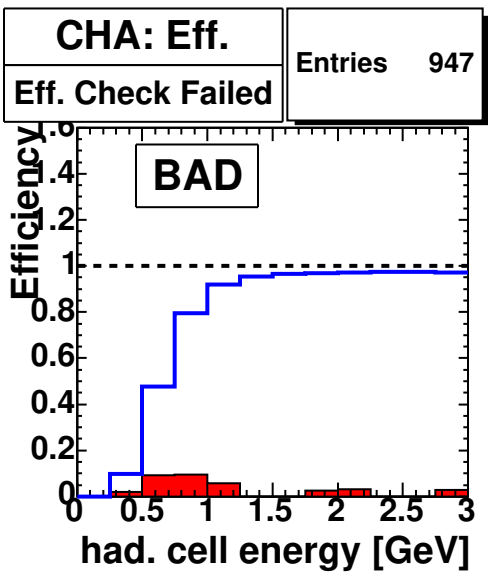
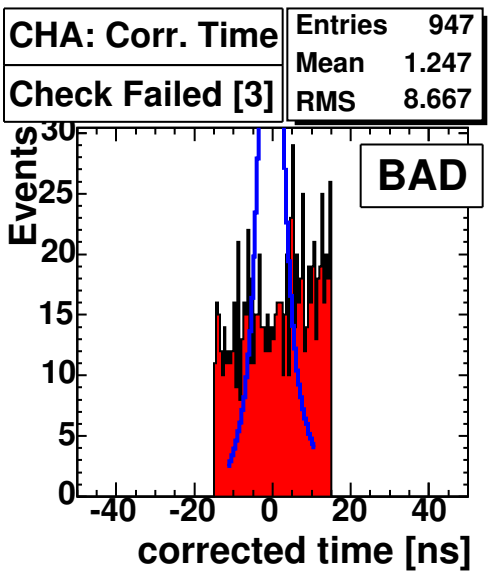
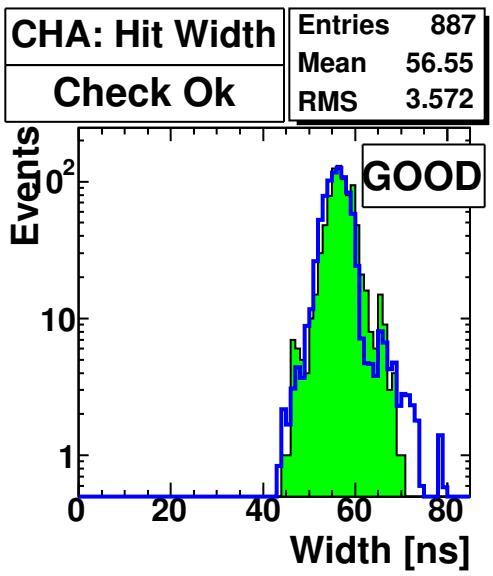
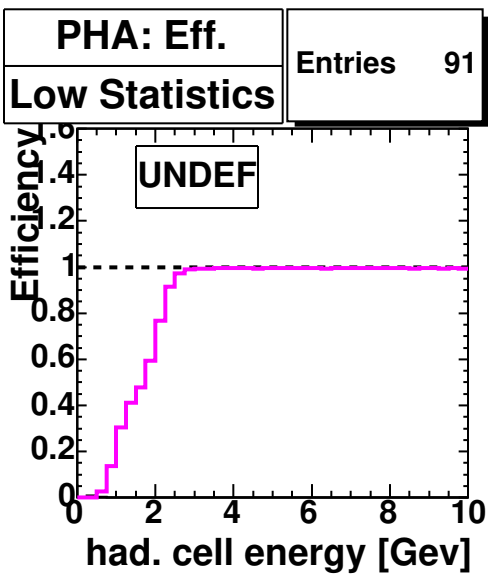
# ObjectMon #2 TimeMonitor HADTDC Timing

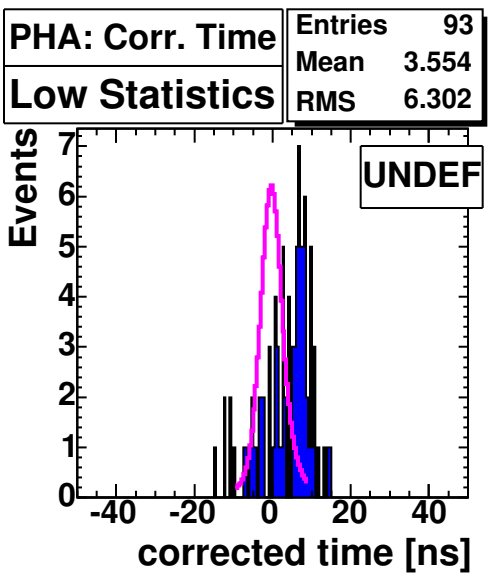
Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

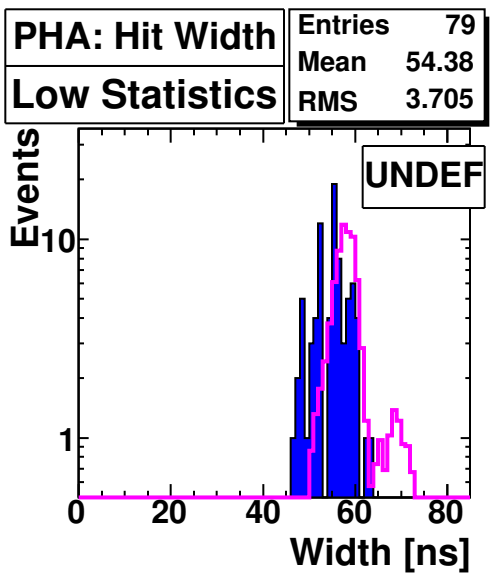


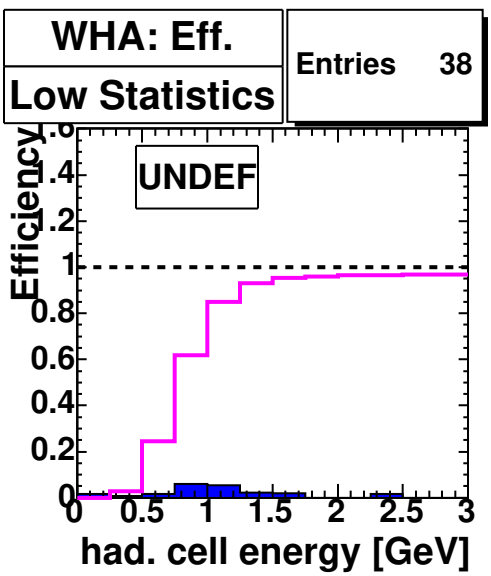



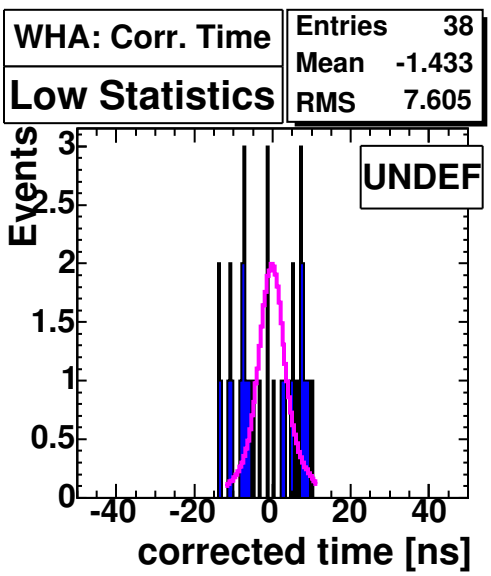



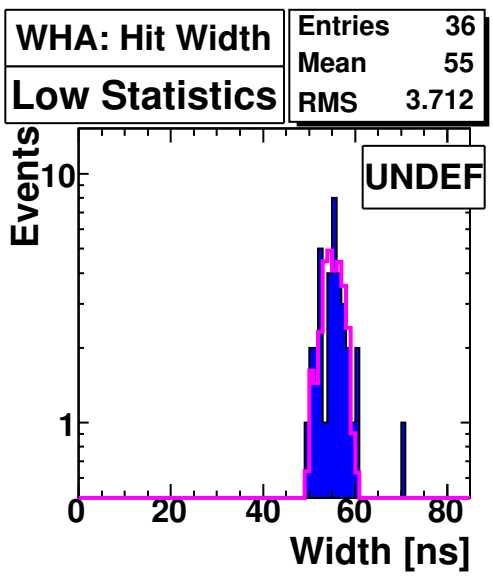



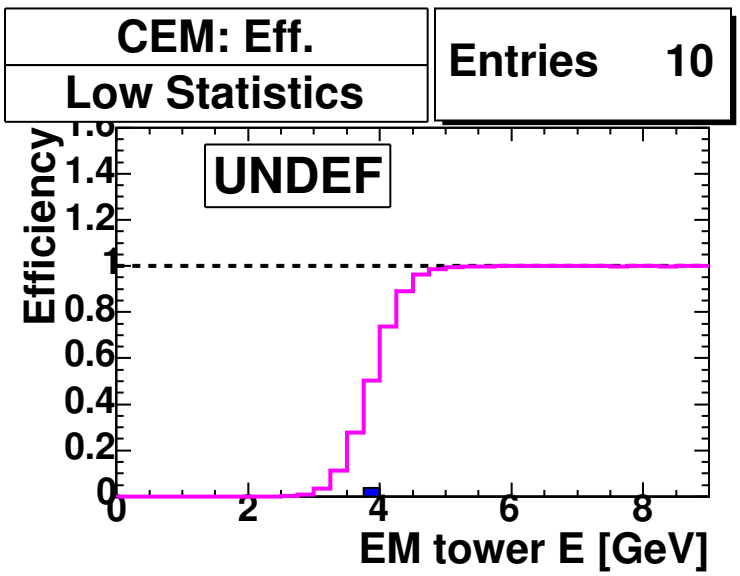



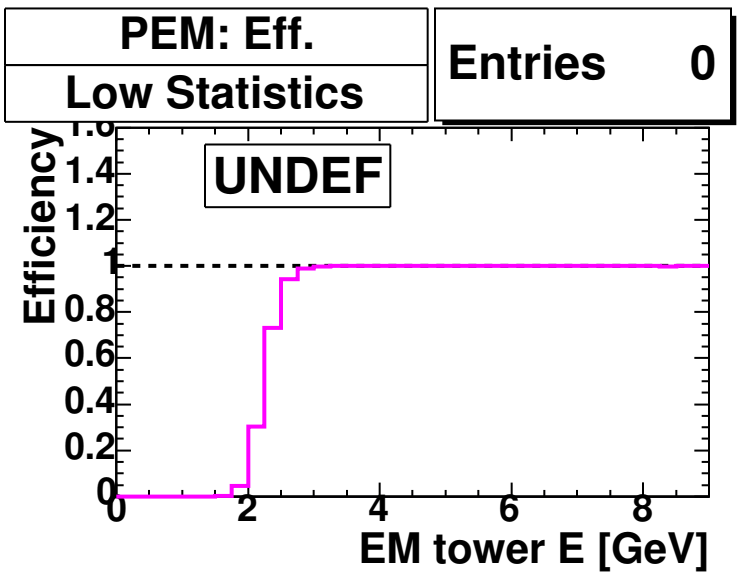



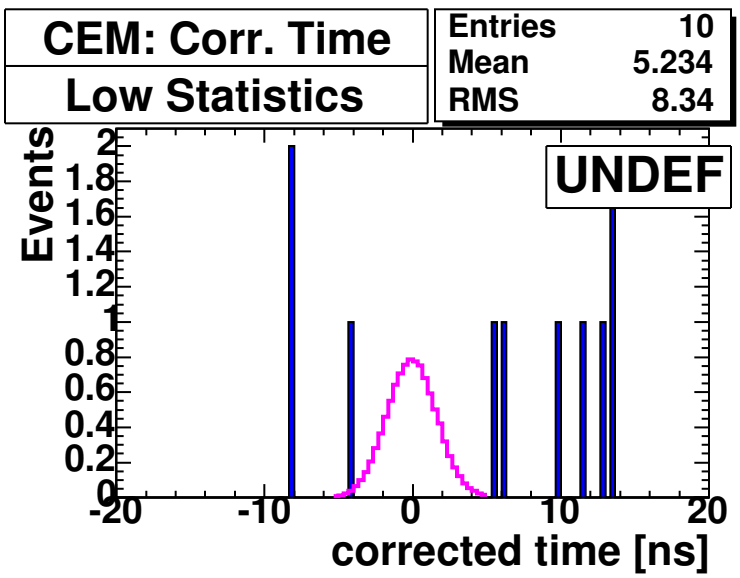



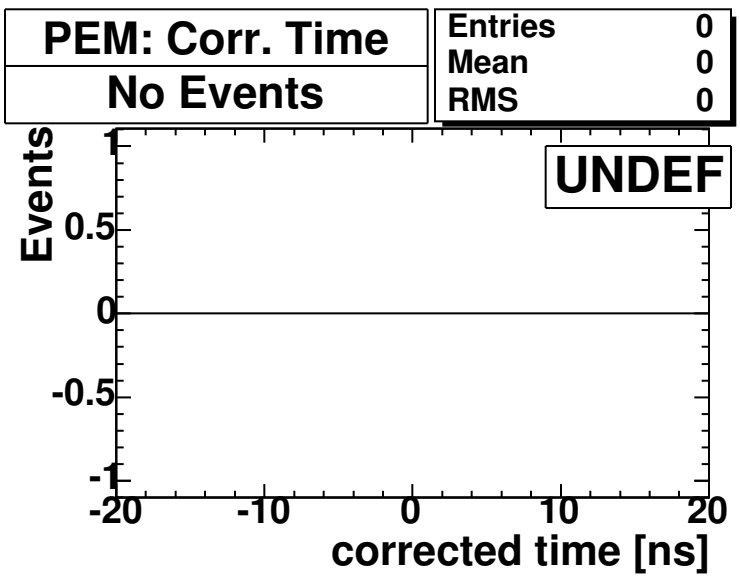
# ObjectMon #4 TimeMonitor EMTDC Timing

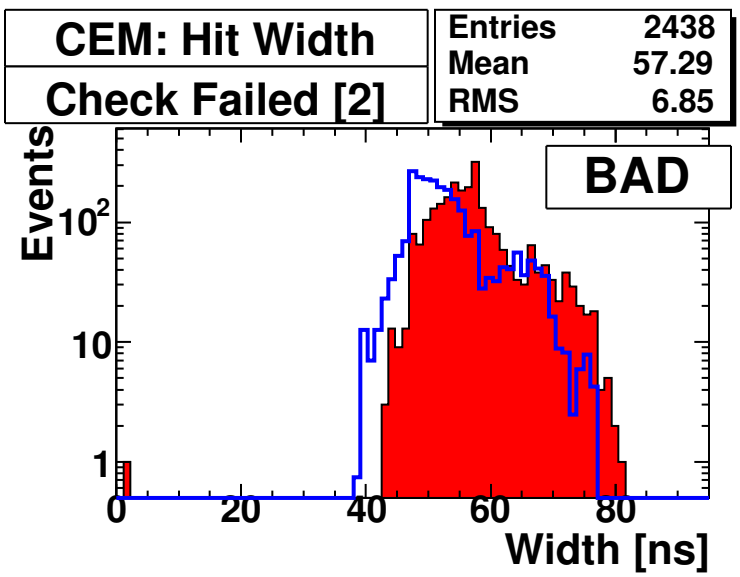
Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

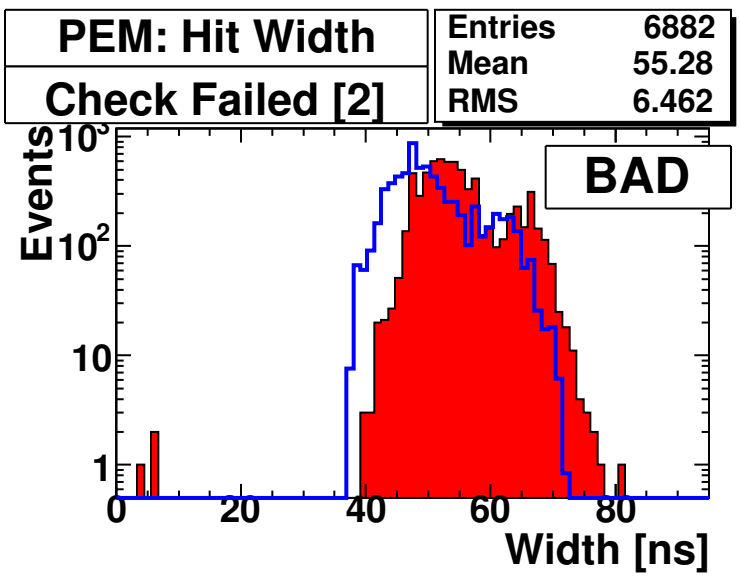


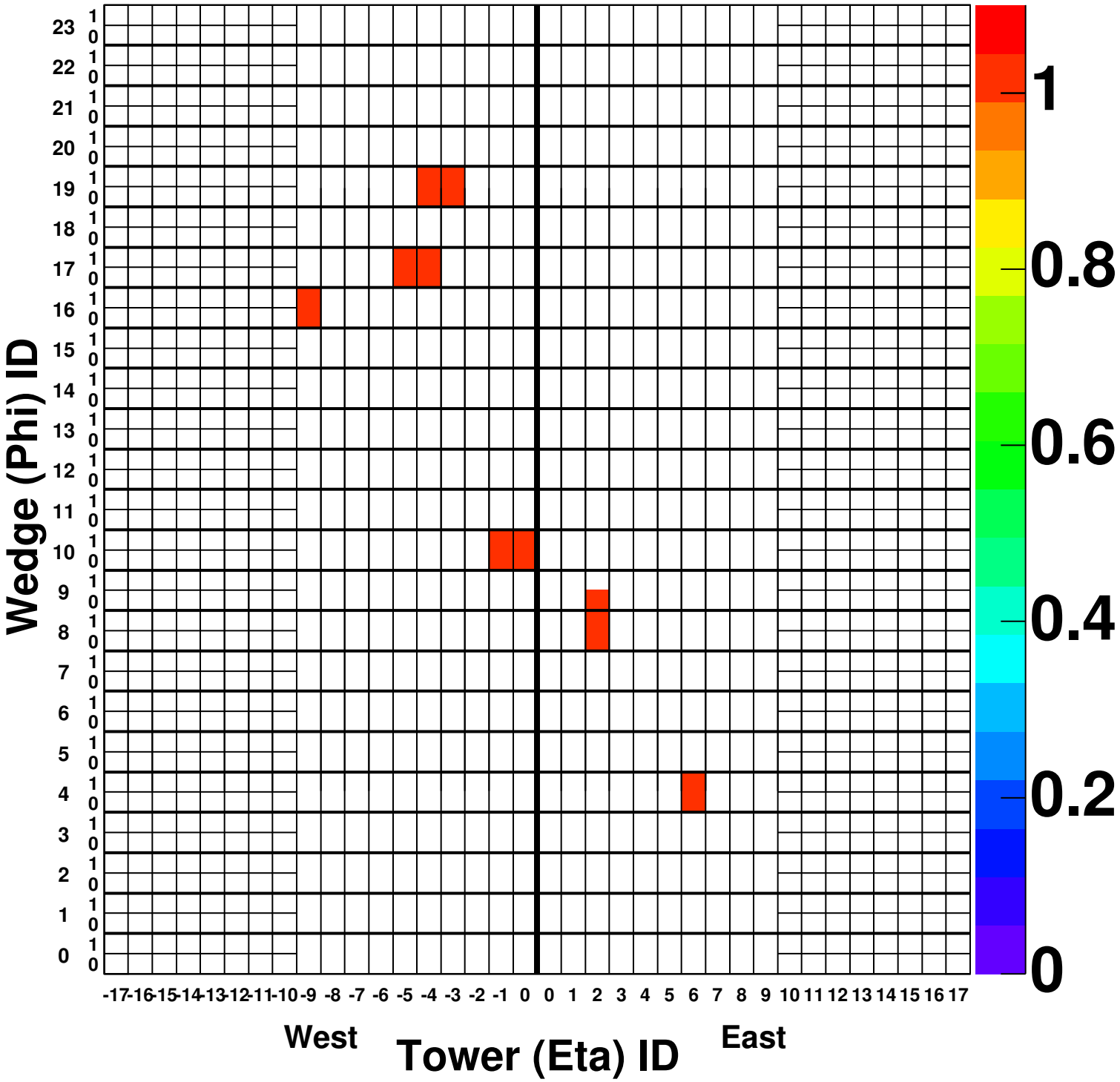
# ObjectMon #8 TimeMonitor EMTD: 100% Eff 2D

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

**EMTDC: Eff. of EM Phototubes in 100% range**

**not red are BAD**

**100% Energy range [GeV]:**
**CEM: PMTE ≥ 6.25**
**PEM: PMTE ≥ 3.00**

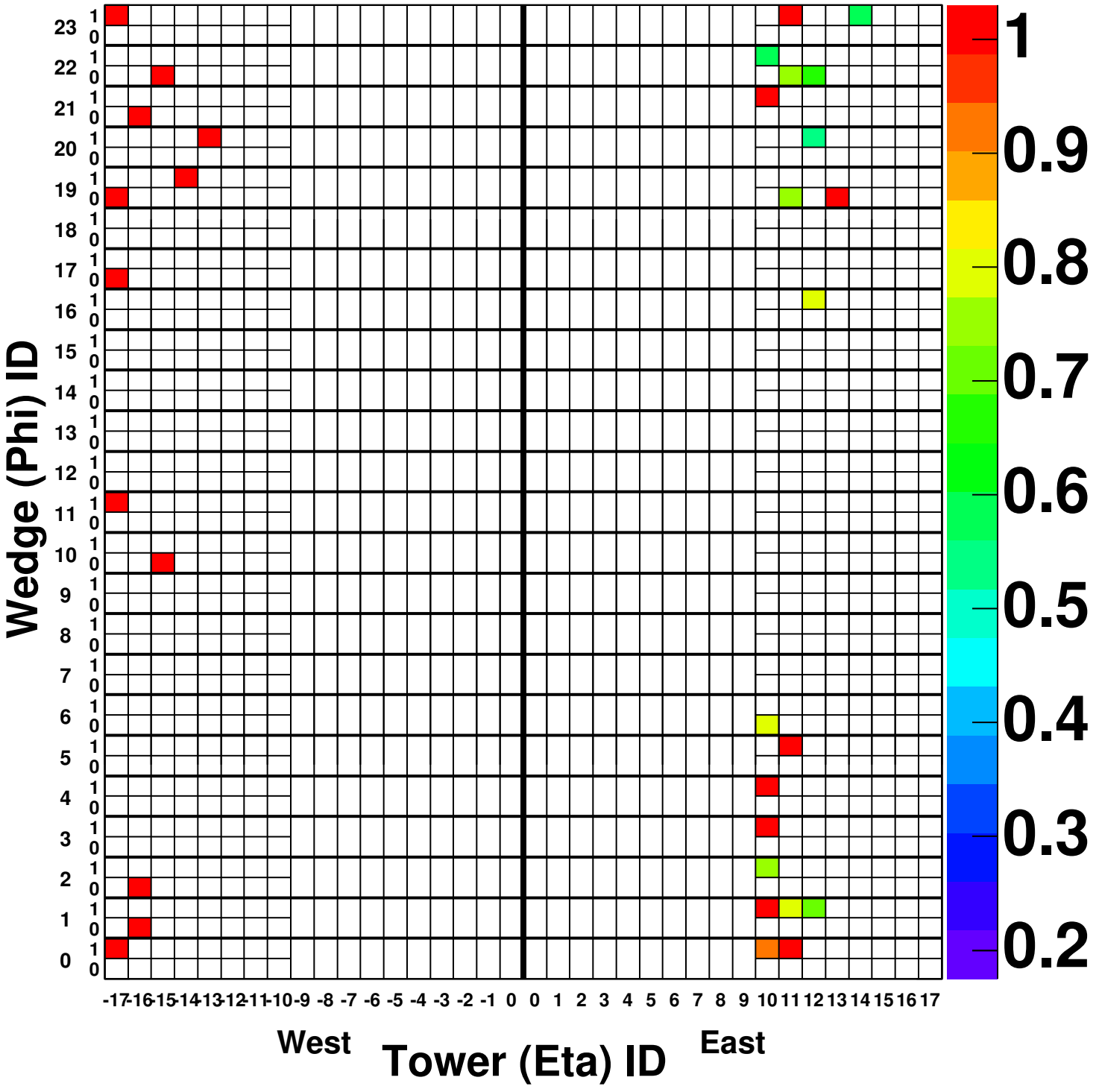


# ObjectMon #27 TimeMonitor EMTD: Fit Efficiency

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Eff. Fit Plateau
## not red are BAD

**ASD Time Window is**
**520 ns < $t_0$ < 660 ns**

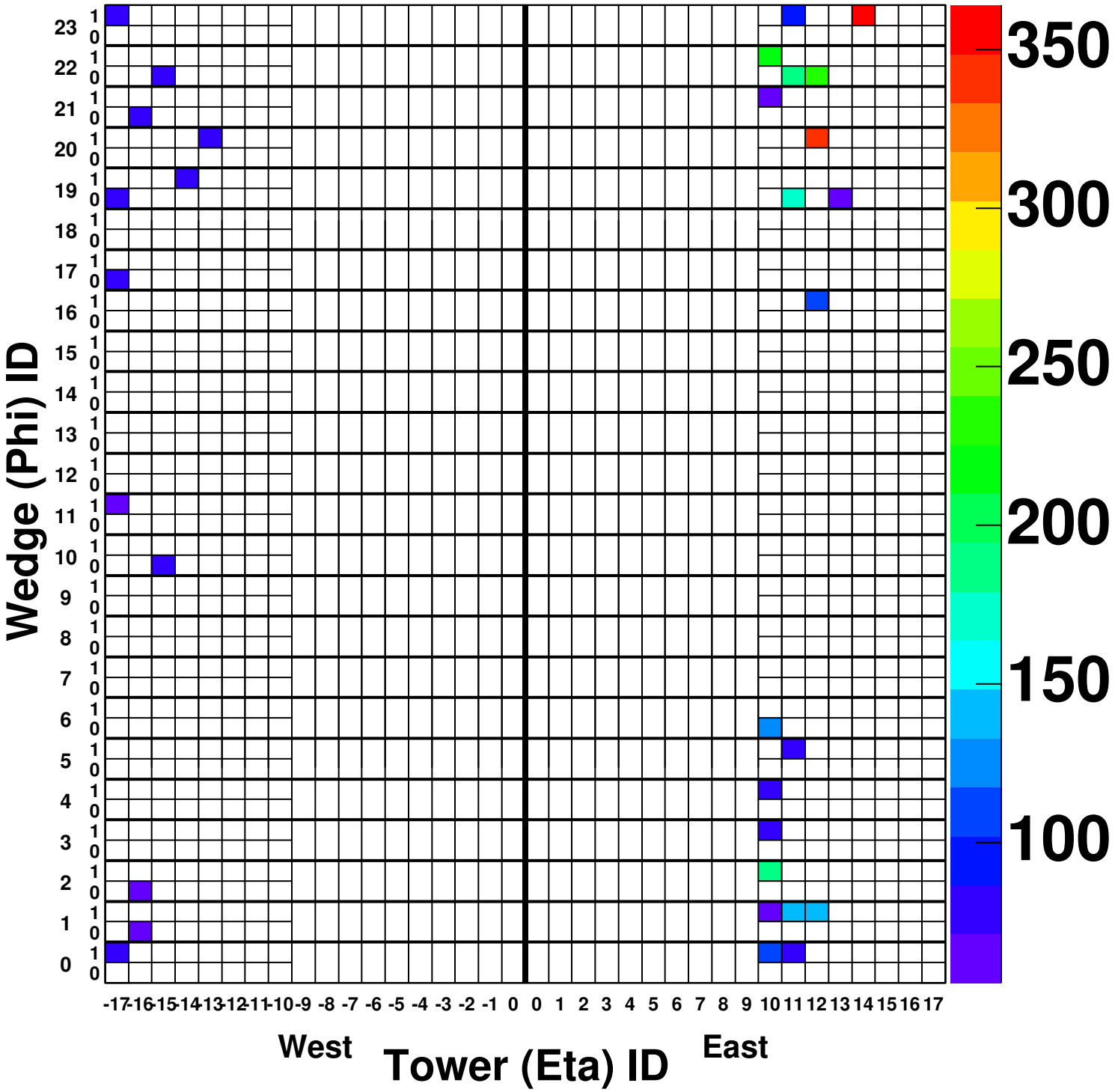


# ObjectMon #25 TimeMonitor EMTD: Thresholds

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: 50% Thresholds
## red - BAD

ASD Time Window is
520 ns < $t_0$ < 660 ns
units for CEM: ADC counts * 0.01
units for PEM: ADC counts * 0.036



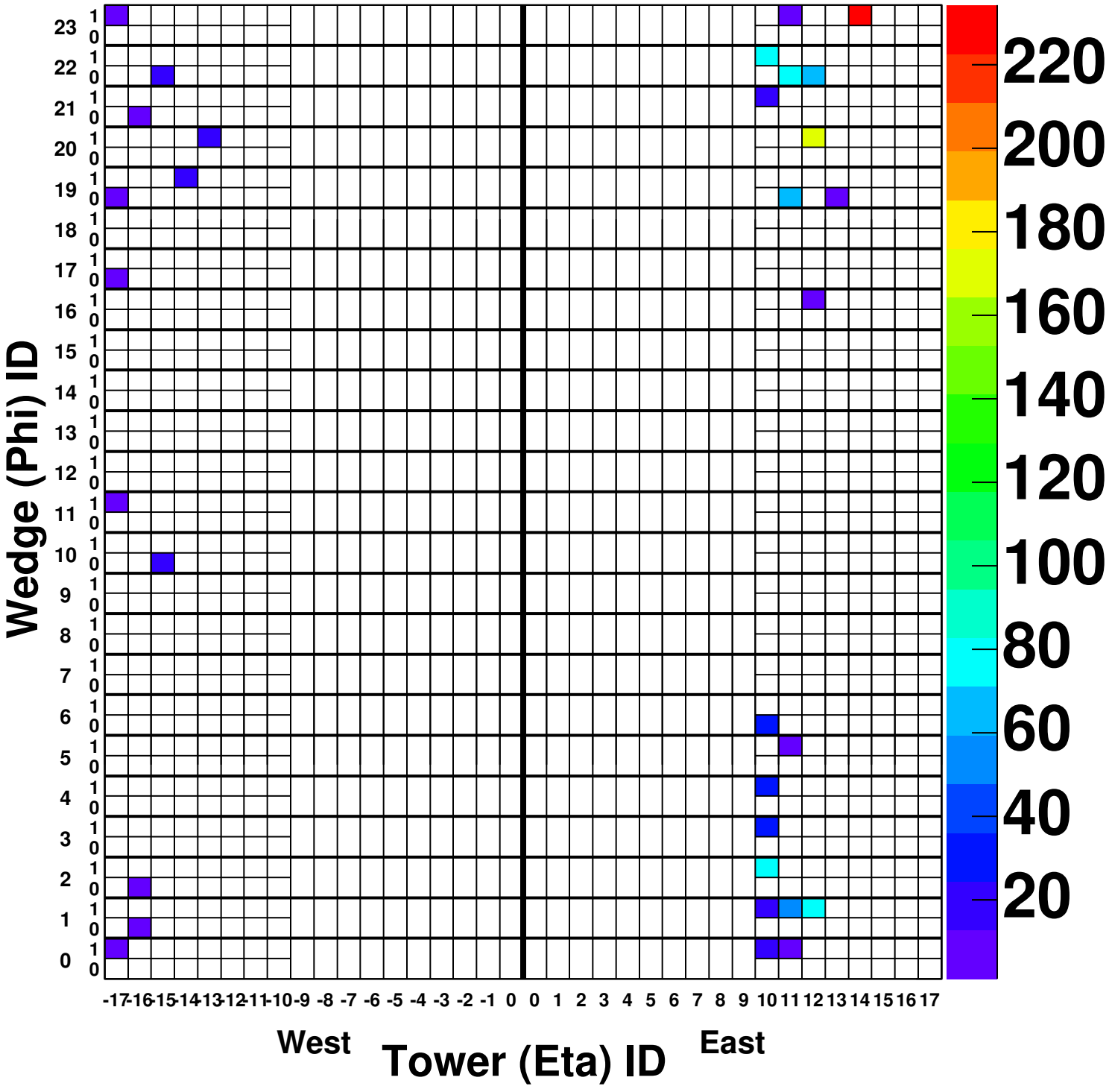
# ObjectMon #26 TimeMonitor EMTD: Threshold Sigma

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Threshold Width

red - BAD

ASD Time Window is
520 ns < $t_0$ < 660 ns
units for CEM: ADC counts * 0.01
units for PEM: ADC counts * 0.036

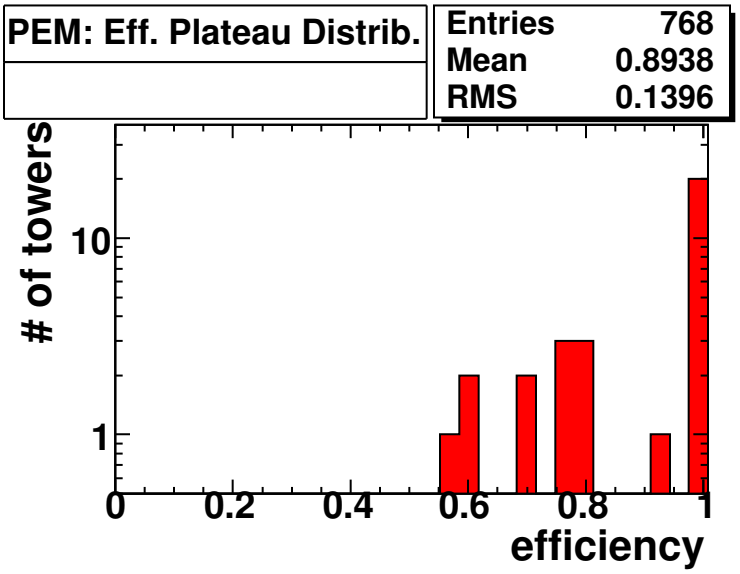


# ObjectMon #9 TimeMonitor EMTD: Thresh., Eff. and Sigmas

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## CEM: Eff. Plateau Distrib.

## PEM: Eff. Plateau Distrib.

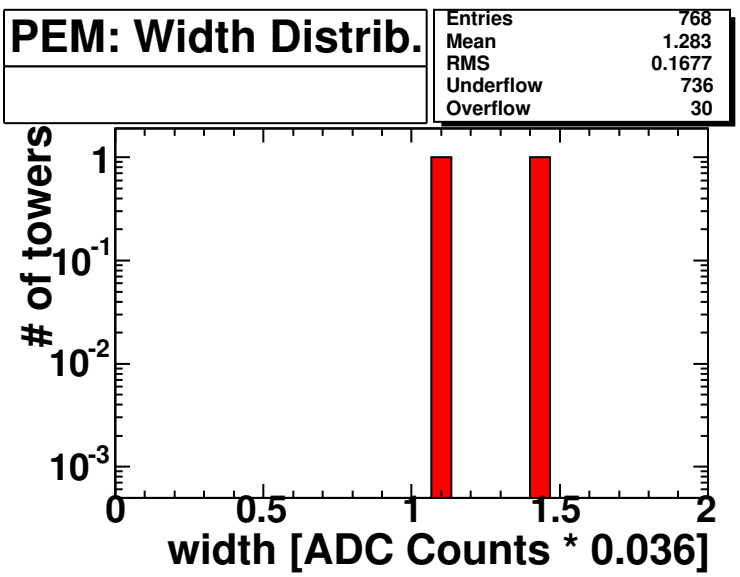



## CEM: Threshold Distrib.

## PEM: Threshold Distrib.

## CEM: Width Distrib.

## PEM: Width Distrib.



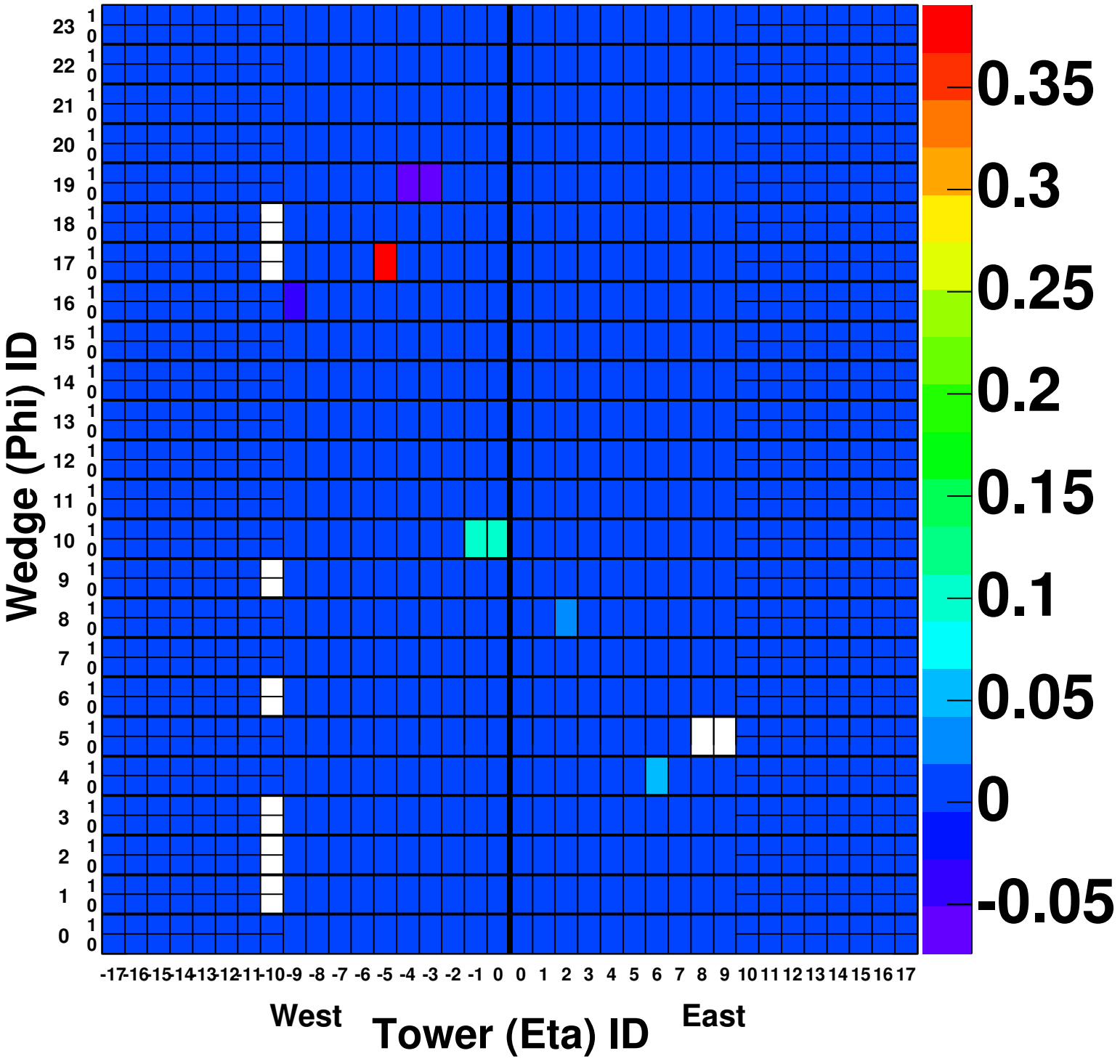
# ObjectMon #12 TimeMonitor EMTD: Mean Corrected t0 - High Energy

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Mean Corrected $t_0$ - High Energy

purple or red - problems

ASD Time Window is
520 ns < $t_0$ < 660 ns
CEM(Eeven+Eodd) > 9000 ADC
PEM(Eeven+Eodd) > 2000 ADC
$|t_{0corr}|$<15.0 ns



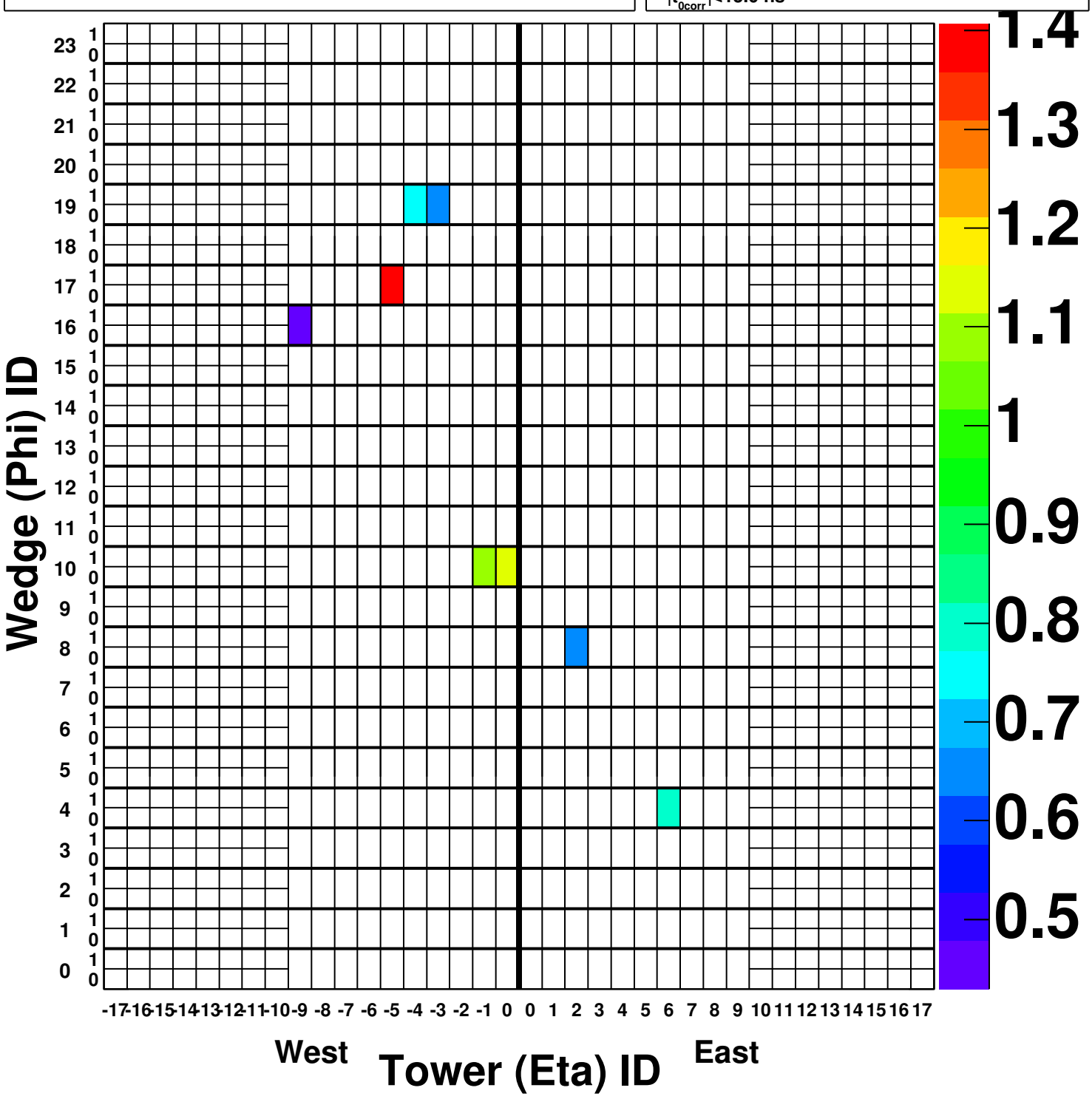
# ObjectMon #14 TimeMonitor EMTD: RMS for Corrected t0 - High Energy

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Corrected $t_0$ RMS - High Energy

purple or red - problems

ASD Time Window is
520 ns < $t_0$ < 660 ns
CEM(Eeven+Eodd) > 9000 ADC
PEM(Eeven+Eodd) > 2000 ADC
$|t_{0corr}|$<15.0 ns



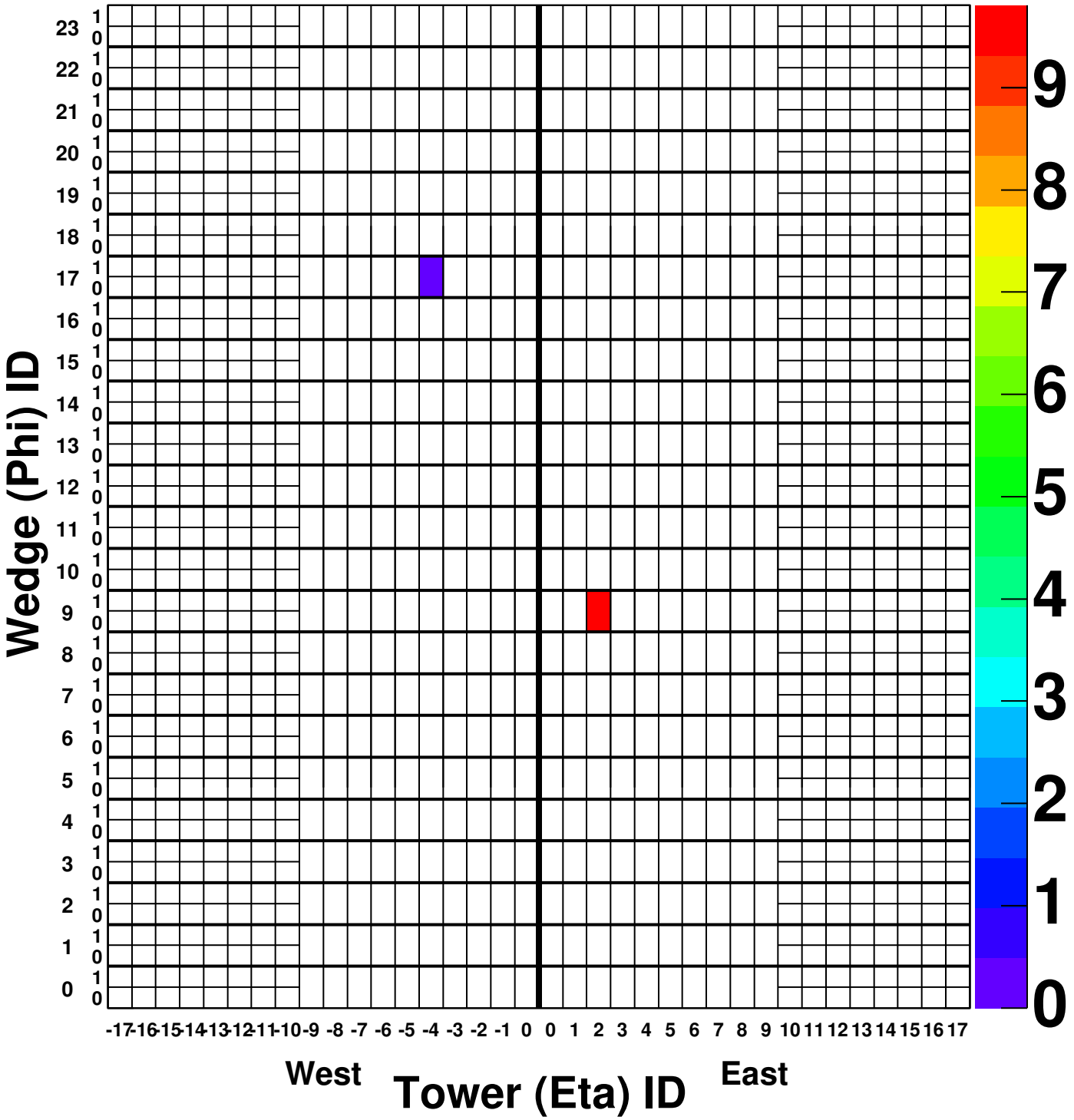
# ObjectMon #13 TimeMonitor EMTD: Mean Corrected t0 - Low Energy

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Mean Corrected $t_0$ - Low Energy

purple or red - problems

ASD Time Window is
520 ns < $t_0$ < 660 ns
CEM(Eeven+Eodd) < 9000 ADC
PEM(Eeven+Eodd) < 2000 ADC
$|t_{0corr}|$<15.0 ns



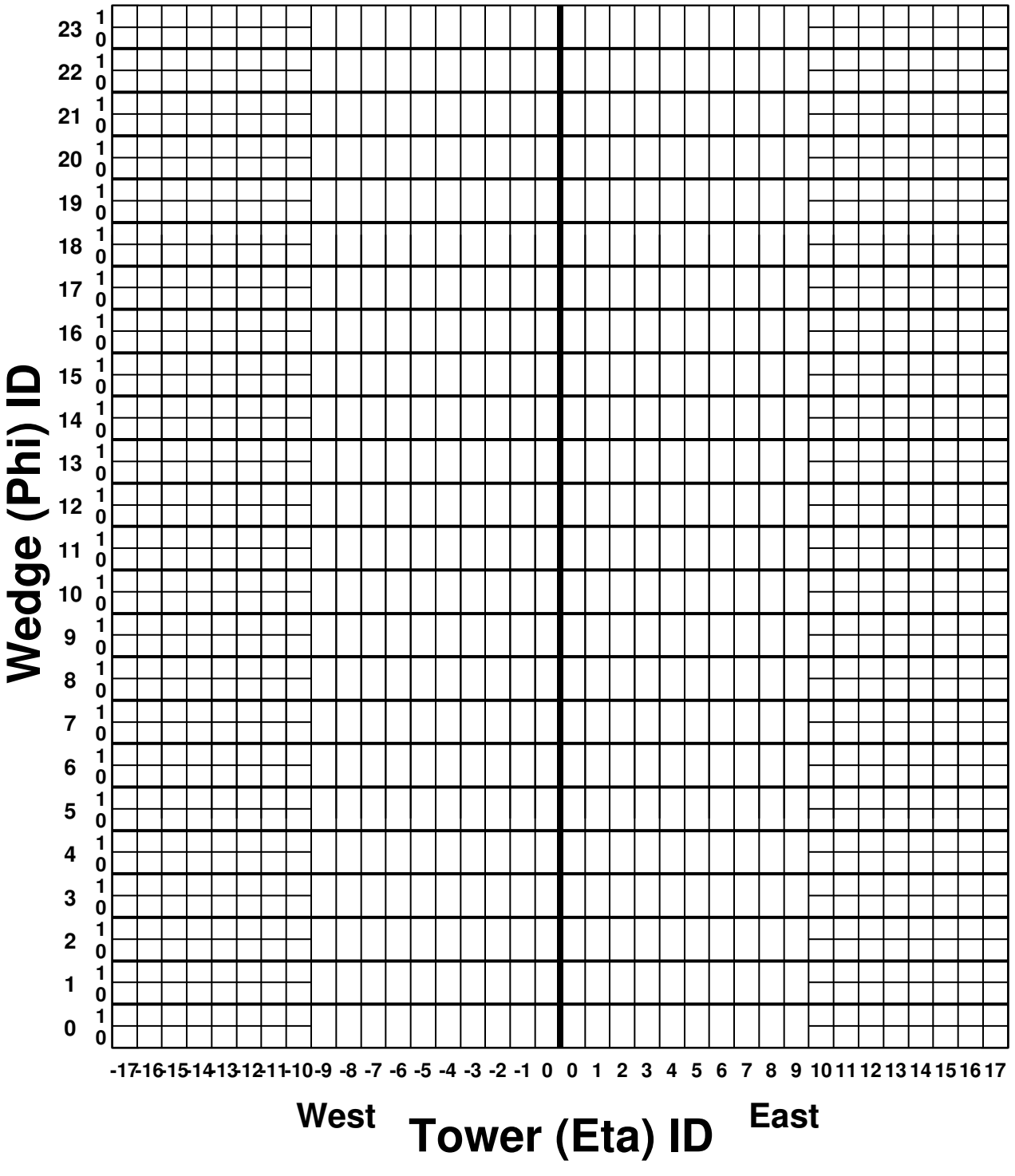
# ObjectMon #15 TimeMonitor EMTD: RMS for Corrected t0 - Low Energy

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Corrected $t_0$ RMS - Low Energy

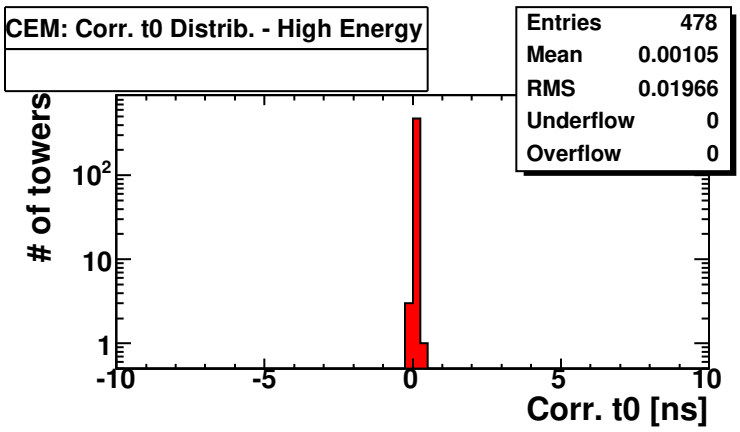
purple or red - problems

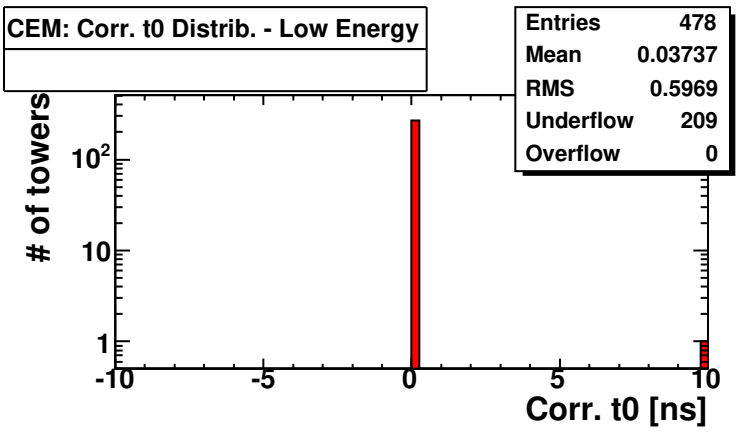
ASD Time Window is
520 ns < $t_0$ < 660 ns
CEM(Eeven+Eodd) < 9000 ADC
PEM(Eeven+Eodd) < 2000 ADC
$|t_{0corr}|$<15.0 ns

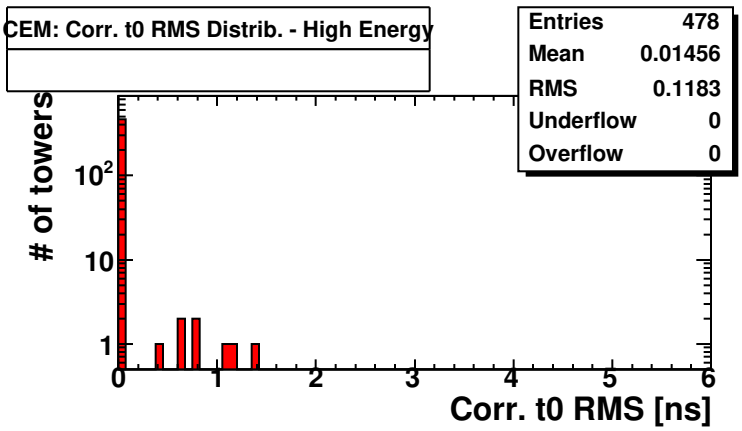


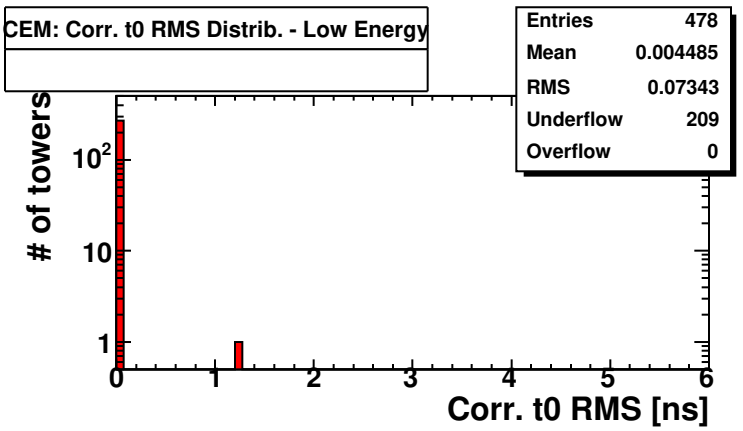
# ObjectMon #16 TimeMonitor EMTD: Corrected t0 and RMS

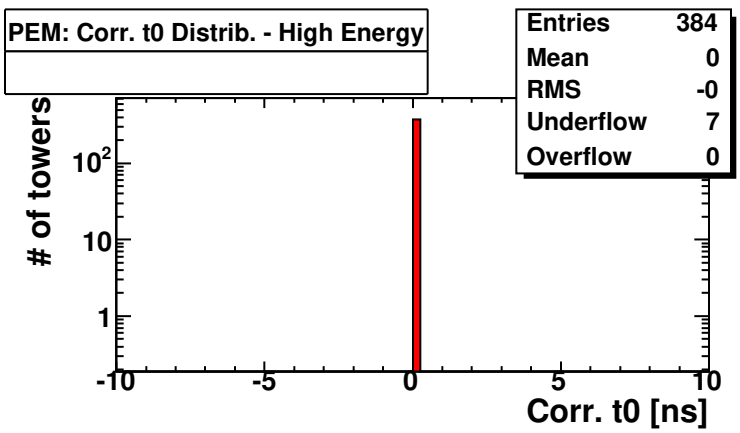
Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

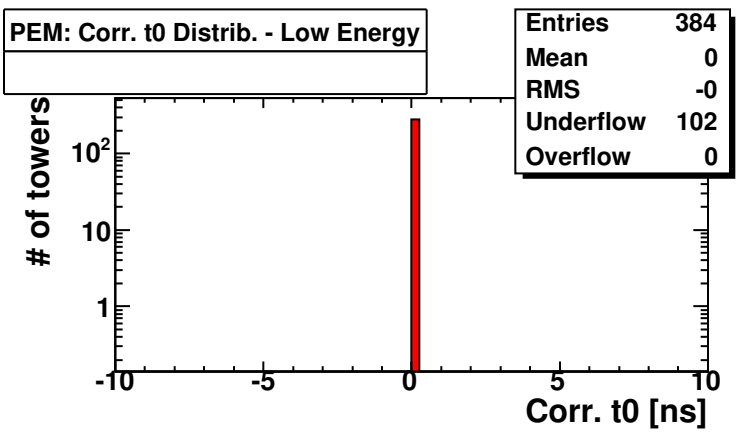


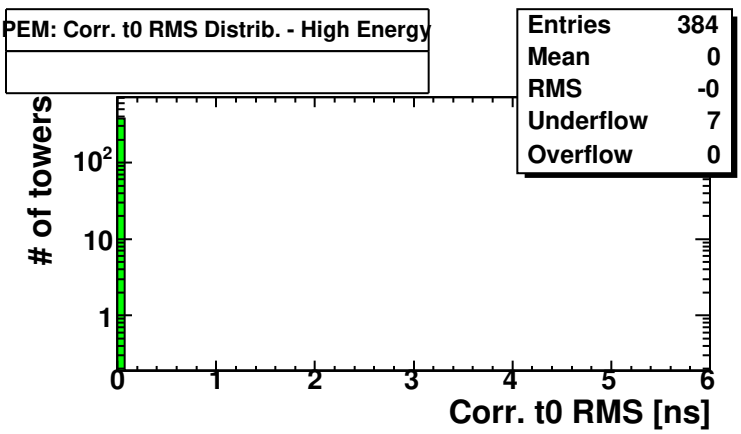



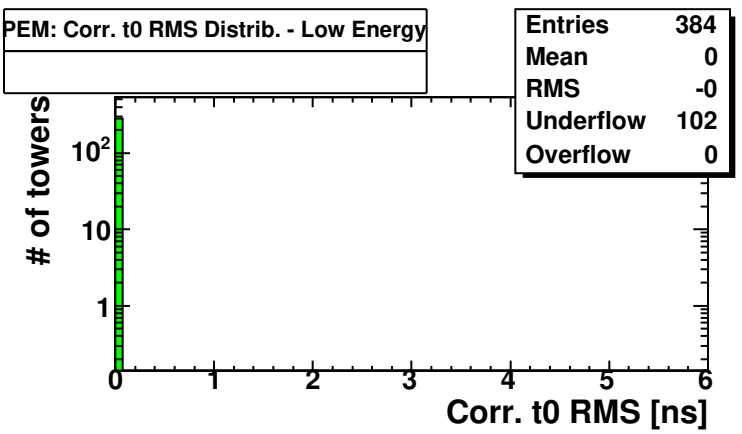



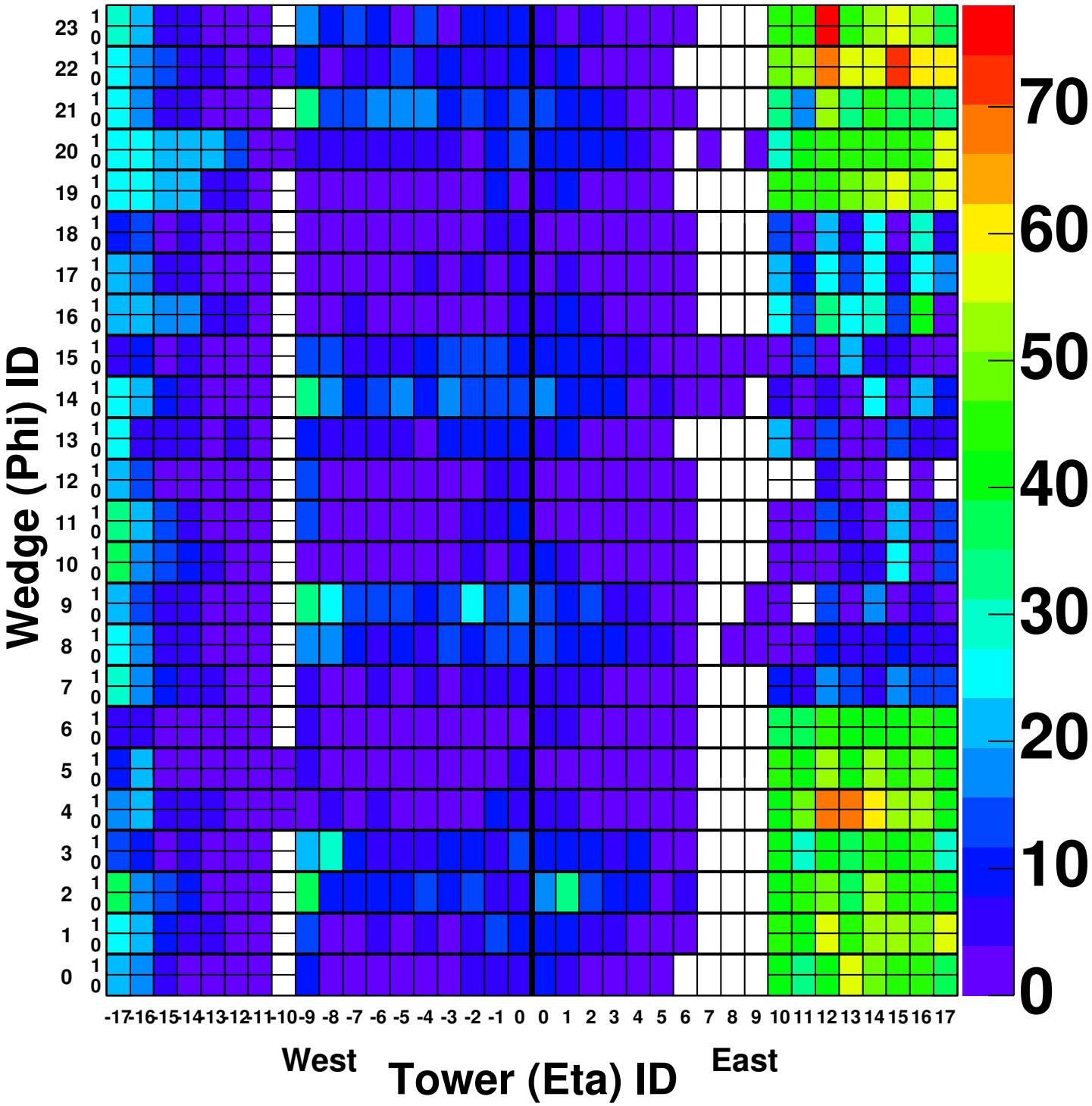
# ObjectMon #20 TimeMonitor EMTD: Corr. t0 Far From Mean

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Hits Far From Corr. <t0>

## potential problems are colored

ASD Time Window is
520 ns < $t_0$ < 660 ns
Eeven+Eodd > 0.2 GeV
$|t_{0corr}|$>15.0 ns



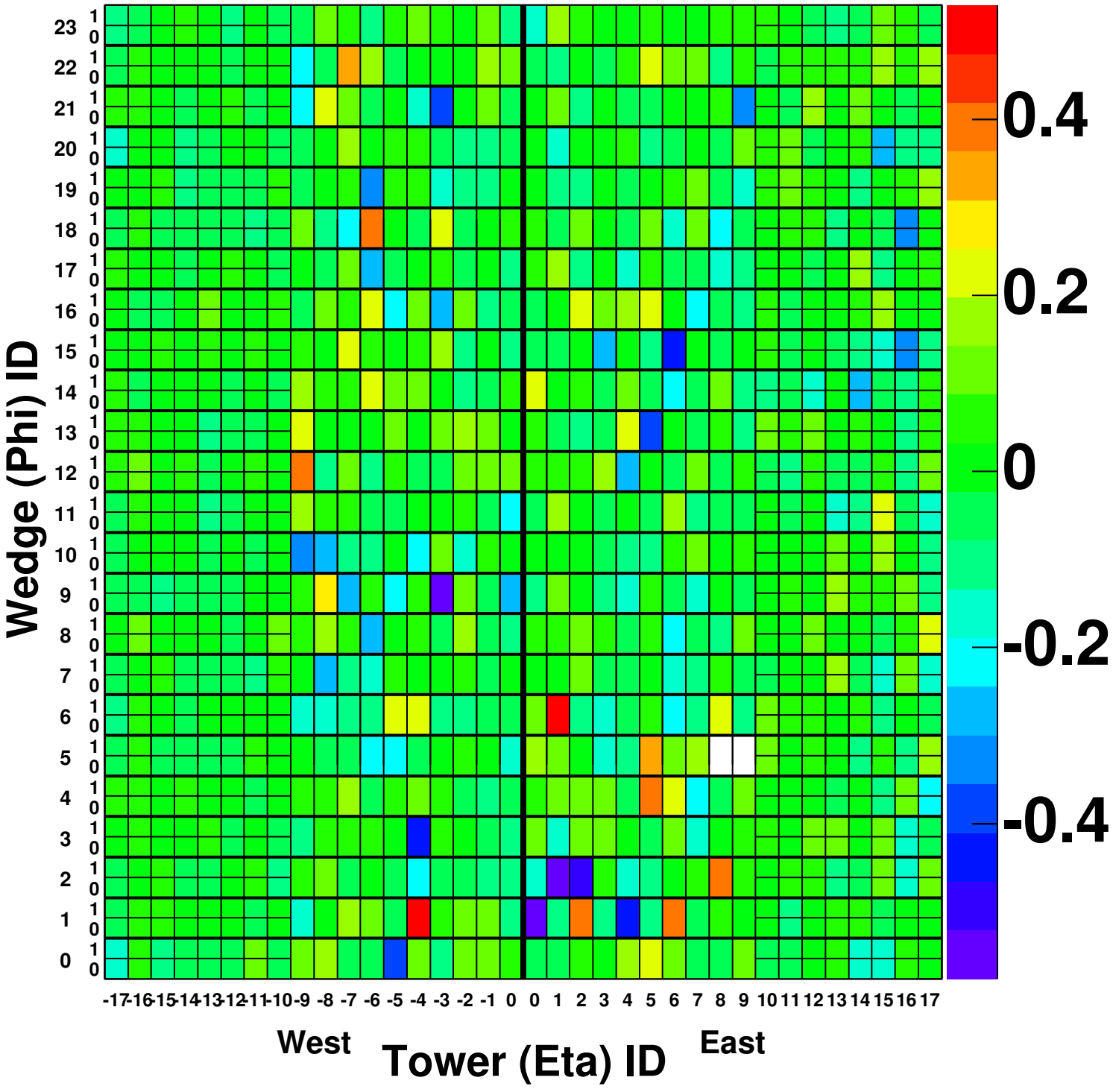
# ObjectMon #23 TimeMonitor  Mean PMT Asymmetry

Run:255815 Event:  18002  # of Events:279  Time: Sat Jan  5 13:12:09 2008  Ref.Run:243070

## Mean PMT Asymmetry

PMT Asymmetry = (Eeven-Eodd)/(Eeven+Eodd)

Eeven+Eodd > 0.20 GeV



# ObjectMon #24 TimeMonitor PMT Asymmetry RMS

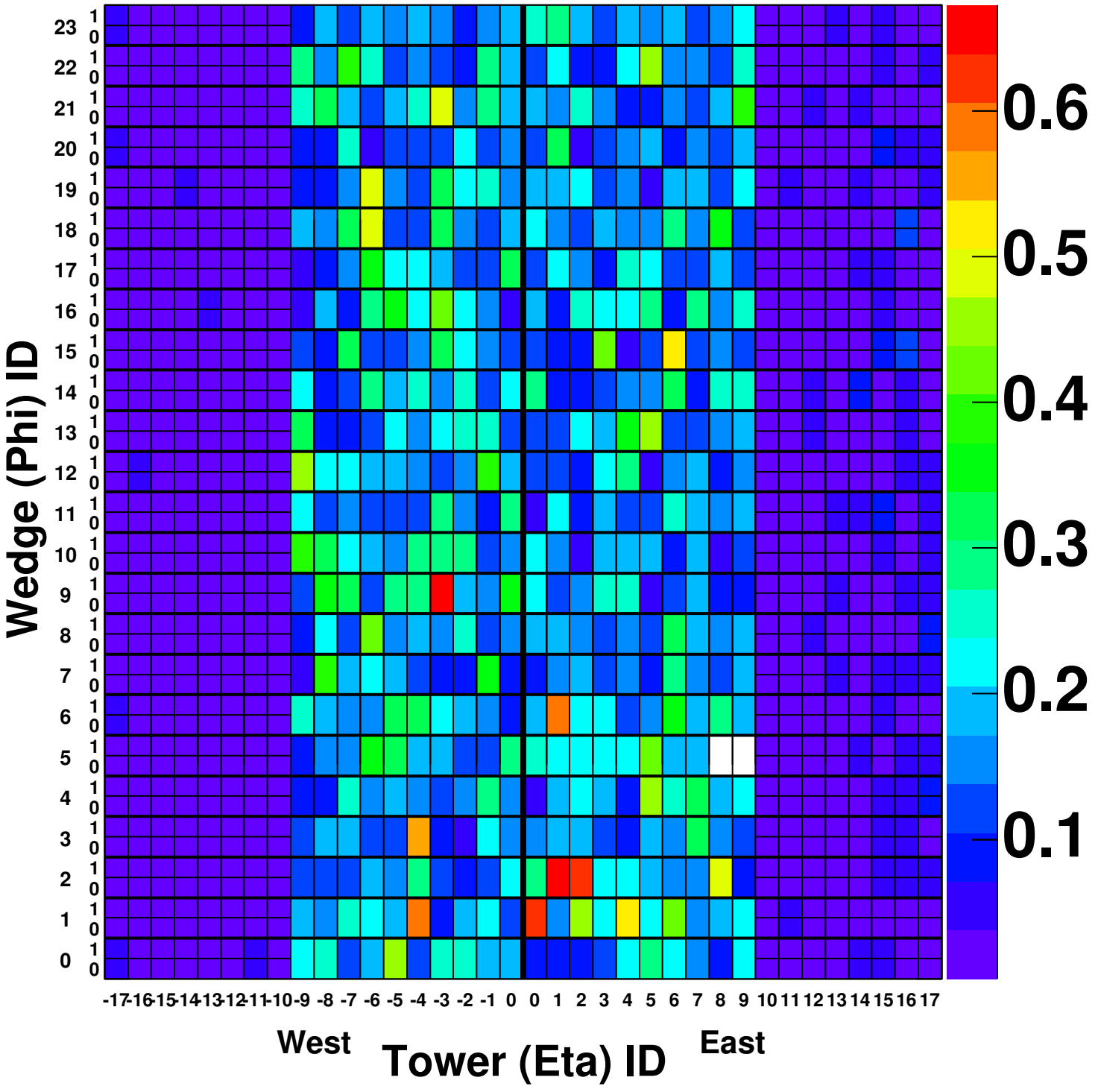
Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## PMT Asymmetry RMS

PMT Asymmetry = (Eeven-Eodd)/(Eeven+Eodd)

RMS Corrected for eta dep.

Eeven+Eodd > 0.20 GeV

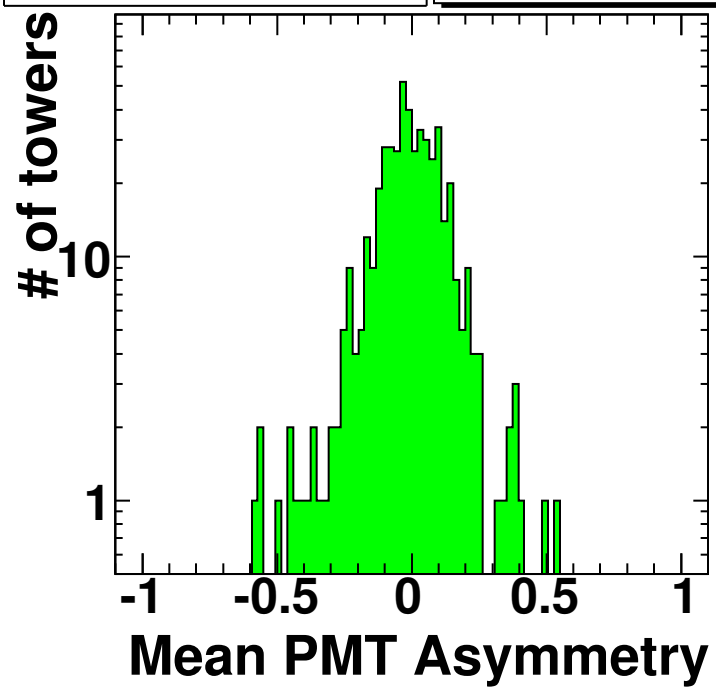


# ObjectMon #22 TimeMonitor PMT Asymmetry Distributions

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

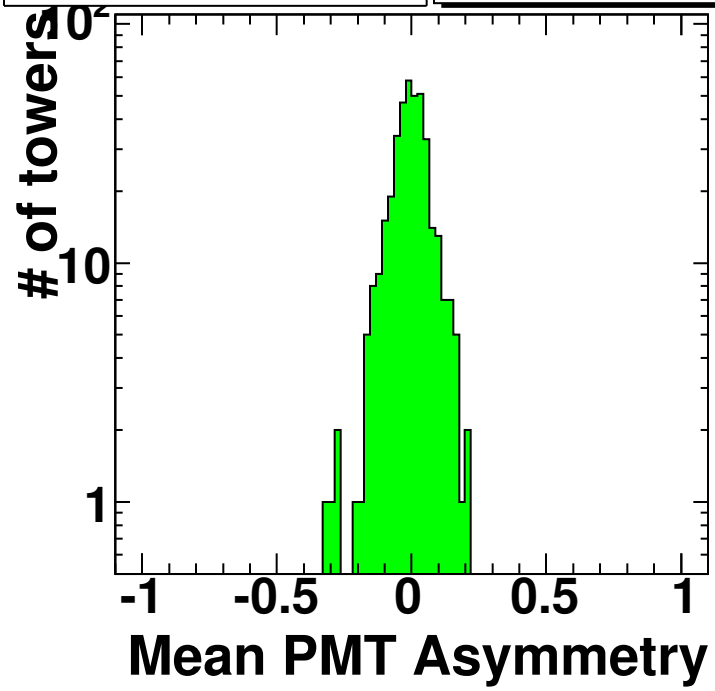
CEM: Mean PMT Asymmetry Distrib.

| | |
|---|---|
| Entries | 478 |
| Mean | -0.006596 |
| RMS | 0.1408 |
| Underflow | 0 |
| Overflow | 0 |




PEM: Mean PMT Asymmetry Distrib.

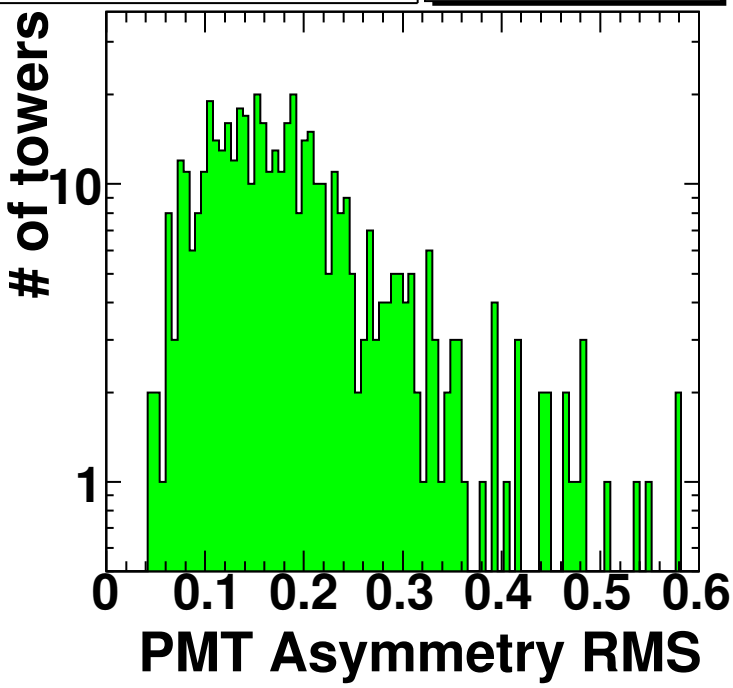
| | |
|---|---|
| Entries | 384 |
| Mean | -0.005208 |
| RMS | 0.07501 |
| Underflow | 0 |
| Overflow | 0 |




CEM: PMT Asymmetry RMS Distrib.

RMS Corrected for eta dep.

| | |
|---|---|
| Entries | 478 |
| Mean | 0.1896 |
| RMS | 0.09438 |
| Underflow | 0 |
| Overflow | 4 |




PEM: PMT Asymmetry RMS Distrib.

RMS Corrected for eta dep.

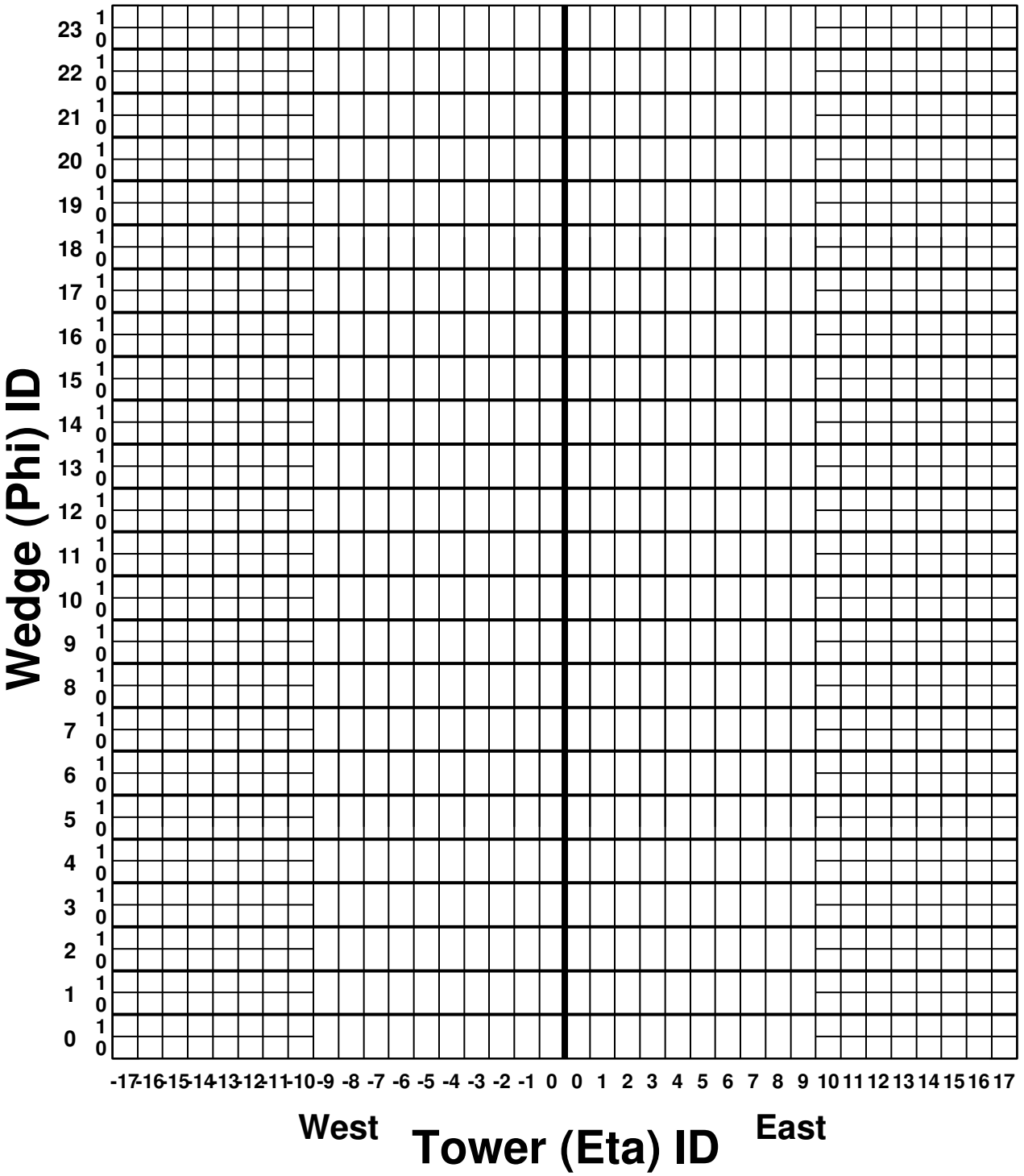
# ObjectMon #17 TimeMonitor EMTD: Fake Firings

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Fake Firings Occupancy

potential problems are colored

Energy range [GeV]:
Eeven+Eodd < 0.20
ASD Time Window is
520 ns < $t_0$ < 660 ns



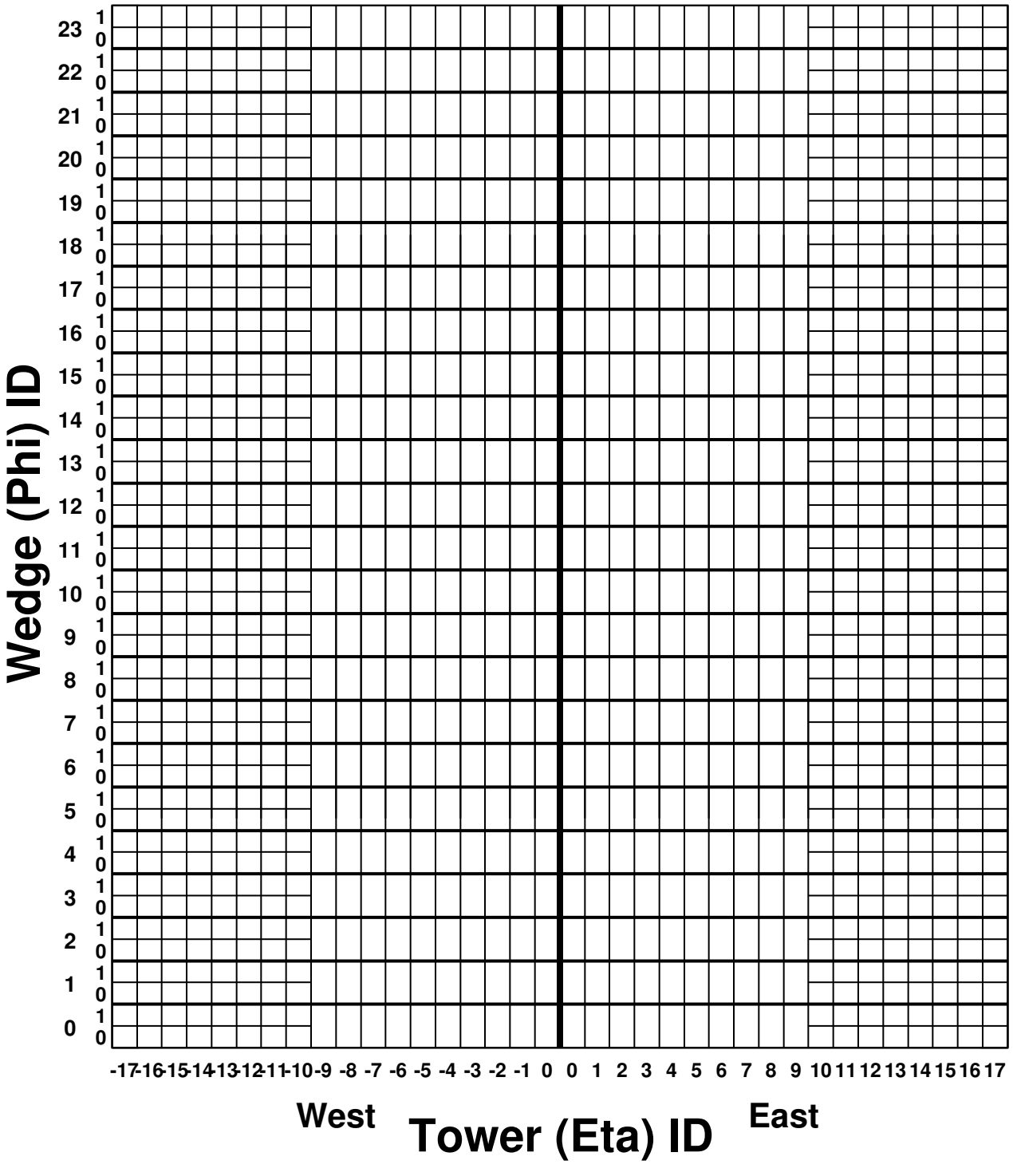
# ObjectMon #19 TimeMonitor EMTD: Multiple Firings & Ok Width

Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Multiply Ok Width Firing Towers

potential problems are colored

ASD Time Window is
520 ns < $t_0$ < 660 ns
20 < Hit width < 200 ns
No Energy Requirement



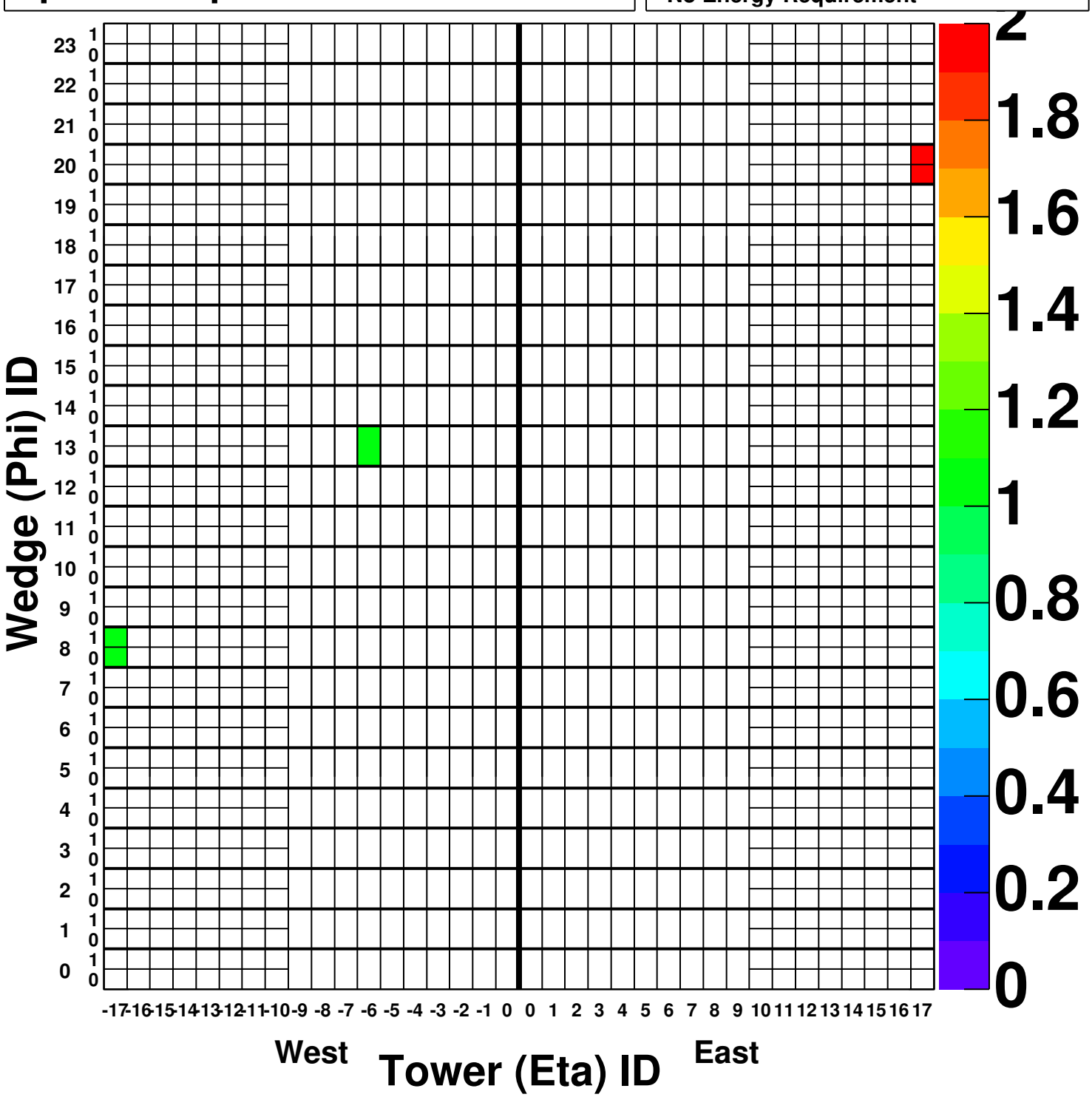
# ObjectMon #18 TimeMonitor EMTD: Multiple Firings & Low Width

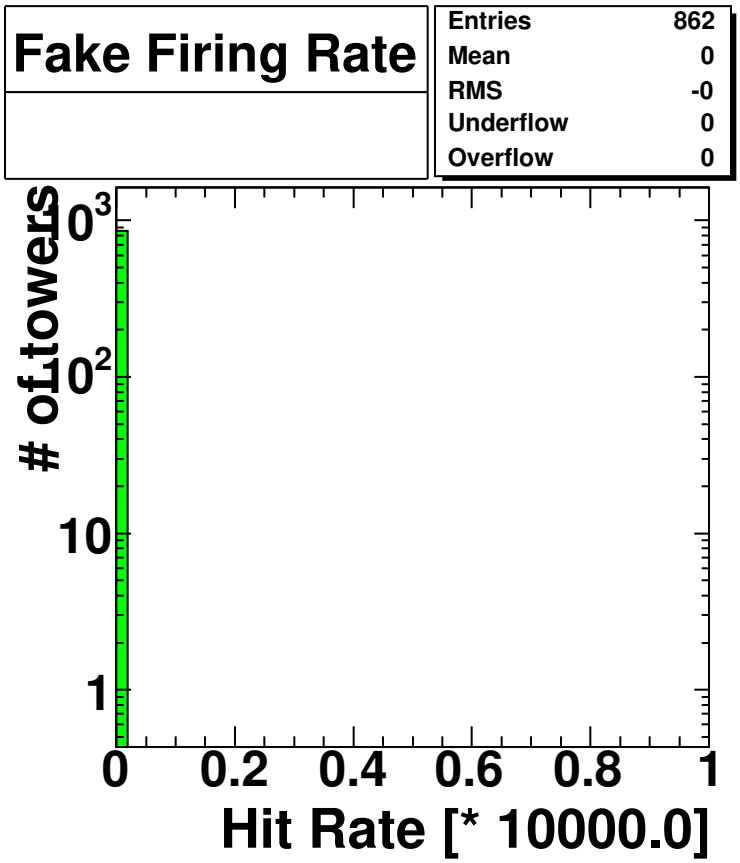
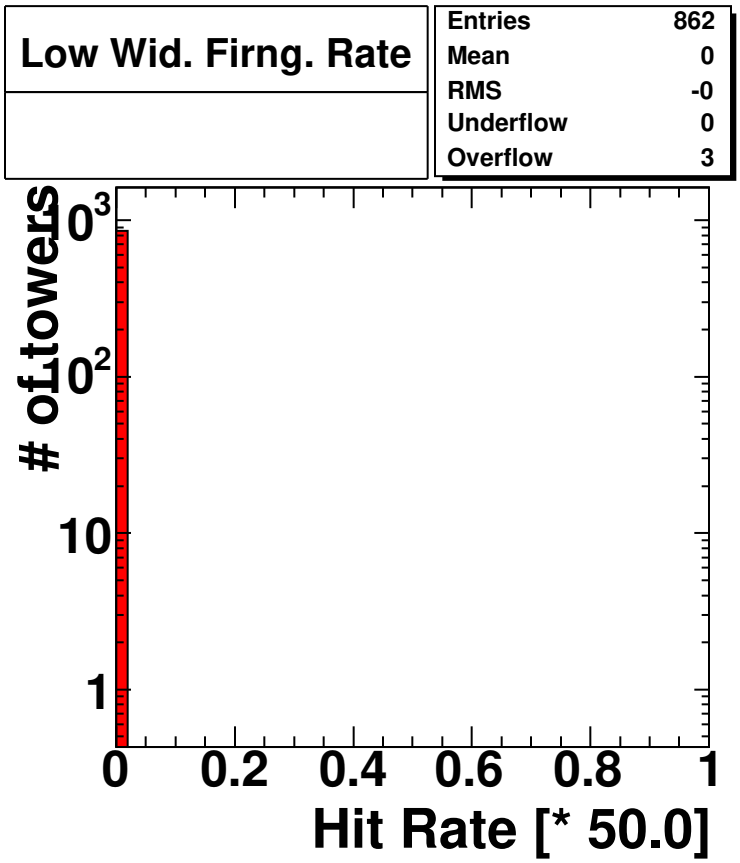
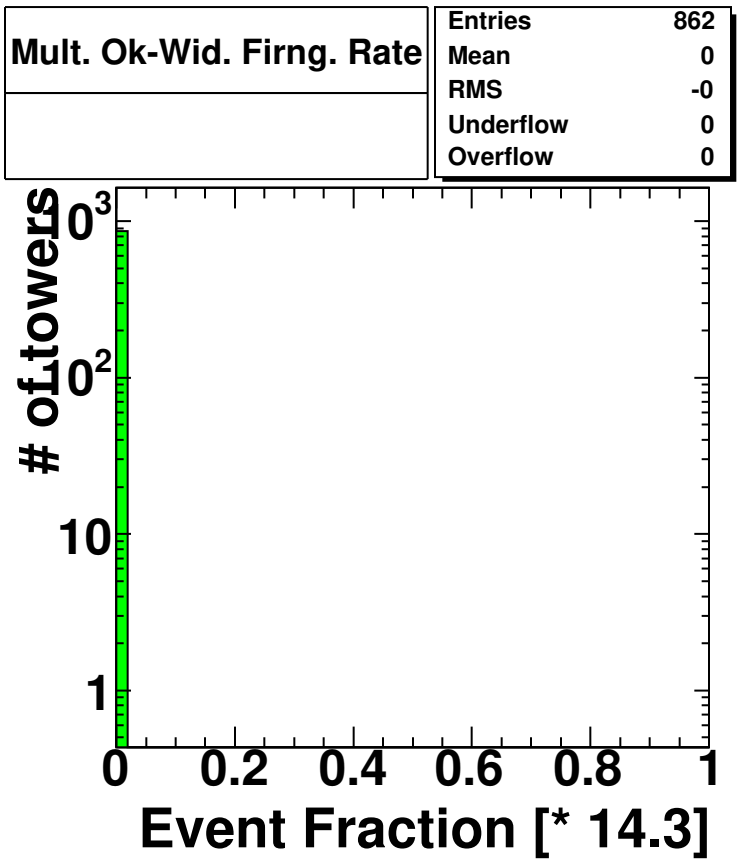
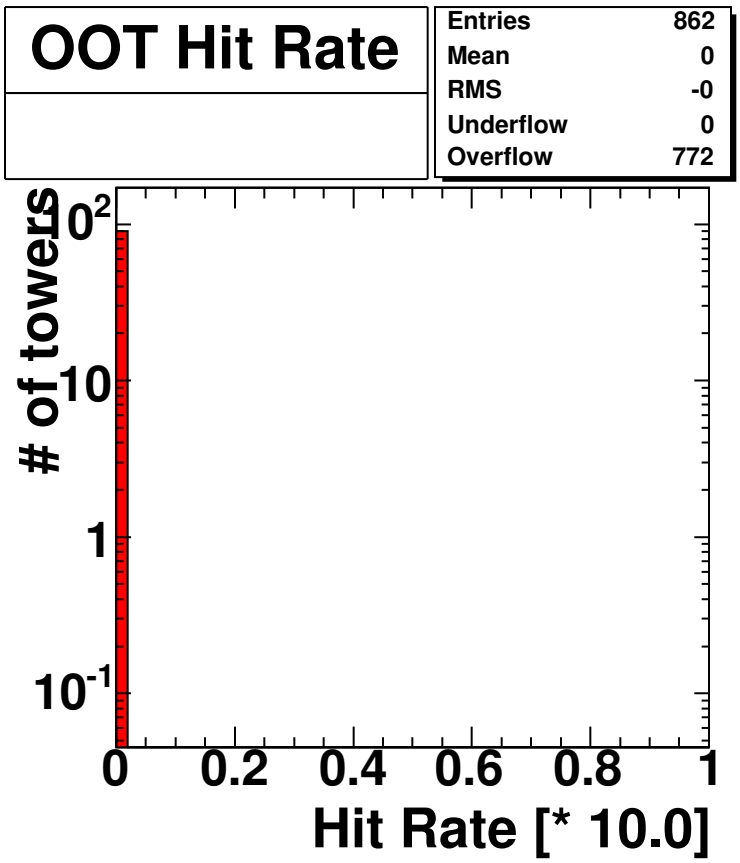
Run:255815 Event: 18002 # of Events:279 Time: Sat Jan 5 13:12:09 2008 Ref.Run:243070

## EMTDC: Low Width Firing Towers

## potential problems are colored

ASD Time Window is
520 ns < $t_0$ < 660 ns
0 < Hit width < 20 ns
No Energy Requirement



ObjectMon #21 TimeMonitor EMTD: Fakes, Low Width and OOT Hits & Mult. Firings

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