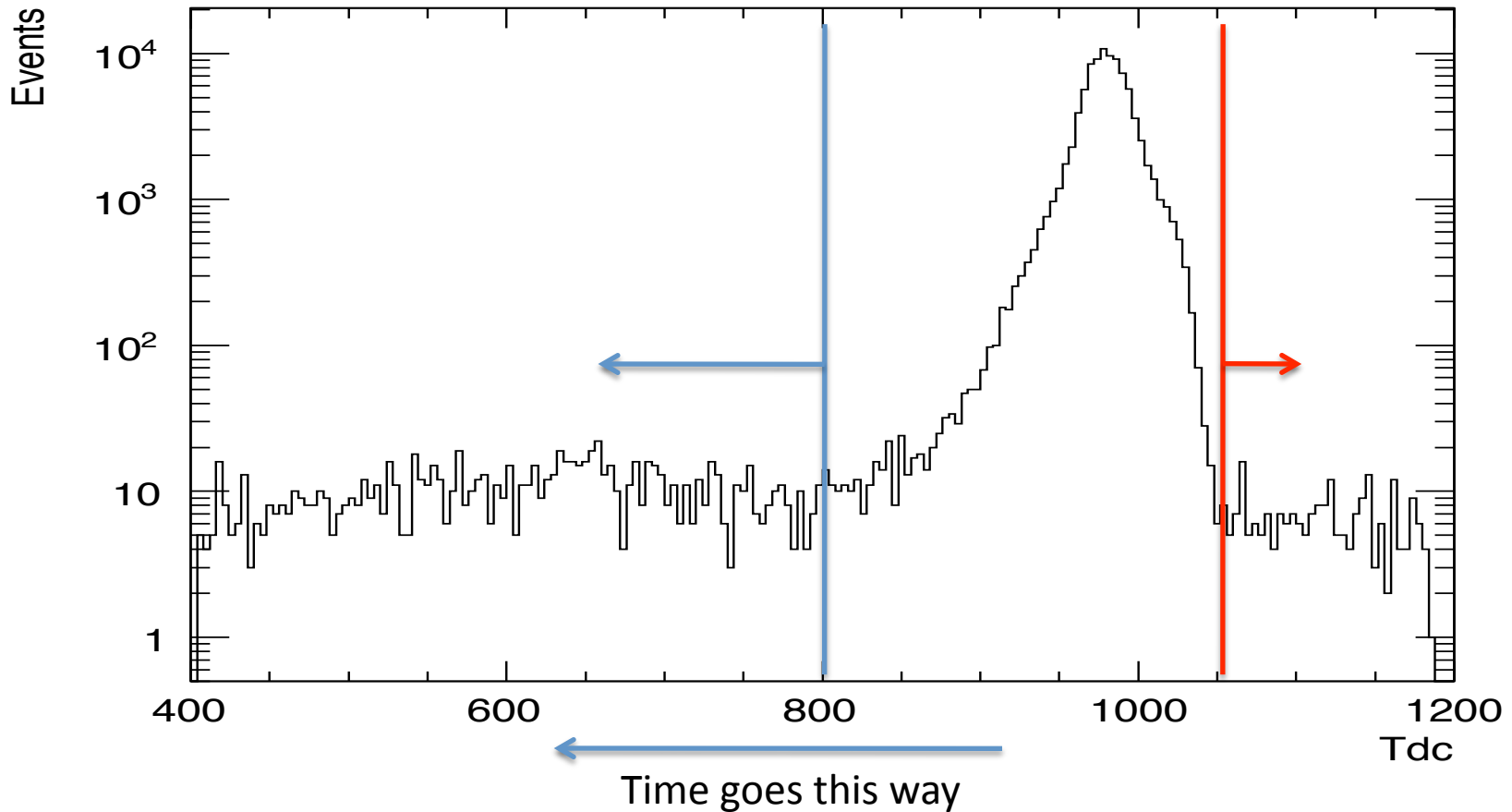


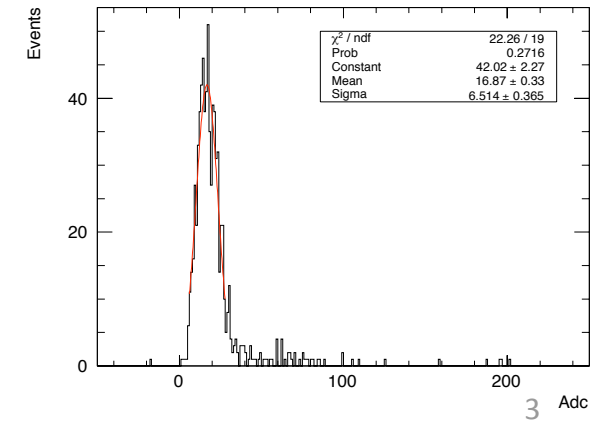
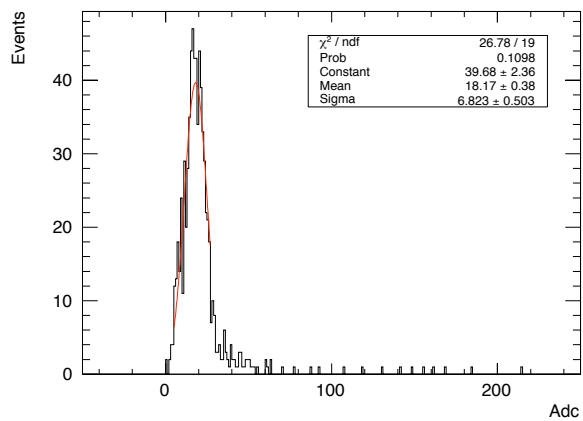
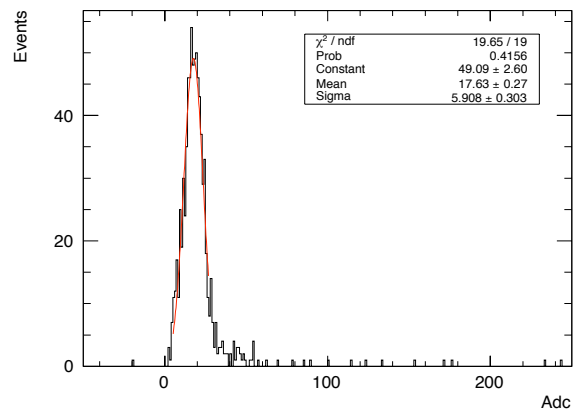
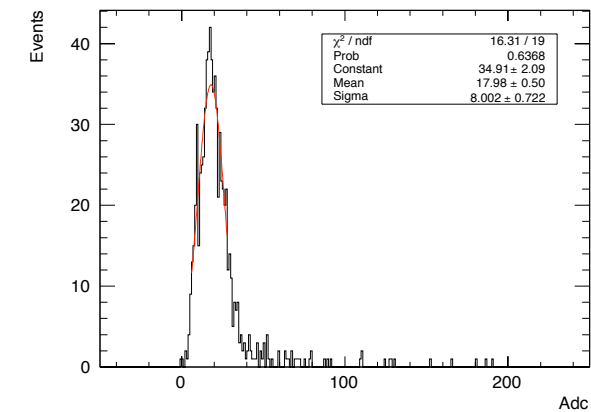
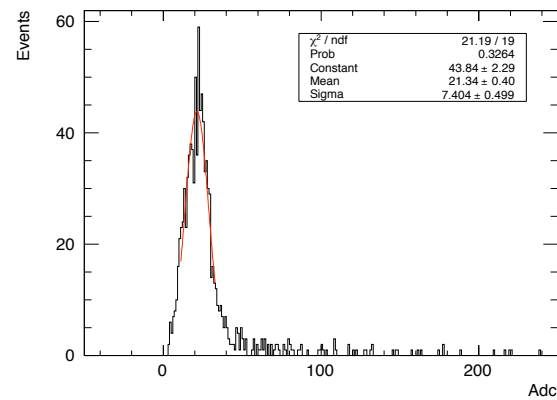
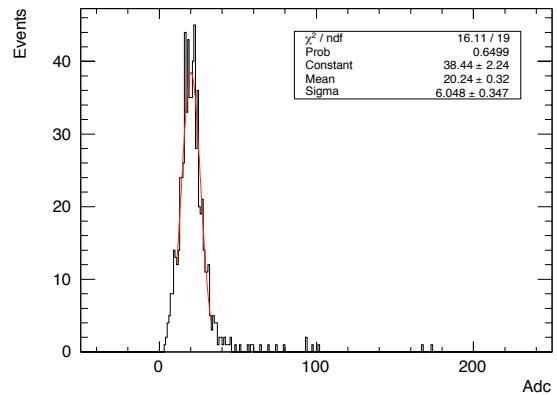
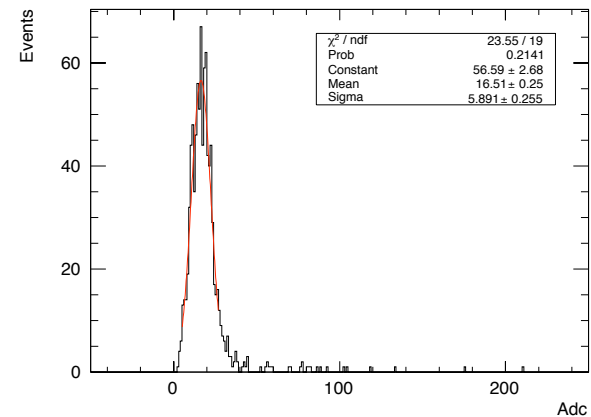
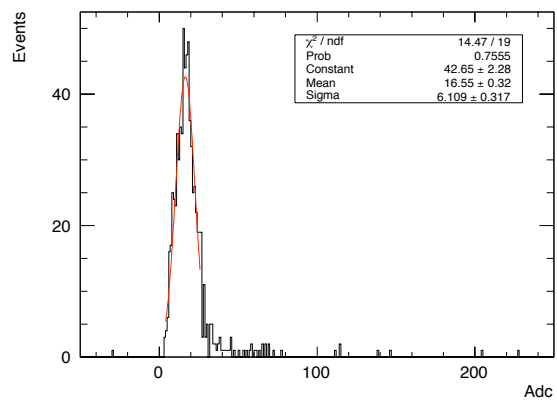
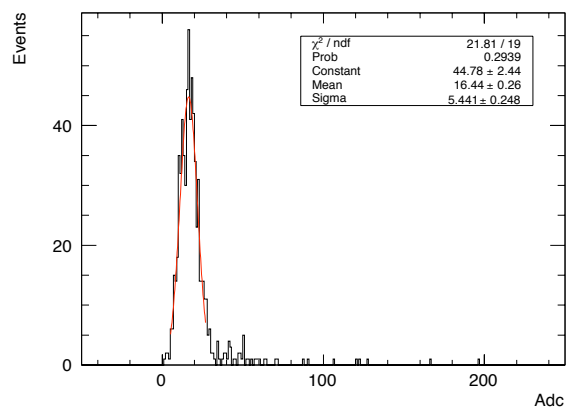
PMT rolling gain calibration & Dark noise

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Tdc distribution

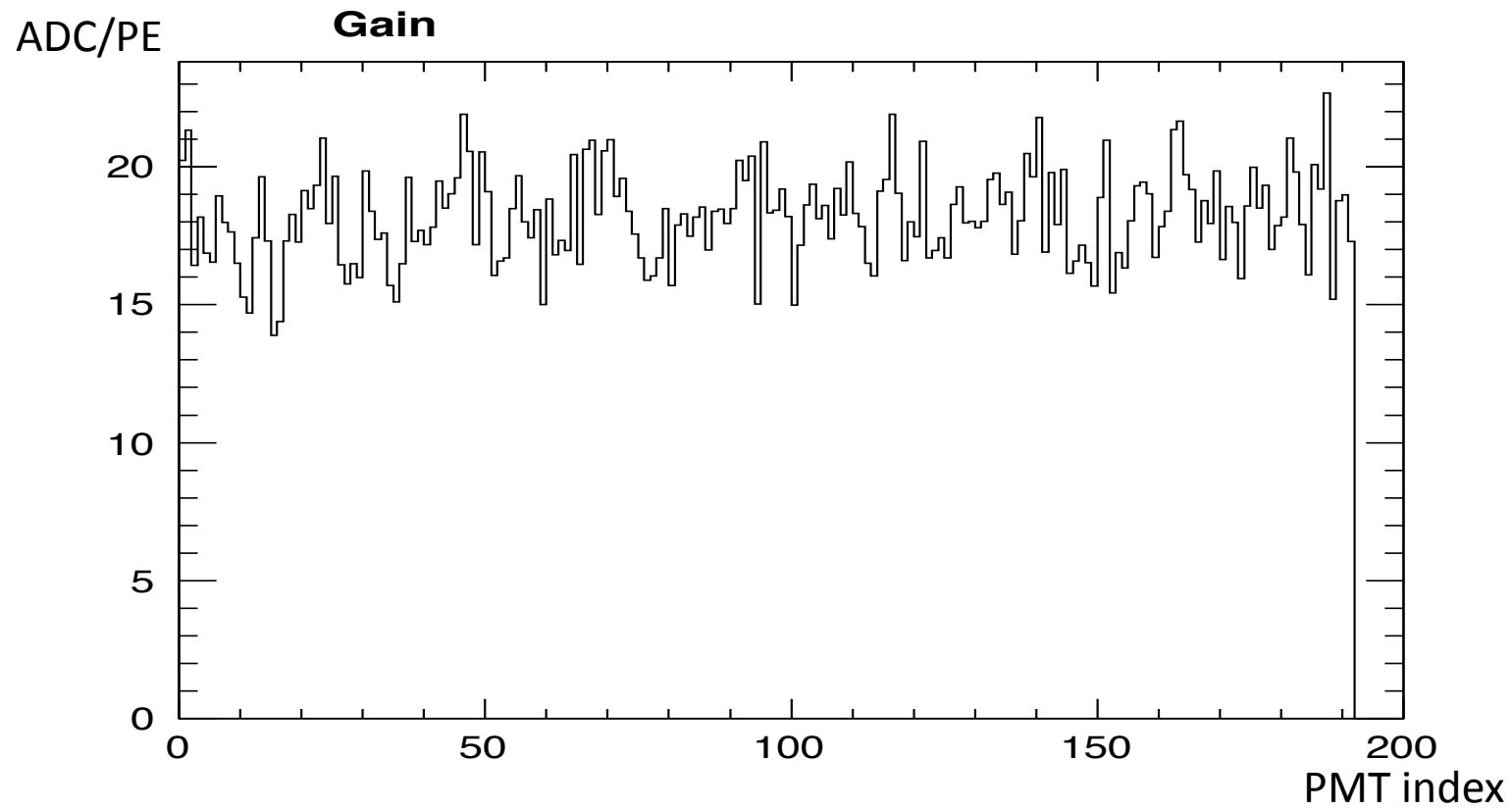
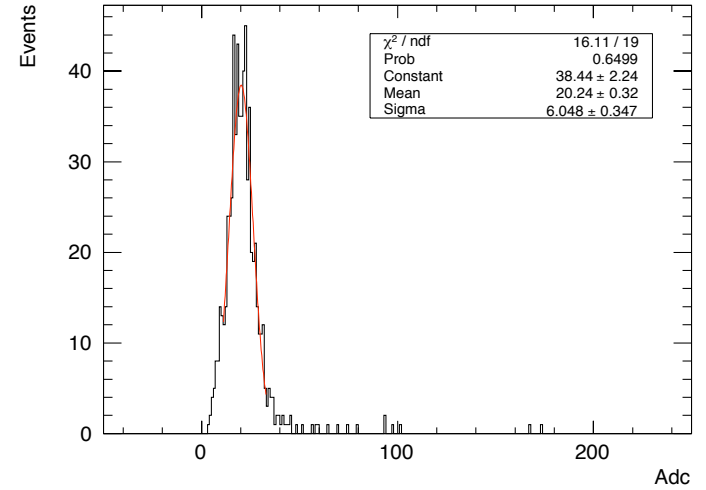


- Select all hits with $Tdc > 1050$ (Dark noise before trigger)
- Select each channels' first hits with $Tdc < 800$ (Avoid after pulse)

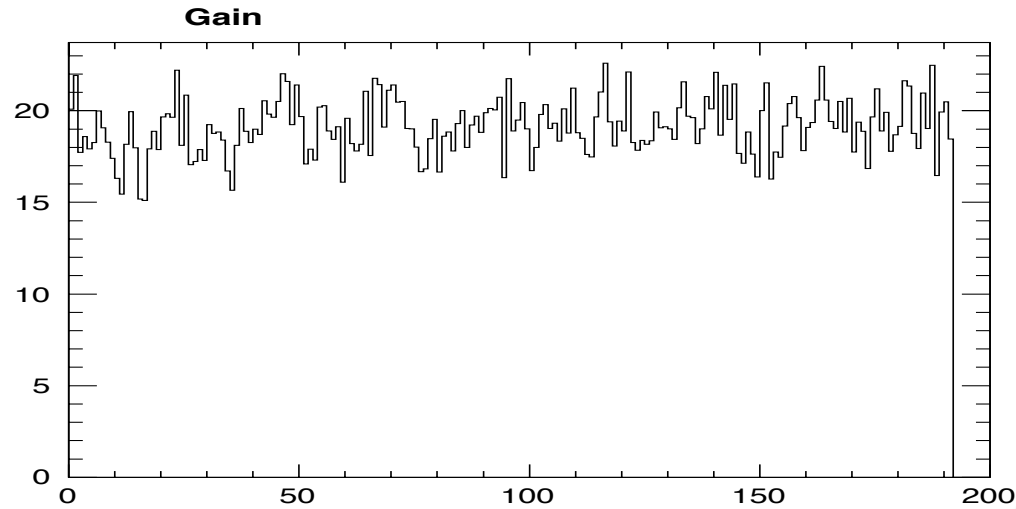


Gain

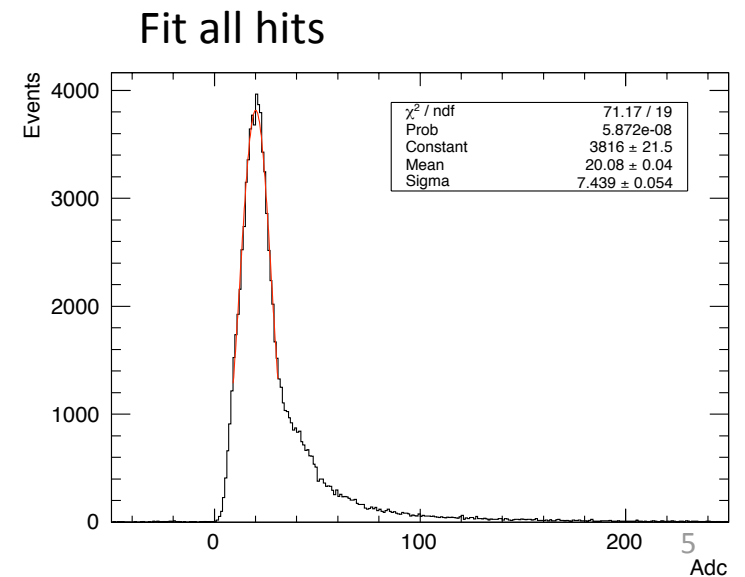
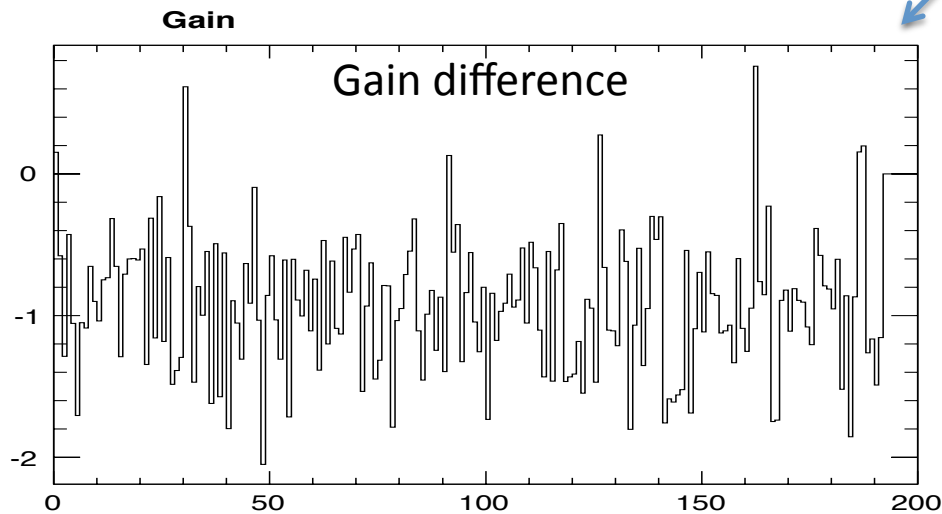
Fit selected dark noise hits



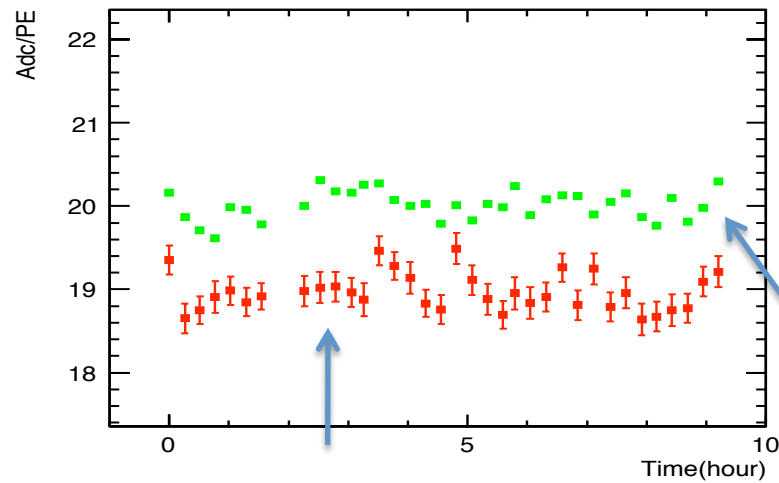
Fit all hits



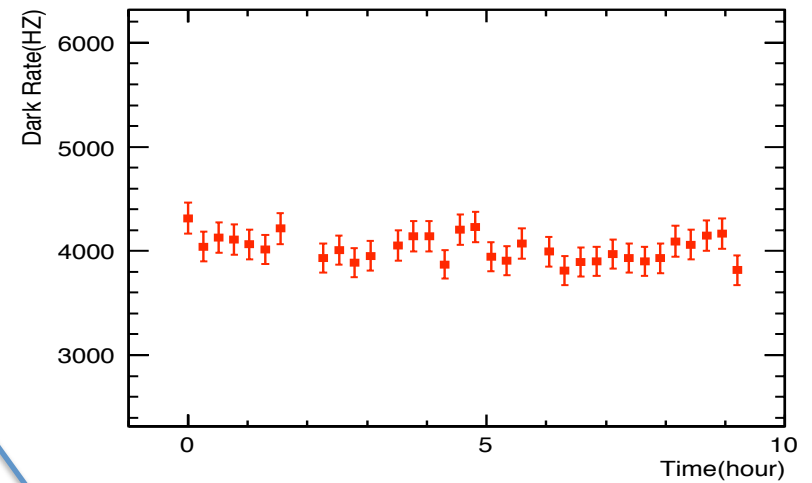
Difference between last page
and this page



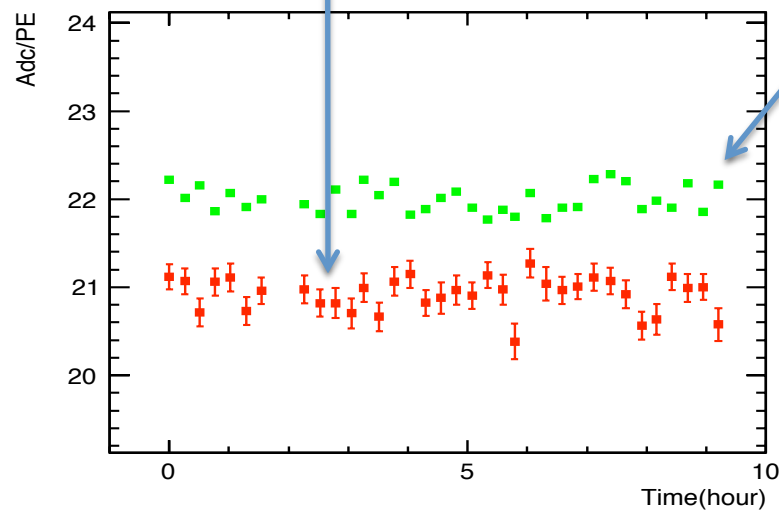
Rolling Gain (Run 1678)



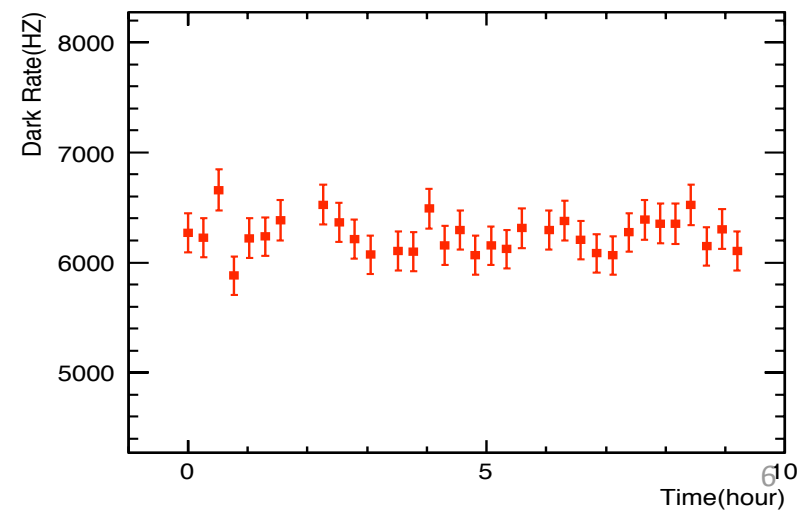
Fit select hits



Fit all hits

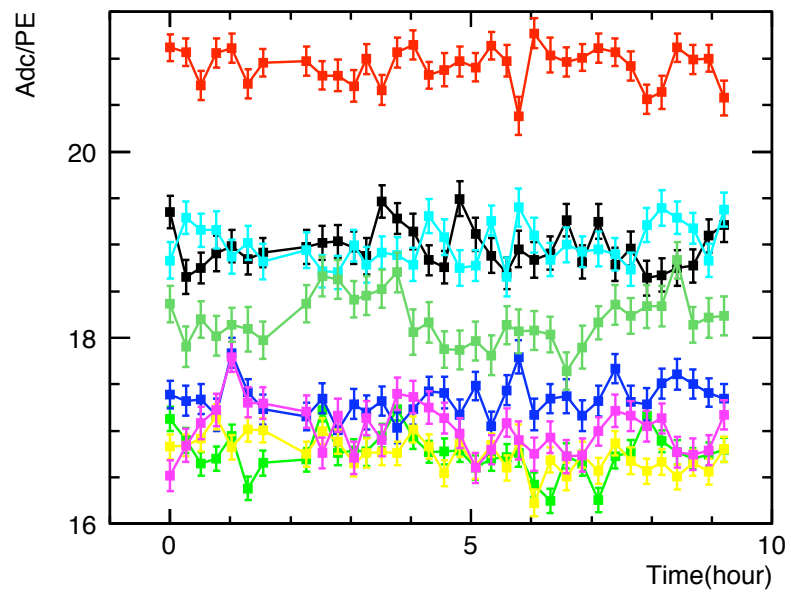


Fit select hits

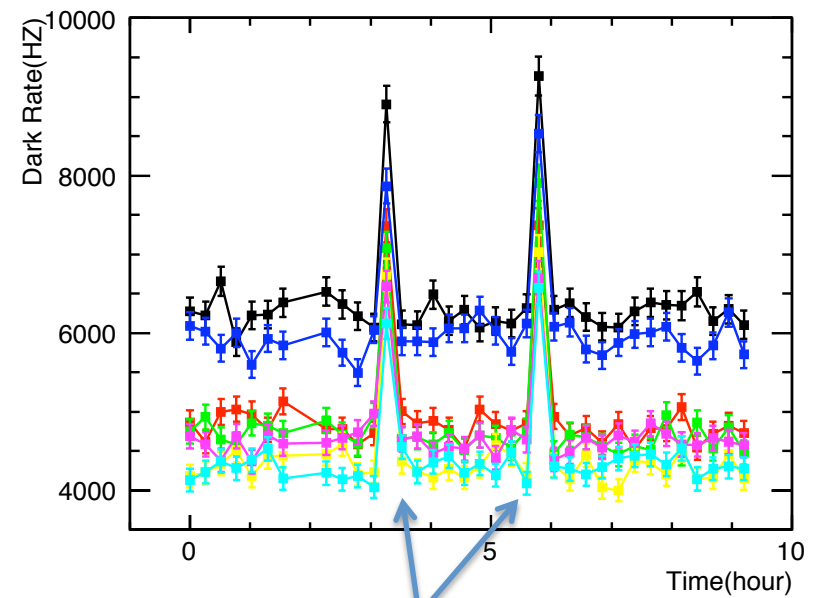


Fit all hits

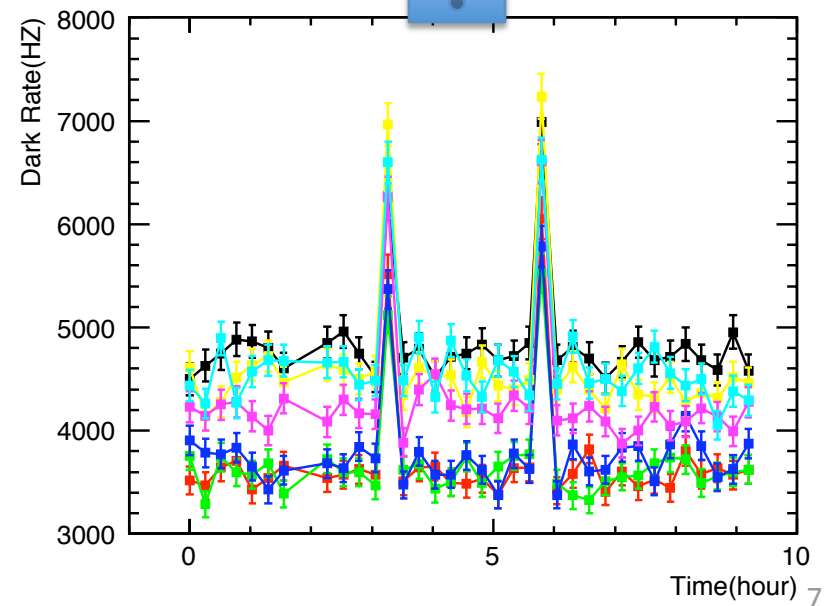
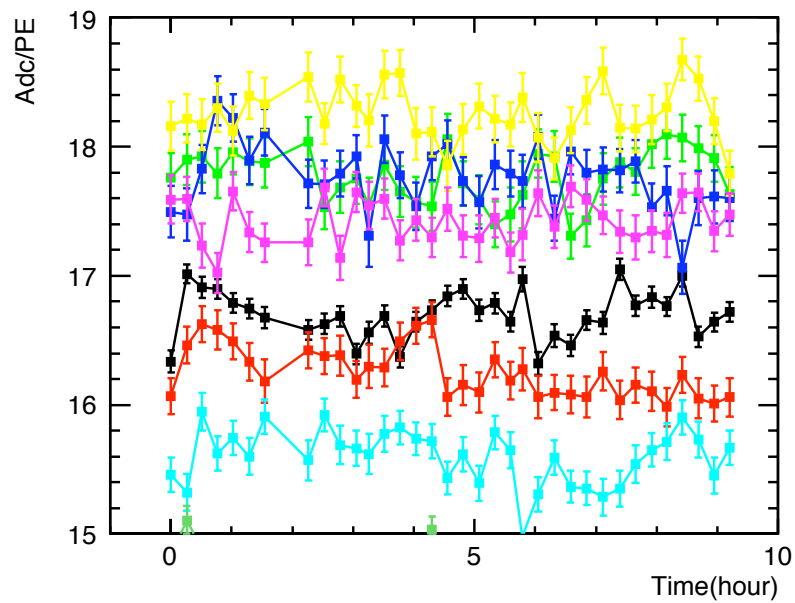
First 8 channels



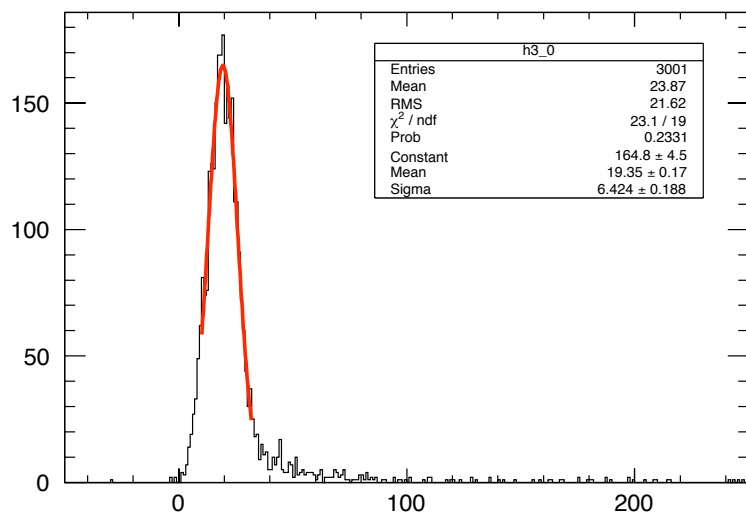
(Run 1678)



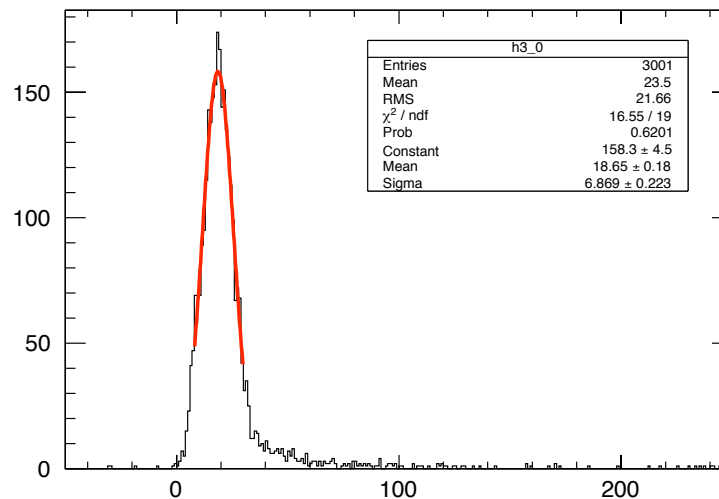
Another 8 channels



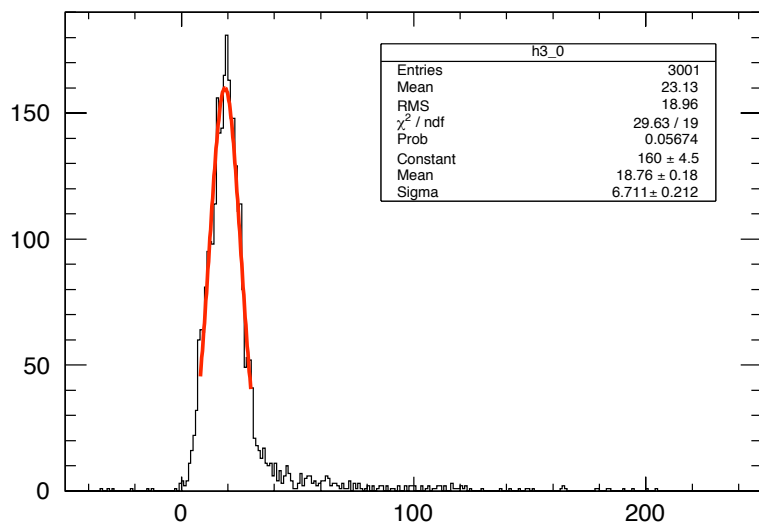
Sometimes the points are jumping, check the corresponding fit plot



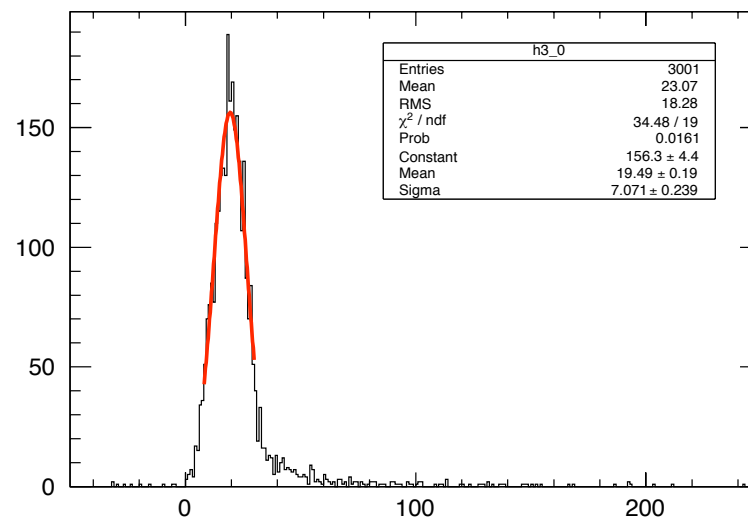
Channel 0 point 1



Channel 0 point 2

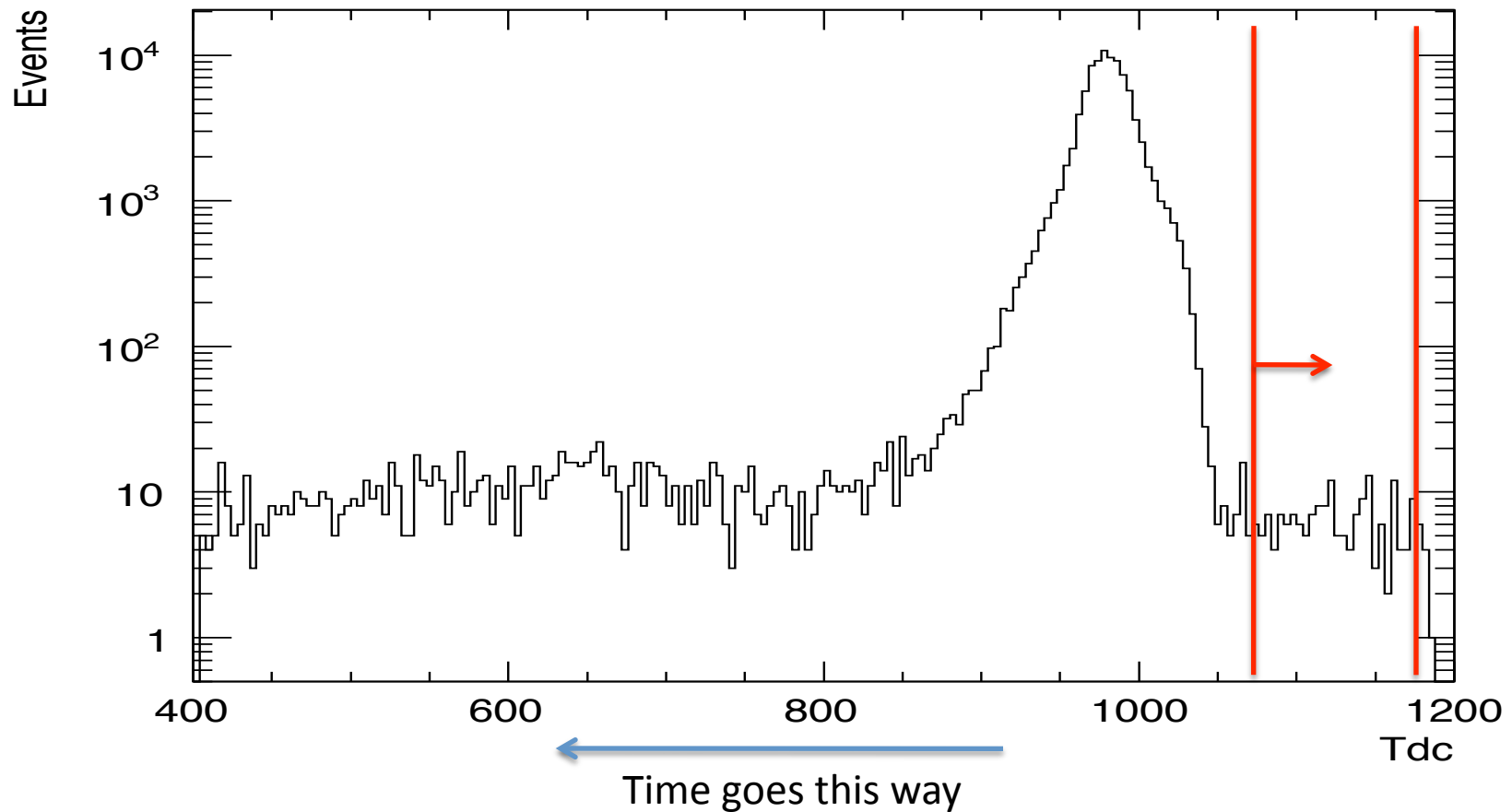


Channel 0 point 17



Channel 0 point 18

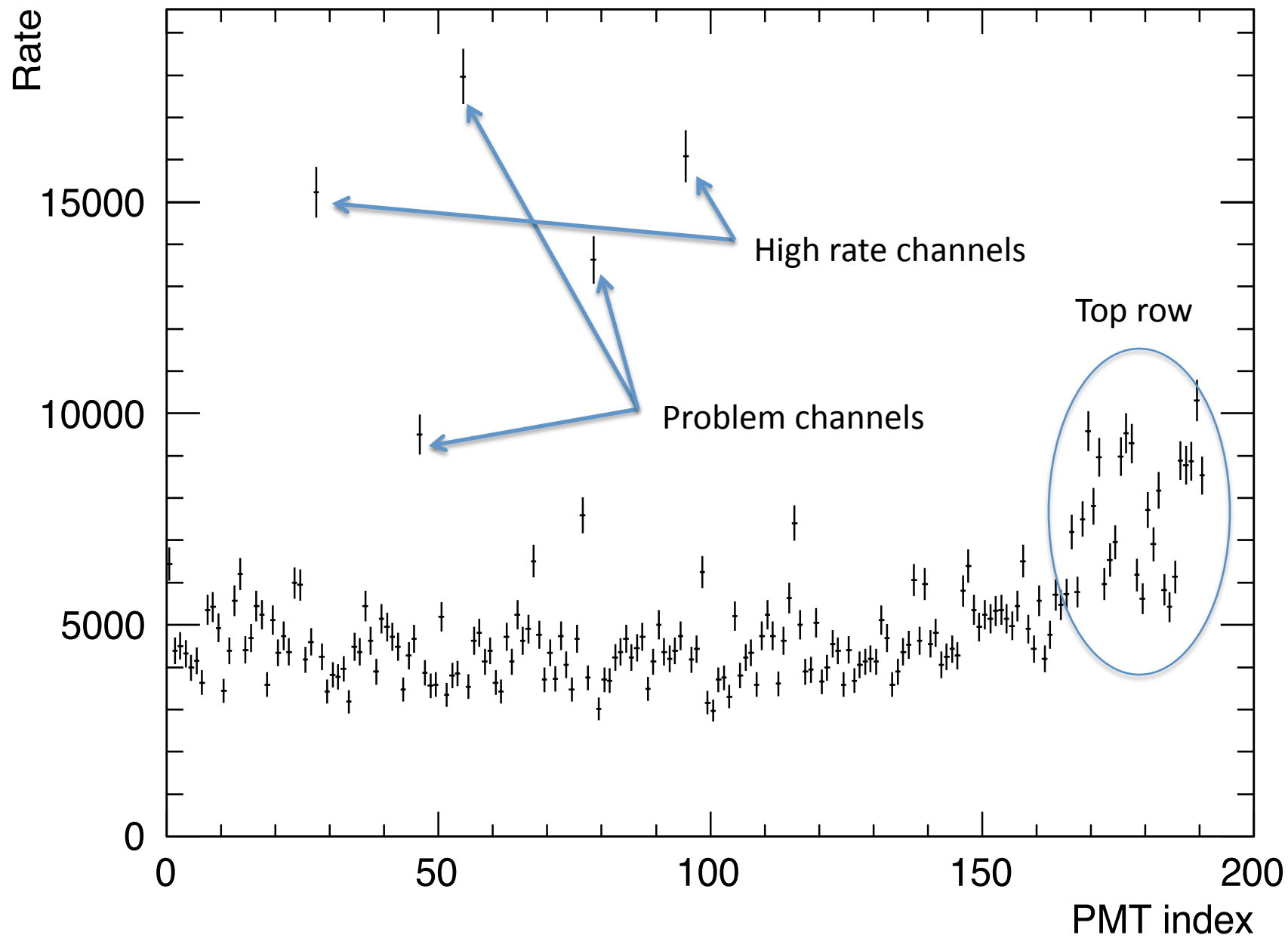
Dark noise



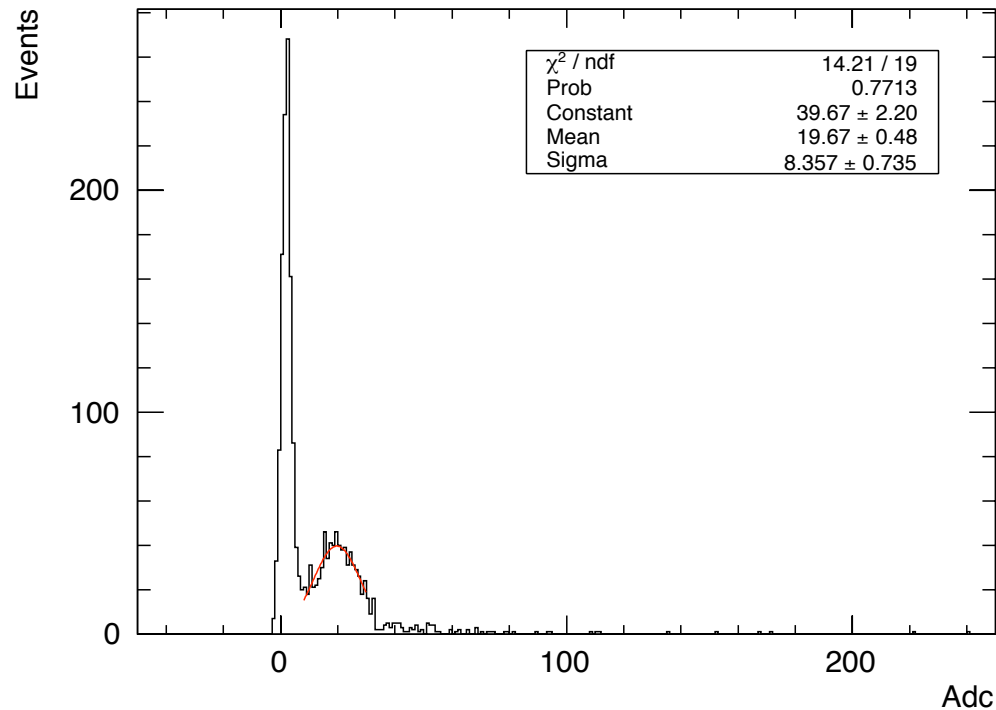
- Select all hits with $1070 < Tdc < 1170$ (Dark noise before trigger)
- $100 * 1.5625$ ns

Dark rate

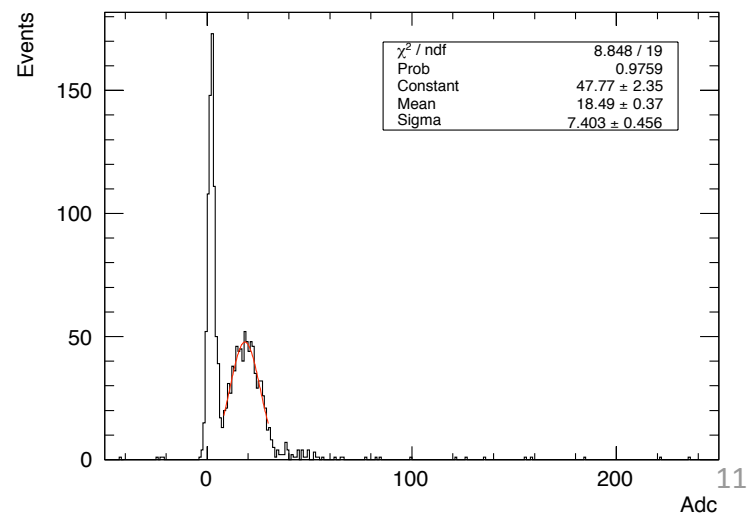
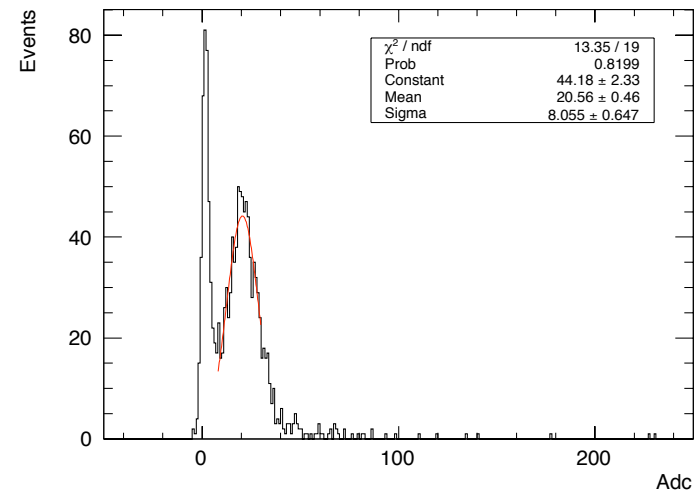
(Run4255 --- 4269)



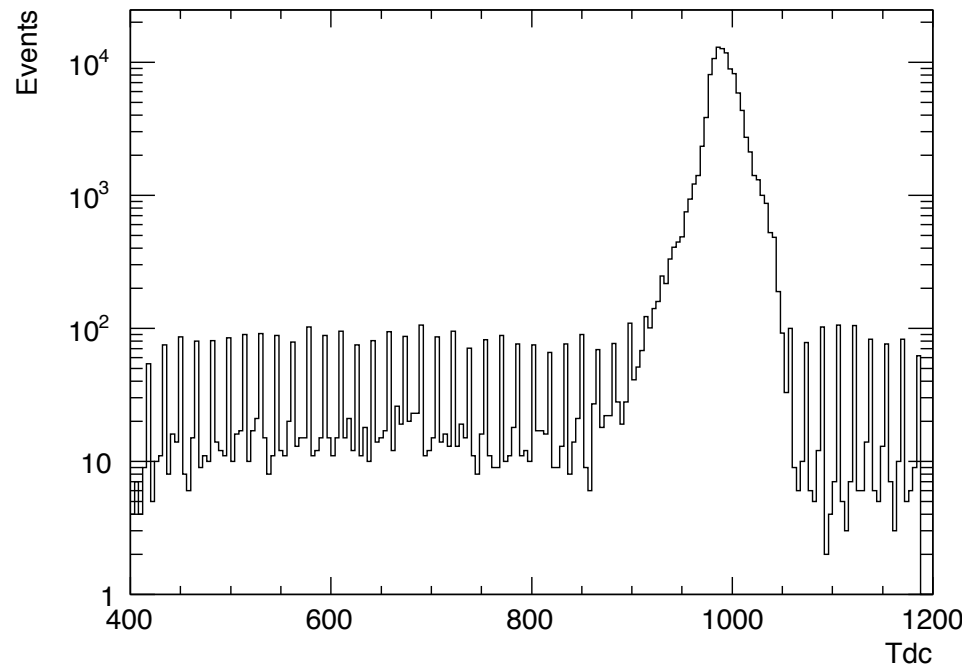
Problem channels



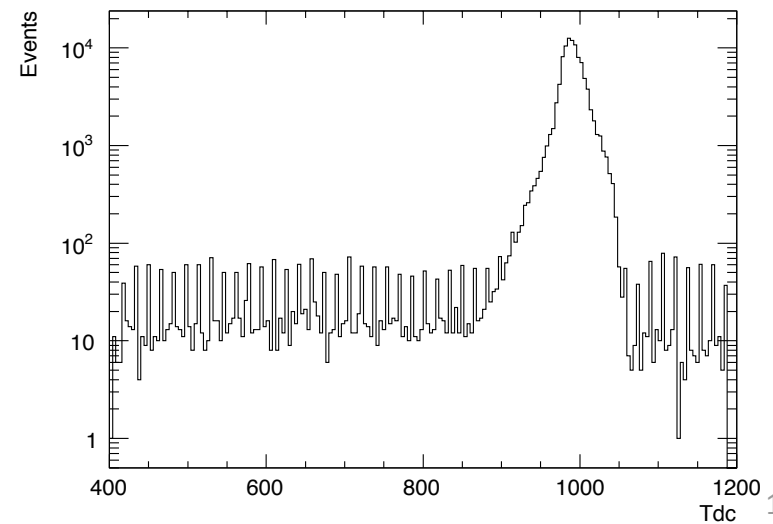
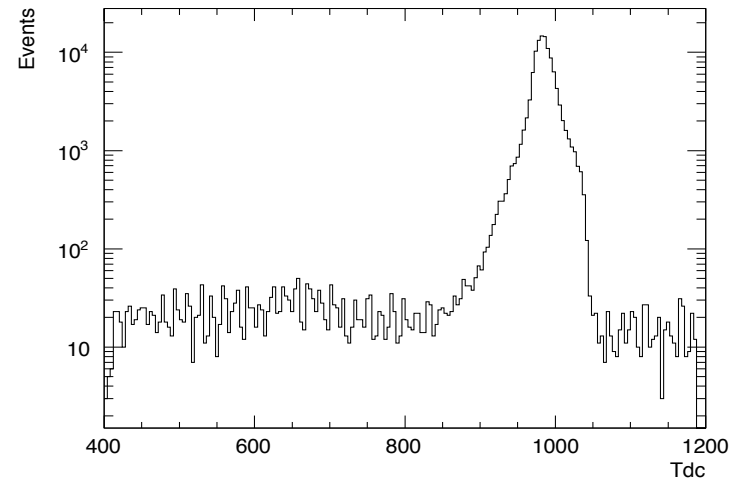
Ring: 4 Column:8 Board:7 Channel:8
 Ring: 3 Column:8 Board:7 Channel:7
 Ring: 2 Column:24 Board:15 Channel:14



Problem channels



Tdc periodic readout (40 MHz)

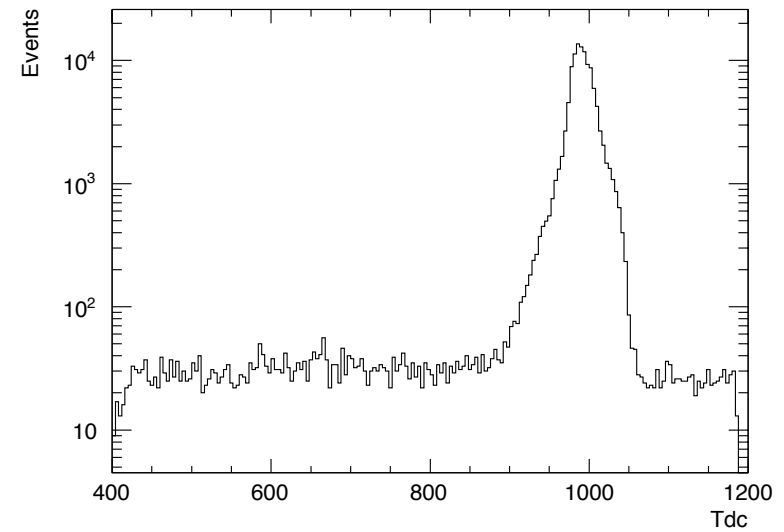
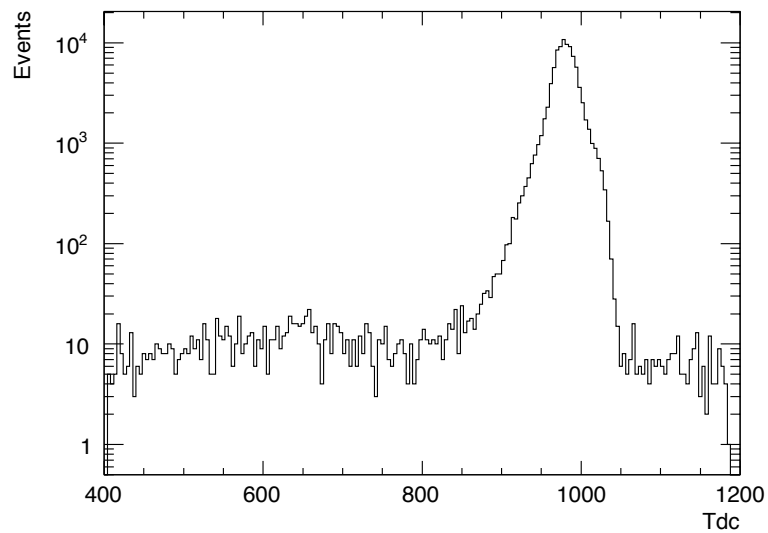


High rate channels

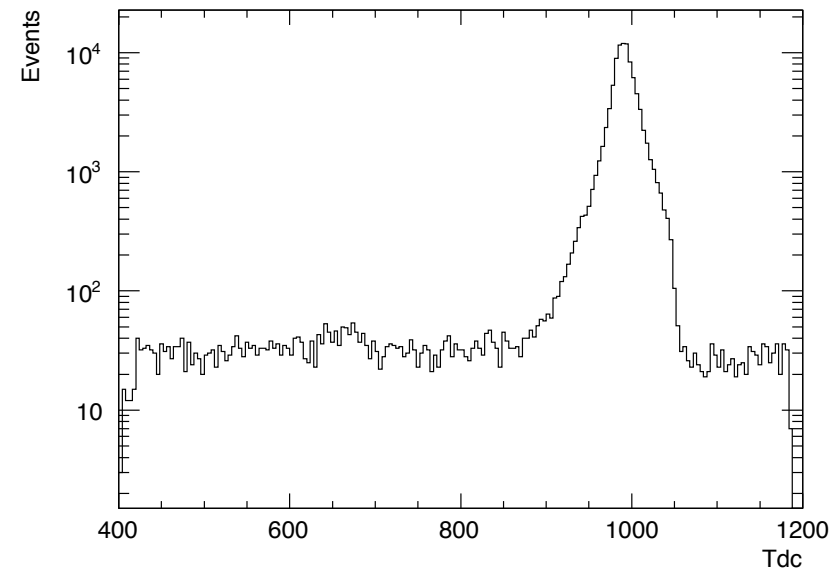
R2C5 Board:13 Channel:2

R5C1 Board:6 Channel:1

normal



High rate noise



Summary

- Dark noise is good for Gain (Adc/PE) calibration
- No sign of drifting in gain vs. time distribution
- Higher rate dark noise at top row indicate there is some light leaking
- There is a mysterious 40M Hz readout for a few channels