

Dry Run Dive In

Qing He

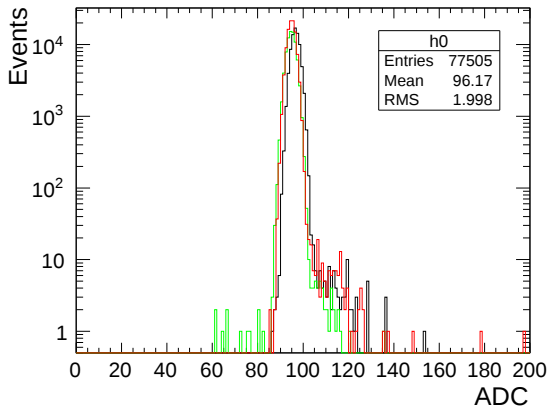
Princeton University

Dayabay Collaboration

Dry Run Dive In

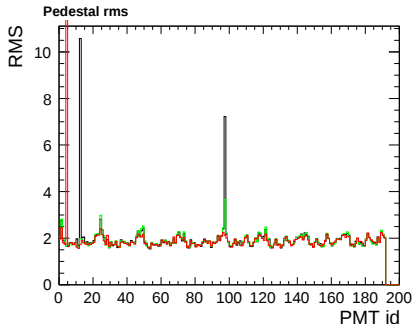
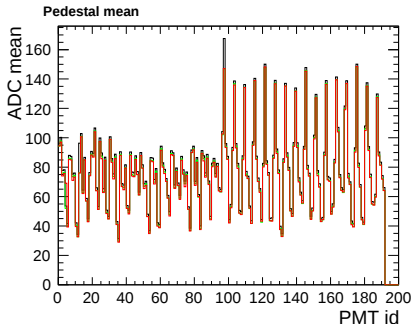
- Run 1575, pedestal run
- Run 1576, physics run, trigger: $N_{Hit} > 50$
- Run 1590, pedestal run
- Run 1591, LED run, trigger rates: 250 hz, trigger: $N_{Hit} > 150$, LED voltage = -7.2 V
- Run 1592, LED run, trigger rates: 605 hz, trigger: $N_{Hit} > 100$, LED voltage = -7.2 V
- Run 1593, LED run, trigger rates: 605 hz, trigger: $N_{Hit} > 100$, LED voltage = -7.3 V
- Run 1594, LED run, trigger rates: 605 hz, trigger: $N_{Hit} > 100$, LED voltage = -7.4 V
- Run 1595, LED run, trigger rates: 605 hz, trigger: $N_{Hit} > 100$, LED voltage = -7.8 V

ADC value for PMT (ring=1, column=1)



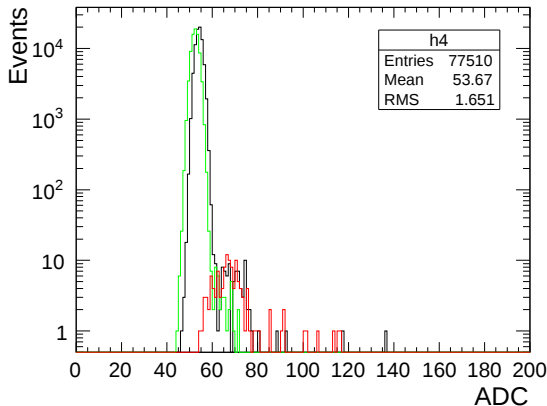
- Black: Run 1590 ADC value, Green: Run 1590 preADC value.
- Red: Run 1575 ADC value.

Pedestal comparison



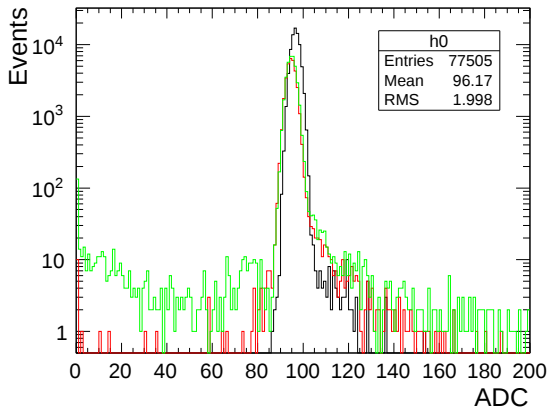
- Black: Run 1590 ADC value mean and rms, Green: Run 1590 preADC value.
- Red: Run 1575 ADC value.
- Some problem channels. Run 1590: PMT(ring=1,column=13), PMT(ring=5,column=2). Run 1575: PMT(ring=1,column=5)

Problem channel

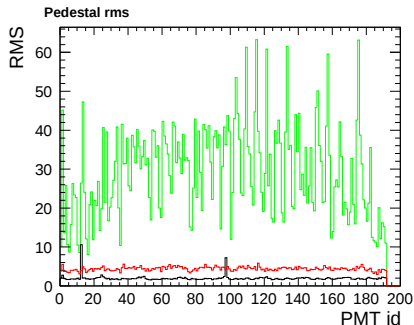
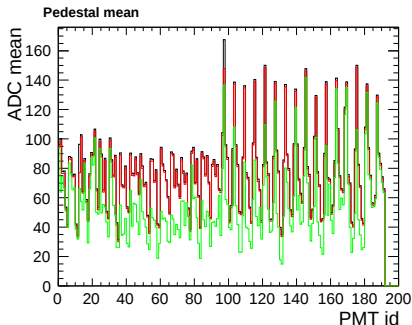


- Problem channels have very few hits.

PMT pedestal (ring=1, colmn=1)

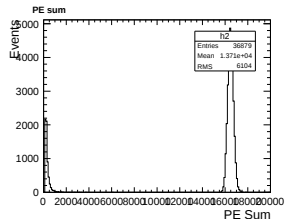
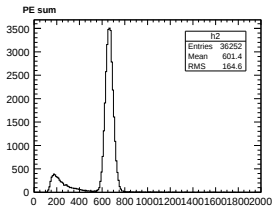
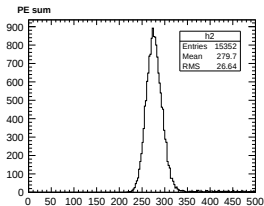
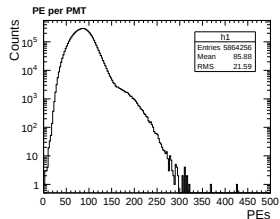
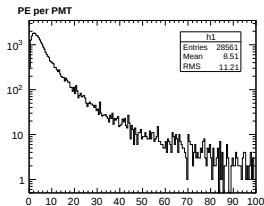
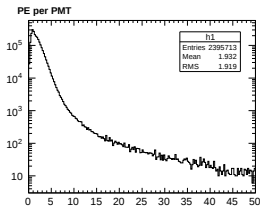


- Black: Run 1590 pedestal ADC mean & rms
- Red: Run 1593 preADC mean & rms
- Green: Run 1595 preADC mean & rms



- Black: Run 1590 pedestal ADC mean & rms
- Red: Run 1593 preADC mean & rms
- Green: Run 1595 preADC mean & rms

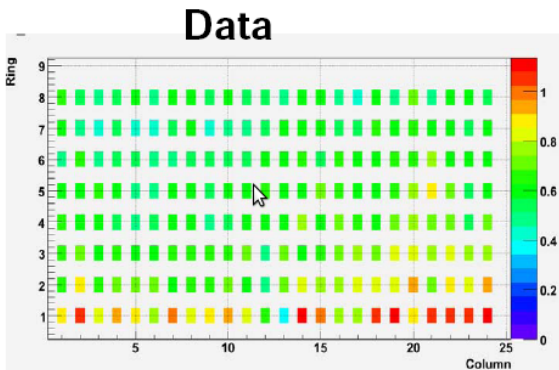
PE sum distribution

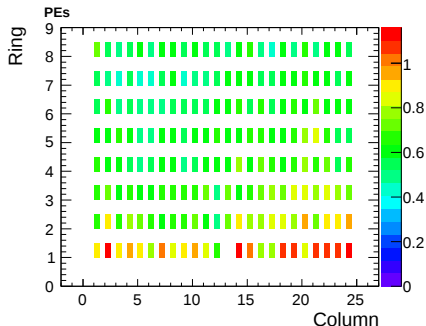
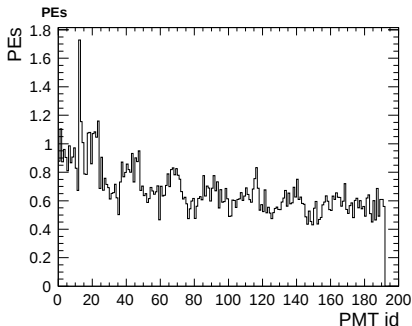


- Run 1591, Run1593, Run1595
- Use pedestal values from Run 1590. $PE = (ADC - ped) / 20$.

Muon run

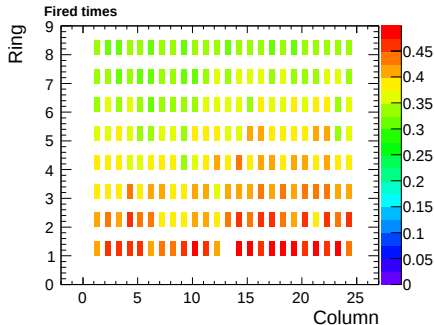
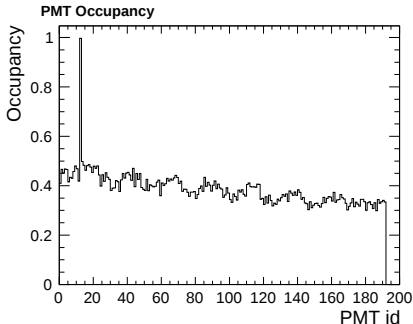
- Doc 5062, Haoqi's study
- Quite large fluctuation at the bottom rings, not seen in MC.





- Studied the first 120000 triggers in Run 1576.
- Pedestal subtracted, $PE = (ADC - ped)/20$. No other calibration.
- Channel 13 (PMT ring=1, column=13) is very hot (skipped in the color map).

Occupancy



- Channel 13 is very hot (skipped in the color map).
- Much less fluctuation in occupancy distribution. Large fluctuation in PE distribution probably comes from lack of gain and quantum efficiency calibration.