

# Aero Calib Update 2023/04/12

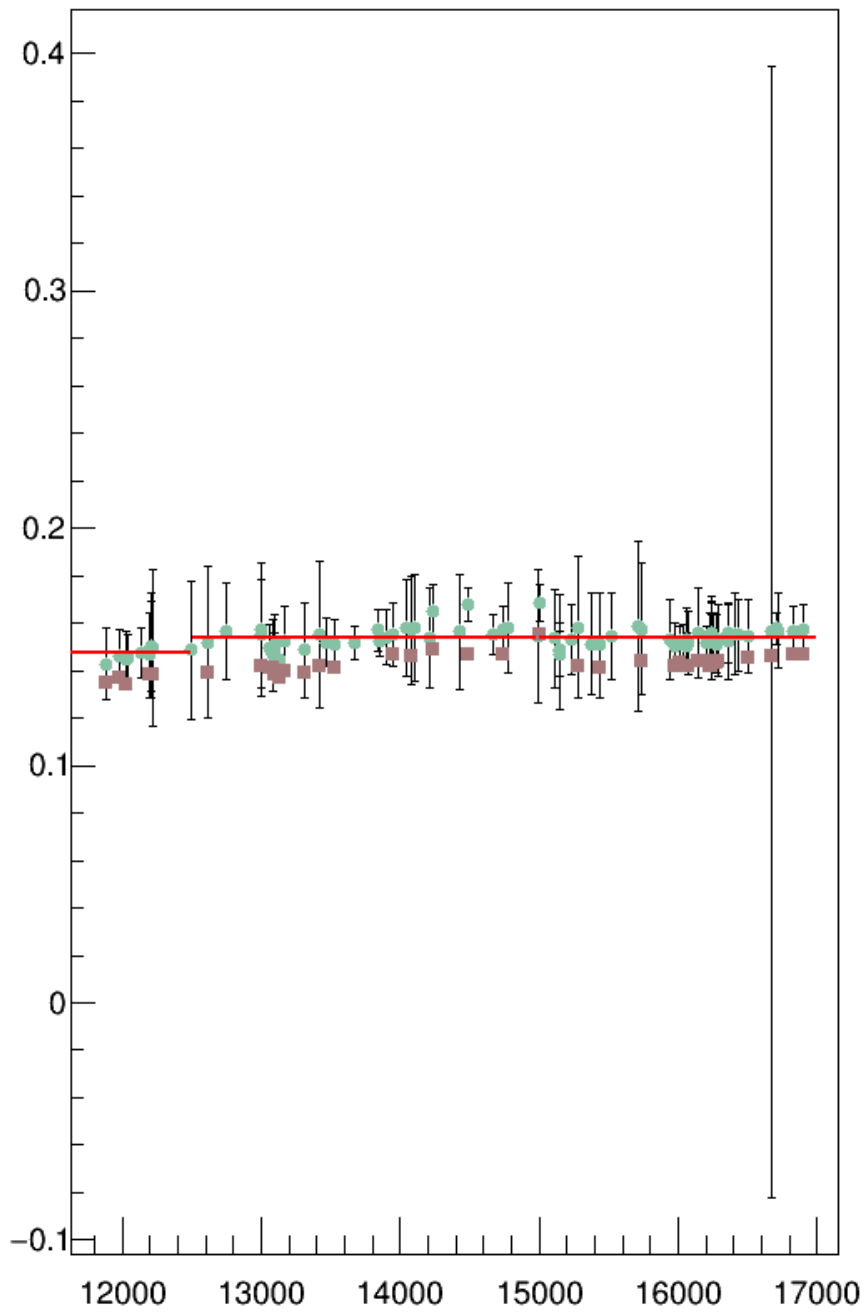
Finished making calibration files for aerogel.

Using 3 param files for 2021 and 2022 data.

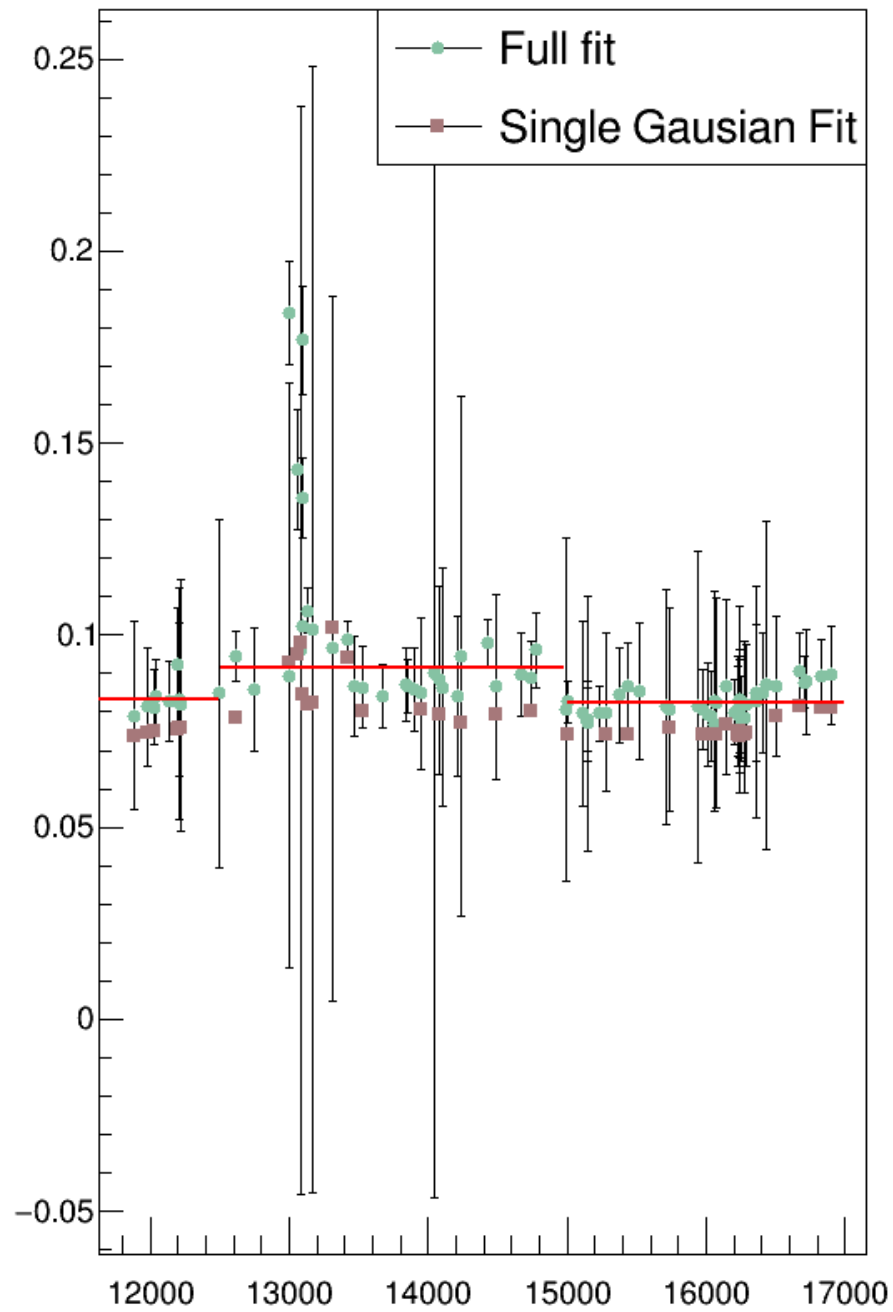
I'll show the plots of the parameters, then show comparison with online.

PID study will be needed before pion numbers should be trusted in recalibrated data.

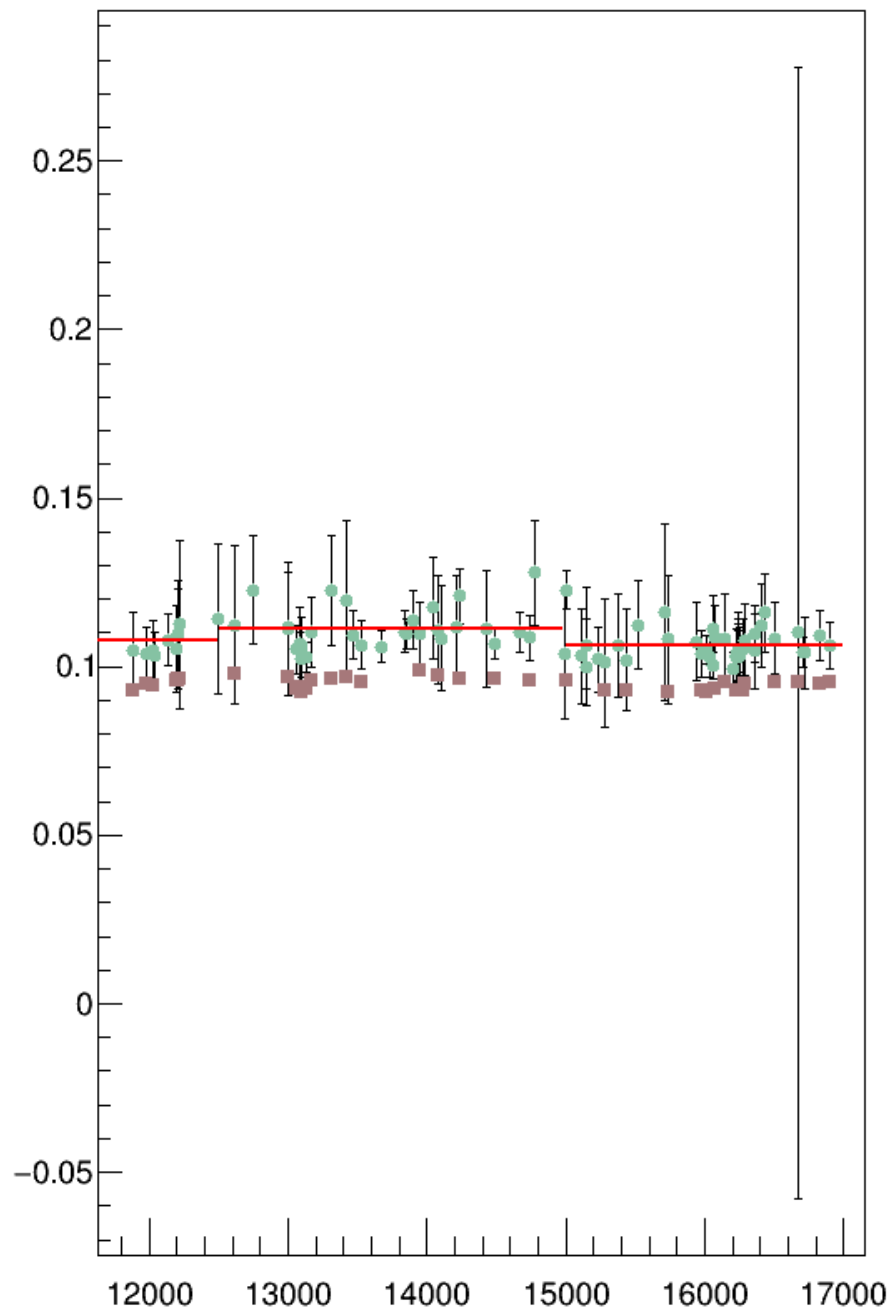
PMT 1+



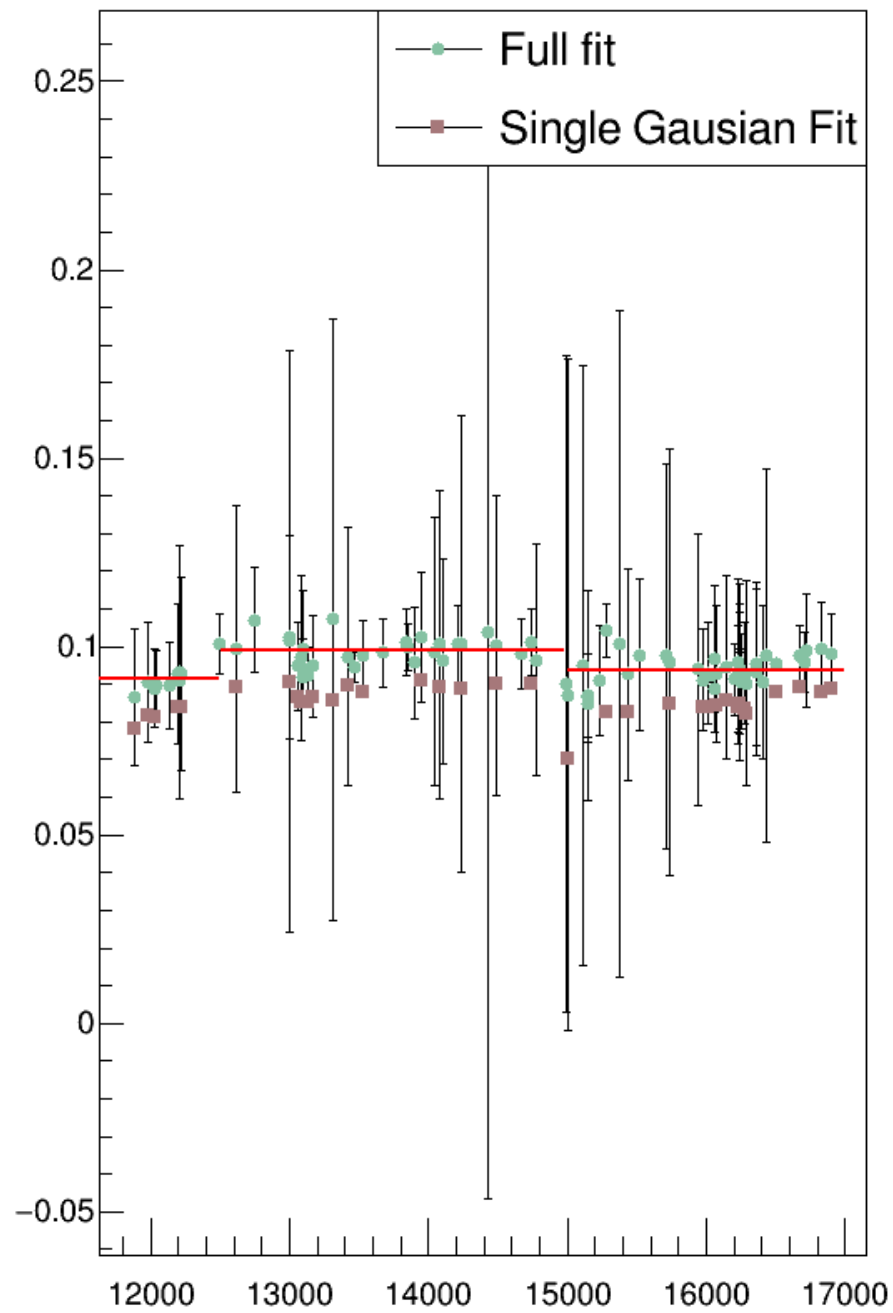
PMT 1-



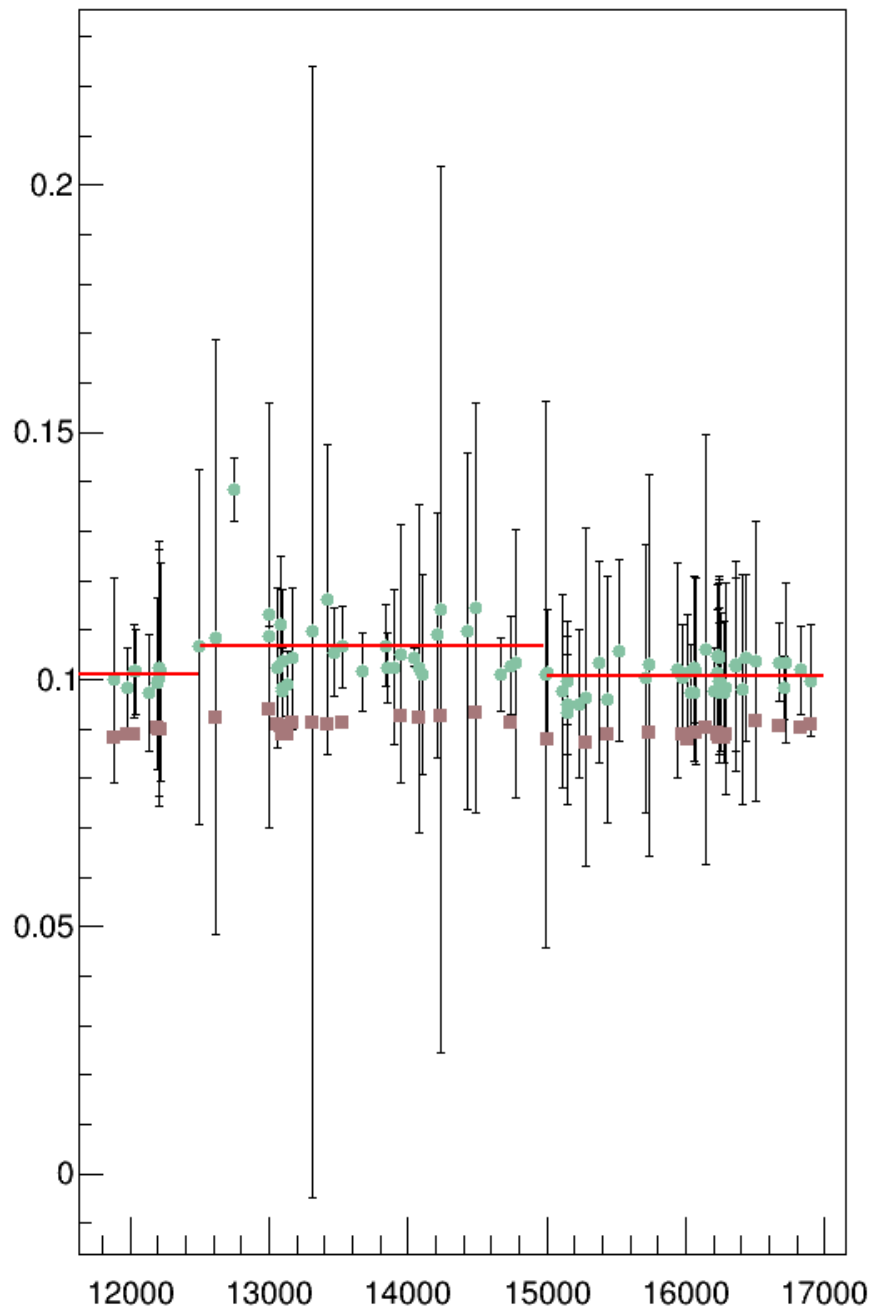
PMT 2+



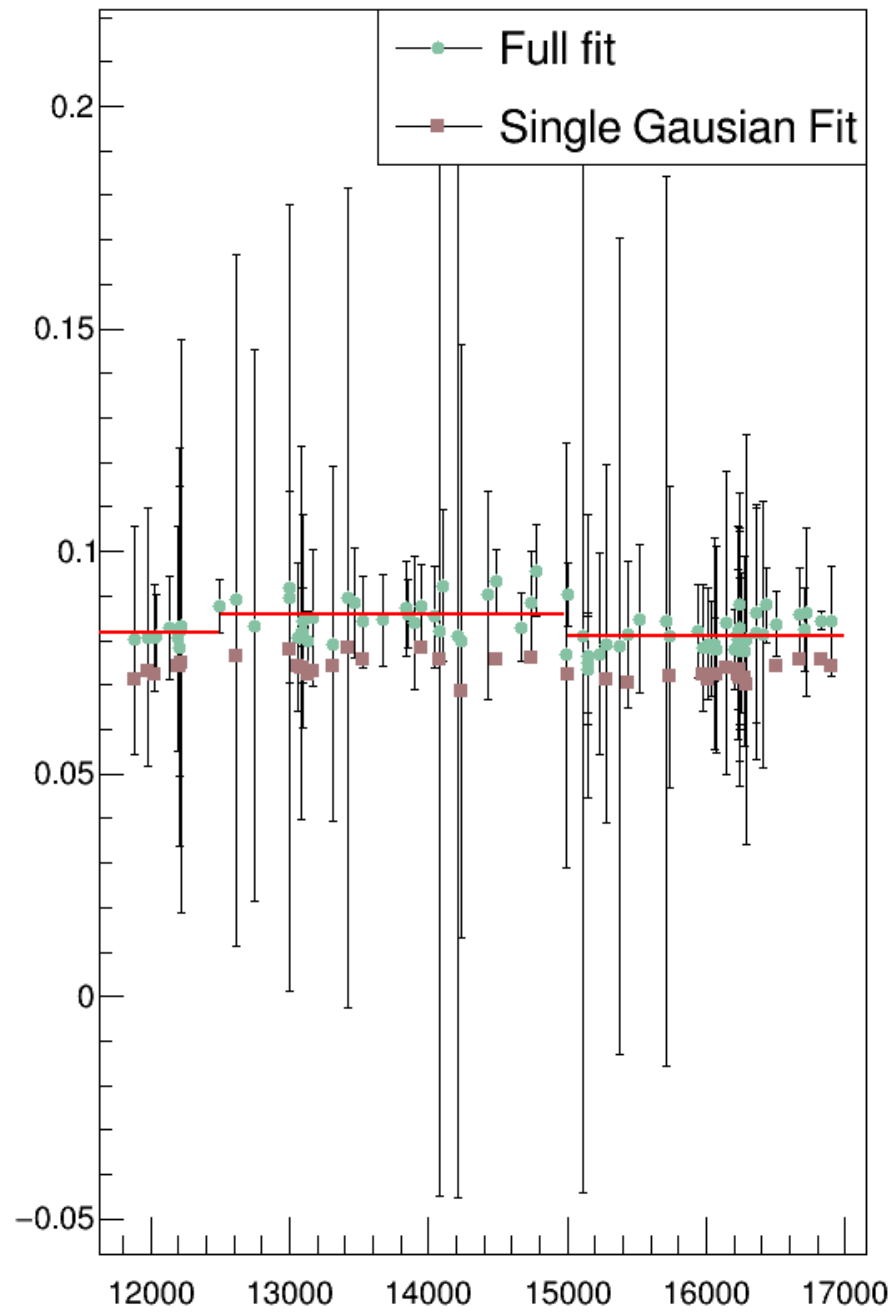
PMT 2-



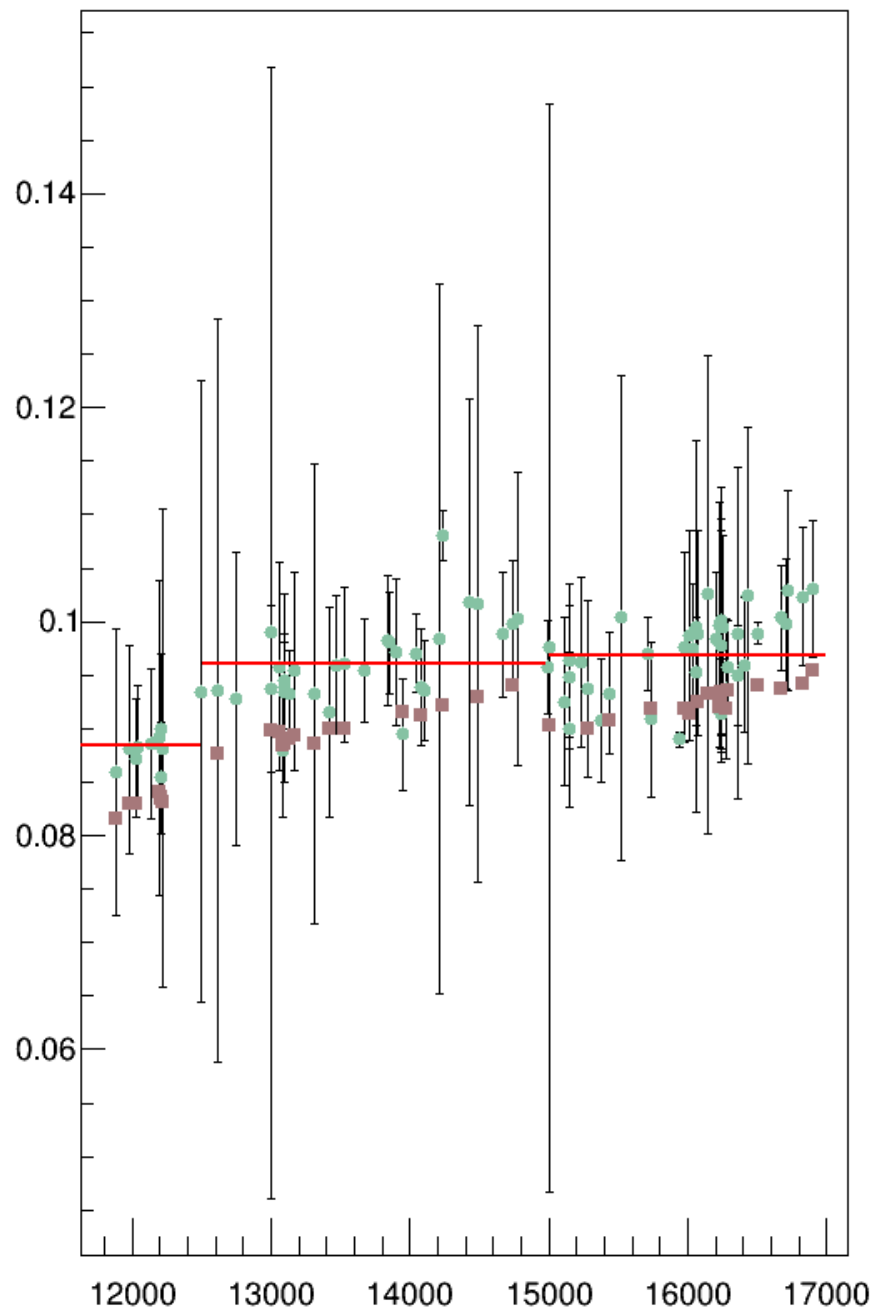
PMT 3+



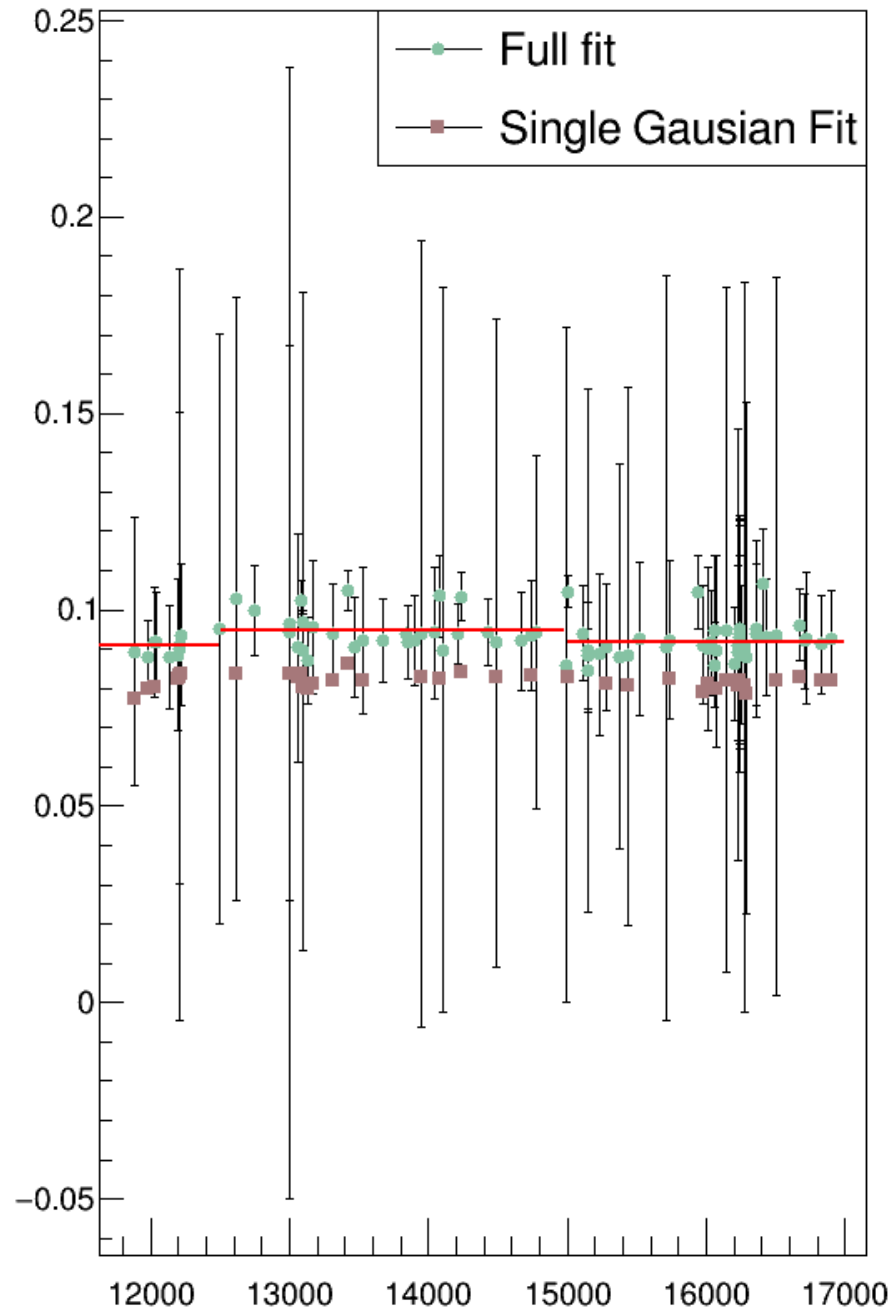
PMT 3-



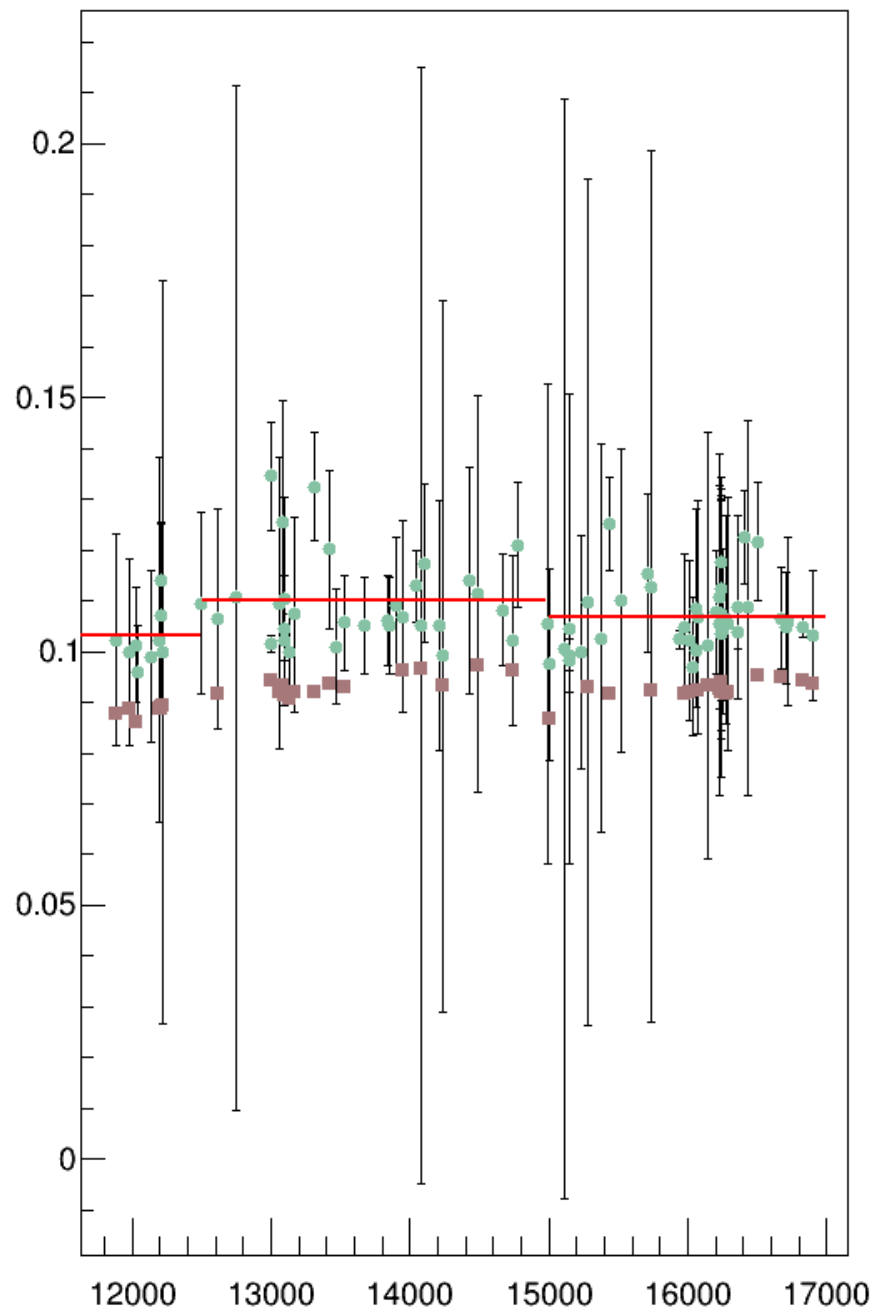
PMT 4+



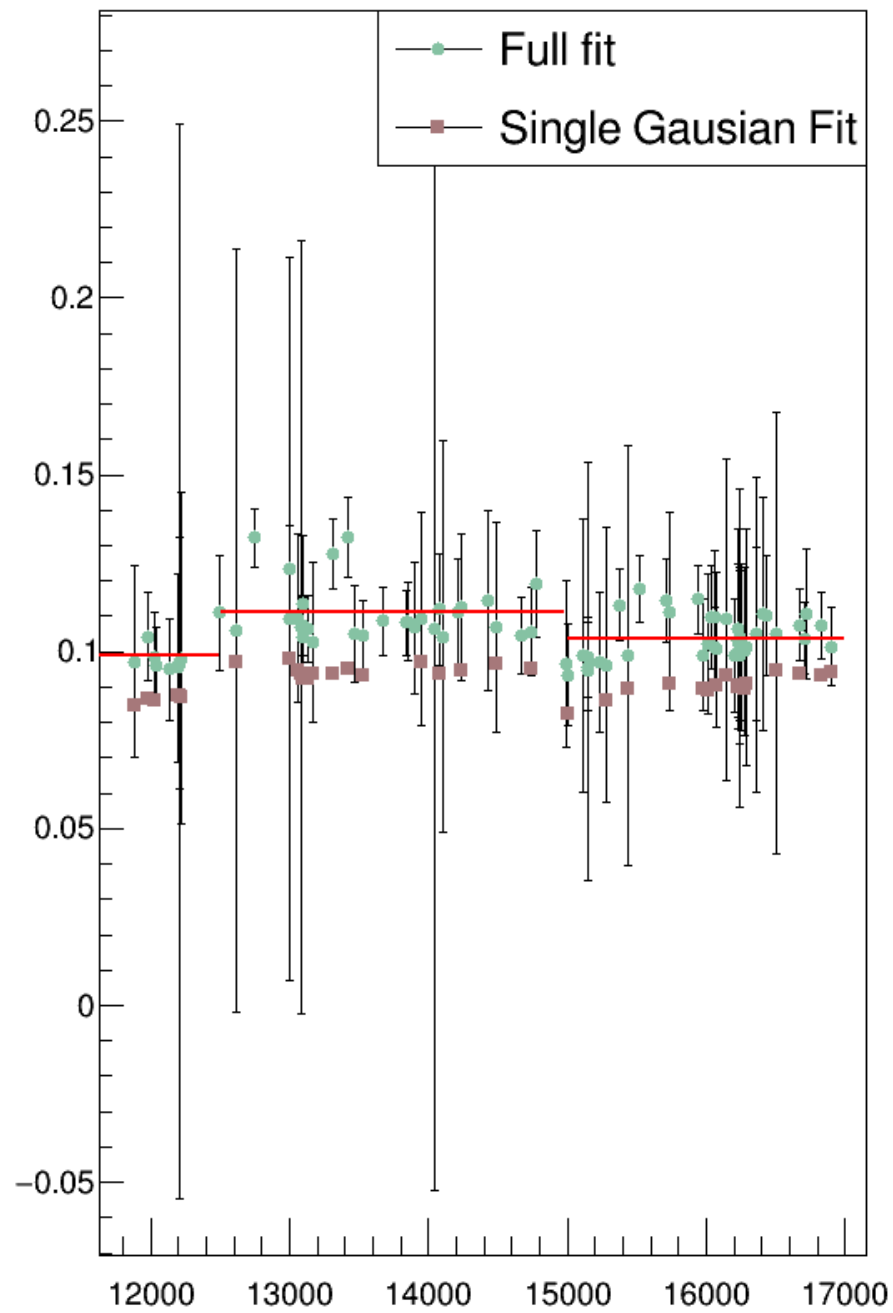
PMT 4-



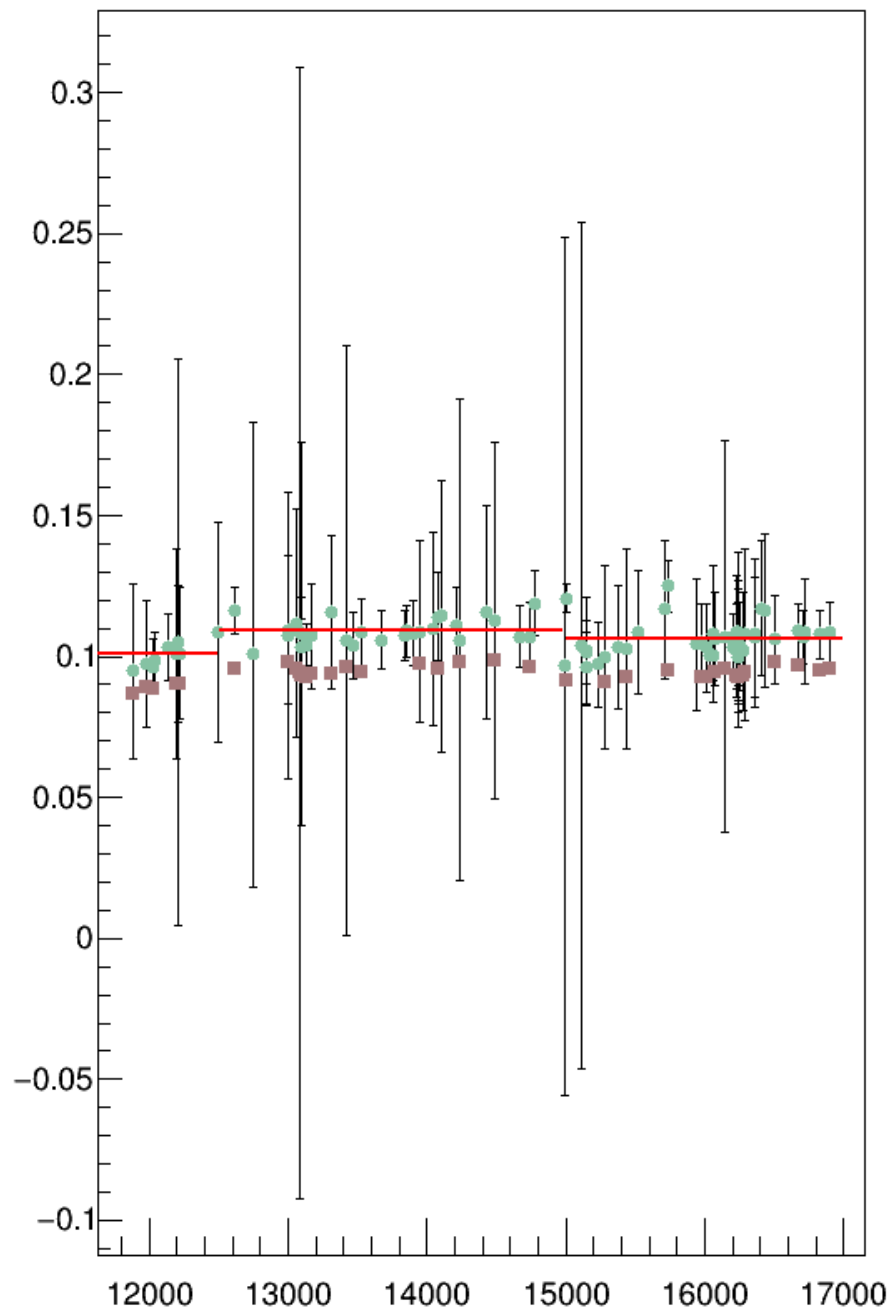
PMT 5+



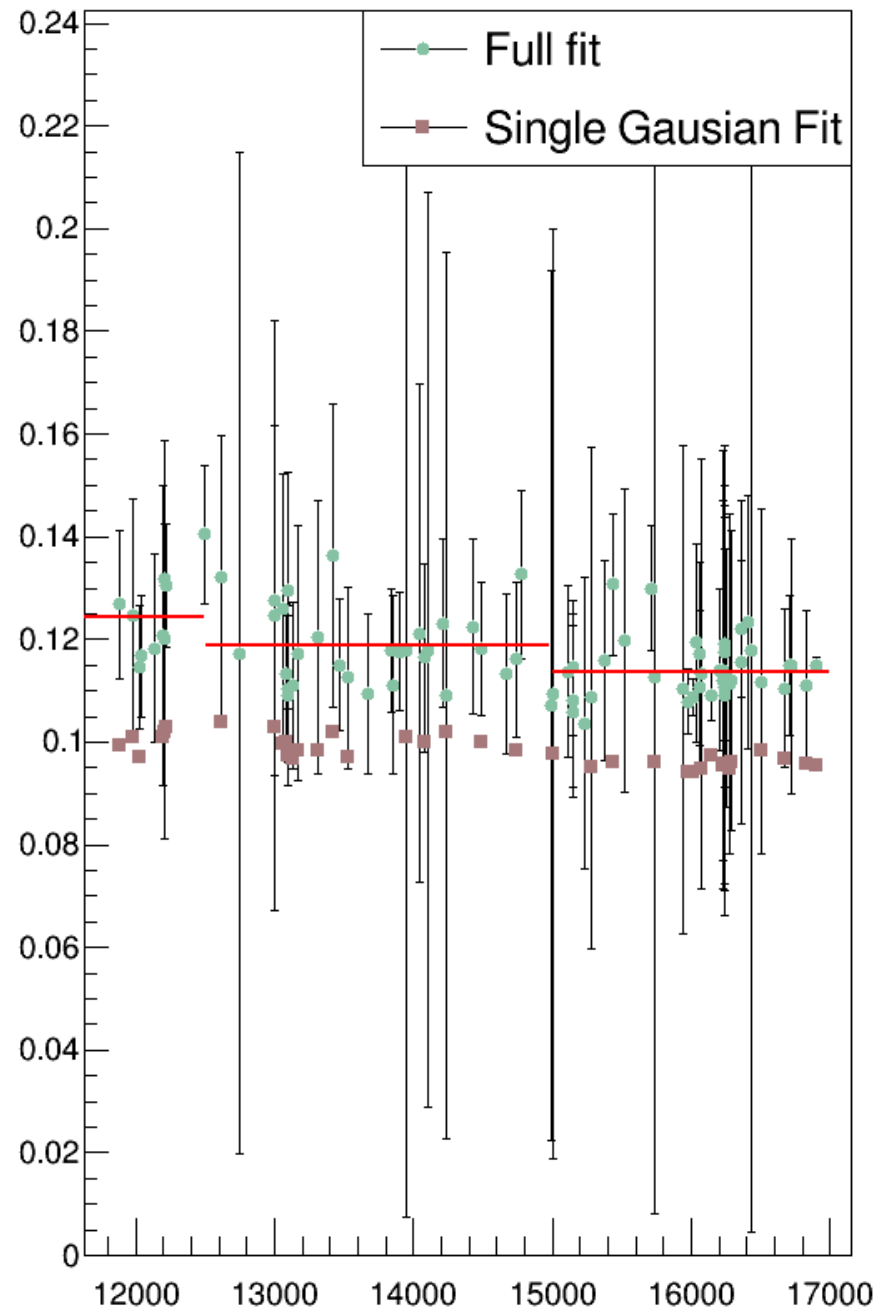
PMT 5-



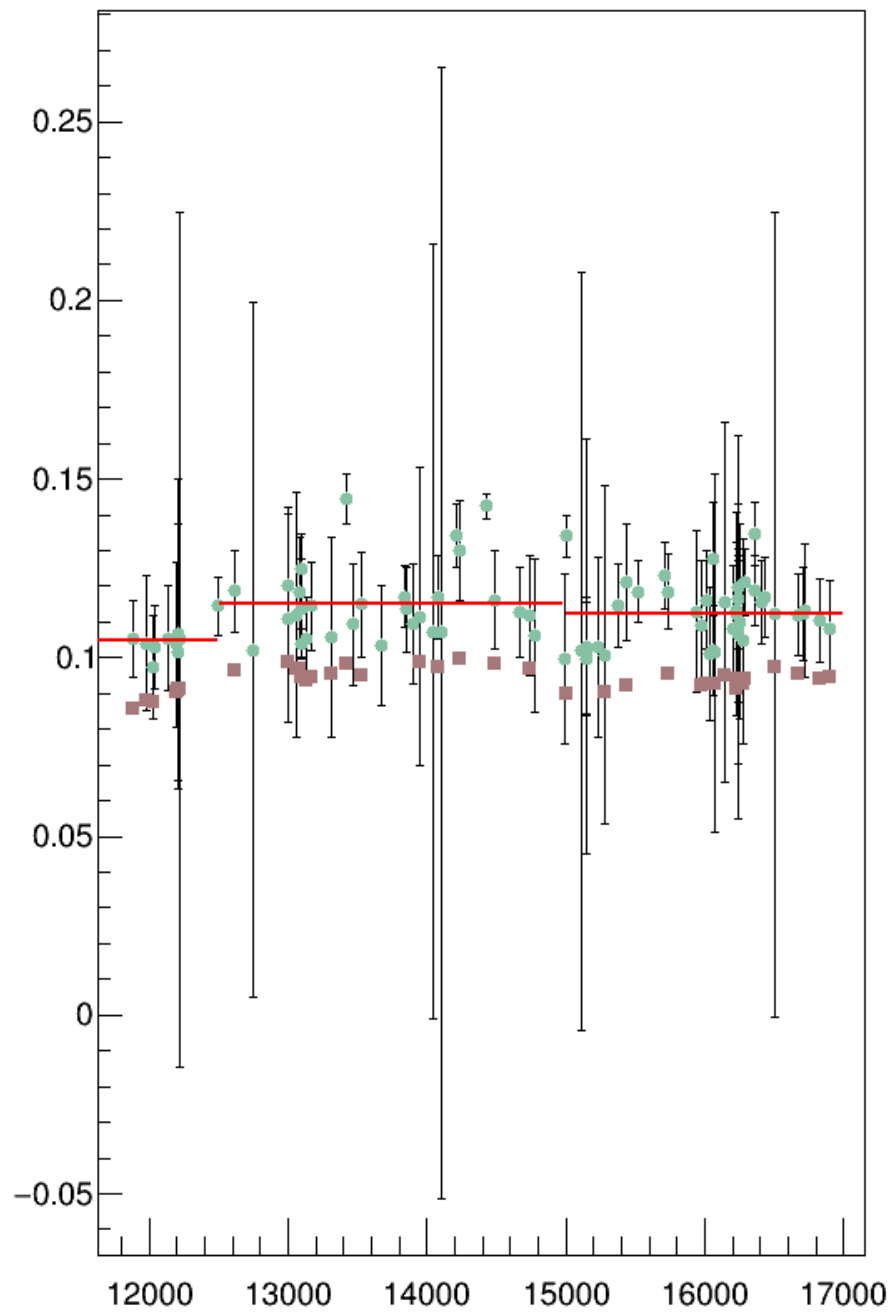
PMT 6+



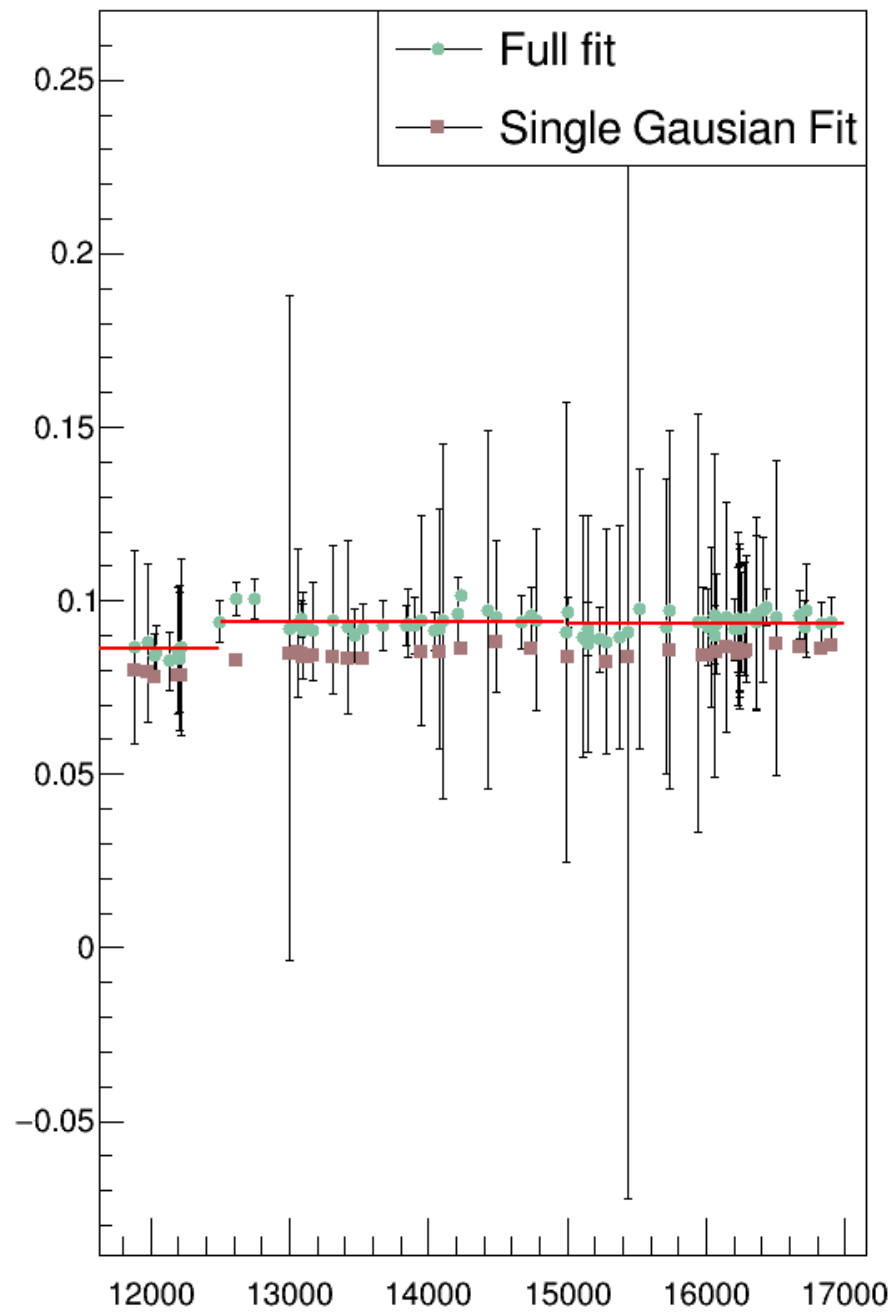
PMT 6-



PMT 7+



PMT 7-





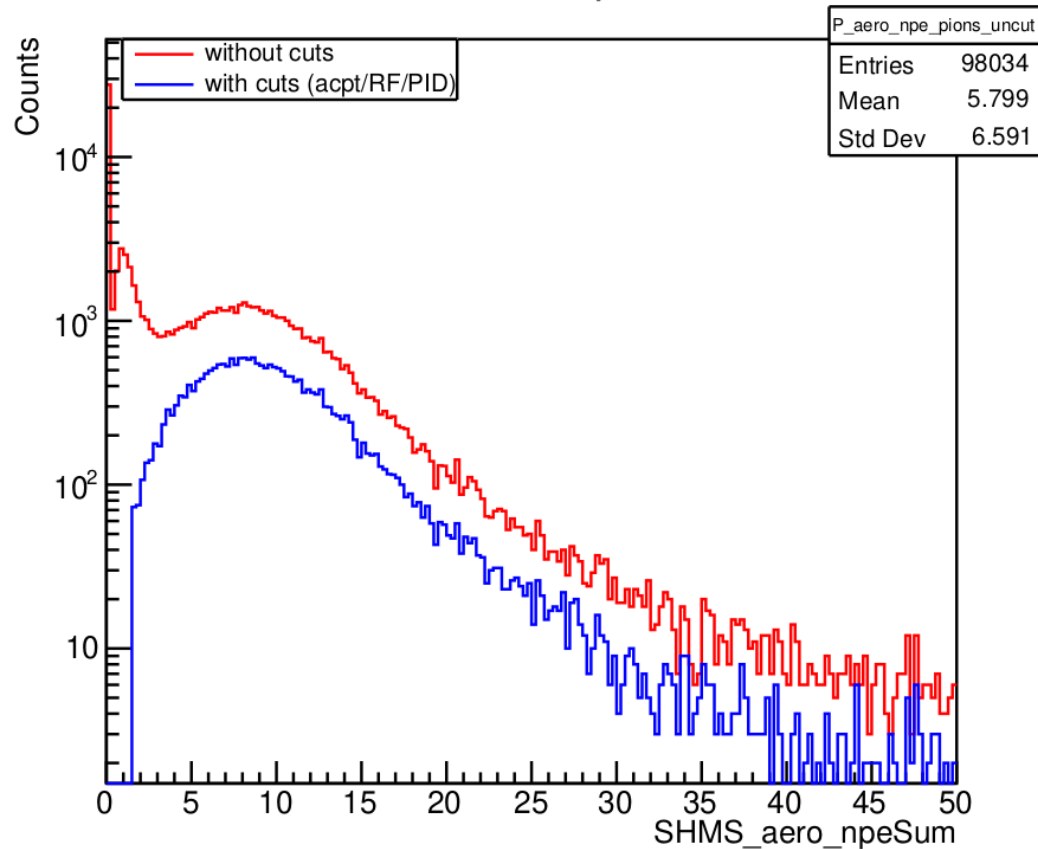
# Notes

- I will now show what these calibration parameters give when run through the online analysis
- I have data for the second and third set of parameters, I am still running for the first set.

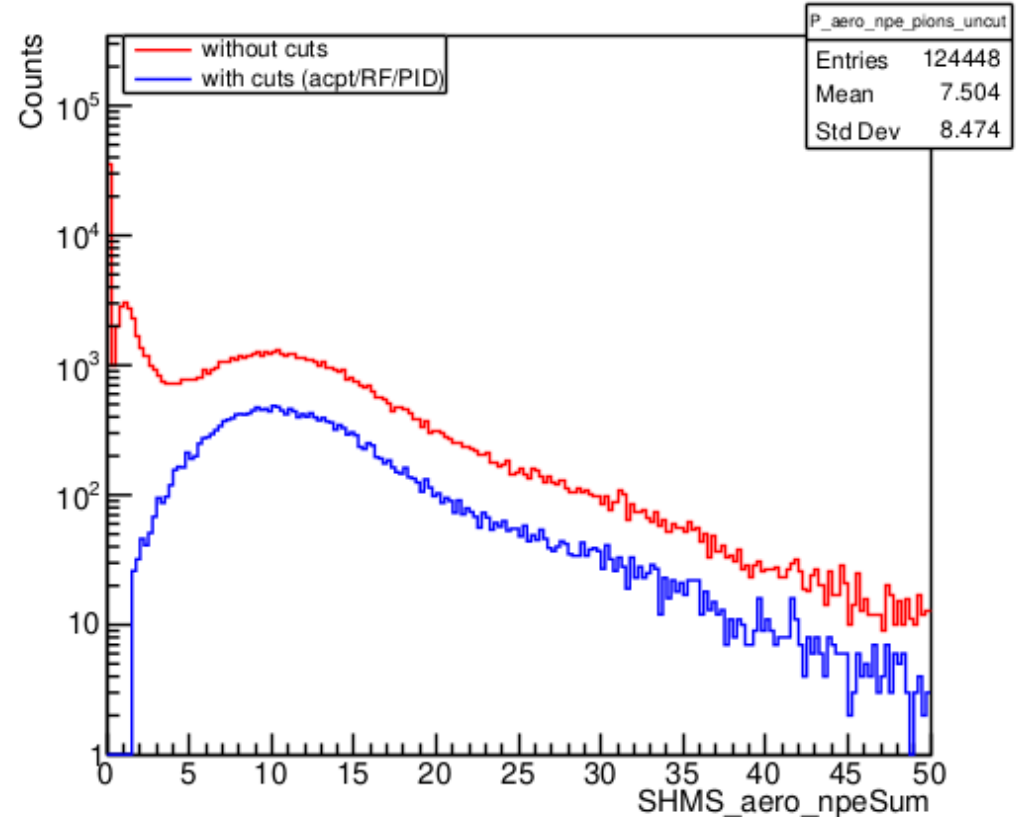
# Q3.85 W2.02 low e (6 GeV beam)

Second Calib file.

Online  
SHMS aero npeSum



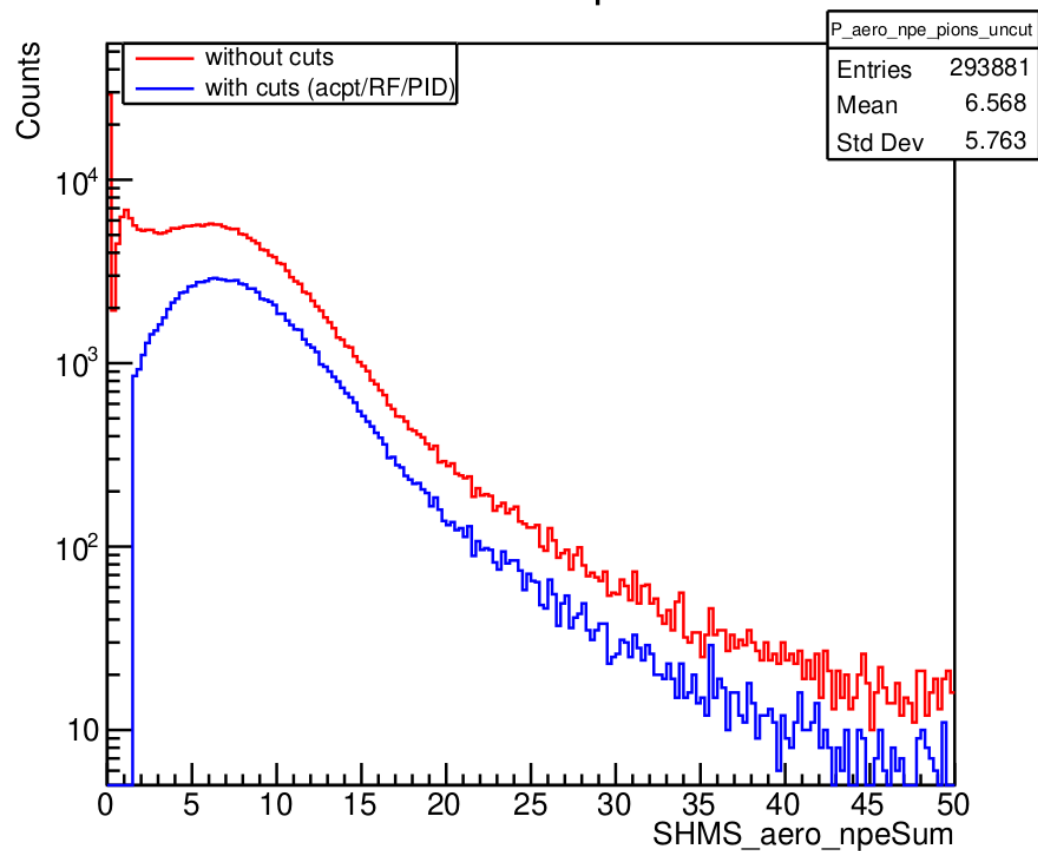
Offline  
SHMS aero npeSum



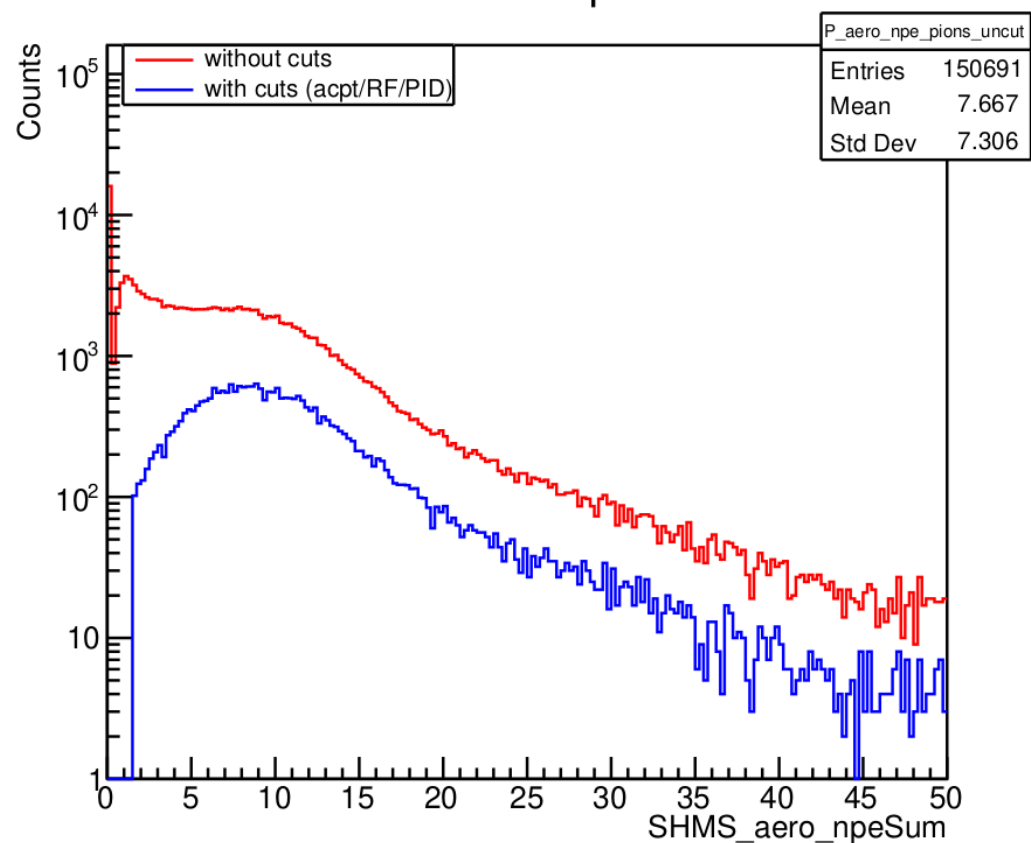
# Q3.85 W2.62 high e (10.5 GeV beam)

Third Calib file.

Online  
SHMS aero npeSum



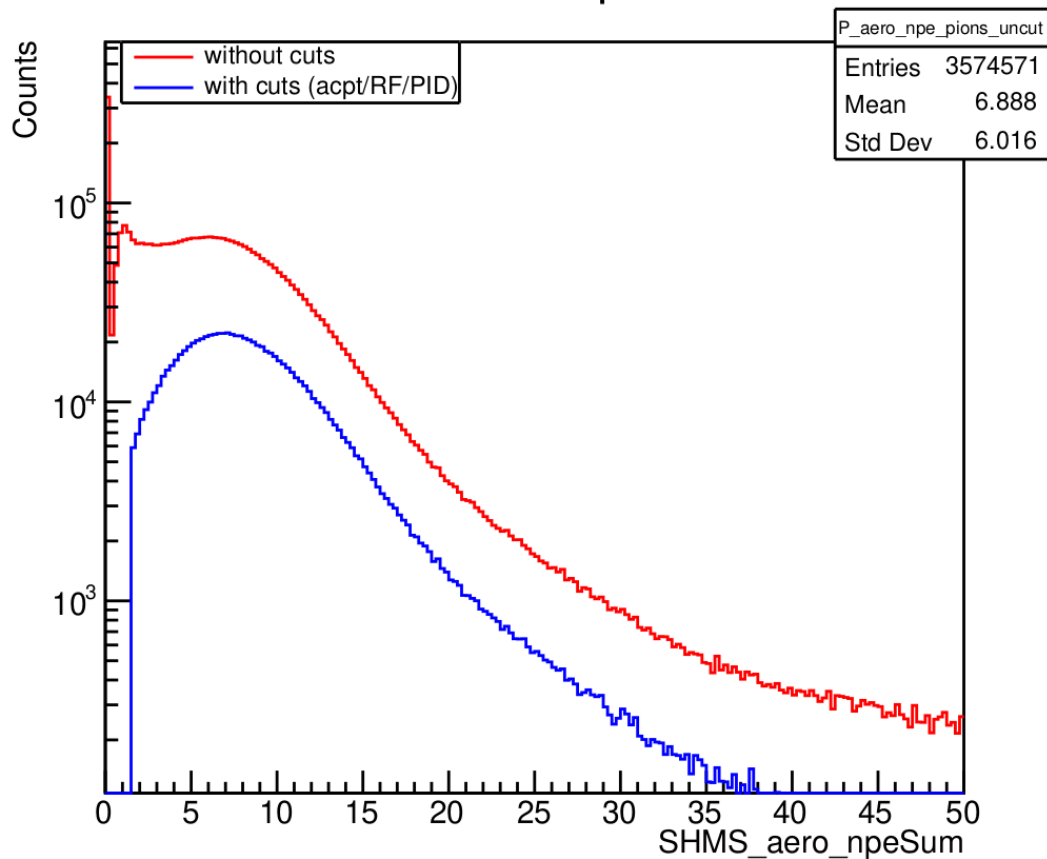
Offline  
SHMS aero npeSum



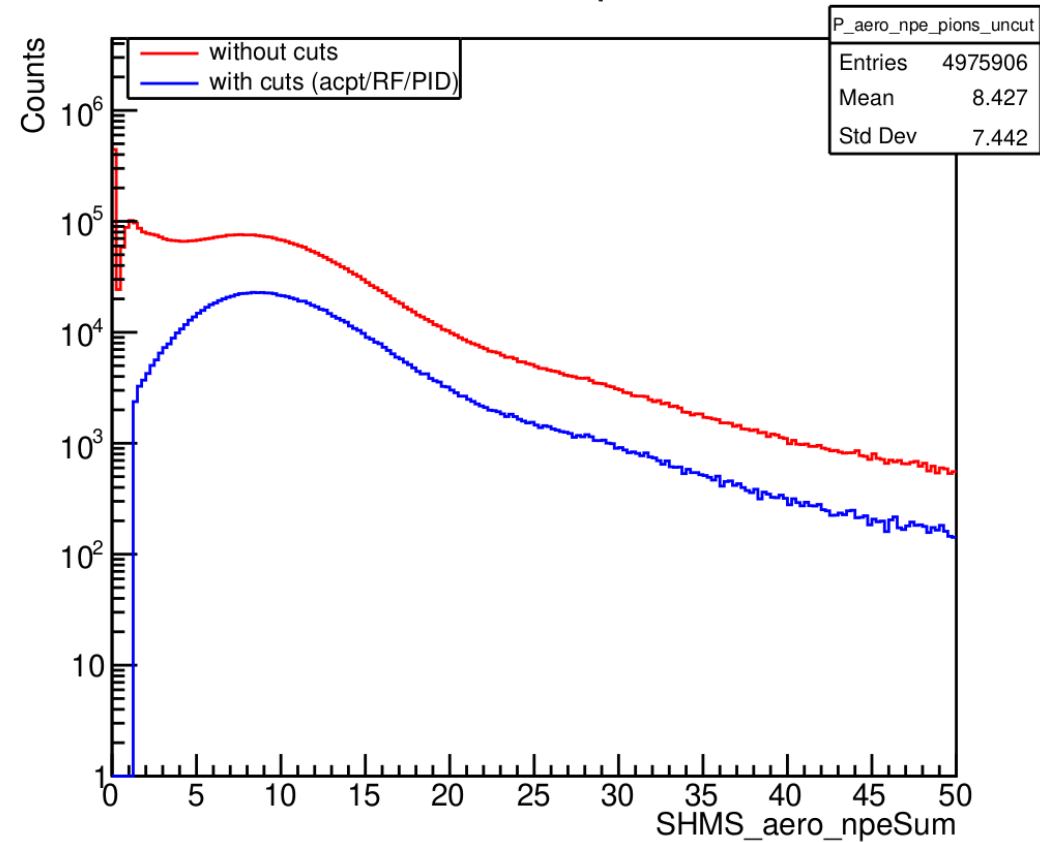
# Q1.60 W3.08 high e (9.2 GeV) LH2

First Calib File

Online  
SHMS aero npeSum

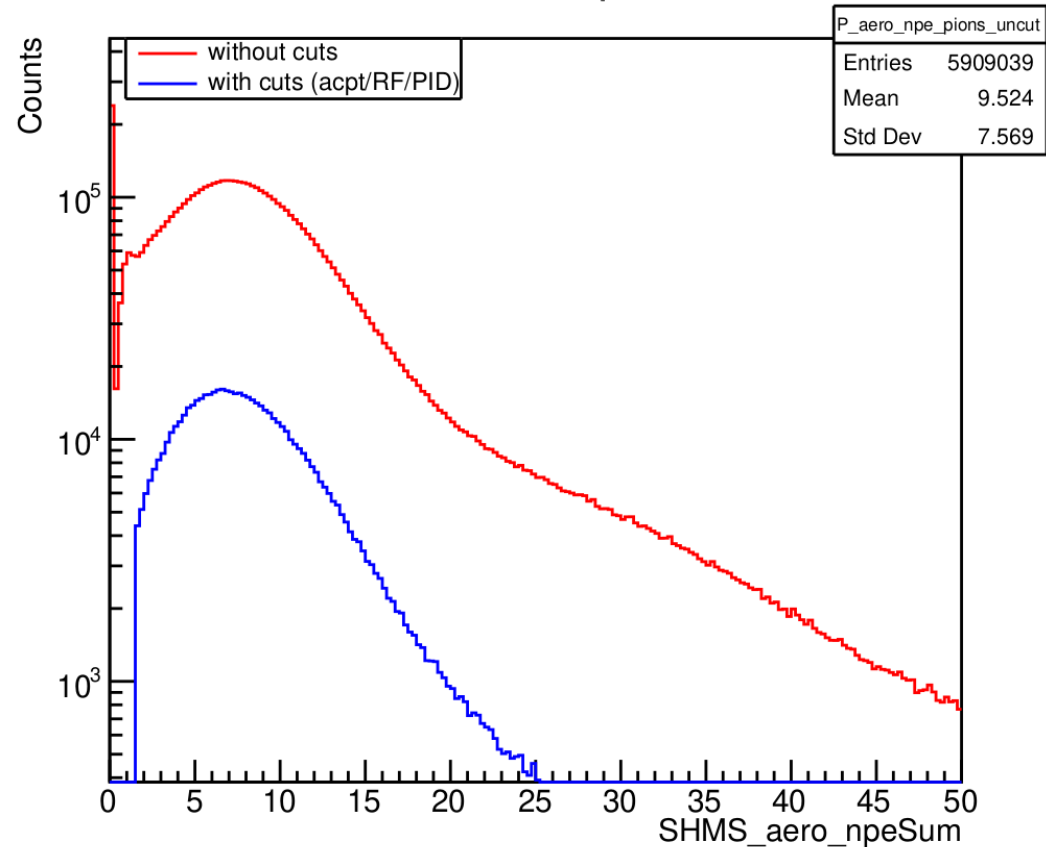


Offline  
SHMS aero npeSum

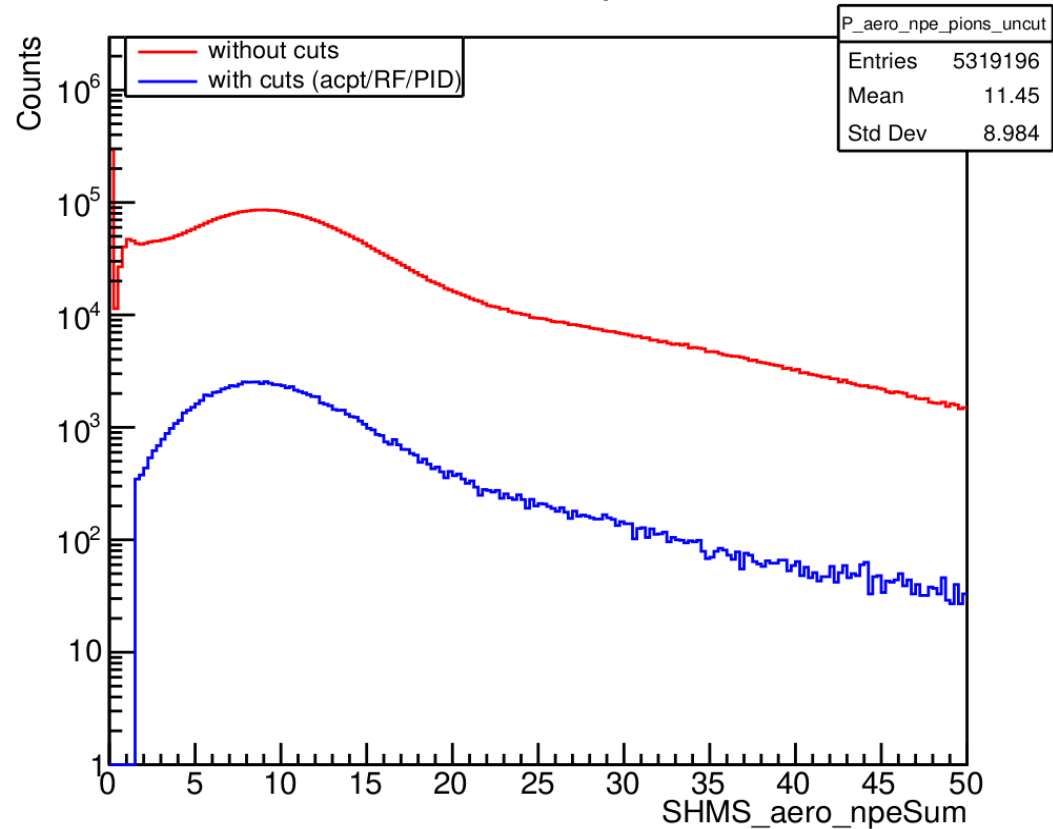


# Q1.60 W3.08 high e (9.2 GeV) LD-

Online  
SHMS aero npeSum

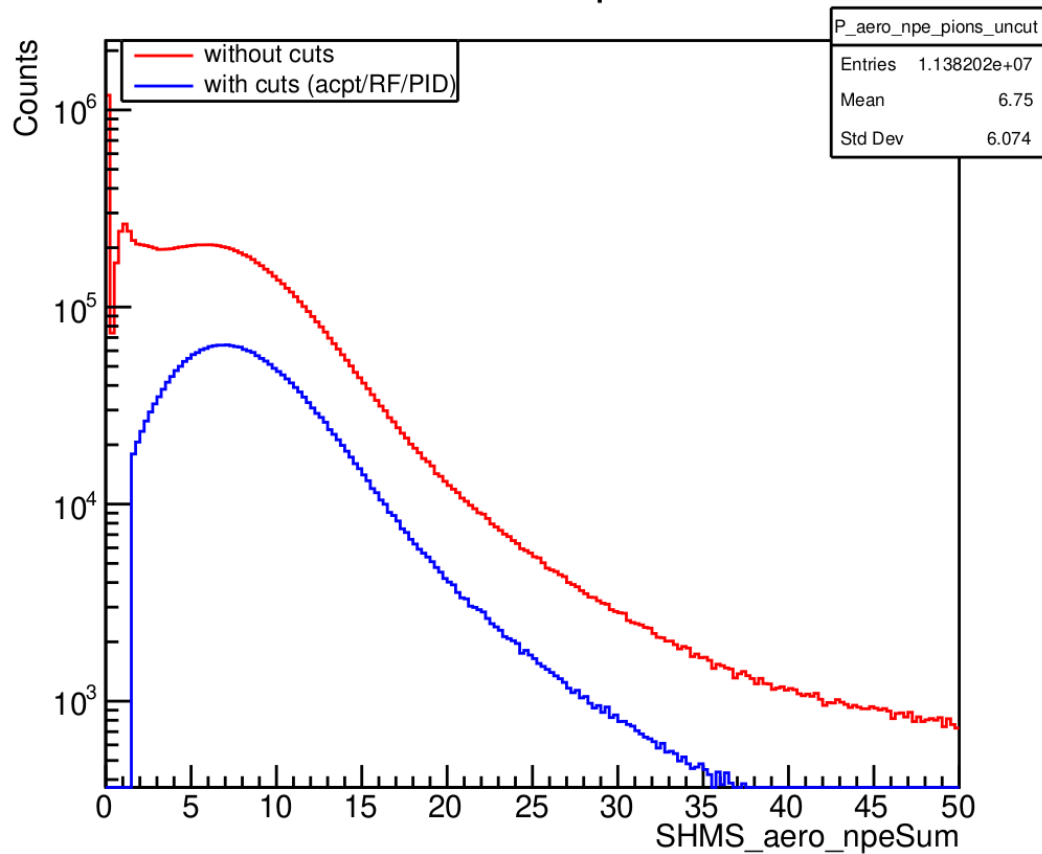


Offline  
SHMS aero npeSum

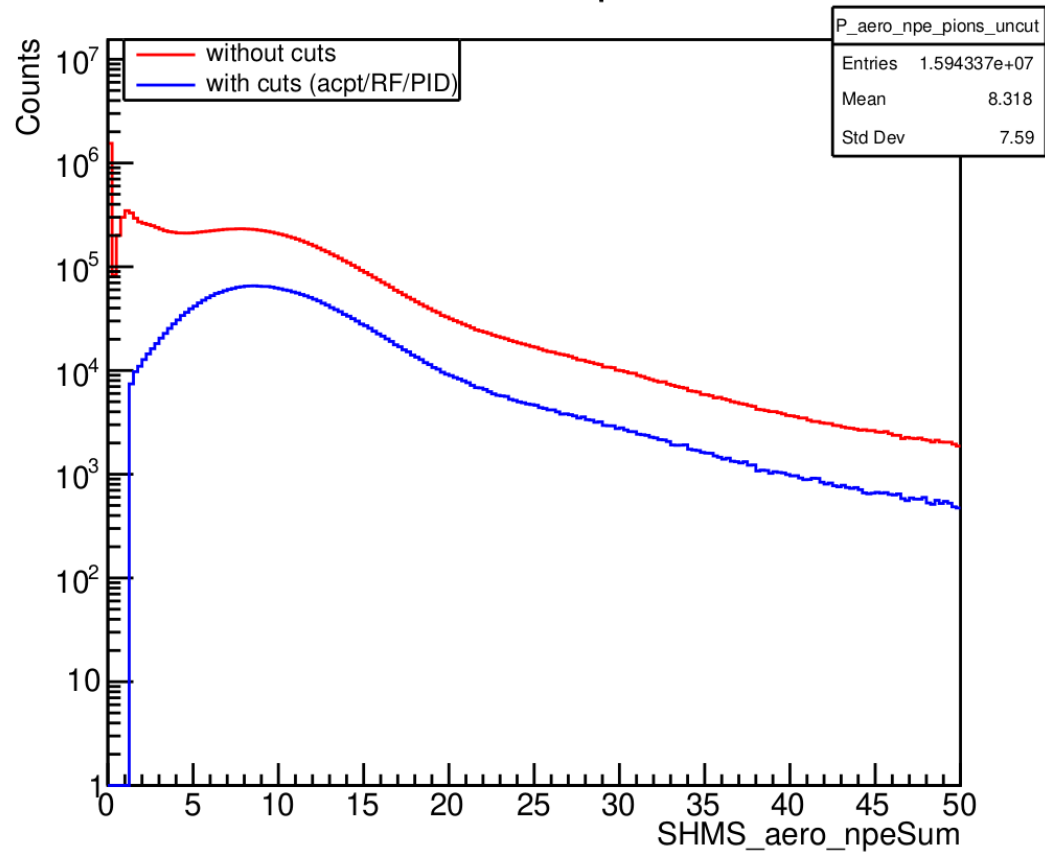


# Q1.60 W3.08 high e (9.2 GeV) LD+

Online  
SHMS aero npeSum



Offline  
SHMS aero npeSum



# Conclusion

- Looks the new calibration gives better separation from low light events, hopefully reducing leak through.
- I will run for LD+ and LD- data to check those also.
- Next detector will be the HMS Cerenkov