

FCAL

April 2 2014

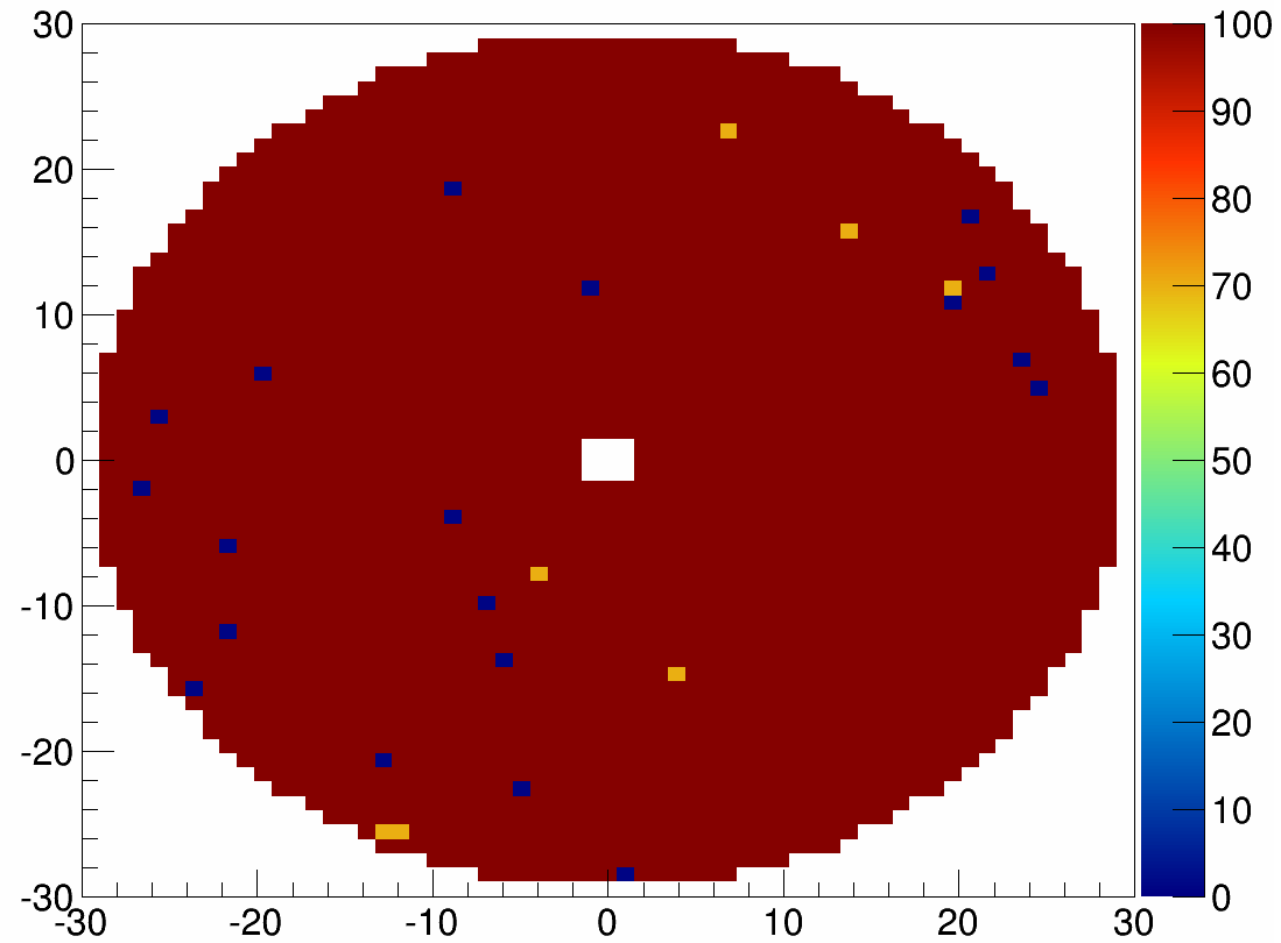
General Info

- Replaced 100+ bases
 - Will not reprogram
 - Will not communicate
 - Loose ability to communicate
 - Will not set HV
 - Bad test pulse, more remaining, giving up for now
 - Unknown
- Spare bases ≈ 60
- Replaced 40+ PMTs
 - Few shattered
 - Most no photocathode

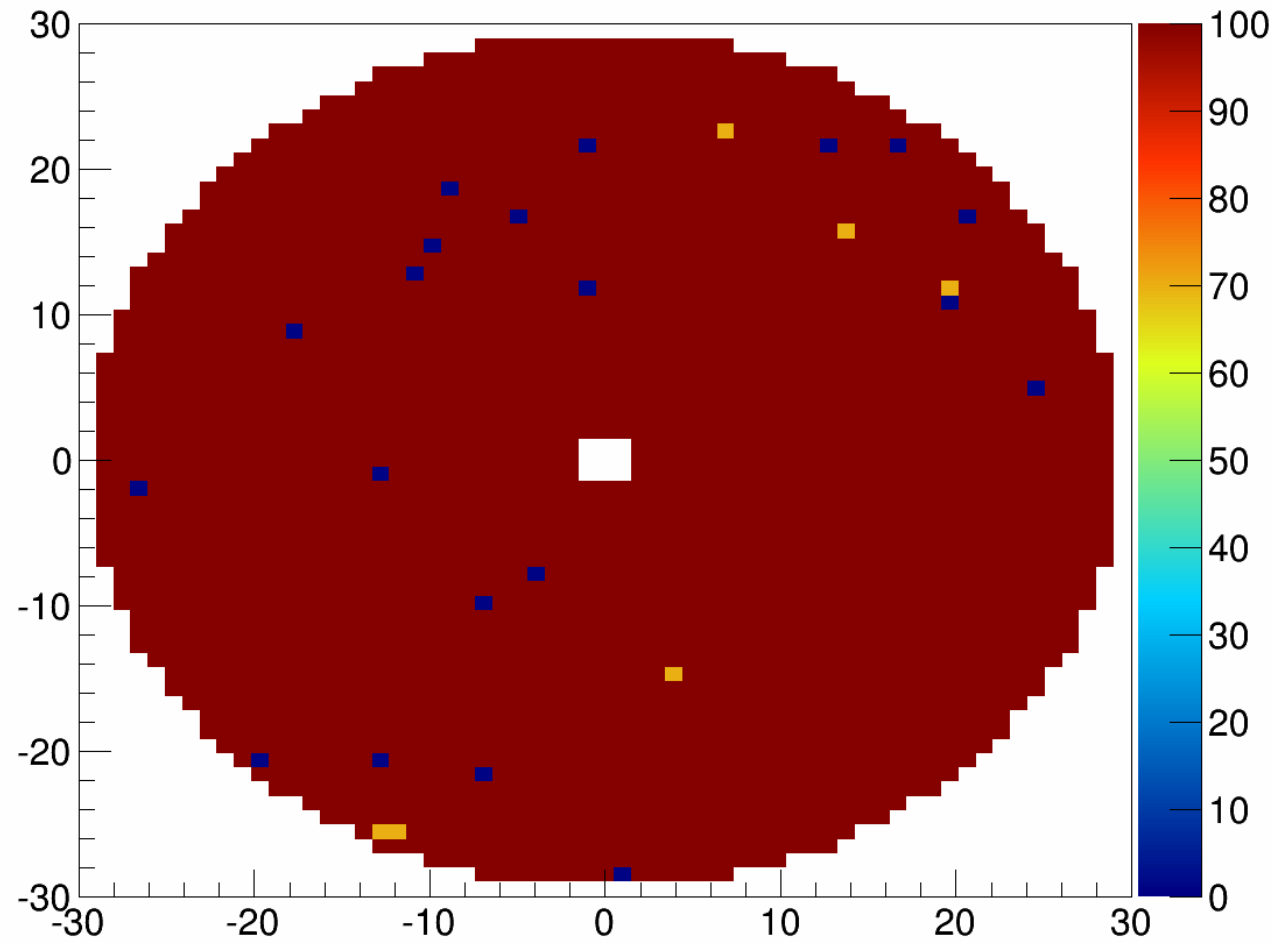
General Info – LED Pulser

- Following plots
 - Red = signal (2 samples >150 (pedestal = 100))
 - Blue = no signal
 - Orange = all samples above pedestal (adc problem)
 - Teal = all samples same value (adc problem)

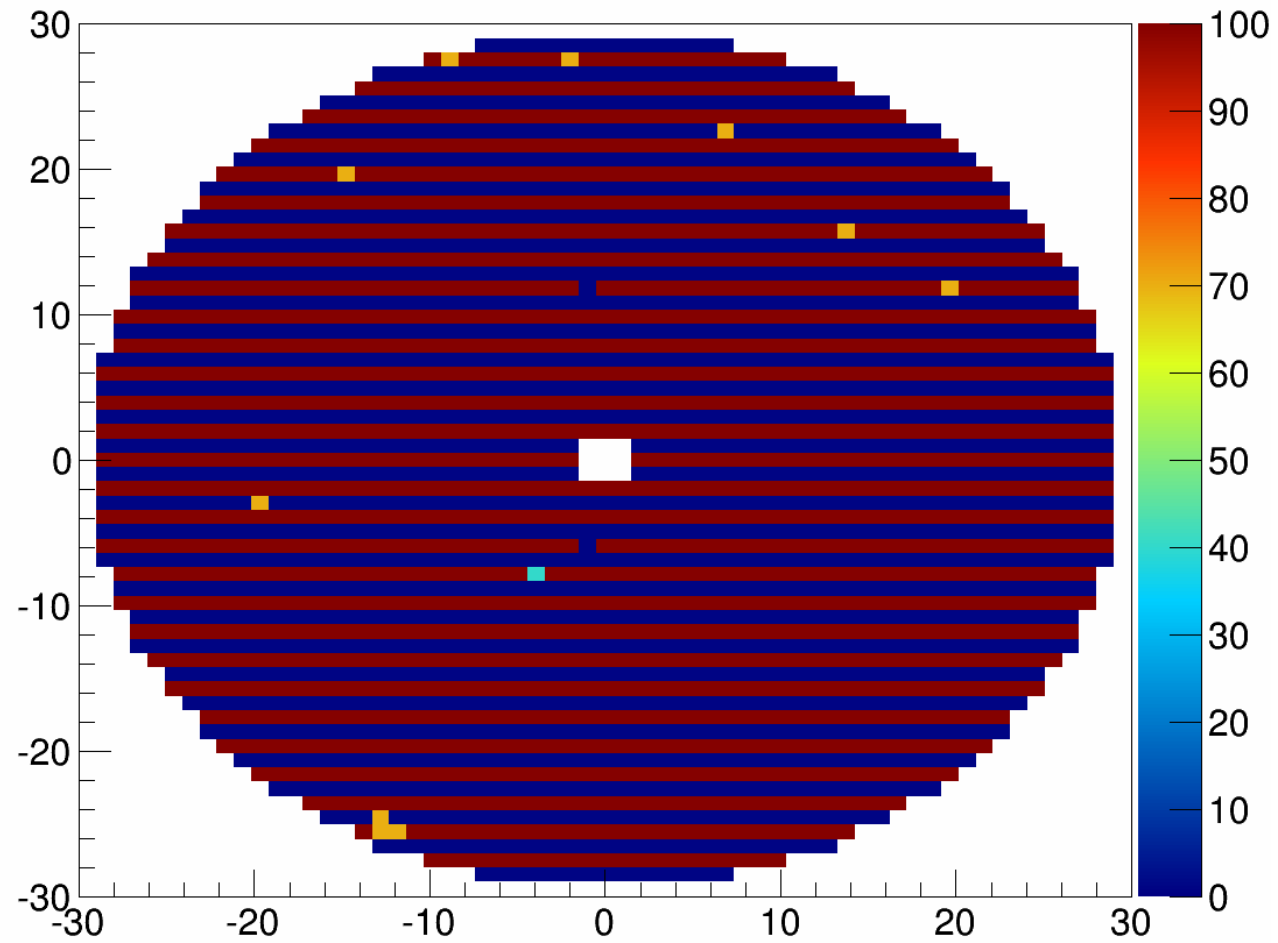
2D Plot of Pulse



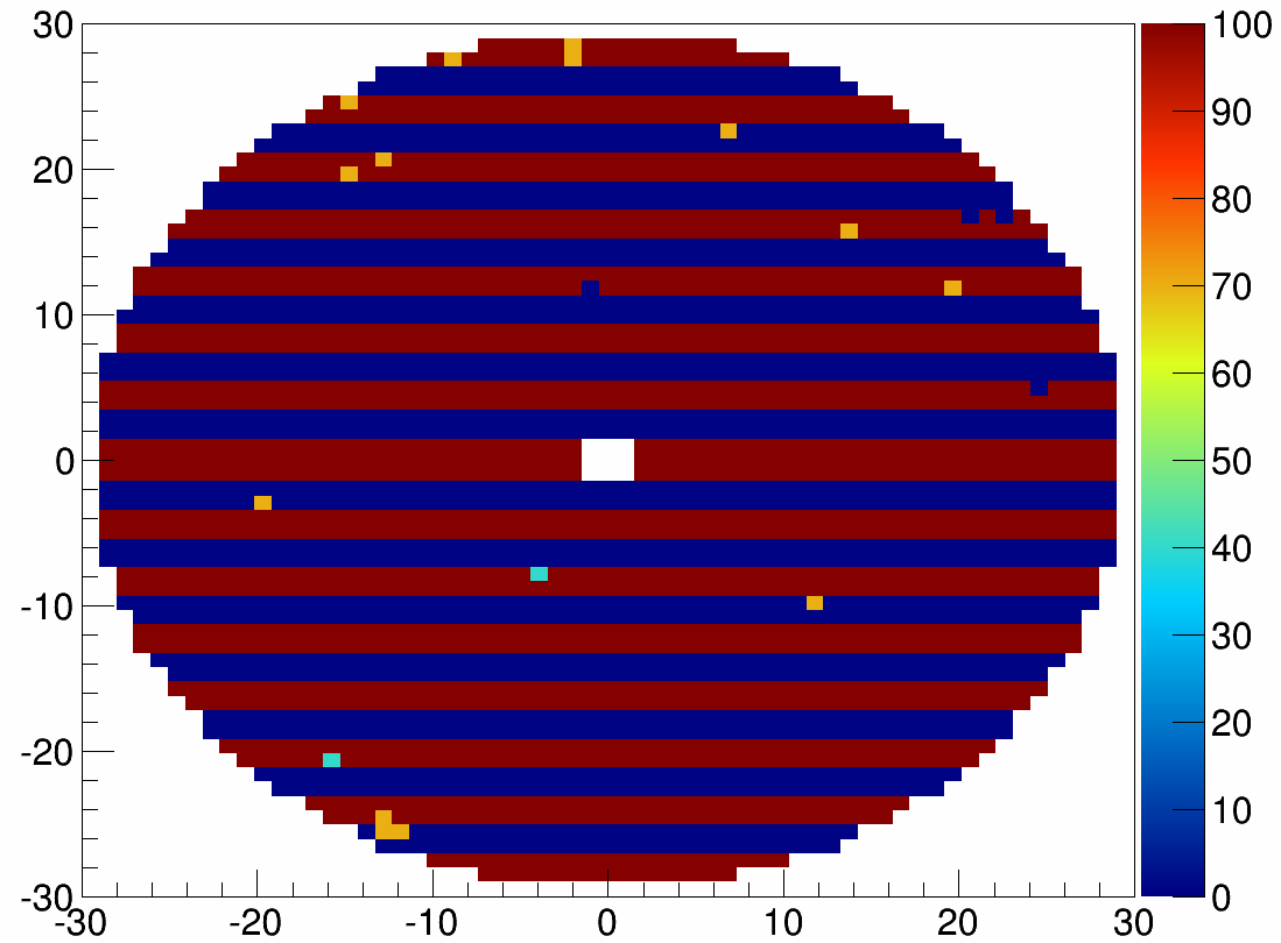
2D Plot of Pulse



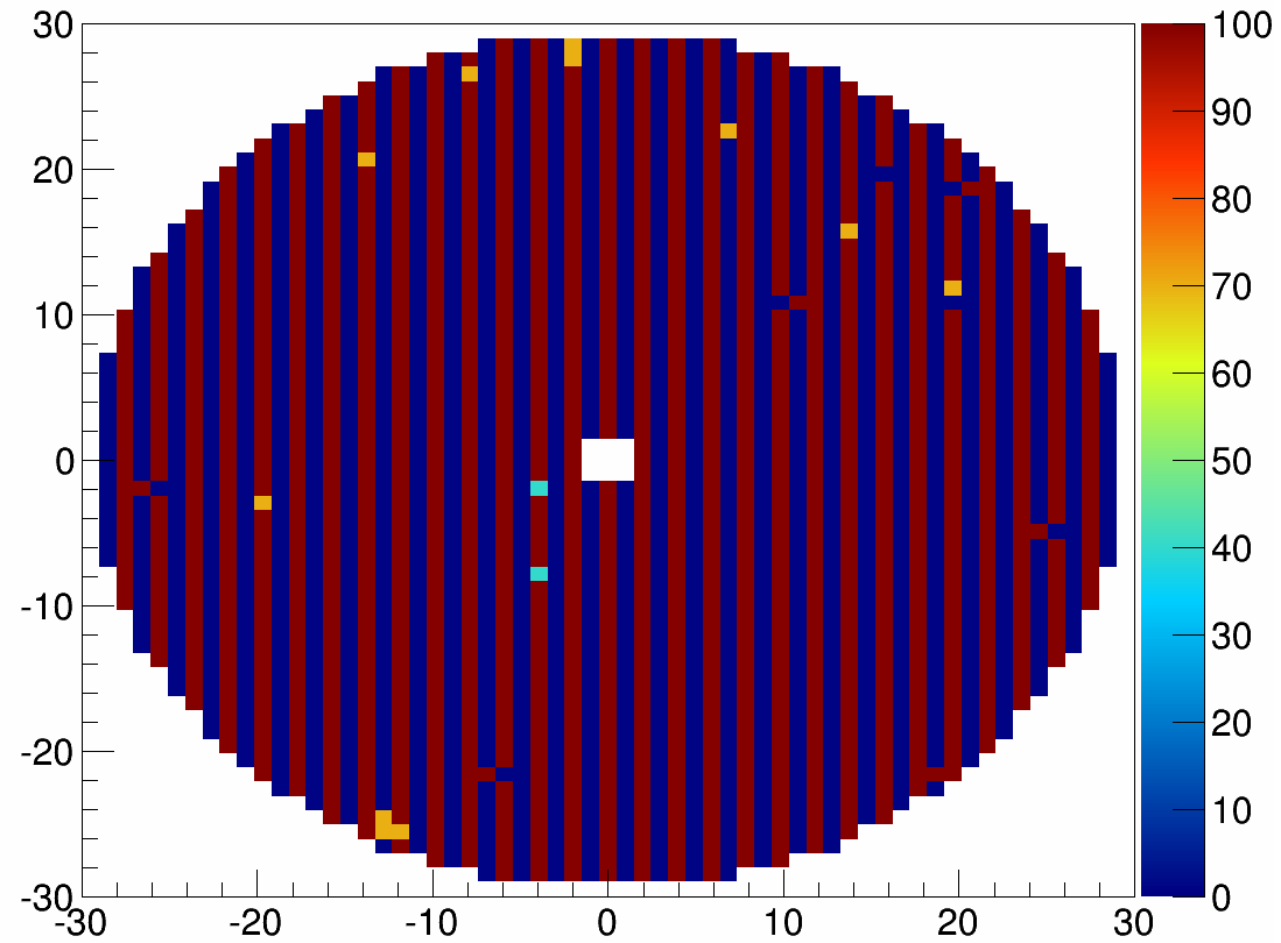
2D Plot of Pulse



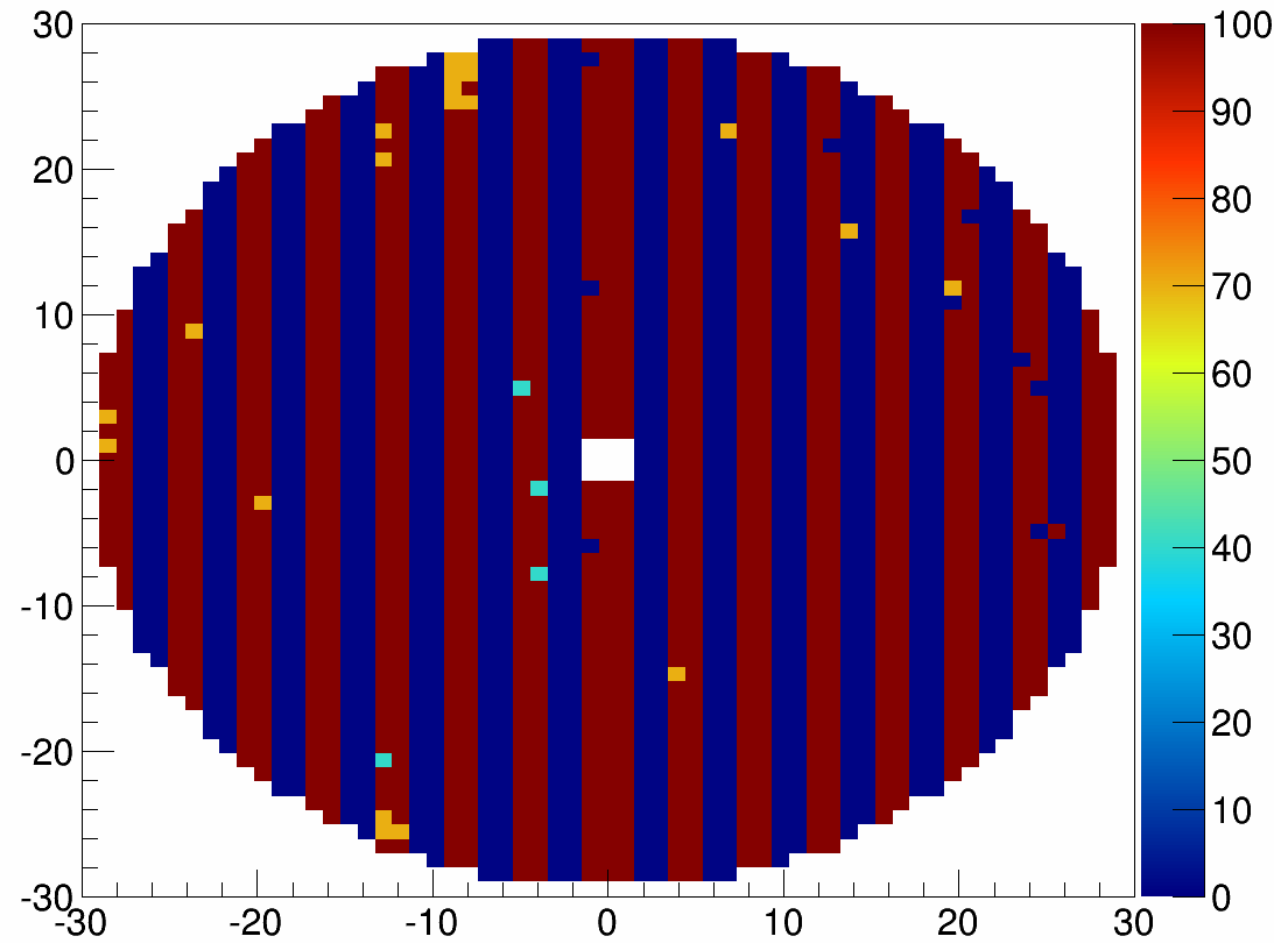
2D Plot of Pulse



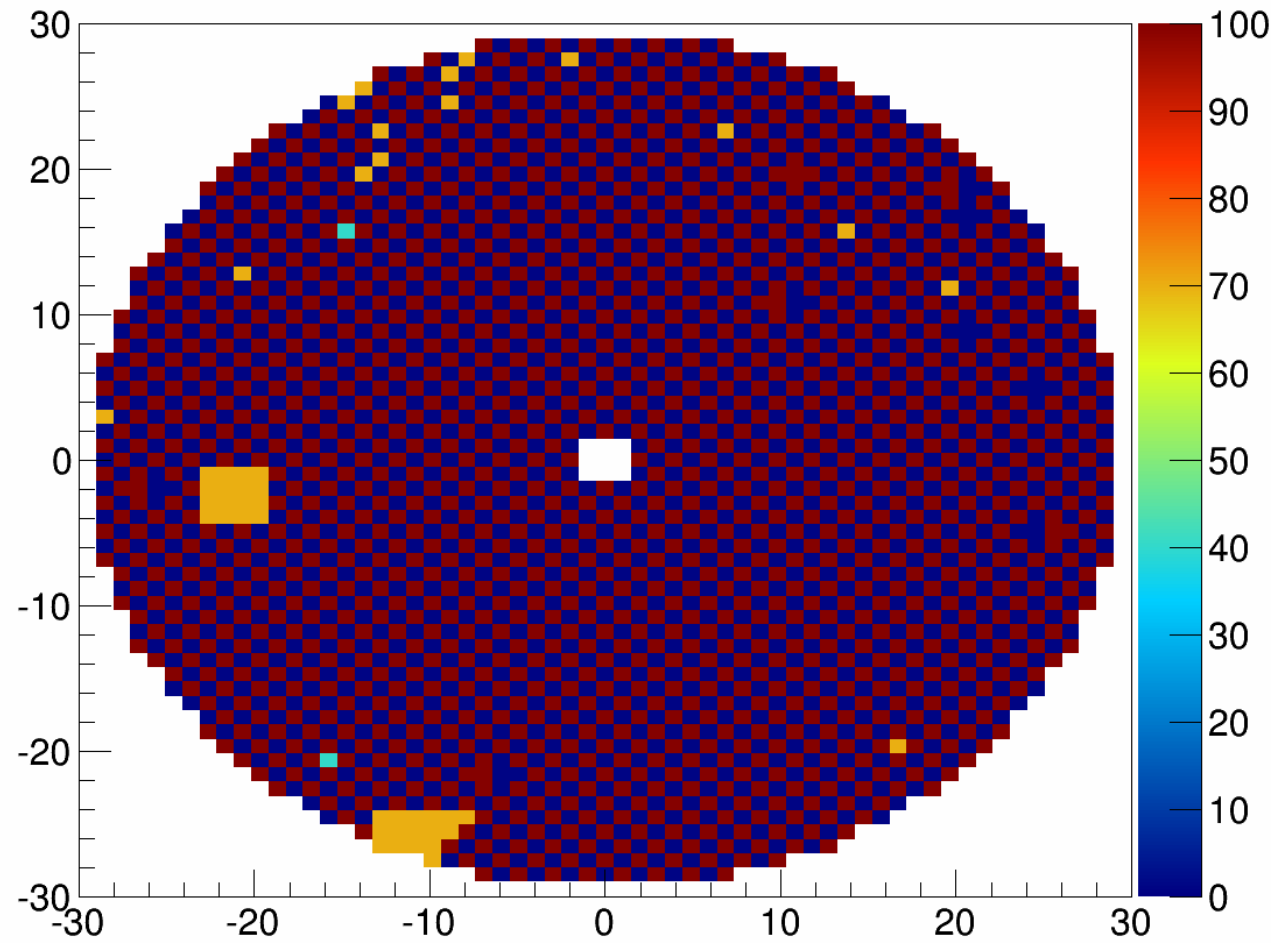
2D Plot of Pulse



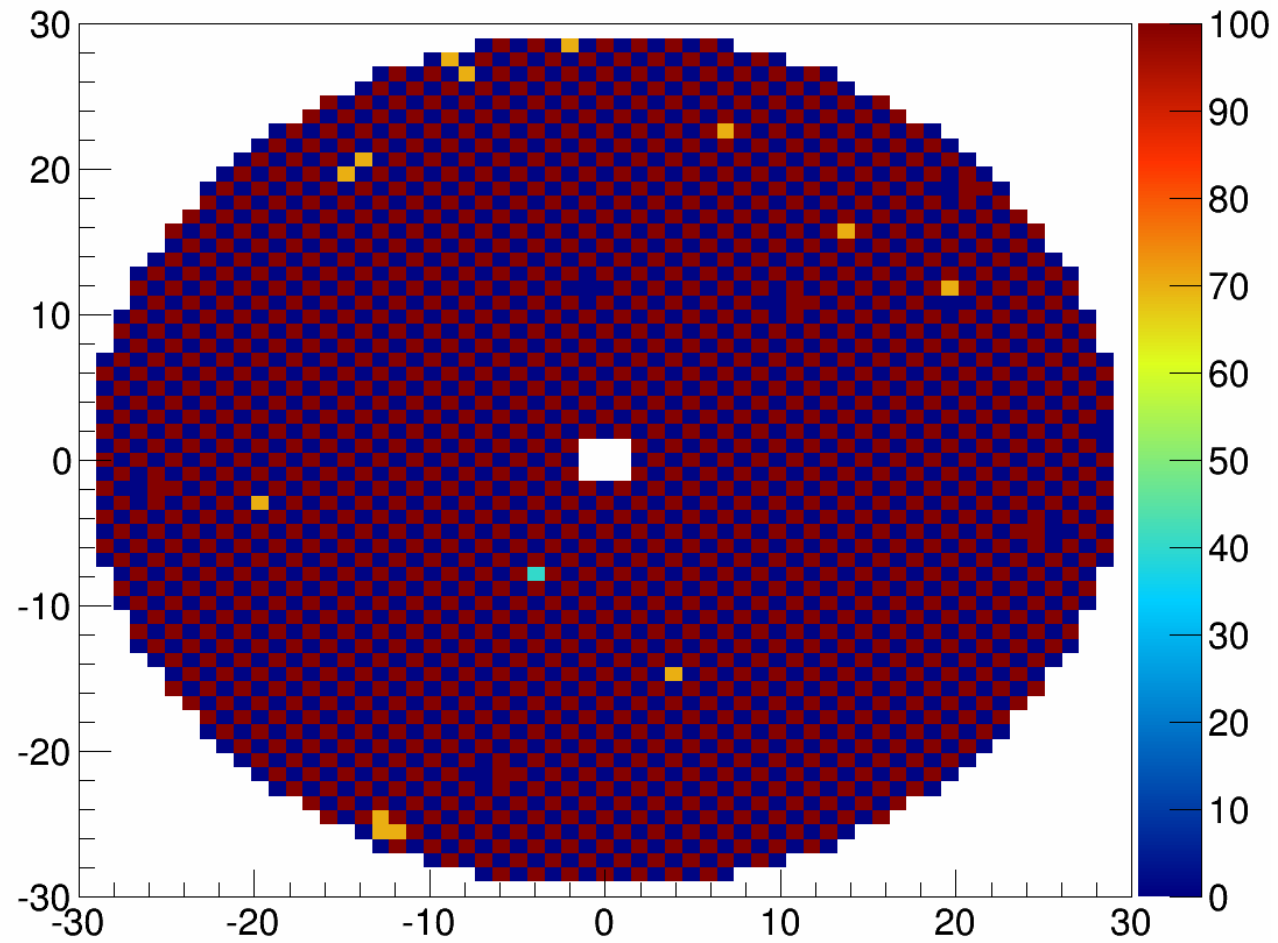
2D Plot of Pulse



2D Plot of Pulse



2D Plot of Pulse



ADC Problems

- Change from run to run both with reboot and restart
- Some randomly change others consistent
- Observed occasional 30+ samples late
- Swapped cables in bad ADC channels
 - 100% remained with ADC, none stayed with detector
 - Few cleared up when swapped and returned once back in normal position
- 15+ channels throughout detector

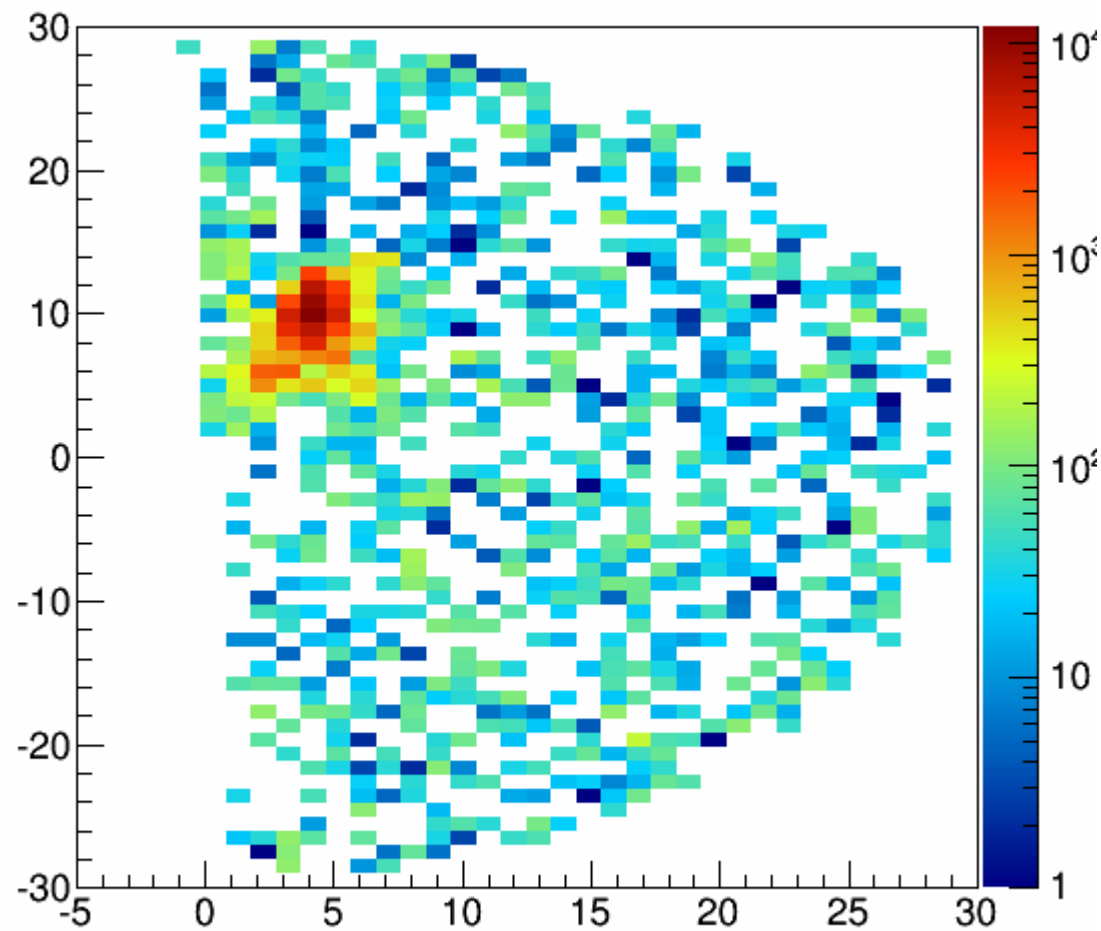
Conclusions

- Still few cables swapped
- “missing” signals in all on plots are all present on scope
- Many ADC issues need to fully diagnose
- Lots of bases to diagnose and repair
- Small number of spare bases
- Plenty of spare PMTs

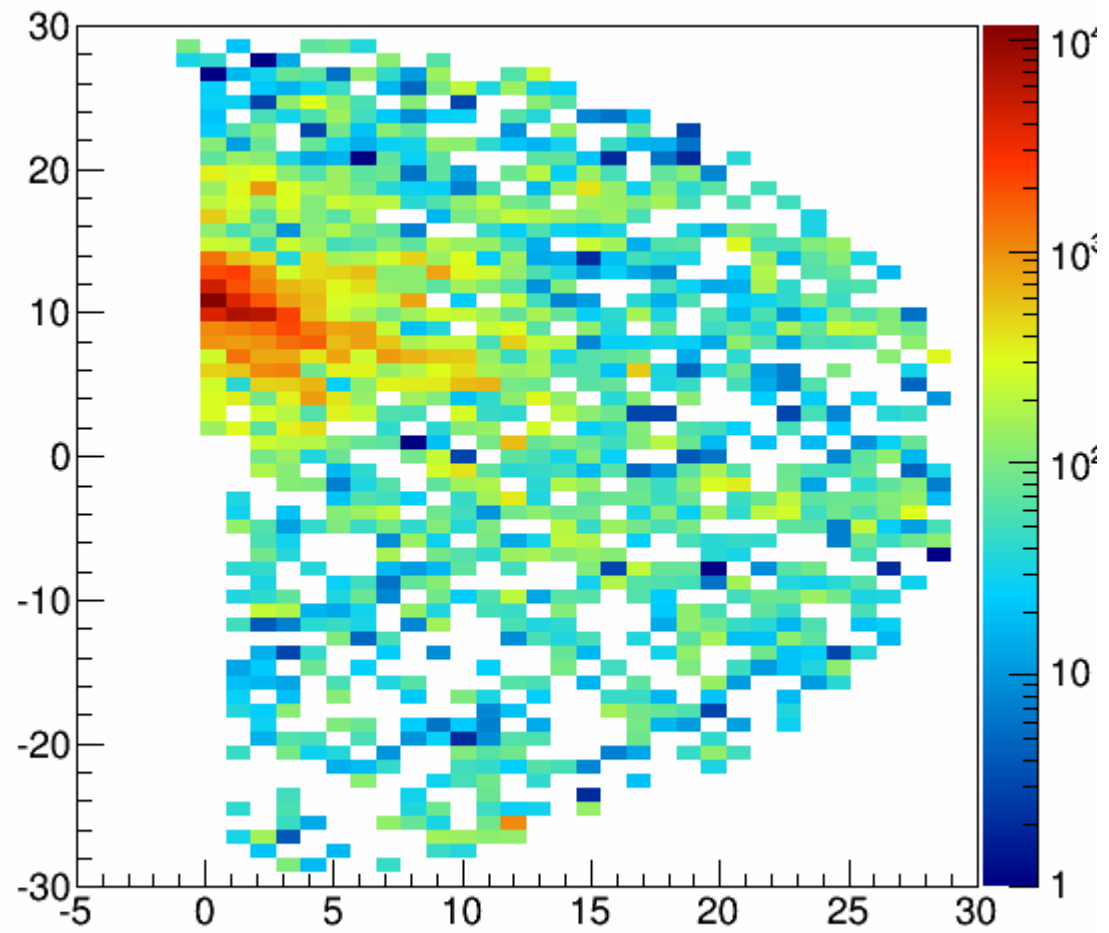
General Info – Cosmics

- Trigger
 - OR of 2 top scintillators AND OR of bottom 2 scintillators
 - 1 Hz
- Following plots
 - All show charge in Z on log scale

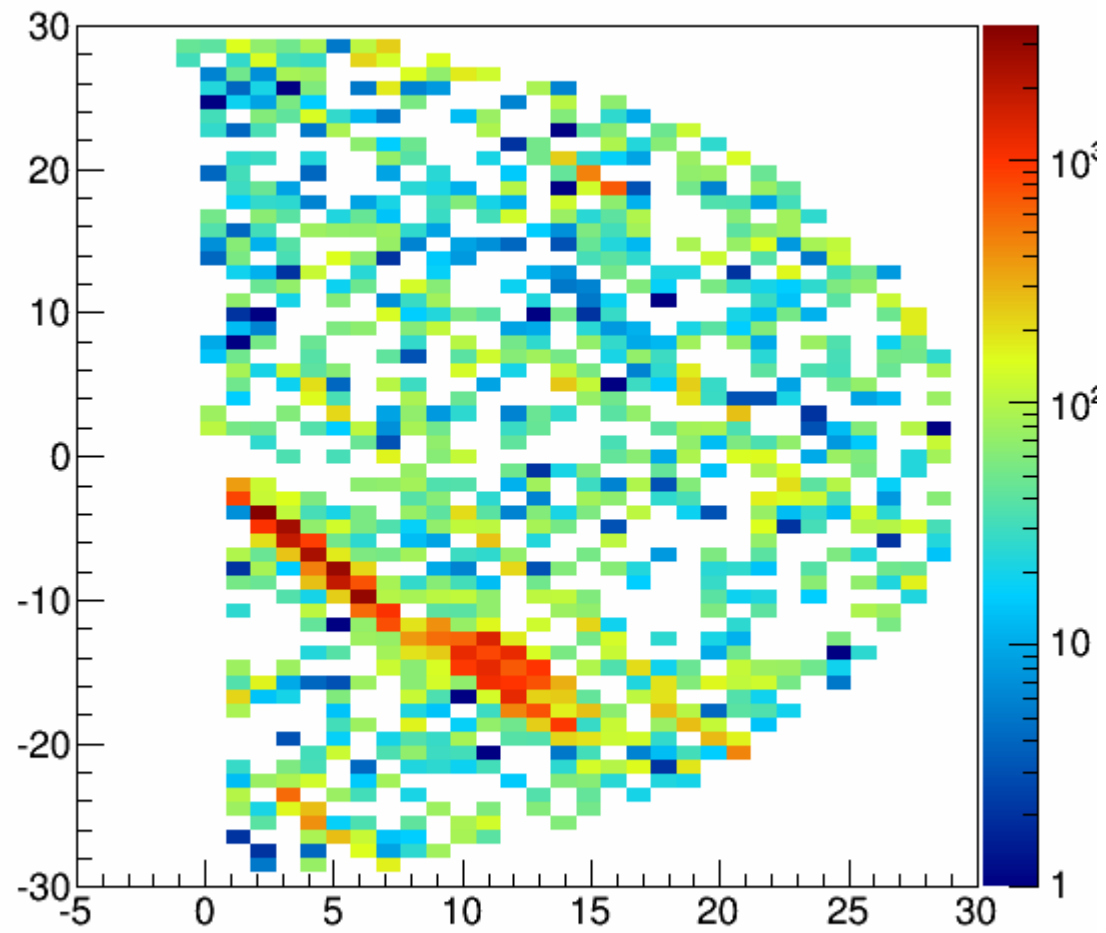
5: Event 176



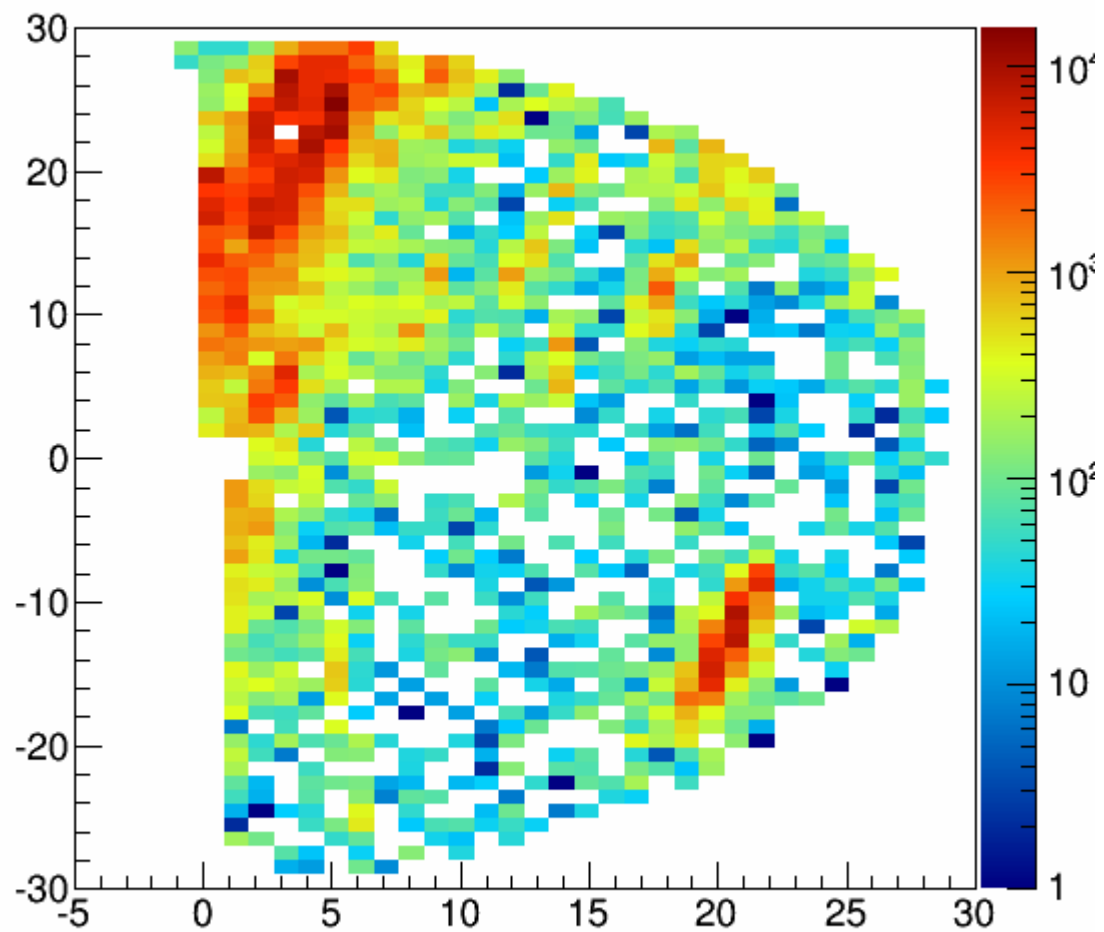
3: Event 488



3: Event 250



1: Event 201



1: Event 243

