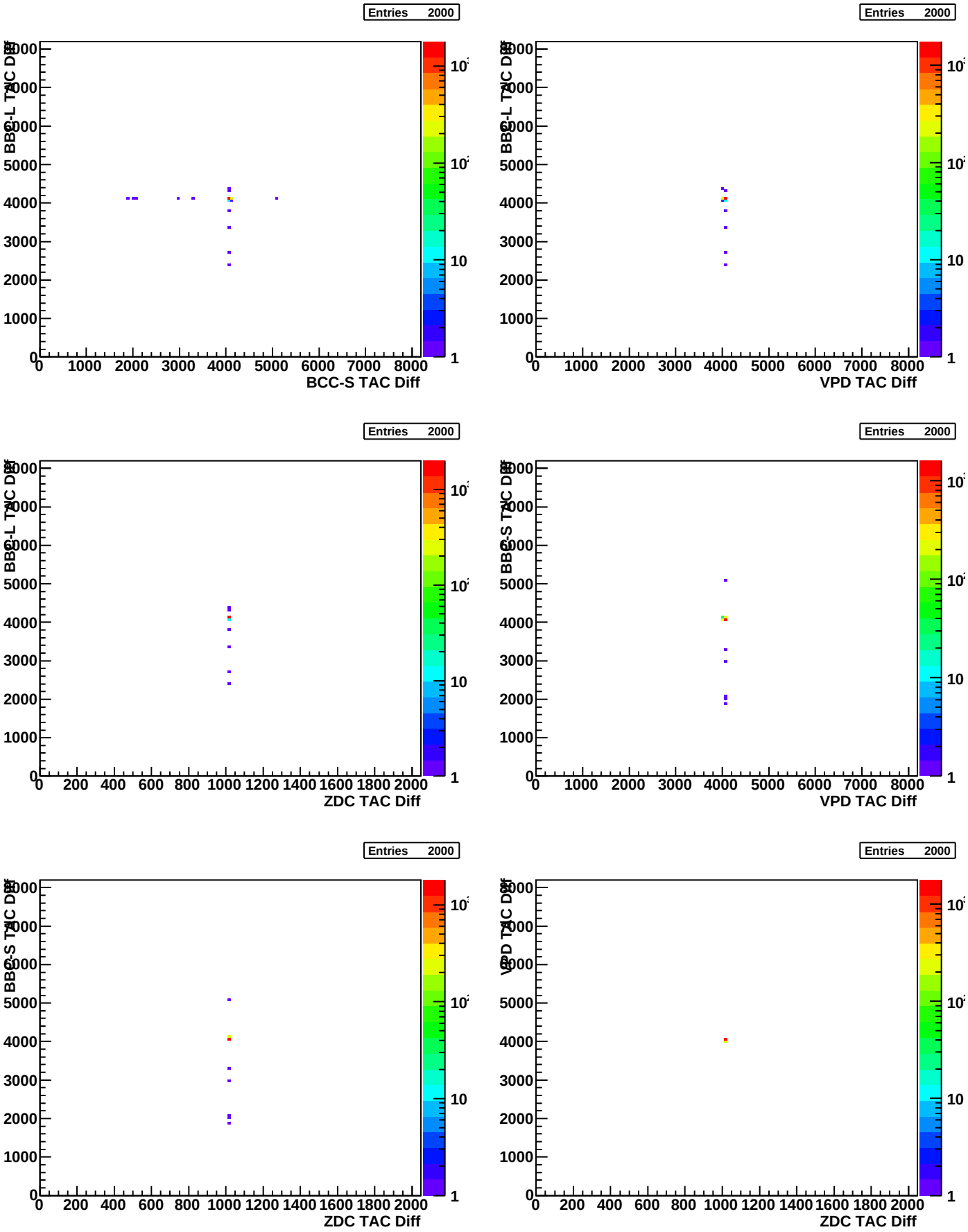

Entries 2000
VPD-West ADC Sum
ZDC-West ADC Sum Att

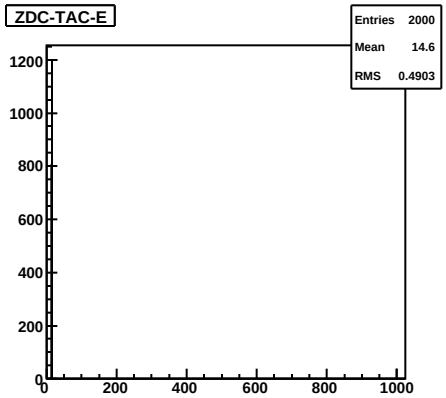

Entries 2000
BBC-L-East ADC Sum
BBC-L-West ADC Sum

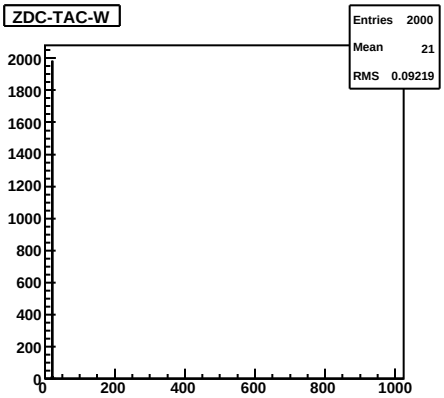

Entries 2000
BBC-S-East ADC Sum
BBC-S-West ADC Sum

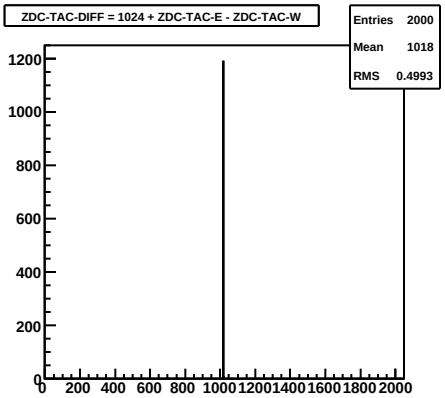

Entries 2000
VPD East ADC Sum
VPD West ADC Sum

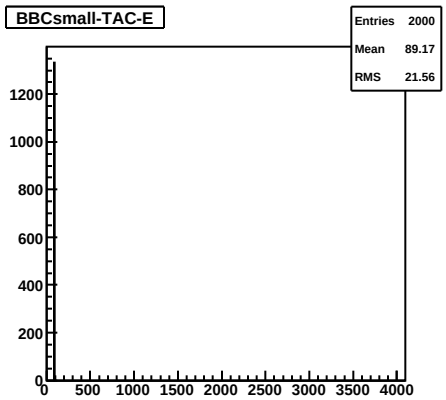

Entries 2000
ZDC East ADC Sum Att
ZDC West ADC Sum Att

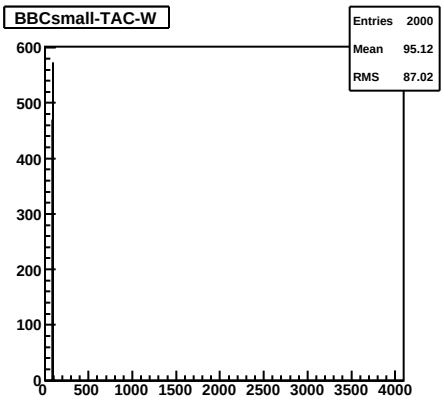

Entries 2000
BBC-L TAC Diff
BCC-S TAC Diff
Entries 2000
BBC-L TAC Diff
VPD TAC Diff
Entries 2000
BBC-L TAC Diff
ZDC TAC Diff
Entries 2000
BBC-S TAC Diff
VPD TAC Diff
Entries 2000
BBC-S TAC Diff
ZDC TAC Diff
Entries 2000
VPD TAC Diff
ZDC TAC Diff

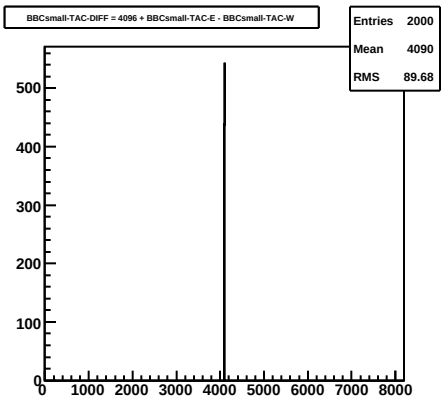

ZDC-TAC-E
Entries 2000
Mean 14.6
RMS 0.4903

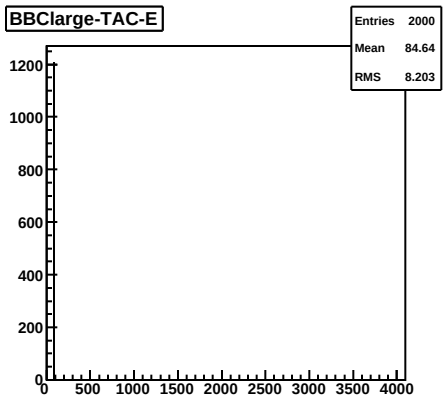

ZDC-TAC-W
Entries 2000
Mean 21
RMS 0.09219

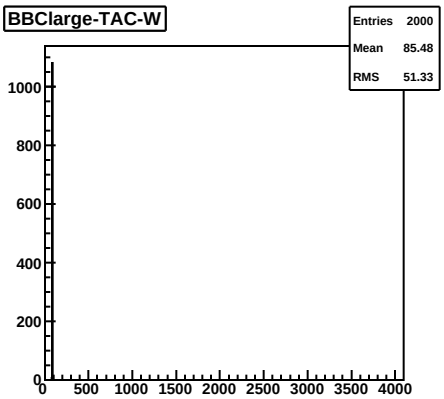

ZDC-TAC-DIFF = 1024 + ZDC-TAC-E - ZDC-TAC-W
Entries 2000
Mean 1018
RMS 0.4993

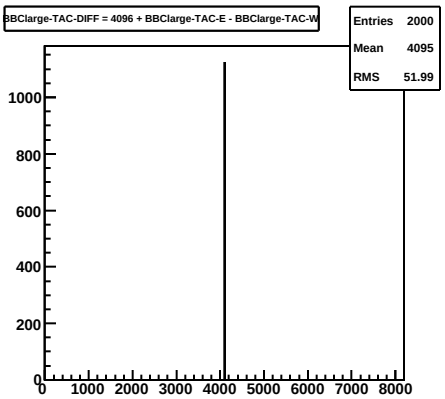

BBCsmall-TAC-E
Entries 2000
Mean 89.17
RMS 21.56

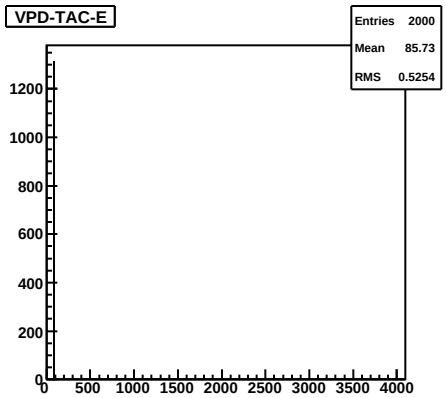

BBCsmall-TAC-W
Entries 2000
Mean 95.12
RMS 87.02

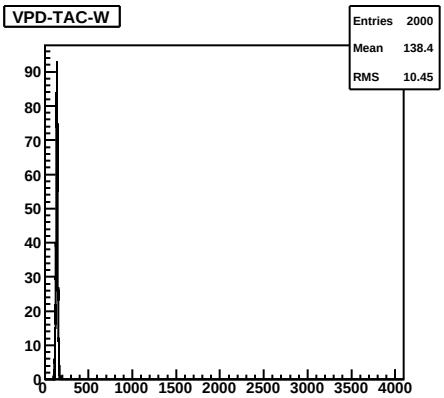

BBCsmall-TAC-DIFF = 4096 + BBCsmall-TAC-E - BBCsmall-TAC-W
Entries 2000
Mean 4090
RMS 89.68

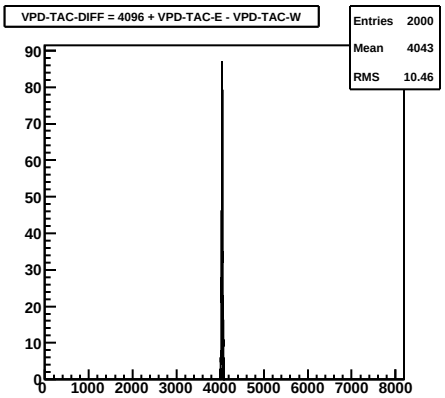

BBClarge-TAC-E
Entries 2000
Mean 84.64
RMS 8.203

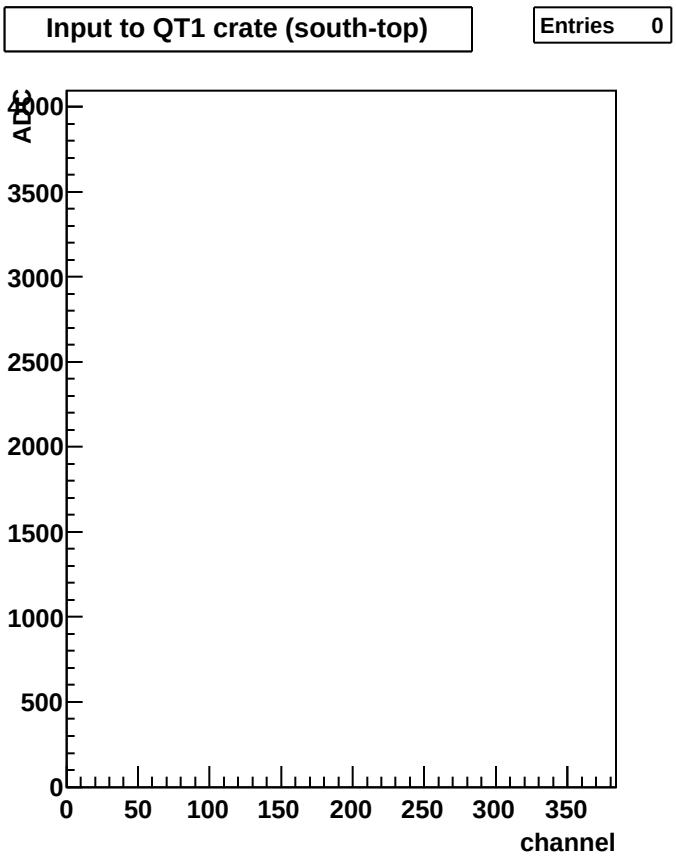

BBClarge-TAC-W
Entries 2000
Mean 85.48
RMS 51.33

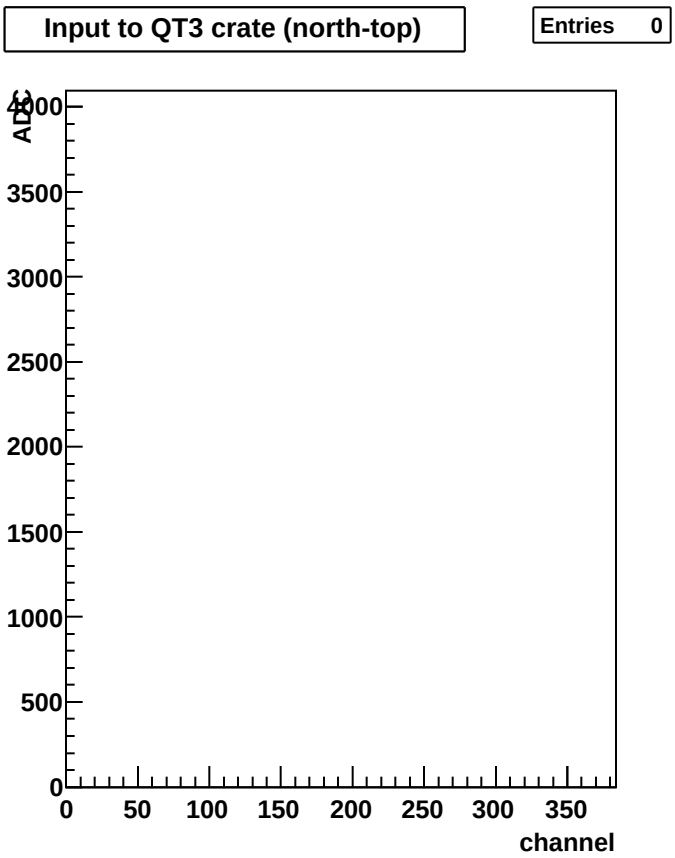

BBClarge-TAC-DIFF = 4096 + BBClarge-TAC-E - BBClarge-TAC-W
Entries 2000
Mean 4095
RMS 51.99

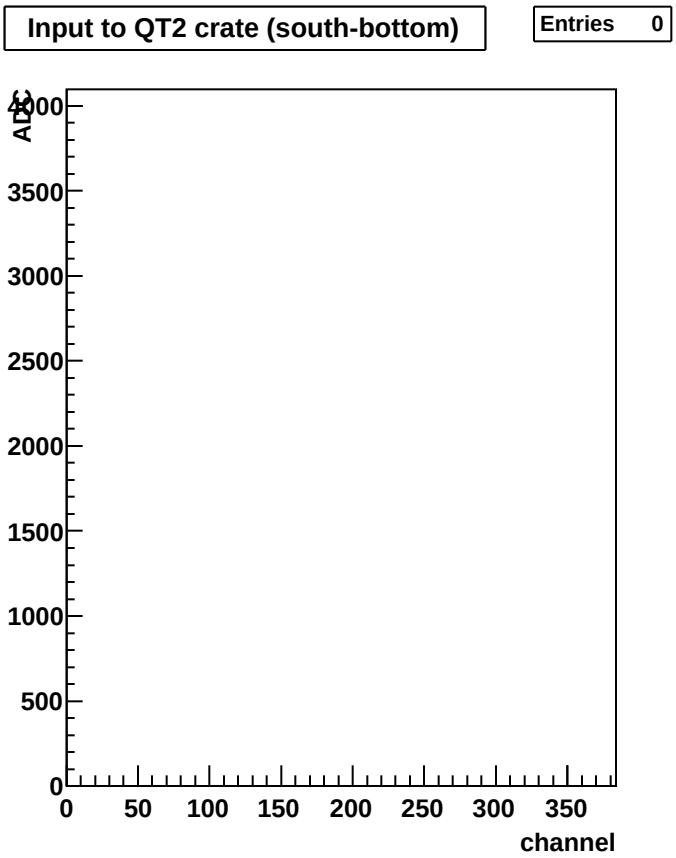

VPD-TAC-E
Entries 2000
Mean 85.73
RMS 0.5254

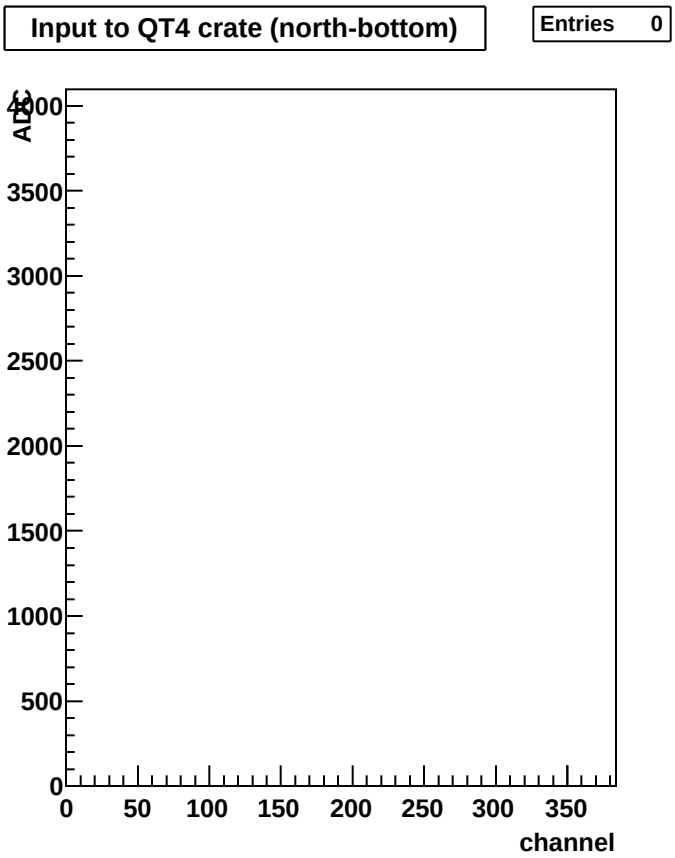

VPD-TAC-W
Entries 2000
Mean 138.4
RMS 10.45

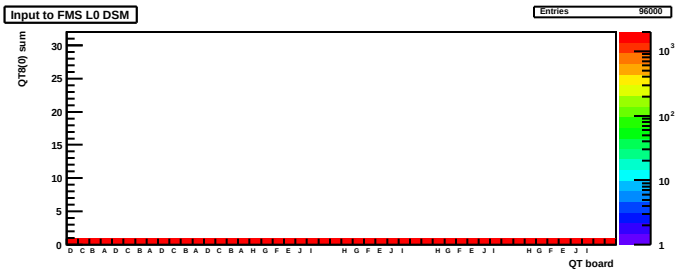

VPD-TAC-DIFF = 4096 + VPD-TAC-E - VPD-TAC-W
Entries 2000
Mean 4043
RMS 10.46

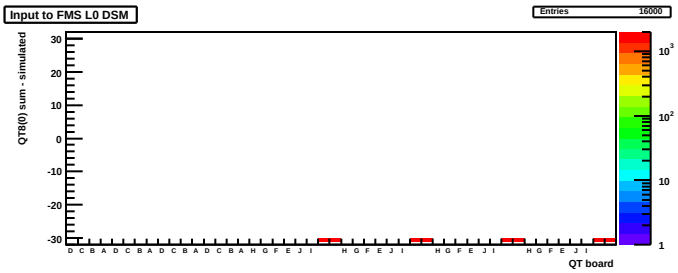

Input to QT1 crate (south-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

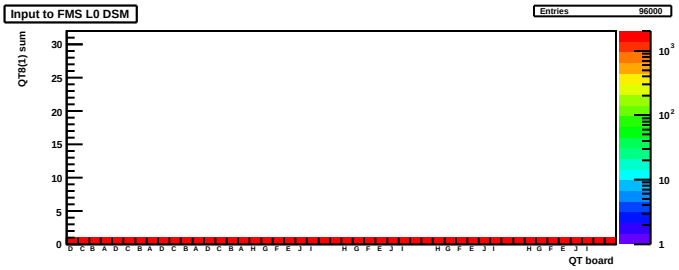

Input to QT3 crate (north-top)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

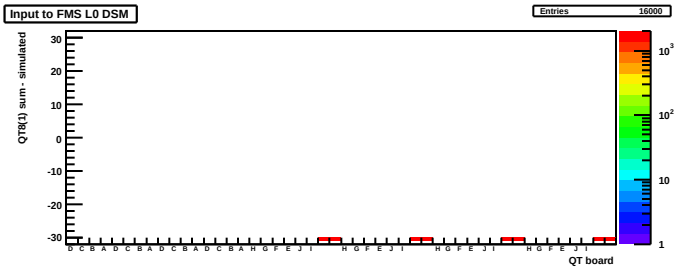

Input to QT2 crate (south-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

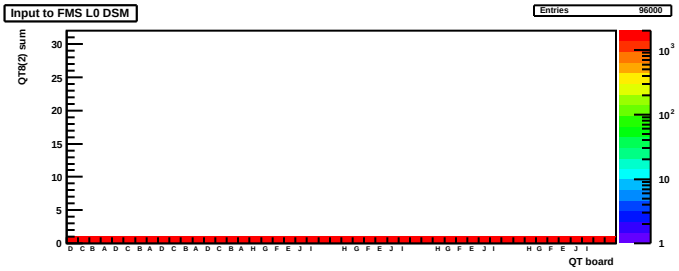

Input to QT4 crate (north-bottom)
Entries 0
ADC
4000
3500
3000
2500
2000
1500
1000
500
0
0 50 100 150 200 250 300 350
channel

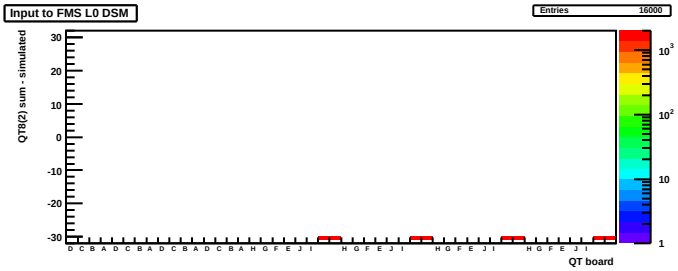

Input to FMS L0 DSM
Entries 96000
QT8(0) sum
QT board

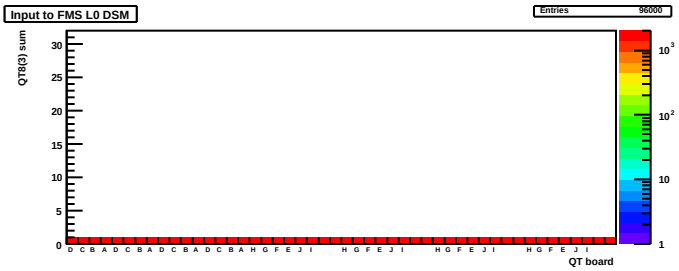

Input to FMS L0 DSM
Entries 16000
QT8(0) sum - simulated
QT board

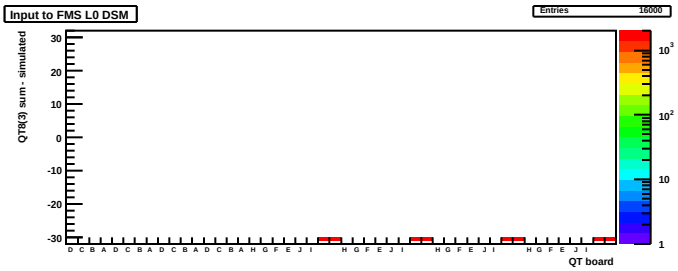

Input to FMS L0 DSM
Entries 96000
QT8(1) sum
QT board

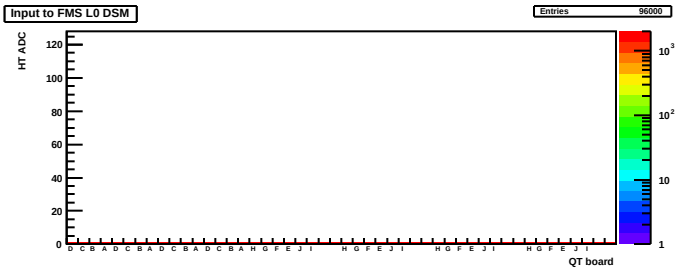

Input to FMS L0 DSM
Entries 16000
QT8(1) sum - simulated
QT board

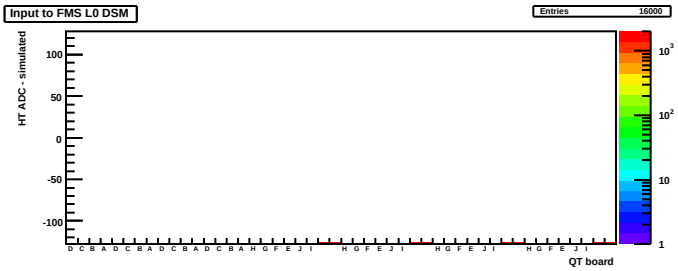

Input to FMS L0 DSM
Entries 96000
QT8(2) sum
QT board

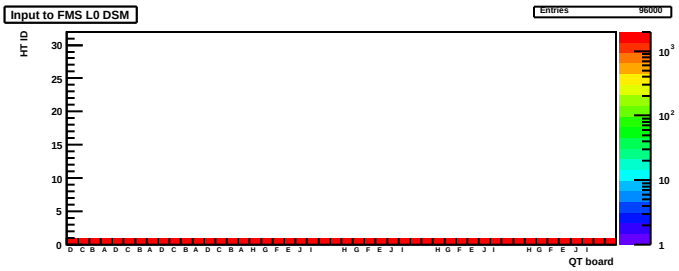

Input to FMS L0 DSM
Entries 16000
QT8(2) sum - simulated
QT board

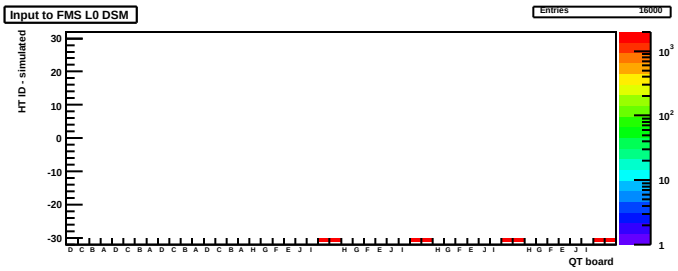

Input to FMS L0 DSM
Entries 96000
QT8(3) sum
QT board

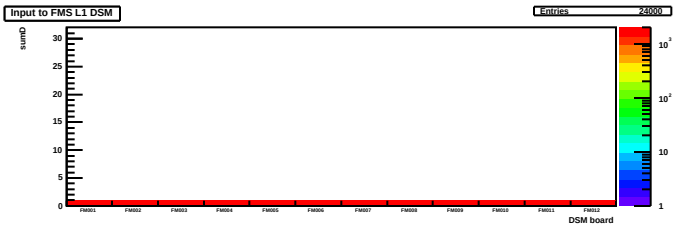

Input to FMS L0 DSM
Entries 16000
QT8(3) sum - simulated
QT board

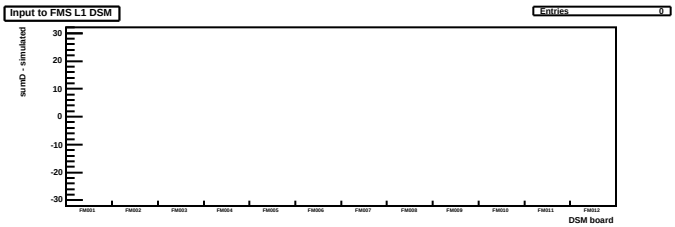

Input to FMS L0 DSM
Entries 96000
HT ADC
QT board

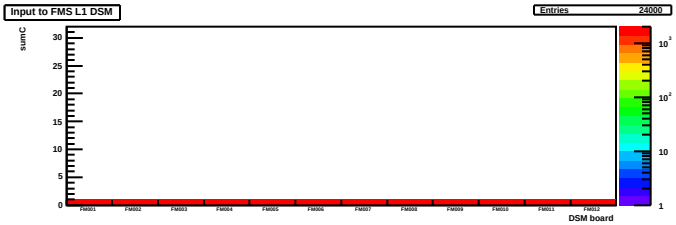

Input to FMS L0 DSM
Entries 16000
HT ADC - simulated
QT board

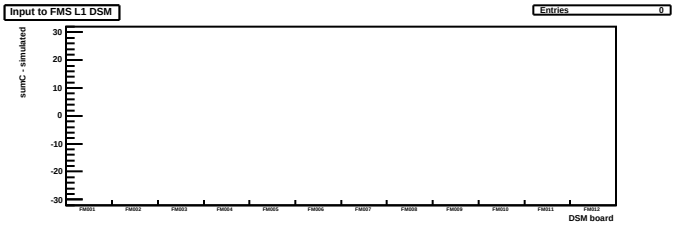

Input to FMS L0 DSM
Entries 96000
HT ID
QT board

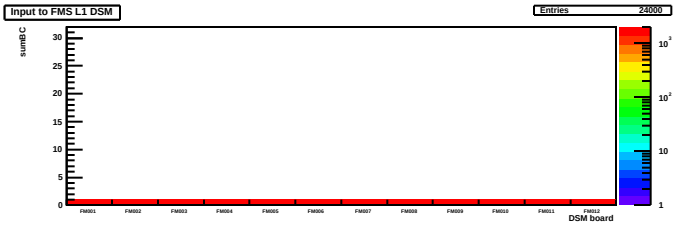

Input to FMS L0 DSM
Entries 16000
HT ID - simulated
QT board

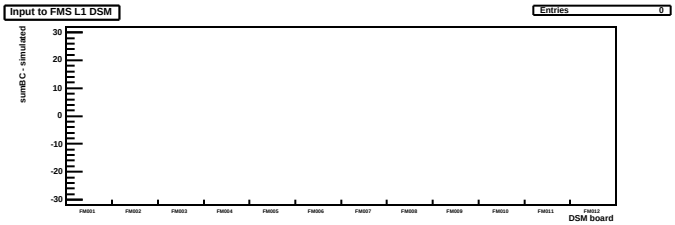

Input to FMS L1 DSM
Entries 24000
sumD
DSM board

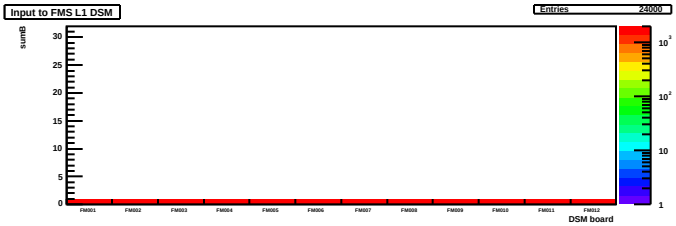

Input to FMS L1 DSM
Entries 0
sumD - simulated
DSM board

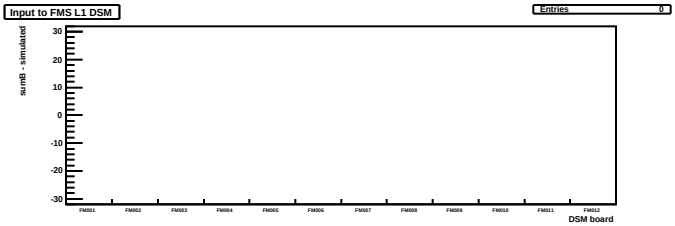

Input to FMS L1 DSM
Entries 24000
sumC
DSM board

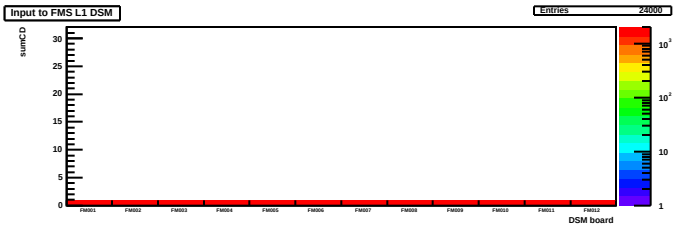

Input to FMS L1 DSM
Entries 0
sumC - simulated
DSM board

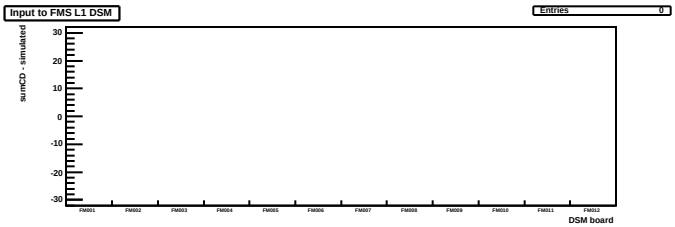

Input to FMS L1 DSM
Entries 24000
sumBC
DSM board

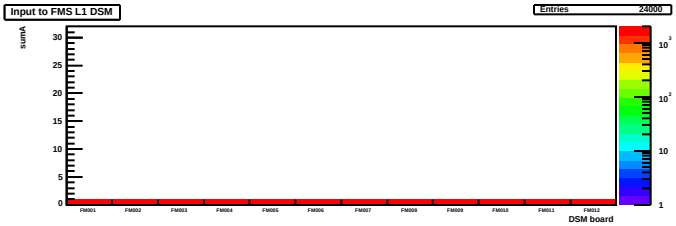

Input to FMS L1 DSM
Entries 0
sumBC - simulated
DSM board

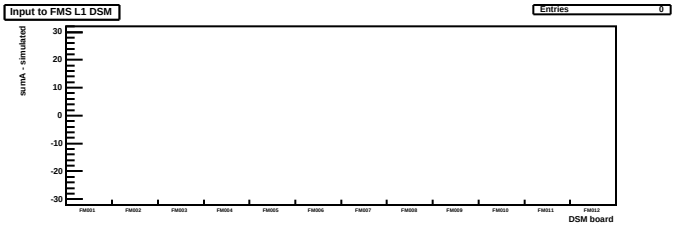

Input to FMS L1 DSM
Entries 24000
sumB
DSM board

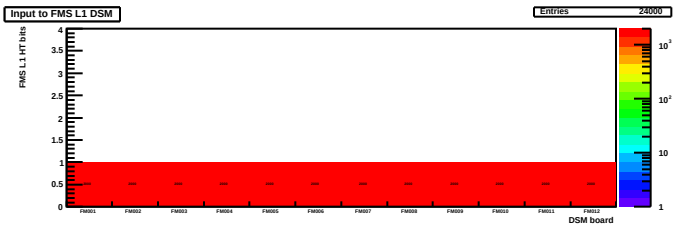

Input to FMS L1 DSM
Entries 0
sumB - simulated
DSM board

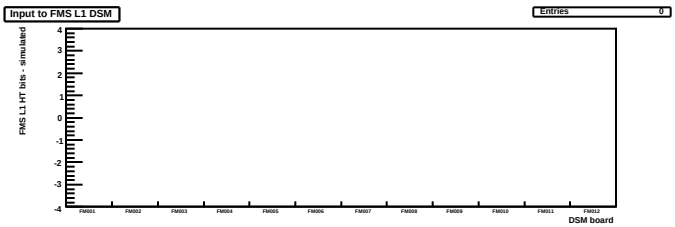

Input to FMS L1 DSM
Entries 24000
sumCD
DSM board

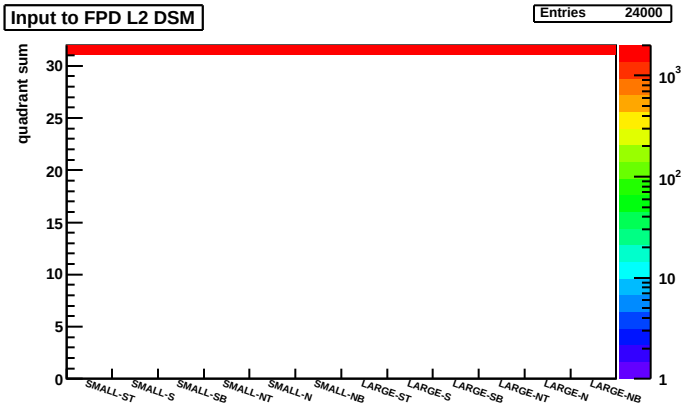

Input to FMS L1 DSM
Entries 0
sumCD - simulated
DSM board

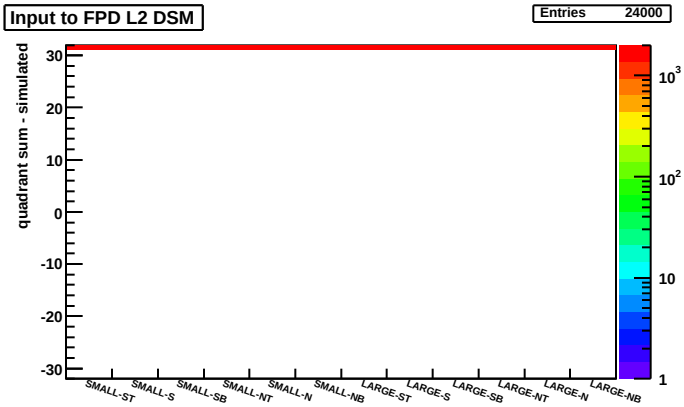

Input to FMS L1 DSM
Entries 24000
sumA
DSM board

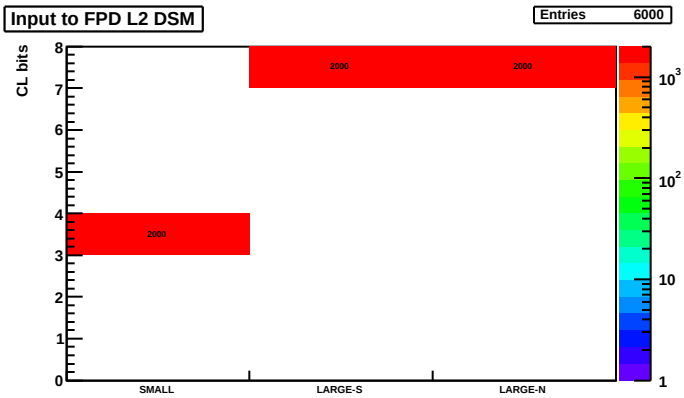

Input to FMS L1 DSM
Entries 0
sumA - simulated
DSM board

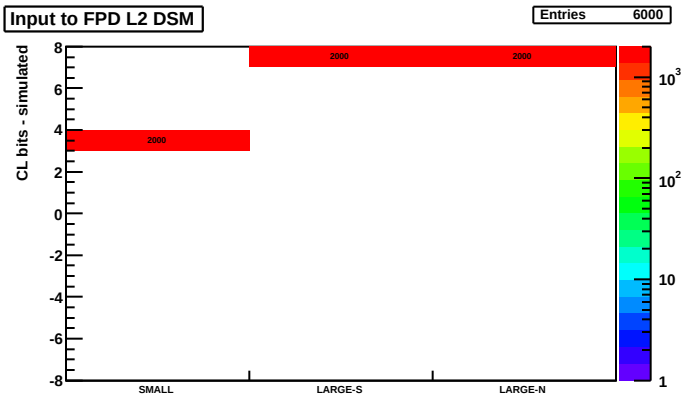

Input to FMS L1 DSM
Entries 24000
FMS L1 HT bits
DSM board

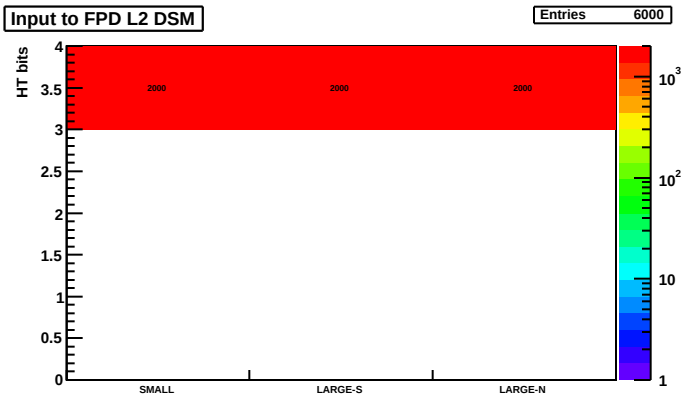

Input to FMS L1 DSM
Entries 0
FMS L1 HT bits - simulated
DSM board

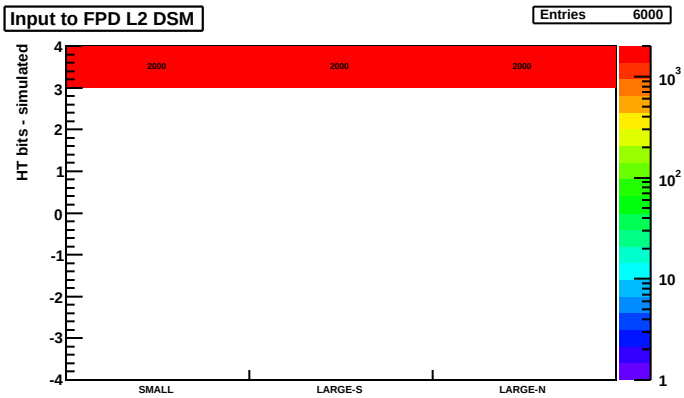

Input to FPD L2 DSM
Entries 24000
quadrant sum
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

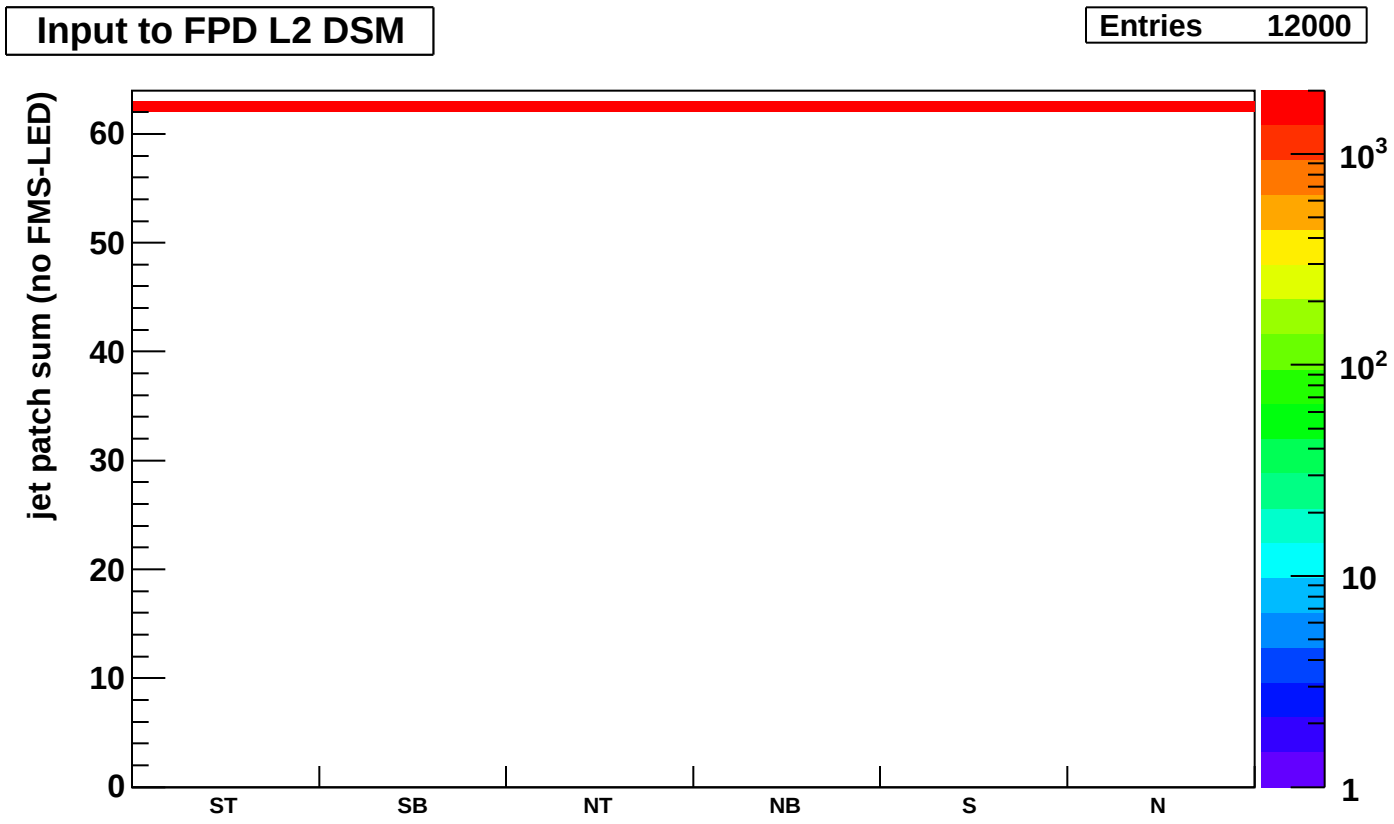

Input to FPD L2 DSM
Entries 24000
quadrant sum - simulated
SMALL-ST
SMALL-S
SMALL-SB
SMALL-NT
SMALL-N
SMALL-NB
LARGE-ST
LARGE-S
LARGE-SB
LARGE-NT
LARGE-N
LARGE-NB

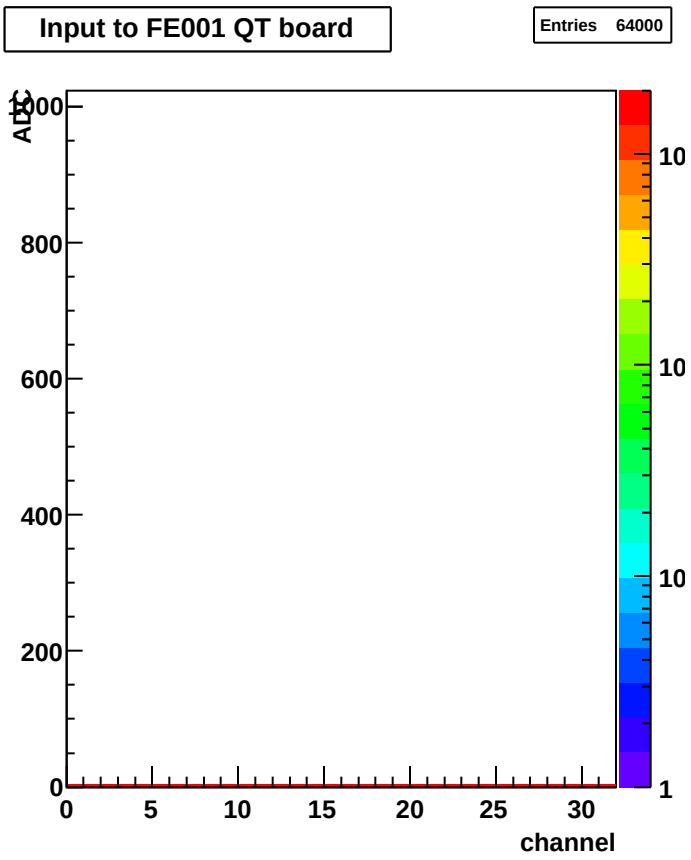

Input to FPD L2 DSM
Entries 6000
CL bits
2000
2000
2000
SMALL
LARGE-S
LARGE-N

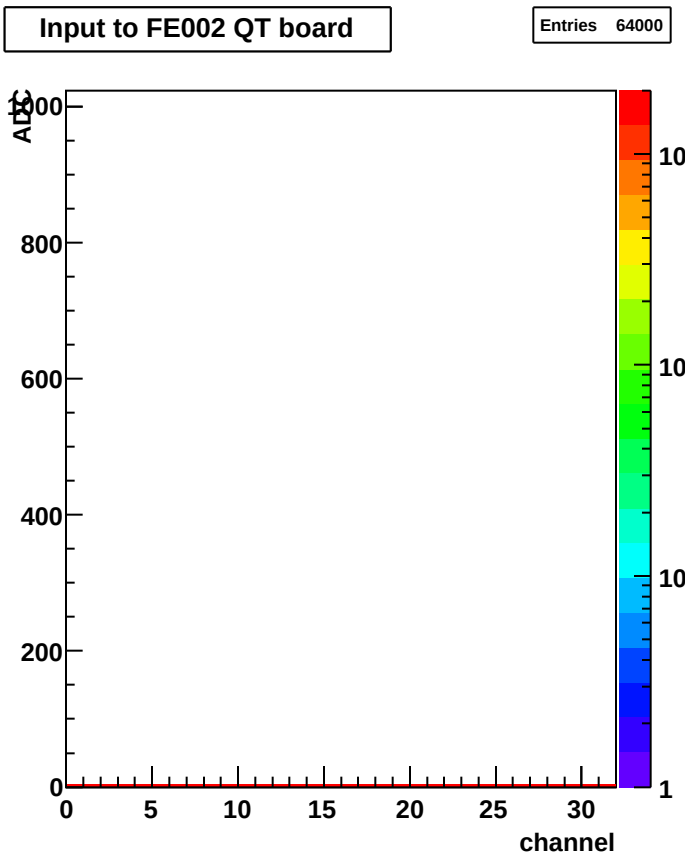

Input to FPD L2 DSM
Entries 6000
CL bits - simulated
2000
2000
2000
SMALL
LARGE-S
LARGE-N

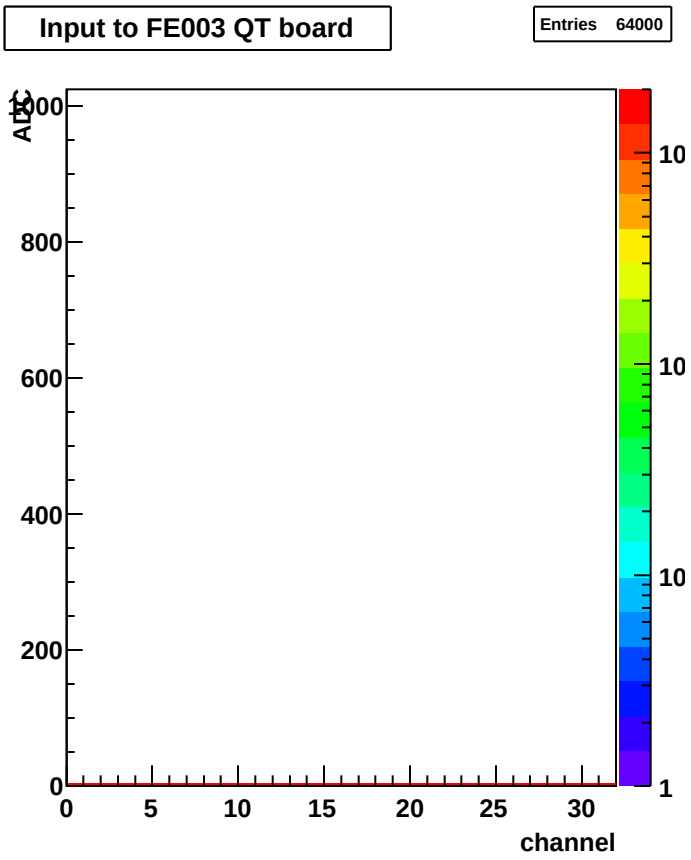

Input to FPD L2 DSM
Entries 6000
HT bits
2000
2000
2000
SMALL
LARGE-S
LARGE-N

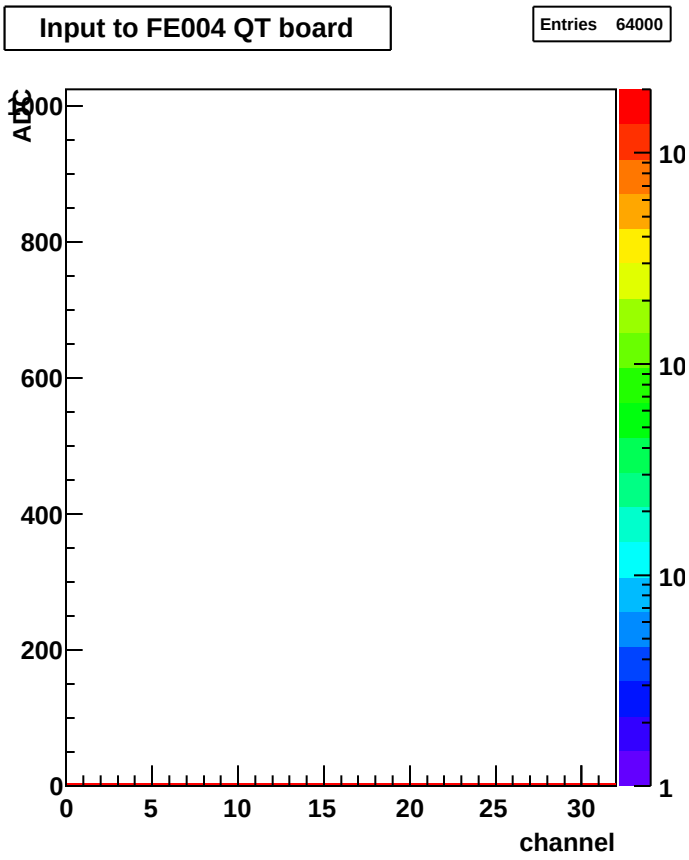

Input to FPD L2 DSM
Entries 6000
HT bits - simulated
2000
2000
2000
SMALL
LARGE-S
LARGE-N

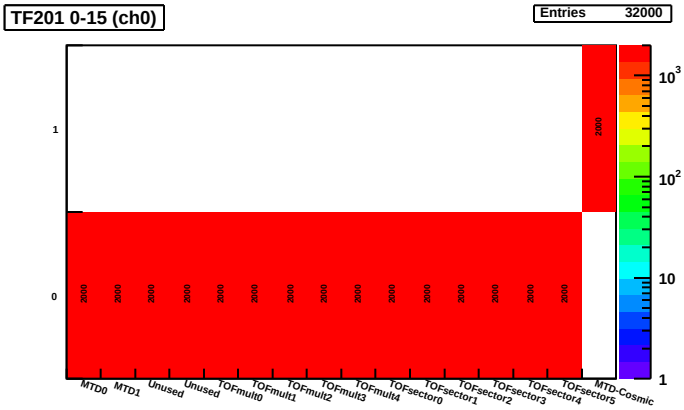

Input to FPD L2 DSM
Entries 12000
jet patch sum (no FMS-LED)
60
50
40
30
20
10
0
ST
SB
NT
NB
S
N
10^3
10^2
10
1

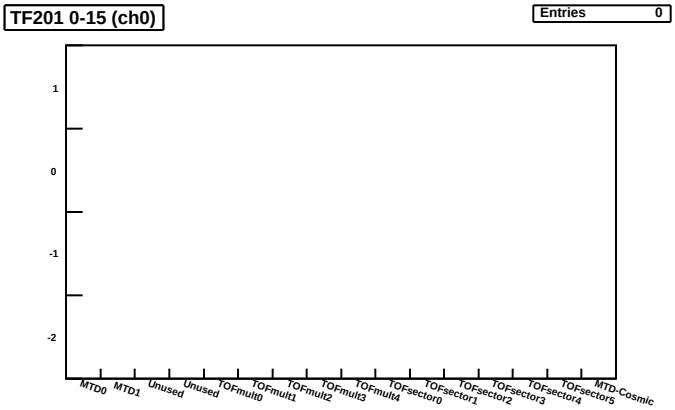

Input to FE001 QT board
Entries 64000
ADC
channel

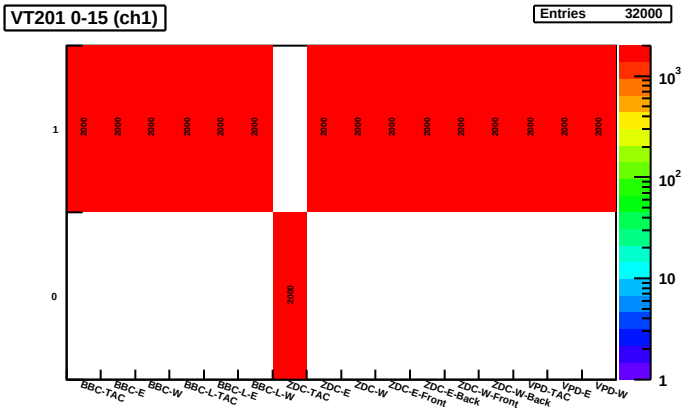

Input to FE002 QT board
Entries 64000
ADC
channel

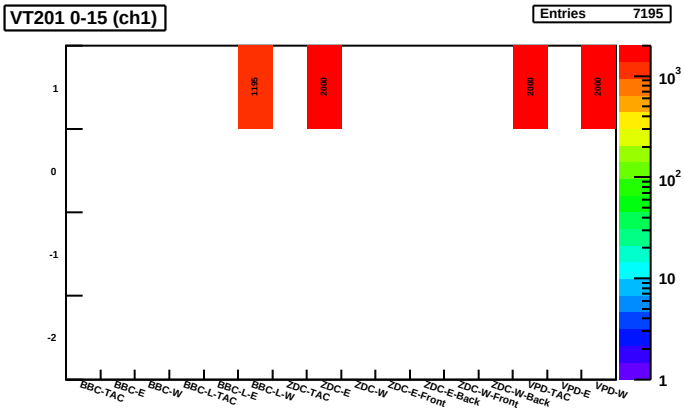

Input to FE003 QT board
Entries 64000
ADC
channel

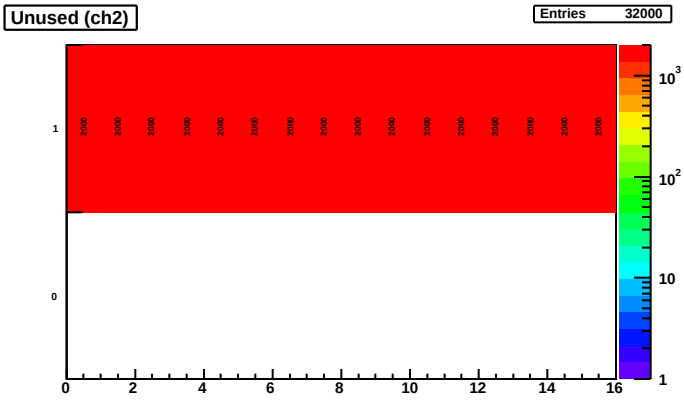

Input to FE004 QT board
Entries 64000
ADC
channel

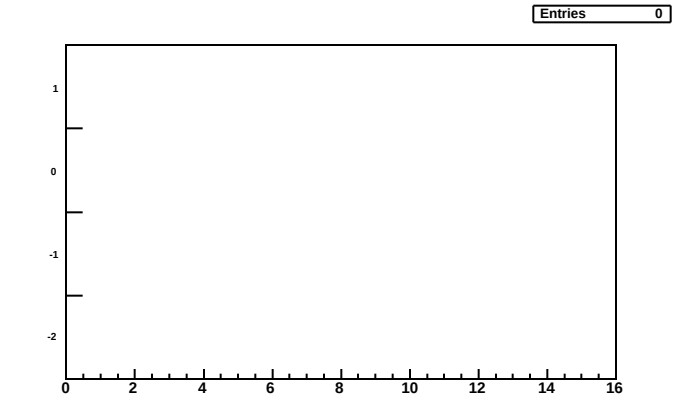

TF201 0-15 (ch0)
Entries 32000
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

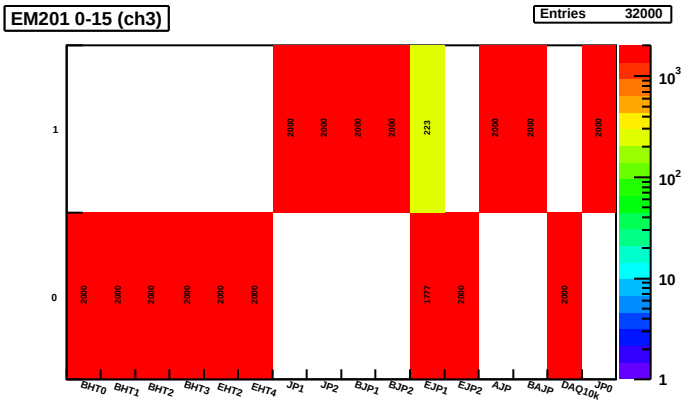

TF201 0-15 (ch0)
Entries 0
MTD0 MTD1 Unused Unused TOFmult0 TOFmult1 TOFmult2 TOFmult3 TOFmult4 TOFsector0 TOFsector1 TOFsector2 TOFsector3 TOFsector4 TOFsector5 MTD-Cosmic

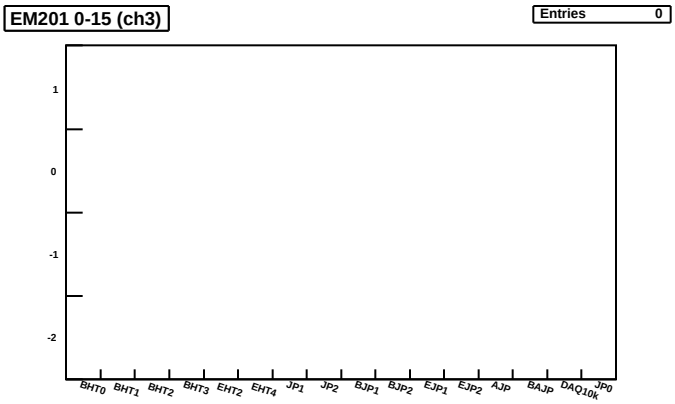

VT201 0-15 (ch1)
Entries 32000
BBC-TAC BBC-E BBC-W BBC-L-TAC BBC-L-E BBC-L-W ZDC-TAC ZDC-E ZDC-W ZDC-E-Front ZDC-E-Back ZDC-W-Front ZDC-W-Back VPD-TAC VPD-E VPD-W


VT201 0-15 (ch1)
Entries 7195
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 32000


Entries 0


EM201 0-15 (ch3)
Entries 32000
BHT0 BHT1 BHT2 BHT3 EHT2 EHT4 JP1 JP2 BJP1 BJP2 EJP1 EJP2 AJP BAJP DAQ10k JP0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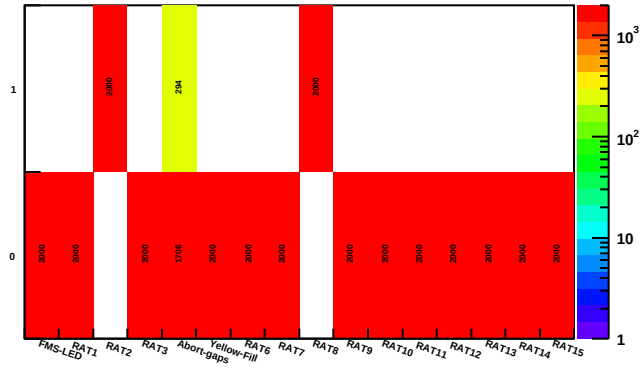
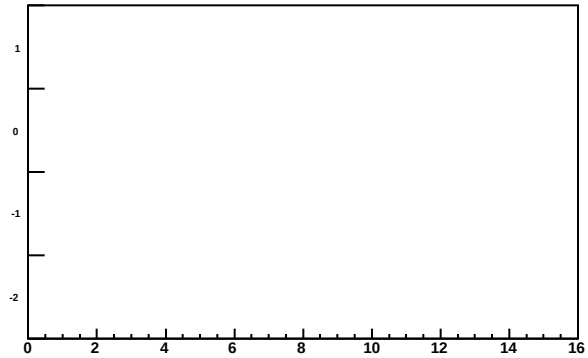
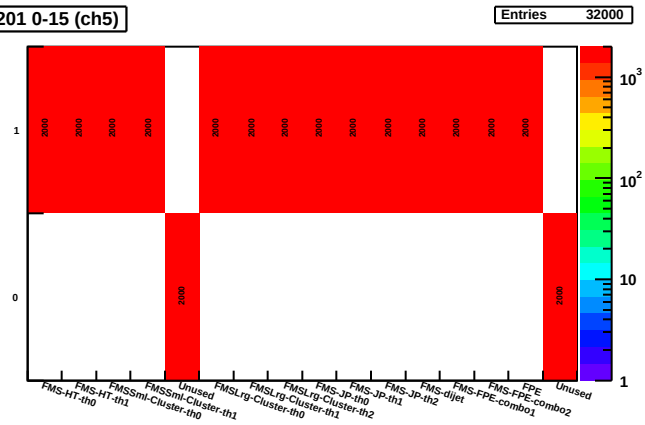
RAT board (ch4)





FP201 0-15 (ch5)



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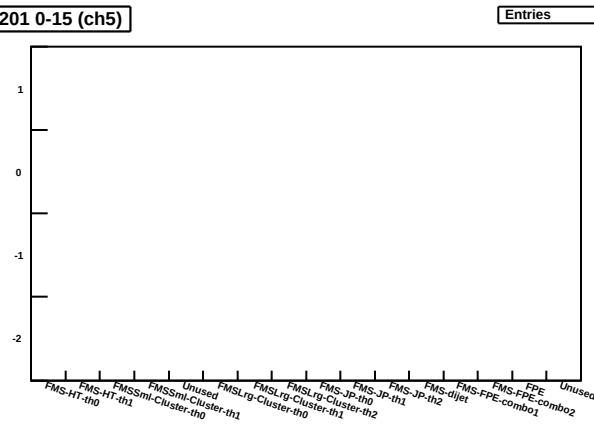
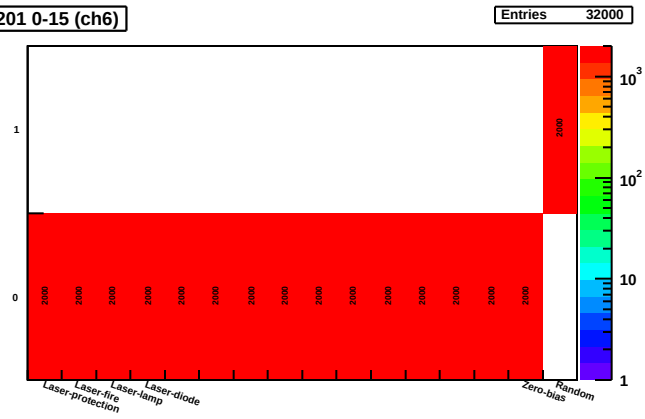
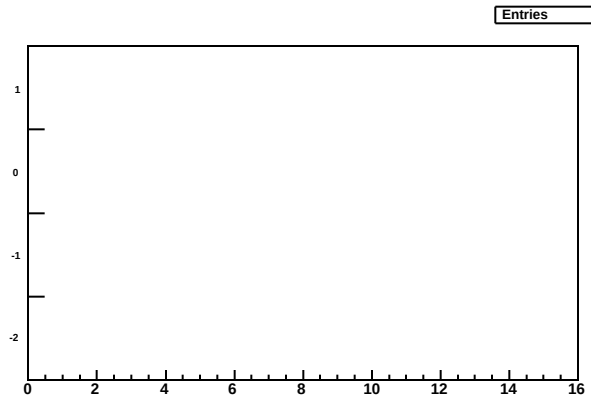
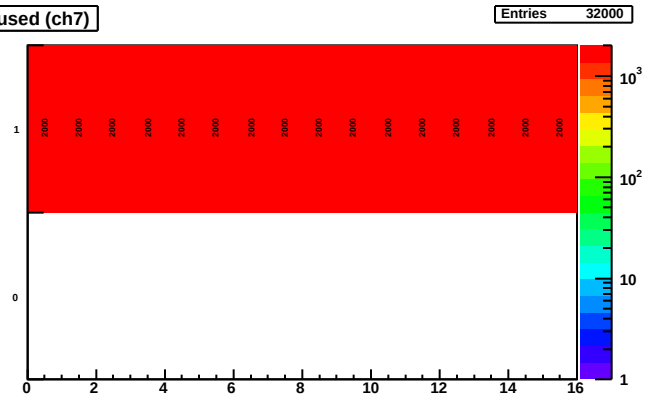
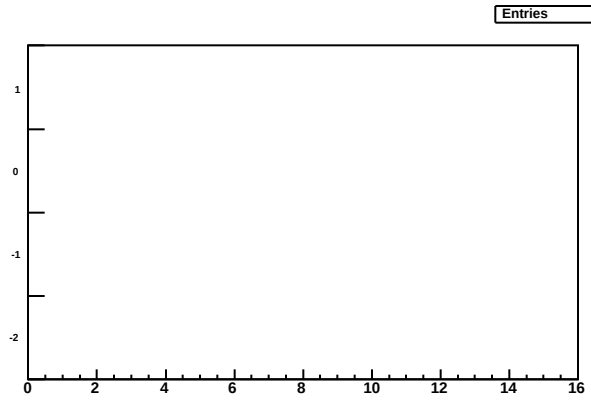


ST201 0-15 (ch6)





Unused (ch7)