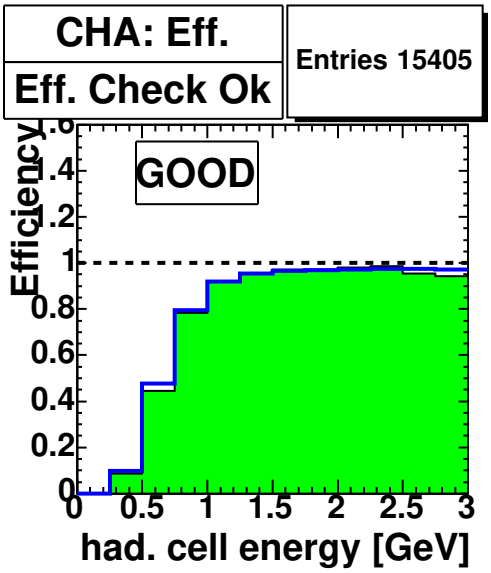
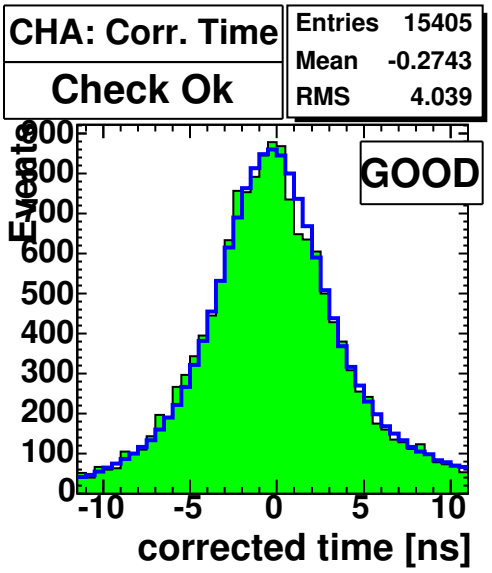
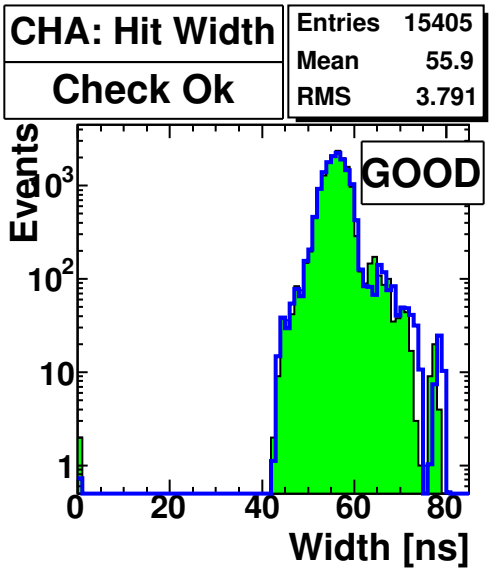
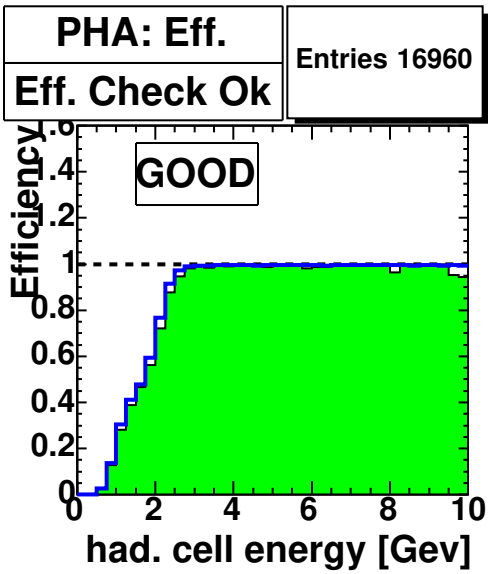
# ObjectMon #2 TimeMonitor HADTDC Timing

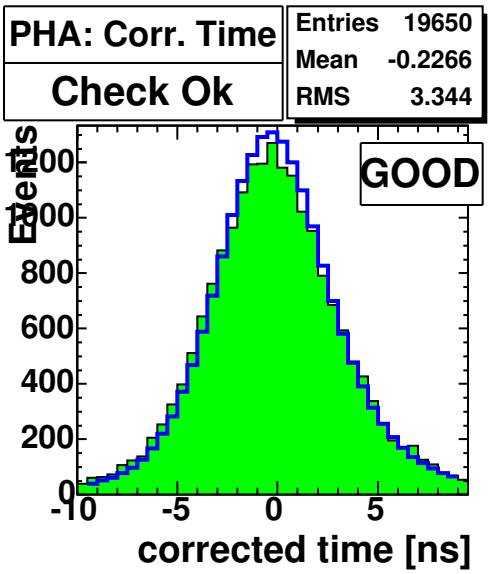
Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070

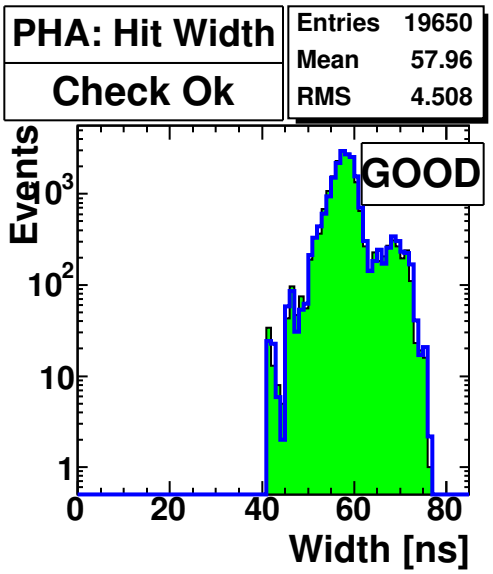


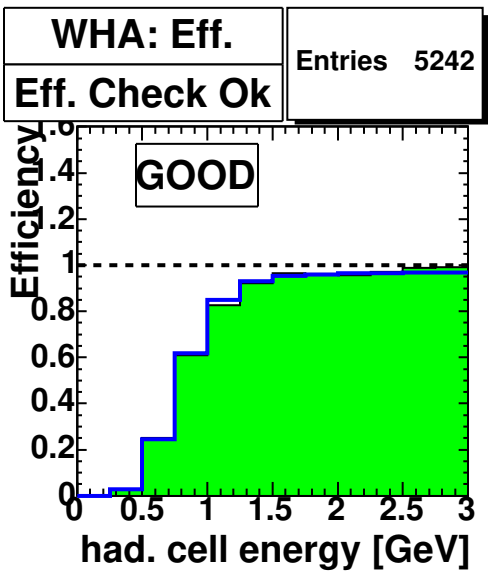



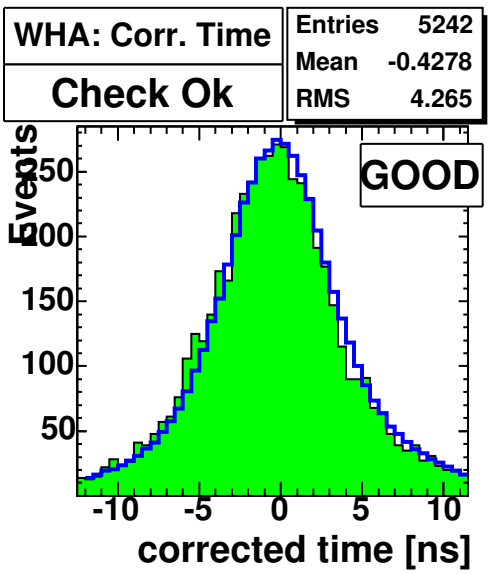



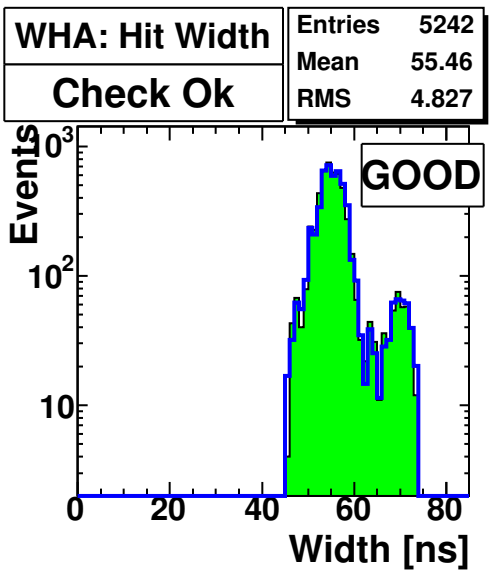



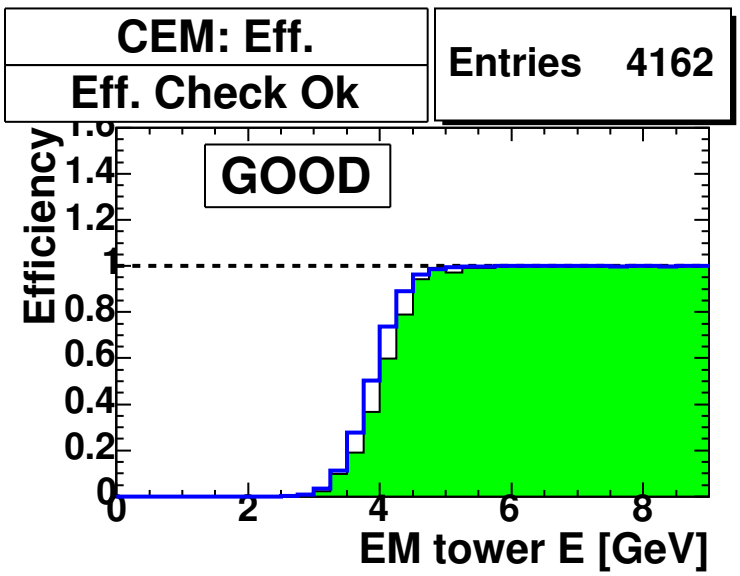



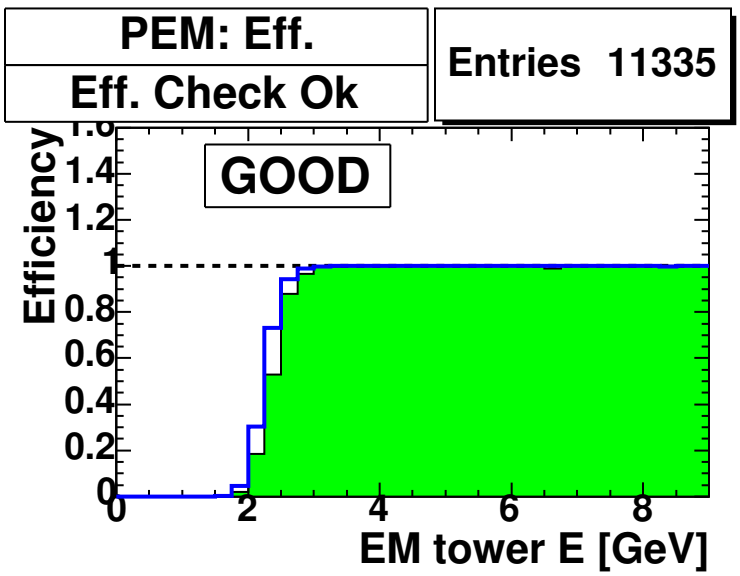



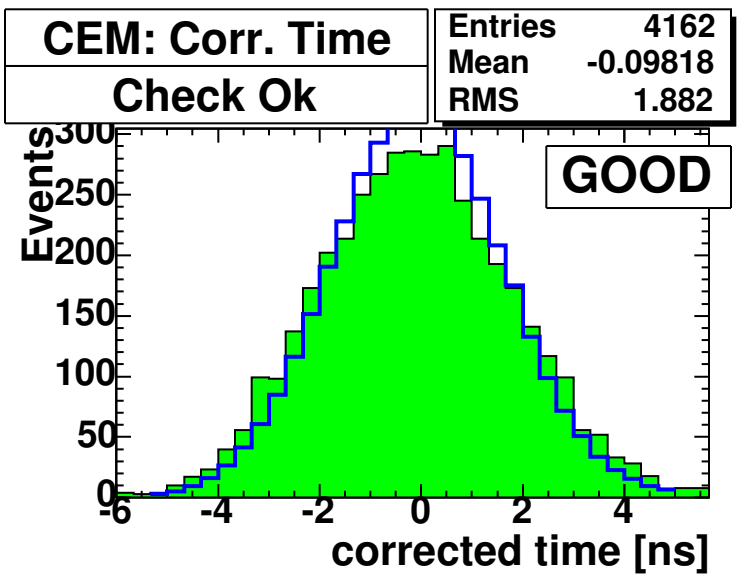



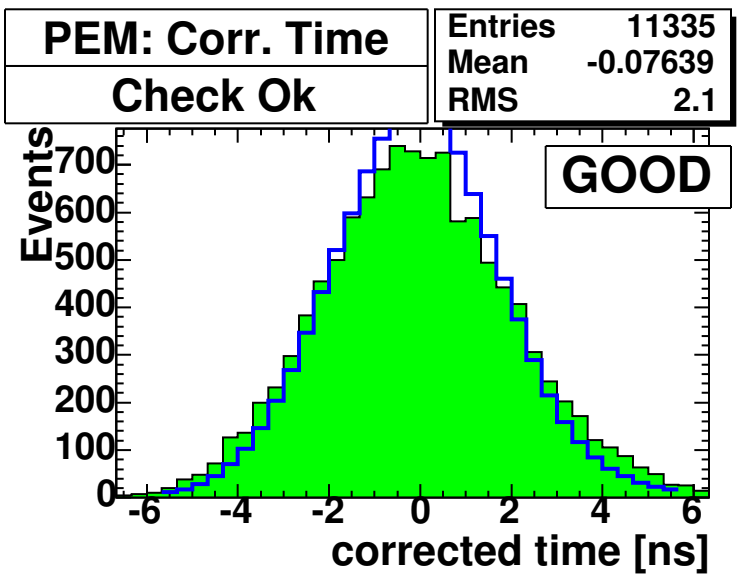
# ObjectMon #4 TimeMonitor EMTDC Timing

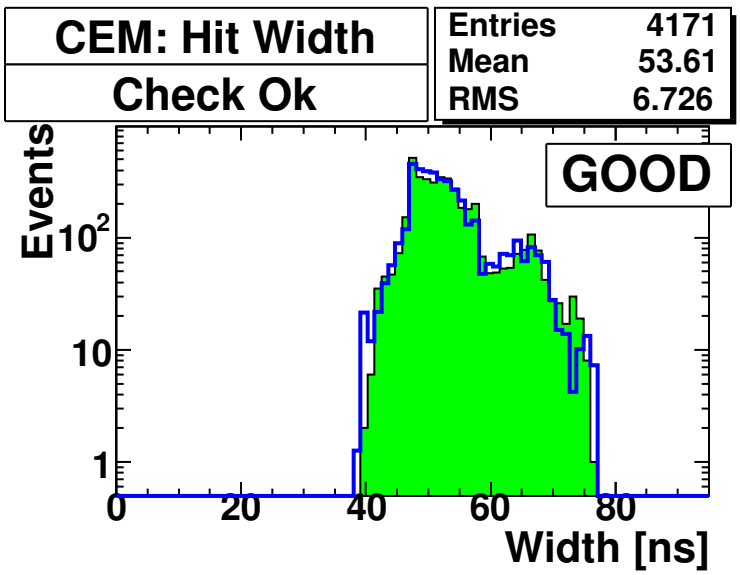
Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070

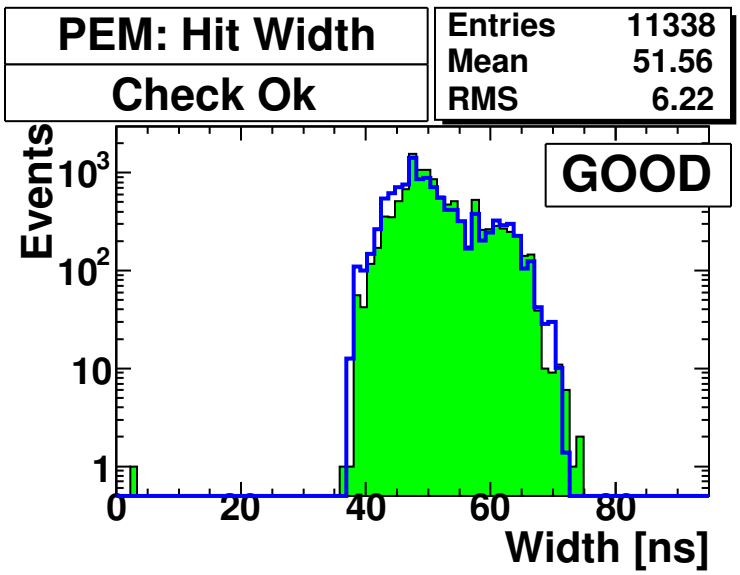


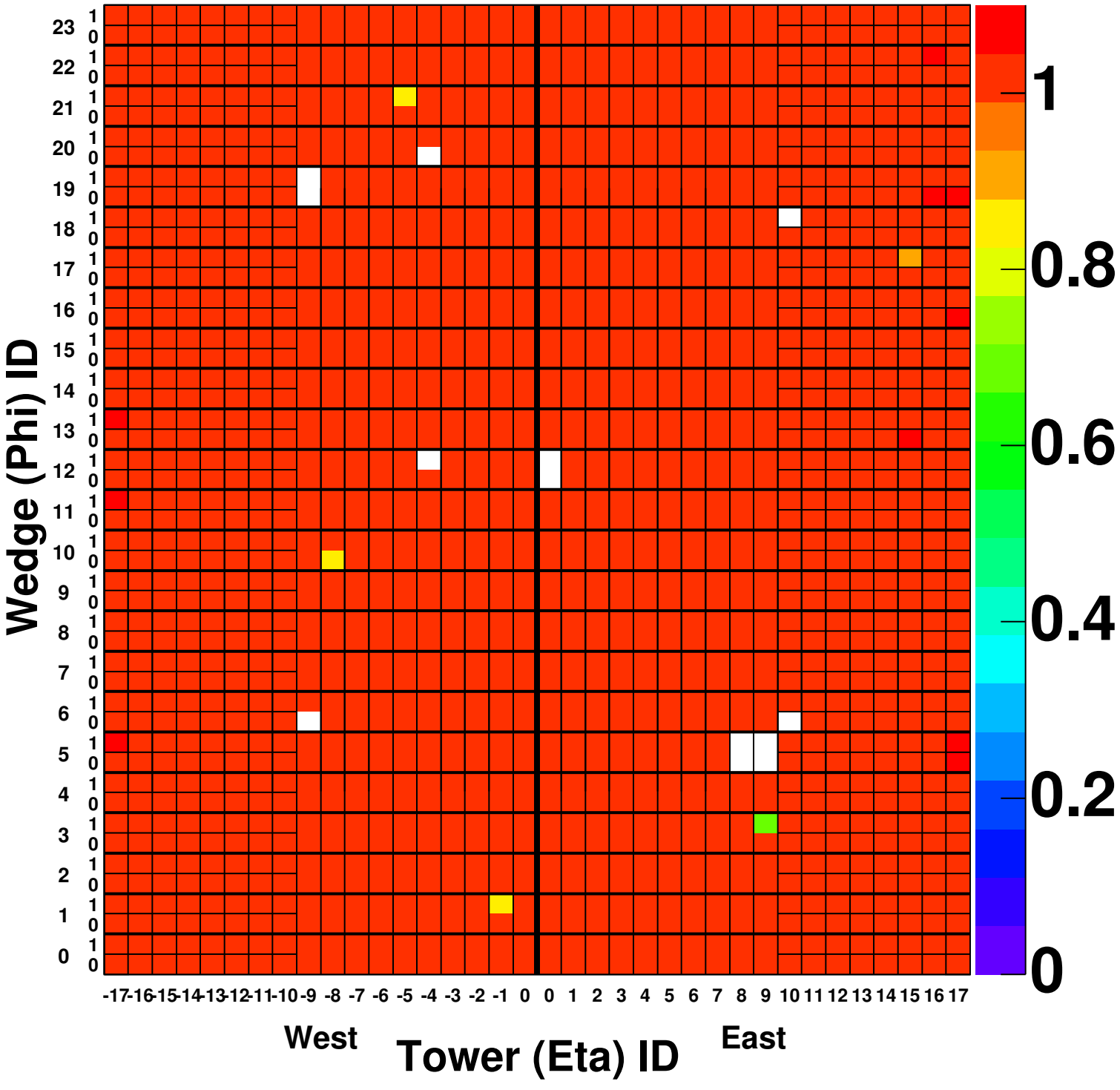
# ObjectMon #8 TimeMonitor EMTD: 100% Eff 2D

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 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**

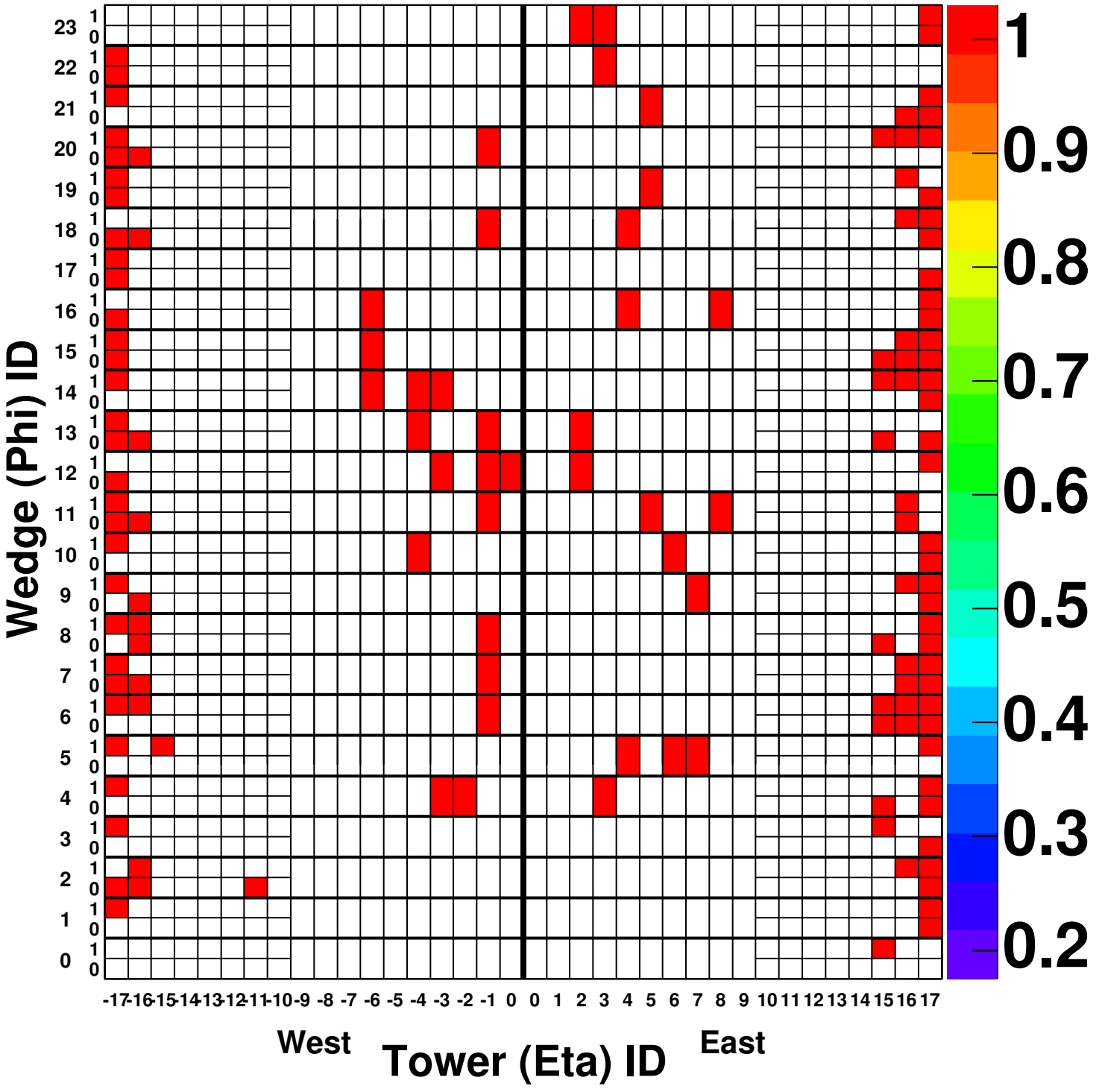


# ObjectMon #27 TimeMonitor EMTD: Fit Efficiency

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070

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

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

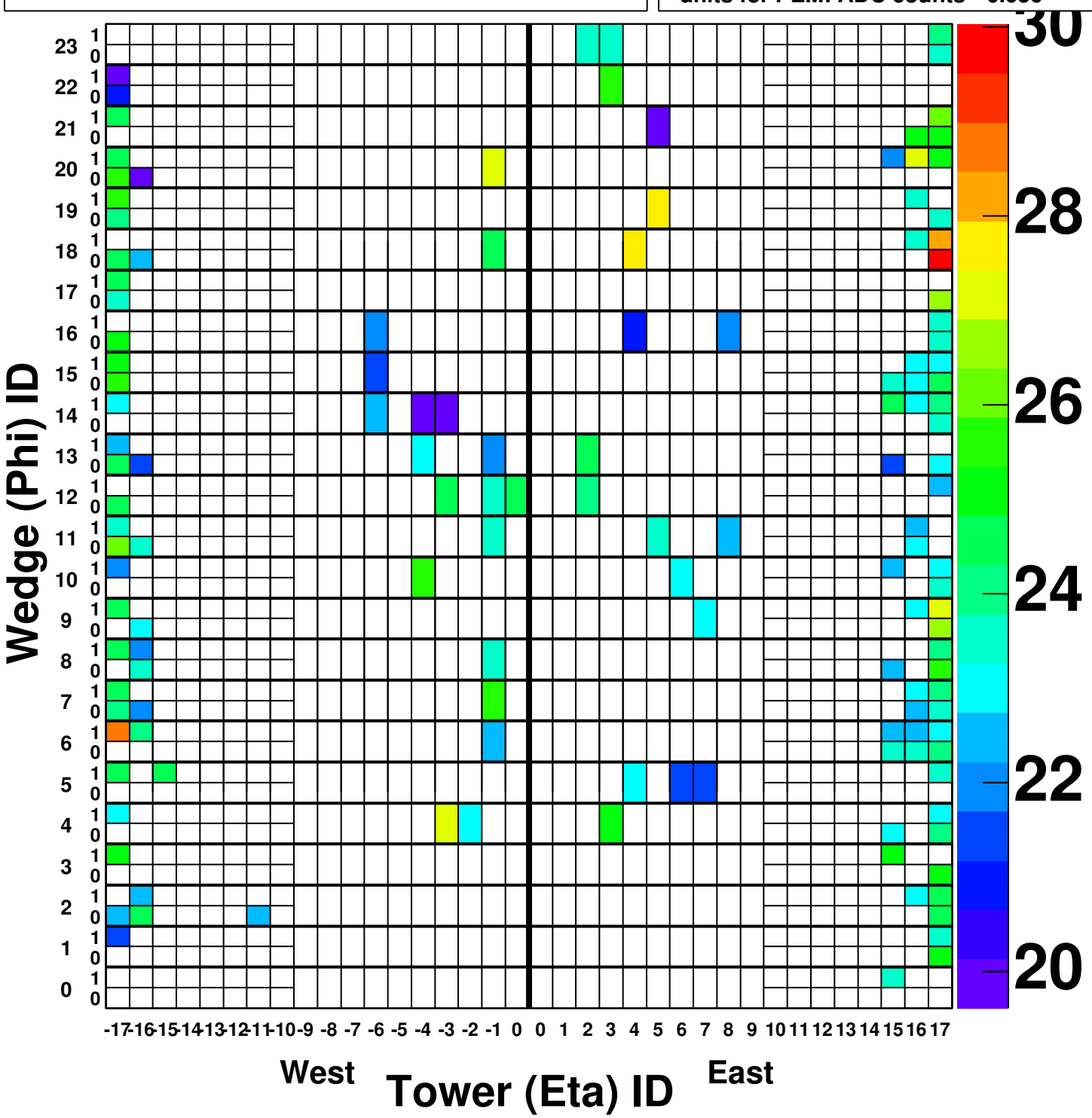


# ObjectMon #25 TimeMonitor EMTD: Thresholds

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 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



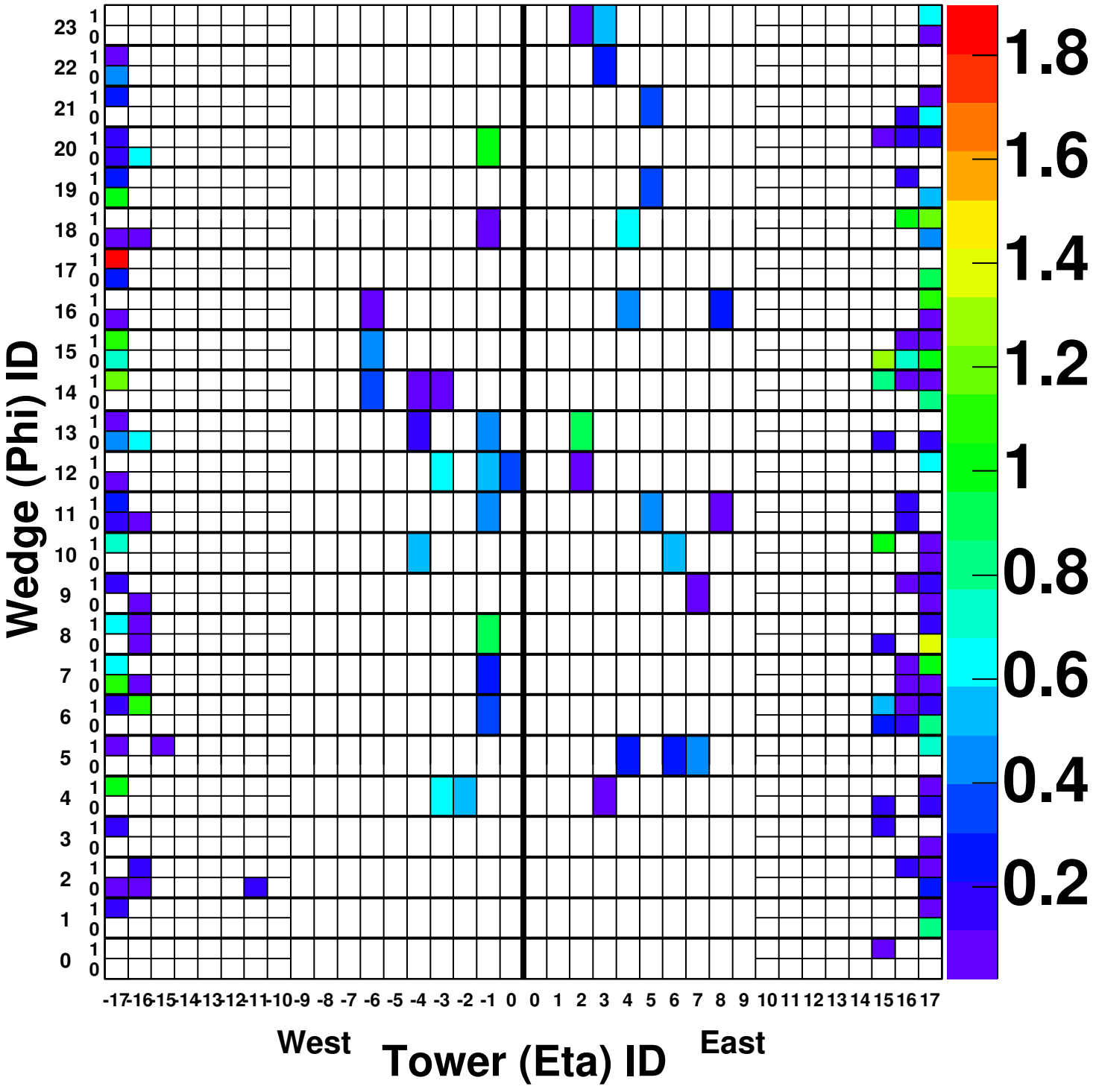
# ObjectMon #26 TimeMonitor EMTD: Threshold Sigma

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070

## EMTDC: Threshold Width

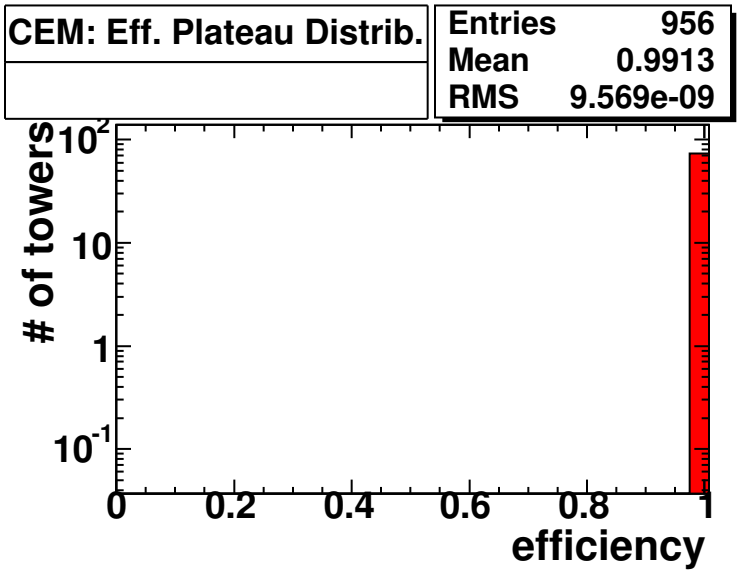
red - BAD

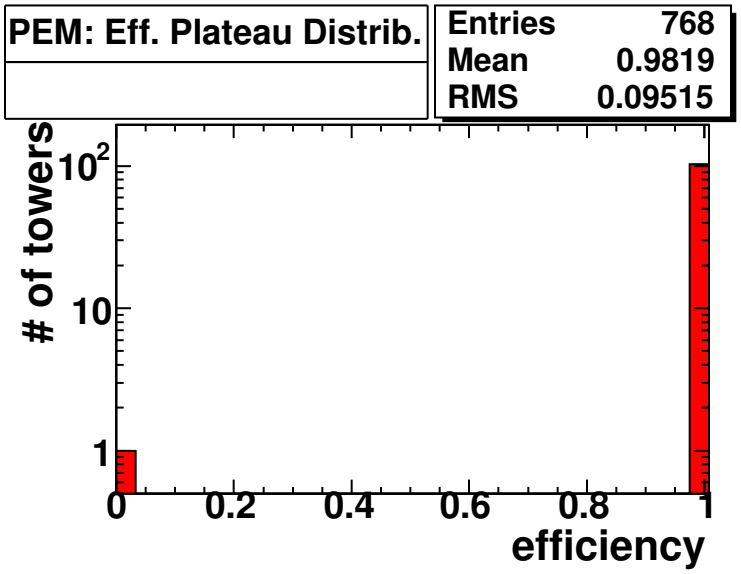
ASD Time Window is
520 ns < $t_0$ < 660 ns
units for CEM: ADC counts * 0.01
units for PEM: ADC counts * 0.036

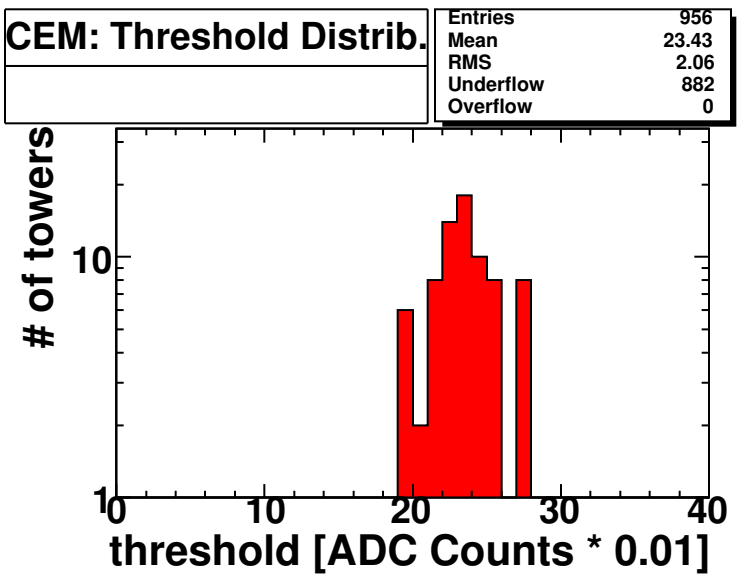


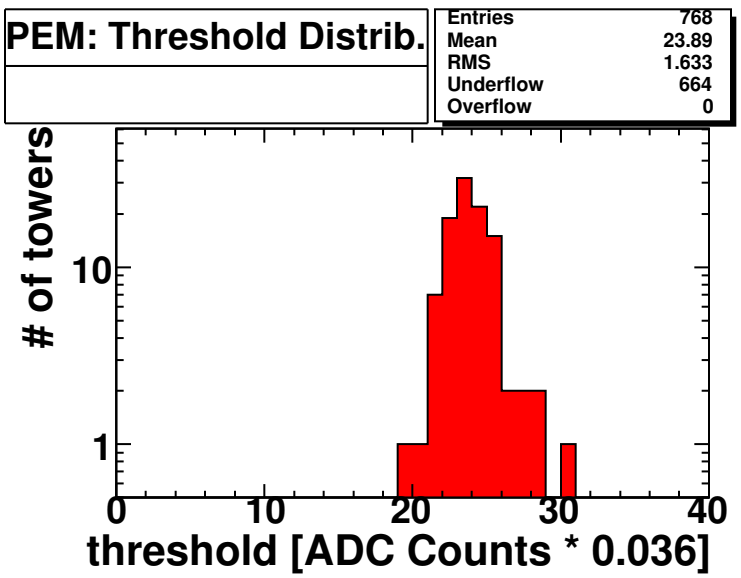
# ObjectMon #9 TimeMonitor EMTD: Thresh., Eff. and Sigmas

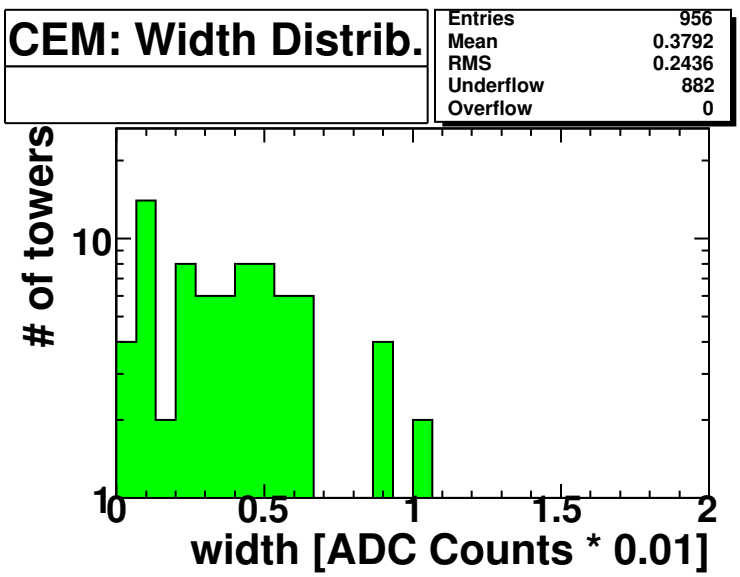
Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070

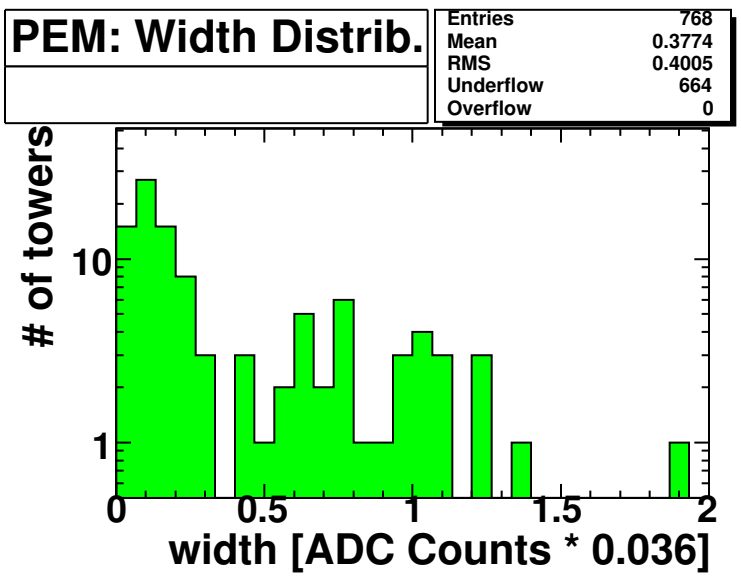


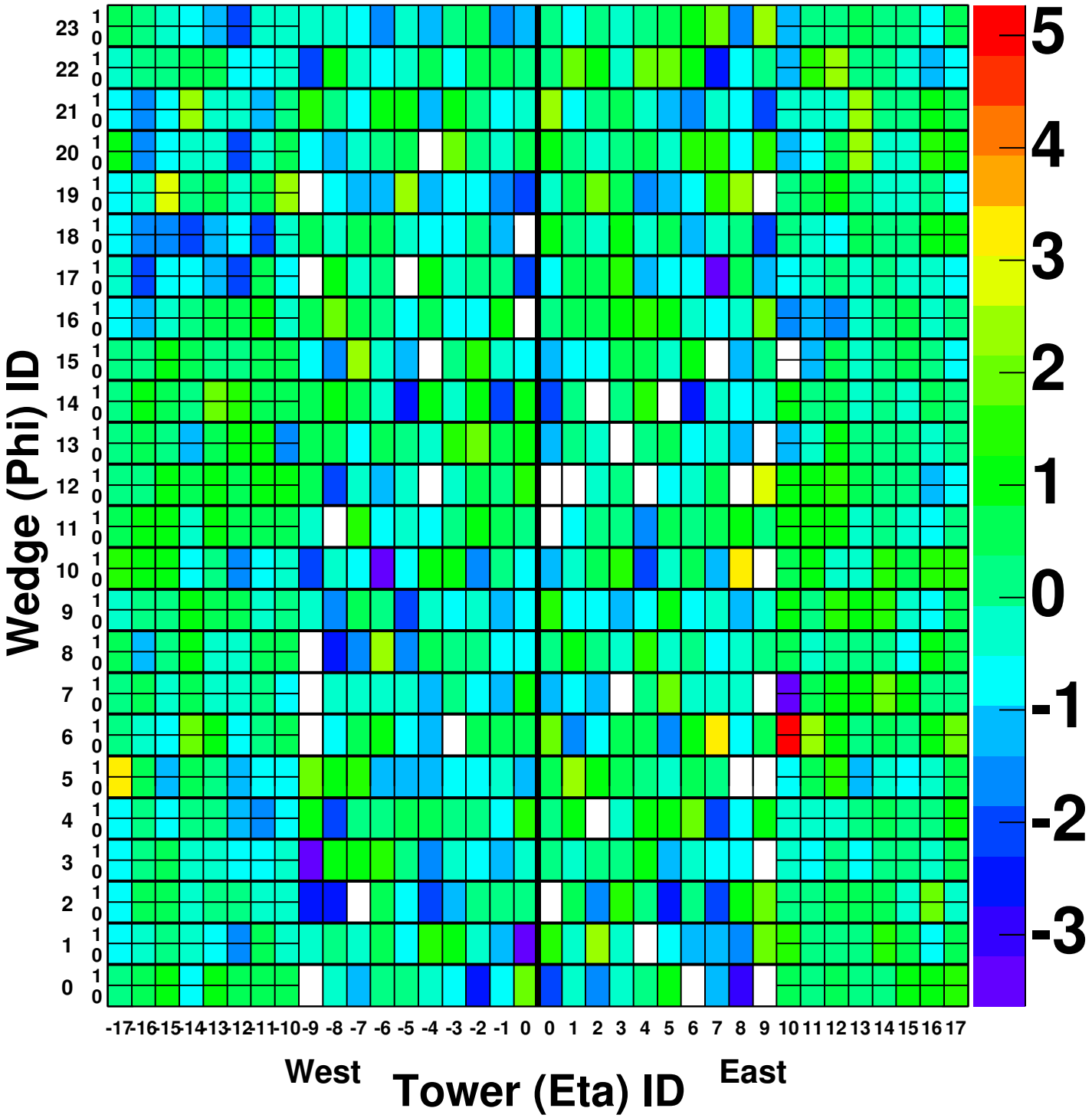
# ObjectMon #12 TimeMonitor EMTD: Mean Corrected t0 - High Energy

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 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



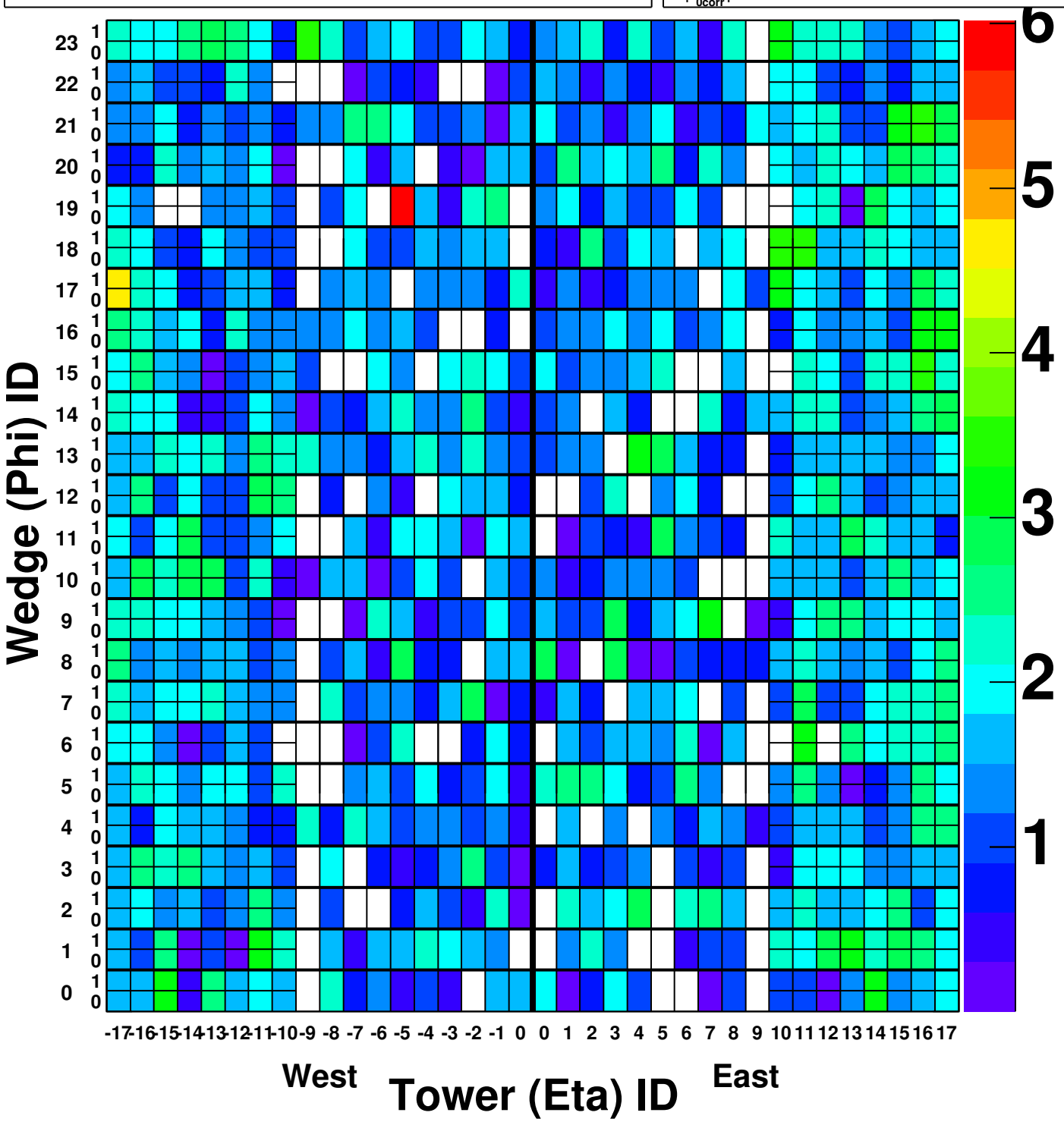
# ObjectMon #14 TimeMonitor EMTD: RMS for Corrected t0 - High Energy

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 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



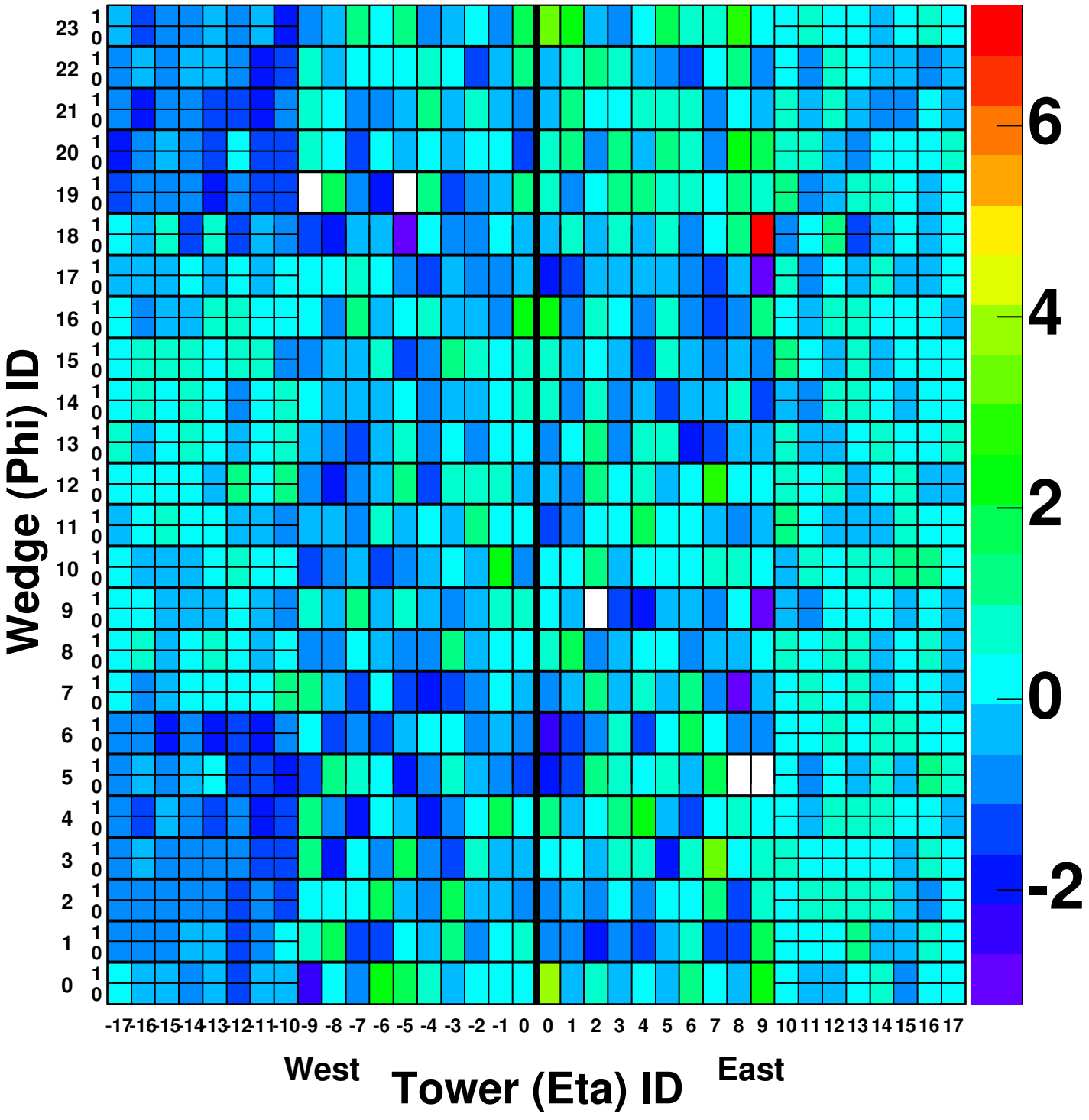
# ObjectMon #13 TimeMonitor EMTD: Mean Corrected t0 - Low Energy

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 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



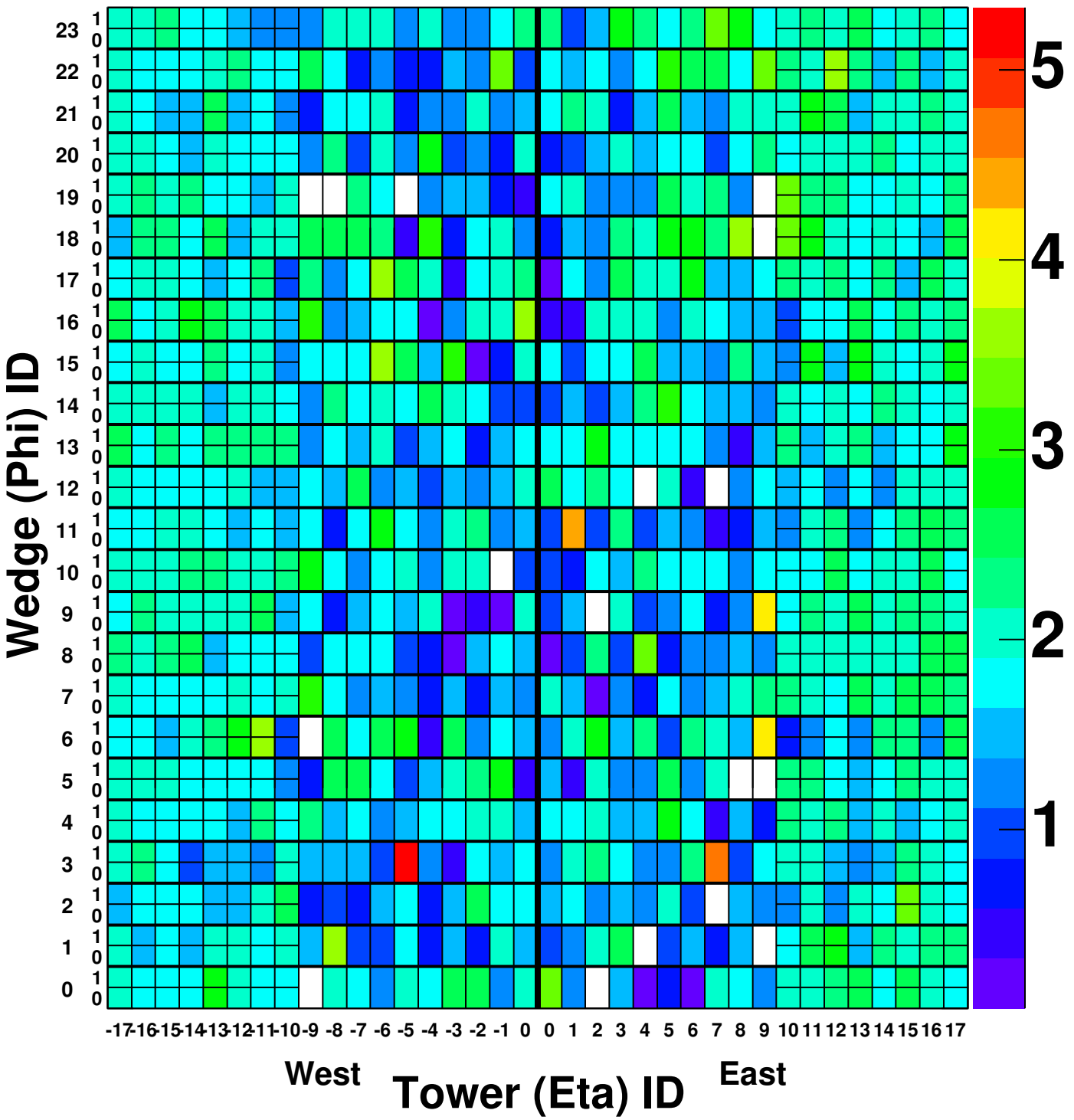
# ObjectMon #15 TimeMonitor EMTD: RMS for Corrected t0 - Low Energy

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070

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

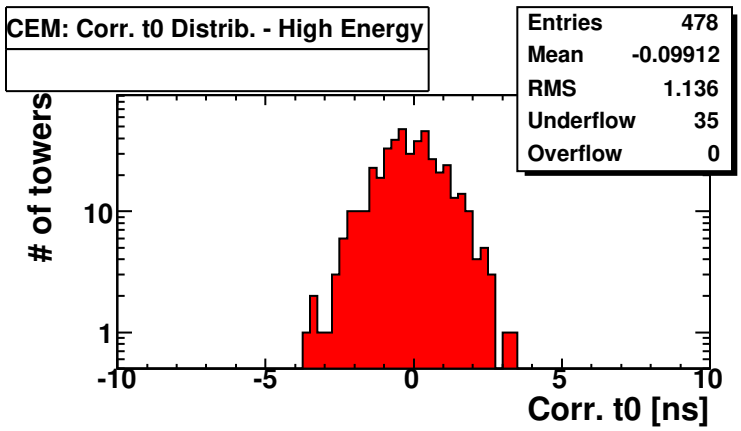
purple or red - problems

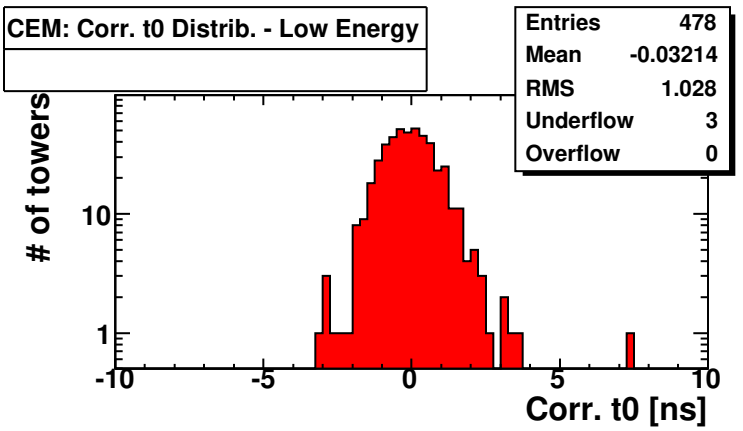
ASD Time Window is
520 ns < $t_0$ < 660 ns
CEM(Eeven+Eodd) < 9000 ADC
PEM(Eeven+Eodd) < 2000 ADC
$|t_{0corr}|$<15.0 ns

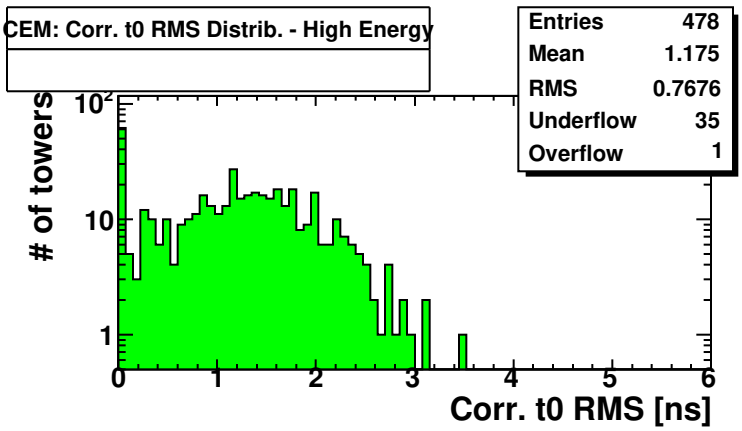


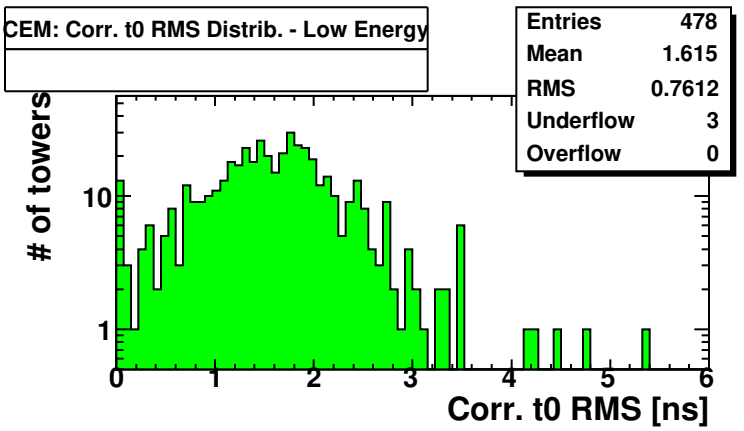
# ObjectMon #16 TimeMonitor EMTD: Corrected t0 and RMS

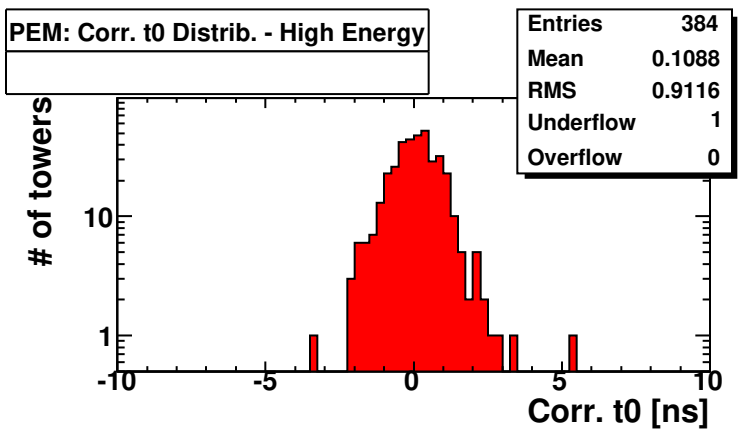
Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070

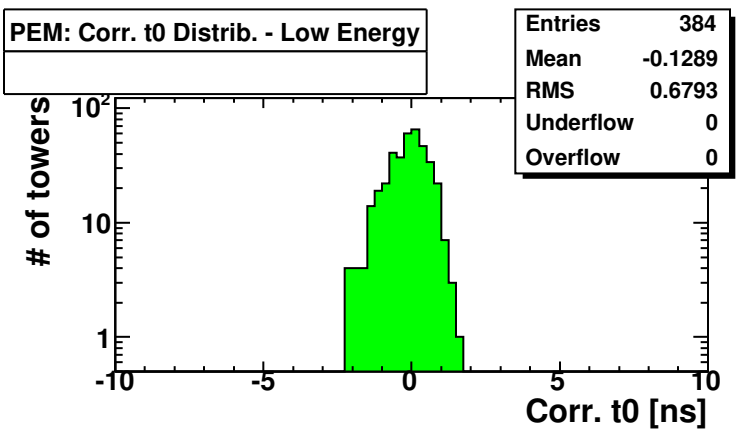


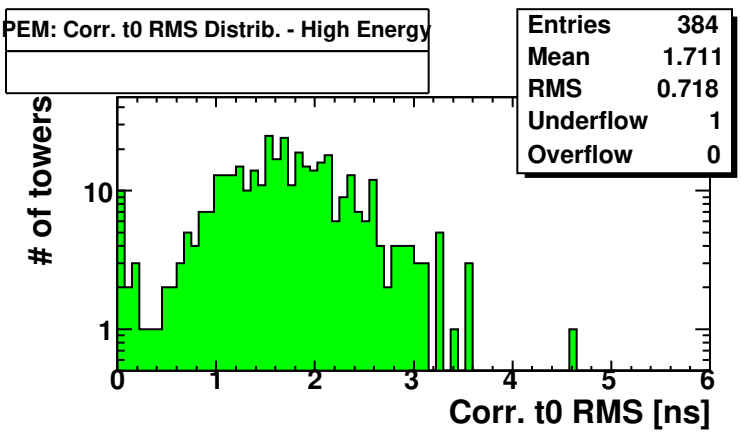



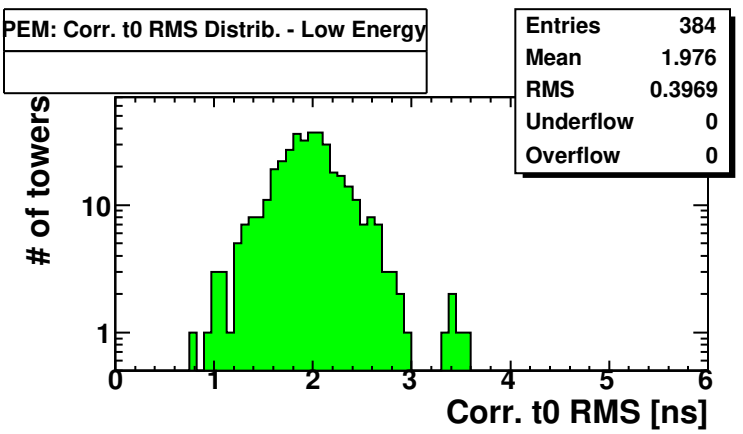



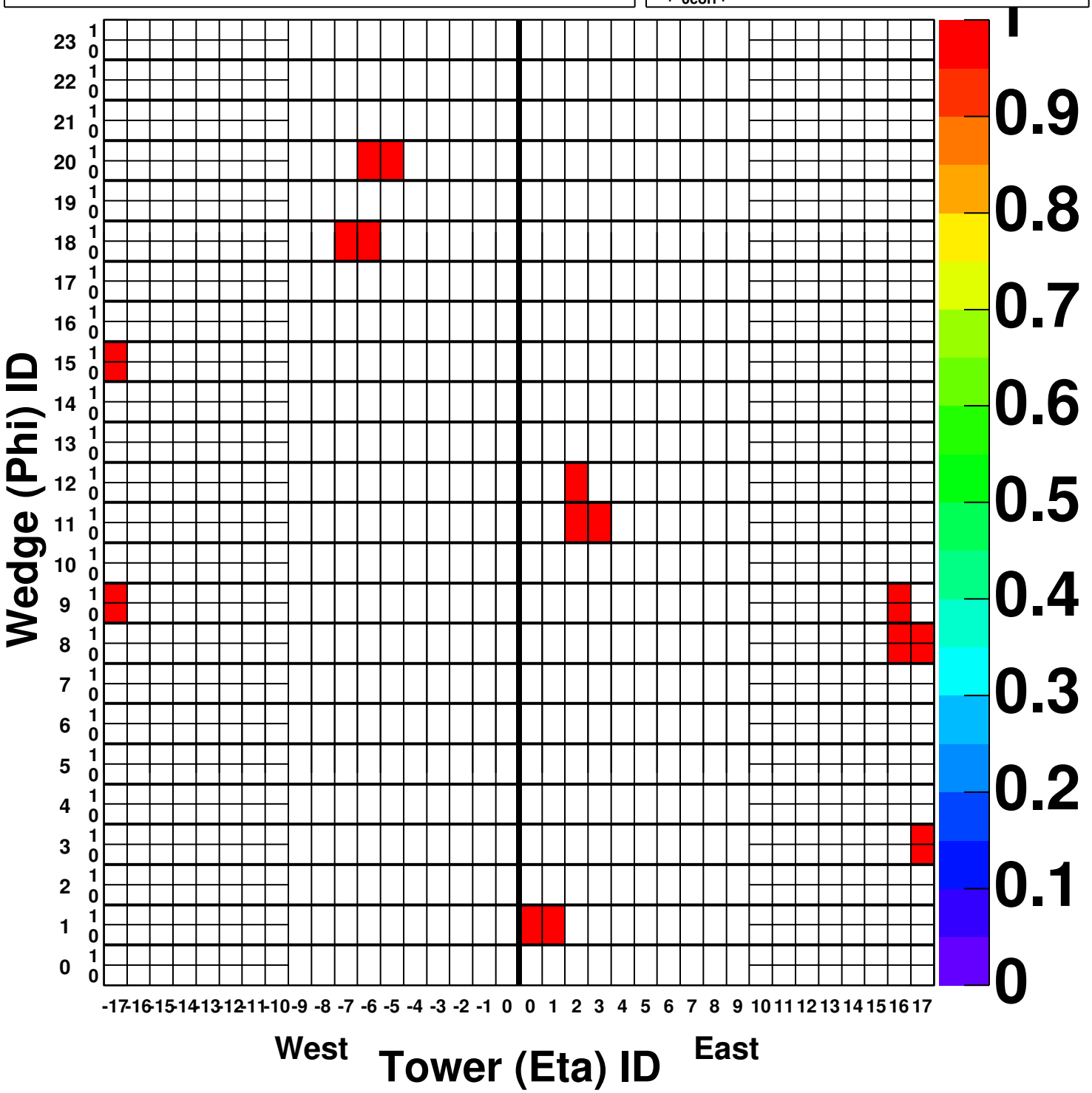
# ObjectMon #20 TimeMonitor EMTD: Corr. t0 Far From Mean

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 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



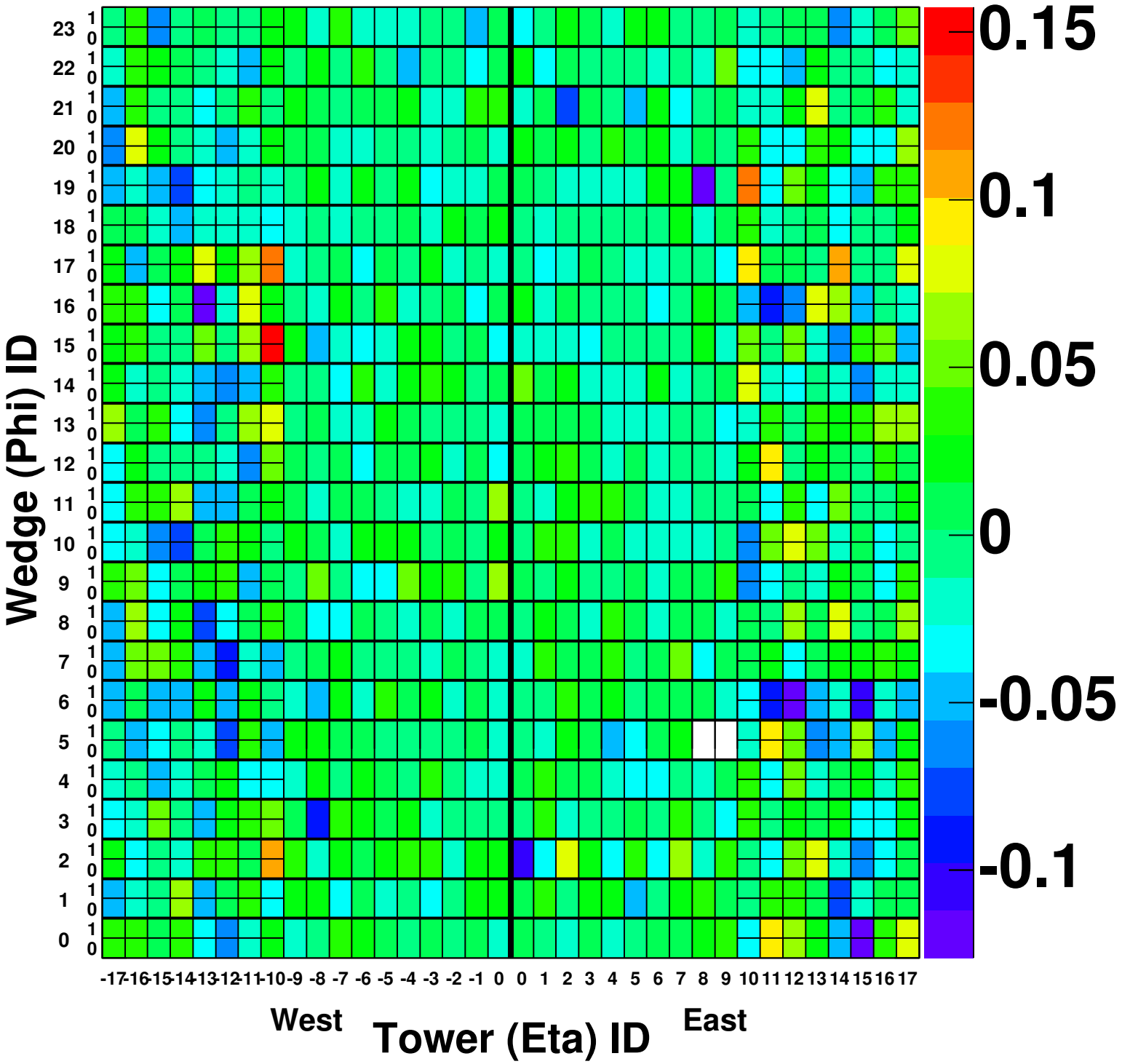
# ObjectMon #23 TimeMonitor  Mean PMT Asymmetry

Run:256355 Event:  131046  # of Events:2805  Time: Tue Jan 15 18:00:17 2008  Ref.Run:243070

## Mean PMT Asymmetry

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

Eeven+Eodd > 0.20 GeV



# ObjectMon #24 TimeMonitor PMT Asymmetry RMS

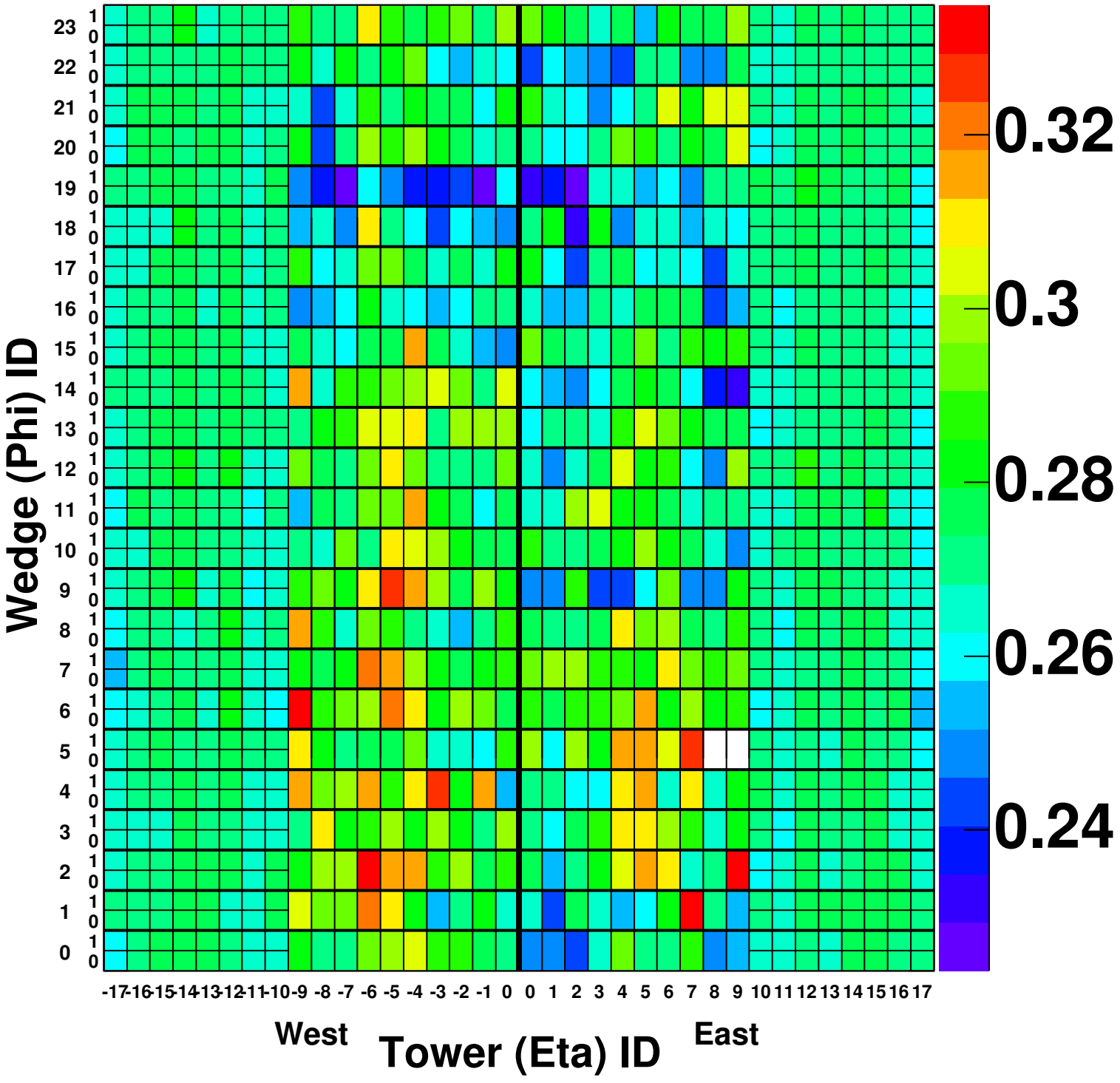
Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070

## PMT Asymmetry RMS

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

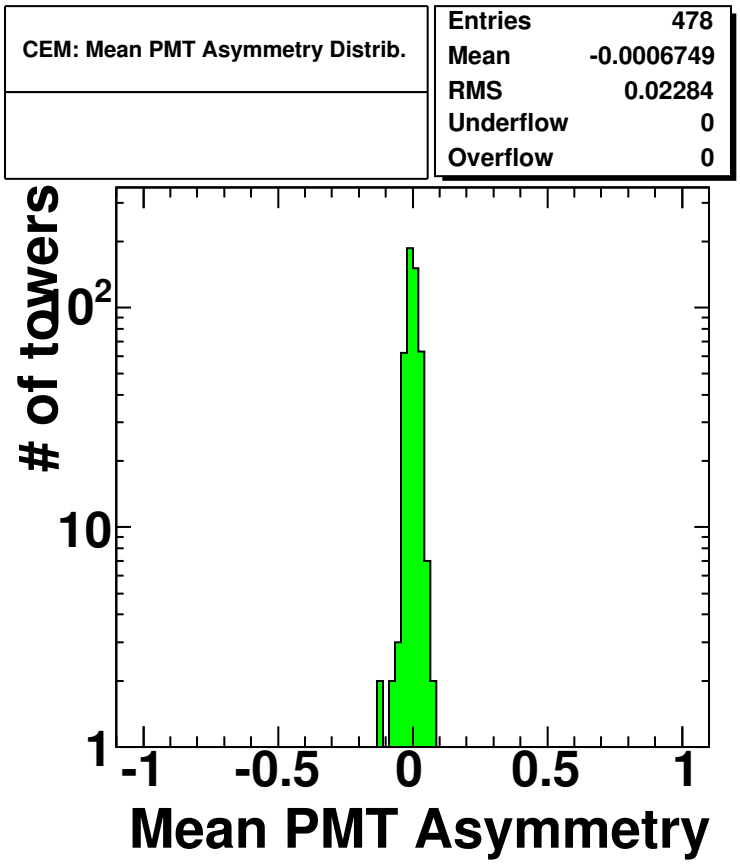
RMS Corrected for eta dep.

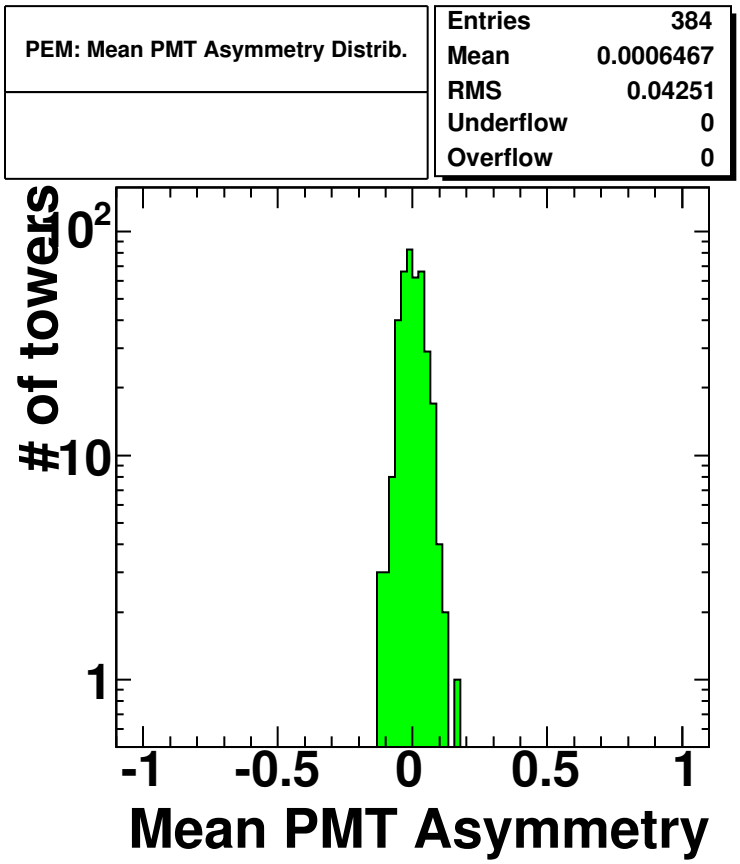
Eeven+Eodd > 0.20 GeV

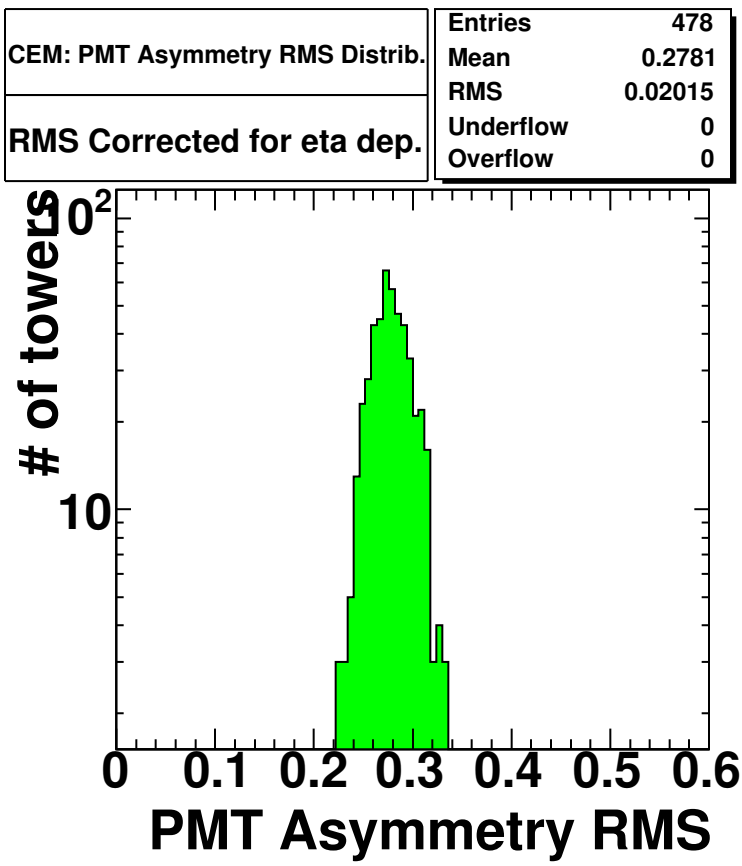


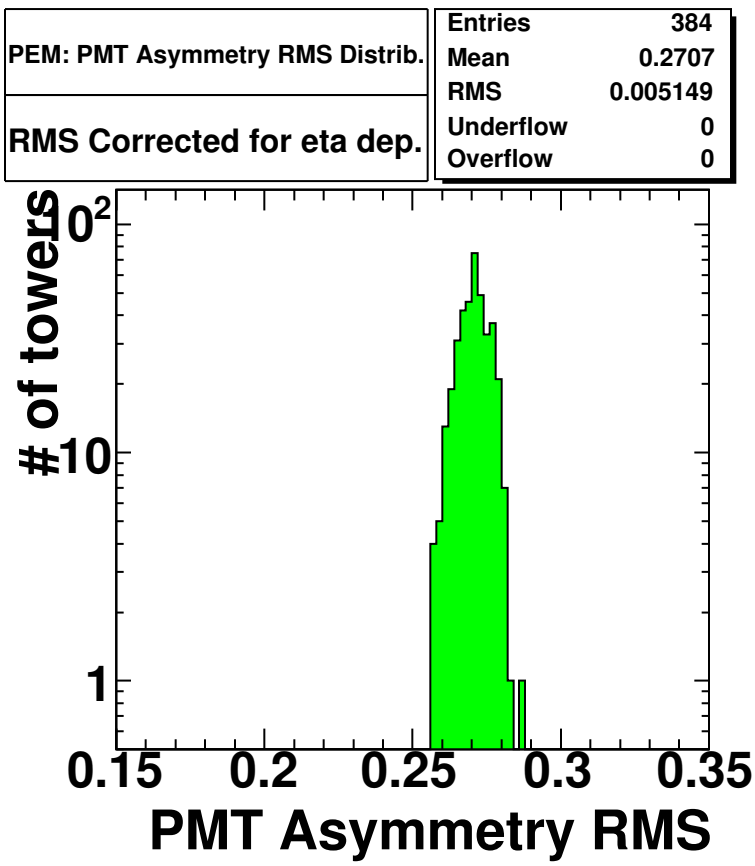
# ObjectMon #22 TimeMonitor PMT Asymmetry Distributions

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070



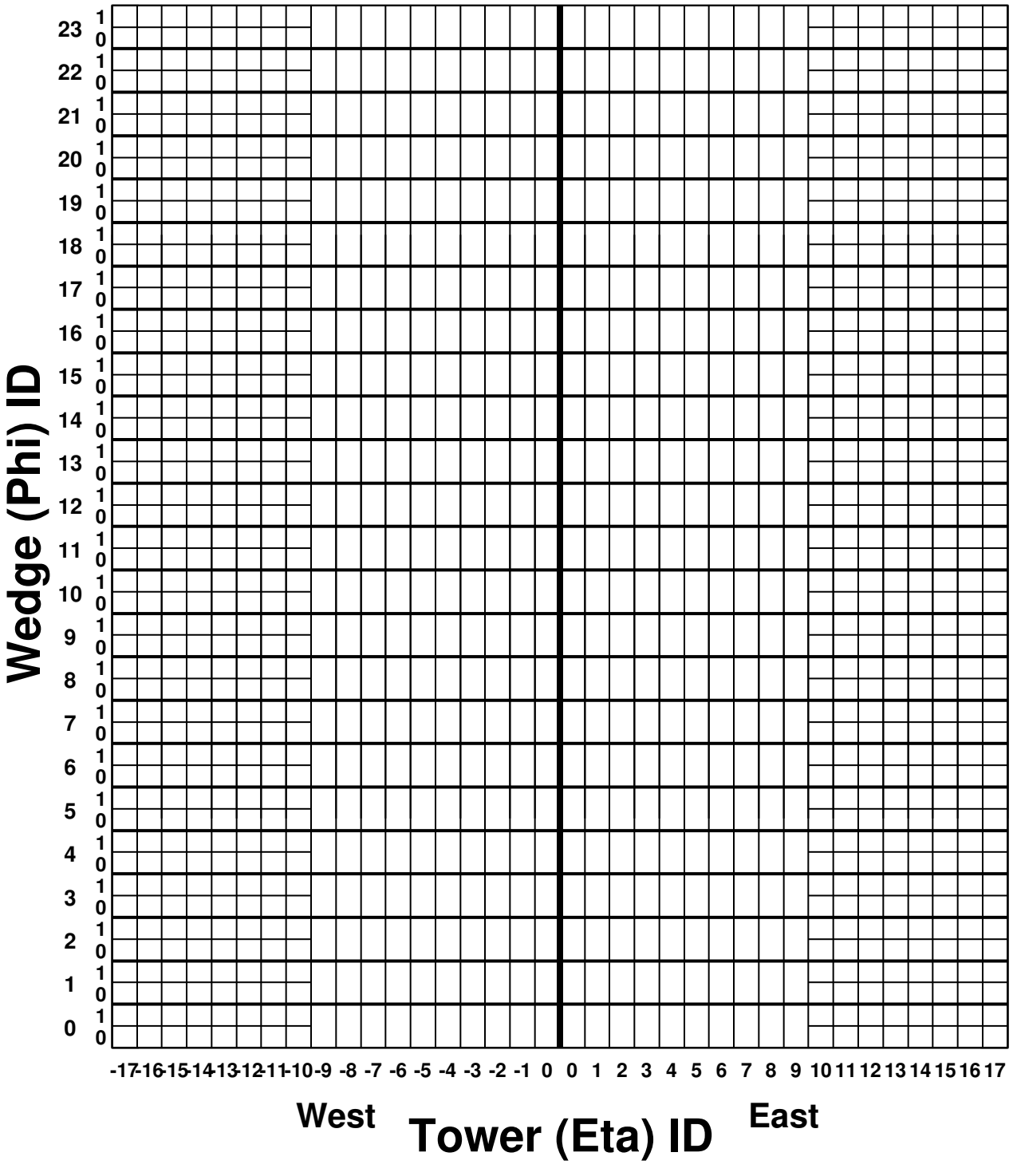
# ObjectMon #17 TimeMonitor EMTD: Fake Firings

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 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



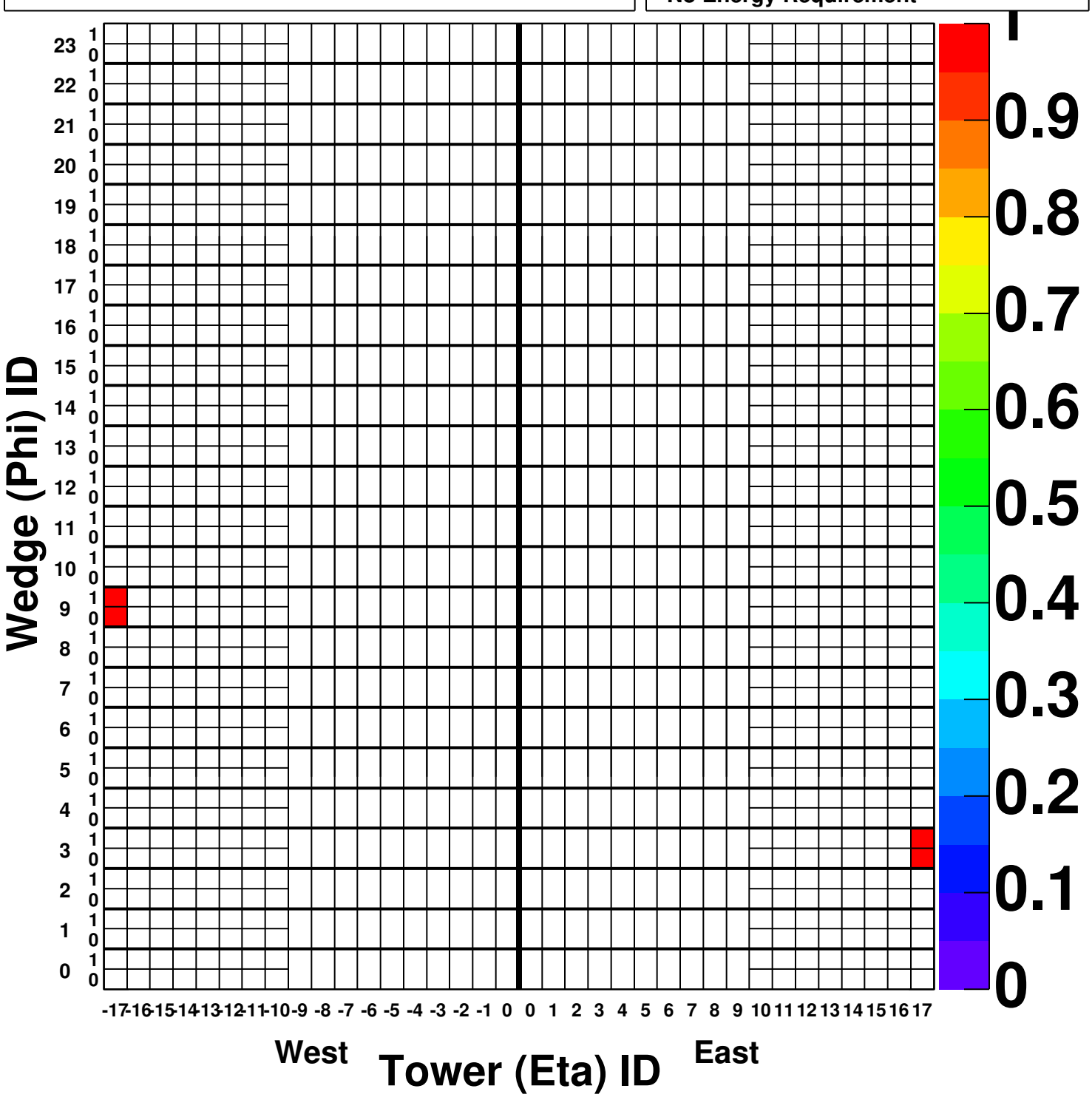
# ObjectMon #19 TimeMonitor EMTD: Multiple Firings & Ok Width

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 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



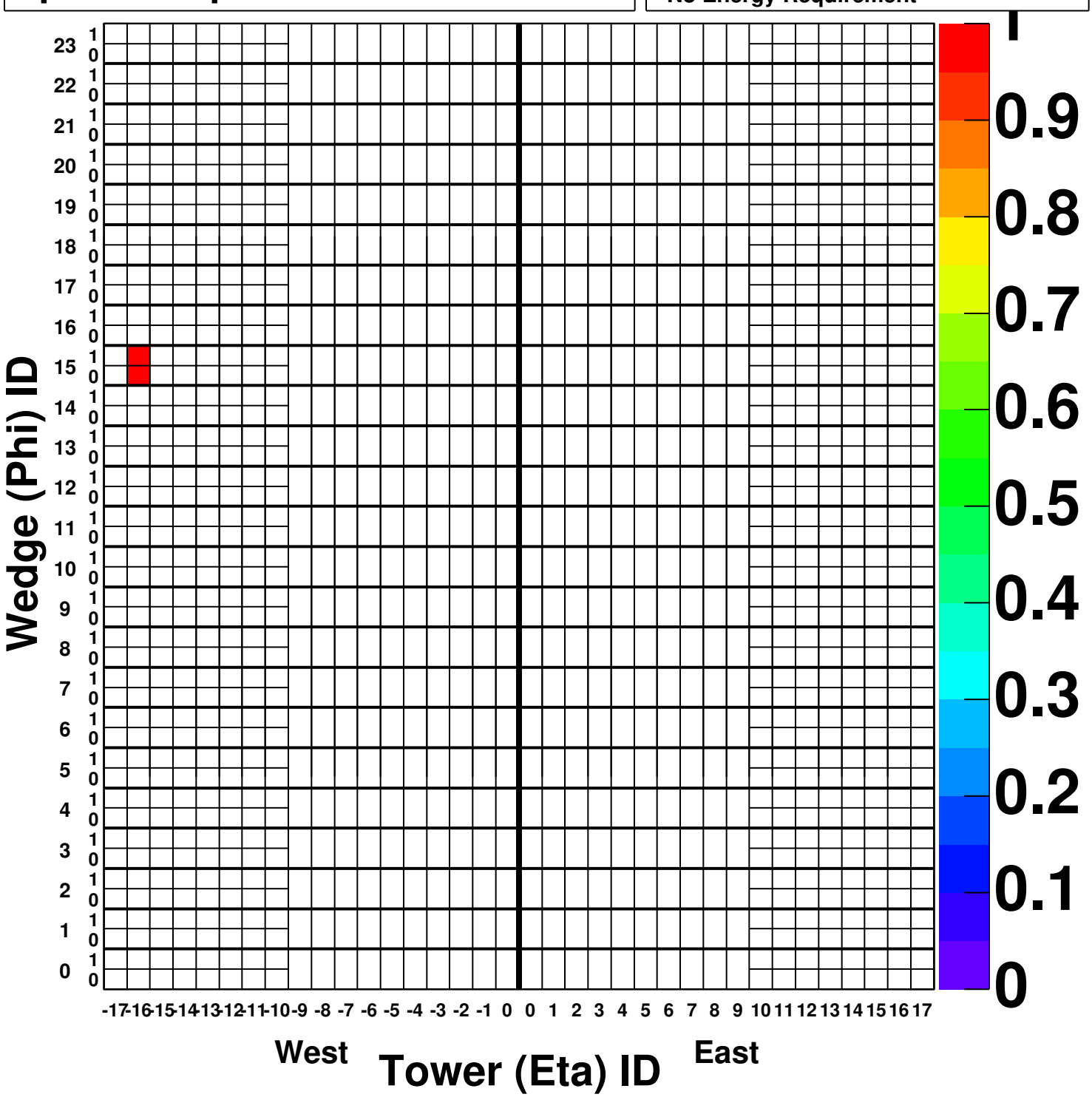
# ObjectMon #18 TimeMonitor EMTD: Multiple Firings & Low Width

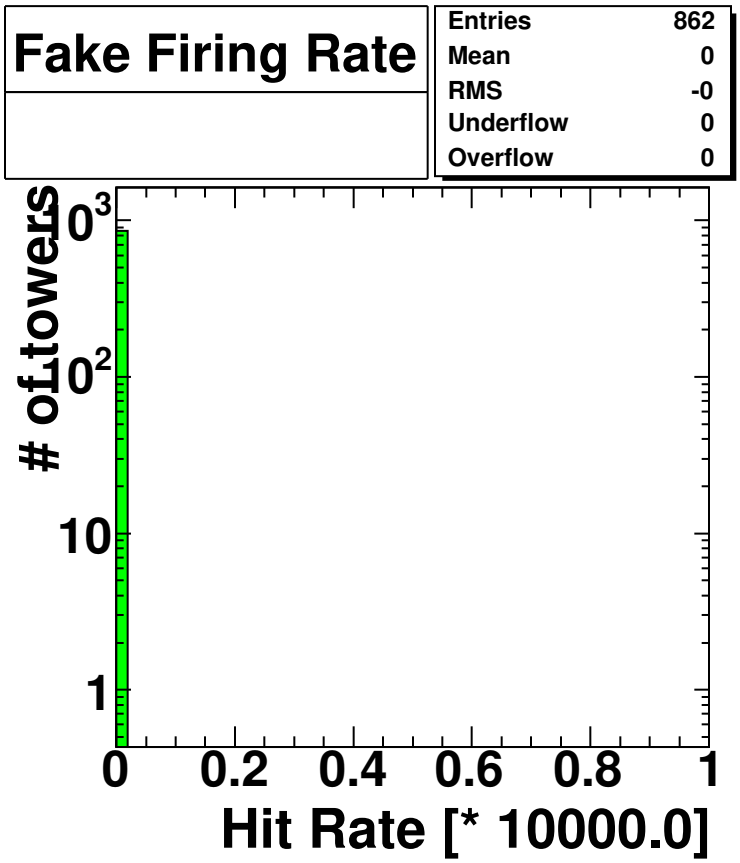
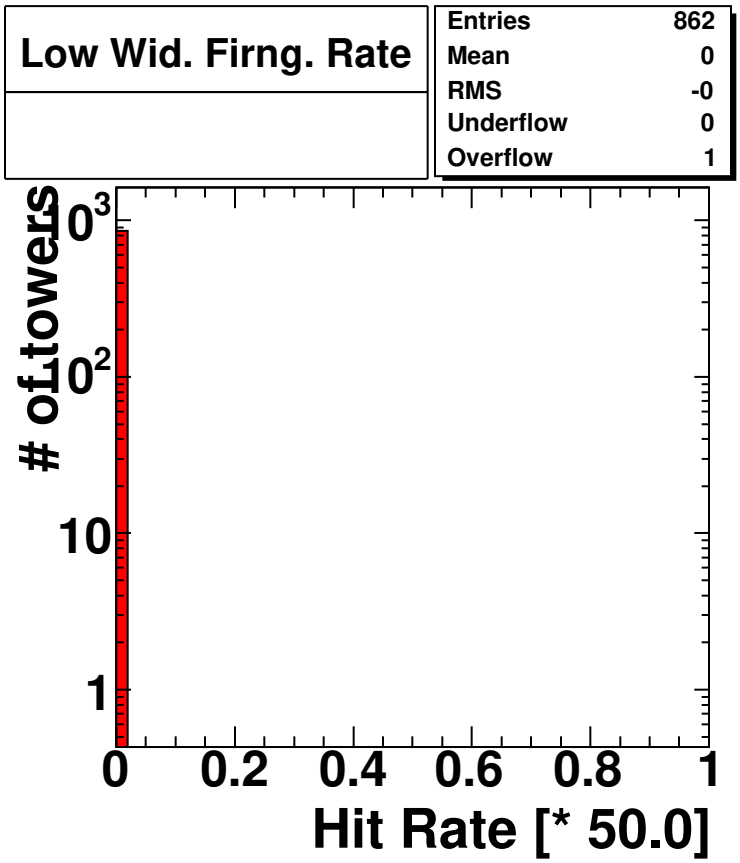
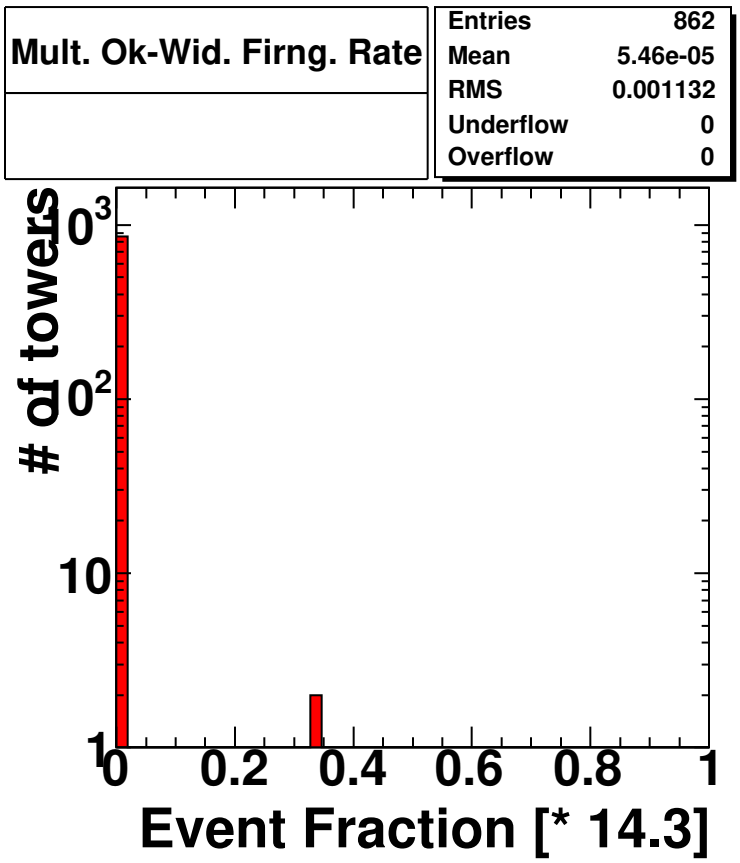
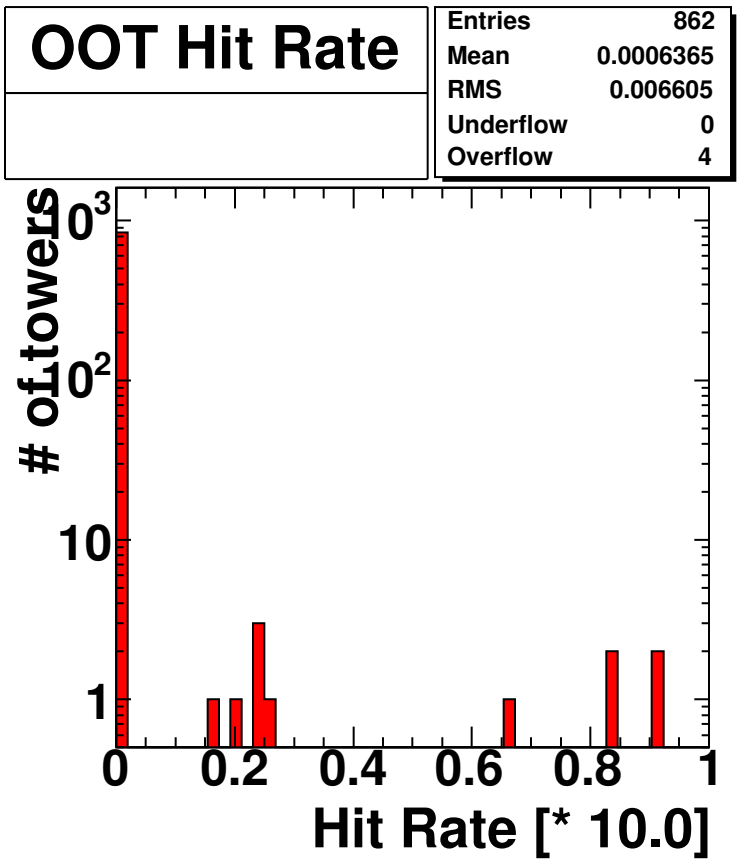
Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070

## 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

Run:256355 Event: 131046 # of Events:2805 Time: Tue Jan 15 18:00:17 2008 Ref.Run:243070